

European IB Revenue Flash

Looking back and ahead: difficult times for IBs

Equities

Europe including UK
Banks

A quarter characterized by unimpressive trading activity and "bad volatility"

Recent market data confirms that investment banks are in for another difficult quarter. We expect weak Q2 16 numbers reported in the coming weeks as trading volumes, apart from few bright spots, show sequential slowdown from already depressed Q1 levels across asset classes. We also note that trading volumes do not tell the whole story about revenues. Positioning pre and post UK referendum, potential losses on inventory and hedges, derivatives performance, or the impact of "bad volatility" may have had strong impact on the P&L. For global IBs, we currently forecast Q2 16 FICC down 11%, Equities down 13% and IBD down 14% sequentially. We recently revised our estimates significantly downwards for CS and Deutsche Bank based on lower capital markets revenue expectations and slower economic growth.

Sluggish fixed income activity mitigated by better Commodities and FX trading

The normalisation of US credit spreads and resilient trading volumes helped Credit sequentially in Q2 16 but activity was still weaker than last year. Rates saw a more difficult quarter with June activity below the previous months. Q2 16 IR product volumes on CME were down 18% q/q and Treasury trading was down 13% but banks commented more positively on the quarter. Expectations around monetary & quantitative easing drove both FX and interest rate volatility higher in June. In the days around the UK referendum, currency trading volumes were extremely high according to the banks. Commodities volumes continued the run in Q2 16 (CME vols. +43% y/y).

Equities: better volumes still leave overall activity down q/q and y/y

Q2 16 US cash trading volumes were down 16% after a strong Q1 but were still up 13% from last year. Derivatives volumes were down 8% both y/y and q/q. In Europe, cash volumes improved in June, driven by the last two weeks of the month. Derivatives activity also showed some improvement and closed the quarter down 9% from last year. Volatility surged running up to the UK referendum and remained elevated afterwards. APAC cash volumes were still behind last year's exceptionally strong Q2 (-68% y/y) and activity in derivatives was also muted (-13% y/y) after a better June.

Despite the q/q improvement IBD closed a weak quarter compared to last year

ECM and lending volumes show a meaningful rebound in Q2 16 but are still materially weaker than in the same period last year. DCM was broadly flat sequentially and up 6% y/y, while M&A slipped 6% q/q and 24% y/y. We think the prevailing uncertainty in Europe might be especially detrimental to primary volumes in the coming quarters.

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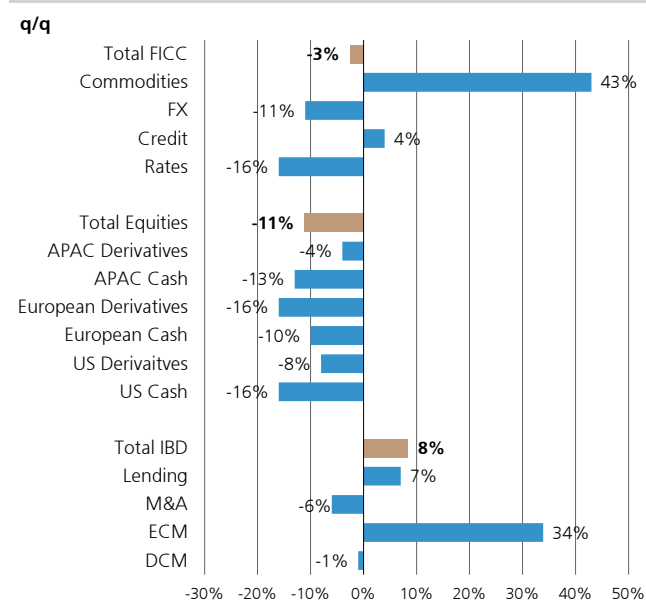
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Illustrative revenue signposts

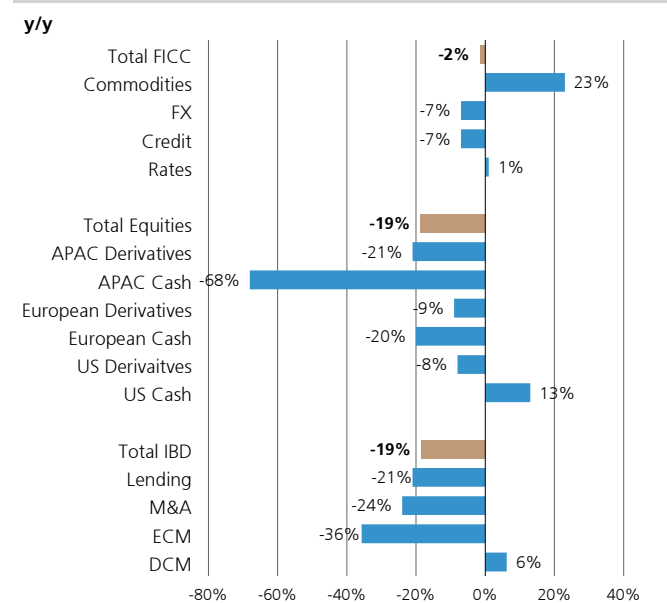
Figure 1: q/q indicative changes by asset class



Source: UBS, Bloomberg, Deutsche Boerse, HKEX, CME, Dealogic

Note: For the lack of accurate data, the flagged changes are solely for illustrative purposes. See methodology in the Appendix.

Figure 2: y/y indicative changes by asset class



Source: UBS, Bloomberg, Deutsche Boerse, HKEX, CME, Dealogic

Note: For the lack of accurate data, the flagged changes are solely for illustrative purposes. See methodology in the Appendix.

Figure 3: FICC, Equities, and IBD revenue forecasts - UBS

FICC					
in local ccy	Q2 15	Q1 16E	Q2 16E	y/y	q/q
Barclays	800	895	730	-9%	-18%
BNP Paribas	900	890	720	-20%	-19%
Credit Suisse	1,369	518	580	-58%	12%
Deutsche Bank	2,232	2,049	1,942	-13%	-5%
Société Générale	612	689	612	0%	-11%
Bank of America	2,144	2,264	2,100	-2%	-7%
Citi	3,047	3,085	3,050	0%	-1%
Goldman Sachs	1,451	1,663	1,650	14%	-1%
JPMorgan	2,931	3,597	3,000	2%	-17%
Morgan Stanley	1,267	873	950	-25%	9%
Average:				-11%	-6%
Equities					
in local ccy	Q2 15	Q1 16E	Q2 16E	y/y	q/q
Barclays	588	513	470	-20%	-8%
BNP Paribas	626	428	407	-35%	-5%
Credit Suisse	1,254	857	910	-27%	6%
Deutsche Bank	969	728	843	-13%	16%
Société Générale	945	701	680	-28%	-3%
Bank of America	1,176	1,023	1,100	-6%	8%
Citi	649	706	775	19%	10%
Goldman Sachs	1,965	1,780	1,925	-2%	8%
JPMorgan	1,576	1,576	1,400	-11%	-11%
Morgan Stanley	2,270	2,056	2,150	-5%	5%
Average:				-13%	2%
IBD					
in local ccy	Q2 15	Q1 16E	Q2 16E	y/y	q/q
Barclays	580	481	450	-22%	-6%
BNP Paribas	na	na	na	na	na
Credit Suisse	967	671	650	-33%	-3%
Deutsche Bank	866	509	635	-27%	25%
Société Générale	691	572	746	8%	30%
Bank of America	1,526	1,153	1,225	-20%	6%
Citi	1,290	875	1,225	-5%	40%
Goldman Sachs	2,019	1,463	1,875	-7%	28%
JPMorgan	1,825	1,321	1,727	-5%	31%
Morgan Stanley	1,440	990	1,225	-15%	24%
Average:				-14%	19%

Source: Company data, UBS estimates

Figure 4: Quarterly investment banking revenues – Historical data and UBS forecasts (\$ million)

FICC US\$m	Q1 13	Q2 13	Q3 13	Q4 13	Q1 14	Q2 14	Q3 14	Q4 14	Q1 15	Q2 15	Q3 15	Q4 15	Q1 16E	Q2 16E	Q3 16E	Q4 16E
Barclays	2,200	1,426	1,187	1,186	1,316	1,231	1,103	875	1,364	1,244	1,050	875	1,282	986	986	891
BNP Paribas	1,706	1,056	1,062	999	1,326	1,079	1,109	956	1,244	1,002	856	741	982	808	645	697
CS	2,043	1,477	1,114	921	1,737	1,597	1,723	892	1,815	1,455	927	446	522	589	680	761
DB	3,586	2,382	1,688	1,399	3,350	2,500	1,813	1,388	3,118	2,485	2,036	1,346	2,261	2,180	1,881	1,370
SocGen	982	810	781	561	766	973	783	560	632	681	540	560	760	687	542	590
European IB	10,517	7,150	5,832	5,067	8,494	7,380	6,531	4,671	8,172	6,868	5,408	3,969	5,807	5,249	4,734	4,309
BAML	3,301	2,253	2,029	2,076	2,944	2,366	2,254	1,465	2,744	2,144	1,994	1,750	2,264	2,100	2,000	1,800
Citi	4,733	3,505	2,854	2,448	3,918	3,120	3,064	2,069	3,484	3,047	2,566	2,221	3,085	3,050	2,500	2,300
GS	3,259	2,431	1,294	1,676	2,835	2,223	1,976	1,163	3,166	1,451	1,313	1,177	1,663	1,650	1,450	1,150
JPM	4,752	4,078	3,439	3,199	3,931	3,704	3,787	2,653	4,154	2,931	2,933	2,574	3,597	3,000	2,800	2,800
MS	1,515	1,153	835	694	1,654	1,011	997	599	1,903	1,267	583	550	873	950	700	700
US IB	17,560	13,420	10,451	10,093	15,282	12,424	12,078	7,949	15,451	10,840	9,389	8,272	11,482	10,750	9,450	8,750
Tracked totals	28,077	20,570	16,283	15,160	23,776	19,804	18,609	12,620	23,623	17,708	14,797	12,241	17,289	15,999	14,184	13,059

Equities US\$m	Q1 13	Q2 13	Q3 13	Q4 13	Q1 14	Q2 14	Q3 14	Q4 14	Q1 15	Q2 15	Q3 15	Q4 15	Q1 16E	Q2 16E	Q3 16E	Q4 16E
Barclays	933	1,152	813	689	943	1,005	618	661	916	914	644	484	735	635	567	567
BNP Paribas	525	599	659	643	803	696	484	356	781	697	534	403	472	457	376	418
CS	1,331	1,364	1,098	1,143	1,284	1,203	1,098	1,183	1,356	1,333	1,183	990	863	924	914	1,085
DB	1,011	1,028	870	744	1,063	956	921	882	1,102	1,079	658	571	803	947	627	612
SocGen	831	812	840	889	942	817	681	930	1,073	1,052	624	665	774	763	440	872
European IB	4,630	4,956	4,280	4,108	5,034	4,676	3,801	4,012	5,228	5,076	3,642	3,113	3,647	3,725	2,924	3,554
BAML	1,149	1,194	969	897	1,161	1,042	1,033	909	1,146	1,176	1,154	882	1,023	1,100	1,125	1,000
Citi	805	904	692	504	884	610	755	473	867	649	1,002	603	706	775	750	625
GS	1,724	1,739	1,641	1,725	1,596	1,626	1,460	1,904	2,337	1,965	1,717	1,769	1,780	1,925	1,825	2,000
JPM	1,340	1,296	1,249	873	1,372	1,243	1,286	1,143	1,651	1,576	1,403	1,064	1,576	1,400	1,350	1,300
MS	1,591	1,803	1,710	1,503	1,705	1,789	1,784	1,627	2,268	2,270	1,769	1,818	2,056	2,150	1,900	1,850
US IB	6,609	6,936	6,261	5,502	6,718	6,310	6,318	6,056	8,269	7,636	7,045	6,136	7,141	7,350	6,950	6,775
Tracked totals	11,239	11,892	10,541	9,610	11,752	10,986	10,119	10,068	13,497	12,712	10,687	9,249	10,788	11,075	9,874	10,329

IBD US\$m	Q1 13	Q2 13	Q3 13	Q4 13	Q1 14	Q2 14	Q3 14	Q4 14	Q1 15	Q2 15	Q3 15	Q4 15	Q1 16E	Q2 16E	Q3 16E	Q4 16E
Barclays	1,006	966	881	1,046	839	1,108	701	837	852	902	776	695	689	608	608	608
BNP Paribas	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CS	903	1,012	813	1,060	1,017	1,090	1,001	883	717	1,028	721	885	676	660	579	688
DB	889	963	889	964	861	1,110	873	896	844	964	708	461	562	713	542	447
SocGen	627	525	599	656	624	748	657	654	565	769	634	684	631	838	687	761
European IB	3,425	3,466	3,182	3,725	3,340	4,056	3,231	3,271	2,979	3,663	2,839	2,725	2,558	2,818	2,416	2,504
BAML	1,535	1,556	1,297	1,738	1,542	1,631	1,351	1,541	1,487	1,526	1,287	1,272	1,153	1,225	1,255	1,300
Citi	1,169	1,158	945	1,148	1,059	1,345	1,254	1,070	1,202	1,290	944	1,131	875	1,225	975	1,050
GS	1,568	1,552	1,166	1,718	1,779	1,781	1,464	1,440	1,905	2,019	1,556	1,547	1,463	1,875	1,525	1,575
JPM	1,433	1,717	1,510	1,671	1,444	1,773	1,542	1,811	1,761	1,825	1,612	1,538	1,321	1,727	1,625	1,518
MS	945	1,078	992	1,362	1,136	1,432	1,340	1,295	1,173	1,440	1,181	1,214	990	1,225	1,000	1,075
US IB	6,650	7,061	5,910	7,637	6,960	7,962	6,951	7,157	7,528	8,100	6,580	6,702	5,802	7,277	6,380	6,518
Tracked totals	10,075	10,527	9,092	11,362	10,300	12,018	10,182	10,428	10,507	11,763	9,419	9,427	8,360	10,095	8,797	9,022

Source: UBS Research, Company data

Figure 5: Annual investment banking revenues – Historical data and UBS forecasts (\$ million)

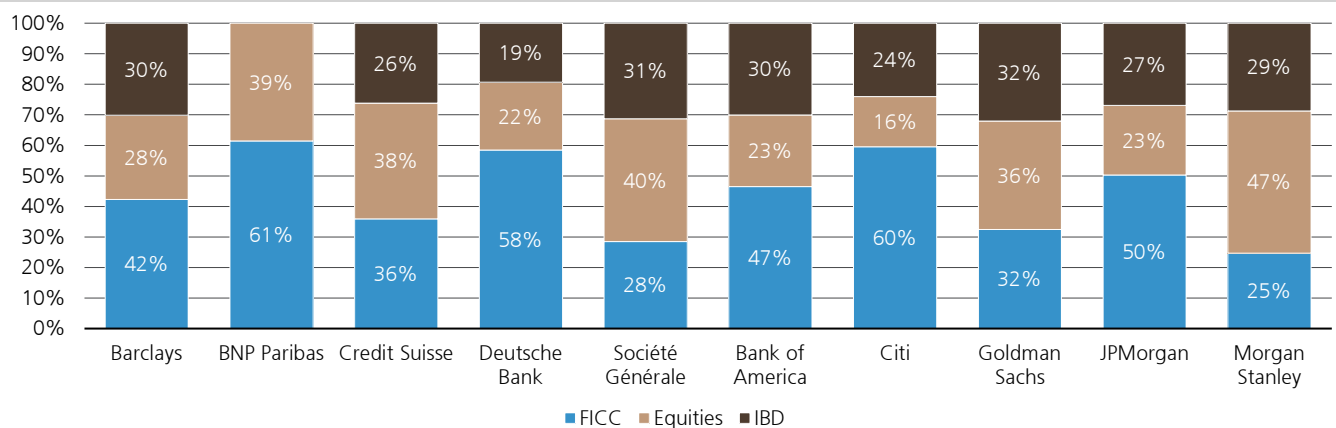
FICC							
US\$m	FY11	FY12	FY13	FY14	FY15	FY16E	FY17E
Barclays	9,722	7,863	5,999	4,525	4,533	4,144	4,152
BNP Paribas	4,994	5,854	4,824	4,470	3,842	3,133	3,341
CS	3,764	5,707	5,555	5,950	4,643	2,556	2,635
DB	11,873	11,331	9,055	9,050	8,984	7,692	7,963
SocGen	2,451	3,586	3,134	3,082	2,414	2,580	2,671
European IB	32,804	34,341	28,567	27,077	24,417	20,104	20,762
BAML	8,107	11,007	9,659	9,029	8,632	8,164	8,601
Citi	11,323	14,361	13,540	12,171	11,318	10,935	11,318
GS	8,618	10,329	8,660	8,197	7,107	5,913	6,872
JPM	14,784	15,412	15,468	14,075	12,592	12,197	12,635
MS	4,423	5,630	4,197	4,261	4,303	3,223	3,418
US IB	47,255	56,739	51,524	47,733	43,952	40,432	42,843
Tracked totals	80,059	91,080	80,091	74,810	68,369	60,536	63,605

Equities							
US\$m	FY11	FY12	FY13	FY14	FY15	FY16E	FY17E
Barclays	2,896	3,209	3,587	3,227	2,958	2,503	2,510
BNP Paribas	2,882	2,093	2,427	2,338	2,415	1,723	1,837
CS	4,821	4,620	4,936	4,767	4,861	3,793	3,925
DB	3,108	2,941	3,652	3,821	3,410	2,989	3,123
SocGen	3,308	2,424	3,371	3,370	3,414	2,849	2,941
European IB	17,015	15,287	17,974	17,523	17,059	13,858	14,336
BAML	3,735	3,267	4,209	4,145	4,358	4,248	4,499
Citi	2,237	2,281	2,905	2,722	3,121	2,856	3,041
GS	8,072	8,509	6,829	6,586	7,788	7,530	8,132
JPM	4,476	4,406	4,758	5,044	5,694	5,626	5,907
MS	6,151	5,837	6,607	6,905	8,125	7,956	8,433
US IB	24,671	24,300	25,308	25,402	29,086	28,216	30,013
Tracked totals	41,686	39,587	43,282	42,925	46,145	42,074	44,349

IBD							
US\$m	FY11	FY12	FY13	FY14	FY15	FY16E	FY17E
Barclays	3,393	3,236	3,899	3,484	3,225	2,511	2,546
BNP Paribas	0	0	0	0	0	0	0
CS	3,393	3,236	3,788	3,990	3,352	2,609	2,716
DB	3,108	3,246	3,705	3,740	2,977	2,264	2,433
SocGen	3,219	2,035	2,407	2,683	2,653	2,917	3,074
European IB	13,112	11,753	13,798	13,898	12,206	10,301	10,769
BAML	5,589	5,455	6,126	6,065	5,572	4,933	4,862
Citi	3,730	4,102	4,420	4,728	4,567	4,125	4,198
GS	4,355	4,926	6,004	6,464	7,027	6,438	6,282
JPM	5,859	5,769	6,331	6,570	6,736	6,191	6,238
MS	4,228	3,930	4,377	5,203	5,008	4,290	4,298
US IB	23,761	24,182	27,258	29,030	28,910	25,977	25,878
Tracked totals	36,873	35,935	41,056	42,928	41,116	36,279	36,647

Source: UBS Research, Company data

Figure 6: Investment banking revenue mix – FY2015



Source: UBS Research, Company data

Valuation

Figure 7: Valuation table

	Rating	Price target (local)	Price (local) 29-Jun-16	Adj. ROE 2016E	Adj. ROE 2017E	P/B (x) 2016E	P/B (x) 2017E	P/B (x) multi-year average**	P/B 2016E vs avg. (%)	Adj. ROTe 2016E	Adj. ROTe 2017E	P/TB (x) 2016E	P/TB (x) 2017E	P/E (x) 2016E	P/E (x) 2017E	P/E (x)* multi-year average**	Dividend yield 2016E (%)	Dividend yield 2017E (%)
Barclays	Buy	210.0	138.0	4.5	6.4	0.4	0.4	1.6	-74	5.2	7.3	0.5	0.5	9.5	6.5	9.6	2.2	2.2
BNP Paribas	Buy	50.0	39.5	7.5	7.0	0.5	0.5	1.1	-51	8.8	8.2	0.6	0.6	7.3	7.6	9.7	6.8	6.6
Credit Suisse	Buy	13.0	10.3	0.9	5.0	0.5	0.4	1.8	-74	1.0	5.6	0.5	0.5	56.3	9.4	11.1	0.0	0.0
Deutsche Bank	Neutral	12.5	12.7	1.6	3.9	0.3	0.3	1.1	-75	1.9	4.6	0.3	0.3	17.8	7.1	11.4	0.0	3.1
Société Générale	Buy	38.0	27.9	6.7	5.9	0.4	0.4	1.1	-61	7.4	6.5	0.5	0.5	6.6	7.4	9.7	7.5	6.8
Average Europe				4.2	5.6	0.4	0.4	1.3	-67	4.9	6.4	0.5	0.5	19.5	7.6	10.3	3.3	3.7
Bank of America / ML	Buy	18.0	13.2	5.6	6.8	0.5	0.5	1.4	-62	8.2	9.7	0.8	0.7	10.5	8.2	11.0	1.9	3.4
Citigroup	Buy	54.0	42.1	6.2	6.8	0.6	0.5	1.8	-69	7.1	7.7	0.6	0.6	9.3	7.8	17.0	1.0	1.7
Goldman Sachs	Buy	185.0	145.5	8.4	9.2	0.8	0.7	1.6	-50	8.9	9.8	0.8	0.8	9.8	8.3	11.7	1.9	2.0
JPMorgan	Buy	68.0	61.2	9.0	9.4	1.0	0.9	1.4	-34	11.5	11.9	1.2	1.1	11.0	9.9	10.9	3.1	3.2
Morgan Stanley	Buy	32.0	25.2	6.8	7.8	0.7	0.6	1.8	-63	7.9	9.0	0.8	0.7	10.3	8.4	11.5	2.8	3.3
Average US				7.2	8.0	0.7	0.7	1.6	-54	8.7	9.6	0.9	0.8	10.8	9.0	12.5	1.9	2.5
Average total				5.7	6.8	0.6	0.6	1.5	-60	6.8	8.0	0.7	0.6	15.2	8.3	11.4	2.6	3.1

Source: IBES, Thomson Datastream, UBS estimates, Deutsche Bank multi-year PE ratio inflated due to unrealised gains on industrial holdings

* 12-month forward PE; ** Barclays 21-year average, BNP 21-year avg., Credit Suisse 21-year avg., Deutsche Bank 21-year avg., SocGen 21-year avg., UBS 21-year avg., Bank of America 21-year avg., Citigroup 21-year avg., Goldman Sachs 17-year avg., JPMorgan 21-year avg., Morgan Stanley 21-year avg.;

Investment cases

Barclays (Buy, 210p)

Barclays share price has suffered a material retrenchment in the fallout from the EU referendum result. As discussed in our recent pan-European banks note (<https://neo.ubs.com/shared/d1y7R1tNpS6U>) we see the bank as being exposed to revenue risks in both its retail unit - driven by mortgage repricing on the 50bps of UK rate cuts we now expect - and from volatile and potentially disappointing investment banking revenues.

Barclays, trading at 6.5x 2017e adjusted EPS and 0.5x 2016e TNAV is a heavily discounted share, with little yield support. Though we think the bank has enough capital, economic conditions exacerbate 2016's existing role as a year of transition. We have a Buy recommendation and 210p target price.

BNP Paribas (Buy; €50)

BNPP is trading at 0.6x TNAV for a prospective RoTE of 8.5%. We also see the bank returning c30% of its market cap over the next four years. We think this is an

attractive combination in a world in which most developed-market sovereign rates are currently below zero at the short and medium end of the curve.

Credit Suisse (Buy; CHF13)

We still think CS can close its current cCHF5bn capital shortfall. Some CHF4bn of retained earnings until 2018E and RWA down -4% will bring the CET 1 capital ratio to 11.8% in 2016E, 12.7% in 2017E and 13.2% in 2018E, slightly above the 13% target. We assume cCHF50bn RWA inflation in 2019E (CET1 ratio 12.2% still above the 11% post-RWA inflation target). We do not yet explicitly factor in the Swiss IPO which could add c100bp to the CET1 capital ratio. Likewise, we do not factor in major additional litigation charges (as a rule of thumb, a CHF1bn net charge equals c-35bp of the CET 1 capital ratio). A key uncertainty remains: How much will RWA inflation push risk density above the FRTB2-implied minimum level of 35%? Regulatory visibility will increase in H2 2016 and this offers CS the opportunity to update the market with new targets: we think this could include lower LRD (CHF850bn?) and RWA targets (CHF300bn? 35% of LRD) as well as lower profit and ROTE targets (>10%?).

Credit Suisse is hit on several fronts from the direct and indirect effects of the UK referendum: Lower IB revenues at least short-term, operational frictions, negative for longer interest rates, lower client activity levels and lower assets under management. The short-term cost-flex is limited as discussed in our recent report. We now predict a loss for 2016E. In order to protect the capital rebuild, we now assume zero cash/scrip divi for both 2016 and 2017 which creates cCHF1.5bn of CET 1 capital (c50bp).

We see the ROTE going to c7% in 2018 and above COE once the dust settles. We see ROEs in all operating divisions solidly above COE-levels. Litigation, (industry wide) revenue weakness, regulatory tightening are key remaining vulnerabilities. We see the ROTE going to c5% in 2017 and c7% in 2018 (target 14%). We see 2018 costs at cCHF16.8bn (target CHF<18bn), revenues at CHF21.3bn (target cCHF28-29bn).

Deutsche Bank (Neutral; €12.5)

2016 is turning into an extremely challenging year for Deutsche. Revenue headwinds and peak restructuring costs could translate into a break-even year. Weak results have masked good progress on many fronts though: non-core wind-down, litigation, sale of businesses, retail branch closures outside Germany, Postbank separation, country exits, changing processes incl off-boarding clients, shrink securitized trading, decommissioned 500 applications (12% of total), off-boarded 700 vendors.

How to close the EUR7bn capital shortfall and other key vulnerabilities? We believe Deutsche Bank will be able to improve its low or even negative current ROTE levels. The improvement will mainly come from cost reduction, in our view, while Deutsche will try to defend its revenue base. Retained earnings (30% dividend payout 2017 and beyond) and various initiatives successfully capping RWA inflation should bring the CET 1 capital ratio to 11% in 2016E, 12.7% in 2017E, 13.4% in 2018E and 12.8% in 2019E, above the 12.5% target. The likely non-core asset reduction and the already announced Hua Xia sale should each add 50bp to the CET 1 capital ratio. The disposal/IPO of Postbank in 2017 could additionally add 100bp. Litigation, (industry-wide) revenue weakness and regulatory tightening are key remaining vulnerabilities.

A structural drag on group ROEs is mainly coming from Global Markets (GM). We think the market remains unwilling to use 2018 ROTE levels for valuation purposes. Private banking, asset management and GTB businesses should be able to produce ROEs above 10%; GM could struggle to get there any time soon. We think a meaningful portion of the IB balance sheet (EUR200-300bn?) is unproductive and sticky yielding very weak ROEs and it could have an average remaining maturity of at least five years. The ROE of new business ('front book') however is >10% we understand.

Increasing CET 1 ratio from c11% to the target 12.5% could be perceived to be a struggle due to: 1) low ROEs, 2) RWA inflation, 3) pent-up investments needs, 4) deleveraging/ restructuring costs, 5) challenging operating conditions, 6) litigation, 7) macro trends. The recent turmoil impacts Deutsche mainly in the investment banking businesses as well as in private banking and asset management.

Société Générale (Buy; €38)

SocGen is trading at an attractive valuation of 0.5x TNAV for a prospective ROTE of c.7%. We expect the French Retail banking operations to deliver resilient returns in the next few years thanks to a combination of significant cost efforts and a lower tax rate. Asset quality is improving in CEE we think from 2016 onwards and we still see some unexploited synergy potential in a number of CEE countries. Finally the market looks to be discounting the forecast dividend stream too harshly as SocGen's relatively high CET1 management buffer adds credibility to our 6% dividend yield.

Operating conditions

Figure 8: Operating conditions – As of June 29, 2016

Macro backdrop													
GDP, % y/y		2007	2008	2009	2010	2011	2012	2013	2014	2015E	2016E	2017E	
US		1.8	-0.3	-2.8	2.5	1.6	2.2	1.5	2.4	2.4	1.7	2.5	
Japan		2.2	-1.0	-5.5	4.7	-0.6	2.0	1.6	0.0	0.6	0.5	1.1	
Eurozone		3.1	0.5	-4.5	2.1	1.6	-0.9	-0.3	0.9	1.6	1.6	1.7	
Asia*		10.9	6.7	6.7	9.5	7.4	6.3	6.4	6.3	6.0	5.8	5.7	
World		6.0	3.3	0.9	6.1	4.4	3.5	3.4	3.4	3.2	3.0	3.4	
Advisory & Origination													
M&A	Y1D16	Y1D15	FY15	FY14	2Q16 Q1D	1Q16	4Q15	MD16	May-16	Apr-16	Y/Y Ytd	Q/Q**	M/M
Global Announced M&A (\$bn)	1,651	2,108	4,702	3,461	896	755	1,408	346	256	242	-22%	20%	35%
Global Completed M&A (\$bn)	1,688	1,896	4,042	3,043	812	876	1,038	310	277	257	-11%	-6%	12%
ECM	Y1D16	Y1D15	FY15	FY14	2Q16 Q1D	1Q16	4Q15	MD16	May-16	Apr-16	Y/Y Ytd	Q/Q**	M/M
Global ECM Total (\$bn)	323	545	913	937	184	139	216	57	59	49	-41%	34%	-3%
Global IPO (\$bn)	46	102	194	264	32	14	69	11	10	7	-55%	130%	18%
Global Follow-on (\$bn)	238	392	629	568	131	107	127	41	46	35	-39%	23%	-11%
Global Convertible (\$bn)	39	51	89	104	21	17	20	4	3	7	-24%	25%	53%
DCM	Y1D16	Y1D15	FY15	FY14	2Q16 Q1D	1Q16	4Q15	MD16	May-16	Apr-16	Y/Y Ytd	Q/Q**	M/M
Global DCM Total (\$bn)	3,401	3,398	6,125	6,368	1,686	1,715	1,345	675	661	669	0%	-1%	2%
Global Investment Grade (\$bn)	1,722	1,729	3,155	3,209	815	907	718	370	277	386	0%	-9%	34%
Global High Yield (\$bn)	221	282	418	522	138	84	64	55	49	52	-22%	67%	12%
Global Structured Finance (\$bn)	316	423	810	796	168	148	187	62	80	49	-25%	15%	-23%
Global Sovereign (\$bn)	998	845	1,501	1,662	513	486	319	178	229	154	18%	7%	-22%
Global Covered Bonds (\$bn)	144	119	240	213	52	91	57	10	27	27	21%	-42%	-62%
Exchange volume data													
FICC volumes (CME Group, ADV)		MD	May-16	Apr-16	Q1D	1Q16	4Q15	Y1D	2015		M/M	Q/Q	Y/Y
Interest Rates ('000 contracts)		7,460	7,455	5,525	6,792	8,246	6,097	8,301	6,720		0%	-18%	24%
Energy ('000 contracts)		2,262	2,234	2,463	2,321	2,536	2,032	2,553	1,970		1%	-8%	30%
FX ('000 contracts)		1,050	716	771	839	944	779	949	872		47%	-11%	9%
Commodities ('000 contracts)		1,814	1,416	1,941	1,723	1,206	1,200	1,185	1,266		28%	43%	-6%
Metals ('000 contracts)		485	479	440	468	454	326	457	344		1%	3%	33%
Cash Equities and Derivative volumes (ADV)		MD	May-16	Apr-16	Q1D	1Q16	4Q15	Y1D	2015		M/M	Q/Q	Y/Y
Total US Equities (shares millions)		7,476	7,039	7,112	7,193	8,564	7,067	8,613	6,935		6%	-16%	24%
Total US Options ('000 contracts)		16,498	14,818	15,802	15,680	17,109	16,005	17,180	16,443		11%	-8%	4%
Signpost changes													
Equities	31-Dec-15	Current	-1w	-1m	-1q	-1yr		y/y	-1w	-1m	-1q	-1yr	
CBOE SPX Volatility Index (VIX Index)	18.2	19.7	17.3	14.2	13.1	16.1		8%	14%	39%	50%	22%	
CBOE NDX Volatility Index (VXN Index)	19.6	21.1	18.2	15.3	15.8	17.6		7%	16%	38%	33%	20%	
Rates	31-Dec-15	Current	-1w	-1m	-1q	-1yr		y/y	-1w	-1m	-1q	-1yr	
USD 10yr / 3m Spread (bps)	157	71	99	102	102	224		-55%	-28%	-30%	-30%	-68%	
EUR 10yr / 3m Spread (bps)	94	34	48	48	47	114		-64%	-30%	-30%	-29%	-70%	
Interest Rate Volatility (MOVE)	68	82	74	68	67	90		20%	10%	20%	22%	-10%	
EUR 2Yr Swap Bid/Ask Spread 90-day Trailing Avg (bps)	0.98	0.90	0.89	0.86	0.93	1.48		-8%	1%	5%	-3%	-39%	
USD 2Yr Swap Bid/Ask Spread 90-day Trailing Avg (bps)	0.38	0.37	0.37	0.37	0.34	0.43		-3%	0%	0%	6%	-16%	
Credit	31-Dec-15	Current	-1w	-1m	-1q	-1yr		y/y	-1w	-1m	-1q	-1yr	
US High-Grade Spread (A vs. 10-yr Treas, bps)	124	111	102	100	109	106		-11%	9%	10%	1%	4%	
EUR High-Grade Spread (A vs. 10-yr Treas, bps)	86	92	81	87	83	79		6%	14%	5%	10%	16%	
FX	31-Dec-15	Current	-1w	-1m	-1q	-1yr		y/y	-1w	-1m	-1q	-1yr	
USD/EUR Bid/Ask Spread 90-day Trailing Avg (pips)	1.21	1.18	1.18	1.17	1.26	1.20		-3%	0%	1%	-6%	-2%	
USD/GBP Bid/Ask Spread 90-day Trailing Avg (pips)	2.61	1.20	1.20	1.20	3.66	1.70		-54%	0%	0%	-67%	-29%	
USD/JPY Bid/Ask Spread 90-day Trailing Avg (pips)	107	103	103	103	104	112		-3%	0%	0%	-1%	-8%	
Currency Volatility (CVIX)	9.4	11.5	10.7	10.3	11.3	10.4		22%	8%	12%	2%	10%	
Commodities	31-Dec-15	Current	-1w	-1m	-1q	-1yr		y/y	-1w	-1m	-1q	-1yr	
Dow Jones - UBS Commodity Index	79	88	88	85	78	102		12%	0%	3%	13%	-13%	
Commodities Volatility 30-day Trailing (pps)	15.4	14.3	12.9	15.2	15.4	13.9		-7%	11%	-6%	-7%	3%	
Gold Spot Exchange Rate \$/OZ	1061	1313	1257	1215	1223	1169		24%	4%	8%	7%	12%	
WTI Light Sweet Crude Oil Future (Generic)	37	47	50	49	37	57		28%	-6%	-4%	28%	-17%	
Mortgages / Structured Credit	31-Dec-15	Current	-1w	-1m	-1q	-1yr		y/y	-1w	-1m	-1q	-1yr	
MBA Refi Index	1,273	2,189	2,189	2,006	1,785	1,380		72%	0%	9%	23%	59%	
Freddie Mac 15yr Mortgage Rate (pct)	3.2	2.8	2.8	2.9	3.0	3.2		-13%	0%	-2%	-5%	-12%	
Short-term funding	31-Dec-15	Current	-1w	-1m	-1q	-1yr		y/y	-1w	-1m	-1q	-1yr	
3m EURIBOR - EONIA (bps)	0.6	0.6	0.6	0.7	0.6	0.3		2%	-2%	-9%	0%	121%	
US 3m LIBOR - OIS (bps)	-0.1	-0.3	-0.3	-0.3	-0.2	0.0		115%	4%	8%	15%	1907%	
3m TED Spread (bps)	10.4	8.1	8.2	8.1	10.0	10.5		-22%	-2%	0%	-19%	-22%	

Source: Bloomberg, CME Group, NYSE Euronext, NASDAQ OMX Group, Markit, Dealogic, UBS estimates

Note: All data as of 29 June 2016. Mtd refers to June 2016.

* excluding Japan, including Australia and New Zealand ** grossed-up figure for the full quarter

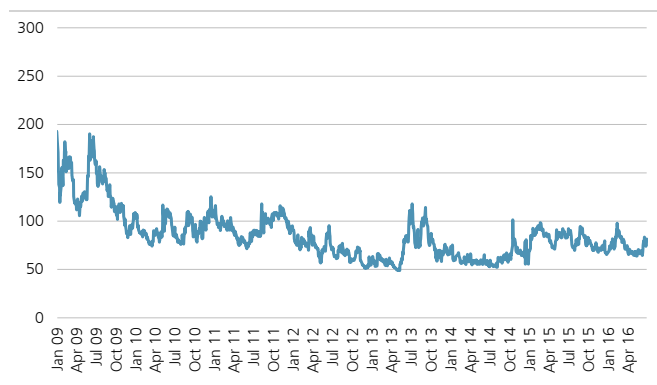
Rates

Figure 9: Overview of interest rate signpost changes

Rates Signposts	31-Dec	Actual	-1w	-1m	-1q	-1yr	YtD	-1w	-1m	-1q	-1yr
USD 10yr / 3m Spread (bps)	157	71	99	102	102	224	-55%	-28%	-30%	-30%	-68%
EUR 10yr / 3m Spread (bps)	94	34	48	48	47	114	-64%	-30%	-30%	-29%	-70%
Interest Rate Volatility (MOVE)	67.9	81.6	74.0	67.9	67.0	90.3	20%	10%	20%	22%	-10%
EUR 2Yr Swap Bid/Ask Spread 90-day Trailing Avg (bps)	0.98	0.90	0.89	0.86	0.93	1.48	-8%	1%	5%	-3%	-39%
USD 2Yr Swap Bid/Ask Spread 90-day Trailing Avg (bps)	0.38	0.37	0.37	0.37	0.34	0.43	-3%	0%	0%	6%	-16%

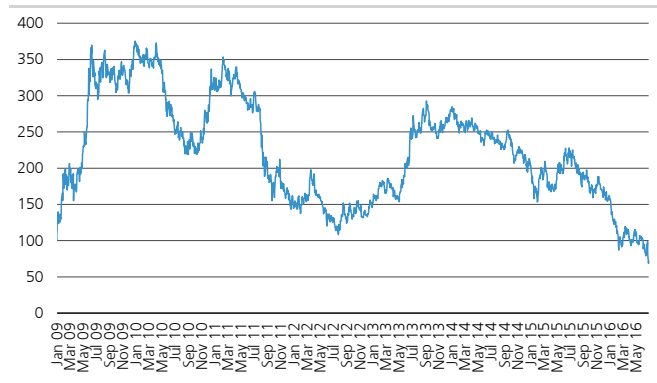
Source: Bloomberg, UBS

Figure 10: Interest Rate Volatility - MOVE Index



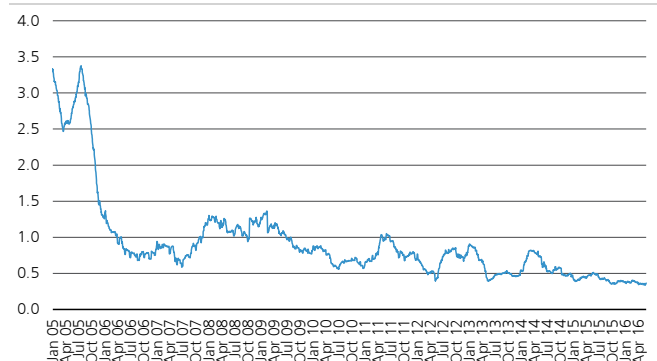
Source: Bloomberg, UBS

Figure 12: USD 10-year/3-month spread – daily (bp)



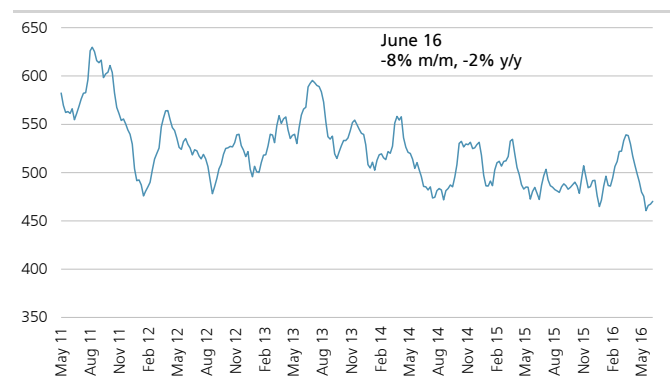
Source: Bloomberg, UBS

Figure 14: USD 2-year swap bid/ask spread – 90-day trailing avg. (bp)



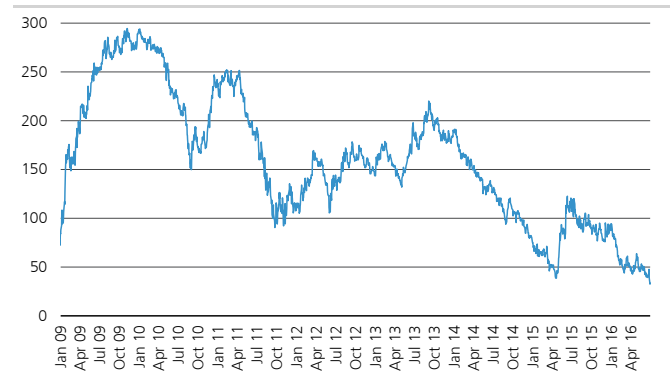
Source: Bloomberg, UBS

Figure 11: Primary dealer daily avg. trading inventories – US govt. securities (\$ billions)



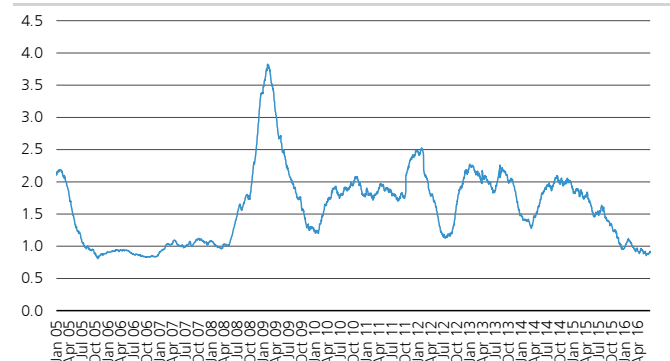
Source: Federal Reserve Bank of New York, Bloomberg, UBS

Figure 13: EUR 10-year/3-month spread – daily (bp)



Source: Bloomberg, UBS

Figure 15: EUR 2-year swap bid/ask spread – 90-day trailing avg. (bp)



Source: Bloomberg, UBS

Credit

Figure 16: Overview of credit signpost changes

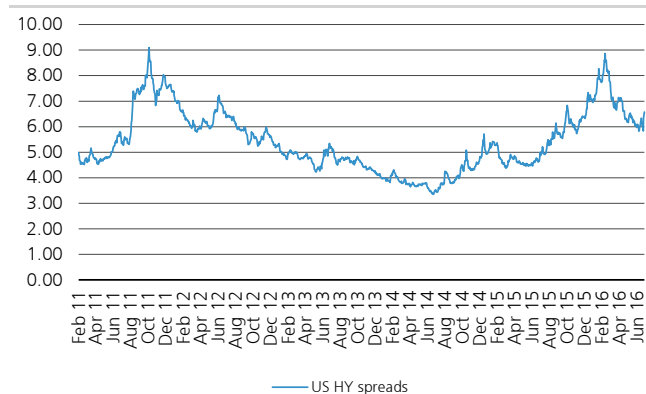
Credit Signposts	31-Dec	Actual	-1w	-1m	-1q	-1yr	YtD	-1w	-1m	-1q	-1yr
US High-Grade Spread (A vs. 10-yr Treas, bps)	124	111	102	100	109	106	-11%	9%	10%	1%	4%
EUR High-Grade Spread (A vs. 10-yr Treas, bps)	86	92	81	87	83	79	6%	14%	5%	10%	16%
US High-Yield Spread (BB vs. 10-yr Treas, bps)	230	230	230	230	230	230	0%	0%	0%	0%	0%
EUR High-Yield Spread (BB vs. 10-yr Treas, bps)	248	248	248	248	248	248	0%	0%	0%	0%	0%
IG 5Yr Bid/Ask Spread (bps)	63	88	88	88	86	48	39%	0%	0%	2%	83%
HY 5Yr Bid/Ask Spread (bps)	11	15	15	15	15	10	34%	0%	0%	-1%	53%
US Corporate Securities Avg Daily Trading Value (\$bn)	21	31	31	31	34	26	47%	0%	0%	-11%	19%
iTraxx Europe	77	74	71	79	92	67	-5%	4%	-7%	-20%	9%
iTraxx Europe XOver	315	313	305	333	375	307	0%	3%	-6%	-17%	2%

Source: Bloomberg, Federal Reserve of St. Louis, UBS

Note: IG = Investment Grade; HY = High Yield

Credit Spreads

Figure 17: US High Yield credit spreads (%)



Source: Federal Reserve Bank of St. Louis, Bank of America Merrill Lynch

Note: BofA Merrill Lynch US High Yield Master II Option-Adjusted Spread

Figure 19: Emerging Market \$ High Yield credit spreads (%)



Source: Federal Reserve Bank of St. Louis, Bank of America Merrill Lynch

Note: BofA Merrill Lynch High Yield Emerging Markets Corporate Plus Sub-Index Option-Adjusted Spread

Figure 18: US Investment Grade credit spreads (%)



Source: Federal Reserve Bank of St. Louis, Bank of America Merrill Lynch

Note: BofA Merrill Lynch US Corporate Master Option-Adjusted Spread

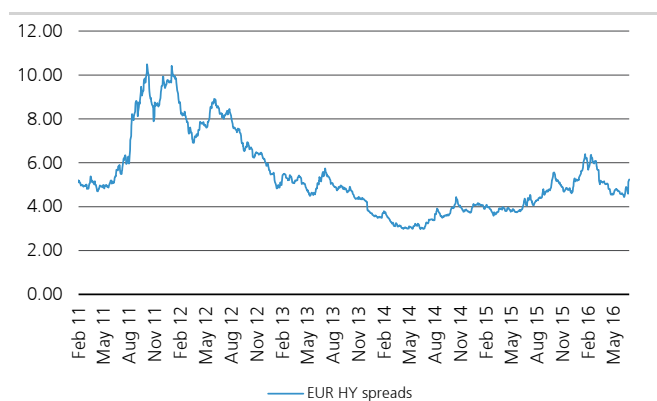
Figure 20: Emerging Market \$ Investment Grade credit spreads (%)



Source: Federal Reserve Bank of St. Louis, Bank of America Merrill Lynch

Note: BofA Merrill Lynch High Grade Emerging Markets Corporate Plus Sub-Index Option-Adjusted Spread

Figure 21: EUR Market High Yield credit spreads (%)

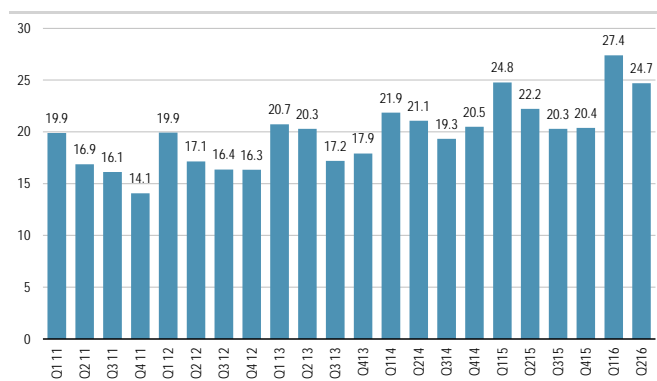


Source: Federal Reserve Bank of St. Louis, Bank of America Merrill Lynch

Note: BofA Merrill Lynch High Yield Emerging Markets Corporate Plus Sub-Index Option-Adjusted Spread

US Credit Trading Volumes

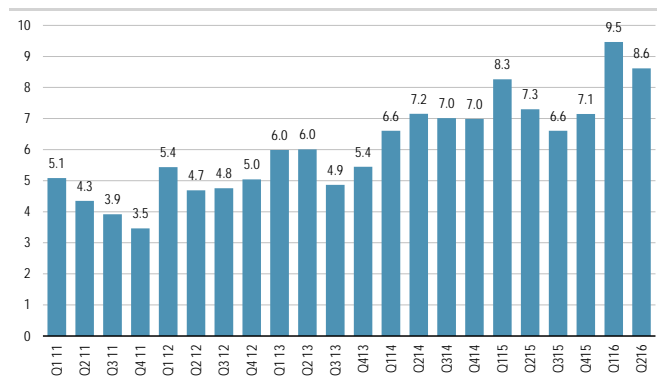
Figure 22: Avg. US total credit trading volumes (\$ billion)



Source: FINRA, Bloomberg, UBS Research

Note: Sum of US Investment grade, High Yield and Convertible bond trading volumes

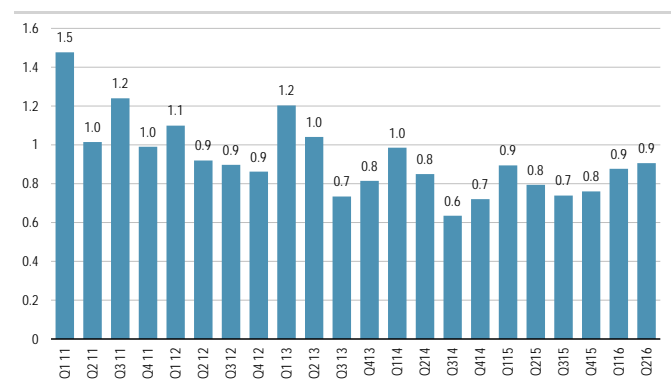
Figure 24: Avg. US High Yield credit trading volumes (\$ billion)



Source: FINRA, Bloomberg, UBS Research

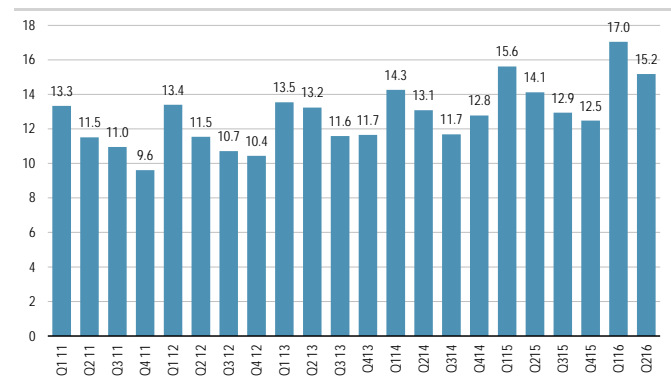
Note: Sum of US Investment grade, High Yield and Convertible bond trading volumes

Figure 23: Avg. US Convertible bond trading volumes (\$ billion)



Source: FINRA, Bloomberg, UBS Research

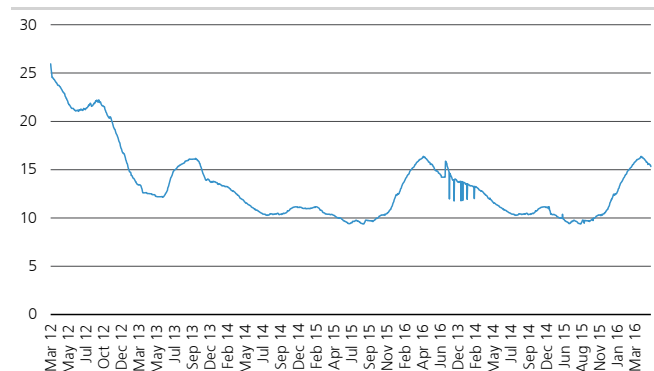
Figure 25: Avg. US Investment Grade credit trading volumes (\$ billion)



Source: FINRA, Bloomberg, UBS Research

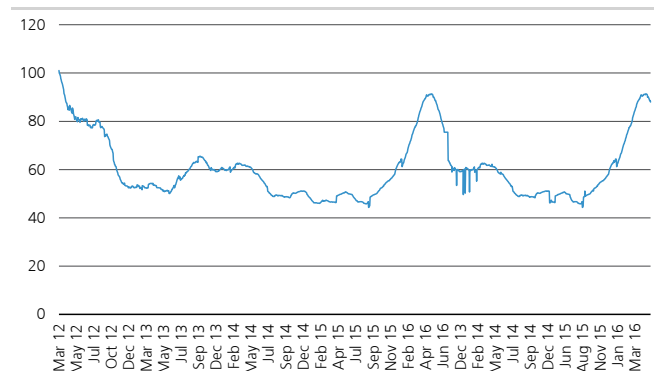
US Bid/Ask spreads

Figure 26: US HY 5yr Bid/Ask Spread - 90-Day Trailing Average (bps)



Source: Bloomberg, UBS

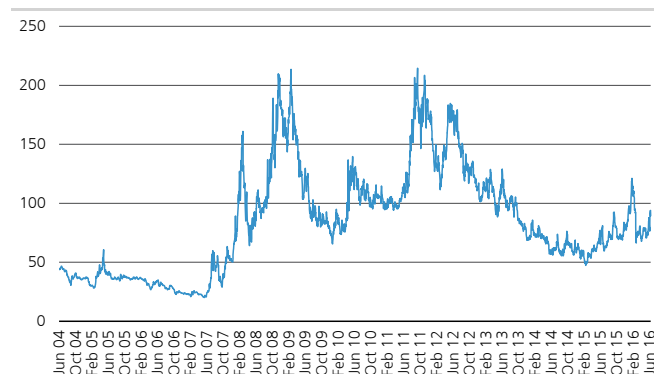
Figure 27: US IG 5yr Bid/Ask Spread - 90-Day Trailing Average (bps)



Source: Bloomberg, UBS

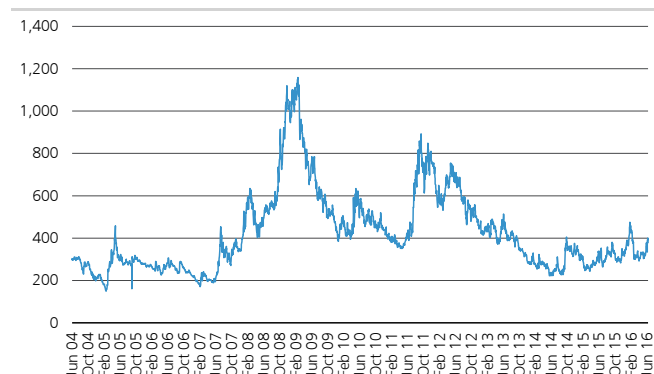
CDS

Figure 28: ITraxx Europe



Source: Bloomberg, UBS

Figure 29: ITraxx Europe XOver



Source: Bloomberg, UBS

Figure 30: CDX North America Investment Grade



Source: Bloomberg, UBS

Figure 31: CDX North America High Yield



Source: Bloomberg, UBS

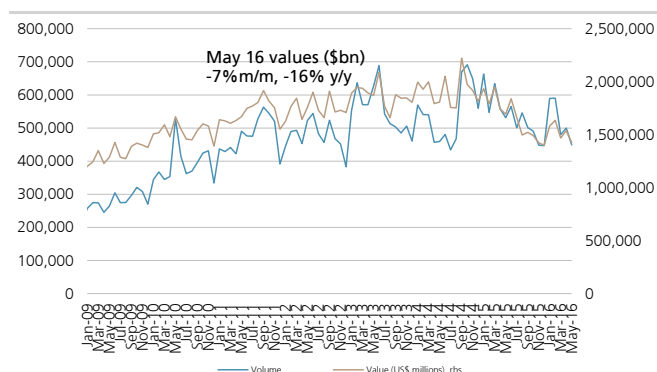
Foreign Exchange

Figure 32: Overview of FX signpost changes

FX Signposts	31-Dec	Actual	-1w	-1m	-1q	-1yr	YtD	-1w	-1m	-1q	-1yr
USD/EUR FX Rate	1.09	1.11	1.14	1.11	1.14	1.11	2%	-3%	-1%	-3%	0%
USD/GBP FX Rate	0.68	0.75	0.67	0.69	0.70	0.64	11%	12%	9%	7%	17%
USD/JPY FX Rate	120.2	102.7	106.2	110.7	111.7	123.2	-15%	-3%	-7%	-8%	-17%
USD/EUR Bid/Ask Spread 90-day Trailing Avg (pips)	1.2	1.2	1.2	1.2	1.3	1.2	-3%	0%	1%	-6%	-2%
USD/GBP Bid/Ask Spread 90-day Trailing Avg (pips)	28.37	25.40	25.40	25.40	32.20	26.41	-10%	0%	0%	-21%	-4%
USD/JPY Bid/Ask Spread 90-day Trailing Avg (pips)	107	103	103	103	104	112	-3%	0%	0%	-1%	-8%
Currency Volatility (CVIX)	9.4	11.5	10.7	10.3	11.3	10.4	22%	8%	12%	2%	10%

Source: Bloomberg, UBS

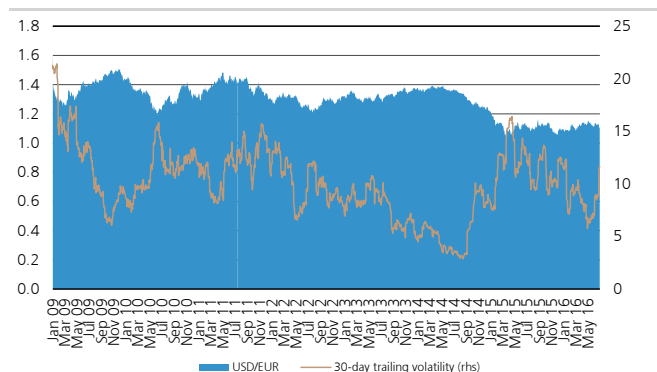
Figure 33: CLS FX Trading Volumes – Lagging data



Source: CLS

Note: data available with a month of time-lag. The values and volumes of FX transactions by instrument are on a CLS 'as traded' basis (see additional notes).

Figure 35: USD/EUR



Source: Bloomberg, UBS Research

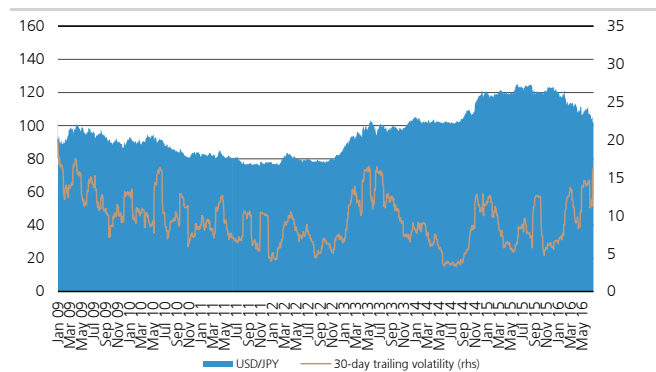
Figure 34: Currency Volatility - CVIX Index



Source: Bloomberg

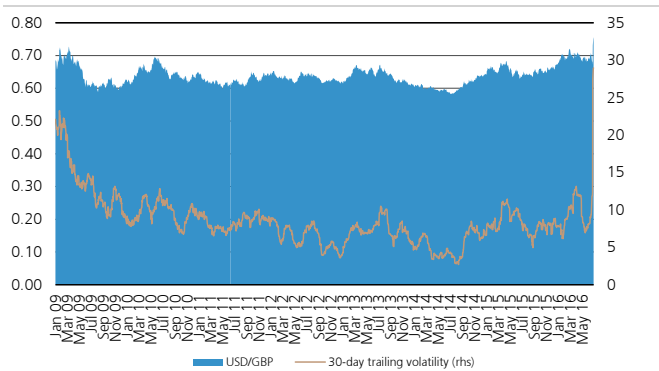
Note: 3m implied FX Volatility Index

Figure 36: USD/JPY



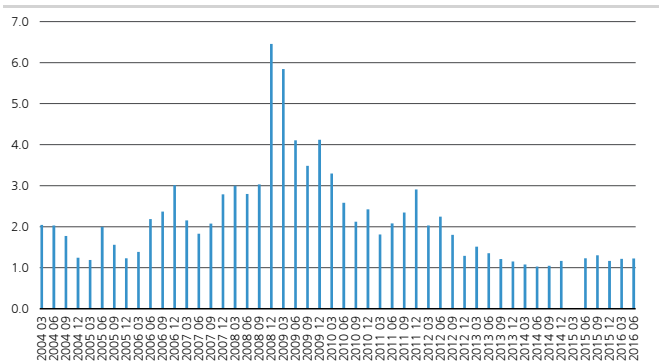
Source: Bloomberg, UBS Research

Figure 37: USD/GBP



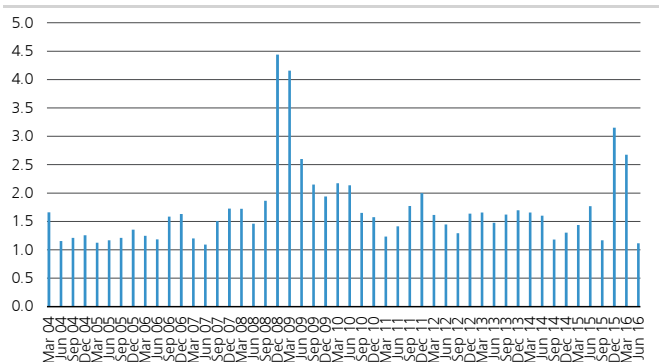
Source: Bloomberg, UBS Research

Figure 38: USD/EUR Bid/Ask Spread - Quarterly Average (pips)



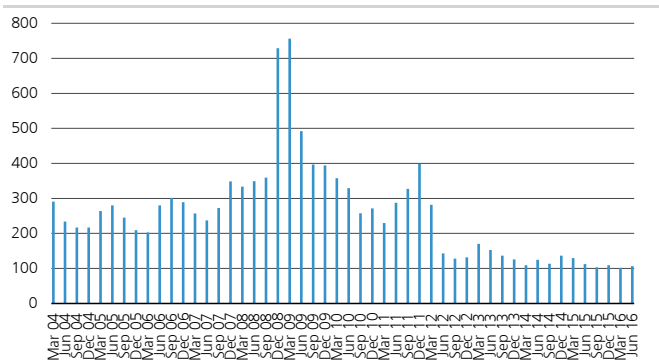
Source: Bloomberg, UBS Research

Figure 40: USD/GBP Bid/Ask Spread - Quarterly Average (pips)



Source: Bloomberg, UBS Research

Figure 39: USD/JPY Bid/Ask Spread - Quarterly Average (pips)



Source: Bloomberg, UBS Research

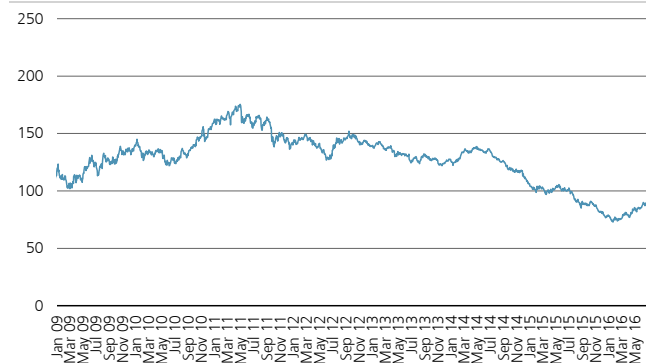
Commodities

Figure 41: Overview of Commodities signpost changes

Commodity Signposts	31-Dec	Actual	-1w	-1m	-1q	-1yr	YtD	-1w	-1m	-1q	-1yr
Dow Jones - UBS Commodity Index	79	88	88	85	78	102	12%	0%	3%	13%	-13%
Commodities Volatility (30-day Trailing Avg)	15.4	14.3	12.9	15.2	15.4	13.9	-7%	11%	-6%	-7%	3%
Gold Spot Exchange Rate \$/OZ	1,061	1,313	1,257	1,215	1,223	1,169	24%	4%	8%	7%	12%
WTI Light Sweet Crude Oil Future (Generic)	37.0	47.3	50.1	49.1	36.8	57.0	28%	-6%	-4%	28%	-17%

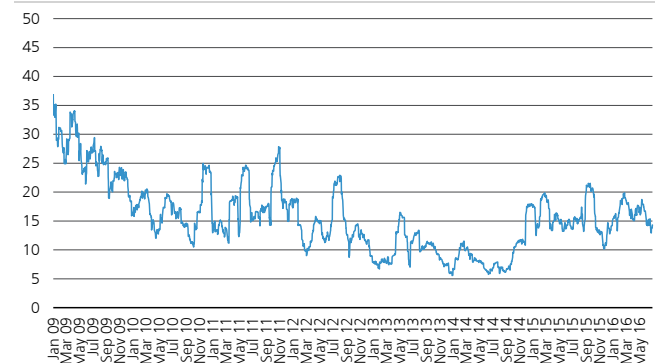
Source: Bloomberg, UBS

Figure 42: Bloomberg Commodity Index



Source: Bloomberg, UBS

Figure 43: Commodities price volatility (30-day trailing)



Source: Bloomberg, UBS

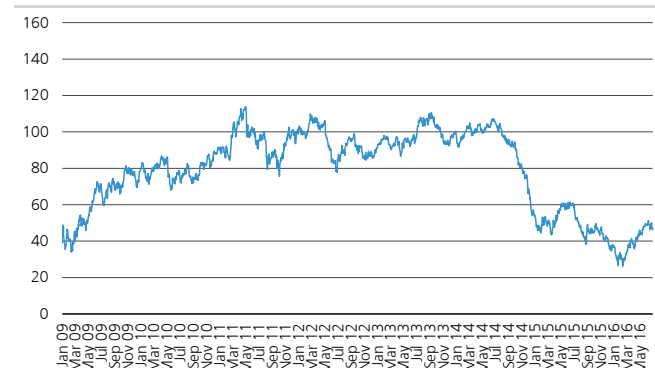
Note: 30-day trailing volatility of the Bloomberg Commodity Index

Figure 44: Gold spot exchange rate (US\$/oz)



Source: Bloomberg, UBS

Figure 45: WTI light sweet crude oil future (generic)



Source: Bloomberg, UBS

Equities

Figure 46: Overview of Equities signpost changes

Volatility Signposts	31-Dec	Actual	-1w	-1m	-1q	-1yr	YtD	-1w	-1m	-1q	-1yr
CBOE SPX Volatility Index	18.2	16.3	13.8	14.1	21.8	14.3	-10%	19%	16%	-25%	14%
CBOE NDX Volatility Index	19.6	19.3	17.1	16.9	25.4	16.7	-2%	13%	15%	-24%	16%
VDAX Volatility Index	21.1	21.7	19.7	21.6	27.9	24.2	2%	10%	0%	-23%	-10%

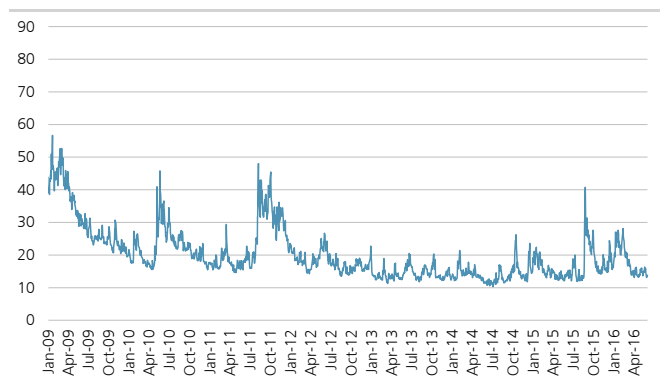
Derivative Signposts (90-day Trailing Avg)	Amounts						% change				
	31-Dec	Actual	-1w	-1m	-1q	-1yr	YtD	-1w	-1m	-1q	-1yr
U.S. Option Volume (millions)	16,282	15,846	16,006	16,037	16,608	15,458	-3%	-1%	-1%	-5%	3%

Index Signposts	Amounts						% change				
	31-Dec	Actual	-1w	-1m	-1q	-1yr	YtD	-1w	-1m	-1q	-1yr
DJ Stoxx 600 Index	366	341	348	334	329	391	-7%	-2%	2%	4%	-13%
NASDAQ 100 Index	4,593	4,341	4,417	4,512	4,168	4,409	-5%	-2%	-4%	4%	-2%
S&P 500 Index	2,044	2,065	2,095	2,066	1,915	2,089	1%	-1%	0%	8%	-1%
Nikkei 225 Index	19,034	16,666	17,290	16,123	17,045	19,532	-12%	-4%	3%	-2%	-15%

Source: Bloomberg, UBS

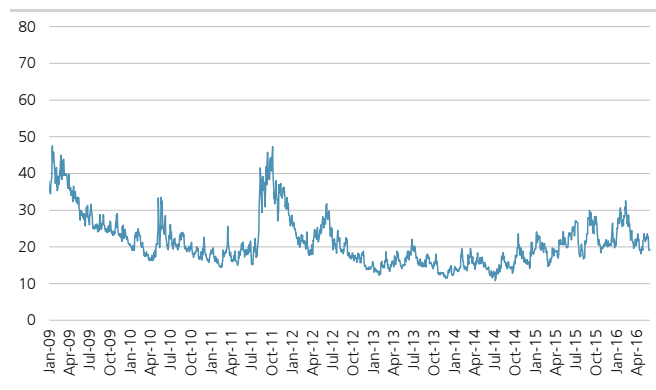
Volatility

Figure 47: CBOE SPX Volatility Index (VIX)



Source: Bloomberg, UBS

Figure 48: CBOE VVIX (Volatility of VIX)

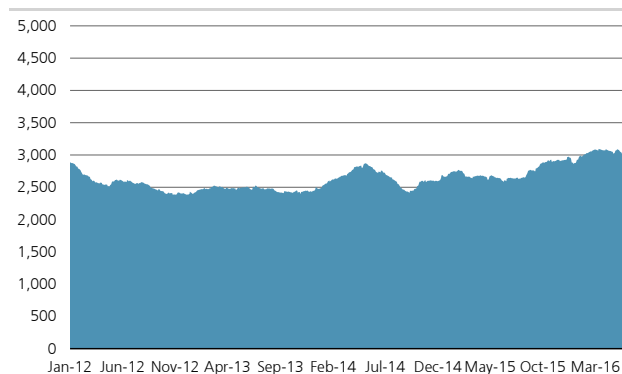


Source: Bloomberg, UBS

Note: The VVIX Index is an indicator of the expected volatility of the 30-day forward price of the VIX. This volatility drives nearby VIX option prices.

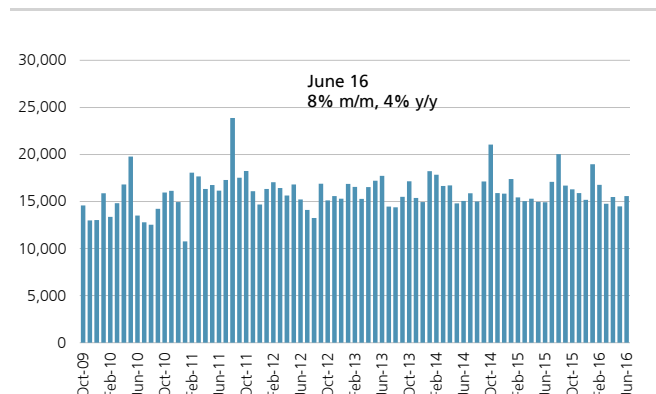
United States

Figure 49: NYSE & NASDAQ Combined Avg Daily Share Volume - 90-day Trailing Average (shares millions)



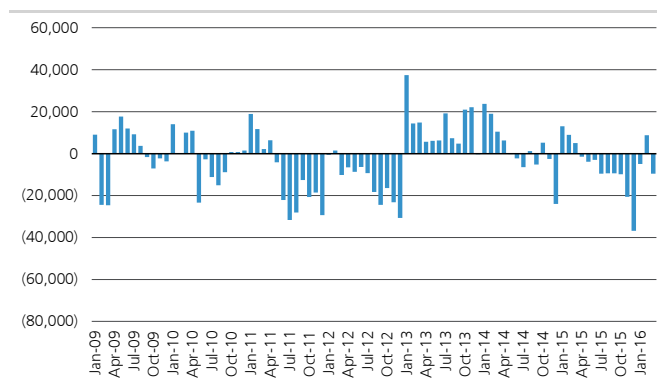
Source: Bloomberg, UBS

Figure 50: US Options Avg Daily Volume - Monthly (shares millions)



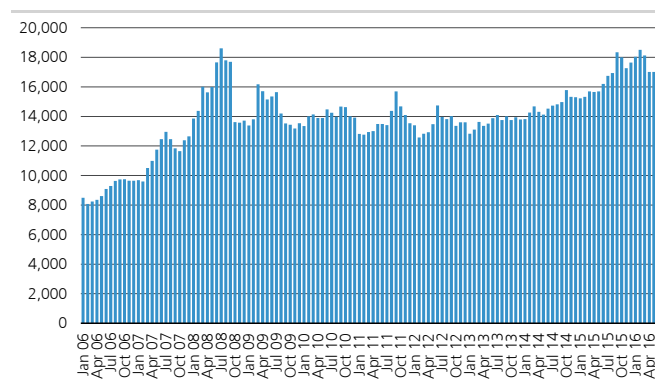
Source: Bloomberg, UBS

Figure 51: US Equity Fund Flows - Monthly (\$ million)



Source: Investment Company Institute

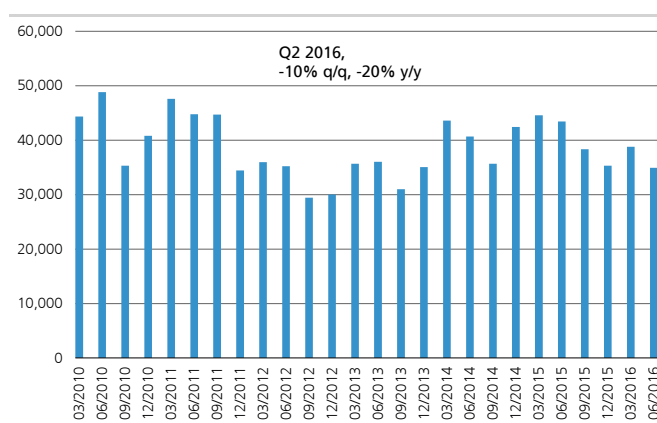
Figure 52: NYSE Short Interest Volume (shares million)



Source: Bloomberg

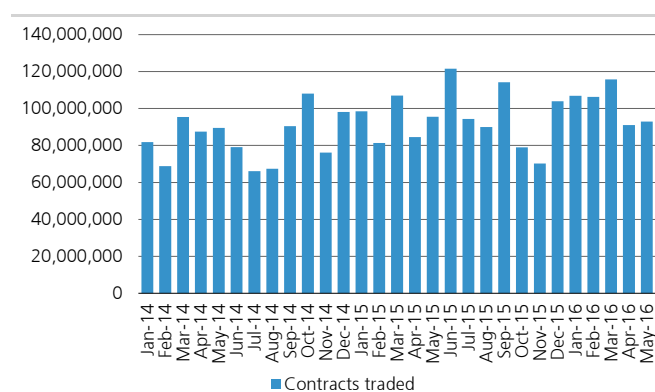
Europe

Figure 53: Pan-European daily avg. trading cash equities trading volumes (\$ million)



Source: Bloomberg, UBS

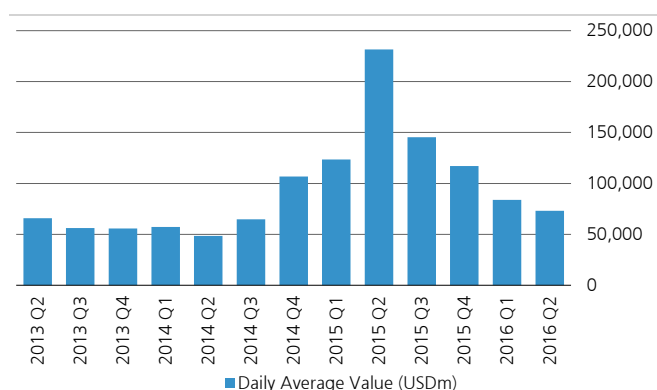
Figure 54: Eurex Index and Equities contracts traded



Source: Deutsche Boerse, UBS

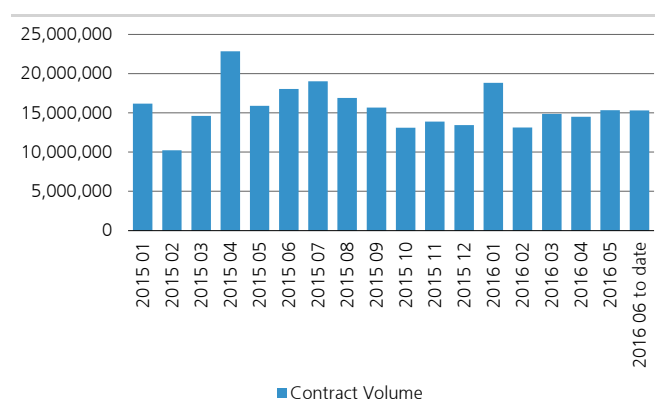
Asia Pacific

Figure 55: APAC daily avg. trading cash equities trading volumes (\$ million)



Source: Bloomberg, UBS

Figure 56: HKEX Futures & Options volumes



Source: HKEX

Investment Banking

Figure 57: Global M&A, ECM, DCM – as of 29 June 2016

M&A (\$bn)	Volume										% change				
	YtD16	YtD15	FY15	FY14	2Q16 QtD	1Q16	4Q15	Jun-16	May-16	Apr-16	YtD y/y	M/M*	Q/Q	Q/Q**	M/M**
Global Announced M&A	1,651	2,108	4,702	3,461	896	755	1,408	346	256	242	-22%	35%	19%	20%	40%
Global Completed M&A	1,688	1,896	4,042	3,043	812	876	1,038	310	277	257	-11%	12%	-7%	-6%	16%

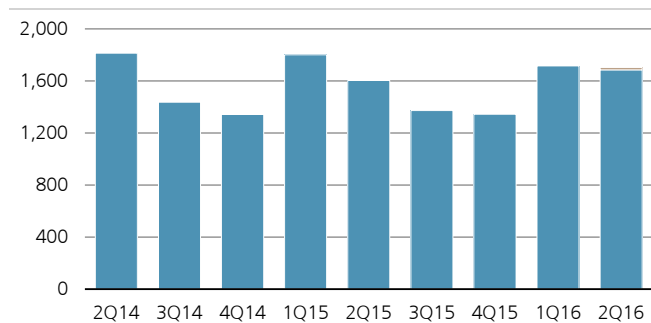
ECM (\$bn)	Volume										% change				
	YtD16	YtD15	FY15	FY14	2Q16 QtD	1Q16	4Q15	May-16	Apr-16	Mar-16	YtD y/y	M/M*	Q/Q	Q/Q**	M/M**
Global ECM Total	323	545	913	937	184	139	216	57	59	49	-41%	-3%	33%	34%	0%
Global IPO	46	102	194	264	32	14	69	11	10	7	-55%	18%	127%	130%	22%
Global Follow on	238	392	629	568	131	107	127	41	46	35	-39%	-11%	22%	23%	-8%
Global Convertible	39	51	89	104	21	17	20	4	3	7	-24%	53%	24%	25%	58%

DCM (\$bn)	Volume										% change				
	YtD16	YtD15	FY15	FY14	2Q16 QtD	1Q16	4Q15	May-16	Apr-16	Mar-16	YtD y/y	M/M*	Q/Q	Q/Q**	M/M**
Global DCM Total	3,401	3,398	6,125	6,368	1,686	1,715	1,345	675	661	669	0%	2%	-2%	-1%	6%
Global Investment Grade	1,722	1,729	3,155	3,209	815	907	718	370	277	386	0%	34%	-10%	-9%	38%
Global High Yield	221	282	418	522	138	84	64	55	49	52	-22%	12%	65%	67%	16%
Global Structured Finance	316	423	810	796	168	148	187	62	80	49	-25%	-23%	14%	15%	-20%
Global Sovereign	998	845	1,501	1,662	513	486	319	178	229	154	18%	-22%	6%	7%	-20%
Global Covered Bonds	144	119	240	213	52	91	57	10	27	27	21%	-62%	-43%	-42%	-61%

Source: Dealogic, UBS

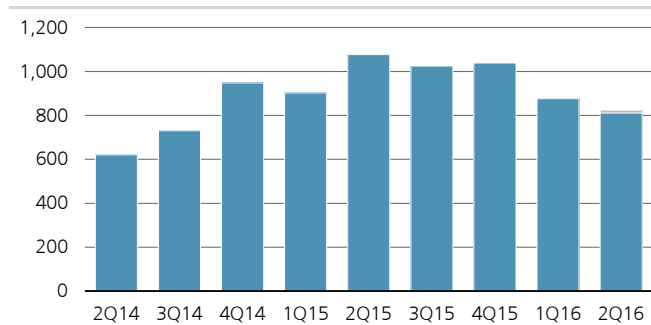
**Grossed-up figures for the full period

Figure 58: Total DCM volumes (\$bn)



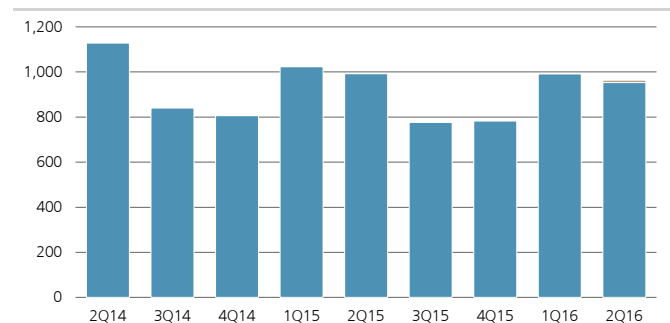
Source: Dealogic

Figure 60: Total completed M&A volumes (\$bn)



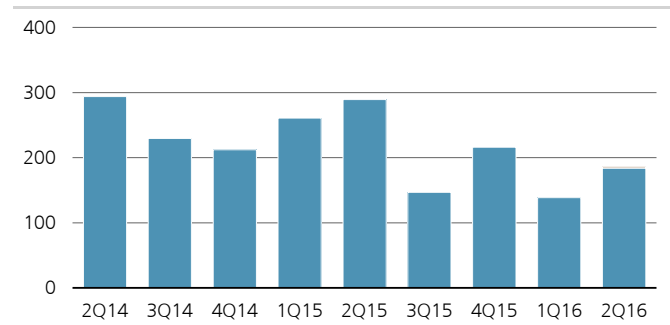
Source: Dealogic

Figure 59: Total corporate debt issuance volumes (\$bn)



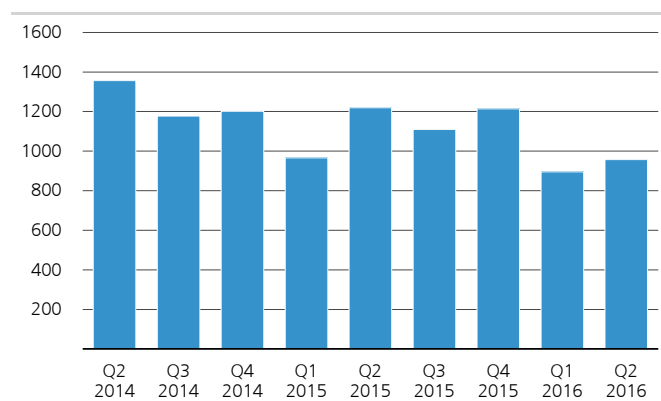
Source: Dealogic

Figure 61: Total ECM volumes (\$bn)



Source: Dealogic

Figure 62: Total Lending volumes (\$bn)



Source: Dealogic

Appendix

Glossary

FICC sales and trading

- **MOVE Index:** The Merrill Lynch Option Volatility Estimate (MOVE) is a yield curve weighted index of the normalised implied volatility on 1-month Treasury options. It is the weighted average of volatilities on the current 2yr, 5yr, 10yr and 30yr benchmark treasury securities. MOVE is a trademark product of Merrill Lynch. Generally, an increase in rates volatility tends to support client activity and helps trading profits.
- **CVIX Index:** The Deutsche Bank 3m implied FX Volatility Index (CVIX) indicates the implied volatility of a basket of underlying FX options. The basket comprises a weighted average of the following currency pairs: EURUSD, USDJPY, GBPUSD, USDCHF, USDCAD, AUDUSD, EURJPY, EURGBP and EURCHF. Generally, an increase in FX volatility tends to support client activity (creates desire for hedging and structured products) and helps trading profits.
- **10yr/3m spread:** The 10yr/3m swap spread reflects the current shape of the swap/yield curve. While larger spreads indicate a steeper yield curve, tighter spreads indicate a rather flat yield curve. From an economic perspective, yield curves tend to be steep coming out of recession, trending flat at the height of the economic cycle, and turning inverted just prior to recession. Generally, a steepening of the yield curve promotes client activity and helps structured derivatives.
- **iTraxx Europe XOver:** The Markit iTraxx Crossover (CDS) Index comprises the 45 most liquid sub-investment grade entities.
- **iTraxx Europe:** The Markit iTraxx Europe (CDS) Index comprises 125 equally weighted 125 investment grade entities, distributed among nine sub-indices: Autos, Consumers, Energy, Industrials, TMT, Financials (Senior & Subordinated), Non-Financials, HiVol.

- **MBA Refi Index:** The Mortgage Bankers Association (MBA) Refinancing Index covers all mortgage applications to refinance an existing mortgage. It is the best gauge of mortgage refinancing activity.

Equities sales and trading

- **VIX Index:** The CBOE SPX Volatility Index reflects a market estimate of future volatility, based on the weighted average of the implied volatilities for a wide range of strikes of S&P 500 constituent options. It is considered a key gauge for risk aversion in the market.
- **VVIX Index:** The CBOE VVIX Index is an indicator of the expected volatility of the 30-day forward price of the VIX. This volatility drives nearby VIX option prices.

Short-term funding

- **LIBOR:** LIBOR stands for London Interbank Offered Rate. It is calculated for 10 currencies with 15 maturities quoted for each, ranging from overnight to 12 months. LIBOR is a benchmark rate giving an indication of the average rate at which a prime bank can obtain unsecured term funding in the London market for a given currency. LIBOR is a trademark of the ICE Benchmark Administration (IBA).
- **EURIBOR:** EURIBOR is the benchmark rate of the euro money market. It is sponsored by the European Banking Federation. A representative sample of prime banks provides daily quotes – for 13 maturities from one week to one year – at which interbank term deposits denominated in euro are being offered within the eurozone between prime banks.
- **EONIA:** The Euro Overnight Index Average (EONIA) reflects the effective overnight lending rate. It is computed as weighted average of all overnight unsecured lending transactions in the interbank market, initiated within the euro area by contributing banks. EONIA is calculated daily by the European Central Bank (ECB).
- **3m EURIBOR-EONIA:** The 3m EURIBOR-EONIA spread measures the difference between the Euro Overnight Index Average rate and the EURIBOR rate. It is the key gauge of liquidity in money markets (denominated in euro). Spread widening points to increased funding pressure, while spread tightening is indicative of an easing of funding pressure.
- **OIS:** An Overnight Indexed Swap (OIS) is a fixed/floating interest rate swap with the floating leg computed using a published overnight rate index, in the case of the US dollar, the Fed Funds Effective Rate. The OIS rate is typically considered less risky than the corresponding interbank rate (LIBOR). There is very little default risk in the OIS market because there is no exchange of principal; funds are exchanged only at the maturity of the contract, when one party pays the net interest obligation to the other.
- **US 3m LIBOR-OIS:** The US 3m LIBOR-OIS spread measures the difference between the Overnight Indexed Swap rate and the LIBOR rate. It is the key gauge of liquidity in money markets (denominated in US dollars). Spread widening points to increased funding pressure, while spread tightening is indicative of an easing of funding pressure. It can be viewed as a

complement to the US 3m TED spread, confirming the perception of credit risk by measuring the availability of funds in the market.

- **US 3m TED:** The US 3m TED spread is the difference between the three-month T-bill interest rate and three-month LIBOR. The TED spread is an indicator of perceived credit risk in the general economy. This is because T-bills are considered risk-free while LIBOR reflects the credit risk of lending to commercial banks. An increase of the TED spread is a sign that lenders believe the risk of default on interbank loans is increasing. When fears of default risk subside and risk appetite increases, the TED spread decreases.
- **Swap spread:** Swap spread is defined as the spread paid by the fixed-rate payer of an interest rate swap over the rate of the on-the-run treasury with the same maturity as the swap. It is used to represent the risk associated with the investment. Swap spreads are based on LIBOR rates, the creditworthiness of the swap's parties, and other economic factors that could influence the terms of the investment's interest rates.
- **iTraxx Europe Financials:** The Markit iTraxx Europe Financials (CDS) Index is a sub-index of the Markit iTraxx Europe CDS Index.

Illustrative revenue signposts - methodology

FICC

- **Commodities:** CME Commodities product volumes used as a proxy
- **Rates:** a blend of changes in Treasury Primary dealer volumes and CME Interest Rate product volumes
- **Credit:** a blend of Investment Grade and High Yield spread movements in a given period and US Corporate Credit trading volumes as published by SIFMA
- **FX:** CME FX product volumes used as a proxy

Equities

- **US Cash:** combined NYSE and Nasdaq value traded
- **US Derivatives:** US Equity and Index/Other option contract volumes used as a proxy
- **European Cash:** Pan-European average daily value traded as reported by Bloomberg
- **European Derivatives:** Eurex Index and Equities contract volumes used as a proxy
- **APAC Cash:** Asia Pacific average daily value traded as reported by Bloomberg
- **APAC Derivatives:** HKEX Futures and Options contract volumes used as a proxy

Investment Banking

- **ECM, DCM, M&A, Lending:** global aggregate deal value as reported by Dealogic, grossed up for the full period (quarter) using simple extrapolation linear in time

Valuation Method and Risk Statement

Investment banks' revenues and earnings are influenced by the state of the global economy as well as the levels and activity of the capital markets. The companies are exposed to a number of risks including market risk, exchange-rate and interest-rate fluctuations, as well as regulatory and taxation changes. Similar factors apply to the interdealer brokers, where the majority of revenues derive from bank clients. Barclays has operations outside of the UK, bringing sensitivities to the global economy as well as FX risk. CS is exposed to a number of risks, including market risk, exchange rate and interest rate fluctuations, as well as regulatory and taxation changes. Deutsche Bank is influenced by the state of the global economy (in particular Germany and the US) as well as the levels and activity of the capital markets. In addition, Deutsche Bank's earnings generation is subject to credit quality.

We value Barclays, BNP Paribas and Société Générale on a SOTP basis, while our valuations of Credit Suisse and Deutsche Bank are based on single-stage Gordon growth models.

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UBS Investment Research: Global Equity Rating Definitions

12-Month Rating	Definition	Coverage ¹	IB Services ²
Buy	FSR is > 6% above the MRA.	49%	32%
Neutral	FSR is between -6% and 6% of the MRA.	38%	26%
Sell	FSR is > 6% below the MRA.	14%	19%
Short-Term Rating	Definition	Coverage ³	IB Services ⁴
Buy	Stock price expected to rise within three months from the time the rating was assigned because of a specific catalyst or event.	<1%	<1%
Sell	Stock price expected to fall within three months from the time the rating was assigned because of a specific catalyst or event.	<1%	<1%

Source: UBS. Rating allocations are as of 31 March 2016.

1:Percentage of companies under coverage globally within the 12-month rating category.

2:Percentage of companies within the 12-month rating category for which investment banking (IB) services were provided within the past 12 months.

3:Percentage of companies under coverage globally within the Short-Term rating category.

4:Percentage of companies within the Short-Term rating category for which investment banking (IB) services were provided within the past 12 months.

KEY DEFINITIONS: **Forecast Stock Return (FSR)** is defined as expected percentage price appreciation plus gross dividend yield over the next 12 months. **Market Return Assumption (MRA)** is defined as the one-year local market interest rate plus 5% (a proxy for, and not a forecast of, the equity risk premium). **Under Review (UR)** Stocks may be flagged as UR by the analyst, indicating that the stock's price target and/or rating are subject to possible change in the near term, usually in response to an event that may affect the investment case or valuation. **Short-Term Ratings** reflect the expected near-term (up to three months) performance of the stock and do not reflect any change in the fundamental view or investment case. **Equity Price Targets** have an investment horizon of 12 months.

EXCEPTIONS AND SPECIAL CASES: **UK and European Investment Fund ratings and definitions are:** **Buy:** Positive on factors such as structure, management, performance record, discount; **Neutral:** Neutral on factors such as structure, management, performance record, discount; **Sell:** Negative on factors such as structure, management, performance record, discount. **Core Banding Exceptions (CBE):** Exceptions to the standard +/-6% bands may be granted by the Investment Review Committee (IRC). Factors considered by the IRC include the stock's volatility and the credit spread of the respective company's debt. As a result, stocks deemed to be very high or low risk may be subject to higher or lower bands as they relate to the rating. When such exceptions apply, they will be identified in the Company Disclosures table in the relevant research piece.

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Company Disclosures

Company Name	Reuters	12-month rating	Short-term rating	Price	Price date
Barclays ^{3a, 3b, 4, 5, 7, 16, 18}	BARC.L	Buy	N/A	139p	30 Jun 2016
BNP Paribas ^{2, 4, 5, 6, 7, 22}	BNPP.PA	Buy	N/A	€39.76	30 Jun 2016
Credit Suisse Group ^{5, 7, 13, 16, 22}	CSGN.S	Buy	N/A	CHF10.31	30 Jun 2016
Deutsche Bank ^{2, 4, 5, 7, 16}	DBKGn.DE	Neutral	N/A	€12.33	30 Jun 2016
Société Générale ^{2, 4, 6, 7, 22}	SOGN.PA	Buy	N/A	€28.21	30 Jun 2016

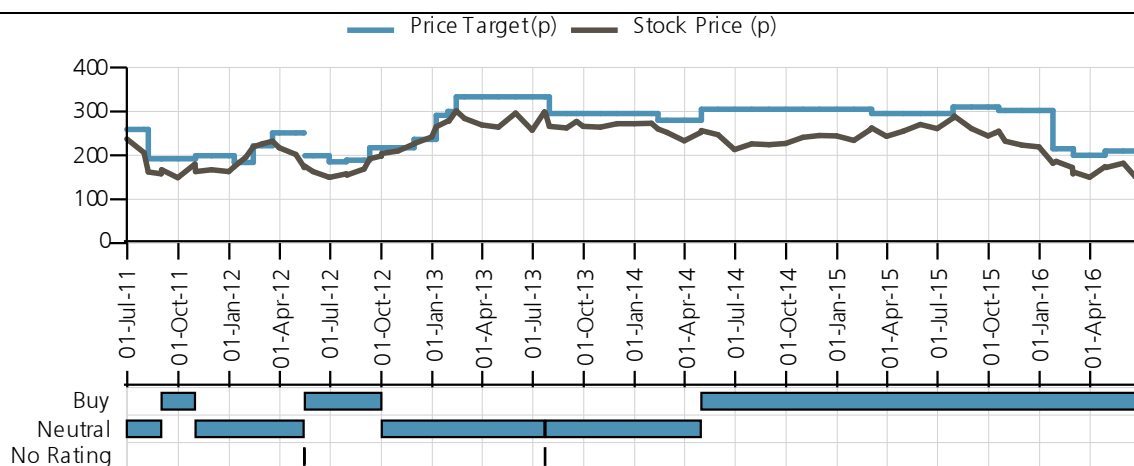
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Ratings in this table are the most current published ratings prior to this report. They may be more recent than the stock pricing date

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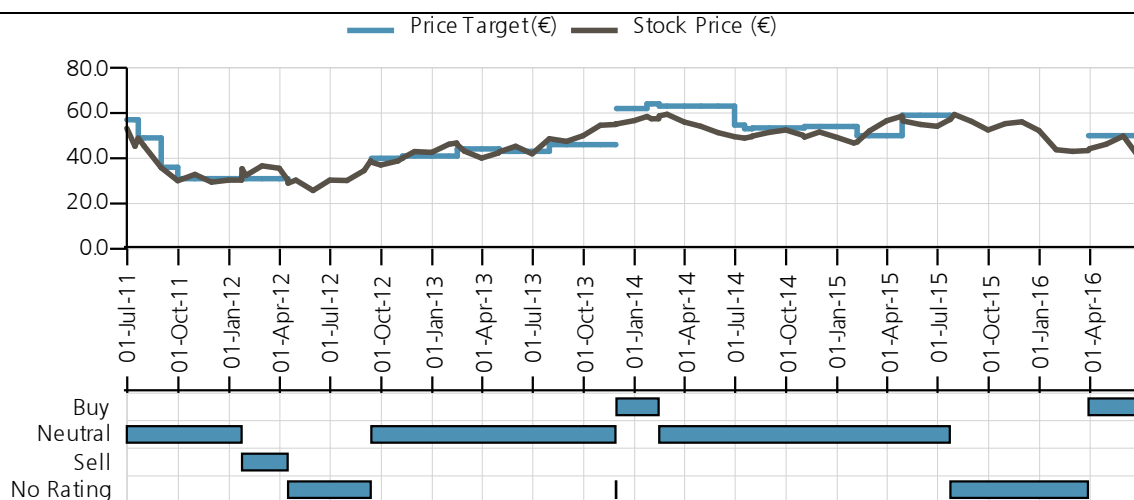
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Barclays (p)



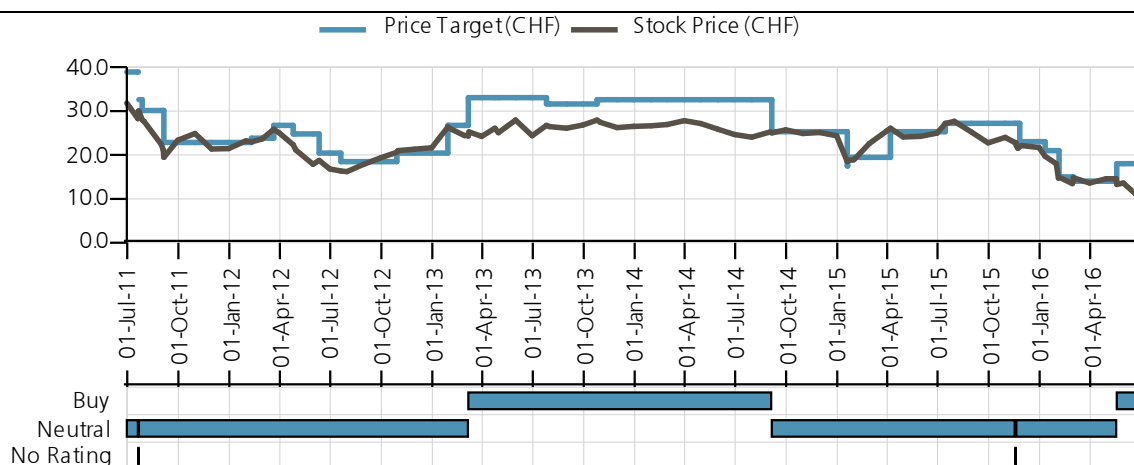
Source: UBS; as of 30 Jun 2016

BNP Paribas (€)



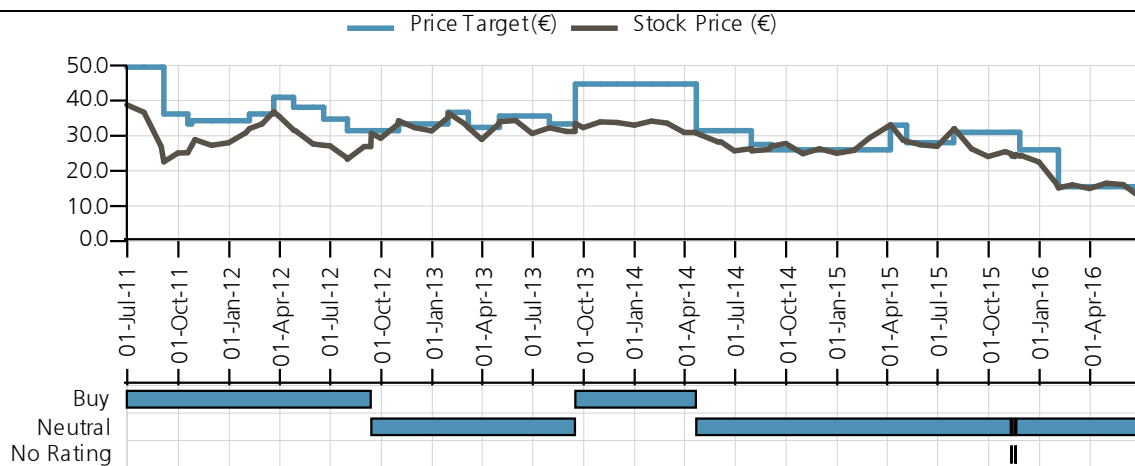
Source: UBS; as of 30 Jun 2016

Credit Suisse Group (CHF)



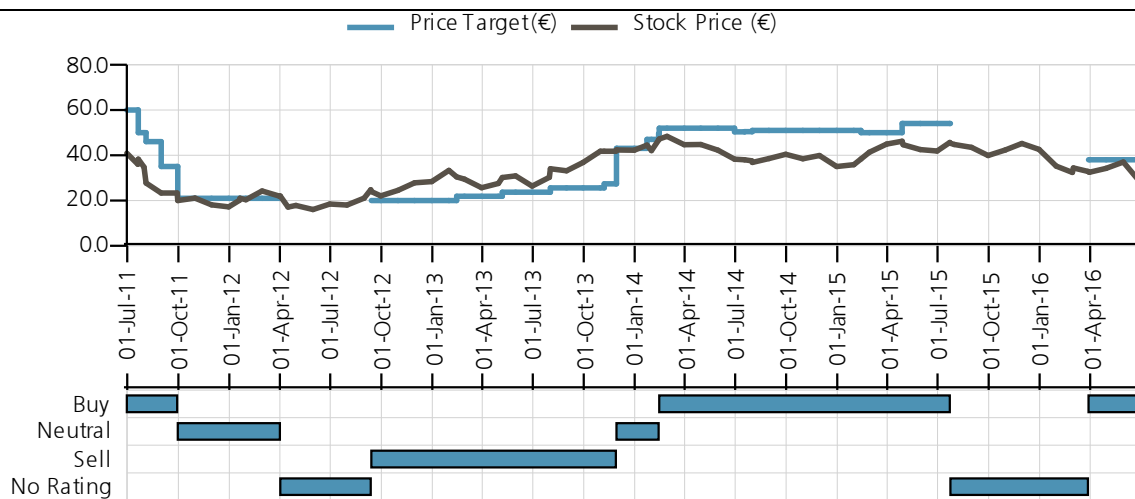
Source: UBS; as of 30 Jun 2016

Deutsche Bank (€)



Source: UBS; as of 30 Jun 2016

Société Générale (€)



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