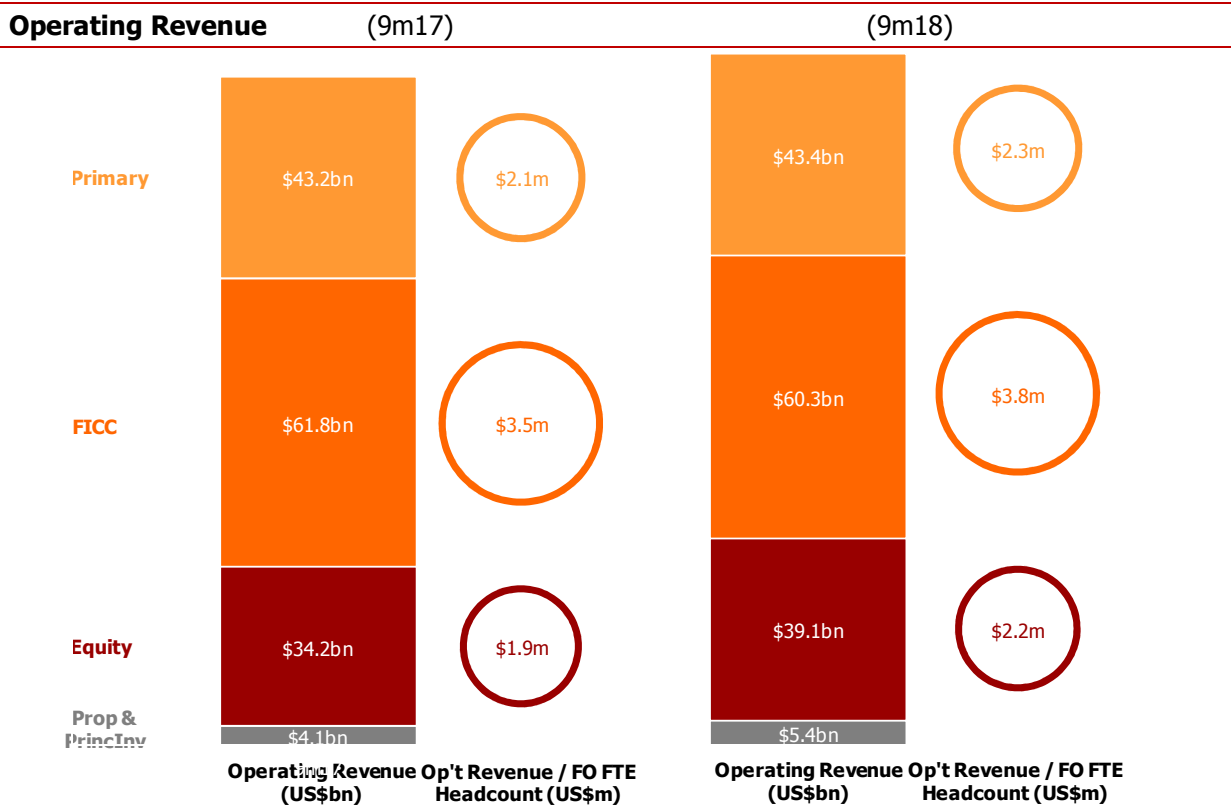


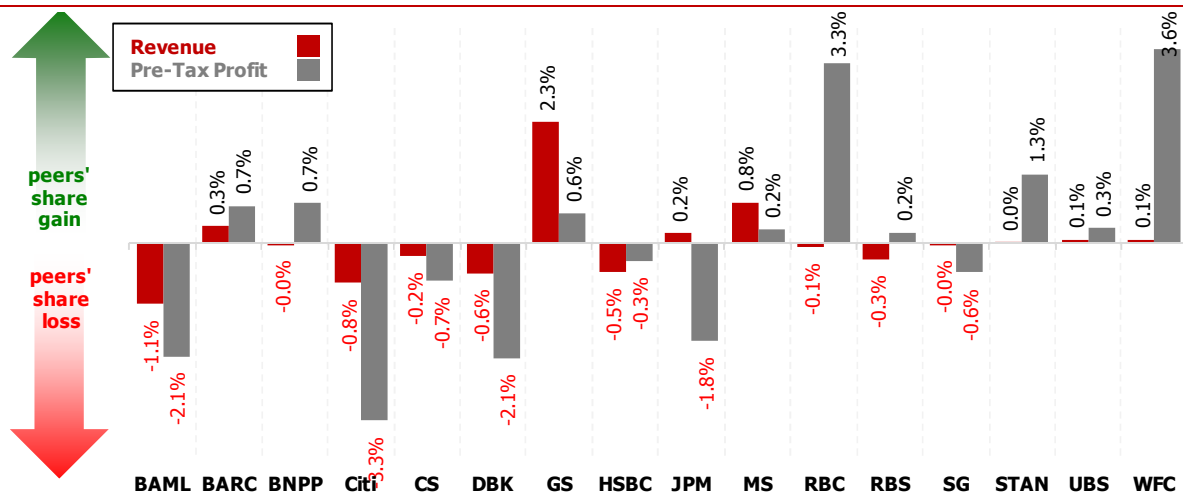
Results Review 3Q18 / 9m18

Capital Markets: Overview

- The 16 banks' 9m18 capital markets revenue totalled \$148bn, 3% ahead of the prior-year period. Pre-tax profit, however, advanced 11%, mostly on equities; primary fees were solid, but FICC declined. The US banks (again) outpaced their European peers, with 5% and 12% increase in revenue and pre-tax profits, respectively.
- The upcoming bonus season looks set to produce few victors. US banks stated that bonuses will be slightly below 2017, or rise by low single digits; European banks were generally quiet - which, in view of unexciting revenues, is not a good sign. Further, allocating those bonuses will be tricky: some products - equity derivatives in particular - did very well, while others dropped sharply.
- In Aug-18, China removed the limits on foreign ownership of banks and bad-debt managers; foreign firms will now be treated the same as local companies. UBS was the first to take advantage of this change by increasing its share of the local JV, UBS Securities Co., to 51%.



% change share of peer group operating revenue and pre-tax profit (9m18 / 9m17)



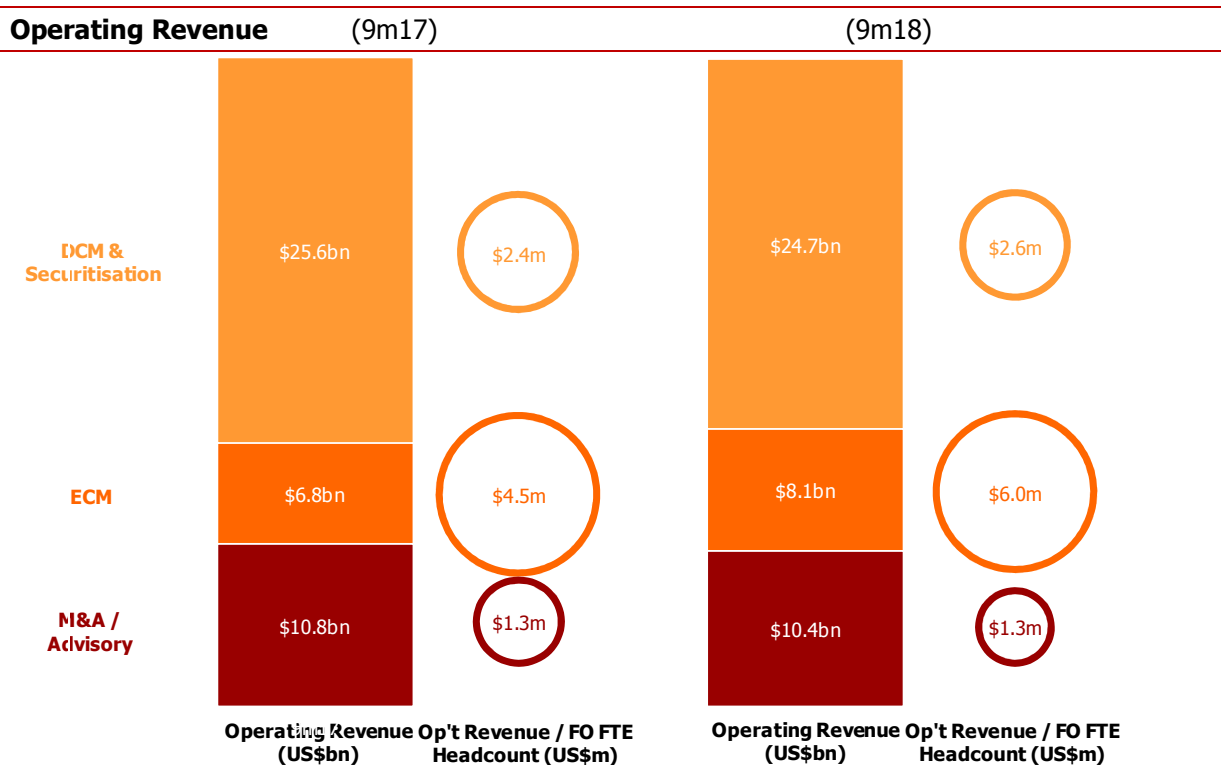
Notes: (1) Tricumen product definitions throughout. (2) Revenue is post-writedowns, excludes DVA/equivalent and one-offs. (3) Headcount: Front office full-time equivalent, adjusted for seniority. (4) Pre-tax profit excludes Prop & Principal Investments..

Capital Markets (cont.): Primary issuance & Advisory

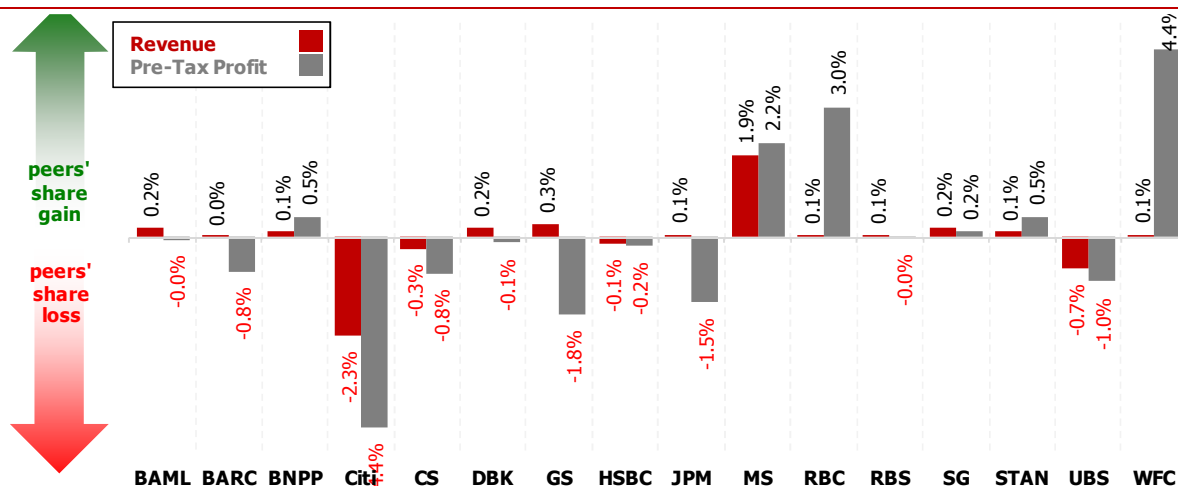
- DCM fees extended the decline seen in 1H18. Bond fees suffered in the slowest 9m since 2014, with high grade, high yield and emerging markets all nosediving. In syndicated loan markets, USA posted growth, but EMEA and APAC all declined, albeit slightly.

The outlook for assets perceived as risky is not good. Investor demand for leveraged loans is weakening, in turn prompting banks to seek less advantageous terms for new loans - including an option to increase interest rates and tighten covenants. Also, ECB's (long overdue, in our view) decision to conclude its bond-buying will focus investors on underlying quality of the borrowers.

- At the industry level, ECM had a difficult 9m18; but leading banks reported strong fee growth and made significant productivity gains. US banks enjoyed an advantage in the strong home market, where marketwide fees advanced 10% y/y, and IPOs reached levels not seen in years. Converts boomed in 9m18, especially in the technology sector.
- M&A/Advisory fees were generally weak in 3Q18 - worldwide, volumes dropped c.1/3 sequentially - but held up well in 9m18, supported by mega deals and cross-border activity. EMEA volumes outpaced those seen in the US. The US-China trade war arguably may impede further growth in both of these areas, however.



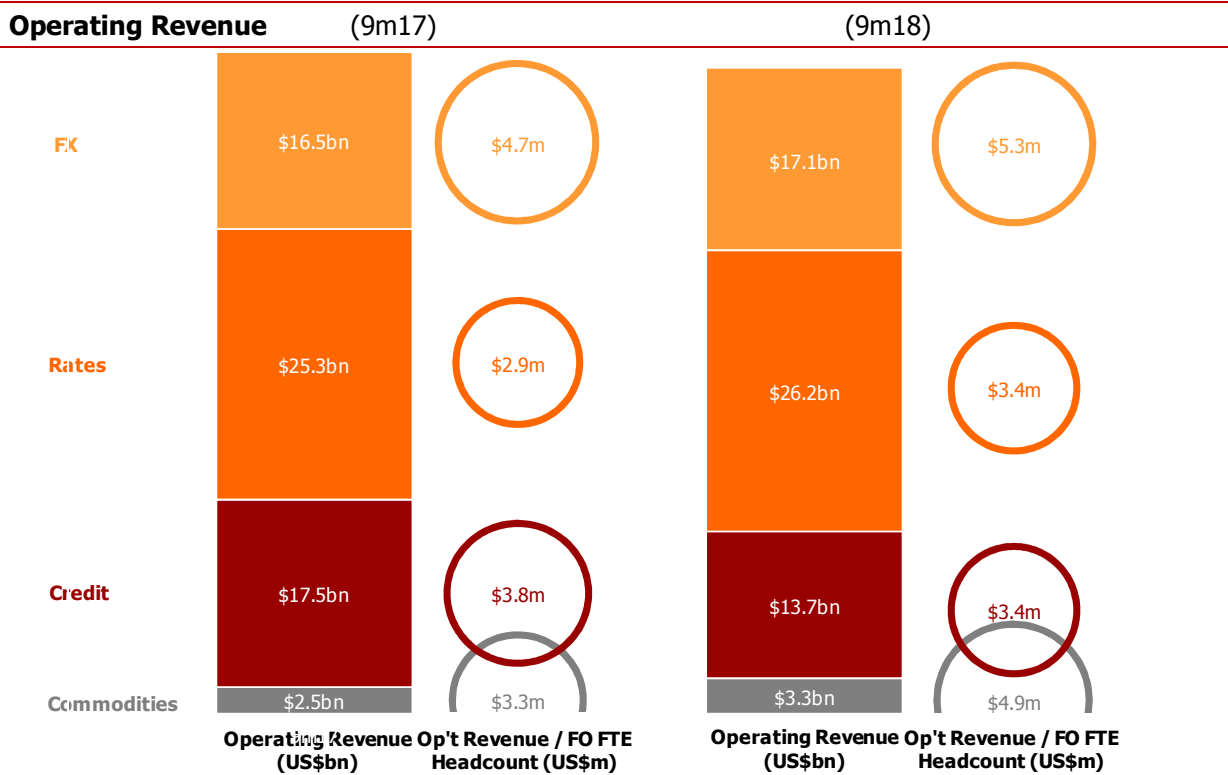
% change share of peer group operating revenue and pre-tax profit (9m18 / 9m17)



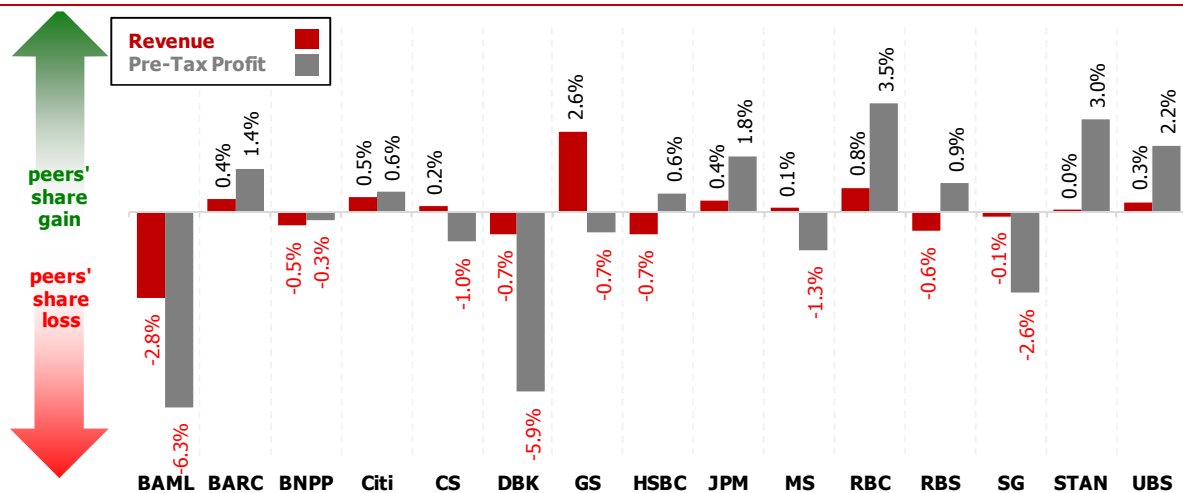
Notes: (1) Tricumen product definitions throughout. (2) Revenue is post-writedowns, excludes DVA/equivalent and one-offs. (3) Headcount: Front office full-time equivalent, adjusted for seniority.

Capital Markets (cont.): FICC

- While a few banks benefitted from strategic transactions, the real driver of FX earnings in 3Q18 was the correct positioning on volatility in certain areas (e.g. EUR-vs-Turkish Lira), especially in emerging markets. The US-China trade spat and Brexit remain the most significant risks. FX Corporate sales are in high demand, partly as a hedge against weakening of institutional flow.
- Rates was *the* underperformer of 3Q18. Two banks reported a modest y/y revenue growth but the leaders all highlighted rates as the main areas of underperformance, with several reporting 30% y/y drop on range-bound yields and low client flow. Repo and munis also weakened.
- Credit underperformed, too, across a spectrum of products: high grade, high yield, emerging and developed markets; unusually, EMEA peers proved more resilient than US banks. In 3Q18, largely due to the political situation in Italy (and, arguably, the rise of populism elsewhere) European high-yield bond spreads exceeded US' HY spreads, attracting interest from institutional mega-investors.
- Commodities extended their gains from 1H18 on stronger energy markets and - to a much smaller extent - revival in carbon markets. The revenue growth - which led to a huge increase in per-head productivity - was heavily skewed towards US banks.



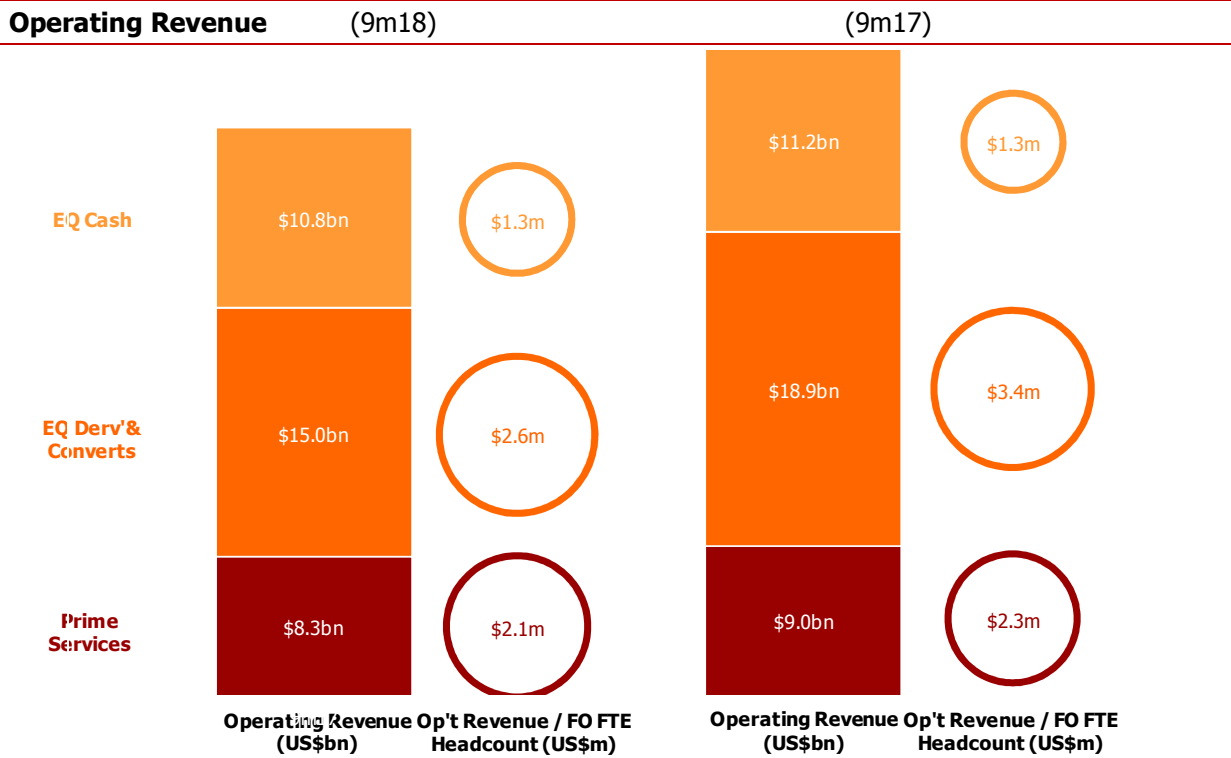
% change share of peer group operating revenue and pre-tax profit: (9m18 / 9mQ17)



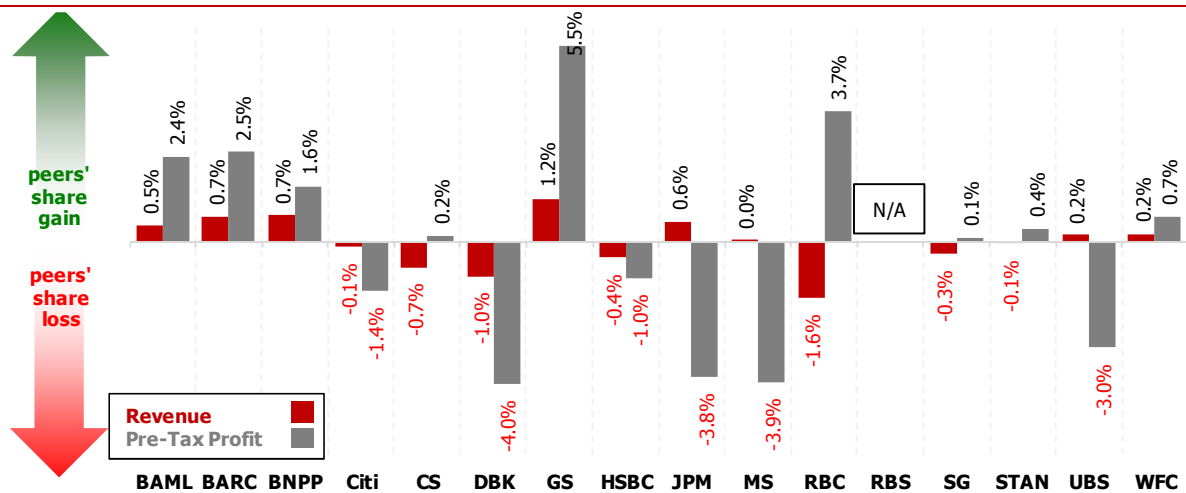
Notes: (1) Tricumen product definitions throughout. (2) Revenue is post-writedowns, excludes DVA/equivalent and one-offs. (3) Headcount: Front office full-time equivalent, adjusted for seniority. (4) Pre-tax profit excludes Prop & Principal Investments.

Capital Markets (cont.): Equities

- As a strong 1H18 became a very weak 3Q18, 9m18 cash equities revenue was barely up on 9m17. The impact of MiFID 2 is becoming clearer. In line with most large asset managers, DWS (ex-Deutsche Asset Management) chose to absorb the cost of research through its P&L (and establish its own research team), and kindly quantified the impact: EUR20m in 1H18, equal to 4% of total non-comp cost, or one-third of the y/y increase in such cost. Separately, a study found that money managers which chose to pass the research cost to their clients spent several times more on research than those that absorbed the cost. It is too early to tell whether this will impact the former firms' relative performance (and whether their clients will flee); but in the meantime, a growing number of buy-side firms are unbundling research and execution payments globally, while small firms - money managers and research houses - continue to lose ground to competitors better able to absorb the cost of MiFID 2. Barclays, BNP Paribas and Citi are hiring in research.
- Equity derivatives: flow and Delta One surged in 3Q18; structured and corporate also did well.
- In prime services, banks which invested (Barclays, Goldman Sachs and J.P.Morgan among them) reaped the benefits in 3Q18, especially in Americas; and 'rightsizers' (e.g. Deutsche Bank) are falling behind.



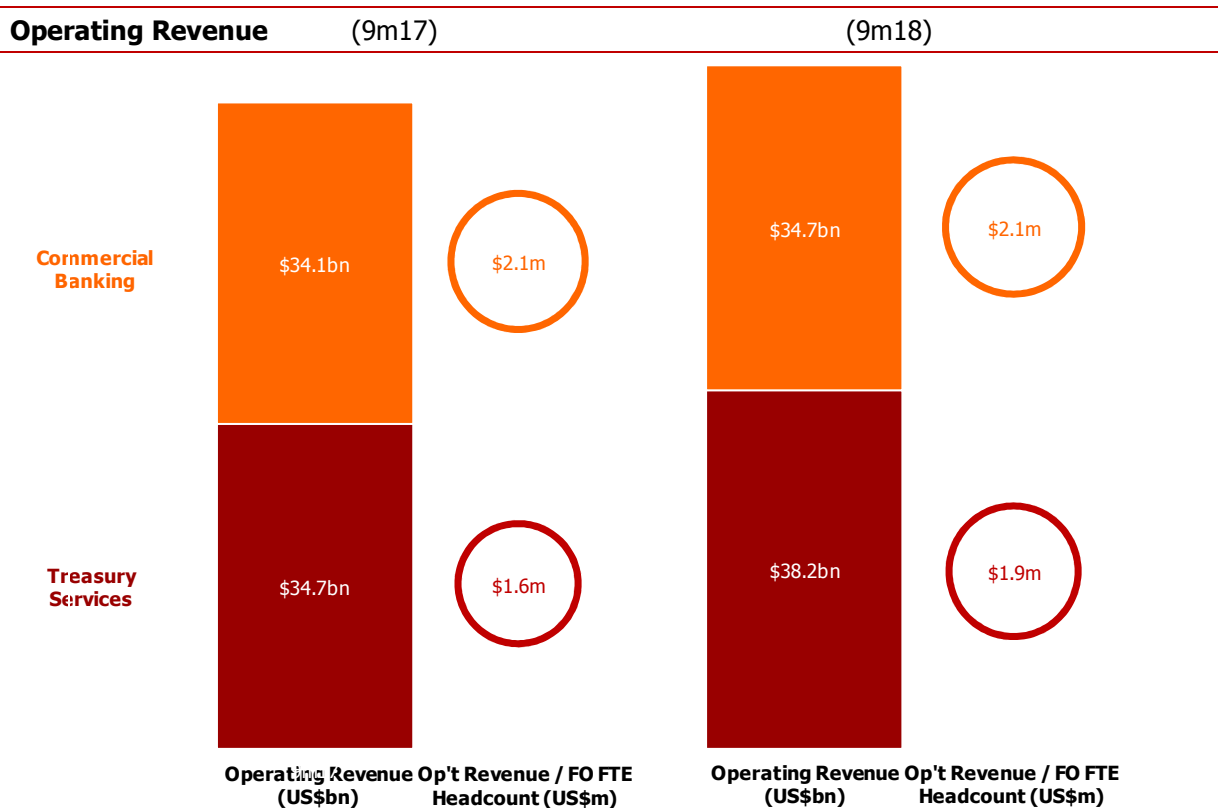
% change share of peer group operating revenue and pre-tax profit (9m18 / 9m17)



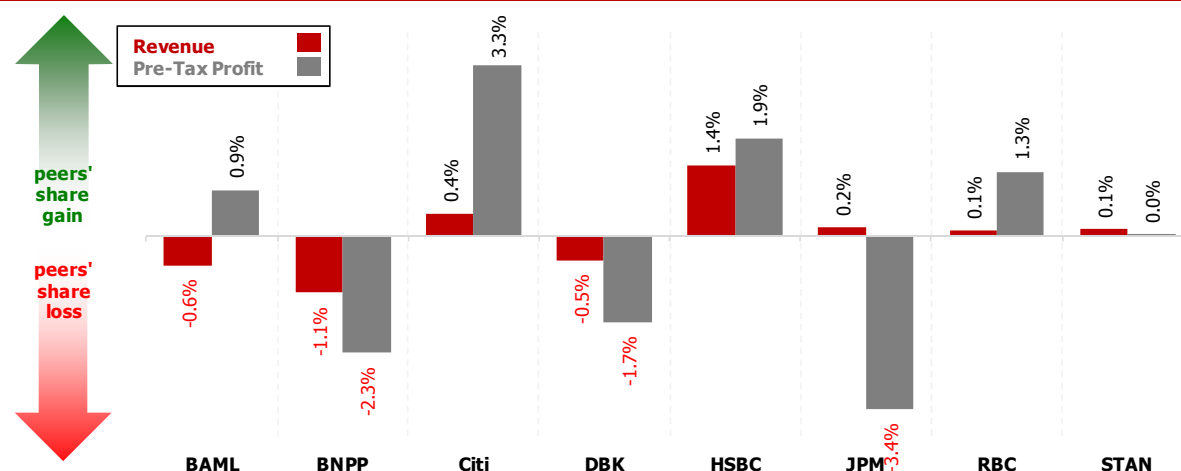
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Commercial/Transaction Banking

- In transaction banking, APAC registered the strongest growth in volumes, followed by Americas and EMEA. Payment volumes in 9m18 grew 10% versus the prior-year period. Trade Finance volumes also grew, albeit only 4%.
- Corporate lending in the US was largely stagnant, with overall loan balances remaining largely stable. Europe presented a much more variable picture, with only selected pockets of growth - UK CRE among them.
- On the fintech front, in Sept-18 Barclays launched a new digital platform, intended to offer the bank's UK corporate banking products and processes to clients in other countries in the region. The platform is operational in Portugal, Spain, France and Ireland; and will soon be rolled out in Germany, too. Deutsche Bank invested in US-based ModoPayments LLC, a digital payments specialist, to help the bank expand its B2B and B2C payments offering. And HSBC, BNP Paribas, Standard Chartered and several other banks jointly launched a blockchain trade finance platform in Hong Kong; eTrade Connect will aim to speed up the processing of trade loan applications from 36 to just four hours.



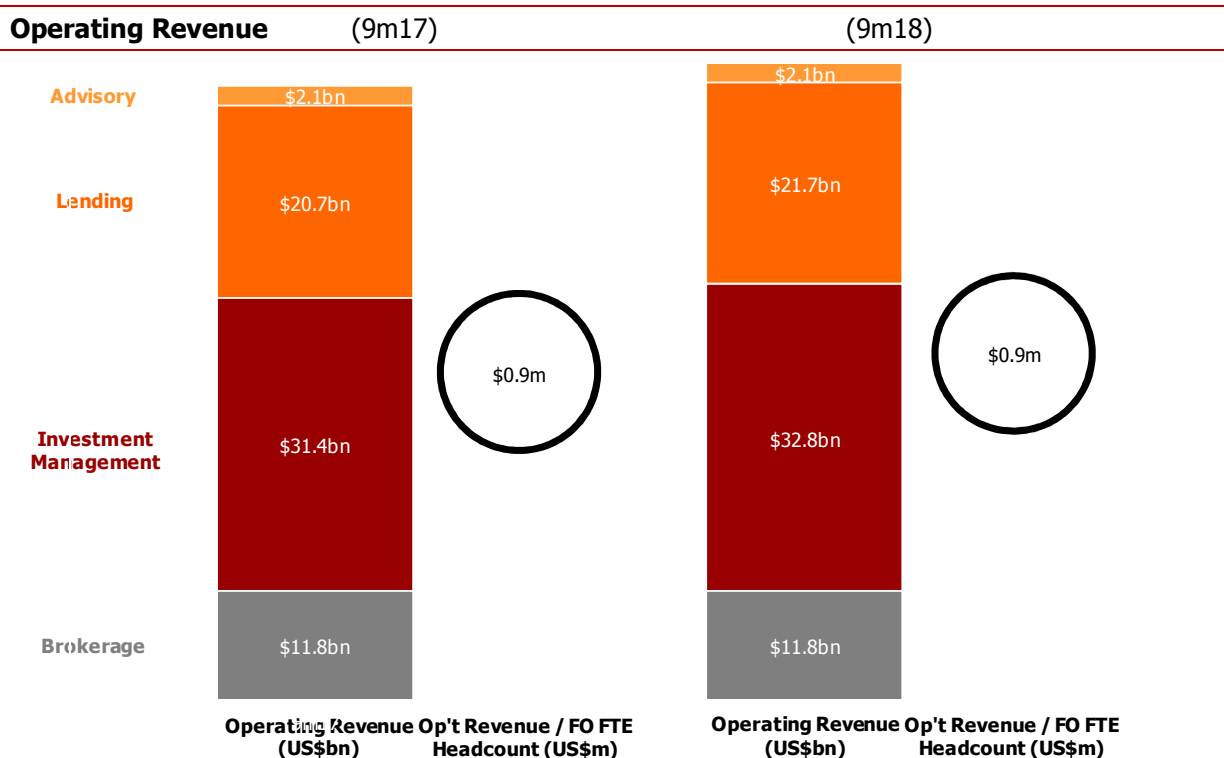
% change share of peer group operating revenue and pre-tax profit (9m18 / 9m17)



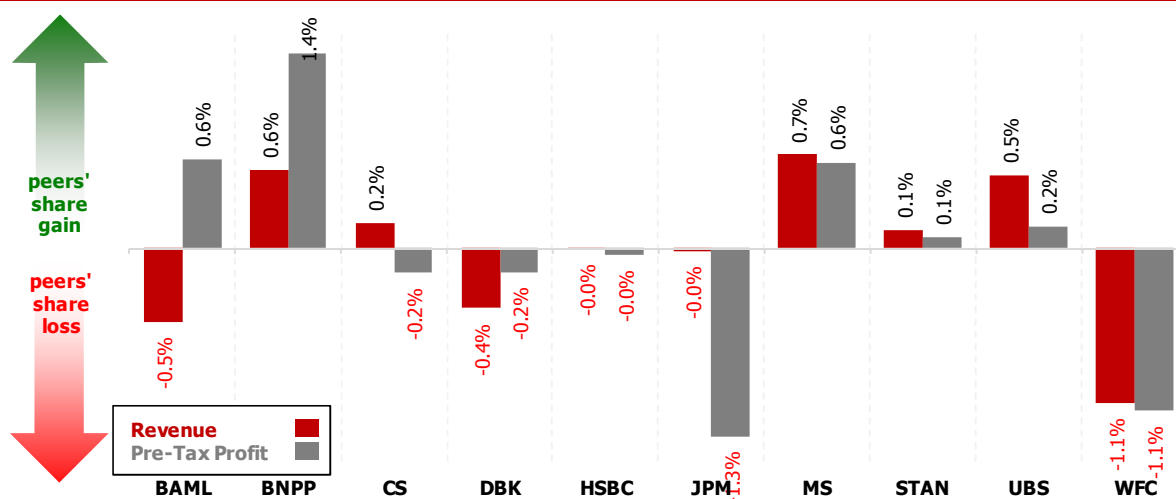
Notes: (1) Tricumen product definitions throughout. (2) Revenue is post-writedowns, excludes DVA/equivalent and one-offs. (3) Headcount: Front office full-time equivalent, adjusted for seniority. (4) In-scope: Large Cap/MNC and Mid-Cap/SMEs.

Wealth Management

- Wealth Management 9m18 revenue at ten firms in this report advanced 4% to \$68bn, driven by higher lending and investment management fees; in the same period, pre-tax profits grew 6%.
- The industry is in expansionary mode: leaving aside regular updates from Credit Suisse, Barclays is hiring for a push in Scotland and North England; HSBC - which appointed António Simões as Global WM Head in Sept-18 - is hiring 250+ staff in 2H18/1Q19, c.100 of which is for EMEA (HSBC created a new EMEA structure in Apr-18) and the UK, 40 for Singapore and 70 for Hong Kong; Morgan Stanley is eyeing mainland China, and UBS is setting up two new teams there; the list goes on. The war for talent is intensifying, especially in APAC: top relationship managers - those able to bring \$400m+ AuM with them - are receiving as much as 30% increase in comp to move firms.
- UBS, however, was the source of most interesting news in 3Q18: in Aug-18, the bank shut its UBS SmartWealth UK robo-advice (launched in Feb-17) and sold the intellectual property to SigFig, a startup which sells software to financial institutions. Elements of SmartWealth are incorporated in UBS's Advice Advantage in the US; still, in the era of robo-everything, this is an unusual move. UBS may be ahead of the curve - the proportion of wealth managers fearing the loss of clients to robo-advisors is dropping fast - but it will be interesting to follow UBS's progress in this field.



% change share of peer group operating revenue and pre-tax profit (9m18 / 9m17)



Notes: (1) Tricumen product definitions throughout. (2) Revenue is post-writedowns, excludes DVA/equivalent and one-offs. (3) Headcount: Front office full-time equivalent, adjusted for seniority.

Revenue dynamics

9m18 / 9m17 (Operating revenue, % change, US\$, Global Level 1)

	BAML	BARC	BNPP	Citi	CS	DBK	GS	HSBC	JPM	MS	RBC	RBS	SG	STAN	UBS	WFC	Top 25%	Bottom 25%
Capital Markets	↓	↑	↓	↓	↓	↓	↑	↓	→	↑	↓	↓	→	→	↑	→	+8%	-3%
Primary	→	↓	→	↓	↓	→	→	↓	↓	↑	↓	↑	↑	↑	↓	↓	+7%	-1%
DCM Bonds	↓	→	↑	↓	↓	→	↓	↓	↓	↓	↑	↑	→	↑	↓	→	+9%	-14%
DCM Loans	↓	→	↑	↓	↓	→	↓	↑	↓	↑	→	↓	N/M	↑	↓	→	+28%	-1%
Securisation	→	→	↓	↓	↓	↓	↓	↓	↓	N/M	↑	↑	→	↓	↓	→	+10%	-7%
ECM	→	→	↓	↓	↓	↓	↓	↓	↓	↓	↓	N/M	N/M	↓	↓	→	+27%	-7%
M&A / Advisory	↓	→	→	↓	↑	↑	↓	↓	→	↓	↓	N/M	↑	↓	↑	↓	+10%	-7%
Sales & Trading	↓	↑	→	→	↓	↓	↑	↓	→	→	↓	↓	↓	↓	↑	↑	+9%	-5%
FX	↓	↑	↓	↑	↓	↓	↑	→	→	→	↓	↓	↓	↓	↑	→	+12%	-7%
Rates	→	↑	↓	↓	→	↓	↑	↓	→	↓	↑	↓	→	↑	N/M	↓	+7%	-13%
Credit	↓	↑	↓	↓	→	↓	↑	↓	↓	↓	↑	↓	↓	↓	N/M	↑	+8%	-15%
Commodities	↓	N/M	↓	↓	↓	N/M	↑	↓	↑	→	↓	N/M	↓	→	→	↑	+17%	-2%
EQ Cash	↓	→	↓	↑	↓	↓	↑	↓	↑	→	↓	N/M	↓	N/M	→	↑	+15%	-11%
EQ Derv & Converts	→	↑	↑	↑	↓	↓	→	↓	↓	↓	↓	N/M	↓	N/M	→	↑	+36%	+17%
Prime Services	→	↑	↓	→	↓	↓	↓	→	→	↑	↓	N/M	↓	↓	↑	↑	+14%	+4%
Prop Trading	N/M	N/M	→	N/M	↓	N/M	↑	N/M	↓	N/M	N/M	N/M	→	N/M	N/M	N/M	+24%	-1%
Principal Investments	N/M	N/M	N/M	↑	↓	→	→	→	N/M	↑	N/M	N/M	N/M	N/M	N/M	N/M	+39%	+2%
Commercial / Transaction Banking	↓	N/M	↓	↑	N/M	↓	N/M	↑	→	N/M	↓	N/M	N/M	→	N/M	N/M	+8%	+1%
Commercial Banking	↓	N/M	↓	↑	N/M	↓	N/M	↑	↓	N/M	↑	N/M	N/M	↑	N/M	N/M	+12%	-7%
Treasury Services	→	N/M	↓	↓	N/M	↓	N/M	↑	↑	N/M	↓	N/M	N/M	→	N/M	N/M	+14%	+3%
Wealth Management	↓	N/M	↑	N/M	↓	↓	N/M	↑	→	↓	N/M	N/M	N/M	↑	→	↓	+7%	+1%
Advisory	↓	N/M	→	N/M	→	↓	N/M	↓	↓	↓	N/M	N/M	N/M	↑	↓	↑	+8%	-6%
Lending	↓	N/M	↑	N/M	→	↓	N/M	↓	→	↓	N/M	N/M	N/M	↑	↑	↓	+9%	+1%
Investment Management	↓	N/M	↑	N/M	→	↓	N/M	→	↓	↓	N/M	N/M	N/M	↑	↓	↓	+10%	+2%
Brokerage	↑	N/M	→	N/M	↓	↓	N/M	↑	→	↓	N/M	N/M	N/M	↑	↓	↓	+14%	-8%

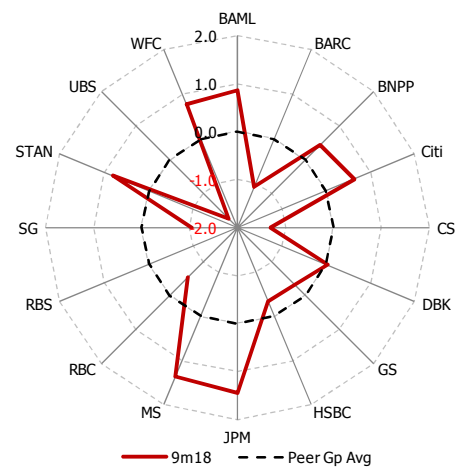
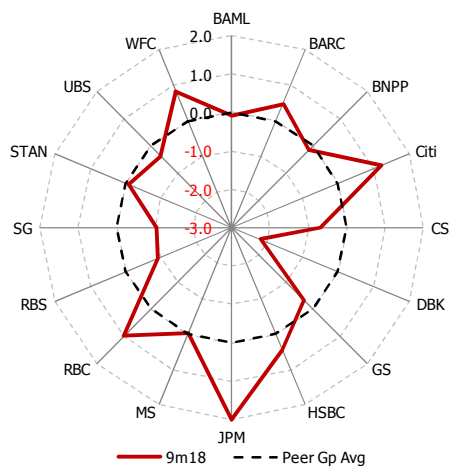
3Q18 / 3Q17 (Operating revenue, % change, US\$, Global Level 1)

	BAML	BARC	BNPP	Citi	CS	DBK	GS	HSBC	JPM	MS	RBC	RBS	SG	STAN	UBS	WFC	Top 25%	Bottom 25%
Capital Markets	↓	→	↑	↓	↓	↓	→	↓	↓	↑	↑	↓	↑	→	↓	→	+10%	-5%
Primary	↑	↓	↓	↓	↓	→	→	↓	↓	↑	→	↓	↑	↑	↓	→	+12%	-10%
DCM Bonds	↓	↑	↓	↓	→	→	↓	↓	↓	↑	↑	↓	↑	→	↓	→	+5%	-18%
DCM Loans	N/M	→	→	N/M	↓	↓	↓	↑	→	N/M	↑	↓	↑	↑	↓	↑	+24%	-9%
Securisation	→	↑	↑	→	↓	↓	↓	↓	↓	→	→	→	→	↓	↑	→	+4%	-10%
ECM	↑	↓	↓	↓	→	→	↑	↓	→	↓	→	N/M	N/M	N/M	↓	→	+53%	-5%
M&A / Advisory	↓	→	→	↓	↑	↓	↓	↓	↓	↓	↓	N/M	N/M	N/M	↑	→	+21%	-6%
Sales & Trading	↓	→	↑	↑	↓	↓	→	↓	↓	→	→	↓	↓	↓	↓	↑	+12%	-7%
FX	↑	↓	↓	→	→	↓	↓	↑	↓	→	→	↓	↓	↓	↑	↑	+11%	-3%
Rates	↑	↑	↓	→	↓	↓	↑	↓	↓	→	↓	↓	↑	→	→	↓	+14%	-14%
Credit	↓	→	↓	→	↓	↓	→	↑	↓	→	↓	↓	↓	↓	↓	↓	+6%	-13%
Commodities	↓	N/M	↑	↓	↓	N/M	→	↓	→	↑	↓	N/M	→	→	→	↑	+7%	-10%
EQ Cash	→	↓	↓	↓	↓	↓	→	↓	↑	→	→	N/M	→	N/M	↓	↑	-3%	-12%
EQ Derv & Converts	↓	↑	↑	↓	↓	↓	→	↓	→	↓	→	N/M	↑	N/M	↓	↑	+40%	+19%
Prime Services	↓	→	↑	→	↓	↓	↓	↑	→	→	↓	N/M	↓	↓	↑	↑	+16%	+1%
Prop Trading	N/M	N/M	→	N/M	N/M	N/M	↑	N/M	↓	N/M	N/M	N/M	N/M	N/M	N/M	N/M	+29%	+9%
Principal Investments	N/M	N/M	N/M	N/M	↓	→	→	↓	N/M	↑	N/M	N/M	N/M	N/M	N/M	N/M	+11%	-8%
Commercial / Transaction Banking	↓	N/M	↓	→	N/M	↓	N/M	↑	→	N/M	↓	N/M	N/M	→	N/M	N/M	+6%	+0%
Commercial Banking	↓	N/M	↓	→	N/M	↓	N/M	↑	↓	N/M	↑	N/M	N/M	→	N/M	N/M	+6%	-5%
Treasury Services	↓	N/M	↑	→	N/M	↓	N/M	→	↑	N/M	↓	N/M	N/M	↓	N/M	N/M	+11%	+5%
Wealth Management	↓	N/M	↑	N/M	↓	↑	N/M	N/M	→	↓	↓	N/M	N/M	↑	↓	↓	+9%	+3%
Advisory	↓	N/M	↓	N/M	↓	↑	N/M	N/M	↑	↓	↓	N/M	N/M	→	↓	→	+23%	+1%
Lending	↓	N/M	↑	N/M	↓	→	N/M	N/M	↓	↑	↓	N/M	N/M	↑	→	↓	+10%	-1%
Investment Management	↓	N/M	↑	N/M	↓	↓	N/M	N/M	→	↓	↓	N/M	N/M	→	↓	↓	+19%	+2%
Brokerage	↑	N/M	→	N/M	→	↓	N/M	N/M	N/M	↓	↓	N/M	N/M	↑	↓	↓	+11%	-6%

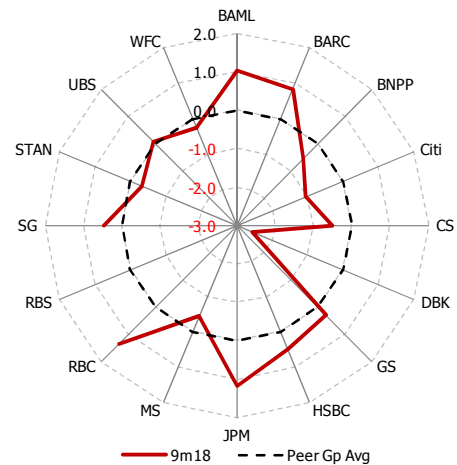
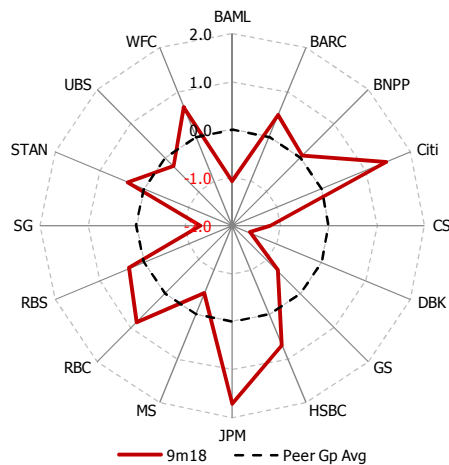
Source: Tricumen. Notes: (1) Tricumen product definitions throughout. (2) Arrows show % change in revenue vs peers. Up/down-arrows: top-/bottom-quartile. (3) Revenue is post-writedowns, excludes DVA/equivalent and one-offs, as described in the Company Section. (4) In-scope: Large Cap/MNC and Mid-Cap/SMEs.

Operating cost / income (US\$, Global Level 1)

Capital Markets **Banking**



FICC **Equities**



Source: Tricumen. Notes: (1) TRIC product definitions, standard deviation, product Level 1; (2) Operating expenses exclude one-off non-operational items, insurance-related benefits & claims, and credit expense/recovery/NPL provisions. Capital expenditure is included as accrued. Litigation expense is allocated to front-line units. (3) positive values indicate outperformance; missing fields indicate that data is not meaningful, or available; (4) outliers are excluded. (5) RBS and STAN do not compete in Equities markets.

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Tricumen was founded in 2008. It quickly became a strong provider of diversified market intelligence across the capital markets and has since expanded into transaction and corporate banking as well as asset and wealth management. Tricumen's data has been used by many of the world's leading investment banks as well as strategy consulting firms, investment managers and 'blue chip' corporations.

Situated near Cambridge in the UK, Tricumen is almost exclusively staffed with senior individuals with an extensive track record of either working for or analysing banks; and boasts what we believe is the largest capital markets-focused research network of its peer group.

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