KENNETH WOODS
PORTFOLIO MANAGEMENT PROGRAM

The Goldman Sachs Group (NYSE:GS)

Financials Coverage

25–Mar–16

“A sector vanguard at a value price”

Initiating coverage – BUY Report

Target Price: US$180, **representing 20% upside**

Current Price: US$150

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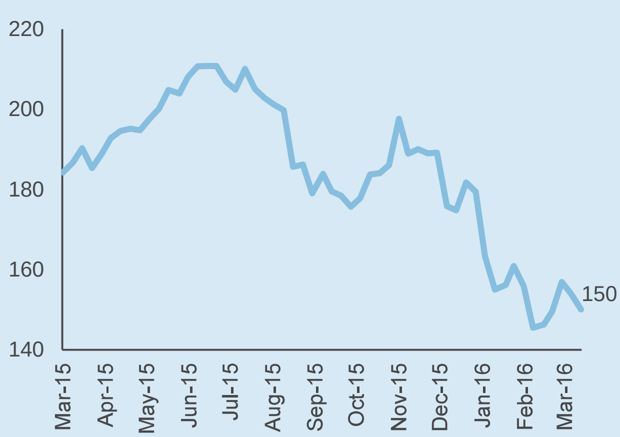
Capitalization Table

Price (22-Mar-2016)	US$150.00
FD Shares outstanding (m)	426.8
Equity value (US$m)	$64,021.9
Book value (US$m)	75,528.0
Tangible book value (US$m)	71,380.0

Key Data

FY	2015A	2016F	2017F
Sales (US$m)	33,819.9	33,746.3	36,191.9
EBT (US$m)	8,778.0	10,106.2	13,470.8
EPS (US$)	17.54	18.46	21.77
P / E (x)	8.6x	8.1x	6.9x
P / BV (x)	0.9x	0.8x	0.7x

LTM Price Chart (US$)



Company description

The Goldman Sachs Group (“Goldman Sachs”, “GS”, or the “Company”) is a global investment banking, securities and investment management company that provides a range of financial services to a diversified client base that include corporations, financial institutions, Governments and high-net-worth individuals. The Company has four business franchises: Investment Banking, Institutional Client Services, Investing & Lending and Investment Management.

Investment thesis

Goldman Sachs is the World’s leading investment banking and brokerage firm, best positioned to capitalize on an alleviated competitive environment from numerous peers undergoing restructurings, creating long term competitive advantages as markets improve…

Catalyst

- Undervalued in the current market
- Operating leverage enables further market leadership
- Well invested in back office at the right time

Valuation

We are initiating a buy on Goldman Sachs with a target price of US$180, representing ~20% upside to its current price (US$150), based on our 2016F sum of the parts analysis of Goldman Sachs and historic multiple trading levels for P / E, P / BV and P / TBV.

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Financial overview

In US$m, unless noted otherwise

Profit model	2013	2014	2015	2016F	2017F
Investment banking	6,004	6,464	7,027	7,211	7,760
Institutional client services	15,721	15,197	15,151	14,818	15,569
Investing & lending	7,018	6,825	5,436	5,082	6,005
Investment management	5,463	6,042	6,206	6,635	6,858
Total revenue	**34,206**	**34,528**	**33,820**	**33,746**	**36,192**
(-) Total operating expenses	**(21,507)**	**(21,057)**	**(20,951)**	**(21,140)**	**(22,021)**
Total adjusted EBT	**12,699**	**13,471**	**12,869**	**12,606**	**14,171**
(-) Non-operating expenses	(962)	(1,114)	(4,091)	(2,500)	(700)
EBT	**11,737**	**12,357**	**8,778**	**10,106**	**13,471**
(-) Income tax expense	(3,697)	(3,880)	(2,695)	(3,103)	(4,136)
Net income	**8,040**	**8,477**	**6,083**	**7,003**	**9,335**
(-) Pref. dividends	(338)	(423)	(537)	(585)	(633)
Net income to common	**7,702**	**8,054**	**5,546**	**6,418**	**8,702**
(+) Adjustments	235	365	2,497	1,460	155
Normalized net income	**7,937**	**8,419**	**8,043**	**7,879**	**8,857**
(/) W.A shares (m)	471	459	449	422	402
Normalized EPS (US$)	**$16.84**	**$18.35**	**$17.92**	**$18.65**	**$22.01**
(/) W.A diluted shares (m)	500	473	459	427	407
Normalized diluted EPS (US$)	**$15.89**	**$17.79**	**$17.54**	**$18.46**	**$21.77**

Business lines EBT	2013	2014	2015	2016F	2017F
Investment banking	2,525	2,776	3,314	3,389	3,880
Institutional client services	4,891	5,071	5,223	5,112	5,449
Investing & lending	4,332	4,344	3,115	2,795	3,483
Investment management	1,106	1,395	1,365	1,460	1,509
(-) Corporate charges	(155)	(115)	(148)	(150)	(150)
Total adjusted EBT	**12,699**	**13,471**	**12,869**	**12,606**	**14,171**

Growth	2013	2014	2015	2016F	2017F
Investment banking (%)	*21.9%*	*7.7%*	*8.7%*	*2.6%*	*7.6%*
Institutional client services (%)	*(13.3%)*	*(3.3%)*	*(0.3%)*	*(2.2%)*	*5.1%*
Investing & lending (%)	*19.1%*	*(2.8%)*	*(20.4%)*	*(6.5%)*	*18.2%*
Investment management (%)	*4.6%*	*10.6%*	*2.7%*	*6.9%*	*3.4%*
Total revenue (%)	***0.1%***	***0.9%***	***(2.1%)***	***(0.2%)***	***7.2%***

Profitability	2013	2014	2015	2016F	2017F
Investment banking (%)	*42.1%*	*42.9%*	*47.2%*	*47.0%*	*50.0%*
Institutional client services (%)	*31.1%*	*33.4%*	*34.5%*	*34.5%*	*35.0%*
Investing & lending (%)	*61.7%*	*63.6%*	*57.3%*	*55.0%*	*58.0%*
Investment management (%)	*20.2%*	*23.1%*	*22.0%*	*22.0%*	*22.0%*
Adjusted EBT margin (%)	***37.1%***	***39.0%***	***38.1%***	***37.4%***	***39.2%***
ROE (%)	*10.1%*	*10.1%*	*9.2%*	*8.7%*	*9.3%*
ROCE (%)	*10.8%*	*10.9%*	*7.3%*	*8.2%*	*10.7%*

Dividends and buyback	2013	2014	2015	2016F	2017F
Shares outstanding (m)	**467**	**452**	**442**	**427**	**407**
Growth (%)	*(2.7%)*	*(3.4%)*	*(2.2%)*	*(3.3%)*	*(4.7%)*
Dividends per share (US$)	**$2.05**	**$2.25**	**$2.55**	**$2.77**	**$3.33**
Growth (%)	*15.8%*	*9.8%*	*13.3%*	*8.6%*	*20.3%*
Payout ratio (%)	*12.9%*	*12.6%*	*14.5%*	*15.0%*	*15.3%*

Book value	2013	2014	2015	2016F	2017F
Book value	**71,267**	**73,597**	**75,528**	**77,895**	**81,657**
Growth (%)	*2.5%*	*3.3%*	*2.6%*	*3.1%*	*4.8%*
BV / shares (US$)	**$152.49**	**$162.99**	**$171.05**	**$182.50**	**$200.72**
Growth (%)	*5.4%*	*6.9%*	*4.9%*	*6.7%*	*10.0%*
Tangible book value	**66,891**	**69,437**	**71,380**	**73,747**	**77,509**
Growth (%)	*3.8%*	*3.8%*	*2.8%*	*3.3%*	*5.1%*
TBV / shares (US$)	**$143.12**	**$153.78**	**$161.65**	**$172.79**	**$190.53**
Growth (%)	*6.8%*	*7.4%*	*5.1%*	*6.9%*	*10.3%*

Business overview and drivers

	Business line	Driver
Investment banking	Debt capital markets	Debt deal value & volume
	Equity capital markets	Equity offering value & volume
	Financial advisory	M&A deal value and volume
Institutional client services	Fixed income, currency, commodity	High yield spreads
		Interest rates
	Equities	Major index trading volume
		Economic indicators
Investing and lending	Debt and loans	High yield spreads
	Equity	Equity market performance
Investment management	Assets under management	Equity and debt market performance

Business overview and drivers

Business overview

Investment banking

The investment banking ("IB") franchise generates revenue through fees on debt capital markets ("DCM") underwriting, equity capital markets ("ECM") underwriting, and advisory work primarily for mergers and acquisitions ("M&A"). The main drivers are deal volume and value per category, as well as overall corporate profits (Exhibit 1: F1, F2, F3 and F4)

Institutional client services

The institutional client services ("ICS") franchise makes a market in fixed income, currency and commodities ("FICC") and equities. The firm makes markets in and clears transactions on major stock, option, and future exchanges worldwide, while providing financing, securities lending and other prime brokerage services to institutional clients.

Four methods of generating revenues:

- In large, highly liquid markets (such as markets for U.S. Treasury bills, large capitalization S&P 500 stocks or certain mortgage pass-through securities), GS executes a high volume of transactions for clients
- In less liquid markets (such as mid-cap corporate bonds, growth market currencies or certain non-agency mortgage-backed securities), GS executes transactions for clients for spreads and fees that are larger than those charged in more liquid markets
- Structure and execute transactions involving customized or tailor-made products that address clients' risk exposures, investment objectives or other complex needs (such as a jet fuel hedge for an airline)
- Provide financing to clients for their securities trading activities, as well as securities lending and other prime brokerage services

The primary drivers are interest rates and high yield spreads (Exhibit 1: F5 and F6).

Investing and lending

The investing and lending ("I&L") franchise invests in and originates loans to provide financing to clients (these investments and loans are typically longer-term in nature). Beyond this, Goldman Sachs is investing in corporate (public and private), real estate, and infrastructure equity-related investments. This segment is heavily impacted by regulatory constraints (Volker Rule) along with global equity market performance and high yield spreads (Exhibit 1: F7 and F8).

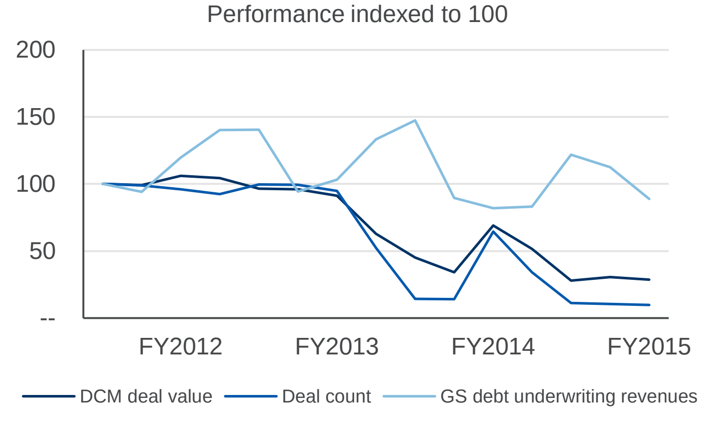
Investment management

The investment management ("IM") franchise collects fees and commissions on their assets under management exceeding US$1.0tn. The principal drivers are global equity and debt market performances (Exhibit 1: F9).

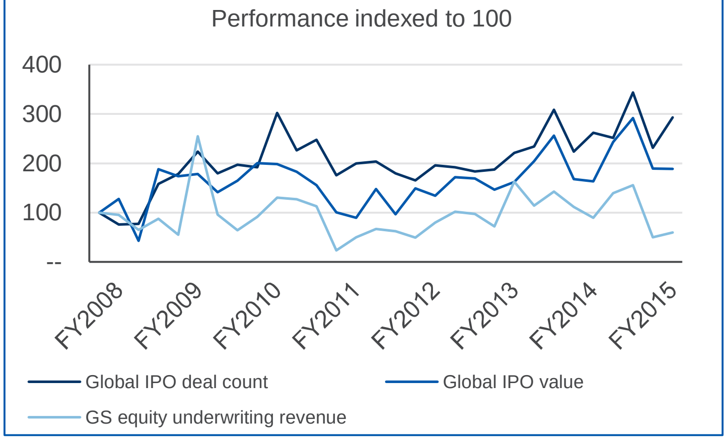
Business overview and drivers

Exhibit 1 – GS revenue driver dashboard

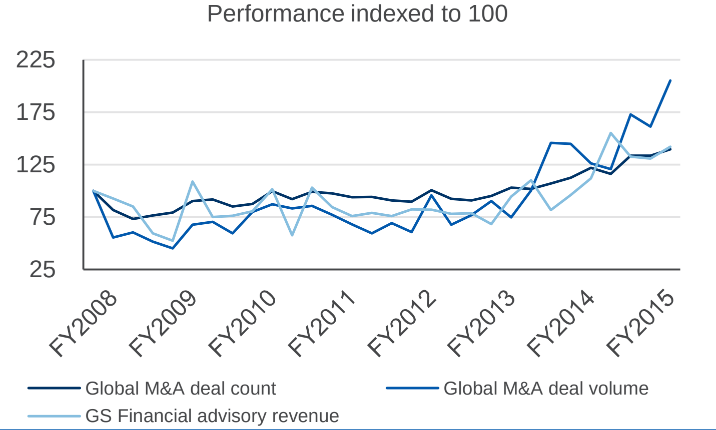
F1: IB: DCM revenues



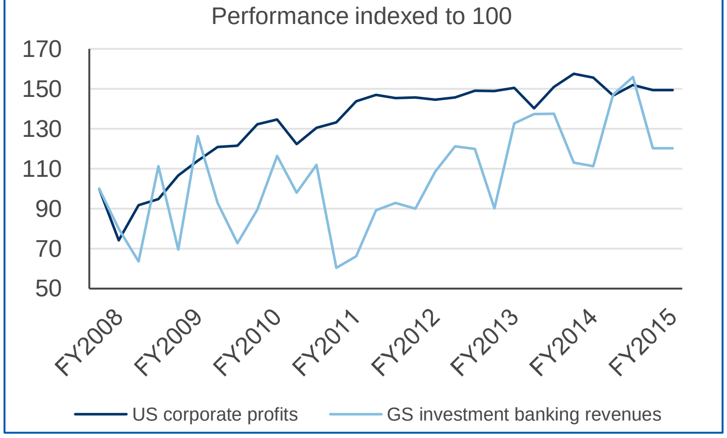
F2: IB: ECM revenues



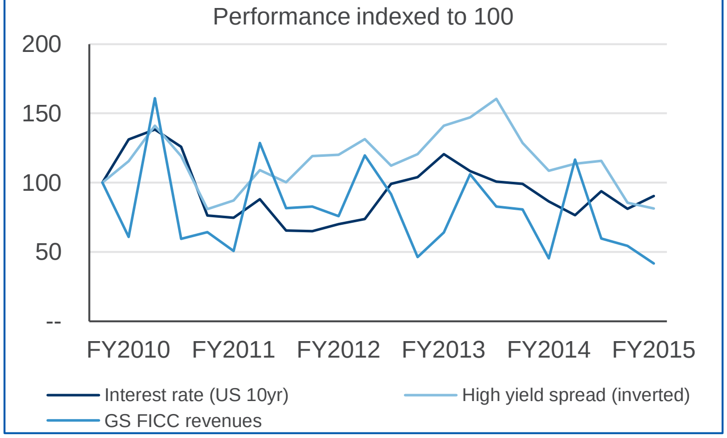
F3: IB: Financial advisory revenues



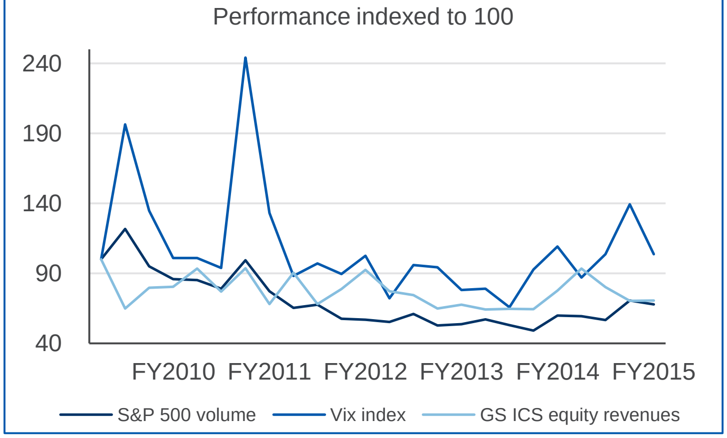
F4: IB: Overall investment banking revenues



F5: ICS: FICC revenues



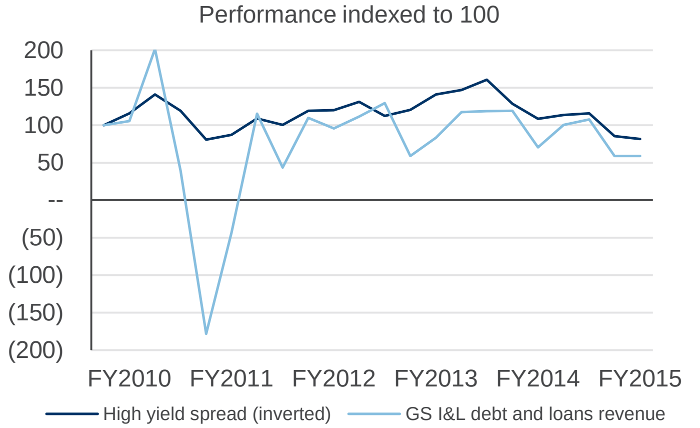
F6: ICS: Equities revenues



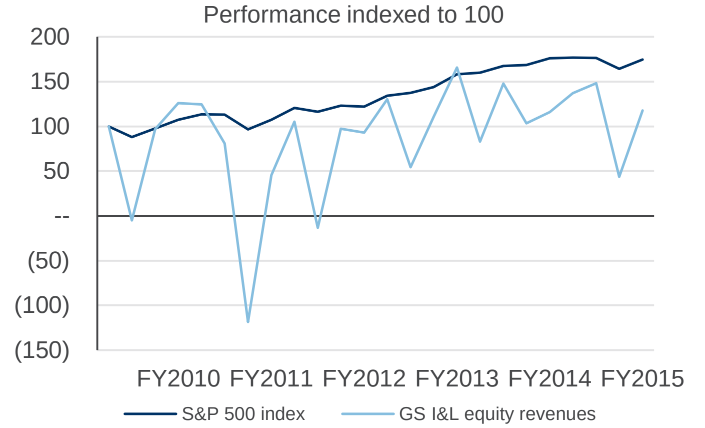
Business overview and drivers

Exhibit 1 – GS revenue driver dashboard (cont.)

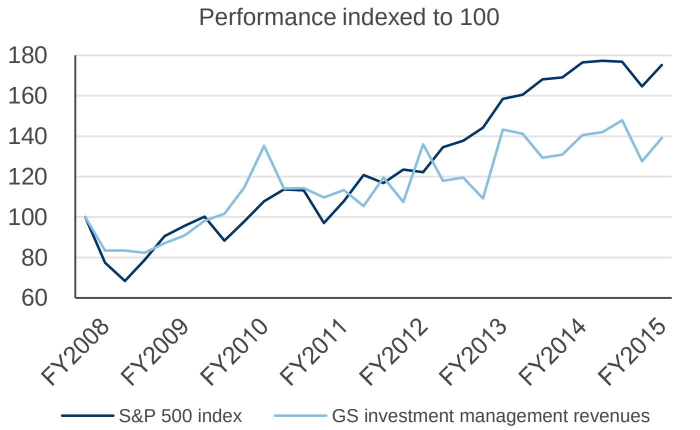
F7: I&L: Debt & loans revenues



F8: I&L: Equity revenues



F9: IM: investment management revenues



Industry and regulatory environment

The current and future environment for global investment banks

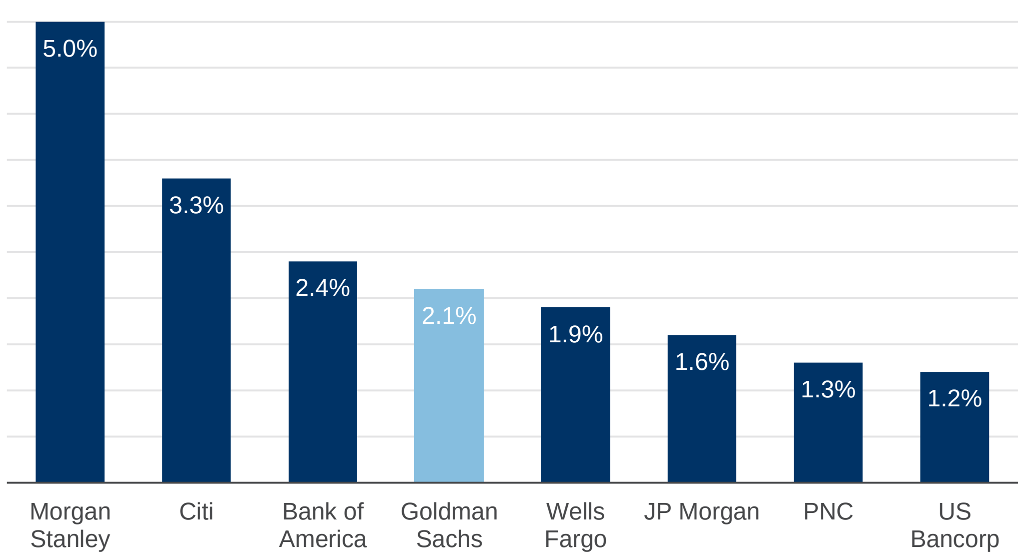
Global investment banks have been hit hard by slowing economic growth, disruption in emerging markets, low oil prices, low interest rates and a shifting regulatory environment. As seen with the drivers presented in exhibit 1, the market opportunities for investment banks have been volatile to say the least. With markets in a trough period, numerous players undergoing restructurings (Deutsche Bank and Credit Cuisse) and others still adapting to past restructurings (UBS), the market presents a great opportunity for those ready to lead the way in both investment banking and trading. We believe Morgan Stanley, Goldman Sachs, Bank of America Merrill Lynch, and JP Morgan are best positioned to target the market share up for grabs by their European peers who are taking a step back. However, it must be noted that the significant technological changes in the industry are diminishing the profitability of the trading business, but, as we will elaborate later on, Goldman Sachs is well positioned to cope and adapt to these changes. Beyond this, the industry is linked to global economic performance and our view on global markets remains optimistic. In the long run we see tremendous value at entering this space in a trough period.

Investment bank's exposure to low energy price environment

Goldman Sachs has $10.6bn of exposure to the energy sector, which, relative to the rest of the major banks, has a smaller lending business. In addition, $4.2 billion was for junk firms, as of the end of December, representing 40% of its oil and gas loans. However the firm ranks lower than peers and other large US banks in terms of outstanding debt to the oil & gas sector as a % of total loans (Exhibit 2).

Exhibit 2

Outstanding debt to the oil & gas sector as a % of total loans



Industry and regulatory environment

Regulatory environment

As a participant in the financial services industry, Goldman Sachs is subject to extensive regulation worldwide. Even though their businesses have been subject to increasing regulation and supervision in recent years, Goldman Sachs managed to maintain a solid relative performance in this challenging regulatory environment. Some of the most recent and impactful regulations are the ones concerning the:

- G-SIB Surcharge (view appendix)
- Supplementary Leverage Ratio (view appendix)
- Liquidity Coverage Ratio (view appendix)
- CCAR (view appendix)
- Volcker Rule

Volcker Rule

Implemented in July 2015, the Volcker Rule, which is represented in Section 619 of the Dodd-Frank Wall Street Reform and Consumer Protection Act, is meant to restrict big U.S. banks from making risky speculative bets with funds from their own accounts through proprietary trading of securities, derivatives, commodity futures and options. In addition, the rule prohibits them from having general trading relationships with hedge funds and private-equity funds. The intent was to keep banks from the hedging that puts customers in danger, helping to prevent another crisis like the one that brought the American economy to its knees in 2008.

Goldman Sachs is one of the most affected banks followed by Morgan Stanley. The two firms derive 48% and 27% of their total consolidated revenues, respectively, from principal transactions. Meanwhile Bank of America and JPMorgan Chase see about 9% and 8% of their total consolidated revenue, respectively, come from such transactions. Citigroup will be the least hit with just 5% of its total revenue at stake.

Therefore, the Volker rule may adversely affect Goldman Sachs' profitability and competitive position, particularly if these requirements do not apply, or do not apply equally, to their competitors or are not implemented uniformly across jurisdictions.

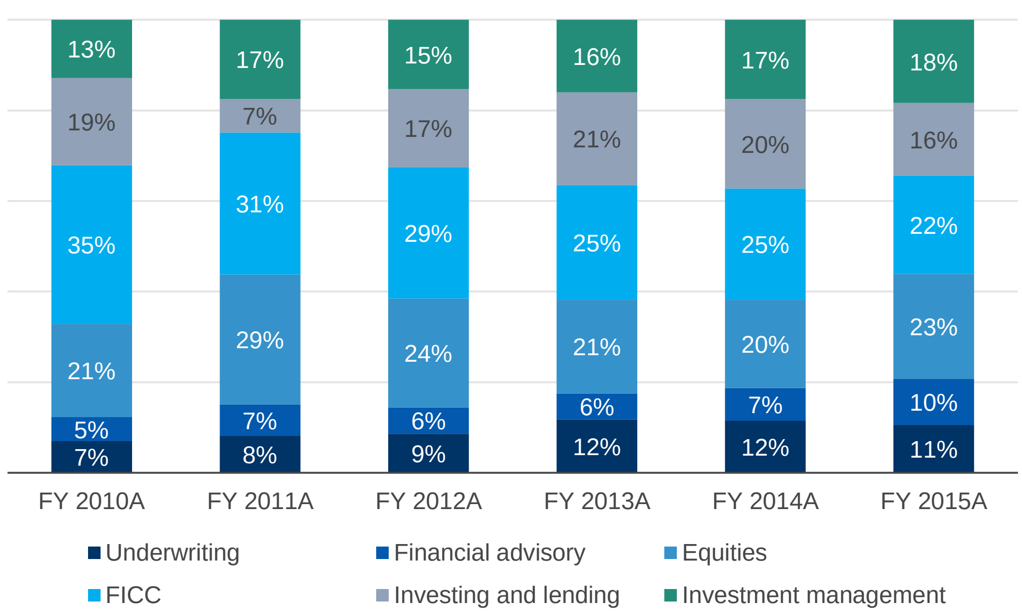
Strategic direction

The Goldman Sachs Group
GS derives its revenues through a public / private market focused business model which for the most part capitalizes on fees and commissions for services and structured products. As the environment for global investment banks deters, management at GS is focused on targeting the market share of peers who scale back in many markets across the globe. Credit Suisse and Deutsche Bank in particular have begun scaling back their US and European operations in an effort to refocus their businesses and GS is a prime hunter for their share of the market. The Company has publicly stated that in the US market they will look to strengthen their share of the Institutional Client Services market.

Beyond this, the Company has deployed (and is continuing to deploy) a franchise mix strategy that minimizes their exposure to the riskiness of trading revenues in FICC, focusing more on investment banking and investment management (Exhibit 3). The Company's investment banking revenues now match that of the FICC business, incomparable to how things were in past years.

Exhibit 3

Historical revenue mix



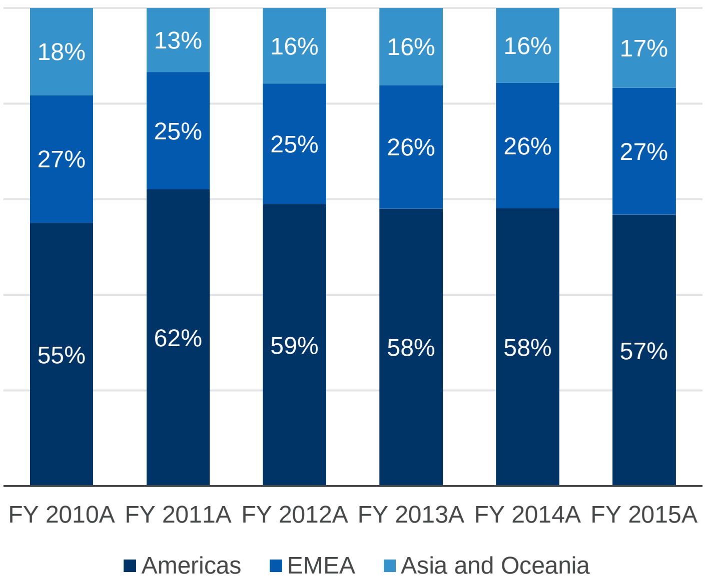
On a geographic level, GS revenues are derived primarily from North America, however on a profit level, the Company has strong earnings power in the "EMEA" and "Asia and Oceania" segments. This is a strong positive for the Company's positioning as their most operationally effective markets also provide the greatest future growth avenues (Exhibit 4).

Strategic direction

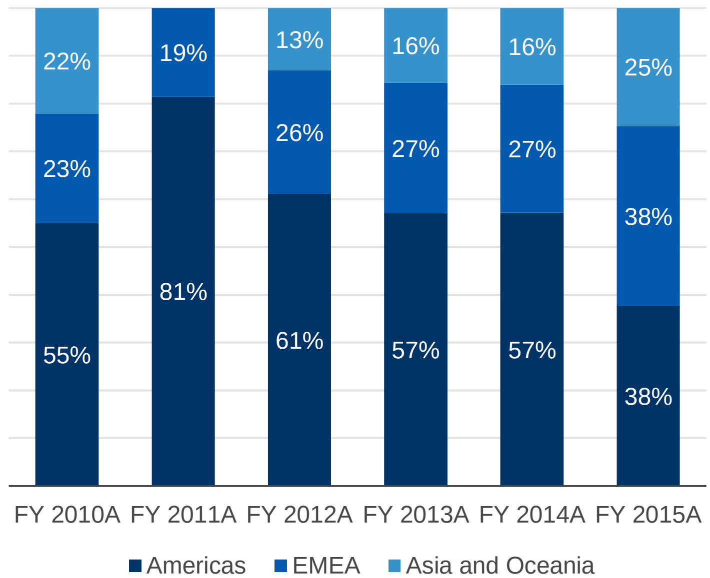
Exhibit 4

Geographic analysis

Revenue geographic mix



EBT geographic mix

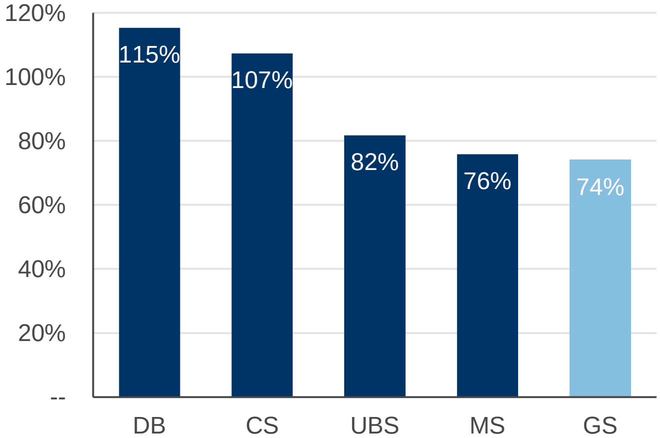


GS has also been an efficient manager of scale, adapting their cost structure despite varying revenue cycles. This flexibility is evident across business segments and provides GS with a leadership position amongst peers (Exhibit 5). On the other side it is relevant to point out that the investing and lending franchise's historic steep drops in revenue, from losses on investments, remains impossible to react to.

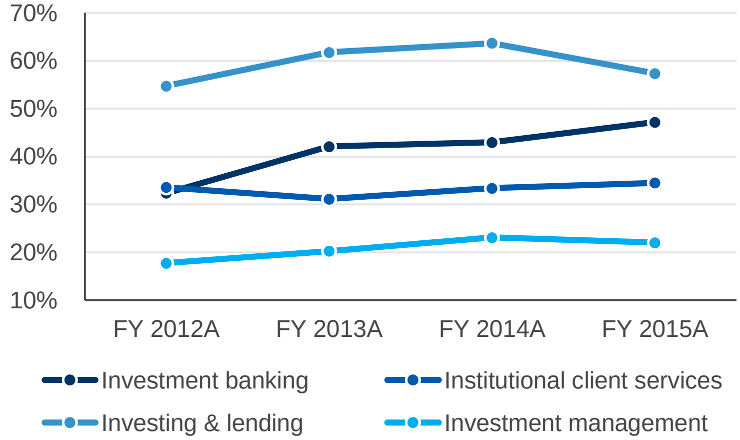
Exhibit 5

Geographic analysis

Cost / income ratio benchmarking – IB peers



GS' historic adjusted EBT margins per business line



Strategic direction

Management team

Lloyd C. Blankfein - Chairman and CEO (61 y.o.)

The Company's current Chairman and CEO is a Harvard Law School alumni who has worked at Goldman Sachs for the last 34 years. He started in 1982 when he joined GS' commodities trading arm, J. Aron & Co., as a precious metals salesman in its London office. During his time at GS, Blankfein held various positions across the FICC and Equities divisions. He served as Vice Chairman from 2002 until 2004, continuing as the President and Chief Operating Officer until 2006. Since 2006, he has served as Chairman and Chief Executive Officer. Blankfein is one of two remaining bank CEOs from the 2008 financial crisis (The other being JP Morgan's CEO Jamie Dimon). In 2015, he earned a total of US$23.0mm (US$2.0 mm in base salary, US$6.3 mm in cash bonus, and US$14.7mm in equity).

Gary D. Cohn - President and COO (55 y.o.)

After obtaining his bachelor's degree from American University's Kogod School of Business and working as a sales person at U.S. Steel, Cohn started his career as an options dealer in the New York Mercantile Exchange and eventually joined Goldman Sachs in 1990. In his more than 20-year career at Goldman Sachs in New York and London, Cohn accumulated extensive experience as head of the FICC division, the global securities businesses and, in June 2006, became President and Co-Chief Operating Officer. Including stock awards, Cohen earned over US$21.0mm in 2015.

Harvey M. Schwartz - Executive Vice President and CFO (52 y.o.)

Prior to his appointment as chief financial officer in January 2013, Schwartz served as managing director, partner, and co-head of the global securities division at Goldman Sachs. He is also a member of the firm's Management Committee, firm-wide Risk Committee, Steering Committee on Regulatory Reform, Finance Committee, firm-wide Capital Committee and firm-wide Investment Policy Committee. With regards to Schwartz's education background, he graduated from Rutgers University in 1987 with a Bachelor of Arts degree in economics and earned his EMBA degree from Columbia University in 1996.

Thesis and catalyst development

Thesis

"Goldman Sachs is the World's leading investment banking and brokerage firm, best positioned to capitalize on an alleviated competitive environment from numerous peers undergoing restructurings creating long term competitive advantages as markets improve…"

The Company holds best of breed operating leverage and seamless integration across business franchises, enabling leading cost management during cyclical periods. The Company's trading leadership provides them with a tremendous opportunity to generate strong revenues in a rising interest rate environment, while their increased exposure to investment banking helps mitigate a flat / declining trading year. The Company's recent staple has been their investment management division, which provides constant mid single digit year-over-year growth.

Catalyst

We believe Goldman Sachs provides strong upside based on the following reasons…

- Undervalued in the current market
- Operating leverage enables further market leadership
- Well invested in back office at the right time

Undervalued in the current market

The market has priced in a year long rout of three of their four business franchises (the exception being their investment management franchise), while we only expect a downturn for H1 as markets stabilize globally and US rates get hiked. This provides a great entry point for a Company poised to lead the strong M&A wave and market rebound seen mid-February onwards. The Company's revenues across franchises are linked to market elements that we do not believe will remain hindered throughout 2017, where the stock has the opportunity to see multiple expansion by incorporating growth into its highly scaled model.

Operating leverage enables further market leadership

Goldman Sachs' best of breed operating leverage gives way to market share capture as European competitors retrench (Credit Suisse and Deutsche Bank) in both their domestic and international markets. We believe the competition for this new market share will be fierce from players like MS, BAC and JPM, but Goldman Sachs' leadership position, high operating flexibility and strong 2015 track record will enable significant new client relationships to be fostered during this period. The advantage of these client relationships is that they will continue to provide revenues for the firm long past 2016.

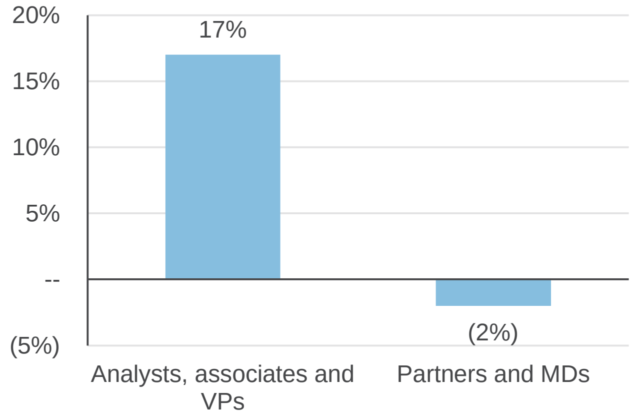
Thesis and catalyst development

Well invested in back office at the right time

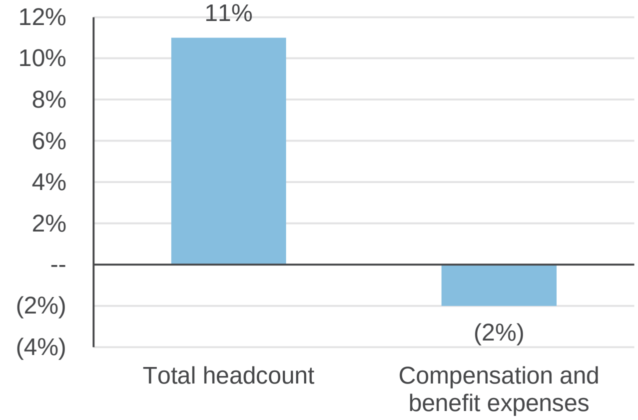
GS has taken a leading position in investing in its back office. Last year the firm increased its workforce by ~8%, while most peers cut or remained flat (MS is the closest rival on this matter, increasing their workforce by 1%). This initiative is primarily meant to increase efficiencies in their IB and trading franchises through a ramp up of their tech staff (who serve to innovate and streamline processes). Beyond hires in the tech space, the Company has also focused on investing in external technology companies whose products the bank can use to their advantage (i.e. Symphony, Marquee, etc.). These investments ultimately enable the Company to bring forward a greater breath of products to more clients, while facilitating ease of collaboration and scale advantages on their global platform. GS' hiring frenzy was also used to strengthen their regulatory, legal, and compliance teams as lawsuits and fines have resulted in billion dollar loses to global investment banks across the world (to which Goldman Sachs is no exception, having paid over US$4.0bn this year alone). They have executed on all of this while responsibly managing the costs impacts (Exhibit 6).

Exhibit 6

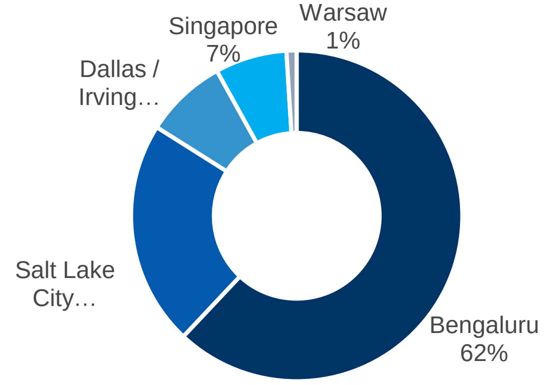
Employee mix (2012 – 2015)



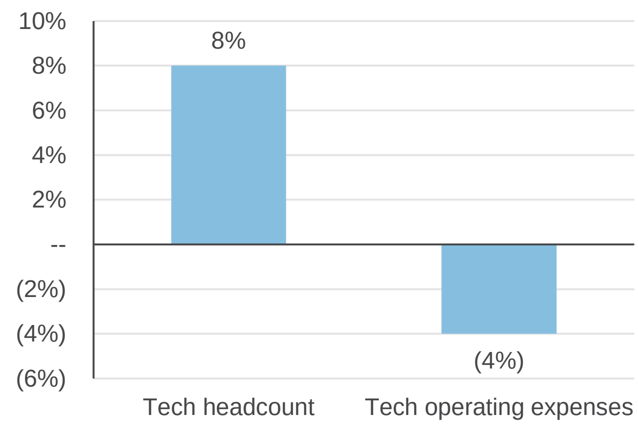
Headcount vs. comp. and benefit exp. (2012 - 2015)



Headcount mix in strategic locations



Technology headcount vs. expenses



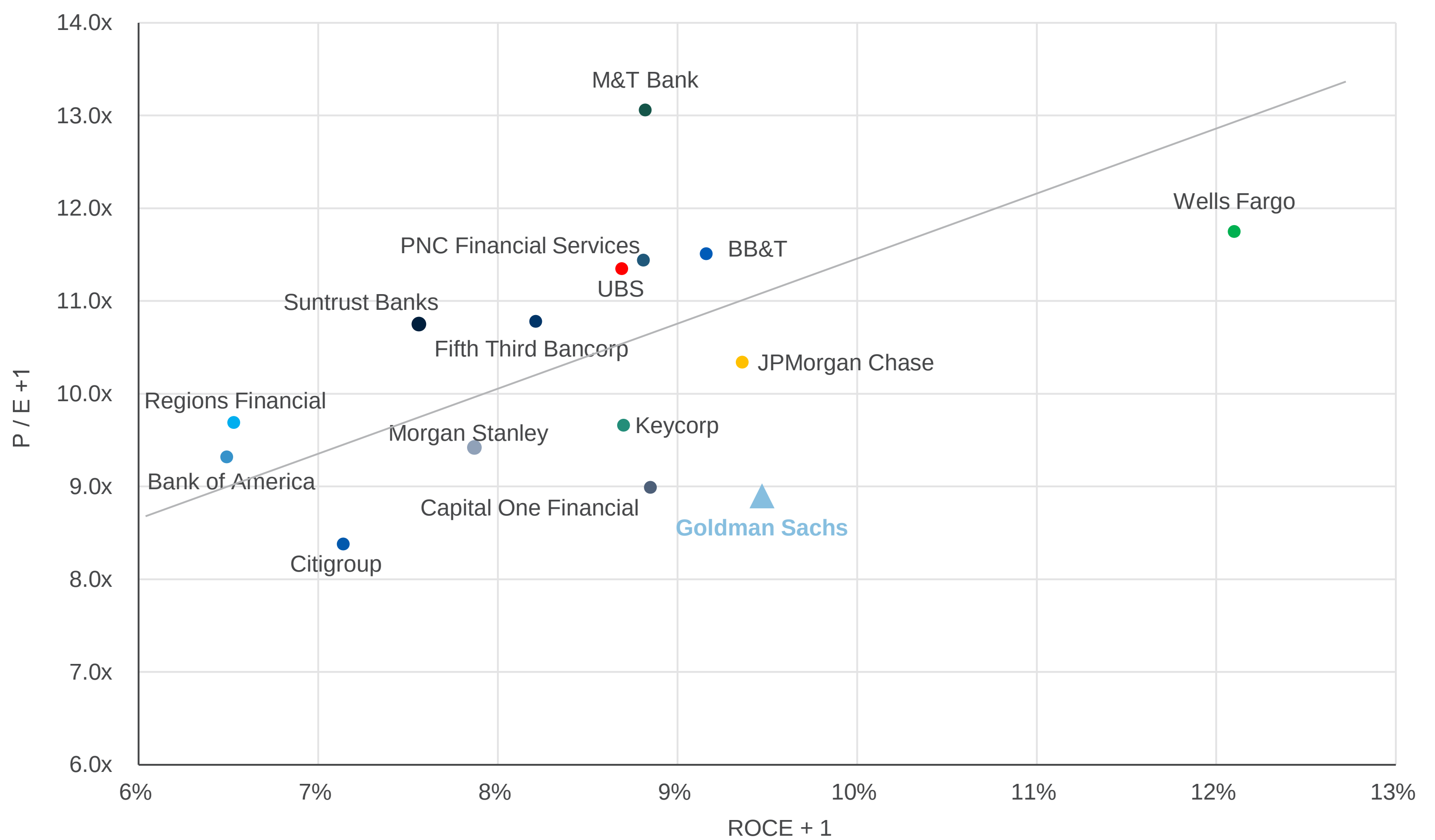
Best of breed

Portfolio strategy

In an attempt to allocate capital to the fund's highly underweight financial sector, we have evaluated numerous financial players looking for an opportunity with a best of breed player outside of the real estate and insurance space. The speed at which interest rates will be hiked in the US is uncertain and with that in mind, Goldman Sachs and many other large investment banks (UBS, DB, MS, Barclays) stood out to me as they have less revenue exposure to net interest margin spreads, but can still stand to benefit from high yield spreads decreasing. When looking at the major investment banks, GS stood out for having strong future earnings potential compared to other peers and providing best of breed returns. Goldman Sachs leverages its scale and solid franchise integration to hold best-in-class margins and we see an opportunity for them to steal further market share as the global IBs pull back due to restructuring (DB, CS). With that in mind we see Goldman Sachs as not only being best of breed, but also being undervalued versus its historic trading levels and its peers (Exhibit 7).

Exhibit 7

Return vs. valuation



Financial and valuation assessment

Target price

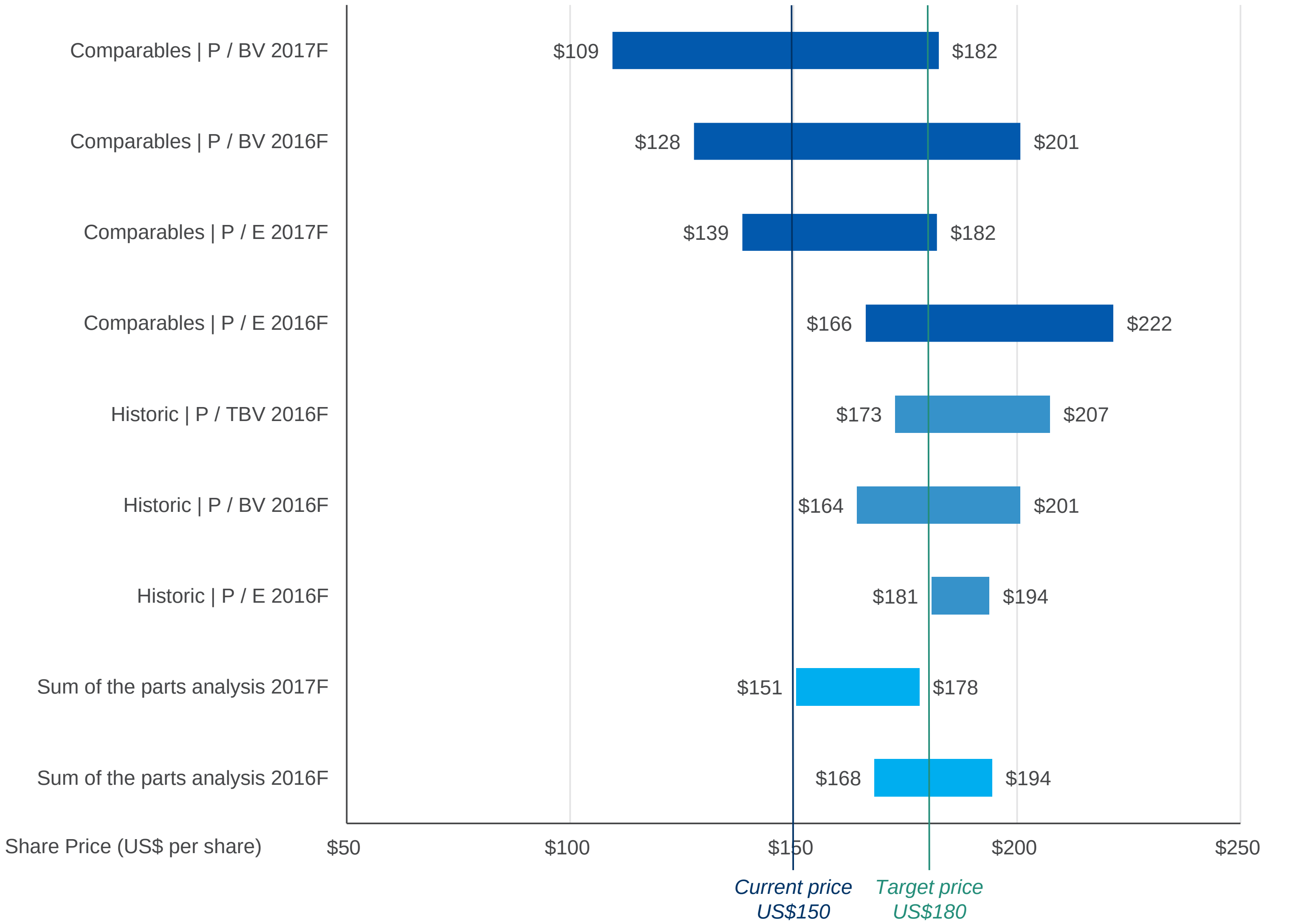
We are initiating a buy on Goldman Sachs with a target price of US$180, representing ~20% upside to its current share price (US$150), based on our 2016F sum of the parts analysis of Goldman Sachs and historic trading multiples for P / E, P / BV and P / TBV.

Valuation methodology overview

Our valuation is focused on 2016 and 2017 expected performance using a sum of the parts analysis (attributable to Goldman Sachs' respected business franchises on a P / E basis) as well as using historic and peer multiples for P / E, P / BV and P / TBV (Exhibit 8).

Exhibit 8

Illustrative valuation summary



Financial and valuation assessment

Operating model build out

We forecasted our operating model segmented by the 4 primary business franchises. We kept corporate costs consistent throughout and ramped down legal fees.

Goldman Sachs revenue and earnings buildout

in US$m	FY 2010A	FY 2011A	FY 2012A	FY 2013A	FY 2014A	FY 2015A	FY 2016F	FY 2017F	FY 2018F	FY 2019F	FY 2020F
Revenues											
Investment banking	4,810	4,355	4,927	6,004	6,464	7,027	7,211	7,760	8,121	8,263	9,631
Institutional client services	21,796	17,280	18,124	15,721	15,197	15,151	14,818	15,569	16,566	16,569	16,039
Investing & lending	7,541	2,142	5,891	7,018	6,825	5,436	5,082	6,005	6,245	7,747	7,315
Investment management	5,014	5,034	5,222	5,463	6,042	6,206	6,635	6,858	7,129	7,058	7,232
Total revenue	**39,161**	**28,811**	**34,164**	**34,206**	**34,528**	**33,820**	**33,746**	**36,192**	**38,061**	**39,638**	**40,217**
Adjusted EBT											
Investment banking adj. EBT	1,816	1,360	1,593	2,525	2,776	3,314	3,389	3,880	4,061	4,132	4,815
Institutional client services adj. EBT	6,802	4,618	6,082	4,891	5,071	5,223	5,112	5,449	5,798	5,965	5,774
Investing & lending adj. EBT	4,485	(531)	3,223	4,332	4,344	3,115	2,795	3,483	3,685	4,958	4,608
Investment management adj. EBT	932	1,014	926	1,106	1,395	1,365	1,460	1,509	1,568	1,553	1,591
(-) Adjusted corporate charges	(345)	(117)	(169)	(155)	(115)	(148)	(150)	(150)	(150)	(150)	(150)
Total adjusted EBT	**13,690**	**6,344**	**11,655**	**12,699**	**13,471**	**12,869**	**12,606**	**14,171**	**14,962**	**16,458**	**16,639**

Investment banking

Revenues from the investment banking division are segmented by product group. With the downturn in DCM over the past 12 months, we have a negative outlook on the debt revenues for the coming months. However with a rising rate environment coming into play we see the opportunity for many firms to issue debt sooner rather than later. ECM remains difficult to predict, but has been slow to date so far this year and we see this continuing into the year end. In financial advisory we have forecasted what we consider to be highly conservative figures considering the hot M&A wave seen in march. We topped margins at 50% as we expect most operating improvements to already be in place.

Investment banking revenue and earnings buildout

in US$m	FY 2010A	FY 2011A	FY 2012A	FY 2013A	FY 2014A	FY 2015A	FY 2016F	FY 2017F	FY 2018F	FY 2019F	FY 2020F
Investment banking											
Debt	1,286	1,283	1,964	2,367	2,240	2,011	1,810	1,900	1,948	1,851	2,221
Growth (%)		*(0.2%)*	*53.1%*	*20.5%*	*(5.4%)*	*(10.2%)*	*(10.0%)*	*5.0%*	*2.5%*	*(5.0%)*	*20.0%*
Equity	1,462	1,085	987	1,659	1,750	1,546	1,515	1,818	1,727	1,900	1,995
Growth (%)		*(25.8%)*	*(9.0%)*	*68.1%*	*5.5%*	*(11.7%)*	*(2.0%)*	*20.0%*	*(5.0%)*	*10.0%*	*5.0%*
Underwriting	**2,748**	**2,368**	**2,952**	**4,026**	**3,990**	**3,557**	**3,325**	**3,719**	**3,675**	**3,750**	**4,216**
Growth (%)		*(13.8%)*	*24.6%*	*36.4%*	*(0.9%)*	*(10.9%)*	*(6.5%)*	*11.8%*	*(1.2%)*	*2.0%*	*12.4%*
Financial advisory	**2,062**	**1,987**	**1,975**	**1,978**	**2,474**	**3,470**	**3,886**	**4,042**	**4,446**	**4,513**	**5,415**
Growth (%)		*(3.6%)*	*(0.6%)*	*0.2%*	*25.1%*	*40.3%*	*12.0%*	*4.0%*	*10.0%*	*1.5%*	*20.0%*
Investment banking revenue	**4,810**	**4,355**	**4,927**	**6,004**	**6,464**	**7,027**	**7,211**	**7,760**	**8,121**	**8,263**	**9,631**
Growth (%)		*(9.5%)*	*13.1%*	*21.9%*	*7.7%*	*8.7%*	*2.6%*	*7.6%*	*4.6%*	*1.7%*	*16.6%*
Investment banking EBT	**1,351**	**1,360**	**1,593**	**2,525**	**2,776**	**3,314**	**3,389**	**3,880**	**4,061**	**4,132**	**4,815**
Margin (%)	*28.1%*	*31.2%*	*32.3%*	*42.1%*	*42.9%*	*47.2%*	*47.0%*	*50.0%*	*50.0%*	*50.0%*	*50.0%*
(+) Adjustments	465	--	--	--	--	--	--	--	--	--	--
Investment banking adj. EBT	**1,816**	**1,360**	**1,593**	**2,525**	**2,776**	**3,314**	**3,389**	**3,880**	**4,061**	**4,132**	**4,815**
Margin (%)	*37.8%*	*31.2%*	*32.3%*	*42.1%*	*42.9%*	*47.2%*	*47.0%*	*50.0%*	*50.0%*	*50.0%*	*50.0%*

Financial and valuation assessment

Institutional client services

We foresee slower equities trading in 2016F with more constancy in 2017F as equity markets globally begin to pick back up (rebound in emerging markets and less stagnant US performance). For FICC revenues we foresee H1 2016F trading volumes to be lower as rates remain low, however we are bullish on a rebound in H2 through 2017F. We see business scaling continuing as the firm adjusts to their fourth year of declines.

Institutional client revenue and earnings buildout

in US$m	FY 2010A	FY 2011A	FY 2012A	FY 2013A	FY 2014A	FY 2015A	FY 2016F	FY 2017F	FY 2018F	FY 2019F	FY 2020F
Institutional client services											
Equities commissions and fees	3,426	3,633	3,053	3,103	3,153	3,156	3,235	3,364	3,499	3,429	3,566
Growth (%)		*6.0%*	*(16.0%)*	*1.6%*	*1.6%*	*0.1%*	*2.5%*	*4.0%*	*4.0%*	*(2.0%)*	*4.0%*
Equities client execution	3,231	3,031	3,171	2,594	2,079	3,028	2,725	3,161	3,477	3,512	3,653
Growth (%)		*(6.2%)*	*4.6%*	*(18.2%)*	*(19.9%)*	*45.6%*	*(10.0%)*	*16.0%*	*10.0%*	*1.0%*	*4.0%*
Securities services	1,432	1,598	1,986	1,373	1,504	1,645	1,719	1,547	1,532	1,409	1,423
Growth (%)		*11.6%*	*24.3%*	*(30.9%)*	*9.5%*	*9.4%*	*4.5%*	*(10.0%)*	*(1.0%)*	*(8.0%)*	*1.0%*
Total equities	**8,089**	**8,262**	**8,210**	**7,070**	**6,736**	**7,829**	**7,679**	**8,073**	**8,508**	**8,350**	**8,642**
Growth (%)		*2.1%*	*(0.6%)*	*(13.9%)*	*(4.7%)*	*16.2%*	*(1.9%)*	*5.1%*	*5.4%*	*(1.9%)*	*3.5%*
FICC	**13,707**	**9,018**	**9,914**	**8,651**	**8,461**	**7,322**	**7,139**	**7,496**	**8,058**	**8,219**	**7,397**
Growth (%)		*(34.2%)*	*9.9%*	*(12.7%)*	*(2.2%)*	*(13.5%)*	*(2.5%)*	*5.0%*	*7.5%*	*2.0%*	*(10.0%)*
Institutional client services revenue	**21,796**	**17,280**	**18,124**	**15,721**	**15,197**	**15,151**	**14,818**	**15,569**	**16,566**	**16,569**	**16,039**
Growth (%)		*(20.7%)*	*4.9%*	*(13.3%)*	*(3.3%)*	*(0.3%)*	*(2.2%)*	*5.1%*	*6.4%*	*0.0%*	*(3.2%)*
Institutional client services EBT	**6,802**	**4,443**	**5,634**	**3,929**	**4,317**	**1,213**	**2,612**	**4,749**	**5,098**	**5,665**	**5,474**
Margin (%)	*31.2%*	*25.7%*	*31.1%*	*25.0%*	*28.4%*	*8.0%*	*17.6%*	*30.5%*	*30.8%*	*34.2%*	*34.1%*
(+) Adjustments	--	175	448	962	754	4,010	2,500	700	700	300	300
Institutional client services adj. EBT	**6,802**	**4,618**	**6,082**	**4,891**	**5,071**	**5,223**	**5,112**	**5,449**	**5,798**	**5,965**	**5,774**
Margin (%)	*31.2%*	*26.7%*	*33.6%*	*31.1%*	*33.4%*	*34.5%*	*34.5%*	*35.0%*	*35.0%*	*36.0%*	*36.0%*

Investing & lending

As with the ICS equities revenues, we see stagnancy in the 2016F global equities markets with a rebound the year after. We view a similar scenario for the firm's debt and loan portfolio, however have little visibility on this portion of revenues. We see costs remaining flat on an absolute dollar basis, thus impacting margins based on sales performance.

Investing and lending revenue and earnings buildout

in US$m	FY 2010A	FY 2011A	FY 2012A	FY 2013A	FY 2014A	FY 2015A	FY 2016F	FY 2017F	FY 2018F	FY 2019F	FY 2020F
Investing & lending											
Equity (excluding ICBC)	2,692	1,120	2,392	3,930	3,813	3,781	3,460	4,221	4,390	5,706	5,478
Growth (%)		*(58.4%)*	*113.6%*	*64.3%*	*(3.0%)*	*(0.8%)*	*(8.5%)*	*22.0%*	*4.0%*	*30.0%*	*(4.0%)*
Debt securities and loans	2,597	96	1,850	1,947	2,165	1,655	1,622	1,784	1,855	2,041	1,837
Growth (%)		*(96.3%)*	*1827.1%*	*5.2%*	*11.2%*	*(23.6%)*	*(2.0%)*	*10.0%*	*4.0%*	*10.0%*	*(10.0%)*
Other	1,505	1,443	1,241	1,141	847	--	--	--	--	--	--
Industrial and Commercial Bank of China	747	(517)	408	--	--	--	--	--	--	--	--
Investing and lending revenue	**7,541**	**2,142**	**5,891**	**7,018**	**6,825**	**5,436**	**5,082**	**6,005**	**6,245**	**7,747**	**7,315**
Growth (%)		*(71.6%)*	*175.0%*	*19.1%*	*(2.8%)*	*(20.4%)*	*(6.5%)*	*18.2%*	*4.0%*	*24.1%*	*(5.6%)*
Investing & lending EBT	**4,180**	**(531)**	**3,223**	**4,332**	**4,006**	**3,034**	**2,795**	**3,483**	**3,685**	**4,958**	**4,608**
Margin (%)	*55.4%*	*(24.8%)*	*54.7%*	*61.7%*	*58.7%*	*55.8%*	*55.0%*	*58.0%*	*59.0%*	*64.0%*	*63.0%*
(+) Adjustments	305	--	--	--	338	81	--	--	--	--	--
Investing & lending adj. EBT	**4,485**	**(531)**	**3,223**	**4,332**	**4,344**	**3,115**	**2,795**	**3,483**	**3,685**	**4,958**	**4,608**
Margin (%)	*59.5%*	*(24.8%)*	*54.7%*	*61.7%*	*63.6%*	*57.3%*	*55.0%*	*58.0%*	*59.0%*	*64.0%*	*63.0%*

Financial and valuation assessment

Investment management

We expect Goldman Sachs' strategic efforts to attract greater debt inflows as well as offer more attractive products (i.e. new hedge fund ETF) to continue to drive their investment management franchise. Margins for the business are expected to decrease slightly as we expect a greater hiring / compensation package to subsidize the fund inflows.

Investment management revenue buildout

in US$m	FY 2010A	FY 2011A	FY 2012A	FY 2013A	FY 2014A	FY 2015A	FY 2016F	FY 2017F	FY 2018F	FY 2019F	FY 2020F
Investment management											
AUM (US$bn)	**840**	**828**	**854**	**919**	**1,027**	**1,078**	**1,164**	**1,215**	**1,276**	**1,276**	**1,321**
Growth (%)		*(1.4%)*	*3.1%*	*7.6%*	*11.8%*	*5.0%*	*8.0%*	*4.4%*	*5.0%*	*--*	*3.5%*
Implied mgmt. fee (bps)	***60 bps***	***61 bps***	***61 bps***	***59 bps***	***59 bps***	***58 bps***	***57 bps***	***56 bps***	***56 bps***	***55 bps***	***55 bps***
Growth (%)		*1.9%*	*0.6%*	*(2.8%)*	*(1.0%)*	*(2.1%)*	*(1.0%)*	*(1.0%)*	*(1.0%)*	*(1.0%)*	*(1.0%)*
Investment management revenue	**5,014**	**5,034**	**5,222**	**5,463**	**6,042**	**6,206**	**6,635**	**6,858**	**7,129**	**7,058**	**7,232**
Growth (%)		*0.4%*	*3.7%*	*4.6%*	*10.6%*	*2.7%*	*6.9%*	*3.4%*	*3.9%*	*(1.0%)*	*2.5%*
Investment management EBT	**932**	**1,014**	**926**	**1,106**	**1,395**	**1,365**	**1,460**	**1,509**	**1,568**	**1,553**	**1,591**
Margin (%)	*18.6%*	*20.1%*	*17.7%*	*20.2%*	*23.1%*	*22.0%*	*22.0%*	*22.0%*	*22.0%*	*22.0%*	*22.0%*
(+) Adjustments	--	--	--	--	--	--	--	--	--	--	--
Investment management adj. EBT	**932**	**1,014**	**926**	**1,106**	**1,395**	**1,365**	**1,460**	**1,509**	**1,568**	**1,553**	**1,591**
Margin (%)	*18.6%*	*20.1%*	*17.7%*	*20.2%*	*23.1%*	*22.0%*	*22.0%*	*22.0%*	*22.0%*	*22.0%*	*22.0%*
Corporate											
(-) Corporate charges	**(373)**	**(117)**	**(169)**	**(155)**	**(137)**	**(148)**	**(150)**	**(150)**	**(150)**	**(150)**	**(150)**
(+) Adjustments	28	--	--	--	22	--	--	--	--	--	--
(-) Adjusted corporate charges	**(345)**	**(117)**	**(169)**	**(155)**	**(115)**	**(148)**	**(150)**	**(150)**	**(150)**	**(150)**	**(150)**
Adjustments											
Restructuring charges	(28)	--	--	--	--	--	--	--	--	--	--
Impairment of goodwill	--	--	--	--	(22)	--	--	--	--	--	--
Asset writedown	(305)	--	--	--	(338)	(81)	--	--	--	--	--
Total legal settlements	--	(175)	(448)	(962)	(754)	(4,010)	(2,500)	(700)	(700)	(300)	(300)
Other unusual items	(465)	--	--	--	--	--	--	--	--	--	--
Adjustments	**(798)**	**(175)**	**(448)**	**(962)**	**(1,114)**	**(4,091)**	**(2,500)**	**(700)**	**(700)**	**(300)**	**(300)**

Financial and valuation assessment

Sum of the parts

For each segment's future earnings over the next 2 years we applied segmented peer average multiples to each of GS' business franchises. The IB franchise was discounted versus higher growth, pure-play peers; Houlihan Lokey, Evercore, and Moelis & Co. (peer average P / E +1 of 14.5x). The ICS franchise was compared most closely to Morgan Stanley, but we also took into account Citigroup and Barclays (peer average P / E +1 of 8.6x). The I&L franchise was compared at a discount versus Morgan Stanley (who operates a similar practice to GS), and pure-plays Blackstone and KKR (peer average P / E +1 of 11.4x). The IM franchise was discounted versus pure-plays Blackrock, Invesco, and Alliance Bernstein (peer average P / E +1 of 14.3x). Our resulting target price on 2016 earnings and target multiples per franchise was US$181.28, representing 9.8x price to 2016F earnings (Exhibit 9).

Exhibit 9

Sum of the parts 2016F valuation

in US$m	Net income 2016F	Target P / E 2016F	Implied equity value	Implied share price (US$)
Investment banking	2,349	13.0x	30,533	$71.54
Institutional client services	1,810	9.3x	16,835	$39.44
Investing & lending	1,937	9.5x	18,399	$43.11
Investment management	1,012	12.5x	12,645	$29.63
Corporate	(104)	10.0x	(1,039)	($2.44)
Sum of the parts 2016F valuation				**$181.28**

Comparable company analysis

Our principal peers group for Goldman Sachs is Morgan Stanley, Bank of America, JP Morgan, Barclays, Credit Suisse, and UBS. We believe the balance of focused IB firms as well as diversified IB firms provides a strong comparable group for GS' business, with the most comparable peer being Morgan Stanley (Exhibit 10).

Exhibit 10

Comparable company analysis

	Price to earnings		Price to book value	
	2016F	**2017F**	**2016F**	**2017F**
Morgan Stanley	9.5x	7.8x	0.7x	0.6x
Bank of America	9.4x	8.3x	0.6x	0.5x
JP Morgan	10.4x	9.2x	0.9x	0.9x
Barclays	8.4x	6.4x	0.5x	0.5x
Credit Suisse	16.1x	8.9x	0.6x	0.6x
UBS	11.5x	9.9x	1.1x	1.0x
Average	**10.9x**	**8.4x**	**0.7x**	**0.7x**
Median	**9.9x**	**8.6x**	**0.6x**	**0.6x**
Goldman Sachs	**8.1x**	**6.9x**	**0.8x**	**0.7x**

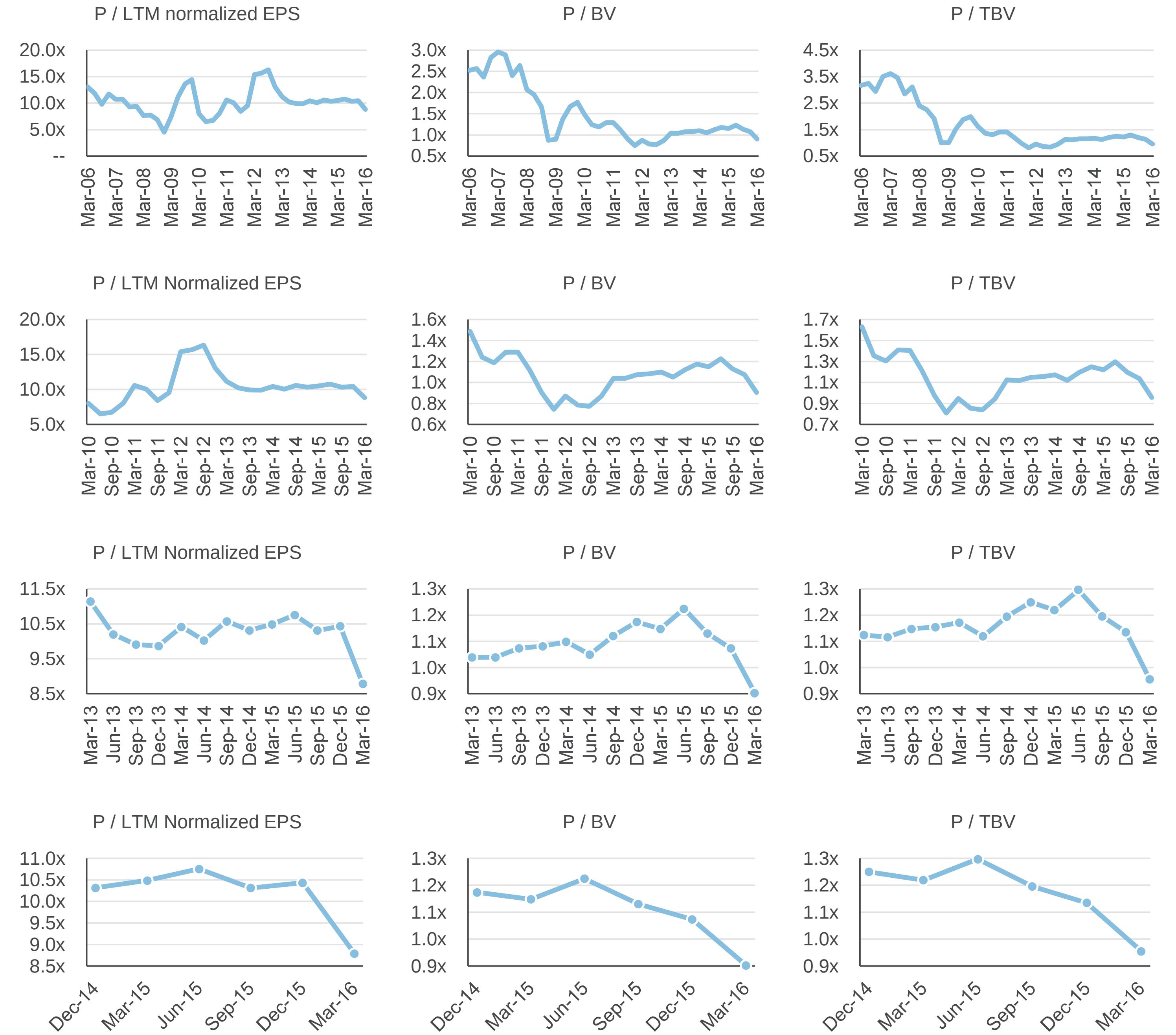
Financial and valuation assessment

Historical multiples

We evaluated the historic multiple of GS and noticed that the Company is trading at trough multiples similar to their 2011 / 2012 levels (a cycle which we do not believe reflects the current market for banks). These multiples provide an attractive entrance point for shares of Goldman Sachs since we know that their operations are suited to cope with a longer downward cycle and that the economic reality is not as negative as back in 2011 / 2012 (Exhibit 11).

Exhibit 11

GS share price historic valuation



Risk considerations and sensitized case analysis

Succession planning

Lloyd Blankfein's cancer (lymphoma) is something that we consider a call to retirement sooner rather than later (despite Blankfein stating that he is "feeling great" and in the office every day following arduous chemo therapy). Blankfein has been at the helm of GS since before the '09 financial crisis and has proved to be an effective manager of the Company. We are optimistic that Goldman Sachs has enough internal influencers to find a suitable replacement. Gary Cohn (COO) is seen as the most likely successor, otherwise other senior executives who could provide stability according to investors, include chief financial officer Harvey Schwartz, chief strategy officer Stephen Scherr, vice chairman Michael Sherwood and investment banking co-head David Solomon.

Regulatory impacts (Volcker Rule)

GS' business remains heavily linked to principal transactions, which increases the Company's risk following the implementations of the Volcker Rule. However, we remain confident that Goldman Sachs' strategy to find loopholes in the regulation and continue to involve principal transactions in their business will be maintained. One thing to note is that since the implementation of the rule, GS has been successful in finding well structured loopholes and keeping their compliance in check. They are successfully operating numerous divisions which were previously classified by many analysts as illegal.

Disruptive technology

We believe that the most relevant disruptive technology is the emergence of blockchain technology, which facilitates trading efficiencies. The firm has continuously invested in firms surrounding this technology, with their most recent investment being done (alongside IBM) in Digital Assets Holdings, a start-up led by former JPMorgan Chase & Co. banker Blythe Masters that aims to adapt blockchain technology to financial markets.

Legal impacts (fines)

It is difficult to predict what kind of legal fines can be applied to GS from the '08 / '09 crisis. However it is worth noting that further billion dollar fines are currently priced into the stock (and accounted for in our model) and equity research is expecting more as regulators crack down.

Political results

In the event that Bernie Sanders wins the election, we see our bear case share price coming into play in the short term. However, as much as Mr. Sander wants to get rid of the so called "evils" of Wall Street, banks like Goldman Sachs remain a long term enabler of corporate and economic growth.

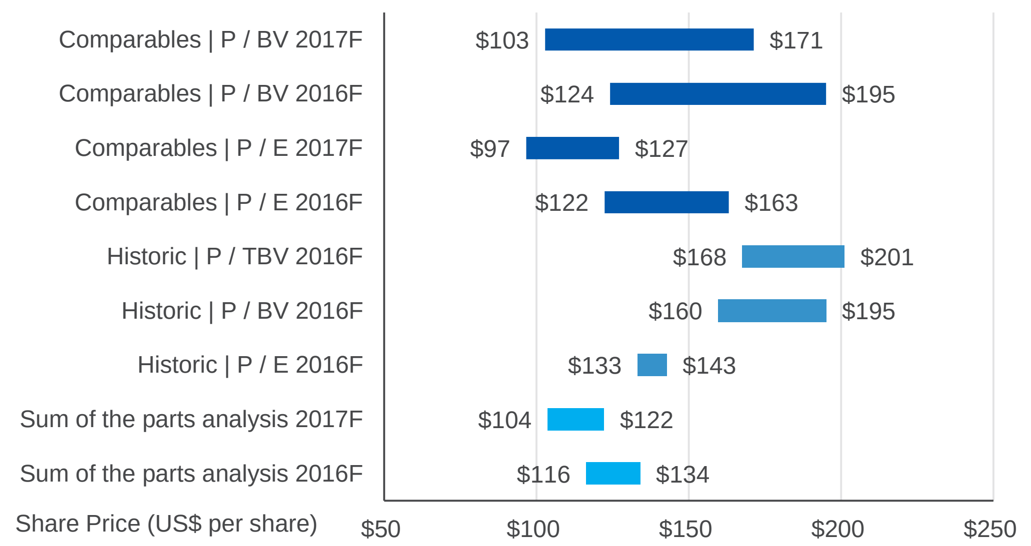
Risk considerations and sensitized case analysis

Overview of bull and bear case

Bear case assumes poor results from trading and IB will persist throughout the year and into 2017F, with upticks only happening in 2018F (Exhibit 12). Target price of US$130 per share (*-13.3% downside*).

Exhibit 12

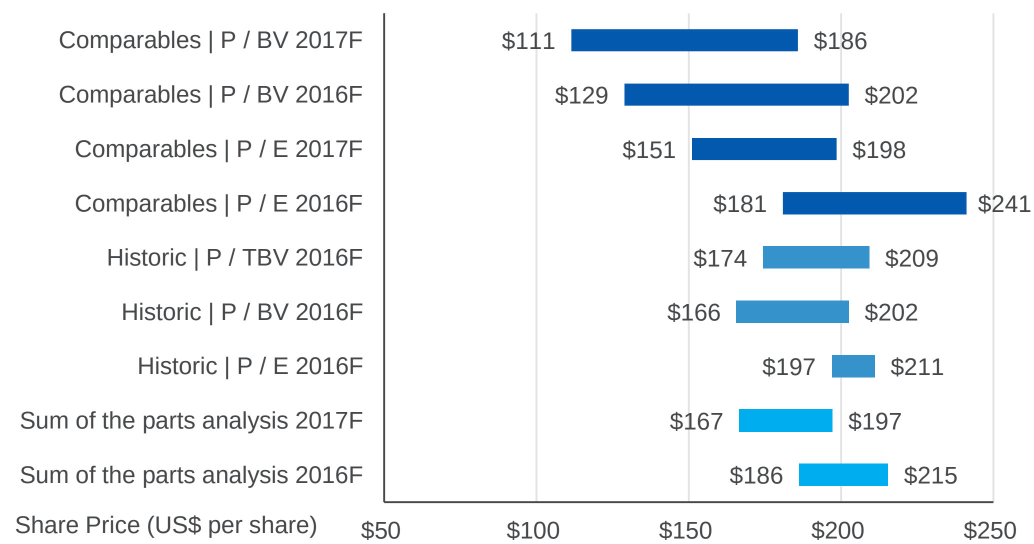
Bear case illustrative valuation overview



Bull case assumes a poor H1 2016F from trading and IB, with a slight rebound in H2 2016F, carrying a strong rebound in 2017F. Operations are optimized where there is room left (Exhibit 13). Target price of US$215 per share (*43.3% upside*).

Exhibit 13

Bear case illustrative valuation overview



Sources

Company fillings / website: GS, MS, C, BAC, RF, STI, FITB, JPM, COF, MTB, WFC, UBSG, BARC, DBK, BNP

News: Bloomberg, The Economist, New York Times, Business Insider, CNBC, Financial Post, International Business Times

Databases: Bloomberg, Dealogic and Capital IQ

Research: Credit Suisse, Societe General, JP Morgan, Barclays

Appendix

Detailed sum of the parts analysis

SOTP

FY 2016F

	Investment banking	Institutional client services	Investing & lending	Investment management	Corporate
Revenue	7,211	14,818	5,082	6,635	--
EBT	3,389	2,612	2,795	1,460	(150)
Margin (%)	*47.0%*	*17.6%*	*55.0%*	*22.0%*	*n/a*
Net income	2,349	1,810	1,937	1,012	(104)
Low P / E (x)	12.2x	8.5x	8.7x	11.7x	9.2x
Target P / E (x)	13.0x	9.3x	9.5x	12.5x	10.0x
High P / E (x)	13.8x	10.1x	10.3x	13.3x	10.8x
Low equity value	28,654	15,387	16,850	11,836	(956)
Target equity value	30,533	16,835	18,399	12,645	(1,039)
High equity value	32,412	18,283	19,949	13,454	(1,123)

SOTP equity value	**77,374**
(/) FDSO (m)	427
Implied 1-year share price (US$)	**$181.28**
Implied return (%)	*20.9%*

FY 2017F

	Investment banking	Institutional client services	Investing & lending	Investment management	Corporate
Revenue	7,760	15,569	6,005	6,858	--
EBT	3,880	4,749	3,483	1,509	(150)
Margin (%)	*50.0%*	*30.5%*	*58.0%*	*22.0%*	*n/a*
Net income	2,689	3,291	2,414	1,046	(104)
Low P / E (x)	11.2x	7.0x	7.2x	9.2x	11.2x
Target P / E (x)	12.0x	7.8x	8.0x	10.0x	12.0x
High P / E (x)	12.8x	8.6x	8.8x	10.8x	12.8x
Low equity value	26,306	12,672	13,945	9,307	(1,164)
Target equity value	28,185	14,120	15,494	10,116	(1,247)
High equity value	30,064	15,568	17,044	10,925	(1,331)

SOTP equity value	**66,667**
(/) FDSO (m)	407
Implied 2-year share price (US$)	**$163.88**
Implied return (%)	*9.3%*
Cost of equity	*10.0%*
Implied 1-year share price (US$)	**$148.98**
Implied return (%)	*(0.7%)*

Segmented comps

Investment banking		Institutional client services		Investing & lending		Investment management	
Broker comps P / E 2017 F							
Societe Generale	12.3x	Societe Generale	7.3x	Societe Generale	7.1x	Societe Generale	12.8x
RBC Capital Markets	10.5x	RBC Capital Markets	9.1x	RBC Capital Markets	10.2x	RBC Capital Markets	12.4x
Average	11.4x	Average	8.2x	Average	8.7x	Average	12.6x
Trading comps P / E 2016F							
HOULIHAN LOKEY INC	15.8x	MORGAN STANLEY	9.5x	MORGAN STANLEY	9.5x	BLACKROCK INC	17.1x
EVERCORE PARTNERS INC-CL A	13.6x	CITIGROUP INC	8.2x	BLACKSTONE GROUP LP/THE	11.2x	INVESCO LTD	12.4x
MOELIS & CO - CLASS A	14.9x	BARCLAYS PLC	8.4x	KKR & CO LP	12.2x	ALLIANCEBERNSTEIN HOLDING LF	12.5x
Average	14.8x	Average	8.7x	Average	11.0x	Average	14.0x
Trading comps P / E 2017F							
HOULIHAN LOKEY INC	13.6x	MORGAN STANLEY	7.8x	MORGAN STANLEY	7.8x	BLACKROCK INC	14.9x
EVERCORE PARTNERS INC-CL A	12.4x	CITIGROUP INC	7.3x	BLACKSTONE GROUP LP/THE	8.1x	INVESCO LTD	10.4x
MOELIS & CO - CLASS A	13.8x	BARCLAYS PLC	6.4x	KKR & CO LP	5.7x	ALLIANCEBERNSTEIN HOLDING LF	11.4x
Average	13.3x	Average	7.2x	Average	7.2x	Average	12.2x

Appendix

Detailed forecasted book value

in US$m	FY 2016F	FY 2017F	FY 2018F	FY 2019F	FY 2020F
Select balance sheet elemnts					
Goodwill	3,657	3,657	3,657	3,657	3,657
Other Intangibles	491	491	491	491	491
Preferred equity	12,200	13,200	14,200	15,200	16,200
(+) Common Stock	9	9	9	9	9
(+) Additional paid in capital	51,340	51,340	51,340	51,340	51,340
(+) Retained earnings	89,306	97,460	106,137	115,771	125,566
(-) Treasury stock	(65,522)	(69,122)	(72,722)	(76,322)	(79,922)
(+) Comprehensive income	3,433	3,433	3,433	3,433	3,433
Total Common Equity	**78,565**	**83,120**	**88,197**	**94,231**	**100,426**
Minority Interest	459	459	459	459	459
Shareholders equity	**91,224**	**96,779**	**102,856**	**109,890**	**117,085**
Book value					
Shares outstanding (m)	427	407	387	367	347
BV	78,565	83,120	88,197	94,231	100,426
Growth (%)	*4.0%*	*5.8%*	*6.1%*	*6.8%*	*6.6%*
BV / shares (US$)	$184.07	$204.32	$228.01	$256.89	$289.57
Growth (%)	*7.6%*	*11.0%*	*11.6%*	*12.7%*	*12.7%*
TBV	74,417	78,972	84,049	90,083	96,278
Growth (%)	*4.3%*	*6.1%*	*6.4%*	*7.2%*	*6.9%*
TBV / shares (US$)	$174.36	$194.12	$217.29	$245.58	$277.61
Growth (%)	*7.9%*	*11.3%*	*11.9%*	*13.0%*	*13.0%*

Appendix

Detailed regulatory information

G-SIB Surcharge

Under the proposal of the G-SIB Surcharge rule approved by the Federal Reserve Board in 2015, the U.S. global systemically important banks (G-SIB's) are required to further strengthen their capital position by holding additional capital to increase its resiliency in light of the greater threat it poses to the financial stability of the United States.

Eight U.S. firms are currently expected to be identified as GSIBs under the final rule: Bank of America Corporation; The Bank of New York Mellon Corporation; Citigroup, Inc.; The Goldman Sachs Group, Inc.; JPMorgan Chase & Co.; Morgan Stanley; State Street Corporation; and Wells Fargo & Company.

The G-SIB Surcharge rule requires GSIBs to calculate a risk-based capital surcharge under two methods and use the higher of the two surcharges. The first method considers a GSIB's size, interconnectedness, cross-jurisdictional activity, substitutability, and complexity; whereas the second method would take into account an institution's use of short-term wholesale funding.

The Federal Reserve estimates that the surcharge amount would range from 1.0 – 4.5 per cent of the GSIB's risk-weighted assets. The surcharges will be phased in beginning on January 1, 2016, becoming fully effective on January 1, 2019.

Supplementary Leverage Ratio

U.S. banking organizations have long been subject to a leverage capital requirement based on the ratio of a banking organization's Tier 1 capital to its average total consolidated on-balance sheet assets as reported in its regulatory report minus amounts deducted from Tier 1 capital ("U.S. leverage ratio").

The Revised Capital Framework includes a supplementary leverage ratio (SLR) requirement for advanced approach banking organizations approved in 2014. A key difference between the SLR and the U.S. leverage ratio is that the SLR takes into account both on-balance sheet and certain off-balance sheet assets and exposures. Therefore, the supplementary leverage ratio compares Tier 1 capital to a measure of leverage exposure, defined as total daily average assets for the quarter less certain deductions plus certain off-balance sheet exposures (derivatives exposures and commitments). The Revised Capital Framework requires G-SIBs a minimum supplementary leverage ratio of 5.0% (comprised of the minimum requirement of 3.0% and a 2.0% buffer) effective on January 1, 2018. A U.S. G-SIB that does not maintain an SLR of greater than 5%, will be subject to increasingly stringent restrictions on its ability to make capital distributions and discretionary bonus payments to executive officers.

Liquidity Coverage Ratio

The liquidity coverage ratio (LCR) rule, finalized in 2014 by the U.S. federal bank regulatory agencies, is designed to strengthen the liquidity positions of large and internationally active banking organizations. The rule standardizes a minimum liquidity requirement and, thus, each institution will be required to hold high quality, liquid assets, HQLA, (e.g. central bank reserves, government and corporate debt) that can be converted easily and quickly into cash in an amount equal to or greater than its projected cash outflows minus its projected cash inflows during a 30-day stress period. The ratio of the firm's liquid assets to its projected net cash outflow is its "liquidity coverage ratio," or LCR.

Appendix

Detailed regulatory information

The rule is generally consistent with the Basel Committee's LCR standard, but is more stringent in certain areas, including a shorter transition period for implementation. Under the accelerated transition timeline, the LCR became effective in the United States on January 1, 2015, with a phase-in period whereby firms, including Group Inc. and GS Bank USA, must have an 80% and 90% minimum ratio in 2015 and 2016, respectively, and a 100% minimum ratio commencing in 2017. U.S. firms will be required to be fully compliant with the rule by January 1, 2017.

In addition, in 2015, the Federal Reserve Board proposed a rule that would require bank holding companies to disclose their LCR on a quarterly basis beginning in the quarter ended September 2016.

Comprehensive Capital Analysis and Review (CCAR) 2016

The purpose of CCAR is to ensure that large bank holding companies have robust, forward-looking capital planning processes that account for each institution’s unique risks and that permit continued operations during times of economic and financial stress. As part of CCAR, the Federal Reserve Board evaluates an institution’s plan to make capital distributions (e.g. repurchasing/redeeming stock, increasing dividend payments) across a range of macroeconomic and firm-specific assumptions.

On January 28, 2016, the Federal Reserve issued its annual summary instructions for its supervisory CCAR program for 2016 applicable to bank holding companies with $50 billion or more of total consolidated assets. Thirty-three institutions will participate in CCAR 2016. Goldman Sachs must submit its capital plans for CCAR 2016 to the Federal Reserve on or before April 5, 2016.

The CCAR 2016 instructions differ in two aspects from previous instructions. First, these instructions provide additional details about how bank holding companies should implement the most recent technical amendments to the stress test and capital plan rules.1 In addition, these instructions do not contain details on supervisory expectations for bank holding companies’ capital planning practices, but rather reference the Federal Reserve’s recently published supervisory guidance for capital planning.

Appendix

Income statement (base case)

in US$m	FY 2010A	FY 2011A	FY 2012A	FY 2013A	FY 2014A	FY 2015A	FY 2016F	FY 2017F	FY 2018F	FY 2019F	FY 2020F
Income statement											
Investment banking	4,810	4,355	4,927	6,004	6,464	7,027	7,211	7,760	8,121	8,263	9,631
Institutional client services	21,796	17,280	18,124	15,721	15,197	15,151	14,818	15,569	16,566	16,569	16,039
Investing & lending	7,541	2,142	5,891	7,018	6,825	5,436	5,082	6,005	6,245	7,747	7,315
Investment management	5,014	5,034	5,222	5,463	6,042	6,206	6,635	6,858	7,129	7,058	7,232
Total revenue	**39,161**	**28,811**	**34,164**	**34,206**	**34,528**	**33,820**	**33,746**	**36,192**	**38,061**	**39,638**	**40,217**
(-) Investment banking	(2,994)	(2,995)	(3,334)	(3,479)	(3,688)	(3,713)	(3,822)	(3,880)	(4,061)	(4,132)	(4,815)
(-) Institutional client services	(14,994)	(12,662)	(12,042)	(10,830)	(10,126)	(9,928)	(9,706)	(10,120)	(10,768)	(10,604)	(10,265)
(-) Investing & lending	(3,056)	(2,673)	(2,668)	(2,686)	(2,481)	(2,321)	(2,287)	(2,522)	(2,560)	(2,789)	(2,707)
(-) Investment management	(4,082)	(4,020)	(4,296)	(4,357)	(4,647)	(4,841)	(5,176)	(5,349)	(5,561)	(5,505)	(5,641)
(-) Corporate	(345)	(117)	(169)	(155)	(115)	(148)	(150)	(150)	(150)	(150)	(150)
(-) Total operating expenses	**(25,471)**	**(22,467)**	**(22,509)**	**(21,507)**	**(21,057)**	**(20,951)**	**(21,140)**	**(22,021)**	**(23,100)**	**(23,180)**	**(23,578)**
Investment banking adj. EBT	1,816	1,360	1,593	2,525	2,776	3,314	3,389	3,880	4,061	4,132	4,815
Institutional client services adj. EBT	6,802	4,618	6,082	4,891	5,071	5,223	5,112	5,449	5,798	5,965	5,774
Investing & lending adj. EBT	4,485	(531)	3,223	4,332	4,344	3,115	2,795	3,483	3,685	4,958	4,608
Investment management adj. EBT	932	1,014	926	1,106	1,395	1,365	1,460	1,509	1,568	1,553	1,591
(-) Adjusted corporate charges	(345)	(117)	(169)	(155)	(115)	(148)	(150)	(150)	(150)	(150)	(150)
Total adjusted EBT	**13,690**	**6,344**	**11,655**	**12,699**	**13,471**	**12,869**	**12,606**	**14,171**	**14,962**	**16,458**	**16,639**
(-) Non-operating expenses	(798)	(175)	(448)	(962)	(1,114)	(4,091)	(2,500)	(700)	(700)	(300)	(300)
Investment banking EBT	1,351	1,360	1,593	2,525	2,776	3,314	3,389	3,880	4,061	4,132	4,815
Institutional client services EBT	6,802	4,443	5,634	3,929	4,317	1,213	2,612	4,749	5,098	5,665	5,474
Investing & lending EBT	4,180	(531)	3,223	4,332	4,006	3,034	2,795	3,483	3,685	4,958	4,608
Investment management EBT	932	1,014	926	1,106	1,395	1,365	1,460	1,509	1,568	1,553	1,591
(-) Corporate charges	(373)	(117)	(169)	(155)	(137)	(148)	(150)	(150)	(150)	(150)	(150)
EBT	**12,892**	**6,169**	**11,207**	**11,737**	**12,357**	**8,778**	**10,106**	**13,471**	**14,262**	**16,158**	**16,339**
(-) Income tax expense	(4,538)	(1,727)	(3,732)	(3,697)	(3,880)	(2,695)	(3,103)	(4,136)	(4,379)	(4,961)	(5,016)
Net income	**8,354**	**4,442**	**7,475**	**8,040**	**8,477**	**6,083**	**7,003**	**9,335**	**9,883**	**11,197**	**11,323**
(-) Pref. dividends	(684)	(1,969)	(218)	(338)	(423)	(537)	(585)	(633)	(681)	(729)	(777)
Net income to common	**7,670**	**2,473**	**7,257**	**7,702**	**8,054**	**5,546**	**6,418**	**8,702**	**9,202**	**10,468**	**10,546**
(+) Adjustments	886	1,492	27	235	365	2,497	1,460	155	149	(182)	(147)
Normalized net income	**8,556**	**3,965**	**7,284**	**7,937**	**8,419**	**8,043**	**7,879**	**8,857**	**9,351**	**10,286**	**10,399**
W.A shares (m)	542	525	496	471	459	449	422	402	382	362	342
W.A diluted shares (m)	585	557	516	500	473	459	427	407	387	367	347
Normalized EPS (US$)	$15.79	$7.56	$14.68	$16.84	$18.35	$17.92	$18.65	$22.01	$24.46	$28.39	$30.38
Normalized diluted EPS (US$)	$14.62	$7.12	$14.11	$15.89	$17.79	$17.54	$18.46	$21.77	$24.17	$28.04	$29.99
Dividends											
Dividends per share (US$)	$1.40	$1.40	$1.77	$2.05	$2.25	$2.55	$2.77	$3.33	$3.82	$4.57	$5.04
Growth (%)		*--*	*26.4%*	*15.8%*	*9.8%*	*13.3%*	*8.6%*	*20.3%*	*14.7%*	*19.7%*	*10.2%*
Payout ratio (%)	*9.6%*	*19.7%*	*12.5%*	*12.9%*	*12.6%*	*14.5%*	*15.0%*	*15.3%*	*15.8%*	*16.3%*	*16.8%*
Share buyback schedule											
Repurchases		69	36	13	16	10	19	20	20	20	20
(x) Average price paid							$150.00	$180.00	$180.00	$180.00	$180.00
Aggregate repurchases							**2,882**	**3,600**	**3,600**	**3,600**	**3,600**

Appendix

Income statement (bear case)

in US$m	FY 2010A	FY 2011A	FY 2012A	FY 2013A	FY 2014A	FY 2015A	FY 2016F	FY 2017F	FY 2018F	FY 2019F	FY 2020F
Income statement											
Investment banking	4,810	4,355	4,927	6,004	6,464	7,027	6,230	6,285	6,393	6,686	7,558
Institutional client services	21,796	17,280	18,124	15,721	15,197	15,151	12,943	13,031	13,289	14,152	14,018
Investing & lending	7,541	2,142	5,891	7,018	6,825	5,436	3,978	4,263	4,334	5,344	5,035
Investment management	5,014	5,034	5,222	5,463	6,042	6,206	6,462	6,612	6,873	6,668	6,667
Total revenue	**39,161**	**28,811**	**34,164**	**34,206**	**34,528**	**33,820**	**29,613**	**30,191**	**30,889**	**32,851**	**33,279**
(-) Investment banking	(2,994)	(2,995)	(3,334)	(3,479)	(3,688)	(3,713)	(3,707)	(3,614)	(3,676)	(3,844)	(4,346)
(-) Institutional client services	(14,994)	(12,662)	(12,042)	(10,830)	(10,126)	(9,928)	(9,254)	(9,252)	(9,369)	(9,977)	(9,813)
(-) Investing & lending	(3,056)	(2,673)	(2,668)	(2,686)	(2,481)	(2,321)	(2,148)	(2,132)	(2,210)	(2,405)	(2,467)
(-) Investment management	(4,082)	(4,020)	(4,296)	(4,357)	(4,647)	(4,841)	(5,073)	(5,157)	(5,361)	(5,201)	(5,201)
(-) Corporate	(345)	(117)	(169)	(155)	(115)	(148)	(150)	(150)	(150)	(150)	(150)
(-) Total operating expenses	**(25,471)**	**(22,467)**	**(22,509)**	**(21,507)**	**(21,057)**	**(20,951)**	**(20,332)**	**(20,305)**	**(20,766)**	**(21,578)**	**(21,976)**
Investment banking adj. EBT	1,816	1,360	1,593	2,525	2,776	3,314	2,523	2,671	2,717	2,842	3,212
Institutional client services adj. EBT	6,802	4,618	6,082	4,891	5,071	5,223	3,689	3,779	3,920	4,175	4,205
Investing & lending adj. EBT	4,485	(531)	3,223	4,332	4,344	3,115	1,830	2,132	2,124	2,939	2,568
Investment management adj. EBT	932	1,014	926	1,106	1,395	1,365	1,389	1,455	1,512	1,467	1,467
(-) Adjusted corporate charges	(345)	(117)	(169)	(155)	(115)	(148)	(150)	(150)	(150)	(150)	(150)
Total adjusted EBT	**13,690**	**6,344**	**11,655**	**12,699**	**13,471**	**12,869**	**9,281**	**9,886**	**10,123**	**11,273**	**11,302**
(-) Non-operating expenses	(798)	(175)	(448)	(962)	(1,114)	(4,091)	(2,500)	(700)	(700)	(300)	(300)
Investment banking EBT	1,351	1,360	1,593	2,525	2,776	3,314	2,523	2,671	2,717	2,842	3,212
Institutional client services EBT	6,802	4,443	5,634	3,929	4,317	1,213	1,189	3,079	3,220	3,875	3,905
Investing & lending EBT	4,180	(531)	3,223	4,332	4,006	3,034	1,830	2,132	2,124	2,939	2,568
Investment management EBT	932	1,014	926	1,106	1,395	1,365	1,389	1,455	1,512	1,467	1,467
(-) Corporate charges	(373)	(117)	(169)	(155)	(137)	(148)	(150)	(150)	(150)	(150)	(150)
EBT	**12,892**	**6,169**	**11,207**	**11,737**	**12,357**	**8,778**	**6,781**	**9,186**	**9,423**	**10,973**	**11,002**
(-) Income tax expense	(4,538)	(1,727)	(3,732)	(3,697)	(3,880)	(2,695)	(2,082)	(2,820)	(2,893)	(3,369)	(3,378)
Net income	**8,354**	**4,442**	**7,475**	**8,040**	**8,477**	**6,083**	**4,699**	**6,366**	**6,530**	**7,604**	**7,624**
(-) Pref. dividends	(684)	(1,969)	(218)	(338)	(423)	(537)	(585)	(633)	(681)	(729)	(777)
Net income to common	**7,670**	**2,473**	**7,257**	**7,702**	**8,054**	**5,546**	**4,114**	**5,733**	**5,849**	**6,875**	**6,848**
(+) Adjustments	886	1,492	27	235	365	2,497	1,686	446	478	170	216
Normalized net income	**8,556**	**3,965**	**7,284**	**7,937**	**8,419**	**8,043**	**5,801**	**6,179**	**6,327**	**7,046**	**7,064**
W.A shares (m)	542	525	496	471	459	449	422	402	382	362	342
W.A diluted shares (m)	585	557	516	500	473	459	427	407	387	367	347
Normalized EPS (US$)	$15.79	$7.56	$14.68	$16.84	$18.35	$17.92	$13.73	$15.36	$16.55	$19.44	$20.63
Normalized diluted EPS (US$)	$14.62	$7.12	$14.11	$15.89	$17.79	$17.54	$13.59	$15.19	$16.36	$19.21	$20.37
Dividends											
Dividends per share (US$)	$1.40	$1.40	$1.77	$2.05	$2.25	$2.55	$2.56	$2.87	$3.12	$3.71	$3.97
Growth (%)		*--*	*26.4%*	*15.8%*	*9.8%*	*13.3%*	*0.2%*	*12.4%*	*8.8%*	*18.7%*	*7.1%*
Payout ratio (%)	*9.6%*	*19.7%*	*12.5%*	*12.9%*	*12.6%*	*14.5%*	*18.8%*	*18.9%*	*19.1%*	*19.3%*	*19.5%*
Share buyback schedule											
Repurchases		69	36	13	16	10	19	20	20	20	20
(x) Average price paid							$150.00	$180.00	$180.00	$180.00	$180.00
Aggregate repurchases							**2,882**	**3,600**	**3,600**	**3,600**	**3,600**

Appendix

Income statement (bull case)

in US$m	FY 2010A	FY 2011A	FY 2012A	FY 2013A	FY 2014A	FY 2015A	FY 2016F	FY 2017F	FY 2018F	FY 2019F	FY 2020F
Income statement											
Investment banking	4,810	4,355	4,927	6,004	6,464	7,027	7,585	8,623	9,133	9,170	10,690
Institutional client services	21,796	17,280	18,124	15,721	15,197	15,151	15,611	16,605	17,743	18,098	17,973
Investing & lending	7,541	2,142	5,891	7,018	6,825	5,436	5,604	6,636	6,901	8,589	8,120
Investment management	5,014	5,034	5,222	5,463	6,042	6,206	6,669	6,932	7,275	7,346	7,854
Total revenue	**39,161**	**28,811**	**34,164**	**34,206**	**34,528**	**33,820**	**35,468**	**38,796**	**41,052**	**43,204**	**44,637**
(-) Investment banking	(2,994)	(2,995)	(3,334)	(3,479)	(3,688)	(3,713)	(3,792)	(4,311)	(4,566)	(4,585)	(5,345)
(-) Institutional client services	(14,994)	(12,662)	(12,042)	(10,830)	(10,126)	(9,928)	(10,303)	(10,959)	(11,710)	(12,126)	(12,222)
(-) Investing & lending	(3,056)	(2,673)	(2,668)	(2,686)	(2,481)	(2,321)	(2,298)	(2,522)	(2,554)	(3,006)	(2,842)
(-) Investment management	(4,082)	(4,020)	(4,296)	(4,357)	(4,647)	(4,841)	(5,202)	(5,407)	(5,674)	(5,730)	(6,127)
(-) Corporate	(345)	(117)	(169)	(155)	(115)	(148)	(150)	(150)	(150)	(150)	(150)
(-) Total operating expenses	**(25,471)**	**(22,467)**	**(22,509)**	**(21,507)**	**(21,057)**	**(20,951)**	**(21,745)**	**(23,350)**	**(24,655)**	**(25,597)**	**(26,685)**
Investment banking adj. EBT	1,816	1,360	1,593	2,525	2,776	3,314	3,792	4,311	4,566	4,585	5,345
Institutional client services adj. EBT	6,802	4,618	6,082	4,891	5,071	5,223	5,308	5,646	6,033	5,972	5,751
Investing & lending adj. EBT	4,485	(531)	3,223	4,332	4,344	3,115	3,306	4,114	4,348	5,583	5,278
Investment management adj. EBT	932	1,014	926	1,106	1,395	1,365	1,467	1,525	1,600	1,616	1,728
(-) Adjusted corporate charges	(345)	(117)	(169)	(155)	(115)	(148)	(150)	(150)	(150)	(150)	(150)
Total adjusted EBT	**13,690**	**6,344**	**11,655**	**12,699**	**13,471**	**12,869**	**13,723**	**15,447**	**16,398**	**17,607**	**17,952**
(-) Non-operating expenses	(798)	(175)	(448)	(962)	(1,114)	(4,091)	(2,500)	(700)	(700)	(300)	(300)
Investment banking EBT	1,351	1,360	1,593	2,525	2,776	3,314	3,792	4,311	4,566	4,585	5,345
Institutional client services EBT	6,802	4,443	5,634	3,929	4,317	1,213	2,808	4,946	5,333	5,672	5,451
Investing & lending EBT	4,180	(531)	3,223	4,332	4,006	3,034	3,306	4,114	4,348	5,583	5,278
Investment management EBT	932	1,014	926	1,106	1,395	1,365	1,467	1,525	1,600	1,616	1,728
(-) Corporate charges	(373)	(117)	(169)	(155)	(137)	(148)	(150)	(150)	(150)	(150)	(150)
EBT	**12,892**	**6,169**	**11,207**	**11,737**	**12,357**	**8,778**	**11,223**	**14,747**	**15,698**	**17,307**	**17,652**
(-) Income tax expense	(4,538)	(1,727)	(3,732)	(3,697)	(3,880)	(2,695)	(3,446)	(4,527)	(4,819)	(5,313)	(5,419)
Net income	**8,354**	**4,442**	**7,475**	**8,040**	**8,477**	**6,083**	**7,778**	**10,219**	**10,878**	**11,993**	**12,232**
(-) Pref. dividends	(684)	(1,969)	(218)	(338)	(423)	(537)	(585)	(633)	(681)	(729)	(777)
Net income to common	**7,670**	**2,473**	**7,257**	**7,702**	**8,054**	**5,546**	**7,193**	**9,586**	**10,197**	**11,264**	**11,456**
(+) Adjustments	886	1,492	27	235	365	2,497	1,384	68	51	(260)	(236)
Normalized net income	**8,556**	**3,965**	**7,284**	**7,937**	**8,419**	**8,043**	**8,577**	**9,654**	**10,248**	**11,004**	**11,220**
W.A shares (m)	542	525	496	471	459	449	422	402	382	362	342
W.A diluted shares (m)	585	557	516	500	473	459	427	407	387	367	347
Normalized EPS (US$)	$15.79	$7.56	$14.68	$16.84	$18.35	$17.92	$20.31	$23.99	$26.80	$30.37	$32.77
Normalized diluted EPS (US$)	$14.62	$7.12	$14.11	$15.89	$17.79	$17.54	$20.10	$23.73	$26.49	$30.00	$32.35
Dividends											
Dividends per share (US$)	$1.40	$1.40	$1.77	$2.05	$2.25	$2.55	$3.01	$3.56	$3.97	$4.50	$4.85
Growth (%)		--	*26.4%*	*15.8%*	*9.8%*	*13.3%*	*18.2%*	*18.1%*	*11.6%*	*13.2%*	*7.8%*
Payout ratio (%)	*9.6%*	*19.7%*	*12.5%*	*12.9%*	*12.6%*	*14.5%*	*15.0%*	*15.0%*	*15.0%*	*15.0%*	*15.0%*
Share buyback schedule											
Repurchases		69	36	13	16	10	19	20	20	20	20
(x) Average price paid							$150.00	$180.00	$180.00	$180.00	$180.00
Aggregate repurchases							**2,882**	**3,600**	**3,600**	**3,600**	**3,600**