

# 3D Printing Industry

*In accordance with the applicable regulation, we inform the reader that this material is qualified as a marketing document. Data as of 10 May 2016, 11 p.m. Paris time.*

Finalised on May 11, 2016

## KEY TAKEAWAYS

- 3D printing is a disruptive technology that will change the way manufacturing takes place.
- The market research firm Gartner expects 3D printer unit sales to double each year till 2019 and reach 5.6 mn units from 106,000 units in 2014.
- Industry estimates differ on the unit sales and average selling price, but most studies expect the 3D printing market to grow to USD 14.5 bn by 2019.
- 3D-printed material is used mainly in the consumer products, high-tech, and industrial goods sectors.
- While industry growth is expected to be strong, players are facing a slowdown with increased competition (launch of HP 3D printers) and delay in large enterprise adoption. We expect these pressures to persist in the near term and thus recommend that investors avoid this space.
- With internal factors not showing any signs of stabilisation, we believe there is risk to consensus estimates and expect them to be revised downwards.

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Disclaimers & Disclosures

# SWOT Analysis

## Strengths to Leverage...

- 3D printing is better than traditional methods due to less material wastage, small-batch production, easy customisation and lower inventory carrying costs.
- The mass-scale use of 3D printing is possible by an individual hobbyist/retail user creating innovative designs mainly due to easy access and lower molding/fabrication turnaround time.
- 3D printing increases flexibility of healthcare R&D initiatives as it produces parts that work better with functional human tissue.
- 3D printing meets the demand for high complexity and design accuracy in certain specialist engineering applications (such as aviation), which other traditional manufacturing techniques find difficult to address.

## Opportunities to Capitalise on...

- 3D printing is still limited to a small number of distinct materials used in production. Increasing use/variety in input materials could expand its applications.
- Government initiatives to stimulate innovation should create greater awareness of the product's technological potential.
- Considerable importance is attached to the use of 3D bio-printing to produce functional tissue that will eventually replace human trials in healthcare R&D.

## Weaknesses to Improve and Offset...

- 3D printing is not as cost effective as injection molding owing to high input and capital costs.
- Wide-scale adoption by industrial producers could be limited, largely due to speed restrictions.
- There are few personnel available with the requisite skill, qualification and technical expertise to develop and operate such niche technology.
- The lack of necessary infrastructure and funding limit product innovation.

## Threats to Counter, Mitigate and Overcome...

- The use of 3D printers is stimulating discussions concerning patents, copyrights and irresponsible handling. It may also generate negative regulatory changes affecting product use and commercialisation.
- Although entry barriers are high due to the unique technological competence required, as new companies enter the market, increasing competition could erode margins and growth potential of existing players.
- Increasing competition could increase technology patent infringement, resulting in expensive litigation/revenue loss amongst peers.
- As technological acceptance and usage increase, lower manpower requirements may result in opposition from labour representatives (such as in manufacturing industries).

## 3D Printing Industry – An Overview

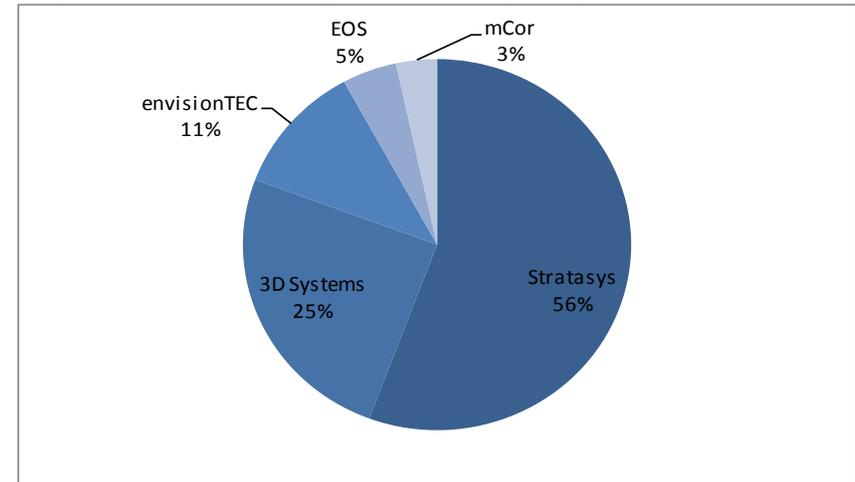
### Key Features of 3D Printing

- 3D printing is the process of making three-dimensional objects by adding layers of material over one another. It is also known as additive manufacturing.
- This process is different from the traditional manufacturing process, which removes material by cutting or drilling.
- Revenue streams for 3D-printing manufacturers include income from printer sales and from the provision of recurrent maintenance services and materials (consumables) for the units sold.
- 3D printing is a disruptive technology that will change the way manufacturing takes place. It helps organisations reduce the number of steps required for production and minimises wastage.
- The competition in the segment is increasing and large players like HP and Canon are expected to launch their 3D printers later this year. This would pressurise the sales of the incumbents and lead to market share losses.
- Industry estimates differ on the unit sales and average selling price, but most studies expect the 3D printing market to grow to ~USD 14.5 bn by 2019 and USD 20 bn by 2022.

### Top-class Scalable Growth From a Niche Base

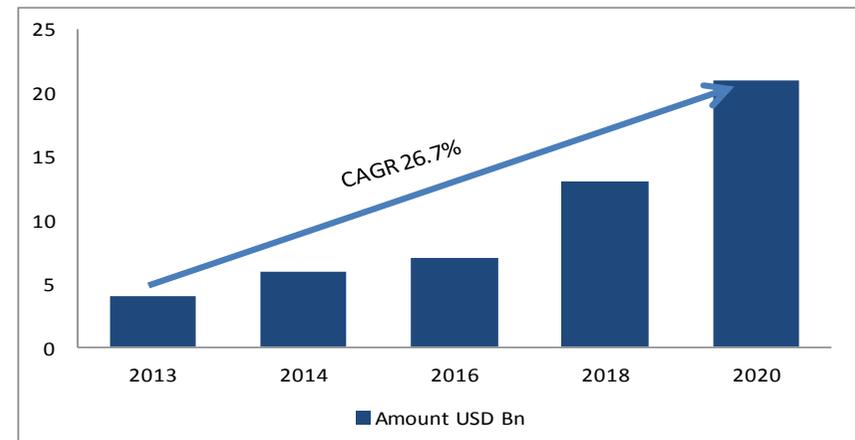
- According to the Consumer Technology Associates and UPS, the global 3D printing market is expected to post a 2013-19E CAGR of 26.7% to reach USD 21 bn.
- The top uses of 3D printing are prototyping (25%), product development (16%) and innovation (11%).

Figure 1: Market share by unit volumes (3Q15)



Sources: 3ders.org, SGPB

Figure 2: Industry growth estimates



Sources: Consumer Technology Association, UPS, SGPB

# 3D Printer and final products



## DESIGN | MODELING



Price: \$1,000 - \$20,000

## PROTOTYPING | MANUFACTURING



\$20,000 - \$250,000

\$250,000 - \$950,000



## Revenue Generation by Industry

3D printing is still at a nascent stage and is currently used in the consumer goods, high-tech and industrial sectors. It is also gaining importance in education and automotives.

Gartner expects 10% of the world population to be using 3D printers by 2019.

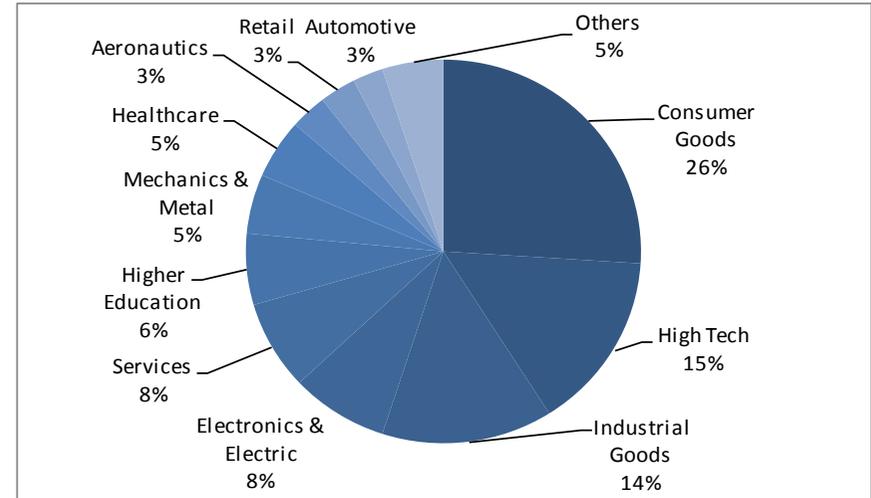
From a use point, functional parts and fit & finish components account for ~50% of the uses of the technology currently.

### Types of 3D Printers and Main Users

3D printers are classified into two categories, enterprise (includes production and professional printers) and consumer printers.

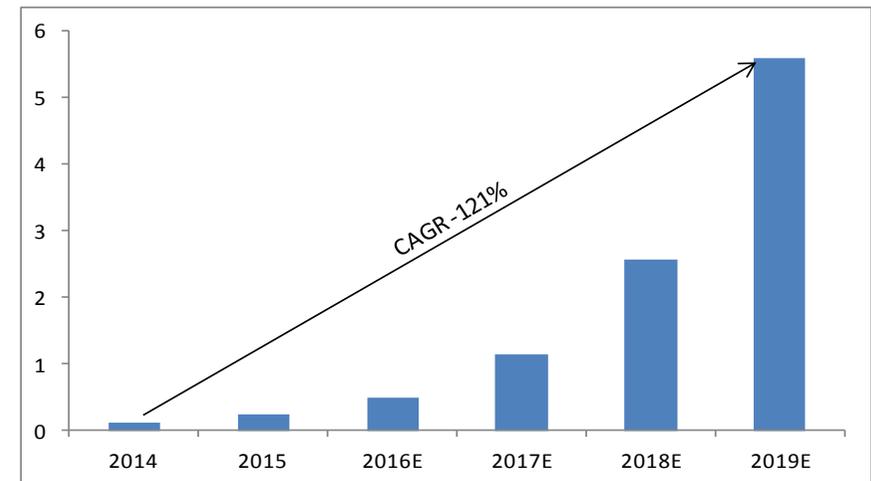
- **Production Printers:** These are industry-class printers used on production floors to build prototypes and fully functional parts.
- **Professional Printers:** These are used in engineering and designing for prototype conceptualisation and creation in architecture, research, education, custom jewellery and other sectors.
- **Personal Printers:** These are consumer-level printers used by hobbyists, students and artists. These printers cost ~USD 1,200.

Figure 3: 3D Printing Revenue by Industry



Sources: Sculpteo, SGPB

Figure 4: 3D Printer Unit Sales (mn)



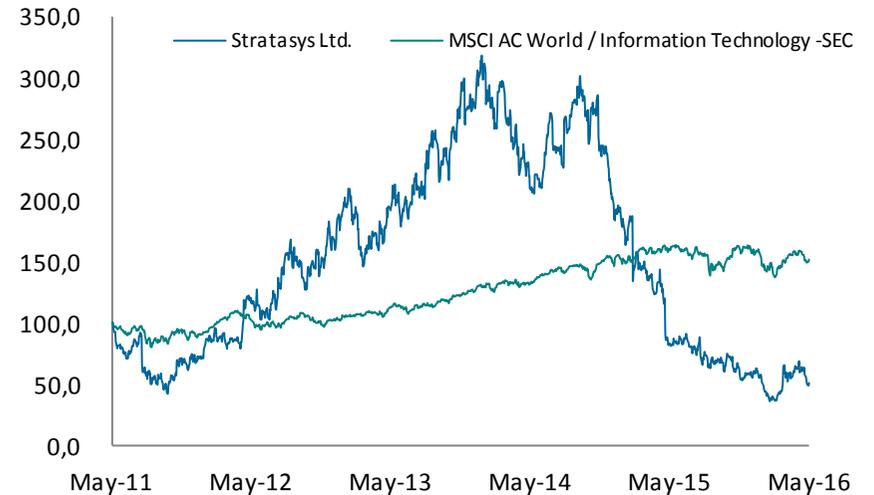
Sources: Gartner, SGPB

## Individual Stock Analysis

### Stratasys Ltd (SSYS-US) – TRIM – Consensus Target Price: USD 24.40

- Stratasys Ltd – TRIM – Consensus Target Price: USD 24.40
- After a period of strong growth, the 3D printing industry is transitioning to a low-growth period as users incorporate these printing systems in their manufacturing processes. As this phase may last longer than expected, it could continue to pressurise the near-term growth prospects of industry players. IN our view, Stratasys being the leader in the segment could be impacted by this slowdown
- Stratasys reported 1Q16 revenues of USD 167.9 mn, down 2.8% YoY but ahead of consensus at USD 164.7 mn. Product revenues were down 6.3% while services grew 7%. Operating income at USD 3.9 mn was ahead of consensus at USD 1.2 mn. The company said that the overall environment remains challenging and guided for FY16 revenues of USD 700–730 mn with operating margin of 3–5%.
- Consensus expects FY16 product revenues to increase 1% YoY and the services revenues to slow materially from 39.2% in FY15 to 6.9% in FY16. EBITDA margin is expected to fall 80 bps to 14.6%. This weak revenue growth and margin pressure could keep EPS under pressure (FY17E EPS of USD 0.72 vs. USD 2.00 in FY14).
- Given the weakness the company is witnessing, we believe that there could be downside risk to these estimates. The estimates also appear to be unjustified given that the sales 2015-18E CAGR is 6.7% and that the EBIT margin is expected at 7.0% (vs. 14.4% in FY14).
- Stratsys is trading at an FY16E P/E of 67.2%, which appears attractive given the 2015-18E CAGR of 74.5%. However, we believe the quality of the EPS growth is weak as the EBITDA is expected to grow only 10% in the same period.

### Five-year Performance vs. Benchmark (rebased to 100)



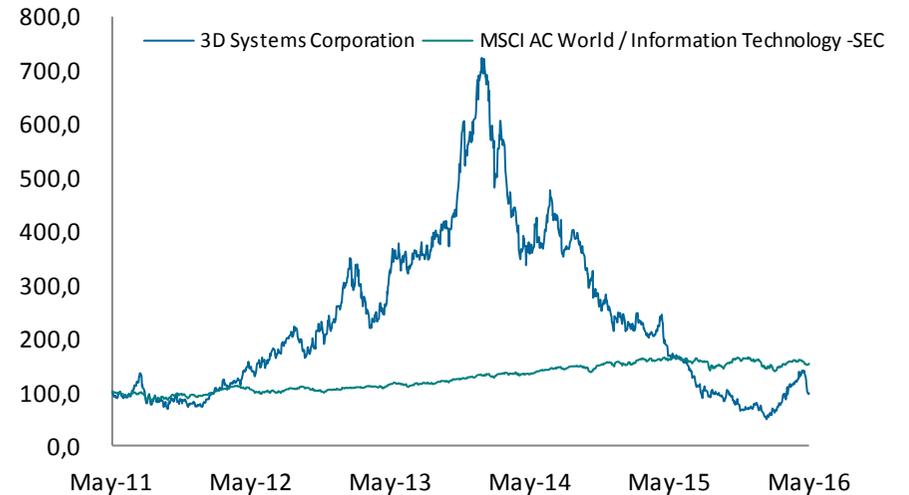
Source: FactSet

## Individual Stock Analysis

### 3D Systems Corp (DDD-US) – TRIM – Consensus Target Price: USD 14.00

- The company's growth has been weaker than expected over the last few quarters due to production issues and a weak macro-environment. While we are positive on the company's long-term growth prospects, these near-term issues could weigh on its earnings as their resolution could take longer than expected. In addition, this coupled with the risk of increased competition from printing giants like HP could pressurise the stock in the near term.
- 3D Systems is in the process of restructuring and has replaced its CEO. It has also decided to discontinue its consumer Cube printer model in order to focus on the more profitable professional and industrial printers and applications. These measures appear to be positive for the long term, but we would wait for further clarity and details before turning positive on the stock.
- The company reported 1Q16 revenues of USD 152.5 mn, down 5% YoY and below consensus at USD 156 mn. Excluding the contribution of consumer products and services, revenue decreased 2% YoY. Printer sales declined 24% and materials fell 4%. The company did not provide any guidance but the new CEO stated that he would focus on cost cutting and on improving profitability.
- The stock is trading at an FY16E P/E of 39.5x with a 2015-18E EPS CAGR of 29.7%. Given the risk of increasing competition and the lack of sales growth, we believe there is downside risk to the consensus estimates.

Five-year Performance vs. Benchmark (rebased to 100)



Source: FactSet

## VALUATIONS &amp; MARKET DATA

## Valuations :

DESCRIPTION			VALUATION							GROWTH				PROFITABILITY			
FactSet	Company	Cap (m€)	P/BV		EV/Sales (e)		P/E (e)			Div. Yield	Sales Growth		EPS Growth		Op Margin*	Net Margin	ROE
			FY1x	10Yx	FY1x	FY2x	FY1x	FY2x	10Yx		FY1%	FY1%	FY2%	FY1%			
DDD-US	3D Systems Corporation	1 270	2.2	4.3	2.0	1.8	39.5	27.1	128.4	0.0	-0.3	7.7	20.4	44.6	16.5	5.6	4.6
SSYS-US	Stratasys Ltd.	992	1.0	3.3	1.3	1.2	67.2	30.0	65.6	0.0	2.6	8.3	65.8	123.3	13.6	2.4	1.6
<b>Average:</b>			<b>1.6</b>	<b>3.8</b>	<b>1.7</b>	<b>1.5</b>	<b>53.3</b>	<b>28.6</b>	<b>97.0</b>	<b>0.0</b>	<b>1.1</b>	<b>8.0</b>	<b>43.1</b>	<b>84.0</b>	<b>15.1</b>	<b>4.0</b>	<b>3.1</b>

*P/BV: Price to Book Value. \*EBITDA Margin.*

*FY1 Current Unrealized Year, FY2 Next Year.*

*Sources: SGPB, Factset, Bloomberg.*

## Market Data :

FactSet	Company	CCY	Price	52 Weeks High	52 Weeks Low	Avg 6M Daily Turnover in (000)	Performance (%)					Risk	
							3m	6m	12m	YTD	5y	Volatility	Beta
DDD-US	3D Systems Corporation	USD	12.92	23.98	6.00	46 678.99	60.10	34.02	-42.11	48.68	-2.81	7.80	1.68
SSYS-US	Stratasys Ltd.	USD	21.69	39.45	14.48	29 942.31	39.85	-14.23	-42.11	-7.62	-49.45	15.62	2.05

*Sources: SGPB, Factset*

## GENERAL PRINCIPLES

This section provides details that would help the readers understand this publication more clearly. In addition, we present a *GLOSSARY* that provides definitions of the various financial terms used in this document.

### Rating and target price:

In this document, Equity Experts provide investment ratings and target prices for listed companies. If the company is part of SGPB Conviction Lists, Equity Experts provide a 'proprietary target price'; otherwise Experts mention 'consensus target price'.

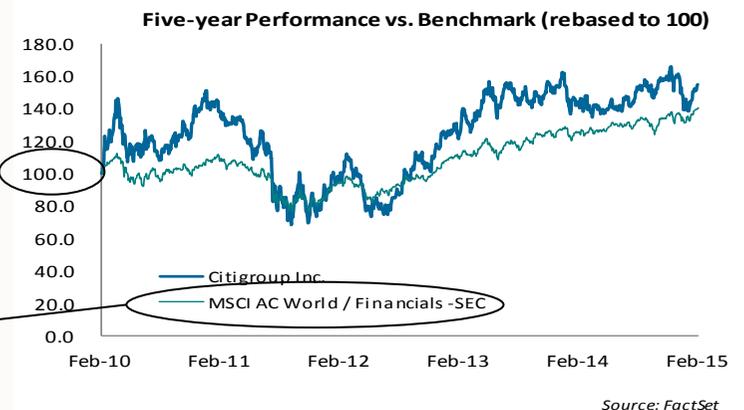
- **Consensus target price** is the average of the estimated target prices provided by sell side analysts covering a public company, as available on Factset or Bloomberg. An analyst usually formulates a target price for a 12 month horizon. It does not necessarily reflect our Experts' views which could differ from the consensus.
- **SGPB target price** is based on relative valuation methodology. We use the peer group average or the stock's historical multiple as the target multiple and multiply it with the consensus estimate of the corresponding valuation parameter. In certain cases, a premium or discount is assigned to the target multiple to account for the stock's differentiating factor vs. the peer group.

**Potential upside/downside:** Percentage difference between the last closing price disclosed in the report of a given company and its target price. When using consensus target prices, the upside/downside may not be considered as a rationale for the investment cases.

The 'Five-year Performance vs. Benchmark' charts are made using Factset data and exhibit a comparison between a particular stock's performance\* with a benchmark\*\* over the last five years.

\*Stock performance is rebased to 100 to allow relevant comparison with the benchmark

\*\*The benchmark is a standard against which the performance of a security can be measured. The selection of the appropriate benchmark is based on a large world index for each sector. Usually we use MSCI or DJ Stoxx indices.



## RATING SYSTEM

### Investment Rating Definitions:

<b>BUY</b>	Company from SGPB Conviction Lists, expected return above 10% or more over a 12 month investment horizon based on our experts' assumption.
<b>ADD</b>	Company outside SGPB Conviction List. Proposition to reinforce or invest in companies benefiting from positive fundamentals with a positive return expected over a 12 month investment horizon, based on our experts' assumption.
<b>KEEP</b>	Proposition to keep the holding in a company benefiting from positive fundamentals with a positive return expected over a 12 month investment horizon, based on our experts' assumption.
<b>TRIM</b>	Proposition to trim the holding in a company for at least one of the following reasons: <ul style="list-style-type: none"> <li>- company benefiting from positive fundamentals based on our experts' assumption but over-weighted in the global portfolio (bias correction).</li> <li>- stock deemed to be fundamentally fully valued over a 12-month investment horizon, based on our experts' assumption.</li> </ul>
<b>SELL</b>	Stock deemed to be fundamentally fully valued and/or overvalued over a 12-month investment horizon, based on our experts' assumption and/or deterioration of fundamentals.

### PRODUCT RISK RATING

Product Category Sophistication Level:  
Single equity/stock/share has a BASIC rating.  
Product Category Risk Rating:

The product category of single equity, stock, share is rated at '4'.

The risk classification of products is a Société Générale Private Banking process. The Risk Rating is based on a scale of 0 to 4 in ascending degree of risk. The Product Risk Rating is determined based on the market and pricing parameters prevailing for the product and is calculated using a mathematical probability model.

This mathematical model defines a 95% probability, within one year and under normal market conditions of the following different levels of maximum loss:

### RATING

#### MAXIMUM LOSS

<b>0</b>	= 0% of its value
<b>1</b>	< 5% of its value
<b>2</b>	< 15% of its value
<b>3</b>	< 30% of its value
<b>4</b>	> 30% of its value

For calculation, by convention the maximum loss for rating 4 is 50%.

In a worst case scenario, investors will experience a total loss of capital investment. This can occur as a result of unseen circumstances including, but not limited to, economic events, structural events or professional misconduct.

## Societe Generale Private Banking Investment Universe

Societe Generale Private Banking defines and maintains an investment universe, aiming at ensuring the liquidity and the meaningful coverage of companies subject to potential investments.

This investment universe complies with rules defined as follows:

**-Issuers are constituents of MSCI indices:** The constituents of the indices retained cover developed and emerging countries with increased precision (average market capitalisation) for Germany, Belgium, France, the UK and Switzerland.

**-Market Capitalisation:** To avoid the inclusion of securities whose market capitalisation could be too low in light of the potential investments by clients and/or managers, only securities whose market capitalisation is greater than €500 mn have been chosen.

**-Liquidity:** To ensure minimum liquidity for investments, only securities with a six-month average daily trading volume greater than EUR 300,000 are selected.

**-Reliable Financial Information:** Only securities tracked by at least three sell side financial analysts are included in the universe.

**-Social and Environmental Responsibility Policy of SG Group:** Societe Generale has defined a framework for Social and Environmental Responsibility. This framework sets out restrictions on listed securities identified by SG Group and deleted from the universe.

## Financial Terms and Acronyms

**ADR (American Depositary Receipt):** is a negotiable certificate issued by a US bank representing a specified number of shares in a foreign stock that is traded on a US exchange. ADRs are denominated in US dollars, with the underlying security held by a US financial institution overseas.

**BACKLOG:** often refers to a company's sales orders waiting to be fulfilled. Even if it provides the revenue visibility, the companies usually try to avoid to have an extensive backlog because that creates the risk of unmet demand and thus can have negative impact on future earnings

**BENCHMARK:** is, generally, a broad market, market-segment stock or bond index that is used as a reference to evaluate the performance of a security, mutual fund or investment manager.

**BV (Book Value):** is the total value of net assets of a company. It consists of the firm's fixed assets plus its current assets, minus short-term liabilities, long-term creditors and any provisions.

**BV/S (Book Value Per Share):** is the total value of the net assets of a company divided by the total number of outstanding shares.

**C/I (Cost Income Ratio):** is used for valuing banks. It shows a company's costs in relation to its income. Formula:  $(\text{Operating Costs}/\text{Operating Income}) \times 100$ .

**CAGR (Compound Annual Growth Rate):** is a term used for the geometric progression ratio that provides a constant rate of return over a specific time period.

**CAPEX (Capital Expenditure):** is the fund used by the company to acquire or upgrade the physical assets such as property, industrial buildings or equipment. The most capital intensive industries include oil, telecom and utilities.

**CAR (Capital Adequacy Ratio):** is a measure of a bank's capital. It is expressed as a percentage of a bank's risk-weighted credit exposures. Formula:  $(\text{Tier One Capital} + \text{Tier Two Capital})/\text{Risk Weighted Assets}$ .

**CET I (Common Equity Tier I Ratio) :** is a measure of the bank's common equity capital as a percentage of risk-weighted assets. It is generally compared to a defined benchmark stipulated by the regulatory authority to determine whether a bank is sufficiently capitalised.

**DIVIDEND YIELD:** Dividend per share (total dividend paid out divided by the total number of shares) expressed as a percentage of current stock price.

**EBIT (Earnings Before Interest and Taxes):** profit before taking into account interest payments and income taxes. Also referred to as operating income, it is calculated as a company's gross income minus all its operating expenses.

**EBIT Margin:** Ratio that expresses EBIT as a percentage of total sales  $(\text{EBIT}/\text{Sales} \times 100)$ ; also referred to as operating margin.

**EBITDA (Earnings Before Interest, Taxes, Depreciation and Amortisation):** profit before taking into account interest payments, income taxes and non-cash operating expenses (depreciation and amortisation). It is calculated as a company's gross income minus its cash operating expenses only.

## GLOSSARY (2/4)

**EPS (Earnings Per Share):** is the division of total net profit by the number of shares.

**EV (Enterprise Value)** is a measure of a company's value, often used as an alternative to straightforward market capitalisation. It is calculated as (market cap + debt + minority interest + preferred shares) – total cash – cash equivalents.

**EV/EBITDA:** compares the total value of the company to its EBITDA.

**EV/SALES:** compares the total value of the company to its sales.

**FCF (Free Cash Flow):** represents the difference between operating cash flow and capital expenditures and shows the company's ability to generate shareholder's value after laying out the money required to maintain or expand its asset base. Without enough cash, it would be difficult for a company to develop new products, make acquisitions, pay dividends and reduce debt.

**FFO (Funds from Operations):** measures a REIT's operating performance. It is net income plus gains (minus losses) from property sale and purchase. Non-cash expenses like depreciation and amortisation are added back because value of real estate tends to rise over time rather than depreciating like other fixed assets and investments. FFO per share is often used in place of earnings per share when analysing REITs.

**FY1 (Fiscal Year One):** refers to the current fiscal year.

**FY2 (Fiscal Year Two):** refers to the next fiscal year.

**GDR (Global Depositary Receipt):** is very similar to an ADR. It is a bank certificate issued in more than one country for shares in a foreign company. The shares are held by a foreign branch of an international bank. The shares trade as domestic shares, but are offered for sale globally through the various bank branches.

**GOODWILL:** is an intangible asset that arises as a result of the acquisition of one company by another company for a premium value and can have as origin the value of a company's brand name, solid customer base, good customer relations, good employee relations and any patents or proprietary technology.

**GROSS INCOME:** gross profit calculated as a company's total sales minus its cost of goods sold (COGS) that corresponds to labour and production costs.

**GROSS MARGIN:** expresses gross income as a percentage of total sales (Gross Income/Sales\*100).

**IPO (Initial Public Offering):** is the first sale of stock by a private company to the public to expand its growth or, sometimes, repay its debt.

**LIKE FOR LIKE (LFL) GROWTH:** is a measure of growth in sales, adjusted for new or divested businesses. This is a widely used indicator of retailers' performance. This adjustment is important in businesses that show a significant change through expansion, disposals or closures.

**LTV (Loan-To-Value Ratio):** is a financial term used to express the ratio of a loan to the value of an asset purchased. The term is commonly used by financial institutions and real estate companies to represent the ratio of the loan as a percentage of the total appraised value of real property.

**NAV (Net Asset Value):** is similar to book value and is also called per investment unit. NAV is the marked-to-market value of the company's property investments less liabilities.

**ND (Net Debt):** is calculated as a company's total debt minus cash and other similar liquid assets.

**NET MARGIN:** is a financial ratio which measures the profitability of the net income of a company. Formula: Net Profit/Sales.

**NI (Net Income or Bottom Line):** represents a company's total earnings (or profit) which is calculated by adjusting revenues for the costs, depreciation, interest, taxes and other expenses.

**OPERATING MARGIN:** See definition of EBIT Margin.

**ORGANIC GROWTH:** is the growth rate that a company can achieve by increasing its output and enhancing sales, excluding any profits or growth from takeovers or M&A activities.

**P/E or PER (Price Earnings Ratio):** reflects the trading price of a share in relation to the expected earnings. Formula: Share Price/Earnings Per Share.

**P/TBVS (Price To Tangible Book Value):** expresses the share price with regard to the accounting value of the company. Formula: Share Price/Tangible Book Value Per Share.

**PAYOUT RATIO:** is the proportion of earnings paid out as dividends to shareholders and typically expressed as a percentage. A lower payout ratio is generally preferable to a higher payout ratio. A ratio greater than 100% indicates the company is paying out more in dividends than it makes in net income.

**PROFIT WARNING:** is the announcement made by the company before its earnings release indicating the investors that its earnings would not meet the analysts' expectations.

## GLOSSARY (3/4)

**RWA (Risk Weighted Assets):** is a measure of the bank's assets, weighted according to their risk. It involves the risk weighting of both on and off-balance-sheet exposures. It is generally used to calculate risk-based capital ratio which is the ratio of a bank's capital to its risk weighted assets.

**REVENUE GROWTH:** Illustrates the growth of sales over a given period.

**ROA (Return on assets):** a financial ratio that is calculated as net income divided by total assets and shows how profitable a company is relative to its total assets

**ROC (Return on invested capital):** a profitability ratio which is calculated as net income minus dividends divided by total invested capital.

**ROE (Return On Equity):** The amount of net income returned as a percentage of shareholders' equity. Return on equity measures a corporation's profitability by disclosing how much profit a company generates with the money shareholders have invested.

**SHARE BUYBACK (Share Repurchase):** A program by which a company buys back its own shares from the marketplace, reducing the number of outstanding shares. It usually indicates that the company's shares are undervalued and pushes the share prices up.

**SHAREHOLDER'S EQUITY:** is the amount of the funds contributed by the owners (the stockholders) plus the retained earnings (or losses).

**STOCK SPLIT:** is a corporate action in which the company divides its existing shares into multiple shares to make shares seem more affordable for small investors without changing the underlying value of the company.

**TBV (Tangible Book Value):** is the book value excluding intangible assets.

**TBV/S (Tangible Book Value Per Share):** allows to estimate the accounting value of a company by measuring its stockholders' equity per share. Formula: Re-valued Net Assets/Total Shares of Company.

**WACC (Weighted Average Cost of Capital):** also referred to as the firm's cost of capital, it is the rate that a company is expected to pay on an average to all its security holders to finance its assets.

**WORKING CAPITAL:** is the difference between a company's current assets and current liabilities and shows whether the company has sufficient short-term assets to cover its short-term debts.

*Sources: Factset, Bloomberg, SGPB*

## Indices

**MSCI AC WORLD:** is a free float-adjusted market capitalisation weighted index that is designed to measure the equity market performance of developed markets. The MSCI World Index consists of the following 23 developed market country indexes: Australia, Austria, Belgium, Canada, Denmark, Finland, France, Germany, Hong Kong, Ireland, Israel, Italy, Japan, the Netherlands, New Zealand, Norway, Portugal, Singapore, Spain, Sweden, Switzerland, the UK, and the US (as of 2 June 2014).

**MSCI AC ASIA PACIFIC:** is a free float-adjusted market capitalisation weighted index that is designed to measure the equity market performance of the developed and emerging markets in the Pacific region. The MSCI AC Pacific Free Index consists of the following 12 developed and emerging market countries: Australia, China, Hong Kong, Indonesia, Japan, Korea, Malaysia, New Zealand, the Philippines, Singapore, Taiwan, and Thailand (as of 2 June 2014).

**MSCI EUROPE:** is a free float-adjusted market capitalisation weighted index that is designed to measure the equity market performance of the developed markets in Europe. The MSCI Europe Index consists of the following 15 developed market country indexes: Austria, Belgium, Denmark, Finland, France, Germany, Ireland, Italy, the Netherlands, Norway, Portugal, Spain, Sweden, Switzerland, and the UK (as of 2 June 2014).

**MSCI EMERGING MARKETS:** is a free float-adjusted market capitalisation index that is designed to measure equity market performance of emerging markets. The MSCI Emerging Markets Index consists of the following 23 emerging market country indexes: Brazil, Chile, China, Colombia, the Czech Republic, Egypt, Greece, Hungary, India, Indonesia, Korea, Malaysia, Mexico, Peru, the Philippines, Poland, Qatar, Russia, South Africa, Taiwan, Thailand, Turkey\* and the UAE (as of 2 June 2014).

**MSCI WORLD HIGH DIVIDEND YIELD:** is based on the MSCI World Index, its parent index, and includes large- and mid-cap stocks across 23 Developed Markets (DM) countries (as of 31 March 2014). The index is designed to reflect the performance of equities in the parent index (excluding REITs) with higher dividend income and quality characteristics than average dividend yields that are both sustainable and persistent.

**MSCI WORLD VALUE:** captures large- and mid-cap securities exhibiting overall value style characteristics across 23 Developed Markets countries (as of 31 March 2014). The value investment style characteristics for index construction are defined using three variables: book value to price, 12-month forward earnings to price and dividend yield. With 853 constituents, the index targets 50% coverage of the free float-adjusted market capitalisation of the MSCI World Index.

## GLOSSARY (4/4)

**MSCI WORLD GROWTH:** captures large- and mid-cap securities exhibiting overall growth style characteristics across 23 Developed Markets countries (as of 31 March 2014). The growth investment style characteristics for index construction are defined using five variables: long-term forward EPS growth rate, short-term forward EPS growth rate, current internal growth rate and long-term historical EPS growth trend and long-term historical sales per share growth trend.

**MSCI WORLD SMALL CAP:** captures small cap representation across 23 Developed Markets (DM) countries (as of 31 March 2014). With 4,302 constituents, the index covers approximately 14% of the free float-adjusted market capitalisation in each country.

**MSCI WORLD LARGE CAP:** captures large-cap representation across 23 Developed Markets (DM) countries (as of 31 March 2014). With 737 constituents, the index covers approximately 70% of the free float-adjusted market capitalisation in each country.

**MSCI EMEA:** is a free float-adjusted market capitalisation weighted index that is designed to measure the equity market performance of the emerging market countries of Europe, the Middle East and Africa. The MSCI EM EMEA Index consists of the following 10 emerging market country indexes: the Czech Republic, Greece, Hungary, Poland, Russia, Turkey, Egypt, South Africa, Qatar and the UAE.

**MSCI LATAM:** captures large- and mid-cap representation across five emerging market (EM) countries (as of 31 March 2014) in Latin America. With 137 constituents, the index covers approximately 85% of the free float-adjusted market capitalisation in each country.

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**MSCI RUSSIA:** is designed to measure the performance of the large- and mid-cap segments of the Russian market. With 22 constituents, the index covers approximately 85% of the free float-adjusted market capitalisation in Russia.

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**Nikkei 225:** is the leading index of Japanese stocks. It is a price-weighted index comprised of Japan's top 225 blue-chip companies on the Tokyo Stock Exchange. The Nikkei is equivalent to the Dow Jones Industrial Average Index in the US.

*Sources: Factset, Bloomberg, MSCI global equity indexes, SGPB*

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