UBS

Longer Term Investments

e-commerce

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- Global e-commerce is currently a market of almost USD 3trn, or more than 10% of total consumer retail sales worldwide.
- The long-term trends of population growth and urbanization, allied with an expanding middle class in emerging markets, are buoying retail sales and fueling e-commerce. High population density in urban areas is making it easier to deliver goods.
- We expect e-commerce to grow 15–20% annually over the next 10 years thanks to rising smartphone and internet penetration, technological advances and improving consumer convenience.
- In our view, the e-commerce theme offers attractive long-term investment opportunities. Investors can benefit via a diversified portfolio of companies like online marketplaces, online retailers, payment service providers, logistics companies, etc.

Our view

Consumer behavior is changing as goods increasingly are being purchased online. Greater smartphone penetration has dissolved boundaries of time and place, enabling consumers to buy products whenever and wherever they want. Manufacturers and retailers can offer a larger range of goods online without having to invest in new stores.

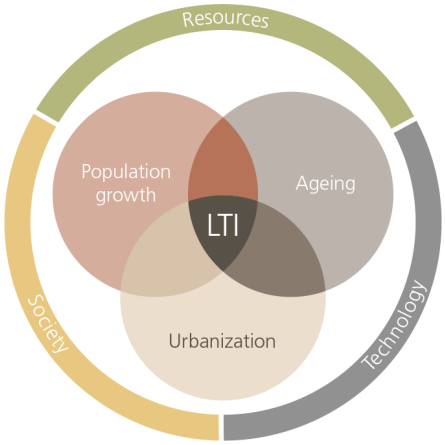
Population growth in emerging markets (EM) is also boosting sales volume, with the growing EM middle class providing an attractive sales tailwind for consumer companies. The rising number of internet and mobile users is accelerating their online-derived revenue.

Urbanization fuels consumption growth as well, since consumers in cities benefit from the greater availability of goods and services. Higher population density also catalyzes e-commerce by making it easier, faster and cheaper to distribute products and services to customers. Access to better internet connectivity is combining with urbanization trends to foster the boom in online sales.

e-commerce is growing across all age groups. It offers those with limited mobility (e.g. senior people) the chance to shop online and receive delivery at home. Moreover, as consumers become more familiar with buying products via the click of a mouse or the tap of a touchscreen, the positive feedback effect should ensure vibrant long-term e-commerce growth.

Introduction to the Longer Term Investments (LTI) series

- **The Longer Term Investments (LTI)** series contains thematic investment ideas based on long term structural developments.
- Secular trends such as population growth, ageing, and increased urbanization create a variety of longer term investment opportunities.
- These investment opportunities are influenced by the interplay of technological advancement, resource scarcity, and the societal changes.
- Investors willing to invest over multiple business cycles can benefit from potential mispricings created by the typically shorter term focus of stock markets.



Key growth drivers of e-commerce

Companies currently generate almost USD 3trn of e-commerce revenue worldwide, according to e-marketer. Along with population growth, urbanization and aging, this structural trend is fueled by technological evolution, increased consumer convenience and companies expanding their online channel offering. We expect e-commerce go grow by 15–20% annually over the next 10 years (see Fig. 1). It will claim an ever-greater percentage of total sales, and gain market share from traditional retailers that rely only on physical stores.

Evolution of technology

As the performance and functionality of personal computers and mobile phones have improved, their prices have fallen. So internet and smartphone penetration rates have continually increased, particularly in emerging markets (see Fig. 2). Consumers benefit from faster internet speeds due to 4G and other tech advances, as well as user-friendly mobile applications. Virtual and augmented reality facilitate a new e-commerce experience via simulation and visualization, which reduce product returns and raise sales conversion ratios. Artificial intelligence (AI) enhances the consumer experience by boosting website performance and enabling greater personalization, e.g. search rankings based on individual needs. AI also makes the delivery process more efficient. Such technology will only keep improving the online sales experience and deepening online sales penetration.

Consumer convenience

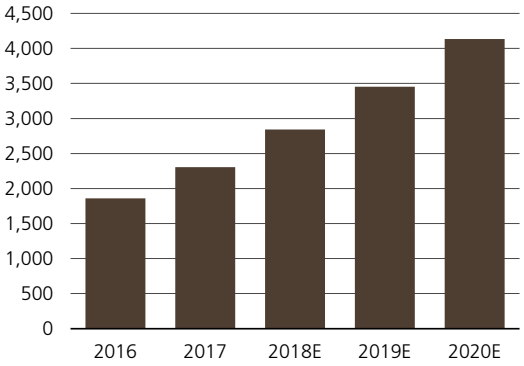
Convenience is a key reason consumers shop online. They can buy desired goods and services whenever and wherever they want. Unlimited availability should also lead to more impulse transactions: shopping is not restricted by open hours, nor do customers have to leave home to engage in it. Greater price transparency, with easier price comparisons without visiting a physical store, also makes online shopping easier. Delivery options, too, are becoming faster and cheaper. Consumers need not venture beyond their doorstep to pick up and return the products they ordered. Technology has eased the payment process (eg in-App payment opportunity): entering a credit card number is no longer necessary for every transaction.

Increasing availability and growing product offering

Online stores and marketplaces enable companies to increase their revenue by expanding their product offering without having to rent or build new physical stores. For example, food retailers can offer third-party toys, gardening tools etc. on their webpage without having to display them on shelves. While e-commerce penetration rates vary by country, they remain low overall, at slightly over 10% of total retail sales in most countries (see Fig. 3). Online offers consumer companies an entry point into new markets on an asset-light basis. We expect cross-border trade to gain in importance, especially given the global ambitions of the e-commerce giants. Consumers benefit from an extended offering in online marketplaces, where products not available in local stores can be bought. New regulations and increased import duties levied to protect domestic economies represent the biggest risk to cross-border trade growth.

Fig. 1: Global e-commerce is expected to grow 15–20% annually over the next 10 years

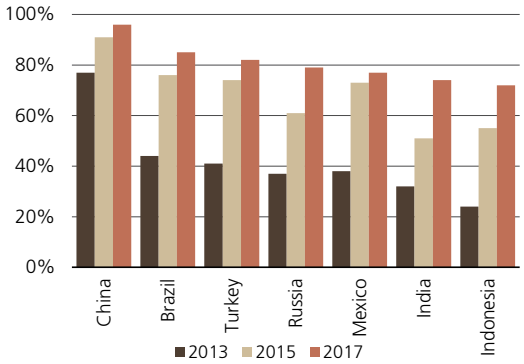
Global retail sales generated online, in USD billion



Source: eMarketer, UBS, as of May 2018

Fig. 2: Rising EM smartphone penetration

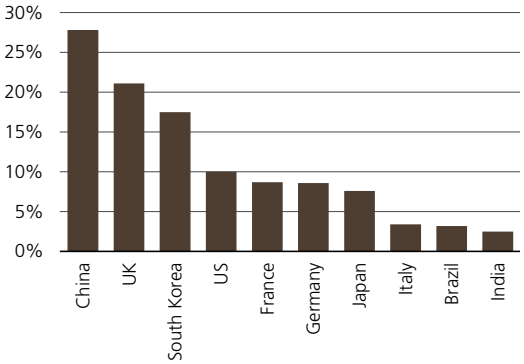
Smartphone penetration rate by country in emerging markets, in %



Source: Credit Suisse Emerging Consumer Survey 2018, UBS, as of May 2018

Fig. 3: Share of online retail sales varies by country

Expected e-commerce penetration rate by country in 2018, in %



Source: eMarketer, UBS, as of May 2018

Barriers to entry

Building up an online store does not require a great deal of investment. Costs associated with setting up a website are relatively low. But successful e-commerce companies have to spend heavily to gain consumer traction. So online companies sacrifice earnings growth in the short term to establish their business model and turn profitable long term. In our view, the highest barriers to entry result from economies of scale, brand recognition, product differentiation, technology, logistics and delivery options.

Economies of scale

Large companies benefit from lower costs per unit as fixed costs are spread over more units. So the higher the volume, the lower the costs, which should result in lower prices and greater demand. New competitors entering the market will have to underprice existing competitors or offer better quality at a good price. Due to lack of scale, they need the financial capability to accept losses in the start-up phase.

Brand recognition

Well-established online market platforms, which benefit from consumer recognition and a positive reputation, are usually consumers' first choice for comparing or buying products. New competitors have to build up strong brand recognition to attract customers, which requires capital investment. Consumers generally compare services and prices at well-established marketplaces, pressuring new contenders to offer better deals.

Product differentiation

Consumer companies need to offer a wide variety of products to attract customer interest. Online marketplaces try to establish a good relationship with manufacturers to provide this variety. Because the size of orders matters to manufacturers, considerable expenditure is needed at the outset by such marketplaces to attract enough consumers to become a relevant partner for brand manufacturers. To protect their brand equity, manufacturers may refrain from selling their products in a marketplace without a clear, well-established profile.

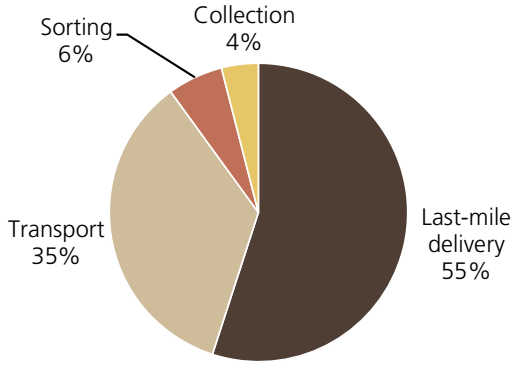
Technology

Ease of use is a main differentiator for online marketplaces. Since technology changes fast and can be copied, an interface alone is usually not a key hurdle for new challengers. But knowing clients well can set marketplaces apart. Existing e-commerce companies use big data to target users with personalized offers. Highlighting products that might interest consumers based on their online traces increases both the probability of transactions and basket sizes.

Logistics and delivery options

The last mile of delivery is critical and expensive (see Fig. 4). Global e-commerce firms are testing new technologies to deliver goods faster and more efficiently, e.g. using AI, drones and robots. The same-day delivery option is gaining in importance. New competitors need to build up a delivery network or else rely on local distributors. Pricing power vis-à-vis delivery companies is a prime issue early on.

Fig. 4: Last-mile delivery is expensive
Cost structure per parcel, in %



Source: Citigroup Research, UBS, as of November 2014

So new entrants have to subsidize deliveries to drive sales growth. The two largest global players are building their own logistics networks to gain more flexibility and control the fulfillment process.

Largest e-commerce markets

Global

Global e-commerce is currently a market of almost USD 3trn and accounts for more than 10% of total consumer retail sales worldwide. More than half of these transactions are processed through mobile phones and applications, defined as m-commerce. We expect m-commerce's share of sales to rise due to increasing smartphone penetration, the improving mobile experience and the fact that millennials primarily use this channel. Growth of retail sales in emerging markets (e.g. China) is especially fueled by m-commerce. More than two-thirds of the gross merchandise value (GMV) of China's e-commerce market leader stems from mobile transactions.

Successful e-commerce companies have to adjust to local preferences and culture in terms of the products, delivery options, payment techniques and local language websites they offer. E-commerce companies are expanding their reach in emerging markets. At the moment, the global e-commerce market is heavily dominated by two regions, namely China and US, and two companies, Alibaba and Amazon (see Fig. 5). Both companies continue to invest to extend their offering.

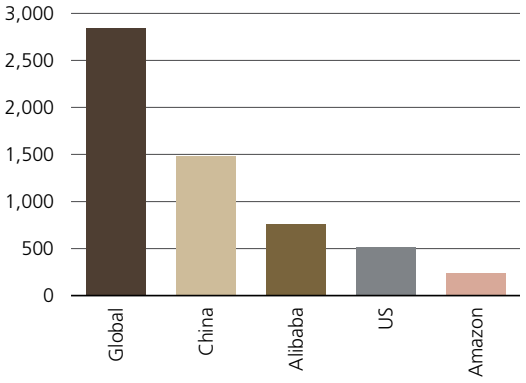
US

While well established in the US, online shopping still accounts for less than 10% of total retail sales (see Figs. 6 and 7). But in the past five years total US e-commerce has grown at a 13% compound annual growth rate, almost five times faster than total retail sales. The foundation for even broader adoption is in place. According to the Pew Research Center, almost 80% of US adults have broadband internet service at home and 77% of Americans own a smartphone, up from just 35% in 2011. In 4Q17, almost one-quarter of all digital e-commerce dollars was spent using mobile devices.

India

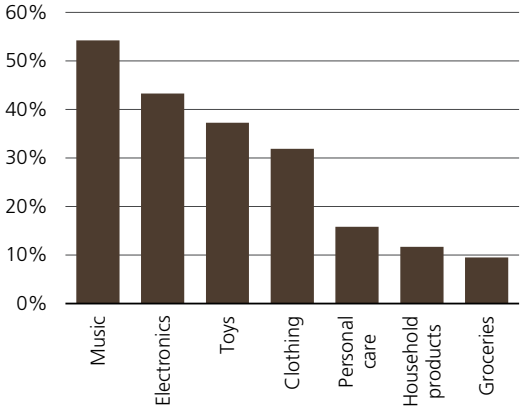
India's e-commerce potential is among the highest (see Fig. 8) worldwide. Online shopping growth in the subcontinent is being driven by greater smartphone penetration, evolving consumer behavior (e.g. buying online or on a smartphone while on the road) and rising consumer wealth. The rapid rise of online payment systems has further boosted growth. The largest digital wallet company has increased registered users nearly sixfold in two years. Although internet penetration has reached only one-third of the country, India has the second-largest number of internet users after China. Its demographics are also favorable: 65% of its population is under 35, according to the UN. So global e-commerce companies like Amazon and Alibaba are pouring funds into India's e-commerce market through direct investment in local start-ups and through subsidiaries.

Fig. 5: Global e-commerce is dominated by two companies and two regions
Gross merchandise value (sales), in USD billion



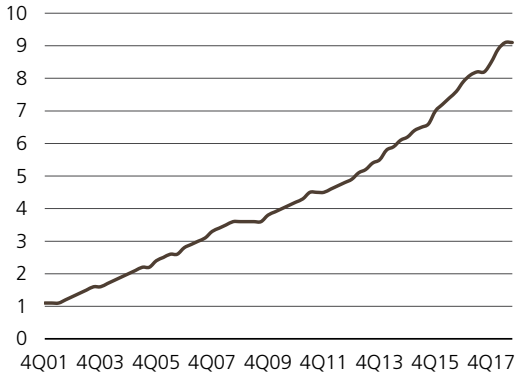
Source: eMarketer, company reports, UBS, as of May 2018

Fig. 6: US online penetration by category
US online sales in % of total retail sales



Source: UBS Evidence Lab (Survey 2017), as of May 2018

Fig. 7: E-commerce as percentage of total US retail sales



Source: US Census Bureau, as of May 2018

What is omni-channel retailing?

Given the growth of e-commerce spending, most retailers have looked to integrate their brick-and-mortar and online operations. These efforts are known as omni-channel initiatives. Essentially, a true omni-channel retailer is one unconcerned about how, where and when a consumer shops or interacts with its brand. The goal of omni-channel retailing is to make a retailer's stores an extension of the supply chain, in which purchases may be made in-store but are researched in various ways.

All purchase channels at an omni-channel retailer are designed to connect effortlessly and provide a seamless way to shop. Pricing is typically consistent across all channels, and purchases made online can easily be returned in-store, and vice-versa. In our view, a retailer or brand must invest in several areas to ensure its long-term omni-channel success. These areas include fulfillment capabilities, service, and search and consumer engagement through the use of big data.

With e-commerce becoming an important avenue of growth for traditional brick-and-mortar retailers, logistics and fulfillment emerge as determinants of whether their omni-channel initiatives succeed. Traditional retailers begin at a competitive disadvantage to online pure-plays, which can invest some of the money they save by not having physical store locations in free shipping. Unlike several years ago, however, when some investors were calling for their demise, physical store locations are now viewed as playing a key role in e-commerce fulfillment, and retailers need to leverage their existing store bases to offer convenient pickup options for the consumer.

Investment opportunities in the e-commerce market

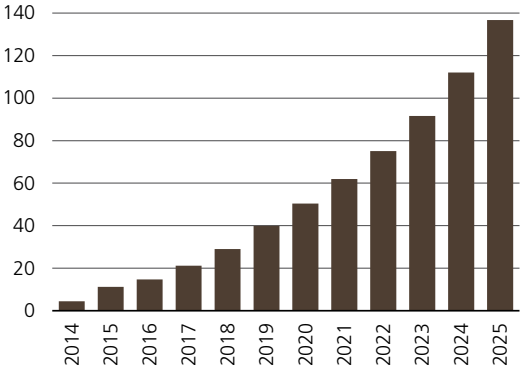
The global e-commerce market of almost USD 3trn is comprehensive, with companies offering a variety of products and services. We primarily see the following long-term investment opportunities in this theme (see Fig. 9) although sector and theme exposure can change quickly due to industry trends:

Online marketplaces

Online platforms connect buyers and sellers of products and services. The marketplace operator processes transactions, and multiple third-parties provide products and services offered on the platforms. Generally, marketplaces aggregate products from many providers, which results in a wide selection, high availability and more competitive pricing than in vendor-specific online retail stores.

Fig. 8: Indian e-commerce to reach USD 137bn in sales by 2025

Estimated gross merchandise value (sales), in USD billion



Source: UBS, as of March 2018

Online retailers
These companies sell their products to customers online and use no other channel. Online retailers set up webshops where consumers can buy their products online, offering online payment as well as other payment options and home delivery. In addition, several business models have completely moved online, e.g. video streaming. There is no longer a need to ship a DVD. Gaming has also moved online.

Multi-channel retailers
Companies use an omni-channel strategy to sell their goods through multiple channels; physical stores and online and mobile platforms. Consumers can order online, have the clothes delivered to their home and go to the nearest store to return or exchange their purchase.

Logistic operators
Logistics companies benefit from the rise in e-commerce as more and more goods are ordered online and need to be delivered to shoppers' homes. They establish efficient distribution and storage networks to ensure fast delivery at low cost. E-commerce increases the demand for warehouses and storage facilities near the big cities and within them. So real estate companies that own, operate and develop industrial real estate can benefit. Companies such as express or parcel carriers benefit from the growing number of parcels shipped. But competition is increasing.

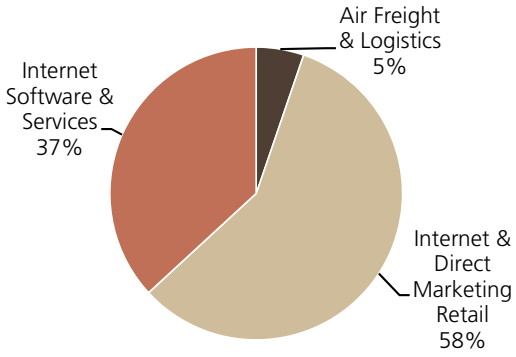
Payment facilitators
In addition to credit card operators, these companies facilitate payment for online transactions. The rising number of online and mobile transactions is of course positive for them. Payment facilitators make online payment safer and cheaper and could start to offer additional services, e.g. consumer credit.

Price comparison platforms
These companies increase price transparency by enabling the prices different providers charge for services like travel to be researched and compared to ensure shoppers receive the cheapest offer for each purchase. The price-comparison companies generate revenue through transfer or advertising fees.

Network providers
Telecom companies provide the technology and infrastructure that underpins e-commerce. In doing so they gain considerable information about their clients' spending behavior and preferences. Knowing clients is a key to targeting consumers with personalized offers. Telecoms are not the main beneficiaries of e-commerce in the short term, though. They have to invest heavily in infrastructure to increase speed connectivity and network stability.

Cyber security
The success of e-commerce growth also depends on hardware manufacturers and software companies, since clients want to execute transactions online without being the victim of cyber-crime. For further information, please refer to our Longer Term Investments theme *Security and safety*. Our latest update was published on 19 April 2018.

Fig. 9: E-commerce theme is currently dominated by retail and services sector
Industry mix in the reference list



Source: FactSet, UBS, as of May 2018

Sharing economy

The sharing economy is based on the idea of better asset utilization. The changing lifestyle of the younger generation seems to be shifting consumer preferences from the concept of ownership to that of access and rental. Many people now favor hiring what they need at the time they need it rather than owning it (see Fig. 10). In the age of smartphones and big data, consumer-to-consumer rental and lending have become easier, less time-consuming and less costly. This trend will continue and has the potential to disrupt traditional, asset-heavy business models in several industries (e.g. car manufacturing, hotels and real estate). The most popular concepts are currently property and room sharing, transportation and car sharing. But people also share offices, parking spaces, self-storage space and jewelry.

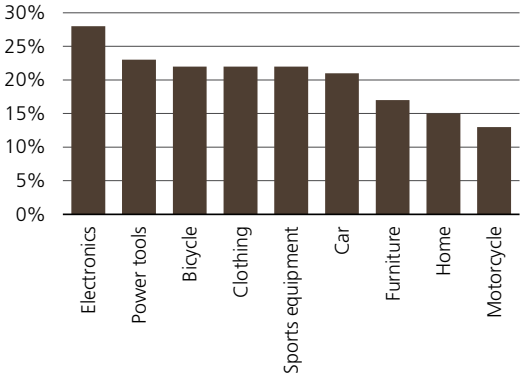
Sharing-economy platforms often leverage social networks, e.g. Facebook and LinkedIn, to recruit users who want to access their services. As trust is key in this economy, social networks could help build connections and link users while rating the trustworthiness of users.

As highlighted in our LTI report "Smart mobility" (published on October 18, 2017), the combination of electrification, autonomous driving and connectivity will play a major role in spreading shared-mobility models, with autonomous driving serving as the ultimate trigger. Greater use of car-sharing concepts and, ultimately, robo-taxis should lower costs to consumers and generate a viable business model for providers. The underlying long-term growth in car demand is 2–3% a year, but urban areas are becoming denser, which supports car-sharing concepts. Given the low estimated 4% average utilization per vehicle (i.e. around 1% per seat), privately owned cars are an inefficient asset, and each car used by a car-sharing service could in theory replace up to 25 private automobiles.

In the US, millennials (individuals born between 1980 and 1999) are an influential segment of the economy akin to the aging baby boomers. They prefer to live close to metropolitan areas that offer employment, which should benefit sharing-economy businesses that tend to flourish in metropolitan areas where the internet and mobile devices can conveniently provide services and goods on demand without the need for any ownership commitment. According to Statista, 44.8 million adults used sharing-economy services such as Airbnb and Uber in the US in 2016. This number is forecast to increase to 86.5 million by 2021.

While the sharing economy has already disrupted several industries and will continue to grow rapidly worldwide, we currently see only limited investment opportunities in listed companies exposed to it, since many of the key players are private, though they could pursue an IPO in coming years. For now investment in this segment is primarily undertaken through private equity funds or direct investments.

Fig. 10: People prefer to share many things
Percentage of people willing to share a particular product category



Source: Havas, Credit Suisse, UBS, as of March 2016

Investment risks

We recommend well-diversified exposure to minimize stock-specific risk in e-commerce. We see the following major risks to investing in the e-commerce long-term investment theme:

Regulatory and tax risk
E-commerce is currently in its infancy. Regulations and taxes still focus on traditional business models. Unfavorable regulations and taxes could alter the framework for e-commerce. For example, governments could limit cross-border trade via taxes and regulations. In the US, the Supreme Court recently heard arguments in the case of *South Dakota vs. Wayfair,* which could set a major precedent that forces all online retailers to collect sales tax. Should the court rule in favor of tax collection, the biggest losers are likely to be small online retailers without the resources and scale to determine tax codes and file requirements, which vary by state and county.

Margin risk
E-commerce enables consumers to compare prices online easily. So companies are always competing to offer the best price or the best service (e.g. shortest delivery time). While shoppers are the big beneficiaries, manufacturers and retailers suffer from price deflation from lower margins.

Currency risk
E-commerce companies increasingly operate internationally. Products are shipped to customers around the world. So e-commerce companies are exposed to greater currency risks. In particular, weak emerging market currencies can offset the strong sales growth expected in these regions.

Technology risk
The risk of cyber-criminal attacks during the purchasing process is a chief reason consumers avoid buying online. Any large cyber-attack could weigh on consumer trust and lead to declining online sales. In particular, companies that have demonstrable security deficiencies can quickly lose their customer base.

Winner-takes-all risk
Scale matters in e-commerce. Companies unable to attain it disappear because they cannot compete on price and service. There is a risk that the e-commerce market will be dominated by only a few large players.

Appendix

Terms and Abbreviations

Term / Abbreviation	Description / Definition	Term / Abbreviation	Description / Definition
1Q, 2Q, etc. or 1Q11, 2Q11, etc.	First quarter, second quarter, etc. or first quarter 2011, second quarter 2011, etc.	A	actual i.e. 2010A
COM	Common shares	E	expected i.e. 2011E
Shares o/s	Shares outstanding	UP	Underperform: The stock is expected to underperform the sector benchmark
CIO	UBS WM Chief Investment Office		

Version as per April 2018.