

INDEPENDENT RESEARCH

Brewers

Same again, Carlos

18th March 2016

Brewers

AB INBEV		NEUTRAL	FV EUR111
Bloomberg	ABI BB	Reuters	ABI.BR
Price	EUR105.05	High/Low	123.25/91.28
Market cap.	EUR168,946m	Enterprise Val	EUR237,781m
PE (2015e)	23.1x	EV/EBIT (2015e)	18.2x
CARLSBERG		SELL	FV DKK520
Bloomberg	CARLB DC	Reuters	CARCb.CO
Price	DKK612	High/Low	648.5/490.6
Market Cap.	DKK93,432m	Enterprise Val	DKK149,307m
PE (2015e)	23.1x	EV/EBIT (2015e)	19.8x
HEINEKEN		BUY	FV EUR83
Bloomberg	HEIA NA	Reuters	HEIN.AS
Price	ELID77 62	High/Low	85 23/67 17

MOLSON COOR	s	BUY	FV USD10
Bloomberg	TAP US	Reuters	TAP.N
Price	USD92.8	High/Low	95.14/65.19
Market Cap.	USD19,886m	Enterprise Val	USD17,216m
PF (2015e)	24 Nx	EV/FRIT (2015e)	42 4v

EUR44,709m Enterprise Val

EV/EBIT (2015e) 16.3x

EUR55.796m

Market Cap

PE (2015e)

SABMILLER		BUY	FV 4400p
Bloomberg	SAB LN	Reuters	SAB.L
Price	4239p	High/Low	4239/2877.5
Market Cap.	GBP68,714m	Enterprise Val	GBP66,705m
PE (2015e)	28.3x	EV/EBIT (2015e)	23.7x





Premiumisation in the beer industry is the most exiting driver of both growth and profits in the industry. Indeed, premium beers are 50% more profitable (USD/hl) than mainstream beers, and superpremium is 4x more profitable. And, on top of this, growth in the high-end beer segment is outpacing overall beer consumption growth in every region. Over the past decade, globally, premium beer has grown by 3.8% p.a. and superpremium beer by 4.8% p.a., compared to 2.5% growth in mainstream beer. But also the growth of the beer category itself in emerging markets is a reflection of premiumisation. Indeed, in Africa it takes four hours work to buy a pint of beer.

- The three main areas for premium growth are: 1) Africa and Latin America, where consumers trade up from the informal/home-brew market (currently respectively 75% and 25% of the total alcohol market); 2) high-end beer in emerging markets (in Africa and Latin America, highend beer is only 15% of volumes and in Asia it is only 10% compared to 30% in the rest of the world); and 3) high-end beer in mature markets, where there is a continuous consumer shift to differentiate and where the latest craze is craft (and likely to stay so as long as the Millennials are the biggest consumer group).
- Heineken is the brewer which has the highest exposure to high-end beer with 36% of volumes and an estimated 60% of profits in that segment. Furthermore, it has the set-up to benefit further from the expected growth in import beers in emerging markets. However, we have the impression it is less well equipped to benefit from the craft brew trend. But the brewer that has been nailing it on the head is AB InBev, which has been acquiring great distribution networks in Africa and Latin America through which it can push its premium Budweiser brand. In addition, it has been very active in assembling a craft brew portfolio in the US to correct its underperformance in that area and seems determined not to miss the craft brew boat in other regions.



Analyst:
Nikolaas Faes
33(0) 1 56 68 75 72
nfaes@bryangarnier.com

Sector Analyst Team: Loïc Morvan Antoine Parison Cedric Rossi Virginie Roumage



Table of contents

1. Executive summary	
Valuation5	
2. High-end beer is more profitable6	
3. High-end beer is growing faster	
3.1. High-end beer has the faster growth rates but more volumes are being added in mainstream	3
3.2. Moving up the ladder happens not just at the high end	
3.3. Two contrasting markets: Africa v US	
4. Where is the most rewarding growth?	
5. The brewers	
5.1. Who has the most high-end business?	
5.2. Who has the brands?	
5.3. Regional positioning?	
5.4. Who is capturing the growth?	
5.5. Who is doing what?	
Price Chart and Rating History	
Bryan Garnier stock rating system	



1. Executive summary

Over the past two years, brewers have been taking different steps which highlight the growing importance they give to the high-end beer market. AB InBev, Heineken and SABMiller have all been acquiring craft brewers, mainly in the US but also elsewhere. AB InBev and MillerCoors have been very vocal about their efforts to move their US portfolio more into the premium segment. Innovations, like the radlers that mix beer with lemonade, are priced at a premium despite its lower cost, and are growing fast. AB InBev and Heineken have been very successful in developing a premium import market in both Brazil and Mexico. Carlsberg in its SAIL'20 programme identified craft and speciality beers as an area to develop. Other recent examples of the thirst for premium beers in emerging markets is the dynamic sales environment for premium Budweiser in China, and Carlsberg has managed to develop the Tuborg brand in the Indian premium beer segment. This note identifies the key trends in the high end beer segment.

Premium beer is 50% more profitable and supperpremium beer is 4x more profitable than mainsteam

High end beer is growing stronger everywhere in the world

First, high-end beer is more profitable than mainstream beer. There are higher costs associated with producing, selling and distributing high-end beers, but their pricing more than offset this. As a result, premium beers are about 50% more profitable than mainstream beers and superpremium beers are nearly 4 times more profitable. In terms of margin the uplift for superpremium beers is around 10% and it is 5% for premium beers (but of course on higher selling prices).

Secondly, high-end beer is growing stronger than other segments and that is true across all regions. Over the past decade, globally, premium beer has grown by 3.8% p.a. and superpremium beer by 4.8% p.a. compared to 2.5% growth in mainstream beer. However, in Latin America and Africa, the discount segment has grown equally strongly. We believe this is due to fact that in these emerging markets, consumers move up the ladder from illicit/home brews to beer (in itself a premium product – it takes in Africa 4 hours work to buy a beer). Indeed, in Latin America and Africa, informal/home-brew alcohol is respectively 25% and 70% of total alcohol consumption and a switch to the branded packaged beer category is already up trading.

Thirdly, based on the analysis of profitability and growth, we define three areas where growth is most attractive:

- In Africa and Latin America, beer is an aspirational drink to which consumers can up trade if growth in their disposable income allows. The informal/home-brew market in Africa is 75% of the total alcohol consumption and in Latin America it is still 25%.
- Mainly in emerging markets, the high-end beer segment still needs developing. In Africa and Latin America, high-end beer is only 15% of volumes and in Asia it is only 10%. The two biggest opportunities for high-end beer seem to be China and Brazil.
- With most growth being registered in the high-end segment and that is true across all regions, brewers need to have strong positions across the globe in this segment (high-end domestic brands, import brands, craft).



AB InBev has been most active in improving its global distribution and sets itself up to capture further growth in high end beer in both emerging and developed markets Fourthly, when analysing which of the brewers scores best on high-end beer potential, then the initial conclusion is that they all have something that is being explored. However, some are more timid in furthering their efforts than others. The one brewer that stands out by making big steps forward is AB InBev. And, as it is the biggest, global brewer, this should be a worry for the other brewers. Not only has AB InBev increased its footprint to capture growth from informal/home-brew alcohol from Africa and Latin America (through the acquisition of SABMiller) but it will find itself with the strongest footprint in the emerging markets where high-end beer still has significant upside potential. Indeed, in Asia, high-end beer is only 10% of the volumes and in Latin America/Africa it is 15%, which compares with around 30% in Australasia, North America and Europe (also in Eastern Europe). And although the international premium Budweiser accounts only for 3% of the company's volumes, the potential to develop the brand globally is there (and the proof is there that the company has been able to do so in Brazil and Mexico). Furthermore, AB InBev has come to the conclusion that it was missing the entire craft brew development in the US and now has made a series of acquisitions in craft brew to correct its US position, but has also gone further and acquired craft brewers in Brazil, Colombia, Mexico and the UK. – it is determined not to miss the boat again.

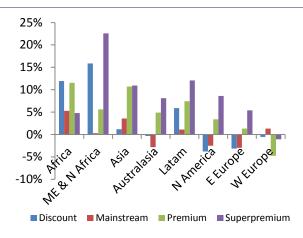
But Heineken is currently the brewer with the highest exposure to high end beer Heineken is the other brewer that is worthwhile mentioning as today it has the largest exposure to premium beer which accounts for 36% of the group's volumes and an estimated 60% of profits. Its positions in Africa, Latin America and Asia are maybe not the same as AB InBev's but they are decent enough to tap the growth (overall and high end) in these markets and it looks mainly to exploit the growth in imports. In the more mature markets, the company banks on high-end innovations like the radlers and alcohol-free beer. However, its strong global position of the Heineken brand might make the company less attentive (too complacent?) to the development of the craft beer segment. The only catch-up it has done (so far?) is the acquisition of a 50% stake in the US Lagunitas craft brewer, whose beers it plans to export to Europe.

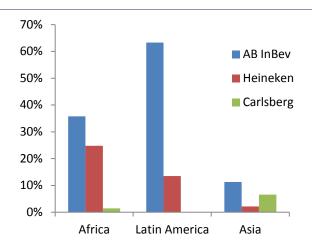
The other brewers have less exposure and/or ambition in the high-end market. MolsonCoors has only 11% of volumes in high but that is mainly in speciality beer in the US (Blue Moon, Leinenkugel, etc.) but now that it is gaining the 100% control of MillerCoors and will have perpetual rights for the USD on Peroni, Pilsner Urquell and Redd's, the company is likely to become more aggressive in the import category, which is likely to be mainly to the detriment of Heineken which uses the MillerCoors distribution network to sell its Dutch and Mexican import beers in the US. Carlsberg's main premium beer is Baltika7 in Russia. In other markets, it has Carlsberg and Tuborg, but it struggles to have a consistent positioning and message in these brands. And Royal Unibrew is actually too small to even pretend to determine in which segments it plays. However, the group's exposure is positively impacted by the significant Ceres Strong Ale premium business in Italy, which in itself is already 12% of the group's beer volumes.



Fig. 1: High end beer is growing faster in each region, CAGR 2010-2015, by volume

Fig. 2: Overall market share in emerging markets

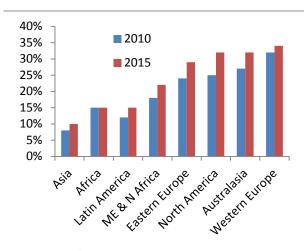


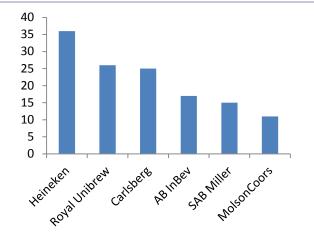


Source: Canadean, Bryan Garnier est.

Fig. 3: Penetration high-end beers by region

Fig. 4: Percentage of group volumes in high end





Source: Canadean, Bryan Garnier & Co. est.

Valuation

Fig. 5: Valuation table

	loca c'c		Market Cap (EURbn)	P/E		EV/EBI	Т	EV/EE DA i		FCF ield		Net yield	_	r EPS CAGR	PEGD
			(2011011)	2016e	2017e	2016e	2017e	2016e	2017e	2016e	2017e	2015e	2016e		
Brewers															
AB InBev	EUR	108	178.5	23.5	19.6	18.4	16.5	14.9	13.7	4.6%	6.4%	2.3%	2.2%	8%	2.28
Carlsberg	DKK	596	12.2	22.5	19.1	19.5	17.2	11.8	10.8	3.3%	6.0%	1.1%	1.1%	7%	2.84
Heineken	EUR	77	40.7	19.3	17.9	15.9	14.6	12.0	10.9	4.4%	5.3%	1.6%	1.5%	8%	2.03
SABMiller	GBp	4,236	90.3	29.6	27.0	25.5	23.2	19.6	18.0	3.1%	3.9%	2.0%	2.2%	7%	3.42
Molson Coors	USD	93	16.2	25.2	18.8	34.9	15.8	19.9	11.7	4.1%	6.2%	1.8%	1.9%	10%	2.10

Source: Bryan Garnier & Co. ests



2. High-end beer is more profitable

Profits of high-end beer tend to be higher than those of mainstream and discount beers. The table below shows the mathematics of the different price segments. Assuming mainstream beer selling at index 100, premium beer is selling at 130 and superpremium at 180. Costs of sales are roughly the same over the different categories, although the quality or the ingredients and limited availability ramp up the costs. Distribution expenses tend to be higher for the superpremium brands as point of sales loyalty has often to be 'bought' and volumes are lower. Administrative expenses tend to be the same but sales & marketing expenses do rise with the price premium. However, because the increased cost for high-end beers is more than offset by their higher price, premium beers are about 50% more profitable than mainstream beers and superpremium beers are nearly 4 times more profitable. In terms of margin, the uplift for superpremium beers is around 10% and it is 5% for premium beers.

Premium beers are about 50% more profitable than mainstream beers and superpremium beers are nearly 4 times more profitable

Fig. 6: Profitability model for high end beers

	Discount	Mainstream	Premium	Superpremium
Selling price	80	100	130	180
Cost of sales/production	-45	-50	-58	-67
Gross profit	35	50	72	113
Gross margin	44%	50%	55%	63%
Distribution	-12	-12	-15	-22
Sales and marketing	-10	-17	-25	-40
% revenue	13%	17%	19%	22%
Administrative	-7	-7	-7	-7
Operating profit	6	14	25	44
Operating margin	7.5%	14.0%	19.2%	24.4%

Source: Bryan Garnier est.

A good example of the higher profitability of premium beers is SABMiller's (mainly) Peroni business in the UK. This business makes up 3.3% of the company's European volumes, 6% of the European revenues and 9.9% of its EBITA.

Fig. 7: Profitability of SABMiller's Western European and UK business

	Western Europe	UK-Peroni	Index
Volume (m hl)	59.10	1.95	
Revenues (USD m)	4,398	264	
EBITA (USD m)	700	69	
EBITA margin	15.9%	26.3%	1.7
Revenue/hl (USD)	74.42	135.30	1.8
EBITA/hl (USD)	11.84	35.53	3.0

Source: Bryan Garnier est.



Another example of the higher profitability of premium beers is the AB InBev business in China, which includes mainly the Harbin and Sedrin brands in the mainstream business, but around 13% of AB InBev's Chinese volumes is the superpremium Budweiser brand which is the main reason for the higher profitability of AB InBev in China. In the table below, we give the 2014 financial figures for the Chinese brewers as most have not reported yet on 2015. AB InBev has reported for 2015 and the profitability of the Chinese business has improved further to a 22.6% EBITDA margin (+410bps).

Fig. 8: Revenues and profitability Chinese beer industry, 2014

_		
USD m	Revenues EBITD	A EBITDA margin
AB InBev	3,873 7	16 18%
CR Snov	4,483 56	66 13%
Tsingtao	4,227 55	24 12%
Yanjing	1,875 36	00 16%
Carlsberg	1,098	37 17%
Heineker	151	18 12%
Others	1,170 14	11 12%
Chinese	prewers total 16,877 2,45	52 15%

Source: Company Data; Bryan, Garnier & Co estimates.



3. High-end beer is growing faster

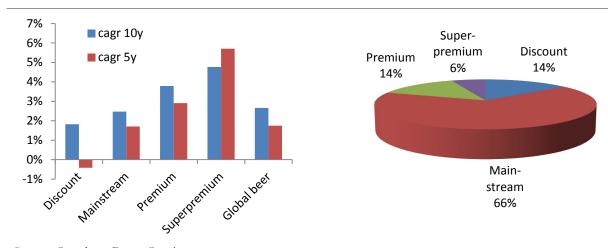
3.1. High-end beer has the faster growth rates but more volumes are being added in mainstream

Over the past decade premium beer has grown by 3.8% p.a. and superpremium by 4.8% p.a. compared to 2.5% for mainstream

Over the past decade (2004-2014), the global beer market has grown by 2.7% in volume with mainstream growing by 2.5%, premium by 3.8% and superpremium beers by 4.8%. At the end of this period, premium and superpremium beers accounted for 20% of volumes, compared to 17% ten years earlier. The share of the mainstream has hardly changed to 66% from 67% but the weight of the discount segment came down to 14% from 16% (but even then this is not that big a move).

Fig. 9: Global growth for the different price segments

Fig. 10: Share of the price segments, 2014

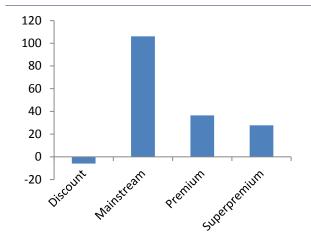


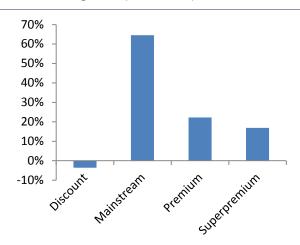
Source: Canadean, Bryan Garnier est.

Indeed, the premium and superpremium beer segment has added 64m hl or 39% of the global growth (with the discount segment losing 6m hl (or 4%) in the same period. However, despite this relatively faster growth in high-end beers, most volumes over the past 10 years have been added in the mainstream segment (106m hl or 65% of total growth) as beer became more affordable in the emerging markets. The increase in mainstream beer consumption provides an excellent base for further growth in high-end beers driven by increases in disposable income.

Fig. 11: Global growth for the different price segments in m hl (2004-2014)

Fig. 12: Share of global growth by price segment (2004-2014)





Source: Canadean, Bryan Garnier est.

3.2. Moving up the ladder happens not just at the high end

The tables below illustrate that the growth in high-end beers has been very general across all regions. There is not a single region where premium and superpremium beer has been in decline over the past five years. Growth rates vary from 1-2% in Western Europe where, five years ago, high-end beer was already 32% of the market to 11-12% in Asia, Latin America and Africa, where high-end beer is only in the nascent stages.

Even growth in the discount segment in emerging markets is a reflection of premiumisation In general, when discussing premiumisation of the market, one tends to analyse the growth in the higher-end more-expensive products in the category. However, the reality is broader than this. Mainly in the emerging markets of Africa and Latin America, affordability of beer is an issue (far less so in Asia) and, as a result, growth in real disposable income does bring new consumers into the beer category. And, as such, the growth in the discount segment in these regions is also an expression of consumers moving up the ladder and moving from one category of consumption (e.g. home brews) to another (e.g. branded beer)

Fig. 13: Regional growth in the different price segments (2009-2014)

	Africa ME	& N Africa	Asia	Australasia Lati	in America Nortl	n America	Eastern Europe	Western Europe
Share high-end								
Share 2009	15%	18%	8%	27%	12%	25%	24%	32%
share 2014	15%	22%	10%	32%	15%	32%	29%	34%
CAGR 5 y								
Discount	12%	16%	1%	0%	6%	-4%	-3%	-1%
Mainstream	5%	0%	4%	-3%	1%	-2%	-3%	-1%
Premium	12%	6%	11%	<mark>5%</mark>	7%	<mark>3%</mark>	1%	1%
Superpremium	5%	23%	11%	8%	12%	9%	5%	2%

Source: Canadean, CSS estimates



The relative growth figures tell one side of the story, the other side is the growth in absolute million hectolitres, and here growth in emerging markets remains firmly in mainstream. Over the past five years, mainstream beer grew by 13m hl in Latin America, 21m hl in Africa, and 97m hl in Asia. However, in Asia and Latin America, growth of the premium segment has also been significant in total volumes with growth of 22m hl in Asia and 13m hl in Latin America.

Fig. 14: Regional growth in the different price segments (2009-2014, in m hl)

	Africa	Asia	Australasia Eas	t Europe	Latin America	ME & N Africa	North America	West Europe
Discount	4	4	0	-11	8	0	-11	-1
Mainstream	21	97	-2	-16	13	0	-16	-8
Premium	6	22	1	4	13	0	6	1
Superpremium	1	8	1	3	2	0	14	3

Source: Canadean, CSS estimates

3.3. Two contrasting markets: Africa v US

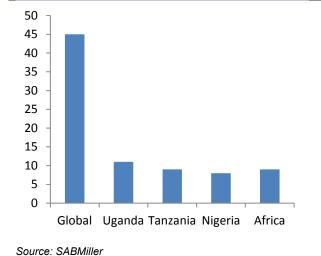
African consumers are trading up from informal/homebrew to packaged branded beer

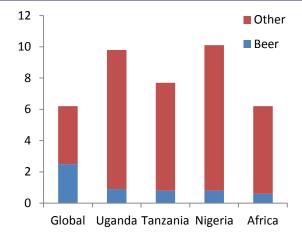
How growth in the discount segment is an expression of premiumisation can be illustrated by growth in beer consumption on the African continent. In Africa, beer is highly aspirational but relatively expensive as it takes around 4 hours to work for a pint of beer compared to 7-8 minutes in the US and Europe. As a result, there is a significant level of informal/illicit alcohol consumption. However, as consumers increase their disposable income, they are able to move up from the cheaper informal/illicit alcohol to beer.

The graphs below illustrate that although beer consumption in Africa is only 9 litres per capita (0.6l in pure alcohol terms) compared to 45 litres as a global average, the overall alcohol consumption of 6.2 litres in pure alcohol terms is the same as the global average.

Fig. 15: Clear beer consumption, litres/capita 2014

Fig. 16: Pure alcohol consumption, litres per capita 2014





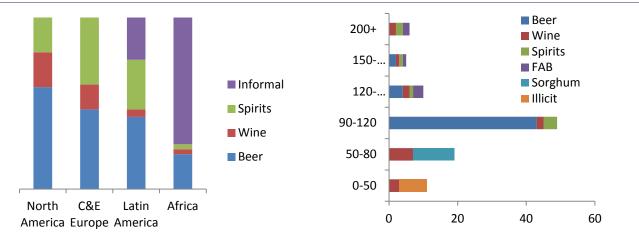
Source: SABMiller



The difference is a significantly higher level of informal alcohol production (over 70%) in Africa. However, as consumers' disposable income increases, that part of the informal alcohol consumption decreases. This has been the case in South Africa, where illicit and home brew consumption account for only 20% (about 11m hl) and packaged beer consumption is already 50% of alcohol consumption (about 25m hl).

Fig. 17: Size of the alcohol market estimates %

Fig. 18: Pure alcohol consumption south Africa, market share 2013, by price index

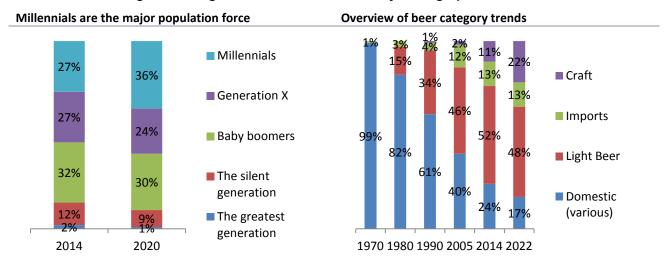


Source: SABMiller Source: SABMiller

The growth in craft in the US is not finished

By contrast to the African situation, premiumisation in the US fully plays in the high-end segments. Imports and craft brews have gained from a 5% share in 1990 to 24% in 2014 and are, according to the Brewers Association, expected to represent 35% in 2022, with the strongest growth coming from the craft segment. These forecasts are mostly based on the continued growth of the Millennials generation (looking for authenticity) and that, currently in markets like San Francisco, Portland, Seattle and Boston, craft brews are already above the 20% share mark.

Fig. 19: The growth of craft beer driven by demographic trends



Source: Forbes Magazine, August 2014 Source: Brewers Association

4. Where is the most rewarding growth?

There are three areas emerging where the opportunities for rewarding growth are highest:

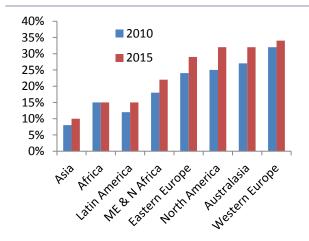
Tapping switch from informal to branded beer in Africa and Latam

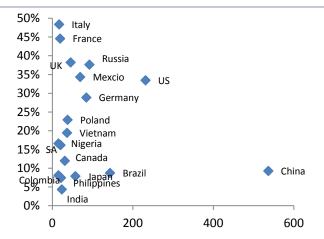
Growth in high end beer in emerging markets

- 1) In Africa and Latin America, beer is an aspirational drink to which consumers can up trade if growth in their disposable income allows. The informal/home-brew market in Africa is 75% of the total alcohol consumption and in Latin America it is still 25%.
- 2) Mostly in emerging markets, the high-end beer segment still needs developing. In Africa and Latin America, high-end beer is only 15% of volumes and in Asia it is only 10%. The two biggest opportunities for high-end beer seem to be China and Brazil. Assuming that in both countries premium penetration grows to 20% of the market (both from 9% currently), then the premium opportunity for China is 57m hl and for Brazil it is 16m hl. These two countries alone would represent already at least a USD2bn profit opportunity.

Fig. 20: High end beer penetration

Fig. 21: Size of selected markets (m hl) and high end beer penetration





Source: Canadean, Bryan Garnier est.

Changing consumer preferences in developed markets demand a welldiversified proposition including craft 3) With most growth being registered in the high-end segment, and that is true across all regions, brewers need to have strong positions across the globe in this segment (high-end domestic brands, import brands, craft). And brewers need to be attentive to changes in the structure of the high-end market. Indeed, over the past two decades, craft beer has emerged as the driving force in high-end beer in the US and has been a segment that until lately has been missed by the larger brewers. The rise of the craft beer industry in the US is well documented and statistics show that it has gained an 11% share of the market (2015) and is on its way to capture 22% in 2020. However, also in other regions, the craft beer industry is developing and the brewers are not planning to miss this development again. In Western Europe, brewers have been actively looking for acquisitions/alliances in this space (AB InBev bought Hackney Brewery in London, SABMiller Meantime, Carlsberg has been hooking up with Brooklyn Brewery to develop craft beer in Sweden (New Carnegie Brewery) and Norway (EC Dahls), Royal Unibrew has launched its own craft brews Schiøtz and Lottrup in Denmark and Vilkmerges in Lithuania (Heineken has been abstaining from craft brew acquisitions in Europe but still acquired a 50% stake in the US-based Lagunitas Brewery)). But also in emerging markets, craft brews are gaining attention. AB InBev has acquired craft brewers Wäls and Colorado, it bought Colombia's largest craft brewer, the Bogotá Beer Company, and in Mexico it purchased Cervecería Tijuana and Cervecería Mexicana. Even in China, craft brewers are emerging. Examples of restaurant breweries are the Shanghai Brewery (Shanghai) or the Boxing Cat (Beijing).



5. The brewers

5.1. Who has the most high-end business?

Heineken has the most high end business

Comparing the different brewers, Heineken is the company that has the most high-end business at 37% of volumes and over 60% of operating profits (Bryan Garnier estimates). The one that scores the weakest is Molson Coors, which even after integrating MillerCoors will only have 11% of its volumes and 28% of operating profits in high-end beers.

Fig. 22: % of group volume in high end

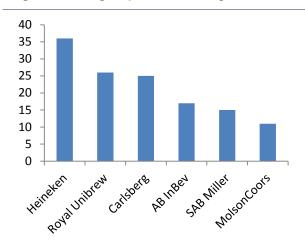


Fig. 23: % of operating profits in high end

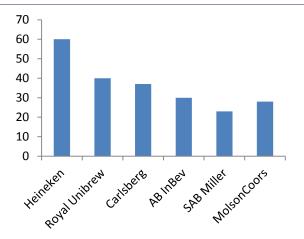
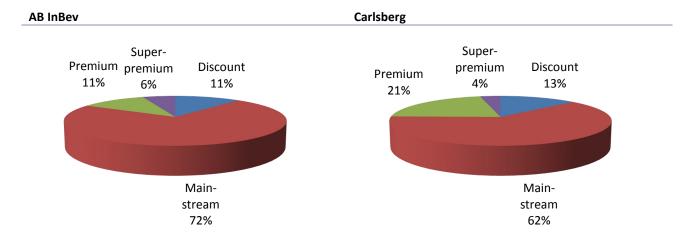




Fig. 24: Selected brewers breakdown by price segments (volumes, 2015)

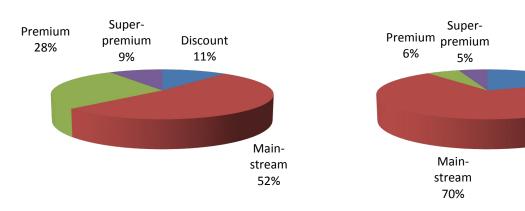


Heineken

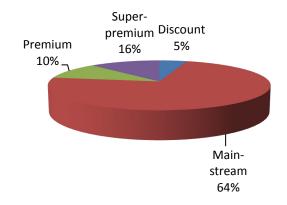
Molson Coors - including 100% MillerCoors

Discount

19%



Royal Unibrew SABMiller





Source: Canadean, Bryan Garnier est.



5.2. Who has the brands?

Heineken and Budweiser are the key international premium brands The two companies with the most attractive brand profile in the high-end are Heineken (the brand alone is already 13% in premium or above) and AB InBev, which has Budweiser. High-end Budweiser beer is only 3% of the group's volumes but, because of the company's penetration in mainstream in Latin America, Asia (and soon Africa – after the SABMiller acquisition), it has the largest platform of all brewers to grow its premium and above segment.

Fig. 25: Main beer brands of the brand owners in each segment

	Carlsberg	Heineken	SABMiller	Molson Coors	Royal Unibrew*	AB InBev
Discount	Segment 13%	Segment 11%	Segment 10%	Segment 19%	Segment 6%	Segment 10%
	Harnas (2%)	Kaiser (Brazil) (5%)	High Life (3%)	Keystone (5%)	Tauras (3%)	Busch (3%)
	Bolshaya	Tatra (1%)	Milwaukee's Best (2%)	High Life (3%)	Livu (1%)	Natural (1%)
	Kruzhka (2%)	Tri Madvadva (40/)	Facile (40/)	Milwayless's Doot (E0/)		linglengguen (40/)
	Arsenalnoye (1%)	Tri Medvedya (1%)	Eagle (1%)	Milwaukee's Best (5%)		Jinglongquan (1%)
Mainstream	Segment 62%	Segment 52%	Segment 75%	Segment 70%	Segment 64%	Segment 72%
	Shancheng (9%)	Heineken (4%)	Miller Lite (9%)	Coors (29%)	Karjala (13%)	Bud Light (11%)
	Carlsberg (5%)	Amstel (3%)	Carling Black Label (7%)	Miller Lite (18%)	Lapin Kulta (6%)	Skol (InBev) (10%)
	Tuborg (4%)	Foster's (3%)	Castle (6%)	Carling (7%)	Royal (6%)	Brahma (7%)
	Tianmuhu (3%)	Tecate (3%)	Aguila (Colombia) (5%)	Steel Reserve (2%)	Kalnapilio (5%)	Harbin (7%)
	Xinjiang (3%)	Primus (Africa) (3%)	Poker (5%)	Canadian (2%)	Tauras (5%)	Budweiser (6%)
	Baltika (3%)	Cruzcampo (3%)	Hansa (South Africa) (4%)	MGD (2%)	Lacplesis (3%)	Antarctica (4%)
	Chongqing (3%)	Sol (2%)	Cristal (Peru) (3%)	Icehouse (2%)	Odense (3%)	Corona (4%)
	Kronenbourg	Star (Africa) (2%)	Pilsener (Ecuador) (3%)	Jelen (2%)	Livu (2%)	Xuejin (4%)
	(2%)					
Premium	Segment 21%	Segment 28%	Segment 10%	Segment 5%	Segment 14%	Segment 12%
	Baltika (6%)	Heineken (7%)	Lech (1%)	Staropramen (1%)	Royal (4%)	Modelo (2%)
	Tuborg (4%)	Tecate (6%)	Kozel (1%)	Leinenkugel (1%)	Heineken (3%)	Bohemia (Brazil) (2%)
	Carlsberg (2%)	Tiger (2%)	Castle (1%)	Redd`s (1%)	Foster's (2%)	Budweiser (1%)
	1664 (2%)	Amstel (2%)	Redd's (1%)	Foster's (0%)	Lapin Kulta (1%)	Bud Light (1%)
Superpremium	Segment 3%	Segment 9%	Segment 5%	Segment 5%	Segment 16%	Segment 6%
o apo.p.oa	Carlsberg (1%)	Heineken (6%)	Cusqueña (1%)	Blue Moon (3%)	Ceres (10%)	Budweiser (2%)
	Grimbergen (1%)	Desperados (1%)	Pilsner Urquell (1%)	Staropramen (0%)	Faxe (5%)	Beck's (1%)
	Holsten (1%)	Ciuc (0%)	Peroni (1%)	Coors (0%)	Heineken (1%)	Stella Artois (1%)
	Tuborg (0%)	Newcastle (0%)	Miller Genuine Draft (1%)	Cobra (0%)	Sol (0%)	Corona (1%)
	1664 (0%)	Amstel 0%)	Ursus (0%)	Peroni (0%)	23. (0,0)	Leffe (0%)
	Eve (0%)	Sol (0%)	Gambrinus (Czech) (0%)	Branik (0%)		Hoegaarden (0%)
	2.3 (070)	33. (070)	22225 (22.25.1) (670)	2.2 (070)		

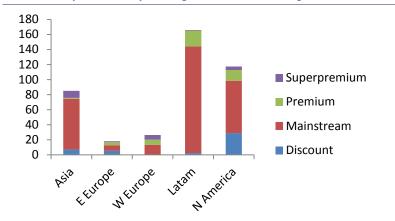
Source: Canadean



5.3. Regional positioning?

Fig. 26: Regional positioning by company

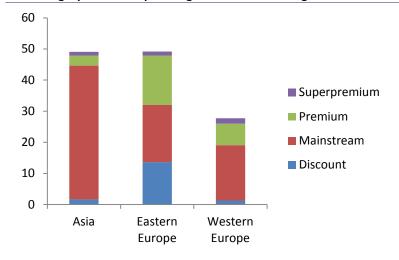
AB InBev - presence in price segments across the regions



Key findings

- Great mainstream presence in Asia and Latin America, allowing for tapping into the premium growth potential in these areas.
- North American business is under geared to the high-end segments representing only 16% of volumes compared to 32% for the overall market), leading to a scramble for craft brew acquisitions.
- 3. Under represented in the low growth European region.

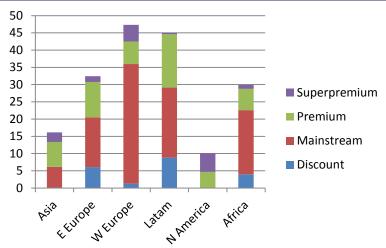
Carlsberg - presence in price segments across the regions



Key findings

- High end is an important part of the company's Eastern European portfolio and in particular in Russia. However, that is a function of the market (38% of market is premium in Russia), rather than the company's strength.
- Western China's assets are mainly a mainstream business and are only gradually being used to improve distribution of its highend brands in China.
- 3. Low growth Europe is 60% of the group volumes

Heineken – presence in price segments across the regions

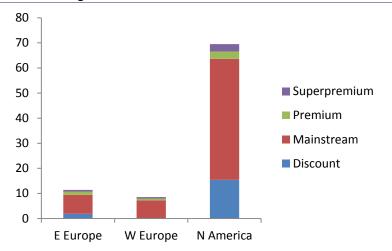


Key findings

- Overall the high end is 37% of the company's volumes, of which about 40% is in the Americas, 40% in Europe and 20% in Asia.
- Asian and North American business are nearly exclusively high end.
- Over indexing Africa, as Africa is 16% of Heineken's volumes, although the continent has only 6% of global beer consumption. This offers a great position to tap into the potential of entry in the beer category and over time up trading.

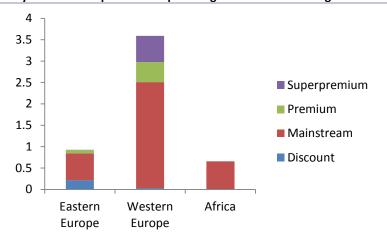


Molson Coors – including 100% MillerCoors– presence in price segments Key findings across the regions



- Poor presence in high end beers especially in North America where that segment is only 8% of total volumes.
- Although not on the graph (because it is so tiny in the overall scheme) is that 29% of LatAm volumes are in the high end.
- 3. With overall being in Europe, the group's exposure to the high-end segment is 16%, which is half of the market composition.

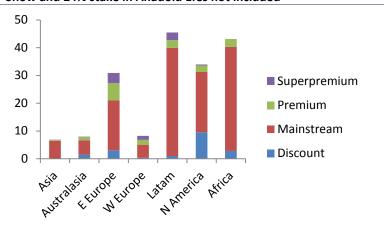
Royal Unibrew - presence in price segments across the regions



Key findings

- Second highest high-end business in terms of volumes (26%). In Western Europe, exposure to highend beers is even 30% of volumes.
- 2. Little high-end business in the Baltics as the economies of Latvia and Lithuania continue to be under pressure.
- 3. African business is exporting malt beverages to Africa.

SABMiller – presence in price segments across the regions * 49% stake in CR Key findings Snow and 24% stake in Anadolu Efes not included



- Significant overweight presence in emerging markets where there are different growth drivers in connection to moving up the ladder.
- Presence in high-end markets limited to domestic brands – no truly international lager
- 3. Under represented in the low growth European region.

Source: Canadean, Bryan Garnier & Co. estimates



AB InBev has the best distribution network to capture growth in emerging markets

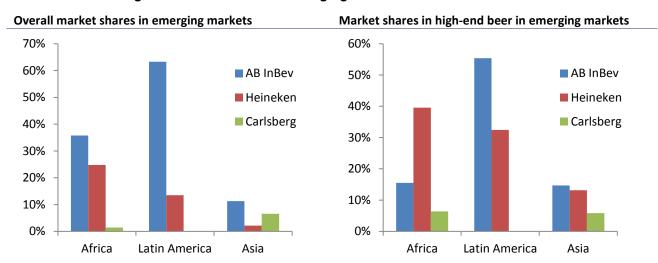
Both Heineken and AB InBev can tap high end growth in emerging markets

5.4. Who is capturing the growth?

Earlier it was established that being able to benefit from up trading from informal alcoholic drinks to packaged branded beer is at its highest in Africa and Latin America. The one company that stands out in this respect is AB InBev which after the acquisition of SABMiller will occupy a 36% market share in Africa and 63% in Latin America. Heineken comes a distant second with a 25% share of the African market and 13% of Latin America. Carlsberg does not register at this opportunity.

The second opportunity is market share in high-end beers in the emerging markets of Africa, Latin America and Asia. In Latin America, AB InBev has the highest share (55%), with Heineken again in second place (32%). However, in Africa, Heineken has a leading 40% share compared to 16% for AB InBev (post the SABMiller acquisition). The relatively weak position of AB InBev is due to SABMiller not having had a clear international premium brand, whereas AB InBev will be able to bring Budweiser to the African distribution network and could represent a 5-6m hl opportunity. In Asia, all three brewers still have a limited share in the high-end market, maybe offering Carlsberg some potential focus.

Fig. 27: Market shares in emerging markets

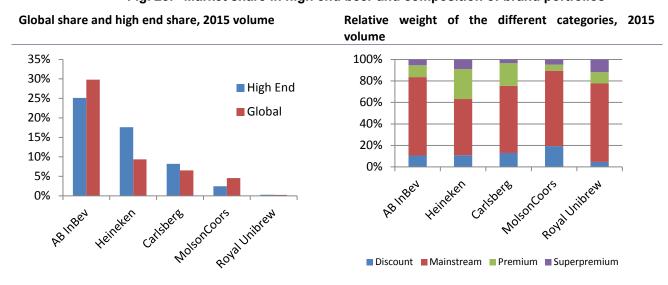


Source: Canadean, Bryan Garnier & Co. estimates

The third level of opportunity that has been highlighted is the relative share of high end in the portfolio of the brewer and its share in the overall high-end beer market.



Fig. 28: Market share in high end beer and composition of brand portfolios



Source: Canadean, Bryan Garnier & Co. estimates

Heineken has the highest exposure to high end beer (estimated at 60% of operating profits)

The company with the highest share of high-end beers in volume (36%), revenue (40%) and profits (60%) is Heineken. One of the main drivers is the Heineken brand that itself is already 14% of volumes (both mainstream and premium) and over 30% of operating profits. The second highest contributor of high end comes from Carlsberg. For Carlsberg, we estimate that 25% of volumes are in the high end, but also 25% of the revenues (given that selling prices/hl are half in Eastern Europe and Asia) and 37% of operating profits.

For AB InBev, Canadean calculates that high-end beers are 17% of volumes, and we estimate 24% of revenues. However, because of the already high profitability of AB InBev, we reckon that the margin uplift is slightly lower than for other brewers (25% uplift) and we estimate that about 30% of the company's profits are from high-end beers. Also MolsonCoors has a similar share of operating profits from high-end beers (28% in our estimates), although it has only 11% of volumes from that segment.

Fig. 29: High-end share in volumes, revenues and operating profit

	AB InBev	Carlsberg	Heineken	MolsonCoors	Royal Unibrew	SAB Miller
Volume	17	25	36	11	26	15
Revenues	24	25	43	18	32	18
Operating profit	30	37	60	28	40	23

Source: Bryan Garnier & Co. estimates



5.5. Who is doing what?

AB InBev is top of the class

Acquiring distribution in emerging markets

The brewer which has been most active in positioning itself to capture the trend for up trading is AB InBev. With the proposed acquisition of SABMiller, the company will be increasing its presence further in Latin America and entering Africa, which are the two regions where up trading from informal/home brew to packaged branded beer is possible. And on top of this, it is creating a platform for further up trading to high-end beers as in both regions high-end beer only represents 15% of volumes. Furthermore, the company is strengthening itself in Asia where high-end beer is only 10% of volumes. With the distribution capabilities that come from large market shares, AB InBev has a portfolio of international brands spearheaded by Budweiser to tap the growth in the high-end categories in those markets. As an example, Budweiser was introduced in Brazil in 2011 and already accounted in that year for more than 5m hl of beer sales which grew to 15m hl in 2015. Stella Artois, which was already in the Brazilian market since 2009, went from 1m hl in 2010 to 4.5m hl in 2015. The main drivers the company believes it can tap into is the growth in the high-end segment in Brazil from currently 9%, in Mexico from currently less than 3%, in China from 7% and the nascent high-end segment in Africa. According to the company, high-end beers in Brazil account for already 9% of the market, but have still significant upside potential.

Acquiring craft brewers

Next to acquiring in the emerging markets, AB Inbev has also been very active in catching up on the craft brew trend in the US, acquiring seven US craft brewers since 2011 and it continues to look for acquisitions in this space.:

- Goose Island Chicago, March 2011
- Blue Point Brewing- Long Island, NY, February, 2014
- 10 Barrel Brewing- Bend, Or., November, 2014
- Elysian Brewing- Seattle, Wa., January, 2015
- Golden Road Brewing- Los Angeles, Ca., April, 2015
- Four Peaks Brewing- Phoenix, Ar., December, 2015
- Breckenridge Brewing- Littleton, Co., December, 2015

The company also owns a nearly 32% stake in publicly-traded Craft Brew Alliance (BREW), the parent company of Widmer Brothers Brewing, Redhook Ale Brewery and Kona Brewing Company. Furthermore, AB InBev has acquired craft brewers in Mexico, Colombia and Brazil as it believes that this continues to be a growing and profitable segment of the market. In the UK, AB InBev has been acquiring Camden Town Brewery. All these acquisitions are setting up the company to benefit from the continued growth in craft brews around the world.

Of course, all these additional brands and distribution networks are adding to the complexity, which in itself is not good for profits, but AB InBev believes that the higher price these products command is more than enough to be positive for increasing margins. And, increasingly, it is clear that AB InBev, having missed to a large extent the craft brewer trend in the US, is doing everything it can to catch up and not make the same mistake in other parts of the world. We do believe that the company will be able to increase its share in the US craft segment from currently 20% to 40% (it has a 45% share of the overall US beer market), which in itself is bad news for the other craft brewers (because somebody has to lose share).



In the international markets Carlsberg and Tuborg brands have a dual positioning – not good

Carlsberg needs to sort out its brand ladder

Contrary to the other brewers, Carlsberg does struggle with dual positioning of its brands in export markets: in some it has mainstream, in others premium positioning. Its flagship Carlsberg brand is mainstream in Denmark, the UK (which is the biggest volume market for Carlsberg), Malaysia, Hong Kong, Greenland, Malawi, but it is premium in other countries. Similarly, Tuborg is mainstream in Denmark, Norway, Turkey, but premium in Eastern Europe and Asia. These different positions are not ideal, but the company believes that changing them would be a difficult, costly and lengthy process. In the past, there have been attempts to move Carlsberg up the pricing ladder in for example Denmark, but the company always had to come back from that idea.

However, it is much easier to get brands onto the right price point when they have not been present in the market before. The company does this with brands like Grimbergen, Jacobsen or Kronenbourg Blanc, 1664, but penetrating the superpremium market with 'unknown' brands is difficult, especially as the company finds itself competing with many other aspirational brands.

Talk the talk but can they walk the walk?

Carlsberg sees significant opportunities in Western Europe for specialities/craft beers, but some of that growth will cannibalise import or domestic premium, but it is at a higher price point. Carlsberg plays in that segment with Grimbergen, Jacobson, 1664, Kronenbourg Blanc, Brewmaster collection, the craft JVs with Brooklyn in Sweden and Norway. Other opportunities it has are in France (Grimbergen) and the UK (no premium beer in its portfolio as Carlsberg is mainstream), where the company has a significant presence in mainstream but underscores in premium. In India, the company is only in premium and in Russia it is over-indexing on domestic premium (Baltika 7), but in international premium it has a lower share, which is another opportunity. In Russia, Carlsberg has been pushing with Tuborg but finds there is more competition, and more products in superpremium

Heineken has an envious position but is it being complacent?

Best in class, but need to step up efforts in craft Heineken has the best position in high-end beer with 36% of volumes and, according to our estimates, 60% of profits, from the high-end beer segment. The Heineken brand itself is already 14% of volumes (both mainstream and premium) and over 30% of operating profits and is the only true global premium brand. The company has been very good in moving the Heineken brand into premium in all export markets and, in some cases, like the UK - had to temporarily withdraw from the market before relaunching. But all that is behind and the company is succeeding in having a consistent positioning everywhere in the world. The same goes for its other global premium brands Strongbow cider, Desperados, Sol and Affligem. Next to these, the company has been developing regional premium brands like Tiger and Dos Equis. So all these brands are very much in the same import category and, outside these, the company has been less active in acquiring/developing craft brands as it finds itself, with the Dutch and Mexican US import brands, in a strong position to take advantage of further growth in high-end brands. The only acquisition it has done was in late 2015, by acquiring a 50% stake in Lagunitas in the US. We believe the company should do more in the craft segment as growth in the US import category is levelling off and all growth in the high end is expected to come from craft. Furthermore, this could well be a trend that can be replicated in other markets.

The company sees the biggest opportunities in the emerging markets of Brazil and Mexico where the import category is likely to continue to grow. In the long term, it expects further strong development in high-end beer in Africa and China (where it is only in the high-end segment). In the mature



Western European market, it is looking to tap further growth in high-end beer with a focus on innovations like radlers and alcohol free beer. For the moment, the company is noticing only a small interest from European consumers for craft, but it is planning to export Lagunitas to Europe.

MolsonCoors scores low in the high end

Historic portfolio is difficult to change

At MolsonCoors, the high-end beers represent only 11% of volumes and the discount segment accounts for 28%. However, its high end is more in the craft/specialities area with brands like Blue Moon, Leinenkugel, Redd's, Henry's hard soda. However, the company was not really active in the import segment as the brands were mainly owned by SABMiller. However, with the company now buying out the 58% in MillerCoors it did not own, the company is also acquiring the perpetual rights on Peronni, Pilsner Urquell, and Foster's, which means that their profit contribution will increase (no more licence fees) and/or more money becomes available to motivate distributors to increase its import brands faster. The company also bought the Saint Archer craft brewer and is planning to expand its reach to the rest of California and Arizona.

SABMiller's attraction was the exposure to up trading in Africa and Latin America

The company has a relatively low share of high-end beers because it has big, dominant positions in some countries where high-end beers have hardly been developed. This is, for example, the case in Colombia and Peru where high-end beer is only 5% of the market – but because of its size is already very profitable. These types of countries bring down the group average. The company reckons that in Europe about 17% of the market is in high end, in AsiaPacific it is 30%.

Its biggest opportunity is in Africa, where it can benefit from consumers moving up from the local informal/home-brew alcohol to sorghum-based beers (which is the most affordable entry level of packaged beer). Therefore, because informal/home-brew alcohol is 80% of the alcohol consumption, there is a significant potential for uplift and the growth in packaged beer is likely to be a multiple of GDP growth.

The company has seen opportunities in craft beer in its mature markets and acquired the Meantime craft brewer in the UK. It is expected to test the product outside the M25.

Royal Unibrew avoids the discount segment

The discount segment at Royal Unibrew accounts for only 5% of its beer volumes, which is the result of a deliberate policy by the company to develop in the high end. Its biggest high-end market is Italy, where the company sells its Ceres Strong Ale, and the company is also distributing the Heineken and Foster's brand in Denmark and Finland. H high-end beers represent 30% of volumes in its Western European business. However, in Latvia and Lithuania, it is mainly in the mainstream segment. Royal Unibrew has launched its own craft brews: Schiøtz and Lottrup in Denmark and Vilkmerges in Lithuania.





Price Chart and Rating History AB InBev



Ratings		
Date	Ratings	Price
05/05/15	NEUTRAL	EUR108.8

Target Price	
Date	Target price
08/01/16	EUR111
25/11/15	EUR122
12/11/15	EUR110
24/09/15	EUR96
05/05/15	EUR109





Carlsberg



Ratings				
Date	Ratings	Price		
11/01/16	SELL	DKK588		
05/05/15	NEUTRAL	DKK619		

Target Price	
Date	Target price
26/02/16	DKK520
11/01/16	DKK485
24/09/15	DKK519
19/08/15	DKK629
05/05/15	DKK634







Ratings		
Date	Ratings	Price
10/02/16	BUY	EUR75.18
03/11/15	NEUTRAL	EUR82.15
05/05/15	BUY	EUR69.85

Target Price	
Date	Target price
10/02/16	EUR83
05/01/16	EUR80
28/10/15	EUR85
24/09/15	EUR75
05/05/15	EUR78

Molson Coors



Ratings		
Date	Ratings	Price
17/11/15	BUY	USD93.88

Target Price	
Date	Target price
17/11/15	USD101



SABMiller



Ratings				
Date	Ratings	Price		
17/09/15	BUY	3614p		
05/05/15	NEUTRAL	3464p		

Target Price	
Date	Target price
06/01/16	4400p
01/10/15	4215p
24/09/15	5000p
17/09/15	4700p
18/05/15	3940p
05/05/15	3776p



Bryan Garnier stock rating system

For the purposes of this Report, the Bryan Garnier stock rating system is defined as follows:

Stock rating

BUY

Positive opinion for a stock where we expect a favourable performance in absolute terms over a period of 6 months from the publication of a recommendation. This opinion is based not only on the FV (the potential upside based on valuation), but also takes into account a number of elements that could include a SWOT analysis, momentum, technical aspects or the sector backdrop. Every subsequent published update on the stock will feature an introduction outlining the key reasons behind the opinion.

NEUTRAL

Opinion recommending not to trade in a stock short-term, neither as a BUYER or a SELLER, due to a specific set of factors. This view is intended to be temporary. It may reflect different situations, but in particular those where a fair value shows no significant potential or where an upcoming binary event constitutes a high-risk that is difficult to quantify. Every subsequent published update on the stock will feature an introduction outlining the key reasons behind the opinion.

SELL

Negative opinion for a stock where we expect an unfavourable performance in absolute terms over a period of 6 months from the publication of a recommendation. This opinion is based not only on the FV (the potential downside based on valuation), but also takes into account a number of elements that could include a SWOT analysis, momentum, technical aspects or the sector backdrop. Every subsequent published update on the stock will feature an introduction outlining the key reasons behind the opinion.

Distribution of stock ratings

BUY ratings 64.4%

NEUTRAL ratings 28.1%

SELL ratings 7.4%

Research Disclosure Legend

1	Bryan Garnier shareholding in Issuer	Bryan Garnier & Co Limited or another company in its group (together, the "Bryan Garnier Group") has a shareholding that, individually or combined, exceeds 5% of the paid up and issued share capital of a company that is the subject of this Report (the "Issuer").	No
2	Issuer shareholding in Bryan Garnier	The Issuer has a shareholding that exceeds 5% of the paid up and issued share capital of one or more members of the Bryan Garnier Group.	No
3	Financial interest	A member of the Bryan Garnier Group holds one or more financial interests in relation to the Issuer which are significant in relation to this report	No
4	Market maker or liquidity provider	A member of the Bryan Garnier Group is a market maker or liquidity provider in the securities of the Issuer or in any related derivatives.	No
5	Lead/co-lead manager	In the past twelve months, a member of the Bryan Garnier Group has been lead manager or co-lead manager of one or more publicly disclosed offers of securities of the Issuer or in any related derivatives.	No
6	Investment banking agreement	A member of the Bryan Garnier Group is or has in the past twelve months been party to an agreement with the Issuer relating to the provision of investment banking services, or has in that period received payment or been promised payment in respect of such services.	No
7	Research agreement	A member of the Bryan Garnier Group is party to an agreement with the Issuer relating to the production of this Report.	No
8	Analyst receipt or purchase of shares in Issuer	The investment analyst or another person involved in the preparation of this Report has received or purchased shares of the Issuer prior to a public offering of those shares.	No
9	Remuneration of analyst	The remuneration of the investment analyst or other persons involved in the preparation of this Report is tied to investment banking transactions performed by the Bryan Garnier Group.	No
10	Corporate finance client	In the past twelve months a member of the Bryan Garnier Group has been remunerated for providing corporate finance services to the issuer or may expect to receive or intend to seek remuneration for corporate finance services from the Issuer in the next six months.	No
11	Analyst has short position	The investment analyst or another person involved in the preparation of this Report has a short position in the securities or derivatives of the Issuer.	No
12	Analyst has long position	The investment analyst or another person involved in the preparation of this Report has a long position in the securities or derivatives of the Issuer.	No
13	Bryan Garnier executive is an officer	A partner, director, officer, employee or agent of the Bryan Garnier Group, or a member of such person's household, is a partner, director, officer or an employee of, or adviser to, the Issuer or one of its parents or subsidiaries. The name of such person or persons is disclosed above.	No
14	Analyst disclosure	The analyst hereby certifies that neither the views expressed in the research, nor the timing of the publication of the research has been influenced by any knowledge of clients positions and that the views expressed in the report accurately reflect his/her personal views about the investment and issuer to which the report relates and that no part of his/her remuneration was, is or will be, directly or indirectly, related to the specific recommendations or views expressed in the report.	Yes
15	Other disclosures	Other specific disclosures: Report sent to Issuer to verify factual accuracy (with the recommendation/rating, price target/spread and summary of conclusions removed).	No

A copy of the Bryan Garnier & Co Limited conflicts policy in relation to the production of research is available at www.bryangarnier.com



London	Paris	New York	Geneva	New Delhi
Beaufort House	26 Avenue des Champs Elysées	750 Lexington Avenue	rue de Grenus 7	The Imperial Hotel
15 St. Botolph Street	75008 Paris	New York, NY 10022	CP 2113	Janpath
London EC3A 7BB	Tel: +33 (0) 1 56 68 75 00	Tel: +1 (0) 212 337 7000	Genève 1, CH 1211	New Delhi 110 001
Tel: +44 (0) 207 332 2500	Fax: +33 (0) 1 56 68 75 01	Fax: +1 (0) 212 337 7002	Tel +4122 731 3263	Tel +91 11 4132 6062
Fax: +44 (0) 207 332 2559	Regulated by the	FINRA and SIPC member	Fax+4122731 3243	+91 98 1111 5119
Authorised and regulated by	Financial Conduct Authority (FCA)		Regulated by the	Fax +91 11 2621 9062
the Financial Conduct	and the Autorité de Contrôle		FINMA	
Authority (FCA)	prudential et de resolution (ACPR)			

Important information

This document is classified under the FCA Handbook as being investment research (independent research). Bryan Garnier & Co Limited has in place the measures and arrangements required for investment research as set out in the FCA's Conduct of Business Sourcebook.

This report is prepared by Bryan Garnier & Co Limited, registered in England Number 03034095 and its MIFID branch registered in France Number 452 605 512. Bryan Garnier & Co Limited is authorised and regulated by the Financial Conduct Authority (Firm Reference Number 178733) and is a member of the London Stock Exchange. Registered address: Beaufort House 15 St. Botolph Street, London EC3A 7BB, United Kingdom

This Report is provided for information purposes only and does not constitute an offer, or a solicitation of an offer, to buy or sell relevant securities, including securities mentioned in this Report and options, warrants or rights to or interests in any such securities. This Report is for general circulation to clients of the Firm and as such is not, and should not be construed as, investment advice or a personal recommendation. No account is taken of the investment objectives, financial situation or particular needs of any person.

The information and opinions contained in this Report have been compiled from and are based upon generally available information which the Firm believes to be reliable but the accuracy of which cannot be guaranteed. All components and estimates given are statements of the Firm, or an associated company's, opinion only and no express representation or warranty is given or should be implied from such statements. All opinions expressed in this Report are subject to change without notice. To the fullest extent permitted by law neither the Firm nor any associated company accept any liability whatsoever for any direct or consequential loss arising from the use of this Report. Information may be available to the Firm and/or associated companies which are not reflected in this Report. The Firm or an associated company may have a consulting relationship with a company which is the subject of this Report.

This Report may not be reproduced, distributed or published by you for any purpose except with the Firm's prior written permission. The Firm reserves all rights in relation to this Report.

Past performance information contained in this Report is not an indication of future performance. The information in this report has not been audited or verified by an independent party and should not be seen as an indication of returns which might be received by investors. Similarly, where projections, forecasts, targeted or illustrative returns or related statements or expressions of opinion are given ("Forward Looking Information") they should not be regarded as a guarantee, prediction or definitive statement of fact or probability. Actual events and circumstances are difficult or impossible to predict and will differ from assumptions. A number of factors, in addition to the risk factors stated in this Report, could cause actual results to differ materially from those in any Forward Looking Information.

Disclosures specific to clients in the United Kingdom

This Report has not been approved by Bryan Garnier & Co Limited for the purposes of section 21 of the Financial Services and Markets Act 2000 because it is being distributed in the United Kingdom only to persons who have been classified by Bryan Garnier & Co Limited as professional clients or eligible counterparties. Any recipient who is not such a person should return the Report to Bryan Garnier & Co Limited immediately and should not rely on it for any purposes whatsoever.

Notice to US investors

This research report (the "Report") was prepared by Bryan Garnier & Co Limited for information purposes only. The Report is intended for distribution in the United States to "Major US Institutional Investors" as defined in SEC Rule 15a-6 and may not be furnished to any other person in the United States. Each Major US Institutional Investors which receives a copy of this Report by its acceptance hereof represents and agrees that it shall not distribute or provide this Report to any other person. Any US person that desires to effect transactions in any security discussed in this Report should call or write to our US affiliated broker, Bryan Garnier Securities, LLC. 750 Lexington Avenue, New York NY 10022. Telephone: 1-212-337-7000.

This Report is based on information obtained from sources that Bryan Garnier & Co Limited believes to be reliable and, to the best of its knowledge, contains no misleading, untrue or false statements but which it has not independently verified. Neither Bryan Garnier & Co Limited and/or Bryan Garnier Securities LLC make no guarantee, representation or warranty as to its accuracy or completeness. Expressions of opinion herein are subject to change without notice. This Report is not an offer to buy or sell any security.

Bryan Garnier Securities, LLC and/or its affiliate, Bryan Garnier & Co Limited may own more than 1% of the securities of the company(ies) which is (are) the subject matter of this Report, may act as a market maker in the securities of the company(ies) discussed herein, may manage or co-manage a public offering of securities for the subject company(ies), may sell such securities to or buy them from customers on a principal basis and may also perform or seek to perform investment banking services for the company(ies).

Bryan Garnier Securities, LLC and/or Bryan Garnier & Co Limited are unaware of any actual, material conflict of interest of the research analyst who prepared this Report and are also not aware that the research analyst knew or had reason to know of any actual, material conflict of interest at the time this Report is distributed or made available..