Yale School of Management

Investment Report for Wuliangye (000858-CN)

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Executive Summary

- We recommend an underweight exposure to Wuliangye over a 5-year investment horizon. Our preferred valuation yields a target price 121 RMB, which is 46% lower than its current price.
- In 2020, the COVID-19 restrictions, including prohibition on social gatherings, shorter operating hours, seating capacity limits, have seriously impacted the overall Baijiu industry.
- The high growth rate of luxury Baijiu from 2015 to 2018 should be regarded as an offset to China's anti-corruption policy in 2014.
- In the long run, the growth of luxury Baijiu should be in line with the growth on disposal income of the top 20% people in China.
- Wuliangye will benefit from the expanding affluent households in China.
- Even though Wuliangye's top line and bottom line will continue grow in the future, we believe that its current price is based on its high growth between 2015 and 2018, which is not sustainable in the long run.

Sell

46% below the current price

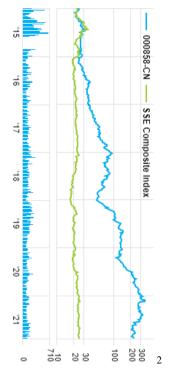
Target price: 121 RMB

Current price: 224 RMB

Snapshot

52 Week Range	Y192.43 - 357.19
Avg Daily Vol (3 Mo)	29,378,396.0
Basic Shares (M)	3,882
Market Cap (B)	871.1
Dividend Yield	1.2%
First Trading Date	28 Apr '98
FD Shares Out (M)	3,882
FD Mkt Cap (B)	871.1
EV (B)	799.1

Stock Performance



Business Overview

Business Description

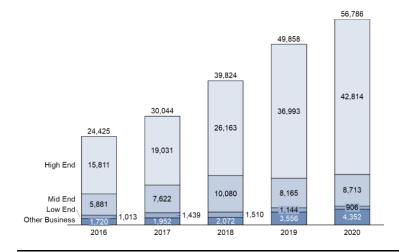
Wuliangye Yibin Co., Ltd. engages in the production and distribution of wine, beverage, and refined tea. Currently, it is the second largest liquor distiller in China by revenue and market capitalization. "Wuliangye" liquor, the main product of the Company, is a typical strong-flavor Chinese spirit. It has established a well-known national brand and is regarded as one of the three most premium Baijiu in China.

Revenue Breakdown

Wuliangye generates revenue by selling its liquor products through distributors. Liquor accounted for 92.3% of its revenue in 2020 and other products, including printing, packaging, and plastic products, contributed to the remaining 7.7%. Its product portfolio covers markets from low-end to high-end. Its flagship product, Wuliangye Liquor Series, contributed to 69.3% of its core revenue and this level has risen steadily over the past few years. Exhibit 1 shows the evolution of its revenue breakdown.

Exhibit: Revenue Breakdown of Wuliangye

Numbers in million CNY



Source: Annual Report

Industry Outlook

China's rising upper-middle class drives the continuous premiumization trend in Baijiu.

As a typical discretionary consumer good, sales of luxury Baijiu could be easily shocked by external factors, including policy, macroeconomics, consumer confidence and pandemic, which are difficult to be quantitatively captured by our model. In 2014, the on-going government crackdown on Chinese corruption severely curbed the consumption of luxury Baijiu, such as Moutai. In 2020, the outbreak of Covid led to a double-digit decline in total sales volume, due to the nationwide lockdowns and cancellation of social and festival gatherings.

Whereas in the long-term, the sales growth of luxury Baijiu, including the most premium products: Moutai, Wuliangye and Guojiao 1573, is driven by the increasing disposal income of China's uppermiddle class and the expanding high-net-worth individuals. From 2013 to 2020, the RSV of luxury Baijiu went up from 376,389.70 million CNY to 597,130.0 million, growing at 6.8% CAGR. Meanwhile, the annual income per capita of the top 20% high-income group increased from 47,456.6 CNY to 80,294 CNY, growing at 7.8% CAGR.

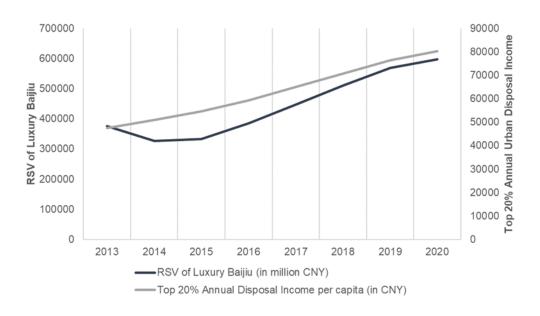


Exhibit: RSV of Luxury Baijiu and Top 20% Disposal Income

Source: Euromonitor, National Bureau of Statistics

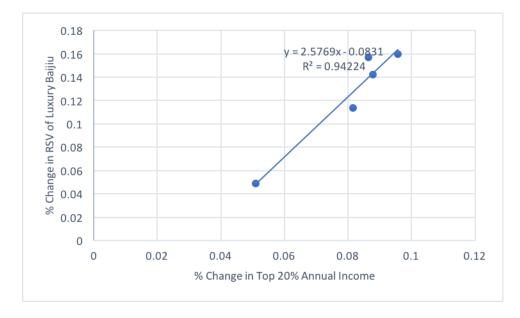
We ran a regression of the percentage change in the RSV of luxury Baijiu on the percentage change in

the top 20%'s per capita annual income for the past five years. The R² is 0.942, implying a significant linear relationship between these two factors. The regression suggests that:

% Change in RSV of luxury Baijiu = 2.5769 * % Change in Top 20% annual income – 0.0831

Note that we did not incorporate the data between 2013 and 2015 into our regression, for we consider that the Chinese government's anticorruption measures during that period would add noise to our forecast model. We contend that China's top percent income growth can be informative of luxury Baijiu sales growth in the long run.

Exhibit: Regression Analysis of % Change in Luxury Baijiu's RSV and % Change in Top 20%'s Per Capita Annual Income



The increasing share of the most premium products is consistent with the increasing share of affluent household in China.

The affluent households are the main consumers of the most premium Baijiu. From 2011 to 2020, the share of the most premium products, Moutai, Wuliangye and Luzhou Laojiao, increased from 10.9% to 28.3%, a rise of approximately 3 times. Meanwhile, the share of affluent households in China's urban household increased from 1% to 3%, a rise of 3 times. The share of affluent households in China could be an effective predictor for the share of the most premium products.

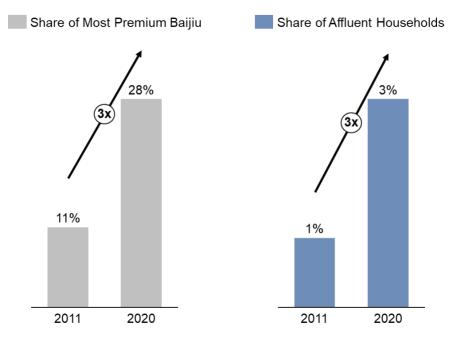


Exhibit: Share of Most Premium Baijiu and Share of Affluent Households.

Notes: Affluent household: annual household income > 345000 CNY

Source: McKinsey, Euromonitor, Capital IQ

The above analysis suggests that the changes on share of the most premium products is approximately in line with the changes on share of affluent households.

Share of Most Premium Baijiu in 2020/Share of Affluent Households in 2020 = Share of Most Premium Baijiu in 2025/Share of Affluent Households in 2025

McKinsey's analysis suggested that the share of affluent households will further improve from 3% in 2020 to 5.5% in 2025. In 2006, McKinsey projected the share of affluent households in 2010 to be 0.8%. This matched actual data in 2010 and as such, we perceive McKinsey's forecasts to be reliable. Therefore, we predict that the share of most premium products will grow proportionately to 51.9% in 2025, compared to 28.3% in 2020.

The IMF projection indicates that China's GDP growth will be 8.0%/5.6%/5.3%/5.2%5.1% from 2021 to 2025. In China's 14th 5-year plan, the government announced that the growth on disposal income

will be consistent with the growth of GDP. During the past 5 years, the top 20% disposal income growth was in line with the overall level. Therefore,

Growth of Top 20% Disposal Income = Growth of Disposal Income = Growth of China GDP

From our previous regression analysis, we found a linear relationship between the percentage change in the RSV of luxury Baijiu and the percentage change in the top 20%'s per capita annual income. We can thus construct the following equation,

% Change in RSV of luxury Baijiu = 2.5769 * Growth of China GDP - 0.0831

We therefore predict the growth of RSV of luxury Baijiu to be 12.3%/6.1%/5.3%/5.1%/4.8%, from 2021 to 2025. Given the 2020 RSV of 597 billion, we then project the RSV in 2025 to be 826 billion CNY.

Exhibit: Projections on Sales of Luxury Baijiu and Mao-Wu-Lu

	2020	2021	2022	2023	2024	2025
China GDP Growth	-	8.0%	5.6%	5.3%	5.2%	5.1%
Top 20% Disposal Income Growth	-	8.0%	5.6%	5.3%	5.2%	5.1%
Luxury Baijiu RSV Growth	-	12.3%	6.1%	5.3%	5.1%	4.8%
Luxury Baijiu RSV (in million CNY)	597130	670608	711654	749710	787869	825940
Share of Affluent Households Share of Most Premium Baijiu Revenue of Moutai, Wuliangye and Luzhou Laojiao	3.00% 28.30%	3.50% 33.0%	4.00% 37.7%	4.50% 42.5%	5.00% 47.2%	5.50% 51.9%
(in million CNY)	168988	221412	268531	318252	371612	428525

Notes: Moutai, Wuliangye and Luzhou Laojiao are regarded as the most premium Baijiu

Source: IMF, McKinsey, Capital IQ, Euromonitor

In summary, it is projected that the sales of luxury Baijiu will reach 826 billion in 2025 and share of the most premium products will reach 51.9%.

Financial Projection

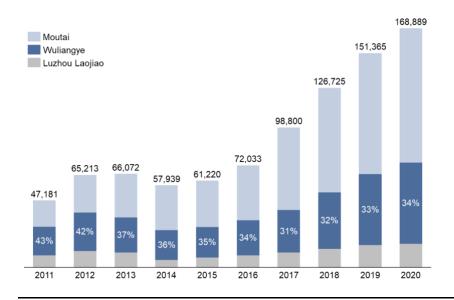
Revenue

Demand Side

The above analysis indicates that the total revenue of Moutai, Wuliangye, and Luzhou Laojiao will reach 428 billion CNY in 2025. During the past 5 years, the share of Wuliangye varied around 31% to 34%, being relatively stable. We forecast the future share of Wuliangye to be the average of its past 5 years level, 32.7%.

Exhibit: Share of Wuliangye in the most premium Baijiu group

Numbers in million CNY



Source: Euromonitor, Capital IQ

Therefore, we predict that the revenue of Wuliangye will reach 140 billion CNY by 2025.

Wuliangye Revenue = Wuliangye Share % * Total Revenue of Most Premium Baijiu

Exhibit: Projections on the revenue of Wuliangye

	2020	2021	2022	2023	2024	2025
China GDP Growth	-	8.0%	5.6%	5.3%	5.2%	5.1%
Top 20% Disposal Income Growth	-	8.0%	5.6%	5.3%	5.2%	5.1%
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(in million CNY)	168988	221412	268531	318252	371612	428525
Share of Wuliangye in Mou, Wu, Lu	34%	32.70%	32.70%	32.70%	32.70%	32.70%
Revenue of Wuliangye (in million CNY)	57321	72402	87810	104068	121517	140128

Source: IMF, McKinsey, Capital IQ, Euromonitor

Supply Side

Average Sales Price

Wuliangye's increasing average sales price is driven by two factors: 1) The expanding share of premium products in company's product portfolio; 2) The increasing ex-factory price. We formulate that:

Growth on high-end ASP = *Growth on ex-factory price* + *Growth brought by the premiumization*

We use the price changes of Wuliangye's flagship product: Wuliangye 52 to estimate the growth on Wuliangye's high-end products' price. From 2016 to 2020, Wuliangye twice improved the price of its flagship products. In 2016, the ex-factory price of Wuliangye 52 was increased from 679 to 739. By the end of 2019, the ex-factory price reached 879. The average annual improvement is 50 CNY/bottle. We expect this improvement to continue and that the ex-factory price of Wuliangye 52 will reach 1,129 CNY/bottle by 2025.

The price growth on high-end brought by premiumization was estimated to be 9%/9%/6%/6% from 2017 to 2020. Wuliangye's 14th 5-year plan has announced that company will continue the premiumization. In 2021, company launched the new flagship product: Classic Wuliangye. The exfactory price of that is 1,300 CNY per bottle and its sales volume is expected to reach 10,000 tons per year by 2025. We believe that the increasing share of Wuliangye 52 and the launch of new high-end market will further support the growth on high-end ASP. Even though the growth rate on high-

end ASP brought by premiumization keeps decreasing due to the diminishing marginal effects, we believe that the launch of Classic Wuliangye will further fuel the increase on ASP. We forecast that the base line of premiumization growth on ASP will follow the decreasing trend and will decrease from 3% to 0% for the next 5 years. However, assuming that the Classic Wuliangye will account for 10,000 tons sales of the total 56,981 tons sales in 2025 and the ASP will remain at its 2020 level (587 CNY per bottle for overall high-end and 1,300 CNY per bottle for Classic Wuliangye), we estimate that the increasing share of Classic Wuliangye can lead to a 21.3% increase on high-end ASP in 5 years, an average of 4% increasement per year. Therefore, we are confident that the growth brought by premiumization will be around 5%-6% (baseline growth + Classic Wuliangye's growth) in the following years. The following table shows our projections on high end ASP and the detailed calculation of the Classic Wuliangye's impacts.

Projected average price of High-end without considering the adjustment on price = (Sales Volume of Classic Wuliangye * ASP of Classic Wuliangye in 2020 + Sales Volume of Other high-end * ASP of high-end in 2020)/Total Sales Volume of High-end

Notes: The Classic Wuliangye was launched in 2021, therefore, the ASP of high-end in 2020 could be regarded as the ASP of other high-end in our function

Exhibit: Projections on High-end ASP

Numbers in CNY/bottle

ASP	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
Wuliangye 52 ex-factory price (incl VAT) -										
year-end (CNY/Bottle)	739	739	789	845.5	879	929	979	1029	1079	1129
High-end ASP (CNY/bottle)	374	407	472	534	587	650	724	797	884	978
Growth on Wuliangye 52 price	-	0%	7%	7%	4%	6%	5%	5%	5%	5%
Growth brought by premium	-	9%	9%	6%	6%	5%	6%	5%	6%	6%
baseline growth						3%	3%	1%	1%	0%
growth caused by launch of Classic Wulian	gye					2%	3%	4%	5%	6%
Gorwth on High-end ASP	-	9%	16%	13%	10%	11%	11%	10%	11%	11%
Mid-to-low-end ASP (CNY/bottle)	27	29	35	36	39	42	45	48	51	54
Increasement	-	2	6	0	3	3	3	3	3	3
High-end ASP (000 CNY/ton)	747	815	945	1068	1175	1300	1448	1594	1768	1956
Mid-to-low-end ASP (000 CNY/ton)	54	58	71	71	78	84	90	96	102	108
ex-factory price of Classic W	ulianave ir	2020 (C	NV nor l	hottle)					1300	
	•••	•	-	Joure						
ex-factory price of High-end	in 2020 (CN	ly per bo	ottle)						587	
Projected High-end sales vol	ume in 202	25 (tons)							56981	
Projected Classic Wuliangye	sales volu	me in 20	025 (tons	5)					10000	
Projected average price of H			-	-	utement	on pric	e (CNY n	er h	712	
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Change %									21.3%	

Source: Morgan Stanley, Annual Report

From 2016 to 2020, the ASP of mid-to-low-end products increased from 27 to 39. The average annual improvement was 3 per year. Management has suggested that besides a stable price increase in Classical Wuliangye products, they have also planned a gradual price increase in mid-to-low-end liquor series on the basis of maintaining the overall stable growth. We predict that the ASP of mod-to-low-end products will continue growing in the next five years and the ASP of that will reach 54 by 2025.

Exhibit: Projections on mid-to-low-end ASP

Numbers in CNY/bottle

	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
Mid-to-low-end ASP	27	29	35	36	39	42	45	48	51	54
Increasement	-	2	6	0	3	3	3	3	3	3

Source: Annual Report

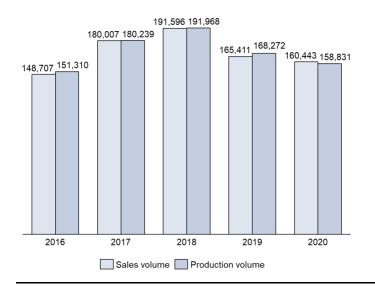
Volume

Wuliangye has been able to roughly match its total sales to production volume in recent years.

We then expect that extra capacity buildup would enable the company to boost future sales volume.

Exhibit: Wuliangye's Production and Sales Volume

Numbers in tons



Source: Annual Report

Wuliangye has proposed to expand high-quality capacity via a two-pronged approach: 1) by adding 120,000-ton base liquor capacity to reach a total capacity of 250,000-ton, while increasing base liquor storage capacity to over 1,000,000 tons during the 14th Five-Year-Plan period; and 2) increasing the proportion of premium liquor through innovation. Wuliangye's storage of base wine reached 21547 tons by the end of 2020.

As per management, the yield of Wuliangye base wine is between 10% and 20%. That is, around 10% to 20% of base wine capacity will convert into the company's Wuliangye liquor products production. Multiplying 120,000 with 15% (mean of 10% and 20%), one can estimate that the capacity buildup would expand the company's Wuliangye series production by 18,000 tons yearly by the end of 2025. The production capacity of Wuliangye is 25,952 tons and the production capacity of Wuliangye will reach 43,952 tons by 2025. We assume that the production capacity will linearly improve, and the sales volume will be in line with the production capacity.

Increase on Wuliangye Liquor Production = $(10\% \sim 20\%)$ * Increasement on Wine line production

The sales volume of other high-end products took up 29.6%/29.5% of that of Wuliangye liquor products in 2019/2020. We estimate that this level will stay at 29.5% during the next five years. For projections on mid-to-low-end Baijiu products, we use 3-year trailing average to forecast production growth from 2021 to 2025. This gives us the overall production volume breakdown forecast.

Exhibit Projections on Sales Volume

Numbers in tons

	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
High-end Volume	21156	23362	27687	34644	36451	40535	44631	48726	52822	56918
Wuliangye Liquor	17140	17740	20490	26728	28139	31301	34464	37627	40789	43952
Other high-end volume	4016	5622	7197	7916	8312	9234	10167	11100	12033	12966
Increase in Wuliangye		600	2750	6238	1411	3163	3163	3163	3163	3163
Other high-end volume/Wuliangye										
Liquor Volume	23.4%	31.7%	35.1%	29.6%	29.5%	29.5%	29.5%	29.5%	29.5%	29.5%
Mid-to-Low-end Volume	127552	156639	163909	130767	123992	115412	102978	95127	87099	79307
Growth on Mid-to-Low-end Volume		22.8%	4.6%	-20.2%	-5.2%	-6.9%	-10.8%	-7.6%	-8.4%	-8.9%
Total Volume	148708	180001	191596	165411	160443	155948	147609	143853	139921	136225

Notes: High-end Volume = Wuliangye Liquor Volume + Other high-end product volume

Source: Annual Report, Press Release

Demand-side Revenue

Revenue = High-end ASP * High-end Volume + Mid-to-Low-end ASP * Mid-to-Low-end Volume

Exhibit: Projections on demand-side revenue

Volume (in tons)	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
High-end Volume	21156	23362	27687	34644	36451	40535	44631	48726	52822	56918
Wuliangye Liquor	17140	17740	20490	26728	28139	31301	34464	37627	40789	43952
Other high-end volume	4016	5622	7197	7916	8312	9234	10167	11100	12033	12966
Increase in Wuliangye		600	2750	6238	1411	3163	3163	3163	3163	3163
Other high-end volume/Wuliangye Liquor										
Volume	23.4%	31.7%	35.1%	29.6%	29.5%	29.5%	29.5%	29.5%	29.5%	29.5%
Mid-to-Low-end Volume	127552	156639	163909	130767	123992	115412	102978	95127	87099	79307
Growth on Mid-to-Low-end Volume		22.8%	4.6%	-20.2%	-5.2%	-6.9%	-10.8%	-7.6%	-8.4%	-8.9%
Total Volume	148708	180001	191596	165411	160443	155948	147609	143853	139921	136225
ASP	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
Wuliangye 52 ex-factory price (incl VAT) -										
year-end (CNY/Bottle)	739	739	789	845.5	879	929	979	1029	1079	1129
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baseline growth						3%	3%	1%	1%	0%
growth caused by launch of Classic Wuliang	ye					2%	3%	4%	5%	6%
Gorwth on High-end ASP	-	9%	16%	13%	10%	11%	11%	10%	11%	11%
Mid-to-low-end ASP (CNY/bottle)	27	29	35	36	39	42	45	48	51	54
Increasement	-	2	6	0	3	3	3	3	3	3
High-end ASP (000 CNY/ton)	747	815	945	1068	1175	1300	1448	1594	1768	1956
Mid-to-low-end ASP (000 CNY/ton)	54	58	71	71	78	84	90	96	102	108
Revenue (in million CNY)	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
High-end Revenue	15811.011	19031.355	26162.598	36992.881	42814.415	52700.855	64630.147	77692.733	93368.833	111306.81
Mid-to-Low-end Revenue	6893.5192	9060.6151	11589.335	9308.9565	9619.6556	9646.4828	9225.0913	9092.4701	8847.7247	8532.0671
Total Liquor Revenue	22705	28092	37752	46302	52434	62347	73855	86785	102217	119839
Other Business Revenue	1720	1952	2072	3556	4352	4477	5304	6232	7340	8606
Other Business Revenue %	7.0%	6.5%	5.2%	7.1%	7.7%	6.7%	6.7%	6.7%	6.7%	6.7%
Supply Side Revenue	24424	30044	39824	49858	56786	66825	79159	93017	109557	128445

Notes: tons price (000 CNY/ton) = bottle price (CNY/bottle) * 2,000/1,000, assuming that bottle size is 500 ml. The other business mainly includes the packaging materials of Baijiu, such as printing, plastic products, and glass bottles. Therefore, it is reasonable to assume that the other business revenue will be 6.7% of total revenue, the average of past 5 years level.

Exhibit: Revenue Projection

Numbers in million CNY

	2021	2022	2023	2024	2025
Supply Side Revenue Projection	66825	79159	93017	109557	128445
Demand Side Revenue Projection	72402	87810	104068	121517	140128

It is noted that the supply side revenue projection is slightly lower than the demand side revenue projection. The higher demand-side revenue projection, implying enough market space, gives us confidence that company will be able to reach the projected topline numbers.

Cost of Goods Sold

In 2020, the unit COGS of high-end products was 143.2 thousand CNY per ton and the unit COGS of mid-to-low-end products was 26.0 thousand CNY per ton. We project that these two numbers will grow at 2% per year from 2021 to 2025, which is in line with the China's expected 5 years' inflation rate. The 2017 spike in mid-to-low-end unit COGS was due to the products adjustment plan. From 2017 to 2018, the company reduced the number of brands and products and removed a lot of low-end series. Therefore, we can observe a spike of mid-to-low-end products' unit COGS in 2017 and a spike of mid-to-low-end products' ASP in 2018. The COGS % of other business were 124.6%/129.6%/146.4% from 2018 to 2020, which fluctuated a lot. We use the trailing average of past three years to predict the future of this level. The following table suggests that the total COGS % will gradually decrease from 26.1% in 2020 to 18.2% in 2025, mainly due to the increasing ex-factory price and the continued premiumization of Wuliangye's product portfolio.

Exhibit: Projections on COGS

Numbers in million CNY

2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
7314	8450	10487	12802	14812	14958	16672	18678	20640	23080
2896	3194	3811	4864	5220	5920	6649	7404	8187	8999
2688	3884	4094	3332	3222	3059	2784	2623	2450	2276
1729	1373	2582	4607	6370	5978	7239	8650	10002	11806
136.9	136.7	137.6	140.4	143.2	146.1	149.0	152.0	155.0	158.1
21.1	24.8	25.0	25.5	26.0	26.5	27.0	27.6	28.1	28.7
-	-0.2%	0.7%	2.0%	2.0%	2%	2%	2%	2%	2%
-	17.6%	0.7%	2.0%	2.0%	2%	2%	2%	2%	2%
100.6%	70.3%	124.6%	129.6%	146.4%	134%	136%	139%	136%	137%
29.9%	28.1%	26.3%	25.7%	26.1%	22.4%	21.1%	20.1%	18.8%	18.0%
	7314 2896 2688 1729 136.9 21.1 - - -	7314 8450 2896 3194 2688 3884 1729 1373 136.9 136.7 21.1 24.8 - -0.2% - 17.6% 100.6% 70.3%	7314 8450 10487 2896 3194 3811 2688 3884 4094 1729 1373 2582 136.9 136.7 137.6 21.1 24.8 25.0 - -0.2% 0.7% - 17.6% 0.7% 100.6% 70.3% 124.6%	$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	7314 8450 10487 12802 14812 2896 3194 3811 4864 5220 2688 3884 4094 3332 3222 1729 1373 2582 4607 6370 - - - - 24.8 25.0 25.5 26.0 - - - 0.7% 2.0% 2.0% 2.0% 100.6% 70.3% 124.6% 129.6% 146.4% 146.4%	$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	7314845010487128021481214958166722896 3194 3811 4864 5220 592066492688 3884 4094 3332 3222 305927841729 1373 25824607637059787239136.9136.7137.6140.4143.2146.1149.021.124.825.025.526.026.527.00.2%0.7%2.0%2.0%2%2%100.6%70.3%124.6%129.6%146.4%134%136%	73148450104871280214812149581667218678289631943811486452205920664974042688388440943332322230592784262317291373258246076370597872398650136.9136.7137.6140.4143.2146.1149.0152.021.124.825.025.526.026.527.027.60.2%0.7%2.0%2.0%2%2%2%100.6%70.3%124.6%129.6%146.4%134%136%139%	73148450104871280214812149581667218678206402896319438114864522059206649740481872688388440943332322230592784262324501729137325824607637059787239865010002136.9136.7137.6140.4143.2146.1149.0152.0155.021.124.825.025.526.026.527.027.628.10.2%0.7%2.0%2.0%2%2%2%2%100.6%70.3%124.6%129.6%146.4%134%136%139%136%

Notes: There are a lot of related transactions for Wuliangye's other business, which could be a reason for the fluctuating COGS of this business. However, public information didn't disclose more about the other business's revenue and cost. This is a risk factor for investment.

Business Taxes and Surcharges

From 2016 to 2018, the business taxes and surcharges as % of sales increased from 7.9% to 14.8%, mainly due to the adjustment on consumption taxes. The consumption taxes increased from 5.5% in 2016 to 11.7% in 2018. We expect this level to remain stable at 14.3%, the level in 2020, during the next five years since there in no news about future adjustment on the business taxes rate applied on Baijiu.

Exhibit: Projections on Business Taxes and Surcharges

Numbers in million USD

Business Taxes & Surcharges	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
Total Business Taxes & Surcharges	1941	3495	5908	6984	8092	9523	11281	13256	15612	18304
% of Sales	7.9%	11.6%	14.8%	14.0%	14.3%	14.3%	14.3%	14.3%	14.3%	14.3%

SG&A

During the past 3 years, the distribution cost level, as a % of sales, fluctuated between 9.5% to 10%, the G&A cost level experienced a gradual decline, from 6.1% in 2018 to 4.8% in 2020. We believe that the distribution cost level will be stable in the future thus used the 3-year trailing average to predict its future level. We believe that the G&A level will continue its declining trend at the same

speed, from 4.8% in 2020 to 2.3% in 2025.

G&A Cost % in year n+1 = G&A Cost % in year n * (G&A Cost % in year n/G&A Cost % in year

n-1)

Exhibit: Projections on SG&A

Numbers in million CNY

SG&A	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
Total SG&A Cost	6838	5894	6203	7767	8320	13058	15618	18269	21514	25264
Distribution Cost	4695	3625	3778	4986	5579	6529	7809	9134	10757	12632
G&A Cost	2144	2269	2425	2782	2741	2790	2859	2907	2962	3004
Distribution Cost % of Sales	19.2%	12.1%	9.5%	10.0%	9.8%	9.8%	9.9%	9.8%	9.8%	9.8%
G&A Cost % of Sales	8.8%	7.6%	6.1%	5.6%	4.8%	4.2%	3.6%	3.1%	2.7%	2.3%

PPE & CAPEX

Depreciation as % of Net PPE is projected to be 6%, the value in 2019 and 2020, during the next 5 years.

CAPEX experienced huge fluctuation during the past 5 years. The CAPEX in 2019 and 2020 were due to the capacity buildup project, which was completed in 2020. According to Wuliangye's 14th 5-year plan, the main investment project from 2020 to 2025 is the new capacity buildup project, the total investment of which takes up 1286 million CNY. Therefore, we project that the CAPEX between 2021 to 2025 will be 257.2 (1286/5) million CNY per year. It is noted that, even though Wuliangye recorded high growth on revenue from 2016 to 2018, its Net PPE decreased at the same time.

Net PPE in year n = Net PPE *in year* n-1 + CAPEX *in year* n - Depreciation *in year* n

Exhibit: Projections on PPE and CAPEX

Numbers in million CNY

PPE&CAPEX	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
Net Property, Plant & Equipment	5726	5566	5613	6921	7349	7170	6997	6835	6682	6538
Depreciation	514	475	485	418	436	430	420	410	401	392
Depreciation % of Net PPE	9.0%	8.5%	8.6%	6.0%	5.9%	6%	6%	6%	6%	6%
Capiatl Expenditure	307.3	216.1	381.4	1698.7	993.8	257.2	257.2	257.2	257.2	257.2

Changes on NWC

The Changes on NWC experienced huge fluctuations during the past few years. To the best of our knowledge, we project NWC to be in line with revenue and changes on NWC as % of the increase in revenue to be 12% during the next 5 years. 12% is the average level of the past 4 years.

Changes on NWC as % of Sales Increasement in year n = Changes on NWC in year n/(Revenue in year n - Revenue in year n-1)

Exhibit: Projections on Changes on NWC

Numbers in million CNY

Changes on NWC	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
Changes on NWC	-4,105	569	1,722	-5,089	4,914	1,205	1,480	1,663	1,985	2,267
Changes on NWC as % of Sales Increasement		10.1%	17.6%	-50.7%	70.9%	12%	12%	12%	12%	12%

Other Items

We assume that financing cost % of net debt will remain at its 2020 level, 2%, during the next 5 years; the other income of sales % of sales will remain at its 2020 level, 0.2%, during the next 5 year; the changes on net debt as a % of net profit will be the average of its levels during 2017 to 2020, 56.8%, during the next 5 years.

The effective tax rates will be 25%, and the minority interest as % of profit after tax will remain at 5%, the level between 2018 to 2020, during the next 5 years.

Exhibit: Projections on other items

Numbers in CNY

Financing Cost and Other Income	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
Financing Cost	766	891	1085	1431	1486	1624	1939	2317	2775	3321
Other Income	121	154	90	111	96	134	158	186	219	257
Net Debt	-34666.325	-40592.198	-48960.205	-63239.072	-68209.451	-81180.092	-96926.115	-115861.76	-138752.7	-166068.62
Financing Cost % of Net Debt (-)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Changes on Net Debt		-5925.873	-8368.0064	-14278.867	-4970.3786	-12970.642	-15746.023	-18935.645	-22890.935	-27315.928
Changes on Net Debt % of Net Profit		-62.2%	-63.5%	-83.3%	-25.6%	-58.6%	-58.6%	-58.6%	-58.6%	-58.6%
Other income % of Sales	0.5%	0.5%	0.2%	0.2%	0.2%	0.20%	0.20%	0.20%	0.20%	0.20%
Taxes	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
Profit before tax	9218	13248	18400	23846	27143	31043	37685	45319	54785	65375
Income Tax	-2281	-3306	-4568	-5878	-6765	-7761	-9421	-11330	-13696	-16344
Effective Tax Rate	-24.7%	-25.0%	-24.8%	-24.6%	-24.9%	-25%	-25%	-25%	-25%	-25%
Profit after Tax	6937	9943	13832	17968	20378	23282	28264	33989	41089	49032
Minority Interest	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
Minority Interest	-272	-412	-654	-826	-959	-1164	-1413	-1699	-2054	-2452
Minority Interest % of Profit after Tax	-4%	-4%	-5%	-5%	-5%	-5%	-5%	-5%	-5%	-5%

Valuation

Since the net debt is negative, APV and WACC will get the same result.

Exhibit: Rolling beta of Wuliangye



Source: Wind

The beta of Wuliangye surged from 2019 to 2020 and then became stable in 2021. We would like to use the average beta of past 2 year to calculate the WACC. It is noted that the increasing beta from 2019 to 2021 is due to the collective actions of funds in China capital market. Those hedges funds bought and sold the stock of Wuliangye together, resulting in huge price volatility. Since Baijiu continues to be the focus of funds in China, we use the average of past 2 years as the best estimate of beta.

Rate	Value	Notes
Beta	1.5	2y monthly, source: Wind
Tax Rate	25%	Income Tax Rates in China
Rd	3.10%	interest expense/total debt in LTM
Risk Free	2.29%	China 1y government bond
Market Premium	5.40%	China equity market risk premium in 2021
Re	10%	beta*mkt premium + rf
D/E	1%	By 2021Q3
E/(D+E)	99%	By 2021Q3
D(1-t) /(D+E)	1%	
Wacc	10.2%	Rd*D(1-t) /(D+E) + Re*E/(D+E)

The projected market capitalization is 467.7 billion CNY. The implied stock price would be 120.5

CNY, 46.3% below the current price.

Unlevered Free Cash Flow	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
EBIT*(1-Tax rate)	6270	9159	12949	16806	19191	21964	26691	32112	38843	46348
-CAPEX	307	216	381	1699	994	257	257	257	257	257
-Changes on NWC	-4105	569	1722	-5089	4914	1205	1480	1663	1985	2267
UFCF	10067	8374	10845	20196	13283	20502	24954	30191	36601	43824
Discounted Factor						0.91	0.82	0.75	0.68	0.62
PV of UFCF						18613	20566	22589	24861	27023
Long-term Growth Rate	4.0% Ch	ina's Long-te	erm GDP gro	wth						
Ultimate Value										456794
PV of Ultimate Value										281675
EV	395327									
Net Debt (2021 Q3)	-72323									
Projected Mkt Cap	467650	120.5								

Appendix

Volume (in tons)	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
High-end Volume	2016	23362	2018	34644	36451	40535	44631	48726	52822	56918
Wuliangye Liquor Other high-end volume	17140 4016	17740 5622	20490 7197	26728 7916	28139 8312	31301 9234	34464 10167	37627 11100	40789 12033	43952 12966
Other high-end widhe	4010	5022	/19/	7910	0312	9234	10107	11100	12033	12900
ncrease in Wuliangye		600	2750	6238	1411	3163	3163	3163	3163	3163
Other high-end volume/Wuliangye Liquor /olume	23.4%	31.7%	35.1%	29.6%	29.5%	29.5%	29.5%	29.5%	29.5%	29.5%
	407550	450020	462000	130767	123992	115412	402070	05407	07000	70207
Mid-to-Low-end Volume Growth on Mid-to-Low-end Volume	127552	156639 22.8%	163909 4.6%	-20.2%	-5.2%	-6.9%	102978 -10.8%	95127 -7.6%	87099 -8.4%	79307 -8.9%
Fotal Volume	148708	180001	191596	165411	160443	155948	147609	143853	139921	136225
ASP	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
Vuliangye 52 ex-factory price (incl VAT) -	2010	2011	2010	2013					2024	1010
/ear-end (CNY/Bottle) High-end ASP (CNY/bottle)	739 374	739 407	789 472	845.5 534	879 587	929 650	979 724	1029 797	1079 884	1129 978
Growth on Wuliangye 52 price	-	0%	7%	7%	4%	6%	5%	5%	5%	5%
Frowth brought by premium baseline growth	-	9%	9%	6%	6%	5% 3%	6% 3%	5% 1%	6% 1%	6% 0%
growth caused by launch of Classic Wulian	gye					2%	3%	4%	5%	6%
Gorwth on High-end ASP	-	9%	16%	13%	10%	11%	11%	10%	11%	11%
lid-to-low-end ASP (CNY/bottle)	27	29 2	35 6	36 0	39 3	42 3	45 3	48 3	51 3	54 3
ligh-end ASP (000 CNY/ton)	747	815	945	1068	1175	1300	1448	1594	1768	1956
lid-to-low-end ASP (000 CNY/ton)	54	58	71	71	78	84	90	96	102	108
evenue (in million CNY)	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
ligh-end Revenue 1id-to-Low-end Revenue	15811.011 6893.5192	19031.355 9060.6151	26162.598 11589.335	36992.881 9308.9565	42814.415 9619.6556	52700.855 9646.4828	64630.147 9225.0913	77692.733 9092.4701	93368.833 8847.7247	111306.81 8532.0671
Fotal Liquor Revenue Dther Business Revenue	22705 1720	28092 1952	37752 2072	46302 3556	52434 4352	62347 4477	73855 5304	86785 6232	102217 7340	119839 8606
Other Business Revenue %	7.0%	6.5%	5.2%	7.1%	7.7%	6.7%	6.7%	6.7%	6.7%	6.7%
upply Side Revenue	24424	30044	39824	49858	56786	66825	79159	93017	109557	128445
OGS (in million CNY)	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
otal liquo COGS	7314	8450	10487	12802	14812	14958	16672	18678	20640	23080
ligh-end	2896	3194	3811	4864	5220	5920	6649	7404	8187	8999
lid-to-low-end	2688	3884	4094	3332	3222	3059	2784	2623	2450	2276
Other businesses	1729	1373	2582	4607	6370	5978	7239	8650	10002	11806
ligh-end COGS (Rmb'000/ton) fid-to-low-end COGS (Rmb'000/ton)	136.9 21.1	136.7 24.8	137.6 25.0	140.4 25.5	143.2 26.0	146.1 26.5	149.0 27.0	152.0 27.6	155.0 28.1	158.1 28.7
rowth of High-end Unit COGS rowth of Low-end Unit COGS	-	-0.2% 17.6%	0.7% 0.7%	2.0% 2.0%	2.0% 2.0%	2% 2%	2% 2%	2% 2%	2% 2%	2% 2%
Other Business COGS % Total COGS %	100.6% 29.9%	70.3% 28.1%	124.6% 26.3%	129.6% 25.7%	146.4% 26.1%	134% 22.4%	136% 21.1%	139% 20.1%	136% 18.8%	137% 18.0%
Business Taxes & Surcharges	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
otal Business Taxes & Surcharges	1941	3495	5908	6984	8092	9523	11281	13256	15612	18304
5 of Sales	7.9%	11.6%	14.8%	14.0%	14.3%	14.3%	14.3%	14.3%	14.3%	14.3%
G&A	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
otal SG&A Cost	6838	5894	6203	7767	8320	13058	15618	18269	21514	25264
Distribution Cost G&A Cost	4695 2144	3625 2269	3778 2425	4986 2782	5579 2741	6529 2790	7809 2859	9134 2907	10757 2962	12632 3004
Distribution Cost % of Sales G&A Cost % of Sales	19.2% 8.8%	12.1% 7.6%	9.5% 6.1%	10.0% 5.6%	9.8% 4.8%	9.8% 4.2%	9.9% 3.6%	9.8% 3.1%	9.8% 2.7%	9.8% 2.3%
	0.0%	1.076	0.176	5.0%	7.0%	7.270	5.0%	0.170	2.170	2.3%
increasing Cost and Other Increase	- 00/0	-004	-0010	-0010		-0001		-0000	-0001	-0005
inancing Cost and Other Income inancing Cost	2016 766	2017 891	2018 1085	2019 1431	2020 1486	2021 1624	2022 1939	2023 2317	2024 2775	2025 3321
Other Income	121	154	90	111	96	134	158	186	219	257
et Debt	-34666.325	-40592.198				-81180.092				-166068.62
inancing Cost % of Net Debt (-)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
		-5925.873				-12970.642			-22890.935	
		-62.2%	-63.5%	-83.3%	-25.6%	-58.6%	-58.6%	-58.6%	-58.6%	-58.6%
hanges on Net Debt % of Net Profit		02.270			0.2%	0.20%	0.20%	0.20%	0.20%	0.20%
hanges on Net Debt % of Net Profit	0.5%	0.5%	0.2%	0.2%						2025
hanges on Net Debt % of Net Profit ther income % of Sales axes	2016	0.5% 2017	2018	2019	2020	2021	2022	2023	2024	
hanges on Net Debt % of Net Profit ther income % of Sales axes rofit before tax	2016 9218	0.5% 2017 13248	2018 18400	2019 23846	2020 27143	31043	37685	45319	54785	65375
hanges on Net Debt % of Net Profit ther income % of Sales axes rofit before tax icome Tax ffective Tax Rate	2016 9218 -2281 -24.7%	0.5% 2017 13248 -3306 -25.0%	2018 18400 -4568 -24.8%	2019 23846 -5878 -24.6%	2020 27143 -6765 -24.9%	31043 -7761 -25%	37685 -9421 -25%	45319 -11330 -25%	54785 -13696 -25%	65375 -16344 - <mark>25%</mark>
hanges on Net Debt % of Net Profit ther income % of Sales axes rofit before tax icome Tax ffective Tax Rate	2016 9218 -2281	0.5% 2017 13248 -3306	2018 18400 -4568	2019 23846 -5878	2020 27143 -6765	31043 -7761	37685 -9421	45319 -11330	54785 -13696	65375 -16344
changes on Net Debt % of Net Profit Other income % of Sales axes axes rofit before tax ncome Tax ffective Tax Rate rofit after Tax	2016 9218 -2281 -24.7%	0.5% 2017 13248 -3306 -25.0%	2018 18400 -4568 -24.8%	2019 23846 -5878 -24.6%	2020 27143 -6765 -24.9%	31043 -7761 -25%	37685 -9421 -25%	45319 -11330 -25%	54785 -13696 -25%	65375 -16344 - <mark>25%</mark>
Changes on Net Debt Changes on Net Debt % of Net Profit Other income % of Sales Taxes Profit before tax come Tax fifective Tax Rate Profit after Tax Atinority Interest Minority Interest Minorit	2016 9218 -2281 -24.7% 6937 2016 -272	0.5% 2017 13248 -3306 -25.0% 9943 2017 -412	2018 18400 -4568 -24.8% 13832 2018 -654	2019 23846 -5878 -24.6% 17968 2019 -826	2020 27143 -6765 -24.9% 20378 2020 -959	31043 -7761 -25% 23282 2021 -1164	37685 -9421 -25% 28264 2022 -1413	45319 -11330 -25% 33989 2023 -1699	54785 -13696 -25% 41089 2024 -2054	65375 -16344 -25% 49032 2025 -2452
Changes on Net Debt % of Net Profit Other income % of Sales Profit before tax come Tax Effective Tax Rate Profit after Tax Atinority Interest	2016 9218 -2281 -24.7% 6937 2016	0.5% 2017 13248 -3306 -25.0% 9943 2017	2018 18400 -4568 -24.8% 13832 2018	2019 23846 -5878 -24.6% 17968 2019	2020 27143 -6765 -24.9% 20378 2020	31043 -7761 -25% 23282 2021	37685 -9421 -25% 28264 2022	45319 -11330 -25% 33989 2023	54785 -13696 -25% 41089 2024	65375 -16344 -25% 49032 2025