

1 Introduction

Global investors have long sought low- β assets to diversify their portfolios while generating exceptional returns, and alternative investments are mostly taken into consideration. Rare whisky has emerged as an option for certain investors in this situation, who mainly are Ultra-High-Net-Worth Individuals (UNHWI), Whisky lovers, and investors seeking differentiated profits.

In recent years, the global demand for whisky has grown without exception [1], which drives the whisky price as the demand curve goes upwards sharply. The Rare Whisky Icon Index shows that the value of the 100 most important collectible whiskies has increased by 300% since the end of 2012 and peaked at 400% in July this year [2], which can be illustrated by 1.

From the calculation, it has superior return than many of other alternative investments, such as exclusive watches (147%), and fine wine (149%) [1]. With such outstanding performance, it is reasonable to consider whether it can continuously produce α in the following time.

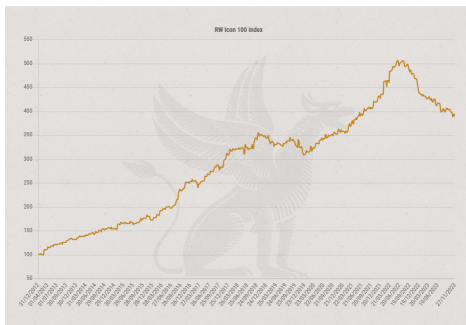


Figure 1: Rare Whisky Icon 100 Index Chart

2 Whisky Market Boom

Whisky is a distilled alcoholic beverage whose flavour is influenced by the type of fermented raw material, the method of distillation and the characteristics of the barrel. As a result, whiskies from different regions will have different flavours and consumers will price them correspondingly. Rare whisky is a special limited edition whisky characterised by scarcity, aging and often unique production processes, hence they have superior value for test and investment purposes.

With unique tasting as well as investment attributes, demand and prices for whiskey have risen gradually over the years. [3] have compiled over

eight years of bourbon auction price data based on bourbon sales www.whiskyauction.com, which is shown in 2. Note that the mean of price and sales has increased dramatically since 2011 (The price decrease in 2019 is caused by the drop of average maturity, as the price of whisky goes up if it has longer maturity).

Table 1
Summary statistics for whiskyauction.com data (2011 to 2019).

		2011	2012	2013	2014	2015	2016	2017	2018	2019
Price	Mean	\$60.53	\$97.50	\$148.71	\$291.46	\$283.21	\$304.08	\$294.77	\$ 293.08	\$202.85
	Std. Dev.	(52.06)	(117.48)	(217.38)	(338.70)	(360.67)	(481.85)	(457.65)	(539.72)	(350.17)
	Median	\$42.03	\$54.07	\$ 66.46	\$165.10	\$144.44	\$130.27	\$145.55	\$ 142.48	\$ 92.63
	Min	\$ 9.99	\$11.29	\$6.60	\$9.52	\$7.51	\$7.79	\$ 10.38	\$ 5.68	\$5.51
	Max	\$ 360.17	\$ 926.83	\$ 2,015.74	\$ 2,438.65	\$ 2,268.75	\$ 3,224.83	\$ 6,386.32	\$ 13,797.09	\$ 5,039.74
Whiskey Age (Years of Maturation)	Mean	8.8	10.4	10.6	12.4	11.6	10.8	10.6	10.9	9.7
	Std. Dev.	(4.00)	(4.72)	(4.62)	(5.21)	(5.15)	(4.58)	(4.44)	(4.30)	(4.36)
	Median	8	10	10	12	12	10	10	10	9
	Min	3	4	3	3	3	3	3	3	2
	Max	20	23	23	28	27	28	28	27	28
Proof (Alcohol by Volume %)	Mean	89.84	92.52	94.01	97.83	96.94	96.68	96.2	97.56	92.93
	Std. Dev.	(12.93)	(14.34)	(14.82)	(15.56)	(15.34)	(15.14)	(14.89)	(15.57)	(13.15)
	Median	86	88.3	90	93	90.2	90.4	90.4	93	90
	Min	80	80	80	80	80	74	80	80	74
	Max	143	144.8	144.8	144.8	172	150	160	172	172
Sales per Year	Mean	3.56	3.65	4.76	7.81	8.27	11.17	12.78	11.03	8.53
	Std. Dev.	(2.48)	(2.95)	(4.05)	(9.41)	(8.10)	(11.44)	(16.78)	(19.24)	(16.67)
	Median	3	3	3	4	5	7	6	4	4
	Min	1	1	1	1	1	1	1	1	1
	Max	11	12	17	40	33	43	66	87	82
Observations		302	256	540	886	1322	1631	1598	1647	1891
	N	138	128	219	329	443	480	494	604	672

Figure 2: Summary Statistics for Bourbon

3 Outstanding Performance

Except for the fundamental side of whisky, the boom of this asset class can also be witnessed by comparing with other mainstream asset, which is shown in 3 [4]. The annual return of whisky is 20.0% over these 10 years, exceptionally outperforming S&P 500 and FTSE-100, and other worse performed assets.

Asset Class Price Performance (2012 - 2022)		
Asset Class	Total Performance	Compound Annual Growth Rate
Fine Whisky (Apex 1000)	416.7%	20.0%
US Equities (S&P 500)	199.7%	13.0%
UK Equities (FTSE-100)	27.7%	2.8%
Corporate Bonds (USD)	25.8%	2.6%
Gold	14.4%	1.5%
US Treasuries	10.8%	1.1%
Oil	-4.6%	-0.5%
Hong Kong Equities (HSI)	-6.9%	-0.8%

Figure 3: Whisky performance compared to mainstream asset

Moreover, such impressive return is coupled with extremely low variance, making Whisky an asset class that maintained Sharpe Ratio more than 12 [4].

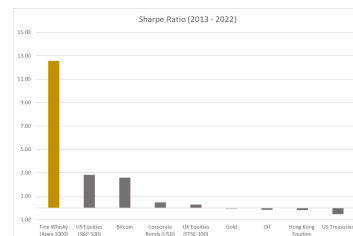


Figure 4: Whisky Sharpe Ratio compared to mainstream asset

4 Low β

By calculating the correlation between Whiskey Index return and the mainstream asset classes return,

it is even surprisingly that the relationship is such low in 5. Such a low β with the market can be rewarding for portfolio construction and its negative correlation with the U.S. Stock Index and Treasury can be a good hedge for the portfolio. Besides, if the inflation is high enough to hurt the buying power, which is the current economic situation, the value of rare whiskey may dramatically increase.

Risk-Neutral Correlation Matrix									
	Rare Whisky	US Equities	Asia Equities	UK Equities	Oil	Gold	Corporate Bonds (USD)	US Treasuries	Brexit
Rare Whisky	100.0%	-5.4%	1.7%	-5.3%	13.4%	-5.2%	-10.4%	-17.3%	5.3%
US Equities	-5.4%	100.0%	15.7%	15.4%	-19.3%	1.3%	30.7%	-23.3%	6.3%
Asia Equities	1.7%	15.7%	100.0%	43.3%	-15.3%	8.3%	20.7%	-13.3%	11.3%
UK Equities	-5.3%	15.4%	43.3%	100.0%	-13.3%	5.3%	22.7%	-7.3%	-2.3%
Oil	13.4%	-19.3%	-15.3%	-13.3%	100.0%	1.3%	35.7%	-44.7%	3.4%
Gold	-5.2%	1.3%	8.3%	5.3%	1.3%	100.0%	35.7%	-40.7%	-17.3%
Corporate Bonds (USD)	-10.4%	30.7%	20.7%	22.7%	35.7%	35.7%	100.0%	51.7%	-2.7%
US Treasuries	-17.3%	-23.3%	-13.3%	-7.3%	-44.7%	-40.7%	51.7%	100.0%	-2.7%
Brexit	5.3%	6.3%	11.3%	-2.3%	3.4%	-17.3%	-2.7%	-2.7%	100.0%

Figure 5: Correlation Matrix (Attention to the first column)

5 Risk but also Opportunity

It is essential to consider the risk of this investment due to the low liquidity and the fact that its prices are strongly influenced by consumer behaviour. This can be better illustrated according to the reasons for the rare whisky price increments. From the macro perspective, the price increase comes from demand exceeding supply, and the growth in the number of affluent people around the world over the years has greatly increased the desire to buy luxury products like rare whisky. Combined with relatively solid inflation growth globally after the financial crisis, the price of rare whisky, which has the attributes of consumption, has received a huge benefits. Moreover, rarity is the most important property for luxury products. In February, a limited edition single cask Macallan whisky sold at auction for \$250,000, three times the maximum guide price [5]. The rarity of whisky comes from its special craftsmanship, bottling, specific cask (which may not even be produced anymore), and vintage. These all reasons contribute to the boost of rare whisky from both nominal and real terms.

As the diagram of 1 shows, the Rare Whisky Icon Index took a more dramatic dip in the second half of 2023. And [6] explains that although new investors and enthusiasts are still entering the rare whisky auction market, the trend is shifting towards lower priced whiskies due to a difficult macroeconomic backdrop. While trading volumes of rare whisky are still rising, the erosion of per-trade profits has brought the value of rare whisky to a standstill.

However, based on the above analyses, the uniqueness of rare whiskies will only become more valuable over time, despite the fact that weak con-

sumption will affect nominal price increments. The current decline in index prices is not only a reflection of weak demand, but also gives the possibility for investors to enter this asset class at lower cost (although the most cherished whiskies have not seen significant price fluctuations [6]). Assuming that the most valuable whisky will continue to follow the performance in this decade, this alternative investment will still produce impressive returns.

6 Investment Recommendation

Back to the ultimate investment strategy, there are a number of ways to make an investment in rare whisky, the most straightforward of which is of course buying the physical whisky directly from the auction house. Through this approach, the investor can be as sure as possible that the whisky is not a fake, and it also exposes the whisky to the public, making it easier to resell in the future.

However, buying a whisky entity outright requires the investor to have a deep understanding of the spirit and preservation measures, thus with great entry-bar to this investment cases. Additionally, purchasing at auction houses carry a high premium and bottled whisky can be relatively expensive, requiring a high level of commitment from the investor. Other options could be to buy whisky casks (the same threshold but at a lower cost) or to buy whisky-related ETF indices [1]. Notably, domain knowledge of the sector is obviously essential to obtain the out-sized returns, hence in fact the best way to go is still to buy the most appropriate whisky entity or cask instead of going to the ETF choice. Gerenally, speaking, as the profits come from the appreciation of rare whisky, it is better to wait for enough time horizon so that the growth potential can be realized. The suggested investment horizon is 5-10 years.

Consideration of the broader economic environment is equally vital. Faced with the possibility of a recession, a better approach would be to adopt a Long/Short strategy, betting on the luxury attributes of rare whisky by short the consumption sector, or just shorting cheap whisky.

For myself, a student who likes Glenfiddich and Yamazaki, I will to bet 10% of my own asset in rare whiskies. Not only would I then can make a high potential return, but I would also be able to drink such precious spirits for pleasure if making the mistake of investing certain whiskies.

7 Reference

- [1] Urner, Dan. “How to Invest in Whisky.” [Www.moneyland.ch, www.moneyland.ch/en/whisky-investment-practical-guide](http://www.moneyland.ch/en/whisky-investment-practical-guide).
- [2] “Rare Whisky Icon 100 Index Rare Whisky 101 Ltd.” [Www.rarewhisky101.com, www.rarewhisky101.com/indices/market-performance-indices/rare_whisky_100_index](http://www.rarewhisky101.com/indices/market-performance-indices/rare_whisky_100_index).
- [3] Lennon, Conor, and Tom Shohfi. “Unbridled Spirit: Illicit Markets for Bourbon Whiskey.” *Journal of Economic Behavior & Organization*, vol. 191, Nov. 2021, pp. 1025–1045, <https://doi.org/10.1016/j.jebo.2021.09.045>.
- [4] Howard, Jeremy. “A Decade of Fine Whisky Performance.” *Cru*, 23 May 2022, uk.cruworldwine.com/cru-world/decade-of-fine-whisky-performance/.
- [5] Livsey, Alan. “Rare Whisky: Better than Liquid Gold for Investors.” *Financial Times*, 14 Mar. 2023, www.ft.com/content/4a3f4e64-2f93-43a9-b9b1-d2b8acda3f74.
- [6] Mercer, Chris. “Rare Whisky Auction Market Is ‘Softening’, Says New Report.” *Decanter*, 30 Nov. 2023, www.decanter.com/wine-news/rare-whisky-auction-market-is-softening-says-new-report-518232/.