Exploring the value of The Macallan by introduction of “year release” on label.

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Contributions

- **Contextual contributions**
  - The Macallan secondary market price behavior
  - Hong Kong whisky market

- **Theoretical contribution**
  - To analyse time-dependent behaviour of whisky by inclusion of year release on label
Literature review

(Moroz and Pecchioli, 2018)
• distiller’s reputation, age of whisky and vintage affect positively the price.
• discussed time-independent of whisky - the objective and sensory characteristics of whisky do not depend on vintage climate; a bottle of whisky has no aging potential: and objective and sensory characteristics of whisky in bottle will not change over time time.
• Whiskies studied – Islay single malt
• When age of bottle was missing – relate to year of distilling and bottling

(Moroz and Pecchioli, 2019)
• whisky behave similar to fine wine with higher rate of return (Masset and Henderson, 2010)
• vintage age (years distillation happened to the date data collected) is found positive correlated to retail price. Vintage age has more significant impact to price than bottle age.
• distillery reputation is a key influential factor.

(Moroz and Pecchioli, 2021)
• ask price positively correlated to Jim Murray rating.
• when we control for extrinsic variables of whisky bottles, i.e. characteristics that are taste independent (distillery name, whisky age, etc.), the impact of the ratings becomes statistically insignificant. This can be attributed to the fact that these extrinsic characteristics partly explain the ratings.
Other supporting literature

• **Ask price** *(Schamel and Anderson, 2003; Oczkowski and Doucouliagos, 2014; Oczkowski, 2015; Moroz and Pecchioli, 2019)*

• **Determinants of wine prices** *(Combris, Lecocq, and Visser, 1997, 2000; Jones and Storchmann, 2001)* **Determinants of whisky prices** *(Moroz and Pecchioli, 2019)*

• **Vintage related variation of value** *(Ashenfelter, Ashmore, and Lalonde, 1995)* **depends on climatic situation during harvest** *(Ashenfelter, Ashmore, and Lalonde, 1993; Byron and Ashenfelter, 1995; Wood and Anderson, 2006; Chevet, Lecocq, and Visser, 2011)*

• **Studies of wine as an investment assets** *(Lucey and Devine, 2015; Aytac, Hoang & Mandou, 2016)*

• Dynamic **Analysis of Brand and Regional Reputation**. wines from producers with a high quality reputation rely more on their own strengths and will depend less on their region's reputation. *(Schamel, 2009)*

• **Higher price to signal a higher quality** *(Milgrom and Roberts 1986, Bagwell and Riordan 1991, Landon and Smith 1998, Mahenc and Meunier 2003)*

• **Brand recognition influence market price** *(page, 2019)*
Why The Macallan

• Idea came about in 2022 when The Macallan Harmony Collection I & II were released online at limited release. Subscribers of The Macallan.com can purchase The Macallan Harmony at GBP 180. Once all the stocks are sold in hour, price went up to GBP 350+ in Hong Kong immediately.

• since 2016, “The Macallan 18 Year Old Sherry Oak Single Malt Scotch Whisky (The Macallan 18)” has been released yearly, with year release printed on label. Such vintage release behaviour is similar to fine wine (Moroz and Pecchioli, 2018) and is a new way of marketing a whisky.

• “The Macallan 18 is one of the top 6 most popular whisky available in HK. (Winesearcher, 2023) – others: Ballantine, Chivas Regal, Glenfiddich, Johnnie Walker, Royal Salute)

• The Macallan is also the first distillery who gave birth to “single malt” market since 1980s (marklittler); with the first The Macallan 18 launched in 1984, sherry cask used from ex-sherry to bespoke seasoned sherry cask for age of The Macallan 18.

• The Macallan has been a well known collector item, but why and what makes it a collector item? What meaning the year release info on label added to the whisky? Trying to answer it by value through eyes of customers.
Comparison of this study to LR

**LR**
- Ask price
- Distillery reputation
- Vintage age / bottle age
- Time-independent
- Whisky Exchange / Master of malt data

**This study – The Macallan**
- First release price / post release price
- Brand (both brand and distillery)
- Year release
- Time-dependent
- PRO Wine Searcher data
Problem Statement

• What is the economic value of “The Macallan 18 Year Old Sherry Oak Single Malt Scotch Whisky” (The Macallan 18) post release?
• Is primary and secondary data telling us the same thing on price post release of The Macallan 18?
• What attributes for consumers’ willingness to pay for The Macallan?
Mixed methods – methodology

• Primary data – collected through whisky consumers, min 3 years to max 10 years of experience. n=28
  • A question related to meaning of single malt is asked and only those surveys with correct answer to this question will be used. n=21
  • Date of data collection – 28 Apr to 2 Jun 2023
• Secondary data – collected by hand through PRO wine-searcher, for post release price recorded by month (HK average retail price) for “The Macallan 18” of “2016 release” to “2023 release”. N observed in max = 84 months
  • Date of data collection – 28 May – 3 Jun 2023
  • 1GBP = 10HKD
## Consumer survey – descriptive statistics

<table>
<thead>
<tr>
<th>Brand recognition</th>
<th>The Macallan</th>
<th>Johnnie Walker</th>
<th>Ballatine</th>
<th>Glenfiddich</th>
<th>Chivas Regal</th>
<th>Royal Salute</th>
</tr>
</thead>
<tbody>
<tr>
<td>brand popularity</td>
<td>67%</td>
<td>33%</td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
</tr>
<tr>
<td>brand that have potential increase in price post release</td>
<td>67%</td>
<td>3%</td>
<td>7%</td>
<td>10%</td>
<td>0%</td>
<td>13%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Price and brand recognition</th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>aware of whisky with price increase post release</td>
<td>67%</td>
<td>33%</td>
</tr>
<tr>
<td>is The Macallan different from other whiskies</td>
<td>77%</td>
<td>23%</td>
</tr>
<tr>
<td>is The Macallan expensive in terms of price</td>
<td>95%</td>
<td>0%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Attributes on price increment</th>
<th>award winning</th>
<th>brand</th>
<th>quality</th>
<th>taste</th>
<th>vintage</th>
<th>history</th>
<th>smell</th>
<th>single malt</th>
<th>label</th>
<th>sherry cask</th>
</tr>
</thead>
<tbody>
<tr>
<td>choose one attribute that is most important reason behind this price surge post release</td>
<td>40%</td>
<td>15%</td>
<td>15%</td>
<td>15%</td>
<td>10%</td>
<td>5%</td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
</tr>
<tr>
<td>choose more than one attribute that are most important reasons behind this price surge post release</td>
<td>17%</td>
<td>17%</td>
<td>17%</td>
<td>13%</td>
<td>18%</td>
<td>4%</td>
<td>3%</td>
<td>10%</td>
<td>0%</td>
<td>0%</td>
</tr>
<tr>
<td>The Macallan 18 - why is that they have such price behaviour</td>
<td>3%</td>
<td>40%</td>
<td>15%</td>
<td>5%</td>
<td>13%</td>
<td>3%</td>
<td>0%</td>
<td>10%</td>
<td>10%</td>
<td>3%</td>
</tr>
</tbody>
</table>
The Macallan 18, post release price, Mean
N=84 months, 2016 to 2023 release (GBP)

\[ y = 9.56x + 153.1 \]

\[ R^2 = 0.9043 \]
### Secondary data – descriptive statistics

(1) Year release  | Count | First release price | Mean  | Median | Std. Dev. | Minimum | Maximum  
--- | --- | --- | --- | --- | --- | --- | --- 
2016 | 84  | 209.5    | 464.1 | 361.5 | 284  | 148.0  | 1075.0  
2017 | 70  | 228.0    | 463.4 | 349.6 | 228  | 180.0  | 887.6   
2018 | 55  | 248.0    | 412.9 | 288.3 | 173  | 238.5  | 766.7   
2019 | 44  | 268.0    | 417.1 | 403.4 | 148  | 250.0  | 612.1   
2020 | 33  | 282.0    | 415.1 | 460.1 | 105  | 254.3  | 540.1   
2021 | 24  | 299.0    | 427.5 | 452.8 | 56   | 270.0  | 471.4   
2022 | 14  | 318.0    | 452.4 | 434.2 | 72   | 410.0  | 700.0   
2023 | 3   | 348.0    | 337.1 | 337.2 | 0    | 336.7  | 337.5   

(2) Release year | Count | First release price | Mean  | Median | Std. Dev. | Minimum | Maximum  
--- | --- | --- | --- | --- | --- | --- | --- 
2016 | 22  | 209.5    | 197.6 | 195.5 | 296  | 148.0  | 274.0   
2017 | 22  | 228.0    | 265.0 | 279.5 | 571  | 180.0  | 330.3   
2018 | 22  | 248.0    | 261.5 | 259.0 | 105  | 238.5  | 281.9   
2019 | 22  | 268.0    | 276.4 | 258.2 | 375  | 250.0  | 376.7   
2020 | 22  | 282.0    | 366.5 | 337.5 | 976  | 254.3  | 514.7   
2021 | 22  | 299.0    | 441.1 | 454.7 | 339  | 348.3  | 471.4   

(3) Release year | Count | First release price | Mean  | Median | Std. Dev. | Minimum | Maximum  
--- | --- | --- | --- | --- | --- | --- | --- 
2016 | 44  | 209.5    | 259.5 | 258.0 | 711  | 148.0  | 377.0   
2017 | 44  | 228.0    | 306.3 | 329.8 | 584  | 180.0  | 370.8   
2018 | 38  | 248.0    | 322.1 | 269.2 | 1075 | 238.5  | 569.7   
2019 | 44  | 268.0    | 417.1 | 403.4 | 1486 | 250.0  | 612.1   

Price in GBP
The Macallan 18, post release vs first release price, Mean
N=22 months, 2016 to 2021 release (GBP)

\[ y = 43.9x + 147.6 \]
\[ R^2 = 0.8863 \]

\[ y = 17.9x + 192.8 \]
\[ R^2 = 0.9969 \]
The Macallan 18, post release vs first release price, Mean
N=44 months, 2016 to 2019 release (GBP)

\[ y = 48.8x + 204.0 \]
\[ R^2 = 0.9097 \]

\[ y = 19.5x + 189.5 \]
\[ R^2 = 0.9996 \]
Regression result

<table>
<thead>
<tr>
<th></th>
<th>Model</th>
<th></th>
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<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>(1)</td>
<td>(2)</td>
<td>(3)</td>
<td></td>
</tr>
<tr>
<td>Intercept (GBP)</td>
<td>153***</td>
<td>234***</td>
<td>179***</td>
<td></td>
</tr>
<tr>
<td>Adj. $R^2$</td>
<td>0.90314921</td>
<td>0.98217135</td>
<td>0.95572419</td>
<td></td>
</tr>
<tr>
<td>F-value</td>
<td>77.49</td>
<td>115.79</td>
<td>92.92</td>
<td></td>
</tr>
<tr>
<td>monthly (GBP)</td>
<td>9.57</td>
<td>5.82</td>
<td>6.82</td>
<td></td>
</tr>
<tr>
<td>N</td>
<td>84</td>
<td>22</td>
<td>44</td>
<td></td>
</tr>
<tr>
<td>Year release</td>
<td>2016-2023</td>
<td>2016-2021</td>
<td>2016-2019</td>
<td></td>
</tr>
</tbody>
</table>

*** denote statistical significance at 1%
Conclusion

• By introduction of “year release” The Macallan 18 created an measurable value to customers. For the two point of time we studied for the post release behaviour, the average price doubled for The Macallan 18, 2016 release (first release price GBP 209.5), The Macallan 18, 2019 release (mean GBP 441) with N=44; The Macallan 18, 2021 release (mean GBP 417) with N=22. Although whisky should be time-independent (Moroz and Pecchioli, 2018), the introduction of year release information is found to have added meaning to whisky consumers, giving time-dependent meaning to whisky.

• Distillery (95%) / brand (40%) affects positively the post release price of The Macallan 18.

• Main attributes for consumers’ willingness to pay for The Macallan is the Brand. Other attributes included quality, vintage, label & Single Malt.
Q: If you have been given a choice between buying a 2016 release or 2023 release of The Macallan 18 today, what will be your investment preference?

2023 release to buy

• Time-dependent for The Macallan 18 - year on year proven secondary market post release performance – higher value for latest releases.

• Brand – modernalised, master of The Macallan crafted whisky.

• Unknown storage condition for older bottle.
Further research

• Engage further customers to expand n for survey

• Other whiskies who followed same post release concept (although not that we are aware of) to compare first release price to post release price behaviour. To solidify the meaning of “year release” to customers / investors for wider whisky brand / distillery.

• HK Law still 100% tax for whisky – a paper to government to suggest to lift the whisky imposed tax. Because HK has become a tax free zone for wine since 2008. Why not for whisky?