Reviewer report 1

English language and style

( ) Extensive editing of English language and style required  
( ) Moderate English changes required  
(x) English language and style are fine/minor spell check required  
( ) I don't feel qualified to judge about the English language and style

Text

Description automatically generated with medium confidence

We would like to thank you for your constructive comments. In the enclosed revised version, we tried our best to answer the points raised by all the referees and incorporate them into the revised manuscript. We believe that your comments improved the clarity, readability, and quality of the paper. They are addressed here in the order they appear in your report (in bold) followed by our reply.

In the summary below, we describe shortly the following remedies to our paper following all the referee comments:

1. The sample period for the CAAR calculation has been extended. In addition to the original period (2013 – 2017), we add the years 2018-2019 to the sample. This addition more than doubled the sample size.
2. The literature review was revised. Four papers that delt with stock behavior at the end of the lockup period were omitted and 13 recent relevant papers were added.
3. To shorten the paper, we perform the followings: i) the introduction was revised. ii) The detailed description of the IPO regulatory periods (former section 1.2) was deleted. iii) table 7 with Granger’s causality tests was also deleted as we consider its contributions as marginal.
4. Tables 1 and 2 were re-edited and are now more informative. Table 3 has been updated due to sample extension and the CAAR results recalculated for the extended sample. In addition, the results are now displayed in a single panel to increase its readability.
5. To strengthen and pinpointing the value of $ 500M as a separator between “poor” and "rich", we did robustness tests for additional values. The results are displayed in appendix A.
6. The regression analysis was revised. i) for regressions of return as a dependent variable (table 6 panel A), we replace the beta independent variable with RM variable for a better specified model ii) We re-estimated betas for the years IPO+1 and IPO+2 based on a time window ending 10 trading days before the first observation of that year, to ensure updated betas. The AR part (Panel B of table 6) was recalculated, embracing the new betas.

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Comments and Suggestions for Authors

Dear authors,

Below I place synthetic remarks regarding the article

1. **Literature requires a firm update for articles from 2018 and later**

Thank you for bringing this fact to my attention. While rewriting the literature review. I hold in mind your comment that the article was too long. Hence, I omitted the section dealt with stocks behavior at the expiration of the lock-up period which seems now less relevant. As a result, the following papers were removed from the revised version.

* Ofek, E. (2000). The IPO lock-up period: Implications for market efficiency and downward sloping demand curves.
* Bradley, D. J., Jordan, B. D., Yi, H. C., & Roten, I. C. (2001). Venture capital and IPO lockup expiration: An empirical analysis. Journal of Financial Research, 24(4), 465-493.
* Brav, A., & Gompers, P. A. (2003). The role of lockups in initial public offerings. The Review of Financial Studies, 16(1), 1-29.‏
* Field, L. C., & Hanka, G. (2001). The expiration of IPO share lockups. The Journal of Finance, 56(2), 471-500.‏

In addition, I have also omitted

* Chang, C., Chiang, Y. M., Qian, Y., & Ritter, J. R. (2017). Pre-market trading and IPO pricing. The Review of Financial Studies, 30(3), 835-865.

The followings recent papers were added

* Berk, A. S., & Peterle, P. (2015). Initial and long-run IPO returns in Central and Eastern Europe. *Emerging Markets Finance and Trade*, *51*(sup6), S42-S60.‏
* Binder, J. (1998). The event study methodology since 1969. *Review of quantitative Finance and Accounting*, *11*(2), 111-137.‏

Binder, J. (1998).

* Boubaker, S., Cellier, A., Manita, R., & Toumi, N. (2020). Ownership Structure and Long-Run Performance of French IPO Firms. *Management international/International Management/Gestiòn Internacional*, *24*(5), 135-152.‏
* Chen, C., & Xu, H. (2015). The Roles of Innovation Input and Outcome in IPO Pricing--Evidence from the Bio-Pharmaceutical Industry in China.‏
* Dambra, M., Field, L. C., & Gustafson, M. T. (2015). The JOBS Act and IPO volume: Evidence that disclosure costs affect the IPO decision. Journal of Financial Economics, 116(1), 121-143.‏
* Gao, Y., Mao, C. X., & Zhong, R. (2006). Divergence of opinion and long‐term performance of initial public offerings. Journal of Financial Research, 29(1), 113-129
* Gregori, G. L., Marinelli, L., Mazzoli, C., & Severini, S. (2020). The social side of IPOs: Twitter sentiment and investors attention in the IPO primary market. African Journal of Business Management, 14(12), 529-539.‏
* Guo, R. J., & Zhou, N. (2016). Innovation capability and post-IPO performance. *Review of Quantitative Finance and Accounting*, *46*(2), 335-357.‏
* Komenkul, K., & Kiranand, S. (2017). Aftermarket Performance of Health Care and Biopharmaceutical IPOs: Evidence From ASEAN Countries. *INQUIRY: The Journal of Health Care Organization, Provision, and Financing*, *54*, 0046958017727105.‏
* Kwan, T. (2015). Twitter Volume and First Day IPO Performance.‏
* Kumar, A., & Sahoo, S. (2021). Do anchor investors affect long run performance? Evidence from Indian IPO markets. *Pacific Accounting Review*.‏
* Lin, T. Y., Yu, J., & Lin, C. Y. (2021). IPO’s Long-Run Performance: Hot Market versus Earnings Management. *Journal of Risk and Financial Management*, *14*(3), 132.‏
* Mello, A. S., & Parsons, J. E. (1998). Going public and the ownership structure of the firm. Journal of financial economics, 49(1), 79-109.‏
* Shimizu, Y., & Takei, H. (2016). Examining the Existence of Long-run Initial Public Offering (IPO) Underperformance at Three Different Stock Exchange Markets in Japan. *Business Management and Strategy*, *7*(2), 190-206.‏
* Thakor, R. T., Anaya, N., Zhang, Y., Vilanilam, C., Siah, K. W., Wong, C. H., & Lo, A. W. (2017). Just how good an investment is the biopharmaceutical sector? Nature biotechnology, 35(12), 1149
* Zingales, L. (1995). Insider ownership and the decision to go public. The review of economic studies, 62(3), 425-448.‏

1. **The examined period 2013-2017 should be supplemented by later years. We already have 2021. I would consider including consecutive years to the current analysis or to use them to verify ex post applications.**

Thank you for your valuable comment. Following your comment, we extended the sample period from 2013 – 2017 to 2013 -2019 and repeated the CAAR calculation for the extended sample. This addition more than doubled the number of observations, from 182 to 367 observations. It should be noted that for companies that performed an IPO after 2018 there is less than 3 full years of consecutive prices. Accordingly, the following tables were updated.

Table 1: Number of IPOs per year

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **year** | **total** | **biotech.** | **biotech (%)** | **sample** |
| 2013 | 248 | 52 | 17% | 30 |
| 2014 | 312 | 85 | 24% | 70 |
| 2015 | 200 | 64 | 27% | 49 |
| 2016 | 128 | 33 | 25% | 29 |
| 2017 | 210 | 51 | 24% | 50 |
| 2018 | 258 | 82 | 32% | 82 |
| 2019 | 266 | 69 | 26% | 57 |
| Total | 1,622 | 403 |  | 367 |

Note: This table presents the number IPOs that took place in the USA during the years of the sample, the number of Biotech IPOs in these years and the number of IPOs included in the sample.

Table 2: Descriptive statistics for Market Value ($M) as of the end of the IPO year

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | **2013** | **2014** | **2015** | **2016** | **2017** | **2018** | **2019** | **2013-2019** |
| **Average** | 487 | 405 | 489 | 425 | 499 | 766 | 650 | 556 |
| **Median** | 374 | 229 | 287 | 299 | 368 | 337 | 301 | 297 |
| **Min** | 45 | 11 | 1 | 9 | 19 | 12 | 8 | 1 |
| **Max** | 2,308 | 2,165 | 2,347 | 1,843 | 2,685 | 11,528 | 7,166 | 11,528 |
| **STD.Dev** | 456 | 452 | 576 | 444 | 521 | 1,600 | 1,129 | 964 |
| **Count** | 30 | 70 | 49 | 29 | 50 | 82 | 57 | 367 |

**Table 3: CAAR for selected time periods after the IPO**

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | **Sector Index** | | | | | |  | **Market Index** | | | | | |
| Days | **All sample** | | **Large Firms** | | **Small Firms** | |  | **All sample** | | **Large Firms** | | **Small Firms** | |
| CAAR | t-stat. | CAAR | t-stat. | CAAR | t-stat. | CAAR | t-stat. | CAAR | t-stat. | CAAR | t-stat. |
| 1 to 10 | 0.21% | 0.04 | 2.39% | 0.43 | -0.66% | -0.12 |  | 0.35% | 0.06 | 2.54% | 0.46 | -0.80% | -0.14 |
| 1 to 20 | 1.71% | 0.34 | 5.58% | 1.20 | 0.25% | 0.05 |  | 1.97% | 0.39 | 5.69% | 1.21 | -0.08% | -0.01 |
| 1 to 50 | -1.99% | -0.40 | 9.05% | 1.80 | -8.22% | -1.65 |  | -1.44% | -0.29 | 9.60% | 1.88 | -8.54% | -1.71 |
| 1 to 100 | -7.10% | -1.54 | 12.91% | 3.14 | -15.64% | -3.46 |  | -6.31% | -1.36 | 13.78% | 3.25 | -16.38% | -3.62 |
| 1 to 150 | -16.04% | -3.55 | 9.07% | 2.26 | -26.80% | -5.99 |  | -15.08% | -3.29 | 10.20% | 2.47 | -27.70% | -6.28 |
| 1 to 200 | -21.46% | -4.62 | 12.47% | 3.28 | -36.35% | -7.77 |  | -20.53% | -4.32 | 13.88% | 3.55 | -37.06% | -8.09 |
| 1 to 250 | -26.74% | -5.71 | 6.00% | 1.58 | -40.56% | -8.46 |  | -25.21% | -5.33 | 7.81% | 2.03 | -41.89% | -8.84 |
| 1 to 375 | -36.80% | -8.03 | 5.96% | 1.49 | -55.31% | -12.01 |  | -36.72% | -7.84 | 6.26% | 1.54 | -55.30% | -12.32 |
| 1 to 550 | -58.61% | -11.92 | -4.09% | -1.11 | -83.62% | -16.24 |  | -60.40% | -12.07 | -5.62% | -1.51 | -81.71% | -16.23 |
| 1 to 755 | -84.08% | -19.00 | -38.45% | -11.55 | -104.17% | -22.45 |  | -85.40% | -19.19 | -38.46% | -11.39 | -102.3% | -22.10 |
| Obs. | 367 | | 116 | | 251 | |  | 367 | | 116 | | 251 | |

**Panel A: CAAR to Sector Index**



**Panel B: CAAR to Market Index**



Regarding the second part of the paper, using tweets volume as a proxy for investors’ attention. Due to many limitations of using Twitter API, retrieving tweets took many hundreds of hours. If we add the time required to read and filter out irrelevant tweets, the task becomes impossible in the time frame given for revising the manuscript. As a result, we do not retrieved tweets for the additional 2018 -2019 years that we add in the first part, and the second part stays as before analyzes the impact of tweets for firms issued between 2017-2013. However, we have drawn the reader's attention to this by adding footnote number 8: “Due to limitations of using Twitter API, we perform this analysis only for the years2013 to 2017 **“**and updating the note below Table 4 by adding “Tweets were extracted only for firms that performed IPO between 2013 – 2017. “

1. **I would consider adding a decomposition normality test for a variable presented in Table 2.**

Thanks for your comment. Indeed, the market capitalization series is not normally distributed as can be suspected difference between the average and the median and as verified by Jarque-Bera Test for normality. The average firm value in the revised manuscript is 556M$ and the median is $297M versus average of $454M and a median of $287M in the original one. Hence, I kept over the value of $500$ as in the original version. I added to the manuscript the footnote 6: “The companies' market capitalization series is not normally distributed as evidenced by Jarque-Bera Test results”.

1. **The assumptions described in lines 246-248 and 256 seem to be very arbitrary and inconsistent with table 2 statistics.**

Thank you for this important comment.

We tried to clarify our choice by adding the following explanation to the manuscript: “

" Biotech companies have well utilized the JOBS ACT that enable ECG companies to issue shares to the public. Overall, the average size of biotech firms in our sample is very small in terms of average issue size and is about 20% of the size of companies that issued in those years. According to data from Ritter's website, the average size of a firm issued in the years 2013-2019 was $2,024M and the median was $1,202M compared to $556M and $297M in our sample (Table 2) . Given that the MV series is not normally distributed, one can argue that using the median as a separation value between small and large firms is as good as the average. We chose a number close to the average, because of our feeling the market value of $500M better perceived as a separator between small-sized and large-sized firms.“

As He, D., He, X., Zhao, T., Wang, J., Li, L., & Louwerse, M. (2020). Described that numbers perception can cause shift of attention. “People frequently use numbers in real life situations to represent quantity and order. Consequently, a tight association between space and numbers is established in which left/right spatial codes are linked to small/large number magnitudes.”

He, D., He, X., Zhao, T., Wang, J., Li, L., & Louwerse, M. (2020). Does number perception cause automatic shifts of spatial attention? A study of the Att-SNARC effect in numbers and Chinese months. *Frontiers in psychology*, *11*, 680.‏

1. **the assumption of CARR in the number of days (table 3) is also very arbitral. It needs more context and background. (line 263)**

**Thank you for bringing this to our attention.**

In presenting long-term adjusted cumulative return, most researchers presented time windows of 1, 6, 12, 18, 24 and 36 months relative the issuance date (see for example: Kumar (2020); Shimizu (2016); Lin (2021) ;Boubaker et al (2020); Berk, A. S., & Peterle, P. (2015)). To be more informative, we presented somewhat higher frequency than others in the first year: 10,20, 50, 100,150, 200 trading days and the rest are quite similar to others 1 year (255 days), 1.5 years (375 days), 2 years (550 days) and 3 years (755 days).

In addition, Figure 2 shows the daily CAAR display according to the 3 years after the issuance.

1. **I think that the sample is not divided correctly and the results in CARR significance are in fact chaotic**

This point is of great importance. For our findings to be meaningful, and both firms and investors could use them for getting better decisions, it is necessary to pinpoint the value above which a firm is perceived as "rich" in the eyes of the investor community. Following your comment, I repeated CAAR calculation for “large-sized” firms using a separation value of $100M, $200M, $300M and $400M. The results present in appendix A support the average firm value in in sample of 500M as a value above which firms are perceived as “Rich”.

The following paragraph was added to the manuscript toward the end of paragraph 3.3.

” To strengthen our choice of an average firm value of $500M as a value above which, Biotech firms are perceived as “rich” in the eyes of the investing community, we repeated CAAR calculation for large-sized firm subsample using $100M, $200M, $300M and $400M as a separator value. The results presented in Table A in the appendix, support our choice and indicating that for values smaller than $500M, the positive CAAR is either not significant or does not last beyond the first 100 days post-IPO.”

Table A: CAAR for “large-sized” firm using different separation market values

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Market Value above | **$100M** | | **$200M** | | **$300M** | | **$400M** | | **$500M** | |
| Days relative to event | CAAR, % | t-stat. | CAAR, % | t-stat. | CAAR, % | t-stat. | CAAR, % | t-stat. | CAAR, % | t-stat. |
| 1 to 10 | 1.70% | 0.31 | 3.15% | 0.58 | 3.10% | 0.56 | 2.59% | 0.47 | 2.54% | 0.46 |
| 1 to 20 | 4.25% | 0.88 | 6.16% | 1.37 | 5.76% | 1.28 | 5.50% | 1.18 | 5.69% | 1.21 |
| 1 to 50 | 3.08% | 0.62 | 6.01% | 1.22 | 9.99% | 2.07 | 9.48% | 1.94 | 9.60% | 1.88 |
| 1 to 100 | 1.16% | 0.25 | 4.87% | 1.10 | 10.23% | 2.32 | 9.38% | 2.11 | 13.78% | 3.25 |
| 1 to 150 | -5.75% | -1.30 | -1.49% | -0.35 | 5.42% | 1.27 | 4.27% | 0.99 | 10.20% | 2.47 |
| 1 to 200 | -9.59% | -2.08 | -3.24% | -0.73 | 5.33% | 1.24 | 5.29% | 1.21 | 13.88% | 3.55 |
| 1 to 250 | -15.43% | -3.31 | -7.14% | -1.67 | 0.44% | 0.10 | -1.61% | -0.37 | 7.81% | 2.03 |
| 1 to 375 | -27.48% | -5.85 | -15.69% | -3.49 | -3.00% | -0.67 | -3.03% | -0.66 | 6.26% | 1.54 |
| 1 to 550 | -48.65% | -9.76 | -38.58% | -7.71 | -19.47% | -3.99 | -11.8% | -2.83 | -5.62% | -1.51 |
| 1 to 755 | -77.80% | -17.7 | -68.63% | -14.9 | -46.55% | -13.20 | -37.4% | -11. 7 | -38.46% | -11.39 |

Note: this table present large-sized firm CAAR results, when using $100M, $200M, $300 and $400M as a separating value between small-sized and large-sized firms.

1. **"HTV as a dummy variable that receives 1 for companies with a high volume of tweets and 0 otherwise" - what does it meat "high volume". not described**

The motivation for characterizing high and low volume of tweets as above or below the median is explained in the first section of Part 4. (In the previous version Part 3) I highlighted the part that explains what HTV and LTV are (emphasis not in the original)

When considering the volume of tweets as a reflection of the level of attention a firm has attracted, it should be noted that the volume of tweets has been weighted relative to the tweet volume of other firms. As a result, even a low tweet volume can stand out in an environment where comparable firms have a lower volume or no tweets at all, thereby creating an impact, perhaps even similar to that of a firm with very high tweet volume in an environment of high tweet volumes. Therefore, the mere number of tweets itself is often meaningless; the number becomes more meaningful only when compared with others in the comparable sector**. For that reason, the number of tweets above and below the median for each year relative to the IPO have been characterized as High Twitter Volume (HTV) and Low Twitter Volume (LTV) respectively.**

1. **models presented in the second part of the study are very simple in terms of the significant market variables**

Thank you for that comment.

To alleviate this concern and following your comment, we added the following explanation before presenting the regression equations of 1 and 2

“While there are many parameters that attempt to explain stocks return, our goal was to shed light on the relationship between returns and their contemporaneous tweets volume and not to explain stock return per se(. This goal guided our choice of the explanatory variables in the multivariate section”

1. **there are no statistical tests for the obtained models. we cannot tell if there are correctly estimated.**

Thank you for your important comment. Below detailed the measure we took.

1. Regarding the set of regressions in which return is the dependent variable (Table 6 panel A), The model estimated for the IPO year alone suffered from heteroscedasticity. To solve this problem of consistent yet inefficient estimators, we replaced the beta dependent variable with the Rm variable. This replacement eliminated the heteroscedasticity problem. For consistency reasons, we relace beta variable with Rm for the years IPO+1 and IPO+2 as well. I rigorously check each and every model displayed in table 6, all of them are homoscedastic and hence well specified models.
2. We re-estimate betas for the years IPO+1 and IPO+2 based on a time window ending 10 trading days before the first observation of that year to ensure updated betas, this instead the former betas that was estimated based on the first 50 trading days. The AR part (Panel B of table 6) was recalculated, embracing the new betas. Table 5 panels B and C updated accordingly.
3. Mistakenly, we didn’t include the F-statistics and its corresponding P-value in the former version. We updated table 6 to include them.
4. We omitted the regressions with tweets volume as a standalone explanatory variable (former models 4 and 8) as it does not add extra knowledge to models 1 and 2.
5. We reorganized tables 6 and 7 in more readable manner and updated their analysis results accordingly. The revised table 6 is:

**Table 6: The Effects of Tweet Volume on Returns and Abnormal Returns (AR): Regression Results**

**Panel A: Explaining Returns**

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | **IPO Year** | | | **IPO Year +1** | | | **IPO Year +2** | | |
|  | **Model 1** | **\*Model 2** | | **Model 1** | **Model 2** | | **Model 1** | **Model 2** | |
| Intercept | 1.09 (0.07) | | 1.21 (0.05) | -0.14 (0.44) | | -0.21 (0.26) | -0.05 (0.80) | | -0.05 (0.79) |
| Year 2013 | -1.06 (0.05) | | -1.23 (0.03) | 0.00 (0.98) | | 0.00 (0.99) | -0.55 (0.08) | | -0.54 (0.08) |
| Year 2014 | -1.03 (0.05) | | -1.23 (0.03) | -0.12 (0.61) | | -0.08 (0.75) | -0.03 (0.88) | | -0.04 (0.85) |
| Year 2015 | -1.45 (0.02) | | -1.61 (0.01) | 0.03 (0.88) | | -0.07 (0.71) |  | |  |
| Year 2016 | -1.28 (0.02) | | -1.49 (0.01) |  | |  |  | |  |
| Rm\_sector | 1.60 (0.20) | | 1.64 (0.20) | 2.13 (0.05) | | 2.69 (0.02) | 1.2 (0.37) | | 1.2 (0.36) |
| NMV | 0.22 (0.00) | |  | 0.26 (0.00) | |  | 0.03 (0.74) | |  |
| HTV | 0.18 (0.21) | | 0.30 (0.04) | 0.36 (0.01) | | 0.47 (0.00) | 0.46 (0.01) | | 0.47 (0.01) |
|  |  | |  |  | |  |  | |  |
| Adjusted R2 | 0.19 | | 0.15 | 0.23 | | 0.16 | 0.06 | | 0.07 |
| F stat (p-value) | 7.08 (0.00) | | 6.18 (0.00) | 9.86 (0.00) | | 7.68 (0.00) | 2.96 (0.01) | | 3.69 (0.00) |
| Obs. | 182 | | 182 | 178 | | 178 | 147 | | 147 |

**Panel B: Explaining AR to Sector**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
|  | **IPO Year** | | **IPO Year +1** | | **IPO Year +2** | | |
|  | **Model 1** | **Model 2** | **Model 1** | **Model 2** | **Model 1** | **Model 2** | |
| Intercept | 0.20 (0.59) | 0.31 (0.42) | -0.13 (0.38) | -0.22 (0.16) | 0.07 (0.74) | | 0.06 (0.77) |
| Year 2013 | -0.18 (0.64) | -0.32 (0.42) | -0.05 (0.80) | -0.05 (0.80) | -0.58 (0.02) | | -0.58 (0.02) |
| Year 2014 | -0.08 (0.84) | -0.24 (0.53) | -0.34 (0.03) | -0.37 (0.02) | -0.02 (0.91) | | -0.03 (0.87) |
| Year 2015 | -0.69 (0.07) | -0.84 (0.03) | -0.04 (0.82) | -0.16 (0.34) |  | |  |
| Year 2016 | -0.36 (0.35) | -0.54 (0.18) |  |  |  | |  |
| Beta\_sector | -0.19 (0.00) | -0.19 (0.00) | -0.03 (0.78) | 0.07 (0.49) | -0.08 (0.52) | | -0.08 (0.54) |
| NMV | 0.18 (0.00) |  | 0.25 (0.00) |  | 0.03 (0.69) | |  |
| HTV | 0.08 (0.4) | 0.18 (0.07) | 0.19 (0.09) | 0.27 (0.03) | 0.49 (0.01) | | 0.50 (0.01) |
|  |  |  |  |  |  | |  |
| Adjusted R2 | 0.22 | 0.17 | 0.16 | 0.06 | 0.04 | | 0.05 |
| F stat (p-value) | 8.43 (0.00) | 7.06 (0.00) | 6.55 (0.00) | 3.14 (0.01) | 2.25 (0.05) | | 2.79 (0.03) |
| Obs. | 182 | 182 | 178 | 178 | 147 | | 147 |

Accordingly, we updated the description of the results.

1. **article is too long.**

I agree and therefore I have tried my best to shorten the article without compromising its quality and the main message it is trying to convey. I did the following: 1) I shortened the introduction and eliminated the section that extensively described the regulatory periods around the IPO (Section 1.2 in the original scenario) 2) I omitted from the literature review the articles examining yield behaviour around the lockout period. 3) I re-edited Tables 3 and Figure 2 in a way that shortened them. 4) I eliminated Table 7 which presented Granger’s causality test results. However, despite these efforts, due to the addition of recent studies to the literature review and clarifications following the referee's comments, the total number of words remains almost unchanged. 5) W combine the display of equations 3-4 and 5-6 because they differ from each other only in the dependent variable.

Finally, we would like to thank you again for the time and effort spent on the previous version of our manuscript. The insightful comments and suggestions are all valuable and very helpful for revising and improving our manuscript.

Sincerely, the Authors

Submission Date

19 July 2021

Date of this review

25 Jul 2021 23:02:54