



Short-term options: Clienteles, market segmentation, and event trading

Arjun Chatrath^{a,1}, Rohan A. Christie-David^{b,*}, Hong Miao^{c,2}, Sanjay Ramchander^{c,3}^a Pamplin School of Business, University of Portland, Portland, OR 97203, USA^b College of Business, University of Louisville, Louisville, KY 40292, USA^c Department of Finance and Real Estate, Colorado State University, Fort Collins, CO 80523, USA

ARTICLE INFO

Article history:

Received 4 September 2014

Accepted 7 September 2015

Available online 16 September 2015

The authors thank the editor and the reviewer for their helpful comments that helped focus and improve the paper. The authors would also like to thank numerous other readers of the manuscript for their comments.

JEL classification:

G130

Keywords:

Weeklys

Monthlys

Greeks

Implied volatility

Spread

Price discovery

ABSTRACT

We compare clientele and information share in weekly- (Weeklys) and monthly-expiring options (Monthlys) on the S&P 500 index. Striking dissimilarities between the two instruments are found, most apparent being the much smaller trade size and substantially higher implied volatility in Weeklys, consistent with both speculation and event trading. Additionally, the price discovery contribution of Weeklys, albeit modest when compared to the underlying index itself, is substantially larger than that of Monthlys. The cumulative evidence points to an increasingly segmented options market. Thus, studies employing only standard options to investigate price discovery will likely underestimate the informational role of options.

© 2015 Elsevier B.V. All rights reserved.

1. Introduction

This study addresses two important questions about clienteles and information share in short-term options (STOs). First, do STOs cater to a different clientele *vis-a-vis* standard options? This question, relating to potentially different investor clienteles, follows naturally from the stated objectives of exchanges in listing STOs. The Chicago Board of Options Exchange (CBOE) introduced weekly-expiring options (Weeklys) on the S&P 500 Index primarily

to fulfill the needs of short-term traders.^{4,5,6} Along these lines, we know from prior work that clienteles form at certain venues because

⁴ Their nomenclature reflects “weekly” expirations. When Weeklys were first introduced they had a shelf life of just one week, but beginning June 2012, Weeklys have had longer shelf lives (out to almost 5 weeks). Throughout their tenure though, pre- and post-June 2012, Weeklys have always been set up in such a manner that there is always a series that expires during any given week, other than the week Monthly options expire. Hence, the terminology “Weeklys” have always reflected their expirations and not their shelf lives.

⁵ Weeklys on the S&P 500 are the most seasoned of exchange traded STOs, first traded under a Securities and Exchange Commission pilot program in 2005, and becoming a regular offering at the CBOE in early 2010. Subsequently, several exchanges introduced other Weeklys, and by mid-2010, they were also traded on individual stocks and ETFs.

⁶ Certain option strategies become more attractive with Weeklys. For example, covered call writing, when employing Weeklys, would limit the time exposure of option writers. A more subtle advantage offered by Weeklys is that it is P.M. settled on expiration-Friday. Therefore, traders can manage their positions until expiration itself. Monthly expiring options typically expire on a Saturday, with trading ceasing on Thursday at 4:00 p.m. and settlement based on Friday's opening index value, leaving writers exposed to overnight moves in the Index.

* Corresponding author. Tel.: +1 502 852 7815.

E-mail addresses: chatrath@up.edu (A. Chatrath), rohan.christiedavid@louisville.edu (R.A. Christie-David), hong.miao@business.colostate.edu (H. Miao), sanjay.ramchander@business.colostate.edu (S. Ramchander).¹ Tel.: +1 503 943 7465.² Tel.: +1 970 491 2356.³ Tel.: +1 970 491 6681.

of trading motivations and preferences in trade sizes (see e.g., Bauer et al. (2009), Barclay and Warner (1993), Chakravarty (2001) and Alexander and Peterson (2007), among others). In a second question, we ask if STOs play a larger role than standard options in price discovery? There are good reasons to believe that Weeklys play a significant informational role. Several authors advance leverage inherent in options as important to this role (see Black, 1975; Easley et al., 1998; Kaul et al., 2002; Pan and Poteshman, 2006; Chakravarty et al., 2004). In theory, traders should find it preferable to participate in the cheapest, most leveraged venue for trading, as long as there is sufficient liquidity. Based on these qualifications, it would seem that Weeklys should attract clienteles who seek these advantages. Another reason to suspect that STO trades may be non-trivial is the possibility that Weeklys traders may be relatively more focused on proximate events. Yan and Zhang (2009) evaluate the performance of short-term versus long-term equity traders and offer divergent views about possible outcomes: (i) a trader who can regularly identify undervalued/overvalued assets will likely trade more frequently to exploit this informational advantage. Therefore, the transactions of a short-horizon trader may contain more information about proximate events, however, (ii) active/short-term trading could simply be symptomatic of noise trading. If the former is indeed true, Weeklys could be a source of contribution to price discovery.

The notion that Weeklys could contribute to price discovery has underpinnings in the literature – informational trading in the Treasuries and option index markets. Brandt and Kavajecz (2004) show that changes in the yield curve in Treasury markets is related to the aggregation of heterogeneous private information. Along these lines, Green (2004) finds a significant increase in the informational role of Treasury trading following macroeconomic announcements. Chatrath et al. (2009) also detect the presence of informed trading in Treasury markets and note that Treasury dealers face information asymmetries, but in a less conventional sense.⁷ Evidence of private information has also been detected in index options (see Kang et al., 2008). Kang et al. (2008) examine options on the KOSPI 200 index. These options are among the more actively traded derivatives. They document significant information asymmetry and attribute this finding to informed trading of public information. More to the point, Becker et al. (2009) also find that the VIX index not only subsumes information relating to past jump contributions to total volatility, but also reflects incremental information pertaining to future jump activity. This background suggests the possibility that trading in Weeklys could reflect important information. While firm-specific information can be a source of informational trading in index options (for example, pending an announcement of a new product or a legal settlement that is expected to move markets), trading in the Weeklys is also likely to reflect market-wide events.

The two questions we ask, about clienteles and price discovery, posed together, allow us to address yet another important question: has the introduction of STOs resulted in segmented options markets? Such considerations are of large import to regulators, exchanges, and market participants. With these considerations in mind, we employ for comparative purposes with Weeklys, standard monthly-expiring options on the S&P 500 Index (Monthlys).

1.1. Lines of inquiry

Below, we provide details about the specific lines of inquiry pursued in this study.

⁷ They note that the bid or ask quote that a dealer submits to inter-dealer brokers is held firm for two minutes unless it is transacted upon, or a new and more favorable post occurs. The firmness of the quotes leaves the dealer vulnerable for a period of time during which market conditions may change.

1.1.1. Clientele effects

To evaluate potential differences in clienteles between Weeklys and Monthlys, we examine several parameters including trade size, implied volatility, spreads and depths, among others.

Trade size, as we noted earlier, is an important indicator about the identity of market participants. The comparison of implied volatility between the two options allow for assessment of whether there is a special premium reflected in Weeklys prices, possibly arising from their popularity among event or target traders. Detection of such a premium will also explain the preference of STOs among option writers. On the other hand, evidence of similar implied volatilities between Weeklys and Monthlys point to a competitive marketplace in which Weeklys offer more flexibility, without imposing any additional premia.

We track option spreads and depths (the trade size backing the bid and ask prices) across contract expiration cycles; this is to gauge how dealers view trading in both markets. Chakravarty et al. (2004) note a positive link between price discovery and bid-ask spreads, consistent with the argument that writers impose an adverse selection premium for informed trading. Uncovering evidence of vastly different spread and depth components between Weeklys and Monthlys will indicate that dealers view clienteles in the two markets differently. Along these lines, we also estimate violations in call option bounds between the two contracts to determine if there is systematic mispricing of option cross-sections (see e.g., Constantinides et al., 2009). Lastly, we examine how well the two markets are integrated by following the work of Kapadia and Pu (2012).

1.1.2. Information effects

We examine information share in the two contracts employing Hasbrouck's (1995) information share measure (IS).⁸ Chakravarty et al. (2004) find the IS of options markets to be around 17%. Dong and Sinha (2011) document an even larger IS for index options. In our approaches, we assess IS across each day of Weeklys trading, and for robustness checks, we examine Weeklys trading around macro-events (i.e., "Save-the-Euro" events). If Weeklys draw event traders, then such trades should be more discernible on those days.

In concluding the introduction, we briefly preview our main findings. We find:

- (a) Clienteles between the two markets to be strongly distinguishable on several criteria. Weeklys experience smaller trade sizes, and trade with much narrower relative spreads than Monthlys. The larger relative spreads in Monthlys reflect inventory and order-processing considerations. Weeklys also carry substantial volatility premiums, vis-a-vis Monthlys. There is also evidence of call option boundary violations in Weeklys but not in Monthlys. However, an examination of a more recent sample show these violations to largely disappear. Tests also show the two markets to be still not fully integrated.
- (b) Informed trading to be present in both markets, but that price discovery and information share is larger in Weeklys than in Monthlys.

In summary, the evidence points to segmentation between the two markets and that they cater to different clienteles. Such an outcome is likely in line with the intentions of exchanges that offer these instruments. Moreover, our findings have a bearing on academic studies examining informational discovery; such studies may miss crucial information if they ignore STOs.

The remainder of the paper is organized as follows. In the next section we describe the data and sampling methods. Section 3

⁸ The IS is similar to the component-share measure proposed by Harris et al. (2002) in that it focuses on establishing the proportion of price discovery that occurs in a particular market.

Download English Version:

<https://daneshyari.com/en/article/5088496>

Download Persian Version:

<https://daneshyari.com/article/5088496>

[Daneshyari.com](https://daneshyari.com)