Expiration-Day Effects – An Asian Twist

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Summary

This is an examination of the intraday trading activities of index stocks on the common expiration day of index derivatives. In Hong Kong, index futures and index options use an Asian-style settlement procedure. All contracts are settled against the estimated average settlement (EAS) price, which is the arithmetic average of the underlying cash index taken every five minutes on the expiration day. The results show that expiration-day trading volume and total trade counts are both higher than normal. Most important, when the index is sampled for calculating the settlement price, trading intensifies in terms of both volume and frequency surrounding the five-minute time marks. The pattern is most pronounced for large-capitalization stocks in the index. This finding provides support for the hypothesis that arbitrage and direction-related trading activities are concentrated in large-cap stocks. We find no significant price reversal pattern on the day following expiration. This result supports our conjecture that both long and short stock arbitrage portfolios can be established by dynamic arbitrage strategies conducted by different traders during a contract's life. If that is the case, there would be less of a market impact from unwinding the cash index leg of the arbitrage positions, as these trades offset each other. Moreover, speculators on either side of the derivative market may also try to influence the index price in opposite directions. Hence, index-related trades on the expiration days may offset each other, and the resulting price impact could become insignificant.