Do Open-market Share Repurchases Supply or Demand Immediacy?

Discussion

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Aims

- A market microstructure paper

- What is the impact of open market share repurchases on market immediacy?

Why do we care?

- Market immediacy is the ability or the speed with which transactions can be executed promptly at the prevailing price

- Lack of immediacy – less stable prices – greater return volatility – higher cost of capital

Challenges

- How can we measure immediacy?
- Causality – if stock repurchases are related to a measure of immediacy, how can we show that stock repurchases impact immediacy?

Outline of Paper

- Data: all open-market share repurchase programs executed in the Helsinki Stock Exchange between January 1, 1999 and December 31, 2009.
  - on average 27 programs per year
  - median size of EUR 5.7 million
- Construct a measure for the predicted return from providing immediacy: PR_{IMM}
  - Main idea: interpret trading profits from contrarian trading strategies as returns from providing liquidity. Returns from providing liquidity correspond with the returns from providing immediacy in Grossman and Miller (1988).
- Regress *repurchases*/*volume* against PR_{IMM}

$$(1) \quad \left(\frac{\text{repurchases}}{\text{volume}}\right)_{i,t} = \alpha + \beta PR_{IMM,i,t-1} + \sum_{n=1}^{N} \gamma_n \text{control}_{n,i,t} + \epsilon_{i,t}$$

- Also against $PosPR_{IMM} = \max(PR_{IMM}, 0)$ (immediacy provision) and $NegPR_{IMM} = -\min(PR_{IMM}, 0)$ (immediacy demand)

PR_{IMM}

- How is PR_{IMM} calculated?
- a stock's predicted excess return evaluated using past estimates of market level pattern of short-term return reversals and the stock's past daily excess returns.

$$(2) \qquad \underbrace{R_{5,t}}_{\text{excess return from } t \text{ to } t+5} = \alpha_t + \sum_{\tau=0}^{9} \beta_{t-\tau} \underbrace{R_{i,t-\tau}}_{\text{daily excess return}} + \boldsymbol{\beta}_{t,C}^{\top} \boldsymbol{C}_{i,t} + \epsilon_t$$

- Calculate 120 - day moving averages of the coefficients based on cross-sectional regressions (above). Multiply by relevant observation and sum up to create predicted excess return.

Table 2. The pattern of return reversal

This table shows the average coefficients of $\hat{\beta}_{t-\tau}$, from daily cross-sectional regressions of Equation (1) in which stock's 5-day future excess returns $R5_t$ are regressed on each of the stock's past ten days' excess returns, $R_{t-\tau}$, where $\tau \in \{0, \ldots, 9\}$, and controls $ln(Volume)xR_{t,t-9}$, $ln(Market\ Capitalization)xR_{t,t-9}$, and $ln(RP_{10})$. First two controls are constructed by multiplying the past 10-day excess returns with either the stock's past 10-day (log of) trading volume or the stock's (log of) market capitalization at day t, and RP_{10} is the maximum of the value of repurchases during the past 10 days and 1€. The excess returns are calculated relative to equal-weighted market index. t-statistics based on Fama-Macbeth standard errors are shown next to the coefficients in parentheses. Here ***, ** or * are used to denote figures that are statistically significantly different from zero at 1%, 5% or 10% level.

	$R5_t$	t-stat	
R_t	**-0.247**	(-14.58)	***
R_{t-1}	**-0.157**	(-9.13)	***
R_{t-2}	**-0.122**	(-7.43)	***
R_{t-3}	**-0.095**	(-5.79)	***
R_{t-4}	**-0.081**	(-4.97)	***
R_{t-5}	**-0.073**	(-4.54)	***
R_{t-6}	**-0.066**	(-4.07)	***
R_{t-7}	**-0.054**	(-3.32)	***
R_{t-8}	**-0.049**	(-3.03)	***
R_{t-9}	**-0.043**	(-2.65)	***
$ln(RP_{10})$[1]	**0.115**	(3.43)	***
$ln(Volume)xR_{t,t-9}$	**0.017**	(21.33)	***
$ln(Market\ Capitalization)xR_{t,t-9}$	**-0.011**	(-9.19)	***
Intercept	**-0.001**	(-15.46)	***
Number of daily regressions	2,997		
Average number of observations	160		
Average R^2	0.209		

[1] Coefficient multiplied by 10^3

Snapshot of Results

- β around 3

$$(3) \quad \left(\frac{\text{repurchases}}{\text{volume}}\right)_{i,t} = \alpha + \beta PR_{IMM,i,t-1} + \sum_{n=1}^{N} \gamma_n \text{control}_{n,i,t} + \epsilon_{i,t}$$

- β around 10, $PosPR_{IMM}$, immediacy provision
- β around 4, $NegPR_{IMM}$, immediacy demand

Measuring immediacy – other ways?

- With more data could you use a theoretical measure from Chacko, Jurek, Stafford (2008)?

$$\underbrace{p(Q)}_{\% \text{ transaction cost}} \approx \sigma\sqrt{\frac{Q}{2\lambda}} \tag{4}$$

  - Estimate, σ, volatility of fundamental returns on whole sample
  - Q is observed – quantity traded
  - λ – rate of opposing order flow – can it be observed?
  - compute $p(Q)$

How does immediacy vary over time?

- Can you investigate how measures of immediacy (supply and demand) vary over time?
- covariation with business cycle?
- covariation with daily realized excess returns?

Summary

- Clean, well executed paper
- Explore alternative measures of immediacy
- Exploit existing measures more fully – links to economic and financial variables