

Stock Liquidity and Issuing Activity

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Liquidity and New Issues Puzzle

- Several papers (Eckbo et al., JCF 2005, Butler and Wan, RFS 2010) use the turnover factor to explain the new issues puzzle
- Turnover factor buys low turnover firms and shorts high turnover firms
- Its positive return is interpreted as pricing of liquidity since Datar et al., JFM 1998
- New issues load negatively on this factor, suggesting that they are more liquid than their peers
- Indeed, new issues seem to have higher turnover than matching firms in a few years after the issue

Is Turnover Measuring Liquidity?

- In Barinov (MS 2014), I find that turnover is strongly correlated with disagreement (investors who disagree tend to trade more), but uncorrelated with liquidity/trading costs
- The return spread between low and high turnover firms is explained by volatility risk and the fact that high disagreement firms are hedges against volatility risk
- Hence, the turnover factor seems to explain the new issues puzzle, because it proxies for volatility risk
- Whether new issues are more or less liquid than their peers is an open question

Can Firms Improve Liquidity by Issuing New Securities?

- I could not find any paper that would look at long-run post-issue liquidity using liquidity measures other than turnover (with a possible exception of Boehme and Çolak, JFM 2012)
- A large literature starting from Booth and Chua (JFE 1996) suggests that underpricing can make IPOs more liquid by making stock ownership more broad
- Yet, all tests of Booth and Chua (JFE 1996) and competing theories look only at a few months after the issue

Summary of Main Results

- Despite having higher turnover, new issues (IPOs, SEOs, convertible debt issuers) do not have higher liquidity than matching firms
- Underpriced IPOs and new issues with more reputable underwriters are either as liquid as their peers or even less liquid
- VC-backed IPOs may be an exception according to some liquidity measures
- Hence, the liquidity explanation of the new issues puzzle does not work
- The turnover factor mirrors the volatility risk factor (FVIX), and turnover factor loadings of new issues do not line up with liquidity (e.g., small SEOs load more negatively on turnover factor)

New Issues Dummies Slopes

Panel C1. Post-Issue Liquidity of IPOs

	Turn	Roll	Spread	EffTick	Amihud	Zero
IPO	-0.146	0.207	0.535	0.304	-0.111	-0.313
tstat	<i>-0.55</i>	<i>3.54</i>	<i>15.2</i>	<i>12.0</i>	<i>-0.82</i>	<i>-1.26</i>

Panel C2. Post-Issue Liquidity of SEOs

	Turn	Roll	Spread	EffTick	Amihud	Zero
SEO	4.455	-0.495	0.011	0.067	-0.700	-2.499
tstat	<i>12.8</i>	<i>-11.6</i>	<i>0.52</i>	<i>4.19</i>	<i>-6.98</i>	<i>-13.9</i>

Panel C3. Post-Issue Liquidity of Convertible Debt Issuers

	Turn	Roll	Spread	EffTick	Amihud	Zero
Conv	4.282	0.010	-0.019	-0.006	-0.426	1.331
tstat	<i>5.19</i>	<i>0.17</i>	<i>-0.53</i>	<i>-0.25</i>	<i>-4.63</i>	<i>4.35</i>

Post-Issue Liquidity of IPOs

- IPOs have higher effective bid-ask spread than their peers, but not other characteristics
- SEOs seem to be more liquid than their peers (in terms of Roll, Amihud, no-trade days), but the effective tick measure disagrees
- Convertible debt issuers have lower price impact, more no-trade days, and same bid-ask spread than their peers
- SEOs and convertible debt issuers have higher turnover than their peers (IPOs also do if one controls for size and market-to-book only)

IPO Underpricing and Post-Issue Liquidity

- Booth and Chua (JFE 1996): underpricing attracts more investors, broadens investor base, and thus increases liquidity
- Subsequent studies: all links work in the first few months after the issue
- Boehmer and Fishe (WP 2000) suggest that underpricing attracts future flippers, which will be creating liquidity for buyers when the market starts
- Ellul and Pagano (RFS 2006) argue that the relation between underpricing and post-issue liquidity should be negative, because firms that expect to be illiquid will be more likely to underprice in order to improve liquidity

Are Underpriced IPOs More Liquid?

	Turn	Roll	Spread	EffTick	Amihud	Zero
IPO	-0.290	-0.720	0.530	-0.064	-4.547	-0.031
tstat	-1.27	-7.95	9.90	-0.77	-11.4	-0.08
Under	2.360	0.373	0.033	0.456	2.220	-2.231
tstat	6.02	2.88	0.46	4.82	4.67	-4.73

- Underpriced IPOs have higher turnover than other IPOs
- Only zero-trading days say underpriced IPOs are more liquid
- Price impact and effective bid-ask spread are significantly higher for underpriced IPOs than for other IPOs
- That does not mean underpricing is useless, it just does not create extra liquidity

Venture Capital and Liquidity

- Venture capitalists are known to have screening and certification functions
- That is, they pick "good" firms to take public and monitor them afterwards
- If one dimension of "good" is liquid, we can expect VC-backed IPOs to be more liquid than other IPOs and probably more liquid than their peers

Venture Capital and Liquidity

	Turn	Roll	Spread	EffTick	Amihud	Zero
IPO	-0.118	-0.416	0.499	0.105	-4.046	0.651
tstat	-0.49	-5.09	9.79	1.15	-11.1	1.78
VC	1.756	-0.387	0.091	0.081	0.641	-3.660
tstat	4.51	-2.97	1.33	0.79	1.41	-7.90

- Roll measure and zero-trading days suggest that VC-backed IPOs are more liquid than other IPOs
- The sum of two slopes suggests that VC-backed IPOs are more liquid than peer firms (Corwin and Schultz spread measure disagrees)
- They may still be less liquid than an average Compustat firm

Underwriters Reputation and Liquidity

- Underwriters can also perform screening and certification functions
- Underwriters do the bookbuilding and impact post-issue breadth of ownership, percentage of flippers, etc.
- Underwriters provide analyst services after the issue and often become market-makers (or most active dealers) in the stock
- Thus, high-prestige underwriters can potentially improve post-issue liquidity

Underwriters Reputation and Liquidity

	Turn	Roll	Spread	EffTick	Amihud	Zero
IPO	0.517	-0.488	0.680	0.199	-5.287	0.641
tstat	<i>1.96</i>	<i>-4.10</i>	<i>9.08</i>	<i>1.44</i>	<i>-9.77</i>	<i>1.20</i>
Rank	0.112	-0.147	-0.237	-0.098	2.520	-2.437
tstat	<i>0.32</i>	<i>-1.13</i>	<i>-2.94</i>	<i>-0.72</i>	<i>5.01</i>	<i>-4.41</i>
	Turn	Roll	Spread	EffTick	Amihud	Zero
SEO	5.661	-1.732	-0.279	-0.587	-5.327	-4.530
tstat	<i>9.51</i>	<i>-12.90</i>	<i>-6.73</i>	<i>-7.25</i>	<i>-8.73</i>	<i>-13.41</i>
Rank	-0.170	1.357	0.357	0.828	4.956	2.566
tstat	<i>-0.27</i>	<i>10.3</i>	<i>8.03</i>	<i>9.69</i>	<i>8.10</i>	<i>7.41</i>
	Turn	Roll	Spread	EffTick	Amihud	Zero
Conv	6.432	-0.152	-0.200	-0.183	-2.276	2.138
tstat	<i>4.12</i>	<i>-0.84</i>	<i>-3.09</i>	<i>-1.90</i>	<i>-4.31</i>	<i>4.72</i>
Rank	-0.088	0.316	0.241	0.676	2.530	0.319
tstat	<i>-0.05</i>	<i>1.37</i>	<i>3.00</i>	<i>5.31</i>	<i>3.81</i>	<i>0.54</i>

Can High-Prestige Underwriters Create Liquidity?

- High-prestige underwriters seem to make IPOs than other IPOs (the Amihud measure disagrees)
- It is less clear if IPOs with high-prestige underwriters are more liquid than peer non-issuers
- For SEOs and convertible debt issuers, the presence of high-prestige underwriter seems to hurt liquidity (compared to other SEOs and convertible debt issuers with similar firm characteristics)

Explaining the Alphas of Convertible Debt Issuers

	CAPM	FF	ICAPM	LCAPM
α	-0.607	-0.683	-0.328	-0.357
t-stat	-3.32	-4.98	-1.65	-2.22
β_{MKT}	1.380	1.328	2.189	1.057
t-stat	23.7	27.4	12.5	21.9
β_{SMB}		0.652		
t-stat		8.89		
β_{HML}		0.250		
t-stat		3.25		
β_{FVIX}			0.611	
t-stat			4.66	
β_{LMH}				-0.519
t-stat				-9.40

FVIX Explains LMH

	CAPM	+FVIX	FF	+FVIX
α	0.481	-0.054	0.475	0.111
t-stat	<i>2.79</i>	<i>-0.32</i>	<i>2.99</i>	<i>0.74</i>
β_{MKT}	-0.622	-2.181	-0.544	-1.694
t-stat	<i>-10.0</i>	<i>-9.95</i>	<i>-9.34</i>	<i>-7.02</i>
β_{SMB}			-0.571	-0.425
t-stat			<i>-9.04</i>	<i>-5.99</i>
β_{HML}			0.015	-0.046
t-stat			<i>0.17</i>	<i>-0.48</i>
β_{FVIX}		-1.176		-0.847
t-stat		<i>-7.27</i>		<i>-5.03</i>

But Not the Other Way Around

	CAPM	+LMH	FF	+LMH
α	-0.463	-0.378	-0.439	-0.375
t-stat	-4.73	-4.45	-4.00	-3.83
β_{MKT}	-1.325	-1.432	-1.358	-1.430
t-stat	-37.0	-55.0	-35.2	-46.2
β_{SMB}			0.170	0.095
t-stat			4.94	2.52
β_{HML}			-0.073	-0.071
t-stat			-1.41	-1.35
β_{LMH}		-0.172		-0.133
t-stat		-6.58		-5.47

FVIX and LMH Factors

- Volatility risk factor (FVIX) and turnover factor (LMH) have the same explanatory power with respect to the new issues puzzle
- Controlling for FVIX eliminates the alpha of LMH, but not vice versa
- Hence, FVIX is the driving force behind LMH: LMH picks up volatility risk, not liquidity

SEOs: Size and Liquidity

	Small	Size2	Big	S-B	p-value
Turn	0.119	0.142	0.132	-0.014	0.085
Amihud	0.104	0.008	0.002	0.101	0.000
Zero	0.111	0.077	0.056	0.055	0.000
Roll	1.908	1.254	1.016	0.892	0.000
Spread	1.223	0.718	0.574	0.648	0.000
EffTick	2.337	1.173	0.817	1.520	0.000

LMH Betas and Size: Prediction

- Small new issues are significantly less liquid than large new issues
- If LMH picks up liquidity, then smaller new issues should load on that less negatively
- Also, the liquidity explanation of the new issues puzzle would predict stronger new issues puzzle for larger firms

SEOs: Size and Performance

	Small	Size2	Big	S-B
α_{CAPM}	-0.497	-0.367	-0.236	-0.261
t-stat	-2.53	-2.33	-1.68	-1.35
α_{ICAPM}	-0.070	-0.025	-0.184	0.113
t-stat	-0.33	-0.14	-1.12	0.48
β_{FVIX}	0.923	0.742	0.123	0.800
t-stat	4.32	3.63	0.56	2.21
α_{LCAPM}	-0.212	-0.101	-0.089	-0.123
t-stat	-1.17	-0.77	-0.67	-0.61
β_{LMH}	-0.593	-0.552	-0.305	-0.288
t-stat	-9.4	-9.07	-4.30	-2.99

LMH Betas and Size: Evidence

- CAPM alphas show that the new issues puzzle is stronger for smaller, not larger firms
- FVIX can explain this pattern (smaller firms have higher idiosyncratic volatility)
- Unexpectedly, LMH is also able to explain this pattern
- LMH betas suggest that new issues become more liquid as they become smaller, which runs counter to what liquidity measures say
- Similar evidence arises if one sorts new issues on market-to-book instead of size

Liquidity of Small Growth Firms

SG1	Avg	SG1-Avg	p-value
0.039	0.109	-0.071	0.000
0.214	0.094	0.119	0.000
3.441	0.340	3.102	0.009
3.229	1.593	1.635	0.000
0.069	0.021	0.048	0.000
1.881	0.945	0.937	0.001

Explaining the Small Growth Puzzle

	CAPM	FF	ICAPM	LCAPM
α	-0.788	-0.631	-0.065	-0.498
t-stat	-3.15	-4.32	-0.18	-1.90
β_{MKT}	1.354	1.107	3.447	0.979
t-stat	24.2	28.2	4.78	12.0
β_{SMB}		1.328		
t-stat		19.7		
β_{HML}		-0.494		
t-stat		-5.90		
β_{FVIX}			1.580	
t-stat			3.03	
β_{LMH}				-0.602
t-stat				-4.50

Small Growth Firms and LMH

- Smallest growth firms (bottom 20% on size, top 20% on market-to-book) are significantly less liquid than the representative CRSP firm
- Thus, they should load positively on LMH (if it picks up liquidity), and controlling for LMH should make their negative alphas even more negative
- Yet, LMH seems to partly explain the negative alpha of small growth firms, revealing their "high liquidity" as reflected by the negative LMH beta
- In fact, LMH is just mirroring FVIX and picks up volatility risk rather than liquidity

Issuing Does Not Result in Superior Liquidity

- If one looks at liquidity measures other than turnover, issuing activity does not make firms more liquid than their peers
- Hence, the liquidity explanation of the new issues puzzle is not supported by the data
- It is also true for subsets of new issues that are often thought to be more liquid: underpriced IPOs and new issues with high prestige underwriters

LMH Picks Up Volatility Risk

- FVIX can explain LMH, but not the other way around
- LMH "explains" why new issues puzzle is stronger for small and growth firms, despite those firms having low liquidity
- LMH "explains" the small growth puzzle in a similar fashion
- Thus, LMH simply mirrors FVIX, and therefore LMH picks up volatility risk, not liquidity
- Hence, one can use LMH as a substitute for FVIX when FVIX is unavailable (pre-1986)