UNIT IPO'S: A CASE OF SPECIFIED PURPOSE ACQUISITION COMPANIES (SPACS)

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Abstract
Unit initial offerings are innovative way to finance corporate activities in capital markets and are usually conducted by companies that carry a high level of asymmetry information. The degree of information asymmetry insignificantly impacts the pricing at the IPO day in our sample. In addition to outlying the structure of Unit IPO we document behavior of underwriters in this process and shed the light on their incentives through time. We find that the most successful underwriters are relatively small investment banks by size that have a niche in this market. In addition we find that the structure of offering is changing and underwriters are using fewer warrants in designing as well as charging lower fees for their services.
***Key words**: Unit IPO's, SPACs, Underwriting, Information Asymmetry.*

1. Introduction

Unit initial offerings are innovative way to finance corporate activities in capital markets and are usually conducted by companies that carry a high level of asymmetry information. The degree of information asymmetry impacts the pricing of issued securities at the IPO where the companies with the highest degree of the asymmetry potentially exhibit high degree of underpricing. In its essence a unit is a packaged security that consists of a combination of common shares and warrants and is offered to investors at the day of the IPO. Literature claims that companies issuing units can mitigate information asymmetry caused by inadequate presentation of an IPO candidate to the general public and to the investors in financial markets.

Chemmanur and Fulghieri (1997) hypothesize that companies issuing units are highly risky firms and are served by less marketable underwriters. They also claim that unit issuing companies tend to be concentrated in certain high risk industries such as: the biotech, new technology or the health services industry.

This paper adds additional evidence on the unit underwriting process using as an example a sample of 184 Specified Purpose Acquisition Companies (SPACs) that conducted the IPO between 2003 and 2012 in the U.S capital markets. Analyzing the process of unit underwriting on the sample of SPACs enables us to examine three issues. First, the sample allows us to conduct a comparison between the underwriting characteristics of standard IPO's and the SPAC IPO's. Second, it's imaginative corporate structure and a set of mechanisms that mitigate asymmetric information enables us to test for pricing reaction of SPAC securities at the IPO day and compare with standard literature. Finally, it enables us to examine issues of underwriters' concentration in the SPACs market.

Interestingly, the behavior of unit prices at the day of the IPO in the sample of SPACs from 2003 until 2012 contradicts behavior of securities in the standard IPO process and does not con-

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firm the existence of underpricing in overall. Furthermore, paper reports that the role of underwriters is changing through the time as well as their ability to charge high fees for the underwriting services. For example, while underwriters were charging fee at the level of 10% of IPO proceeds in 2003; they are charging slightly more than 4% in 2011. Additionally, it is reported that the number of underwriters in the syndicate is declining through time. Seven underwriters were involved in the unit issuance of the first SPAC in 2003; while on average 2.5 underwriters were involved in 2011. Finally, we report the level of involvement of underwriters which confirms the prediction of Chemmanur and Fulghieri (1997) that until 2006 they were less known investment banks. After-2006 period is characterized by the involvement of major investment banks with Citigroup and Deutsche Bank being the leaders in the number of units issued to financial markets.

The paper proceeds as follows: section two presents the review of the literature on unit offerings and SPACs; section three explains the data and summary statistics; section four reports the underpricing tests; and section five concludes.

2. Literature Review

The studies on the issuance process and underpricing of securities exist for a while with baseline paper modeling unit issuance being Schultz (1993). Jain (1994) empirically tests the unit underwriting behavior. Later, Chemmanur and Fulghieri (1997) and Garner and Marshal (2007) extended the baseline model.

Schultz (1993) proposes theoretical settings for the practice of companies to use units during their primary offerings. Units are structured as a combination of two types of securities, namely: common shares and warrants. In this combination a warrant, as an option to purchase common share of the company at the future date, serves as a sweetener and a mechanism to reduce the uncertainty of future performance. Schultz (1993) reasons that units represent an improvement for a certain types of companies entering primary markets such as: companies with small size, historical and current low earnings and low value of assets. Additionally, he proposes that units serve as the solution for the agency-cost problem arising from the free cash flow awarded to managers at the time of the IPO.

Jain (1994) examines the sample of 2,343 firms that conducted the IPO during 1980-1988 and addresses among the other issues: the characteristics of unit IPO's and their performance relative to non-unit IPO's. The results show that unit IPO's are smaller in size, riskier and marketed by less known underwriters. Jain (1994) also reports that unit IPO's come primarily from service industries and technology industries. He reports that unit IPOs are underpriced 6.56 percent less than their non-unit counterparts, but that unit IPO's are less likely to issue seasoned securities within four years timeframe.

Chemmanur and Fulghieri (1997) also reason that units IPO's are positive way to mitigate information asymmetry problems. Further they believe that companies considered risky by outsiders are natural candidates to signal their true value by issuing units. Chemmanur and Fulghieri (1997) also make a prediction on the underpicing and variability of the future cash flows. According to them quality firms perceived risky by outside investors would exhibit underpricing at the IPO date.

Garner and Marshal (2007) empirically test both the predictions of Schultz (1993) on agency problem and Chemmanur and Fulghieri (1997) on information asymmetry. They find that risky firms assign a higher proportion of firm value to the warrants at the time of the IPO and increase the underpricing.

The finance literature on SPACs is empirical in its nature and starts with Jog and Sun (2007) and Boyer and Baigent (2008).[4] Jog and Sun (2007) refer to SPACs following the SEC's

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[4] SPACs were the interest in the law literature prior to finance literature. The major papers there are: Hale (2007), Heyman (2007), Reimer (2007), Sjostrom (2007).

definition of blank check companies as "a development stage company that has no specific business plan, or purpose, or has indicated its business plan is to engage in a merger or acquisition with an unidentified company, other entity, or person." A SPAC is created to pool funds in order to finance a merger or acquisition opportunity within a set time-frame. The merger opportunity usually has yet to be identified (http://www.sec.gov/answers/blankcheck.htm). Due to the presence of information asymmetry founders of SPACs and their underwriters structure their offerings as unit IPOs.

Interest in SPACs in finance literature increased since 2007. Observing the increase in the volume and occurrence of SPAC IPOs in capital markets, Lewellen (2009) calls SPACs as a new class of financial asset.

Boyer and Baigent (2007) and Jog and Sun (2007) were the first to document some institutional characteristics on SPACS and report that: SPACs' are relatively small in size. In addition they report that SPAC units do not experience any significant underpricing. Chakraborty et al. (2011) develop theoretical explanation base for the lack of the underpricing of unit IPOs. Jog and Sun (2007) report that SPAC managers exhibit exorbitant returns of nineteen times of initial investment after the merger. Thompson (2011) reports that total underwriters' collect compensation of seven percent of the IPO proceeds. Both, Jog and Sun (2007) and Lewellen (2009) report negative overall performance for investors holding common shares of around 22% to the investors holding common stock.

Ignatyeva et al. (2012) examine performance of SPACs listed in Europe and report positive after the announcement of the merger returns. Rodrigues and Stegemoller (2012) confirm the lack of that underpricing at the IPO. With initial returns near zero and gross spreads similar to traditional IPOs.

3. Data and Summary Statistics

The data on the characteristics of SPACs is collected from prospectuses forms filed by SPACs to The Security and Exchange Commission (SEC) around the initial public offering date. Prospectuses forms clearly report all relevant information to investor including a full disclosure on all characteristics of underwriters. In addition, we cross check our data with updated public information about SPACs published by Morgan Joseph. If there is a data point with different information we consult additional filings with The Security and Exchange Commission. Finally, we collect the data on unit pricing at the day of the IPO from Bloomberg and Yahoo-finance.

Table I presents the summary statistics for the sample of SPACs over the examination period emphasizing characteristics of underwriters. The sample includes 184 companies that conducted the initial public offerings in the period between 2003 and 2012. We report the dynamics of the following variables in this order: number of IPO's, underwriters' cash compensation, underwriters' allotment, underwriters' deferred compensation, underwriters' total compensation, the number of underwriters in syndicate, the threshold of investors needed to disapprove the merger, amount of warrants invested by founders, size of the initial public offering, percentage of the funds collected in the IPO and deposited in the trust with credible financial institution, warrant strike price, number of warrants per unit and unit price at the initial public offering date. For all of these characteristics we have complete information.

Table I reports that total underwriters compensation consists of three parts. First, underwriters receive cash compensation (UGR) at the day of the IPO and an additional underwriter's allotment also received around the IPO date. Second, underwriters are conditionally compensated at the date of merger (UDEF). We confirm findings of Thompson (2011) that total compensation is on average around seven percent of the proceeds collected at the initial public offering. Table I shows time change in the levels of cash compensation and reports decline of approximately seventy percent in 2011 compared with base year, (7.00 vs. 2.58) respectively. The deferred compensation is first time introduced in 2005 and increases in its absolute levels until 2009.

Dynamics on the number of investment banks involved in the underwriting process exists. While in the first offering in 2003 seven underwriters were involved the trend of decrease in the number of underwriters continues to, on average, less than three. These points out to the specialization of underwriters involved. The characteristic with monotonic increase in its levels is the number of investors shares needed to block the merger of SPAC. This increase can be attributed to additional involvement on behalf of underwriters and founders to make the merger possible. Similarly, table reports increase in the number of the warrants purchased by the founders around the date of the IPO. Warrant purchases increased more than twentyfold from 2004 until 2011 and represent increased commitment of founders of SPACs to mitigate potential information asymmetry.

Variable SIZE represents the dollar amount collected at the initial public offerings and table reports that the largest IPO's were happening in 2007 and 2008 with significant decline in size after that. Variable PR_TR reports the amount of proceeds deposited with credible financial institution. Table I reports increase year by year where in year 2008 all proceeds were deposited in the trust account. This activity of depositing IPO proceeds with financial institutions in its entirety also is a signal to outside investors in the credibility of management and underwriters supporting a company and serves to lower the level of information asymmetry.

When it comes to the characteristics of warrants at the IPO (WSP and WPU) they also exhibit changes both in their pricing and their amount. While at the first few years of SPAC market an average unit would consist of two warrants and be underwritten with a strike price lower than the unit/share price, in the latter years the strike price of warrants is doubled while their number is halved from the initial.

4. Underwriters involvement and under pricing tests

Underwriters are one of the most important stakeholders in the SPACs and considered as essential to their recent entrance in the financial markets since 2003. The EarlyBirdCapital, midsize investment bank is credited as an innovator and was fundamental in the successful initial public offering of the Millstream Acquisition Company in 2003. In addition of being instrumental in the process of initial public offering, the underwriters also represent market makers in the securities of SPACs. At the early years the trading of securities was mainly done on the Over the Counter (OTC) markets and underwriters were serving as counterparties once the Security and Exchange Commission would approve separate trading in common shares and warrants. The early years of the market were dominated by the smaller or midsize investment banks. Once the market became more transparent which lead to the listing of shares on major exchanges large investment banks joined.

Panel A in Table II reports that 101 investment bank in total took part in the underwriting process of the SPACs. On average they issued 13.65 million of units with the involvement on the average of 3.61 investment banks in a syndicate, where the highest number of underwriters is 12. The number of unit underwriters in syndicate is significantly lower than the number reported in similar studies on standard IPOs as in Corvin and Stultz (2005) for example.

Panel B in Table II reports the most involved underwriters on three counts. In the first column it reports the absolute number of deals in which underwriters were involved. In the second column Panel B reports the number of deals in which given investment banks were lead underwriters and the last column reports absolute number of units independent on the price that were underwritten by each of these investment banks.

Maxim Group is an investment bank that participated in 83 out of 184 initial public offerings representing close to 45% of the total and is the leading underwriter on that count. Following the Maxim Group are the midsize investment banks EarlyBirdCapital and Ladenburg Thalmann with involvement in 55 and 54 deals respectively. Panel reports that twelve investment banks were participants in at least 15 initial public offerings. The EarlyBirdCapital has been the most often lead underwriter representing founders in 35 deals or close to 20% of total activity. They are followed by two large and well known financial institutions: Citigroup and Deutsche Bank them being lead underwriter in 22 and 20 deals respectively. Panel reports high concentration in lead underwriting where out of 101 investment banks involved in the underwriting process, the top seven were the lead underwriters in 140 deals or 75% of total. Size wise Citigroup and Deutsche Bank are the leading underwriters issuing 504 million units and 310 million of units in total, which approximates to $ 4.5 billion and $ 3 billion in proceeds or close to 30% of the total capitalization of market in SPAC securities.

Previous literature on SPAC underpricing overwhelmingly reports that no statistically significant underpricing exists in that sample. This supports the hypothesis that underwriters are able to structure the IPO in a way that outside investors have full information how the collected proceeds will be used. Adding to the full information the ability of investors to withdraw their funds at the face value at the premerger date makes underpricing or any significant reaction unlikely. In Panel A of Table III we report on the behavior of units on the first day of initial offering for the subsample of 106 companies where we have full price information both at the opening and closing. Using the standard calculation table reports that, on average, there is no significant deviation from the offering price on the first day of trading (-0.0003), while it reports that for some companies the underpricing/overpricing is significant.

The findings are similar to Rodrigues and Stegemoller (2012) who report that SPACs do not exhibit IPO underpricing with initial returns in their sample of near zero. Interestingly they propose the additional testing on potential determinants that may impact the initial returns on the date of the initial public offerings. We respond to this and test the underpricing as a function of major underwriters characteristics, major deal characteristics and targeted industry of SPACs at the time of the IPO. Both, Schultz (1993) and Jain (1994) hypothesize that certain industries are candidates of being underpriced during the issuance process. In order to control for this we introduce three variables: Focus, PE and VC that represent industry focus, the involvement of private equity in the deal and health care sector being the merger target.

Panel B of Table III reports regression results where the dependent variable is the amount of underpricing at the day of initial public offering and dependent variables are: gross underwriting amount as the percentage of the proceeds (UGR), an additional compensation to underwriters (UAL), the number of underwriters in syndicate (UN), number of shareholders that can disapprove merger (THR), the unit price at the IPO (UP), an IPO that issues double units at the offering(DBL), Focus represents industry focus, involvement of private equity investors in the deal (PE) and if the health care sector was the target of the merger(HC).

Although on average underpricing is close to zero three variables potentially can explain deviation of the price at the first trading day if it exists. The underpricing potentially can be impacted by the level of shareholder that can vote against the merger although change coefficient is approximately zero. Two variables that increase the degree of underpricing are the involvement of private equity and the focus on health care sector. These findings in a sense supports previous findings of Jain (1994) that companies in certain industry sectors are more prone to be riskier. The rest of the characteristics do not have statistically significant impact on underpricing.

5. Conclusions

In overall, when companies decide to enter capital markets by issuing units they do not exhibit underpricing in our sample. While this is in agreement with previous findings in the literature that looks in the similar sample, it opposes some prior evidence on IPO issuance in general. In addition, paper reports that underwriting of unit offerings is dominated by the few banks with leading two being the issues of approximately 30% of the units in the market. Finally, paper reports certain dynamics over time in the underwriting characteristics of the deals. Given that this area of research is relatively unexplored we call for further research.

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Table I: Sample Statistics:

Table presents major characteristics of SPACs and their underwriters from 2003-2011. Variable IPO_N represents the number of SPACs that completed the IPO in given year. The variable UGR shows gross underwriting amount as the percentage of the proceeds. UAL presents the additional compensation to underwriters. UDEF is deferred compensation. UTOT is the total compensation to underwriters. UND_N is the number of underwriters in syndicate. THR represent maximum numbers of shareholders that can disapprove merger. WI represents the amount of warrant committed by managers at the IPO. SIZE is the size at the IPO. PR_TR is the percentage of proceeds that goes into trust account. WSP is warrant strike price. WPU is the number of warrants per unit at the IPO. UP is the unit price at the IPO.

Year	IPO_N	UGR	UAL	UDEF	UTOT	U_N	THR	WI	SIZE	PR_TR	WSP	WPU	UP
2003	1	7.00	3.00	0.00	10.00	7.00	20.00	0.00	24150.00	0.85	5.00	2.00	6.00
2004	12	6.83	2.33	0.00	9.17	4.92	20.00	0.21	40247.00	0.87	5.00	1.92	6.34
2005	28	6.07	0.79	0.57	7.43	3.32	20.00	0.59	74948.25	0.92	5.25	1.68	6.86
2006	37	4.43	0.16	2.20	6.80	3.81	21.01	0.98	90786.81	0.96	5.42	1.49	7.47
2007	66	3.67	0.16	3.14	6.97	3.30	28.30	3.10	183227.33	0.98	6.15	1.08	8.48
2008	17	2.84	0.18	3.83	6.84	3.18	32.35	5.06	226026.29	1.00	6.38	1.06	9.18
2009	1	3.00	0.00	4.00	7.00	3.00	81.00	3.60	36000.00	1.03	11.50	1.00	10.00
2010	7	2.15	0.00	2.34	4.48	3.57	79.79	4.71	71788.29	1.01	10.93	1.00	10.00
2011	15	2.58	0.00	2.15	4.73	2.53	86.55	4.47	72102.13	1.01	9.66	0.97	9.33
Total	184												

Table II: Underwriters involvement in SPAC deals

The table presents underwriter characteristics over the sample of 161 IPO's in the 2003-2009 period. In the Panel A summary statistics on the number of underwriters per deal and number of units per deal is presented. They are ranked by the number of deals involved. In Panel B 12 underwriters are ranked by the number of SPAC IPOs in which they were involved.

Panel A:

Overall Statistics	Number	Mean	Min	Max
Number of SPAC IPOs	184			
Number of underwriters involved	101			
Amount of units issued		13.65	0.75	90
Number of Underwriters per IPO		3.61	1	12

Panel B:
(Leading SPAC underwriters)

	Deals involved	Lead under.	Mean (#units)	Max (#units)	Total (#units)
Maxim Group	83	19	2.08	22.50	172.64
Early Bird Capital	55	35	3.35	7.00	184.25
Ladenburg Thalmann	54	17	3.37	16.83	181.98
I-bankers	41	1	0.82	2.00	33.62
Legend Merchant	40	0	0.37	1.20	14.80
Gunn Allen Financial	37	0	0.65	3.75	24.05
Morgan Joseph	24	16	5.58	16.02	133.92
Citigroup	24	22	21.01	80.00	504.24
Deutch Bank	22	20	14.11	36.00	310.42
Broadband	17	4	1.47	4.00	24.99
Lazard	17	11	6.83	116.50	116.11
Ramius	15	4	3.63	8.33	54.45

Table III: Underpricing and its determinants

Table presents underpricing characteristics and its components. In Panel A underpricing is reported for 106 companies across the sample at the date of the initial public offering. In Panel B regression results where the dependent variable is the amount of underpricing at the day of initial public offering are reported. Independent variables are : UGR shows gross underwriting amount as the percentage of the proceeds. UAL presents the additional compensation to underwriters. UN is the number of underwriters in syndicate. THR represent maximum numbers of shareholders that can disapprove merger. UP is the unit price at the IPO. DBL represents an IPO that issues double units at the offering. Focus represents industry focus. PE represents involvement of private equity investors in the deal. HC means health care sector being the target of the merger. Significance levels are as follows: * for significance at 10% and ** for significance at 5%.

Panel A:

Underpricing at the IPO

Variable	Obs	Mean	Std. Dev.	Min	Max
Unit open price 1^{st} day	106	8.00288	1.59	5.600	11.050
Unit close price 1^{st} day	106	7.99669	1.57	5.770	10.650
Underpricing 1^{st} day	106	-0.0003054	0.05	-0.231	0.333

Panel B:

Underpricing 1^{st} day dependent

Variable	Coef.		Std. Err.	t	P>t
UGR	0.00581	0.00419	1.39	0.169	-0.003
UAL	-0.00273	0.00818	-0.33	0.740	-0.019
U_N	0.00111	0.00326	0.34	0.734	-0.005
THR	0.00206 *	0.00110	1.87	0.065	0.000
UP	-0.00562	0.00508	-1.11	0.271	-0.016
DBL	0.05333	0.04212	1.27	0.209	-0.030
Focus	-0.01723	0.01324	-1.30	0.197	-0.044
PE	0.05529 **	0.02230	2.48	0.015	0.011
HC	0.03442 *	0.01928	1.79	0.078	-0.004
Constant	-0.03073	0.05471	-0.56	0.576	-0.139