SPACs

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Motivation 1: Booming market!

298 SPAC IPOs as of March 2021!
Motivation 2: Critiques

The Spac sponsor bonanza

FT analysis shows backers of cash shells earn billions in what Ackman calls ‘one of the greatest gigs’

The SPAC Bubble May Burst—and Not a Day Too Soon

The hot new way to take companies public hurts most investors, and its track record is now clear.

By Michael Klausner and Emily Ruan
Jan. 6, 2021 6:25 pm ET
SPAC Structure 1: SPAC Units

- A SPAC goes public to find a non-listed operating company to merge with

*source: Gritstone Asset Management

**Illustrative SPAC Public Unit Structure**

- **IPO UNITS**
  - Redeemable for a pro rata portion of the SPAC trust
  - Holders vote on business combinations

- **Common Stock**
  - Redeemable for a pro rata portion of the SPAC trust
  - Holders vote on business combinations

- **Warrants**
  - Entitles holder to purchase additional shares of common stock
  - Exercisable for 5 years after the completion of a business combination
  - Expires worthless in the event of a SPAC liquidation (no rights to the trust)

*source: Gritstone Asset Management

- The money raised in the IPO is placed in an escrow account (trust)
- Units are un-bundled two months after the IPO
SPAC Structure2: Lifecycle

Typical SPAC timeline

**Formation and IPO Phase**

- **Target search**

  - **Negotiations**
    - **Yes**
      - Agreement reached?
      - **Up to 24 months**
        - Closing of SPAC merger ("De-SPAC")
        - Wind-up SPAC and return investment to shareholders
      - **No**
        - Return to target search or dissolve
        - SPAC ceases target search
  
- **Not approved**
  - Investor meetings & shareholder vote
  - SPAC continues target search

**8+ weeks**

- **Up to 24 months**

*For illustrative purposes, the SPAC life cycle presented is based on a 24 month timeline to complete a merger.*

*source: PWC*
SPAC Structure 2: Lifecycle

- Underwriting fee: 5.5% (2% + 3.5%)
- Sponsors cover the fees by purchasing warrants
- Sponsor compensation (promote): 20% free shares conditional on mergers

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**SPAC Period**

Search, Negotiation, Approval...

**deSPAC Period**

Completed Merger

First-Year

Liquidiated
**Viewpoint: Economic Tensions**

Three Main Players

1. Operating Companies
2. Sponsors
3. Investors

→ Economic Tensions (e.g., wealth transfer, agency issues...)
Understanding Contractual Terms

- Deadlines are designed to incentivize the sponsor to keep the public market investment liquid, rather than parking the money in a trust fund and leaving it there for a long period.

- Deadlines create an incentive for the sponsor to do a bad deal rather than no deal as the deadline approaches, but the redemption option controls this problem.

- The separation of the merger vote and redemption decision limits the ability of a hedge fund to block a merger unless it receives a side payment.
## Costs of Going Public

<table>
<thead>
<tr>
<th>SPAC</th>
<th>Traditional IPO</th>
<th>Direct Listing</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Costs</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Proceeds</td>
<td>Market Cap</td>
</tr>
<tr>
<td>10th percentile</td>
<td>16.3%</td>
<td>4.8%</td>
</tr>
<tr>
<td>25th percentile</td>
<td>28.6%</td>
<td>8.5%</td>
</tr>
<tr>
<td>Median</td>
<td>47.6%</td>
<td>15.1%</td>
</tr>
<tr>
<td>75th percentile</td>
<td>86.3%</td>
<td>28.6%</td>
</tr>
</tbody>
</table>

- Sample: Between 01/2015 and 02/2021
Then why do certain companies merge with a SPAC to go public? → What are the economic roles of sponsors?

- Sponsors: Specialized PE GPs with deep pockets working as ad-hoc underwriters
  - Specialized: Individuals behind many sponsors are industry veterans
  - PE GPs: Face deadlines (Pros vs. Cons)
  - Deep Pockets: Invest their own capital (certification)
  - ad-hoc Underwriter: Going public + capital raise
Relative Advantages of Merging with a SPAC

1. Capital + "Extra-Financial" Value (e.g. mentorship... Hsu (2004))

2. Faster with pre-loaded dry power (e.g., a wave of EV companies)
   → Days between Merger Announcements and Business Combinations

<table>
<thead>
<tr>
<th>Year</th>
<th>No. of Announcements</th>
<th>Average Days</th>
<th>Median Days</th>
</tr>
</thead>
<tbody>
<tr>
<td>2017</td>
<td>16</td>
<td>139</td>
<td>140</td>
</tr>
<tr>
<td>2018</td>
<td>26</td>
<td>151</td>
<td>141</td>
</tr>
<tr>
<td>2019</td>
<td>35</td>
<td>175</td>
<td>142</td>
</tr>
<tr>
<td>2020</td>
<td>96</td>
<td>129</td>
<td>114</td>
</tr>
<tr>
<td>Total</td>
<td>173</td>
<td>141</td>
<td>126</td>
</tr>
</tbody>
</table>

3. Forward looking statements (safe harbor)
   → Recent SEC probe

More in the paper with limitations
Sponsor Compensation Haircuts

- Sponsors transfer their compensation to others as inducements to salvage mergers, especially weak deals (Sample: 145 mergers between 01/2015 and 02/2021)

<table>
<thead>
<tr>
<th></th>
<th>Low Redemption (Strong Deals)</th>
<th>High Redemption (Weak Deals)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Average Redemption Ratio</td>
<td>3%</td>
<td>75%</td>
</tr>
<tr>
<td>Inducement: Common Shares</td>
<td>10%</td>
<td>25%</td>
</tr>
<tr>
<td>Inducement: Warrants</td>
<td>14%</td>
<td>25%</td>
</tr>
<tr>
<td>New Capital as % of Total Cash Delivered</td>
<td>35%</td>
<td>47%</td>
</tr>
</tbody>
</table>
Sample: 151 SPACs that went public between January 2010 and December 2018

\[ \frac{P_s}{P_i} = (1 + R_{SPAC})^{\left(\frac{\text{Months}}{12}\right)} \]

Optimal Redemption Strategy: \( P_s = \text{Max}(\text{Sell}, \text{Redeem})_{t-5} \)
\( \rightarrow R_{SPAC} = 12.0\% \text{ per year} \)
## SPAC Period Returns

### Conditional on Outcomes

<table>
<thead>
<tr>
<th>Outcome</th>
<th>Number of SPACs</th>
<th>Annualized Returns</th>
<th>Average Months</th>
</tr>
</thead>
<tbody>
<tr>
<td>Merger Completed</td>
<td>125</td>
<td>12.9%</td>
<td>21.5</td>
</tr>
<tr>
<td>Liquidated</td>
<td>18</td>
<td>2.0%</td>
<td>27.8</td>
</tr>
<tr>
<td>Ongoing</td>
<td>8</td>
<td>20.4%</td>
<td>30.0</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>151</strong></td>
<td><strong>12.0%</strong></td>
<td><strong>22.7</strong></td>
</tr>
</tbody>
</table>

1. *Default-free* convertible bond *gross-of* fees → the lowest return: 0.51% per year
2. Considering the downside protection, annualized return of 12.0% is lucrative!
Expected SPAC-period returns on a point-forward basis

- 1/3 of IPOs will not complete a deal, and will be redeemed with a 1% return and worthless warrants (0.5% annualized)

- 1/3 of IPOs will complete a deal but shares will be redeemed for a 1% return and warrants will be worth $0.50 (6.0% return over 1.5 years, 4.0% annualized)

- 1/3 of IPOs will complete a deal and shares will be worth $10.50 and warrants will be worth $0.75 (12.5% return over 1.5 years, 8.2% annualized)

→ **Average annualized return of 4.2%, due to less generous warrants**
deSPAC Period Returns: Common Shares and Warrants

Sample: 114 completed mergers between January 2010 and September 2020

Common Shares: $BHRC_{i,t} = \prod_{t=1}^{\min(T, delist)} (1 + R_{i,t}) - 1$

→ -7.3% (equally) or 2.7% ($\$) for the first year (matched CRSP: 13.6%)

Warrants: $BHRW_{i,t} = \frac{P_{i-min(T, delist)}}{P_{i-deSPAC\_date}}$

→ 64.4% (equally) or 27.6% ($\$) for the first year
**Interpreting Returns**

1. Why do deSPAC period common shares underperform?
   - Three-Year Returns $< -90\%$: 29\% of SPAC mergers
     - Three-Year Returns $< -90\%$: 9\% of traditional IPOs
   - Extreme incentives (sponsors and SPAC investors) to complete mergers

2. Redemption ratios are almost 100\% for these mergers
   - $ weighted returns are not as negative as equally weighted returns

3. Warrants are riskier and compensated for volatility
   - Maybe the market is mispricing warrants

Cross-sectional: underwriter, dilution, redemption, profitability, industry, country
The Evolution of the SPAC Market

Too favorable for the SPAC period investors and sponsors...

→ At the expense of merging company’s shareholders
The Evolution of the SPAC Market

- Less Dilution: Less profit for SPAC period investors and more upside potential for merging company shareholders
- Higher First Day Return: Free lunch is cleared on the first day, similar to operating company IPOs
Conclusion

- A SPAC merger is a more expensive way of going public than a traditional IPO

- A SPAC merger has relative advantages over a traditional IPO
  → Based on economic roles of sponsors and the structure of SPACs

- SPAC period investors have earned 12.0% per year
  → Underpriced default-free convertible bonds with warrants

- deSPAC period common share returns have been between -7.3% and 4.3% while warrant returns have been between 27.6% and 64.4% for the first-year
  → $ weighted returns are not as poor as equally weighted returns

- The SPAC market is evolving towards a more sustainable equilibrium