The Disposition Effect in Boom and Bust Markets
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Executive Summary
- The disposition effect (DE), namely investors’ tendency to sell winners more frequently than losers, is one of the most explored behaviors in finance.
- The disposition effect is a time dependent phenomenon and moves countercyclical to the market.
- The observed selling behavior is entirely driven by the increased gain realization in bust periods.
- Both channels, preferences and beliefs, affect the strength of the disposition effect.
- Using primarily data from boom periods, existing literature underestimates the DE.

1. Motivation
- Most papers are based on boom market data (Odean, 1998; Barber & Odean, 2000; Grinblatt & Keloharju, 2001) and thus implicitly assume the DE to be constant over the business cycle.
- Proposed drivers of the DE, preferences and beliefs, vary with macroeconomic cycles.
  - Investors’ risk aversion increases in bust periods (Cohn et al., 2015, Kuhnen and Knutson, 2011).
  - Investors’ expectations are affected by crises (Malmendier and Nagel, 2011; Greenwood and Shleifer, 2014).
- Is the disposition effect constant over time or does it change in boom and bust markets?

2. Data and Sample Description
- Trading and portfolio holdings of 100,000 retail investors from Germany from 2001 to 2015.

3. Methodology
- DE = PGR – PLR.
  - PGR = Gains realized over all gains
  - PLR = Losses realized over all losses
  - Sale\textsubscript{ijt} = \beta_0 + \beta_1 \text{Gain}_{ijt} + \beta_2 \text{Boom}_t + \beta_3 \text{Gain}_{ijt} \ast \text{Boom}_t

4. Main Result
- DE moves countercyclical to the market index.
- This is entirely driven by the increased PGR in bust periods.

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<tr>
<th></th>
<th>Boom</th>
<th>Bust</th>
<th>Difference</th>
</tr>
</thead>
<tbody>
<tr>
<td>PGR</td>
<td>18.90</td>
<td>23.90</td>
<td>5***</td>
</tr>
<tr>
<td>PLR</td>
<td>13.48</td>
<td>13.30</td>
<td>-0.18</td>
</tr>
<tr>
<td>DE</td>
<td>5.42</td>
<td>10.6</td>
<td>5.18***</td>
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5. Preference Channel
- If risk aversion increases in bust periods:
  - Investors should be likely to realize gains in bust than in boom periods for any given magnitude of the gain.
  - Magnitude effect (i.e. gain magnitude and PGR are positively correlated) is stronger in bust periods.
  - There should be no effect on PLR.

6. Belief Channel
- If investors become pessimistic in bust periods:
  - Within a bust period, PGR and PLR should be higher at the beginning.
  - Across boom and bust, PGR and PLR should be higher at the beginning of bust than at the beginning of a boom period.
- If investors become optimistic in boom periods:
  - Investors start riding the bubble, i.e. PGR and PLR rather stable.

7. Robustness
- The overall PF value affects the disposition effect (Engelberg et al., 2018) and PF value and market cycles are positively correlated.
- Our effect survives even when we control for the portfolio-driven DE.
- Effect robust against several market cycle measures (e.g. NBER) and fixed effect models.

References