Trends In Private Fixed Investment: And the 2008 Recession

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Trends In U.S. Private Fixed Investment and the 2008 Recession

Name: Bennett Zynn
Advisors: Dr. Robert Dean & Dr. Tony Caporale

Study Purpose:
Determine if long term trends in private fixed investment have been altered by the 2008 recession.

Research Design: Develop time-trend equations for the following fixed investment categories:
(1) Total Private Fixed Investment (PFI)
(2) Structures (PFI-S)
(3) Equipment (PFI-E)
(4) Intellectual Property (PFI-IP)

Periods of Analysis:
(1) 1999-2009 (T)
(2) 2010-2017 (T1)

Regression Models (T=1999-2017)
(1) PFI = A1 + B1 (T)
(2) PFI-S = A2 + B2 (T1)
(3) PFI-E = A3 + B3 (T)
(4) PFI-IP = A4 + B4 (T1)

**Same Model Constructed for T & T1**

Dummy Variable Models for T=1999-2017
PFI= A + B1(T) + C1(D1)
PFI-S =A + B2(T) + C2(D1)
PFI-E = A + B3(T) + C3(D1)
PFI-IP = A + B4(T) + C4(D1)

Where:
D1 = 0, 1999-2009
D1 = 1, 2010-2017

Table 1: Trend Analysis

<table>
<thead>
<tr>
<th></th>
<th>1999-2009</th>
<th></th>
<th>2010-2017</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>R²</td>
<td>B</td>
<td>tstat</td>
</tr>
<tr>
<td>PFI</td>
<td>.77</td>
<td>72</td>
<td>4</td>
</tr>
<tr>
<td>PFI-S</td>
<td>.73</td>
<td>25</td>
<td>5</td>
</tr>
<tr>
<td>PFI-E</td>
<td>.17</td>
<td>11</td>
<td>1</td>
</tr>
<tr>
<td>PFI-IP</td>
<td>.94</td>
<td>21</td>
<td>12</td>
</tr>
</tbody>
</table>

Table 2: Dummy Variable Analysis

<table>
<thead>
<tr>
<th></th>
<th>D1=0 1999-2009</th>
<th></th>
<th>D1=1 2001-2017</th>
<th>Delta Intercept</th>
</tr>
</thead>
<tbody>
<tr>
<td>PFI</td>
<td>1578</td>
<td>1061</td>
<td>-.517</td>
<td></td>
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<tr>
<td>PFI-S</td>
<td>205</td>
<td>53</td>
<td>-.152</td>
<td></td>
</tr>
<tr>
<td>PFI-E</td>
<td>614</td>
<td>601</td>
<td>-.13</td>
<td></td>
</tr>
<tr>
<td>PFI-IP</td>
<td>312</td>
<td>296</td>
<td>-.16</td>
<td></td>
</tr>
</tbody>
</table>

Conclusion:
1) B-coefficients post 2008 recession > pre-2008 recession
2) R-square values post 2008 recession > pre-2008 recession
3) T-stat values > 2 both pre and post 2008 recession
4) Dummy variable analysis: Intercepts decline post-2008 recession vs. pre-2008 recession
5) Model Affects: After 2008 recession trend slopes increased but intercepts declined. The decline in the intercepts is a proxy for the recession effect. The slope increases likely due to lower interest rates and a major increase in the money supply.