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Producer Prices, Cost-Push-Inflation and Stock Market Returns

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Advisor: Dr. Trevor Collier & Dr. Robert Dean

Study Purpose:
(1) Determine if cost push inflation forces are at work in producer prices
(2) Producer prices are predictors of price movements in the stock market

Research Method:
Stepwise regression analysis of the 4 stages of producer prices

The Model:

\[ S_2 = A + B(S_1) \]
\[ S_3 = A + B(S_2) \]
\[ S_4 = A + B(S_3) \]
\[ FD = A + B(S_4) \]
\[ SPY = A + B(FD) \]
\[ XLY = A + B(FD) \]
\[ XLP = A + B(FD) \]

Where \( S_1 \) = Stage 1 Producer Prices
\( S_2 \) = Stage 2 Producer Prices
\( S_3 \) = Stage 3 Producer Prices
\( S_4 \) = Stage 4 Producer Prices
\( FD \) = Final Demand Prices
\( SPY \) = S&P 500 Index
\( XLY \) = Consumer Discretionary ETF
\( XLP \) = Consumer Staples ETF


Table 1

<table>
<thead>
<tr>
<th></th>
<th>Stage 1 (x)</th>
<th>Stage 2 (x)</th>
<th>Stage 3 (x)</th>
<th>Stage 4 (x)</th>
<th>FD (y)</th>
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</thead>
<tbody>
<tr>
<td>R-Squared</td>
<td>0.875</td>
<td>0.841</td>
<td>0.975</td>
<td>0.986</td>
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</tr>
<tr>
<td>Intercept</td>
<td>6.55</td>
<td>6.57</td>
<td>26.09</td>
<td>5.64</td>
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<tr>
<td>b-Coefficient</td>
<td>0.917</td>
<td>0.949</td>
<td>0.729</td>
<td>0.941</td>
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<tr>
<td>Standard Error</td>
<td>0.044</td>
<td>0.053</td>
<td>0.015</td>
<td>0.014</td>
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</tr>
<tr>
<td>t-Statistic</td>
<td>20.52</td>
<td>17.81</td>
<td>48.4</td>
<td>65.54</td>
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</tbody>
</table>

Table 2

<table>
<thead>
<tr>
<th></th>
<th>SPY (y)</th>
<th>FD(x)</th>
<th>XLY (y)</th>
<th>FD(x)</th>
<th>XLP (y)</th>
<th>FD (x)</th>
</tr>
</thead>
<tbody>
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<tr>
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<td>3.53</td>
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<td>0.19</td>
<td>0.09</td>
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<tr>
<td>T-stat</td>
<td>15.90</td>
<td>18.15</td>
<td>18.15</td>
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</tr>
</tbody>
</table>

Conclusion:

Table 1: Based on the R-squares and b-coefficients there is a high passthrough rate for producer prices by stages of production

Table 2: Stock market prices directly covary with final demand prices. Both demand pull and cost push inflation forces are likely at work