Inflation Repression
Discussion Prepared for the Meeting of the Economic Advisory Panel
to the New York Federal Reserve

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The Inflation Challenge Isn’t Going to Get Easier

• Housing has distorted cyclical inflation dynamics and is now a headwind to achieving a symmetric 2% target

• Secular forces of an aging population and rapid advances in technology will continue to weigh on trend inflation

• The natural rate of unemployment is lower, there is still slack

• A long period of low inflation has potentially led to a self-reinforcing dynamic between low wages, low inflation expectations, and low realized inflation

• In order to achieve inflation as close as possible to its target through the business cycle, the Fed will have to balance the costs and benefits of running the economy hot.

• Good communication is essential to defending gains made to date through the next downturn
Housing (Owners’ Equivalent Rent and Rent of Primary Residence) is the primary cyclical driver of core inflation
--Our results are consistent with findings from recent work by Stock and Watson and the Cleveland Fed

<table>
<thead>
<tr>
<th>Dependent variables</th>
<th>Lag (t-1)</th>
<th>Lag (t-2)</th>
<th>Slack</th>
<th>Core import prices</th>
<th>Inflation expectations</th>
</tr>
</thead>
<tbody>
<tr>
<td>Core PCE</td>
<td>0.28 ***</td>
<td>0.11</td>
<td>-0.06 **</td>
<td>0.47 ***</td>
<td>0.55 ***</td>
</tr>
<tr>
<td>Core goods PCE</td>
<td>0.41 ***</td>
<td>0.28 ***</td>
<td>0.02</td>
<td>0.27</td>
<td>0.01</td>
</tr>
<tr>
<td>Core services PCE</td>
<td>0.36 ***</td>
<td>0.16 *</td>
<td>-0.09 **</td>
<td>0.46 ***</td>
<td>0.59 ***</td>
</tr>
<tr>
<td>Housing</td>
<td>0.36 ***</td>
<td>0.16 *</td>
<td>-0.09 **</td>
<td>0.46 ***</td>
<td>0.59 ***</td>
</tr>
<tr>
<td>Owners’ equivalent rent</td>
<td>0.64 ***</td>
<td>-0.06</td>
<td>-0.17 ***</td>
<td>-0.38 *</td>
<td>0.49 ***</td>
</tr>
<tr>
<td>Rent of primary residence</td>
<td>0.95 ***</td>
<td>-0.08</td>
<td>-0.07 **</td>
<td>0.13</td>
<td>0.19 ***</td>
</tr>
<tr>
<td>Healthcare</td>
<td>0.37 ***</td>
<td>0.41 ***</td>
<td>-0.07</td>
<td>0.33</td>
<td>0.29 ***</td>
</tr>
</tbody>
</table>

*** Statistically significant at the 1% level
** Statistically significant at the 5% level
* Statistically significant at the 10% level
-- Housing Contributed to the Early Rebound in Core Inflation
-- Better Balance in Supply and Demand for Rental Housing
    Should Lead to Moderation in Shelter Inflation
Core Inflation Averaging 1.6% vs 2.0% in Prior Expansion
--Health care accounts for 80% of the lower trend
--Rising federal entitlement obligations make high healthcare inflation infeasible, implying a strong political push to keep them low
Disruptive Technology is Producing Broad Based Disinflation and Deflation in a Wide Range of Goods and Services

Sources: BLS, FRBSF /Haver
There is Still Slack in the Labor Market

---Every Measure of Wage Growth is Lower and Less Cyclical
---Low Productivity Can’t Fully Explain it, the Labor Share has Fallen and it Can’t Get Up
There is Still a Shadow Labor Force
--A Deep Recession Sidelined Many Prime Aged Workers
--Participation for Most Gender/Age Groups is Trending Higher
We are seeing Inflation Repression from the Public Sector in Wages
--The public sector is a key price setter in the market for health care and education.
--Rising obligations for benefits may compressing wage growth
All Measures of Inflation Expectations Suggest a Break in 2013
--Expectations may have stabilized around lower inflation trend

Sources: UMICH, FRBPHIL, FRBNY, FRB/Haver
Investors Expect the Fed to Fall Short of its Inflation Mandate

What probability do you attach to seeing a sustained* period of 2% annual core PCE inflation within the next 2 years?

<table>
<thead>
<tr>
<th>Total respondents</th>
<th>Inflation investors**</th>
</tr>
</thead>
<tbody>
<tr>
<td># of responses</td>
<td>91</td>
</tr>
<tr>
<td>Average</td>
<td>32%</td>
</tr>
<tr>
<td>Median</td>
<td>25%</td>
</tr>
<tr>
<td></td>
<td>38</td>
</tr>
<tr>
<td></td>
<td>28%</td>
</tr>
<tr>
<td></td>
<td>25%</td>
</tr>
</tbody>
</table>

* by sustained we mean core PCE inflation at or above 2% on a y/y basis for a period longer than 6 months.

** “inflation investors” are those who answered “yes” to either parts of the following question: Do you invest or transact in the markets for: a) Inflation-linked securities; b) Other financial products explicitly based on your views about US inflation.

Do you believe that current monetary policy tools are capable of generating a sustained* period of 2% core PCE inflation within the next 2 years?

*core PCE inflation at or above 2% y/y for a period longer than 6m
Conclusion: Good Communication is Key

• An honest informed description of inflation dynamics is best practice
  • Ignoring persistent errors, turning to alternative measures that show higher inflation, or targeting an unachievable inflation rate are strategies that could erode Fed credibility.

• The Fed should provide more transparency around its reaction function
  • The Fed could be more frank about the tradeoff it is making between achieving its inflation target in the near term and rising risks to financial stability. The Fed is weighing the costs and benefits of overheating differently from prior cycles, the risk is a hard landing from asset bubbles rather than high inflation.