Model Answers Week 1 Homework

These answers are based on old data and are offered as a model for the answers that you ought to give to these problems. Your answers should use updated data.

**Problem 1.7.**

<table>
<thead>
<tr>
<th>President (ranked best to worst)</th>
<th>Term</th>
<th>Inflation Rate</th>
<th>Unemployment Rate</th>
<th>Misery Index</th>
<th>Change Misery Index</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reagan</td>
<td>1981:01</td>
<td>1989:01</td>
<td>11.8</td>
<td>4.7</td>
<td>7.5</td>
</tr>
<tr>
<td>Ford</td>
<td>1974:08</td>
<td>1977:1</td>
<td>10.9</td>
<td>5.2</td>
<td>5.5</td>
</tr>
<tr>
<td>Clinton</td>
<td>1993:01</td>
<td>2001:01</td>
<td>3.3</td>
<td>3.7</td>
<td>7.3</td>
</tr>
<tr>
<td>Truman¹</td>
<td>1948:01</td>
<td>1953:01</td>
<td>1.3</td>
<td>0.4</td>
<td>4.3</td>
</tr>
<tr>
<td>Kennedy</td>
<td>1961:01</td>
<td>1963:11</td>
<td>1.7</td>
<td>1.3</td>
<td>6.6</td>
</tr>
<tr>
<td>G.W. Bush</td>
<td>2001:01</td>
<td>2009:01</td>
<td>3.7</td>
<td>−1.5</td>
<td>4.2</td>
</tr>
<tr>
<td>G.H.W. Bush</td>
<td>1989:01</td>
<td>1993:01</td>
<td>4.7</td>
<td>3.3</td>
<td>5.4</td>
</tr>
<tr>
<td>Eisenhower</td>
<td>1953:01</td>
<td>1961:01</td>
<td>0.4</td>
<td>1.7</td>
<td>2.9</td>
</tr>
<tr>
<td>Johnson</td>
<td>1963:11</td>
<td>1969:01</td>
<td>1.3</td>
<td>4.4</td>
<td>5.7</td>
</tr>
<tr>
<td>Obama²</td>
<td>2009:01</td>
<td>2010:06</td>
<td>−1.5</td>
<td>1.1</td>
<td>9.7</td>
</tr>
<tr>
<td>Nixon</td>
<td>1977:01</td>
<td>1981:01</td>
<td>5.2</td>
<td>11.8</td>
<td>7.5</td>
</tr>
<tr>
<td>Carter</td>
<td>1969:01</td>
<td>1974:08</td>
<td>4.4</td>
<td>10.9</td>
<td>3.4</td>
</tr>
</tbody>
</table>

Notes: the misery index is the sum of the inflation rate (measured as the growth rate of the CPI over the same month one year earlier) and the unemployment rate; a fall in the misery index is an improvement.

¹Refers only to Truman’s second (full) term.
²Data available only through last month shown; Obama’s full term ends in 2013:01.
Problem 2.1:

(a)

The Components of GDP

<table>
<thead>
<tr>
<th></th>
<th>Consumption</th>
<th>Investment</th>
<th>Government Expenditure</th>
<th>Net Exports</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean</td>
<td>64.7</td>
<td>16.0</td>
<td>20.2</td>
<td>-1.0</td>
</tr>
<tr>
<td>Variance</td>
<td>8.7</td>
<td>2.3</td>
<td>3.8</td>
<td>4.2</td>
</tr>
<tr>
<td>Standard Deviation</td>
<td>2.9</td>
<td>1.5</td>
<td>1.9</td>
<td>2.0</td>
</tr>
<tr>
<td>Coefficient of Variation</td>
<td>4.6</td>
<td>9.4</td>
<td>9.6</td>
<td>212.5</td>
</tr>
</tbody>
</table>

Notes: original data express each component as a percentage share of GDP.

(b) Components of GDP: Descriptive Statistics

(c) Both the graph and the data in the table show that consumption is the largest component of GDP (on average nearly 2/3) and net exports the smallest (in fact, often negative); while typically government expenditure is second and investment third. The shares display some variability, but only weak trends. Consumption trended upwards from the mid-1980s and net exports downward from the mid-
1970s. Neither investment nor government expenditure display a strong trend. Net exports are by far the most volatile component of GDP as measured by the coefficient of variation. Investment and government expenditure display a similar and much smaller volatility; while consumption is the most stable component – only about half as volatile as either investment or government expenditure. [Each student’s conjectures will be different, but a good answer will relate each conjecture to particular data in the table to confirm or contradict it.]