Solution to the Exercise for MATLAB Handout # 5

To begin you must load the appropriate data. This can be done as follows:

\[
\text{load('k:\pork.dat');}
\]
\[
V=\log(pork);
\]

It is also useful to calculate the sample size.
\[
[T,ncz]=\text{size}(V);
\]

Note that the hogui.m file containing the moment function and its derivative needs to be specialized to the appropriate question before it is run.

1(i) For this part the instrument vector is constructed as follows.

\[
Z=V(:,2);
\]

Then in the GUI window enter:

- **Data**  \( V \)
- **Moment**  \( \text{hoggui} \)
- **Various**  \( Z \)
- **Starting**  \( 1 \)
- **First step**  \( \text{inv}(Z'*Z/T) \)
- **Cov. matrix settings**  \( \text{martingale differences} \)
- **Output**  \( \text{hog} \)

The estimate is 0.8128 with an approximate 95% confidence interval of (0.8059, 0.8198).
1(ii) For this part the instrument vector is constructed as follows.

\[ Z = V(:,6); \]

The items in the GUI window should be filled in as above.

The estimate is 0.8127 with an approximate 95% confidence interval of (0.8058,0.8197). These results are very similar to those from part (i).

2(i) For this part the instrument vector is constructed as follows.

\[ Z = [V(:,2) \ V(:,6)]; \]

Then in the GUI window enter as above except for:

- **First step** \texttt{eye(2)}

The estimate is 0.8137 with an approximate 95% confidence interval of (0.8070,0.8201).

2(ii) In the GUI window enter as above except for:

- **First step** \texttt{inv(Z'*Z/T)}

The estimate is 0.8137 with an approximate 95% confidence interval of (0.8070,0.8205). Clearly these results are very similar to those from part (i). (The differences are in rounding.)

3. The overidentifying restrictions test is identical for each choice of first step weighting matrix and is 2.1 with a p-value of 0.147 which indicates the model is consistent with the data at all conventional significance levels.