Problem Set #4

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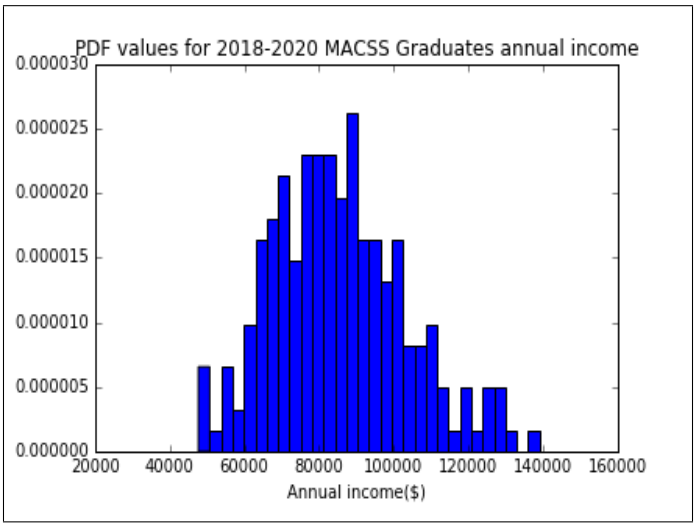
Problem 1 Some income data, lognormal distribution, and SMM

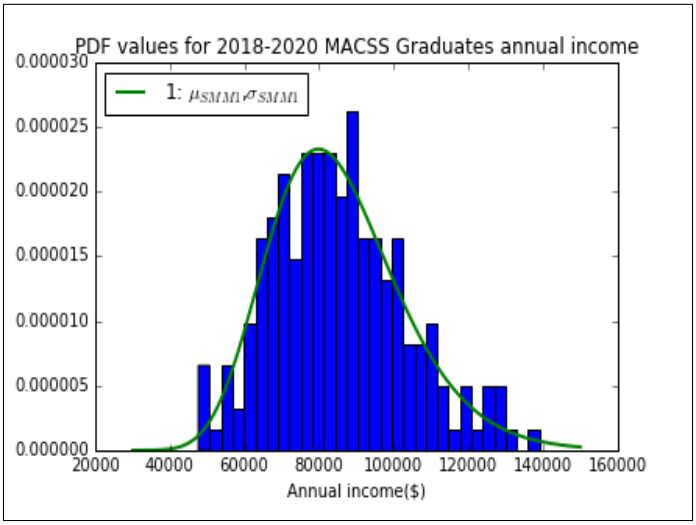
Part (a).



Part (b).

Test output: $\begin{bmatrix}\begin{bmatrix}0.0019079 & 0.00123533\end{bmatrix}\\ \begin{bmatrix}0.00217547 & 0.0019646\end{bmatrix}\end{bmatrix}$

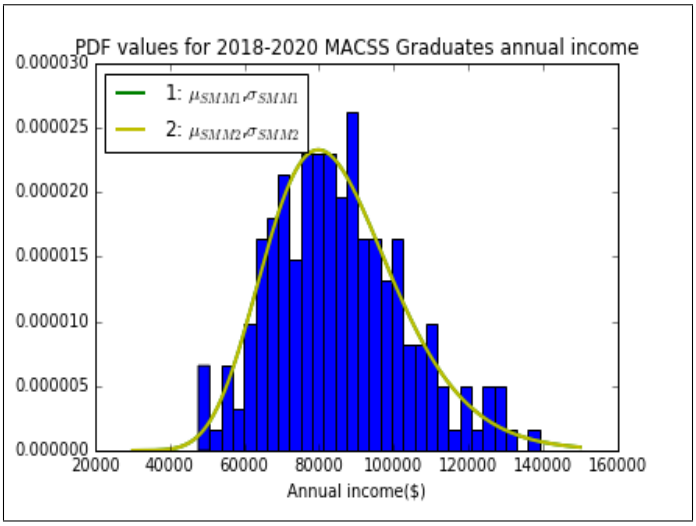
Part (c).



mu_SMM = 11.3313835831; sig_SMM = 0.210104160817

The value of the SMM criterion function at the estimated parameter values is 8.09775633757e-13.
mean_data = 85276.8236063; std_data = 17992.542128
mean_model = 85276.7499789; std_model = 17992.5466916
Two data moments and two model moments at the estimated parameter values are very close.

Part (d).



mu_SMM = 11.3313848658; sig_SMM = 0.210104138273
The value of the SMM criterion function at the estimated parameter values is 0.00236415272047.
mean_data = 85276.8236063; std_data = 17992.542128
mean_model = 85276.858963; std_model = 17992.5677198
Two data moments and two model moments at the estimated parameter values are very close.