

# Problem Set 4

Reid McIlroy-Young

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## Question 1

### Part (a)

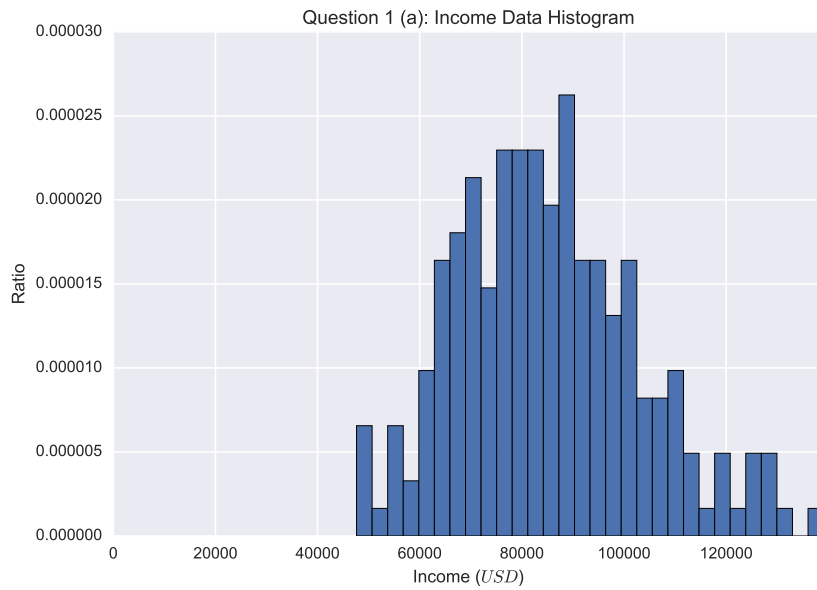


Figure 1: Question 1 (a) histogram

## Part (b)

The result of `LN_pdf()` being run on the test array, with  $\mu = 5$ ,  $\sigma = 1$ , is:

```
0.001908  0.001235
0.002175  0.001965
```

## Part (c)

The the two moments, one step SMM estimate of  $\mu = 11.33$  and  $\sigma = 0.21$ , has a criterion function value of  $9.83e-14$ . This gives a very good fit, with moments:

Source	mean	std
data	85276.824	17993
one step	85276.817	17993

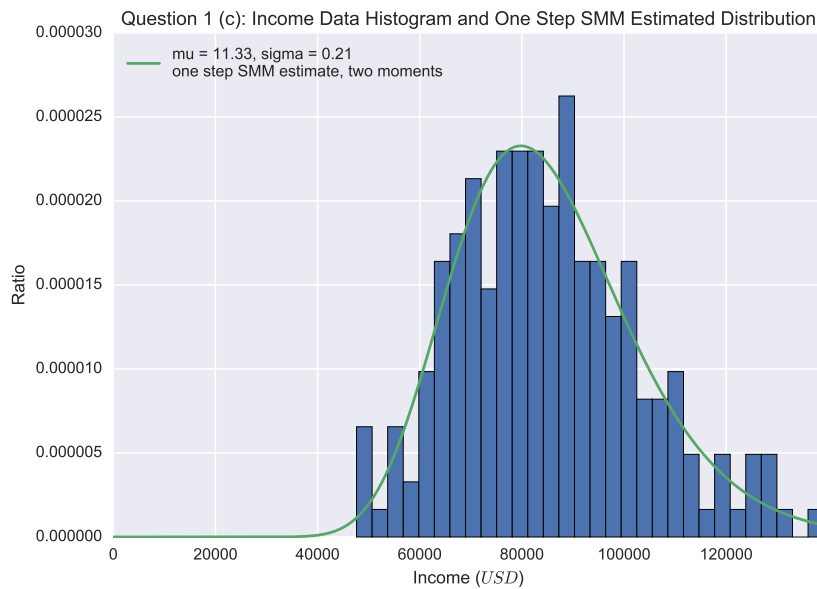


Figure 2: Question 1 (c) plot

## Part (d)

The the two moments, two step SMM estimate of  $\mu = 11.29$  and  $\sigma = 0.22$ , has a criterion function value of  $4.26\text{e-}02$ . This gives a worse fit than the first, with moments:

Source	mean	std
data	85276.824	17993
one step	85276.817	17993
two step	82346.146	18142

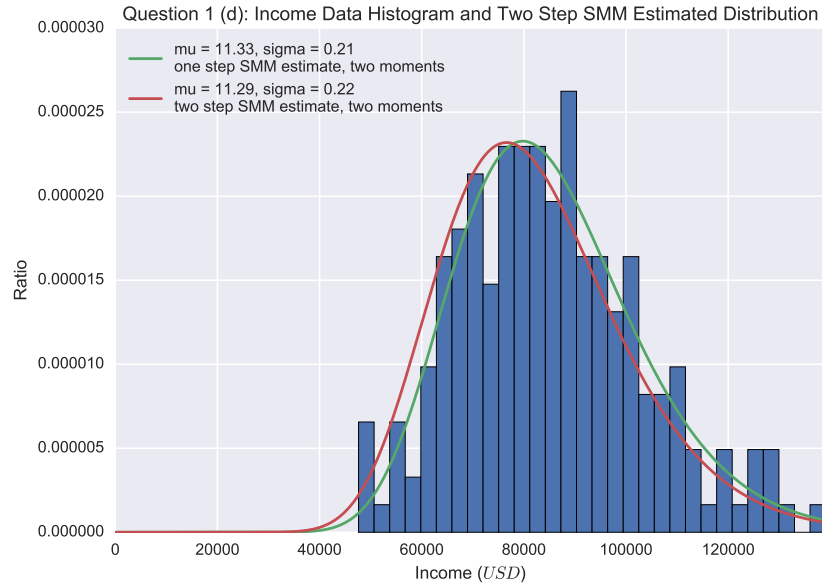


Figure 3: Question 1 (d) plot