Problem Set #4
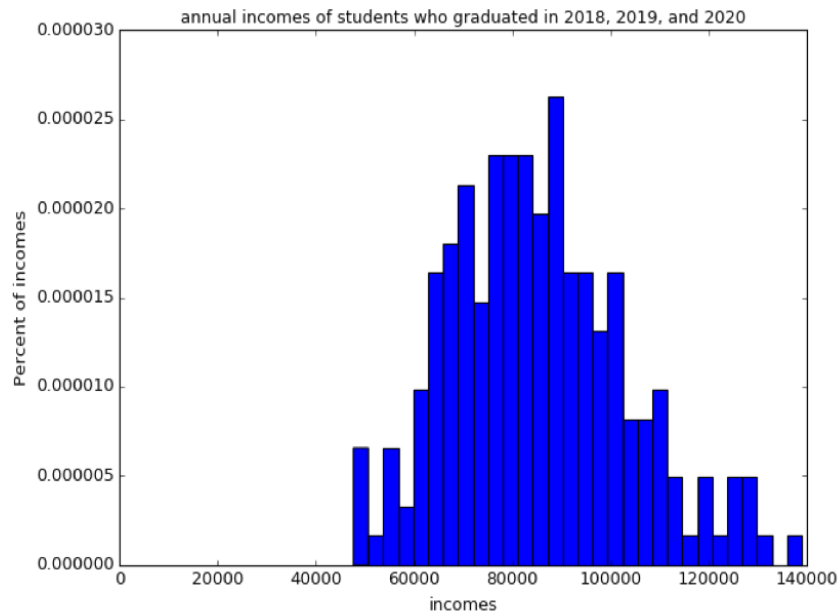
MACS 30100, Dr. Evans

Wanlin Ji

Question 1
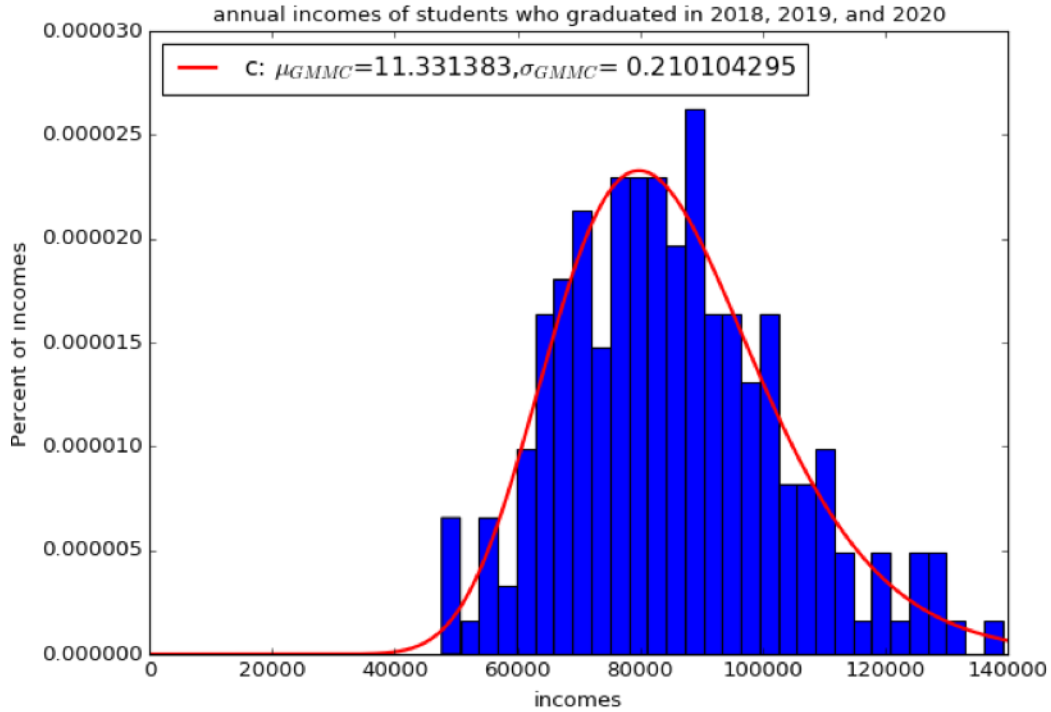
(a)

(b)

The test result is:

[[0.0019079 0.00123533]

[0.00217547 0.0019646]]

(c)

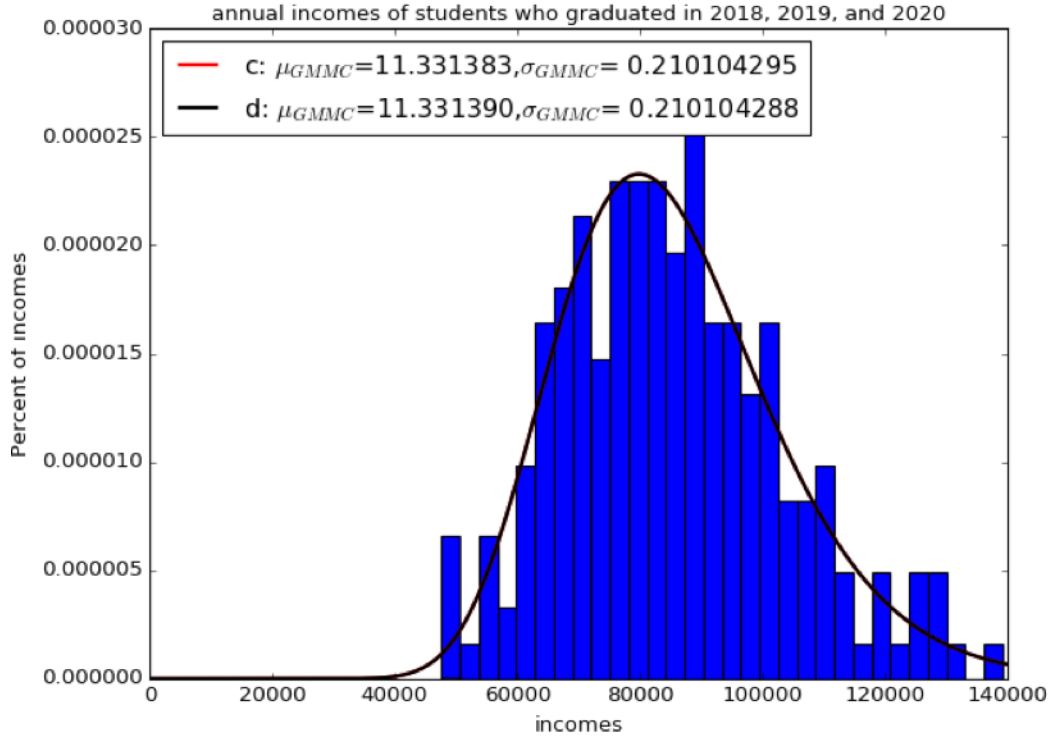annual incomes of students who graduated in 2018, 2019, and 2020

$\mu_{SMM} = 11.331383416059689 \ \sigma_{SMM} = 0.21010429587345966$

The value of SMM criterion function is 1.59649137884e-12 Mean of data moments: 85276.8236063 Std of data moments: 17992.542128 Mean of model moments: 85214.2066362 Std of model moments: 18069.0474701

Mean of data moments - Mean of model moments: 90.8160074728 Std of data moments - Std of model moments: -67.745614616

(d)

annual incomes of students who graduated in 2018, 2019, and 2020

Legend:
- c: $\mu_{GMMC}=11.331383, \sigma_{GMMC}= 0.210104295$
- d: $\mu_{GMMC}=11.331390, \sigma_{GMMC}= 0.210104288$

$\mu_{SMM} = 11.331390186202588$ $\sigma_{SMM} = 0.21010428883399743$

The value of smm criterion function is 8.56167953632e-05 Mean of data moments: 85276.8236063 Std of data moments: 17992.542128 Mean of model moments: 85277.3153749 Std of model moments: 17992.6771507

Mean of data moments - Mean of model moments: -0.491768616208 Std of data moments - Std of model moments: -0.135022645558