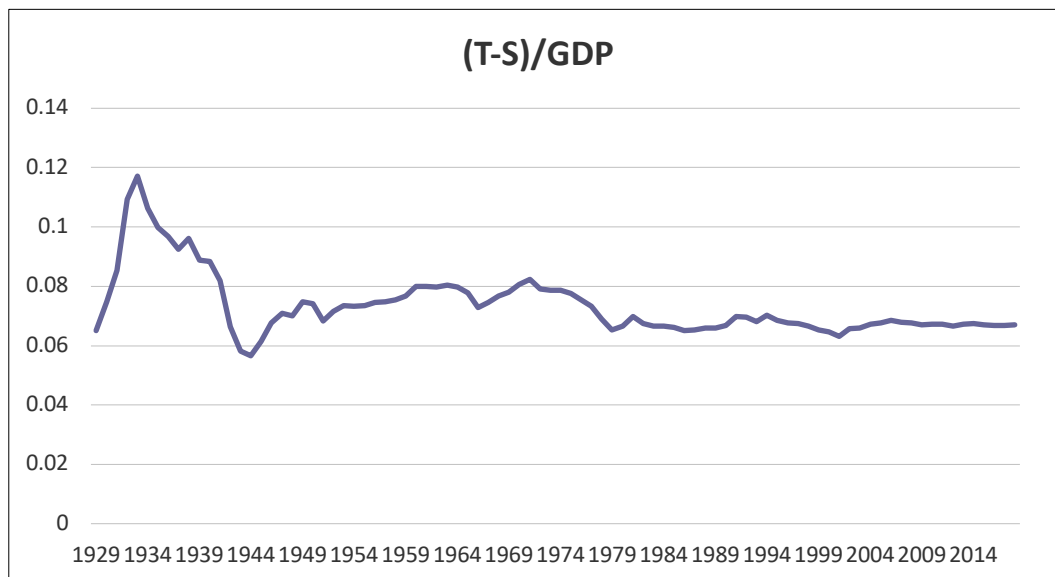


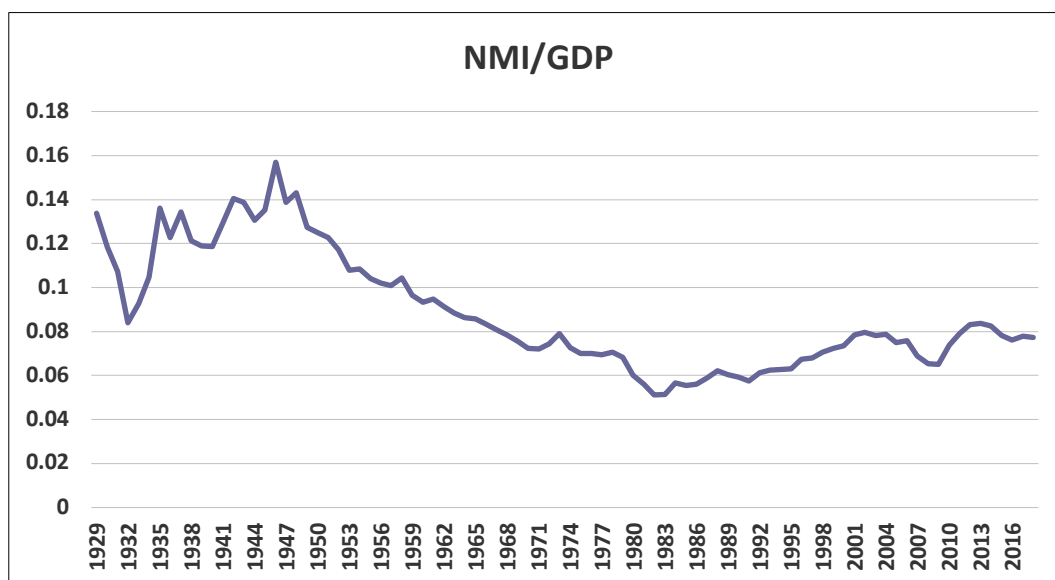
Quantitative Macroeconomics HW1

Question 1

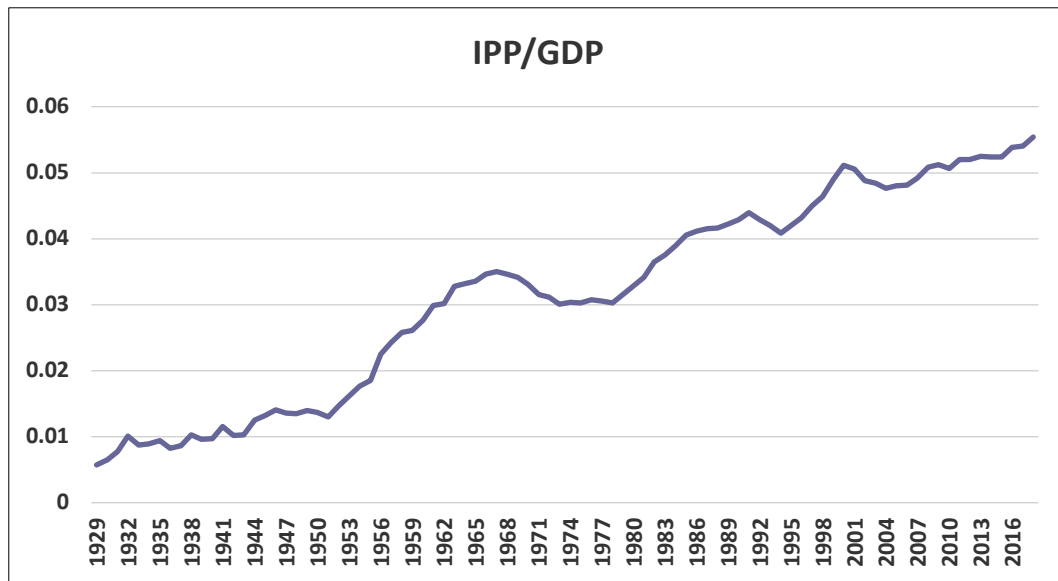
1.1



The taxes less subsidies over GDP ratio graph shows that in the early years the ratio was much higher but since 1944 is consistently between 8 to 6 percent points of GDP and recent trends indicate that its stable at around 6.5%



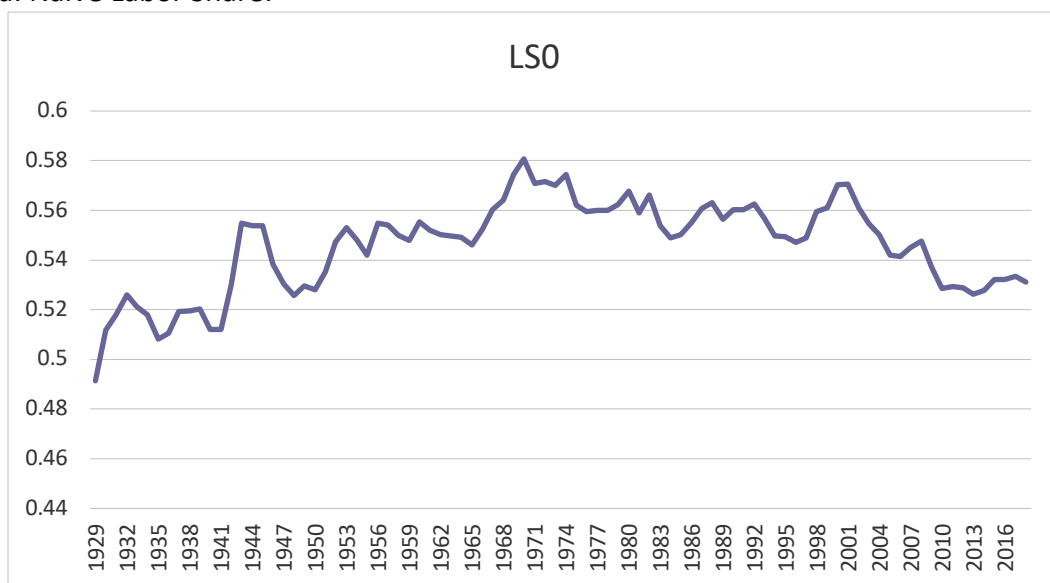
The ratio of NMI to GDP shows there was a sharp decline from 1947 to 1977 but has been recently rising and the average in the current years is around 8 %.



The IPP over GDP graph clearly indicates that in 1929 it was close to zero but has been rising since then and has been around the 5 % mark in the last decade.

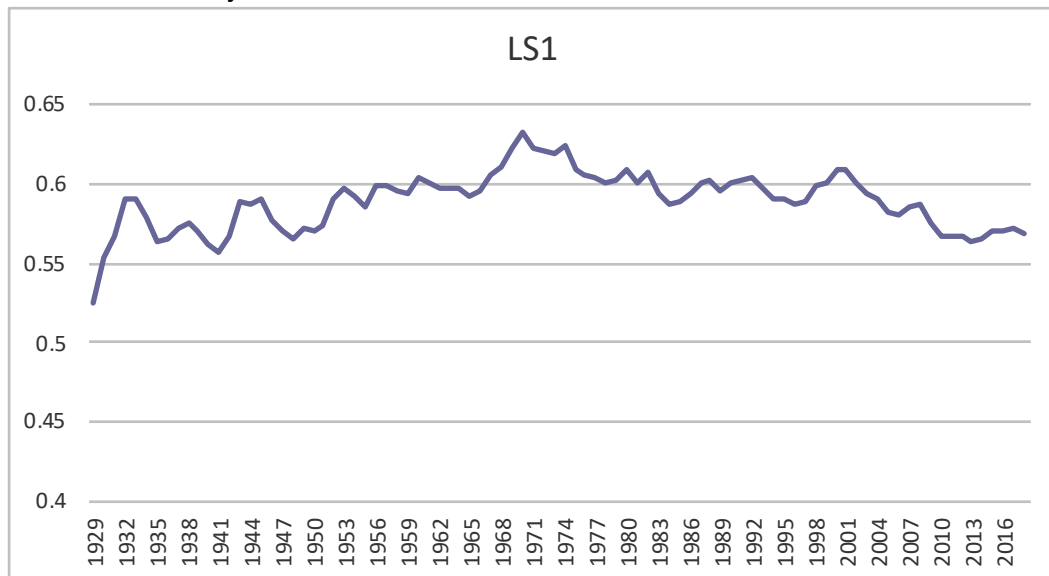
1.2

a. Naïve Labor Share:



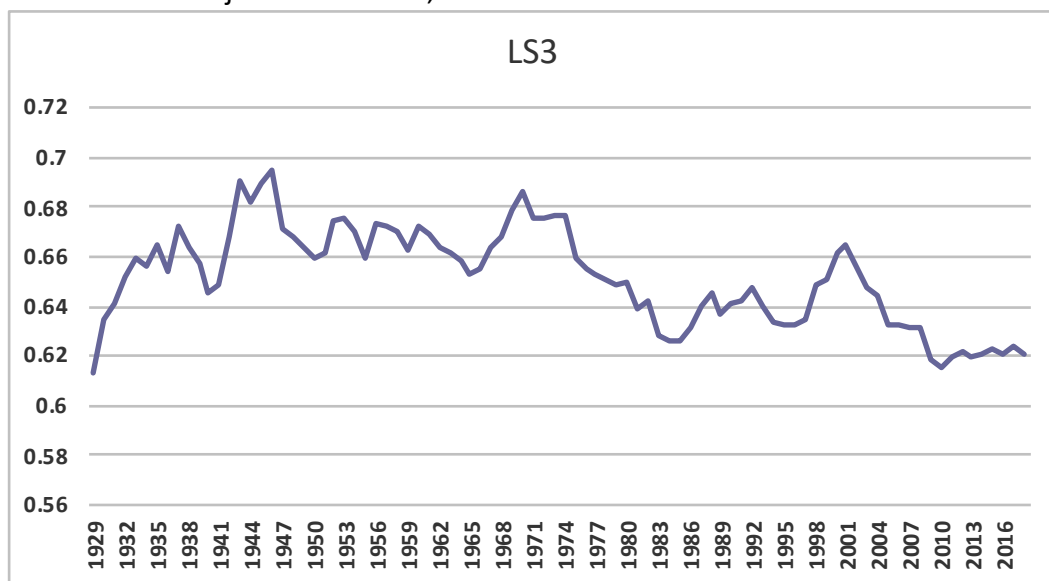
The naïve labor share indicates that the compensation of wages has been consistently ranged around 50 % to 55% of the GDP over time as expected.

b. Labor share adjusted for tax and subsidies:



After adjusting for taxes and subsidies we can observe a small change in the labor share with an average rise of 5% over time.

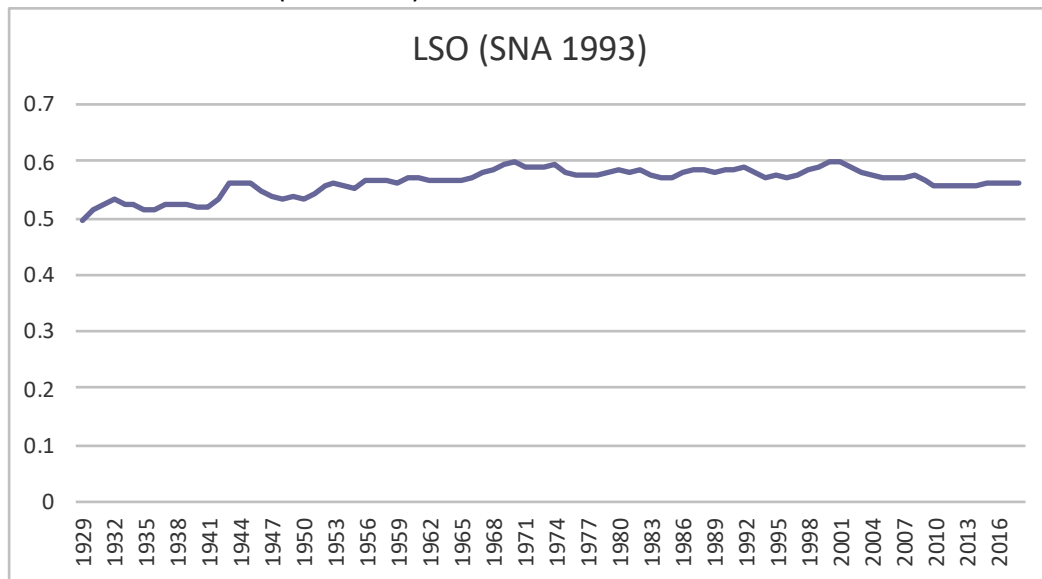
c. Labor share adjusted for taxes, subsidies and NMI:



Comparing to previous estimate the addition of mixed income we can see a rise in labor share on average of about 8% which is expected since it has a higher component in GDP and a certain portion goes to labor income.

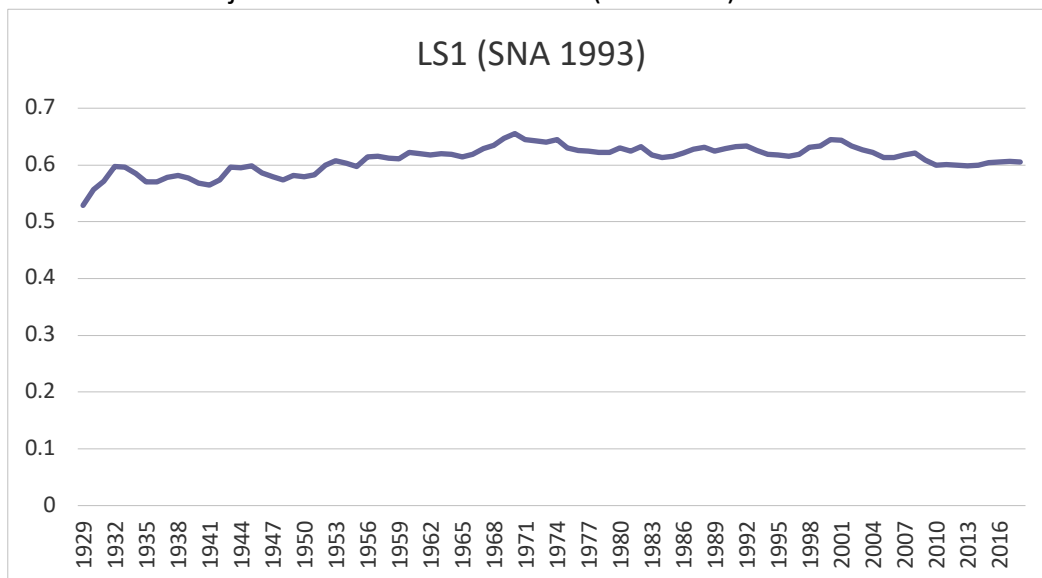
Question 2

a. Naïve Labor share (1993 SNA):



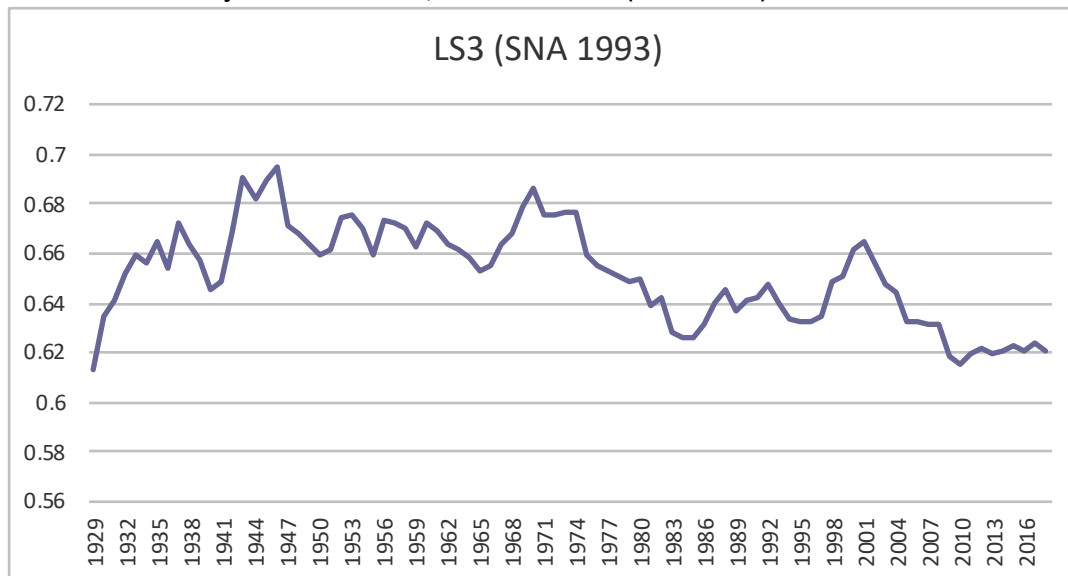
A comparison of both naïve labor shares between 2008 and 1993 SNA we can see that the ratio is similar but the adjustment reduces the variance in the labor share over time.

b. Labor share adjusted for tax and subsidies (SNA 1993):



With the adjustment of taxes and subsidies we can see a similar trend as above where the variance reduces but the labor share remains similar.

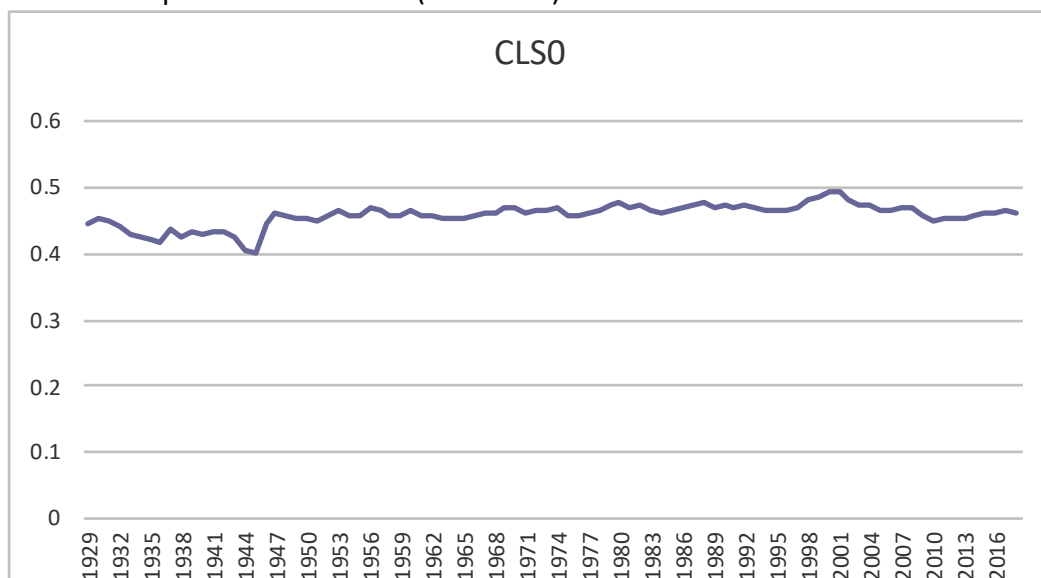
c. Labor share adjusted for taxes, subsidies and (SNA 1993):



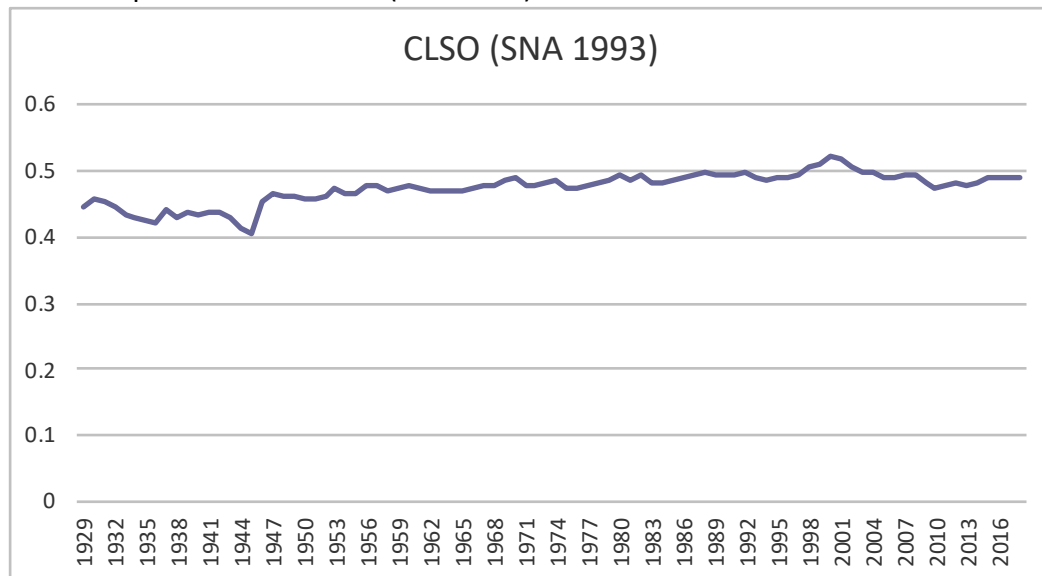
Comparing the graphs for labor share including for mixed income in both 2008 and 1993 SNA shows similar trends over time indicating this would be a better measurement for comparing the labor share over time in the US economy.

Question 3

a. Naïve Corporate Labor share (2008 SNA)

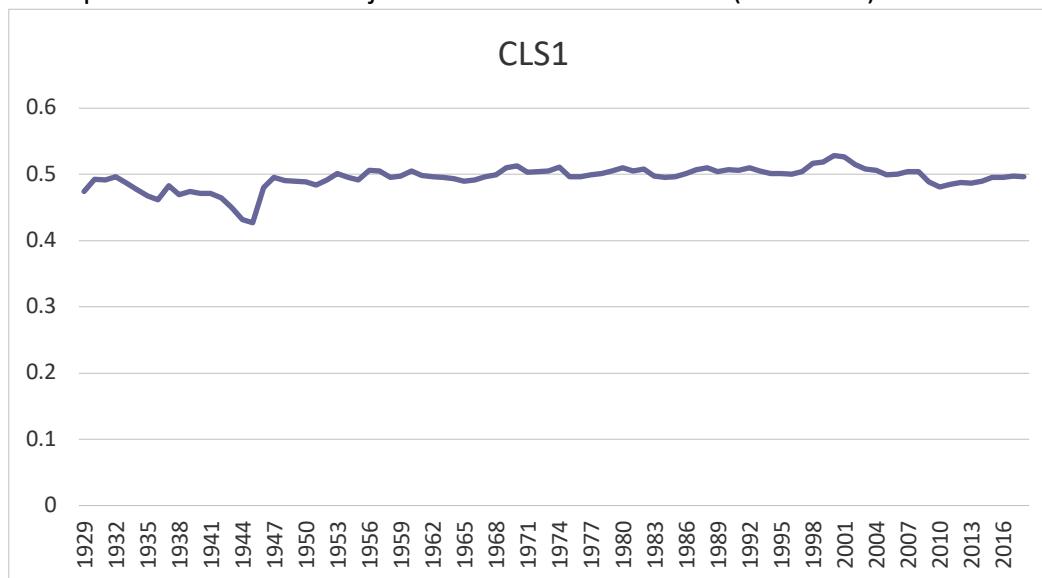


Naïve Corporate Labor Share (1993 SNA)

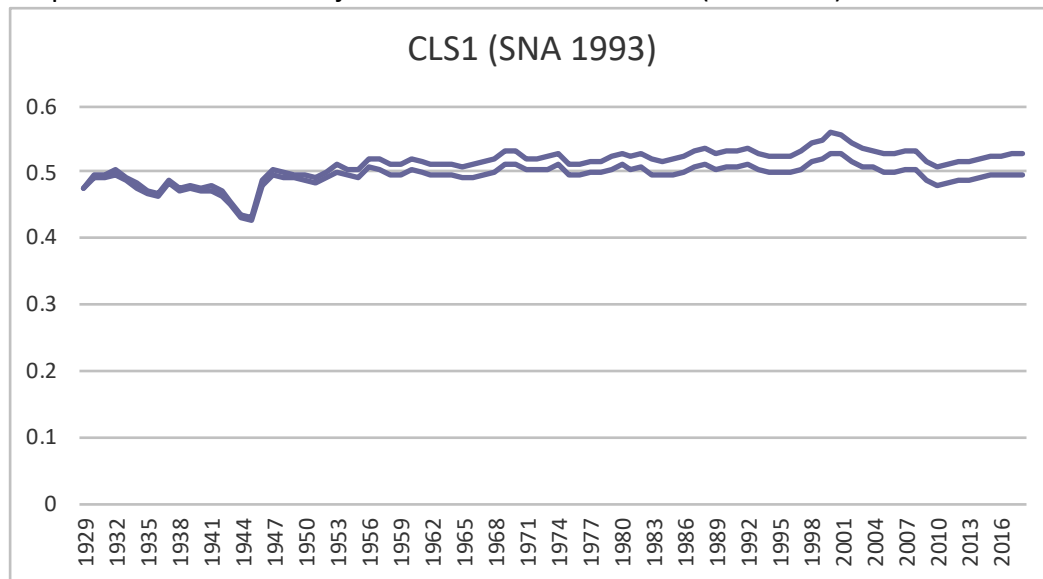


A comparison of the naïve corporate labor share using the data from 2008 and 1993 SNA show similar trends over time indicated a low effect of IPP in the US economy. This is better observed in the graphs below as well where an inclusion of taxes and subsidies also indicate similar results with a small gap over time in the two different SNAs over time.

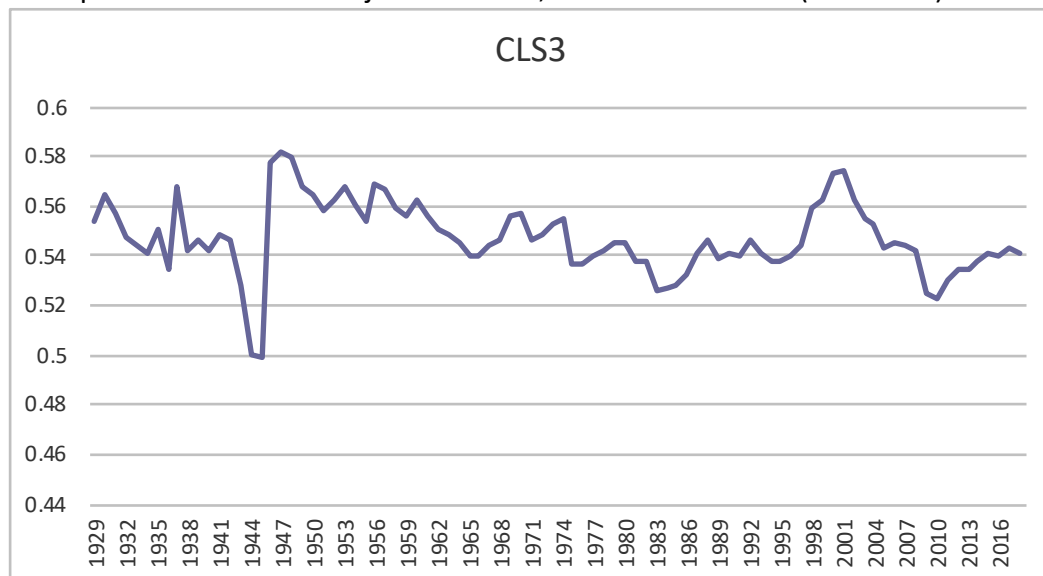
b. Corporate Labor share adjusted for tax and subsidies (SNA 2008):



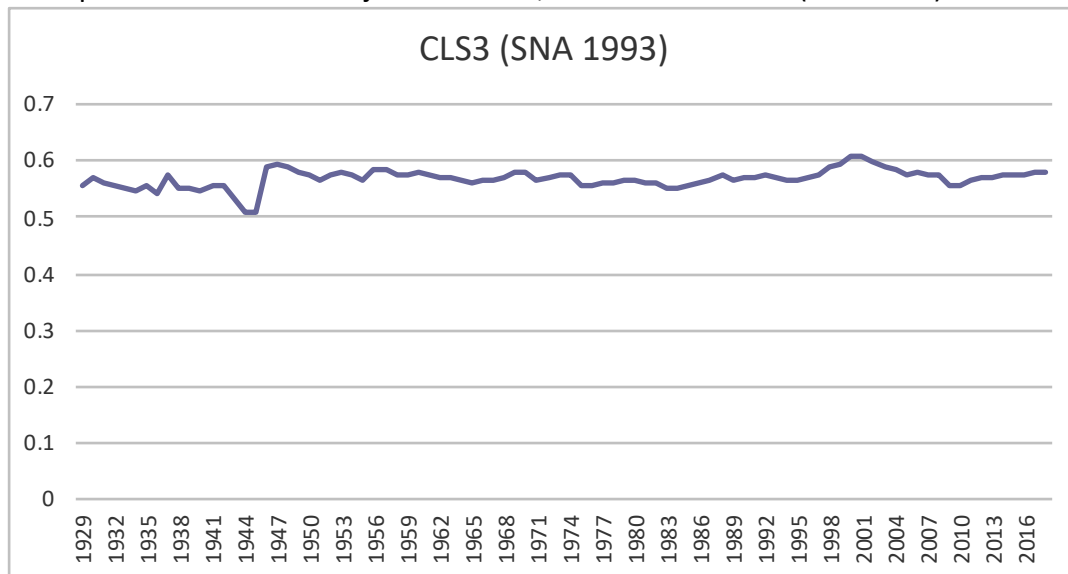
Corporate Labor share adjusted for tax and subsidies (SNA 1993):



c. Corporate Labor share adjusted for tax, subsidies and NMI (SNA 2008):



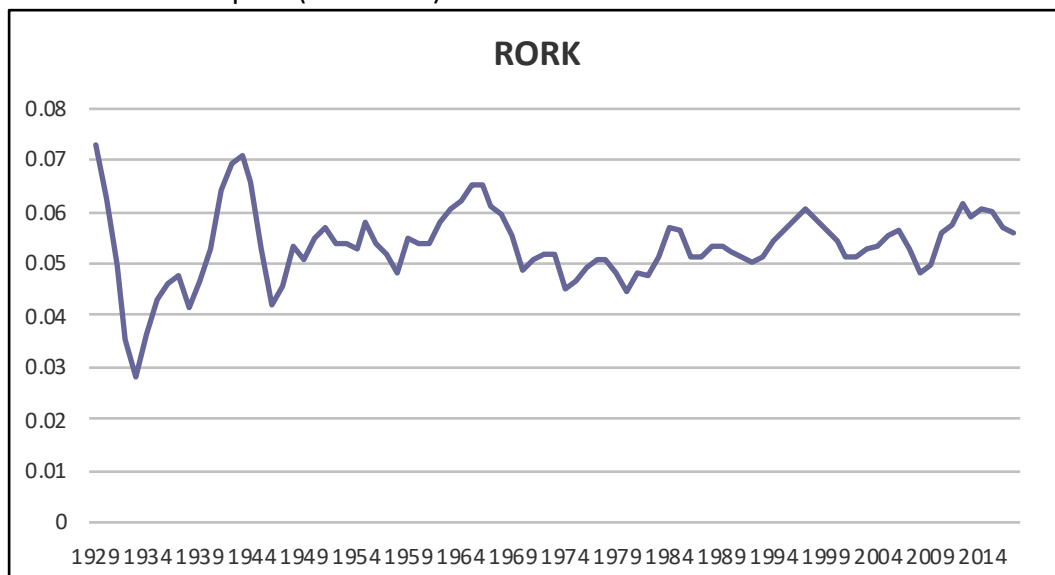
c. Corporate Labor share adjusted for tax, subsidies and NMI (SNA 1993):



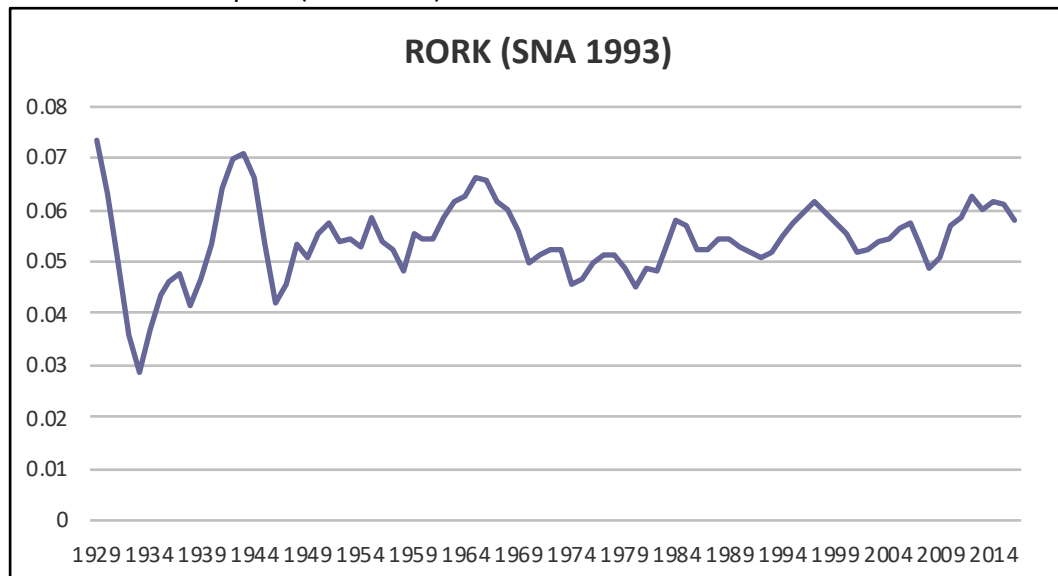
In the last case we can see that although the corporate labor share ranges are similar in 2008 and 1993 SNA the variance considerably reduces in 1993 indicated that this estimate shows a higher effect of inclusion of both mixed income and removal of IPP from corporate income.

Question 4

Rate of rate of Capital (2008 SNA)



Rate of rate of Capital (1993 SNA)



If we observe the two graphs above we can clearly see that the rate of return of capitals follows a similar trend for both SNA 2008 and 1993 indicating that there is relatively low effect of IPP inclusion in capital income.