Your group will use the Excel spreadsheet on the course website (“PS3 Spreadsheet”) to evaluate how federal and state tax and transfer policies affect the income distribution by type of household. Please submit both an Excel spreadsheet with your derivations and graphs and a word document with your discussions and explanations. Please include all participating group member names on the word document.

1) The first tab in the Excel spreadsheet (“Income Distribution”) provides 2009 data from the Current Population Survey on household income for married couples, female headed households, and female headed households with kids under 18. For the entire population, the median household taxable income plus benefits in 2009 was $45,996. Married households were well above at $71,181 and female headed households were well below at $27,020 overall and $29,361 for female headed households with kids.

From the data on distribution of families, complete the derivation for the cumulative distribution of households by type and income within the “Income Distribution” tab. The cumulative distribution for taxable income plus benefits for a married household is already derived and provides an example of how to calculate the cumulative distribution.

Given the provided distribution and the derived cumulative distribution, discuss how federal and state tax and transfer policies change household income for these three household types at the median. Because the data are in income ranges, you will have to approximate your answers. Which household type benefits most from government tax and transfer policies? Why?

2) The tab “Relative Wages” has Bureau of Labor statistics data on relative earnings for men and women between 1979 and 2009. Using the information on relative wages, we want to compare the total value of household production and market production for a male-female couple aged 25-34 in 1979 and in 2009.

Use the tab labeled “Household Production”. Home production by both the male and the female is assumed to be of equal value at a point in time: $7.60 per hour in 1979 and $5.50 per hour in 2009. This is consistent with the Landefeld et al (2009) estimates presented in class. Also, let the male wage equal the actual averages of $20 per hour in 1979 and $18 per hour in 2009 with all wages in constant 2009 dollars. Use the estimates from the “Relative Wages” tab to derive the relative wages for women in 1979 and 2009 in cells B3 and C3 in the “Household Production” tab.

a) Derive a weekly production possibility chart for home and market production for a couple earning average wages in 1979 and again in 2009. Assume each member of the couple can allocate 50 hours. This can be done as follows:
i. First, derive the individual production possibilities chart for each household member in each year (i.e. production possibilities for all possible allocations of time). The “Household Production” tab has a table set-up to derive (or input) the individual production possibilities.

ii. Establish which of the couple has a comparative advantage in market production. To benefit from specialization, the individual with a comparative advantage in the market should specialize in market production first.

iii. Use the individual production possibilities charts to derive the joint production possibilities chart. Put the joint production possibilities in the “Household Production” tab.

b) Graph the joint production possibilities for each time period. In terms of total production possibilities, are couples richer in 1979 or 2009? Explain your answer.

c) In terms of the Becker marriage model, are marriages more stable in 1979 or 2009? Why?