ECON 442: Worksheet 2 Professor Jack Rossbach

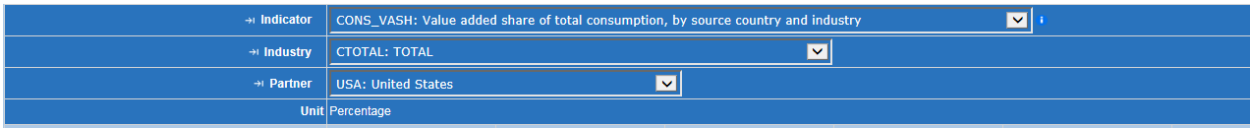
*Counts as a canvas assignment in grading.* ***Due Tuesday March 28 at Midnight.*** *Can turn into me in person before 5pm, otherwise upload a scan or word/pdf version to canvas by the deadline.*

**Question 1**

Go to Trade in Value Added (TiVA) website.

http://stats.oecd.org/Index.aspx?DataSetCode=TIVA2015_C1

Look at CONS_VASH: Value Added Share of Total Consumption, by Source Country and Industry




**1.1)** What percent of final consumption in the US is value added with the U.S. as the source country in 1995 and 2011?

| | **1995** | **2011** |
|---|---|---|
| US Value Added Share for US Final Consumption | | |

**1.2)** What percent of U.S. final consumption is value added with China as the source country in 1995 and 2011?

| | **1995** | **2011** |
|---|---|---|
| China Value Added Share for US Final Consumption | | |

**1.3)** What percent of U.S. final consumption in textiles is value added with China as the source country in 1995 and 2011?

| | **1995** | **2011** |
|---|---|---|
| China Value Added Share for US Final Consumption in Textiles | | |

1.**4)** Suppose the trade elasticity is 3 (we haven't discussed how to estimate this yet, but we will shortly). Compute welfare changes with your data from 1.1:

$$\Delta\text{Welfare} = \left(\frac{\text{Domestic Expenditure Share in 2011}}{\text{Domestic Expenditure Share in 1995}}\right)^{\frac{-1}{\text{Trade Elasticity}}}$$

How much did welfare increase/decrease according to trade from this simple measure?

1.5) Suppose that instead of using value added we just used exports/GDP. Exports/GDP went from 10.6% of GDP to 13.6% of GDP over 1995 to 2011. What is the change in welfare if we say domestic expenditure share is 1-Exports/GDP?

**Question 2**

Now, go to bea.gov website and navigate to the NIPA tables. [BEA -> Interactive Data -> Begin Using the Data -> Domestic Product and Income]

For each part below I will give the table that we are looking at. We will be downloading data for 1995 and 2011. [To see the data for those years, select Modify -> Annual -> First Year = 1995 and Last Year = 2011 -> Refresh Table]. Look at the Personal Consumption Expenditures Line

**2.1)** Go to **Table 1.1.5 Gross Domestic Product.** Look at the **Personal Consumption Expenditures Line**. What was the value of personal consumption expenditures in 1995 and 2011 in billions of dollars?

| | **1995** | **2011** |
|---|---|---|
| Personal Consumption Expenditures In Billions of USD (current prices) | | |

**2.2)** Go to **Table 1.10 Gross Domestic Product by Types of Income.** Look at the **Compensation of employees, paid** line. What was the value of consumption paid to employees in 1995 and 2011 in billions of dollars?

| | **1995** | **2011** |
|---|---|---|
| Compensation of Employees, paid, In Billions of USD (current prices) | | |

**2.3)** Go to **Table 1.1.4. Price Indexes for Gross Domestic Product.** Look at the Index on the lines for Personal consumption expenditures. What was the value of the PCE Price Index in 1995 and 2011?

| | **1995** | **2011** |
|---|---|---|
| Price Index (2009 = 100) for Personal Consumption Expenditures | | |

**2.4)** Lastly, Use this table to get median usual earnings for workers in the U.S. ages 16 and over in 1995 and 2011 https://research.stlouisfed.org/fred2/release/tables?rid=332&eid=46626&od=2011-01-01#

| | 1995 | 2011 |
|---|---|---|
| Weekly Wages of Median Worker in the United States, Age 16+ | | |

**2.5)** Compute Welfare change for "average" person in U.S. between 1995 and 2011 using the income and price indices for 2011 and 1995.

$$\Delta\text{Welfare} = \left(\frac{\text{Income in 2011}}{\text{CPI in 2011}}\right) / \left(\frac{\text{Income in 1995}}{\text{CPI in 1995}}\right)$$

$\Delta\text{Welfare Avg Consumption} =$

$\Delta\text{Welfare Avg Compensation} =$

$\Delta\text{Welfare Median Wages} =$

For which group does welfare increase the most? Does any group experience a decrease in welfare?

**2.6)** Now suppose that we expect technological progress to lead to a 2% average increase in welfare per year for the whole economy. How much would we expect welfare to grow between 2011 and 1995?

**2.7)** What is the ratio of "actual welfare change" from 2.5 to "expected welfare chage" from 2.6. Did any groups experience less welfare growth than expected?

$$\frac{\Delta\text{Welfare Avg Consumption}}{\Delta\text{Welfare Expected}} =$$

$$\frac{\Delta\text{Welfare Avg Compensation}}{\Delta\text{Welfare Expected}} =$$

$$\frac{\Delta\text{Welfare Median Wages}}{\Delta\text{Welfare Expected}} =$$