

Handout for September 2021 Newsletter The Economics of Innovation in FRED®

Purpose.

1. Create a plot of exports and imports of services: royalties and license fees.
2. Customize the units of the series.
3. Describe and discuss patterns in the evolution of exports and imports over time.

Pedagogical Rationale. This assignment requires that you first look for data and plot them into a graph. Next, you will add data series to the graph. Next, you will transform the data. Lastly, you will describe and discuss patterns in the evolution of the data series. These tasks will develop your proficiency in searching for, transforming, and interpreting data.

Grading. Your grade will be determined by (a) how precisely you complete the data search and graph editing tasks and (b) how accurately you interpret the data.

Steps to Search for and Transform the Data.

1. Access <https://fred.stlouisfed.org/> and search for “Exports of services: Royalties and license fees.”
2. Select “Billions of Dollars, Seasonally Adjusted Annual Rate, Quarterly.”
3. Click on EDIT LINE 1.
4. Customize data by searching for “Gross Domestic Product, Billions of Dollars, Seasonally Adjusted Annual Rate, Quarterly (GDP)” and click on “Add.”
5. Customize the data by typing the formula “(a/b)*100” and click on “Apply.”
6. Click on EDIT GRAPH and select ADD LINE.
7. Search for “Imports of services: Royalties and license fees, Billions of Dollars, Seasonally Adjusted Annual Rate, Quarterly” and click on “Add.”
8. Click on EDIT LINE 2.
9. Customize data by searching for “Gross Domestic Product, Billions of Dollars, Seasonally Adjusted Annual Rate, Quarterly (GDP)” and click on “Add.”
10. Customize the data by typing the formula “-(a/b)*100” and click on “Apply.”
11. Select the FORMAT tab and choose “Graph type: Area.”

Writing Prompts. Answer the following questions:

1. Describe the different trends in value of imports of royalties and license fees, as a percent of GDP, before and after 1985.
2. Between the first quarter (Q1) of 1967 and the second quarter (Q2) of 2021, when did U.S. exports of royalties and license fees, as a percent of GDP, peak?
3. As of the second quarter (Q2) of 2021, is the U.S. running a trade surplus or a trade deficit in royalties and license fees?
4. Royalties and license fees are payments for the use of an asset, including intellectual property. How can the trade balance in royalties and license fees be interpreted as a reflection of the international position of the U.S. regarding innovation and creativity?