



FEDERAL RESERVE BANK *of* ST. LOUIS
CENTRAL TO AMERICA'S ECONOMY®

Micro-credentials in Economic Data Literacy and FRED®

Beyond the Numbers Conference
November 10, 2022

Presenter

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Outline

- What is FRED?
- What is data literacy.
- Program description.
- Enrollments and feedback.

This information is my opinion and does not represent the official views of the Federal Open Market Committee, the Federal Reserve System or the Federal Reserve Bank of St. Louis.

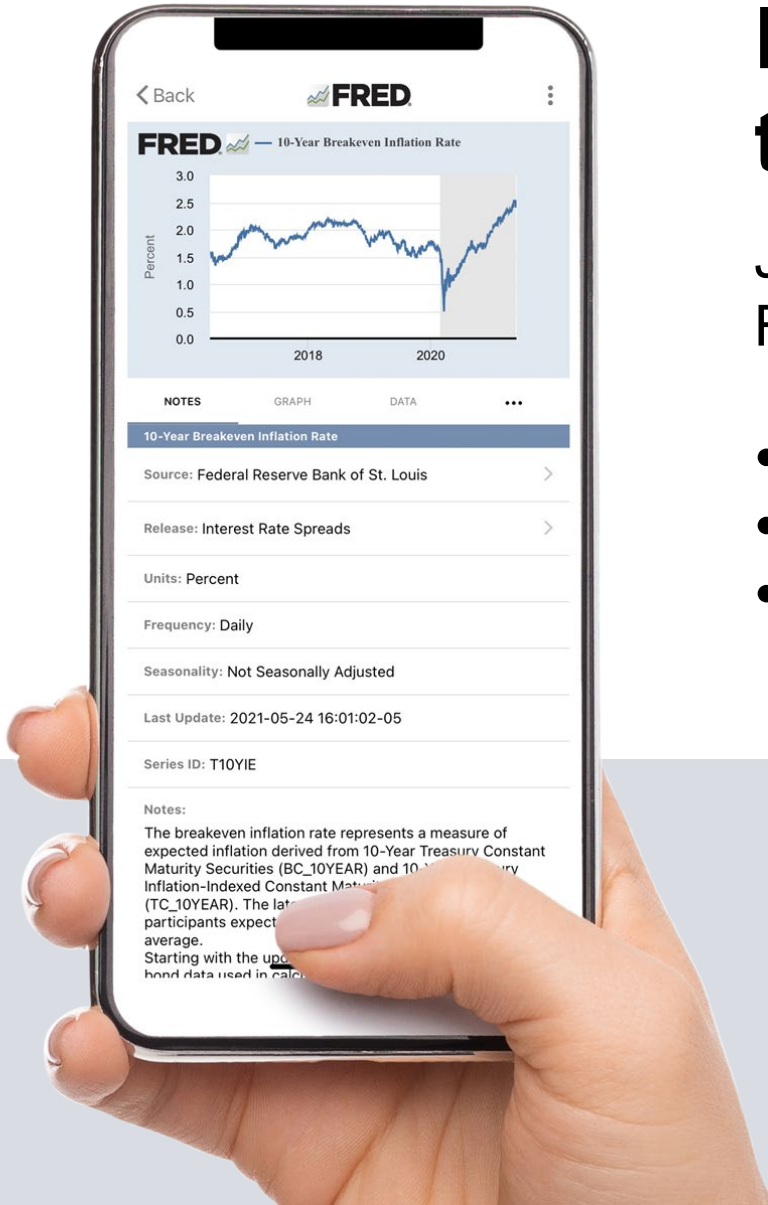
From the Federal Reserve Bank of St. Louis



Head to FRED® for trustworthy, timely economic data.

Join millions of global users tapping into the power of free data. FRED aggregates data from 100+ U.S. and international sources.

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- Make informed decisions and insights
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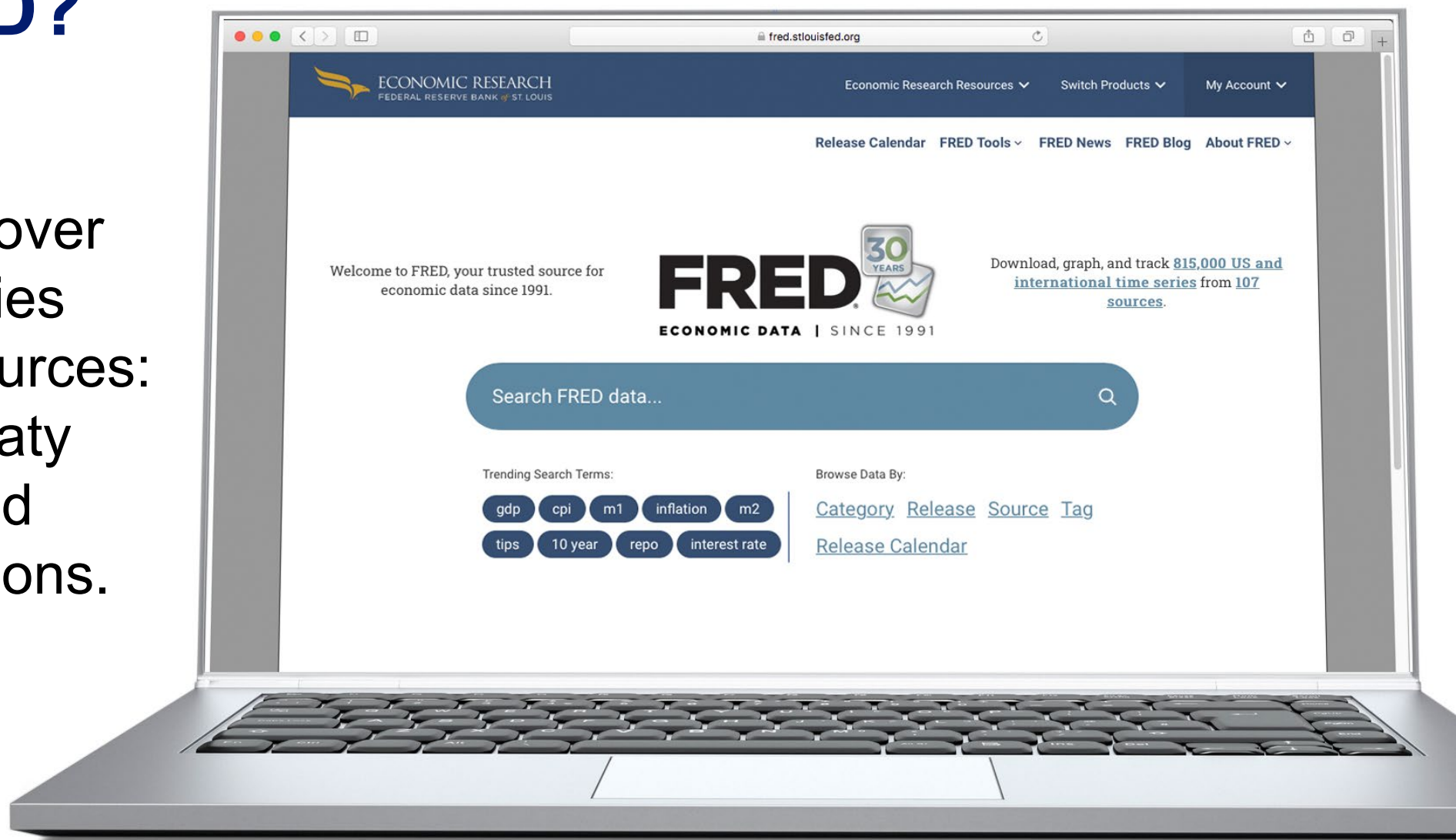
FRED 

ECONOMIC DATA | ST. LOUIS FED

fred.stlouisfed.org

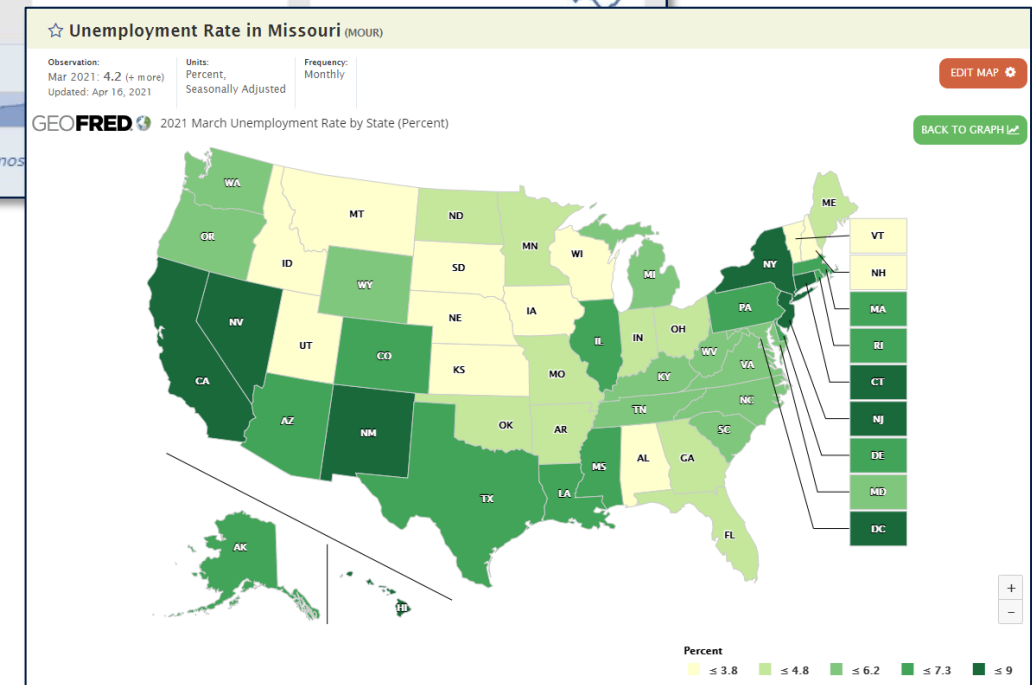
What Is FRED?

FRED is a data aggregator, with over 800,000 time series from over 100 sources: governments, treaty organizations, and private organizations.



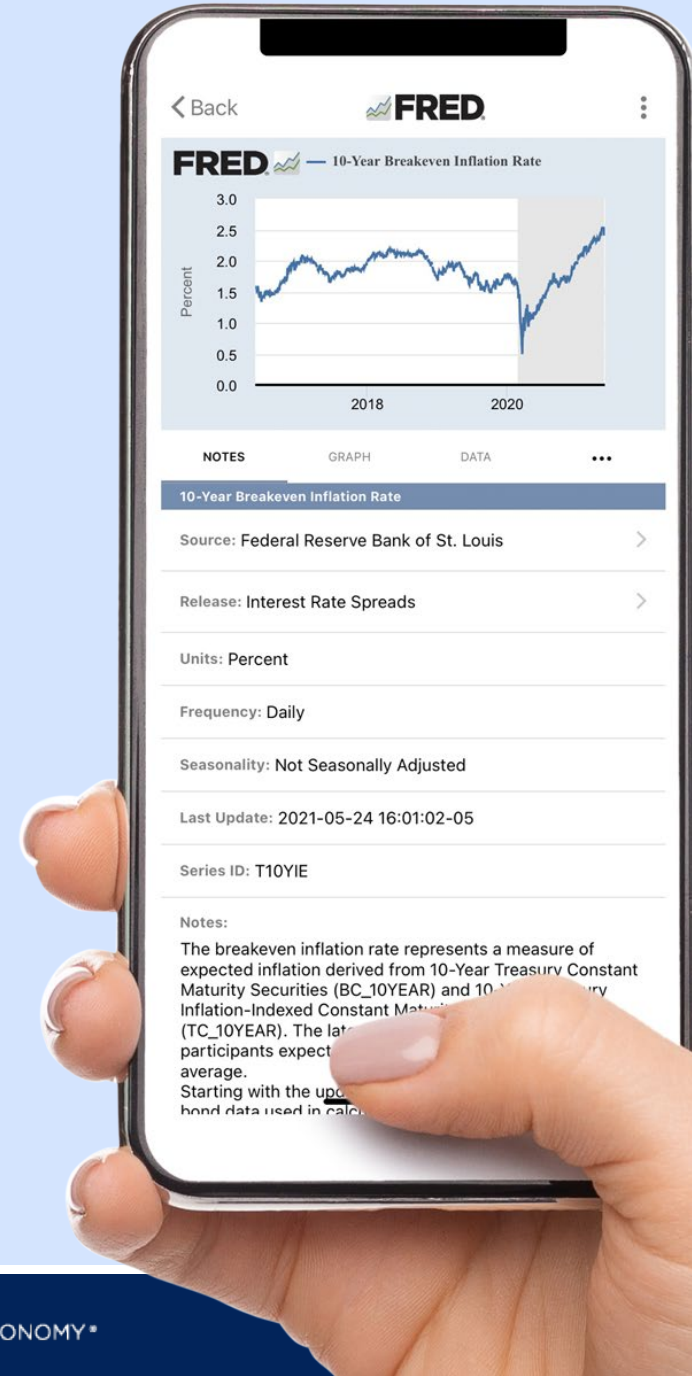
What Is FRED?

FRED enables users to find, download, graph, map, and understand economic and financial data.



What Is FRED?

Data on FRED are available across many platforms including our FRED website, API, Excel add-in, and mobile app. There are also third-party modules to use FRED data in statistical software and programming languages.



Who Uses FRED?

FRED is featured in economics textbooks, used by journalists, and relied upon by millions of people across the world as a free, trusted data source. Over 1/3 of its users come from outside the U.S.



Who Uses FRED?

12 million

website users generated
22 million sessions in 2022

(6.3 million users and 12.4 million sessions in 2019)

33% of users engage with the
FRED graph, demonstrating a
desire to understand the data.



Information literacy, numeracy, and economic analysis

ECONOMIC DATA LITERACY

*The Research Division at the Federal Reserve Bank of St. Louis is widely known for its flagship data service **FRED**®.*

An integral part of our work facilitating access to data is building capacity among consumers to use data effectively and accurately.

A pilot program for asynchronous instruction

DATA LITERACY FOR LIBRARIANS

What are Micro-Credentials?

A micro-credential is a short, competency-based recognition that allows an individual to demonstrate mastery in a particular area.

Frequently visible in social media as digital badges, micro-credentials offer employers the opportunity to evaluate a potential employee in terms not only of the resume or the cover letter but also based on a more granular body of skill sets and experiences.

The use of digital badges to award micro-credentials has been around for a decade and is now considered mainstream.



Keeping up with...
ECONOMIC DATA LITERACY

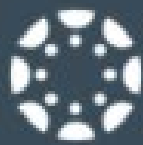
Delivery of Credentials



Create, manage, and monitor all aspects of your credentialing, certificate, or badge program. Credly's digital badging platform offers the most comprehensive features to design and issue badges, enterprise-class functionality to scale and manage programs, and enhanced analytics to measure success. Credly's best-in-class security and privacy features make your product and data secure.

Instructional Design

- Fully asynchronous course.
- Scaffolded skill-development:
 - Knowledge-check;
 - Hands-on practice;
 - Problem-solving;
 - Transfer.
- 80% satisfactory completion threshold.



Account



Admin



Dashboard



Courses



Calendar



Inbox

Dashboard

Published Courses (1)



The course card features a circular graphic with the text "Data Literacy for Librarians" and the Federal Reserve Bank of St. Louis logo. Below the graphic, the course title is repeated, and three icons (document, chat, folder) are displayed at the bottom.

Data Literacy for Librarians

Data Literacy for Librarians: Micro...

Data Literacy for Librarians



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Help



Data Literacy for Librarians > Modules

Home

Assignments

Discussions

Grades

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Syllabus

Quizzes

Modules

BigBlueButton
(Conferences)

Collaborations

Expand All

▸ Introduction

Complete All Items

▸ Saving Graphs and Downloading Data

Complete All Items

▸ Identifying Data Sources and Release Frequencies

Complete All Items

▸ Understanding Data Types and Units

Complete All Items

☰ ▾ Saving Graphs and Downloading Data

Complete All Items



Learning to Save Graphs and Download Data

View



Knowledge Check on Sharing and Saving

10 pts | Score at least 8.0



Hands-on Practice: FRED Interactive "7 Activities in 7 Minutes"

10 pts | Submit



Goal: Identify the proper share/save format

2 pts | Score at least 1.5



Goal: Identify the proper download format

2 pts | Score at least 1.5



Transfer Activity on Sharing and Saving

1 pts | Score at least 1.0



Badging and Micro Credential

- **Individual badges:**
 - Are aligned with specific ACRL IL frames;
 - Can be collected in any order.
- The set of 7 badges builds into a **credential**.
- *Credly* is integrated into *Canvas* and will issue the badges and the credential automatically.

Storytelling with Data

Details

Insights

History



Concisely describing data helps communicate the key features of quantitative information and connect those features to persuasive arguments. Clearly explaining what the data are and placing them in a relatable context make quantitative analysis accessible to diverse audiences.

ISSUED BY

[Federal Reserve Bank of St. Louis](#)

CREATED

26 Sep 2021

UPDATED

15 Oct 2021



An Example

IDENTIFYING DATA SOURCES AND RELEASE FREQUENCIES

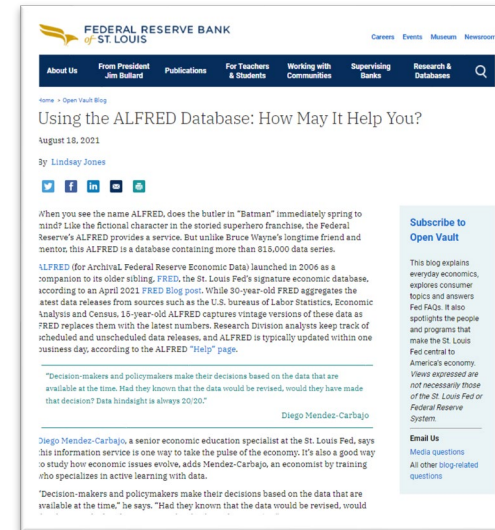
Description

Understanding how data are collected and revised is important in order to use them correctly. Also, the difference between open and proprietary sources determines how data can be redistributed.

Knowing how to identify the open or proprietary character of a data source and how the data are collected, released, and revised will help you think critically about your data.

Learning Resources

- Data Citations with FRED®. [Page One Data Primer.](#)
- Measuring Financial and Economic Risk with FRED®. [Page One Data Primer.](#)
- Using the ALFRED Database: How May It Help You? [Open Vault Blog.](#)



Knowledge Check on Data Sources and Release Frequencies

Due No due date

Points 10

Questions 10

Time Limit None

Allowed Attempts 2

Instructions

Have you reviewed the referenced resources?

Have you explored the FRED website?

Complete a knowledge check by answering the questions below.

[Take the Quiz](#)

Hands-on Practice

FRED Interactive "Index Numbers"

Observation: Q1 2015: 17,305.752 (+ more)
Updated: Aug 27, 2020

Units: Billions of Chained 2012 Dollars, Seasonally Adjusted Annual Rate

Frequency: Quarterly


1Y | 5Y | 10Y | Max

2008-01-01 to 2015-01-01

EDIT GRAPH

FRED

Real Gross Domestic Product



Shading indicates U.S. recessions; the most recent one is ongoing. Source: U.S. Bureau of Economic Analysis fred.stlouisfed.org

NOTES

Source: U.S. Bureau of Economic Analysis Release: Gross Domestic Product

Units: Billions of Chained 2012 Dollars, Seasonally Adjusted Annual Rate

Let's add a line showing the values of total population (POP)

Edit the graph by adding the series Total Population: All Ages including Armed Forces Overseas (POP)

EDIT GRAPH > ADD LINE > Add data series to graph > Total Population: All Ages including Armed Forces Overseas (POP), Monthly, Thousands, Not Seasonally Adjusted.

Try typing the series ID (POP) in the search box

Hint Restart

Unsure Submit Answer

Observation: Q1 2015: 0.9 (+ more)
Updated: Mar 25, 2021

Units: Percent Change, Seasonally Adjusted Annual Rate

Frequency: Quarterly

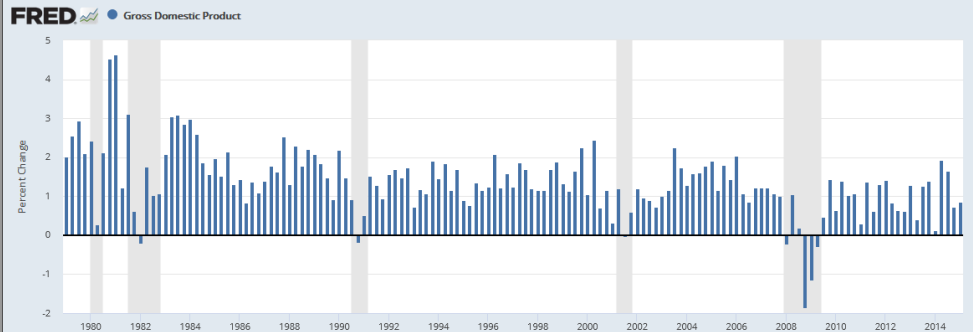
1Y | 5Y | 10Y | Max

1979-01-01 to 2015-01-01

EDIT GRAPH

FRED

Gross Domestic Product



U.S. recessions are shaded; the most recent end date is undecided. Source: U.S. Bureau of Economic Analysis fred.stlouisfed.org

NOTES

Source: U.S. Bureau of Economic Analysis Release: Gross Domestic Product

Units: Billions of Dollars, Seasonally Adjusted Annual Rate

How deep was the 2007-2009 recession compared to the four previous recessions?

Shallower

Deeper

About average

Compare the length of the bars in the shaded areas of the graph.

Hint Restart

Pretty confident Submit Answer

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GOAL #1

UNDERSTANDING DATA UPDATES

Reading the FRED Blog, you found [this FRED® graph](#) of U.S. Bureau of Labor Statistics data on unemployment levels and U.S. Employment and Training Administration data on initial unemployment claims. Each data series provides information on different components of the labor market. **Which data are collected and reported more frequently?**

- a) Both data are reported with the same monthly frequency.
- b) Initial claims data, which are reported weekly.
- c) Both data are reported with the same weekly frequency.
- d) Unemployment levels data, which are reported monthly.

Reading the Open Vault Blog, you found [this ALFRED® graph](#) of U.S. Bureau of Labor Statistics data on payroll employment between January 2017 and November 2017. Each bar represents a data vintage, or revision. Recall that Hurricane Harvey made landfall in the United States in August of 2017. **Which of the following is most likely to explain the three markedly different data values during September?**

- a) The number of leisure and hospitality jobs fell as tourists canceled their vacation plans during the storm.
- b) The number of construction jobs rose as residences and infrastructures were repaired or rebuilt after the storm.
- c) Employment data were revised as new information about the economic impact of the storm became available.
- d) Employment data collection efforts across the whole country were paused during the storm.

GOAL #2

UNDERSTANDING DATA SOURCES

Reading an *Economic Synopses*, you found [this FRED® graph](#) of Nikkei Industry Research Institute data on the Nikkei stock average and Organization for Economic Co-operation and Development data on share prices in Japan. **Which data are considered open and which data are considered proprietary?**

- a) Both data series are proprietary.
- b) The Nikkei stock average is open and the share prices in Japan are proprietary.
- c) Both data series are open.
- d) The share prices in Japan are open and the Nikkei stock average is proprietary.

Reading *The Review*, you found [this FRED® graph](#) of Anbil, Carlson, Hanes, and Wheelock data on the federal funds rate between July 1949 and June 1954 and Board of Governors data on the federal funds rate since July 1954. **Which source periodically adds new data to their series and which source doesn't?**

- a) Neither series are periodically updated or add new data.
- b) Only the Board of Governors periodically releases more data.
- c) Both series are periodically updated and add new data.
- d) Only Anbil, Carlson, Hanes, and Wheelock periodically release more data.

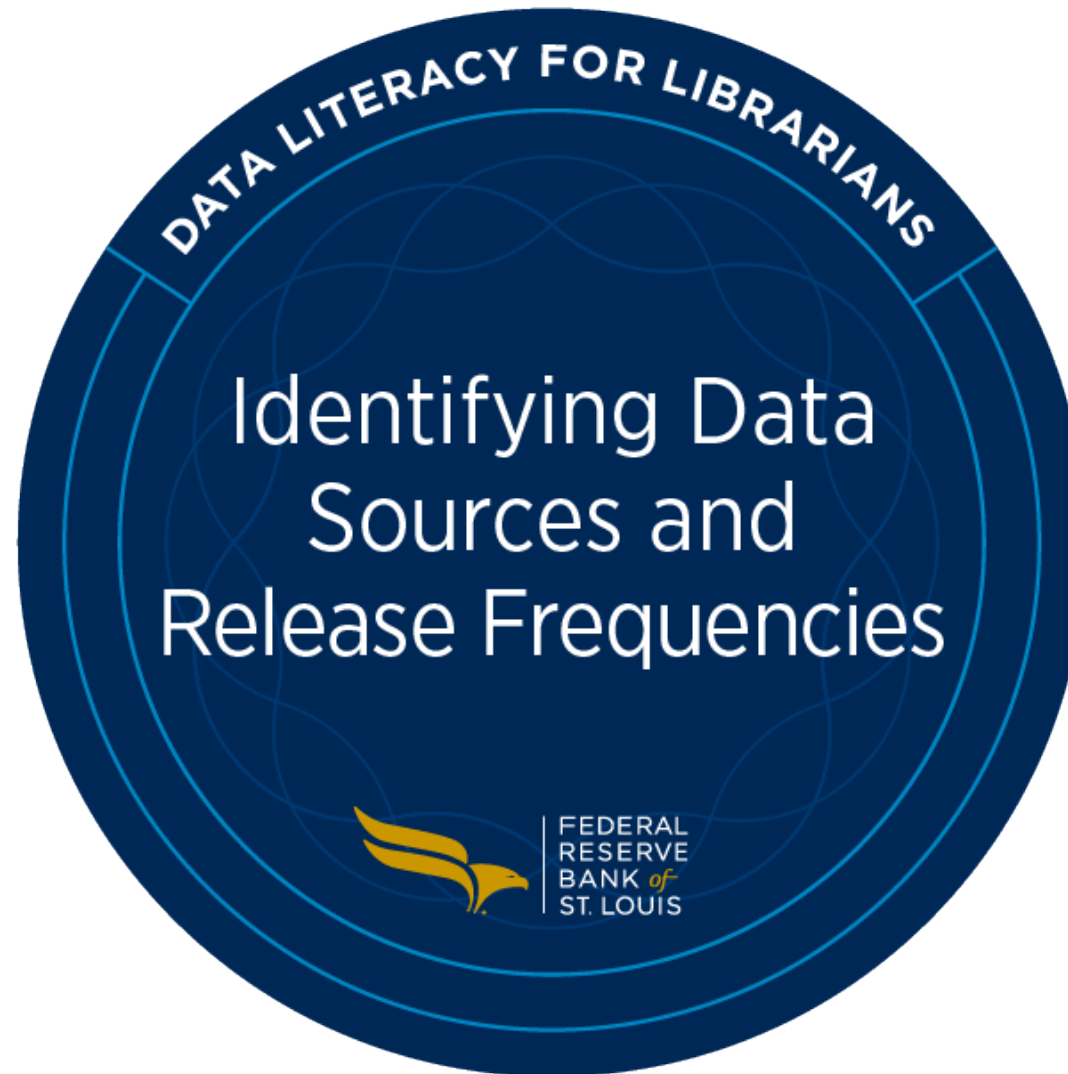
Transfer

PERIODIC RELEASE SCENARIO

Navigating the Pew Research Center website, you found [the American Trends Panel webpage](#) and information on [how to access Pew Research Center survey data](#). **Which of the following statements best describes the source and release frequency of those data?**

- a) The data are open and aren't released periodically.
- b) The data are proprietary and aren't released periodically.
- c) The data are open and released periodically.
- d) The data are proprietary and released periodically.

Congratulations!





Diego Mendez-Carbajo likes this



Scott Wolla • 1st

Economic Education Coordinator at Federal Reserve Bank of St. Louis

1w •

View my verified achievement from Federal Reserve Bank of St. Louis.



Saving Graphs and Organizing Data was issued by Federal Reserve Bank of St. Louis to Scott Wolla.

credly.com • 1 min read



You and 25 others

3 comments



Like



Comment



Share



Send

As of November 6th, 2022

METRICS

Metrics

- Registrations: **901** people (unique registrations)
- Enrollments: **700** people (78% of registrations)
- Active participants: **256** people (37% of enrolled)
- Completed modules: **184** people (72% of participants)

Awarded Badges: **931**

Registrations



Domain (number, frequency)

EDU (487, 54%); COM (205, 23%); ORG (84, 9%); GOV (56, 6%); Other (69, 8%)

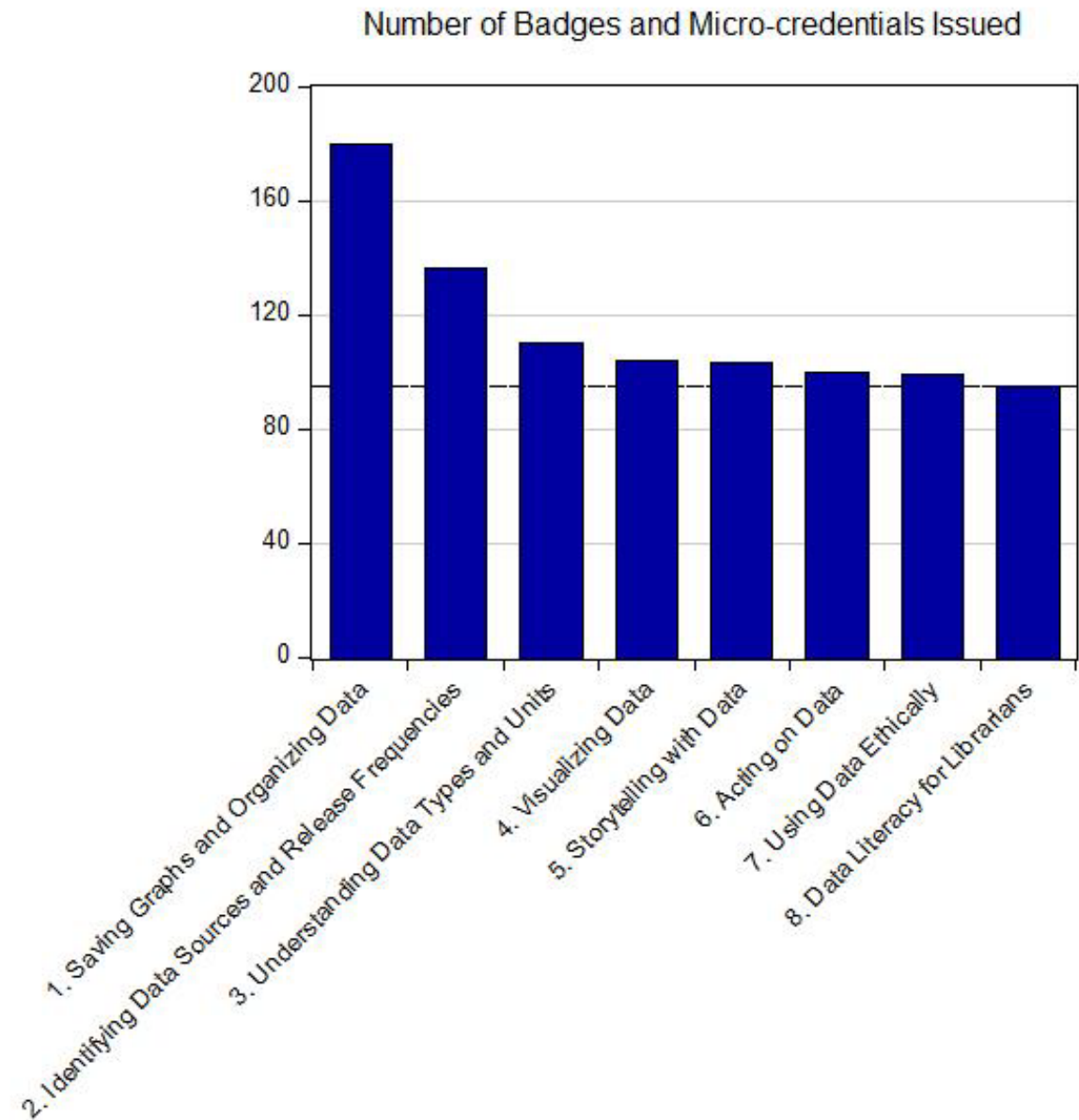
Badges Awarded



Domain (number, frequency)

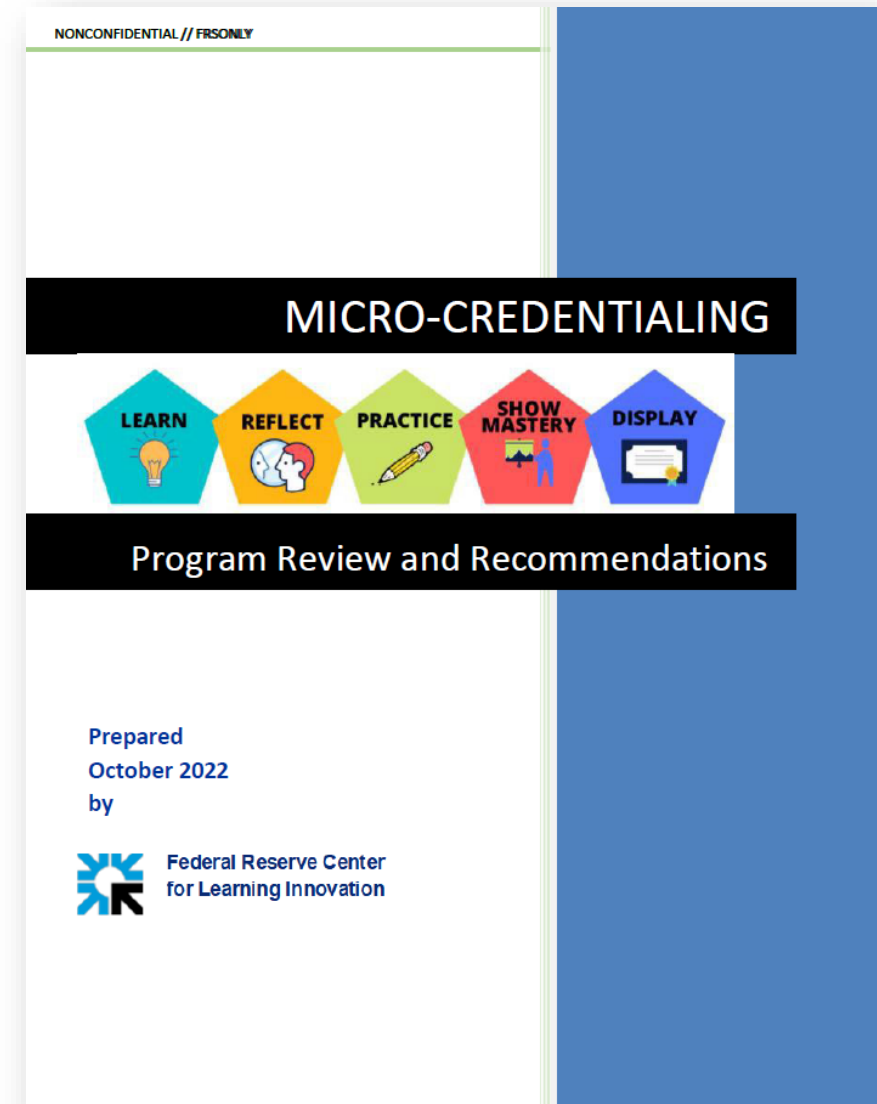
EDU (118, 64%); COM (26, 14%); ORG (18, 10%); GOV (14, 8%); Other (8, 4%)

Which badges are most popular?

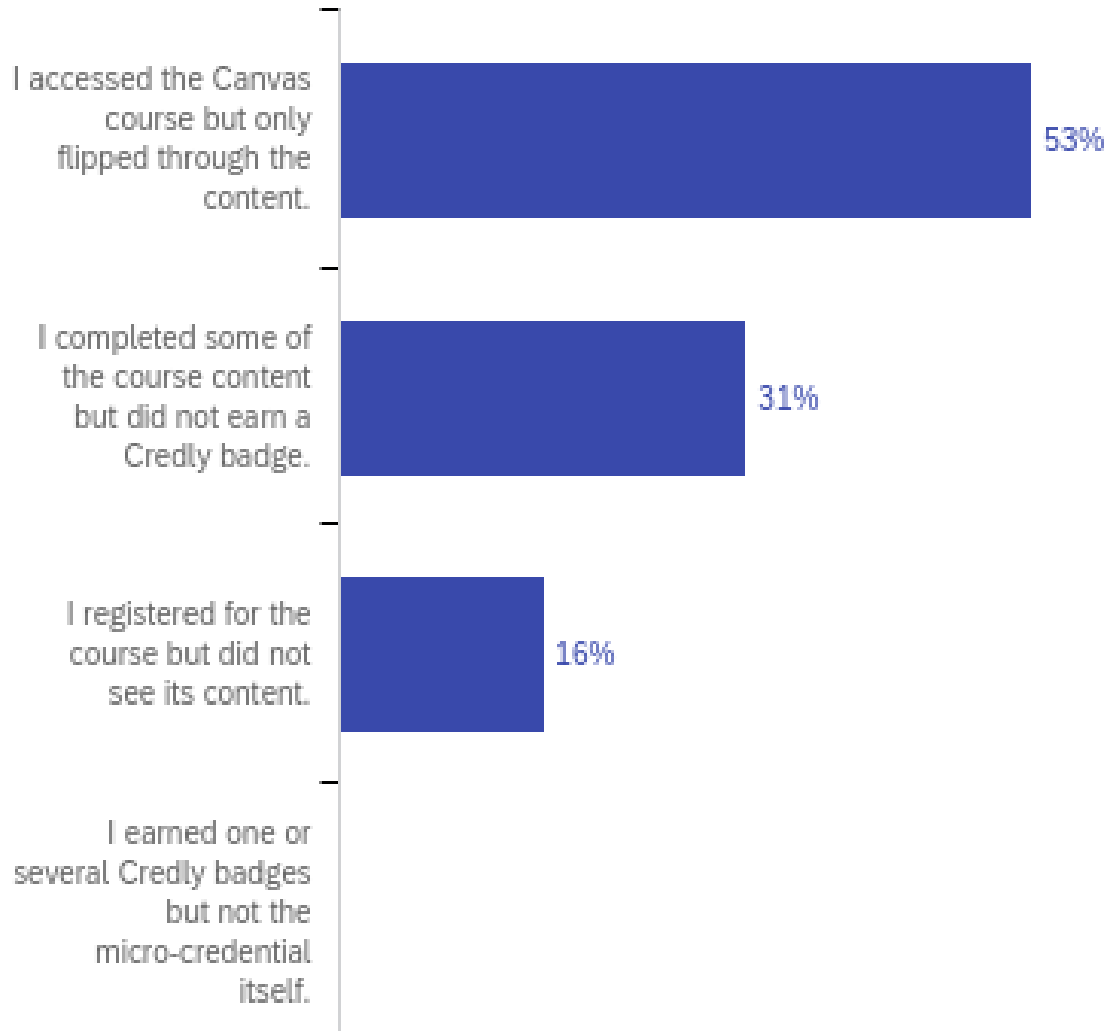


External Evaluation

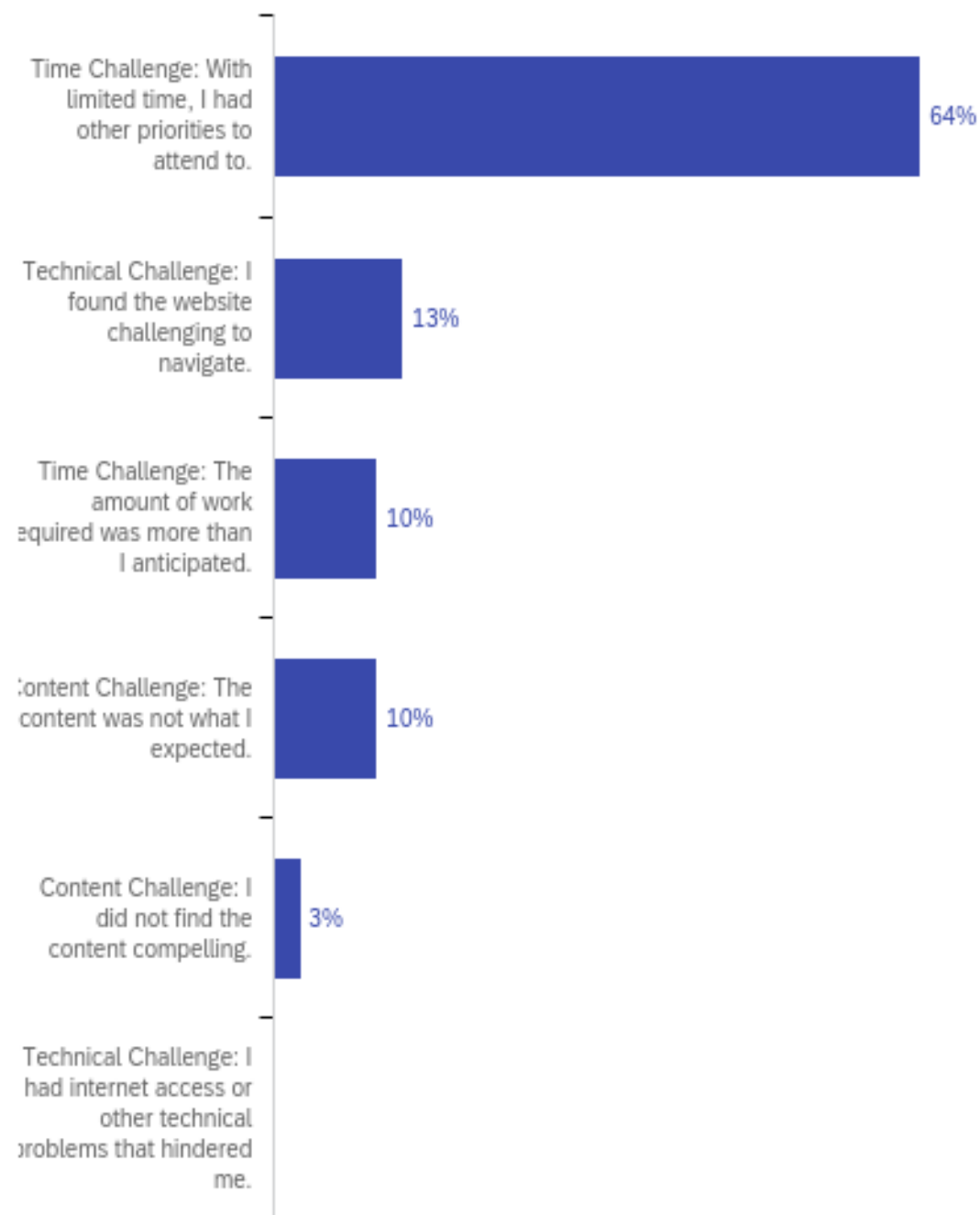
- Focus groups
- Surveys
- Assessment and Recommendations



Which one of these statements best describes you?



What challenges kept you from enrolling in the course or completing the work?



What would have helped you engage with the course and complete the work? (e.g., reminders, more communication)



Exit survey

FEEDBACK

Open-ended Feedback on Format

“It was a nice mix of hands-on and reading. I really liked the hands-on activities which gave me an opportunity to practice.”

“The addition of the hands-on activity for each section was an excellent idea.”

Open-ended Feedback on Content

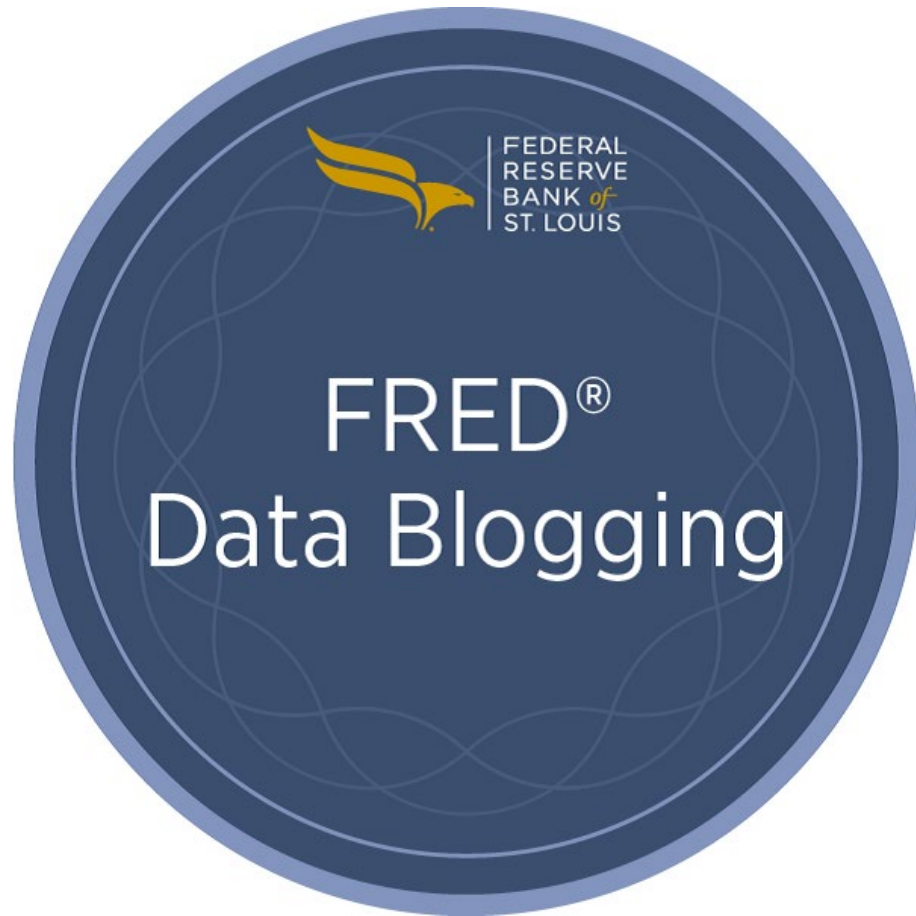
“I definitely have recommended this program to my coworkers.”

“Apart from the very useful content, it serves as an excellent inspiration and reference for micro-credential initiatives being considered by my library.”



Register today!

<https://research.stlouisfed.org/info-services/data-literacy-for-librarians/>



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James Bullard

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SOCIAL MEDIA



ECONOMY MUSEUM

