



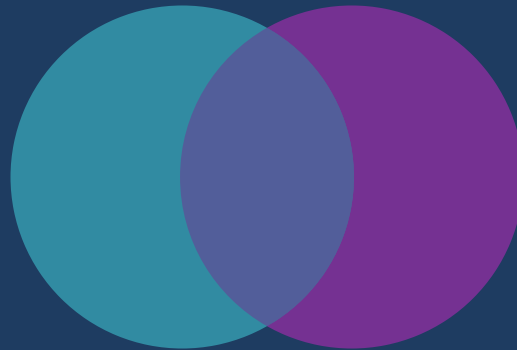
SPRINGBOARD CAPSTONE PROJECT

EXAMINING WOMEN'S EMPLOYMENT AS AN
INDICATOR OF ECONOMIC GROWTH

MILONEY THAKRAR

ABOUT ME

GENDER EQUITY



DATA STORYTELLING



**mind
the
gender
gap**

CLIENT

Big Data for Gender Challenge

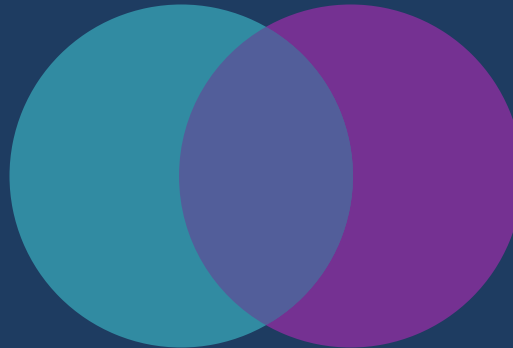
data2x^o | partnering for a
gender data revolution

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CAPSTONE PROJECT SUMMARY

SUSTAINABLE DEVELOPMENT GOAL

Promote economic growth



READY TO MEASURE INDICATOR

Females employed as ratio of
working age population

Female to male employment
ratio

DATA SET



- **Bureau of Labor Statistics /Current Population Survey.**

Employment status of the civilian population by age, sex, and race.

- **Bureau of Economic Analysis/Statistica.**

Used Statistica's nicely
packaged data file derived from BEA.

- **Department of Labor /Women's Bureau .** Relevant tables included Women in Labor Force, Labor Force Participation Rates, Earnings and Earnings Ratios

METHODOLOGY & APPROACH

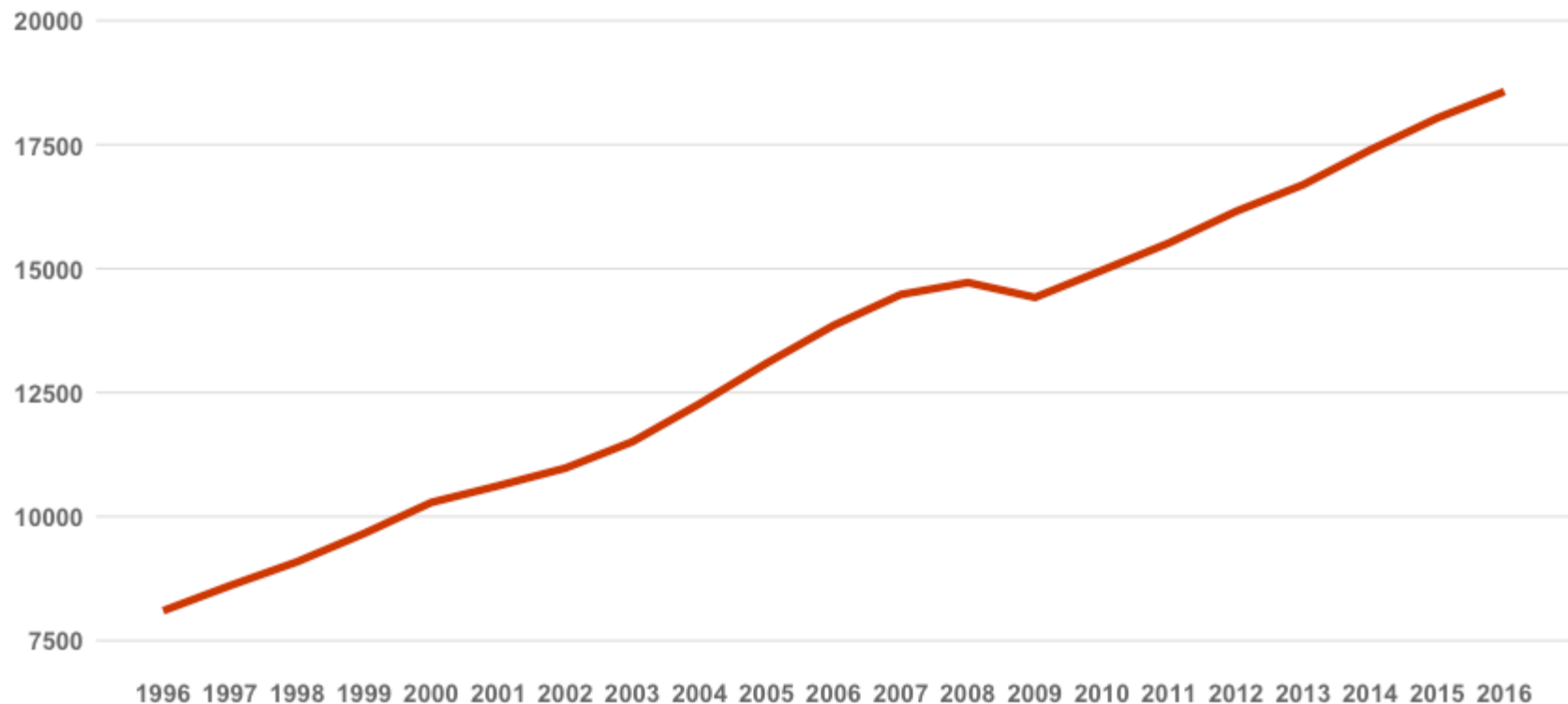
- Data Cleaning and Wrangling
- Literature Review
- Linear Regression Model
- Scatter plot
- Plot Summary

MATHEMATICAL MODEL

1. Female Employed Persons/ Female Civilian non-institutional population
2. (Female Employed Persons/Female Civilian non-institutional population) /
(Male Employed Persons/Male Civilian non-institutional population)

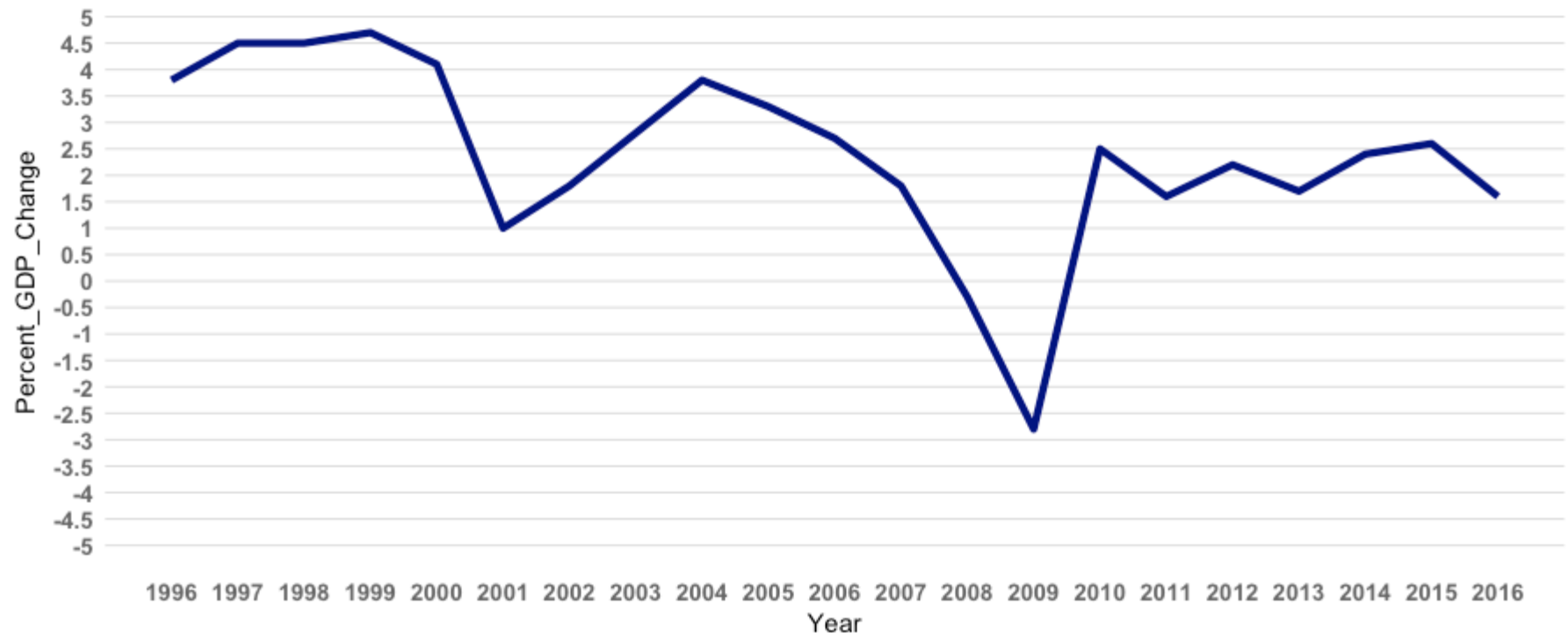
Plot 1: US GDP 1996 -2016

Plot 1: US GDP has steadily increased from 1996 to 2016.



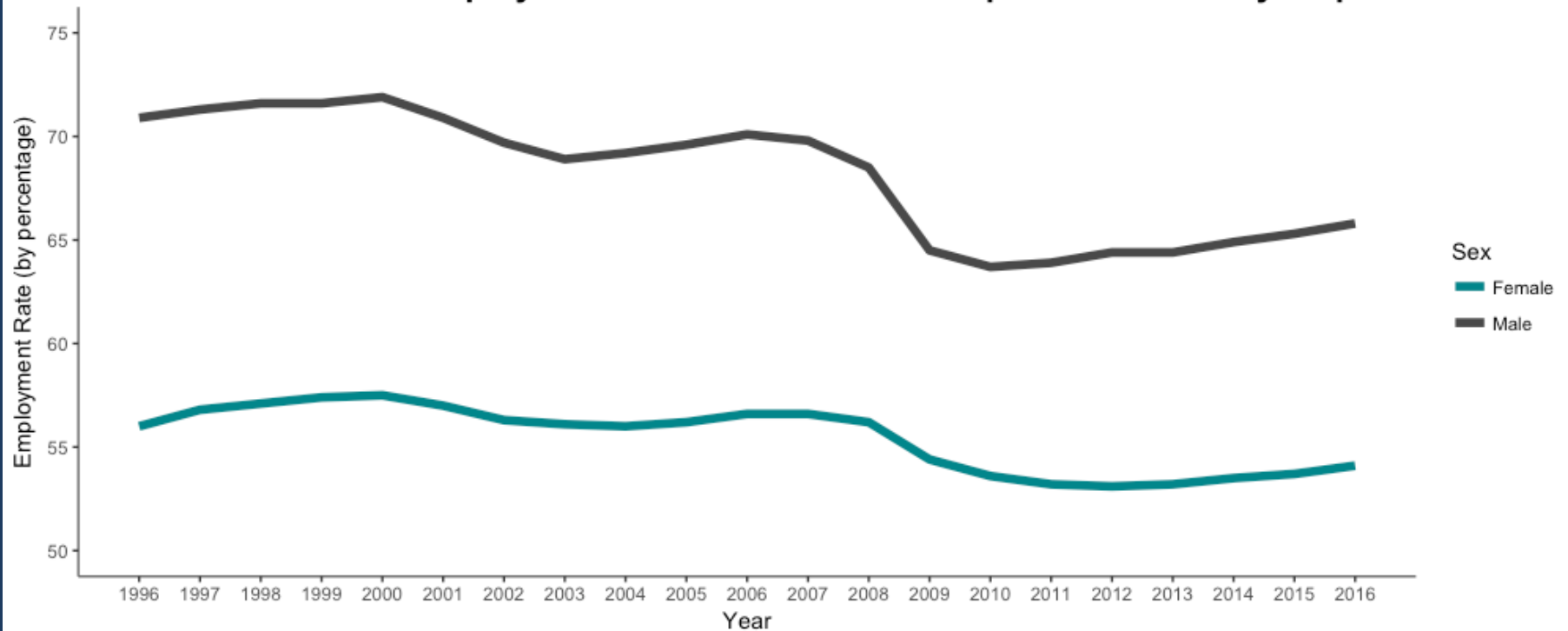
Plot 2: US GDP Growth Rate

Plot 2: US GDP growth rate plummets during the Great Recession from 2007 to 2009.

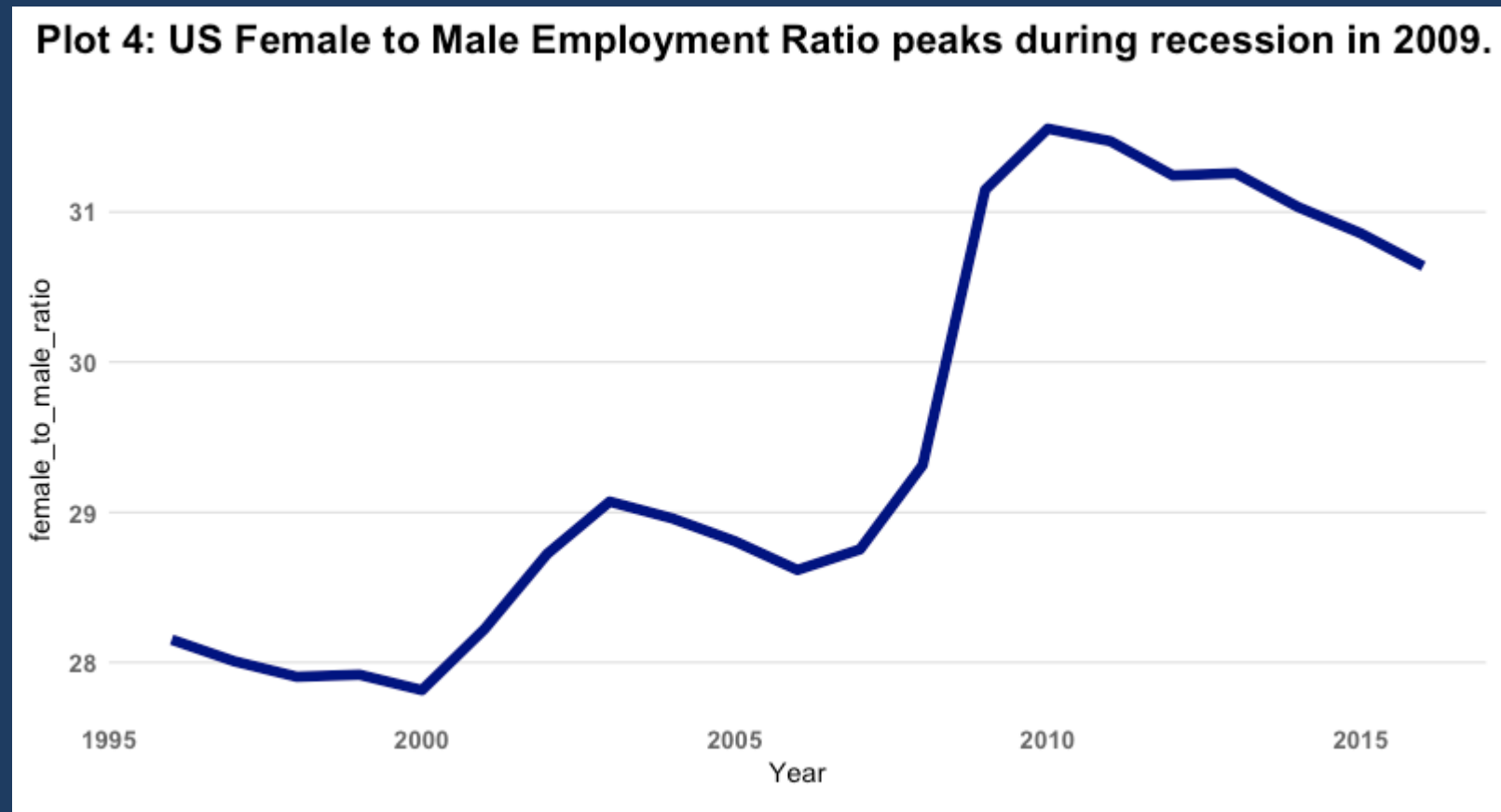


Plot 3: Female & Male Employment

Plot 3: Female and Male Employment Ratios follow different patterns over 20-year period.

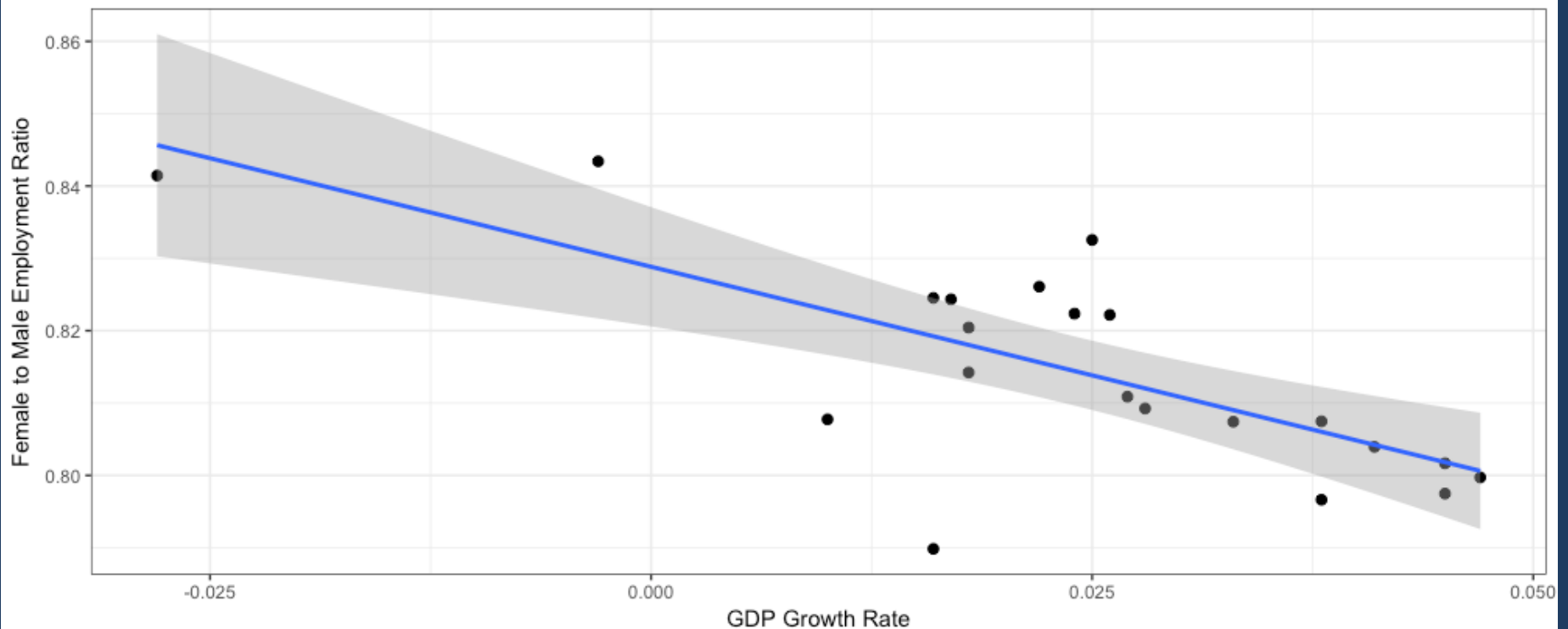


Plot 4: Female to Male Employment Ratio



Plot 5: Linear Regression Model

Plot 5: There is a strong negative correlation between GDP Growth Rate and Female to Male Employment Ratio.



FINDINGS & ANALYSIS

- US GDP has been steadily increasing between 1996 and 2016.
- US GDP growth rate sharply declined between 2008 and 2009.
- Extracting labor force participation data from BLS was challenging.
- Extracting BLS data to match UN's definition of working-age population proved to be challenging.
- The difference between measuring employment rate for populations that are 16 years or older versus 16 to 59 years was significant.
- Female employment ration does not match the trend of the US GDP between 1996 and 2016.
- Male employment ratio and female employment ration diverge between the years of 2010 and 2012.
- The US female to male employment ratio peaks during the Great Recession in 2009.
- The correlation between GDP growth rate and female to male employment was negative and significant.

CONCLUSION AND DISCUSSION

- Challenges with obtaining data in United States indicate potentially significant difficulties with obtaining baseline data across multiple countries.
- The Ready to Measure indicator may not be well suited for measuring economic growth.

RECOMMENDATIONS

- Establish a universal definition of employed person to ensure consistency across countries
- Account for other factors contributing to economic growth
- Conduct more sub-group analyses that examine how race, age, and education interact with the results
- Extend time frame beyond 20 years to ensure more robust analyses

THANK YOU



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