FISCAL RESILIENCY USING TAX-PI

Presented by Regional Economic Models, Inc.
Agenda

- Why look at fiscal resiliency?
- About REMI
  - Tax-PI
- Fiscal Resiliency
- Model Demonstration
Why Look at Fiscal Resiliency?

**Economists' fears of a 2020 recession in the US surge**

- CBS BUSINESS

**Majority of economists think the U.S. will enter a recession by 2021, survey finds**

- WASHINGTON POST

**As Recession Fears Rise, Skittish Investors Sell Riskiest Junk Bonds**

- Wall Street Journal

Signs of weakness in risky corporate bonds are emerging as the Treasury market has begun to send recession signals

**2 out of 3 people are not prepared for the next economic recession**

- Business Insider

**Nearly half of U.S. financial chiefs see recession within a year**

- CBS
Why Look at Fiscal Resiliency?

Source: Duke Today
Why Look at Fiscal Resiliency?

Federal policy tools to combat a recession may be exhausted

- Federal budget deficit was $779 Billion in 2018
  - May not be political appetite for federal spending to stimulate economy in the event of a recession
- Quantitative Easing (QE) may not be used again
- The federal funds rate is already fairly low
  - Currently at 2.5%
Why Look at Fiscal Resiliency?

Source: Center on Budget Policy Priorities
About REMI

REMI’s 38-year history of rigorous academic research and software development has led to the development of the industry standard in macroeconomic research methodology:

**Input-Output**
- Close analysis of inter-industry relationships

**General Equilibrium**
- Estimate of long-run stability of the economy allows for analysis of policy decisions

**Econometrics**
- Advanced statistical analyses underpinning the model

**Economic Geography**
- Effects of geographic concentration of labor and industry

**Integrated REMI economic modeling approach**
Prior Tax Analyses

**Washington:** Aerospace tax credit analysis

**Texas:** Statutory impact analysis requirement for appropriations legislation

**Arkansas:** Big River Steel manufacturing facility analysis

**Maryland:** Corporate tax rate reduction analysis

**North Carolina:** Medicaid expansion analysis
What is Tax-PI?

**Tax-PI** is the only commercially available dynamic macroeconomic and fiscal impact analysis tool. Tax-PI allows users to understand the deep linkages and relationship between a budget and its economic foundation.

**Tax-PI is uniquely customizable to your state**

- User-defined revenue and expenditure categories
- Automatic budget-balancer: demand- or revenue-driven
- Accommodates state’s economic, demographic, fiscal projections
Dynamic Fiscal Analysis

Tax-PI Model Structure Overview

- Tax Policy Change
  - Dynamic Economic Impacts
    - Economic Results
      - Revenue Impacts
      - Expenditure Requirements Impacts
    - Economic Results
      - Fiscal and Economic Impact Results
  - PV
  - Government Offset

PV (Government Spending with or without Non-Pecuniary Amenity Aspects)

Employment
GDP
Personal Income
Population
Dynamic vs. Static Example: Raise Corporate Tax by $200M

**Static:** accounting, arithmetic calculation

**Dynamic:** factors in economic response
Modeling Process Review

User Calibration
- State Expenditures
- State Revenues

Build Simulation
- Economic development
- Tax policy

Dynamic Results
- Demographic
- Economic
- Fiscal
Fiscal Analysis

Revenue Change

Example Analysis
• Budget impacts of trading a capital gains tax for a sales tax.
• Budget impacts of trading a mineral severance tax for a personal income tax.
• Economic impacts of an increase in property taxes.

Expenditure Change

Example Analysis
• Budget impacts of additional funding for workforce training.
• Budget impacts of expanding Medicaid.
• Budget impacts of financial incentives.
• Increased transportation spending.
Fiscal Resiliency
Fiscal Resiliency

The reduction of potential budget deficits in the face of an unforeseen event

- Resilient to:
  - National Recessions
    - Reductions in output and stock market declines may alter regional positions
      - E.G. DC housing prices fell less than CA during the national recession.
  - Specific Revenue Shocks
    - Industry: Vulnerable to industry shifts
      - E.g. Houston is dependent on oil production/refining
    - Customer: Vulnerable to change in outlays
      - E.g. D.C. metro is reliant on federal contracting
  - Specific Tax
    - E.g. California is reliant on capital gains tax
Fiscal Resiliency

- Decrease Reliance on Volatile Revenue Sources
  - Severance Taxes on Oil and Mineral Resources along with Corporate Taxes are the most volatile sources of state revenue
  - State budget volatility varies greatly (Pew Trusts)
    - Highest Volatility – Alaska, Wyoming, and North Dakota
    - Lowest Volatility – South Dakota, Kentucky, and Maryland

What happens if there is a negative production shock to mineral resources?
Model Demonstration
Concept: Diversifying tax revenue via the introduction of a Personal Income Tax

Methodology

- $334M increased revenue from new PIT
  - Levied on Personal Income minus transfer payments
- $334M decreased revenue from severance taxes
  - Coal, natural gas, and oil extraction