AMAZON HQ 2.0: ECONOMIC AND FISCAL EVALUATION

what does REMI say? sm

Presented by Regional Economic Models, Inc.

Amazon Wishlist

□ Amazon planning to build a 2nd corporate HQ

    ◻ Up to 50,000 new management employees within 15 years

□ Priorities for location:

    ◻ Close to metro areas

    ◻ Stable and business-friendly environment

    ◻ Strong talent pool

    ◻ Financial government incentives

At What Price?

From: Dukakis, Michael [mailto:M.Dukakis@northeastern.edu]
Sent: Wednesday, September 20, 2017 9:44 PM
To: Info
Subject: Re: 9/22: Amazon HQ Economic Impact Webinar

Peter: Thanks. I am strongly against what is now going on in the frenzy to land these outfits, and I simply wouldn't do it when I was governor. It's a racket and a lousy way to try to build a state economy. If you can send me any of the material you used in your presentation, I'd appreciate it. Mike Dukakis

"What I can tell you is that we are going to 'Think Big and Be Creative' and not hold back when making our pitch – leveraging our many natural assets in going after what would be a transformational project for Little Rock and Arkansas." – Mayor Mark Stodola of Little Rock, Arkansas

"Amazon wants single comprehensive proposals. They don't want separate pieces. They don't want independent bids. They want major urban areas and they only want to hear from major urban areas with major international type airports." – Gov. Bruce Rauner of Illinois about Chicago's bid

what does REMI say? sm

Finding the Win-Win-Win

- Need a Win for the City/State; Win for Amazon; Win for Taxpayers, Workers, Residents

- Amazon likely to expect coordination on taxes, infrastructure, workforce development in site selection

- Analysis/Simulation modeling to determine economic effects
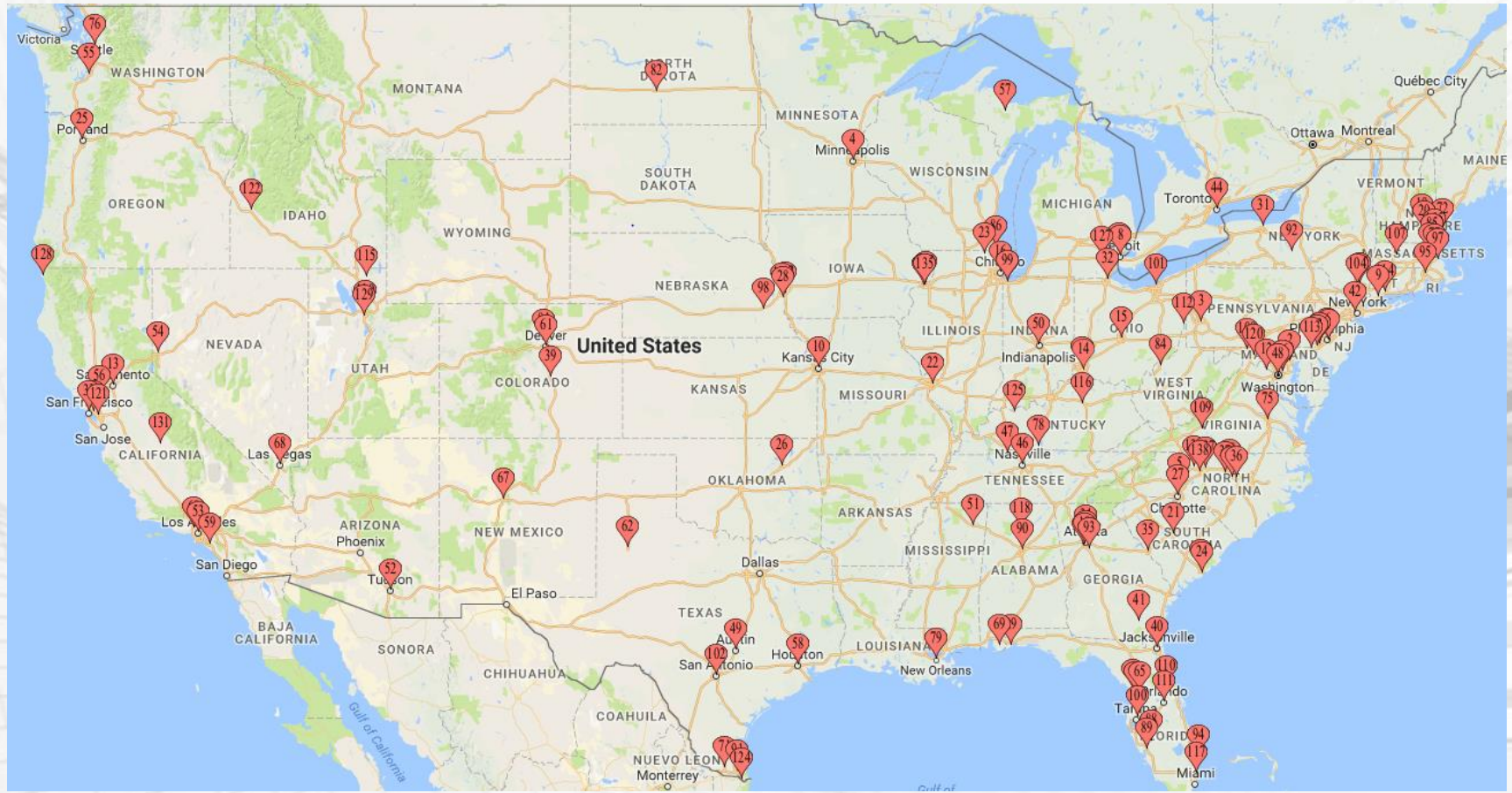
- Analysis/Simulation modeling to determine fiscal effects

Nominations and Vote

- We asked for nominations of potential Amazon locations

- We have (very subjectively) selected 10 for post-webinar vote

- Following the webinar, we will send out a "Survey Monkey" and report the vote

Nominated Cities

10 Nominees

- Atlanta, GA: (17) College Park (20) Airport, Workforce, Infrastructure
- Tulsa, Oklahoma: (5) Tulsa is obsessed with Amazon
- Boston, MA (8) Educational institutions, East Coast
- Denver, CO (15) Mountains!!! Vibrant, talent
- Detroit, MI (10) concentration of engineers, low cost
- Pittsburgh, PA (11) creative, forward-thinking, affordable
- Minneapolis/St. Paul (8) strong headquarters city
- Austin, TX (8) Epic tech talent, perfectly weird, Whole Foods
- Baltimore, MD (8), DC (11) Bezos home purchase, political power
- Chicago, IL (12) best geographic location, aggressive economic development

what does REMI say? [sm]

Presentation Overview

- Lay out economic landscape of expansion plan
  - Identify key geographical data about management sector

- Evaluate economic and fiscal impacts
  - Three different scenarios
  - What incentive package to offer

Prior Tax & Incentive Analysis

REMI's Tax-PI is the industry standard for regional macroeconomic, demographic and dynamic fiscal analysis of public policy and economic development projects.

Washington: Aerospace tax credit analysis

Texas: Statutory impact analysis requirement for appropriations legislation
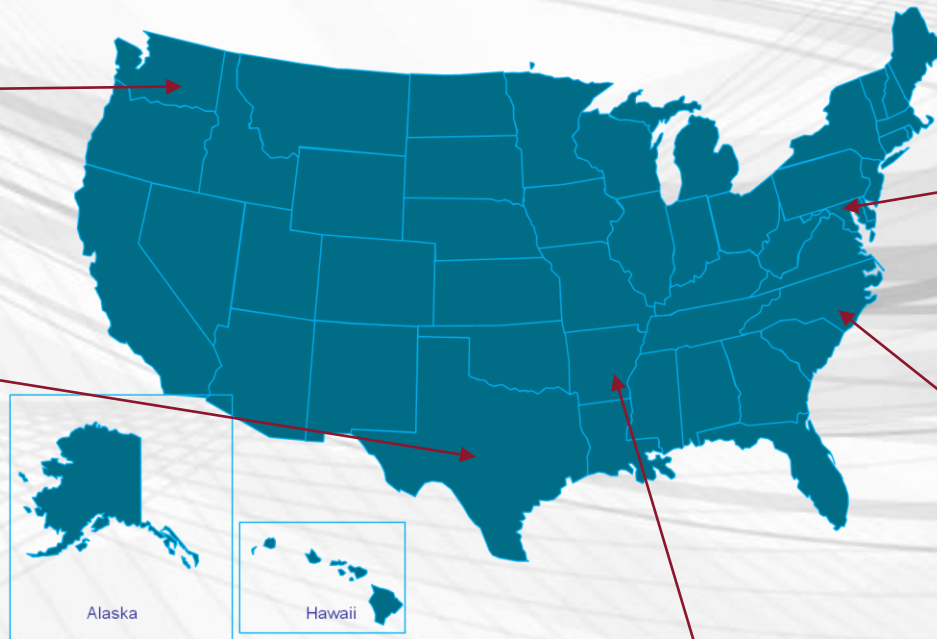
Maryland: Corporate tax rate reduction analysis

North Carolina: Medicaid expansion analysis

Arkansas: Big River Steel manufacturing facility analysis

Alaska

Hawaii

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Management Jobs are Attractive

☐ Average management salary over 2.5x national average salary
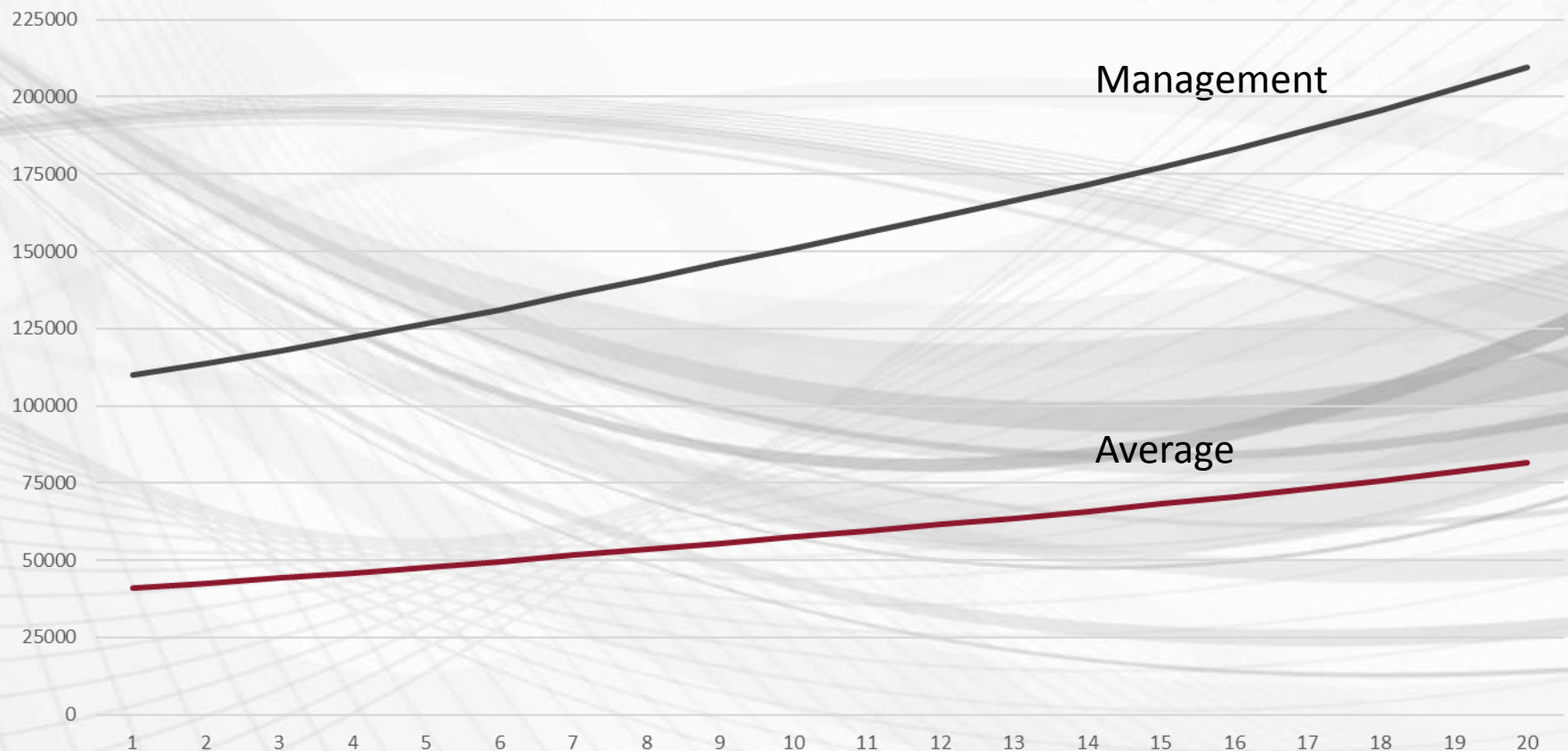
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Geography of Management Sector

- Accounting for cost of living, top 10 states in management salary are:
  - 6 Northeast states: DC, CT, NJ, MA, PA, RI ($121-250k)
  - 3 Midwest states: IL, MN, MI ($115-123k)
  - Colorado: $131k
  - National average: $110k

- Washington (incl. Amazon HQ 1.0) below national average
  - Statewide: $104k
  - Amazon in state: $101k (salary.com)

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Phases of Economic Impact

- Construction
  - Hire construction workers for first 2-3 years to build facility
  - Purchase computers/servers, office furniture/equipment

- Operations
  - Three scenarios: 50k employees (fast vs. slow build), 2.5k
  - Economic impacts
  - Fiscal impacts

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Phases of Economic Impact
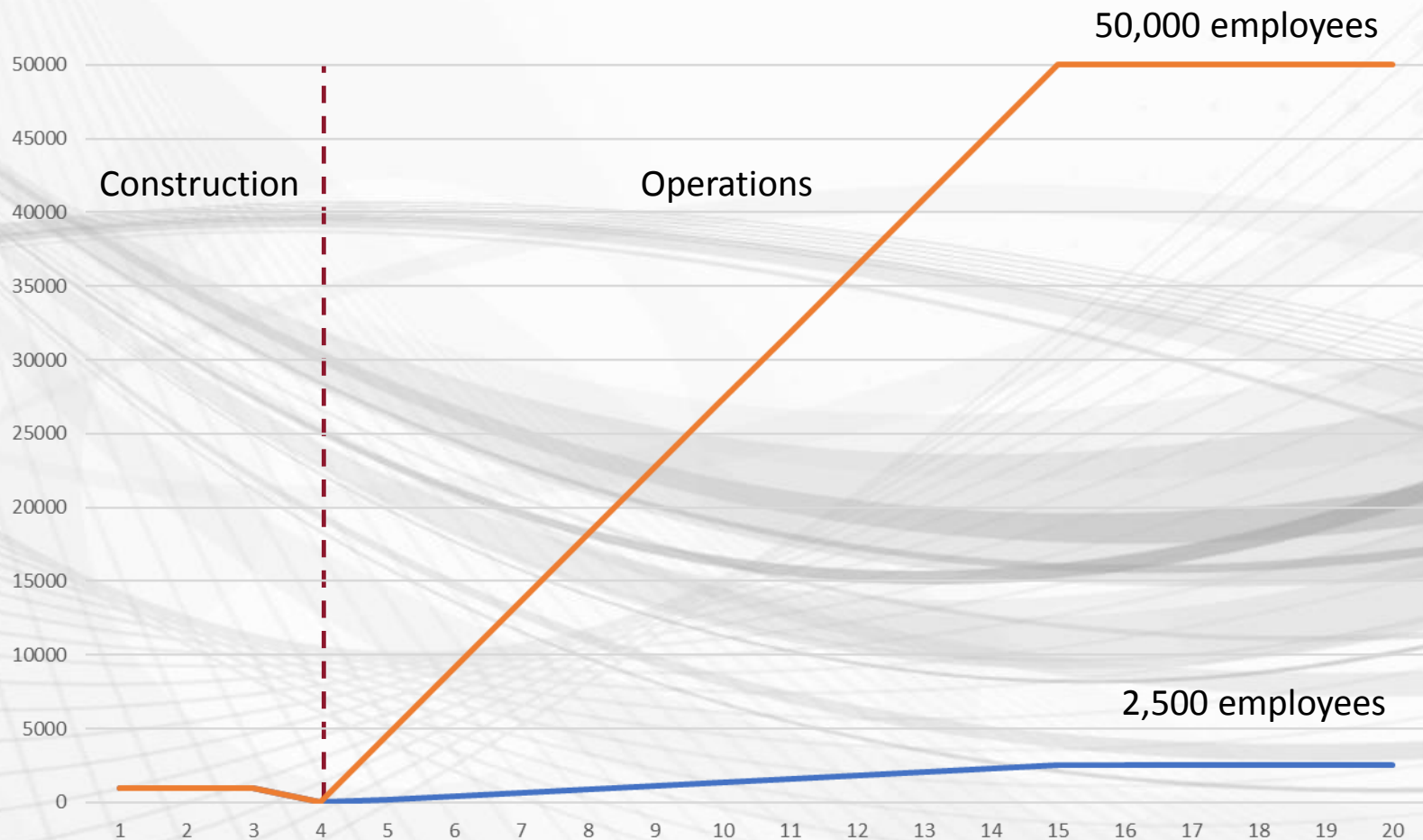
Model Structure

REMI Model Linkages (Excluding Economic Geography Linkages)
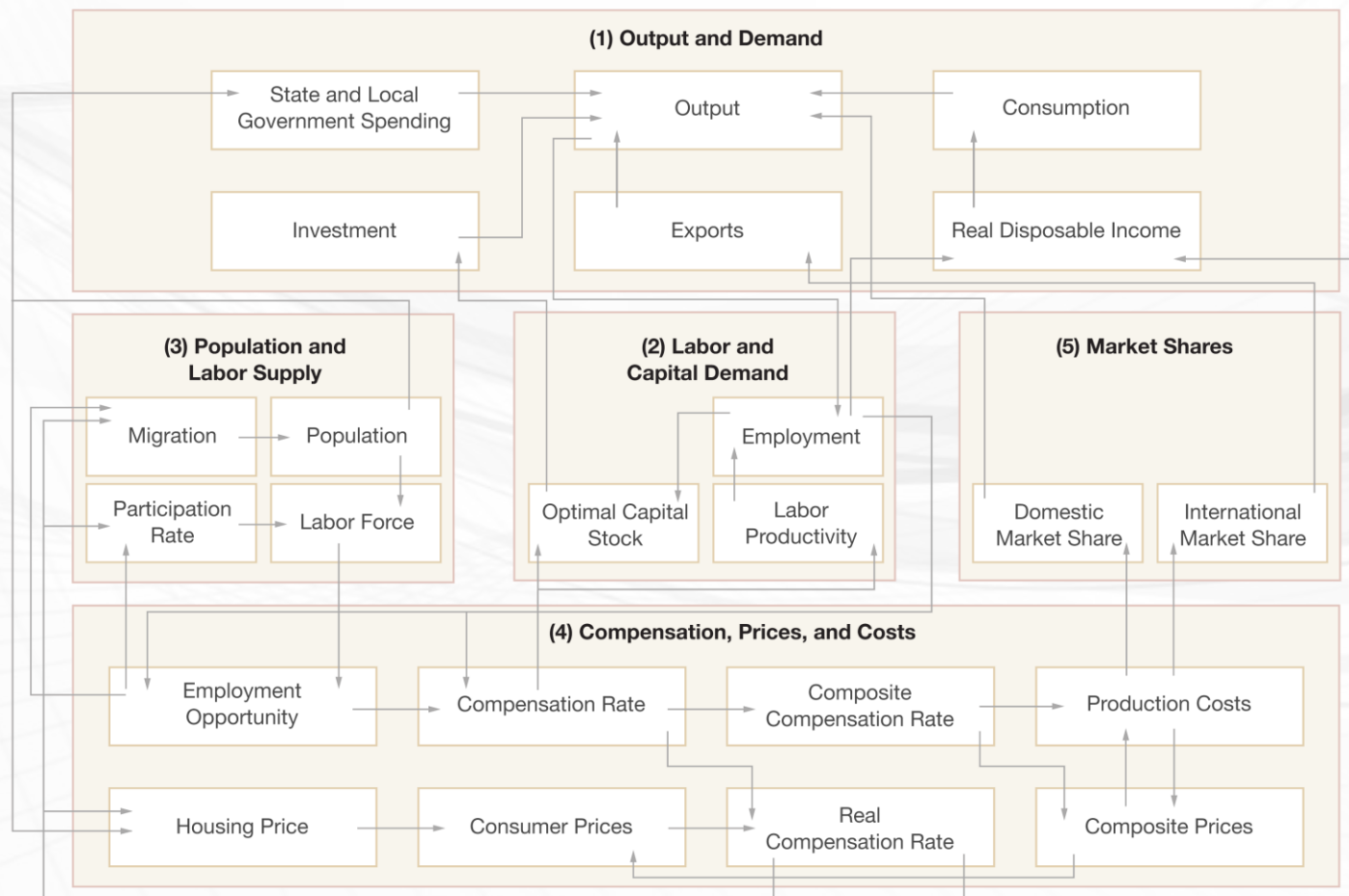
New Economic Geography

Economic Geography Linkages
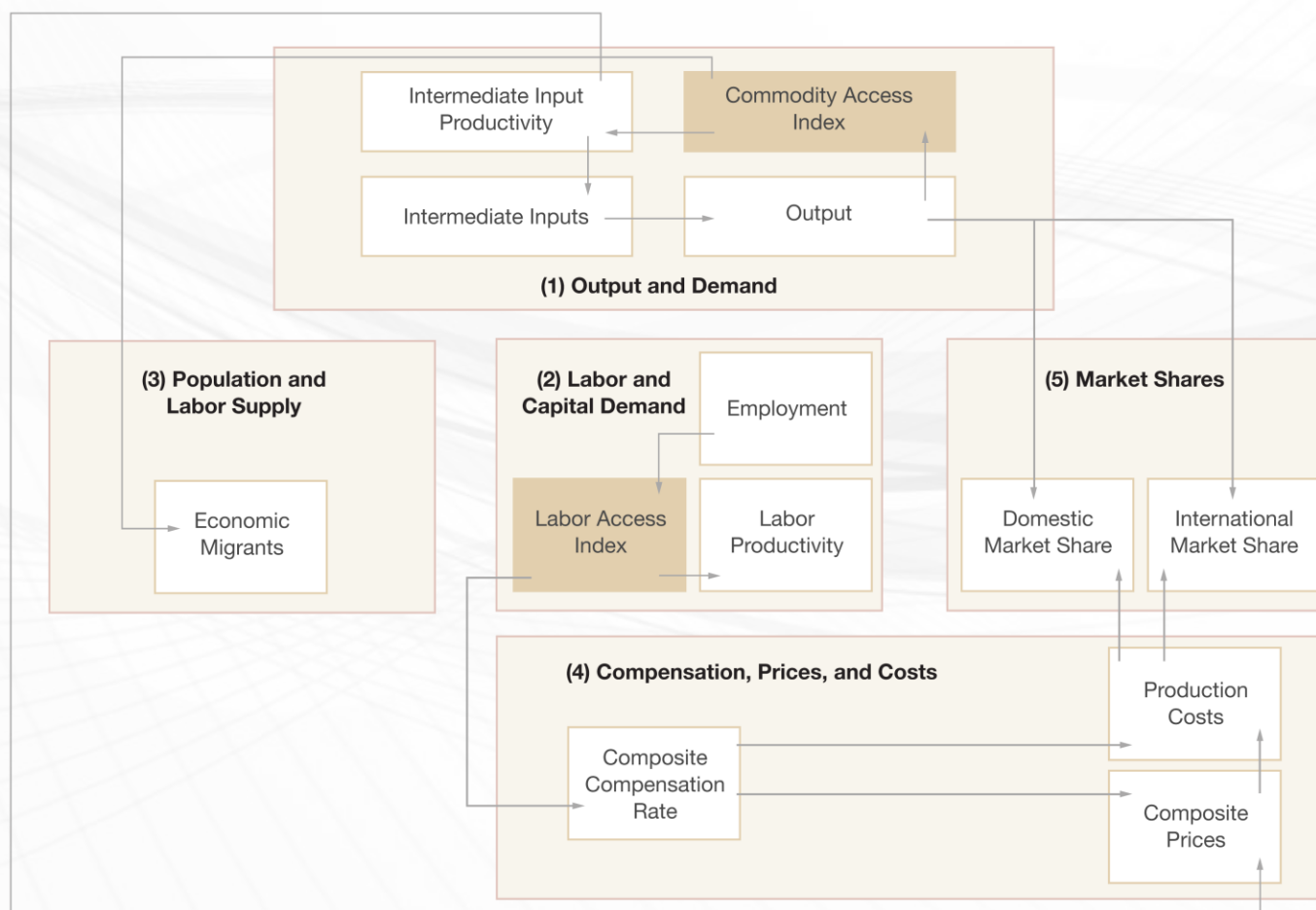
Static vs. Dynamic Analysis

Static Analysis

- Construction spending
- New employee wages
- Static changes in tax revenue

Dynamic Analysis

- Construction spending
- New employee wages
- Population
- Housing prices
- Employment
- Wage inflation
- Labor productivity
- Output
- Static changes in tax revenue
- Changes in tax base
- Getting right long-term deal?

Construction Impact

Building Phase	Estimated Capital Investment
Phase I Building (500,000-1,000,000 sf)	$300,000,000-$600,000,000
Phase II Building (1,000,000-2,000,000 sf)	$600,000,000-$1,260,000,000
Phase III Building (2,000,000-3,000,000 sf)	$1,260,000,000-$1,985,000,000

- □ Amazon estimates first three phases of building will cost $2.1-3.8 million

Construction Impact

□ Model construction as Detailed Industry Sales:

▪ NAICS 2332A0: Commercial structures, including farm structures

Construction Impact

- Other fit-out costs during initial construction phase
    - New computers and servers
    - Office furniture and equipment

- Model as Detailed Industry Sales policy variables
    - NAICS 334: Computer and electronic product manufacturing
    - NAICS 337: Furniture and related product manufacturing

Construction Impact
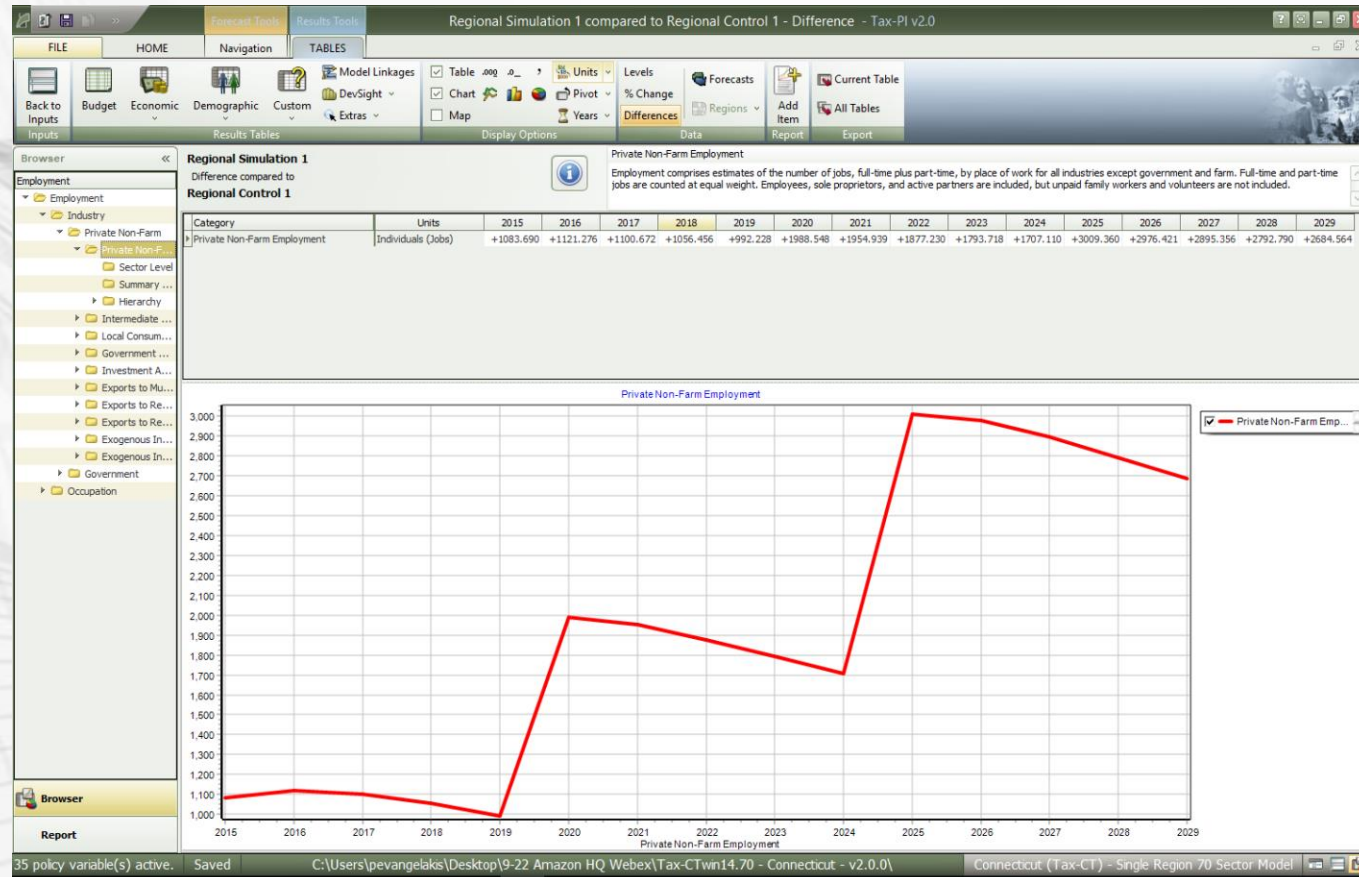
Construction Impact

- Construction: Use midpoint of spending range for each 5 year phase, spread evenly

- Computers and furniture: 10% of construction spending, spread evenly (simple hypothetical)

- Show impacts on employment and output
  - Overall (private non-farm)
  - Breakdown by sector

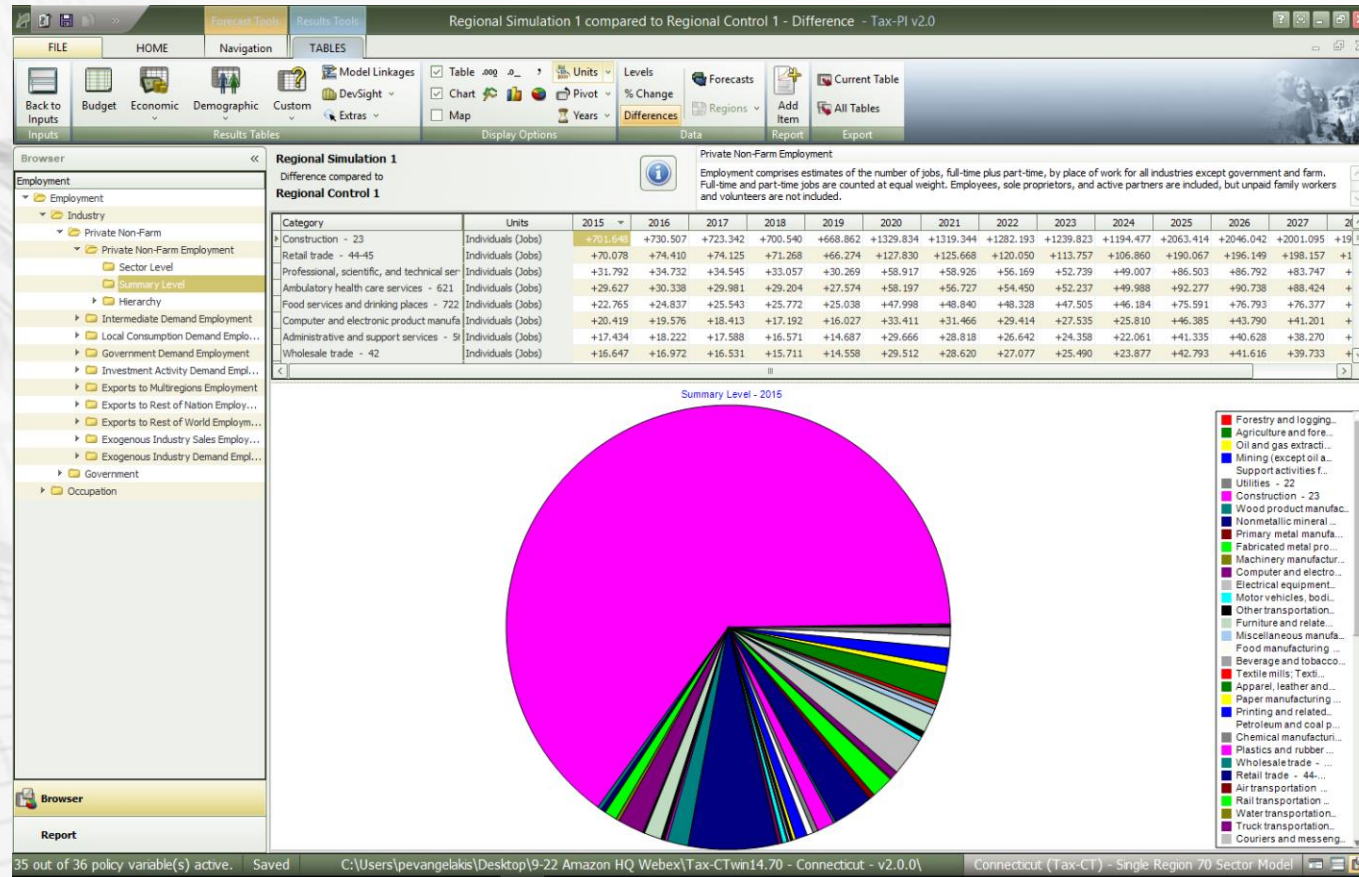# Construction Impact

□ Private non-farm employment impact

Construction Impact

□ Private non-farm employment impact breakdown

Construction Impact

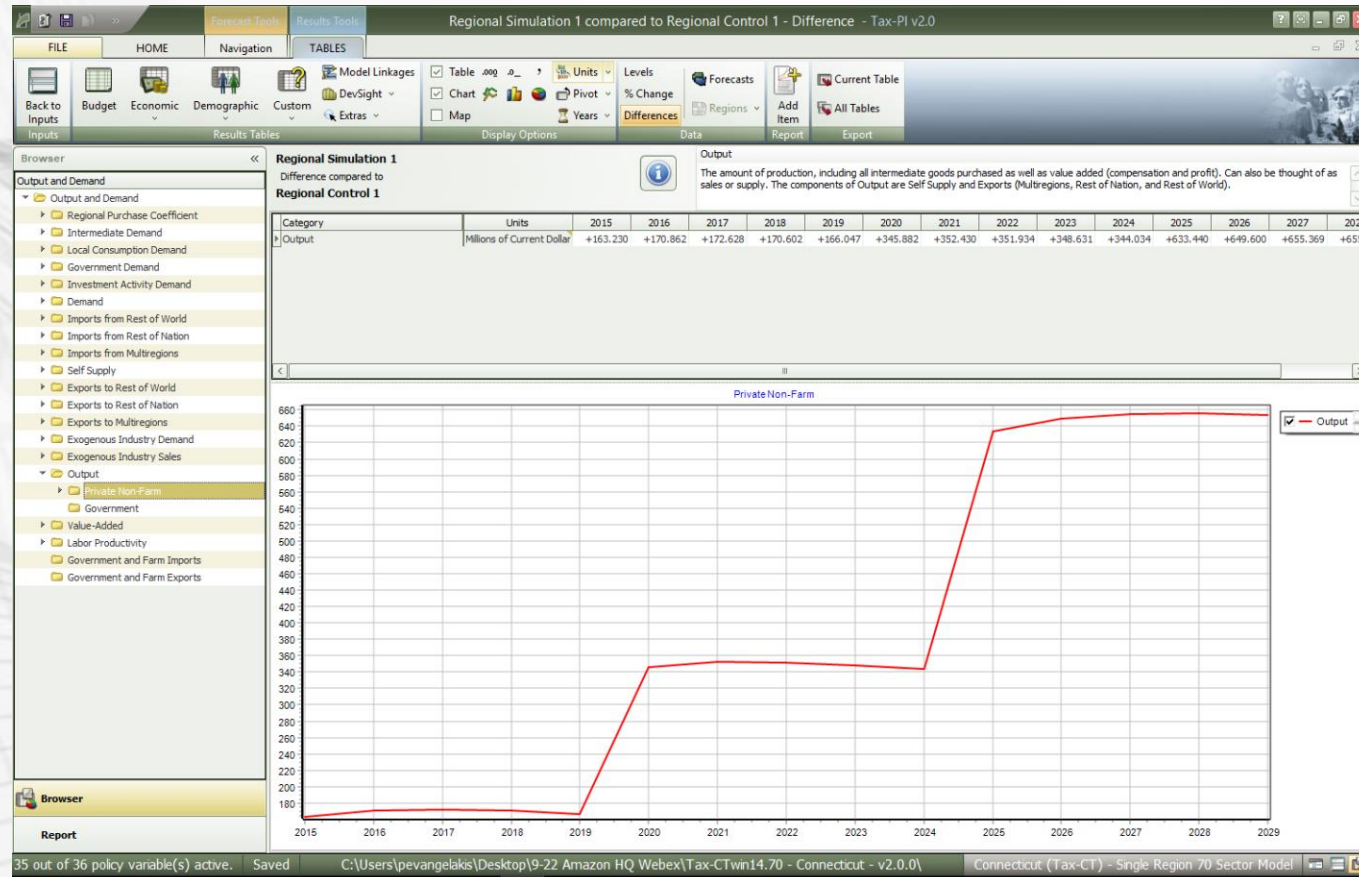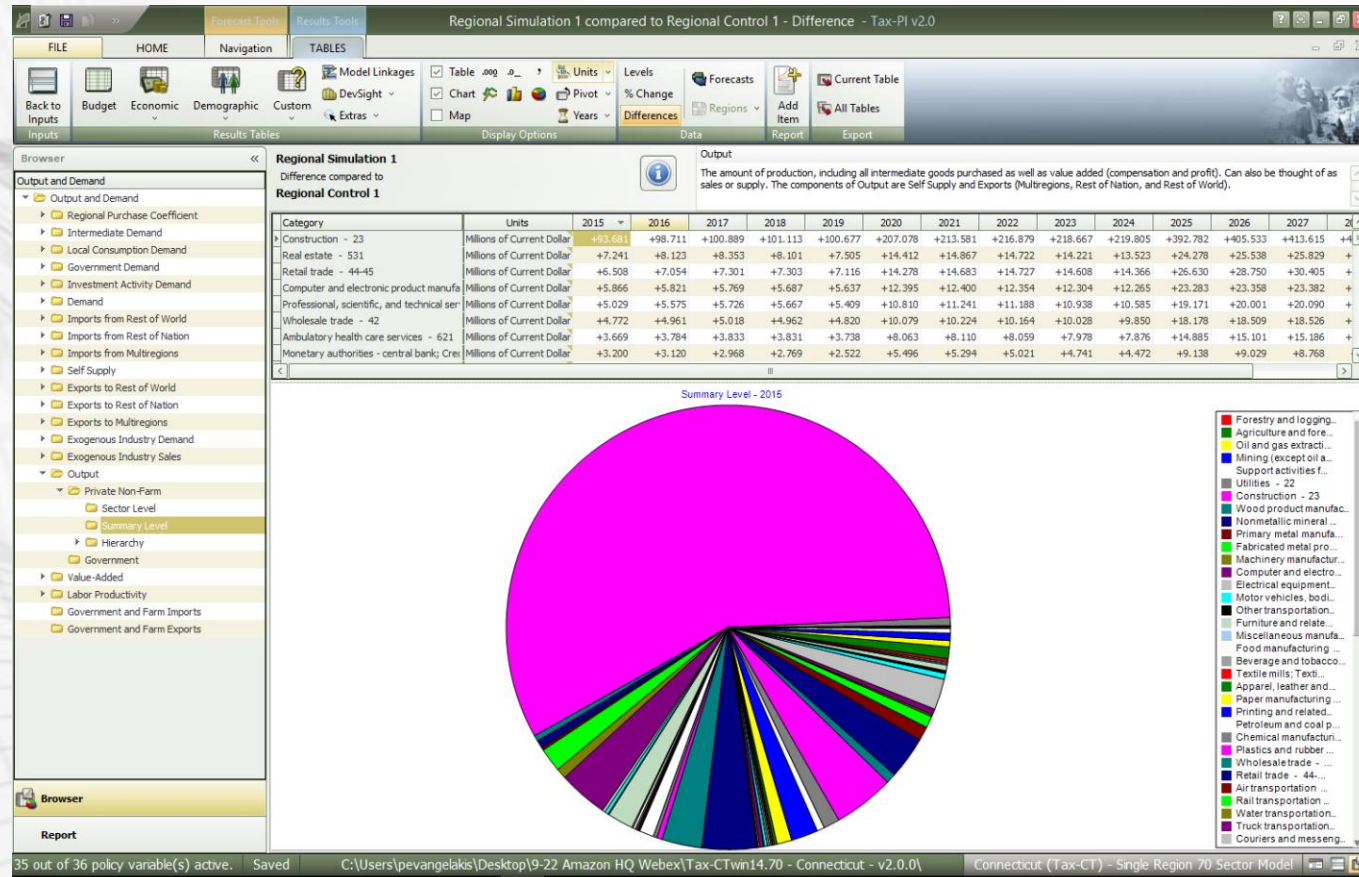□ Private non-farm output impact

Construction Impact

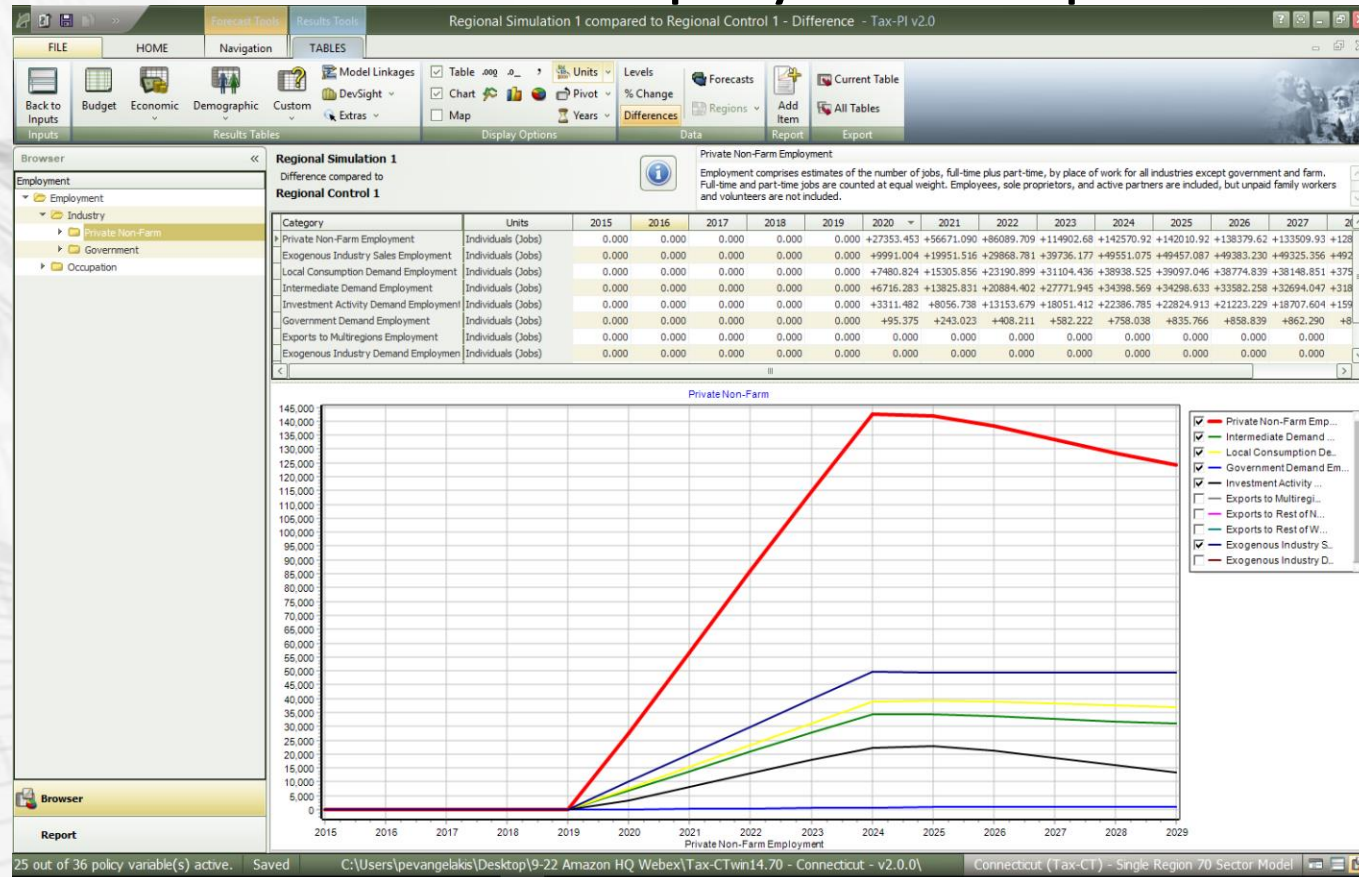□ Private non-farm output impact breakdown

Operations (50k, Fast)

- □ 50,000 new management employees
  - ◘ NAICS 55: Management of companies and enterprises—for executive/management
  - ◘ Added steadily over 5 years during Phase 2

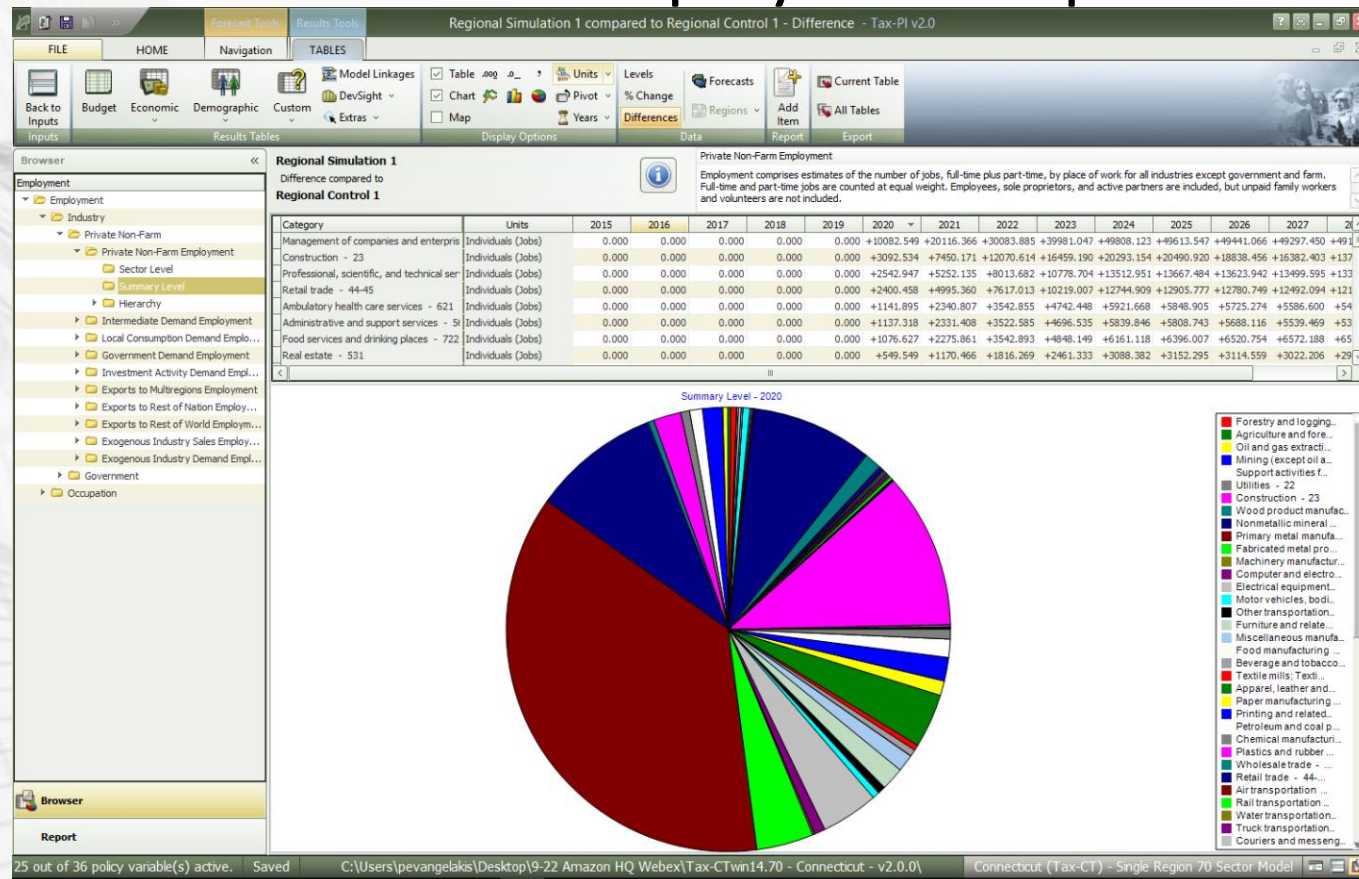# Operations (50k, Fast)

□ Private non-farm employment impact

Operations (50k, Fast)

☐ Private non-farm employment impact breakdown

Operations (50k, Fast)
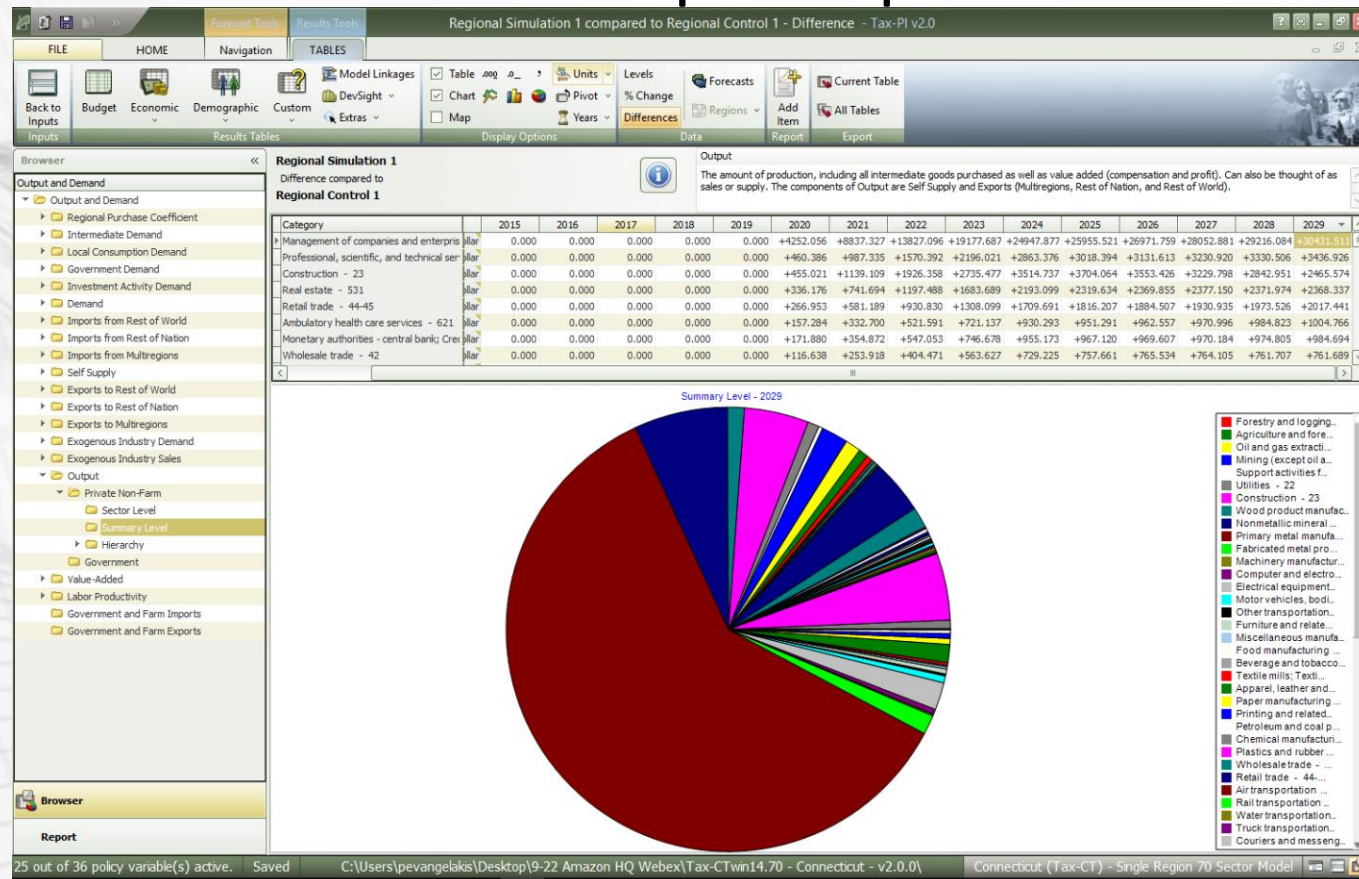
□ Private non-farm output impact breakdown

Operations (50k, Fast)
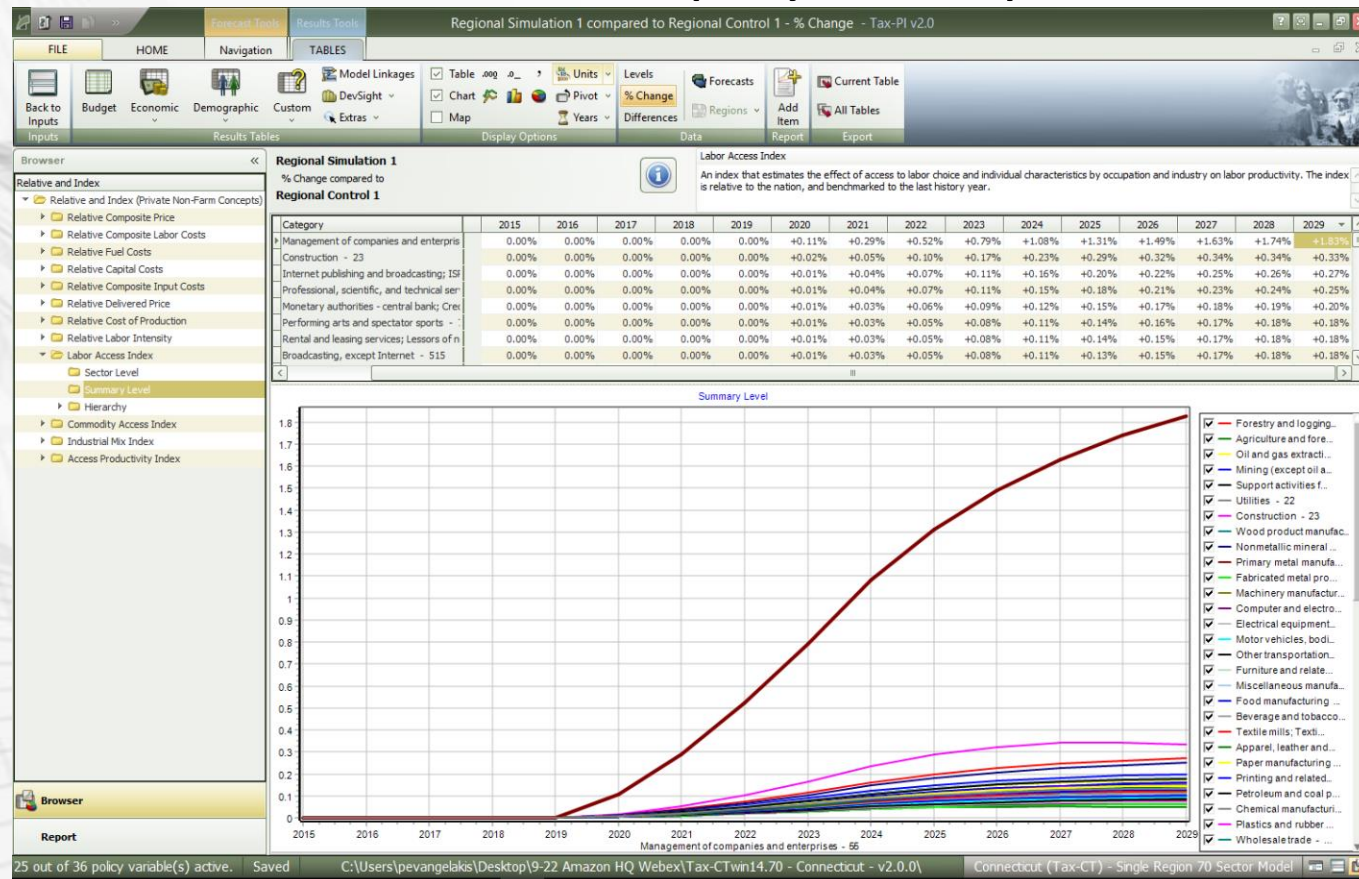
☐ The volume of new employees improves labor access

Operations (50k, Fast)

□ This raises labor productivity through clustering effects

Operations (50k, Fast)

☐ Upward pressure on wages

Operations (50k, Fast)

□ This raises production costs across the economy

Operations (50k, Fast)

□ Downward pressure on competitiveness

Operations (50k, Fast)

☐ Population influx and wages impact housing prices
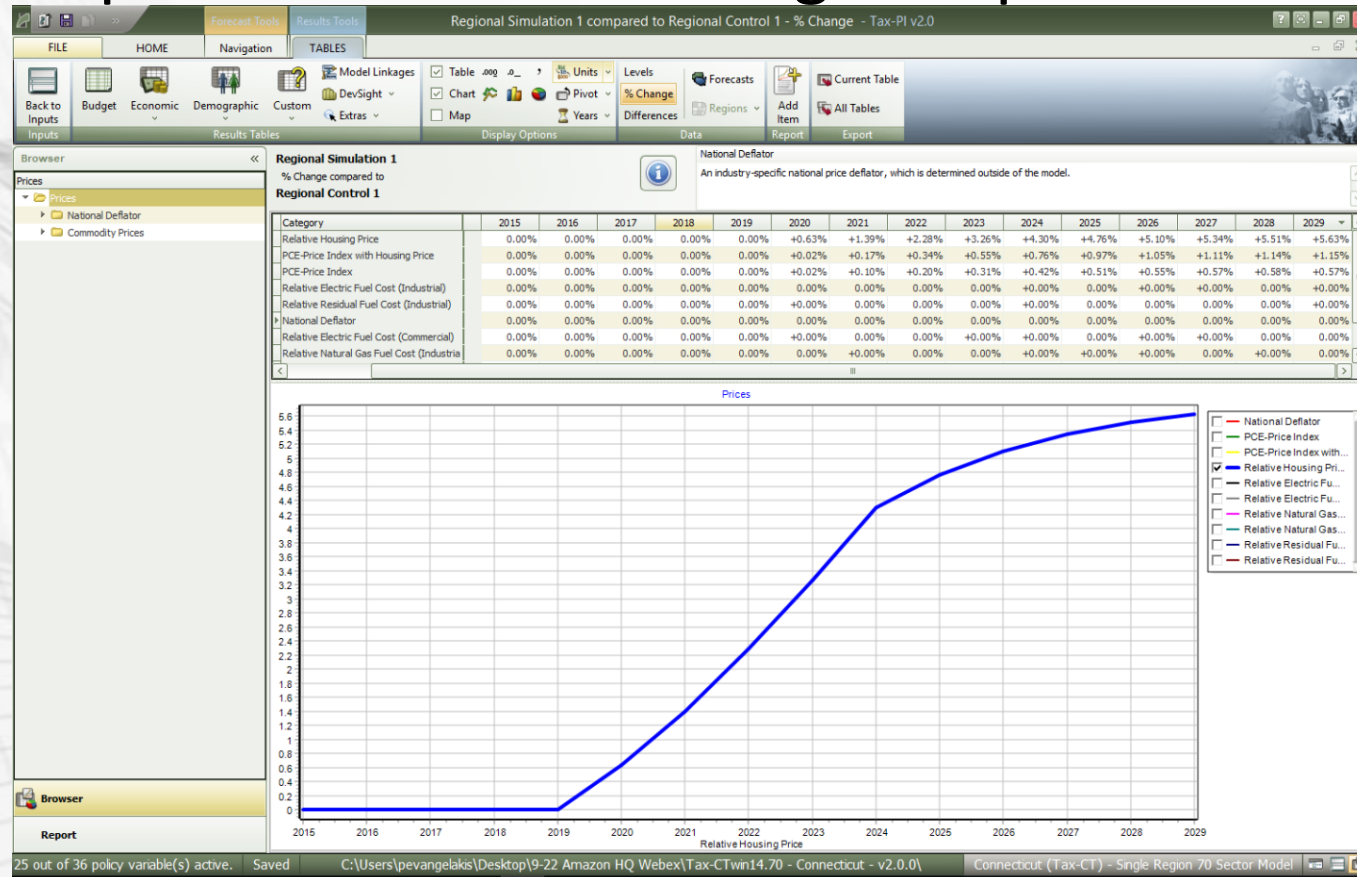
what does REMI say? ˢᵐ

Fiscal Impacts (50k, Fast)

- Combine construction and operations
- Analyze state and local budget impacts

Fiscal Impacts (50k, Fast)

☐ Housing stock rises along with housing prices

☐ Raises property tax base for local government
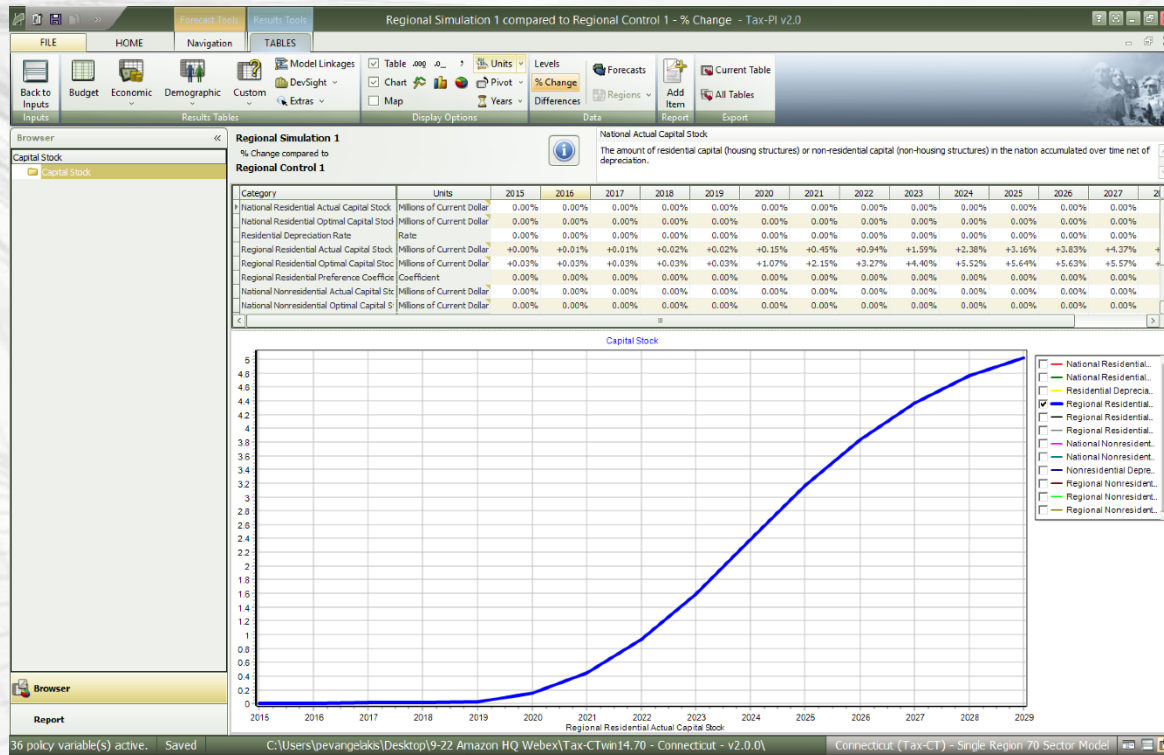
Fiscal Impacts (50k, Fast)

□ Breakdown of state revenue impacts
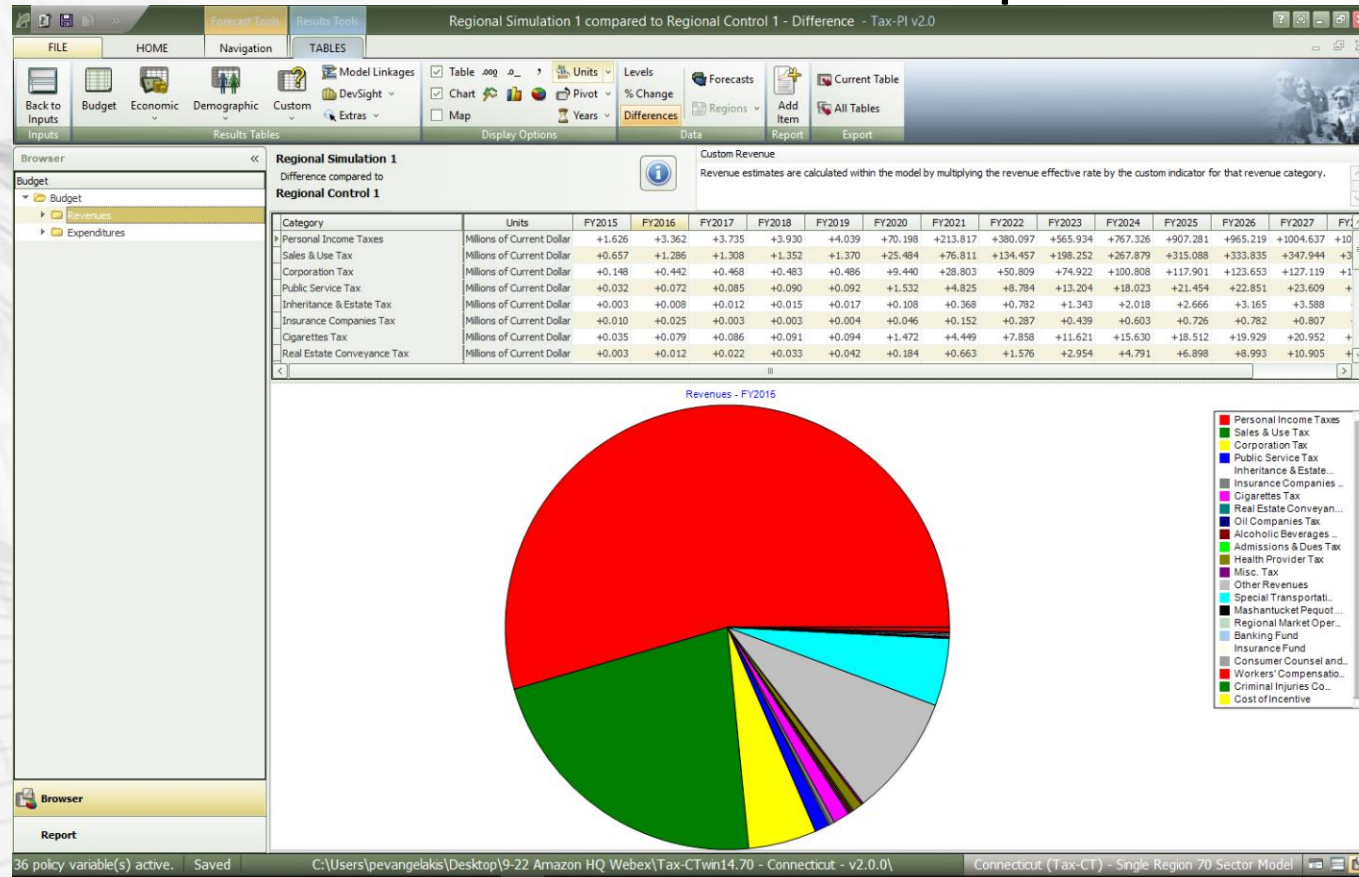
what does REMI say? *sm*

Fiscal Impacts (50k, Fast)

□ $12.9 billion increase in revenues over 15 years
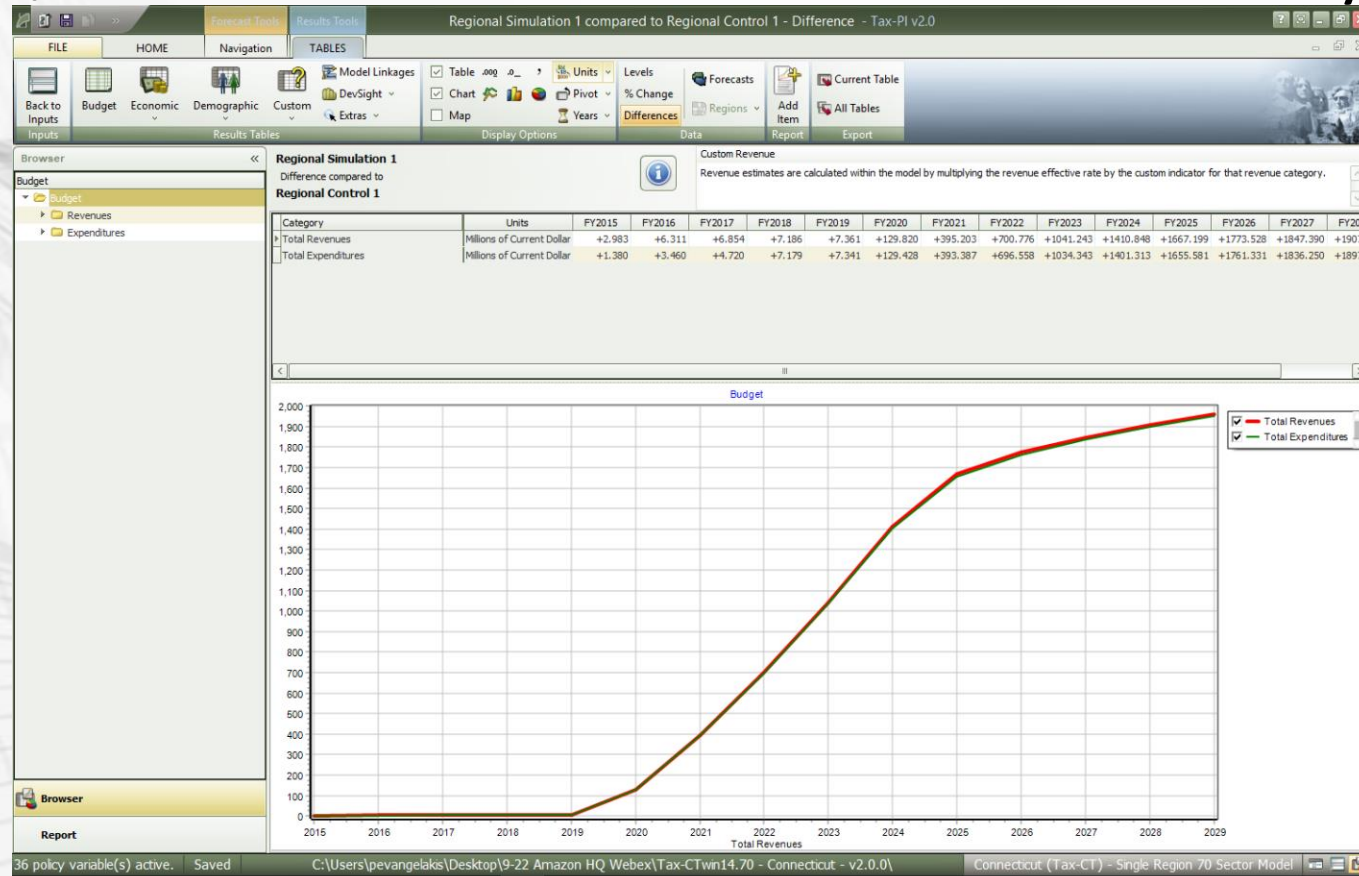
what does REMI say? *sm*

Operations (50k, Slow)

- 50,000 new management employees
  - NAICS 55: Management of companies and enterprises—for executive/management
  - Added steadily over 10 years during Phases 2 & 3

what does REMI say? sm

Fiscal Impacts (50k, Slow)

☐ $8.7 billion increase in revenues over 15 years

Operations (2.5k, Fast)

- □ 2,500 new management employees
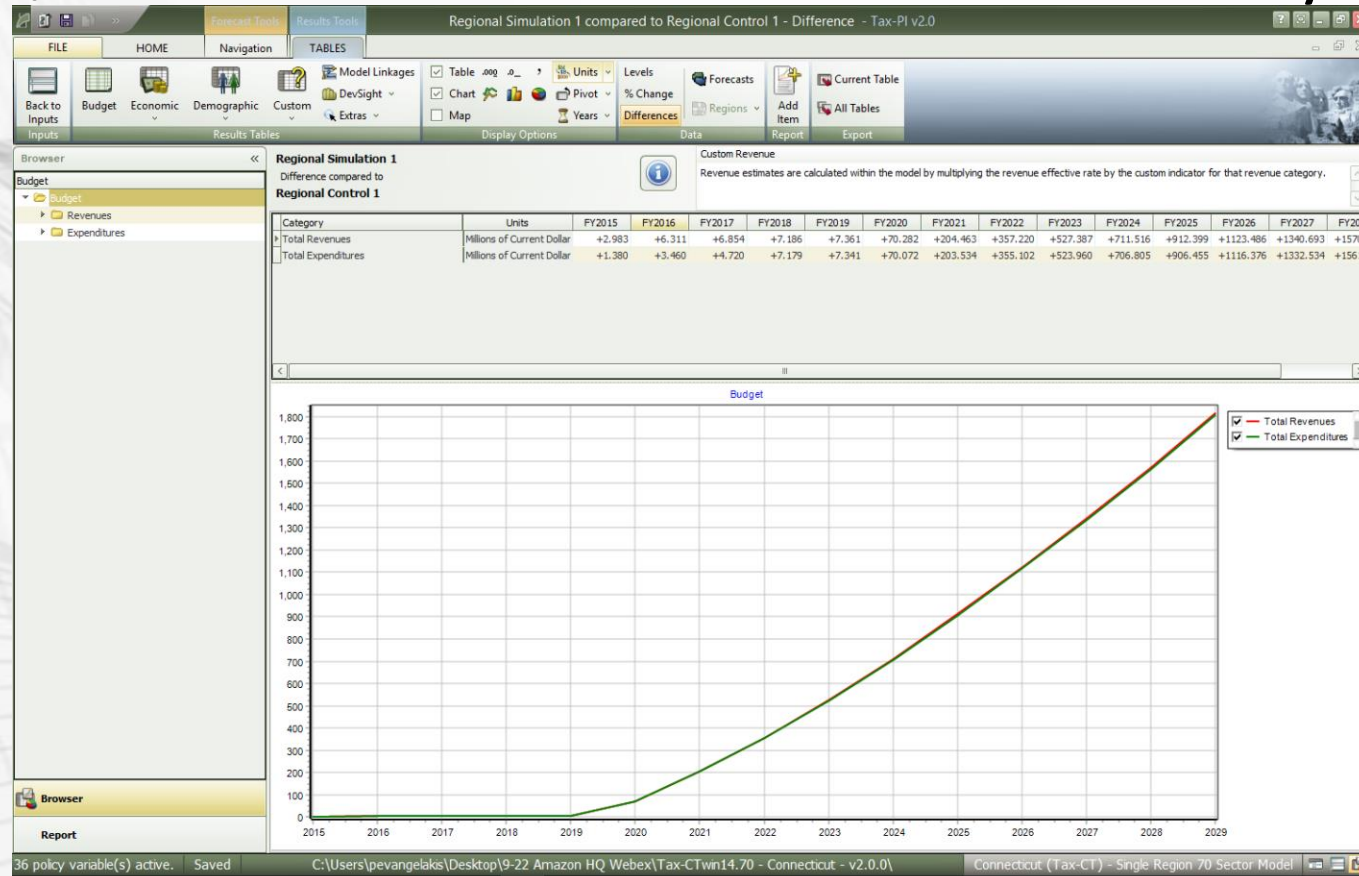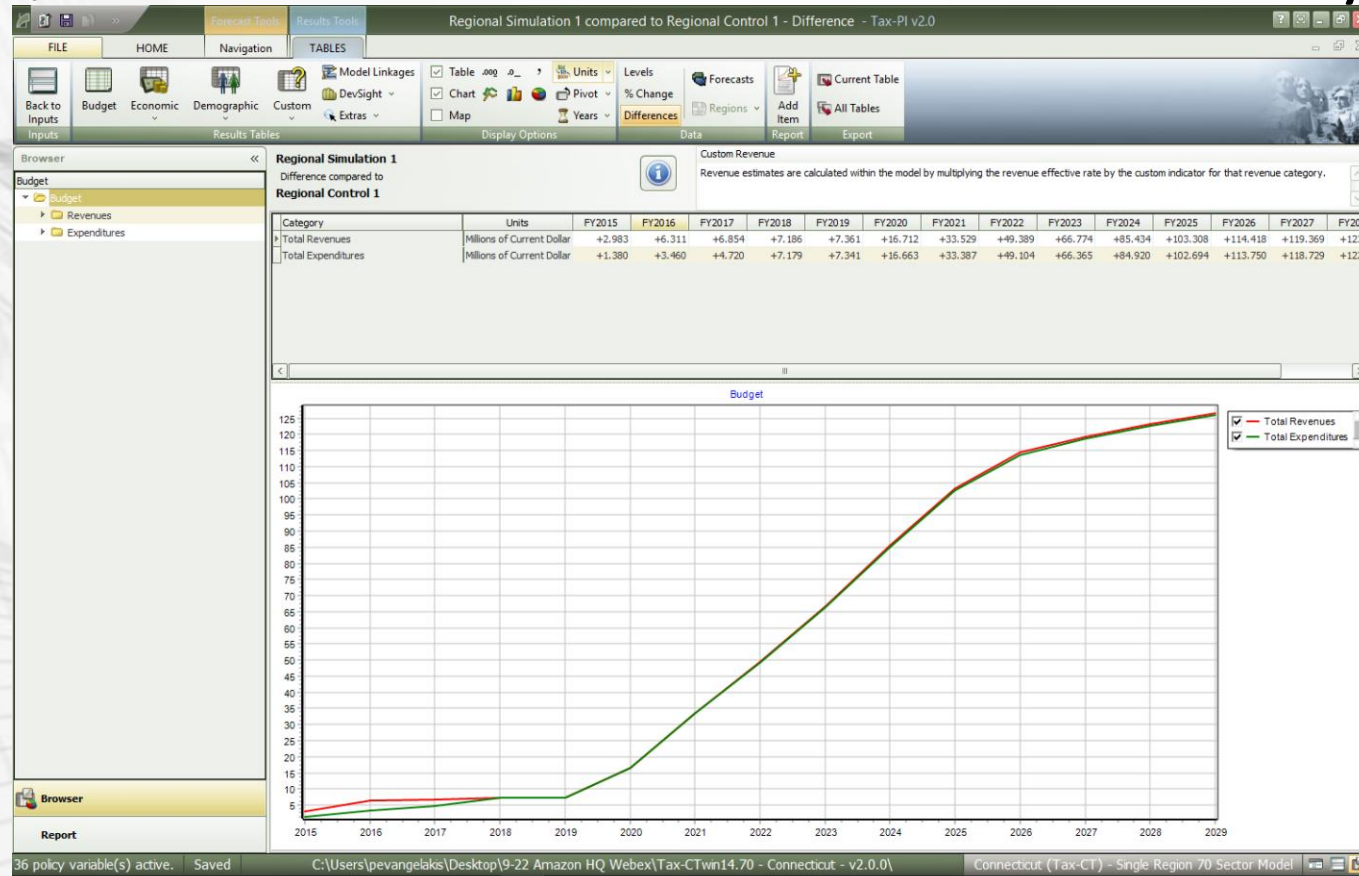 - ◘ NAICS 55: Management of companies and enterprises—for executive/management
  - ◘ Added steadily over 5 years during Phase 2

what does REMI say? [sm]

Fiscal Impacts (2.5k, Fast)

□ $869 million increase in revenues over 15 years

Incentives

- If Amazon builds employees slowly or does not hit 50k target, revenue gains can shrink significantly
- Governments need to consider these scenarios when deciding what incentives are worth offering
- Work with Amazon to ensure mutual benefit
  - Confirm employment targets
  - Tie incentives to in-state investment?
    - Education (build workforce), infrastructure, etc.

Concluding Thoughts

- HQ2.0 increases employment and output
- Operations phase also raises:
  - Prices (housing, wages)
  - Productivity (clustering)
  - State & local tax bases (income tax, property tax, etc.)
- Work closely with Amazon on incentive package
  - City's benefit sensitive to speed, scope of operations
  - Negotiate Amazon buy-in to state/local economies

what does REMI say? sm

What Price Amazon?

- Amazon HQ 2.0 Widely Sought After

- But what package is a win-win-win?

- Dynamic economic/fiscal modeling, shown with REMI Tax-PI, estimates economic and fiscal impacts

- These economic and fiscal impacts needed to inform policy decisions.