

AMAZON HQ2: ECONOMIC AND FISCAL EVALUATION

Economic Development and Incentives: HQ2



- 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



what does **REMI** say? sm

Economic Development Strategy



- Want to benefit all major stakeholders
 - ▣ City/State
 - ▣ Amazon
 - ▣ Taxpayers, workers, residents
- Using knowledge of your regional economy to benefit everybody

Economic Development Strategy: Know Your Region



- Sectors to Target
 - Sectors with low production costs
 - Sectors with high demand, low self-supply
 - Sectors like these that also have high transportation costs could be competitive locally
 - Sectors with available inputs within your region
 - These sectors see additional demand
 - Presence of downstream sectors within your region
 - These sectors see lower supply

Economic Development Strategy: Connecticut

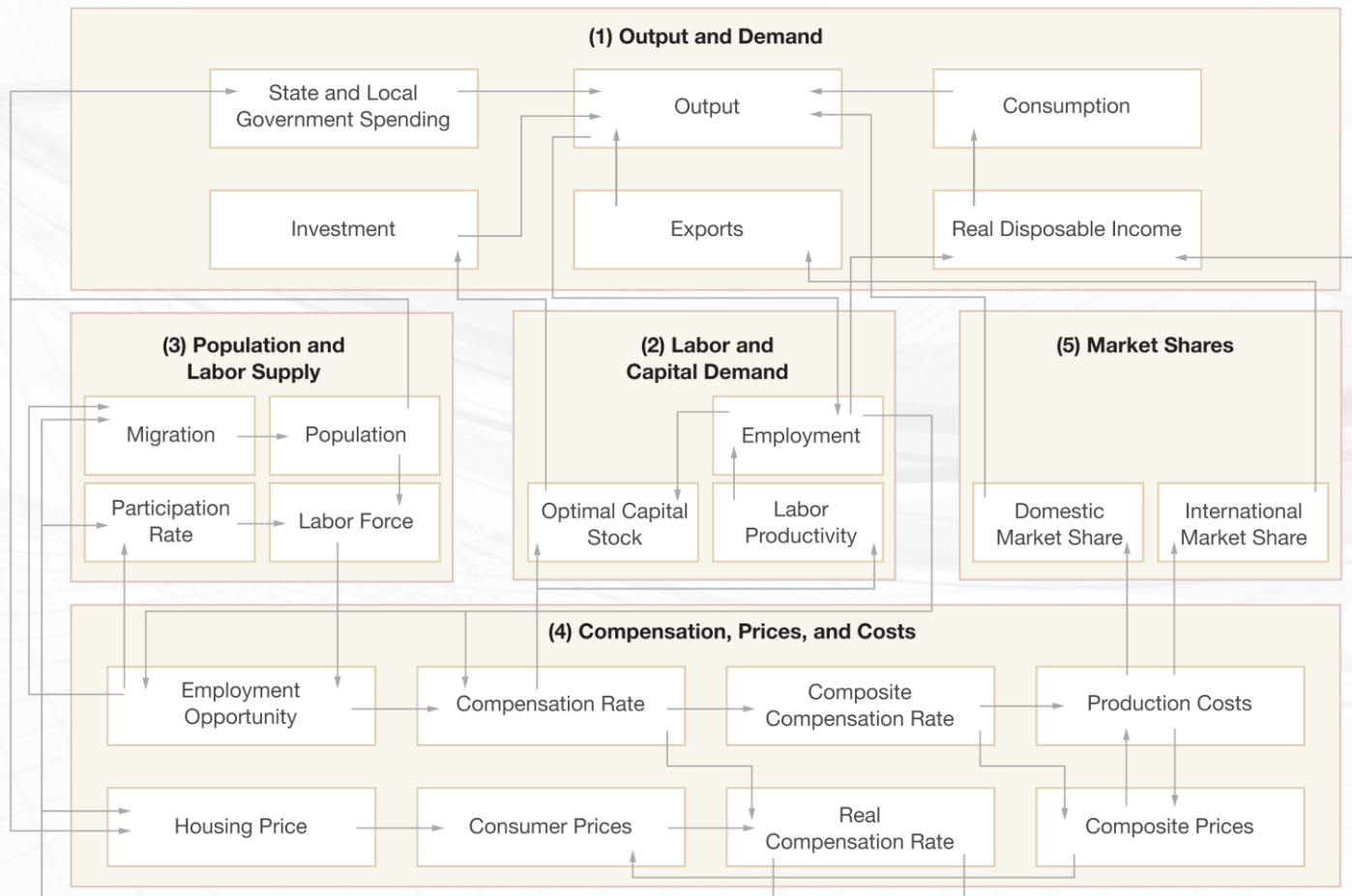


- Low relative production costs
 - Management simulation: 18.7% more expensive
 - Wood product manufacturing: 16% less expensive
 - Computer and electronic product manufacturing: 14% less expensive
- Sectors with high demand, low self supply
 - Chemical manufacturing: \$10.718 bn demand, \$1.528 self supply
 - Computer and electronic product manufacturing: \$9.328 bn demand, \$2.384 bn self supply
- Validate these sectors against the presence of upstream and downstream sectors through Input-Output table

Model Structure



REMI Model Linkages (Excluding Economic Geography Linkages)

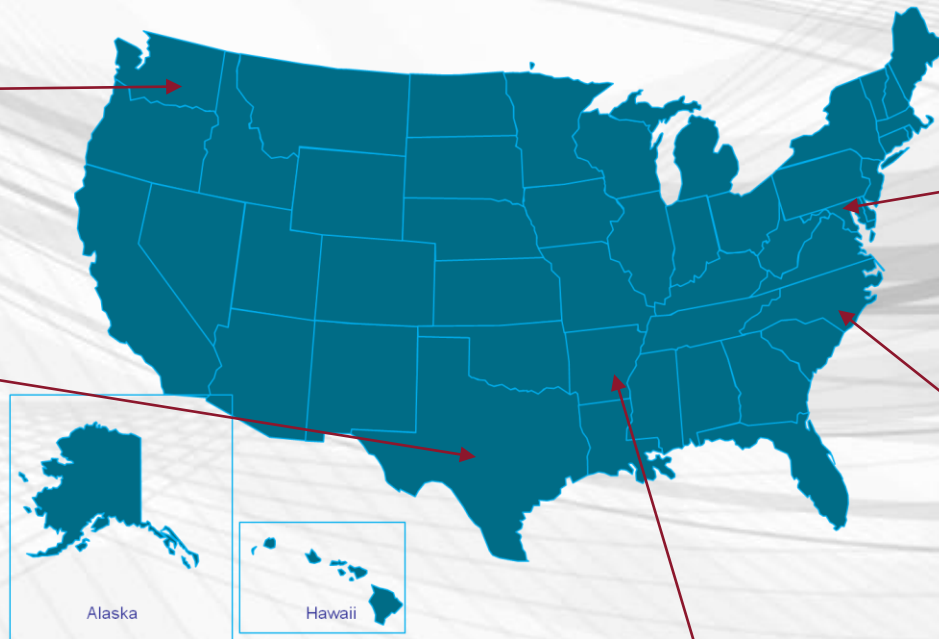


Prior Tax & Incentive Analysis

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

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Static vs. Dynamic Analysis



Static Analysis

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

Dynamic Analysis

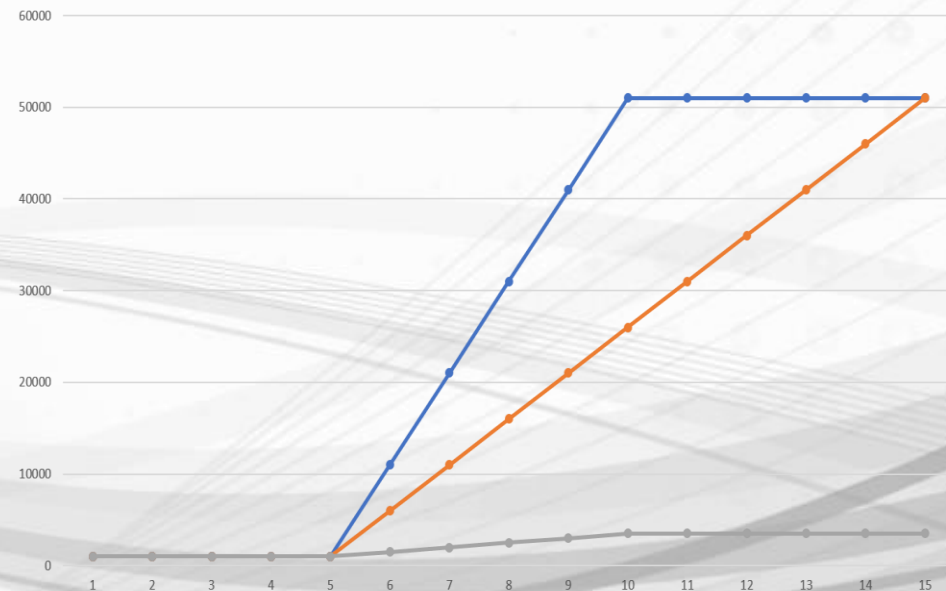
- Construction spending
- New employee wages
- Population
- Housing prices
- Employment
- Wage inflation
- Labor productivity
- Output
- Feedback changes in tax revenue
- Changes in tax base

Phases of Economic Impact



- Construction
 - ▣ Hire construction workers 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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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 billion

Construction Impact



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

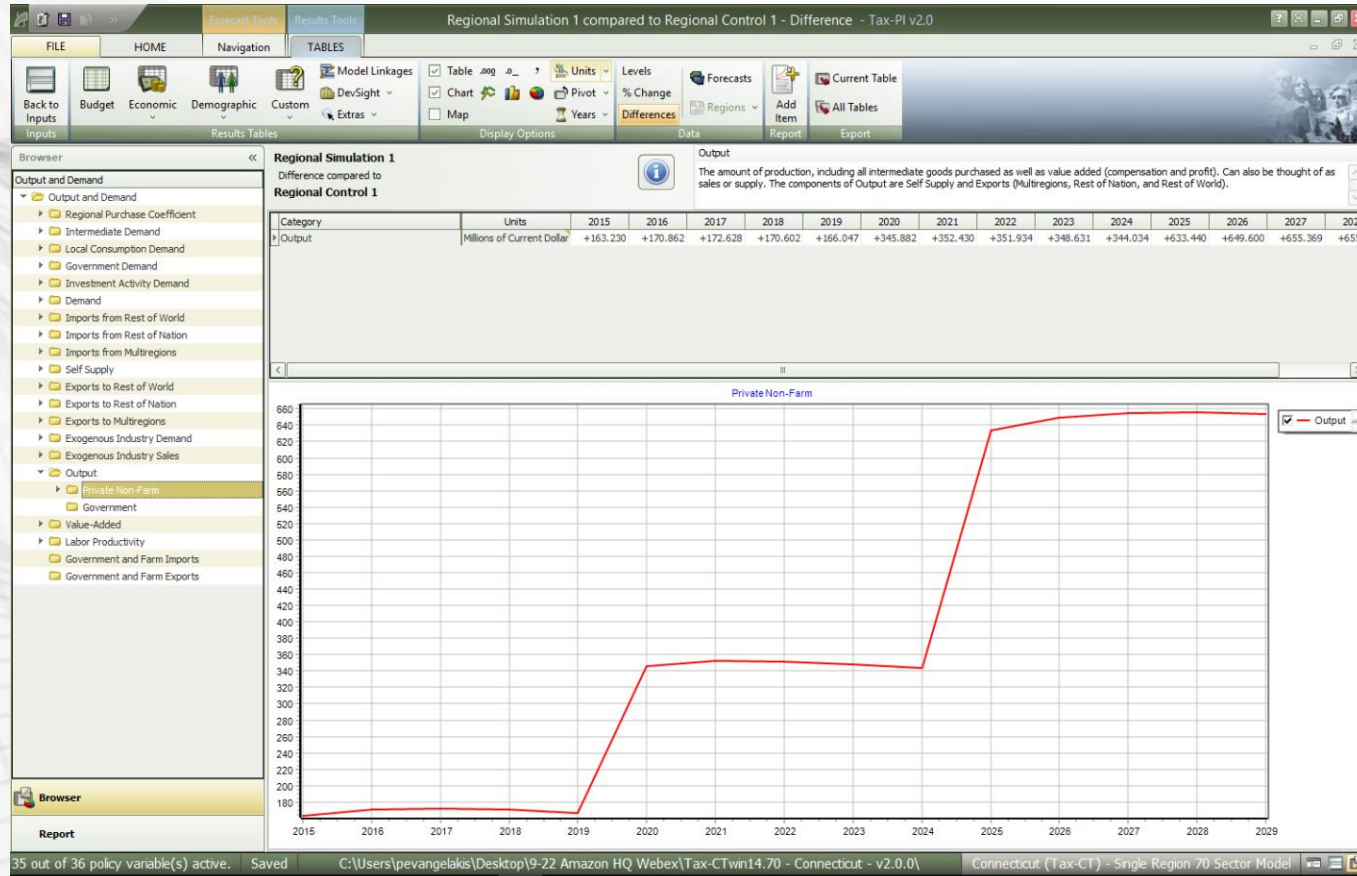
- Other fit-out costs during initial construction phase
 - ▣ New computers and servers
 - ▣ Office furniture and equipment

- Model as Detailed Industry Sales policy variables
 - ▣ NAICS 2332A0: Commercial structures, including farm structures
 - ▣ NAICS 334: Computer and electronic product manufacturing
 - ▣ NAICS 337: Furniture and related product manufacturing

Construction Impact



□ Private non-farm output impact

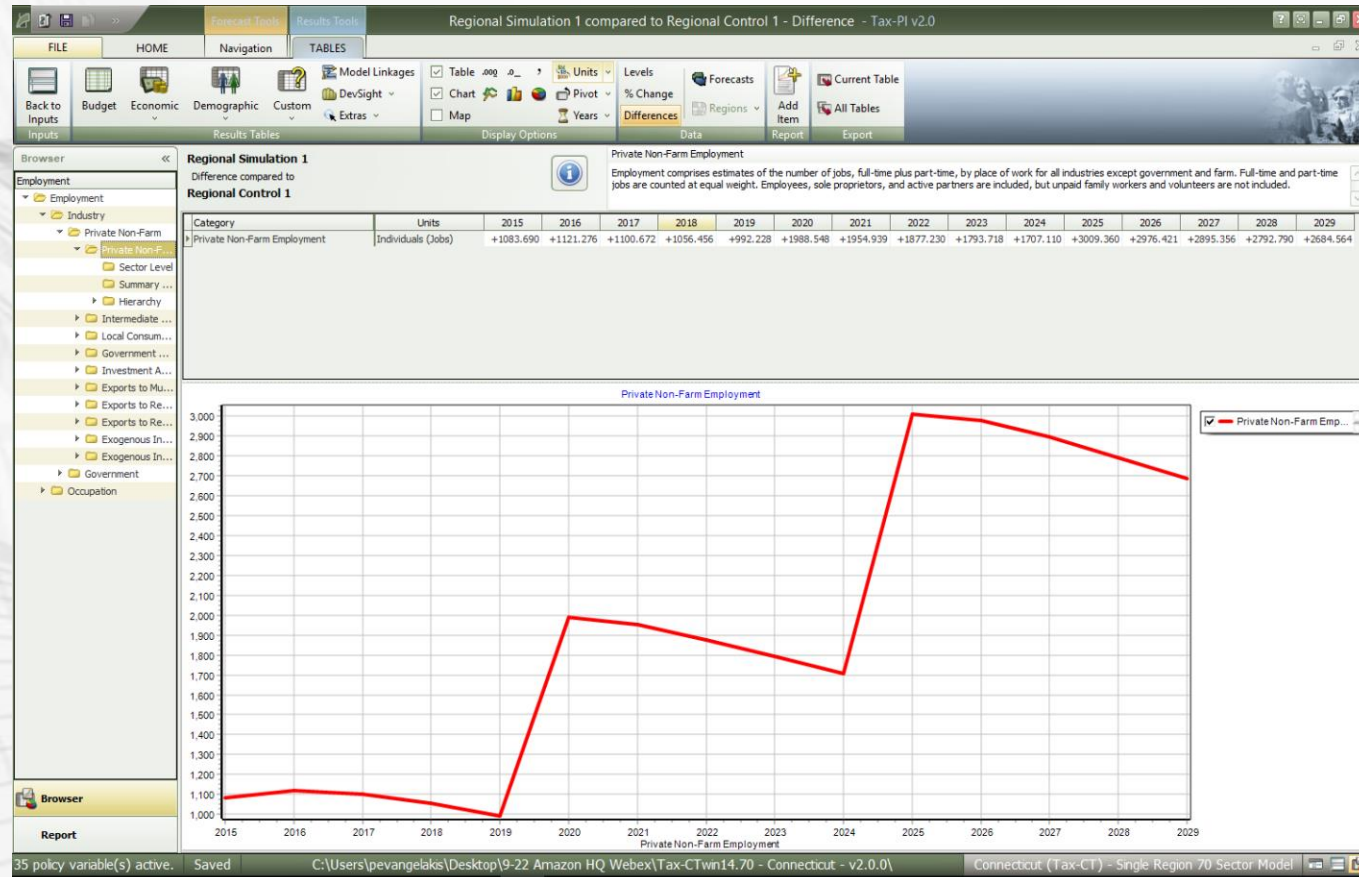


what does REMI say? *sm*

Construction Impact



□ Private non-farm employment impact

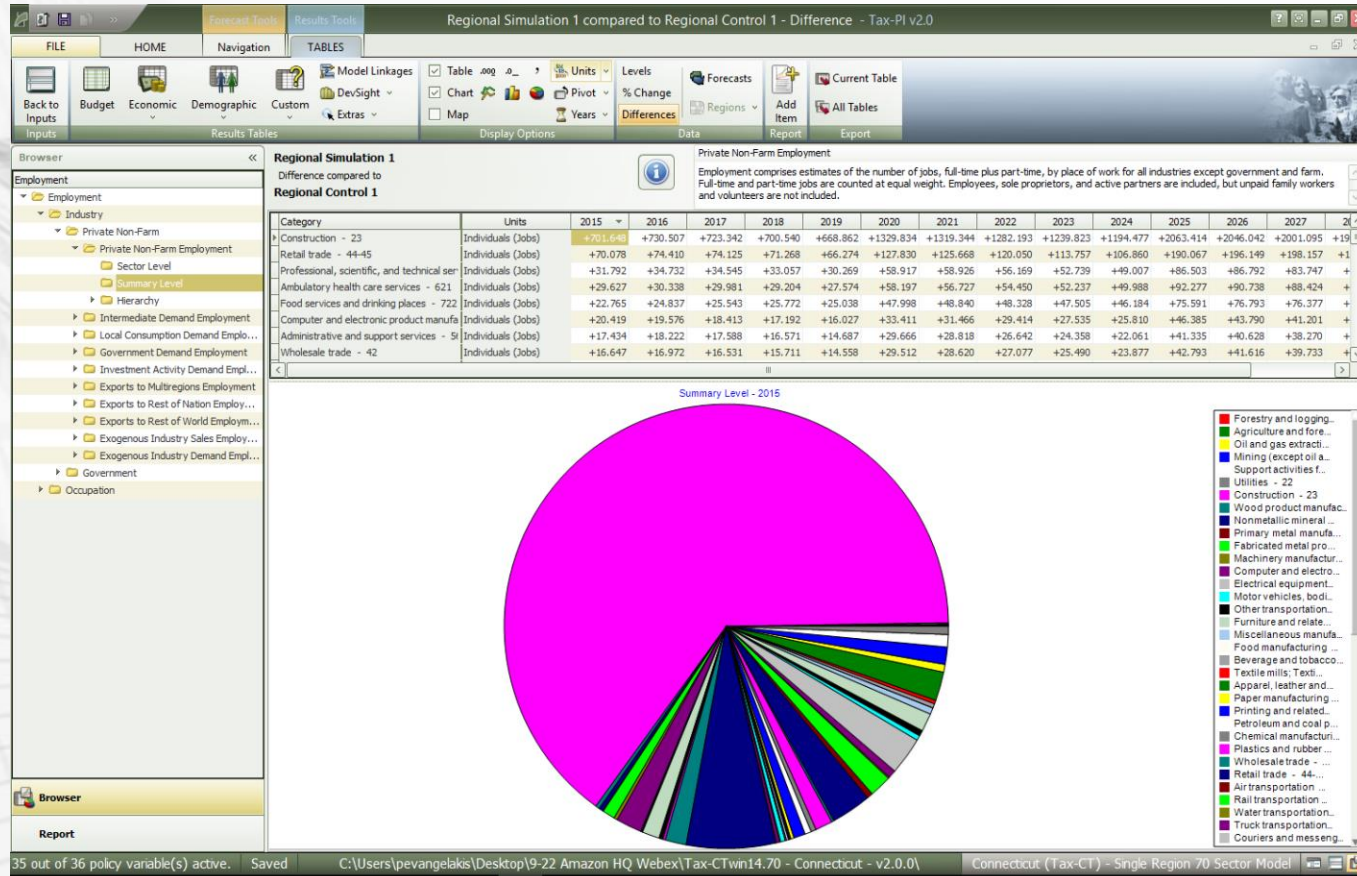


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Construction Impact



Private non-farm employment impact breakdown

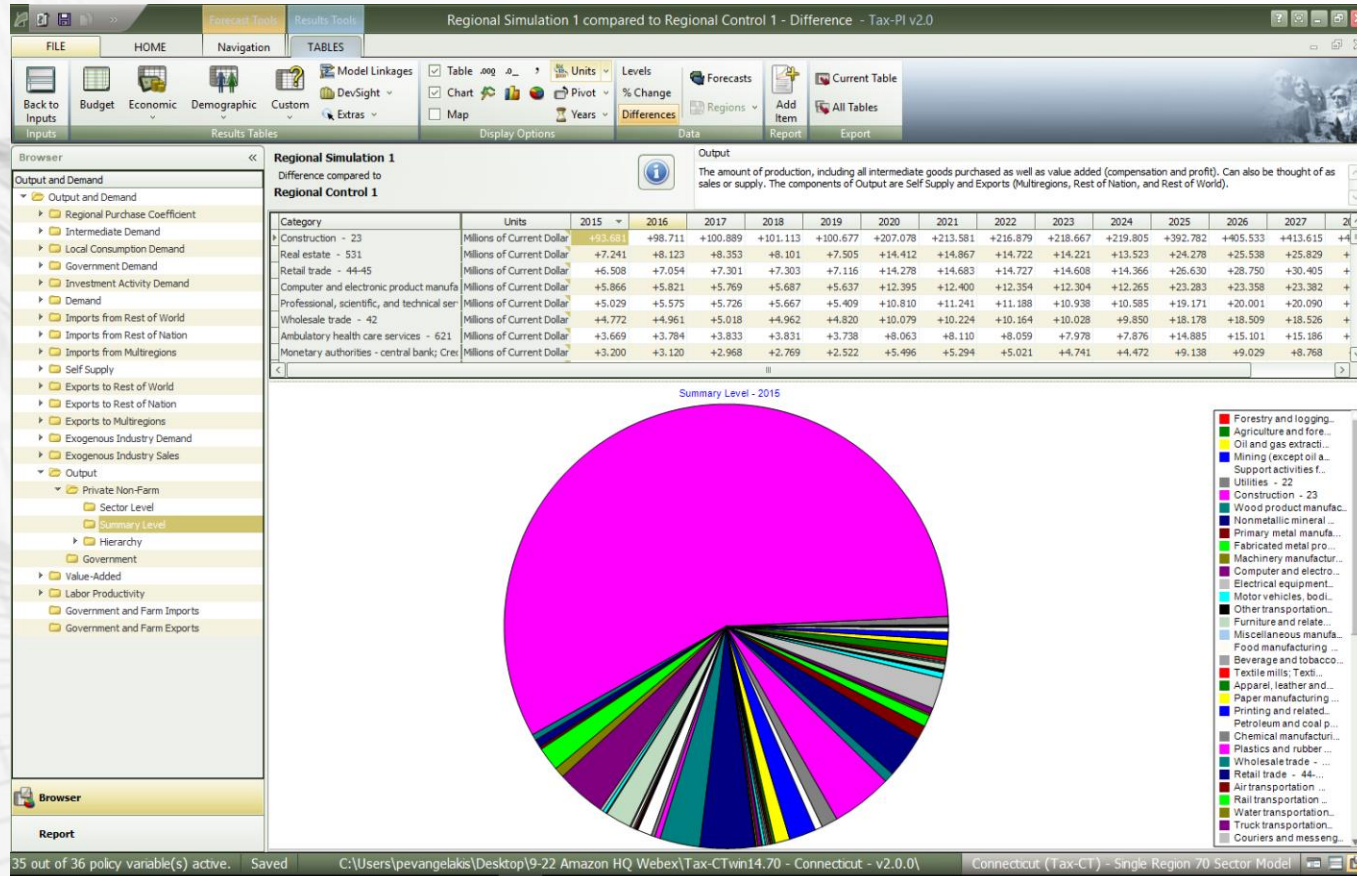


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Construction Impact



Private non-farm output impact breakdown



what does REMI say? *sm*

Operations (50k, Fast)

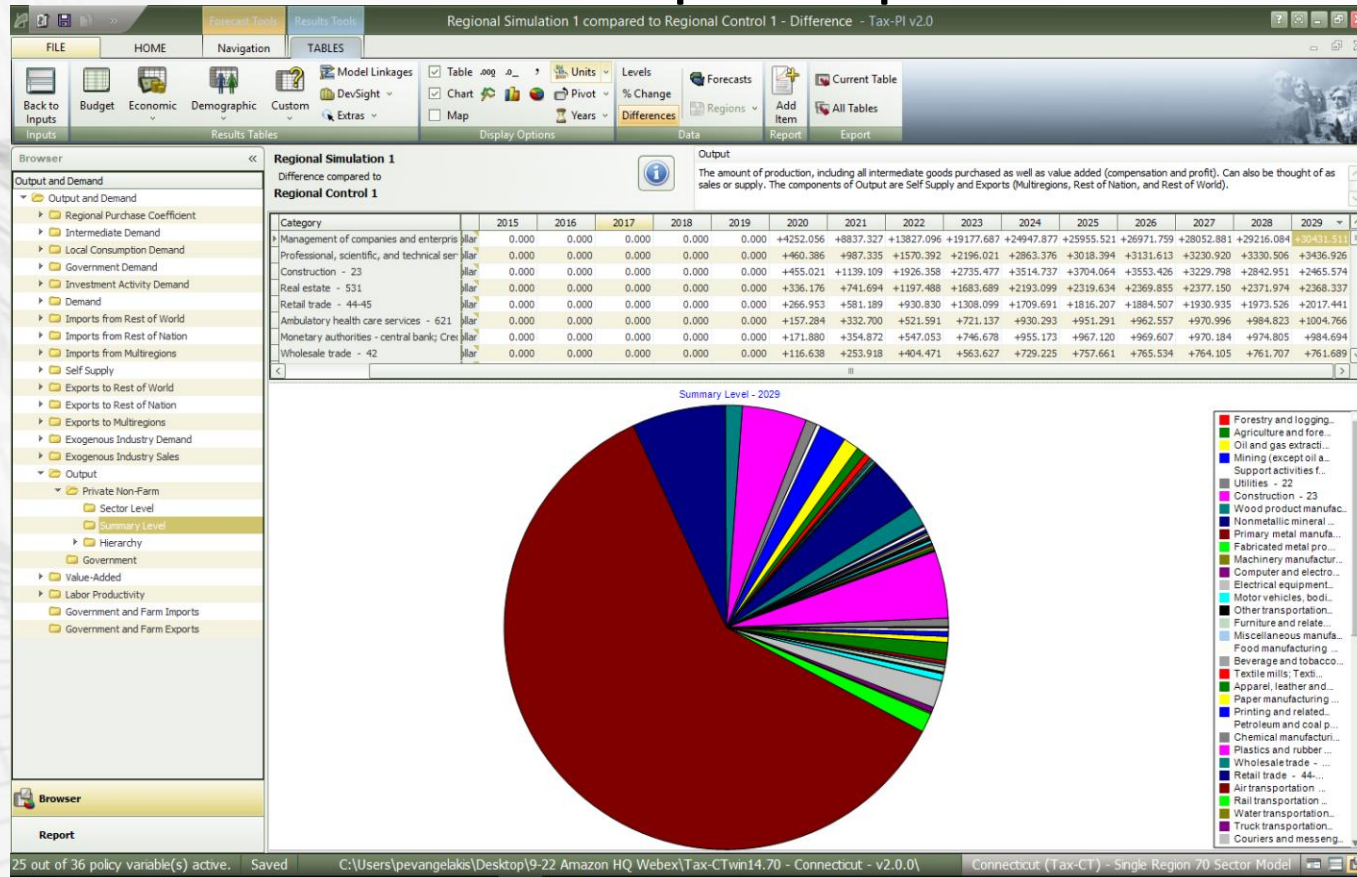


- 50,000 new management employees
 - ▣ NAICS 55: Management of companies and enterprises—for executive/management
 - ▣ Added steadily over 5 years during Phase 2

Operations (50k, Fast)



□ Private non-farm output impact breakdown

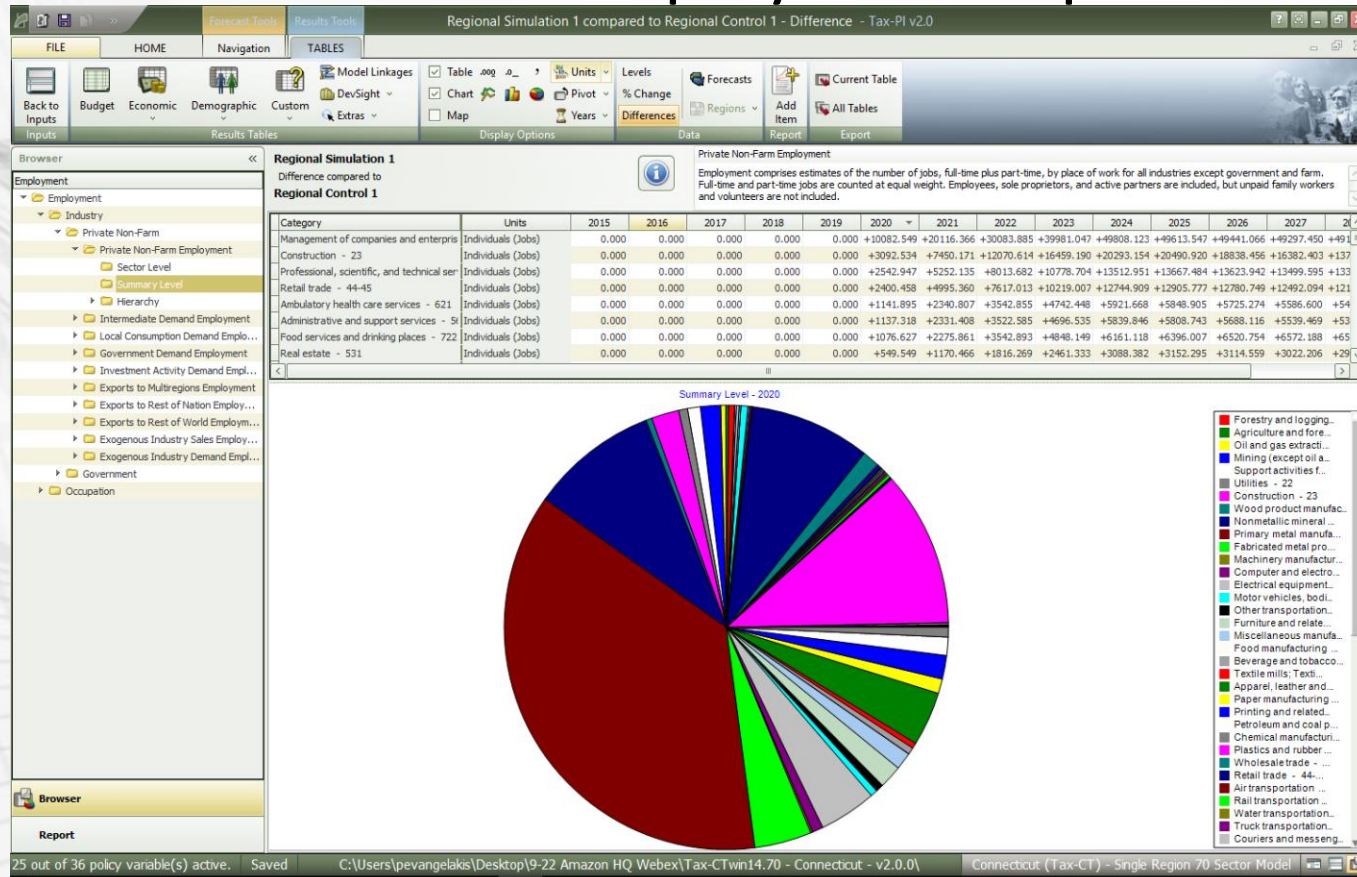


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Operations (50k, Fast)



□ Private non-farm employment impact breakdown

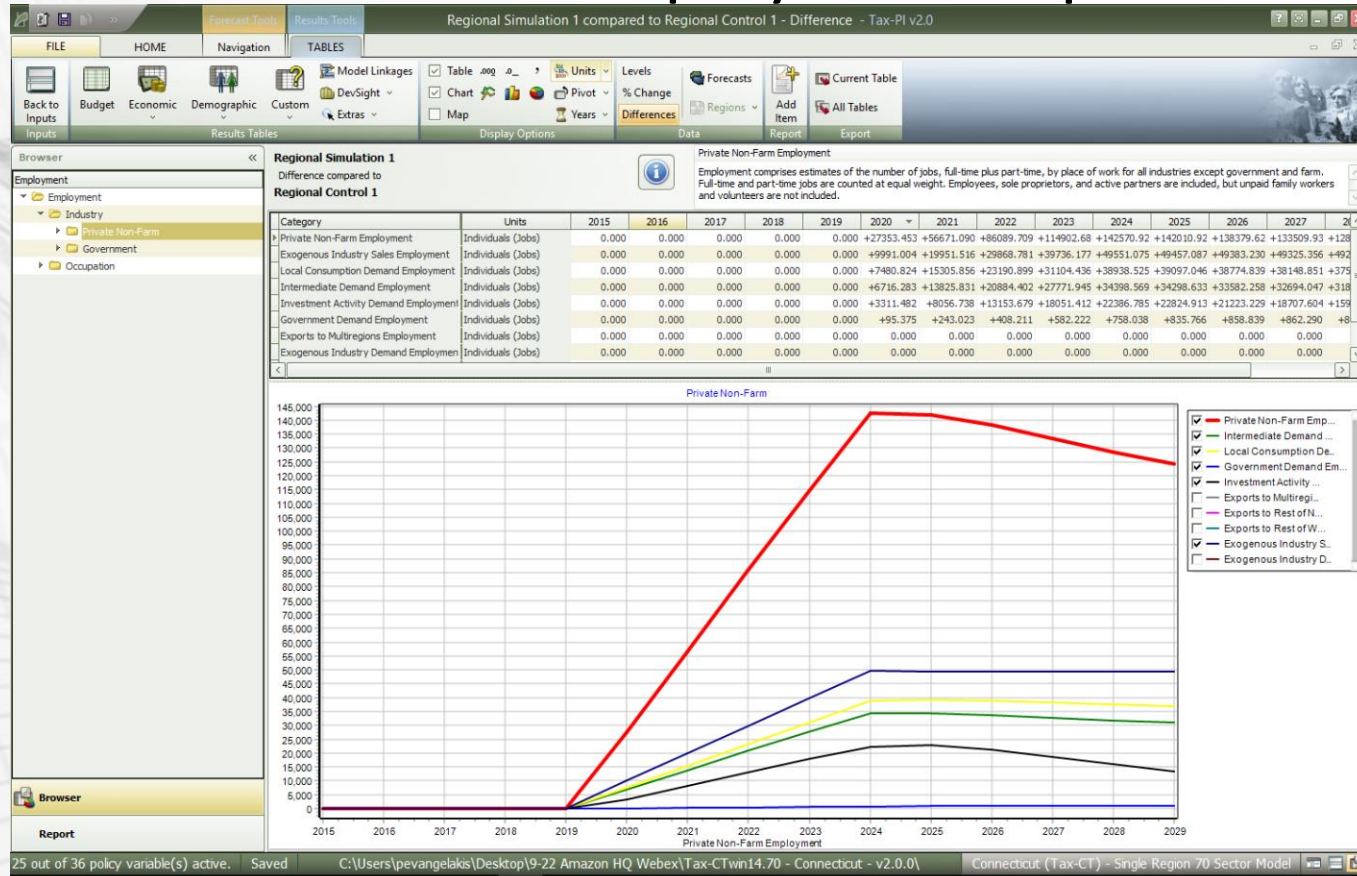


what does REMI say? *sm*

Operations (50k, Fast)



□ Private non-farm employment impact



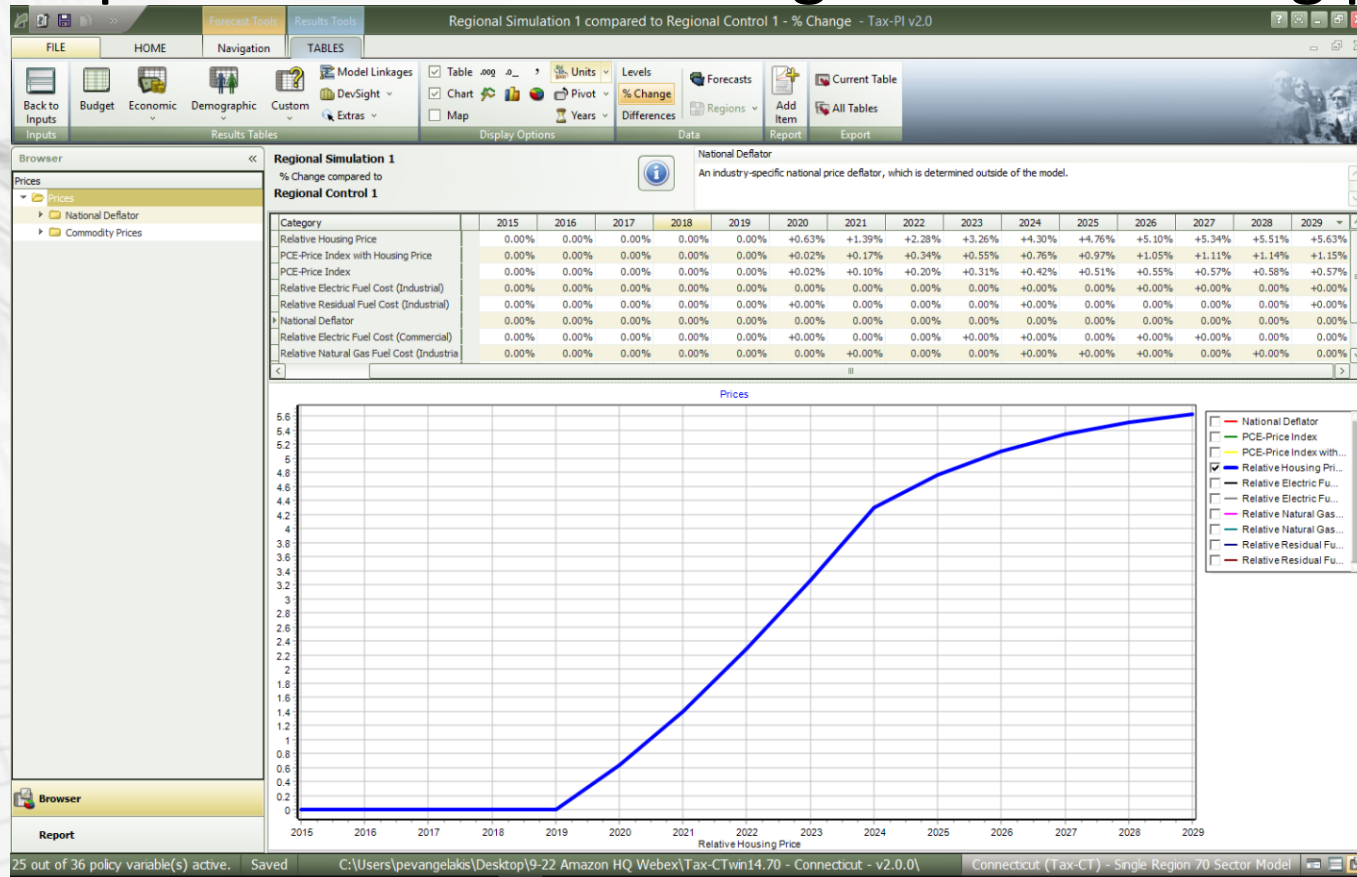
25 out of 36 policy variable(s) active. Saved C:\Users\pevangelakis\Desktop\9-22 Amazon HQ Webex\Tax-CTwin\14.70 - Connecticut - v2.0.0\ Connecticut (Tax-CT) - Single Region 70 Sector Model

what does REMI say? sm

Operations (50k, Fast)



- Population influx and wages raise housing prices

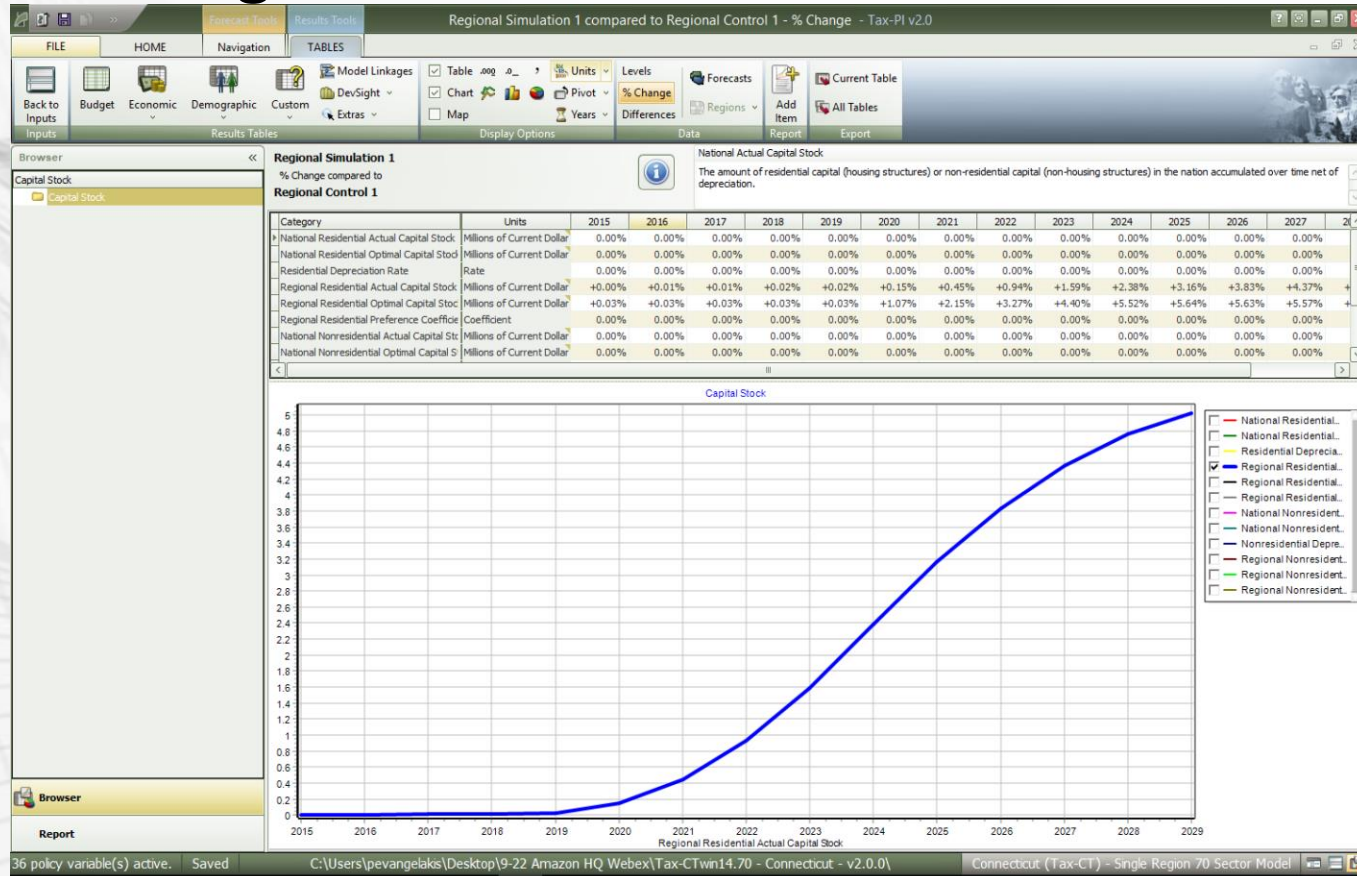


what does REMI say? *sm*

Operations (50k, Fast)



- Housing stock also rises with increased demand

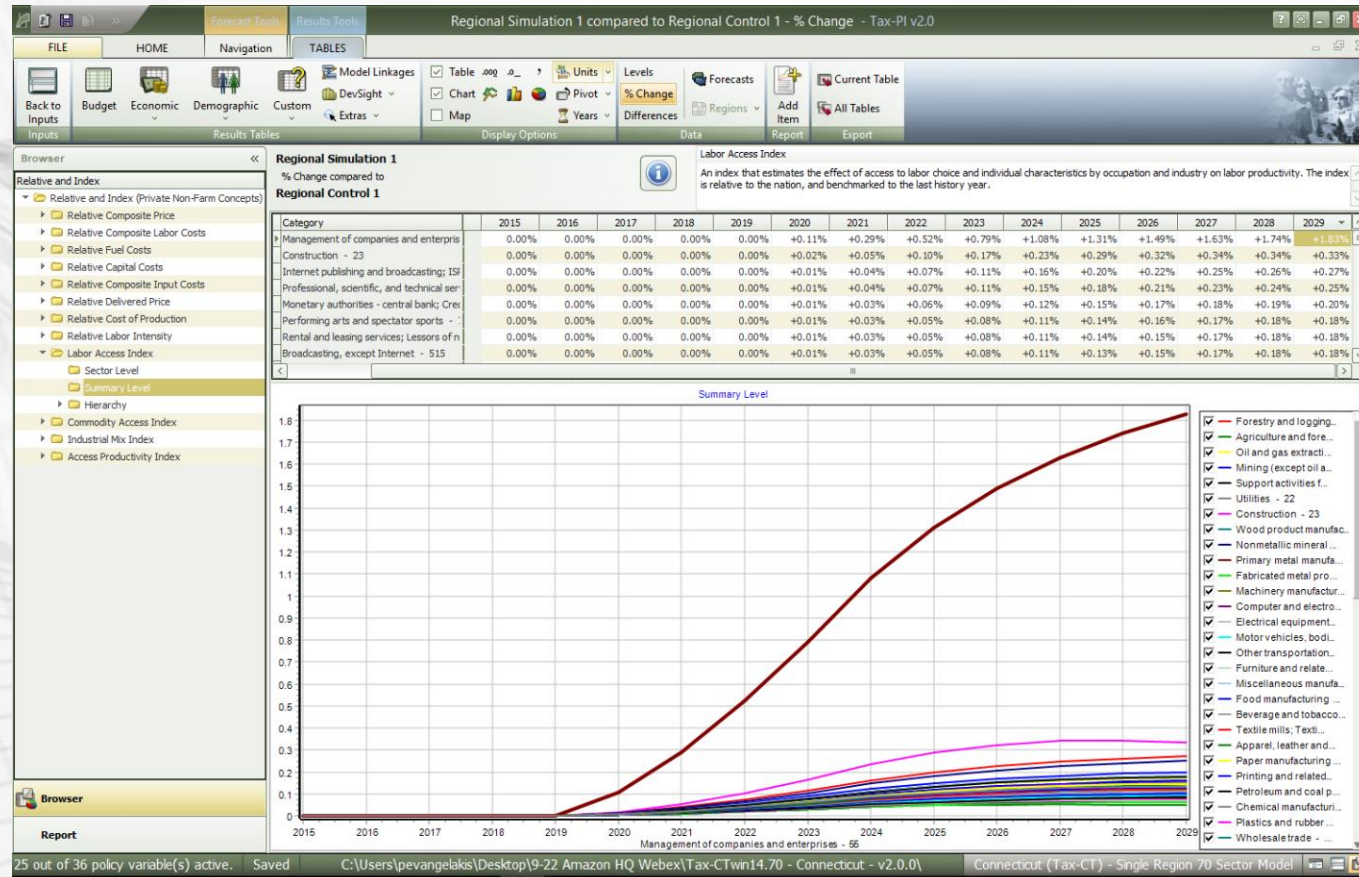


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Operations (50k, Fast)



- The volume of new employees improves labor access

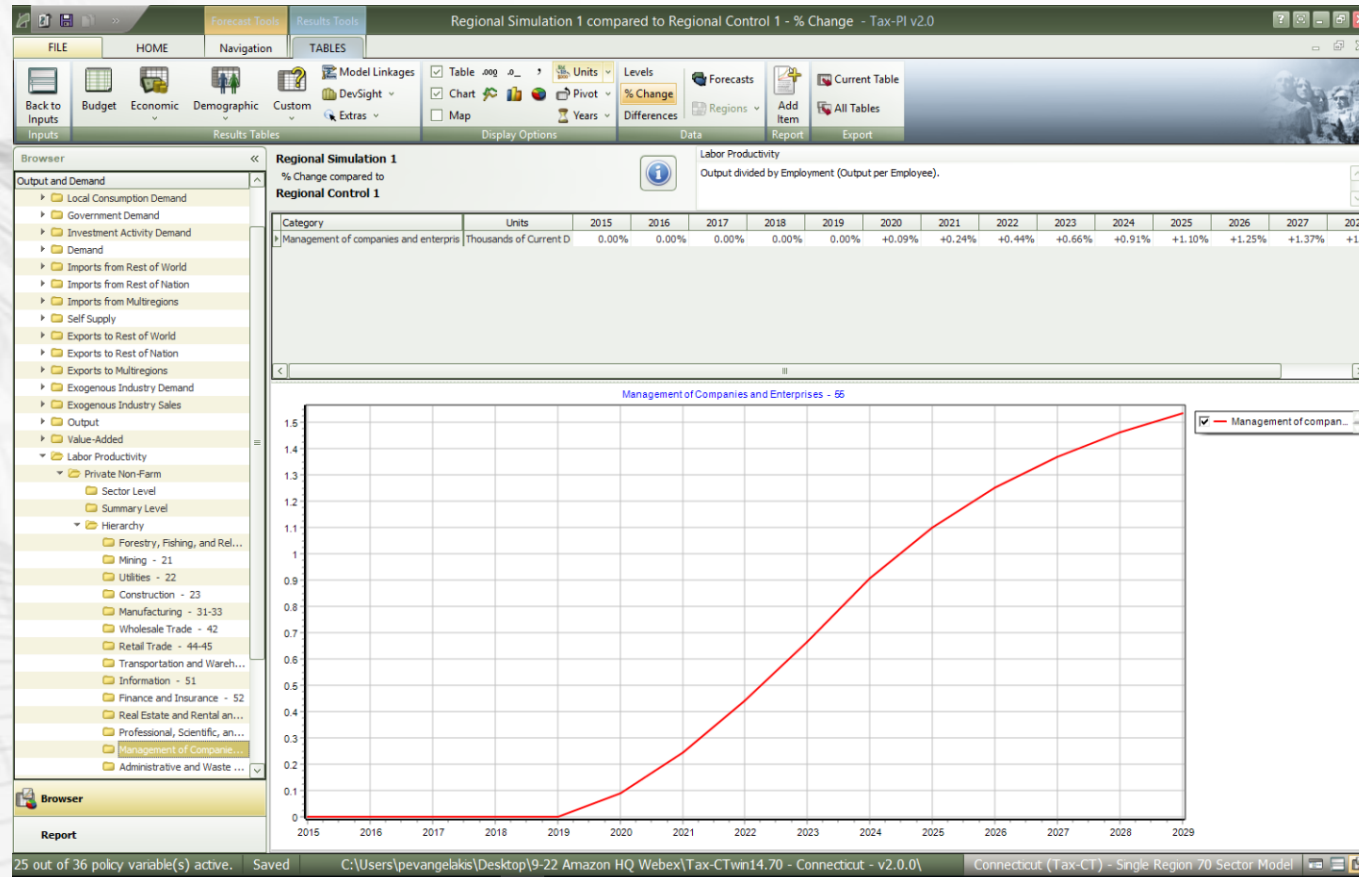


what does REMI say? sm

Operations (50k, Fast)



- This raises labor productivity via better employee fit

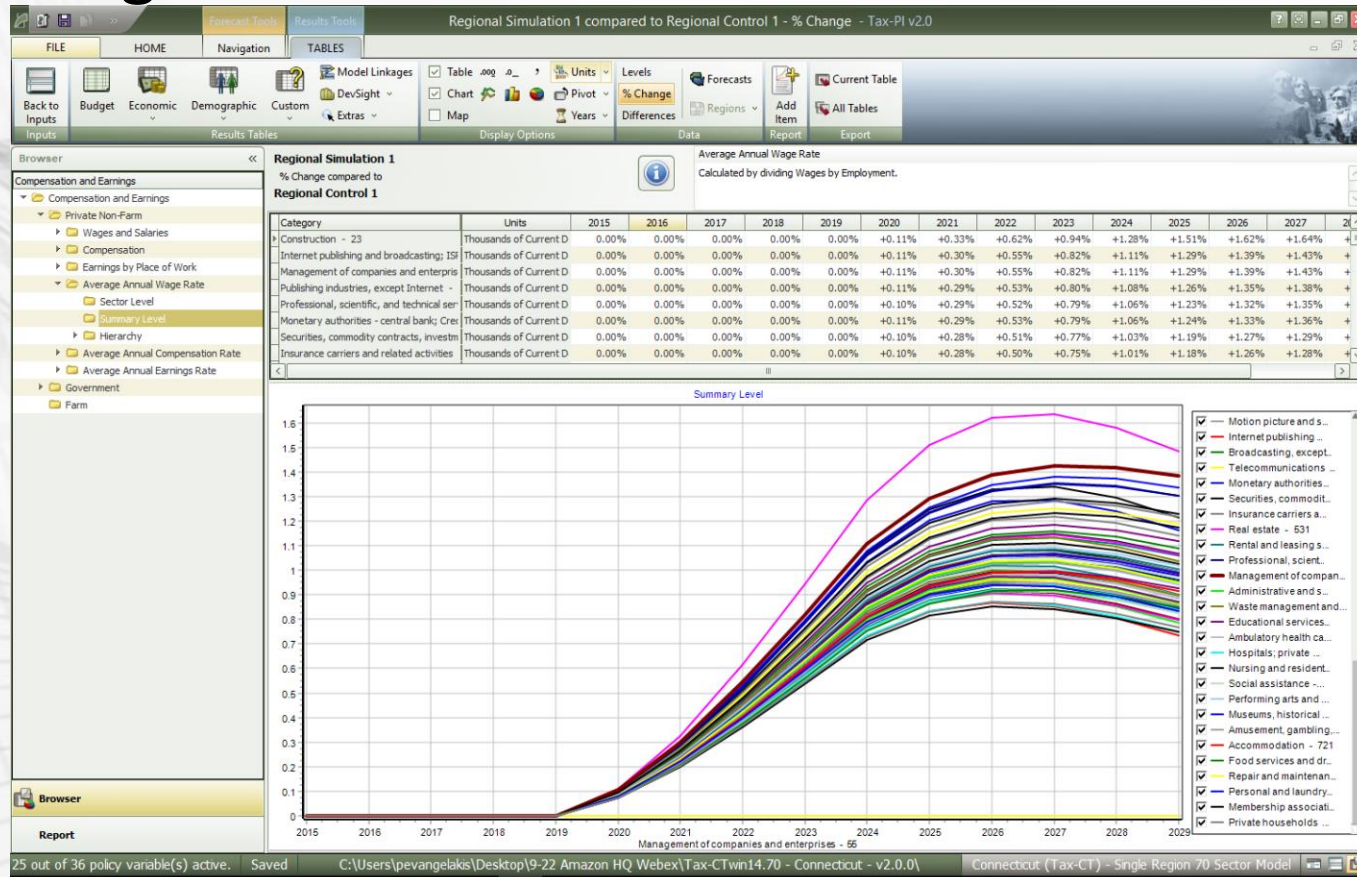


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Operations (50k, Fast)



- Wages rise with increased labor demand

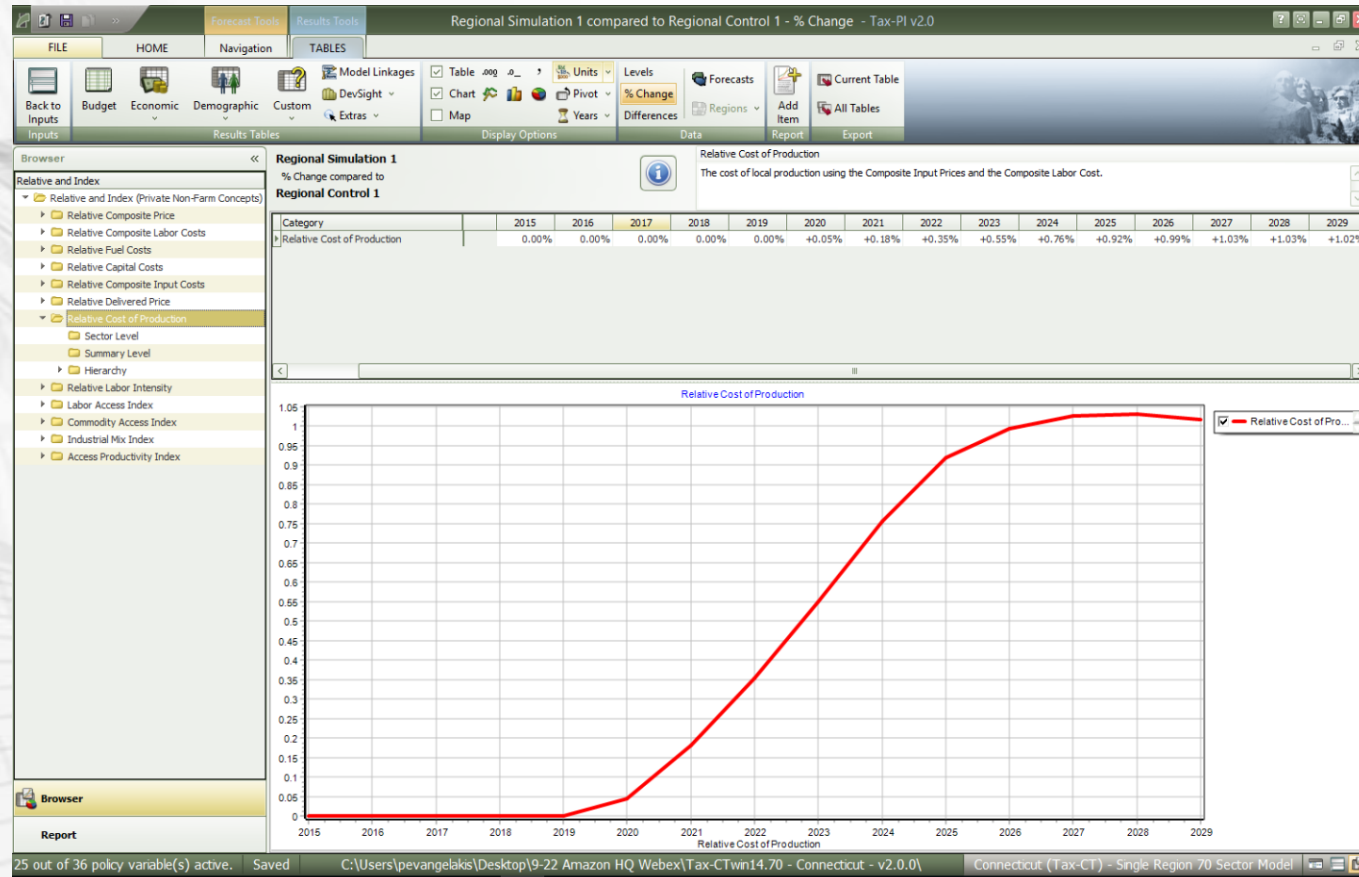


what does REMI say? *sm*

Operations (50k, Fast)



- This raises production costs for the regional economy



what does **REMI** say? *sm*

Fiscal Impacts (50k, Fast)



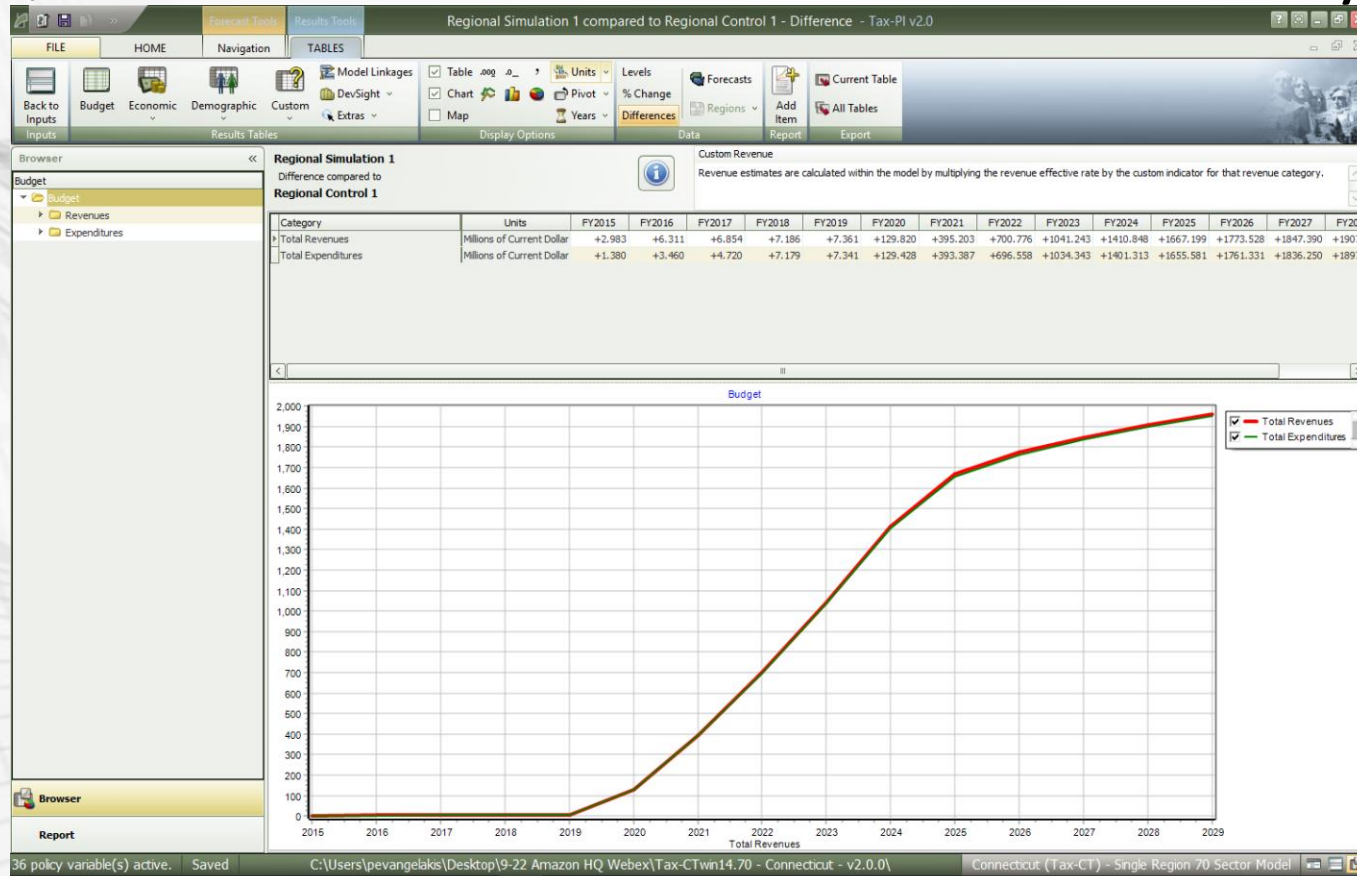
- Combine construction and operations
- Analyze local and state budget impacts

- Local: Rise in housing stock and housing prices raises property tax base

State Fiscal Impacts (50k, Fast)



- \$12.9 billion increase in revenues over 15 years

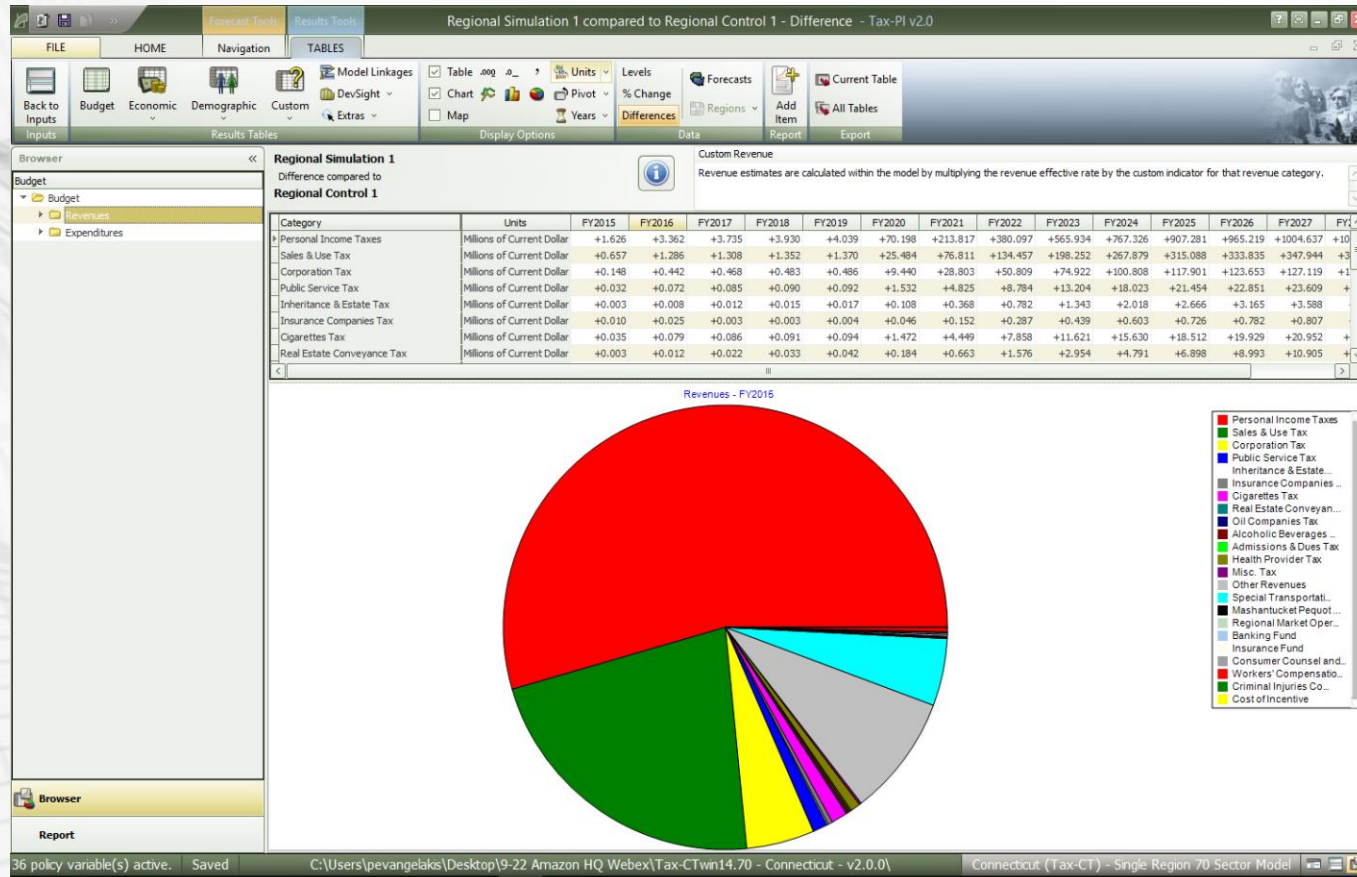


what does REMI say? *sm*

State Fiscal Impacts (50k, Fast)



- 75% of increase in state revenue from income, sales tax



what does REMI say? sm

State Fiscal Impacts (50k, Slow)



- 50,000 new management employees
 - ▣ Added steadily over 10 years during Phases 2 & 3

- \$8.7 billion increase in revenues over 15 years
 - ▣ 340k fewer person-years of employment
 - ▣ Smaller wage increases (1/2 during first 5 years)

State Fiscal Impacts (2.5k, Fast)



- 2,500 new management employees
 - ▣ Added steadily over 5 years during Phase 2

- \$869 million increase in state revenues over 15 years
 - ▣ Over 1 million fewer person-years of employment
 - ▣ Much smaller wage increases (1/20)

Conclusion



- Economic development requires careful understanding of regional context
 - ▣ Available resources
 - ▣ Downstream winners
 - ▣ Less competition
- The benefit of economic development depends heavily on the timing
 - ▣ \$12.9 bn vs \$8.7 bn
- Dynamic economic and fiscal analysis, rich data available in Tax-PI