Analyzing the Social and Economic Impact of Brownfield Cleanup and Reuse

Regional Economic Models, Inc.

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*what does **REMI** say?* ^{sm}

About Us

At REMI, we're inspired by a single goal: *inform public policies.*

Our models are built for any state, county, or combination of counties in the United States.

Our Representative Clients

Our model users and consulting clients use REMI software solutions
to perform rigorous economic analysis that critically influences policy.

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Background

• Brownfields can be defined as a piece of land used for industrial use, that has since been abandoned or underutilized due to pollution.

• In order to utilize the land again, an extensive cleanup process must be implemented to make sure the area is safe to use.

Study Objective

- Simulate a hypothetical Brownfield Cleanup and Reuse based off of a sample 24 acre plot

- Measure the change, if any, in the economic value of the certified and remediated site.

- Measure any change in employment and wages that occurred on the site.

- Ascertain the impact of the sites collectively on Southern California's economy.

- Estimate the impact on the tax base and the overall return on investment.

- Estimate environmental benefits from cleanups.

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Why Economic Modeling?

- Economic modeling can clarify, calculate, and communicate a *quantitative narrative* to policy makers and the general public about policies for your economy.

- Economic policy modeling can help agencies forecast the effects of policies before they are implemented

- Guide Policy-making Process
  - *Formalize your decision-making process*
  - *Get policy right*
  - *Pass/Block legislation*
  - *Modernize and advance your agency*

- Bidders for grants, contracts from the Infrastructure Bill will want to demonstrate that their proposals will have a positive economic and equity impact in host communities and remain competitive

- Policy organizations and regional planners can use models to add quantitative rigor to their proposals, making the benefits clearer to stakeholders and decision-makers

REMI Model Linkages
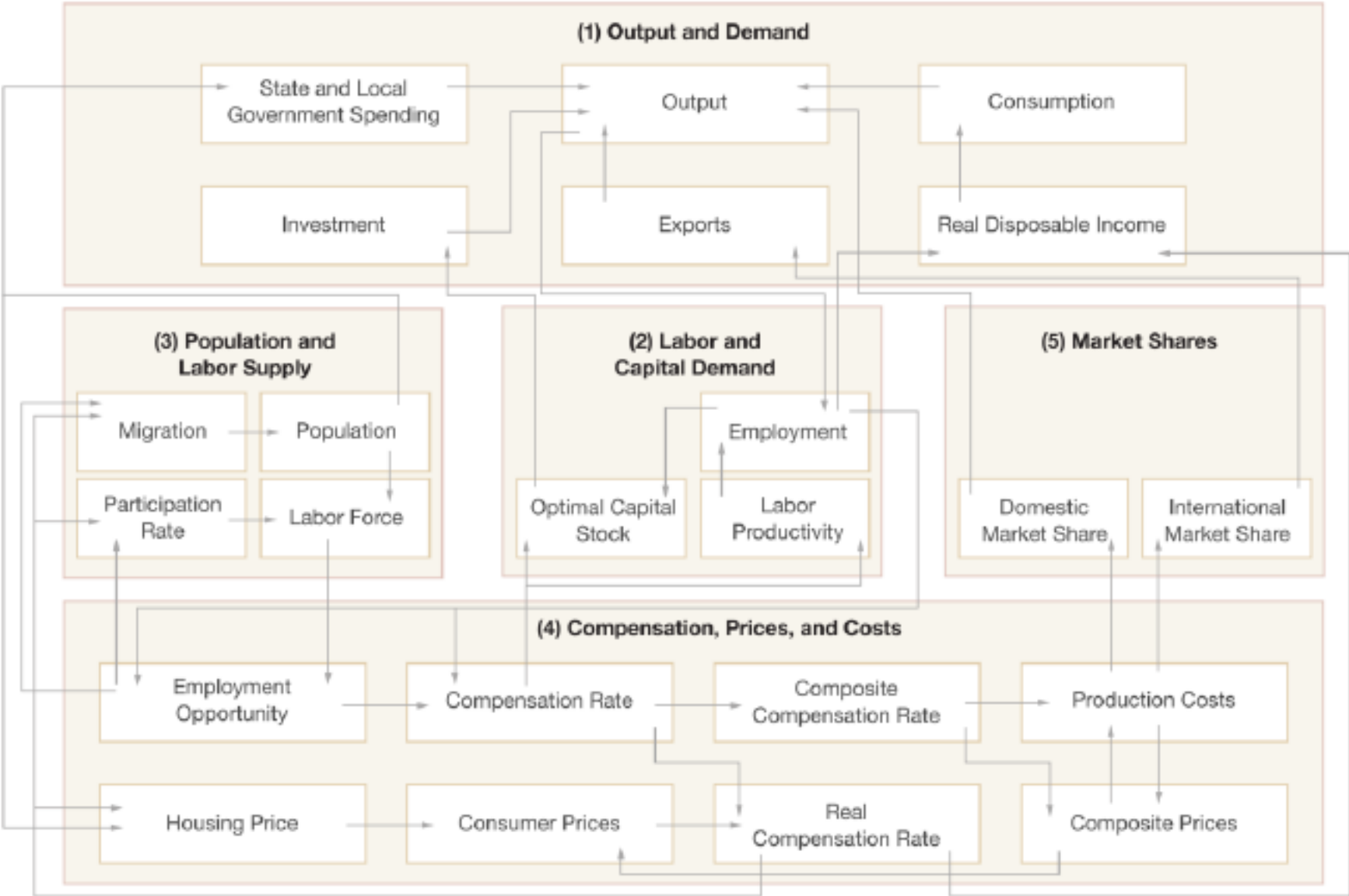
Modeling Inputs

- Economic Migration
  - Around 850 housing units are in the development, which would add around 2,000 people who will remain in the area

- Construction costs
  - Modeled as industry sales in the construction sector

- Amenity benefits
  - Shows the benefits of developing on a piece of land that could not be used, adds an incentive for developers to build

- Long-term Employment
  - The site has office, retail, and hotel space; which requires long term employment after the development is finished

- EPA Grants for Brownfield clean-up
  - The EPA offers grants for brownfield cleanup, which we modeled as a decrease in production cost

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Southern California Jobs Report 2045

Industry	Total jobs added
Administrative and support services	568
Professional, scientific, and technical services	419
Food services and drinking places	387
Retail Trade	324
Real Estate	219

Employment by Industry in Southern California

Category	Jobs Added
Total Employment	3403
Direct Employment	1431
Indirect Employment	400
Induced Employment	1572

Employment by Category in Southern California

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GDP and Employment
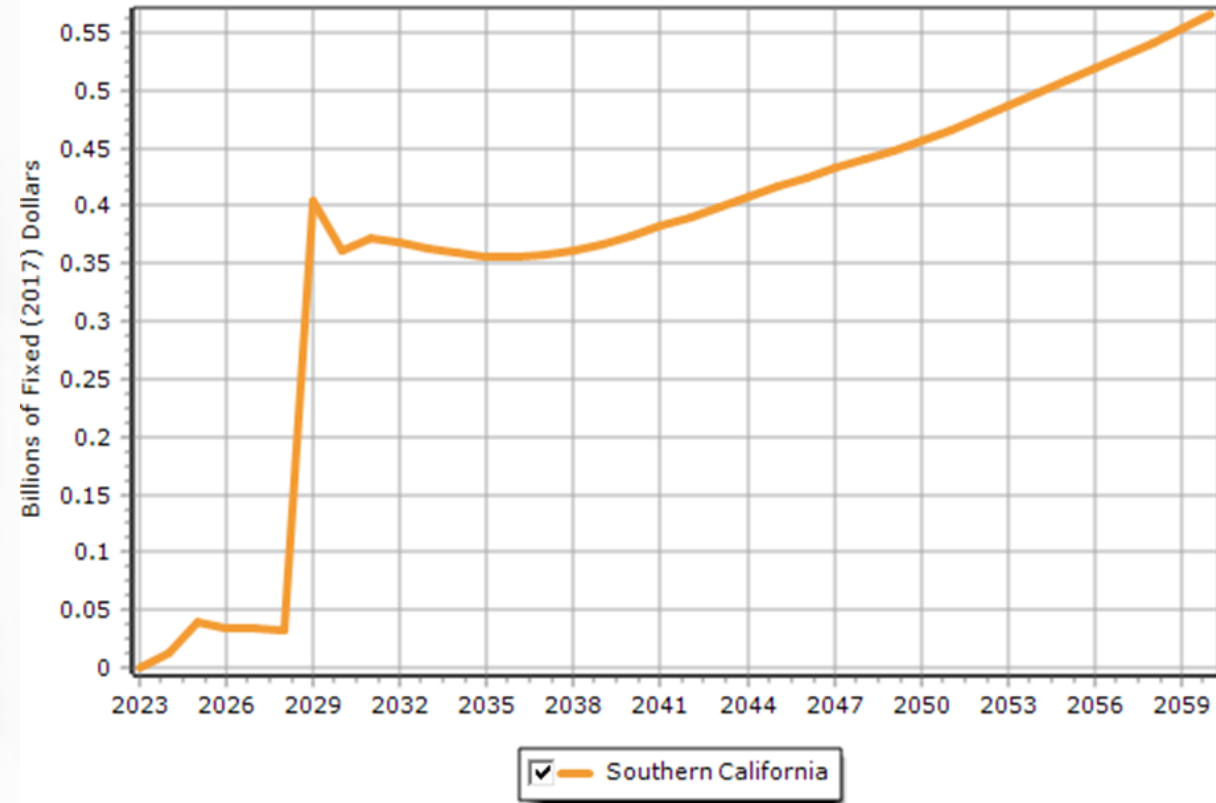
Figure 1: GDP
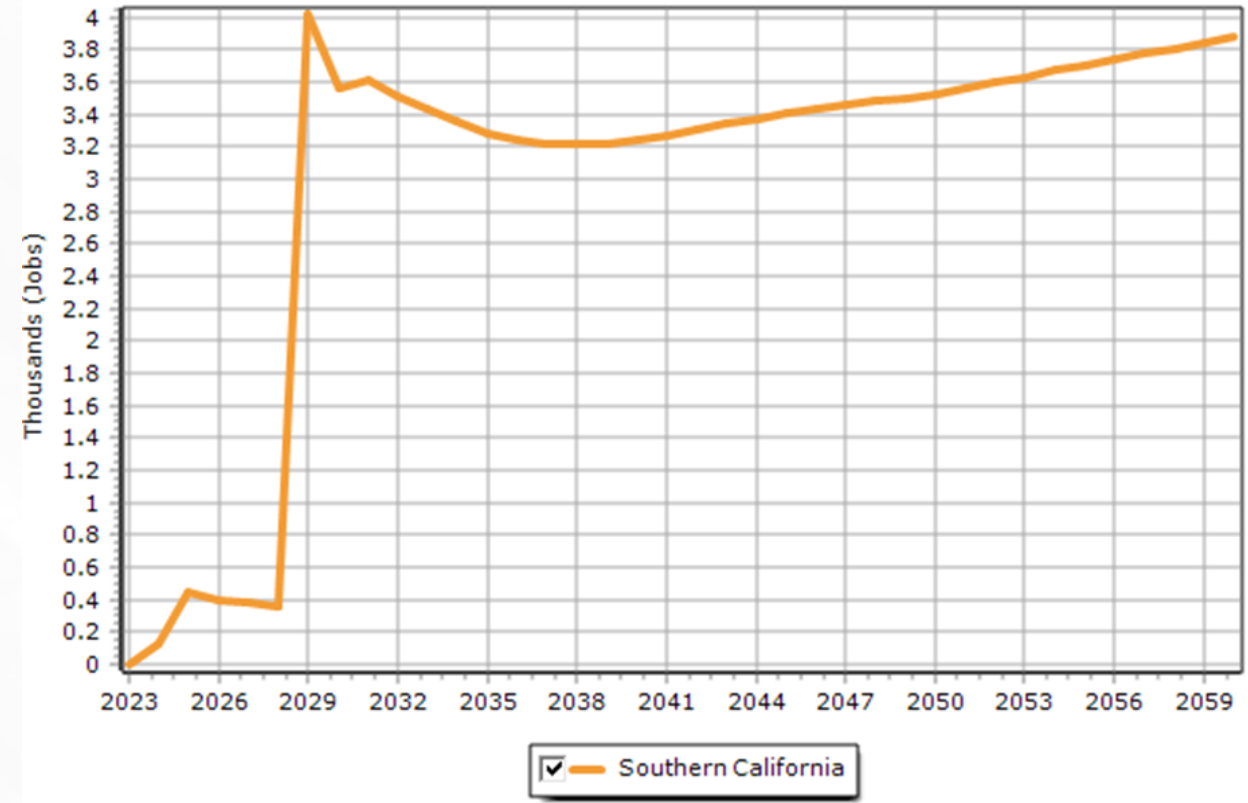
Figure 2: Total Employment

Weighted Compensation by Income Quintile
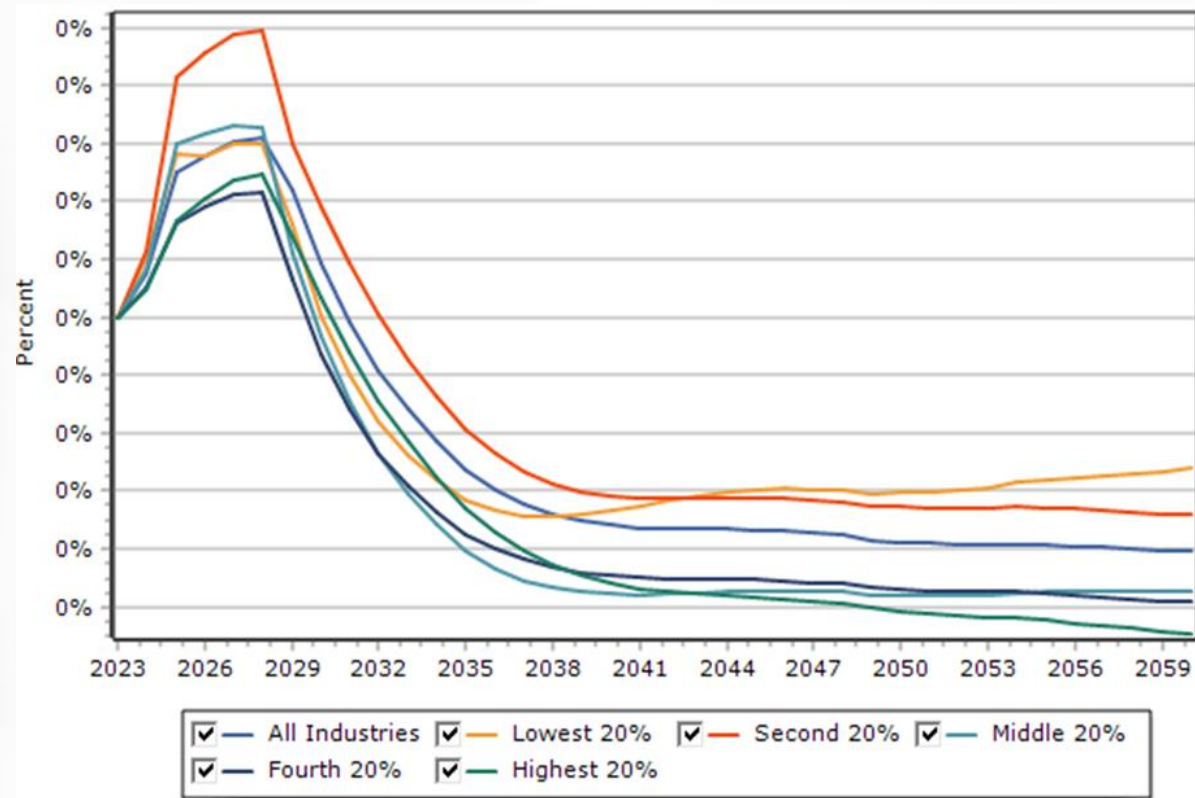
Compensation Rate by Income Quintile
without Mixed-Use Jobs
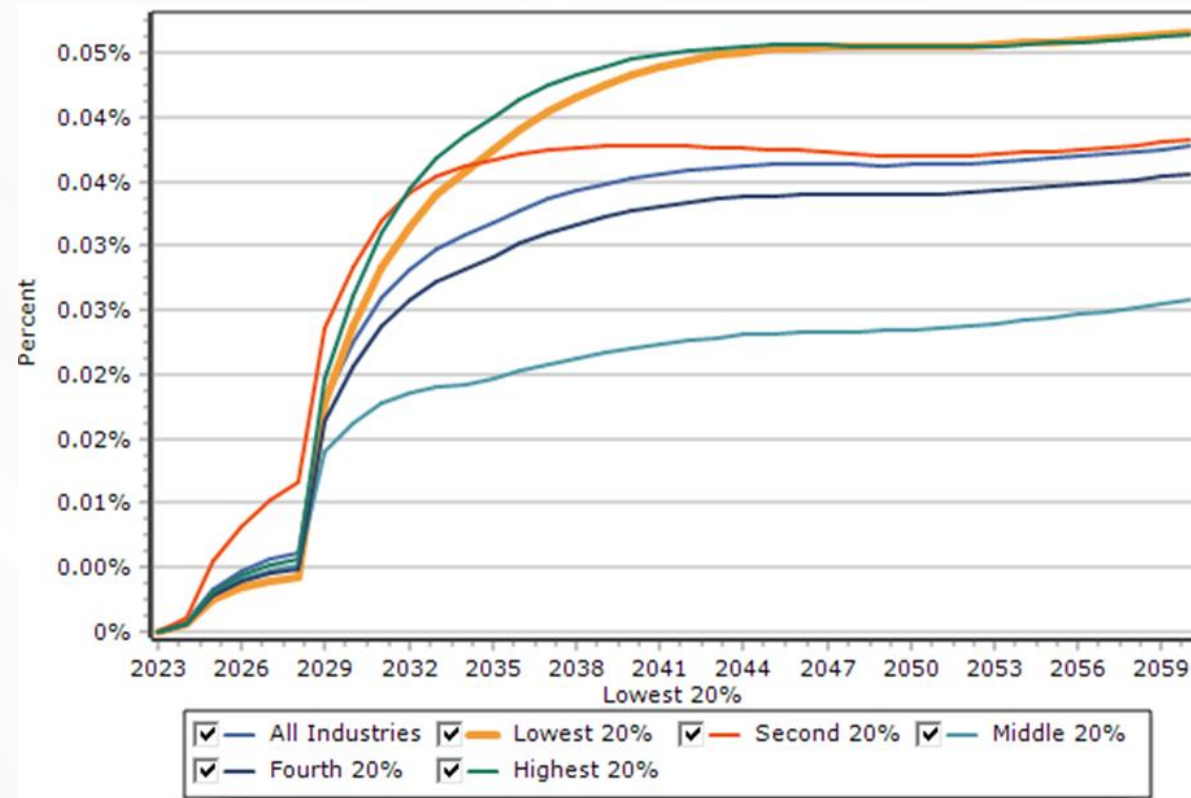
Compensation Rate by Income Quintile
with Mixed-Use Jobs

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Population

Change in population and economic migrants (above)
AI generated description (right)
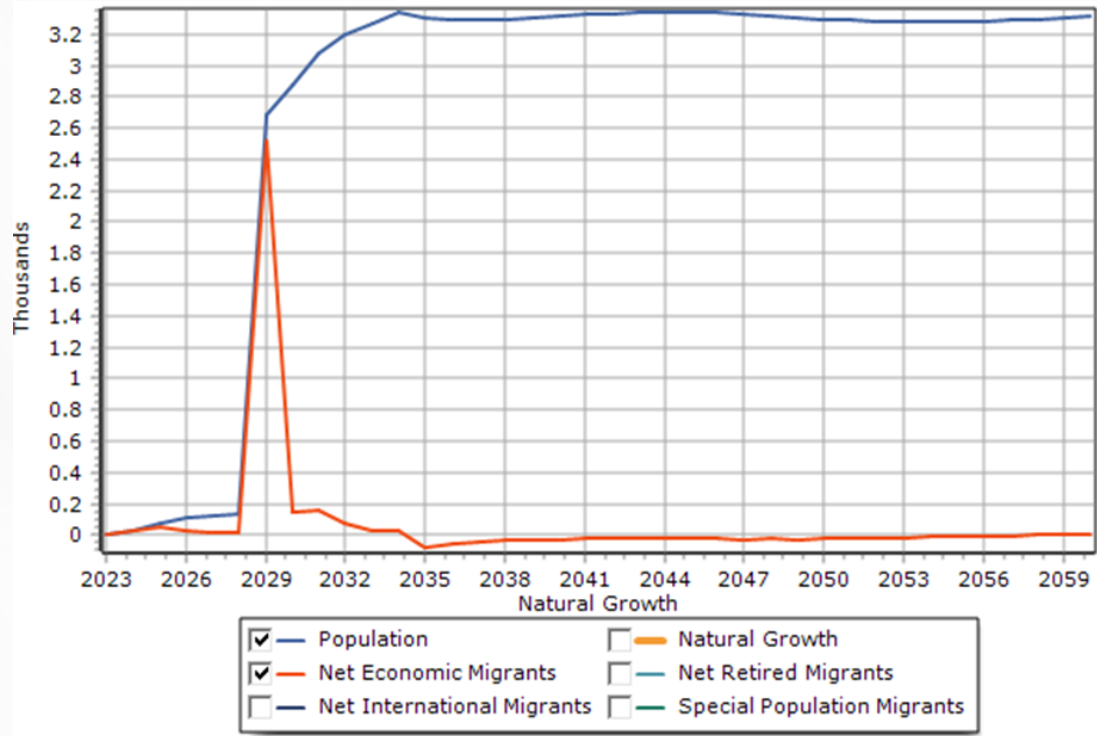
In this simulation, the net change in population is directly driven by the net change in migrants, where population growth is cumulative and reflects the sum of migration over previous years. In 2024, the population increased by 25 individuals, correlating with the same number of new migrants. By 2025, the population rose by an additional 80 individuals, bolstered by an influx of 54 new migrants. This trend of cumulative growth continues, with the population reflecting the total number of migrants from previous years. By the last year of the table, 2033, the population experiences a significant increase of 3,266 individuals, resulting from the cumulative effect of net migration, which has reached a total of 23 new migrants that year. The overall population growth exemplifies the direct relationship between migration and population dynamics, where each year's increase is a reflection of both current and past migration trends.

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Consumption
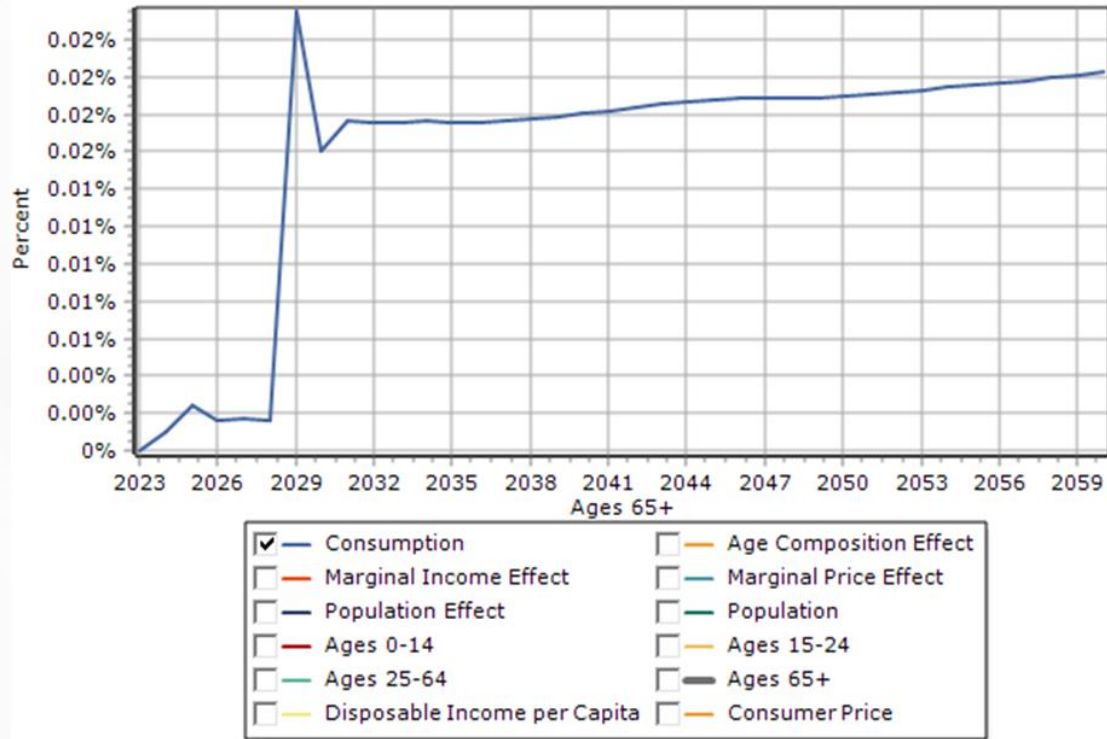
Change in Consumption (above)
AI generated description (right)

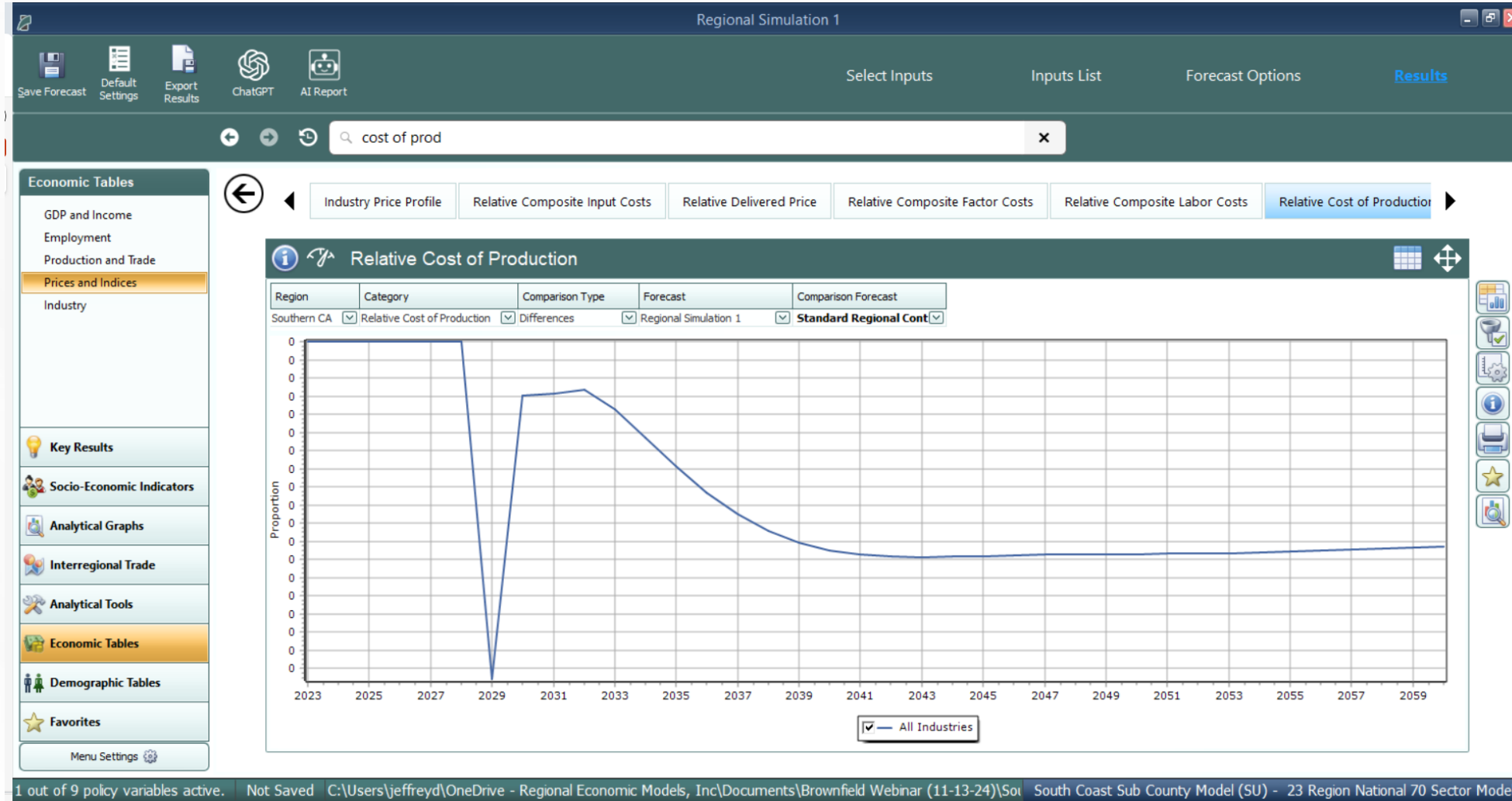# Final Demand Components

Final Demand Components

Gross domestic product (GDP) by final demand represents the total value of purchases made by final users, encapsulating consumption, investment, government spending, inventories, net trade, exports, and imports. This measure reflects the economic activity driven by final demand, which is influenced by various policy variables such as employment, output, and final demand policies. Exogenous final demand, in particular, arises from these user inputs, affecting the overall economic landscape by determining how much final users are willing to spend and invest in the economy.

In the simulation, the component with the largest impact on GDP is Exogenous Final Demand, which consistently shows significant increases over the years, culminating in a change of +0.240 billion dollars by 2033. This growth is a direct result of user inputs into the simulation, reflecting the influence of policy variables on economic behavior. Following Exogenous Final Demand, Consumption also exhibits notable increases, particularly in later years, with a change of +0.161 billion dollars by 2033. Investment and Government Spending show more modest increases, while Net Trade experiences negative changes, indicating a decline in this area. The data clearly illustrates the critical role that user-driven final demand plays in shaping GDP outcomes.

Final Demand Components Graph (above)
AI generated report (right)

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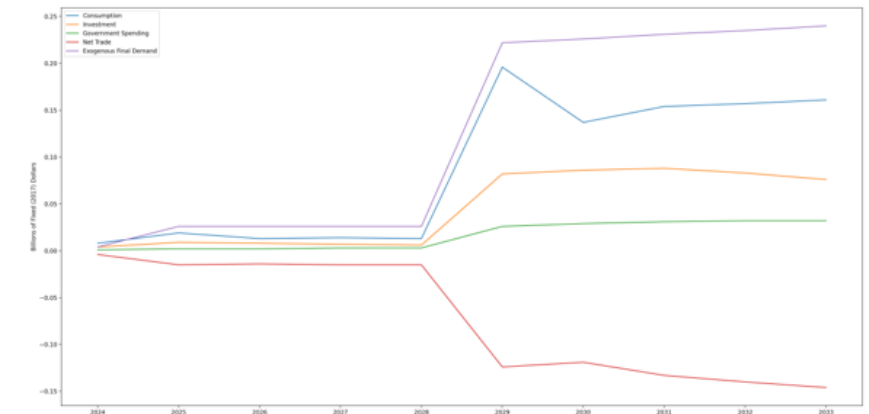
Labor Access Simulation: 1% Increase

- Relative Cost of Production

Labor Access Simulation: 1% Increase

- GDP Components

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Conclusion

- **Construction and finance impact**
  - Construction costs modeled as industry sales within the sector

- **Economic Migration Impact**
  - 850 housing units projected to bring ~2,000 new residents to the area

- **Amenity & Development Incentives**
  - Highlights benefits of utilizing previously unusable land, incentivizing new development

- **Long-Term Employment Generation**
  - Development includes office, retail, and hotel space, supporting sustained employment

- **Environmental Cleanup & Cost Reductions**
  - Modeled impact of EPA brownfield cleanup grants as a reduction in production costs

- **Overall Purpose of Economic Modeling**
  - Clarifies policy impacts for stakeholders,
  - Supports competitive proposals with quantitative rigor

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Thank you for attending!

For more information, please contact
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