Understanding the REMI Forecast

Regional Economic Models, Inc.

what does REMI say?℠

Agenda

- Introduction
- Data Sources
- Math Behind It
- Model Structure
- Conclusion
- Q&A

About Us

We are the nation's leader in dynamic local, state and national policy modeling.

From the start, REMI has sought to improve public policy through economic modeling software that informs policies impacting our day-to-day lives.

We were founded in 1980 on a transformative idea: government decision-makers should test the economic effects of their policies before they're implemented.

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

About Us

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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.

Arizona State University

GDOT Georgia Department of Transportation

NFIB The Voice of Small Business.

North Carolina Department of Commerce

PURDUE UNIVERSITY

Metro Los Angeles County Metropolitan Transportation Authority (Metro)

H-GAC Houston-Galveston Area Council

SCAG Southern California Association of Governments

Massachusetts Department of Revenue

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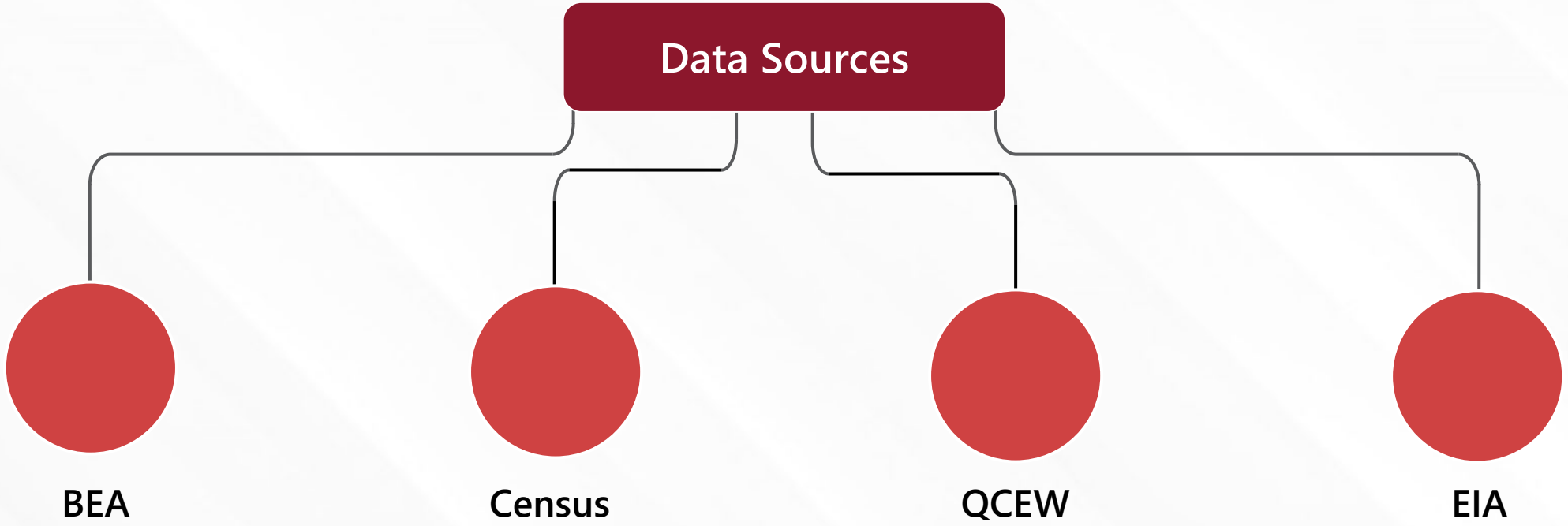
Forecast Detail

Time Frame	**Historical Data** Historical data from 2001 to 2024 is benchmarked in the model	**Forecast Data** First forecast year is 2025 and forecasted up to 2060. (2080 is available)	**Model Updates** Updated yearly with new data
Geography	**Regions Available** National, state-level, and county-level	**Sub-County Data** Typically not available	**Customization** Any groups of counties and states can be created
Industry / Population	**Industry Level** Based on NAICS Codes, done on a 23, 70, and 160 sector level	**Detailed Industry** 400~ detailed industries available with custom industry option	**Population** Broken out by gender, race group, and year-by-year age

Data Sources



Benchmark for economic data

Population data and more

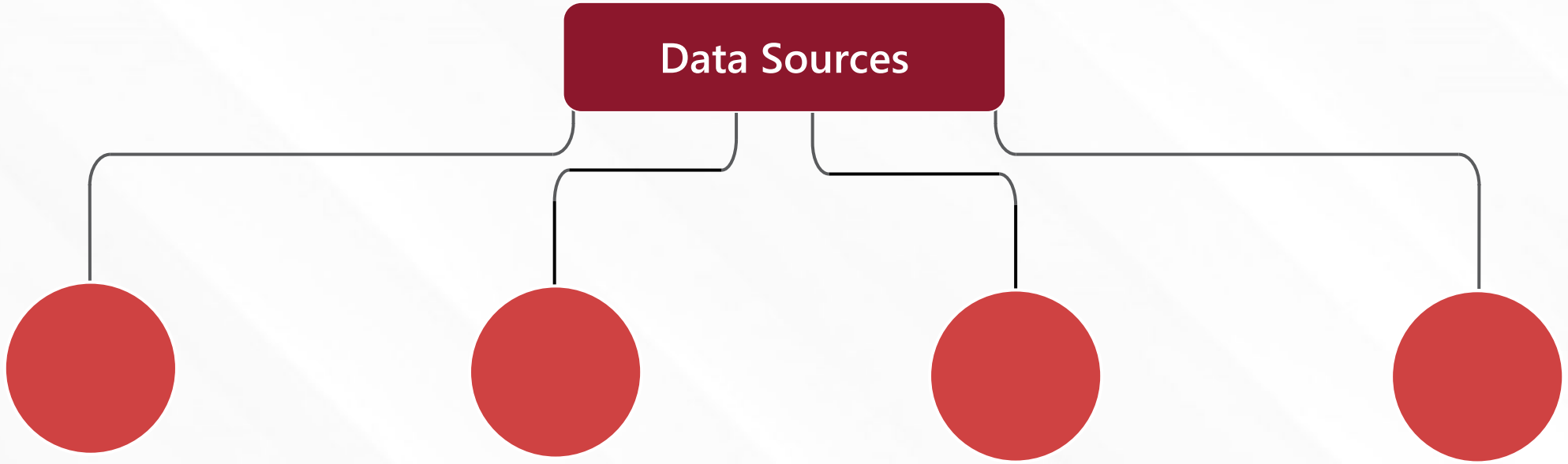
More detailed payroll data

Fuel weighting and pricing

Data Sources: Expanded

BEA	QCEW	Census
• State-level data at the 70-sector detail • Data on personal income, wages and salaries, compensation, and employment • Discontinued on September 27th, 2024	• National, state, and county level data • Wage and employment data • Replacement source after BEA discontinuation	• Primary population source • County Business Patterns (CBP) is also used • Provides detailed employment and wage data on the county level

Gaps in Data Sources



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BEA Discontinuation Response

Rebuild BEA's Total Employment Definition

- Combine wage and salary employment with proprietors. QCEW covers a large percentage of employees, but proprietors needs to be estimated

Reconstruct the Proprietor Component

- Use IRS data, allocate national estimates to states and counties, and use USDA data for farm proprietors. Fit coefficients to historical BEA figures where underlying IRS data are unavailable

Reconcile the Baseline into Final Estimates

- Use the baseline as a minimum bound, with a larger role beginning in 2023. Combine it with BEA compensation and earnings to ensure consistency across geographic and industry totals

BEA Discontinuation Response: San Diego Example

Preliminary Baseline Tracks Historical BEA

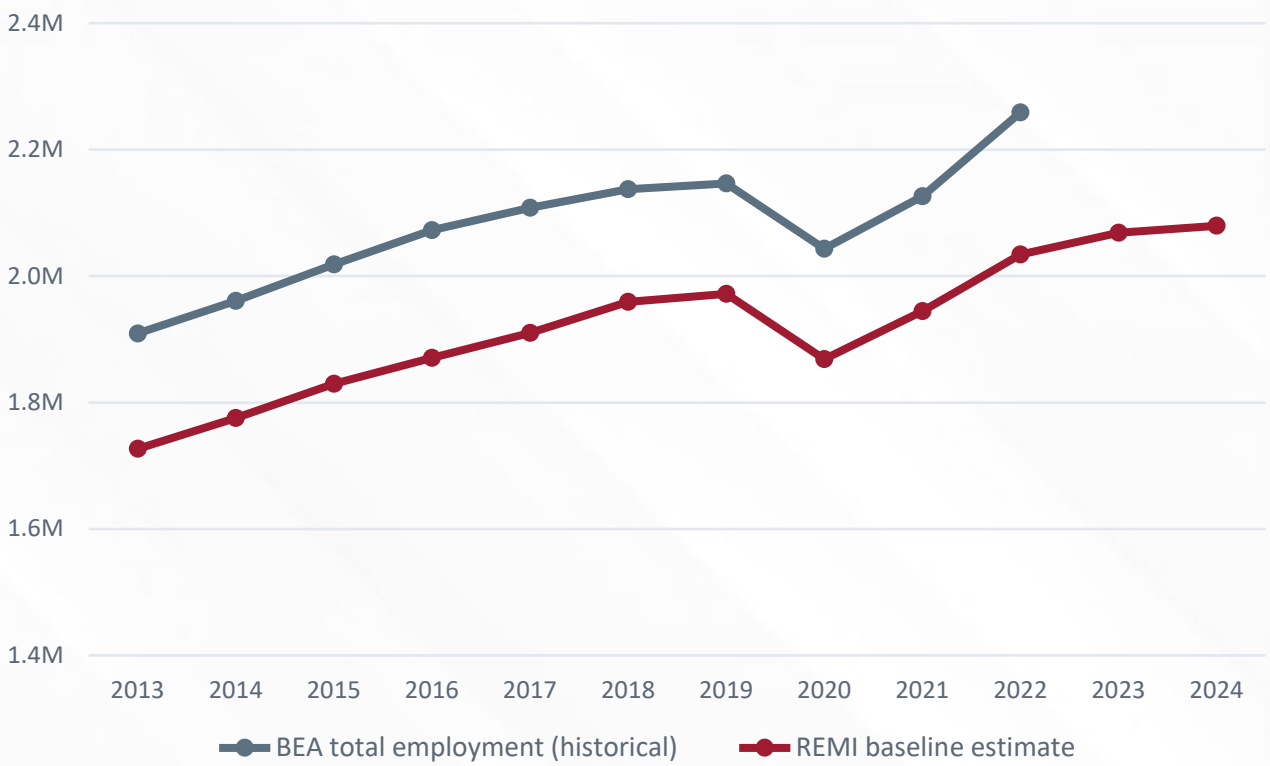
- It captures 91% of BEA employment in San Diego and 94-96% across Californian and the United States

Two-Digit NAICS for Core Forecast

- This level of detail matches the IRS proprietor data and historical BEA county detail. Three-digit estimates are used for employee-heavy industries

Preliminary Results

- These results are preliminary and subject to change. Historical coefficients bring up uncertainty as relationships may drift as time moves from 2022 BEA benchmark



Example: Employment in San Diego, CA

NATIONAL FORECAST

How the REMI national forecast is built

The national forecast is assembled in four passes: a long-run structural base from BLS Employment Projections, a labor-force anchor, a short-run business cycle from RSQE, and long-run growth rates from CBO and EIA.

1

Structural base
BLS Employment Projections

2022–2032 projections (Sept. 2023 release). MAKE and USE matrices converted to industry-by-industry I-O coefficients; final demand bridge, output, value added, productivity, deflators, and a 95-occupation matrix.

Non-benchmark years interpolated; 2032 coefficients extrapolated to 2080.

2

Labor-force anchor
GDP and final demand

2022–2032: a labor-force-growth-trended forecast for GDP and its components.

After 2032, BLS participation rates plus REMI's U.S. population projection (Census births, deaths, and international migration) set the labor force. Final demand is adjusted until employment growth lines up with it.

3

Short-run cycle
RSQE

The U.S. Macroeconomic Values procedure in PI+ overlays the latest short-term national forecast from the University of Michigan's Research Seminar in Quantitative Economics.

v3.4 / v5.4 uses the Feb. 27, 2026 RSQE forecast, covering 2026–2027.

4

Long-run growth
CBO and EIA

GDP and component growth rates from CBO's Long-Term Budget Outlook and EIA's Annual Energy Outlook are applied to the outer years.

CBO also supplies the net international migration path (2025–2099) behind the standard baseline population forecast.

Underlying national data

BEA: NIPA, National Income by Type of Income, Fixed Assets, commodity prices, Benchmark 2017 I-O table · BLS: Employment Projections, QCEW, CES, CPS, OES occupation matrix · IRS Statistics of Income · Census: population projections, government finances · EIA: State Energy Data System, Annual Energy Outlook · RSQE · CBO

REGIONAL FORECAST

From the national forecast to the regional forecast

The national forecast sets the control totals. Regional shares are then driven by relative production costs, market and labor access, and amenity, on top of a fully reconstructed regional history.

NATION

BLS EP structure, labor force, RSQE cycle, CBO / EIA long-run rates

STATE

BEA Regional Economic Accounts, 2001–2024; shares respond to cost, access, amenity

COUNTY

Sums to state; state sums to nation; industries sum to their parent industry

Regional history

BEA Regional Economic Accounts supply personal income, earnings, compensation, and population for states and counties, 2001–2024. Last historical year for v3.4 / v5.4 is 2024.

Rebuilding discontinued employment

BEA discontinued state industry employment (Sept. 27, 2024) and county employment (Nov. 14, 2024), final data year 2022. REMI replaced it with QCEW wage and salary employment — about 95% of BEA's former estimate — plus IRS SOI proprietors, USDA farm, ACS private households, DoD military, CBP detail industries, and LEHD for Connecticut.

Solving suppressions

Minimum and maximum bounds are derived from the full hierarchy, the best available estimate inside those bounds is selected, and constrained iterative proportional fitting forces every cell to sum correctly across industry and geography. A feasible, internally consistent solution — not the only possible one.

Demographics follow the same logic: Census age-sex-race cohorts and components of change, CDC natality, Census survival rates, with military, college, and prisoner populations handled separately.

Source: REMI, Data Sources and Estimation Procedures, PI+ v3.4 / TranSight v5.4 (2026).

BASELINE UPDATE

What changed in the v5.4 baseline

Released July 10, 2026. Last historical year moves to 2024, with new data vintages behind history, the near-term cycle, and the regional geography.

History through 2024

Last historical year is now 2024 for personal income, earnings, compensation, wages, population, and GDP by county, state, and nation.

New BEA vintages

County data from the Feb. 5, 2026 release; state and national from the Sept. 26, 2025 release. Annual updates revised county GDP and personal income back to 2020, and real PCE by state back to 2008.

RSQE Feb. 27, 2026

The near-term national business cycle is refreshed with the current RSQE forecast, covering 2026–2027.

BLS EP held at 2022–32

The 2024–34 tables do not carry enough sector detail, so the 2022–32 matrices are retained. Final demand growth rates from the newer projections informed calibration of the national forecast.

Connecticut planning regions

BEA replaced Connecticut's eight counties with nine planning regions starting in 2024. Models now carry the planning regions; REMI estimated the pre-2024 history for them.

New tools and results

Economic Impact Calculator for entering employment, output, wage, and associated investment changes. New direct, indirect, and induced value added and personal income results.

Also in this release: national, state, and county proprietors' employment estimated from IRS Statistics of Income, and added wage and salary employment estimates for the farm, military, and private household sectors that QCEW does not adequately cover.

Source: REMI, PI+ v3.4 / TranSight v5.4 changes from v3.3 / v5.3, July 10, 2026.

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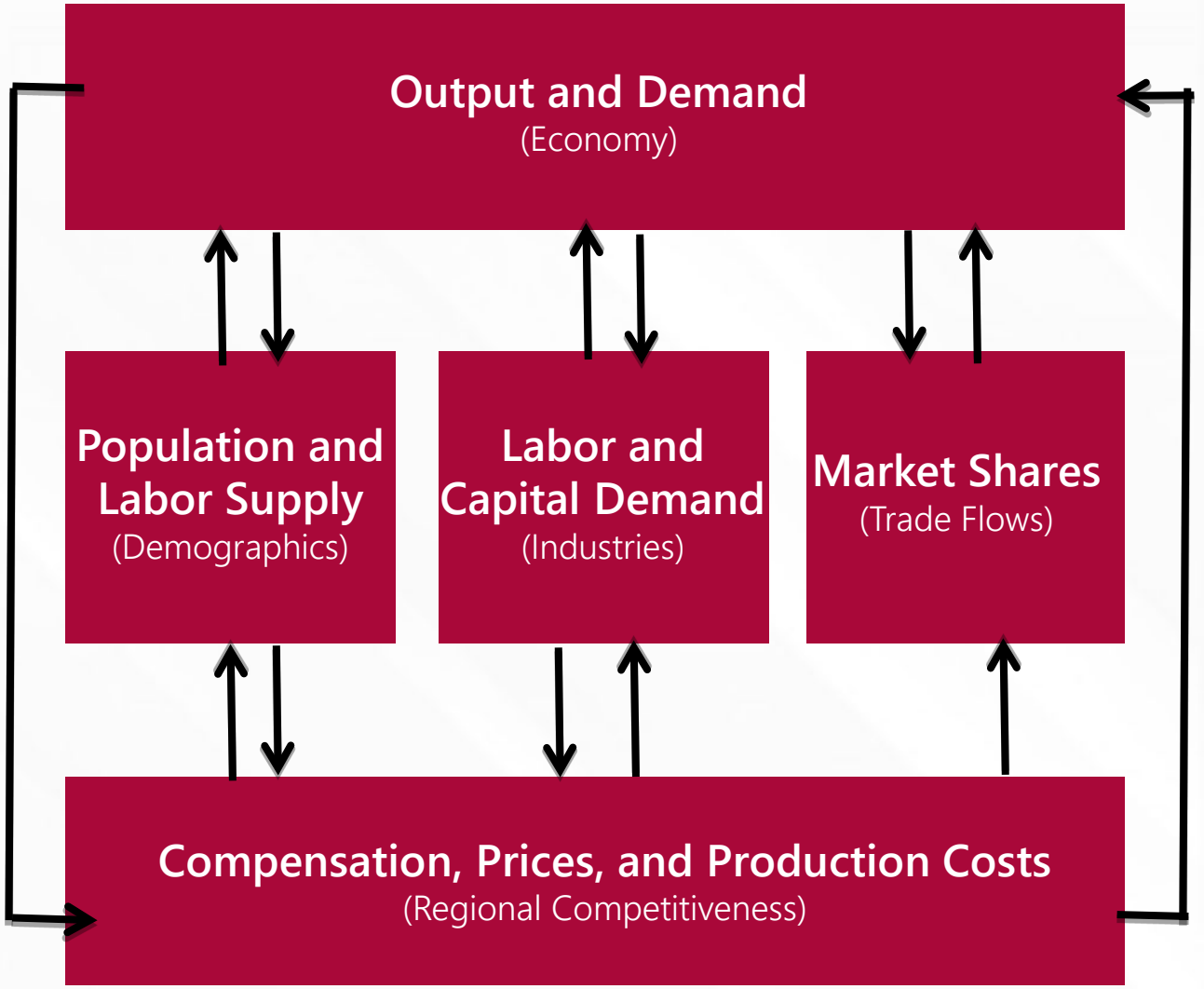
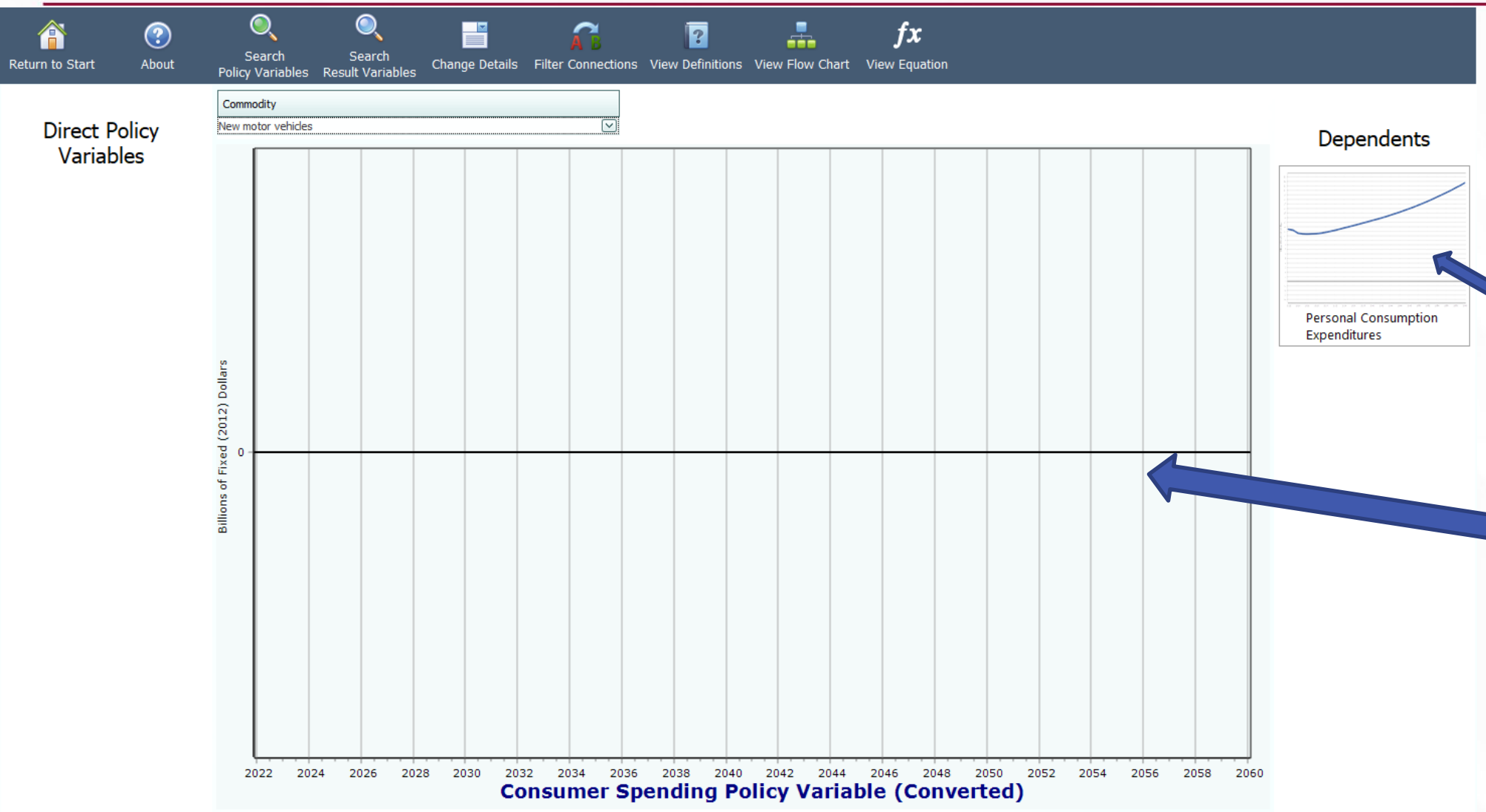
REMI's Five Block Structure

- REMI's modeling strength lies in its dynamic modeling capabilities
- Unlike static input-output models, REMI's models capture the entire economy, where changes in each of the blocks affect other blocks
- Each block contains at least four variables, which can be changed when running simulations
- For example, Output and Demand contains variables such as: Commodity Access Index, Investment, Output, Exports, Consumption, and more

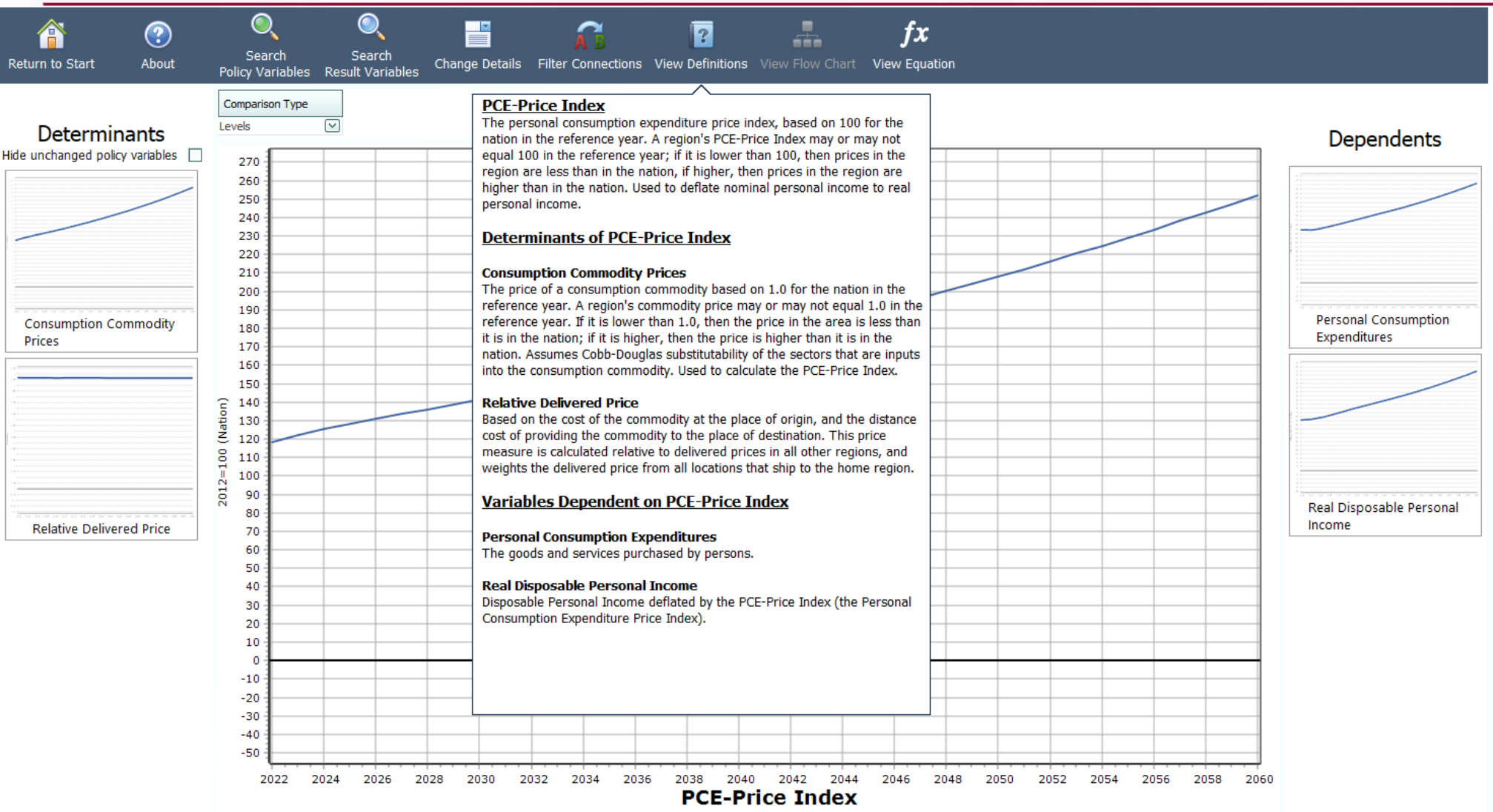


Policy Variable Example: Consumer Spending



- Let's say you wanted to model a change to consumer spending for a commodity
- You can see on the right what result variables will be affected if there is a change
- Since a simulation hasn't been run, the consumer spending variable remains a straight line
- In this case, a change in consumption will change personal consumption expenditures

Result Variable Example: Price Index



- Say you were confused on the results of your simulation, in this case, why the price index changed
- You can see what determines the price index: consumption commodity price and relative delivered price
- You can also see what the change in price index affects as well, in this case: personal consumption and real disposable income

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Conclusions and Notable Results

Major Sources

- BEA, QCEW, Census, and EIA provide the major data needs of the model
- Used as a benchmark for the forecast, with gaps in data present

Gaps in Data

- Gaps are fixed with supplemental sources such as USDA and IRS
- Suppressed data is estimated using developed methods

Forecasting

- Starts at the national level, then gets spread to the regional level
- Forecasts are customizable to include different population and employment data

Model Structure

- Based on a five block, computable general equilibrium structure
- All equations are peer-reviewed and publicly available

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Thank you for attending!

For more information, please contact
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