

Developing and Calibrating the National Forecast

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Agenda



How We Build the National Forecast

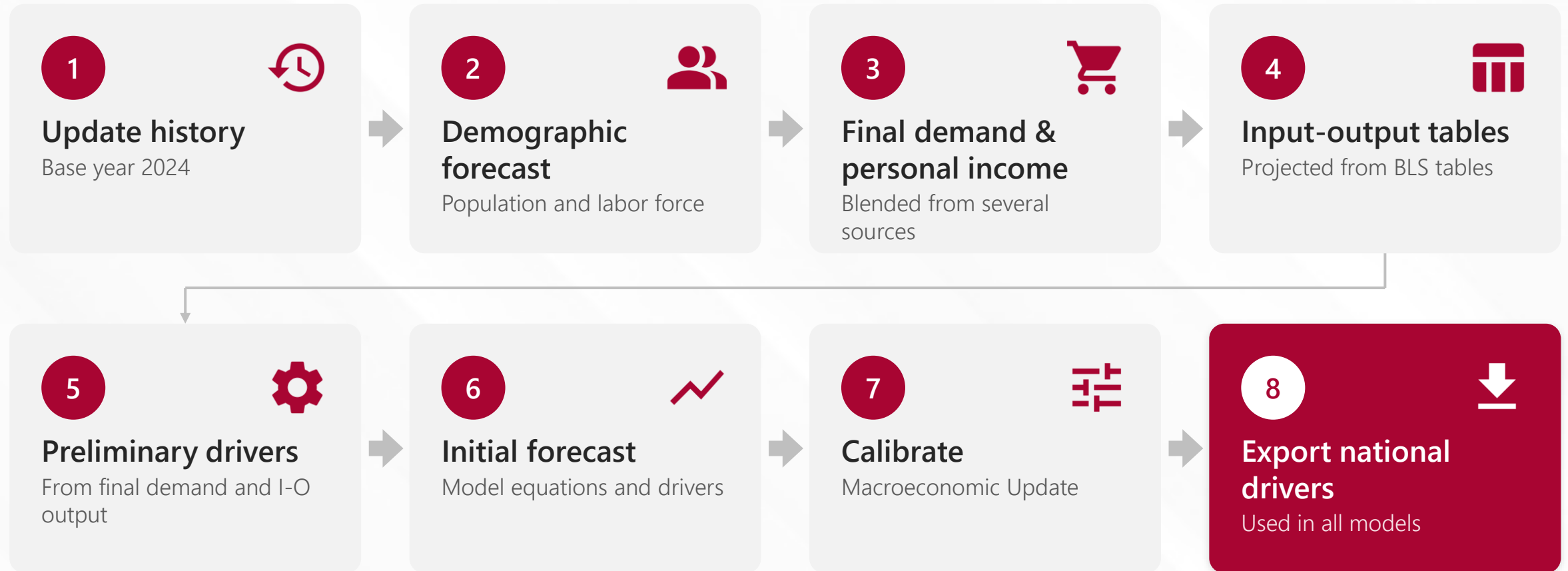
Your Calibration Options

From National to Regional

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

Overview

Eight steps from updated history to the drivers used in every model



what does **REMI** say?sm

Step 1: Update the Historical Data

BASE YEAR

2024

Every forecast starts from the latest full year of history in the model

Historical data we update



Population



Employment



GDP



Personal
income

...and the rest of the model's historical series, all through 2024

Step 2: Demographic Forecast

INPUTS



Baseline population

Base-year (2024) population



Census 2023 National Assumptions

Birth rates, survival rates, and international migration by gender, race, and age

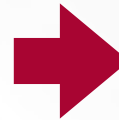


CBO international migration

Totals replace the Census migration assumption



Labor force participation rates



OUTPUTS



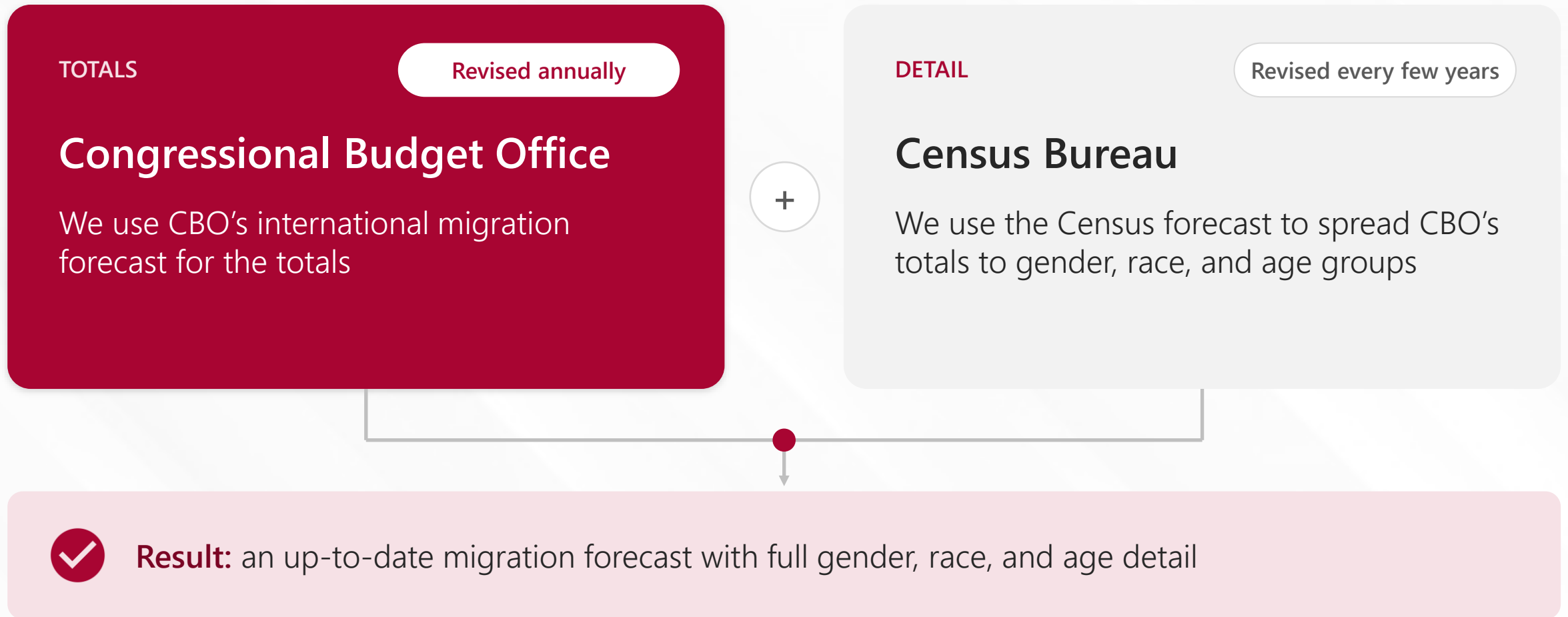
Population forecast



Labor force forecast

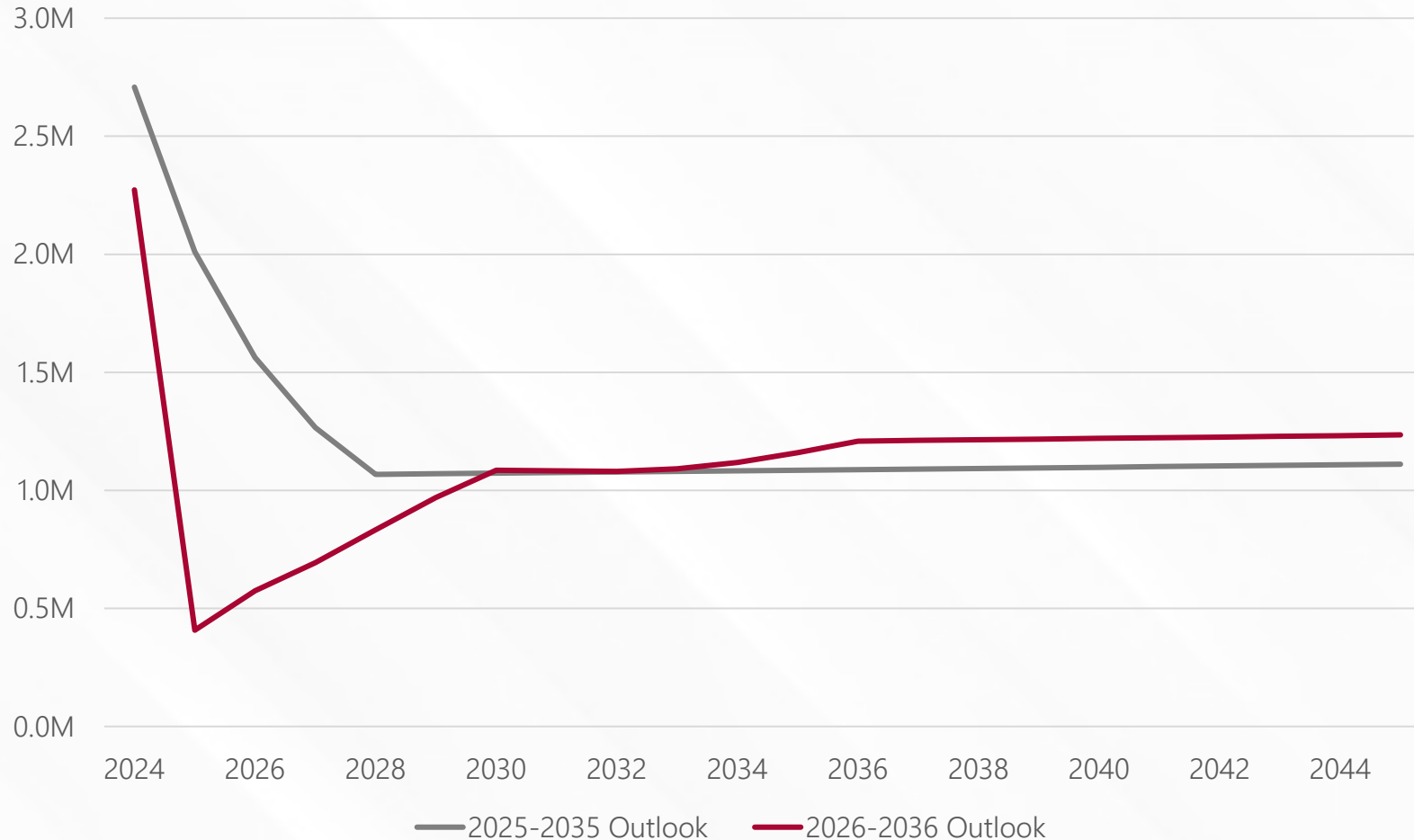
what does **REMI** say?sm

International Migration: CBO Totals, Census Detail



what does **REMI** say?sm

CBO's Net International Migration Comparison



2025 NET MIGRATION

2.0M → 0.4M

Newer 2026–2036 outlook vs. the 2025–2035 outlook

BY 2030

≈1.1M in both

The newer outlook then runs higher, reaching 1.2M by 2036 vs. 1.1M

what does **REMI** say?sm

Step 3: Final Demand Forecast

We forecast every final demand category in the model

85

final demand categories

75

Personal
consumption
expenditure
categories



4

Investment
categories



3

Government
spending categories



1

Exports



1

Imports



1

Change in private
inventories



Step 3: Personal Income Forecast

26 personal income categories, including the price index and real disposable income

- **Wage and salary disbursements**

Total

- **Supplements to wages and salaries**

Employee pension and insurance funds

- **Supplements to wages and salaries**

Government social insurance

- **Property income**

Dividends, interest, and rent

- **Transfer payments**

16 categories

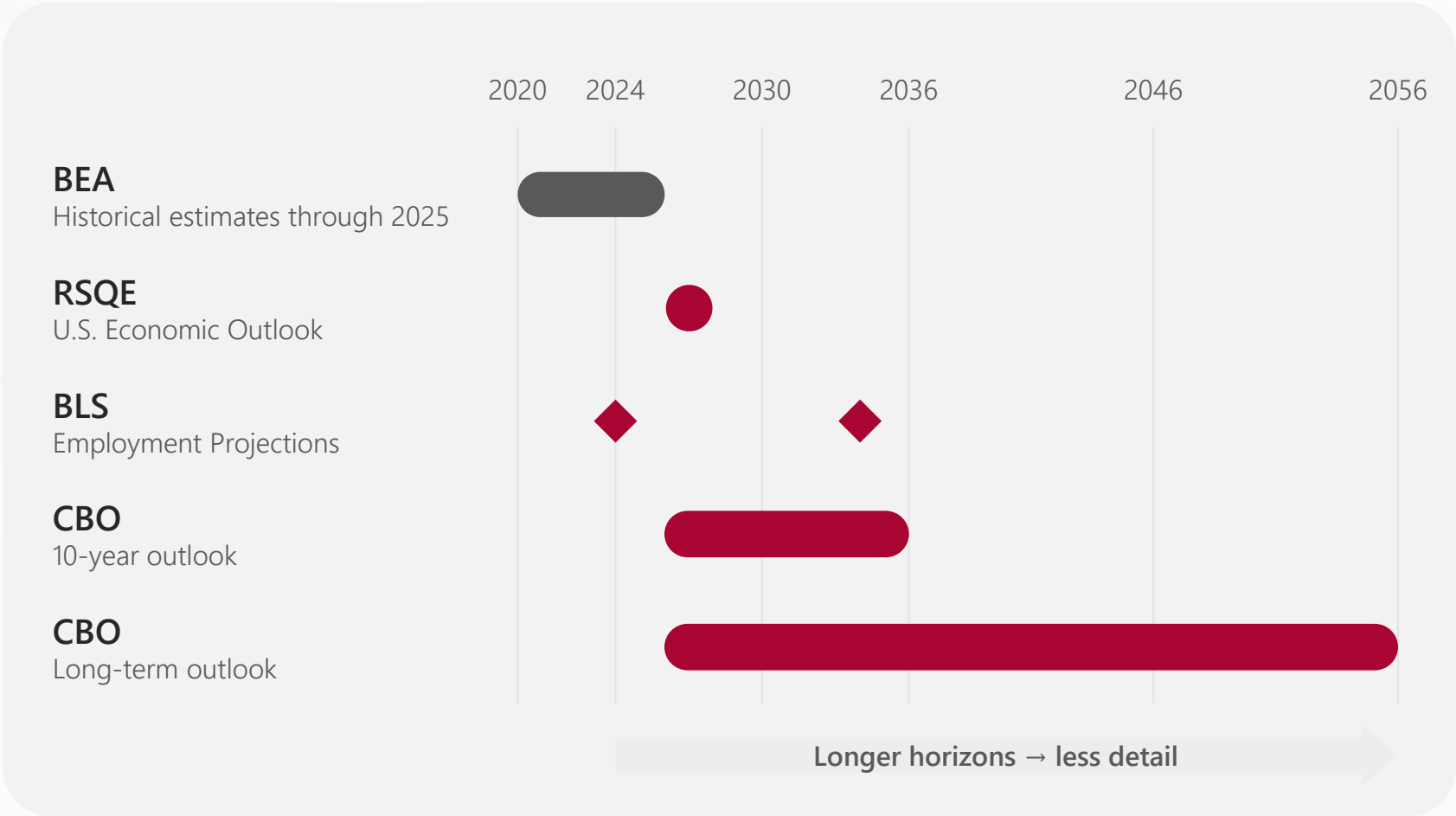
- **Contributions for government social insurance**

- **Personal taxes**

- **PCE price index**

- **Real disposable personal income**

Blending the Forecast Sources



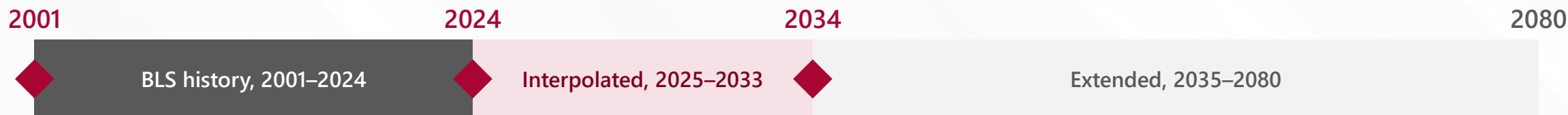
We blend them

Each source has a different level of detail. We combine them into smooth forecasts for every final demand and personal income category.

what does **REMI** say?sm

Step 4: Projecting Input-Output Tables

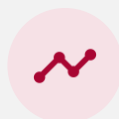
BLS Employment Projections make and use tables become symmetric input-output tables for every forecast year



01

Symmetric tables

Convert the BLS make and use tables (2001–2024 and projected 2034) into symmetric input-output tables



02

Interpolate

Fill in the years between 2024 and 2034



03

Extend

Carry the tables forward beyond 2034



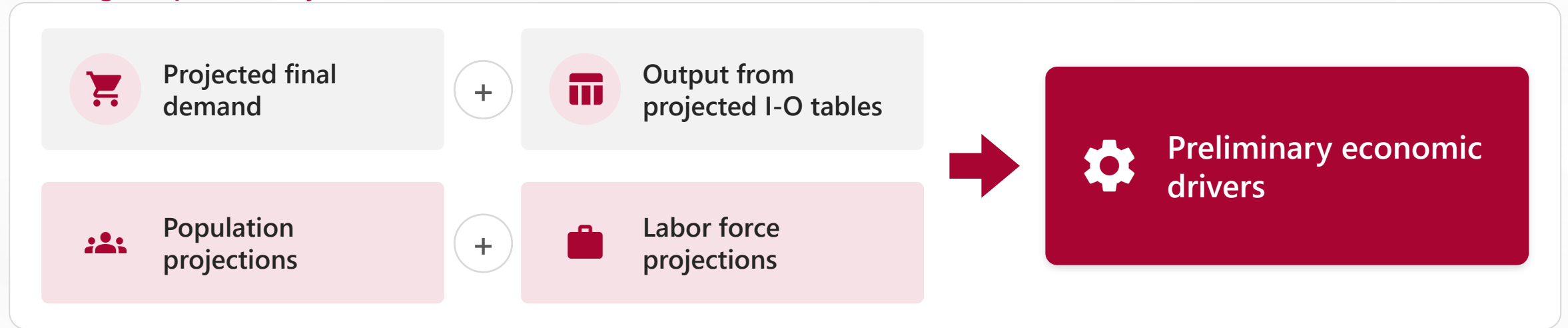
04

Calibrate

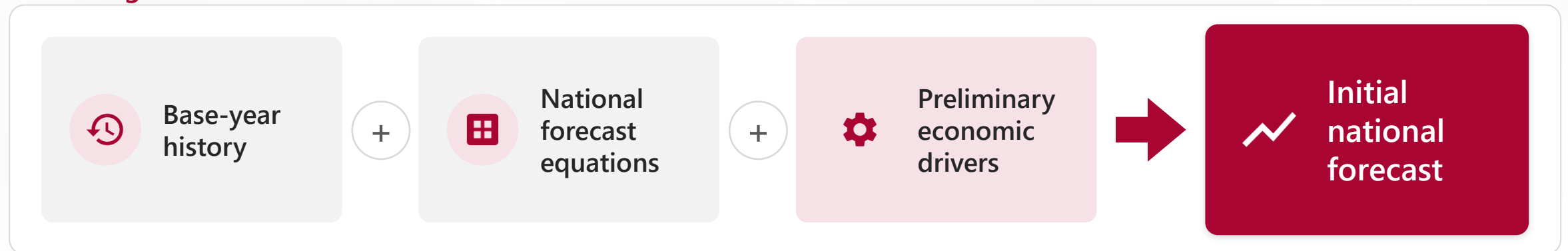
Adjust the tables to fit our final demand projections

Step 5: Preliminary Drivers and the Initial Forecast

Building the preliminary drivers

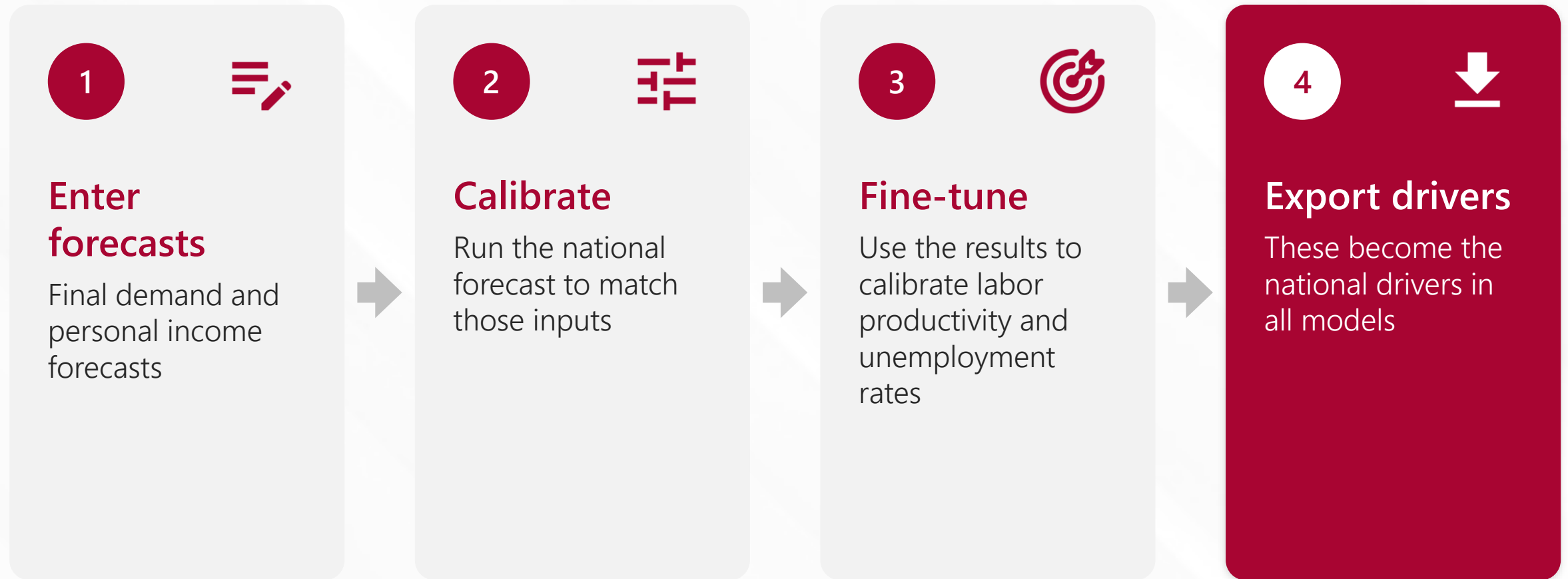


Producing the initial national forecast



Step 6: Calibrate with the Macroeconomic Update

The same Macroeconomic Update feature you have in your model



Agenda



How We Build the National Forecast

Your Calibration Options

From National to Regional

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

Your Options: Choose Your Level of GDP Detail

You have the same Macroeconomic Update tool we use. Choose how much GDP detail to enter:

Less detail

More detail

1 Total GDP

One number

Enter a single forecast for total GDP

2 Major components

Totals only

- Total Personal Consumption Expenditures
- Total Private Fixed Investment
- Total Government Purchases
- Imports of Goods and Services
- Exports of Goods and Services
- Change in Private Inventories

3 9 PCE categories

Full detail

- **9 Personal Consumption Expenditure categories**
- 4 Private Fixed Investment categories
- 3 Government Purchase categories
- Imports of Goods and Services
- Exports of Goods and Services
- Change in Private Inventories

4 13 PCE categories

Full detail

- **13 Personal Consumption Expenditure categories**
- 4 Private Fixed Investment categories
- 3 Government Purchase categories
- Imports of Goods and Services
- Exports of Goods and Services
- Change in Private Inventories

5 75 PCE categories

Full detail

- **75 Personal Consumption Expenditure categories**
- 4 Private Fixed Investment categories
- 3 Government Purchase categories
- Imports of Goods and Services
- Exports of Goods and Services
- Change in Private Inventories

Your Options: What to Calibrate and How



Optionally calibrate

- ✓ Personal income
- ✓ Price index
- ✓ Unemployment rate forecast
- ✓ Labor productivity growth, total or by sector

Enter your inputs as

Levels

or

Growth rates

Relative to the previous year

Prebuilt GDP scenarios

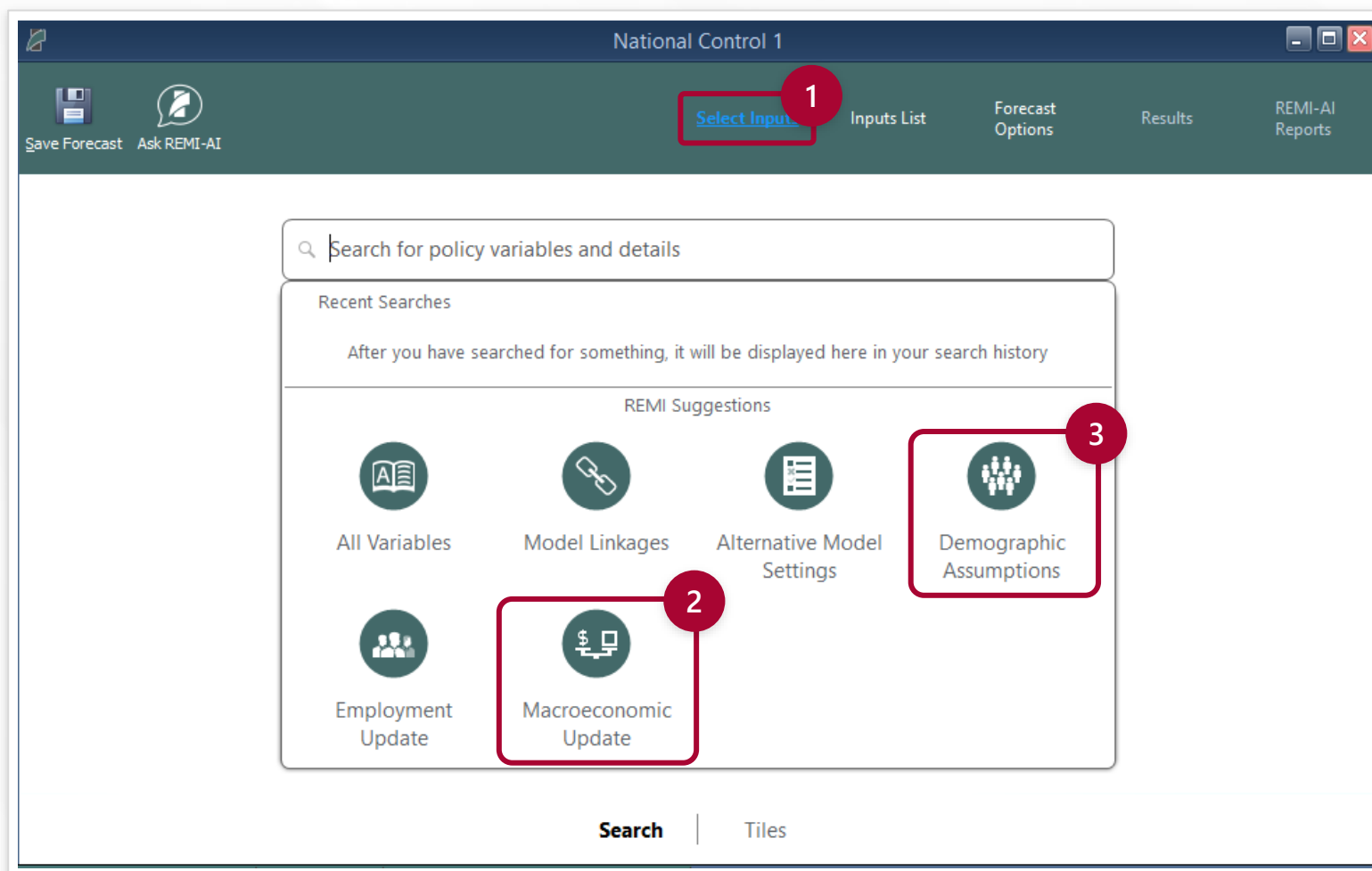
$-1/2\%$

GDP grows $1/2$ percent slower than the baseline

$+1/2\%$

GDP grows $1/2$ percent faster than the baseline

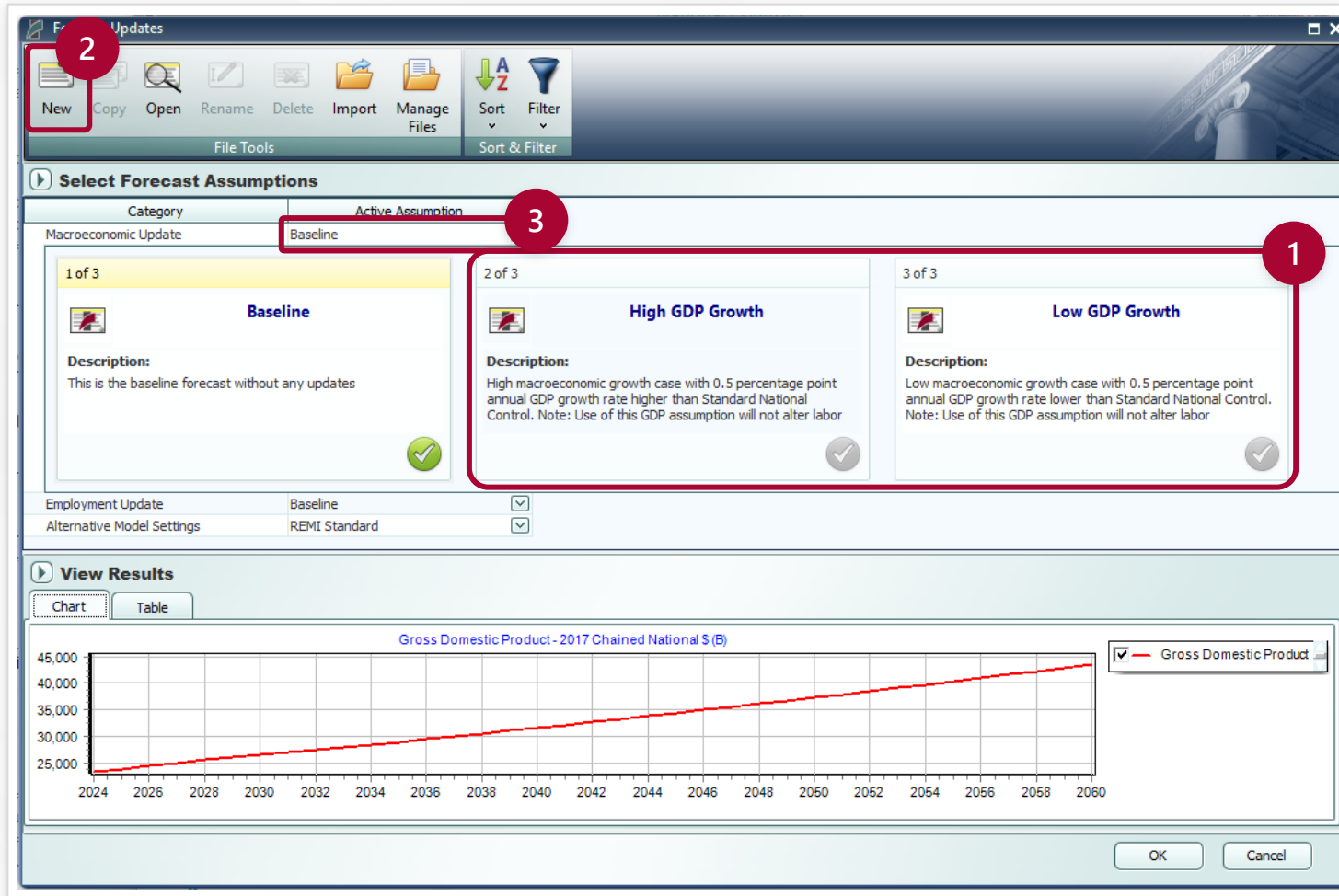
In the Model: Open the Calibration Tools



IN THE MODEL

- 1 In the National Control, go to Select Inputs
- 2 Macroeconomic Update: calibrate GDP, income, prices, unemployment, and productivity
- 3 Demographic Assumptions: change birth, survival, and migration assumptions

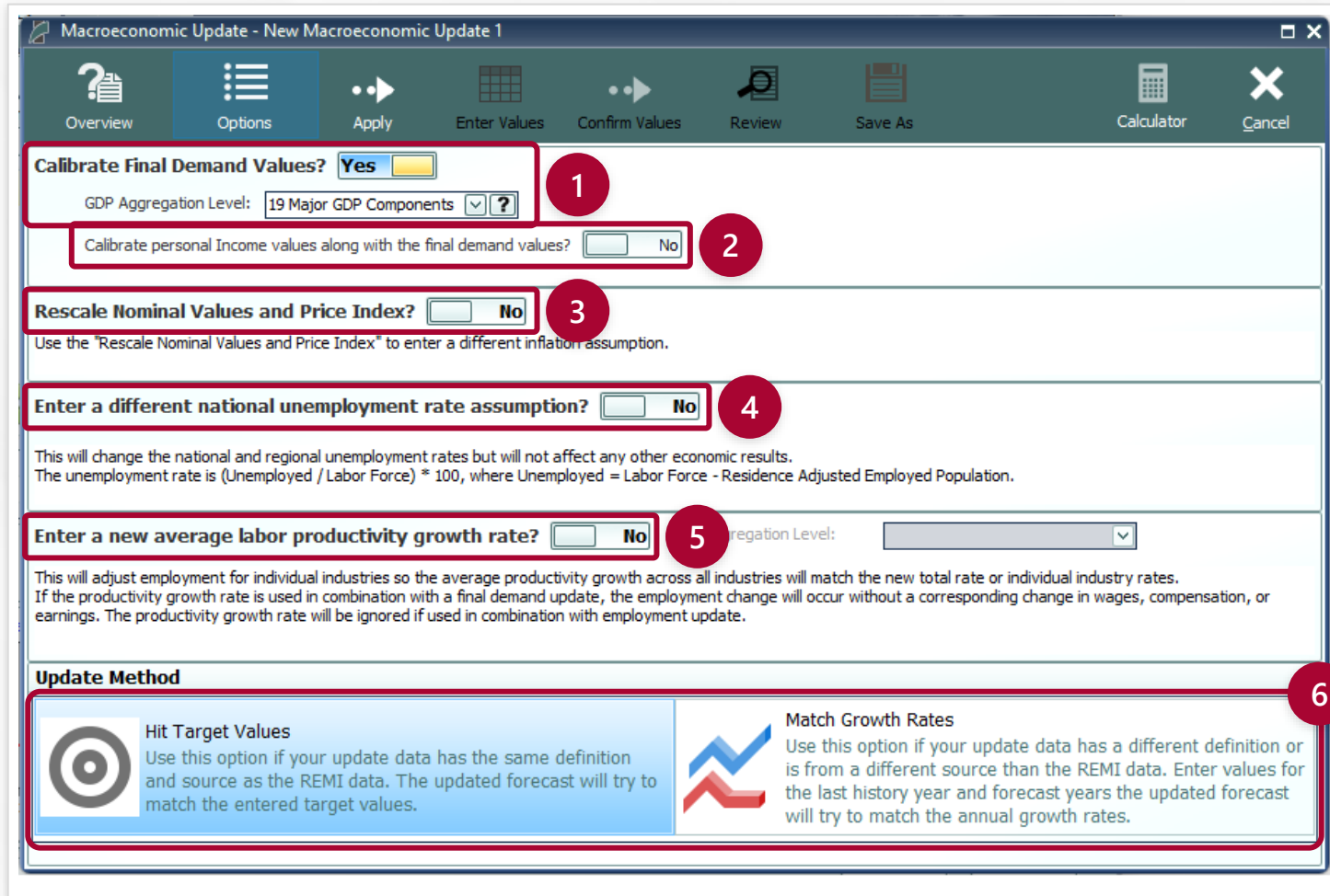
In the Model: Start from a Scenario or Your Own



IN THE MODEL

- 1 Prebuilt High and Low GDP Growth scenarios are ready to use
- 2 Or click New to build your own update
- 3 Set the active assumption for the forecast

In the Model: Choose What to Calibrate



The screenshot shows the 'Macroeconomic Update - New Macroeconomic Update 1' dialog box. It has a toolbar with icons for Overview, Options, Apply, Enter Values, Confirm Values, Review, Save As, Calculator, and Cancel. The main area contains several sections with checkboxes and dropdown menus, each highlighted with a red box and a numbered circle:

- 1** **Calibrate Final Demand Values?** ☒ Yes. Below it, **GDP Aggregation Level:** 19 Major GDP Components (dropdown with a question mark icon).
- 2** **Calibrate personal Income values along with the final demand values?** ☐ No.
- 3** **Rescale Nominal Values and Price Index?** ☐ No. Below it, text: "Use the 'Rescale Nominal Values and Price Index' to enter a different inflation assumption."
- 4** **Enter a different national unemployment rate assumption?** ☐ No. Below it, text: "This will change the national and regional unemployment rates but will not affect any other economic results. The unemployment rate is (Unemployed / Labor Force) * 100, where Unemployed = Labor Force - Residence Adjusted Employed Population."
- 5** **Enter a new average labor productivity growth rate?** ☐ No. Below it, text: "This will adjust employment for individual industries so the average productivity growth across all industries will match the new total rate or individual industry rates. If the productivity growth rate is used in combination with a final demand update, the employment change will occur without a corresponding change in wages, compensation, or earnings. The productivity growth rate will be ignored if used in combination with employment update." To the right of this section is a **regression Level:** dropdown menu.
- 6** **Update Method**. This section contains two options:
 - Hit Target Values** (with a target icon): "Use this option if your update data has the same definition and source as the REMI data. The updated forecast will try to match the entered target values."
 - Match Growth Rates** (with a line graph icon): "Use this option if your update data has a different definition or is from a different source than the REMI data. Enter values for the last history year and forecast years the updated forecast will try to match the annual growth rates."

IN THE MODEL

- 1 Calibrate final demand and pick the GDP aggregation level
- 2 Optionally calibrate personal income too
- 3 Rescale nominal values and the price index (inflation)
- 4 Enter a different unemployment rate
- 5 Enter a new labor productivity growth rate
- 6 Hit target values or match growth rates

In the Model: Enter Your Values

Macroeconomic Update - New Macroeconomic Update 1

Overview Options Apply Enter Values Confirm Values Review Save As Calculator Cancel

Enter (type or paste) new macroeconomic values.
The "Adjust GDP" and "Fill Indicated Years" options can be used together to fill the grid with baseline values, adjusted by the specified percentage.

Fill the indicated year range with a percent change to baseline

Years 2025 to 2060

Adjust GDP 0.30% Fill indicated years

Category	Variable Name	Units	2025	2026	2027	2028	2029	2030
Personal Consumption	Personal Consumption Expenditures	Billions Chained 2017\$	16611.975	16918.202	17231.689	17509.166	17808.783	18159.729
Private Fixed Investment	Private Fixed Investment	Billions Chained 2017\$	4527.518	4685.917	4865.913	5010.910	5117.092	5214.881
Government Consumption	Government Purchases	Billions Chained 2017\$	4002.157	4051.236	4092.083	4093.148	4100.189	4099.481
Trade	Imports of Goods and Services	Billions Chained 2017\$	3831.045	3802.152	3842.101	3842.822	3859.995	3900.363
	Exports of Goods and Services	Billions Chained 2017\$	2683.398	2738.997	2778.255	2837.374	2902.939	2971.641
Inventories	Change in Private Inventories	Billions Chained 2017\$	30.664	43.814	60.541	59.395	62.073	66.400

IN THE MODEL

- 1 Type or paste values for each category and year
- 2 Or fill a year range with a percent change from the baseline
- 3 Then confirm the values and review

In the Model: Select your Assumptions



IN THE MODEL

- 1 Your saved update appears next to the prebuilt scenarios
- 2 Make sure it checked so it will be the active assumption
- 3 Visualize the assumption before running the forecast

Your Options: Demographic Assumptions

ENTER YOUR OWN



Birth rates



Survival rates



International
migration

Prebuilt migration forecasts

Based on Census projections

Zero

Low

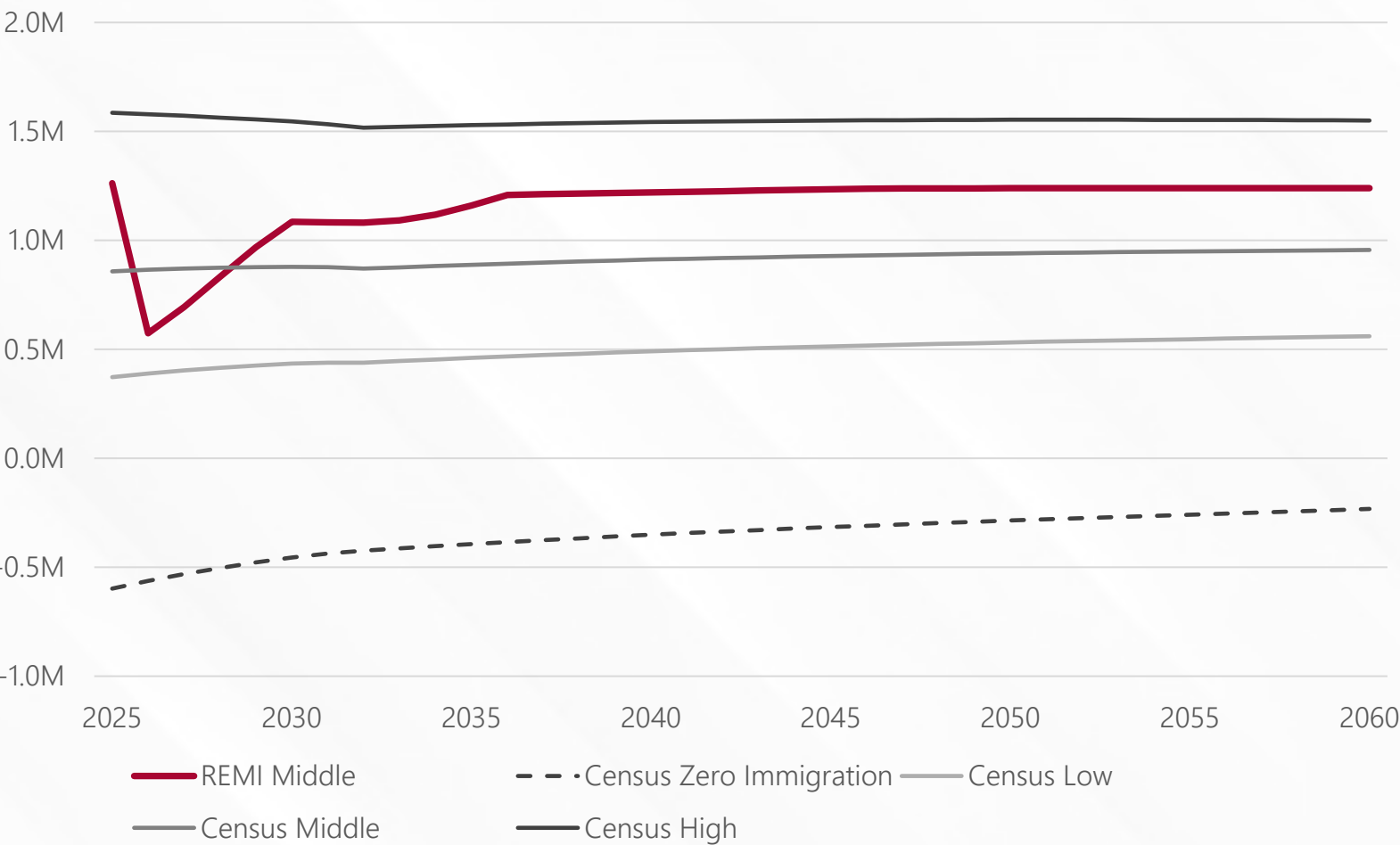
Mid

High



No feedback between the economic and demographic forecasts at the national level. If you make a large change to the demographics, consider making a corresponding change to the economics.

Prebuilt Net International Migration Forecasts



REMI MIDDLE
≈1.2M by 2036

Based on CBO's 2026–2036 outlook

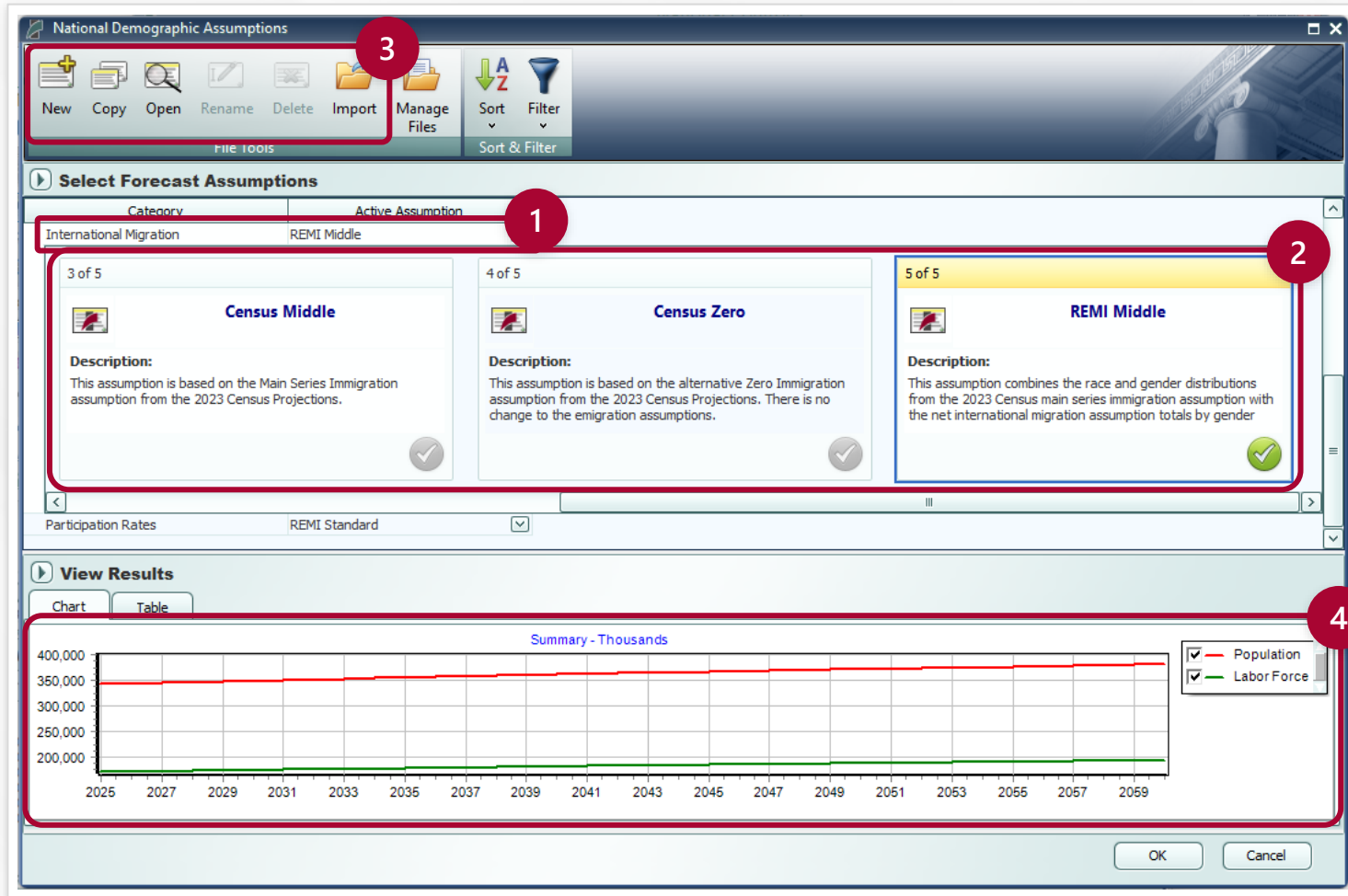
CENSUS RANGE IN 2040
–0.35M to 1.54M

From the zero-immigration to the high scenario

ZERO IMMIGRATION
Below zero

Emigration only: –0.6M in 2025, –0.2M by 2060

In the Model: Change Demographic Assumptions



IN THE MODEL

- 1 Choose the assumption category (international migration shown)
- 2 Pick a prebuilt migration assumption, including Census and REMI Middle
- 3 Or create or import your own
- 4 Preview the population and labor force

Agenda



How We Build the National Forecast

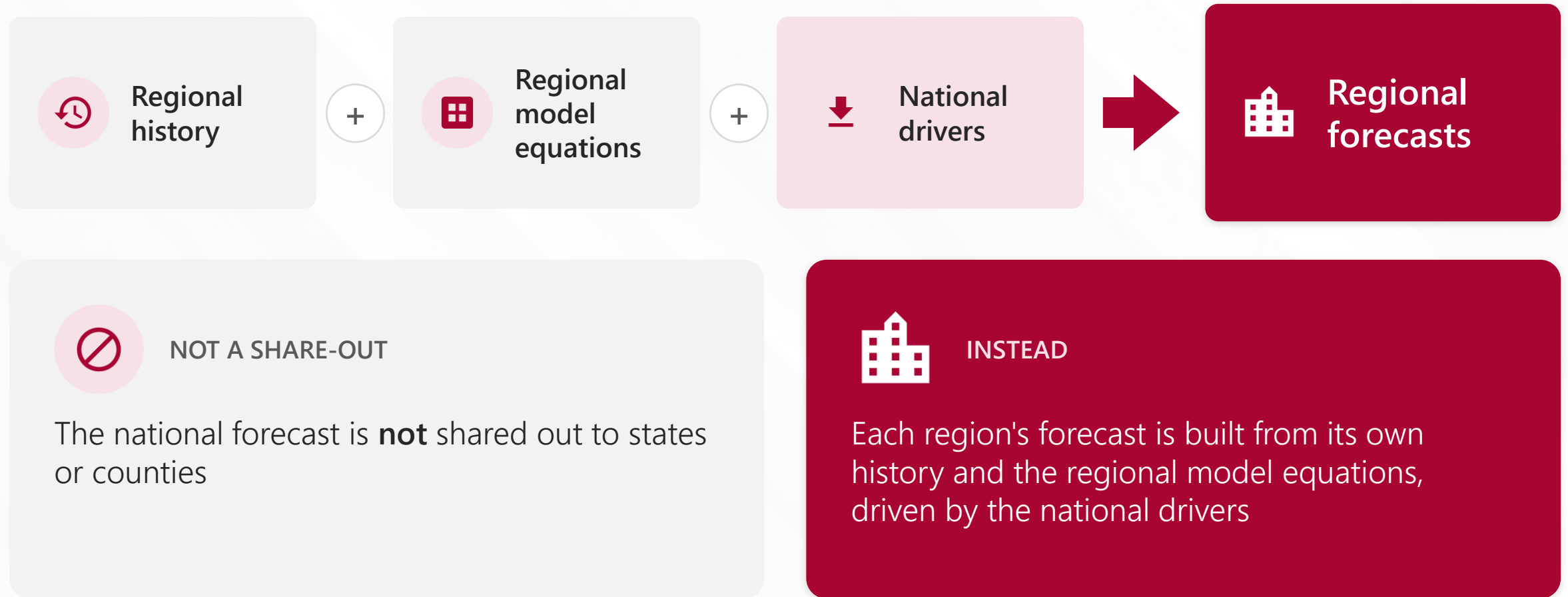
Your Calibration Options

From National to Regional

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

From National to Regional

Once the national forecast is calibrated, its drivers are passed down to every regional forecast



Thank you for attending!

Questions?