

Validating the 2015 County Economic Forecast

Introduction

There are no generally accepted criteria for validating a long term county forecast other than to evaluate predicted growth rates of the indicators with their historical growth rates. If future rates of growth are inconsistent with historical rates (and no extenuating circumstances or conditions would justify such inconsistencies), there is reason to suspect the reasonableness of the forecast.

Absent inconsistencies between rates of historical growth and forecasted growth, predicted future values are assumed to be plausible. The assumption of plausibility is the result of how the model was originally developed, where the basis for the relationships used to predict the indicators was derived from economic theory and other econometric forecast models of U.S. regions or states.

Another validation criteria for the county forecasts is the comparison of growth rates of the forecasted county indicators to the forecasted state indicators. This exercise was generally performed in the development of each county model and each final county forecast.

In no instance are the final forecasted growth rates of county indicators inconsistent with the growth rates observed historically.

And in no instance are the forecasted growth rates of county indicators inconsistent with the growth rates of the same indicators for the state.

Validation Criteria

A further validation occurs when the sum of the 58 county forecasts are compared with the independent forecast for California, derived from the June 2015 UCLA forecast for the state.

Compared are nine separate economic indicators that are forecast for each county from 2015 to 2040. They include demographic indicators such as population and households, and economic indicators such as employment, income, and taxable sales.

It is inevitable that independent forecasts will produce slightly different results, and forecast error will normally occur. The validity of the forecast is directly proportional to the size of this forecast error.

A reasonable and intuitive criterion would have the difference between the sum of the indicators for all 58 counties and that same indicator forecast for California to be at or under 5 percent (throughout the forecast horizon).

However, it is interesting to note (and emphasize) that the sum of the actual county indicators is rarely equal to the state total. **This is true for the historical data for most indicators, dating back to at least 1990.** Much of the time, this difference is due to survey error or county allocation issues, and is more than simple rounding.

For example, the sum of employment at the county level is frequently different from the statewide total, occasionally by more than 2 percent.

For a few common indicators that we use in the modeling process, it is possible to allocate them to the state but not to any particular county. Some vehicles, particularly trucks, are registered in the state but in no particular county. Taxable sales that are “use” taxes are allocated to the state but to no particular county. And there are other types of taxable sales recorded in the state totals that are not allocated to a particular county.

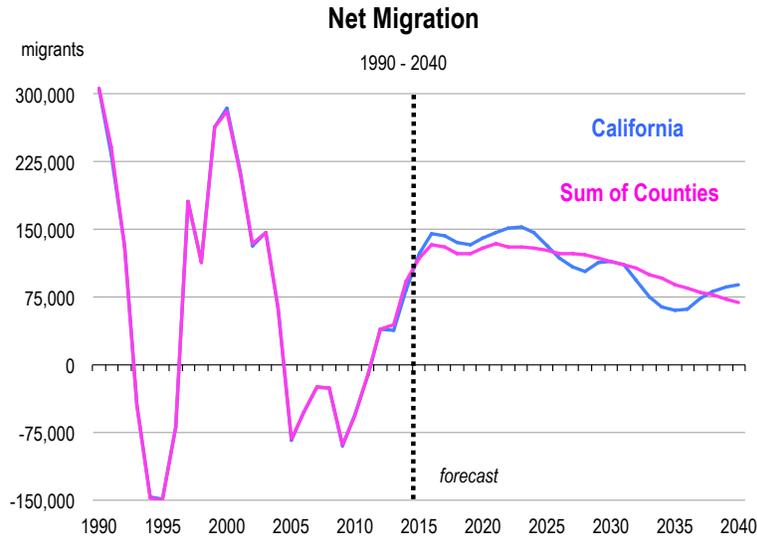
Consequently, the sum of the indicator for the counties will not produce the same total for that indicator for the state. Therefore, if there are differences with the historical values, there will also be differences with the forecasted values.

Results of the Validation

The 2015 forecasts for all 58 counties are very similar to the independent forecast for California. The sum of all 58 counties is within 5 percent of the state forecast for the majority of the indicators. The exceptions to this are net migration and new housing units.

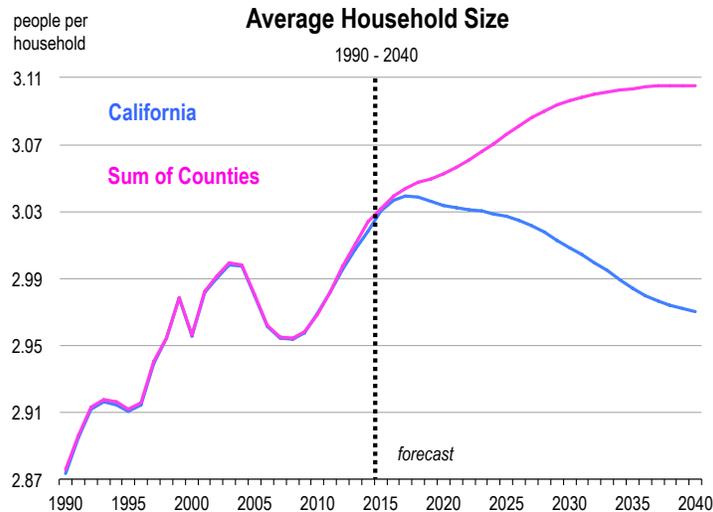
The sum of the county net migration forecasts generally track the UCLA statewide forecast from 2015 to 2040, but the annual difference varies by a larger amount during much of the forecast period. Net migration is a volatile series and the history is measured with significant error. For many of the counties, it is difficult to accurately measure population and migratory patterns. Consequently, we are unconcerned with the differences that appear in the

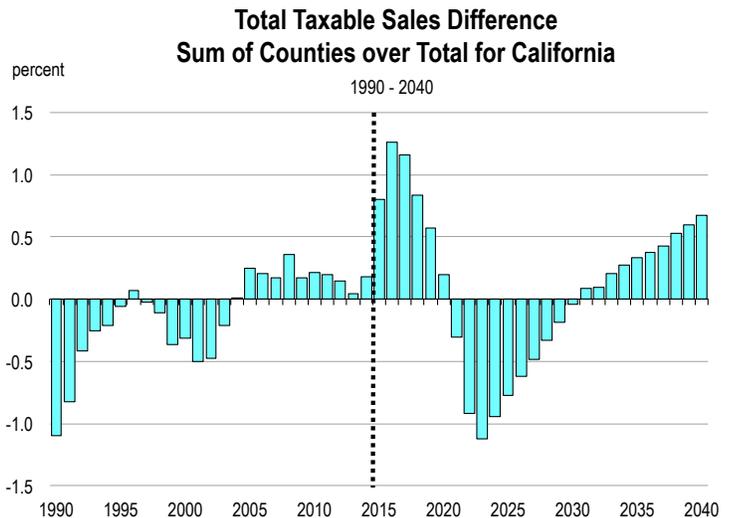
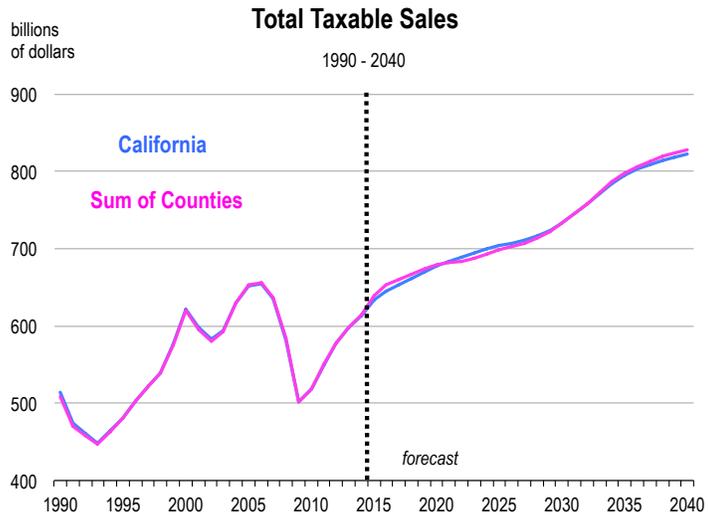
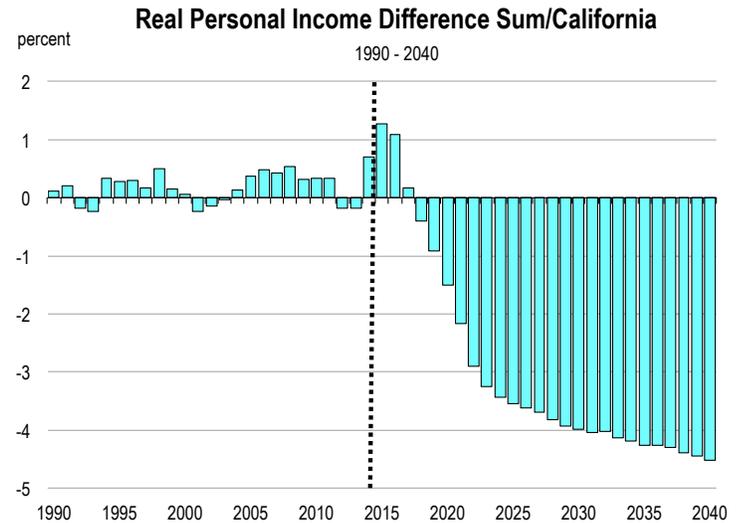
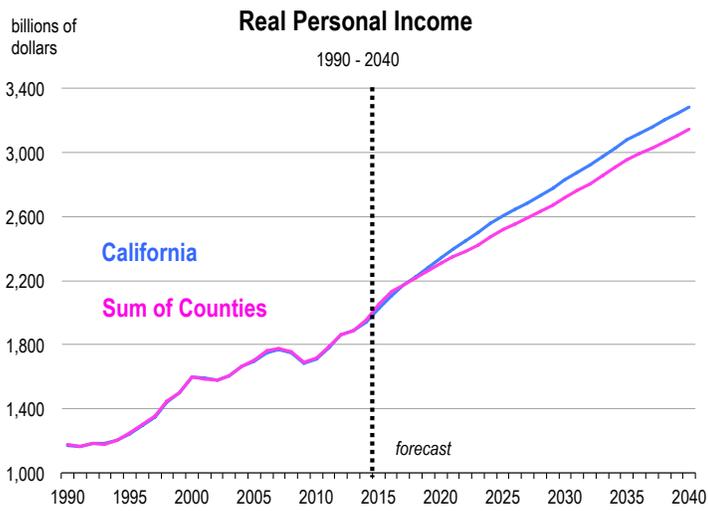
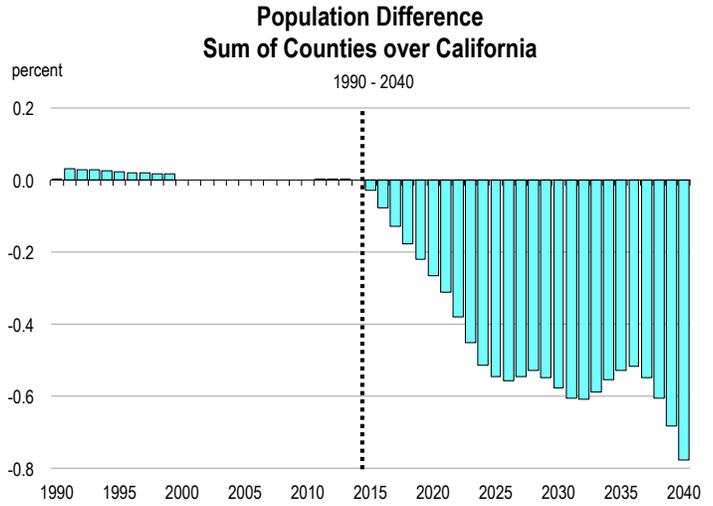
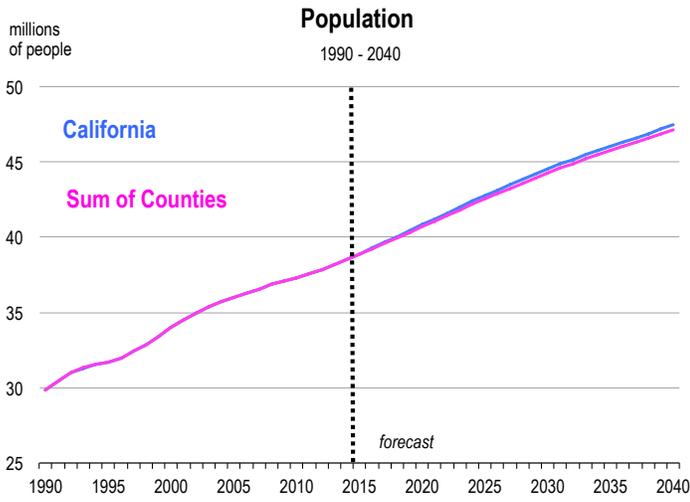
validation assessment. Visual inspection of the difference between the forecasts of the two series does not appear divergent or alarming.

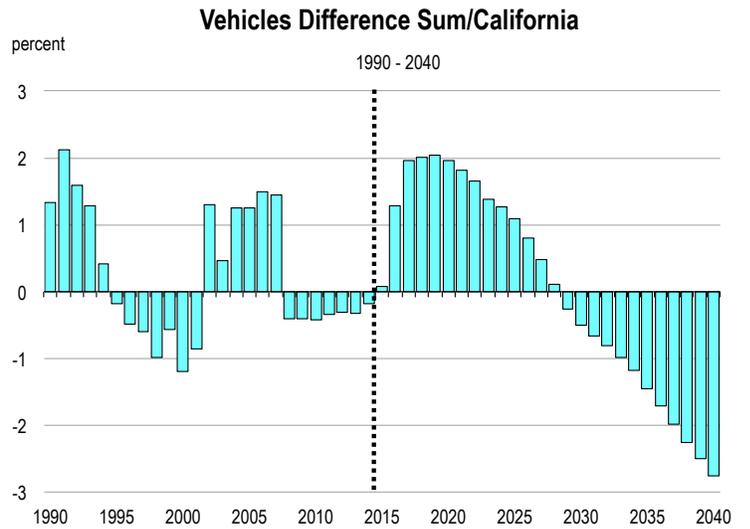
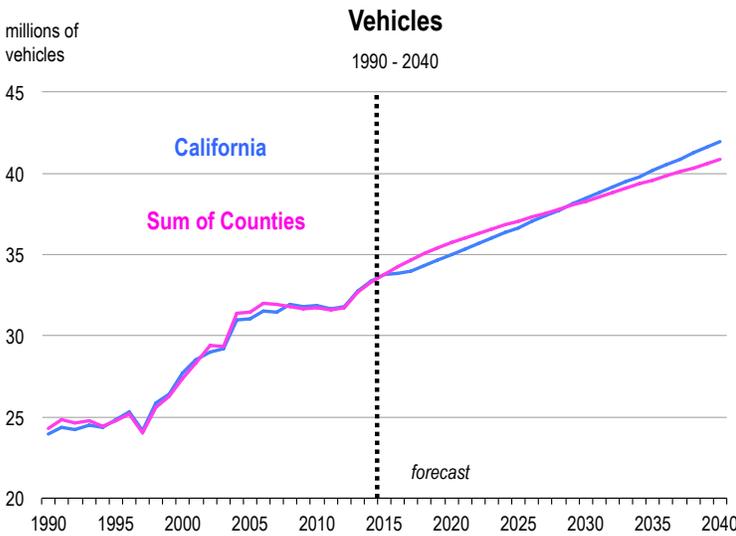
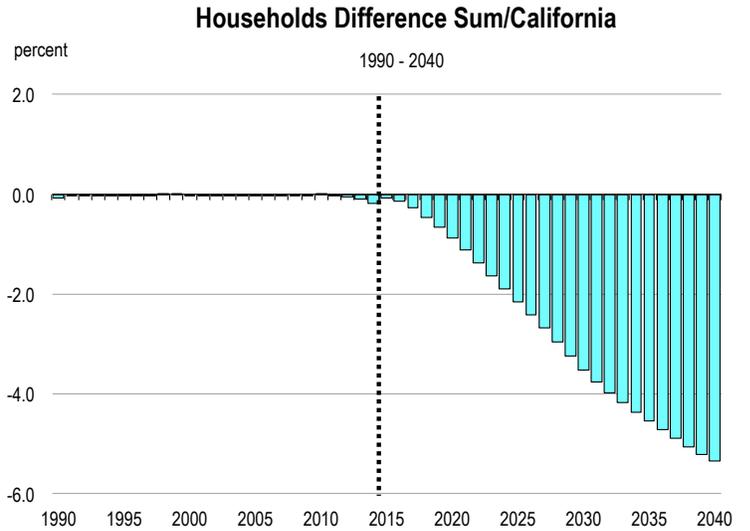
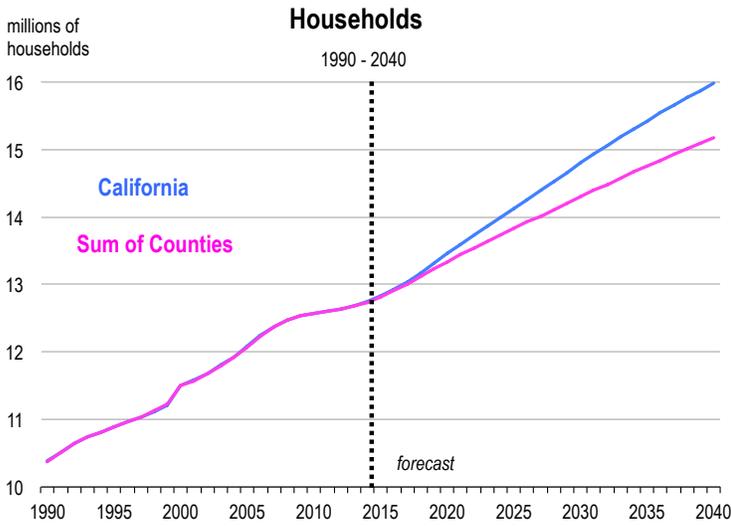
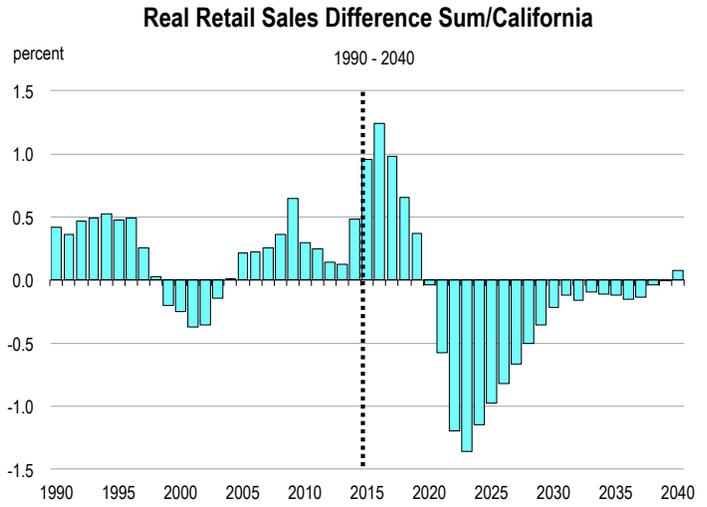
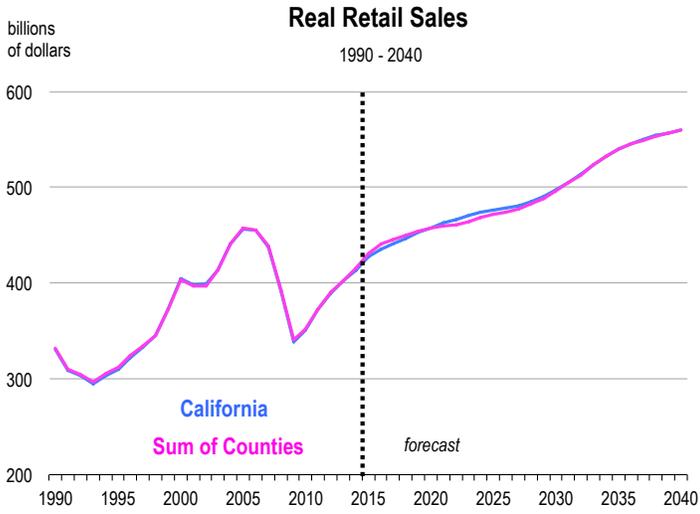


The county-level housing unit forecasts differ significantly from the state forecast. Over the past several decades, California households have become larger, with an average of 3.02 individuals per household in 2014, up from 2.87 per household in 1990. Constraints on new housing development, especially in the coastal regions where land availability is becoming more sparse, will prevent housing production from expanding more rapidly. In addition, Hispanic families will garner a larger share of the population. Because Hispanic families have tended to maintain larger households than other demographic groups, fewer housing units will be needed to meet expected population growth.

As a result, we expect that fewer new units will be produced and that household sizes will be larger than implied by the UCLA forecast.

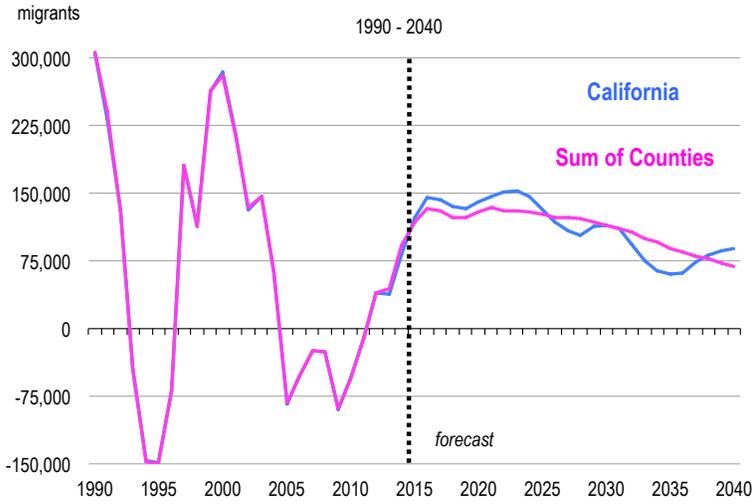






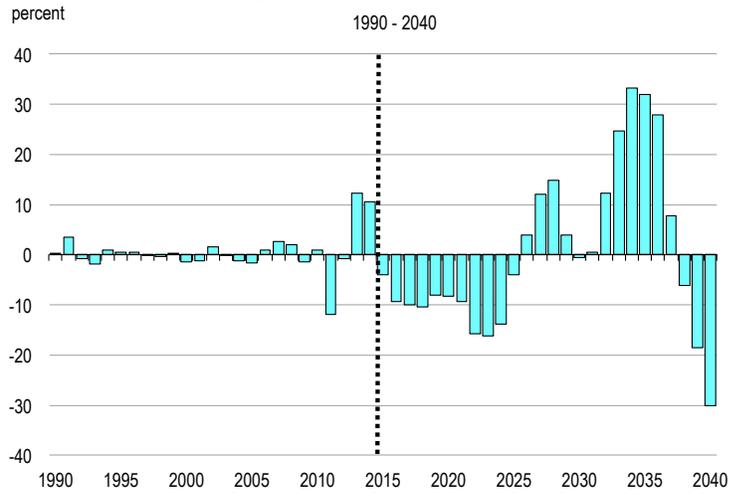
Net Migration

1990 - 2040



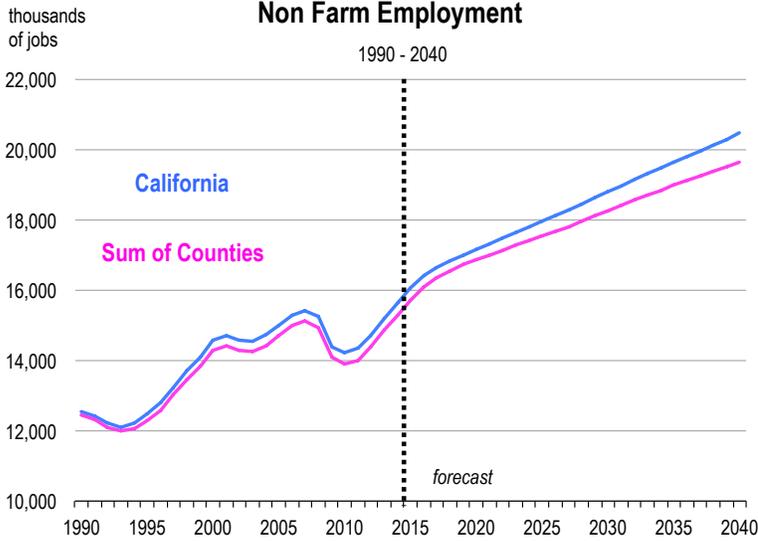
Net Migration Difference Sum/California

1990 - 2040



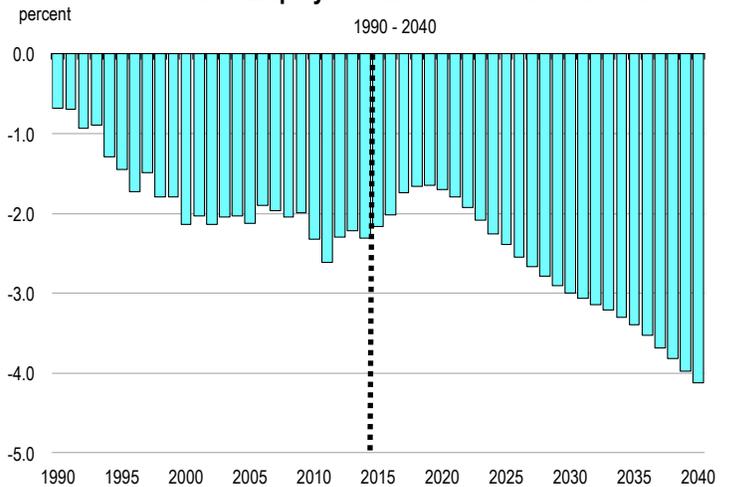
Non Farm Employment

1990 - 2040



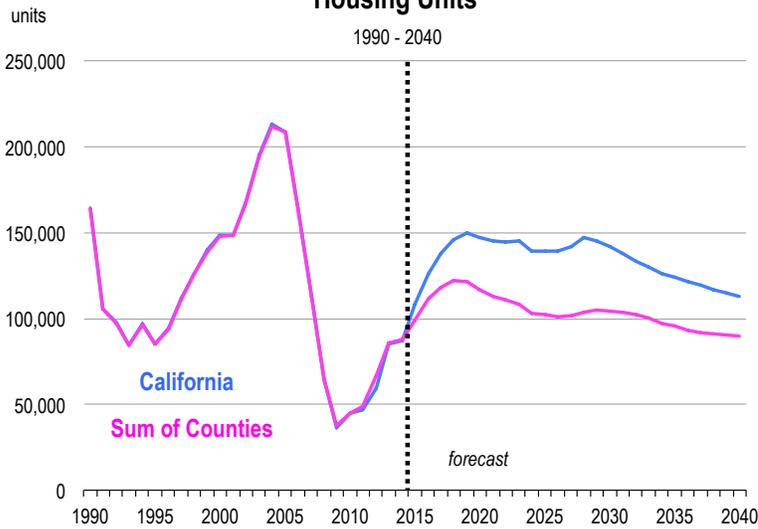
Non Farm Employment Difference Sum/California

1990 - 2040



Housing Units

1990 - 2040



Housing Units Difference Sum/California

1990 - 2040

