



# **2011 IEPR Preliminary Electricity and Natural Gas Demand Forecast General Approach and Economic Assumptions**

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## IEPR E&NG Forecast Process

- Biennial forecast, with updates as needed for resource adequacy proceedings
- Demand Forms and Instructions requested from LSEs at the end of the year prior to forecast (to be filed April 15)
- Workshop on forecast assumptions
- Preliminary forecast/workshop (May 2011)



## IEPR E&NG Forecast Process

- Revised forecast/workshop (August 2011)
- Adoption later in the year (November 2011)
- Feeds into LTPP and into Energy Commission infrastructure assessment
- Forecasts will address uncommitted efficiency component



## Implications of January 19 Workshop for Future Forecasts

- Changing California demographics and implications for average housing size.
- Income growth vs. employment growth when there is a disparity
- Importance of debt and wealth for demand for consumer energy services
- Other indicators of economic activity (e.g. business cycle indicator)
- Global warming and water constraints



## Electricity and Natural Gas Demand Forecasts: Defining a Range

- High econ-demo growth, lower rates, low (committed) efficiency program impacts, low self-generation impacts (*high demand scenario*)
- Mid economic growth from Economy.com or Global Insight, mid rates, mid efficiency program impacts, mid self-generation impacts (*reference case*—for comparison to utility forecasts)
- Lower econ-demo growth, high rates, high efficiency program impacts, high self-generation impacts (*low demand scenario*)



## Additional Scenarios: Uncommitted Efficiency

- IOU program impacts beyond 2012, POU beyond 2011
- Federal standards, Big Bold, etc.
- Scenarios as in 2009 IEPR: High, Medium, and Low Efficiency impacts
- Results in “managed” forecasts for IOUs along with LADWP and SMUD
- High uncommitted combined with *low demand scenario*, low uncommitted with *high demand scenario*



# IEPR Forecast Methodology

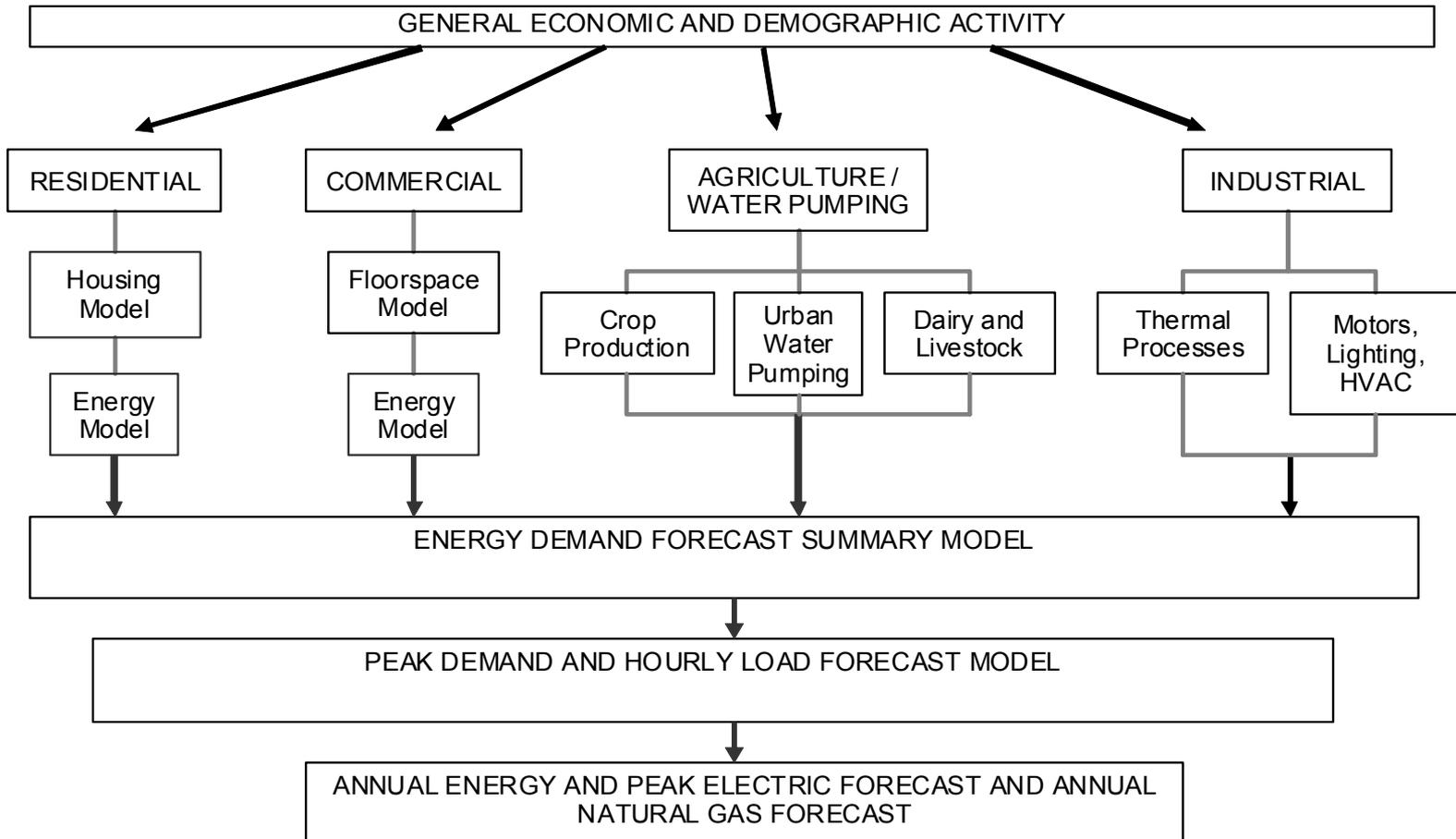
Individual sector models for:

- Residential (end use, econometric)
- Commercial (end use, econometric)
- Industrial (econometric/end use, econometric)
- Agricultural (econometric)
- Transportation, communications, and utilities and street lighting (trend)

Summary and Peak models



# Demand Forecast Structure





# Econ-Demo Variables Used

- Residential: Personal income, growth in households, persons per household, unemployment rate
- Commercial: floor space (employment, population, GSP, personal income), employment
- Industrial: employment or output by NAICS grouping



# Economic Scenarios Available

- Moody's Base: Their "most likely" case
- Moody's S1: Stronger near-term rebound, fiscal stimulus has positive impact, no further housing price decline
- Moody's S2: Slower recovery, no net job growth in 2011
- Moody's S3: Double dip recession, banks remain weak, more home price decline
- Moody's S4: Protracted slump, foreclosures higher than expected, decline in real GDP

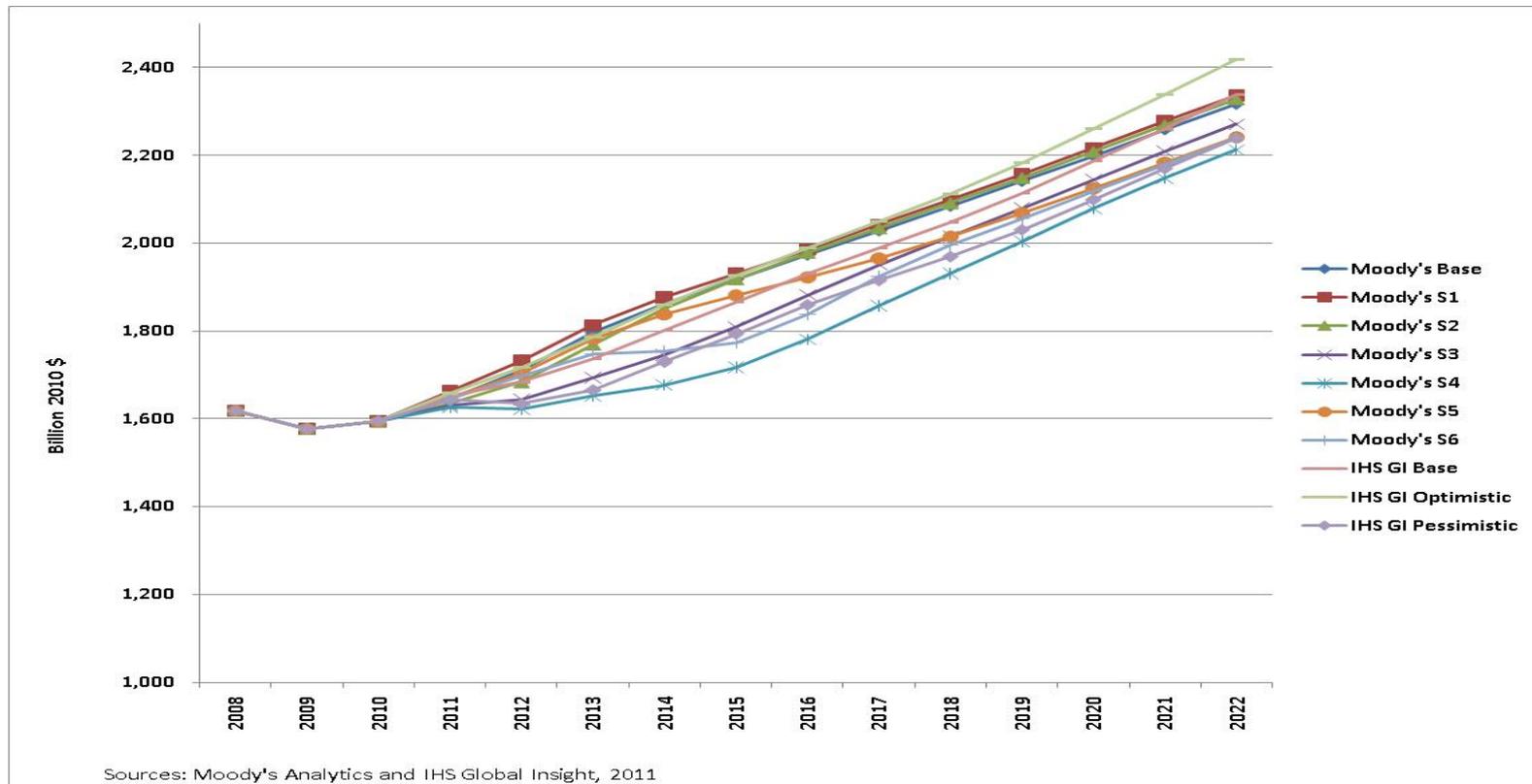


# Economic Scenarios Available

- Moody's S5: Below trend long-term growth, unemployment remains high
- Moody's S6: Fiscal crisis, \$ crashes
- IHS GI Base: Their "most likely" case
- IHS GI Optimistic: housing starts rise, global production increases, business investment up
- IHS GI Pessimistic: tight credit, exports down, reduced consumer spending



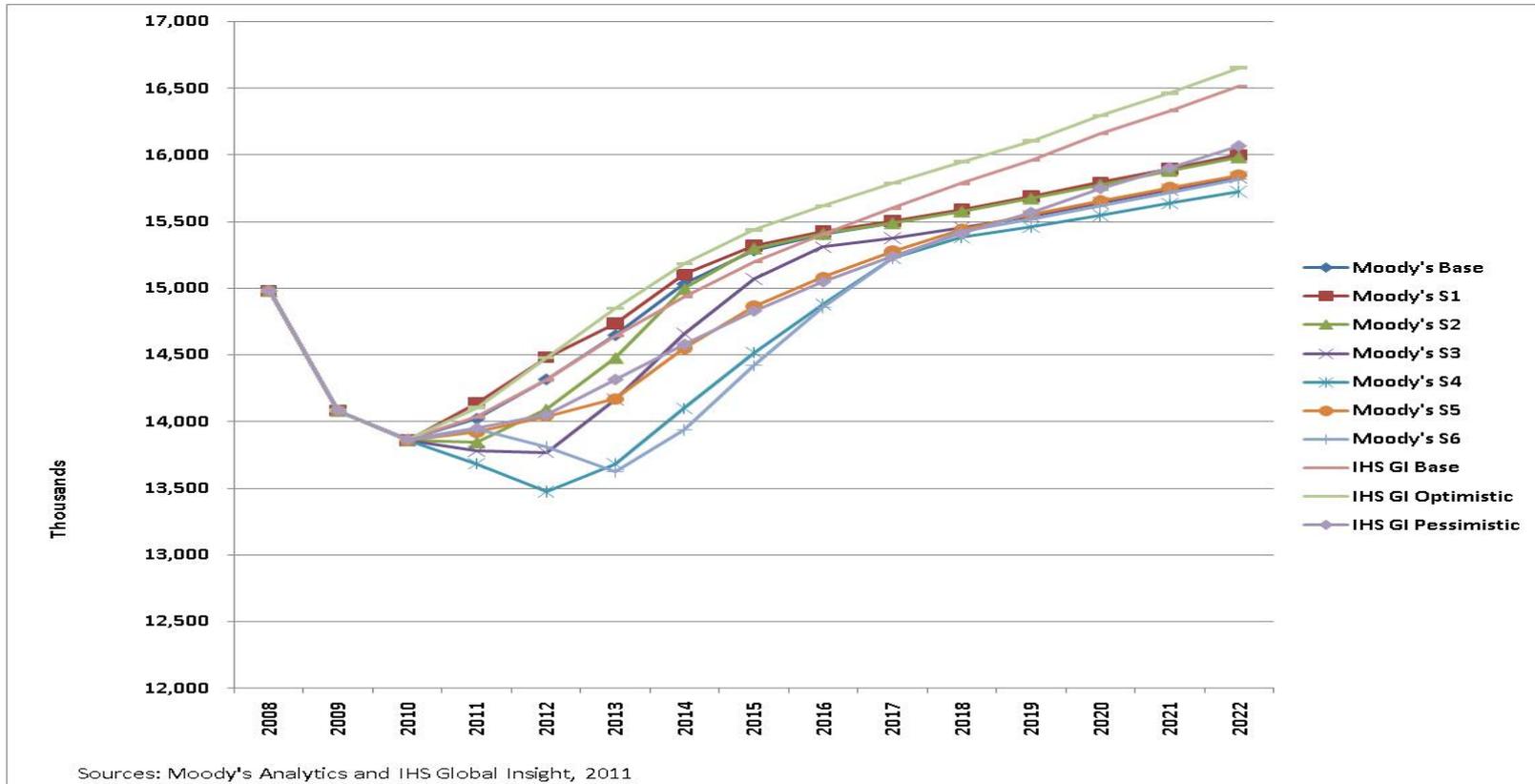
## Statewide Personal Income Scenarios 9 Percent Difference, Highest and Lowest



Sources: Moody's Analytics and IHS Global Insight, 2011



## Statewide Employment Scenarios 6 Percent Difference in 2022, Highest and Lowest

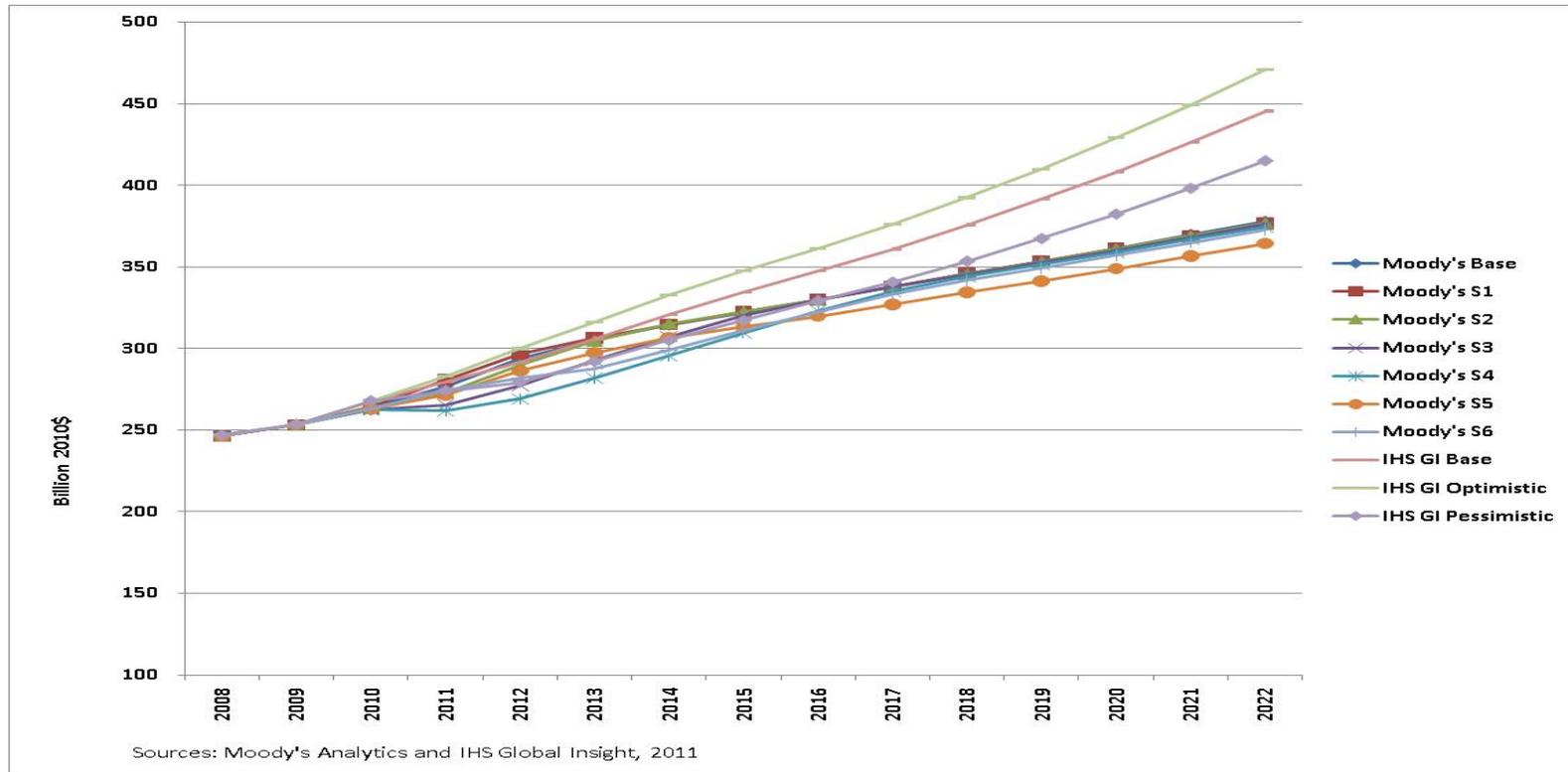


Sources: Moody's Analytics and IHS Global Insight, 2011



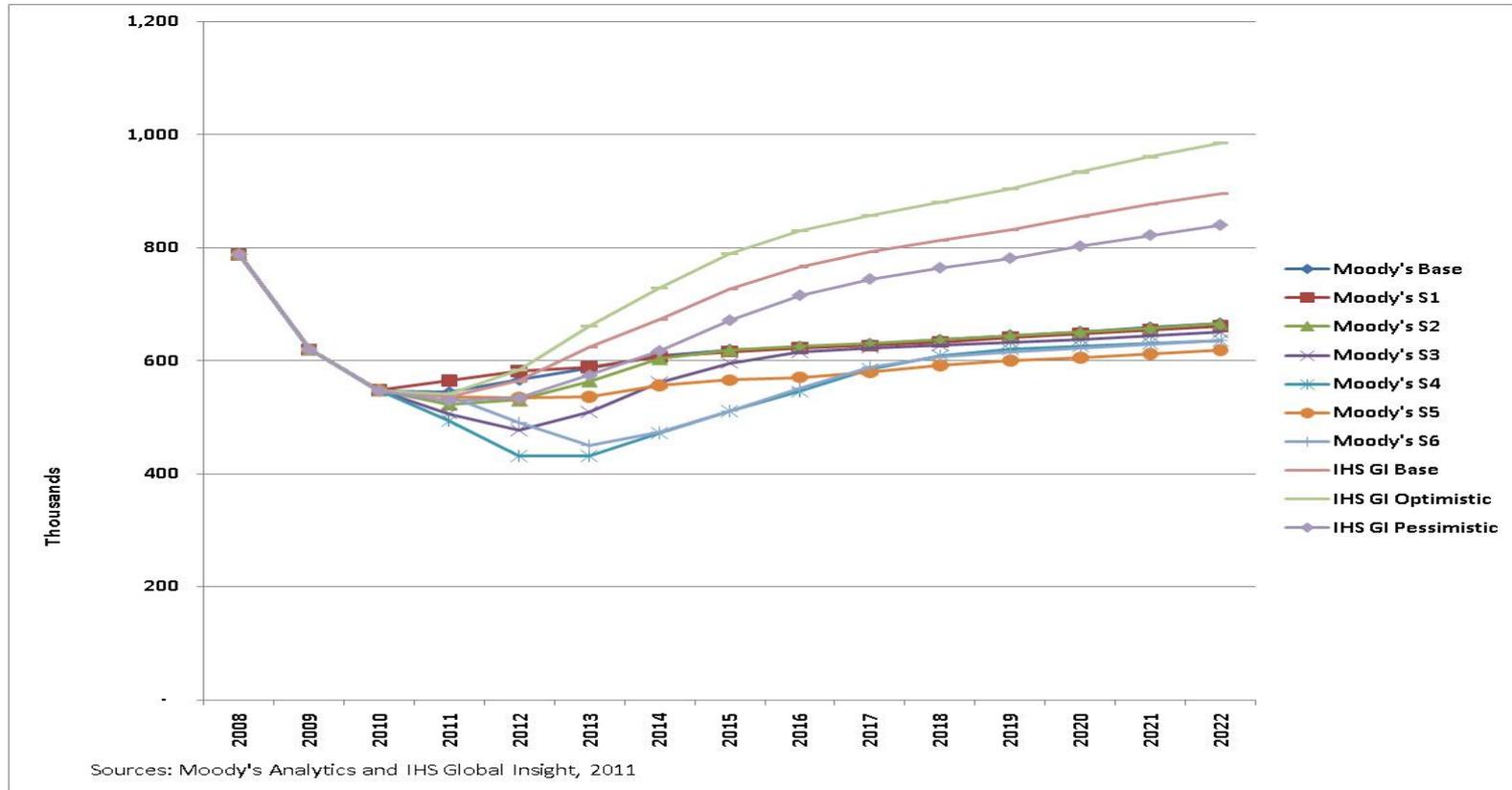
## Statewide Manufacturing Output Scenarios

### 29 Percent Difference in 2022, Highest and Lowest





## Construction Employment Scenarios 59 Percent Difference in 2022, Highest and Lowest



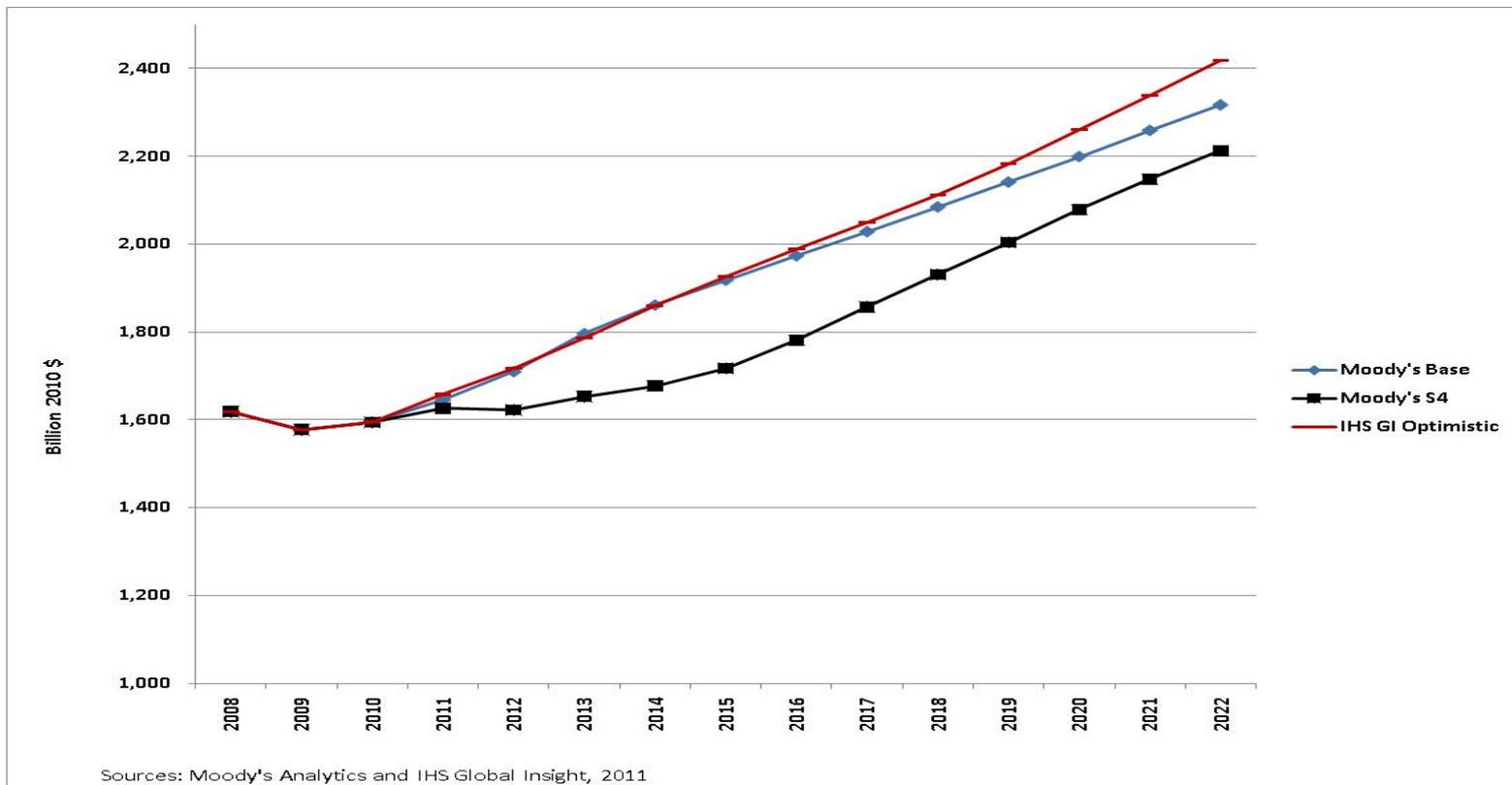


## Staff Proposed Scenarios

- High Economic Growth: IHS GI Optimistic
- Mid Economic Growth: Moody's Base
- Low Economic Growth: Moody's S4 (protracted slump)

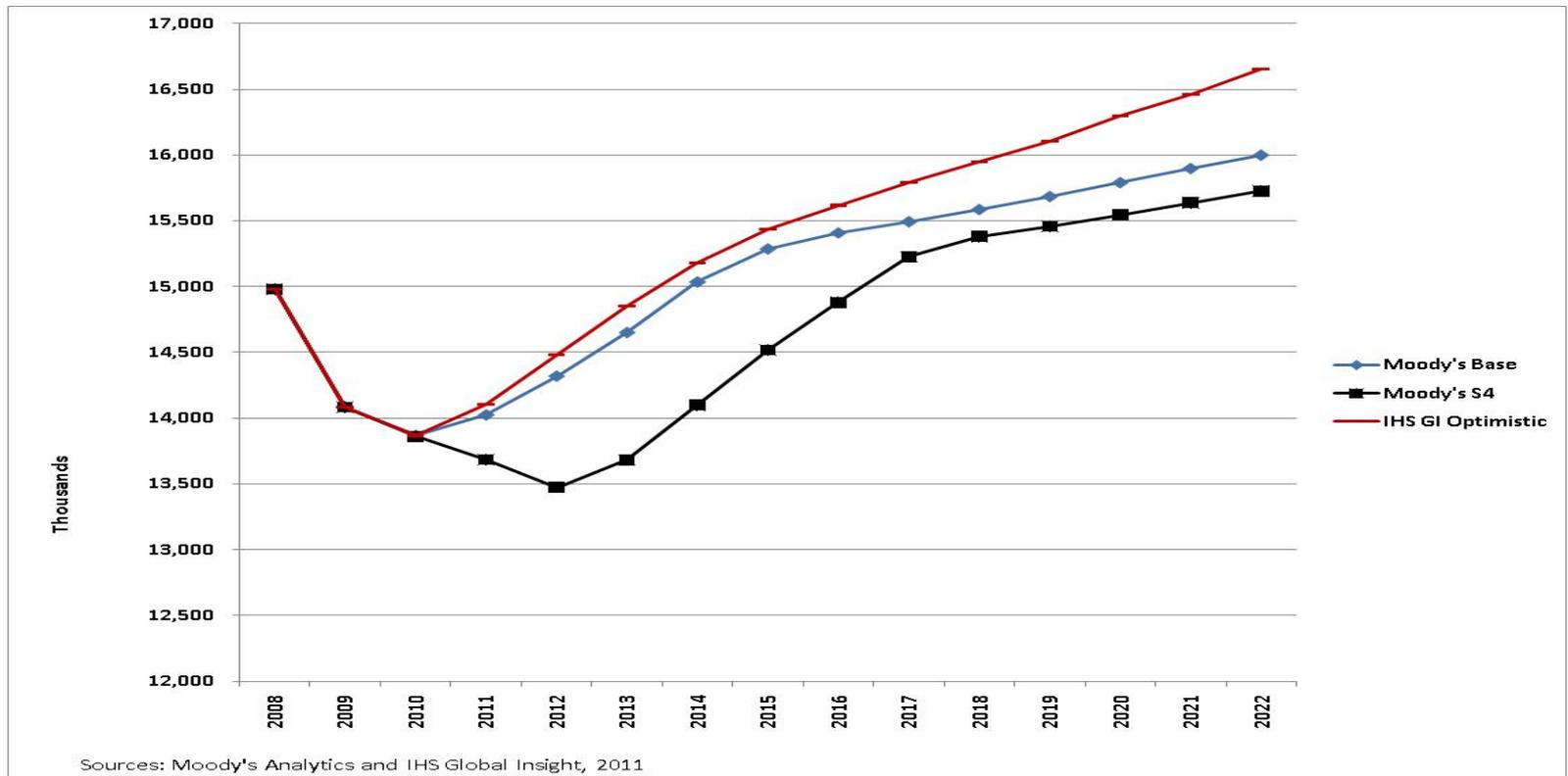


## Statewide Personal Income Three Proposed Scenarios





## Statewide Employment Three Proposed Scenarios





## Statewide Manufacturing Output Three Proposed Scenarios

