

DOCKETED

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Filer:	Raquel Kravitz
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California's Economic and Demographic Assumptions



Nancy Tran

March 4, 2019

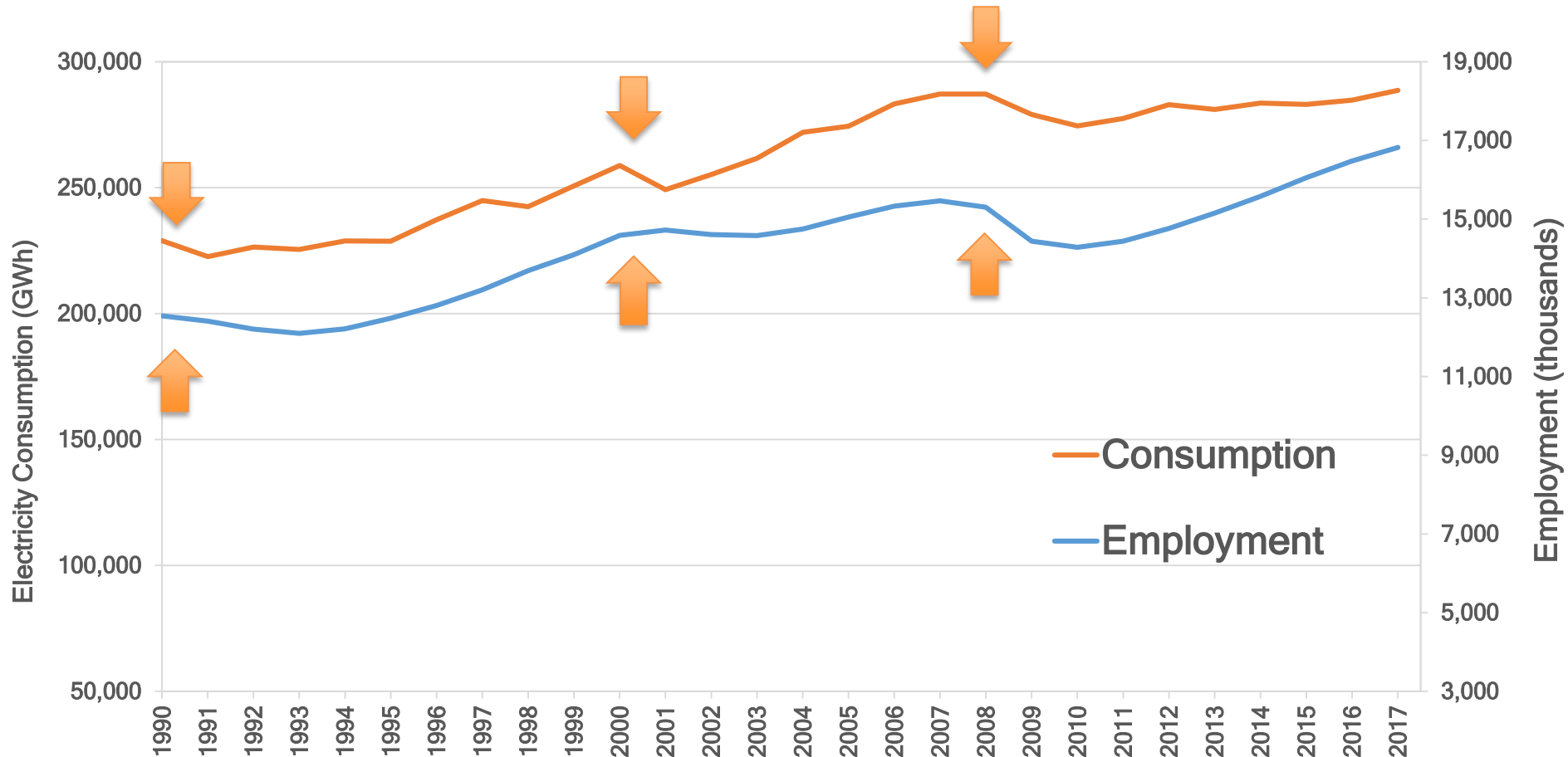
Energy Assessments Division

California Energy Commission



Electricity Consumption and the Economy

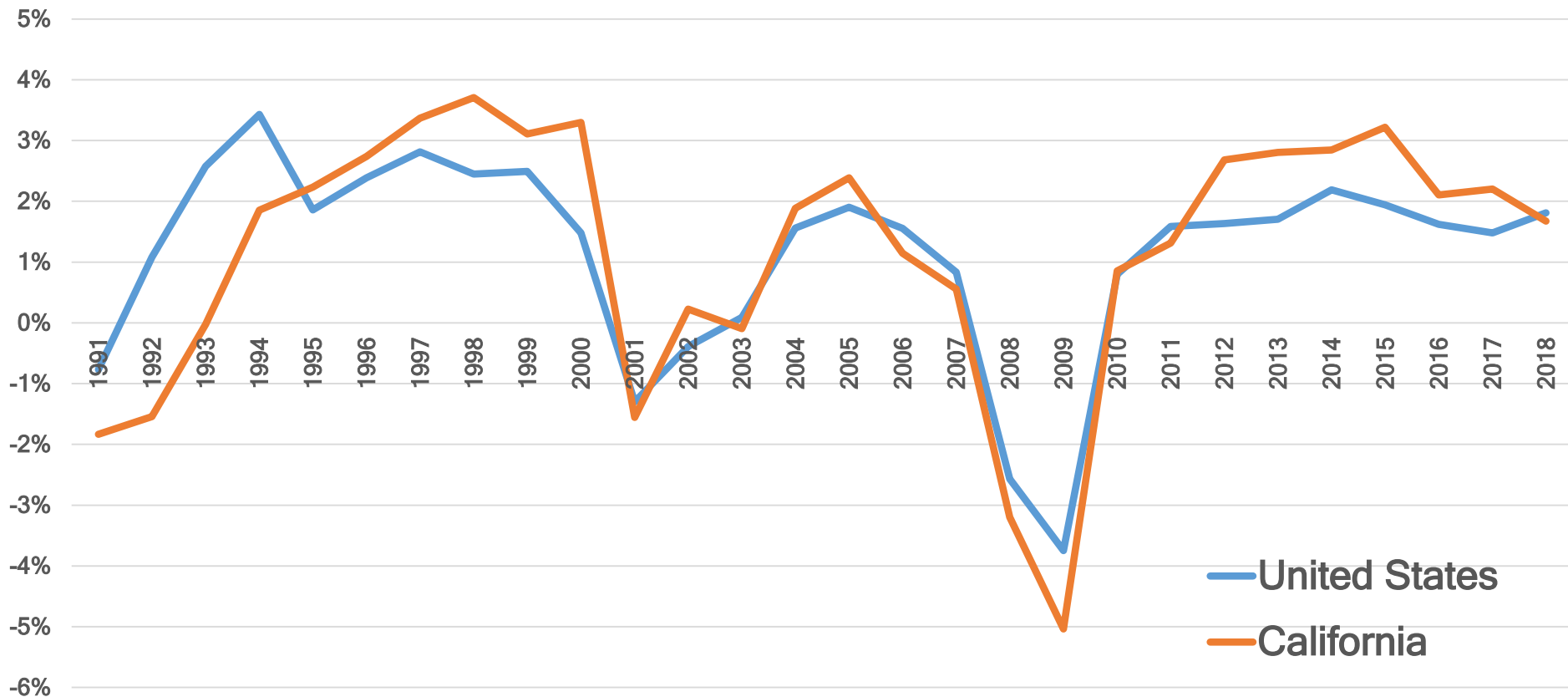
Clear relationship between energy use and economic upswings and downswings





Recession Uncertainty

Total Non-Farm Employment (annual growth rate)



Source: U.S. Bureau of Labor Statistics



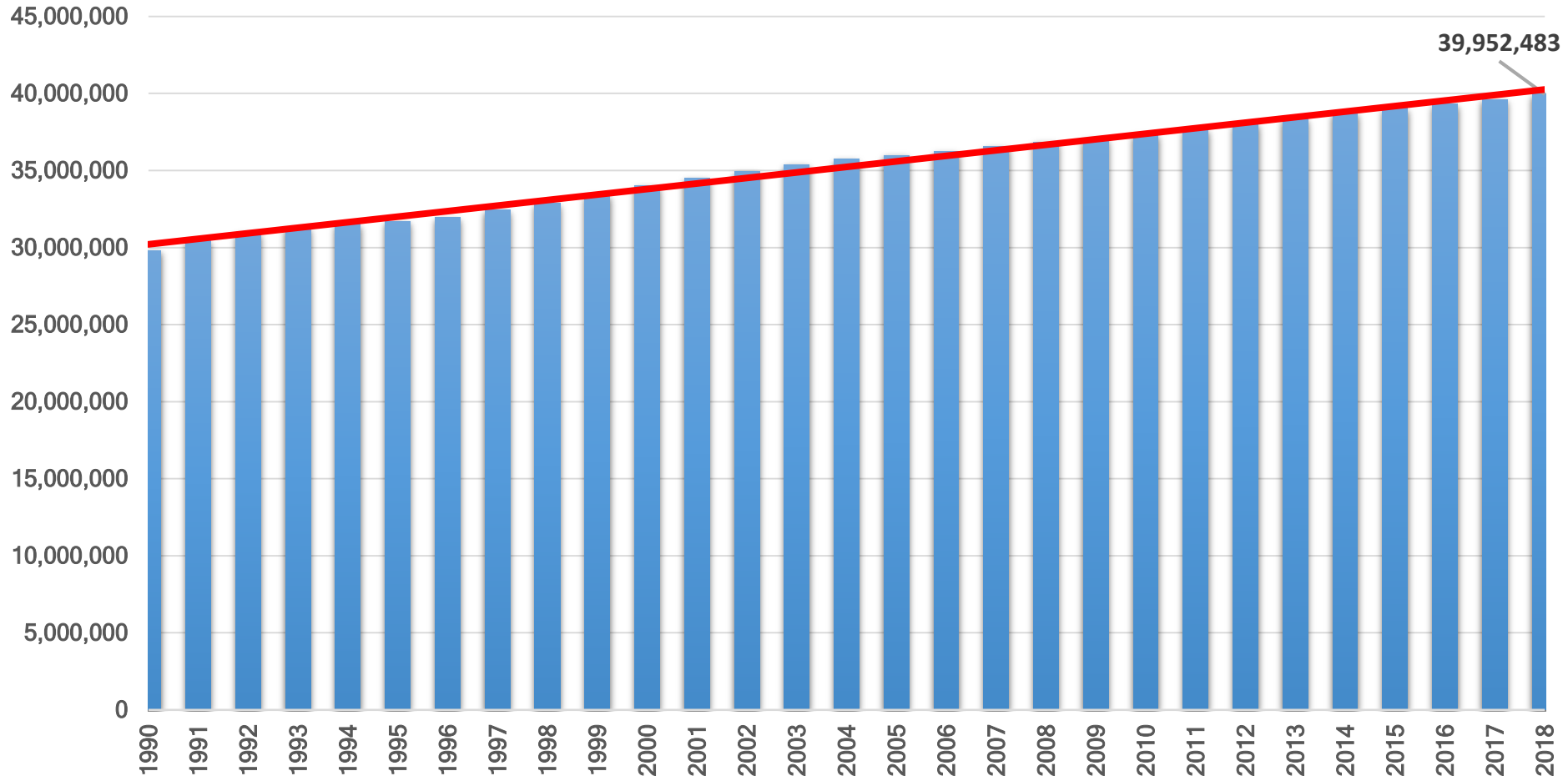
Key Economic Drivers Used in the Forecast

- Population
- Households
- Personal Income
- Output by Sector
- Employment by Sector
- Unemployment Rate
- Household Size



Slow down in California's population growth – less than 0.9% growth last year

California's Population Estimates (1990-2018)



Source: CA Department of Finance



Key Aspects: Birth Rates and Migration

Drivers

- Number of women of child bearing ages
- State of job market
- Wage and salary opportunities
- Housing prices
- Death rates (minor)



Moody's Economic Projections

Custom CEC High Scenario

- Provides more consistent range

Baseline Scenario

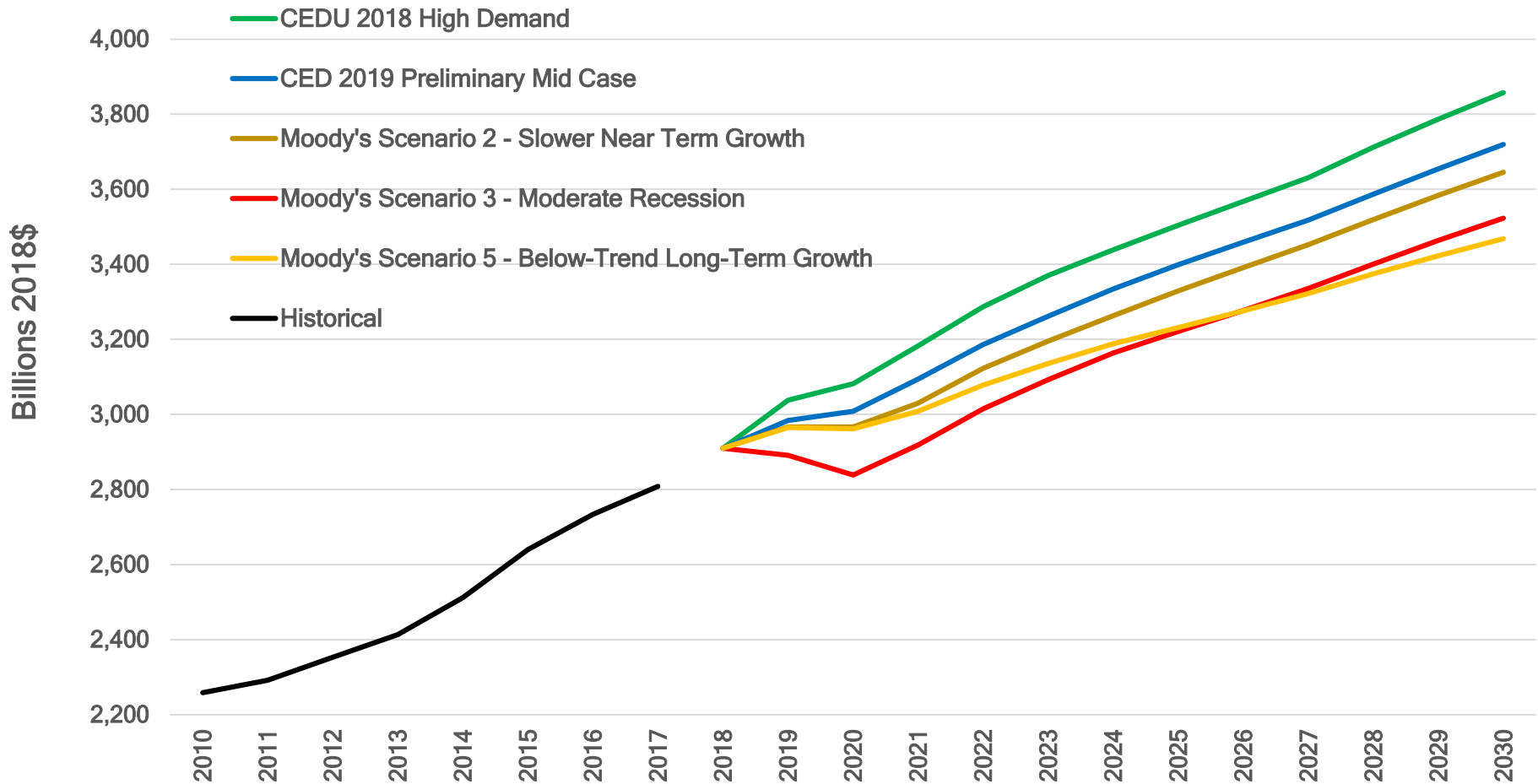
- “Likely” scenario

Low Growth Scenario Options

- S2: Slower Near-Term Growth
- S3: Moderate Recession
- **S5: Below-Trend Long-Term Growth**



CED 2019 Scenario Example





Associated Energy Demand Cases

Low Energy Demand:

- Moody’s “Lower Long-Term Growth” scenario

Mid Energy Demand:

- Moody’s “Baseline” scenario

High Energy Demand:

- Moody’s special scenario created for the Energy Commission



California's Mid and Long-Term Growth

Mid-term expectations (3-5 years)

- Housing and tech growth
- GSP grows at 2-3%+ annually

Long-term expectations (5-10 years)

- Tech and infrastructure improvements keeping pace with national level
- GSP grows at 2%+ annually



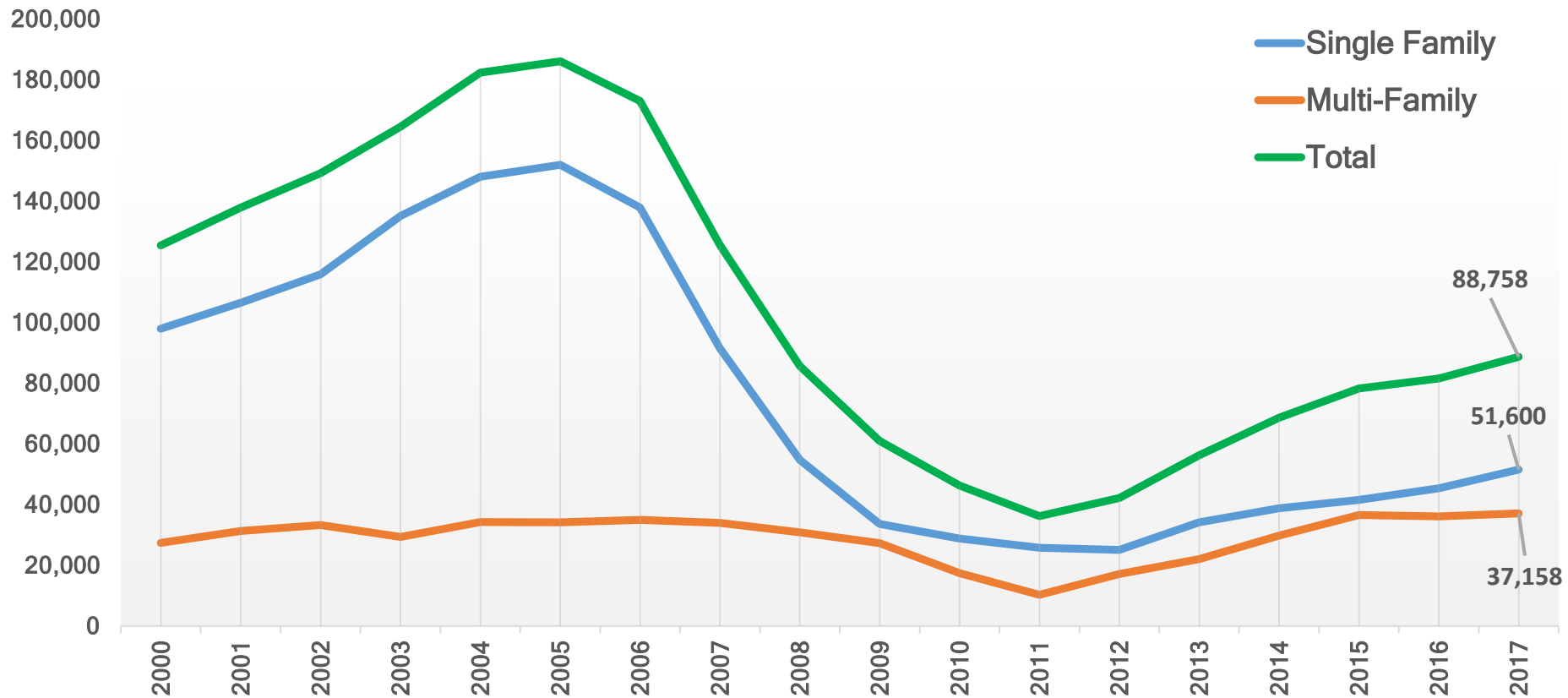
Mid Case Comparison: CEDU 2018 vs CED 2019 Prelim.

Key Driver	2020	2025	2030
Gross State Product	0.01%	0.05%	0.02%
Personal Income	-0.79%	-1.51%	-1.49%
Manufacturing Output	0.65%	-1.03%	-2.04%
Non-Farm Employment	0.51%	0.30%	0.18%



Housing Construction Lag

California Housing Construction Completions
(Number of Units, Seasonally Adjusted)





Other short-term Economic Drivers

- Housing affordability
- Lower oil and gasoline prices
- Income growth from technology industries
- Government stimulus



Regional Breakout

Los
Angeles

San
Diego

Central
Valley

Bay
Area



Los Angeles Region

Unemployment Rate

- Currently 4.6 percent, down from 13.0 percent in 2010 (EDD)

Job Growth

- Trade, transportation, utilities, entertainment, and biotech sectors
- “Silicon Beach” continues to attract venture capitalists

Upsides

- Continues to draw international investors as housing prices appreciate
- More multi-family units to be built (UCLA Anderson Forecast)



San Diego Region

Unemployment Rate

- Currently 3.2 percent, down from 10.4 percent in 2010 (EDD)

Job Growth

- Business services, biotech, defense, and manufacturing
- Attracting startups in clean tech: 2,577 clean tech companies

Upsides

- Large concentration of high income earners and military



Central Valley Region

Unemployment Rate

- Currently 5.8 percent, down from 15.2 percent in 2010 (EDD)

Job Growth

- Leisure and hospitality, transportation, warehousing, financial activities, and healthcare.
- Central Valley food producers and Bay Area tech moving more inland to Sacramento region

Upsides

- Construction industry is growing steadily
- Affordability is increasing domestic migration



Bay Area Region

Unemployment Rate

- Currently 2.2 percent, down from 9.1 percent in 2010 (EDD)

Job Growth

- Tech continues to be a key driver – integration of products into many business infrastructures
- Leisure and hospitality also seeing growth

Upsides

- Growth in nonresidential units due to startups



Forecast Uncertainties

- Drought/Fires
- Gasoline and oil prices
- Impact of Baby Boomers and Millennials
- Migration patterns
- Tariffs impact on manufacturing
- Recession possibility

Questions?

