Panel Overview

- Description of Population estimates and growth rates from 1947 to 2016.
- Components of change (Births, Deaths, and Net Migration) from 1970 to 2016.
- Contribution of births and immigration to the population growth in California.
- Discussion about future population growth in California.
Population Balancing Equation

- Last Year’s (revised) Population
- + Births
- + Domestic In-Migrants
- + International Immigrants
  (authorized and unauthorized)
- - Deaths
- - Domestic Out-Migrants
- - Emigrants
- = Current Population

California July 2016 Population Estimates

State & County Population Estimation Methods

- State
  - Driver License Address Change (DLAC) Model

- Counties
  - Modified DLAC Model
  - Ratio-Correlation Model
  - Tax Return Model
Driver License Address Change (DLAC) Model

- Cohort-Component Method
  - Cohorts
    - 0-17
    - 18-64
    - 65+
  - Components
    - Births
    - Deaths
    - Net Migration

County Estimates: Modified DLAC Model

- This model is very similar to the DLAC model just described for the state population estimate.

- The county model adds a measure of county-to-county migration within California.
Data for 65+ Components

- Census 2010 baseline population
- No births to add to this cohort
- Actual or estimated deaths
- Medicare and Medi-Cal Program Enrollments
- International Immigrants (new from 2015)

Data for 0-17 Components

- Census 2010 baseline population
- Actual or estimated births
- Actual or estimated deaths
- Public school enrollment in grades 1-8 and elementary ungraded
- International immigrants (new from 2015)
Data for 18-64 Components

- Census 2000 baseline population
- No births to add to this cohort
- Actual or estimated deaths
- Driver license address change data
- Internal Revenue Service matched tax returns
- Immigration (legal, unauthorized, emigration)
- Group quarters population data

California Populations

- DOF has population estimates data from 1947 to current.
- Prior to 1970:
  - total population estimates at county’s level.
  - No components of change published in E-6 report.
California Populations

- In 1947, California had 9.8 millions people.
- Current population is slightly over 4 times of the 1947 figures.
- Rapid population growth took off in the early 1950s.
- Rate of the growth were in a range from 2% to 4.6% each year.
- Slowdown period started from 1966 to the lowest at 1.2% in 1972.

California Populations (continued)

- Growth rates gained momentum again in the 1980s at over 2% each year.
- In 1990s, population growth has declined significantly.
  - The lowest growth rate was .6% in 1995.
- Population growth bounced back to over 1% in the early 2000s.
  - 2005-2016: the growth rates were at 1% or less.
  - This trend tends to continue in the future.
Why do we focus on the estimates data from 1970?

- California population estimated at 20,039,000 people in July 1970.
- Current state population estimates are at 39,354,000 people in July 2016.
- California population are projected to reach 40,033,000 people in July 2018.
- It takes 48 years for California to double its size in terms of population growth.


- Births
- Deaths
- Net Migration
Shares of Natural Increase & Net Migration in Pop Growth 1970-2016

Components of Change in California from 1970 to 2016

<table>
<thead>
<tr>
<th>Year</th>
<th>Average Growth</th>
<th>Total Population Gained</th>
<th>Births</th>
<th>Deaths</th>
<th>Net Migration</th>
</tr>
</thead>
<tbody>
<tr>
<td>1970s</td>
<td>1.67</td>
<td>3,217,987</td>
<td>2,967,984</td>
<td>1,542,842</td>
<td>1,792,845</td>
</tr>
<tr>
<td>1980s</td>
<td>2.28</td>
<td>5,884,193</td>
<td>4,592,809</td>
<td>1,971,926</td>
<td>3,263,310</td>
</tr>
<tr>
<td>1990s</td>
<td>1.38</td>
<td>4,277,398</td>
<td>5,656,784</td>
<td>2,200,370</td>
<td>820,984</td>
</tr>
<tr>
<td>2000s</td>
<td>1.04</td>
<td>3,658,626</td>
<td>5,426,857</td>
<td>2,345,544</td>
<td>577,313</td>
</tr>
<tr>
<td>2010-16</td>
<td>0.86</td>
<td>2,277,228</td>
<td>3,509,956</td>
<td>1,720,047</td>
<td>487,319</td>
</tr>
<tr>
<td>Total</td>
<td>1.45</td>
<td>19,315,432</td>
<td>22,154,390</td>
<td>9,780,729</td>
<td>6,941,771</td>
</tr>
</tbody>
</table>
## Components of Change in California from 1970 to 2016

<table>
<thead>
<tr>
<th>Year</th>
<th>Natural Increase</th>
<th>Net Migration</th>
<th>Net Immigration</th>
<th>Net Domestic Migration</th>
</tr>
</thead>
<tbody>
<tr>
<td>1970s</td>
<td>1,425,142</td>
<td>1,792,845</td>
<td>1,110,995</td>
<td>681,850</td>
</tr>
<tr>
<td>1980s</td>
<td>2,620,883</td>
<td>3,263,310</td>
<td>2,149,979</td>
<td>1,113,331</td>
</tr>
<tr>
<td>1990s</td>
<td>3,456,414</td>
<td>820,984</td>
<td>2,137,786</td>
<td>(1,316,802)</td>
</tr>
<tr>
<td>2000s</td>
<td>3,081,313</td>
<td>577,313</td>
<td>1,812,322</td>
<td>(1,235,009)</td>
</tr>
<tr>
<td>2010-16</td>
<td>1,789,909</td>
<td>487,319</td>
<td>1,030,611</td>
<td>-543,292</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>12,373,661</strong></td>
<td><strong>6,941,771</strong></td>
<td><strong>8,241,693</strong></td>
<td><strong>(1,299,922)</strong></td>
</tr>
</tbody>
</table>

## Shares of Natural Increase and Net Migration in Population Growth

- **Natural Increase**
- **Net Migration**
Factors contributing to population growth in California

- Birth is the most important factor in population growth at all times.
- Immigration is also a contributing factor.
- In 1970s and 1980s, net migration was outpaced natural increase due to increase in both immigration and domestic immigration to the state.
Factors contributing to population growth in California (continued)

- From the 1990s, state had high flow of domestic out-migration.
- Source of population growth has been heavily based on natural increase (79%).
- Immigration has slowed down, but kept net migration in positive.

What Will Be the Future of California Population Growth?

- Low births;
- High deaths (increasing size of baby boomer generation);
- Change in immigration policy toward H1b visa, refugees, & undocumented immigrants.