

California Population Dynamics

David Lopez-Carr

UCSB Department of Geography

Director, UC Global Health Planetary Health Center of Expertise



Source: sciencemediacenter.co.nz

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- What is Demography?

Demography is:

- **The statistical study of human populations, especially with reference to size and density, distribution and vital statistics.**

www.worldbank.org/html/schools/glossary.htm

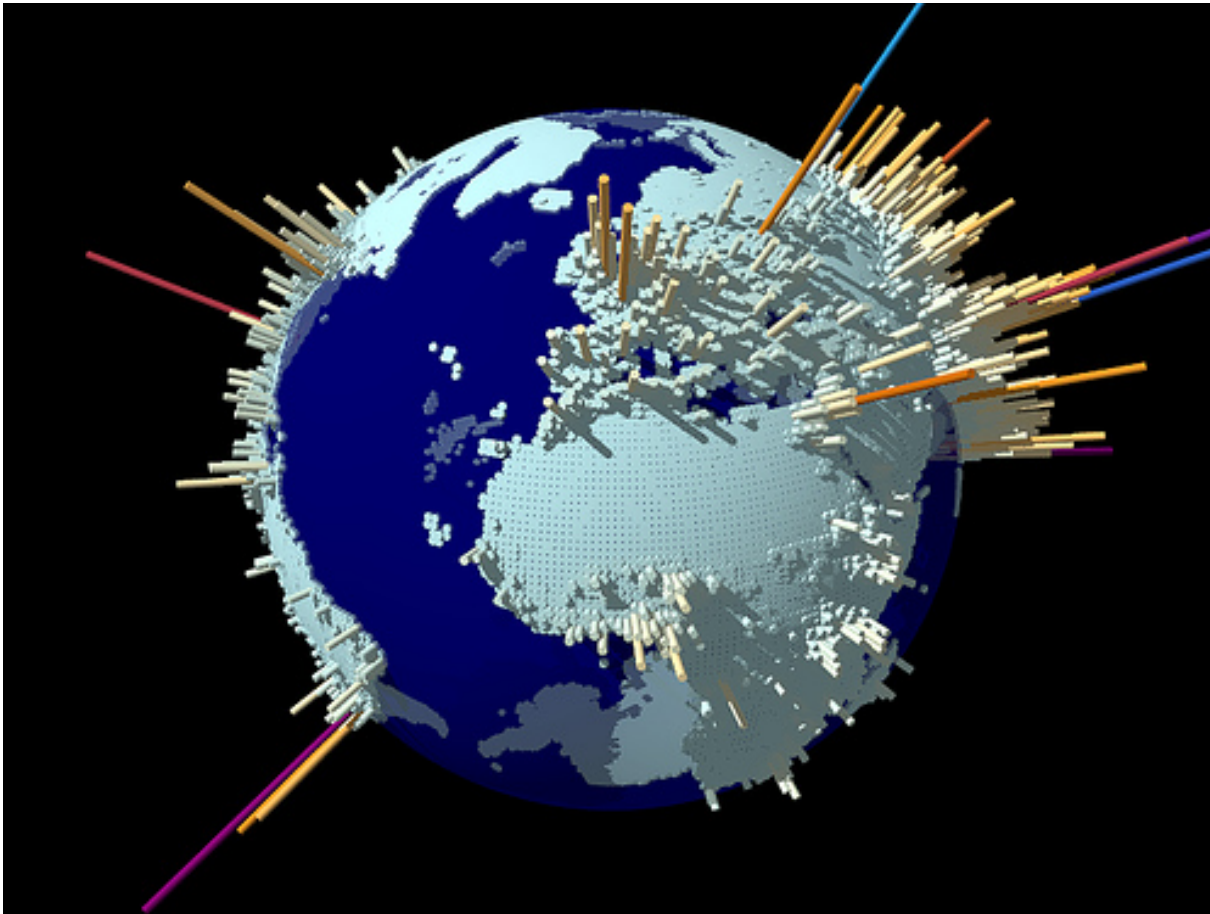
- **The study of the characteristics of populations, such as size, growth, density, distribution, and vital statistics.**

www.hubbardbrook.org/education/Glossary/Glossary.htm

- **the study of population.**

www.geoexplorer.co.uk/sections/dictionary/d.htm

What is Population Geography?



Global Population Density

Source: population.growth.org

Population Geography is:

a subset of Population Studies that focuses on:

- Spatial patterns and processes
- Geographers tend to study migration more than fertility and mortality
- Geographers wish to know why that distribution?
- What are the environmental impacts?

HOW DOES POPULATION CHANGE?

Population Change =

Fertility – Mortality +/- Migration

Putting it all together
(accounting for migration)

Population Growth Rate

$\text{CBR} - \text{CDR} \pm \text{Net Migration Rate}$

1,000

Rate of Natural Increase

Rate of Natural Increase (RNI) =

CBR-CDR (No Migration)

CBR > CDR = ↑ population

RNI usually expressed as % e.g., 2% = 2/100 = 20/1000

RNI ≠ population growth if migration significant

RNI U.S. vs. Mexico

Mexico

CBR (22), CDR (5)

RNI = $17/1000$ or 1.7%

yet...annual population growth rate of % 1.3

US

CBR (14), CDR (8)

RNI = $6/1000$ or 0.6%

yet...annual population growth rate at nearly % 1.0 –v. close to Mexico's!

Why?

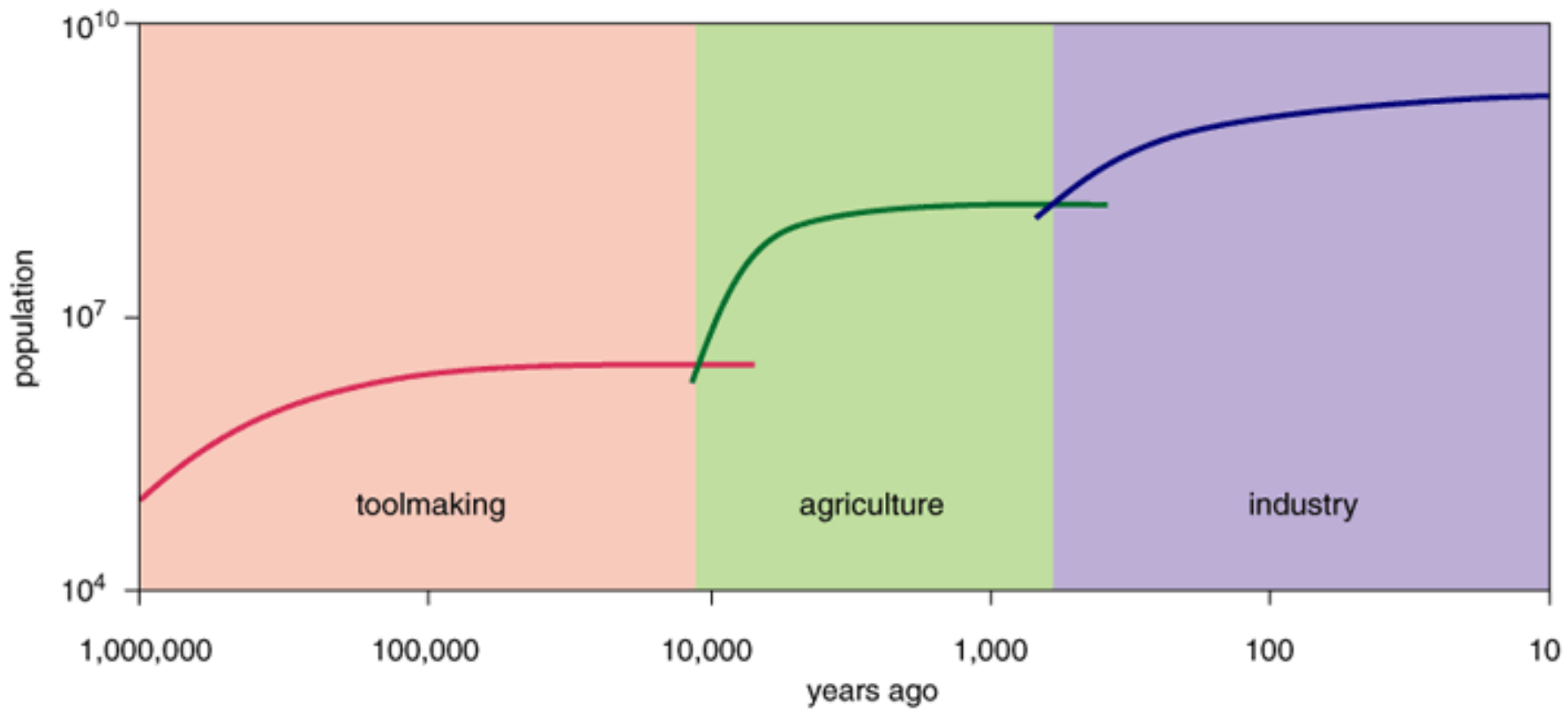
+ net migration of 3 migrants/1000

vs. Mexico – net migration of 4/1000

Not just lily pads:
What else grows like this?

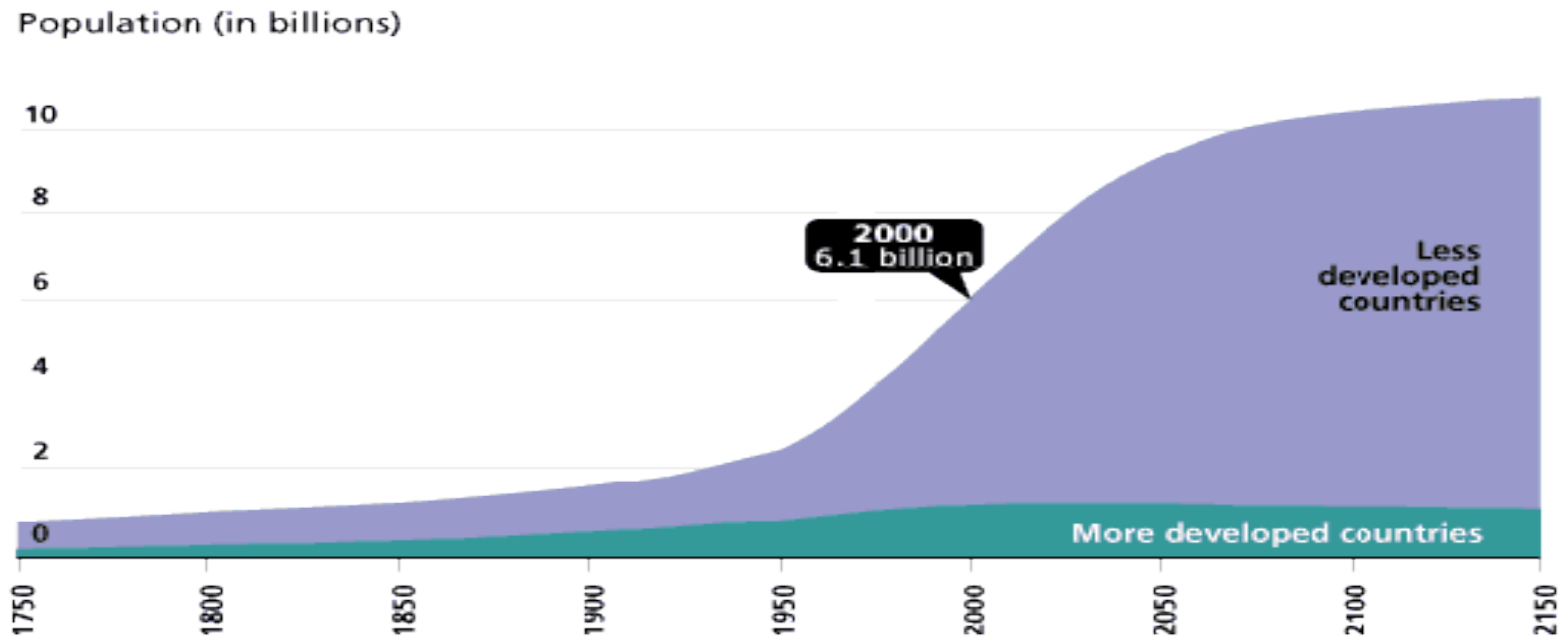
1. In a matter of seconds...
2. At a decadal scale...

1 Million Years of Population Growth: Deevey's Logarithmic Growth Curve



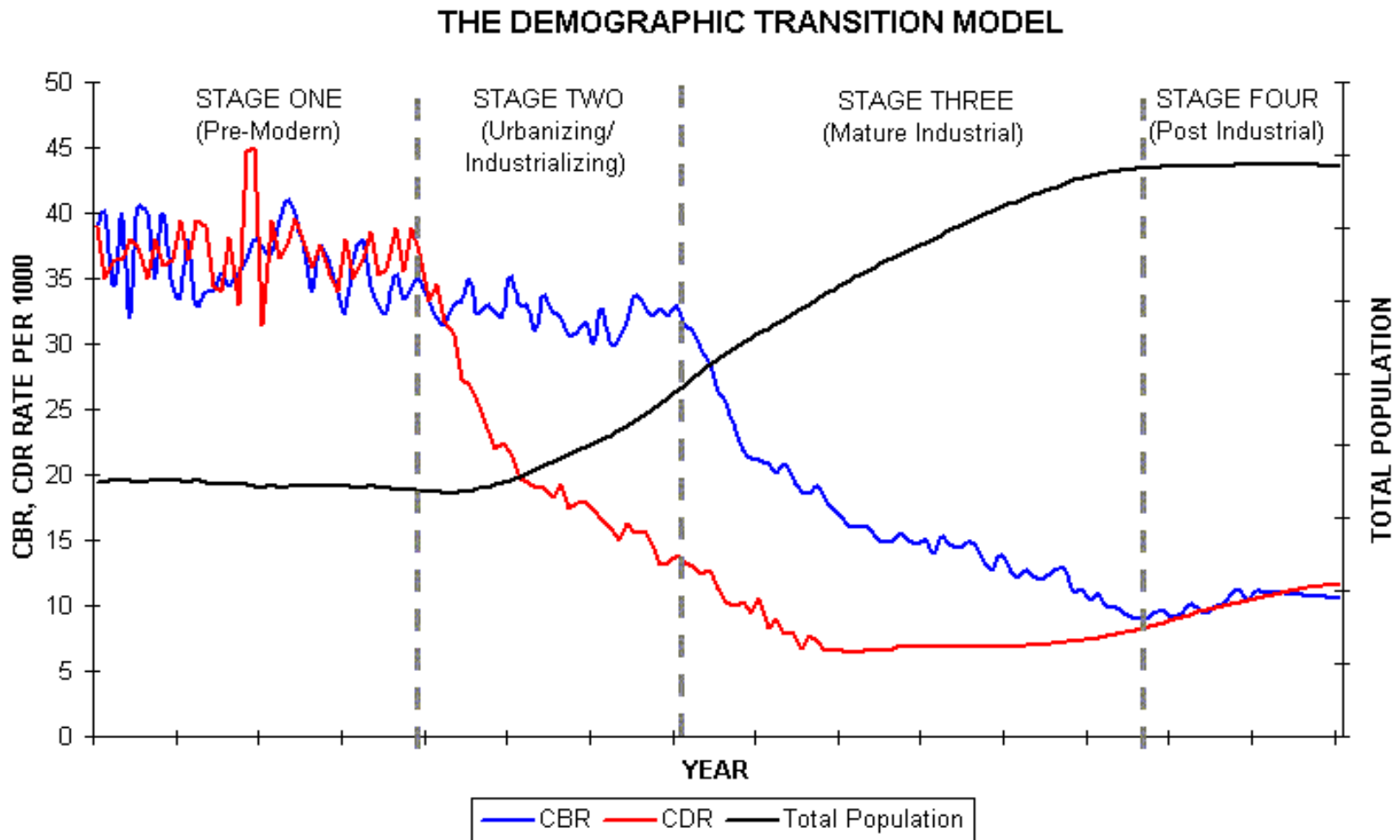
Deevey, E.S. Scientific American, Sept. 1960.

World Population Growth 1750–2150



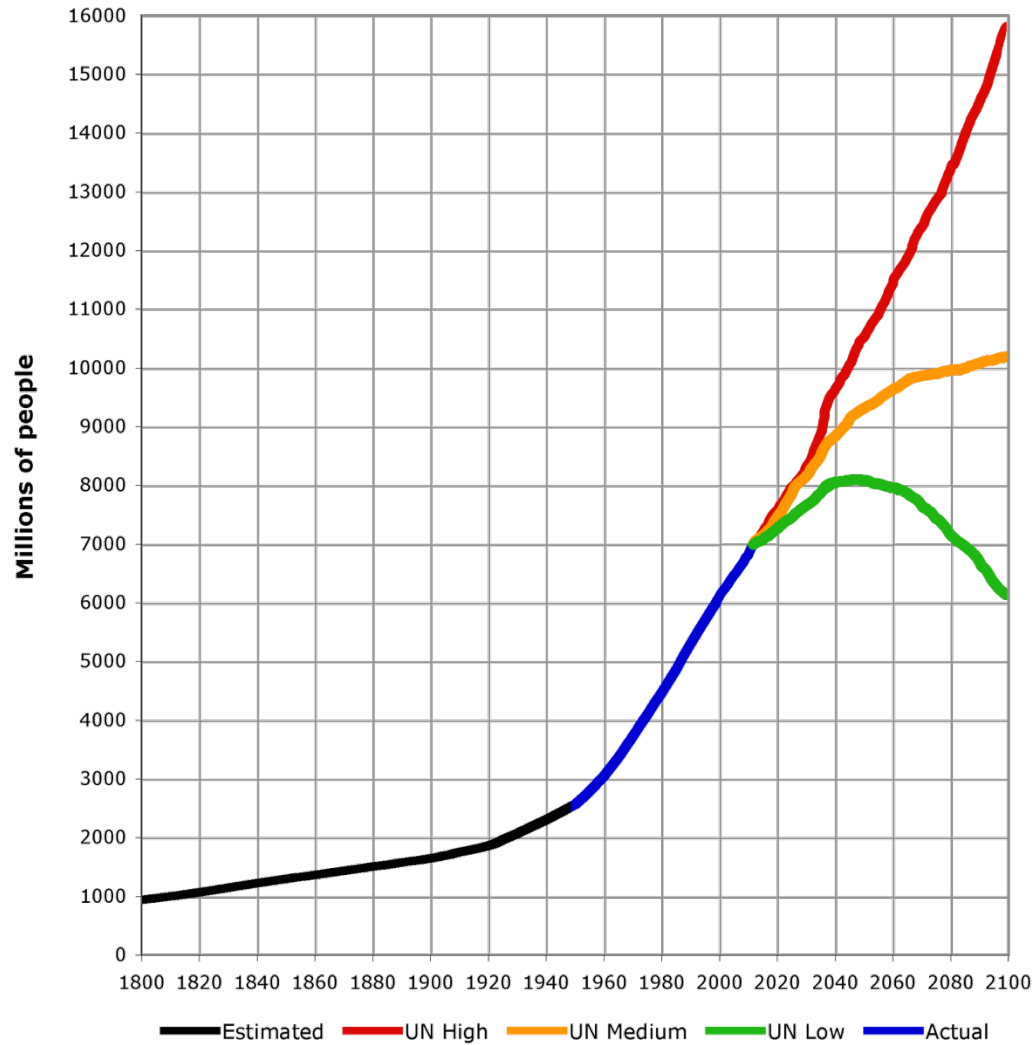
Source: United Nations, *World Population Prospects, The 1998 Revision*; and estimates by the Population Reference Bureau.

Demographic Transition



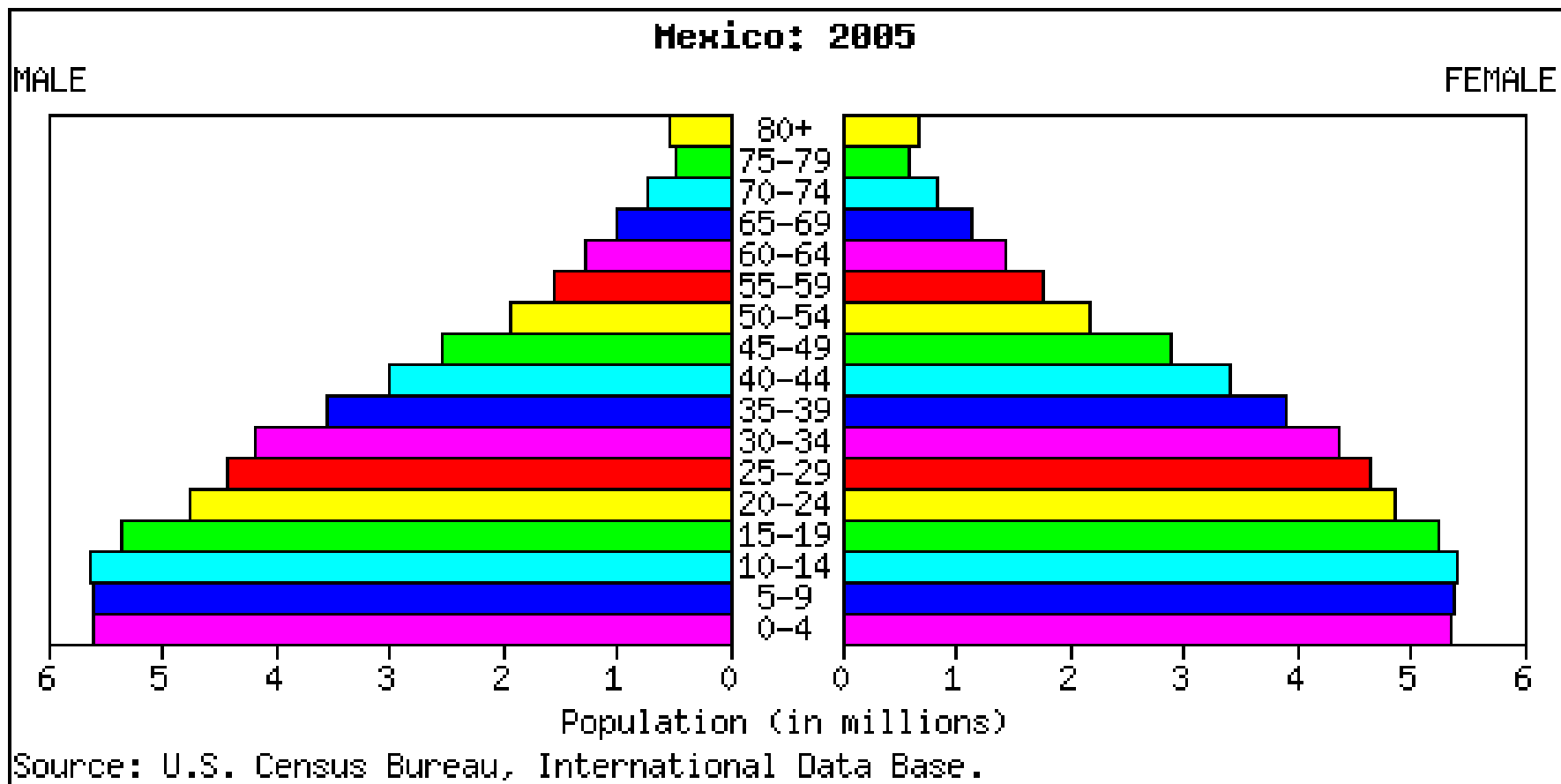
Source: K. Montgomery, Department of Geography and Geology, University of Wisconsin.
<http://www.uwmc.uwc.edu/geography/Demotrans/demtran.htm>

Actual and Projected Global Population



Source: wikipedia

Population Momentum



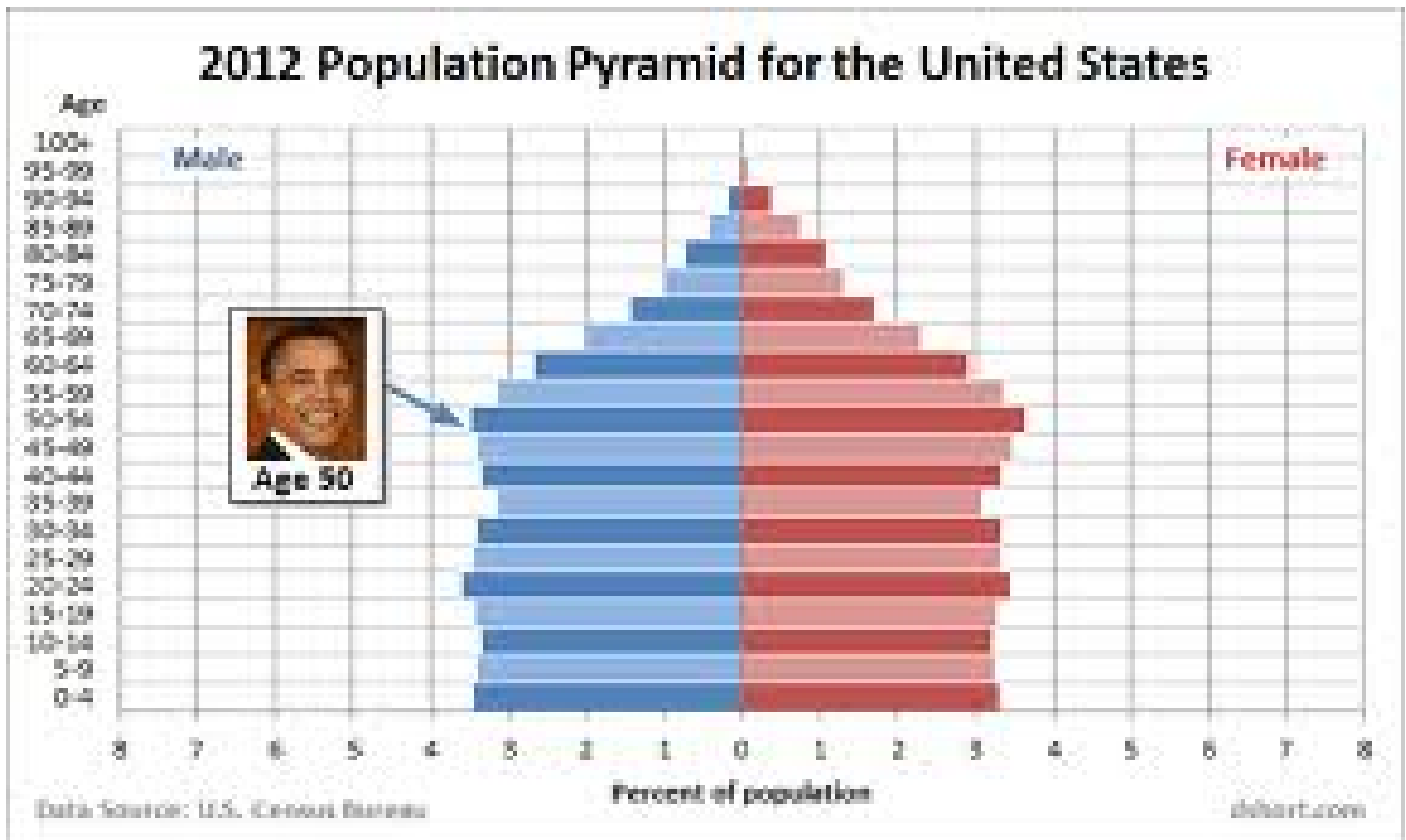
Life Expectancy at Birth

Life Expectancy (E_0) =

Average # years of life for people born in a given year based on current age-specific death rates (e.g. death rates for people at each year of age)

- Poorest LDCs $E_0 < 50$ (Southern Africa-35!)
- Sweden, Canada $E_0 = \sim 80$ (US 78)

Population Pyramid for United States +/- stable





GROWTH AND DEVELOPMENT BY THE NUMBERS

BIG PICTURE DEMOGARPHIC TRENDS IN U.S. AND CALIFORNIA

United States

76,212,168 | Population in 1900

California 1.95% of U.S. Population

151,325,798 | Population in 1950

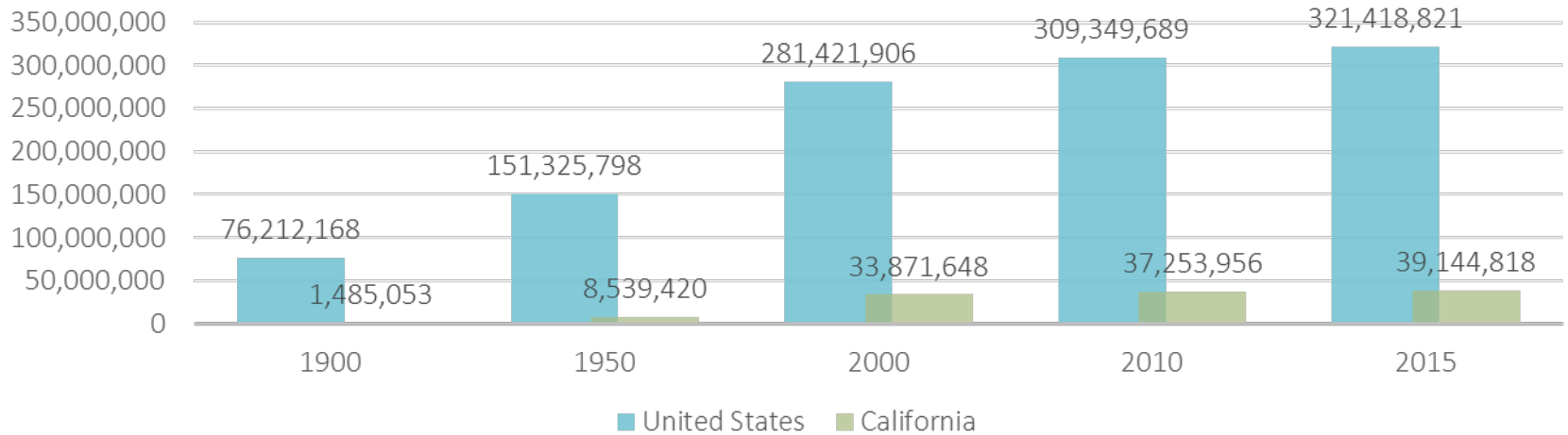
California 5.64% of U.S. Population

281,421,906 | Population in 2000

California 12.04% of U.S. Population

United States and California Population Growth

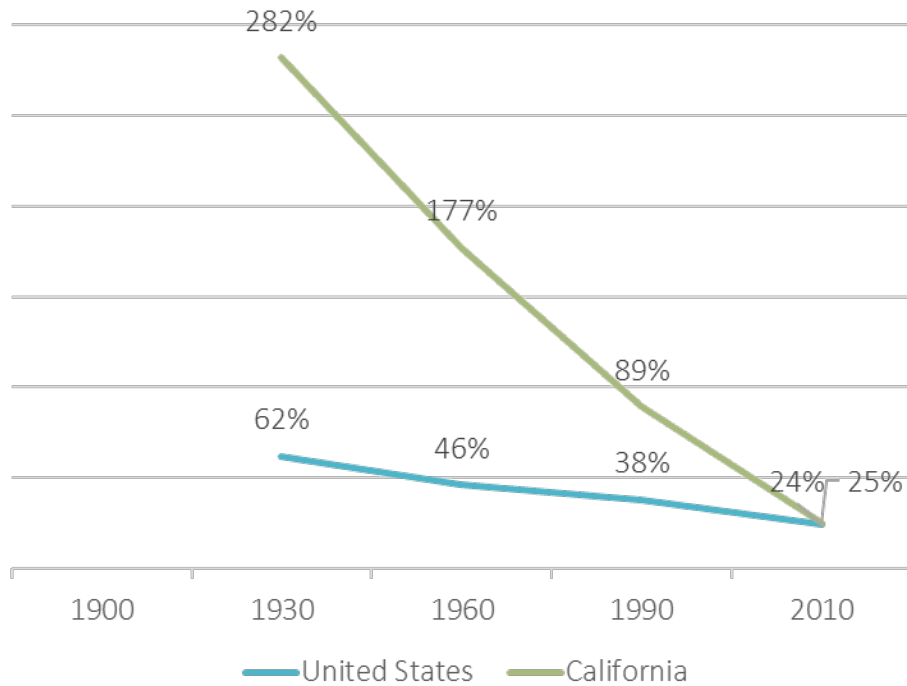
Total Population



Population Growth Rates over 30 Year Periods

The growth rate for California between 2010 and 2015 was 5.05%

The growth rate for the U.S. between 2010 and 2015 was 3.90%



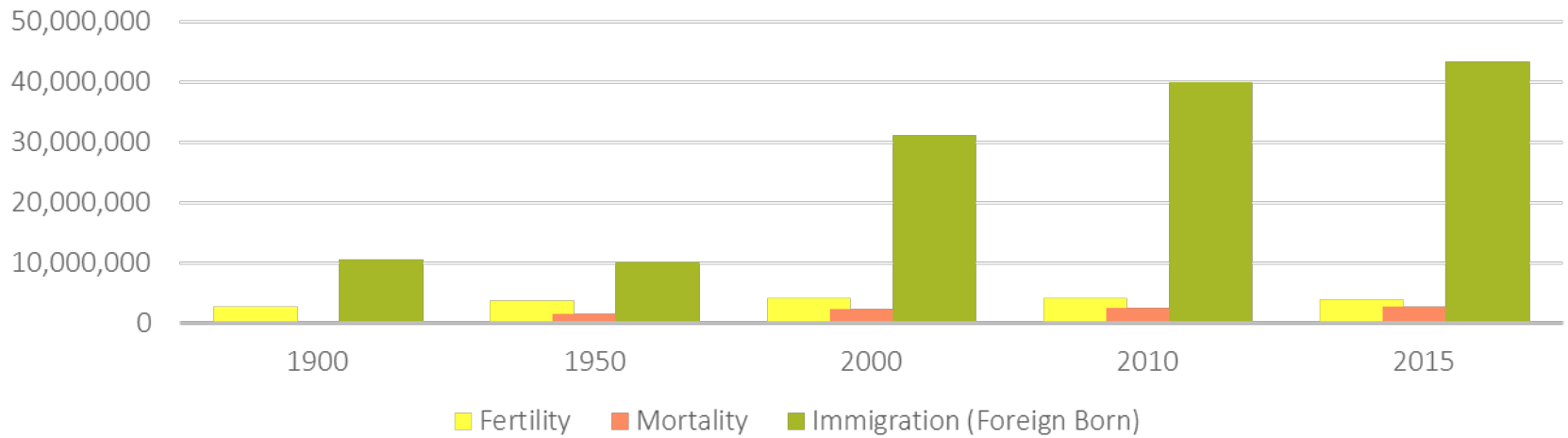
Mortality, Fertility and Immigration

Underlying the Why in Population Growth

United States

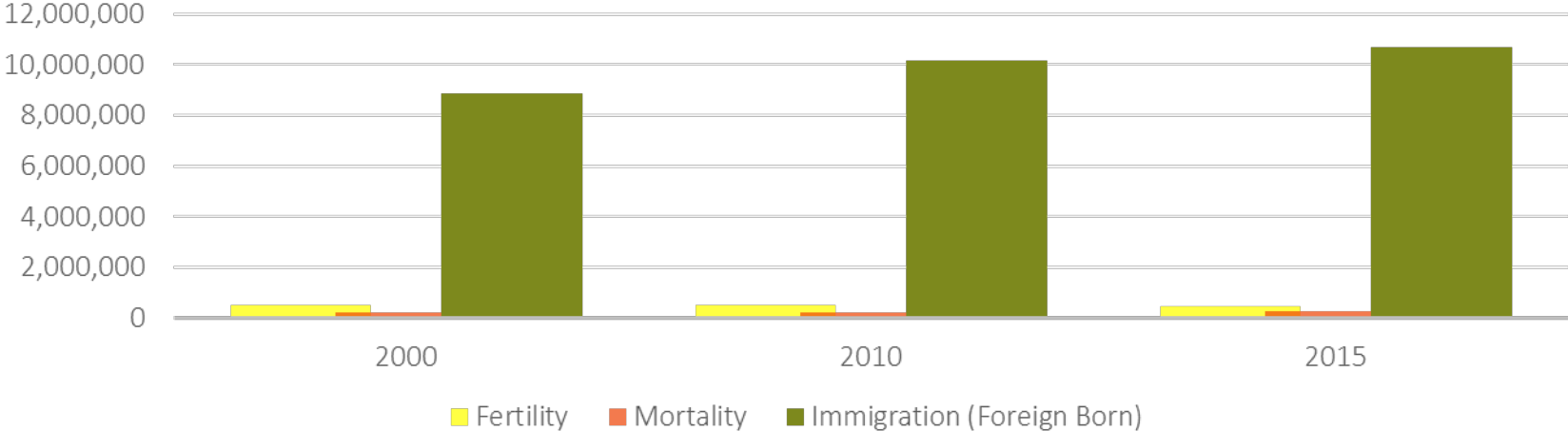
Underlying the Why

Changes in Population



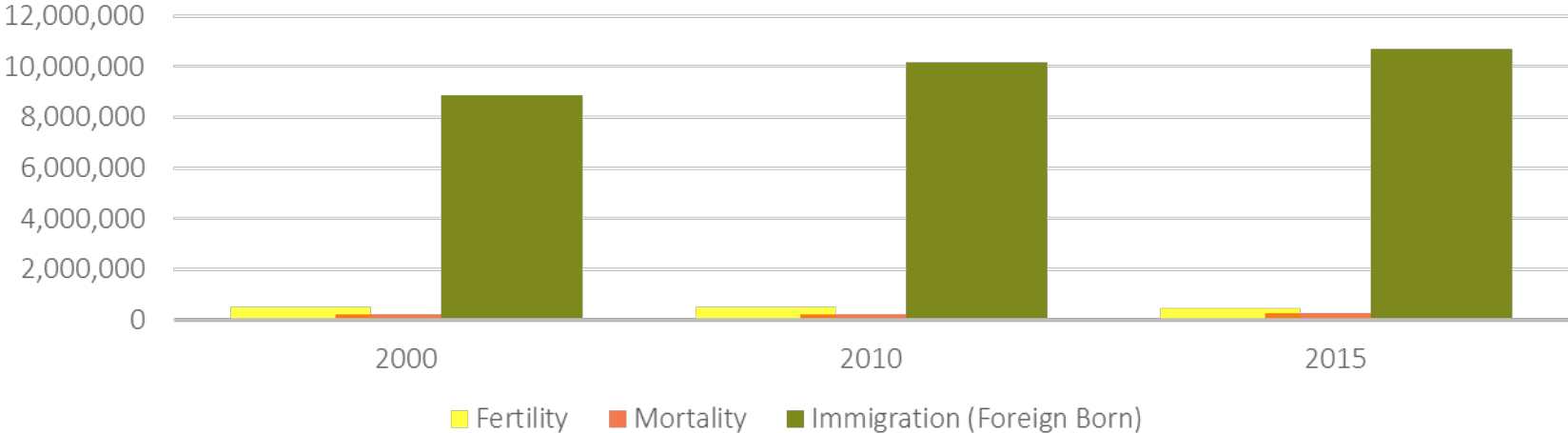
California Underlying the Why

Changes in Population



California Underlying the Why

Changes in Population

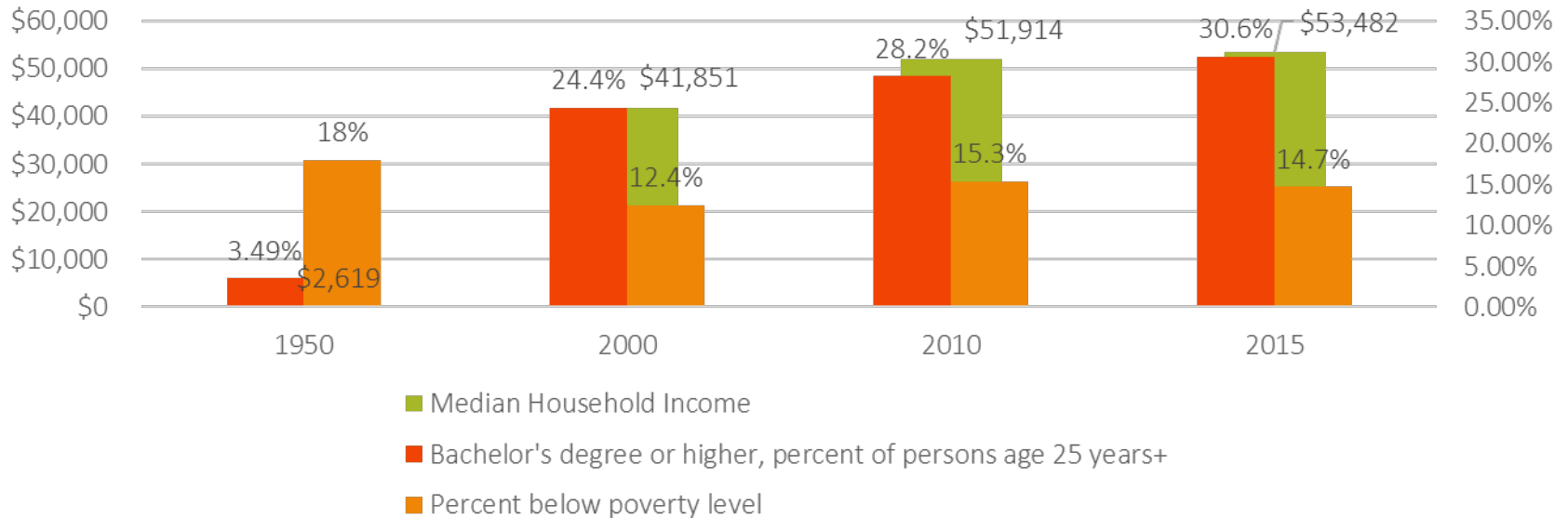


Household Income, Education and Poverty

Observed Economic and Social Impacts Tied to Demographic
Changes and Population Growth

United States

Observed Economic and Social Impacts



California Observed Economic and Social Impacts

