

**University of New Mexico
Geospatial and Population Studies**

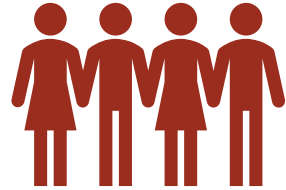


NM Population Estimates and Projections

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Outline



Population Estimates

Background
2019 Estimates
Statewide Trends



Population Projections

Background
2020 Projections

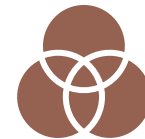
Population Estimates



Observations about current or past populations



Inexpensive updates to costly census counts



Methods are well-established with known biases



Produced by the US Census Bureau, state and local agencies and private sector

	US Census Bureau	UNM GPS
Data Sources	Limited to nationally consistent data	State specific
Methods	1	3+
Smallest Geography	City/Town N=138	Census Tract N=499
Race Categories	6	4

Estimate Source Comparison



Cohort-Component

$$Pop_{2017} = Pop_{2010} + Births - Deaths + In Migration - Out Migration$$



Housing Unit



Ratio Correlation



Cohort Change Ratios

GPS Estimates Methodologies



**NM DOH VITAL
RECORDS**



**NM MVD DRIVER'S
LICENSES**



**NM PED SCHOOL
ENROLLMENT**



**NM SOS VOTER
REGISTRATIONS**



**CMS MEDICARE
ENROLLMENT**



**IRS MIGRATION
FILES**



**RESIDENTIAL
BUILDING PERMITS**

Population Estimates Key Input Data

GPS Estimates Methodology

Key Steps

1. State Total
2. County Totals
3. Census Tract Totals
4. Characteristics
Age/Sex/Race/Ethnicity
5. Data Fitting

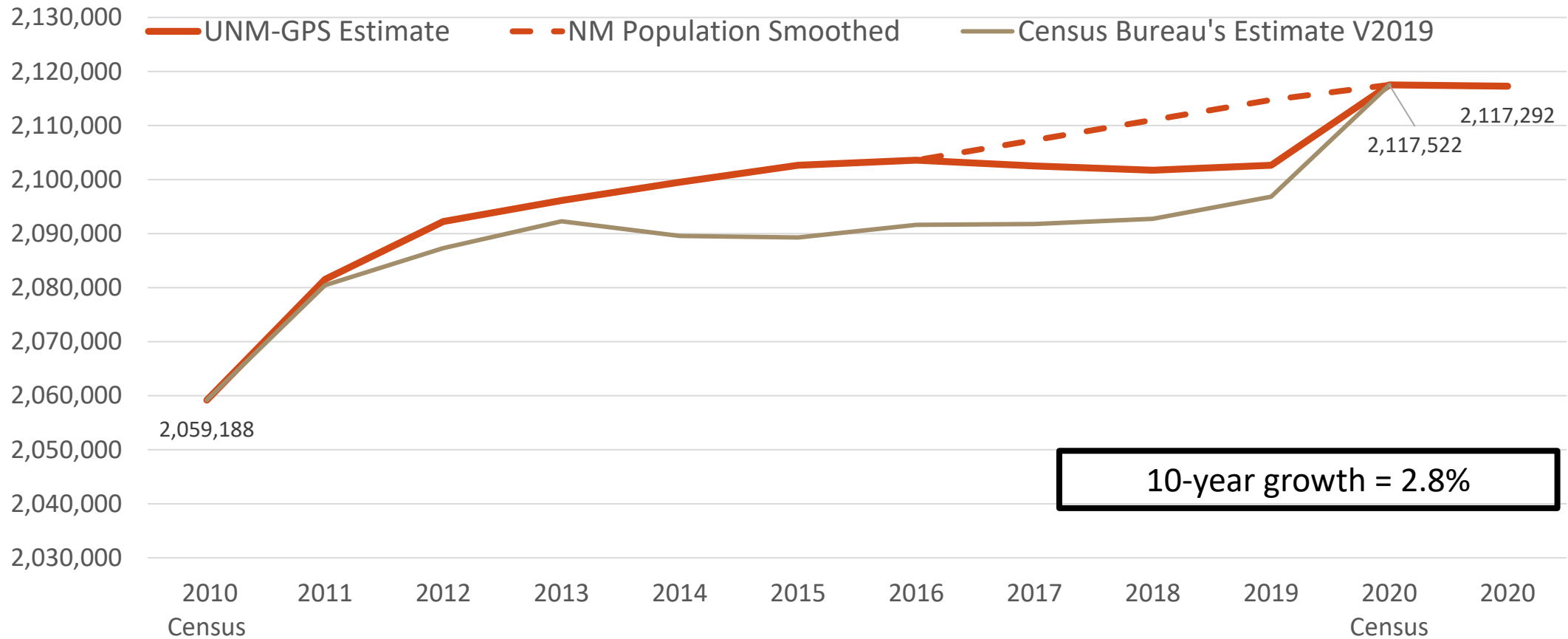
Factors Influencing Uncertainty and Error in Estimates

- Smaller populations
- Further from the Last Census
- Underrepresented Populations
- On Tribal Lands
- As Populations Change

What is different for 2020?

- Used April 2020 Census State and County totals for base population
- Use county-level birth and death data from April through June 2020 to estimate July 1st, 2020 population
- Assumed minimal migration
- Used GIS techniques to assign 2020 block population data to 2010 Census Tracts for April 1st, 2020
- Proportionally distributed population change from April 2020 to July 2020 based on prior decade patterns of growth for each tract (holding County totals invariant)
- Population characteristics were distributed using data from the National Center for Health Statistics, which uses the 2010 Census as the base

New Mexico Population Estimates 2010-2020





Births are Down



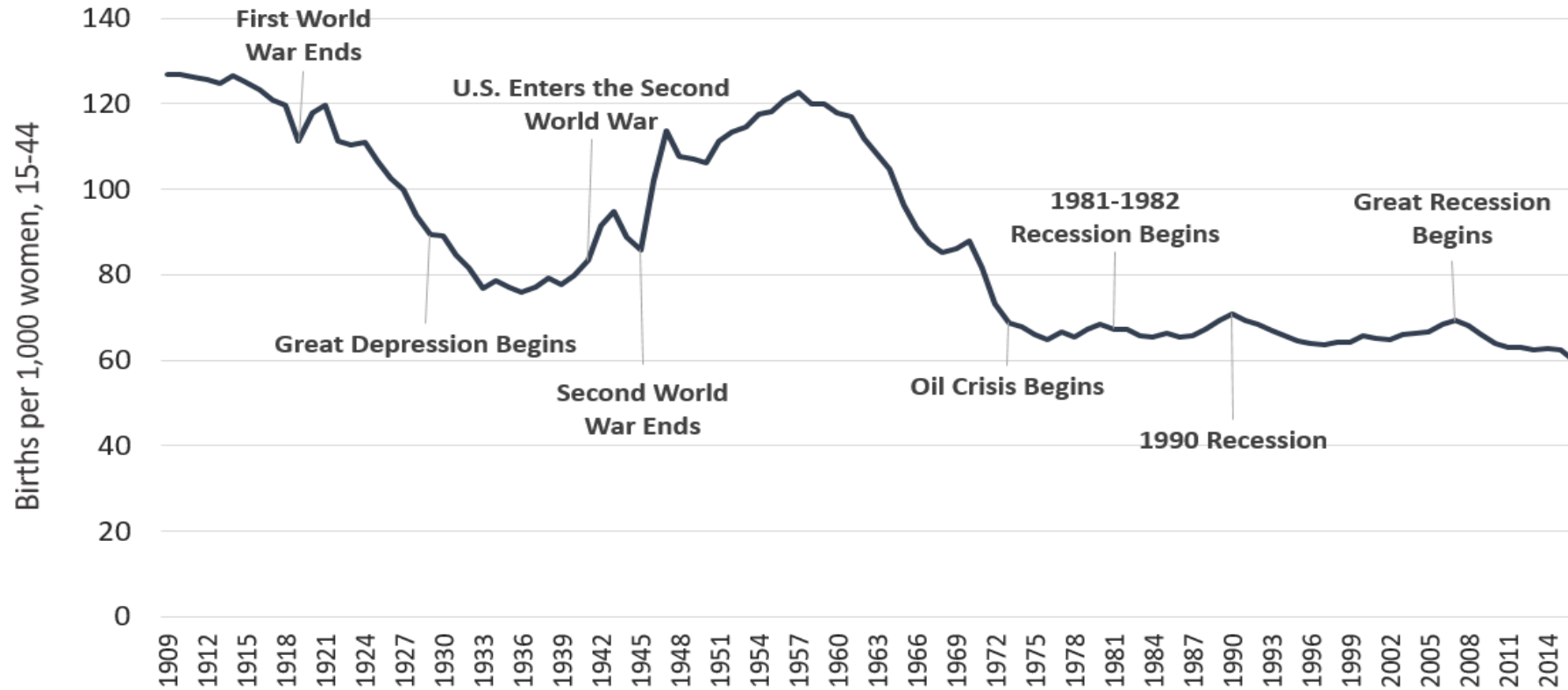
Deaths are Up



Migration is Out

Why Flat Growth?

Fertility Rate: United States, 1909-2016

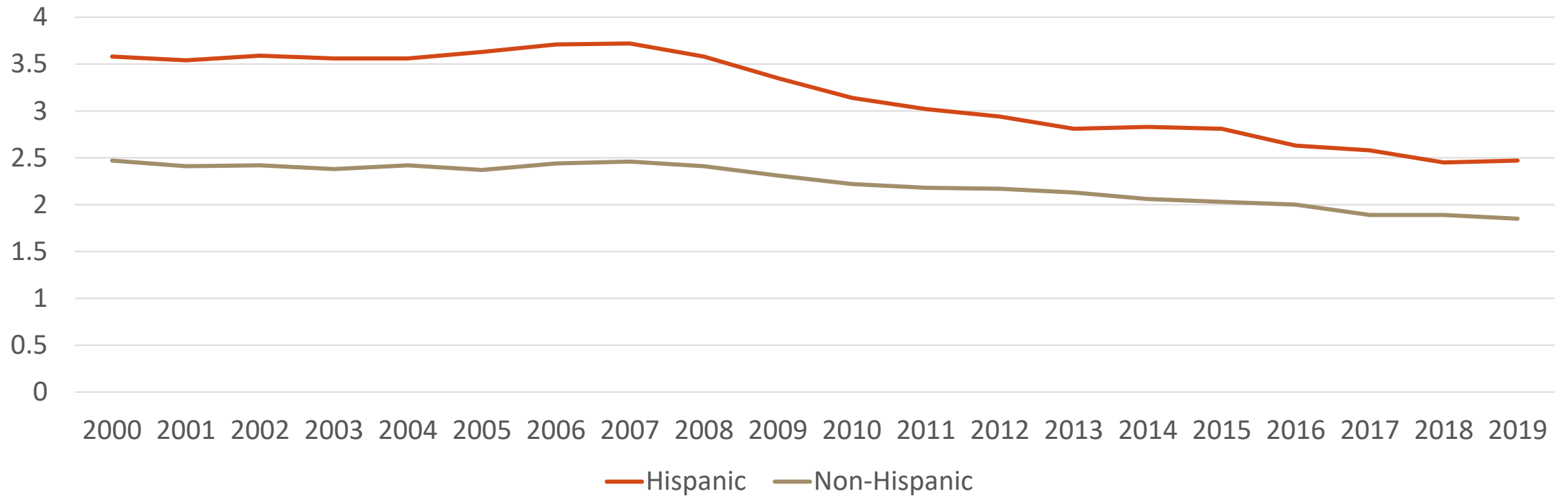


Note: Fertility rate is number of births per 1,000 women 15-44 years of age. Data prior to 1960 have been adjusted by the U.S. Census Bureau for under-registration. Data for census years (starting with 1940) are based on population enumeration as of April 1 whereas enumeration for all other years is as of July 1. Data for 1951-1954 and 1956-1971 are based off a 50% sample of births. Data 1972-1984, some states reporting are based off a 50% sample of births.

Source: NCHS, national vital statistics report, *vol 66, no 1* (for data 1960-2015). NCHS, *Vital Statistics of the United States, 2003, Volume I, Natality* (for data 1909-1960).

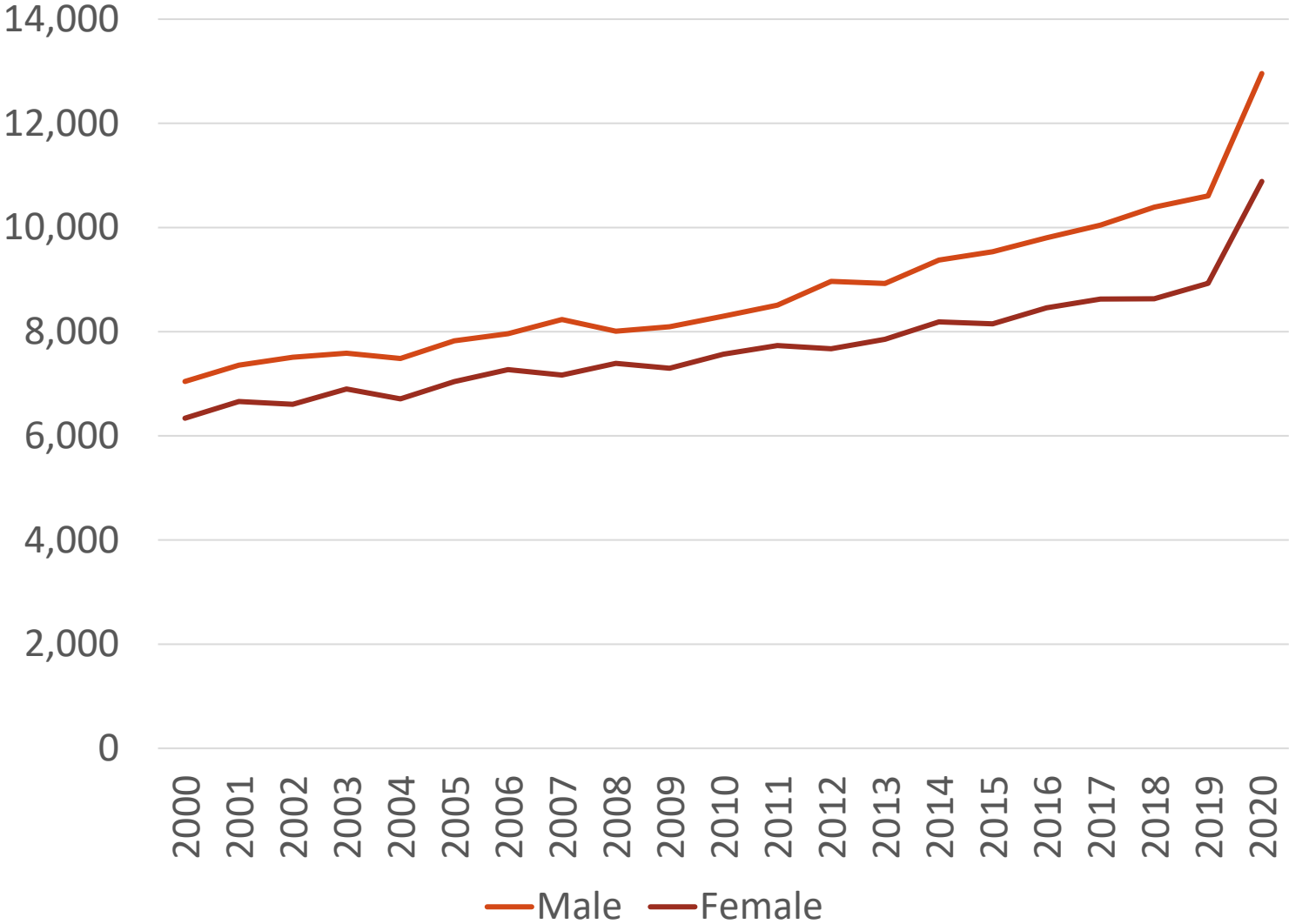


Total Fertility Rate Among Hispanic and Non-Hispanic Women in New Mexico, 2000-2019



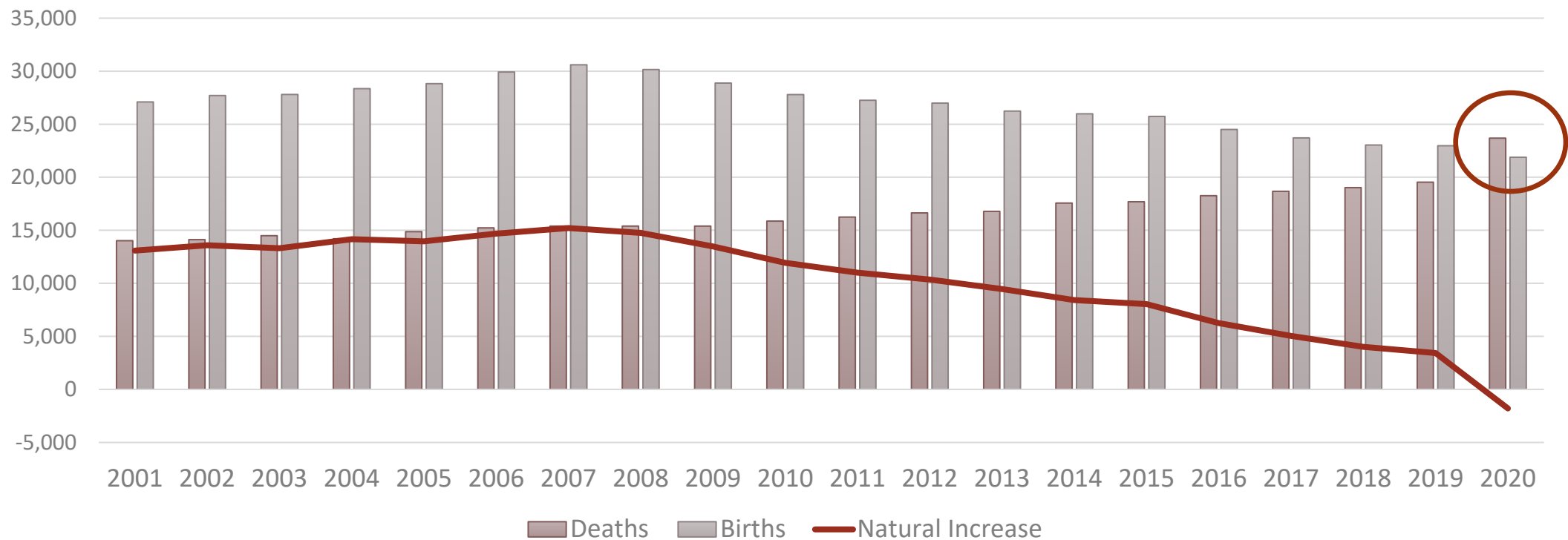
Declining Fertility

Mortality

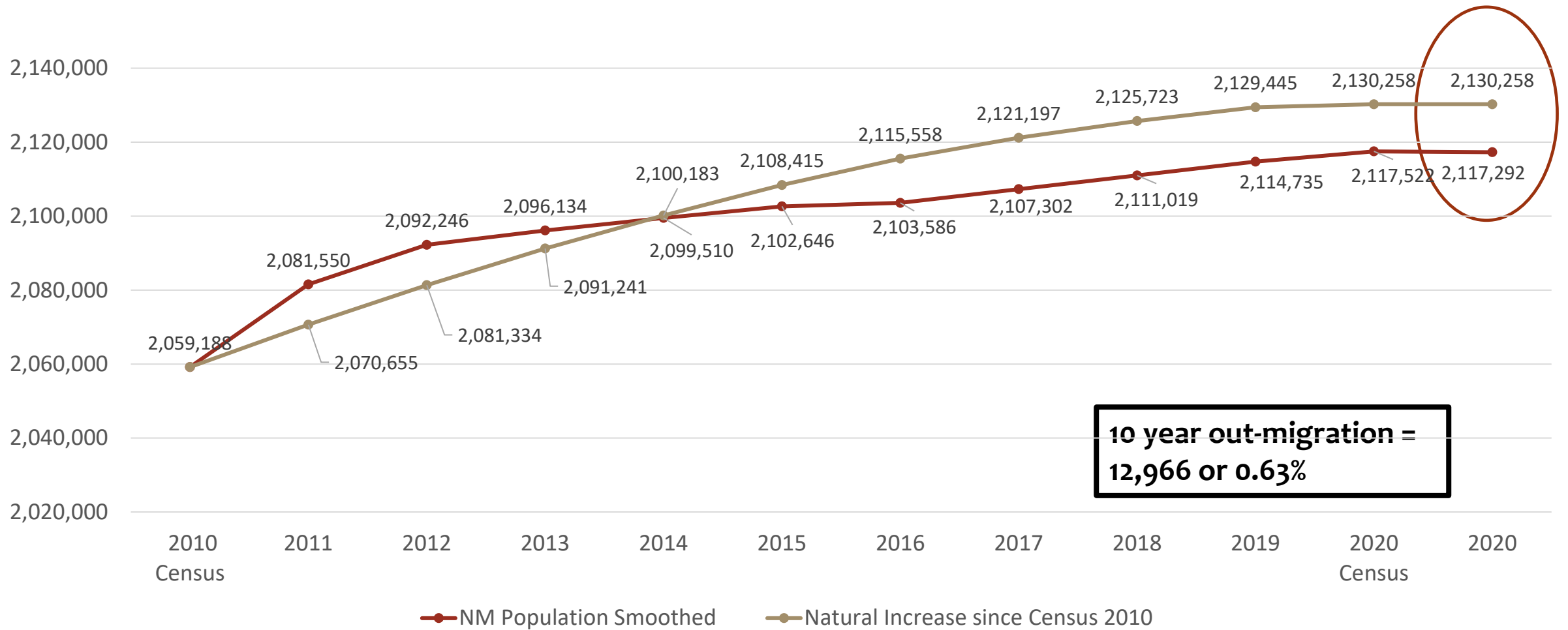


- Total deaths increasing due to aging population
- Mortality rates also increasing slightly
- People are less likely to live long lives if they are poor, get little exercise or lack access to health care (Dwyer-Lindgren, Bertozzi-Villa, Stubbs, et al., 2017).

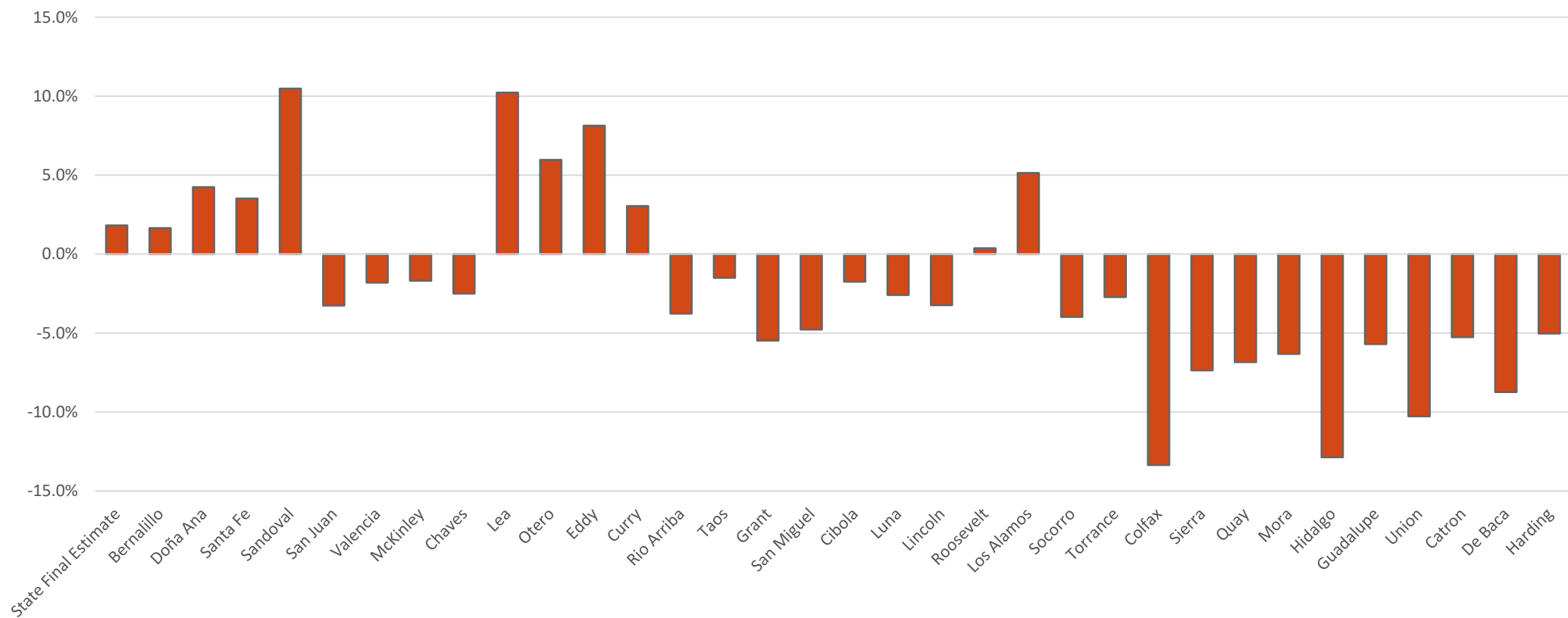
Decline in natural increase since last Decennial Census



Births, Deaths, and Natural Increase in New Mexico 2001-2020

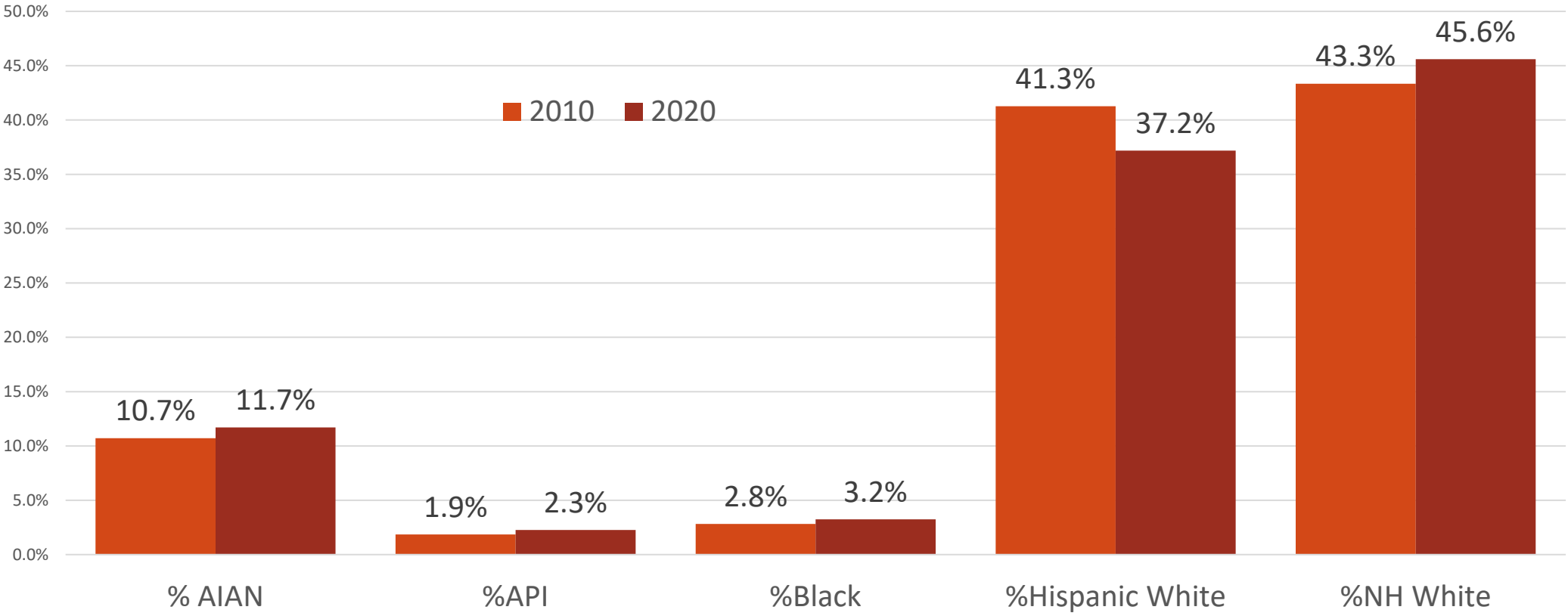


NM State Total Vs. Natural Increase 2010-2020

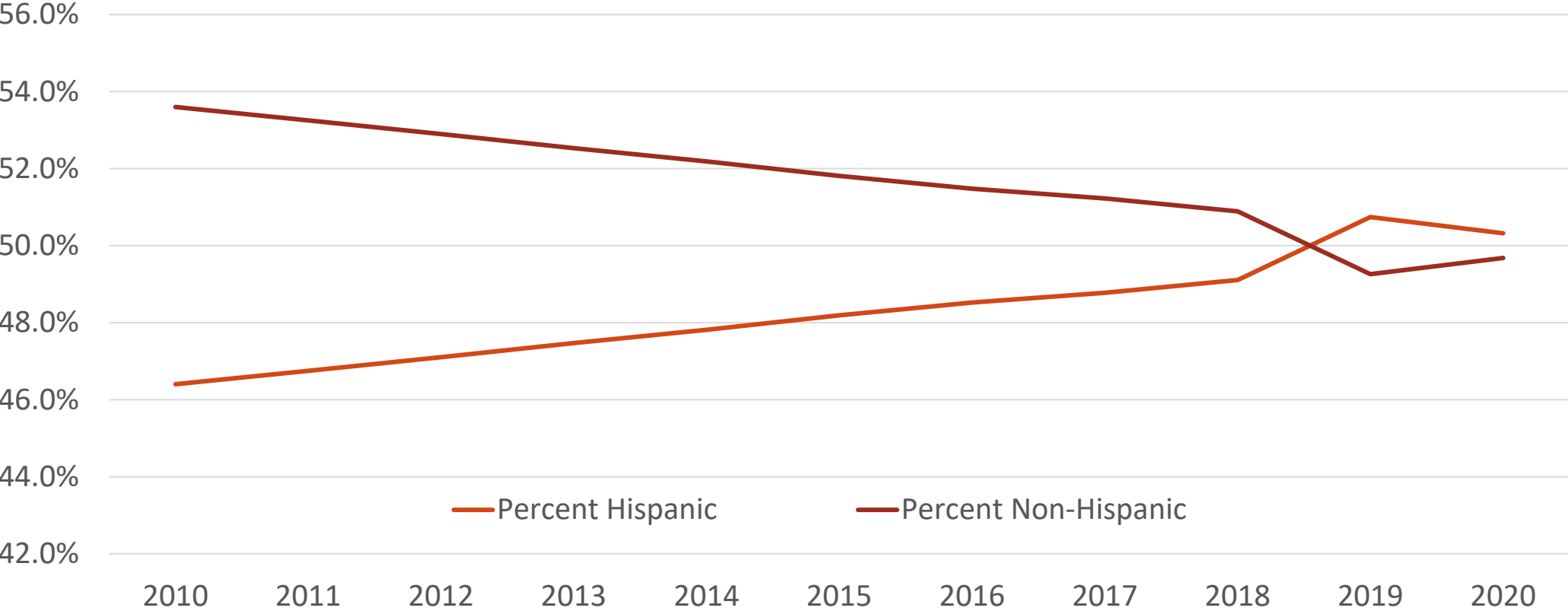


Population Change by County 2010-2020

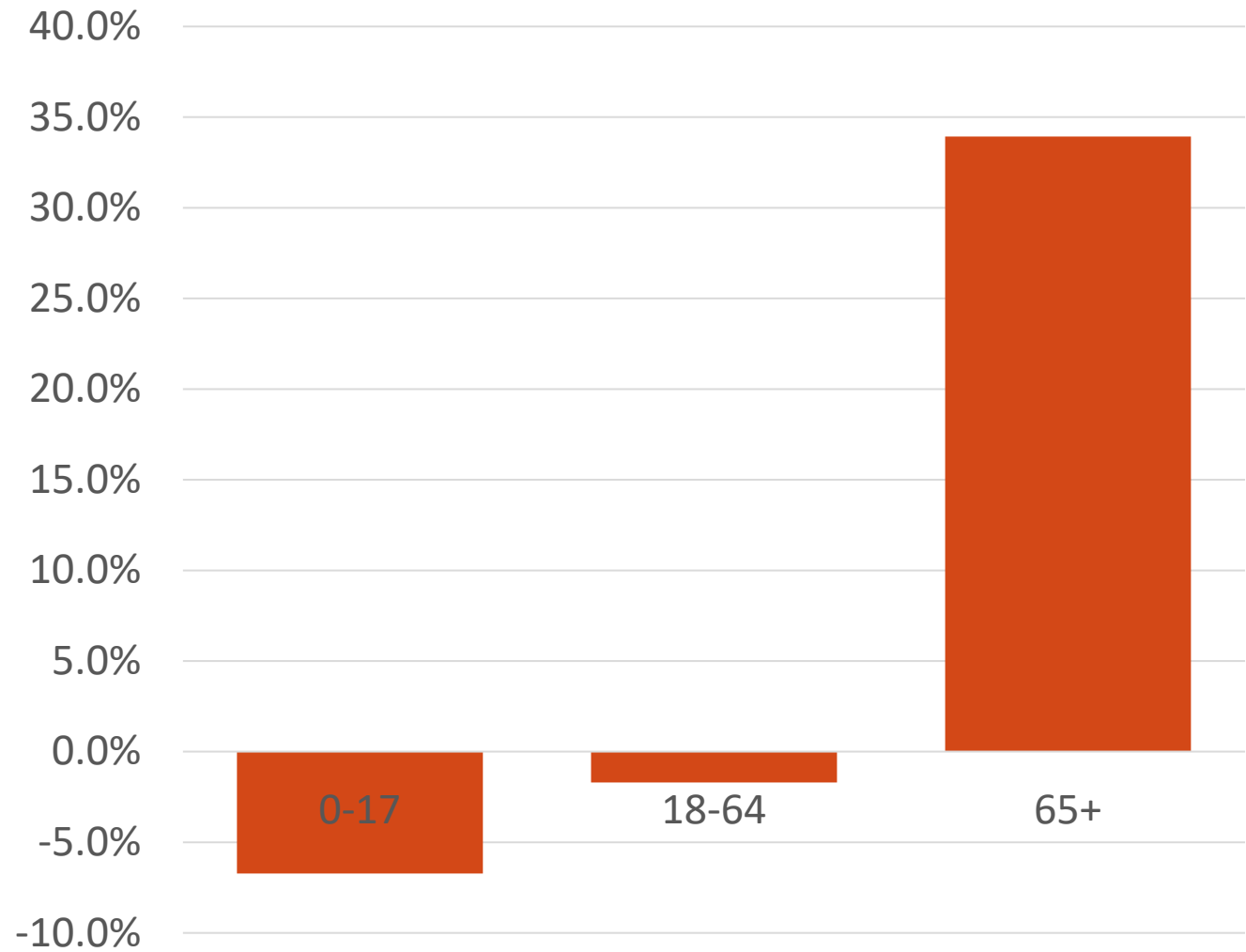
NM Racial Composition 2020



Percent Hispanic, 2010 - 2020

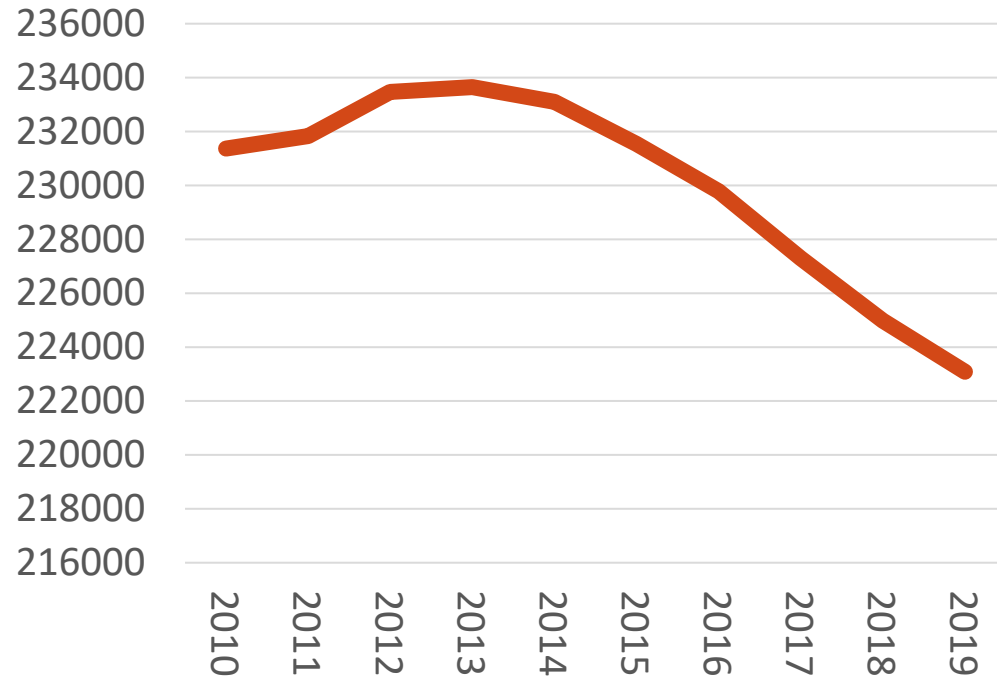


Nine Year Growth By Age

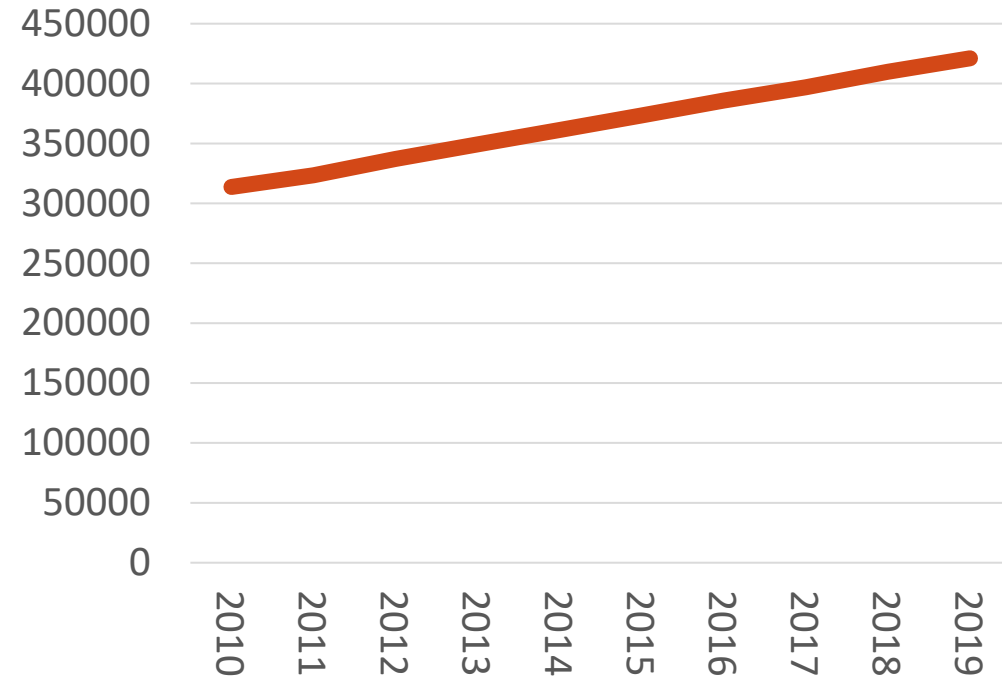


Aging Population

K- 8 SCHOOL ENROLLMENT



MEDICARE ENROLLMENT



Population Projections: Cohort Component Method

$$Pop_{n+x} = Pop_n + Births - Deaths + Net Migration$$

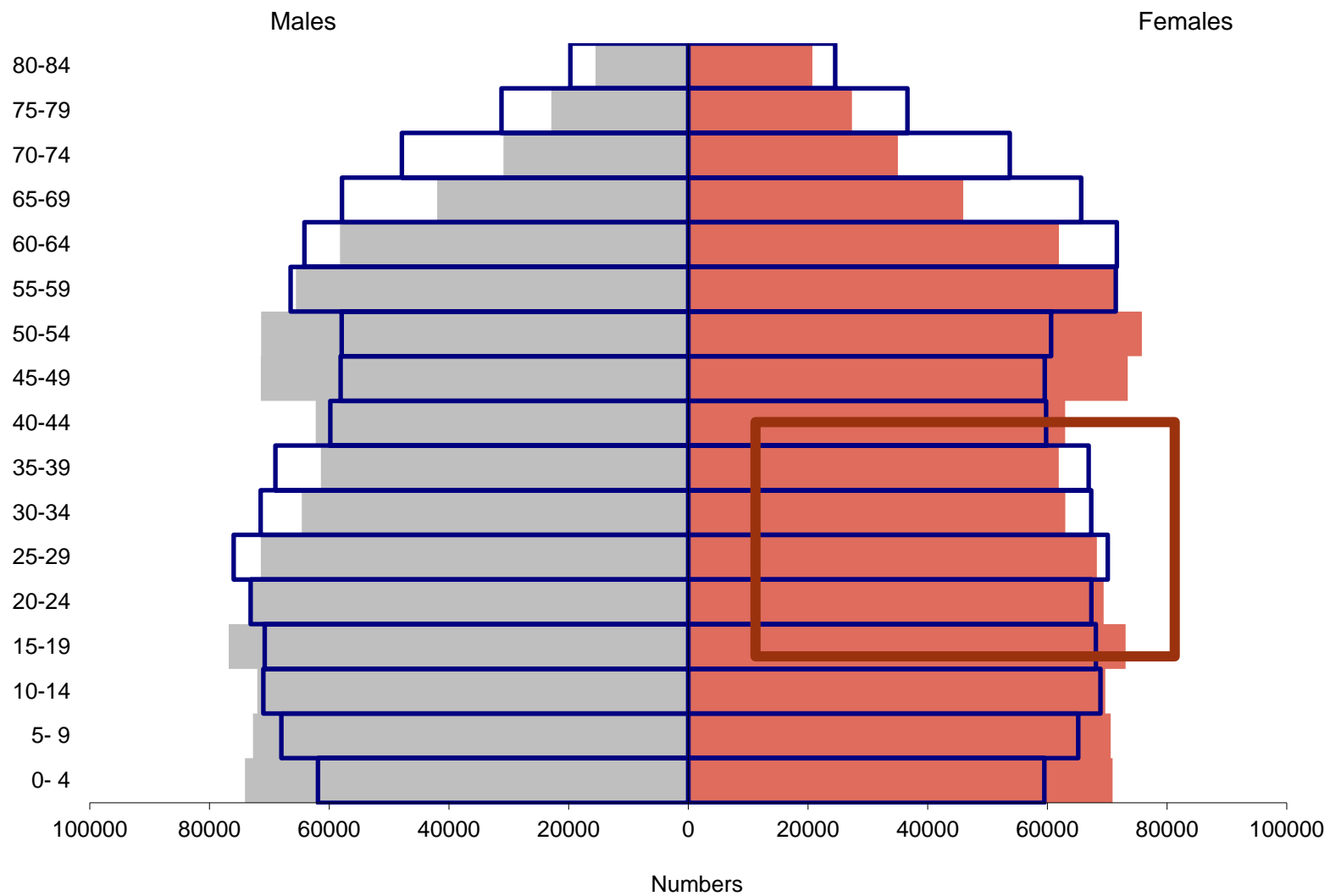
Population Size and Age Structure

Fertility Trends

Mortality Trends

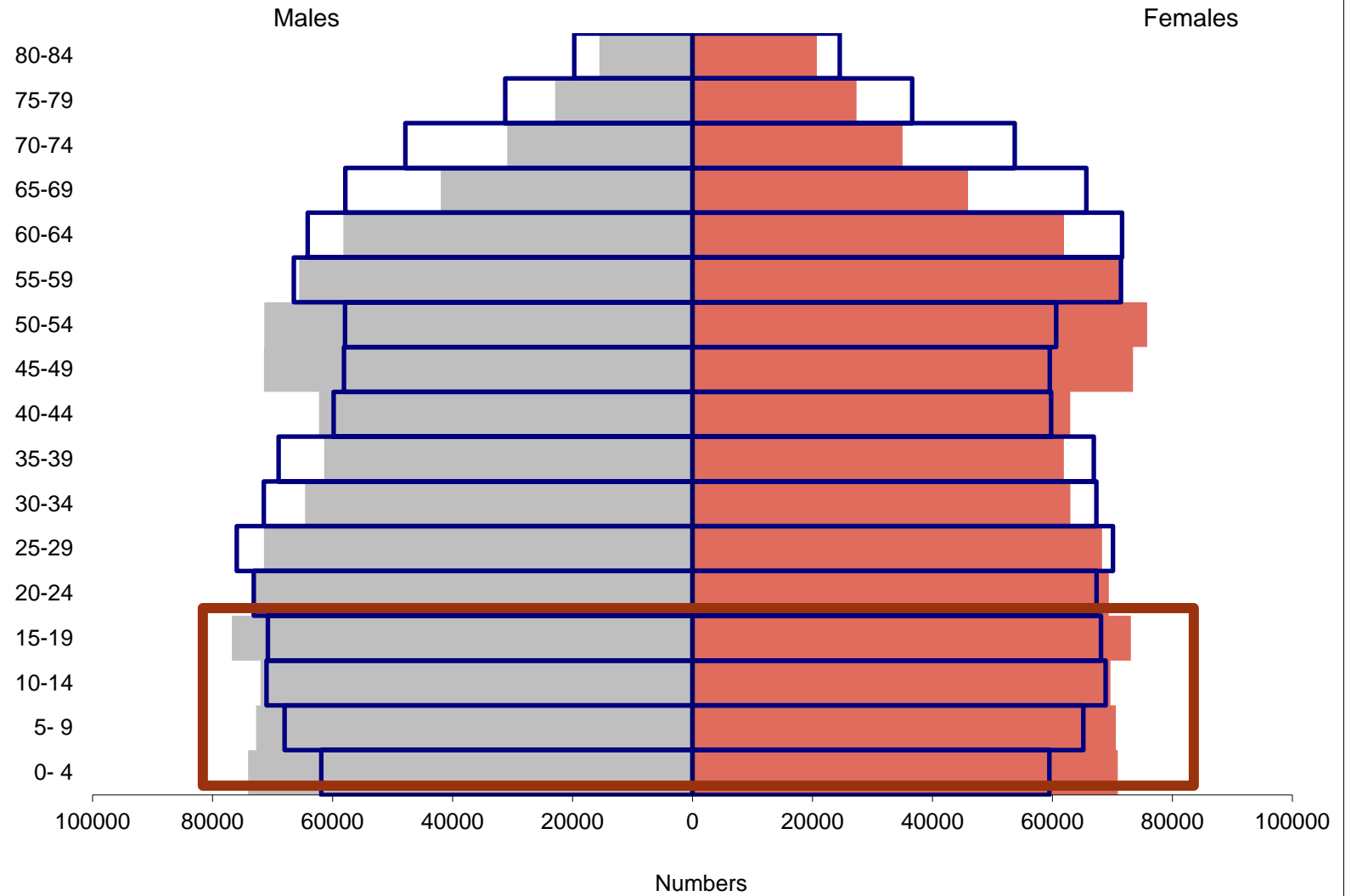
Migration Trends

New Mexico 2010 (shaded) & New Mexico 2019



Changing Age Structure

New Mexico 2010 (shaded) & New Mexico 2019



Changing Age Structure



Fertility

Will fertility continue to decline as it has been? Will it begin to rise, or will it remain stable?

- **Assumption:** Fertility will continue to decline for Hispanic women, bring the overall state fertility rate down to the current rate for non-Hispanic women



Mortality

Life expectancy has increased for much of the past century but has been fairly stable in recent years.

- *Will we continue to live longer, or will poorer health behaviors lead to shorter lives?*
- **Assumption:** Mortality will remain at current rates

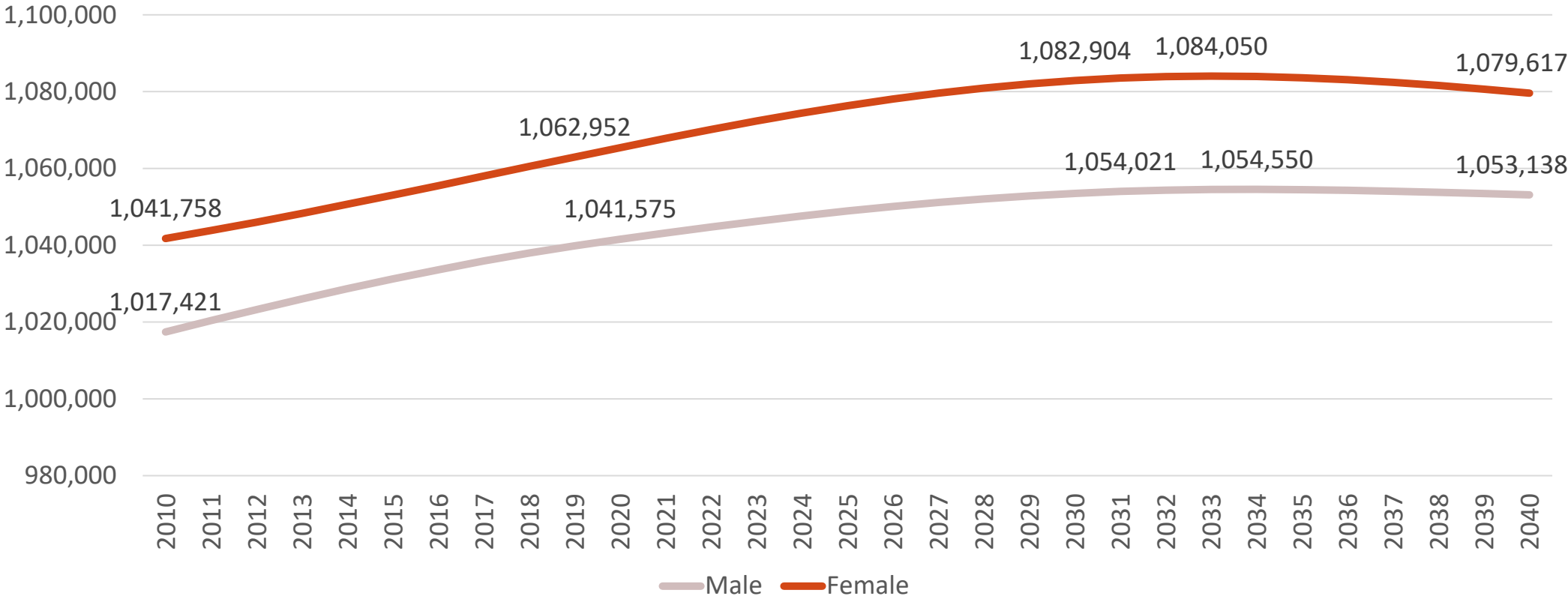


Migration

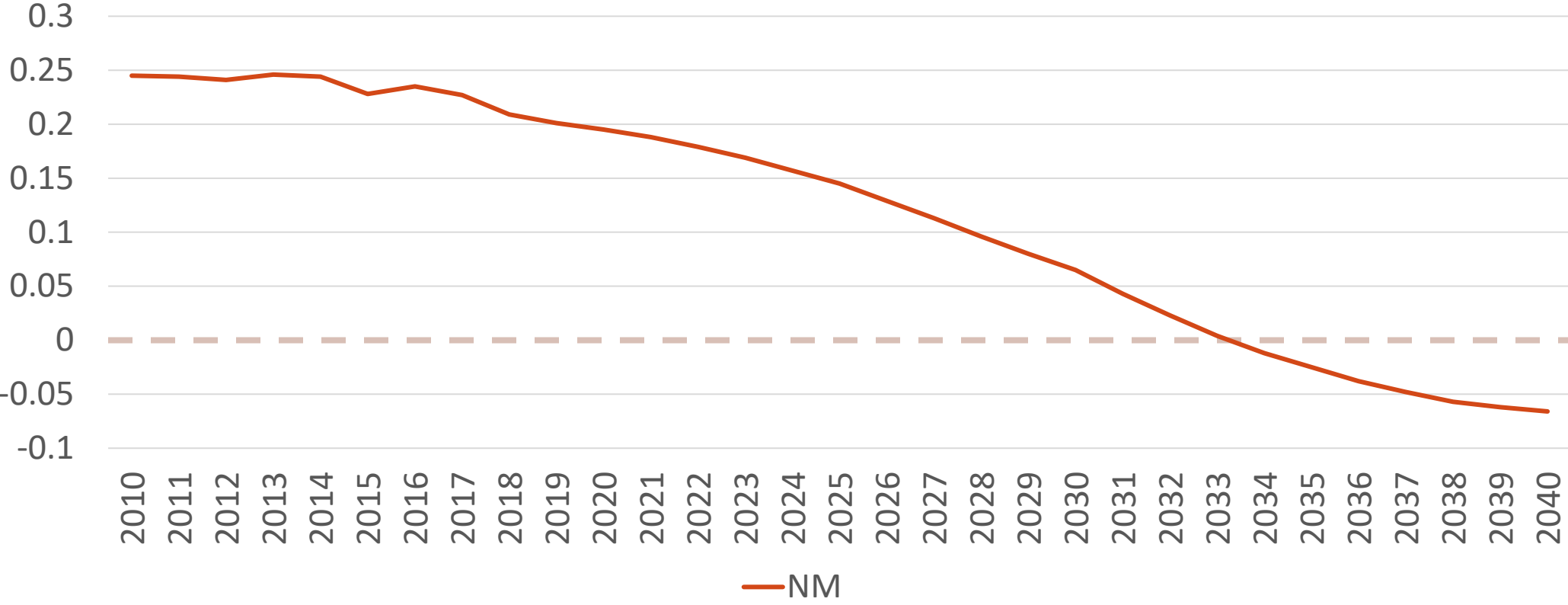
Assumption: Migration from 2020-2040 will gradually increase until it reaches the average of migration patterns observed in the 2000s and the 2010s, thus allowing for periods of higher migration and lower migration.

Assumptions

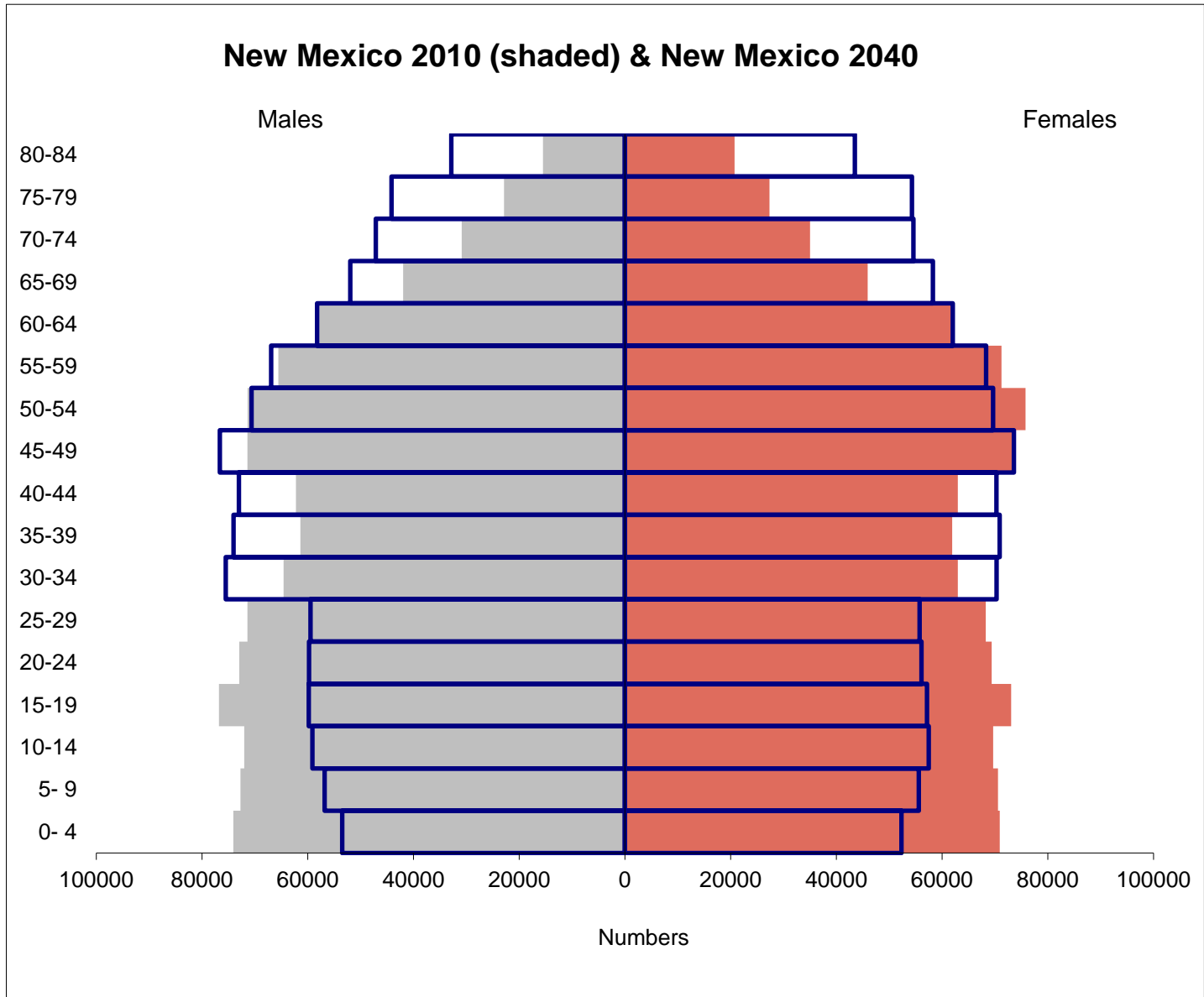
NM Population Projection



Projected Growth Rate for New Mexico



Changing Age Structure



Increase in fertility
among residents
(not particularly
realistic)

Reduce out
migration of young
people

Attract young
people to the state

Increased births due
to more people of
childbearing age

Factors that could alter our trajectory

When to expect revised projections?

- Currently expect the Census Bureau to release the Housing and Demographic Characteristic File by end of 2022 or early 2023
 - Provides key components for projections: age and sex distribution of population
- Review and evaluate quality of the Census Release
- Revised projections ~Fall 2023

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**Questions or
Comments???**

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