Guiding Policy through Economic Modeling: Socioeconomic Indicators (SEI) and Regional Development

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what does REMI say?sm

Agenda

- Introduction
- Topic overview
- Methods & approach
- Case study
- Notable results
- Conclusion
- Q&A

Why SEI?

Guiding Concepts

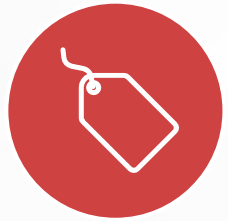
- Public policy should serve the interests of the public
- In order to ensure that policy effects are broad-based, need to evaluate how different social and demographic groups are affected by policies
- Required to do so by federal, state and local regulations
- American demography is changing; building a diverse workforce is imperative for future economic development and growth

Is everybody getting a fair shot at the "American dream"?

What's SEI?

Compensation Distribution

Employment Changes by Earnings Quintile



Consumption Price by Earnings Quintile and Range

Inequality Coefficient

Employment by Race & Gender

Employment by Educational Attainment

Labor Force Participation by Race & Gender

Unemployment

Per Capita Income

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Topic Overview: Achieving Broad-Based Prosperity

Competing Economic Narratives

Limited Government

Lower taxes, few regulations

- Following Trump Tax Cut and Jobs Act
- Stimulus to the economy by deficit-funded tax cuts, along with reforms
- Q4 2019: Unemployment rate to 3.5%, lowest rate since 1969
- Unemployment rate for Black and Hispanic groups at record lows

Active Government

Higher taxes, government services and regulations

- Growth rate in the big-government post-war economy (1946-1980) was faster and more widely distributed than the post-Reagan era

In either narrative, SEI offers impartial standardized metrics to guide policy

Topic Overview: Why Care?

Importance of a methodological framework offering standardized metrics on key socio-economic factors

- Understand economic, fiscal, and demographic implications of policies before implementation
- Ensure that public policy serves the broad-based interests of the public

- Make predictions about the effects of policies before implementation
- Avoid unwanted negative impacts
- Make effective use of resources

- Inform policy with standard metrics rather than ideology or intention
- Address stakeholders with evidence that communicates how policy benefits or disadvantages their communities broadly

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SEI in Economic Modeling: Methods & Approach

How can we identify and calculate useful SEI metrics?

Using ACS, BLS, & BEA as data sources & developing new methodologies to set the industry standard

SEI Framework

- Compensation distribution
- Employment by income level
- Prices by income level
- Employment by demographics
- Employment by education
- Labor force participation
- Unemployment
- Per capita income

We'll cover a methodological overview of key SEI metrics

SEI in Economic Modeling: Methods & Approach

Compensation distribution

- Used regionally calculated industry quintiles
- Calculated a weighted average for each industry's average annual compensation rate
- Used each industry's share of total employment in the baseline as the weight

SEI in Economic Modeling: Methods & Approach

Employment and price changes by earnings quintile

- Calculated percentage change of employment for each industry group and occupation group from the baseline
- Calculated using weighted average of consumption commodity prices for each income group, either quintiles or ranges
- Determined weights for commodity prices based on each group's national average share of spending devoted to that commodity category

SEI in Economic Modeling: Methods & Approach

Employment changes by racial/ethnic category and gender

- Calculated national shares by race and gender for each occupation using ACS data
- Calculated occupation weights for each race, gender, and occupation

- Estimated labor force demographic shares by place of work
- Converted commuter data from number of jobs to number of laborers
- Calculated commuter inflows and outflows by race and gender
- Calculated labor force by place of work

- Calculated the employment by occupation, race, and gender shares

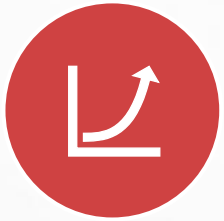
SEI in Economic Modeling: Methods & Approach

Employment changes by educational attainment level

- Calculated number of new jobs created that do not require college education by multiplying employment by occupation by percentage of educational attainment by occupation, from BLS data

- Aggregated educational levels to create summary of occupations by “Bachelor’s degree and above” and “no Bachelor’s degree”

SEI in Economic Modeling: Methods & Approach



Labor force participation changes by racial/ethnic category and gender

- National participation rate was calculated from BLS
- Estimated parameters by age cohort, gender, and racial/ethnic groups for time fixed effects regression
- Participation rates by race, age, and gender were calculated using relative compensation rate, employment opportunity, demographic characteristics, and national participation rates & calibrated with the historical labor force totals
- Multiplied by civilian non-institutional population to generate labor force

SEI in Economic Modeling: Methods & Approach

Overview of the demographic component

- "Cohort component" method used to forecast regional population changes
- Components of demographic change calculated annually for each age cohort by gender and race

- Population at end of the year is starting population plus births & net migration, minus deaths
- Rates of change determined based on observed historical regional trends and national forecast trends

- Special populations treated differently (includes military, prisoners, college students)

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SEI Applications: Sample Scenario

Covid-19 Migration

2020-21 Short-term migration shock is unprecedented:

- Moving back home for millions of college students
- Shift to suburbs
- Interstate migration

National macroeconomic implications:

- GDP
- Employment
- Productivity
- Prices

Structural shift in economic geography:

- States and localities face ongoing, persistent challenges

Analysis highlights socio-economic challenges, like the widening of income, racial, and gender disparities in regional economies

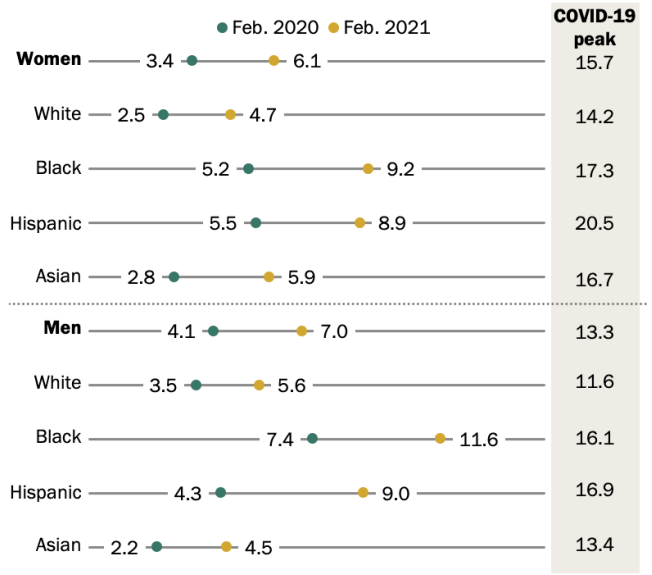
Increase in Inequality

Wealth Inequality	Wage Inequality	Racial & Gender Inequality	Educational Inequality
• All asset classes (stocks, bonds, housing) appreciated • Widened gap between haves and have-nots	• Job losses concentrated in lower wage jobs • Wage gains for professional, remote workers	• Black and Hispanic workers, women disproportionally impacted	• Job market weakest for those with less education

Increase in Inequality

Black and Hispanic workers continue to face higher unemployment rates than other workers

Unemployment rate (%) by gender and race/ethnicity, February 2020 and February 2021



Note: The unemployment rate is the share of workers in the labor force actively looking for work or on temporary layoff. Estimates refer to people ages 16 and older and are not seasonally adjusted. White, Black and Asian workers include those who report being only one race and are not Hispanic. Hispanic workers are of any race.
Source: Pew Research Center analysis of 2020 and 2021 Current Population Survey monthly files (IPUMS).

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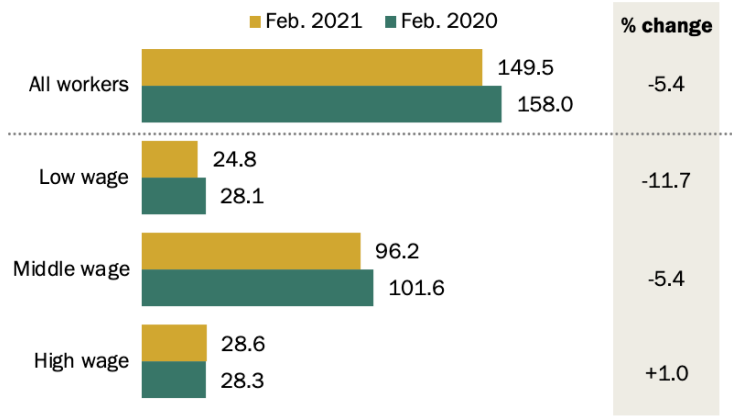
During COVID-19 pandemic, employment fell by more than 10% among low-wage workers

Employment (in millions), February 2020 and February 2021



Note: Estimates refer to people ages 16 and older and are not seasonally adjusted. Low-wage occupations paid less than $15 per hour on average, middle-wage occupations paid $15 to $45, high-wage occupations paid more than $45.
Source: Pew Research Center analysis of 2019 OES National Occupational Employment and Wage Estimates and 2020 and 2021 Current Population Survey monthly files (IPUMS).

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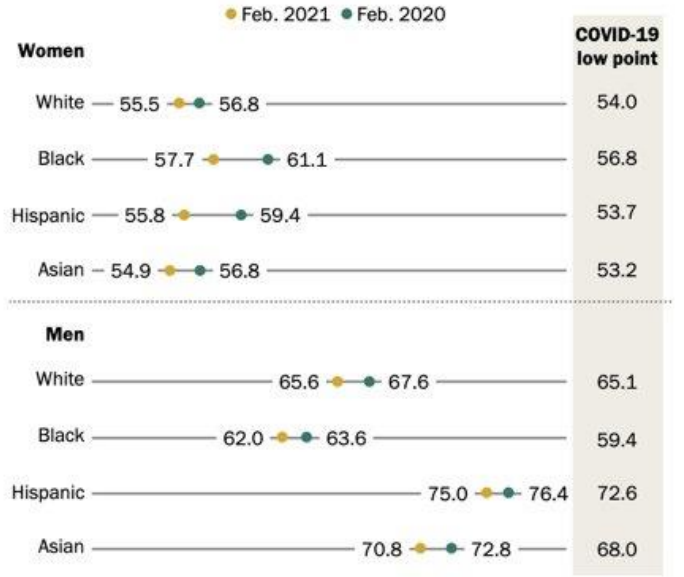
Labor force participation fell more among Hispanic and Black women in the first year of the pandemic

% of women and men either employed or actively looking for work, February 2020 and February 2021



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Source: Pew Research Center analysis of 2020 and 2021 Current Population Survey monthly files (IPUMS).

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Drivers of Migration in 2020-2021

Safety

- Relocation to family homes
- Migration away from densely populated areas

Employment Shock

- Major job losses, especially in services sector
- Declining employment in retail, restaurants, and tourism

Seeking Preferred Lifestyle

- Relocation to preferred regions with different amenities
- Outflows of people from cities to suburbs

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Are these factors temporary or a "new normal"?

Policy Implications of Covid Migration

Indication that the advantages of distance work, as well as inertia and network effects, will persist long past the pandemic

- Heightened competition to attract people (taxpayers)
- Question of whether government can efficiently finance and provide services
- Widening disparities and inequality

Tiebout Model: Government Performance Considerations

Municipalities and states compete to attract firms and residents.
Tiebout sorting is a migration effect where people move to the jurisdiction that best meets their requirements.

- Basic government services: public safety, education, health care, transportation
- Social policies impact people's locational choice: guns, abortion, critical race theory, gender issues, homelessness, COVID-19 policy
- Housing affordability/cost of living
- Taxation, including structure of taxation (sales, property, income, flat or progressive)
- Places with natural amenities (warm weather, beaches, mountains) are inherent beneficiaries

Sounding the Alarm on Disparities

Wealth Gap	Employment Gap	Persistence of Job Shifts
• Asset price increases across all asset classes. • Stocks, bonds, property, commodities, crypto	• Lower-wage, in-person service jobs hit hardest • Higher-paid professional service and technology jobs shifted to remote work and remained in demand	• Closure of small businesses • Adoption of labor-saving technologies, like self-checkout

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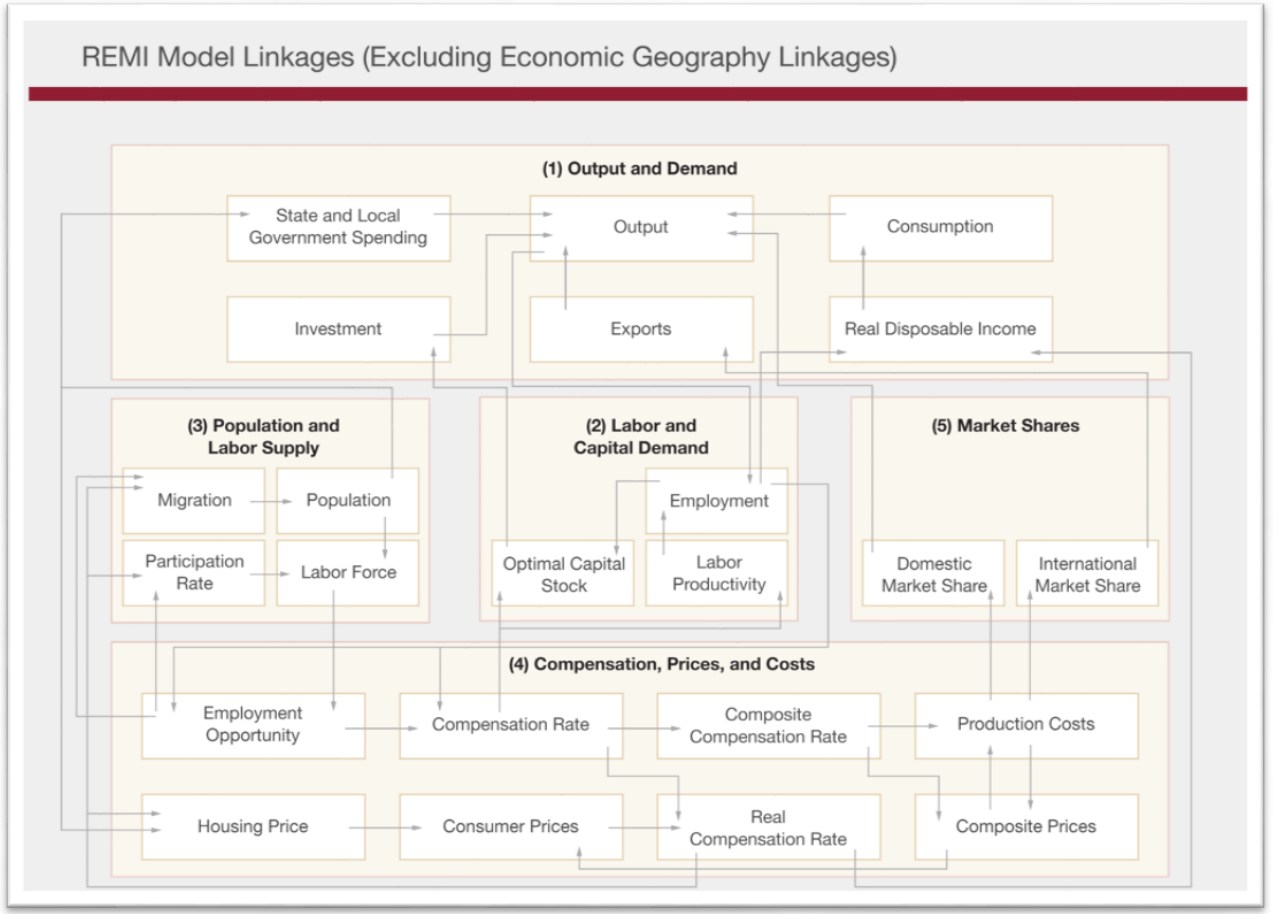
Model Simulation: REMI PI+

PI+ is the premier software solution for conducting dynamic macroeconomic impact analysis of public policy.

As our flagship model, PI+ specializes in generating realistic year-by-year estimates of the total local, state, and national effects of any specific policy initiative.



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Model Simulation: Set Up

Model

- Two-region, 70-sector PI+ model
- Regions are center cites and the rest of U.S.

Scenario

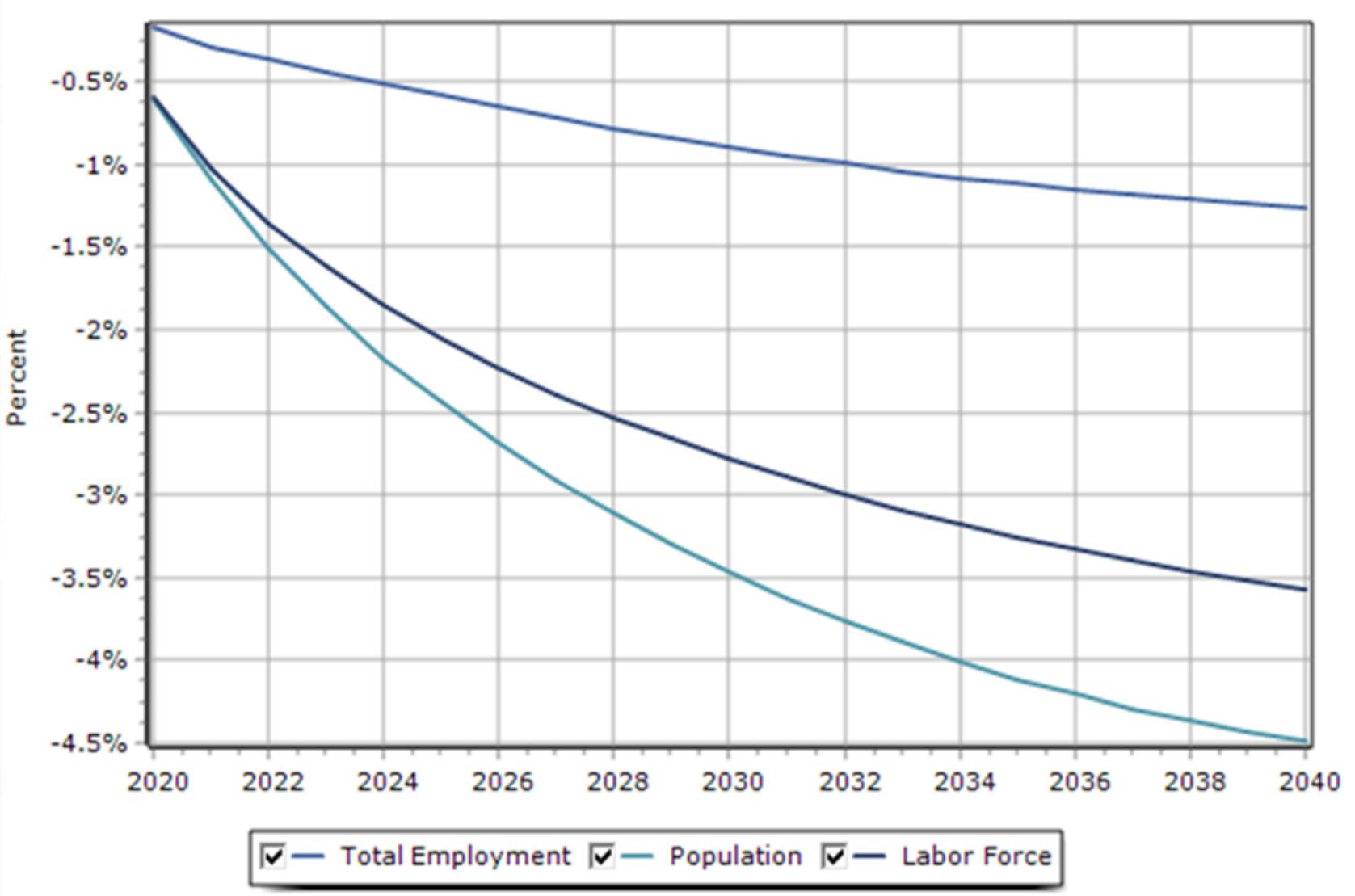
- Decrease amenity by 5% in the center cities
- Make no change to amenities in the rest of U.S.

Years

- 2020 through 2040
- Amenity decrease implemented each year

Model Simulation: REMI SEI

Economic Summary –
Center Cities

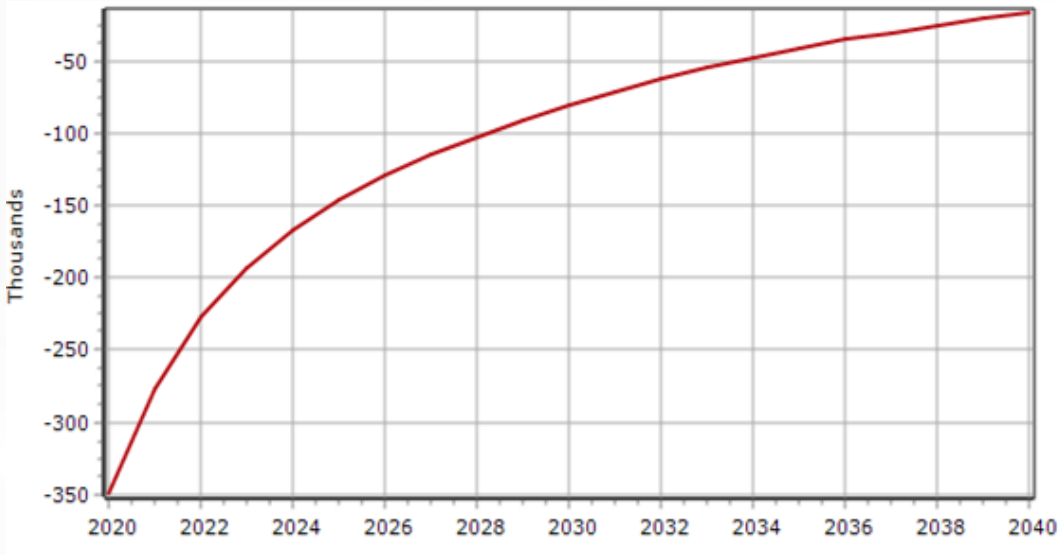


Model Simulation: REMI SEI

Components of Population Change – Center Cities

Table shows short-term population outlook

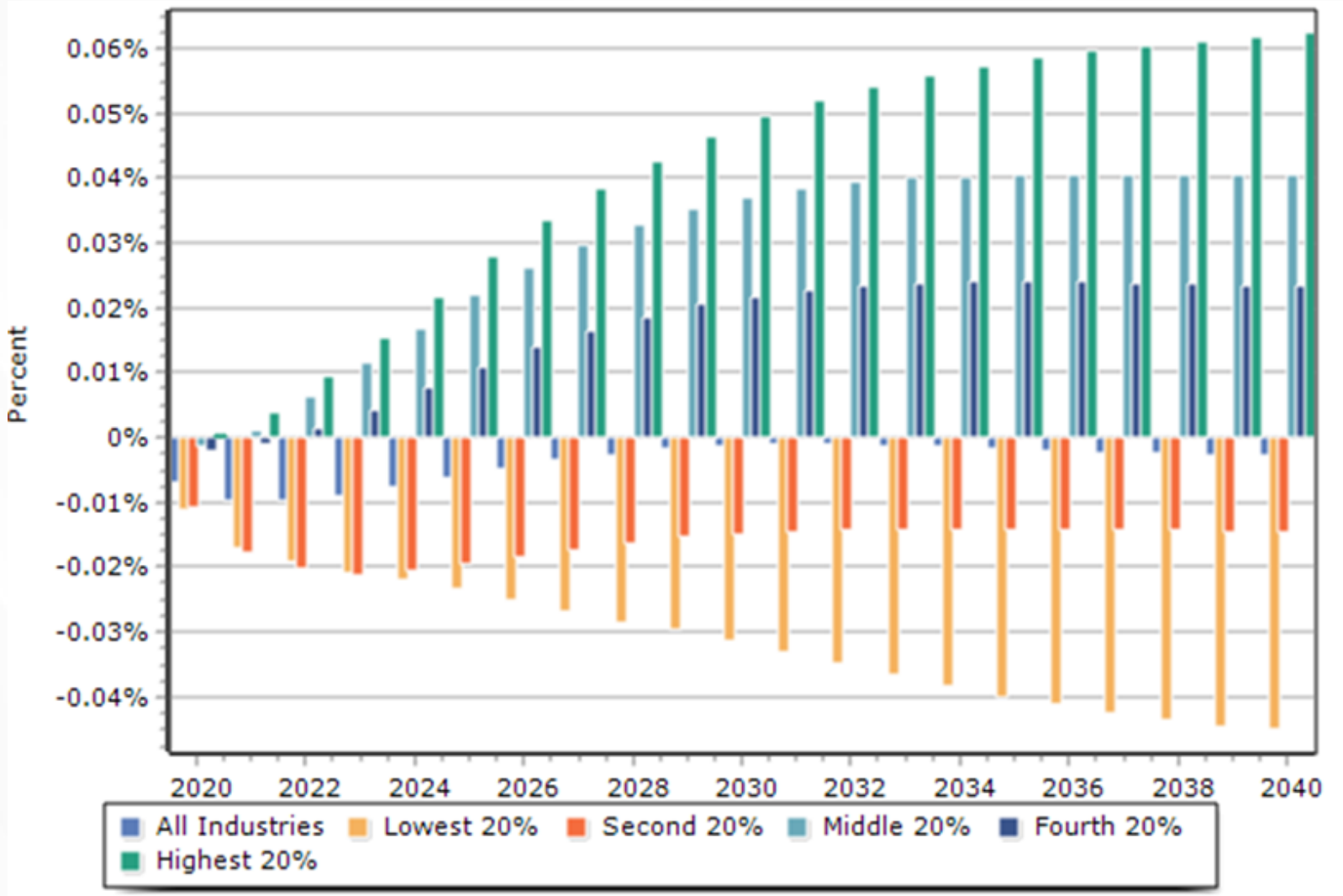
Economic Migration Outlook



Category	Units	2020	2021	2022	2023	2024	2025
Starting Population	Thousands	0.000	-352.152	-637.469	-877.283	-1087.134	-1274.293
Natural Growth	Thousands	-3.033	-8.441	-12.918	-16.710	-19.974	-22.784
Births	Thousands	-3.273	-9.134	-13.970	-18.071	-21.615	-24.682
Deaths	Thousands	-0.241	-0.693	-1.051	-1.362	-1.641	-1.898
Population Before Migrants	Thousands	-3.033	-360.593	-650.388	-893.993	-1107.109	-1297.076
Total Migrants	Thousands	-349.119	-276.877	-226.895	-193.142	-167.184	-145.228
Economic Migrants	Thousands	-349.119	-276.877	-226.906	-193.173	-167.246	-145.329
Retired Migrants	Thousands	0.000	0.000	0.011	0.032	0.062	0.101
Ending Population	Thousands	-352.152	-637.469	-877.283	-1087.134	-1274.293	-1442.304

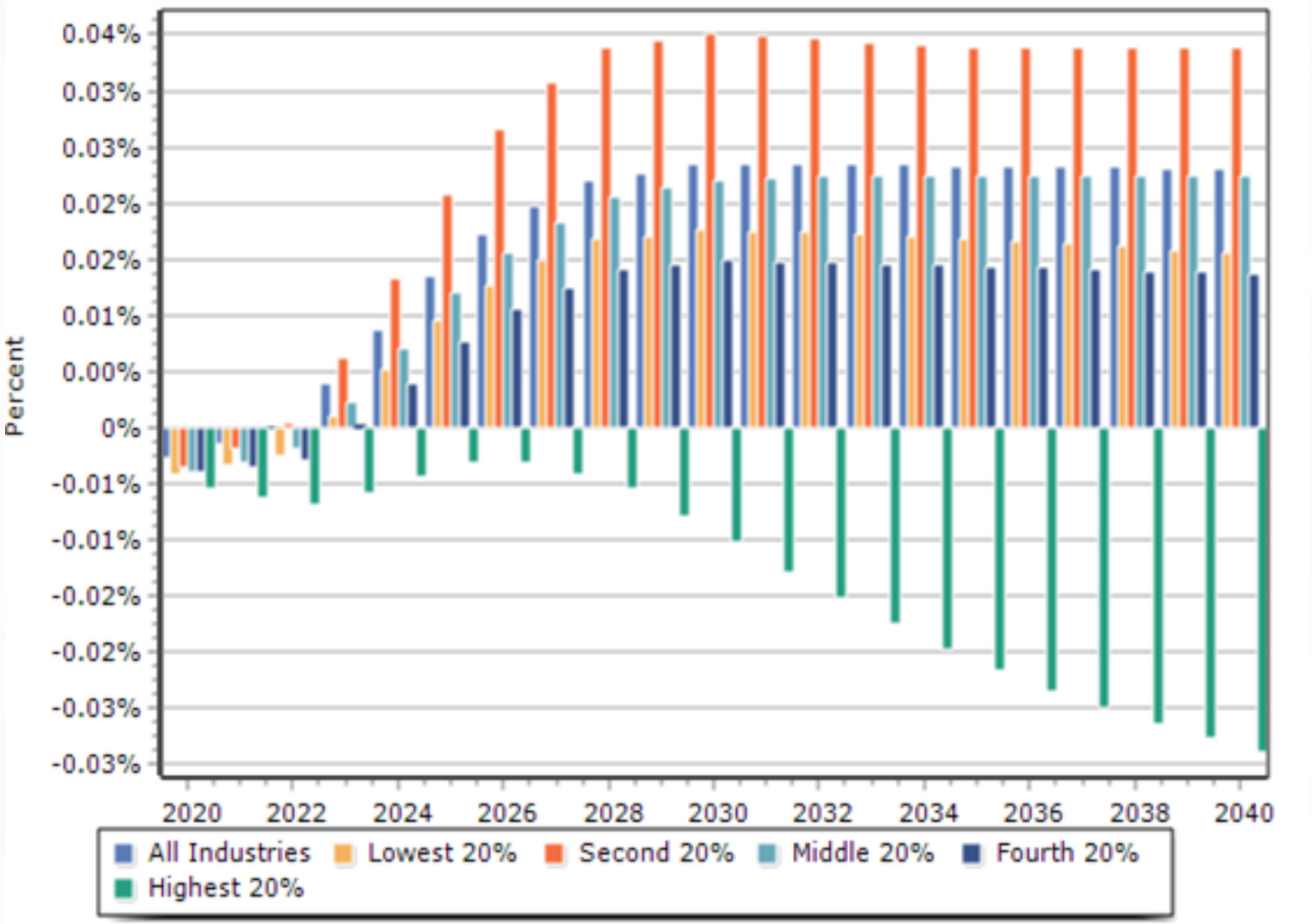
Model Simulation: REMI SEI

Compensation Rate by Industry Quintile – All Regions



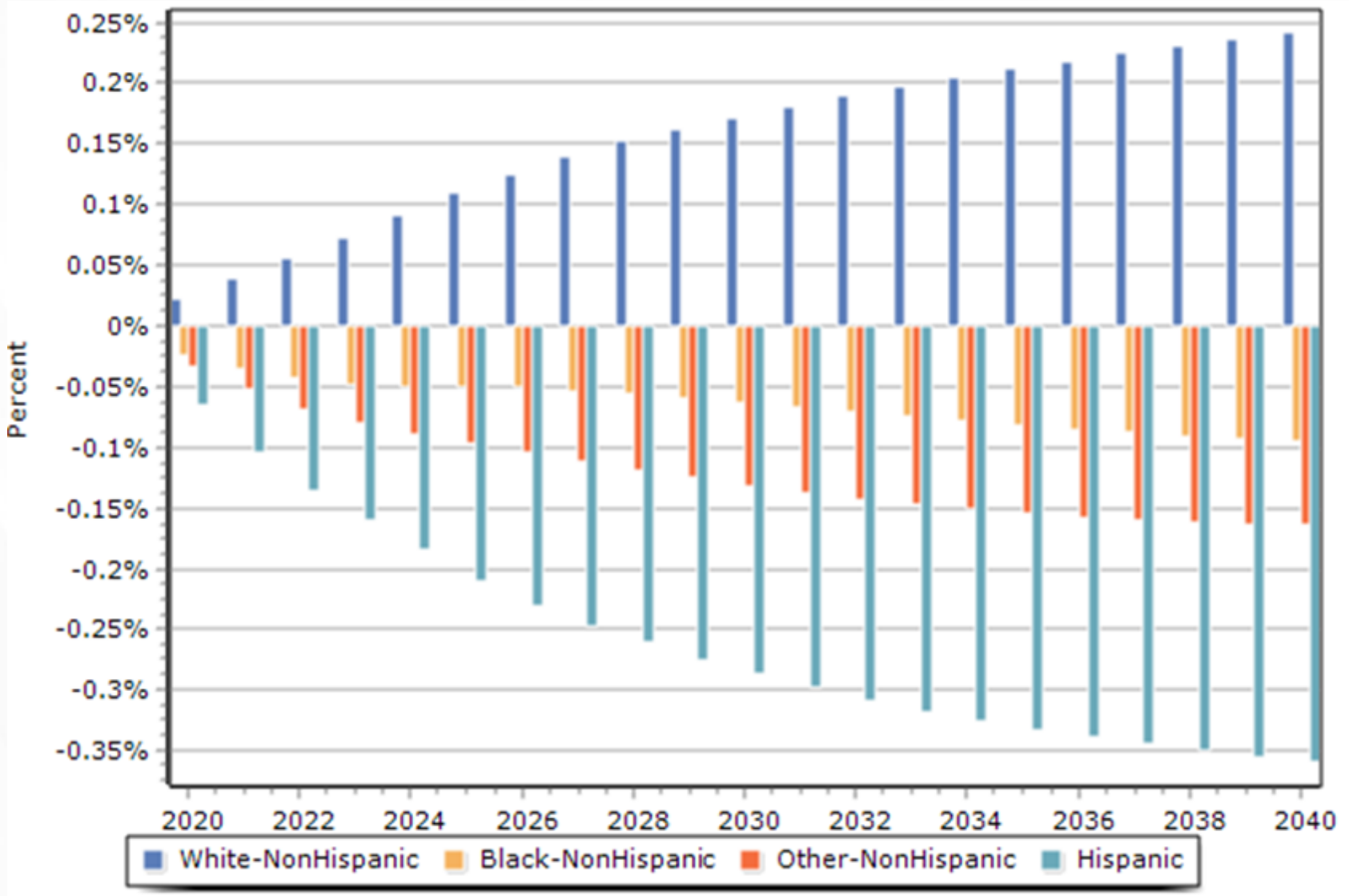
Model Simulation: REMI SEI

Employment by Industry Quintile – All Regions



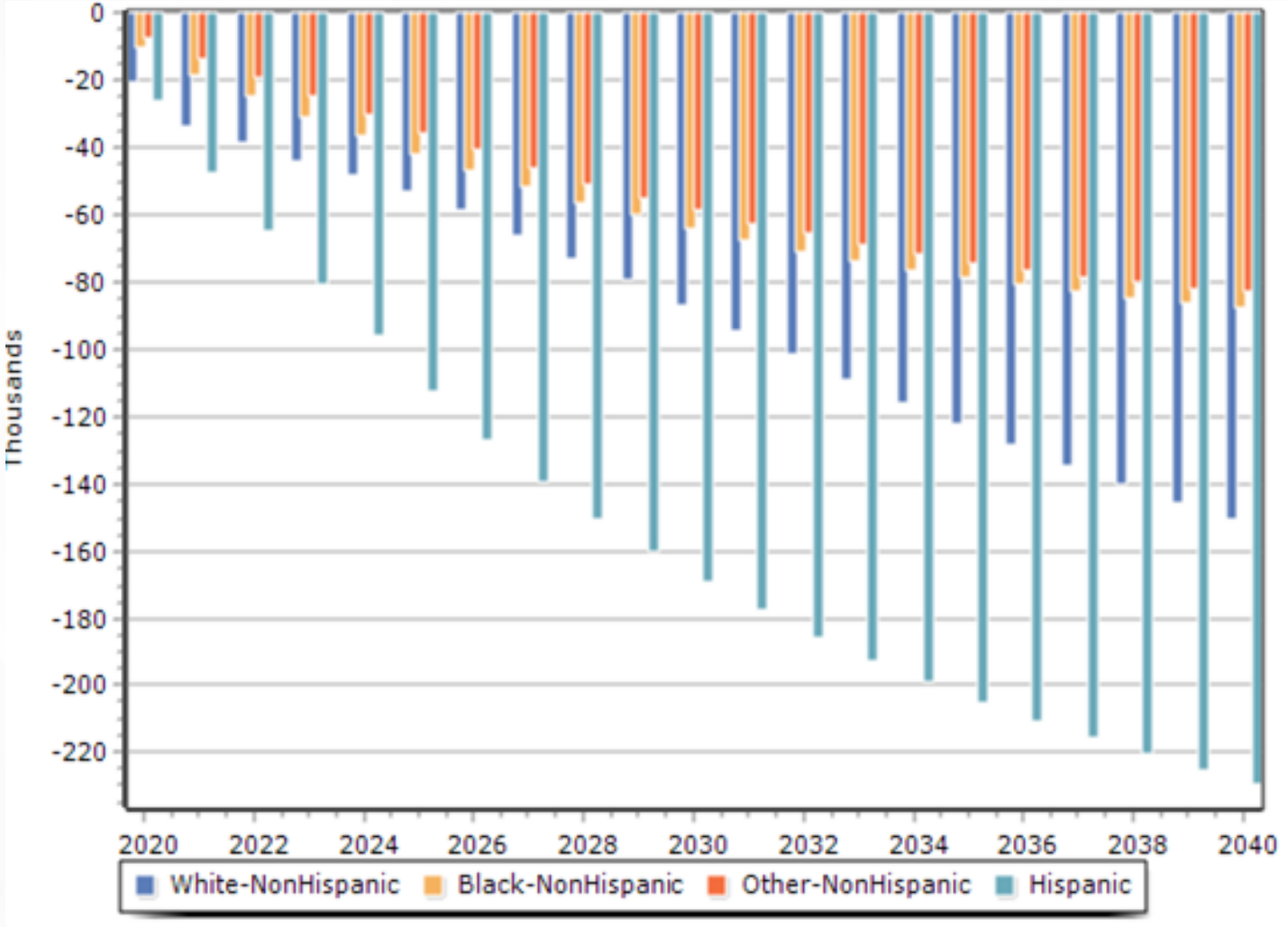
Model Simulation: REMI SEI

Employment by Race –
All Regions



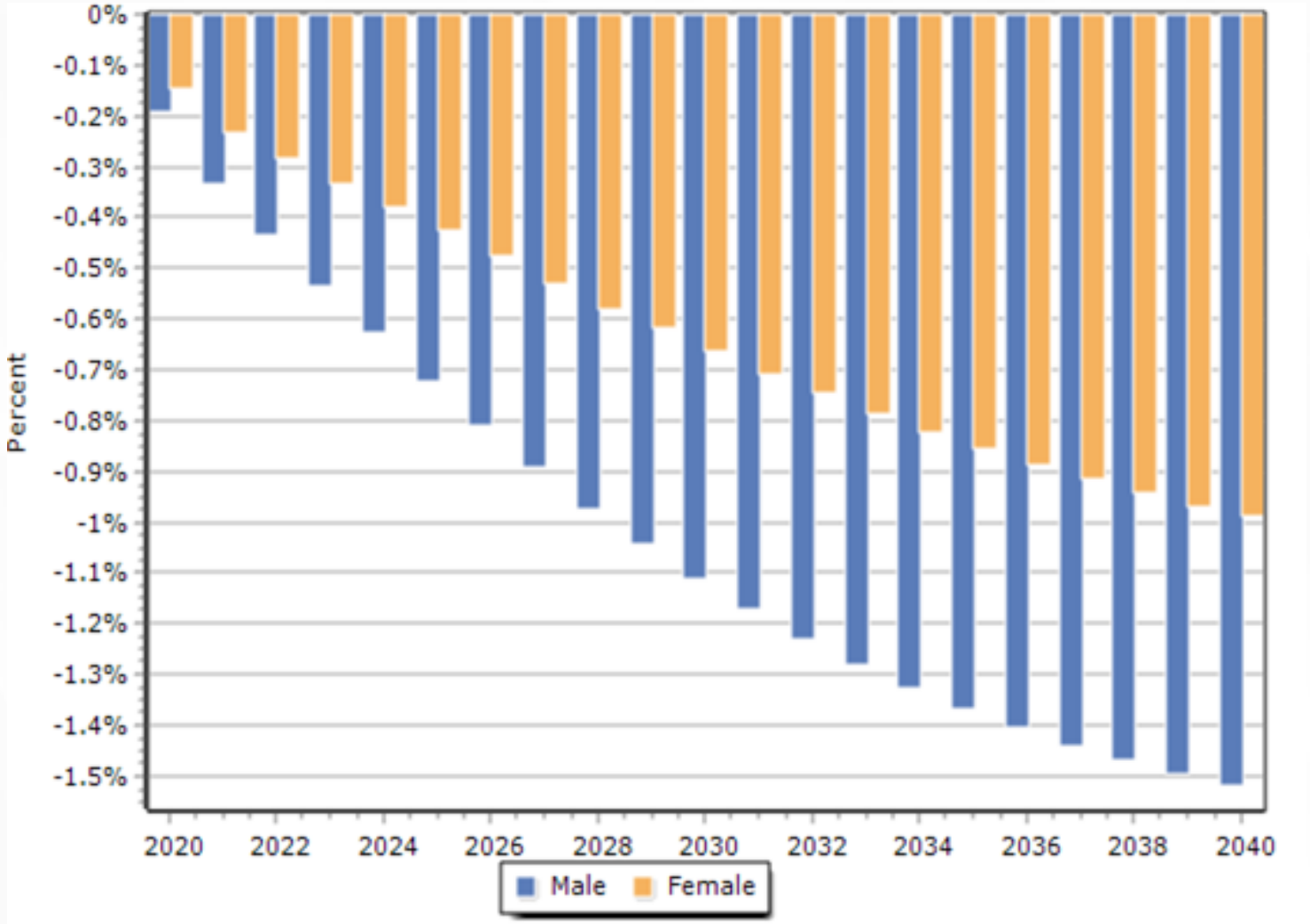
Model Simulation: REMI SEI

Employment by Race – Center Cities



Model Simulation: REMI SEI

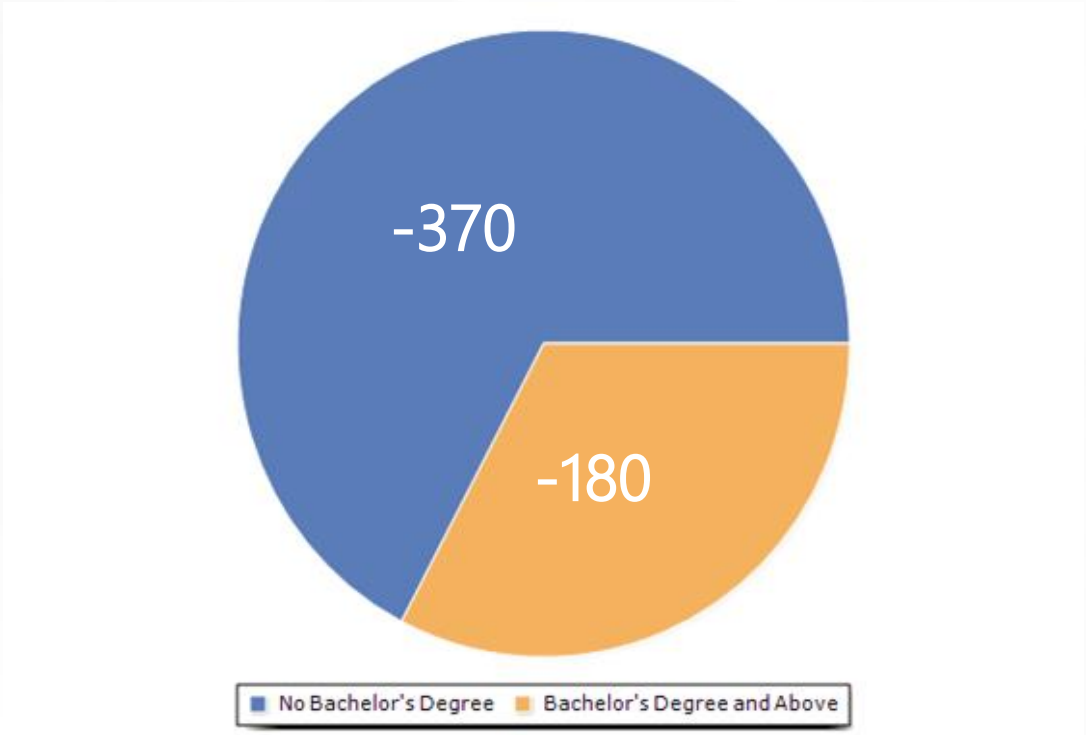
Employment by Gender – Center Cities



Model Simulation: REMI SEI

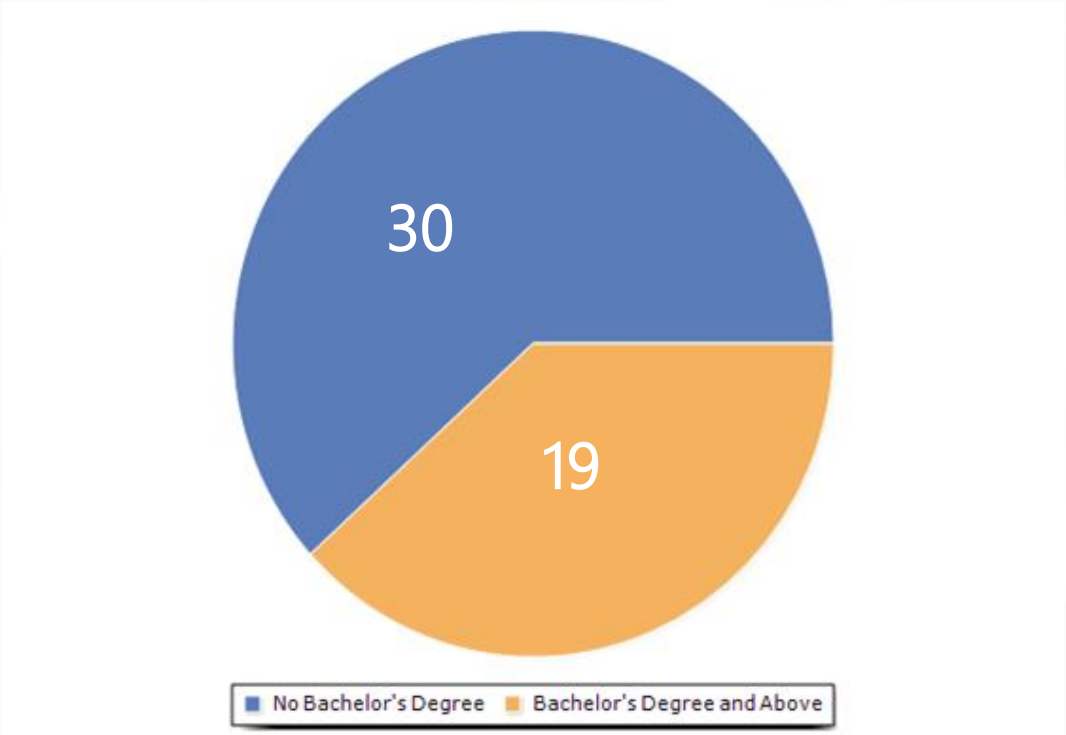
Employment by Education – Center Cities

Year 2040



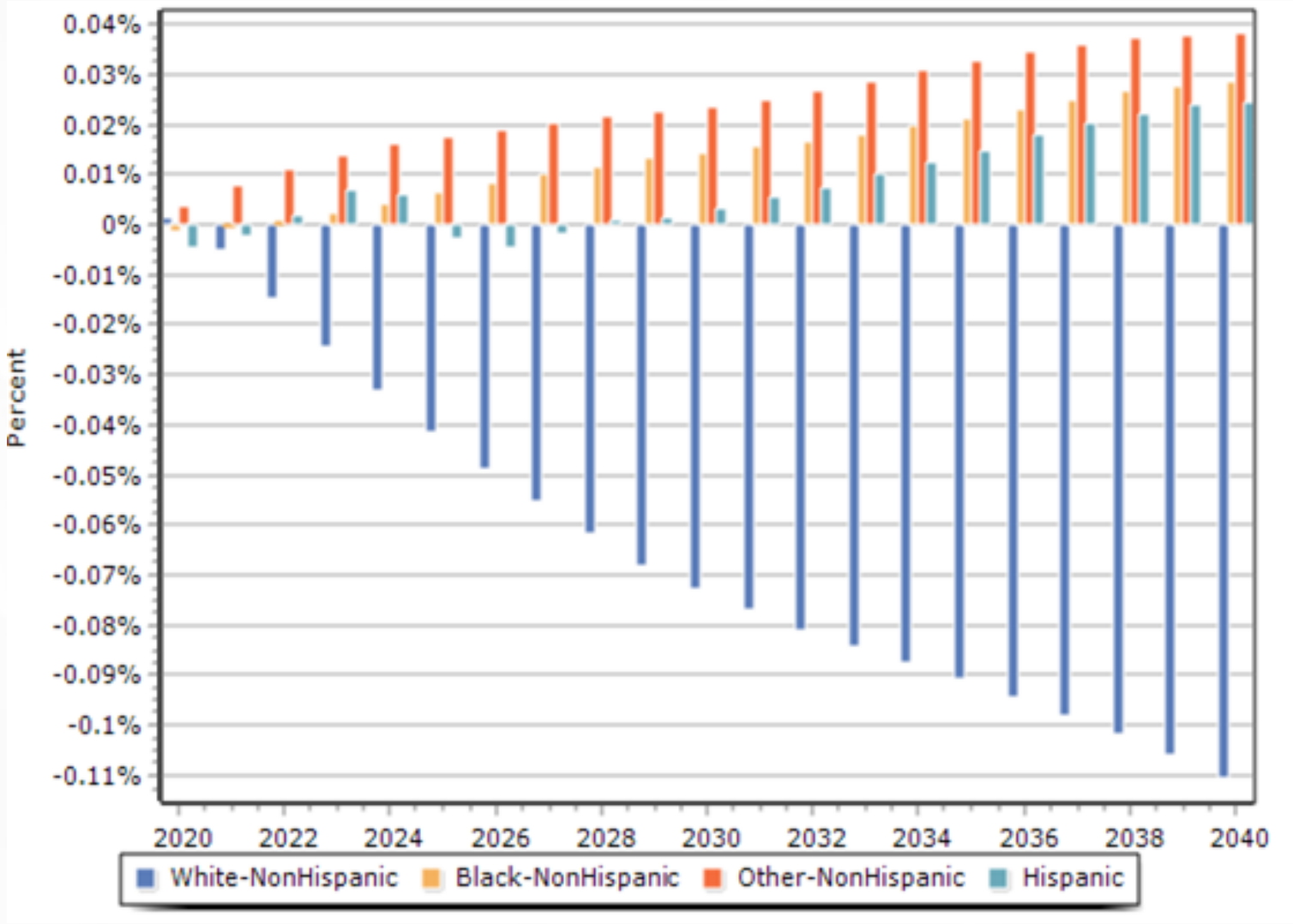
Employment by Education – All Regions

Year 2040



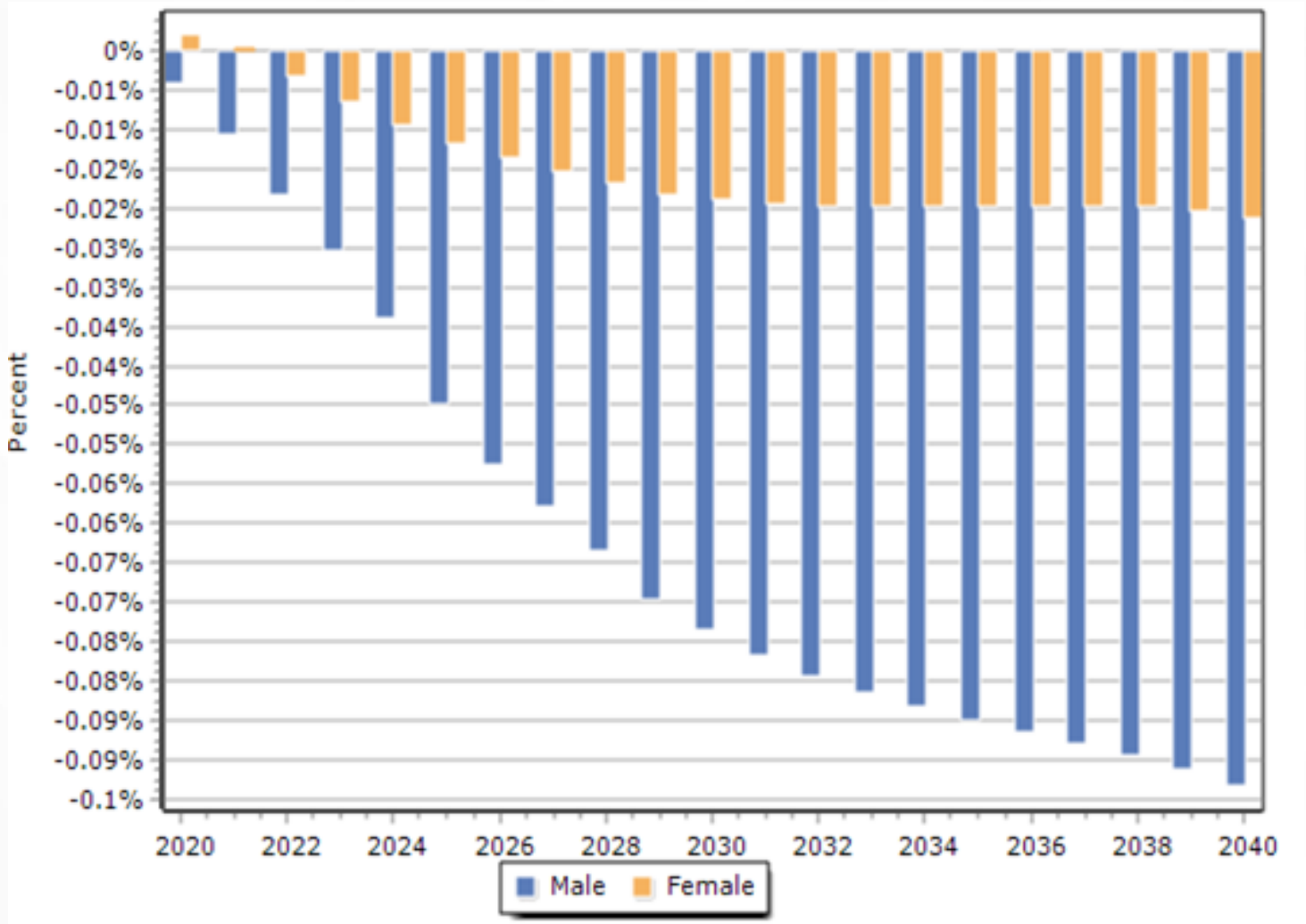
Model Simulation: REMI SEI

Labor Force Participation by Race – All Regions



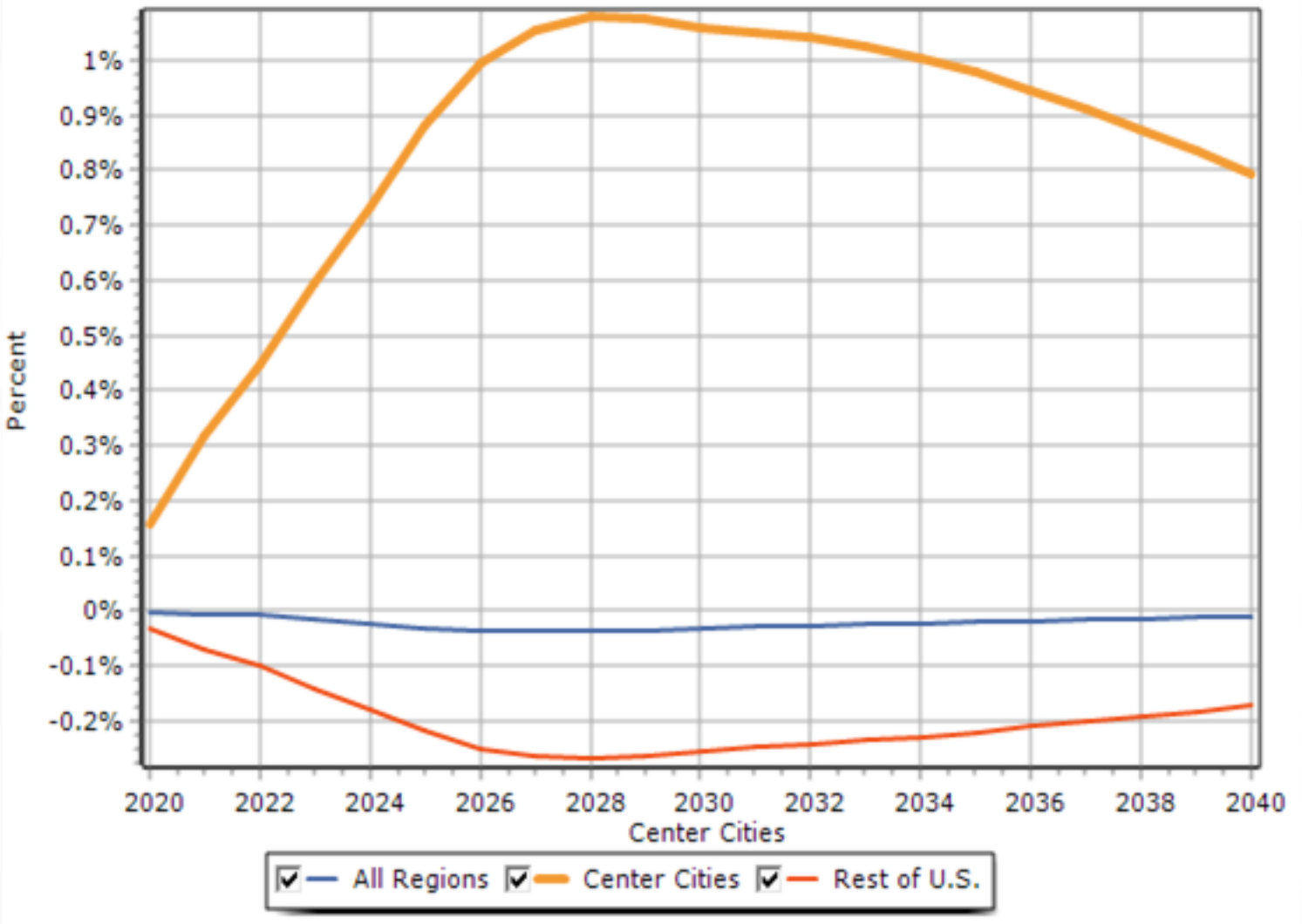
Model Simulation: REMI SEI

Labor Force Participation by Gender – All Regions



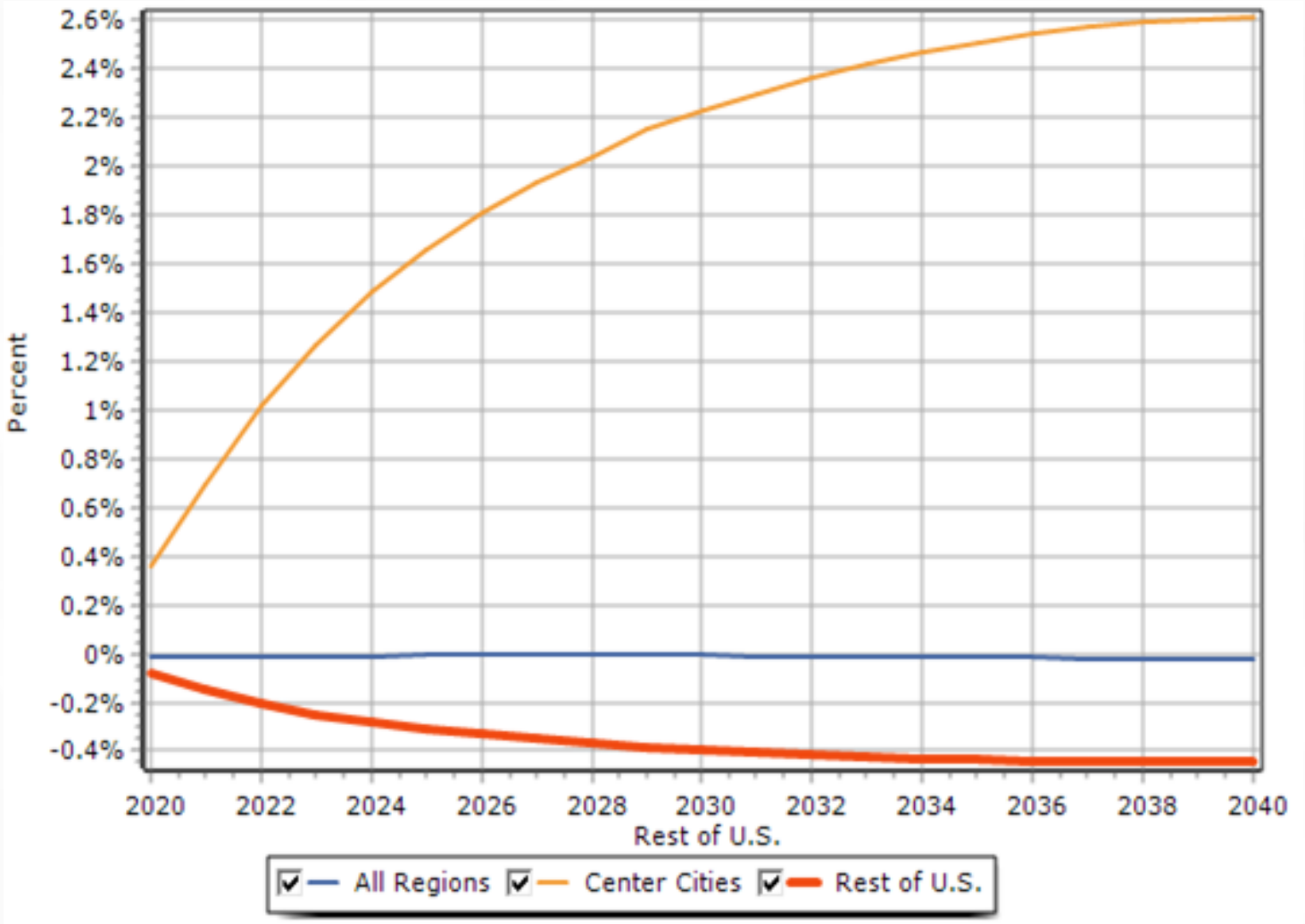
Model Simulation: REMI SEI

Unemployment – All Regions



Model Simulation: REMI SEI

Personal Income Per Capita – All Regions



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Discussion of Results

Employment Impacts

- Across all regions, Hispanic group saw the greatest losses in employment, followed by Other-NonHispanic group and Black-NonHispanic group; only White-NonHispanic group saw gains
- Those without higher degrees saw greater losses
- Gains in employment for the second lowest industry quintile, losses for the highest quintile

Labor Force Implications

- In all regions, White-NonHispanic group's participation rate dropped the most whereas Other-NonHispanic's rate increased the most followed by Black-NonHispanic
- Male group saw greater declines in participation rates than female group
- Unemployment rises quickly in center cities up to 2029 before beginning to come back down

Compensation & Income Effects

- Industries in the lowest quintiles are hit the hardest with compensation rate decreases while the industries in the highest compensation quintiles see gains
- Growth in personal income per capita in the center cities over time, losses in rest of U.S.

Demographic Changes

- Economic migration away from center cities, most dramatic in early years then tapers off
- Retired migration to the center cities increases over time
- Disparaties across racial, ethnic, and gender groups highlighted in population shifts

Conclusion

The COVID shock caused economic shifts and disruptions for state and local economies, many of which will persist for years.

- States and localities need to compete to attract a workforce and population that is not as traditionally connected to physical places of work

- Focusing on major city core regions, our analysis shows significant long-term population and job losses

- Migration away from downtowns will widen income and racial disparities; states need to respond to ensure that economic policies are broad-based and inclusive

Thank you for attending!

For more information, please contact
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