

# Inflation, Disparities, and Regional Economies

Regional Economic Models, Inc.

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# Agenda

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Introduction

Topic Overview

Inflation Impacts by Wage / Income Group

Regional Housing Price Dynamics

The Great Resignation

Conclusion

Q&A

*what does **REMI** say?<sup>sm</sup>*

We are the nation's leader in regional economic policy modeling.

At REMI, we're inspired by a single goal: *improving public policies.*



## Inflationary



### Monetary

Quantitative Easing,  
Near-Zero Fed Funds  
rate (FRED M1)



### Fiscal Policy

CARES Act, American  
Rescue Plan



### Supply-chain Disruptions

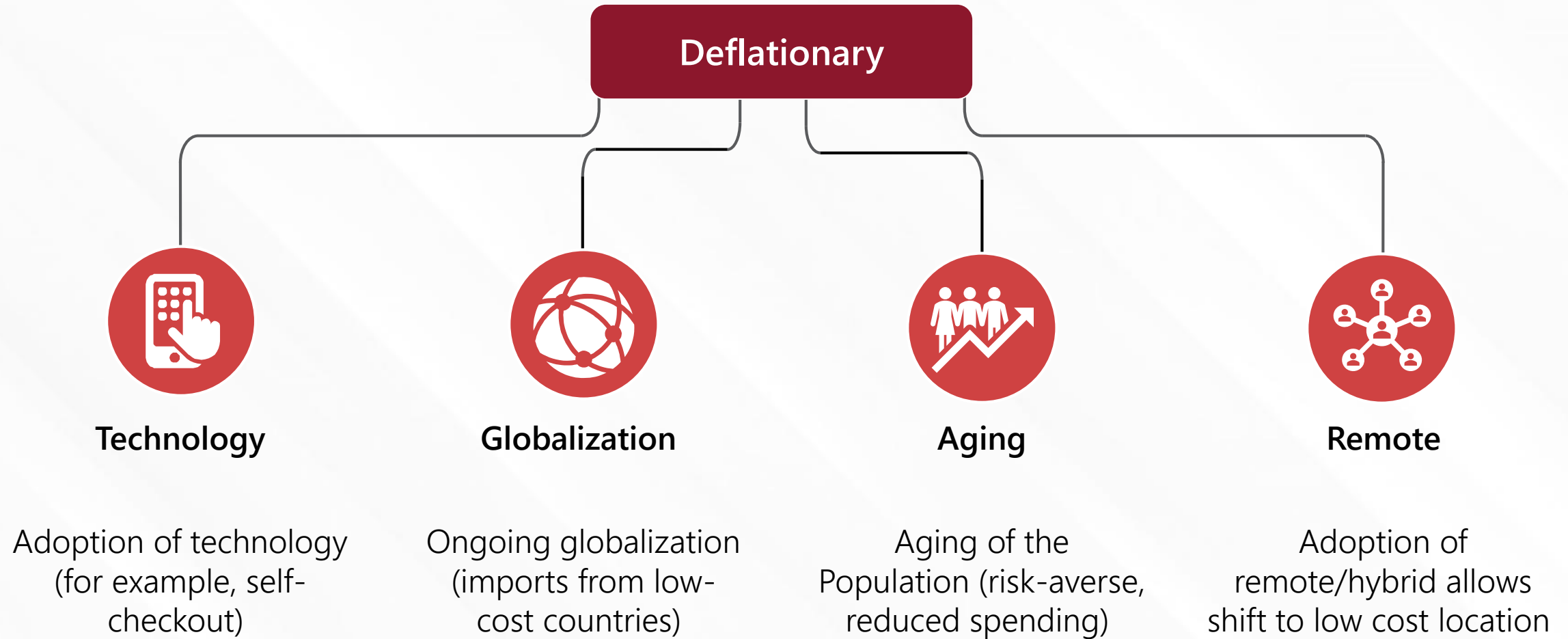
- Closure of factories in 2020
- Demand for manufactures grew faster
- Particularly imports, with U.S. fiscal deficit financed in part by U.S. trade deficit
- Shocks to specific components causing motor vehicle plant closures
- Led to price increases



### Labor shortages

- The Great Resignation and Early Retirement
- Lower Labor Force Participation
- Lower Immigration
- Re-training workers

# Deflationary Factors



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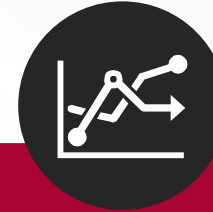
## Inflation

- Focus on Inflation Impacts on Middle- and Lower-Income People
- Motor vehicle prices; housing and rents



## Housing Price

- Regional Dynamics of Housing Prices in a more “footloose” economy



## Simulations

- Regional impact of housing rental inflation on wage groups, 2021
- Impact on Regional Housing Prices from the Great Resignation (Retirement Example)
- Can remote/hybrid work lead to industry concentration: Financial Securities Example

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# Inflation Impacts by Wage / Income Group

Inflation is particularly difficult for middle and lower-income people.



Lower-income groups spend a higher proportion of income on necessities (gasoline, housing, food)



Higher-wealth individuals have disproportionally benefitted from monetary policy and asset appreciation

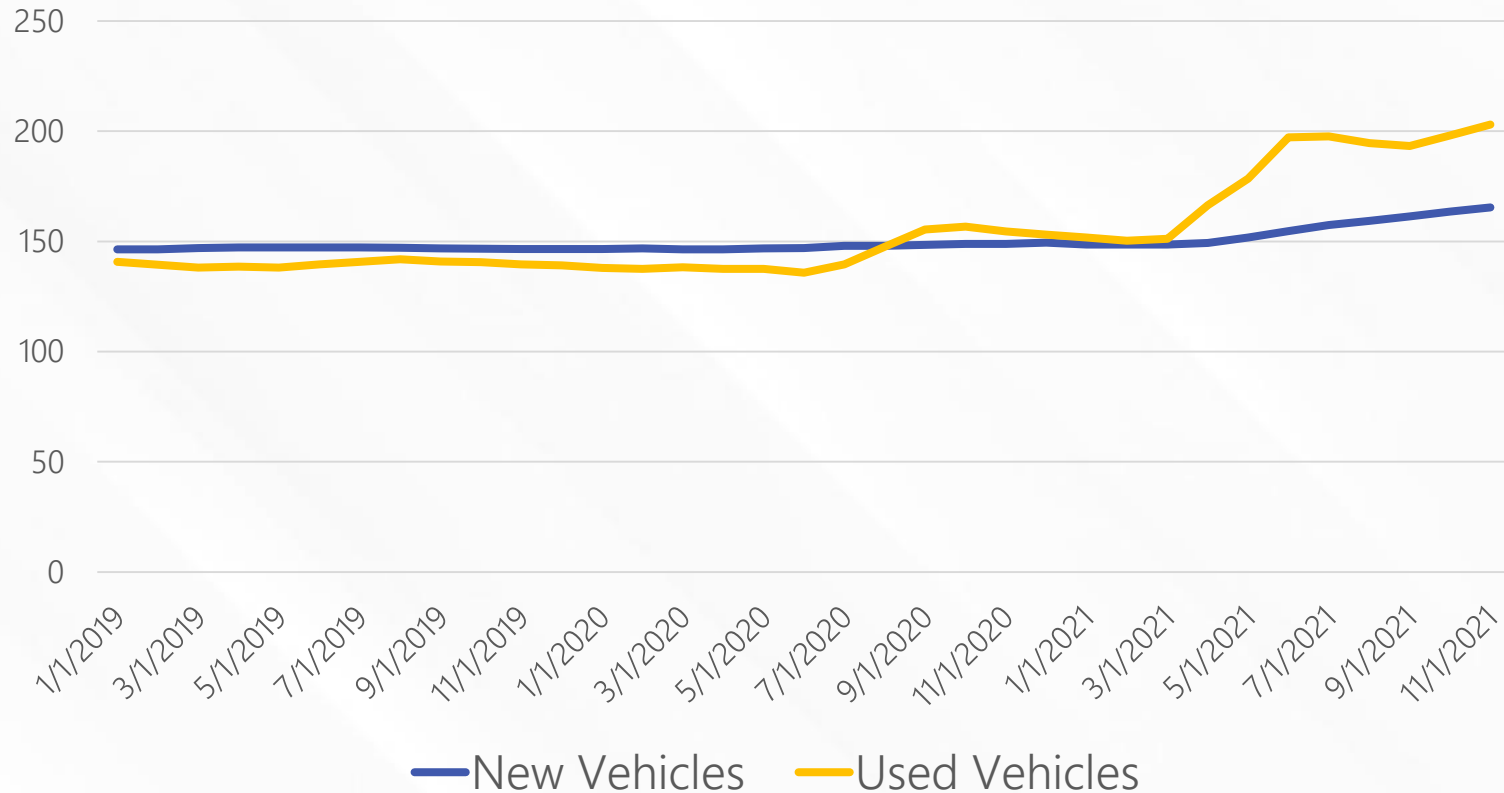


COVID disruption to many middle and lower-income workers; CARES and other benefits running out

# Rise in Motor Vehicle Prices



Consumer Price Index for All Urban Consumers: New Vehicles vs Used Cars and Trucks in U.S. City Average  
Source: U.S. Bureau of Labor Statistics

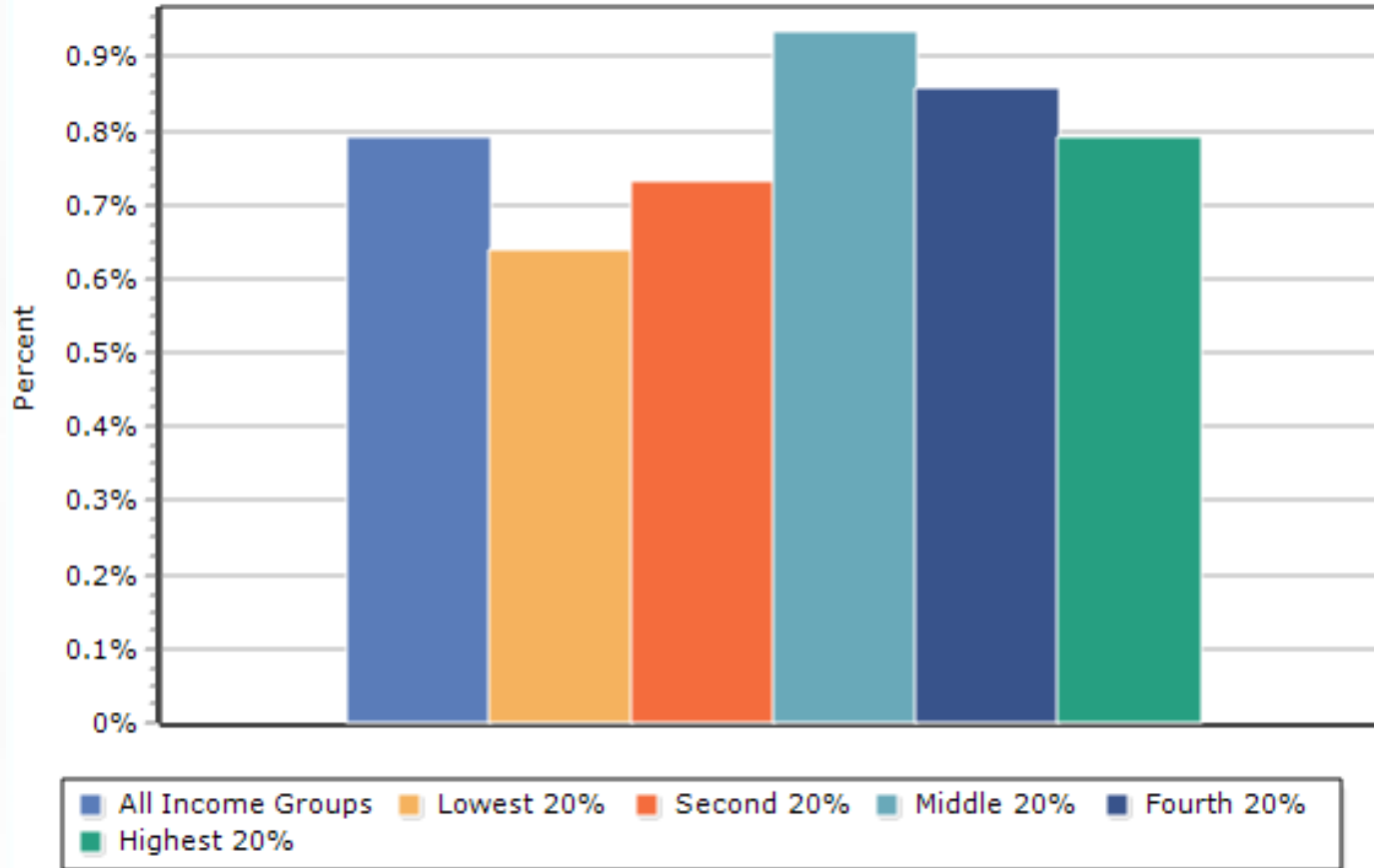


	2020	2021	Increase
New Vehicles	148	155	+5%
Used Vehicles	144	180	+25%

- Disproportionally higher prices for used vs. new vehicles

# Rise in Motor Vehicle Prices

Consumption Price by Income Quintile,  
All Regions (The U.S.)



REMI Model simulation:

- New motor vehicles price +5%
- Net purchase of used motor vehicles price +25%
- Highest inflation in middle class
- Used vehicles more likely a necessity; new vehicles tends to be discretionary spending

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# Regional Dynamics of Housing Price Changes

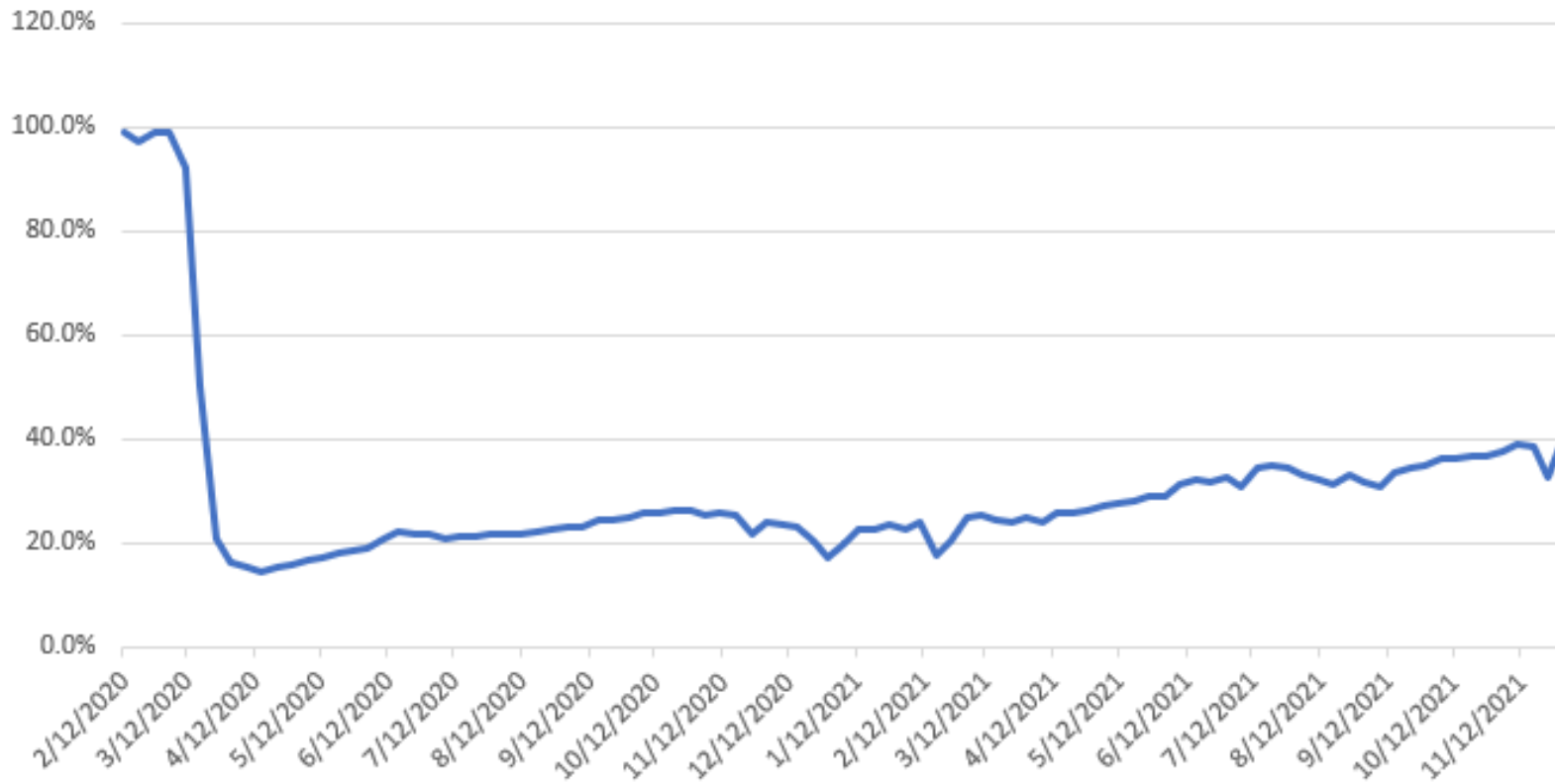


- Remote / hybrid work will likely persist much higher than pre-COVID
- Residential location less tied to commuting to city centers; relative rents decline near city centers; increase in suburbs/south and west
- Movement to suburbs, south and west increases rents in these areas; a lower cost of living for movers; higher cost of living for original residents

# Dispersing: U.S. Office Occupancy in Big Cities

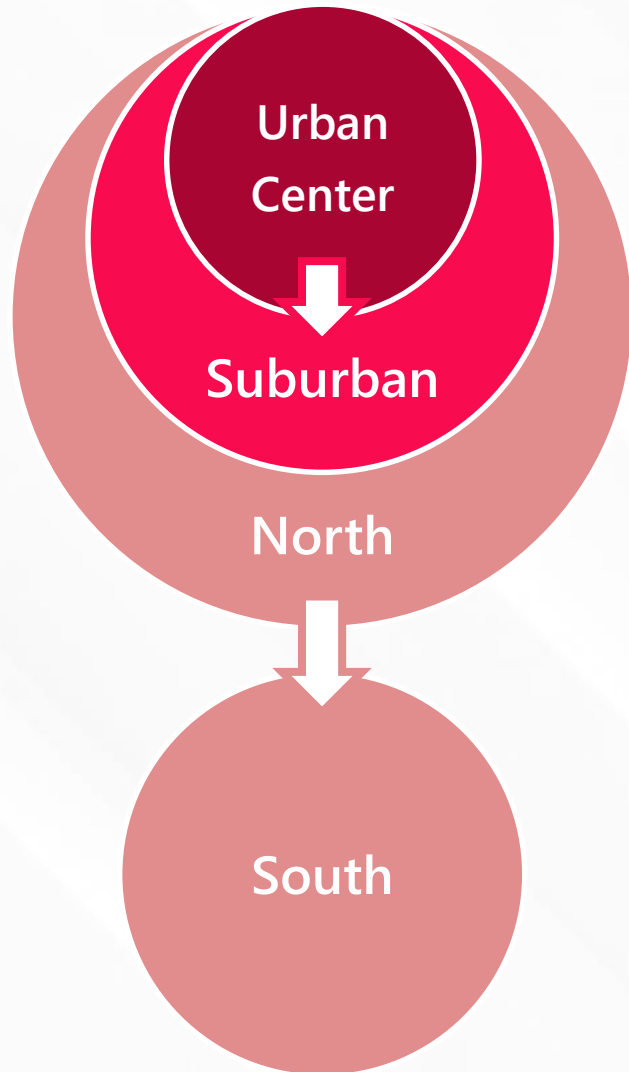


Average occupancy of top 10 cities  
Source: Kastle Systems



Office occupancy in major U.S. urban areas topped 40% after Thanksgiving, a post-pandemic high.

# “Footloose” Workforce and Dispersion of Residential Location

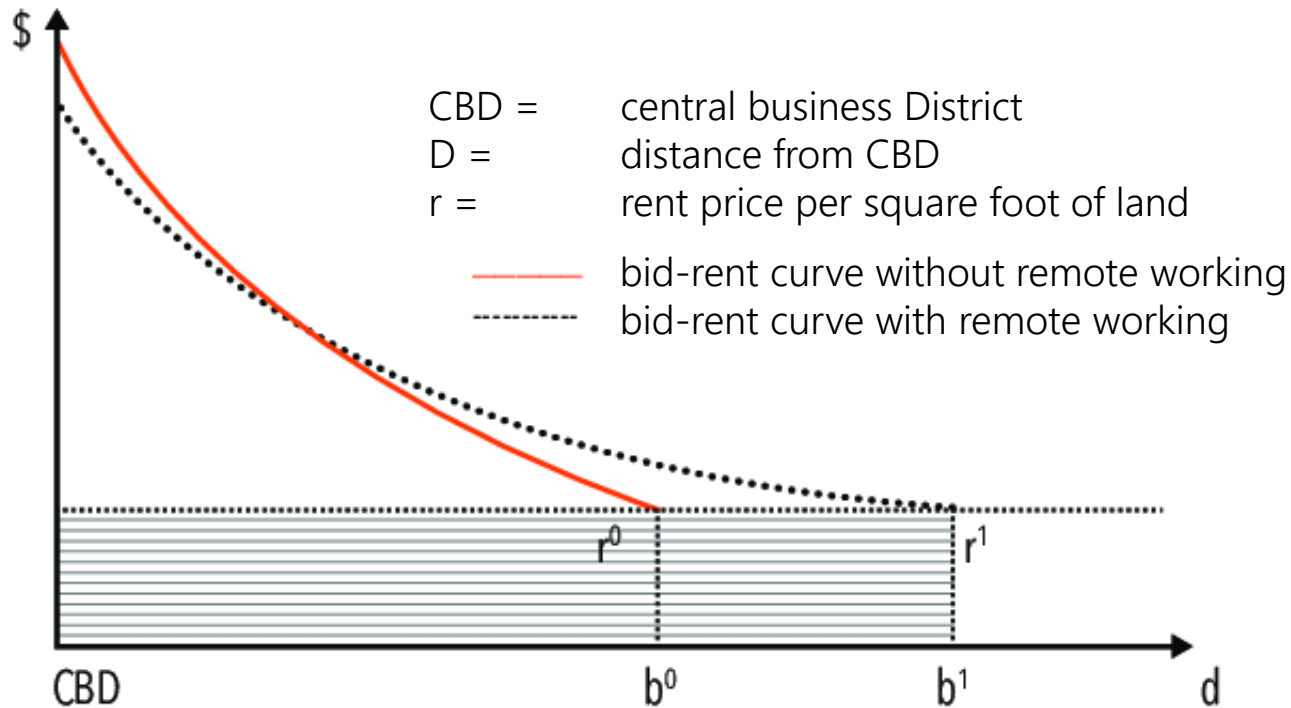


Less need/willingness to pay for residential location near major downtown office centers

Housing prices increase in further out locations relative to close in locations

Also “North-South” dynamics: less need to be in “north” city center vs. lower cost “south”

# Dispersing: Bid-Rent Curve



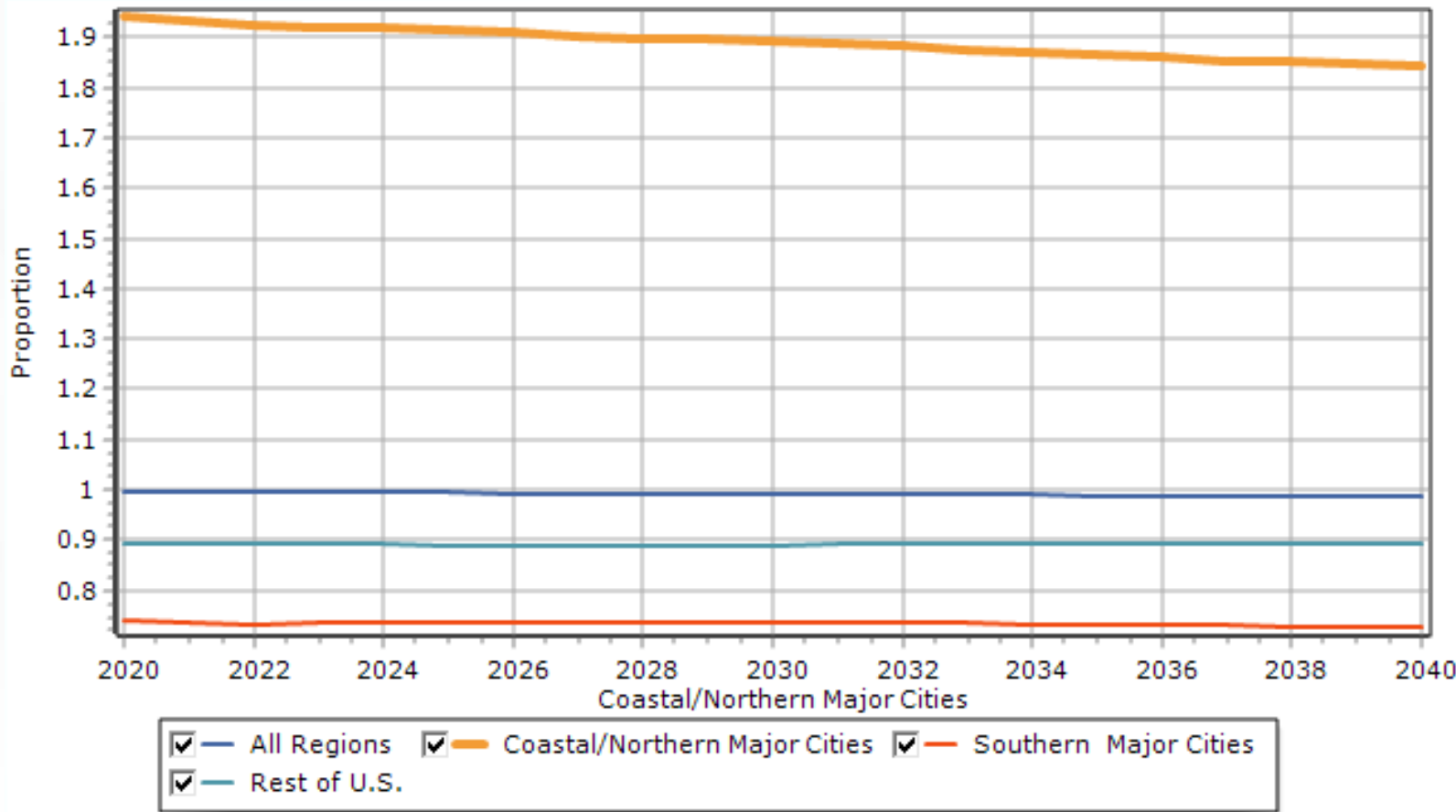
Source: Research Gate

- Theoretically, when need to commute, workers are willing to pay premium for housing close by the office
- Now, for many workers, there is no need to pay that money, and they can move to FL.
- Suppose same productivity; work for a Chicago firm; locate in Florida



# Housing Price: A Thought Experiment

Relative Housing Price by Region  
REMI Standard Regional Forecast



- In the baseline forecast, housing prices are much higher in Coastal/Northern Major Cities than Southern Major Cities
- Suppose workers (e.g. professional services), who previously worked in person in downtown Chicago office, could move location to Florida; there will be a significant deflation because rents and costs of living go down.

# Housing and Rents



Rent and Rent Increase by Region  
Source: Apartment List

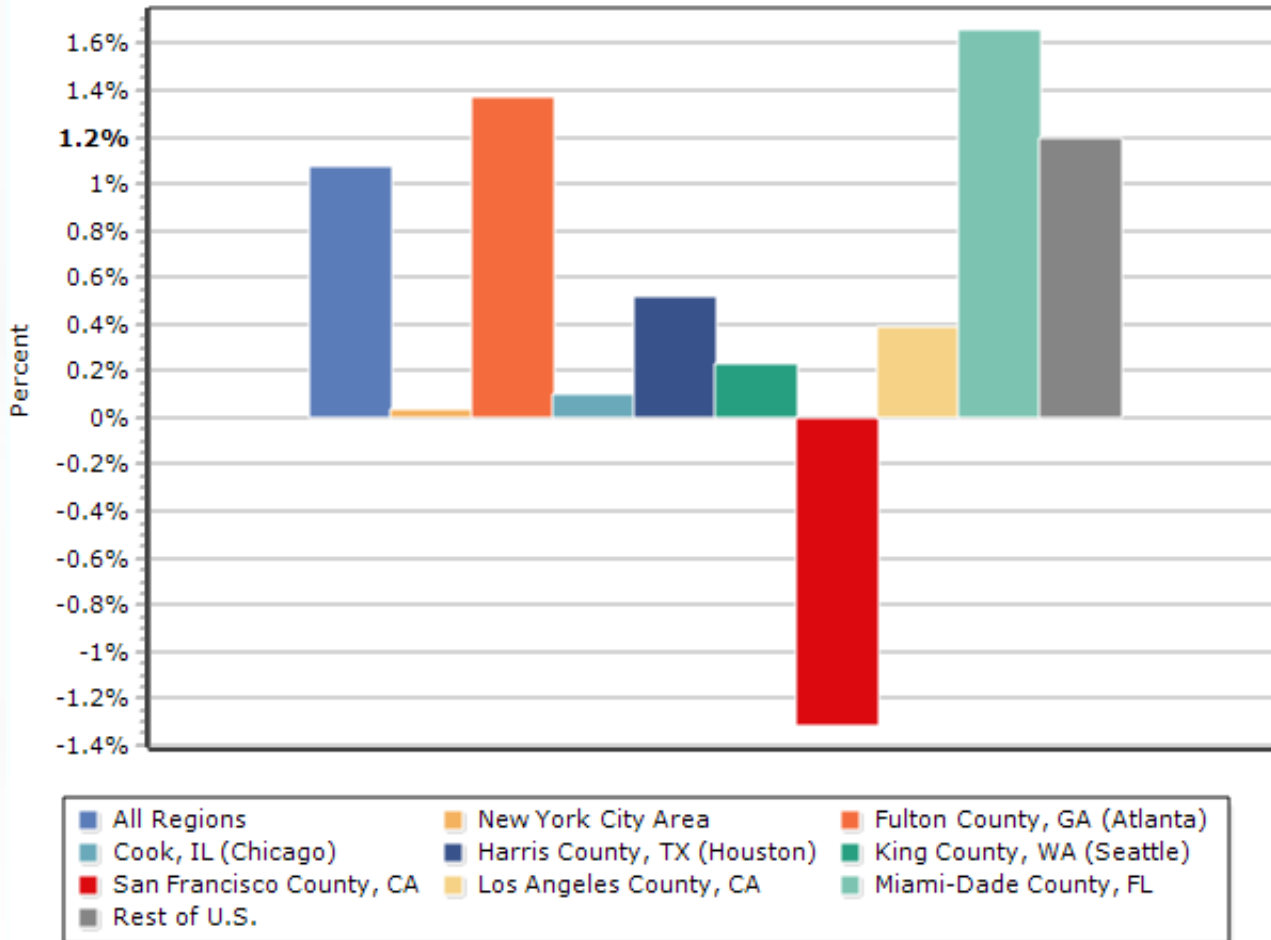
Region Aggregation	Region	2020	2021 (J-N)	Rent Increase
Coastal / Northern Major Cities	New York City Area	1,935	1,945	0.53%
	Cook, IL (Chicago)	1,286	1,298	0.95%
	King County, WA (Seattle)	1,792	1,826	1.87%
	San Francisco County, CA	2,427	2,216	-8.70%
	Los Angeles County, CA	1,760	1,813	3.01%
Southern Major Cities	Fulton County, GA (Atlanta)	1,258	1,386	10.21%
	Harris County, TX (Houston)	1,093	1,136	3.93%
	Miami-Dade County, FL	1,415	1,591	12.44%
Rest of U.S.	Rest of U.S.	1,086	1,182	8.85%

what does **REMI** say?<sup>sm</sup>

# Housing and Rents



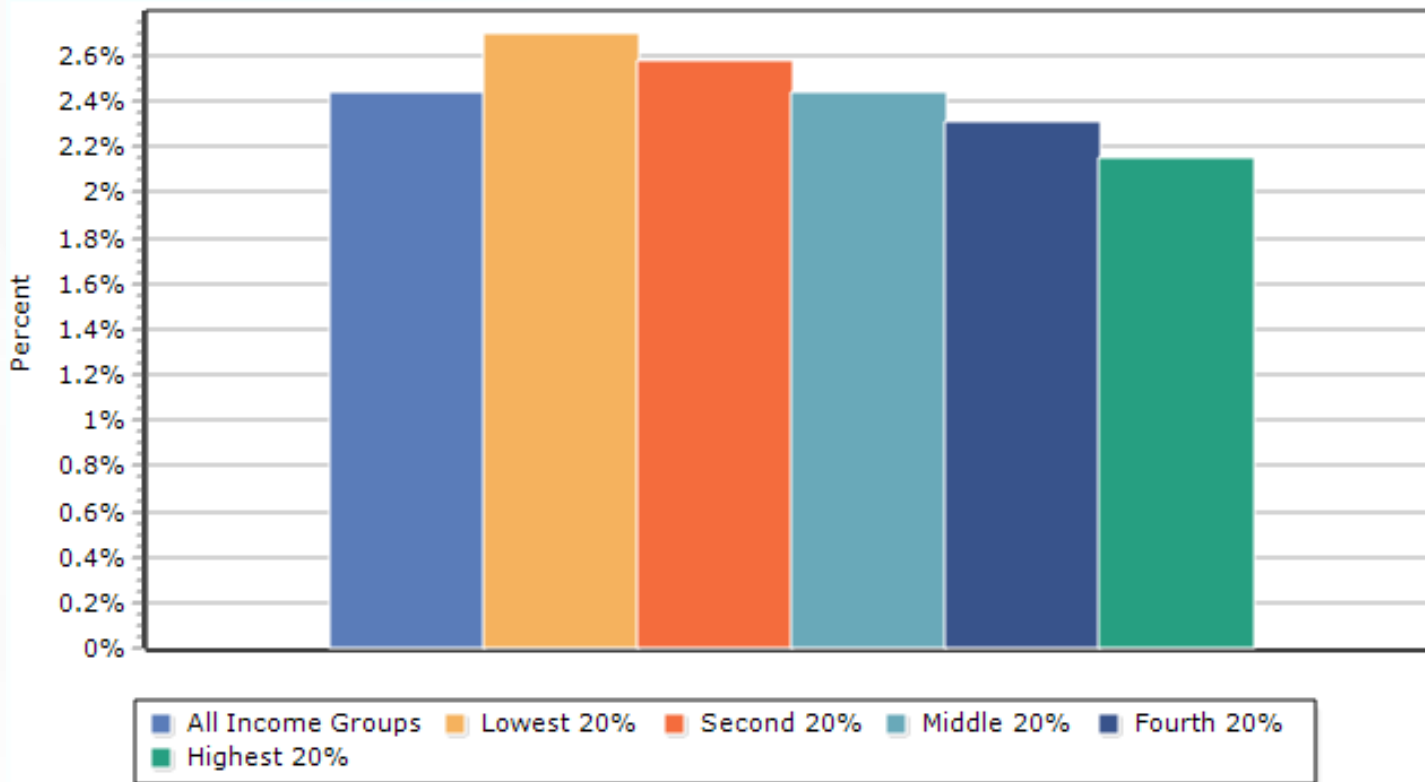
PCE-Price Index by Region, 2021



Region	PCE-Price Index Changes in 2021
All Regions	1.07%
New York City Area	0.04%
Fulton County, GA (Atlanta)	1.37%
Cook, IL (Chicago)	0.10%
Harris County, TX (Houston)	0.52%
King County, WA (Seattle)	0.23%
San Francisco County, CA	-1.32%
Los Angeles County, CA	0.39%
Miami-Dade County, FL	1.66%
Rest of U.S.	1.19%

# Housing and Rents

Consumption Price by Income Quintile for All regions  
(The U.S.), 2021

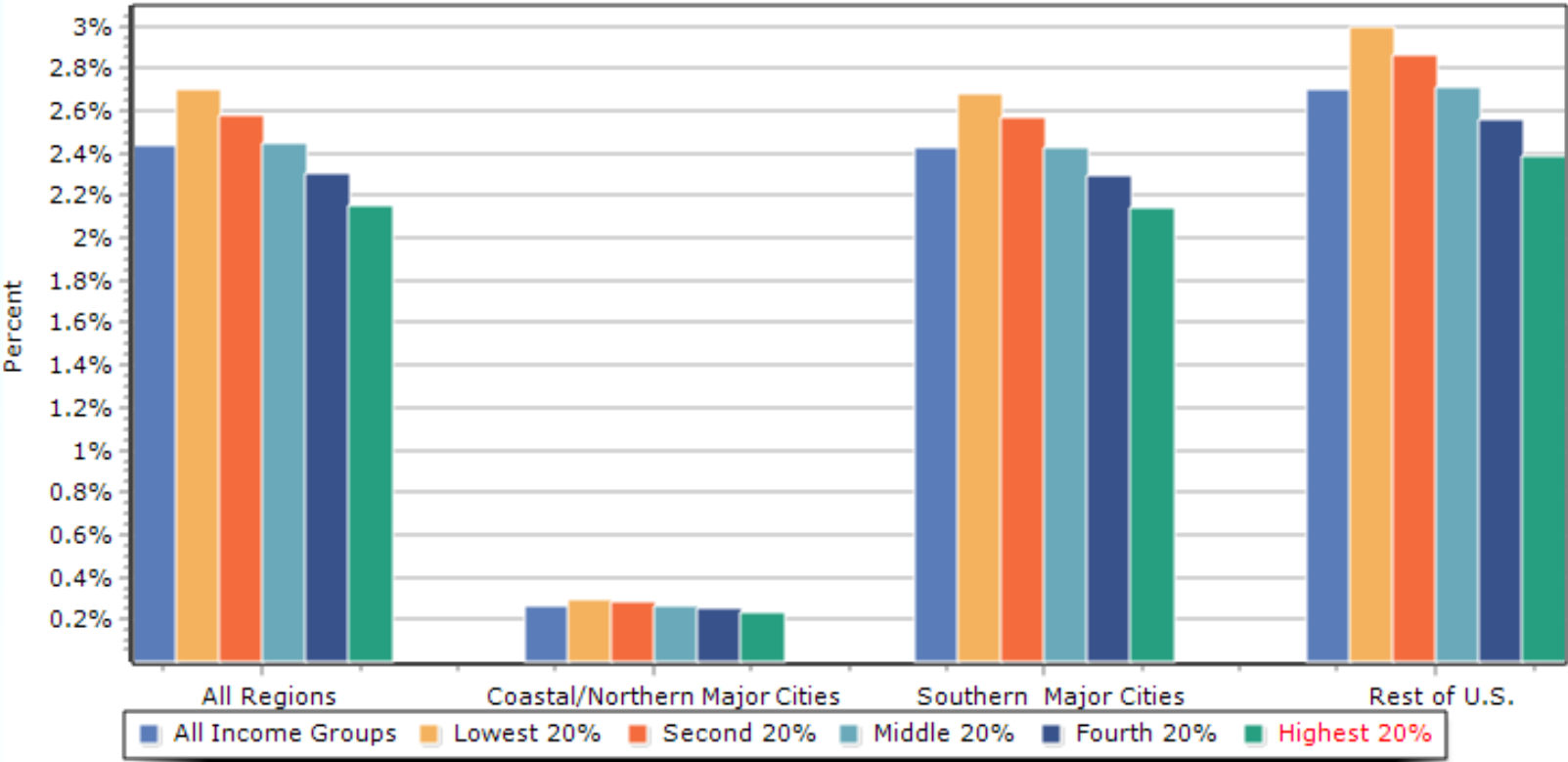


- As rents go up, life has become harder for low-income people.
- Consumption Price increase by 2.7%.

# Housing and Rents



Consumption Price by Income Quintile by Region, 2021



Consumption Price increases are much higher in Southern Major Cities and The Rest of U.S.

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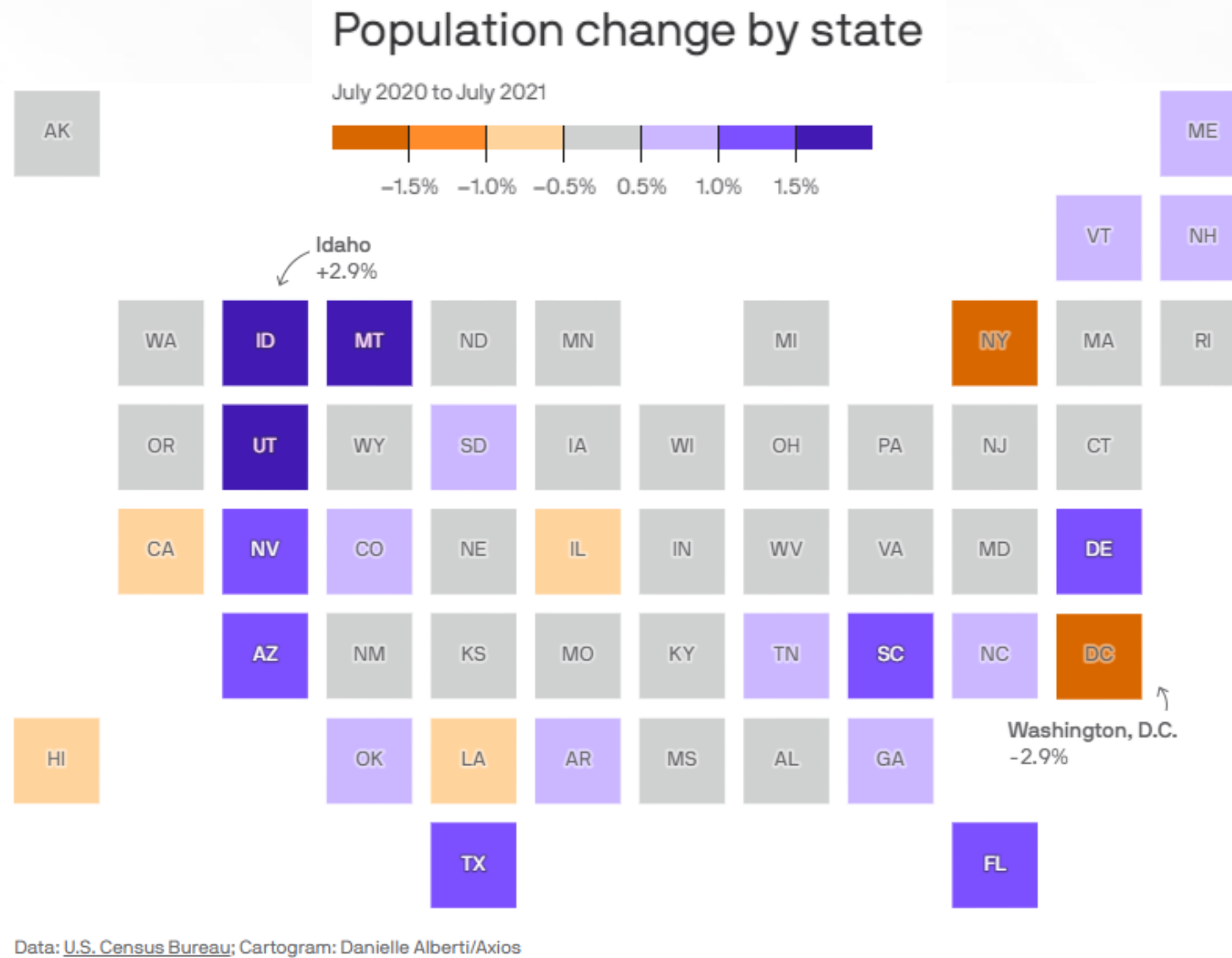
# The Great Resignation

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- The Fed increased cash reserves and liquidity, and boost asset prices
- An unexpected symptom of the pandemic shutdown has been something called The Great Resignation. For months a record number of workers quit their jobs.

# “Footloose” Workforce and Dispersion of Residential Location



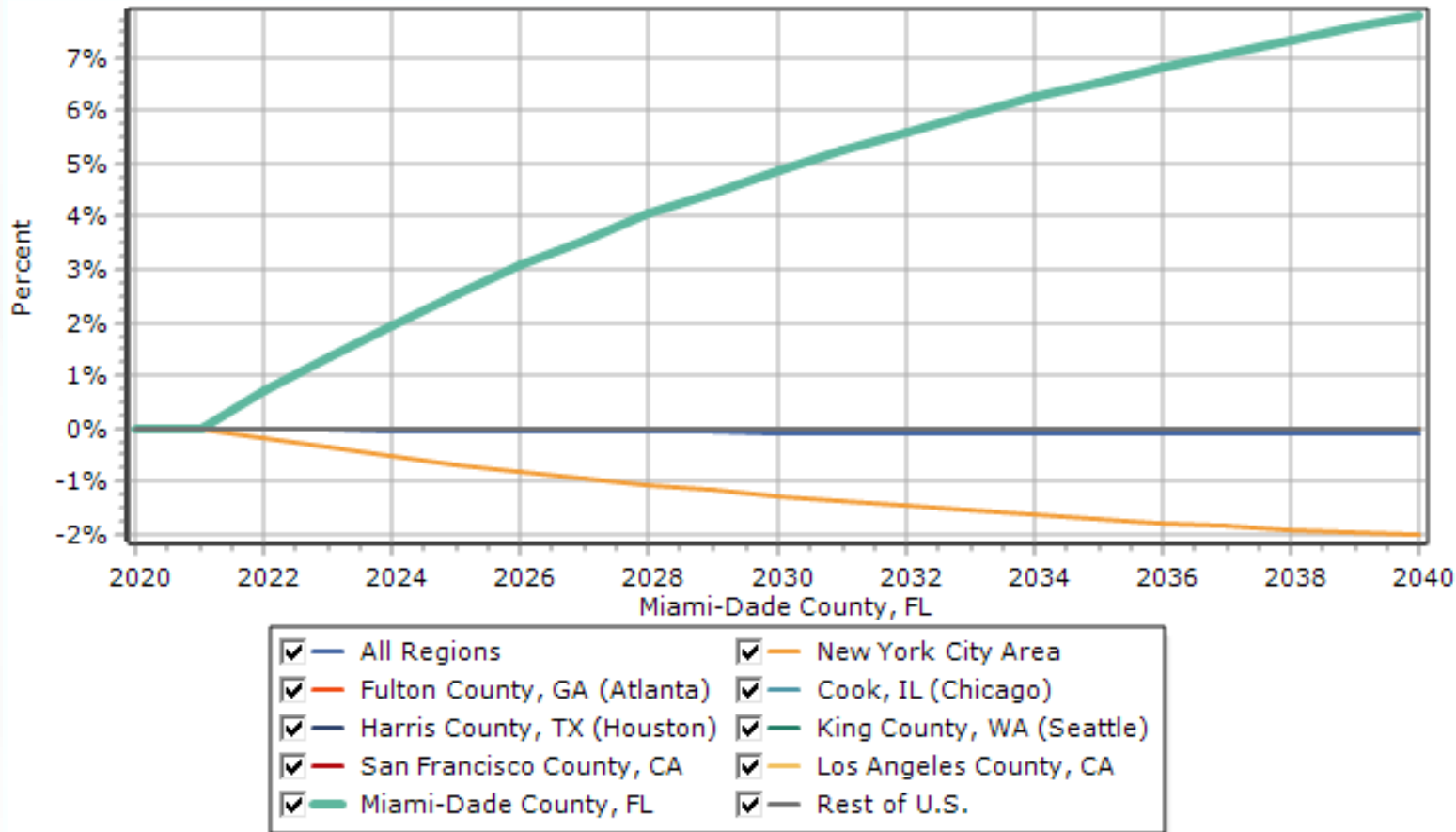
what does **REMI** say?<sup>sm</sup>



# Inflation Effects under Retirees Moving from NY to FL



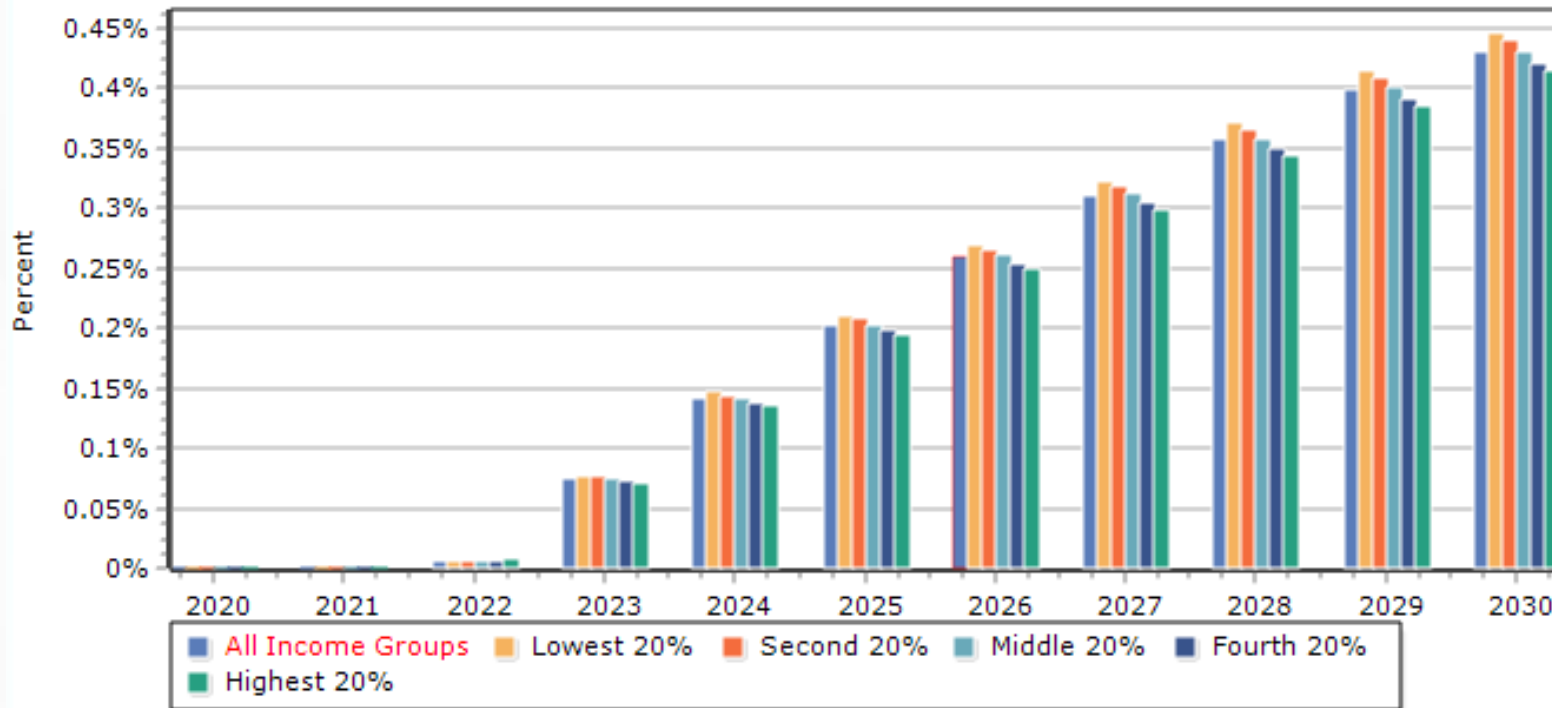
Relative Housing Price by Region



- A representative individual: someone has enough money to retire moves from NY to FL
- Model simulation
  - Retired Migration -10,000 in NY
  - Retired Migration +10,000 in FL
- Inflationary for FL: as pension holder moves to FL, rents increase and middle-class renter sees rent skyrocketing.

# Inflation Effects under Retirees Moving from NY to FL

Consumption Price by Income Quintile in Miami-Dade County, FL



- Model simulation
  - Retired Migration -10,000 in NY
  - Retired Migration +10,000 in FL
- FL rents go up, people move in from other states drives rents up, making it worse for lower income people.

# Dispersing Factors vs Concentrating Factors

Labor access: remote or hybrid effectively gives workers and firms better access

## Dispersing factors

- Lower labor cost
- High prices for commodities including land, rentals, and housing in big cities
- Regions around major cities are preferred than major cities themselves

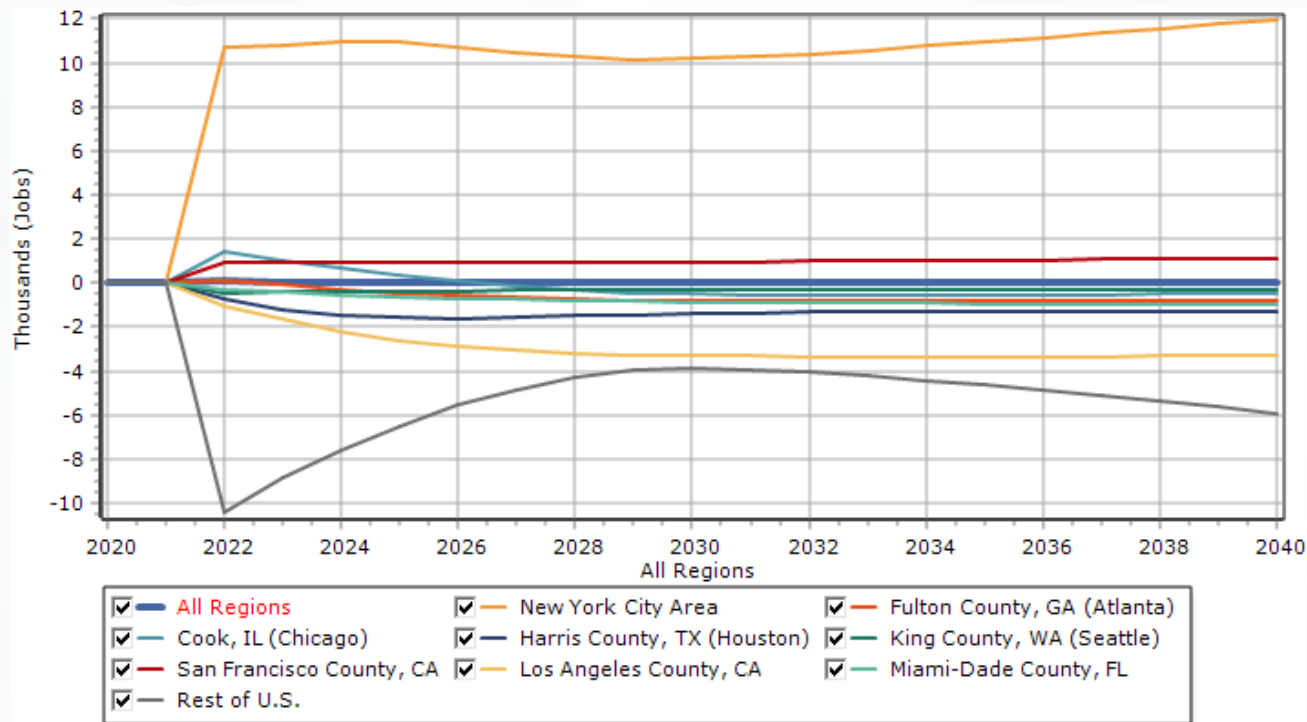
## Concentrating factors

- Industry cluster: employees are highly skilled in a sector. Their network, interactions and facilities all locates in a certain region
- People connected in Silicon Valley have more access to experienced workers; in DC, politics-related work requires offline meetings

# Concentrating: Labor Access Increase in Financial Securities



Total Employment by Region

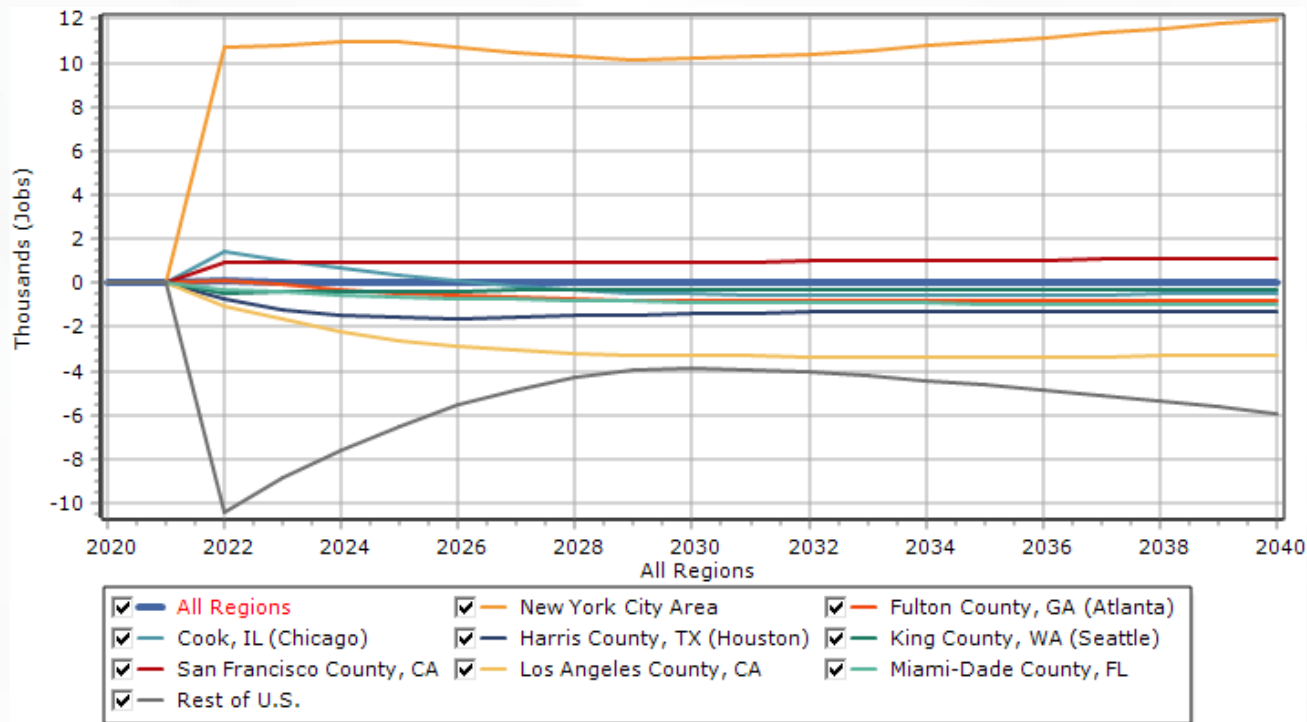


- Increase in Labor Force Access by 5% Financial Securities (reduced commuting cost/remote work)
- Dispersive factor: worker can access NY job from remote location
- Concentrating factor: employer can cherry-pick some workers outside of New York, enhancing productivity of New York headquarters
- Higher productivity at New York headquarters increases employment in New York

# Concentrating: Labor Access Increase in Financial Securities



Total Employment by Region



- Other examples: post-War reduction of trade and transportation barriers has led to global concentration in semiconductors, financial services, socks (Datang, China produces 35% of world's sock production)
- Also, remote work, including better integration of 'branch' office workforce, could disproportionately increase productivity of headquarters for Amazon, Google, Microsoft and others.

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# Conclusions and Notable Results



## Inflation

- Inflation is rising after monetary / fiscal stimulus and pandemic disruption
- It's not the 70's, it's not 1999, its 2021: "there is no muscle memory for this kind of economy" - Diane Swonk

## Inequality

- Inflation is impacting lower- and middle-income workers more heavily than higher-income groups

## Relocation

- Regional re-location causes inflation for destination locations (low-cost, high amenity Southern and other cities; suburban locations)

## Modeling

- Regional Economic Modeling can inform analysis of macroeconomics and socioeconomic indicators.

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# Thank you for attending!

For more information, please contact  
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