

# Heterogeneity and Monetary and Fiscal Policy in the Pandemic

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*Heterogeneity in Macroeconomics: Implications for Policy*

*NY Fed, November 2021*

# Heterogeneity and Policy

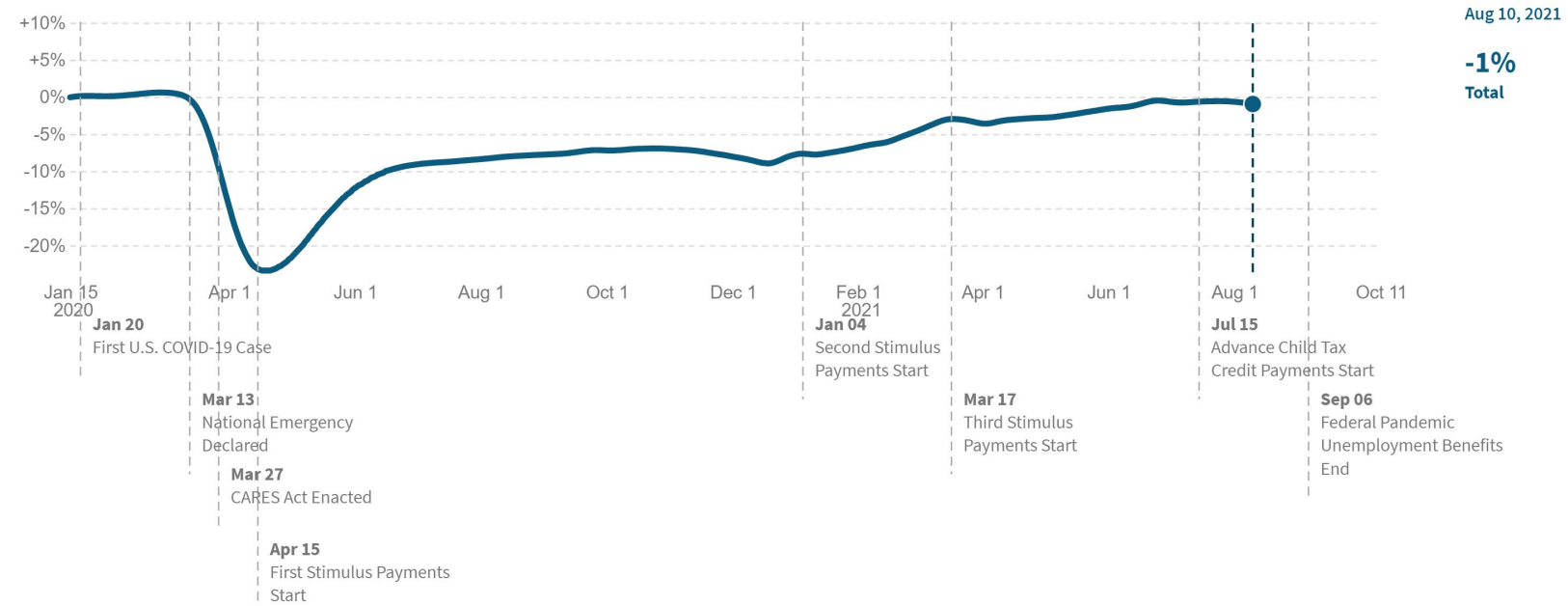
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- Growing interest from policy makers in embedding heterogeneity in the macro models they use
- How is heterogeneity important to understand the macro impact of the pandemic and the effectiveness of different policy responses?
- Two types of heterogeneity are key to think about the pandemic: agents' balance sheets heterogeneity and sectoral heterogeneity
- In particular, I will address three key elements of the policy debate:
  1. Aggregate demand and supply effects of the pandemic
  2. Fiscal transfers
  3. Inflation

# Employment - US

## Percent Change in Employment\*

In **the United States**, as of **August 10, 2021**, employment rates **decreased** by **1%** compared to January 2020 (not seasonally adjusted).



data source: **Earnin, Intuit, Kronos, Paychex**

\*Change in employment rates (not seasonally adjusted), indexed to January 4-31, 2020. This series is based on payroll data from Paychex and Intuit, worker-level data on employment and earnings from Earnin, and timesheet data from Kronos. The dotted line is a prediction of employment rates based on Kronos and Paychex data.

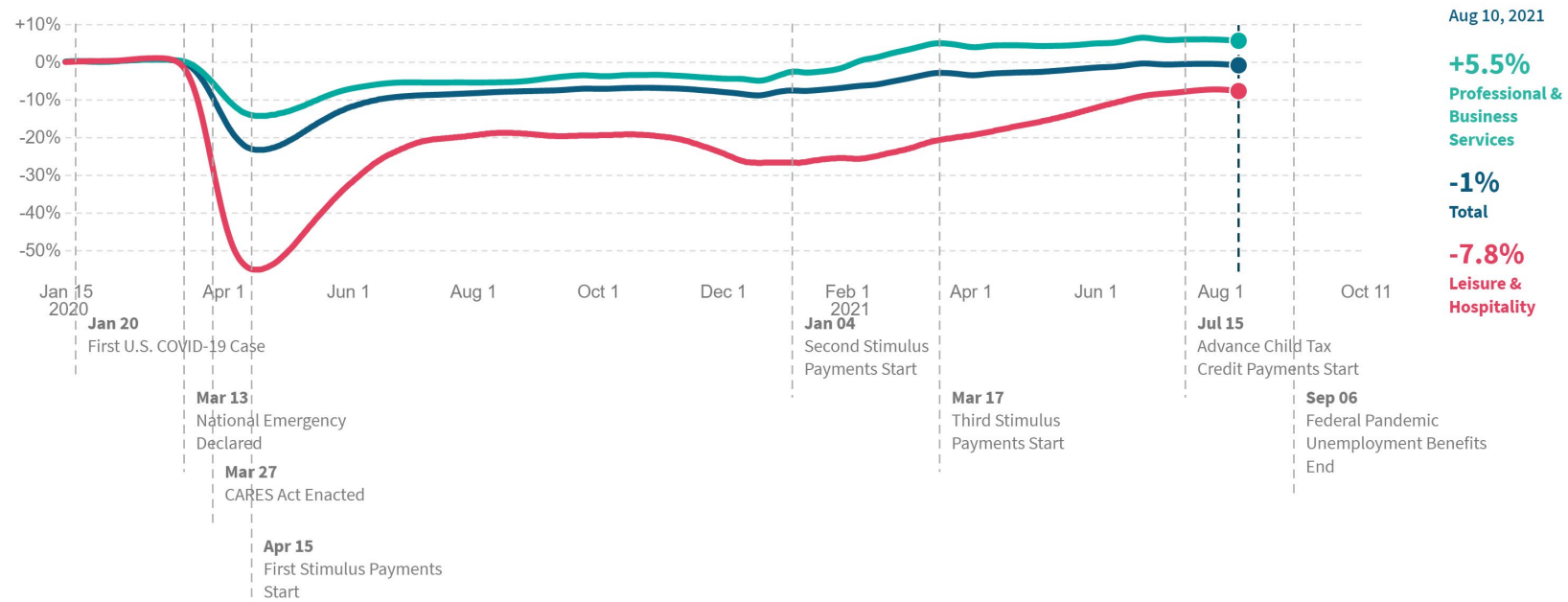
last updated: **September 24, 2021** next update expected: **October 15, 2021**

Source: Opportunity Insights – Economic Tracker

# Employment By Sector - US

## Percent Change in Employment\*

In the United States, as of August 10, 2021, employment rates **decreased** by **1%** compared to January 2020 (not seasonally adjusted).



data source: **Earnin, Intuit, Kronos, Payche**

\*Change in employment rates (not seasonally adjusted), indexed to January 4-31, 2020. This series is based on payroll data from Paychex and Intuit, worker-level data on employment and earnings from Earnin, and timesheet data from Kronos. The dotted line is a prediction of employment rates based on Kronos and Paychex data.

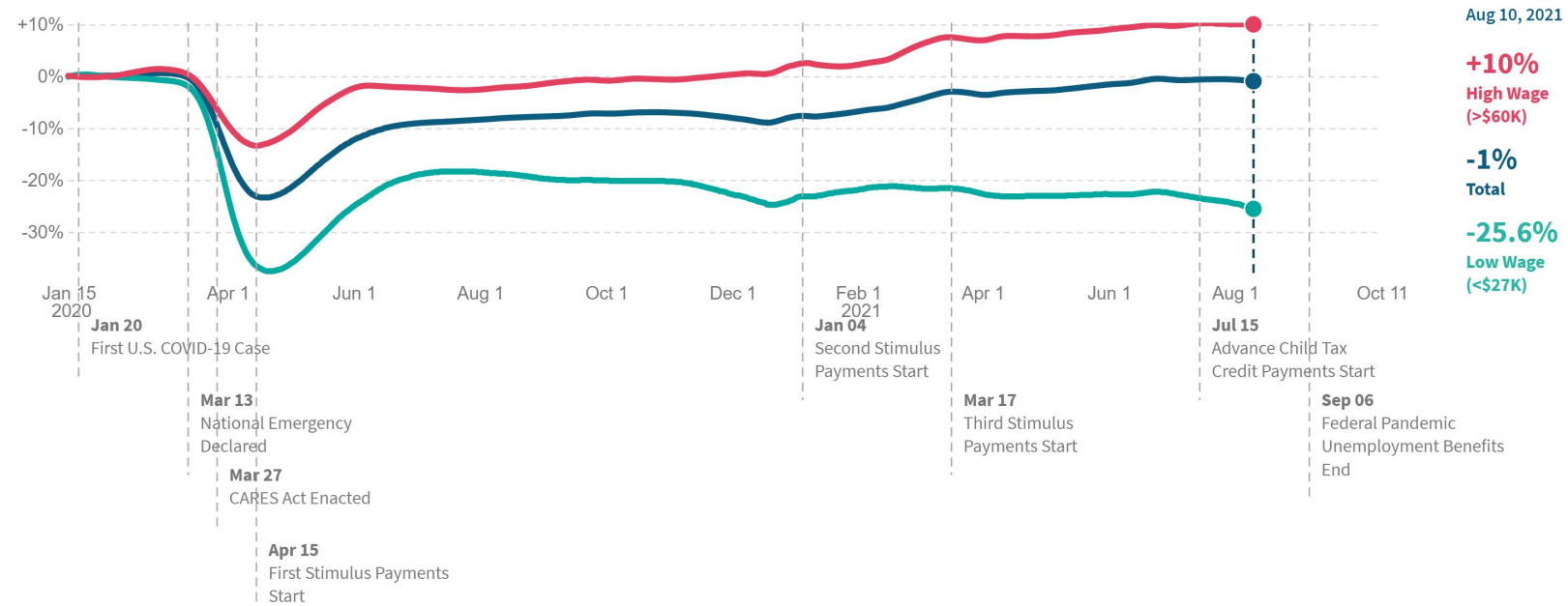
last updated: **September 24, 2021** next update expected: **October 15, 2021**

Source: Opportunity Insights – Economic Tracker

# Employment By Income - US

## Percent Change in Employment\*

In the United States, as of August 10 2021, employment rates **decreased** by **1%** compared to January 2020 (not seasonally adjusted).



data source: Earnin, Intuit, Kronos, Payche

\*Change in employment rates (not seasonally adjusted), indexed to January 4-31, 2020. This series is based on payroll data from Paychex and Intuit, worker-level data on employment and earnings from Earnin, and timesheet data from Kronos. The dotted line is a prediction of employment rates based on Kronos and Paychex data.

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Source: Opportunity Insights – Economic Tracker

# Aggregate Effects of Covid-19

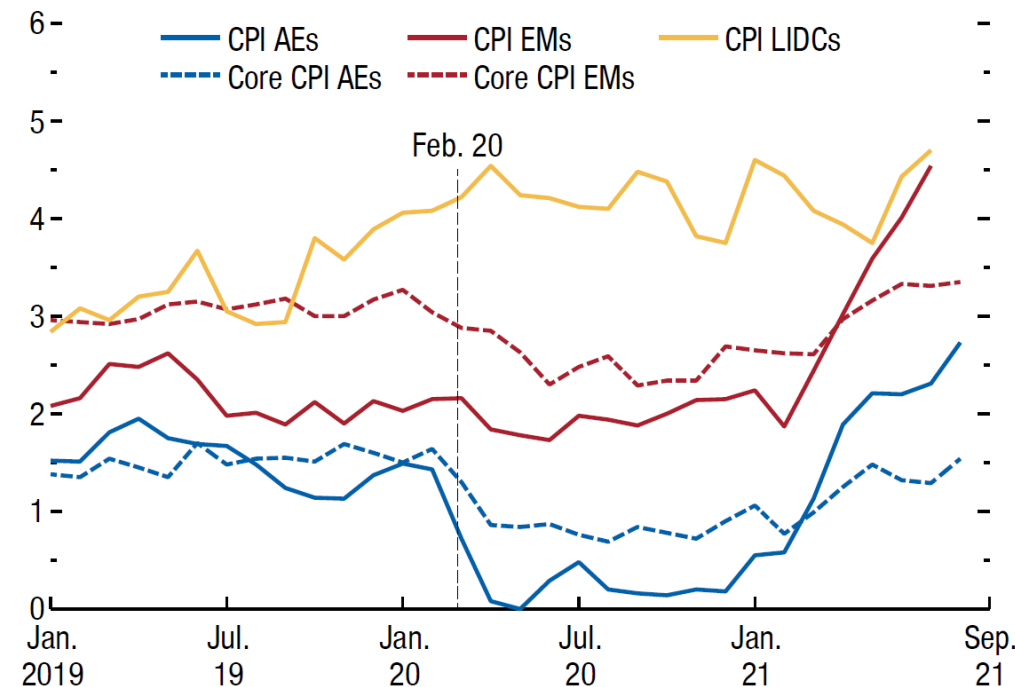
Guerrieri, Lorenzoni, Straub, Werning (2021a)

- Covid-19 hit more severely sectors/sub-sectors and segments of the labor market that involve more personal interaction
- One can think of it as a negative supply shock in those sectors (containment policies, workers fear, consumers fear)
- However, it propagated to the whole economy through demand channels:
  1. Key role of **agents heterogeneity**: income losses of workers with high MPC mean aggregate demand shortages
  2. Additional role of **sectors complementarities and supply chains**: disruptions in some sectors may propagate to others

# Implications for policy

- Demand shortages coming from both income effects and sectoral spillovers calls for **stimulus**
- However, the asymmetric nature of the shock also calls for **social insurance**
- **Targeted fiscal transfers** can achieve both objective (while government spending or conventional monetary policy only the first)
- In the presence of health shocks, there is also a desirable complementarity between transfers and containment policies as transfers reduce their costs
- Fiscal stimulus has been massive in the US
- The literature on HANK models has helped better understanding not only the impact effects of transfers but also to trace out their dynamic effects (from Oh and Reis on)

# Inflation: Was fiscal stimulus too aggressive?



Sources: Haver Analytics; IMF, CPI database; and IMF staff calculations.

Note: The vertical line indicates February 2020. AEs = advanced economies;

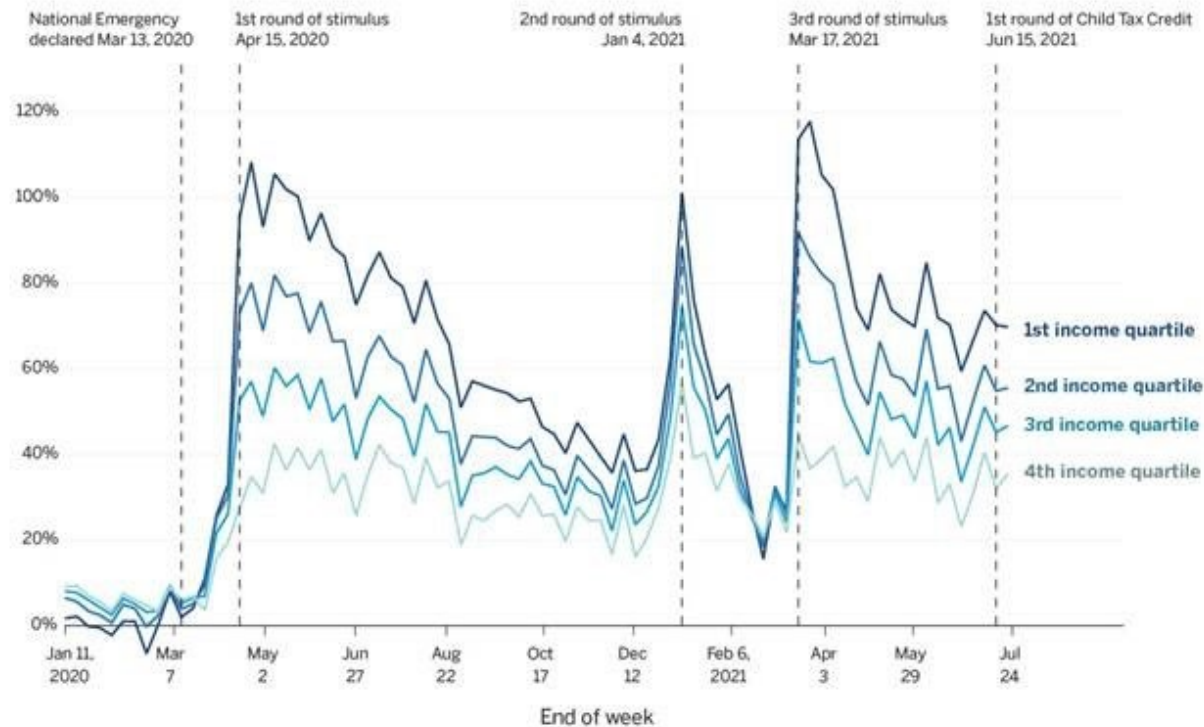
CPI = consumer price index; EMs = emerging market economies;

LIDCs = low-income developing countries.



# Heterogeneous response to stimulus

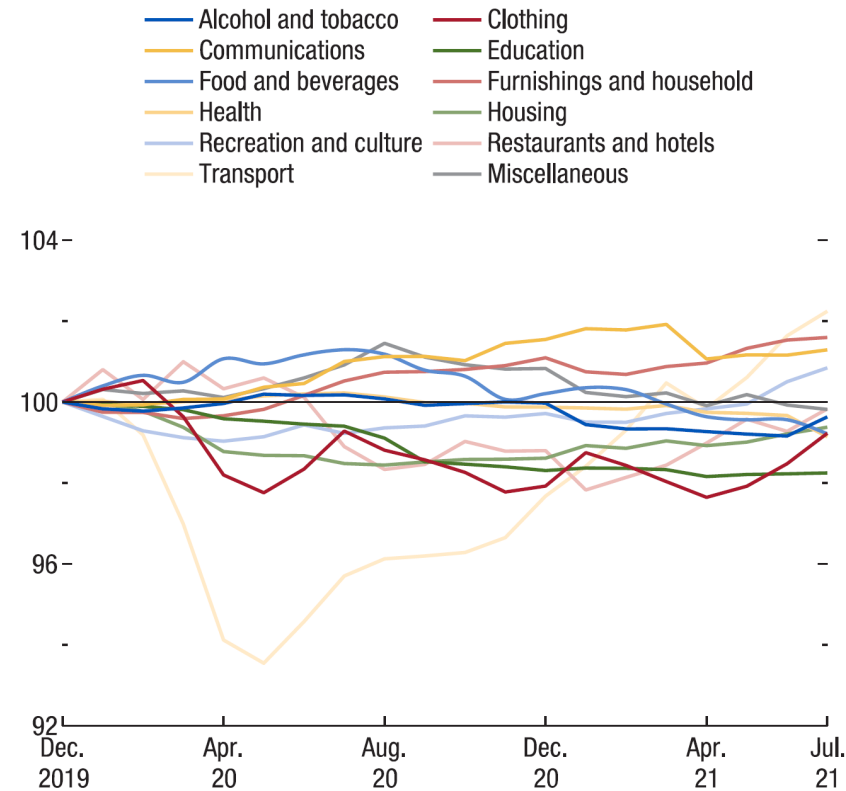
Percent change (relative to 2019) in median weekly checking account balances, by income quartile



Note: We assign households into income quartiles based on their total labor income from 2019. Households in income quartile 1 earned between \$12,000 and \$30,296 in labor income; quartile 2 households earned \$30,296 to \$44,955; quartile 3 households earned \$44,955 to \$68,896; and quartile 4 households earned more than \$68,896.

Source: JPMorgan Chase Institute

# Price Movements By Sector - US



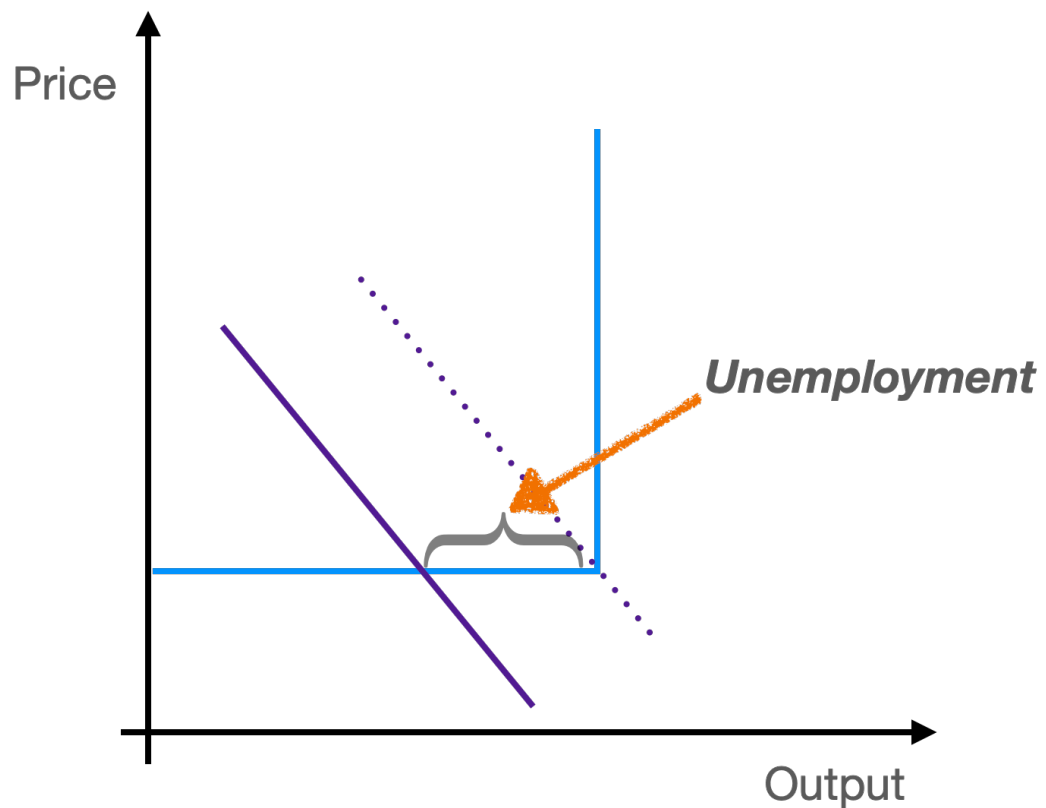
Sources: IMF, CPI database; and IMF staff calculations.

Note: The lines are averages weighted by country's purchasing-power-parity GDP.

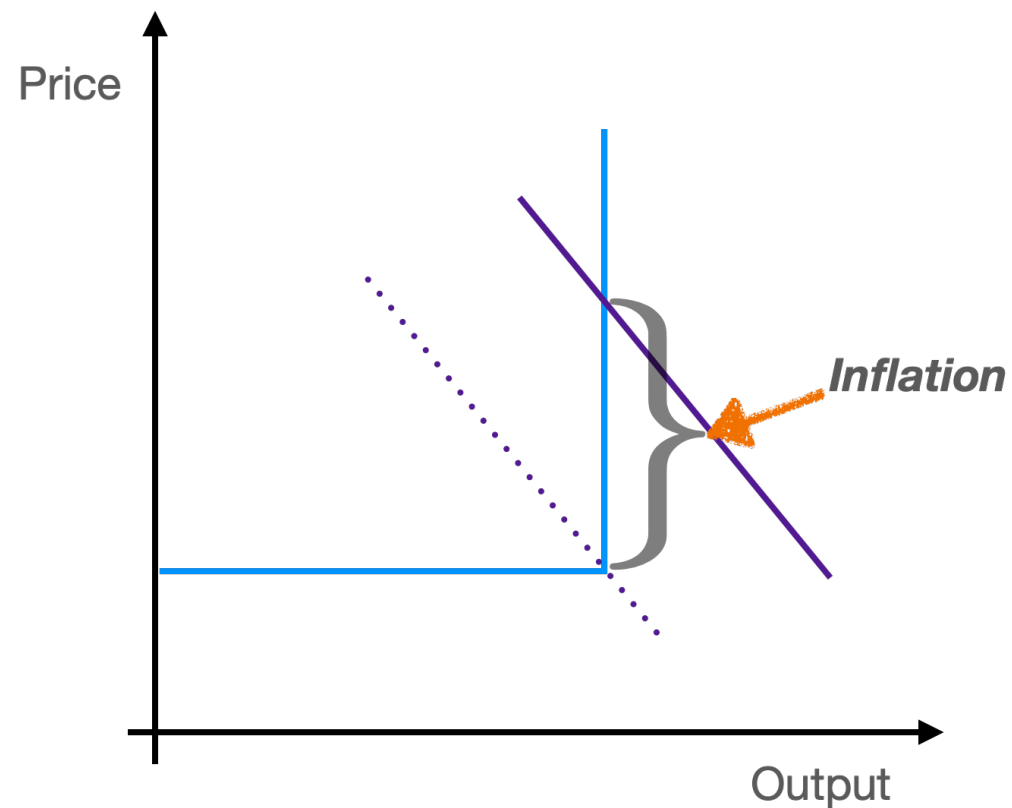
Source: World Economic Outlook - IMF

# An Uneven Shock – 2 Sectors

Guerrieri, Lorenzoni, Straub, Werning (2021b)

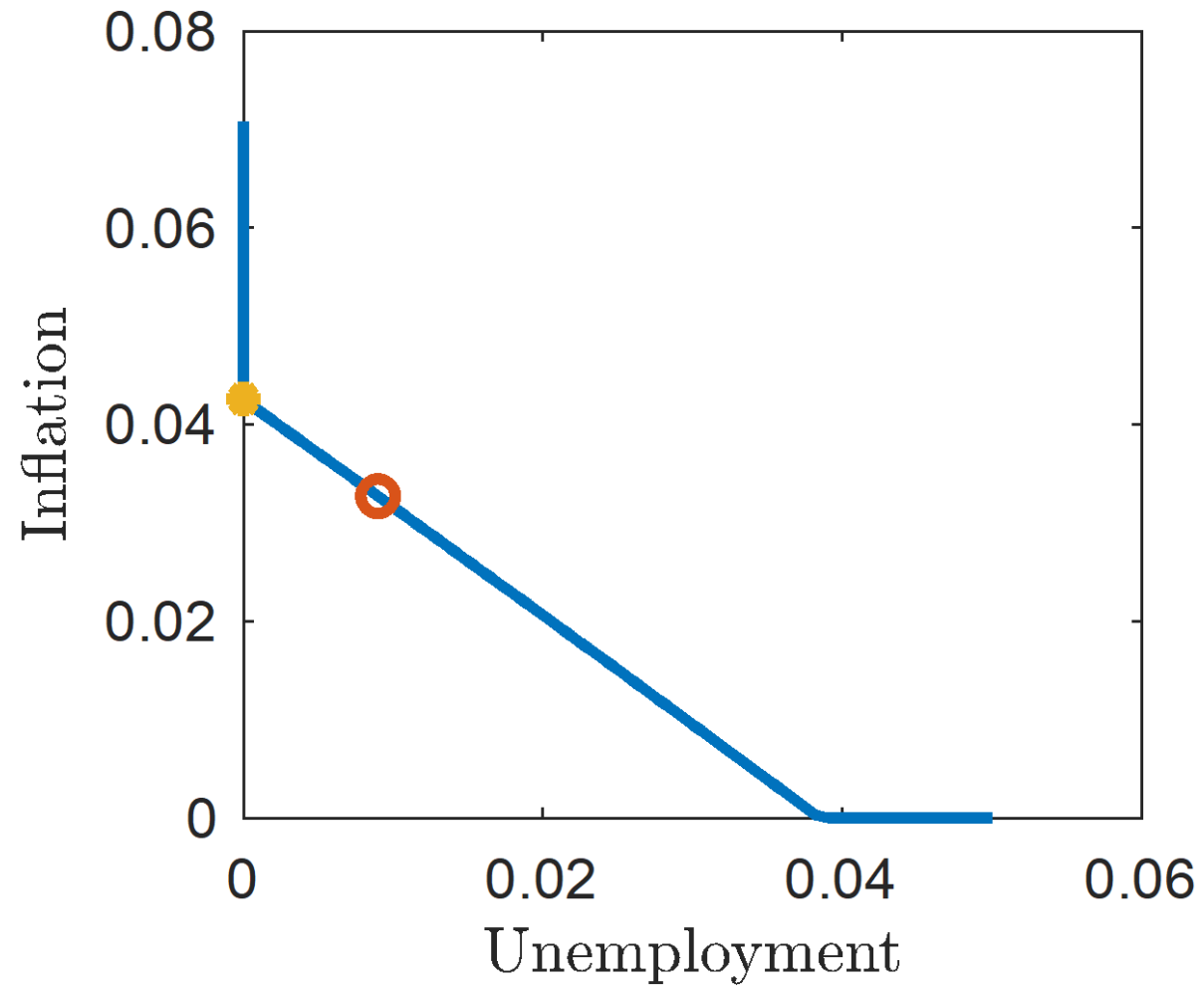


Sector A



Sector B

# Phillips Curve

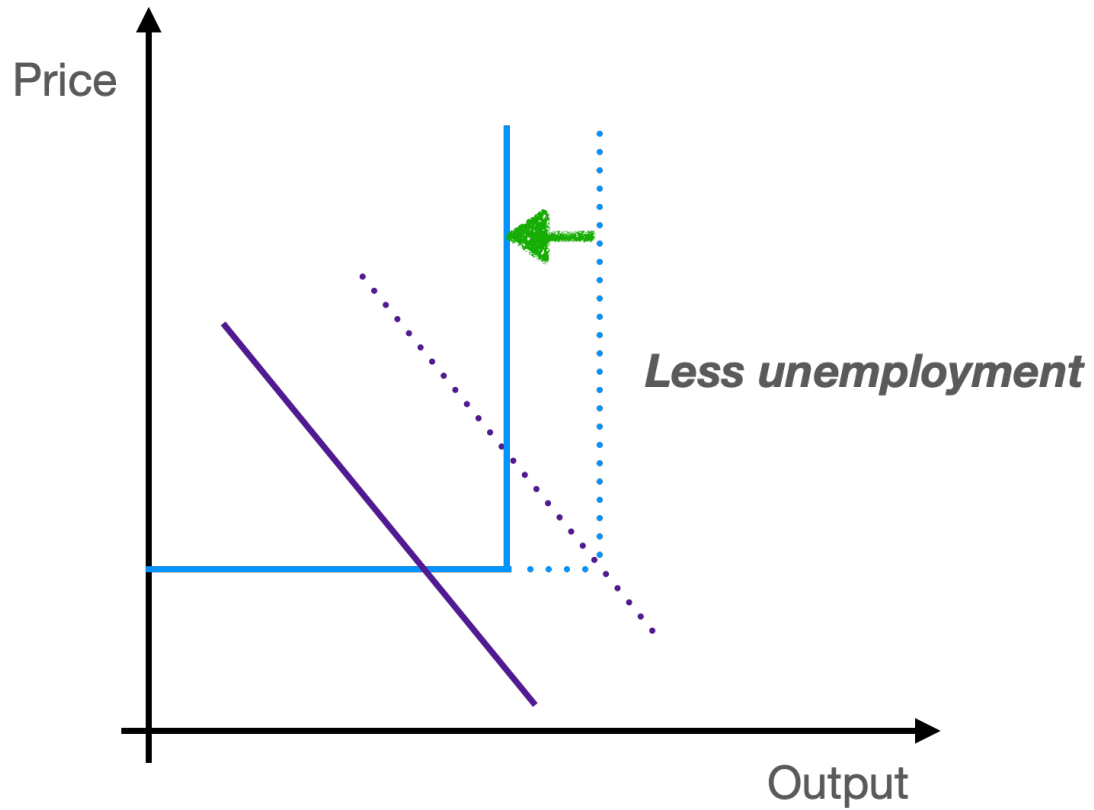


# Is the Pandemic a Permanent Shock?

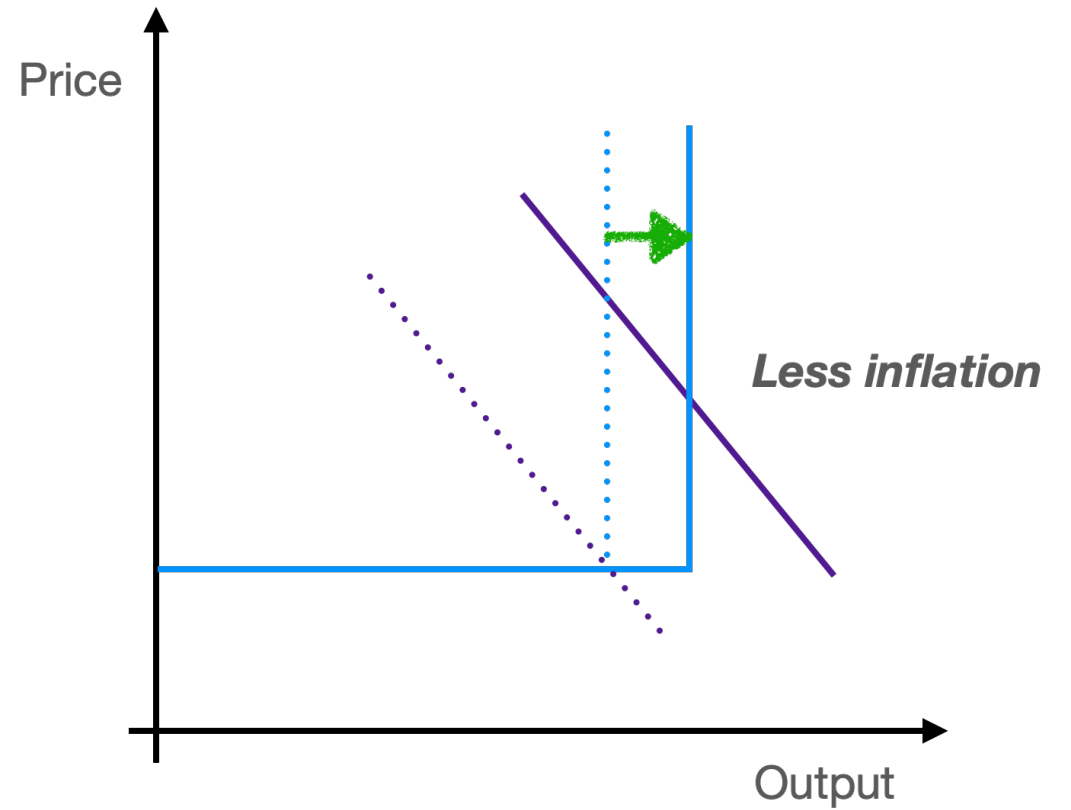
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- Barrero and Bloom (2020) argue that the pandemic is going to have long-lasting effects on the economic structure
- Labor reallocation needed towards sectors that will succeed in the long run
- Common view: we should even more worried about the Central Bank to run a hot economy
- Guerrieri, Lorenzoni, Straub, and Werning (2021): allowing for more inflation in booming sectors may actually increase wages and attract more labor
- Especially in a world where wages are mostly downward-rigid

# Labor Reallocation

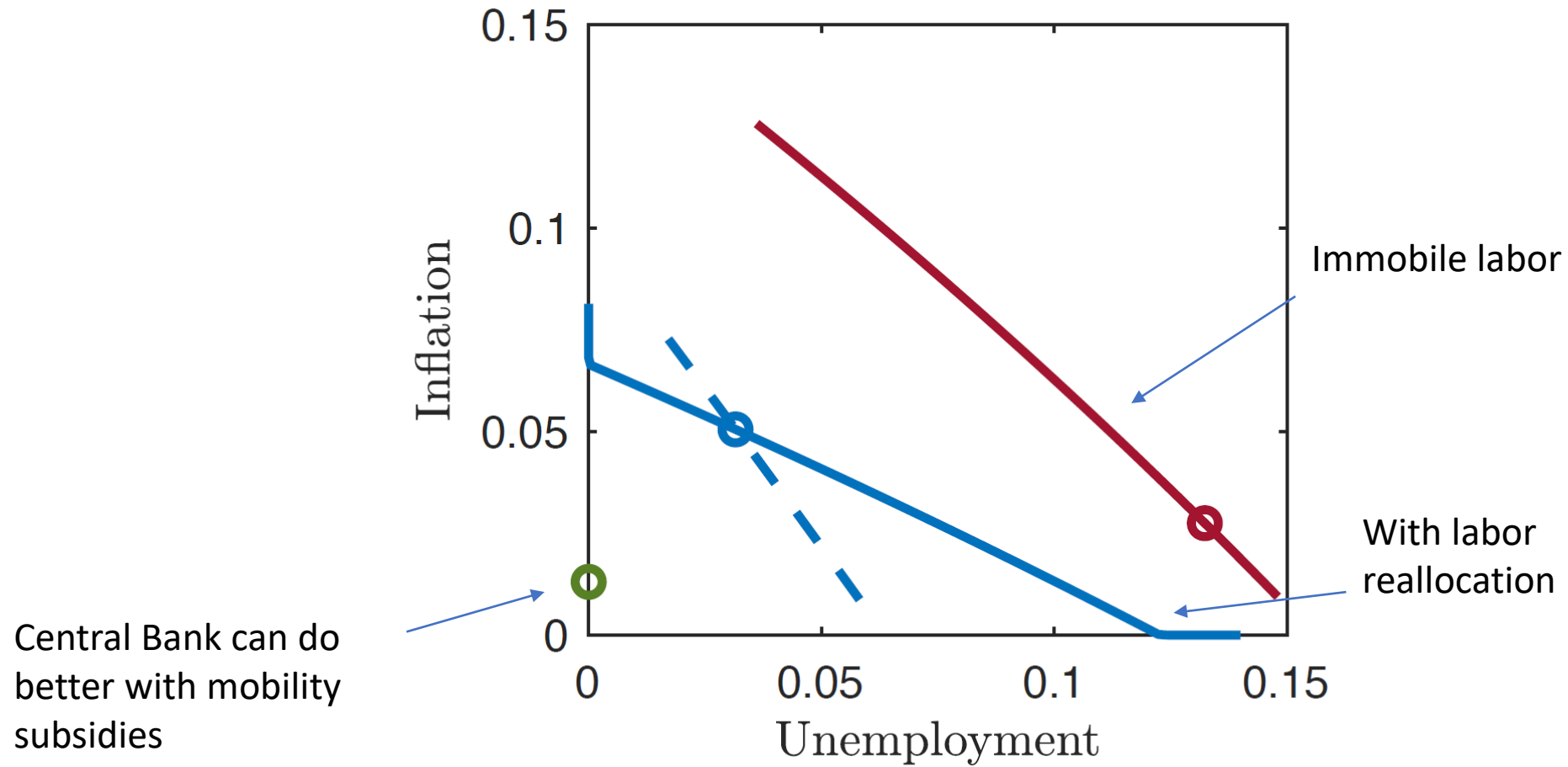


Sector A



Sector B

# Phillips Curve



# Final Remarks

- HANK models key to understand the role of income spillovers in the pandemic and the static and dynamic effects of transfers in response to that
- To think about the pandemic, it is important to bring into the picture also another form of heterogeneity: across sectors or labor market segments
- Once policy support is strong enough, asymmetries across sectors create difficult policy dilemmas