PRINCETON UNIVERSITY
BENDHEIM CENTER FOR FINANCE

Webinar: Evaluating U.S. financial stabilization measures for COVID-19

FEATURING

MARKUS BRUNNERMEIER, PRINCETON BCF

NELLIE LIANG, HUTCHINS CENTER AT BROOKINGS

Thursday, March 26, 2020

12:30 PM ET

Limited Space Available

Registration Required

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Twitter: @MarkusEconomist

Intro

- What's happening to
  - People
    - Health contagion
    - Gaining time
  - Real economy
    - Supply chains
    - Hoarding
  - Financial markets
    - Financial runs contagion

- Ramanan Laxminarayan
  Ctr. for Decease Dynamics
  next Monday, 12:30 p.m.

- Olivier Blanchard
  Monday, April 6th

- Nellie Liang –
  today

Shocks and Amplification

- Initial economic shock

- Amplification/feedback effects/spirals/non-linearities
  - Risk-on to risk-off
  - Flight-to-safety (safe asset = good friend indeed)

- Multiple equilibria

Small shocks: Self-stabilizing

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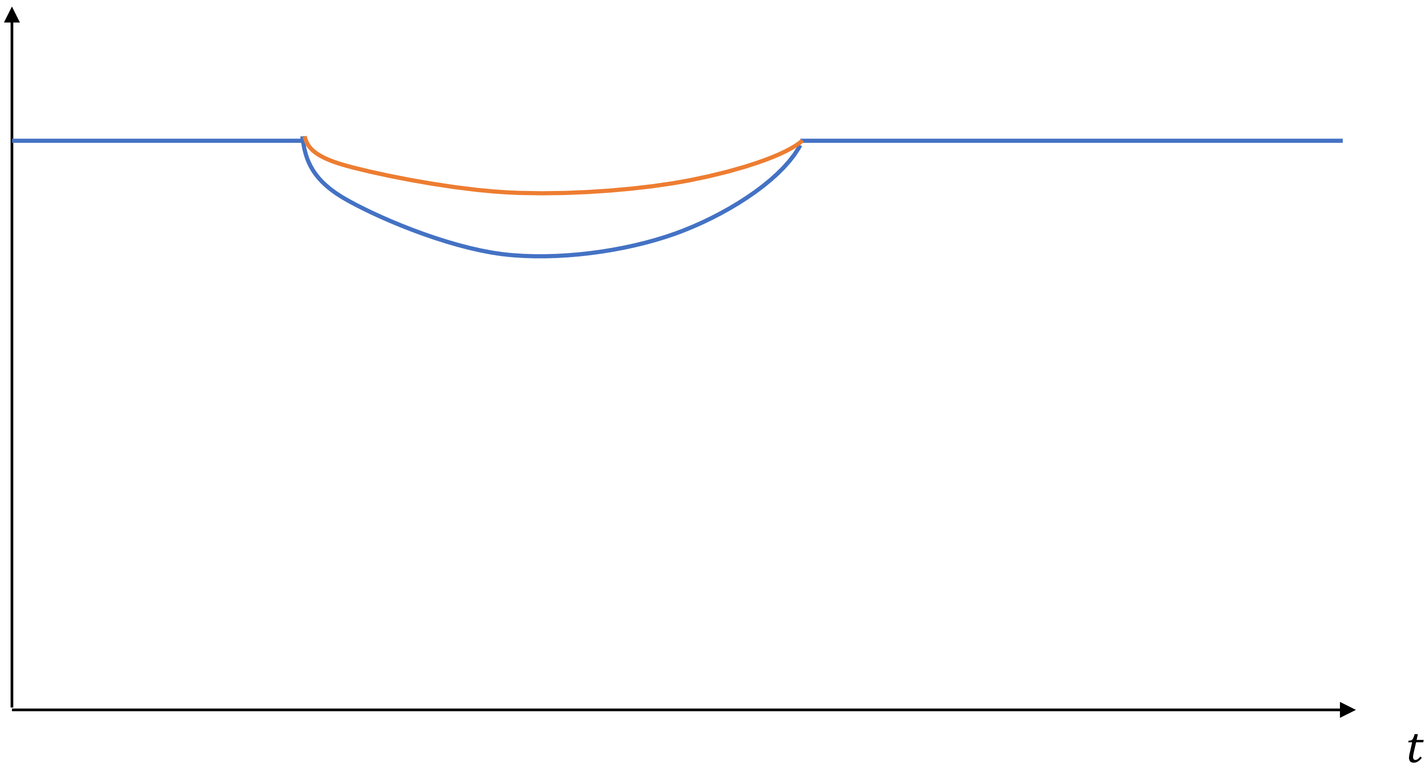
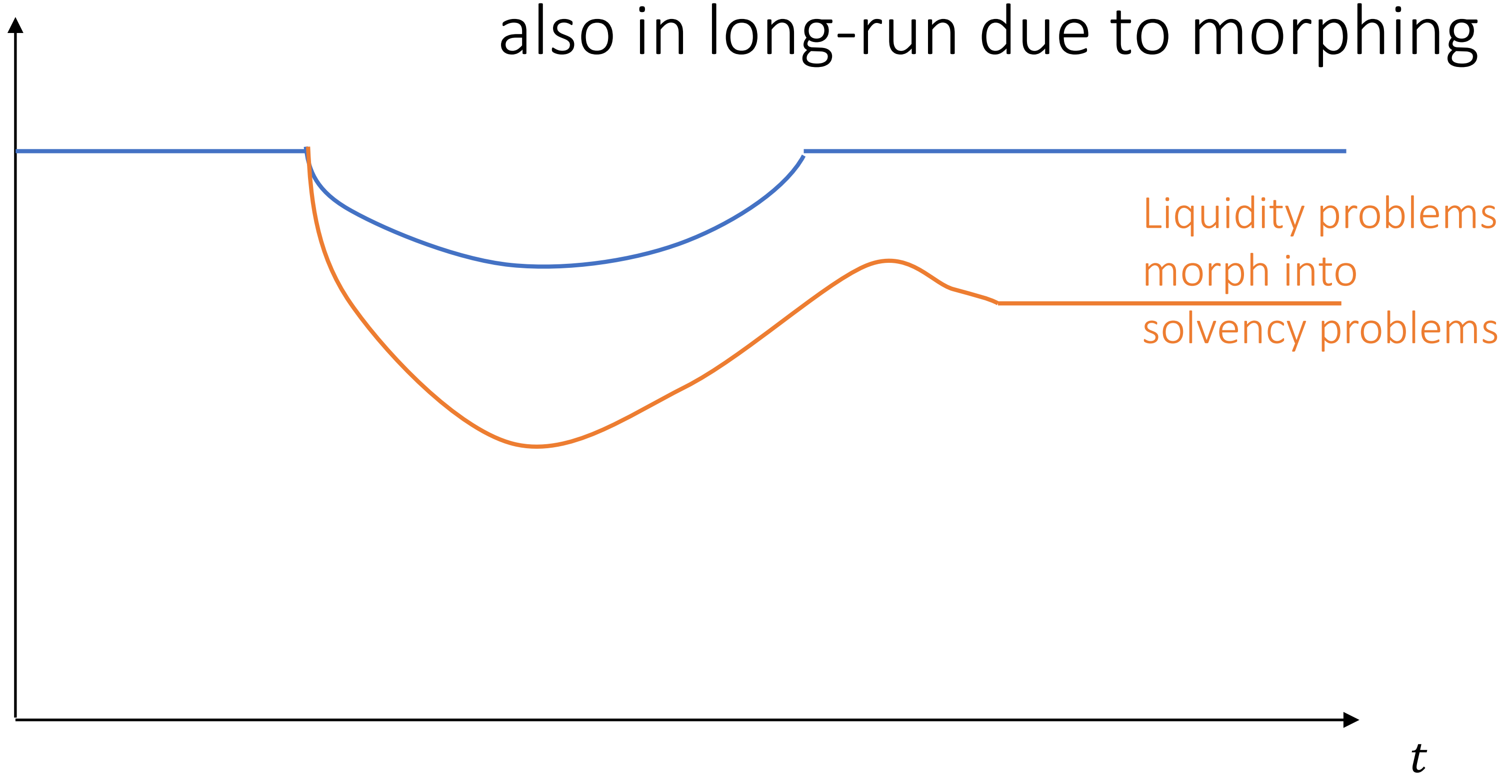
- Financial markets are stabilizing for small/normal shocks



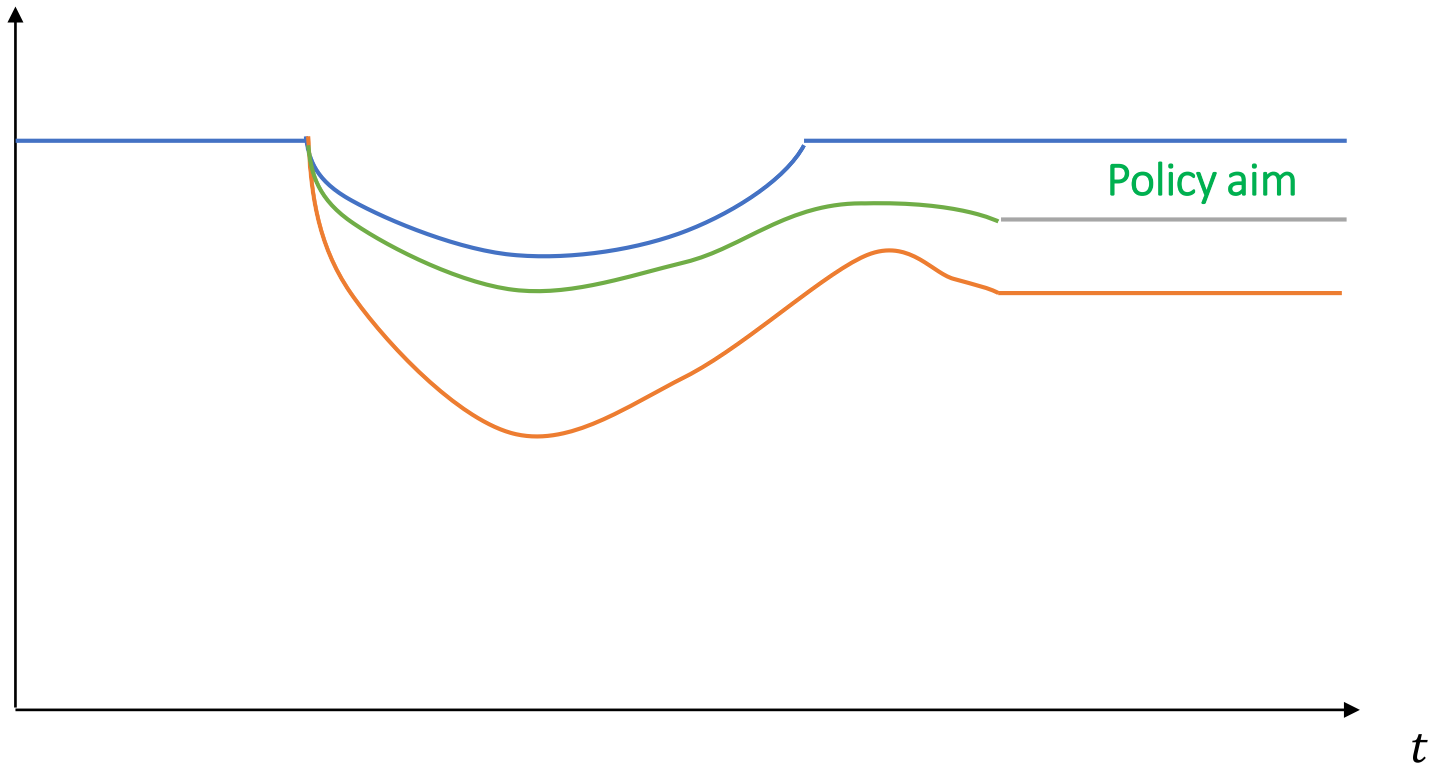
Large shocks: De-stabilizing

- Financial markets freeze – situation worsens
also in long-run due to morphing



Large shocks: De-stabilizing

- Aim policy intervention



Non-linearities
Brunnermeier & Sannikov 2014,16

Liquidity

- Funding Liquidity
  - Primary market/ issuance/origination of loans
    - For firms, SMEs, …
    - For market makers
- Market Liquidity
  - Secondary market – bid-ask spread, volume

Liquidity Spirals

- Funding Liquidity
  - Primary market/ issuance/origination of loans
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    - For market makers
- Market Liquidity
  - Secondary market – bid-ask spread, volume

Brunnermeier & Pedersen 2009

Financial Markets

- Stock market
- Credit/Funding Markets – Who funds gov./businesses/HH?
  - Via capital markets & shadow banks
    - Gov. / Corporate bonds (long-run)
    - Commercial paper (short-run)
    - Repo market = collateralized lending
    - Money market funds
    - + Market making (step between buyer and seller of assets)
  - Via banks
    - Loans
    - Interbank market

SME lending

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- "FED's capital market approach doesn't reach SMEs"

- "Evergreening proposal (not "forevergreening") Brunnermeier Krishnamurthy
- Inverse policy prescriptions: dos-and-don'ts are reversed
  - *Normal times:*
    Avoid evergreening, since zombies crowed out new firms/investment
  - *Now:*
    Promote evergreening to maintain (social) capital …

US Financial Stabilization Policies for COVID-19

J. Nellie Liang

Senior Fellow, Hutchins Center for Fiscal and Monetary Policy

Brookings Institution

March 26, 2020

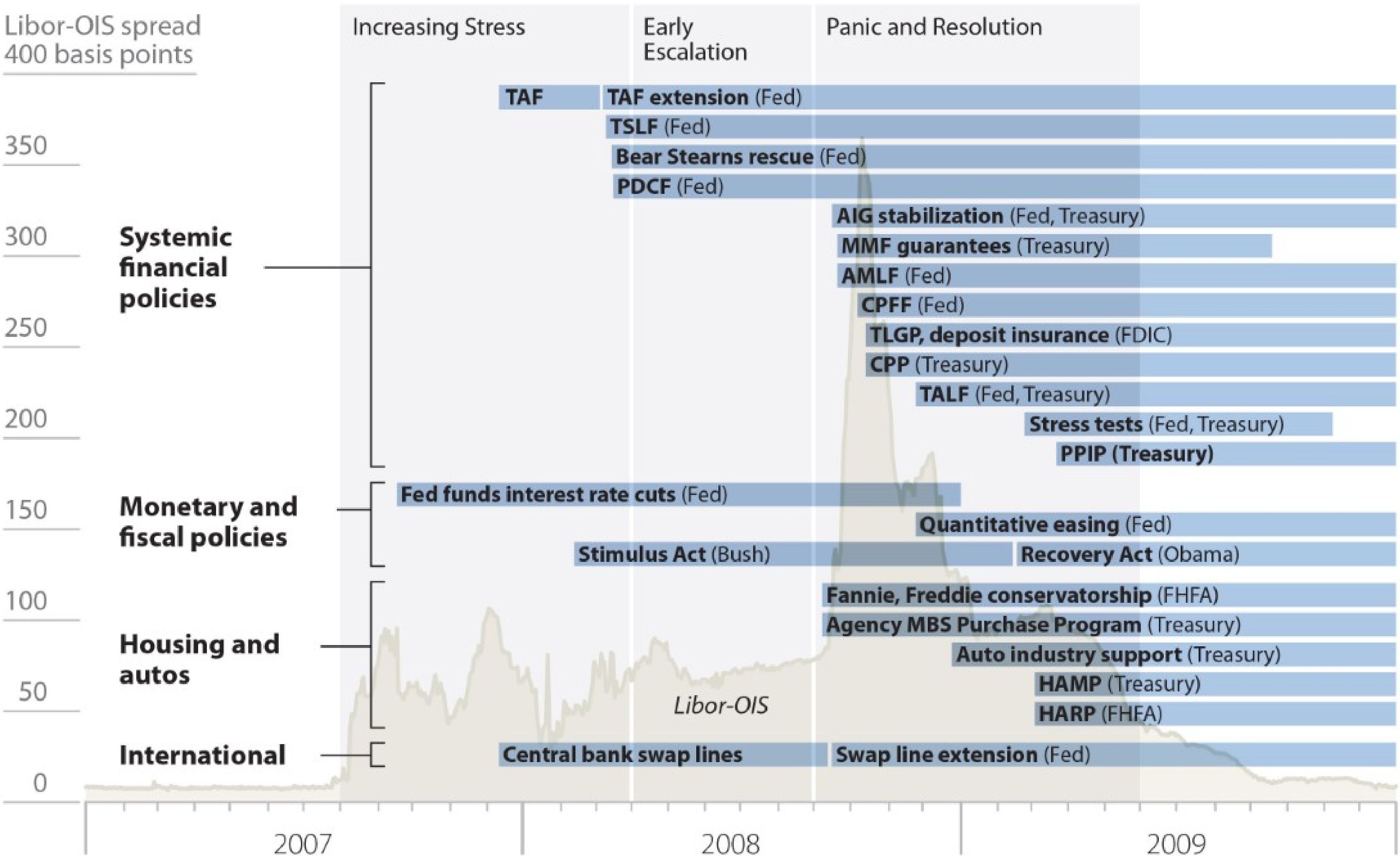
US COVID-19 response

- Health
- Fiscal - $2 T CARE package
  - $367 B for small businesses; $500 B for businesses
  - $700 billion for TARP in 2008
- Monetary policy – Cut target rate to range of 0 - .25%
- Financial stabilization
  - Financial markets need to be able to price risk, but difficult with high uncertainty
  - Emergency liquidity provision
  - Macroprudential policies

Financial stabilization in 2020

- Approach is different from 2008, when the crisis originated in the financial sector
  - More aggressive from the start to support credit
- But similar goals
  - To limit the damage to the economy, and
  - To position the economy to recover more quickly when the pandemic recedes
- Liquidity
  - Can help to prevent liquidity stress from becoming insolvency
  - Can be a bridge to government transfers or other solutions to sharing the costs of the pandemic

U.S. Government Responses to the 2007–2009 Global Financial Crisis



Notes: See second page.

Source: Libor-OIS: Bloomberg Finance L.P.

First Responders, eds Bernanke, Geithner, Paulson, with Liang, 2020

Authorities for providing liquidity

- The Fed can purchase US government securities
- Under 13-3, Fed can determine unusual and exigent circumstances, and credit can be extended “secured to its satisfaction”
  - Collateral pledged needs to be sufficient to protect the taxpayer
  - Security can also be provided by government capital, fees and other features of the program
  - Dodd-Frank – Lending needs to be broad-based
  - Requires approval of the Secretary of the Treasury

Overview of Intervention types

- Purchase assets   --> FED carries risk
- Repo – lend against collateral --> FED carries little risk unless collateral values fall too much
- Lend – SPV funded by capital from US fiscal authorities and Fed loans
  - US Treasury in first-loss position
- Macroprudential

Overview of asset classes

- Purchase
  - US Treasury securities, agency debt and agency-RMBS
  - Agency-CMBS NEW in 2020
- Repo with primary dealers
  - Wide range of securities, including corporate bonds, ABS, and private RMBS (large in 2008)
- Lend through SPV (new issue)
  - Commercial paper, unsecured and ABCP (large in 2008)
  - Asset-backed securities
  - Corporate bonds (long-term) NEW
  - Municipal short-term credit NEW
- SME loans? - New in 2020

Asset purchases and repo

- To support market liquidity and ensure transmission of monetary policy
- Purchase and repo US government securities, Treasury and agency securities
  - Announced purchases ($700 B) and repo ($1.5 T)
  - Escalate purchases - $375 B in Treasury and $250 B in agency securities, in a week period, and expanded to agency CMBS
  - And stated will purchase more if needed
- Fed balance sheet
  - Sep 2, 2019 - $3.8 T
  - Mar 16, 2020 $4.7 T

Traditional and novel lender of last resort

- Discount window – lowered rate, extended maturity, and encouraged use of the window
  - Financial strength of banks should reduce any stigma
  - Stigma was pervasive in 2008
- Primary dealer credit facility (PDCF)
  - In 2008, expanded the discount window to primary dealers
  - Implemented initially with collateral limited to US government securities
  - Later was expanded to a broad array of collateral
- In 2020, the Fed announced PDCF would accept broad collateral

Short-term credit markets

- Provide short-term funding to corporations, and extend to municipalities in 2020
- Commercial paper funding facility – CPFF
  - Offer 3-month paper to A1-P1 issuers, based on pre-announcement amounts
  - Participation fees and based on issuance, $10 billion from Treasury
- Money market mutual fund liquidity facility – MMLF
  - Lend to banks based on collateral they purchase from MMFs, such as commercial paper and short-term municipal securities
  - $10 billion in Treasury capital

Medium-term corporate credit NEW

- Provide liquidity and support market functioning
  - Rates and terms more expensive than could obtain in normal market conditions
  - Firms will return to markets when conditions stabilize
  - Each has capital from Treasury ($10 B) and lending from the Fed
- Primary Market Corporate Credit Facility (PMCCF)
  - Companies with investment-grade ratings can issue bonds or loans with maturity of up to 4 years
  - Amount is limited based on outstandings
  - Firms that borrow and defer payments cannot pay dividends or buyback shares
- Secondary Market Corporate Credit Facility (SMCCF)
  - Purchase existing investment grade bonds and bond ETFs in the secondary market
  - No more than 10% of outstanding or 20% of ETF

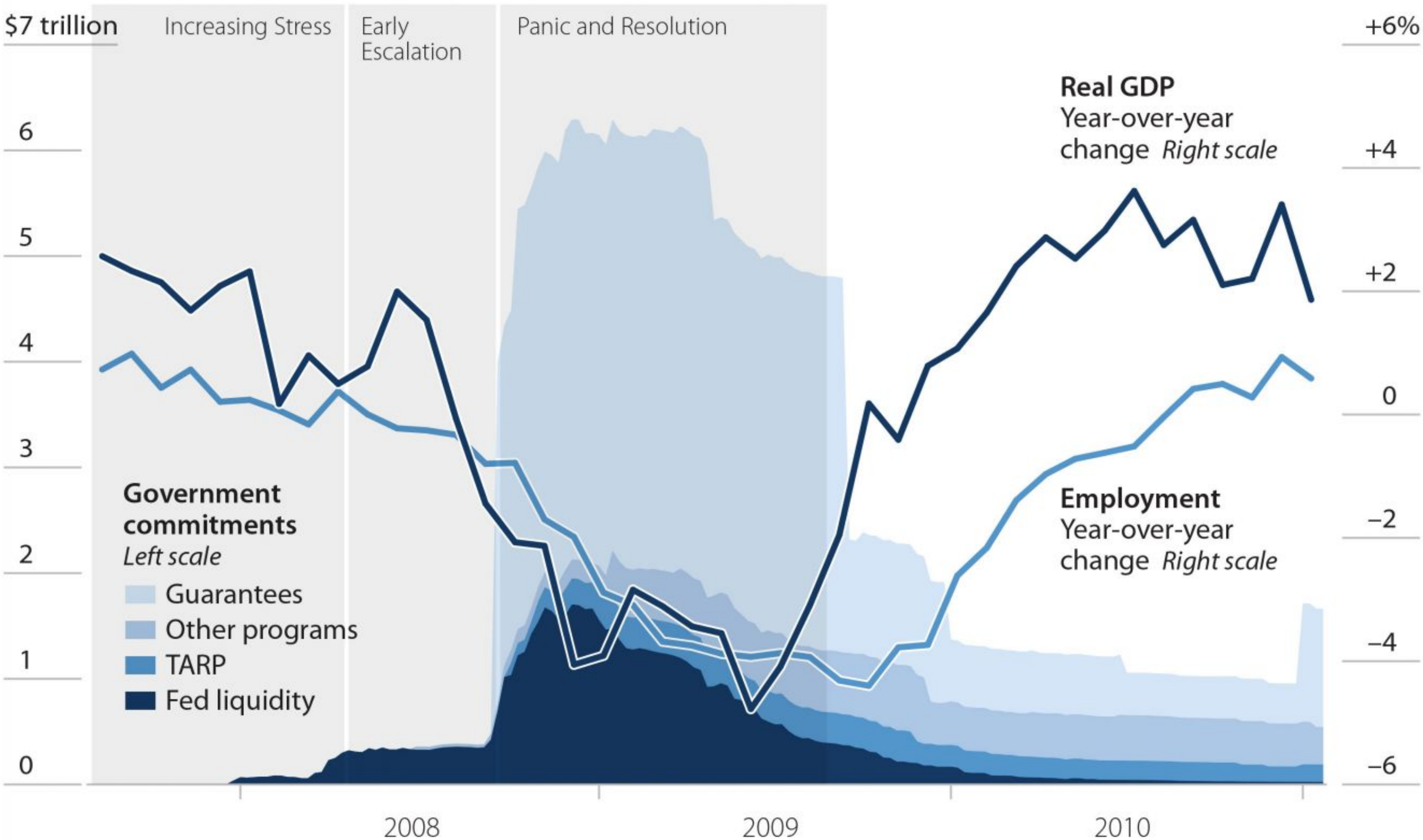
Macroprudential policies

- Fed encouraged banks to use their capital and liquidity buffers - NEW in 2020
    - CCyB is set at 0 percent in the US, so it cannot be lowered
    - But banks have "management buffers" above current capital required by regulations and stress tests
    - Banks announced they would reduce share repurchases through the second quarter, which increases buffers to absorb losses
    - Less clear how to use liquidity buffers since not pre-specified
- Regulators issued guidance to banks to work with borrowers affected by COVID-19
    - Deferred payments or maturity extensions would not be classified as a troubled debt restructuring and would not incur a capital charge
    - These modifications are viewed as beneficial to the borrower, lender, and broader economy

Main Street Business Lending NEW

- Expects to announce soon, no details yet
- To support lending to eligible small-and-medium sized businesses, complementing efforts by the SBA as expanded in CARE
- Fed programs – “capital/credit market approach” do not reach SMEs
  - 50% Bank funded
  - 35% Trade credit
  - 10% FinTech
- SBA - $367 billion in CARE to lend to small businesses (< 500 employees) hit by virus, with loan forgiveness if retain employees
- Fed – program for firms with between 500 to 10,000 employees
- Open design questions: How to encourage lending by banks? How to incentivize banks to EVERGREEN to rollover existing loans?

Government Commitments for Systemic Policies and GDP and Employment Growth



Notes: see second page.

Sources: Figure 18.5, J. Nellie Liang, Margaret M. McConnell, and Phillip Swagel, "Evidence on Outcomes," in Ben S. Bernanke, Timothy F. Geithner, and Henry M. Paulson, Jr., with J. Nellie Liang, eds., *First Responders: Inside the U.S. Strategy for Fighting the 2007–2009 Global Financial Crisis* (New Haven: Yale University Press, 2020). U.S. government exposures: Congressional Oversight Panel, "Guarantees and Contingent Payments in TARP and Related Programs" via Federal Reserve Bank of St. Louis, Federal Deposit Insurance Corp., Federal Reserve Board, Federal Housing Finance Agency, U.S. Treasury; employment: Bureau of Labor Statistics; real GDP: Macroeconomic Advisers via Haver Analytics

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