WHY SOME TIMES REALLY ARE DIFFERENT:
MACROECONOMIC POLICY
AND THE AFTERMATH OF FINANCIAL CRISES

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I. MOTIVATION AND OVERVIEW
Banking Panics in the Great Depression

Source: Friedman and Schwartz, *A Monetary History of the United States.*
Panics and Output in the Great Depression

Question

• What is the role of macroeconomic policy in explaining the variation in the aftermath of postwar financial crises?
II. Variation in the Aftermath of Crises
New Measure of Financial Distress

Source: Romer and Romer, “New Evidence on the Aftermath of Financial Crises.”
Behavior of Real GDP after a Financial Crisis

Notes: The figure shows the response to an impulse of 7 in financial distress. Dashed lines show the two-standard-error confidence bands.
GDP Forecast Errors, Episodes of High Distress

Cases with Small or Positive Forecast Errors

Half-Years After High Distress
GDP Forecast Errors, Episodes of High Distress
Cases with Moderate Negative Forecast Errors

Forecast Error for Real GDP (Percent)

Half-Years After High Distress

- Sweden, 1993:1
- Turkey, 2001:1
- Denmark, 2009:1
- Ireland, 2009:1
GDP Forecast Errors, Episodes of High Distress

Cases with Large Negative Forecast Errors

Half-Years After High Distress

Forecast Error for Real GDP (Percent)

-30 -25 -20 -15 -10 -5 0 5 10 15

-2 -1 0 1 2 3 4 5 6 7 8 9 10

Japan, 1997:2
Italy, 2008:2
Iceland, 2008:1
Portugal, 2008:2
Spain, 2008:2
Greece, 2009:1
III. The Role of Macroeconomic Policy Space in Accounting for Variation
Measure of Monetary Policy Space

• **Baseline:** Dummy variable equal to 1 if the policy interest rate is greater than 1.25% in the previous half-year.

• We also consider a range alternative measures.
To Measure the Contribution of Policy Space

• We run panel regressions as before.

• We allow for an interaction effect between financial distress and prior policy space.

• If the coefficient on the interaction term is positive, this implies that the aftermath of a crisis is better when there is policy space.
Behavior of Real GDP after a Financial Crisis
With and Without Monetary Policy Space

Response of GDP (Percent)

With Monetary Policy Space

Without Monetary Policy Space
GDP Forecast Errors for Japan after 1997:2 Crisis
Accounting and Not Accounting for Monetary Space

Forecast Error for GDP (Percent)

Half-Years after the Start of High Distress

Accounting for Monetary Policy Space

Not Accounting for Monetary Policy Space
Measures of Fiscal Policy Space

- **Baseline:** Gross Debt/GDP in the previous calendar year (multiplied by –1).
- We also consider a range alternative measures.
Behavior of Real GDP after a Financial Crisis
With and Without Fiscal Policy Space

Response of GDP (Percent)

Half-Years after the Impulse

With Fiscal Policy Space

Without Fiscal Policy Space
GDP Forecast Errors for Italy after 2008:2 Crisis
Accounting and Not Accounting for Fiscal Space

Forecast Error for GDP (Percent)

Half-Years after the Start of High Distress

Accounting for Fiscal Policy Space

Not Accounting for Fiscal Policy Space
Behavior of Real GDP after a Financial Crisis

With *Both* Monetary and Fiscal Policy Space and Without *Either* Monetary or Fiscal Policy Space
Another Forecasting Exercise

• Compare the forecast errors from a simple forecast based primarily on lagged output and one that includes the interaction effects with both types of policy space.

• The variance of the forecast errors across the 19 episodes of high distress is roughly 30% \textit{smaller} when the two interaction effects are included.
IV. MECHANISMS BY WHICH MACROPOLICY SPACE MATTERS
Behavior of the Policy Interest Rate after a Financial Crisis
With and Without Monetary Policy Space

Response of the Policy Interest Rate (Percentage Points)

Half-Years after the Impulse

Without Monetary Policy Space

With Monetary Policy Space
Behavior of the Policy Interest Rate in Key Episodes When There Was Monetary Policy Space

United States, 1990:2

Finland, 1993:1

Red: Policy Interest Rate  Blue: Measure of Financial Distress
Behavior of the Policy Interest Rate in Key Episodes When There Was Not Monetary Policy Space

Japan, 1997:2

Portugal, 2008:2

Red: Policy Interest Rate
Blue: Measure of Financial Distress
Behavior of the High-Employment Surplus after a Financial Crisis
With and Without Fiscal Policy Space

Response of the High-Employment Surplus (Percentage Points)

Half-Years after the Impulse

- Without Fiscal Policy Space
- With Fiscal Policy Space
Behavior of the High-Employment Surplus in Key Episodes When There Was Fiscal Policy Space

Norway, 1991:2

United Kingdom, 2008:1

Red: High-Employment Surplus | Blue: Measure of Financial Distress
Behavior of the High-Employment Surplus in Key Episodes When There Was Not Fiscal Policy Space

Japan, 1997:2

Italy, 2008:2

Red: High-Employment Surplus  Blue: Measure of Financial Distress
Behavior of High-Employment Surplus in Greece (2009:1) When There Was Not Fiscal Policy Space

![Graph showing the behavior of high-employment surplus and financial distress over time. The x-axis represents half-years after the start of high distress, ranging from -2 to 10. The y-axis shows HES relative to t = -2 (as a share of GDP) and a measure of financial distress (0 to 15). The graph illustrates an increase in both high-employment surplus and financial distress over time.]

Red: High-Employment Surplus  Blue: Measure of Financial Distress
Behavior of Financial Distress after a Financial Crisis

With *Both* Monetary and Fiscal Policy Space
and Without *Either* Monetary or Fiscal Policy Space

![Graph showing the response of financial distress level over half-years after the impulse with and without policy space. The graph compares the response with policy space (red line) and without policy space (blue line). The y-axis represents the response of financial distress level, ranging from -2 to 8, and the x-axis represents half-years after the impulse, ranging from 1 to 10. The graph illustrates a decrease in financial distress level over time with both policy spaces, but with a steeper decline when policy space is available.](image-url)
Behavior of Financial Distress in Key Episodes

When There Was Policy Space

Sweden, 1993:1

Iceland, 2008:1
Behavior of the Financial Distress in Key Episodes When There Was Not Policy Space

Japan, 1997:2

Italy, 2008:2
V. CONCLUSION
The November 2009 Employment Report
Implications for Policy

• Fiscal policy: An argument for responsible policy in normal times.

• Monetary policy: An argument for higher inflation in normal times.

• Need to actually use policy when a crisis hits.
New Measure of Financial Distress

- Careful definition of financial distress.
- We use a single real-time narrative source: the *OECD Economic Outlook*.
- We scale financial distress from 0 to 15 for 24 OECD countries in each half-year between 1967 and 2012.
Approach Used to Estimate the Average Aftermath of Financial Distress

• We have data on real GDP and financial distress for 24 countries for 1980 – present.

• Regress GDP at various half-years after time $t$ on financial distress at $t$.

• The sequence of coefficients on distress for the various horizons provides an estimate of the impulse response function.

• We consider an impulse of 7.
Approach Used to Estimate the Variation in the Aftermaths of Crises

- Construct a forecast based just on how GDP typically responds to lagged GDP.
- Focus on 19 episodes when a country in our sample has distress of at least a 7.
- Use actual GDP up through a year before distress reached 7.
Approach Used to Estimate the Contribution of Policy Space

- As before, regress GDP at various half-years after time $t$ on financial distress at $t$.
- Include an interaction term between financial distress and prior policy space.
- A positive coefficient on the interaction term means that output declines less following a crisis if there is policy space.
Including Interactions between Distress and Both Monetary and Fiscal Policy Space

• With the baseline measures, fiscal space appears to be more important.

• The coefficient on fiscal space interaction is consistently positive and highly significant; that on the monetary space interaction is consistently positive, but only sometimes significant.
Possible Mechanisms

• Countries with more policy space use policy more in response to financial distress.

• Financial distress is less persistent in countries with policy space.
Approach Used to Estimate the Effect of Policy Space on the Policy Response

• Regress a measure of policy at various half-years after time $t$ on financial distress at $t$.
• Include an interaction term between financial distress and prior policy space.
• For monetary policy, use the change in the policy interest rate.
• For fiscal policy, use a proxy for the change in the high-employment surplus.
Approach Used to Estimate the Effect of Policy Space on the Persistence of Financial Distress

- Regress financial distress at various half-years after time $t$ on distress at $t$.
- Include an interaction term between financial distress and prior policy space.
Message

• Macroeconomic policy space appears to have a very large impact on the aftermath of financial crises.

• Countries with monetary and fiscal policy space respond much more aggressively to crises, see their financial distress resolve more quickly, and suffer much less severe aftermaths.
Behavior of Real GDP after a Financial Crisis
With and Without Monetary Policy Space
(Using Dummy Accounting for the Euro Area)
Results using the Variant that Accounts for the Stability and Growth Pact

- Not being subject to the SGP is good for performance following a crisis (though not significant).

- Debt ratio interaction term is still positive and highly significant.
Summary on Robustness

• In some specifications (for example, using some alternative measures of monetary policy space) and samples (for example, excluding Greece), one of monetary or fiscal space does not have a large impact on the aftermath.

• In all specifications and samples that include measures of both monetary and fiscal space, the difference in outcomes between countries with both types of space and countries without either type of space is very large.
Directions for Further Research

• Alternative measures of monetary and fiscal policy space.

• Appropriate treatment of the euro area and the Stability and Growth Pact.

• Why is there a link between fiscal space and the fiscal policy response?

• Can we say more about causation?