Discussion of “A Pyrrhic Victory? Bank Bailouts and Sovereign Credit Risk”
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Main objective: Understand the interaction between credit risk of the financial sector and countries, and bailouts

Clearly an important question

This paper:

- Simple and tractable general-equilibrium model to understand basic trade-offs

- First empirical evidence on the joint dynamics of credit risk of the financial sector and sovereigns

Moral hazard is not the only cost of bailouts, also impact on sovereign’s credit risk, deadweight costs of government defaults, and underinvestment due to future taxation
Main mechanism:

- Debt overhang problem banks
- Bailouts alleviate debt overhang, but financed by taxing firms
  \[\Rightarrow\] Reduces the incentive to invest, thereby lowering output and future tax revenues
- Increases the credit risk of the government
  \[\ldots,\] but banks hold large positions in sovereign debt which in turn weakens their balance sheets
Summary: Empirical Evidence

- During bailouts, a negative correlation between country-level CDS rates and average CDS rate of financial sector

- Following bailouts, the CDS spreads of countries and the financial sector co-move positively, even after controlling for large set of instruments ⇒ Consistent with two-way feedback
Banks maximize:

\[
\max_{s_0} E_0 \left[ \left( w_s s_0 - L_1 + \tilde{A}_1 + A_G + T_0 \right) \times I_{\{ \{ w_s s_0 - L_1 + \tilde{A}_1 + A_G + T_0 \} \} } - c(s_0) \right]
\]

- Costs paid at \( t = 0 \)
- Benefits received at \( t = 1 \), but do not help to pay liabilities

Why not:

\[
\max_{s_0} E_0 \left[ \left( w_s s_0 - L_1 + \tilde{A}_1 + A_G + T_0 \right) \times I_{\{ w_s s_0 - L_1 + \tilde{A}_1 + A_G + T_0 \} } - c(s_0) \right]
\]

Firms maximize:

\[
\max E_0 \left[ f(K_0, s_0) - w_s s_0 - l_1 + (1 - \theta_0) \tilde{V}(K_1) \right]
\]

Firms only taxed in period 2, not in period 1
Equilibrium for financial services:

\[ p_{\text{solv}} \]

\[ w_s = c'(s_0) \]

Debt overhang problem

\[ w_s = f_s \]

Alternative specification:

\[ p_{\text{solv}} \]

\[ w_s + w_s s_0 p_{\text{solv}}' = c'(s_0) \]

Debt overhang problem

\[ w_s = f_s \]

Generally, why this structure of transfers?

- \( T_0 \) unconditional on future shocks
- Firms only taxed in period 2, not period 1 \( \Rightarrow \) underinvestment problem of firms goes away if taxation also in period 1
- In this model, subsidizing financial transactions may be more efficient:

\[ (1 + \sigma)p_{\text{solv}} w_s = c'(s_0) \]
Governments issue bonds to finance the transfer: $T_0 = N_T P_0$

Governments default if $N_D + N_T > \theta_0 V_1(K_1)$

$\theta_0$ fixed in advance, assuming governments can credibly commit to stick to tax policy

May be hard to enforce, see government turnovers in Greece, France, Ireland, the Netherlands, . . .

For the default of countries in Europe, the role of the IMF and EU and its interaction with country size may be worth modeling explicitly
More broadly, the government’s objective is to maximize the expected utility of the representative consumer.

In this way, by assumption, bailouts are welfare improving.

In the context of the model, bailouts are never a Pyrrhic victory.

Interesting question is why bailouts could be Pyrrhic victories to begin with?

Related, when do we evaluate welfare? Where does $L_1$ come from? Why does this require government intervention?
The evidence of shifting risk from banks to the government is striking and very convincing.

For the evidence on the two-way feedback, the evidence is consistent but it is very hard to make causal statements.
Empirical Evidence

It seems hard to rule out that common shocks drive both bank and country-level CDS changes.

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<tr>
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<th>Pre-Bailout</th>
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<tr>
<td>Δ Log(Sovereign CDS)</td>
<td>0.014</td>
<td>0.003</td>
<td>0.004</td>
<td>0.449**</td>
<td>-0.691**</td>
<td>-1.020</td>
<td>0.197**</td>
<td>0.153**</td>
<td>0.146**</td>
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<td>(0.010)</td>
<td>(0.016)</td>
<td>(0.018)</td>
<td>(0.164)</td>
<td>(0.257)</td>
<td>(1.034)</td>
<td>(0.028)</td>
<td>(0.036)</td>
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<tr>
<td>Equity Return</td>
<td>-0.306*</td>
<td>-0.211</td>
<td>-0.194</td>
<td>-0.104</td>
<td>-0.145**</td>
<td>-0.095**</td>
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<td>(0.142)</td>
<td>(0.140)</td>
<td>(0.185)</td>
<td>(0.181)</td>
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<td>(0.030)</td>
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<td>Δ Log(CDS Market Index)</td>
<td>0.932**</td>
<td></td>
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<td>0.753**</td>
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<td>0.688**</td>
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<td>(0.048)</td>
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<td>(0.200)</td>
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<td>(0.031)</td>
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<td>Δ Volatility Index</td>
<td>0.429**</td>
<td></td>
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<td>-1.100**</td>
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<td>-0.027</td>
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<td>(0.134)</td>
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<td>(0.207)</td>
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| Week FE | Y | Y | Y | N | Y | Y | Y | N | Y | Y |
| Interactions | N | N | Y | N | N | Y | N | N | Y |
| Observations | 2,891 | 2,891 | 2,891 | 254 | 254 | 254 | 6,500 | 6,500 | 6,500 |
| Banks | 62 | 62 | 62 | 53 | 53 | 53 | 59 | 59 | 59 |
| R-squared | 0.271 | 0.347 | 0.517 | 0.126 | 0.259 | 0.854 | 0.349 | 0.417 | 0.495 |
Country-specific shocks may drive the correlation in the post bailout period

In the model, guarantees favor debt holders not equity holders

Controlling for equity returns controls for bank-specific credit risk

The remaining piece of bank-level CDS changes are “bailouts”

However, many government interventions also favor equity holders

See for instance Kelly, Lustig, and Van Nieuwerburgh (2011)
Interesting and important paper on a key issue

Model clarifies some of the basic trade-offs in thinking about bailouts, sovereign credit risk, and credit risk of the financial sector

Are bailouts a Pyrrhic victory?

- Theory: No
  - Empirical results: Consistent, but maybe also with other explanations?

This paper is sure to attract a following that will further help us to understand the costs and benefits of bailouts