The Great Depression as a Saving Glut

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Banking crisis & the Paradox of Thrift

How do consumers react to the tightening of the credit constraint following a financial crisis?

- Constrained consumers react by cutting their spending and paying-off their debt (i.e. they deleverage) (Fisher 1933, Eggertsson & Krugman 2012, Fornaro & Romei 2019). This is known as the debt-deflation channel.

- Unconstrained consumers accumulate precautionary savings to stay away from the borrowing limit (Keynes 1931 & 1936). This is known as the paradox of thrift channel.

Both reactions depress aggregate demand (and output). In this paper, we focus on the reaction of Unconstrained consumers (i.e. paradox of thrift channel).
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◊ The Great Depression provides an ideal setting to study the behaviour of precautionary savings following a credit crisis:
  – Almost every industrial country suffered from banking crisis.
  – Public insurance schemes (e.g. financial insurance, unemployment insurance) were absent. For Unconstrained consumers, accumulating precautionary savings was the only line of defense against financial uncertainty.
Data

- Data limitation prevents us from computing a personal savings rate. We use a particular feature of the interwar banking system to circumvent this problem.
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◊ The menu of safe assets was considerably more restricted than today (e.g. no banking regulation). Savings institutions’ deposits were by far the best option for savers.
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Savings institutions deposits indeed had three main advantages: they were safe (due to state protection), they were widely accessible (savings institutions set-up branches in rural areas), and they earned an interest (unlike cash and other hoarded funds).
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- To explore the fate of precautionary savings during the Great Depression, we build a new database of savings institutions deposits in 22 countries, covering the 1920-1936 period.
Key results

- On average precautionary savings increased by 114% between 1928 and 1933 (similar when adding life insurance policy data, for 15 countries).

- Country-by-country chronology reveals that precautionary savings surged when banking crisis hit.

- Dynamic panel estimations show a negative conditional correlation between real GDP and savings institutions deposits when banking crisis hit (i.e. interaction variable).

- 10% increase in savings → 0.2% fall of real GDP.

- Back-of-the-envelope: increase in savings explains 14% of the decrease in real GDP in 1930-1932 (decrease in comm. bank deposits explains 16%).

- As predicted by theory, negative conditional correlation between long-term interest rates and precautionary savings.
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A quick look at the data

Figure 1: Ratio of savings institutions deposits to commercial bank deposits, 1920-1936
A quick look at the data

Figure 2: Ratio of bank deposits, savings institutions deposits and cash in circulation to nominal GDP, 1926-1936
Panel data econometrics

- Dynamic panel. OLS and GMM (Arrelano-Bond). Year and country-fixed effects.

\( Y_i, t = \alpha + d_t + c_i + \beta_1 Y_{i, t-1} + \beta_2 X_{i, t} + \beta_3 Savings^*BankCrisis_i, t + \epsilon_{i, t} \) (1)

- \( Y \): log(GDP) or real interest rates
- \( X \): Controls = log of cash, bank deposits, prices, etc.
- \( Savings^*BankCrisis \rightarrow \) direct test of Guerrieri-Lorenzoni (2017)
- Endogeneity between savings and growth may bias coeff. ↑
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## Results

### Table 1: Banking crisis, precautionary savings and growth

<table>
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<tr>
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<td>1930*Savings</td>
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<td>1931*Savings</td>
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<td>(0.008)</td>
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</table>

Country FE: Yes, Yes, Yes, Yes, Yes, Yes, Yes
Year FE: Yes, Yes, Yes, Yes, Yes, Yes, Yes
Observations: 161, 161, 152, 283, 283, 254, 161
R-squared: 0.676, 0.696, 0.885, 0.891, 0.679
No. of countries: 22, 22, 22, 22, 22, 22

Robust standard errors in parenthesis.
## Robustness checks

### Table 2: Banking crisis, precautionary savings and growth

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<td>Lagged Deposits</td>
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<td>Lagged Savings</td>
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<td>Credit to GDP</td>
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Robust standard errors in parenthesis
Figure 3: Response of real GDP to a shock to precautionary savings during banking crises.
Figure 4: Ratio of savings institutions deposits to nominal GDP before and after leaving the Gold Standard.
Conclusion

◊ We present the first evidence of the paradox of thrift channel of credit crisis (Guerrieri and Lorenzoni 2017).

◊ Our results are also relevant for economists working on the macroeconomic impact of banking crisis (Bordo et al. 2001, Jorda et al. 2016, Romer & Romer 2017).


◊ Implications for today: an increase in precautionary savings can have a strong and persistent negative effect on the economy. The effect is persistent because consumers’ expectations are slow to adjust.

◊ A clear commitment to countercyclical policies is a sine qua non condition for stopping the detrimental accumulation of precautionary savings.