

# The evolution of Minsky regimes in the U.S. nonfinancial corporate sector

Leila Davis (University of Massachusetts Boston)

Levy Economics Institute, 32nd Annual Conference  
June 2025

# The evolution of financial fragility among U.S. firms

An empirical mapping of Minskian concepts of fragility into U.S. firm data since 1970.

- ▶ Hedge, speculative, and Ponzi firms.

# The evolution of financial fragility among U.S. firms

An empirical mapping of Minskian concepts of fragility into U.S. firm data since 1970.

- ▶ Hedge, speculative, and Ponzi firms.

A long wave of increasingly fragile financial structures.

# The evolution of financial fragility among U.S. firms

An empirical mapping of Minskian concepts of fragility into U.S. firm data since 1970.

- ▶ Hedge, speculative, and Ponzi firms.

A long wave of increasingly fragile financial structures.

1. A trend increase in the share of Ponzi firms after 1970.

# The evolution of financial fragility among U.S. firms

An empirical mapping of Minskian concepts of fragility into U.S. firm data since 1970.

- ▶ Hedge, speculative, and Ponzi firms.

A long wave of increasingly fragile financial structures.

1. A trend increase in the share of Ponzi firms after 1970.
2. Ponzi firms tend to have negative profits.

# The evolution of financial fragility among U.S. firms

An empirical mapping of Minskian concepts of fragility into U.S. firm data since 1970.

- ▶ Hedge, speculative, and Ponzi firms.

A long wave of increasingly fragile financial structures.

1. A trend increase in the share of Ponzi firms after 1970.
2. Ponzi firms tend to have negative profits.
3. Firms increasingly *enter* with Ponzi structures.
  - ▶ Rather than becoming more/less fragile over business cycle.

# The evolution of financial fragility among U.S. firms

An empirical mapping of Minskian concepts of fragility into U.S. firm data since 1970.

- ▶ Hedge, speculative, and Ponzi firms.

A long wave of increasingly fragile financial structures.

1. A trend increase in the share of Ponzi firms after 1970.
2. Ponzi firms tend to have negative profits.
3. Firms increasingly *enter* with Ponzi structures.
  - ▶ Rather than becoming more/less fragile over business cycle.
4. The spread of Ponzi is widespread; not driven by specific sectors.

# The financial instability hypothesis

Degree of fragility is cyclical:

- ▶ 'Stability breeds instability.' A larger share of fragile agents makes the economy more vulnerable to shocks. (Minsky, 1975, 1986, 1992).



# The financial instability hypothesis

Degree of fragility is cyclical:

- ▶ 'Stability breeds instability.' A larger share of fragile agents makes the economy more vulnerable to shocks. (Minsky, 1975, 1986, 1992).

Systemic financial fragility is determined by the distribution of units into three financing regimes:

- ▶ **Hedge:** Expected cash flows exceed required interest and principal.
- ▶ **Speculative:** Need to roll over principal payments.
- ▶ **Ponzi:** Need to roll over both interest and principal payments.

# The financial instability hypothesis

Degree of fragility is cyclical:

- ▶ 'Stability breeds instability.' A larger share of fragile agents makes the economy more vulnerable to shocks. (Minsky, 1975, 1986, 1992).

Systemic financial fragility is determined by the distribution of units into three financing regimes:

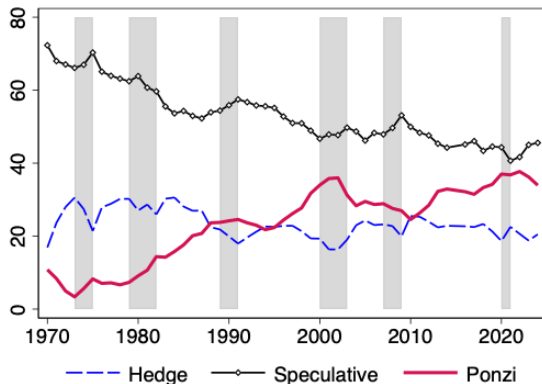
- ▶ **Hedge**: Expected cash flows exceed required interest and principal.
- ▶ **Speculative**: Need to roll over principal payments.
- ▶ **Ponzi**: Need to roll over both interest and principal payments.

To classify firms, compare net **sources of funds** to **required debt payments** (Davis, de Souza, and Hernandez, 2019).

- ▶ Scope: listed U.S. nonfinancial firms since 1970 (Compustat data).

# The growth of Ponzi finance

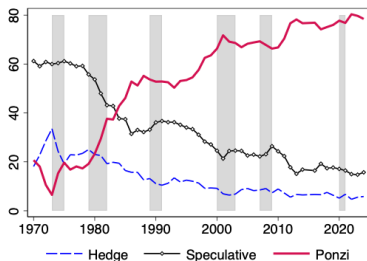
Percent of U.S. listed firms by financing regime, 1970-2024



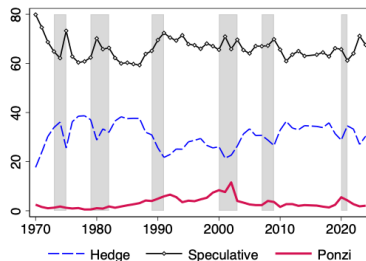
Source: Based on Davis, de Souza, & Hernandez (2019)

# The growth of Ponzi finance by firm size

Percent of small and large firms by financing regime, 1970-2024



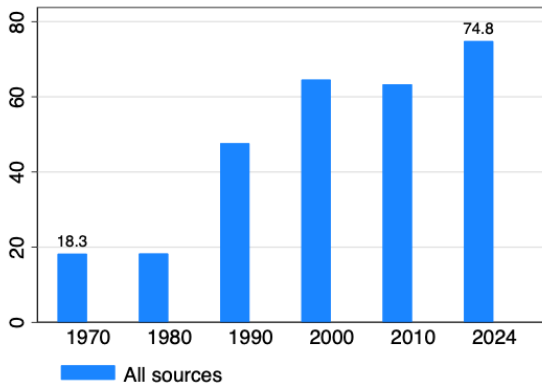
Bottom quartile



Top quartile

# Negative sources of cash

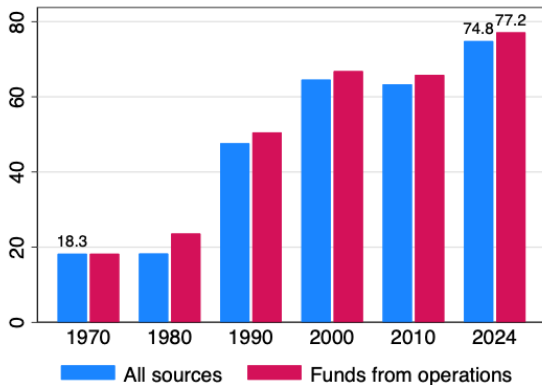
Percent of small firms with negative sources of cash



Source: Based on Davis, de Souza, & Hernandez (2019)

# Negative sources of cash

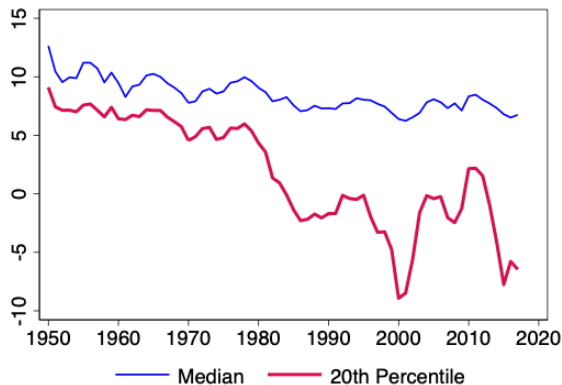
Percent of small firms with negative sources of cash



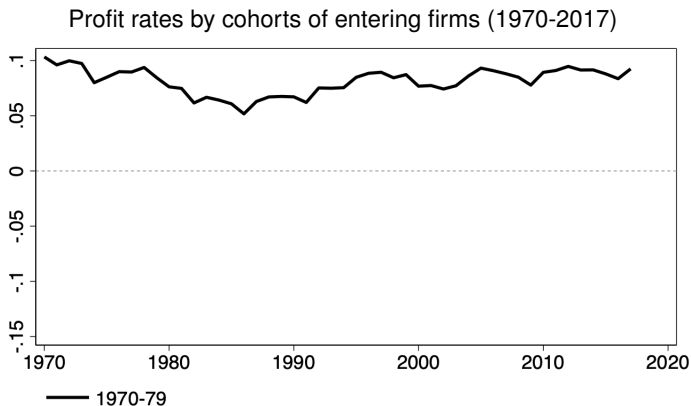
Source: Based on Davis, de Souza, & Hernandez (2019)

# The falling bottom of the profitability distribution

The 20th and 50th percentiles of profitability (1950-2017)

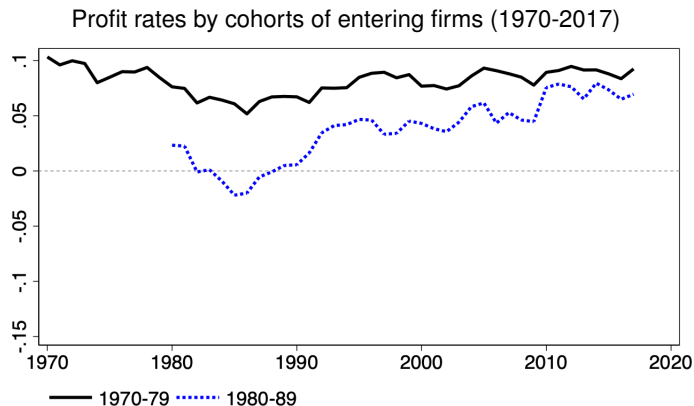


# The growing prevalence of negative profits

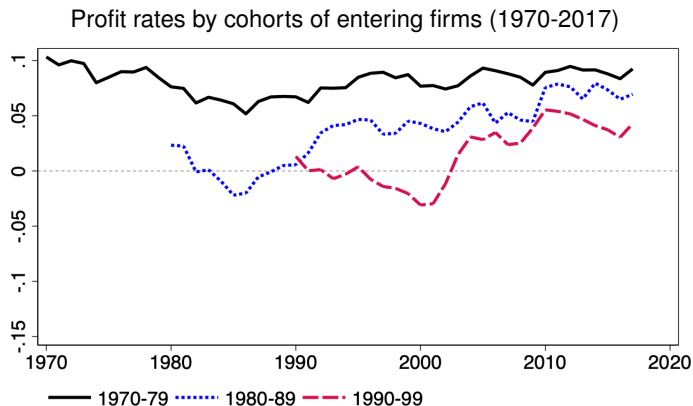




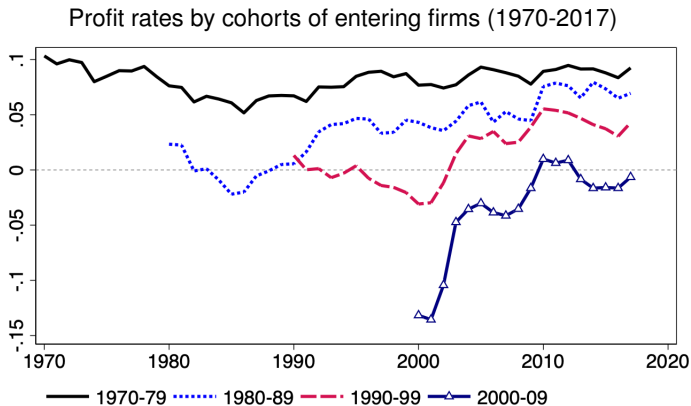
# The growing prevalence of negative profits



# The growing prevalence of negative profits

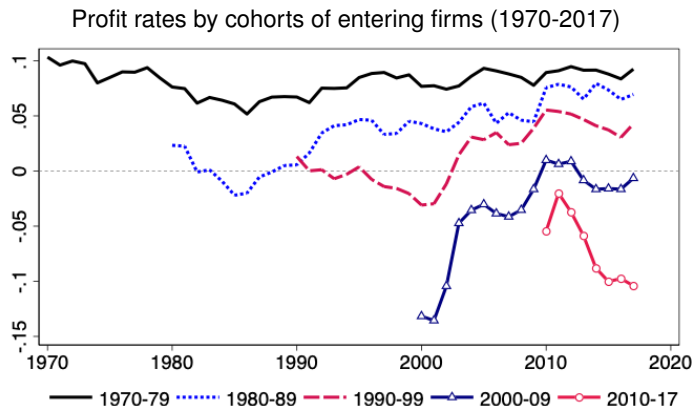


# The growing prevalence of negative profits



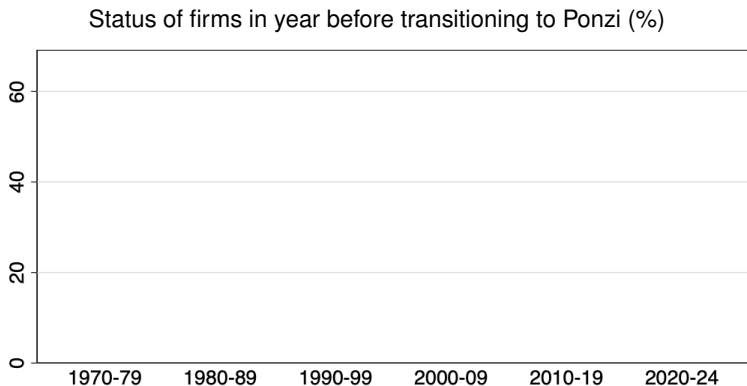
Source: Davis & de Souza (2022)

# The growing prevalence of negative profits



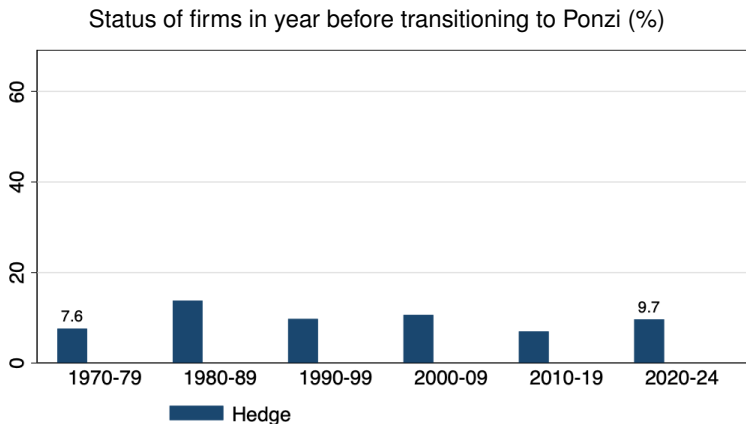
Source: Davis & de Souza (2022)

# How do firms become Ponzi? The role of **entry**



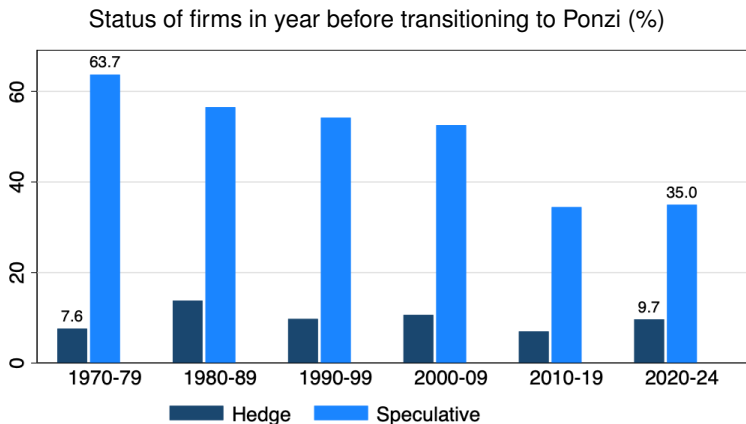
Source: Based on Davis, de Souza, & Hernandez (2019, 2023)

# How do firms become Ponzi? The role of **entry**



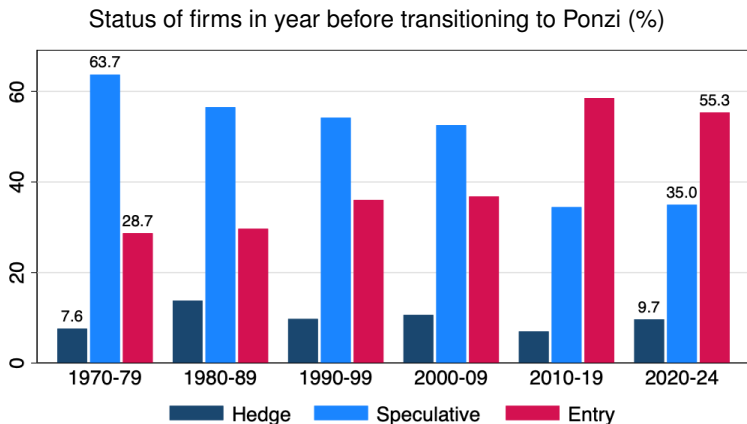
Source: Based on Davis, de Souza, & Hernandez (2019, 2023)

# How do firms become Ponzi? The role of **entry**



Source: Based on Davis, de Souza, & Hernandez (2019, 2023)

# How do firms become Ponzi? The role of **entry**



Source: Based on Davis, de Souza, & Hernandez (2019, 2023)



# How do firms become Ponzi? The **business cycle**

What is the short-run effect of business cycle fluctuations on fragility?

- ▶ We estimate the relationship between cyclical component of GDP (or GDP growth) and probability of being Ponzi.

# How do firms become Ponzi? The **business cycle**

What is the short-run effect of business cycle fluctuations on fragility?

- ▶ We estimate the relationship between cyclical component of GDP (or GDP growth) and probability of being Ponzi.

Regression results show:

- ▶ Business cycle downturns are associated with an almost-zero increased probability of Ponzi.
  - ▶ A 1 standard deviation decline in real GDP growth  $\rightarrow$  0.7 percentage point increase in the probability of Ponzi.
  - ▶ Unconditional likelihood of Ponzi is 17.5%.

# Is this a story of structural change?

Does the growth of Ponzi finance simply reflect structural change?

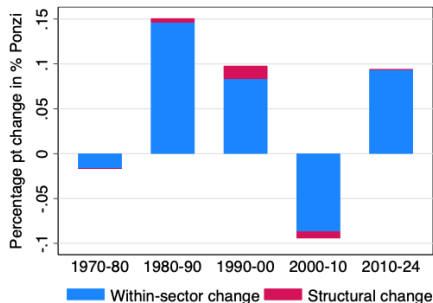
- ▶ Information & Communications Technologies.

# Is this a story of structural change?

Does the growth of Ponzi finance simply reflect structural change?

- ▶ Information & Communications Technologies.
- ▶ No! Ponzi structures have grown across sectors of the US economy.

Within-sector growth of Ponzi v. structural change



Source: Based on Davis, de Souza, & Hernandez (2019)

# Conclusions

A long wave of increasingly fragile finance among listed U.S. firms.

- ▶ The share of Ponzi firms has risen.
- ▶ Concentrated among small firms that *list* as Ponzi.
- ▶ And are Ponzi because of negative profits.

Changing norms about who gets access to equity finance.

- ▶ Individual firms are not cycling through more & then less fragile regimes.
  - ▶ In fact, the effect of business cycles on the likelihood of Ponzi is very small.
- ▶ Instead, institutions determining access to equity finance disseminate changing norms of profitability and fragility for listed U.S. firms after 1980.