

A Macroeconomist's Wish List of Financial Data

V. V. Chari

University of Minnesota

and

Federal Reserve Bank of Minneapolis

Systemic Crises and Data

- Systemic crises manifest themselves first in financial market data
- Financial crises matter in large part because of effects on nonfinancial sectors
- Data from financial firms essential
 - For designing policies intended to reduce crisis likelihood
 - For designing policies during crises

My (Limited) Wish List

- Financial Input-Output Table for the United States
- Flow of Funds basic format
- Need to provide more disaggregated data

Flow of Funds

- Sectors
 - Households
 - Nonfinancial businesses
 - Government
 - Financial businesses
- Instrument
 - Debt
 - Equity
- Levels as well as flows

Flow of Funds

- Sectors: Further disaggregation, particularly of financial businesses and government
- Instruments: Further disaggregation, but not up to date

What I Would Like

- Sources and uses of funds of nonfinancial businesses (especially nonpublicly traded firms)
- Nonfinancial business flows by industry type, instrument type, risk characteristics?
- Sources and uses of funds of financial businesses by instrument type, risk characteristics

Typical Record

- Fund flows for a nonfinancial business
 - Financial assets
 - Broken down by type (deposits, credit market instruments, trade receivables)
 - Liabilities
 - Broken down by type (short-term debt, long-term debt, bank loans, trade payables)
- Both in levels and flows
- Flows should document sources and uses

Existing Models of Such Data

- Flow of funds
- USTAN from Bundesbank
 - Bundesbank required balance sheet, income and flow of funds data from all nonfinancial businesses borrowing from banks

Why We Need Disaggregated Data ---

- Will show statistics indicating difficulties for current generation models of financial frictions
- Data suggests financial markets' role is in reallocating funds across nonfinancial businesses
- Need to measure extent of reallocation

Outline

- How important is access to financial markets for firms' investment decisions?
 - Not very
- Do small and large firms behave differently over the cycle?
 - No
- Were policy responses to crisis of 2008 grounded in data?
 - Not grounded in publicly available data

Importance of Financial Market Access

A Popular View of Business Cycles _____

- Disturbances to financial system key source of business cycles
 - Bank runs (Diamond-Dybvig)
 - Unexpected deflation with nominal debt (Irving Fisher)
 - Excessive risk-taking due to deposit insurance

A Popular View of Business Cycles

- Some shock hits
 - Sunspot (multiple equilibria, bank runs)
 - Unexpected deflation (Irving Fisher)
- Investment falls
- Aggregate output falls

Key Ingredients in Many Financial Friction Models _____

- Typical firm needs external funds to finance investment
- Agency costs induce wedge between internal and external funds
- Binding collateral constraints
- Fluctuations in wedge/constraint affect investment in a big way

Does Typical Firm Use External Funds to Finance Investment?

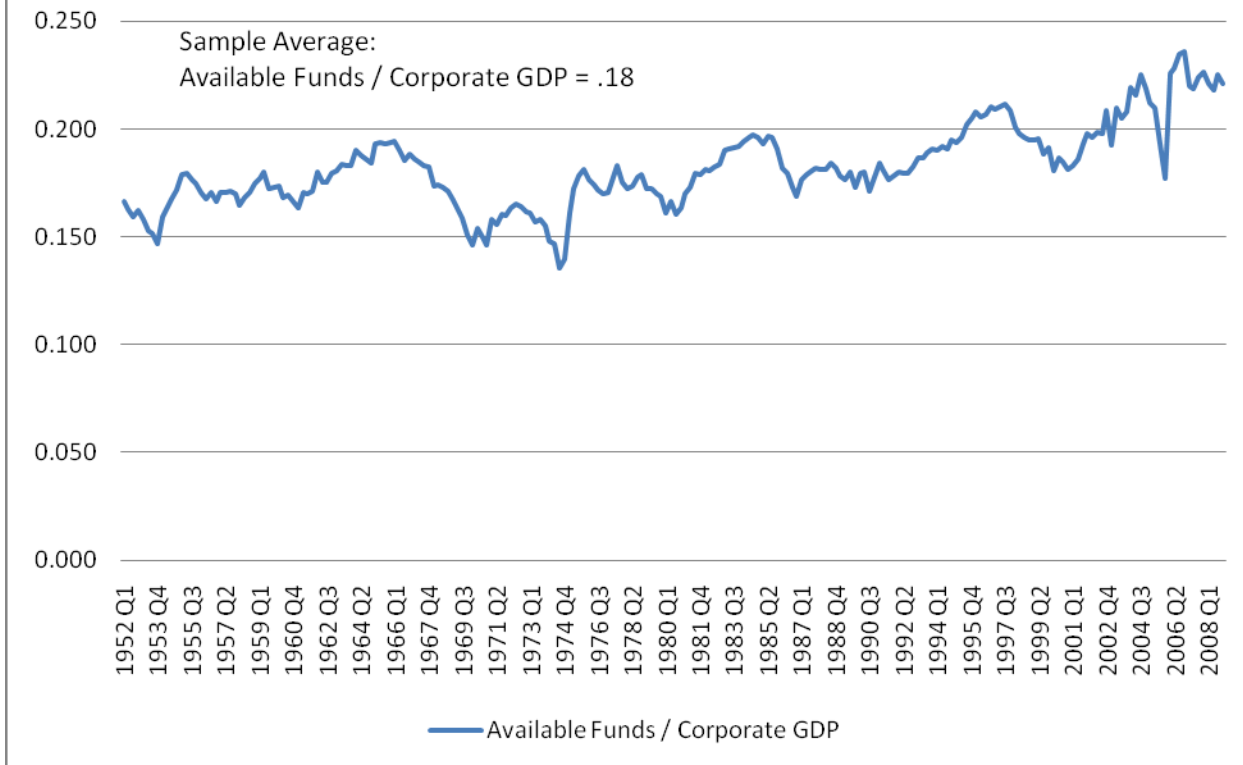
- Use data from Flow of Funds for all nonfinancial corporations
- Available Funds (AF) = Revenues – Wages – Materials
– Interest payments – Taxes
- In Flow of Funds, $AF = \text{Internal funds} + \text{Dividends}$
Alternatively, $AF = \text{Retained earnings} + \text{Dividends}$
+ Depreciation
- In Flow of Funds use Gross Investment for Capital expenditure

Does Typical Firm Use External Funds to Finance Investment?

- Available Funds – Dividends + Net new debt issue
+ Net new equity issue
= Capital expenditure
- Suppose Net new debt issue = 0
Net new equity issue = 0
- That is, firms lose access to financial markets
- Can they finance all investment internally?

Available Funds and Capital Expenditures

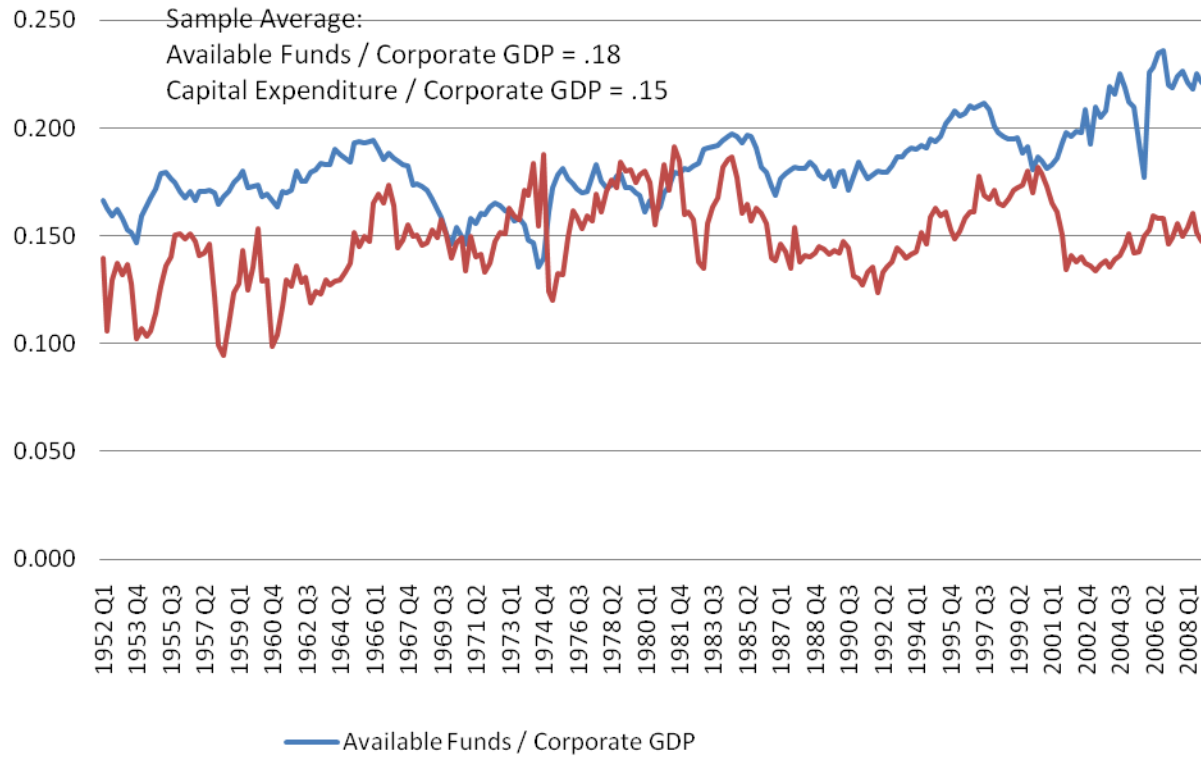
Source: Flow of Funds and BEA



Data for U.S. Nonfinancial Corporations

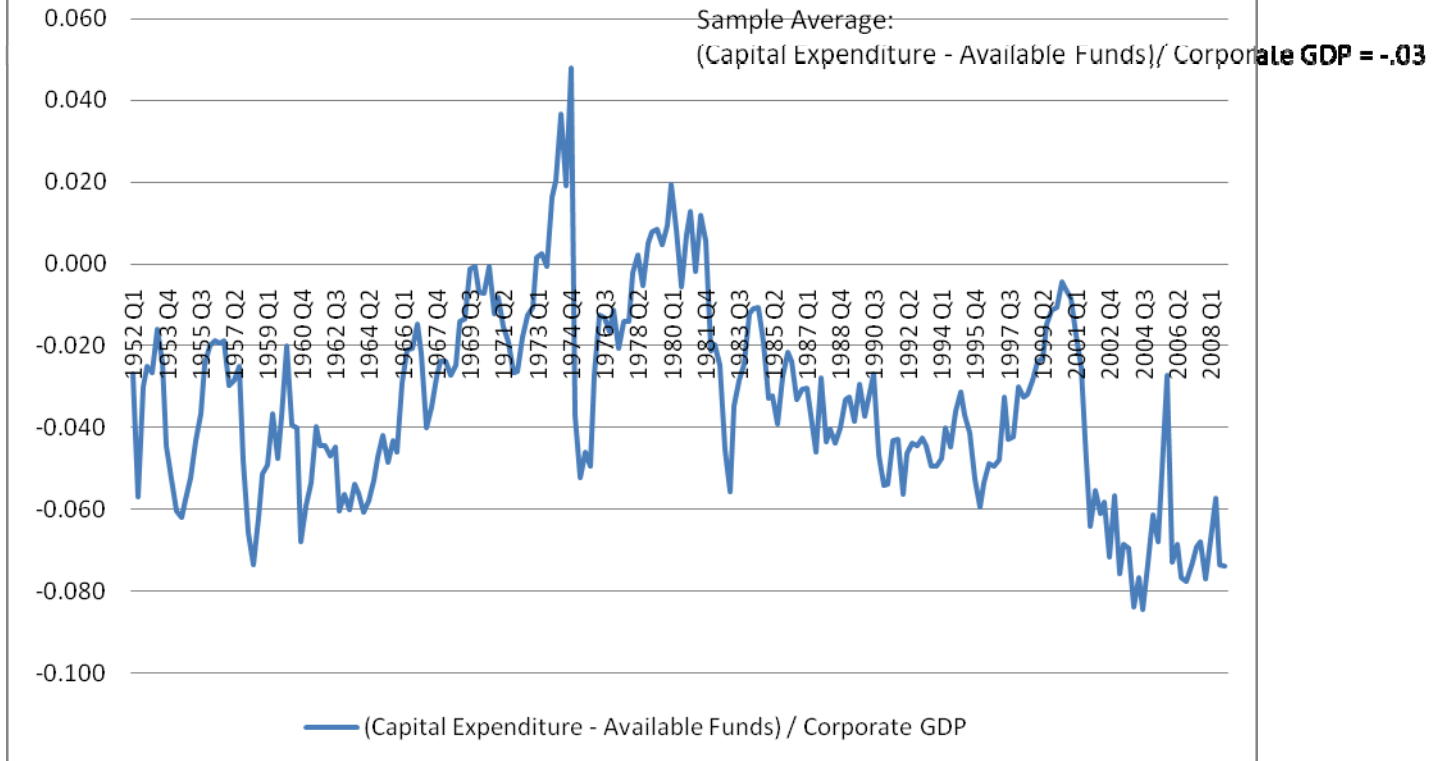
Available Funds and Capital Expenditures

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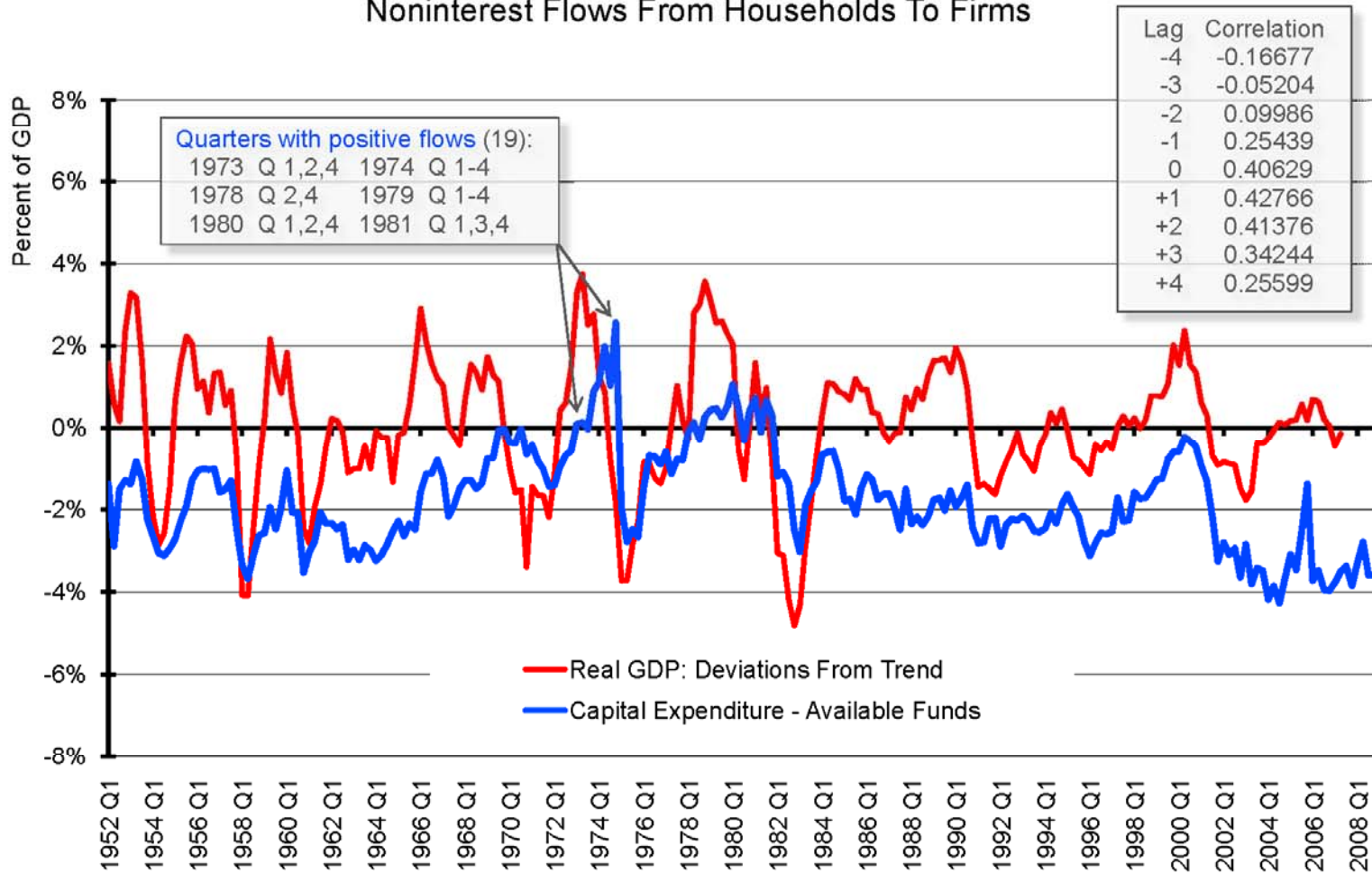


Data for U.S. Nonfinancial Corporations

Noninterest Flow from Households to Firms, Source: Flow of Funds and BEA.



Noninterest Flows From Households To Firms



Source: Federal Reserve Board, <http://www.federalreserve.gov/releases/z1/>

Does Typical Firm Use External Funds to Finance Investment?

- No, for aggregate of U.S. corporations
- Financial markets may play a big role in reallocating funds from cash-rich, project-poor firms to cash-poor, project-rich firms
- Use disaggregated data to analyze reallocation

Does Typical Firm Use External Funds to Finance Investment?

- Use data from Compustat
- Compute available funds for each firm, each time period
- AF_{it} = Available funds for firm i in period t
- I_{it} = Gross investment by firm i in period t
- How much would I_{it} fall if no firm can invest more than AF_{it}

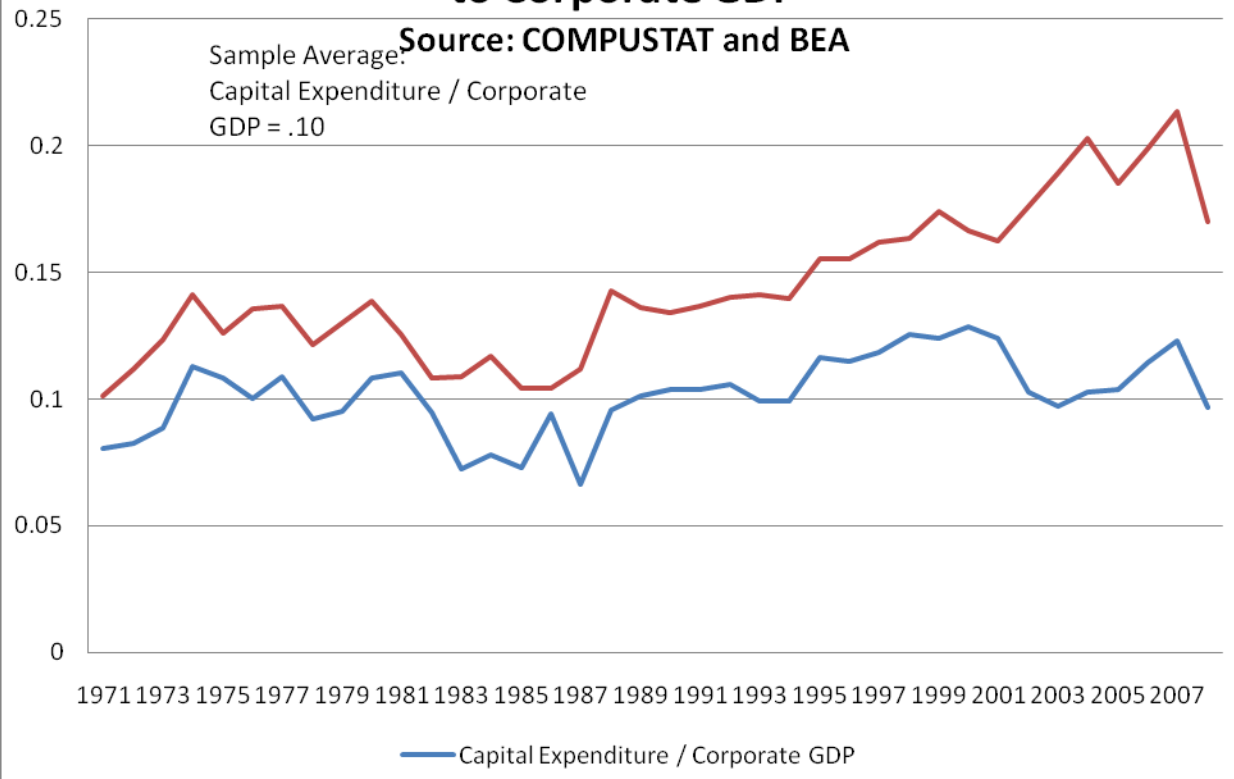
Does Typical Firm Use External Funds to Finance Investment?

- Use of external funds to finance investment

$$\frac{1}{T} \sum_{t=1}^T \frac{\sum_i ((I_{it} - AF_{it}) | I_{it} > AF_{it})}{\sum_i I_{it}}$$

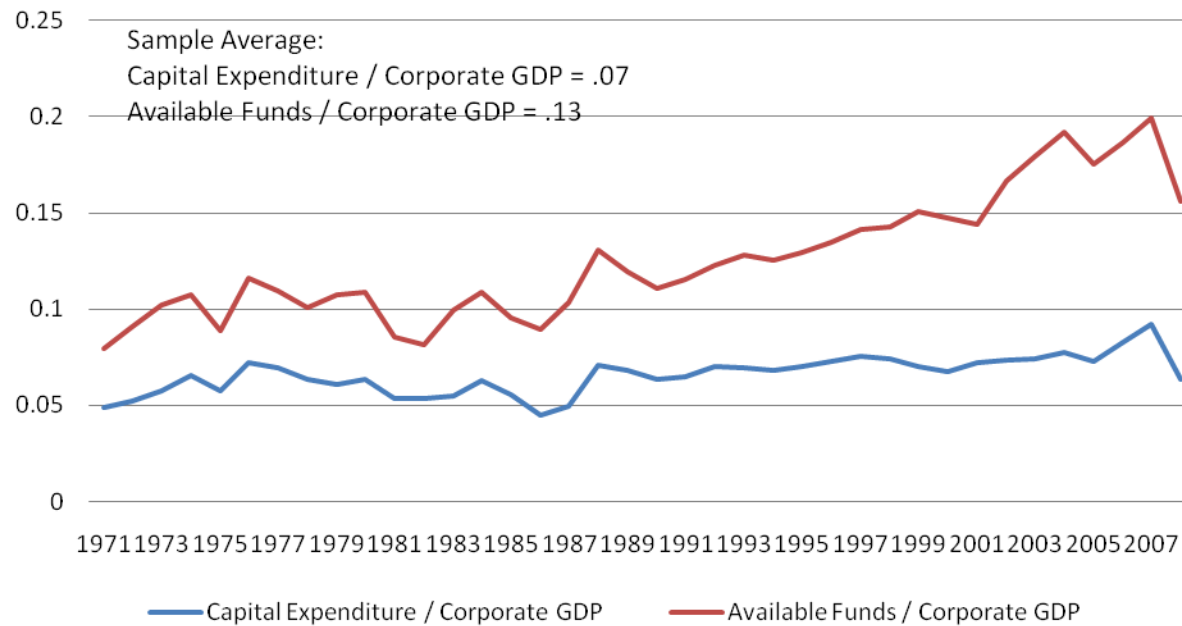
- In data, financial market constraints = 16% of investment financed by external funds
- Interpretation: If firms had no access to financial markets, investment would have fallen by 16%
- This is exceptionally extreme exercise

Available Funds and Capital Expenditure Relative to Corporate GDP



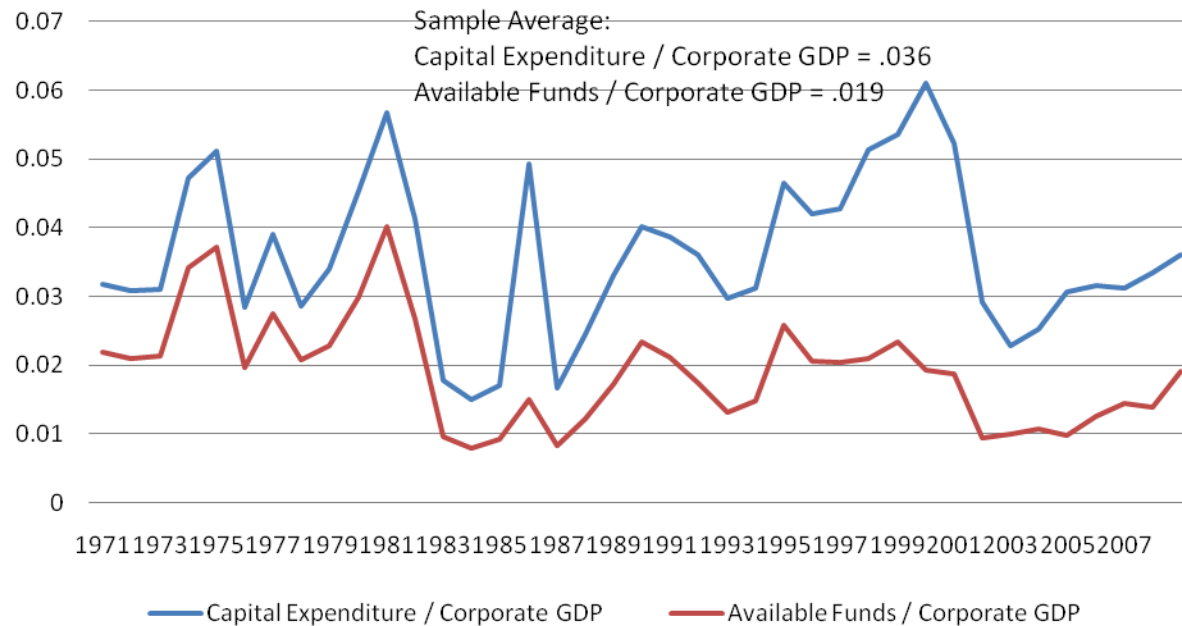
Available Funds and Capital Expenditure Relative to Corporate GDP, Firms Not Using External Funds

Source: COMPUSTAT and BEA



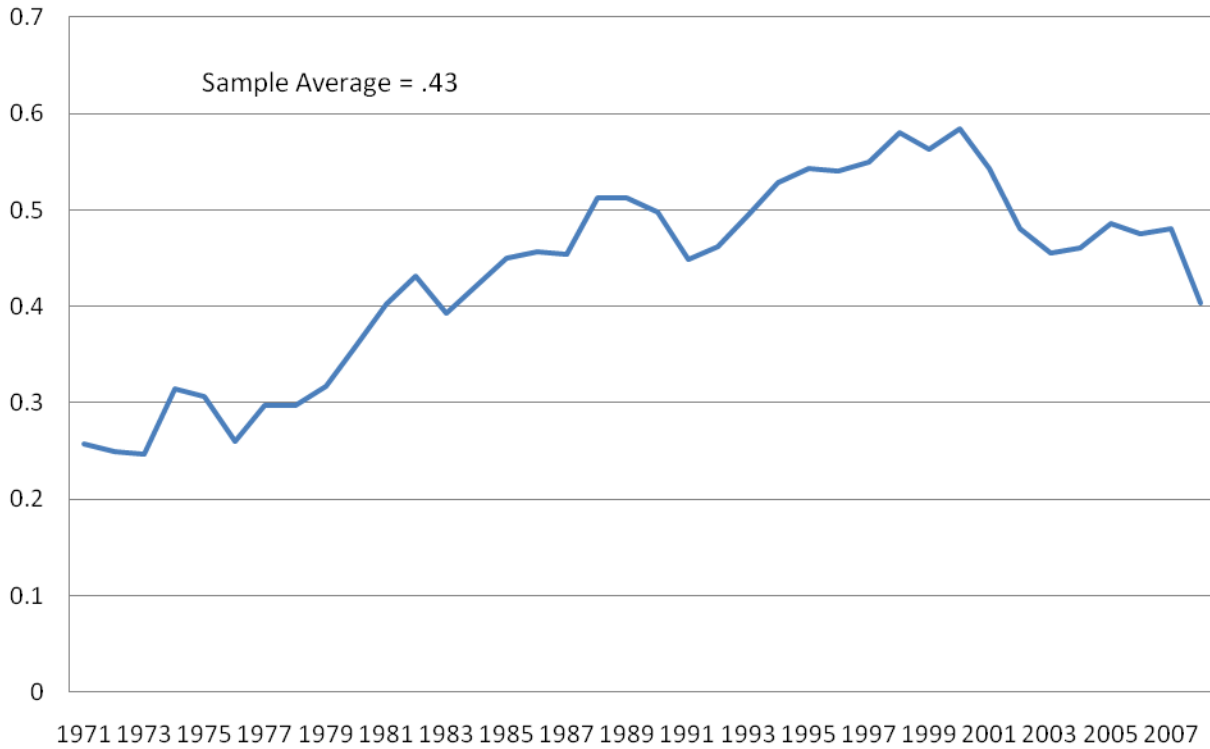
Available Funds and Capital Expenditure Relative to Corporate GDP, Firms Using External Funds

Source: COMPUSTAT and BEA



Fraction of Firms Using External Funds

Source: COMPUSTAT



Fraction of Investment Financed by External Funds

Source: COMPUSTAT

Sample Average = .16

