

# **James Dow**

## **Corporate Finance**

External Finance

## External Finance

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### External finance: summary

## **External Finance**

Previously we looked at how to allocate capital in the firm to individual projects

Now we will look at how the size of the firm's overall amount of capital is adjusted.

## **Link to shareholder value maximization**

The overall message remains

### **shareholder value maximization**

Fundamental principle: first evaluate your investment opportunities and select those which offer high returns (positive-NPV projects).

This implies an overall level of investment that may be either less or more than the cash currently in the firm, suggesting that the firm should either raise external finance or return it.

We will see that firms' don't always seem to behave in this way, and discuss some possible explanations.

## Purpose of the lecture

To give an **overview** of how companies raise finance

To establish which kinds of financing are **most often used**

(and explore some reasons why)

To describe **how the stock market reacts** to financing choices

(and why)

# Sources of Finance

## Equity

## Debt

Bank Loans  
Bonds

## Other

Preferred  
Convertibles  
Warrants

## How is most Investment Financed?

We will see that:

**Internal Finance** (equity) is the **main** source of finance for new investment

Among **external** sources of finance, **debt** is the most common

In most countries, **bank debt** far exceeds bonds

In the US, bonds are more common (although only for large/medium large companies)

International stereotypes broadly true, but can be misleading, e.g.

Bank finance predominant in Germany, Japan

Equity predominant in Anglo-Saxon countries

## **Sources of information on financing** (for reference)

### **1- National income data**

Several studies as part of a long-term international project on “International Study of Financing of Industry.” Paper by Colin Mayer, updated version by Jenny Corbett and Tim Jenkinson, “How is investment financed,” *The Manchester School* 1997. (c-j)

*(mental health warning: the way figures are netted off in these studies can seem very confusing in some cases. E.g. if investment is 10, retained earnings are 15, and they are used to pay for the investment and reduce debt by 5, this will show as investment funded 150% by retained earnings and –50% by debt. If this bothers you, just ignore numbers over 100% or less than 0)*

### **2 – Balance sheet data of individual companies**

Raghuram Rajan and Luigi Zingales, “What do we know about capital structure? Some evidence from international data,” *Journal of Finance* 1995, uses the Global Vantage database (r-j)

John Wald, “How firm characteristics affect capital structure: an international comparison,” UC Berkeley, uses the Worldscape database. (w)

**Internal finance:  
the most common type of finance**

The most important source of finance, **by far**, is **internal finance**, i.e. retained earnings

	1970's	1980's	1990-94
Germany	71%	85%	72%
Japan	65%	72%	71%
UK	100%	98%	81%
US	84%	97%	110%*

\*see note on previous page  
Source CJ tables 3, 4, 5, 6

## Debt:

**the most common type of external finance**

	Internal	Bank loans	Bonds	New Equity
G	79%	<b>12%</b>	-1%	0%
J	70%	<b>27%</b>	4%	4%
UK	93%	<b>15%</b>	4%	-5%*
US	96%	<b>11%</b>	<b>15%</b>	-8%*

## Conclusions:

External Finance → **Debt**

**Debt** → **bank loans** (worldwide)  
→ **bonds and bank loans** (US)

### Notes:

1 - the negative figures for new equity in the UK and the US reflect high level of mergers (for cash or debt); also firms have increasingly replaced equity with debt over this period so haven't issued much new equity.

2 - the table excludes some minor other sources of finance, predominantly "capital transfers" for Germany and trade credit for Japan. There are also large "statistical adjustments" for UK and US.

Source CJ table 1

## Balance sheet measures of financing choices

$$\text{Leverage} = D/(D+E)$$

(terminology: “leverage” = “gearing”)

MV = market value equity, BV = book value equity

	MV (r-z)	BV (r-z)	BV (w)	
G	6%	10%	15%	low
J	28%	49%	24%	high
UK	13%	19%	17%	low
US	31%	45%	23%	high

These are **averages**.

There is huge **dispersion around the average**, for example in most countries the median is well below the average (i.e. the average is raised by a minority of very highly-g geared firms) while in Germany it is the other way round.

**Individual firms** have wide variations in leverage without any clear correlation to any obvious characteristics.

Note: r-z: data from study by Rajan and Zingales; w means data from Wald study.

## Overall size of the stock market

### Market capitalization/GDP

	Equity	Bonds
G	28%	23%*
J	66%	5%
UK	142%	2%
US	154%	23%

Note: equity data from *financial market trends*, February 1998, bond data from study by Rajan and Zingales. (Does figure for German bonds include more than just corporate debt?)

## **Why internal finance?**

Some possible answers:

**1- there may be a tendency to *overinvest* internally-generated funds**

**2- internal finance may be *cheaper* than external finance**

## **Overinvestment of internally-generated funds?**

### **Agency** explanation

Jensen's "Free Cash Flow Theory"

### **Other** possible explanations:

Jensen suggests this is due to conflicts of interest between management and shareholders, but it could also be due to

overoptimism (for psychological reasons), or

generally poor capital allocation (Buffett)

### **Implication:**

Internal finance is over-used

→ shareholders should try to control its use, e.g. by encouraging debt finance.

## Evidence on overinvestment of internal funds

Most studies are not conclusive because the results could be interpreted in different ways

e.g. the firms with high cash flow now could be firms with good projects.

The most convincing study is Owen Lamont's work on US oil companies with subsidiaries in unrelated industries:

In 1986, the price of crude oil halved. Investment in these subsidiaries fell sharply (compared to a matched sample of similar businesses not owned by oil companies)

- project NPV's should not have been affected (maybe even increased)
- conclusion: the oil companies had **less internal funds**, so they **cut back investment** generally regardless of individual project NPV's.

Tends to **support** the conclusion that internally-funded investment is subject to **less stringent scrutiny** than with external finance.

Note: Lamont's research is published as "Cash flow and investment: evidence from internal capital markets," *Journal of Finance* March 1997.

## **Costly external finance?**

For informational reasons, it may be costly for firms to raise external finance.

### **Lemons** explanation

Internal finance is cheaper because when the firm sells securities, the markets is concerned they may be overvalued “lemons”

### **Implication:**

Internal finance is cheaper  
→ shareholders should approve its use

## Evidence on costly external finance

	Effect on share price	Sample size
<b>Equity</b>	<b>-3.1%*</b>	155
Preferred	-0.2%	28
Convertible Pref	-1.4%*	53
<b>Bonds</b>	<b>- 0.3%</b>	248
Convertible bonds	- 2.1%*	73
Bank Loans	+ 1.9%	80

**Tends to confirm “lemons” theory** that when a firm sells equity, the market is concerned that the firm may know it to be overvalued.

Also suggests that there is a difference between securities sales and bank loans. Also consistent with view that information is important: **banks may be able to produce information** that cannot be revealed in a securities sale.

(refer to three paradigms)

Table shows average share price responses, correcting for overall market movements (“cumulative abnormal returns”). \* means the response is statistically different from zero. Data from article on “Raising Capital” by Clifford Smith in *The New Corporate Finance: where theory meets practice* edited by Donald Chew., except data on bank loans which comes from article on “The uniqueness of bank loans,” by Chris James, in the 1987 *Journal of Financial Economics*.

## External finance: summary

(Compare purpose of the lecture)

Overview of how companies raise finance:

Description of debt, equity, etc

Which kinds of financing are most often used?

Internal more than external  
Debt more than equity  
Bank loans more than bonds

Why?

Perhaps overinvestment of internal funds  
Perhaps external equity costly (“lemons”)  
Perhaps banks produce information

How does the stock market react?

Negatively  
Especially for equity, and except for bank loans

Why?

Perhaps “lemons” problems