

Market Imperfections and Concepts

(Welch, Chapter 11)

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(No Longer) Assumptions

1. Differences in opinion.
2. Taxes.
3. Transaction costs.
4. Large sellers/buyers
5. Risk and Risk-Aversion
6. and so on.

▶ (This chapter completes all basic concepts.)

Intel Corp Equity Shares

- ▶ How perfect is the market for shares in Intel Corp?

What Markets Seem Perfect?

- ▶ Muni Bonds (Municipal Securities)?
- ▶ Houses?
- ▶ Airline Tickets?
- ▶ Jewelry? Engagement rings?
- ▶ Marriage?
- ▶ Children?
- ▶ Funeral Services?
- ▶ Suicide? Schizophrenic Choices?

Expected Borrowing Rate

- ▶ In a PCM, is the *expected* borrowing rate equal to the *expected* savings (lending) rate?

Quoted Borrowing Rate

- ▶ In a PCM, is the *quoted* borrowing rate equal to the *quoted* savings (lending) rate?

Disagreements

- ▶ What happens to borrowing and lending interest rates if everybody does not share the same information/opinion?

Market Power

- ▶ What happens to borrowing and lending interest rates if there is only one seller (lender)?
- ▶ What happens to borrowing and lending interest rates if there is only one buyer (borrower)?

Transaction Costs

- ▶ What happens to borrowing and lending interest rates if there are transaction costs to lending?

Taxes

- ▶ What happens to borrowing and lending interest rates if there are (specific) taxes?
 - ▶ Specific taxes are on borrowing or lending.

(Expected) Inflation

- ▶ What happens to borrowing and lending interest rates if there is inflation?
- ▶ Is inflation compatible with a PCM?

Any Imperfect Capital Markets

- ▶ Generically, what can happen to borrowing and lending interest rates if the financial markets are not perfect?

ICM Premia?

- ▶ In an ICM, capital-market imperfections can cause higher expected RoRs,
- ▶ ...just like risk-aversion.

But so what?

So What?

- ▶ Not So What!
- ▶ The consequences are a lot worse than you imagine!
- ▶ Let me show you.

Objective Value

- ▶ A project costs \$950 and returns \$1,000.
- ▶ What is its expected RoR, $E(r)$?

Buy Project If?

- ▶ If the capital market were perfect, what would you do if the economy-wide cost of capital $E(r)$ for this type of project were 10%?

Buy Project If?

- ▶ If the capital market were perfect, what would you do if the economy-wide cost of capital $E(r)$ for this type of project were 1%?

What if?

- ▶ Your project costs \$950 and returns \$1,000, and
- ▶ your alternative investment opportunities would earn you an $E(r)$ of 1%,
- ▶ but you can borrow only at $E(r) = 10\%$.

- ▶ Now what is the project's value?

Specific Project Example CBR

- ▶ If you have no money, the project is worth $\$1,000/1.10 \approx \909 .
- ▶ If you have a ton of money, the project is worth $\$1,000/1.01 \approx \990 .
- ▶ If you have between \$0 and \$950, the project is worth somewhere between \$909 and \$990.

Objective Value

- ▶ In a PCM, can the value of an object depend on its owner?
- ▶ In an ICM, can the value of an object depend on its owner?
- ▶ Which projects and object(s)?

The Plague (Covid)

- ▶ **The project value is no longer unique.**
- ▶ **It depends on whether you have money or not!**
- ▶ **Ergo, it depends on *who* you are!**

Worse Plague (aka Smallpox)

- ▶ Dependence of project value on who owns it is what we tried to avoid—like the plague.
 - ▶ If project value depends on who owns it, then how can financial economists value projects?
 - ▶ But this is indeed often the case in ICM. C'est La Vie.
 - ▶ Bounds on imperfect markets create ranges of value.
 - ▶ Low PCM violations → narrow bounds.
 - ▶ It is more important to teach thinking and tools than to teach PCM formulas.

What The PCM Did For Us

- ▶ Having the same borrowing/lending interest rates in PCMs means:
 - ▶ Project values do not depend on how much wealth the project owners have.
 - ▶ They have one unique project value.
- ▶ Otherwise, project value depends on (heterogeneity in) buyers and sellers.

PCM Underlies Modern Finance

- ▶ Every formula in finance has been derived and is known to work, only in PCMs
 - ▶ Minor exceptions: some (tax-)adjustment formulas.
 - ▶ Think of PCM assumptions in large liquid financial markets like gravity creating 9.81 m/s^2 .
 - ▶ PCM are an approximation and never actually true.
 - ▶ PCM may or may not be appropriate for a given situation.

First Valuation Question

- ▶ What is the first concept you should judge when looking at a valuation?
 - ▶ even before you start applying or tampering with formulas.
- ▶ What should you ask yourself?

Entrepreneurial Finance

- ▶ Imperfect capital markets (ICMs) are at the core of *Entrepreneurial Finance*.
- ▶ Small, privately held firms do not face near-perfect financial markets, in the same way that large, established publicly-traded firms do.

Value is What You Pay For It

“Cynical View”?

- ▶ **The value of an object is what you pay for it.**

PCM Arms-Length Deals

- ▶ In a PCM, can one arms-length deal be better than another?

Real-World Arms-Length Deals

- ▶ In an ICM, can one arms-length deal be better than another?

Isn't PCM Depressing?

- ▶ If there is “no special deals to be had,” isn't this bad news for buyers and sellers?

US

- ▶ We shall have to make the best attempts possible to explain and understand the world.
- ▶ Our models exist to help us make sense of the world, not the other way around.