Market Imperfections and Concepts

(Welch, Chapter 11)

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1: (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.)

2: Intel Corp Equity Shares

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

3: What Markets Seem Perfect?

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

4: Expected Borrowing Rate

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

5: Quoted Borrowing Rate

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

6: Disagreements

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

7: 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)?

8: Transaction Costs

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

9: Taxes

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

10: (Expected) Inflation

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

11: *Any* Imperfect Capital Markets

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

12: ICM Premia?

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

But so what?

13: So What?

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

14: Objective Value

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

15: 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%?

16: 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%?

17: 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?

18: 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.

19: 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)?

20: 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!**

21: 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 $\rightarrow$ narrow bounds.
  - It is more important to teach thinking and tools than to teach PCM formulas.

22: 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.

23: 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.

24: 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?

25: 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.

26: Value is What You Pay For It

"Cynical View"?

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

27: PCM Arms-Length Deals

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

28: Real-World Arms-Length Deals

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

29: Isn't PCM Depressing?

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

30: 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.