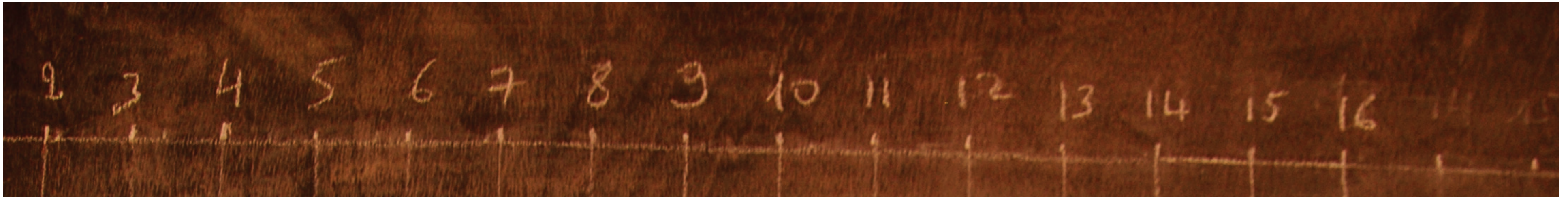

Close Enough? Near Arbitrage

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Near Arbitrage

- In near arbitrage, you either have two assets that are very similar but not identical, which are priced differently, or identical assets that are mispriced, but with no guaranteed price convergence.
- No matter how sophisticated your trading strategies may be in these scenarios, your positions will no longer be riskless.

1. Same Stock listed in Multiple Markets

- If you can buy the same stock at one price in one market and simultaneously sell it at a higher price in another market, you can lock in a riskless profit.
- There are two scenarios where this can happen:
  - Dual or Multiple listed stocks
  - Depository receipts

a. Dual Listed Stocks

- Many large companies trade on multiple markets on different continents.
- Since there are time periods during the day when there is trading occurring on more than one market on the same stock, it is conceivable (though not likely) that you could buy the stock for one price in one market and sell the same stock at the same time for a different (and higher price) in another market.
- The stock will trade in different currencies, and for this to be a riskless transaction, the trades have to at precisely the same time and you have to eliminate any exchange rate risk by converting the foreign currency proceeds into the domestic currency instantaneously.
- Your trade profits will also have to cover the different bid-ask spreads in the two markets and transactions costs in each.

Evidence of Mispricing?

- It exists: Swaicki and Hric examine 84 Czech stocks that trade on the two Czech exchanges – the Prague Stock Exchange (PSE) and the Registration Places System (RMS)- and find that prices adjust slowly across the two markets, and that arbitrage opportunities exist (at least on paper) –the prices in the two markets differ by about 2%. These arbitrage opportunities seem to increase for less liquid stocks.
- But it is tough to exploit: While the authors consider transactions cost, they do not consider the price impact that trading itself would have on these stocks and whether the arbitrage profits would survive the trading.

b. Depository Receipts

- Depository receipts create a claim equivalent to the one you would have had if you had bought shares in the local market and should therefore trade at a price consistent with the local shares.
- What makes them different and potentially riskier than the stocks with dual listings is that ADRs are not always directly comparable to the common shares traded locally – one ADR on Telmex, the Mexican telecommunications company, is convertible into 20 Telmex shares.
- In addition, converting an ADR into local shares can be both costly and time consuming. In some cases, there can be differences in voting rights as well.
- In spite of these constraints, you would expect the price of an ADR to closely track the price of the shares in the local market, albeit with a currency overlay, since ADRs are denominated in dollars.

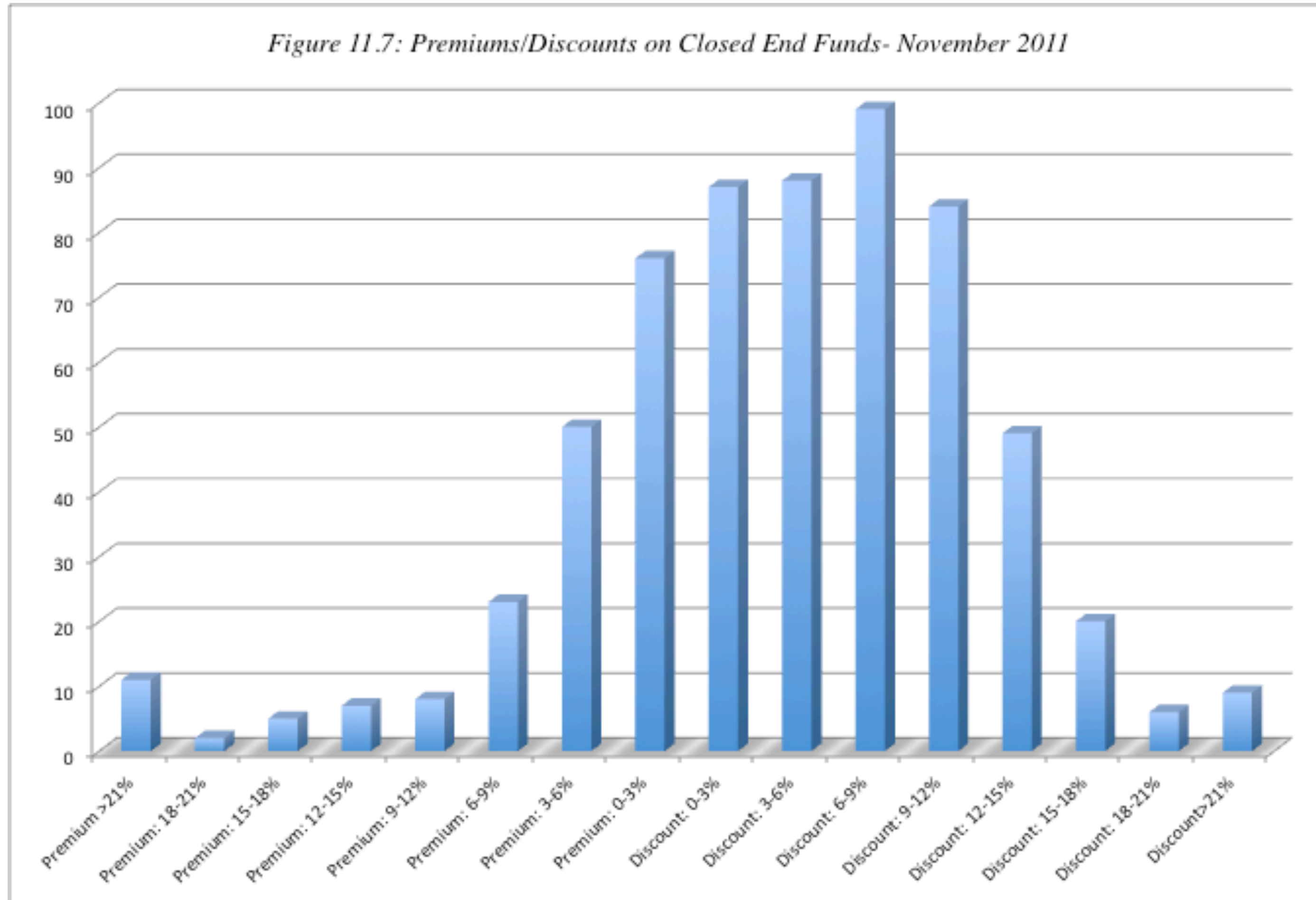
Evidence on Pricing

- Mispricing happens: A study conducted in 2000 that looks at the link between ADRs and local shares finds that about 60 to 70% of the variation in ADR prices can be attributed to movements in the underlying share prices and that ADRs overreact to the U.S, market and under react to exchange rates and the underlying stock.
- Convergence may not happen: They also conclude that investors cannot take advantage of the pricing errors in ADRs because convergence does not occur quickly or in predictable ways.
- Time horizon matters: With a longer time horizon and/or the capacity to convert ADRs into local shares, though, you should be able to take advantage of significant pricing differences.

2. Closed End Funds

- Closed end mutual funds differ from other mutual funds in one very important respect. They have a fixed number of shares that trade in the market like other publicly traded companies, and the market price can be different from the net asset value.
- If they trade at a price that is lower than the net asset value of the securities that they own, there should be potential for arbitrage.

Discounts and Premiums on Closed End Funds



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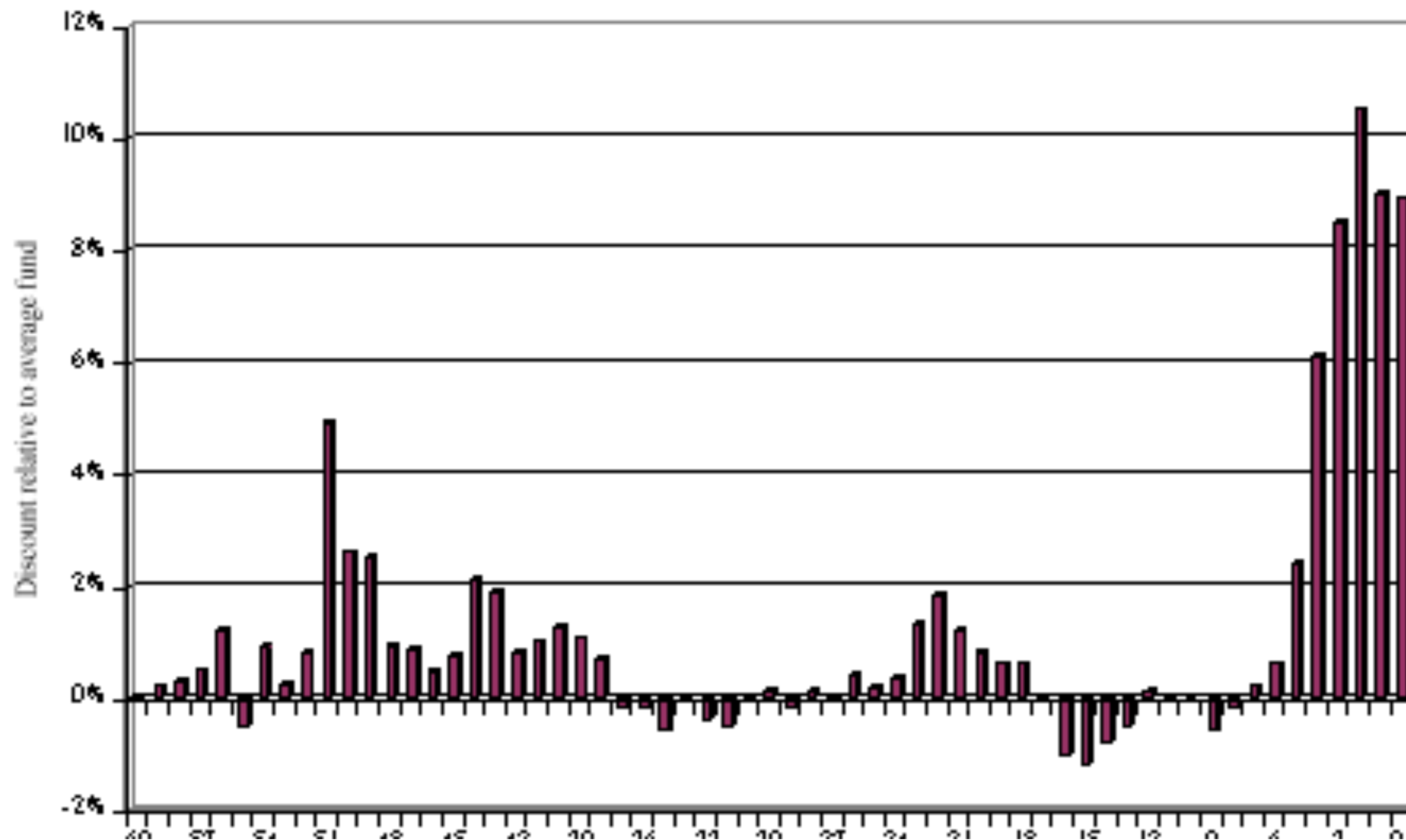
Closed end funds that open end…



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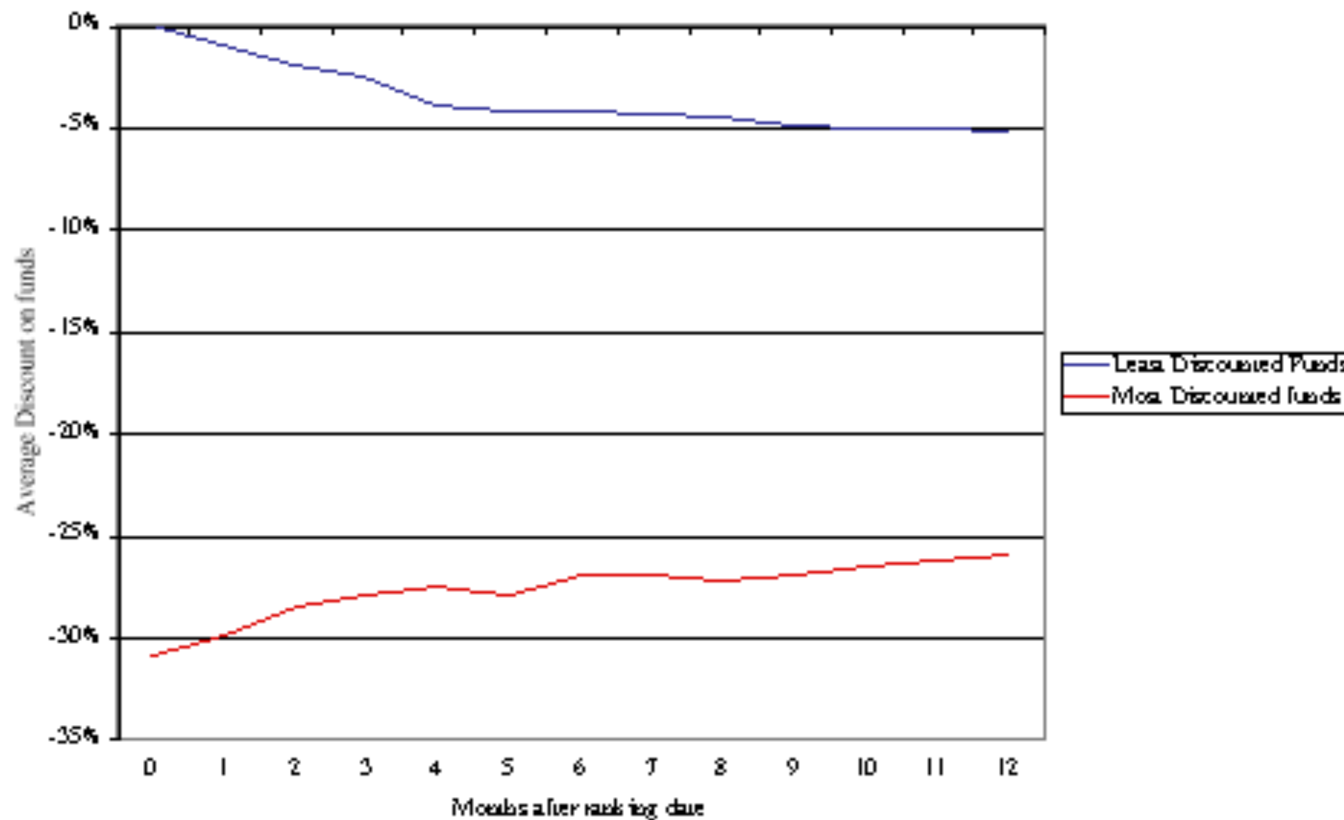
What is the catch?

- Governance/Control issues: In practice, taking over a closed-end fund while paying less than net asset value for its shares seems to be very difficult to do for several reasons- some related to corporate governance and some related to market liquidity.
- Liquidity and taxes: The potential profit is also narrowed by the mispricing of illiquid assets in closed end fund portfolios (leading to an overstatement of the NAV) and tax liabilities from liquidating securities. There have been a few cases of closed end funds being liquidated, but they remain the exception.

An Investment Strategy of buying discounted funds…

Figure 11.9: Discounts on most discounted and least discounted funds over time



3. Convertible Arbitrage

- When companies have convertible bonds or convertible preferred stock outstanding in conjunction with common stock, warrants, preferred stock and conventional bonds, it is entirely possible that you could find one of these securities mispriced relative to the other, and be able to construct a near-riskless strategy by combining two or more of the securities in a portfolio.
- In practice, there are several possible impediments.
  - Many firms that issue convertible bonds do not have straight bonds outstanding, and you have to substitute in a straight bond issued by a company with similar default risk.
  - Companies can force conversion of convertible bonds, which can wreak havoc on arbitrage positions.
  - Convertible bonds have long maturities. Thus, there may be no convergence for long periods, and you have to be able to maintain the arbitrage position over these periods.
  - Transactions costs and execution problems (associated with trading the different securities) may prevent arbitrage.

Determinants of Success at Near Arbitrage

- You need capital: These strategies will not work for small investors or for very large investors. Small investors will be stymied both by transactions costs and execution problems. Very large investors will quickly drive discounts to parity and eliminate excess returns.
- Convergence tactics: If you decide to adopt these strategies, you need to refine and focus your strategies on those opportunities where convergence is most likely. For instance, if you decide to try to exploit the discounts of closed-end funds, you should focus on the closed end funds that are most discounted and concentrate especially on funds where there is the potential to bring pressure on management to open end the funds.