

# *Stan Liebowitz: UT Dallas*

- Advertisement: Book available in summer:  
Internet Cents and Nonsense
- Today: Focus on network effects, antitrust, and intellectual property.

# *Network Effects*

- Definition: a product becomes more valuable to a consumer the more other consumers there are of the product.
- Example: Fax machines, telephones.....
- And software??
- Concept is overused. Being on a network doesn't mean there are network effects. Almost no testing of the power of these effects, and most testing has had problems.
- Virtually identical theoretically to economies of scale
  - Markets will tend toward monopoly, winner-takes-all result (in simple world).
    - But, network effects by themselves are not strong enough to guarantee this effect.

# *Network Effects and antitrust*

- Why are they relevant?
  - Is the winner really a monopolist?
    - Competition for the market or in the market?
  - Is it harmful to have a winner?
    - Winner-takes-all results are efficient. Does this make it a natural monopoly?
  - Does the winner keep winning?
    - Do firms get entrenched?
    - Theory talks about ‘lock-in.’
    - Strong lock-in would be inefficient.No empirical support. Almost no interest in testing.
    - Evidence is in the other direction.

## *Network Effects and antitrust*

- When competition is ‘for the market’ ownership of competing networks internalizes economic factors, helping to ensure the efficient outcome.
- There is something new in terms of importance of ownership to make sure markets choose the correct ‘standard’. Patents or copyrights may have value other than providing incentives for invention.

# *Theme of Talk*

- Should Network Effects alter our thinking about antitrust or intellectual property?
  - .
- The little testing that was done was weak and wrong.

## *Problems with the understanding of Network Effects*

- They are less common than generally claimed.
- They are not 'new'.
- The size of the network is not usually a concern in this new literature.

# *Other (neglected) Software Attributes*

## – **Higher Prices:**

- Market leaders should be able to charge higher prices as market share (**and market size!**) increases, because of increased value to consumers.

## – **Instant Scalability:**

- Reproducing discs is not like building more automobiles. Output can be ramped up almost at will.

## – **Temporal Compatibility:**

- compatibility with old files is probably far more important than compatibility with other users.

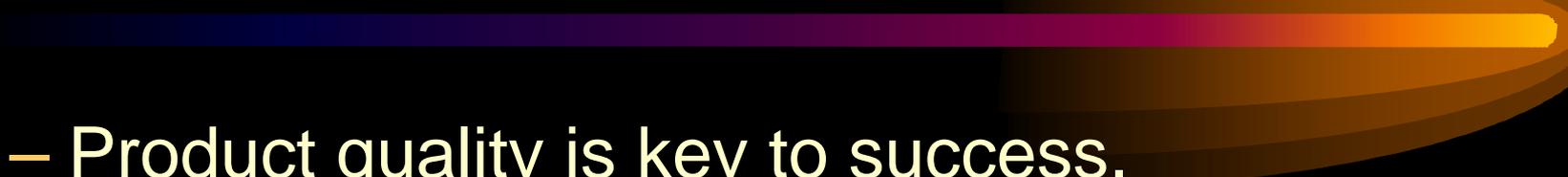
# *Network Effects and case against Microsoft*

- Government Claims:
  - Microsoft is a monopolist.
    - Meaning is not simple. Having large market share is not the same as acting like a monopolist (having high prices).
  - Network effects materially strengthen its monopoly (lock-in).
    - Assertion - totally untested.
  - Microsoft monopoly harms consumers.
    - Also appears as if it will remain untested - Government seems uninterested in demonstrating the higher price and decreased output that hurts consumers.

# *Our Analysis of Software Markets*

- Four main questions that can be answered.
  - How do software makers (and Microsoft) achieve success?
  - Has Microsoft harmed consumers?
  - Is there any evidence of deleterious lock-in?
  - Importance of network effects in the software market?

# *Quick answers :*



- Product quality is key to success.
  - Inferior products lose market share amazingly rapidly.
  - Success seems to come only to the #1 product.
  - Price plays only a small role.
- Microsoft was successful because it produced better products at lower prices.
- Consumers are not harmed by Microsoft unless lower prices and higher quality are thought to be harmful.

# *Quick answers (Cont.):*

- No evidence of lock-in or inertia.
  - Products deemed better seem to quickly replace inferior products.
  - Admittedly, there are no real benchmarks
- Network effects: how strong are they really?
  - Evidence for winner-take-all, but other factors can explain this equally well.
  - No evidence of tipping.
  - Prices do not rise with larger market (share), which they should if there is any monopoly power.

# *11 Software markets examined*

- 3x Wordprocessors, (Mac, Dos, Windows).
- 2x Spreadsheets (Macintosh, Windows)
- 3x Desktop Publishing (High-end Macintosh & PC, Midrange PC).
- 1x Personal Finance
- 1x Browsers.
- 1x Online Services

### Figure 8.8: Comparison Spreadsheet Ratings

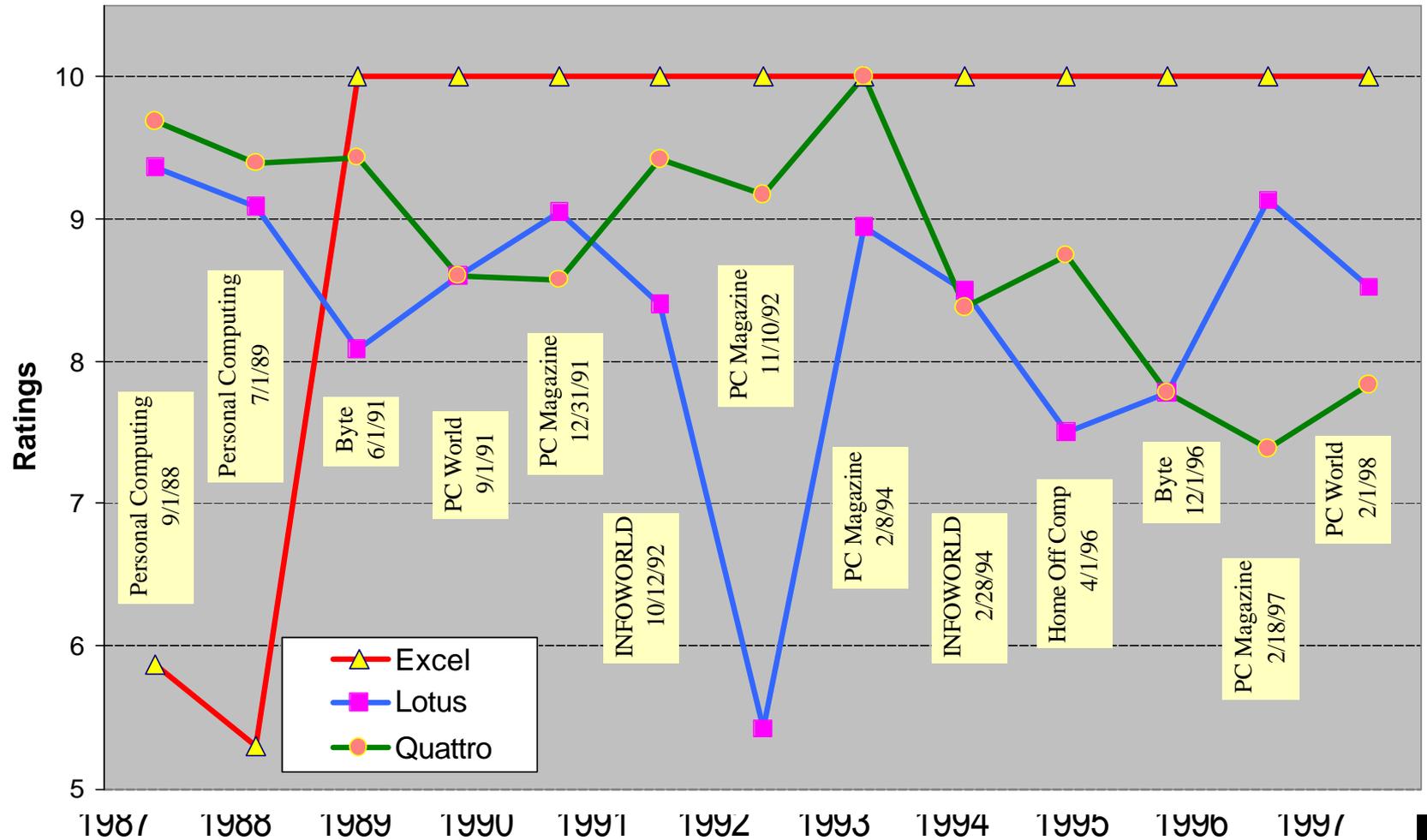


Figure 9.15: Market Share Mac High-End DTP

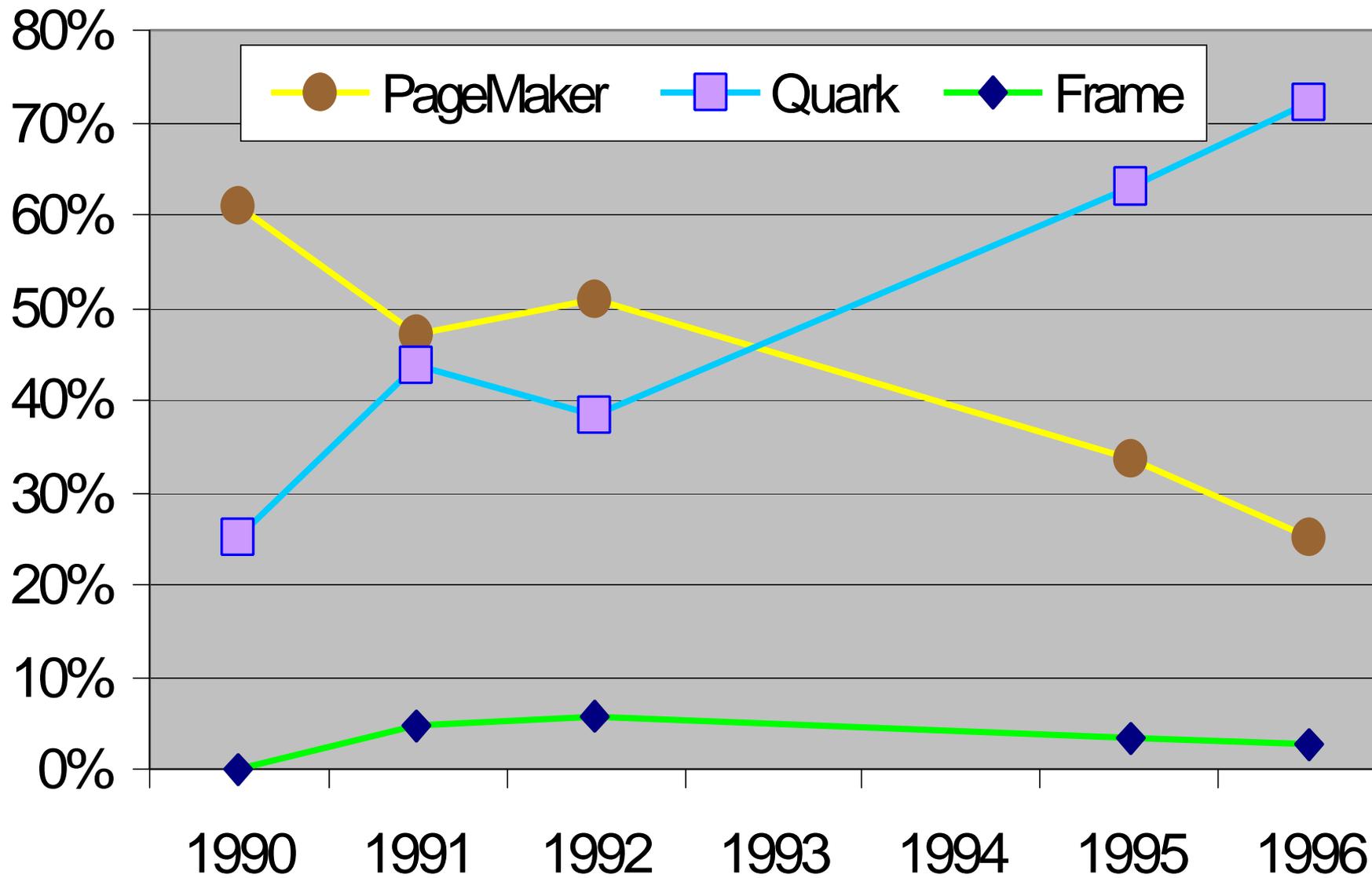


Fig 9.22: Midrange PC DTP Shares

Fig 9.20: Midrange DTP Ratings

