

Calls for transparent exchange trading

G20, Pittsburgh (2009) (Dodd Frank Act (Title VII) 2010): “*All standardized OTC derivative contracts should be traded on exchanges*”

Squam Lake Group (2010): “*Regulators should promote greater transparency... Consideration should be given to the introduction of a trade reporting system ... similar to the TRACE system.*”

Is it possible? Aren't fragmented opaque dealer markets the only ones where such contracts can be traded?

Bonds = interesting experiment: also claimed to be tradable only in opaque OTC dealer markets

Bond market reform

“Transaction Reporting & Compliance engine” TRACE (2002):
post-trade transparency for corporate bonds and Munis

Reduced bid-ask spreads, but also (some argue) dealers’ ability
to hold inventories

Substitute exchange trading to dealer market, so that dealers’
inventories less needed – and also get pre-trade transparency ?

Financial Times, May 1 2013: *“As for investors being able to see a price for their specific bond before they trade, that is a harder problem to crack. Traditionally, there has been no substitute to brokers calling round the trading desks of Wall street to ask what a specific lot of bonds will fetch.”*

Not so

The Microstructure of the Bond Market in the 20th Century



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What's wrong with bonds?

Bondholders trade infrequently (e.g. life insurance companies buy the bond and hold it)

To purchase bond, must know who owns/might sell it

Transparent market limit order book not viable?

Did microstructure (dealer market) emerge to cope with liquidity problems? (as dealers argue)

Is poor liquidity due to poor microstructure? (opaque fragmented dealer market instead of transparent centralized limit order book)

History is useful

History => time-series variation in institutions

Useful to examine i) if current institutional setting is the only one possible, ii) how other settings worked, iii) why institutional setting changed

... in the case of bond markets ...

Things not what they used to be

Bonds traded actively in limit order book

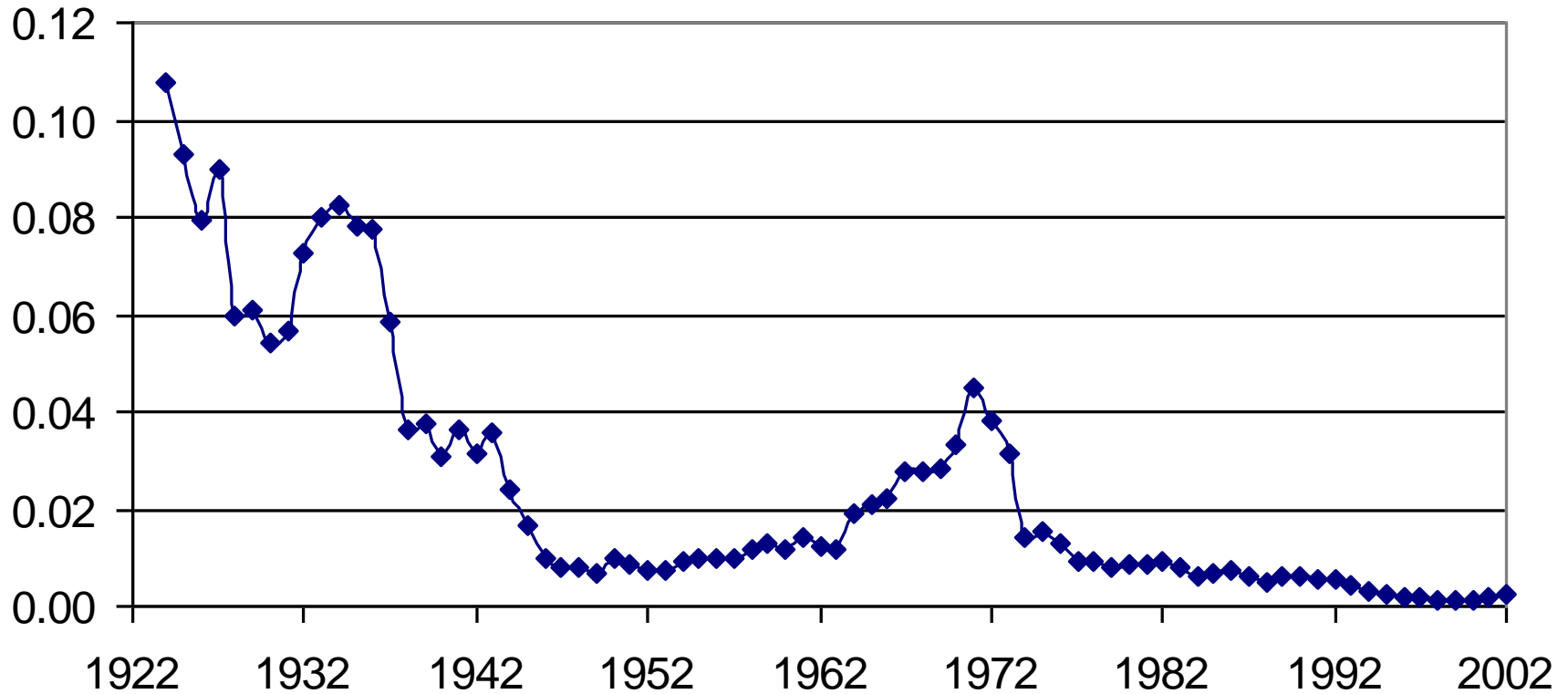
Firm quotes were posted and disseminated to market participants (pre-trade transparency)

Transactions were publicly reported (post-trade transparency)

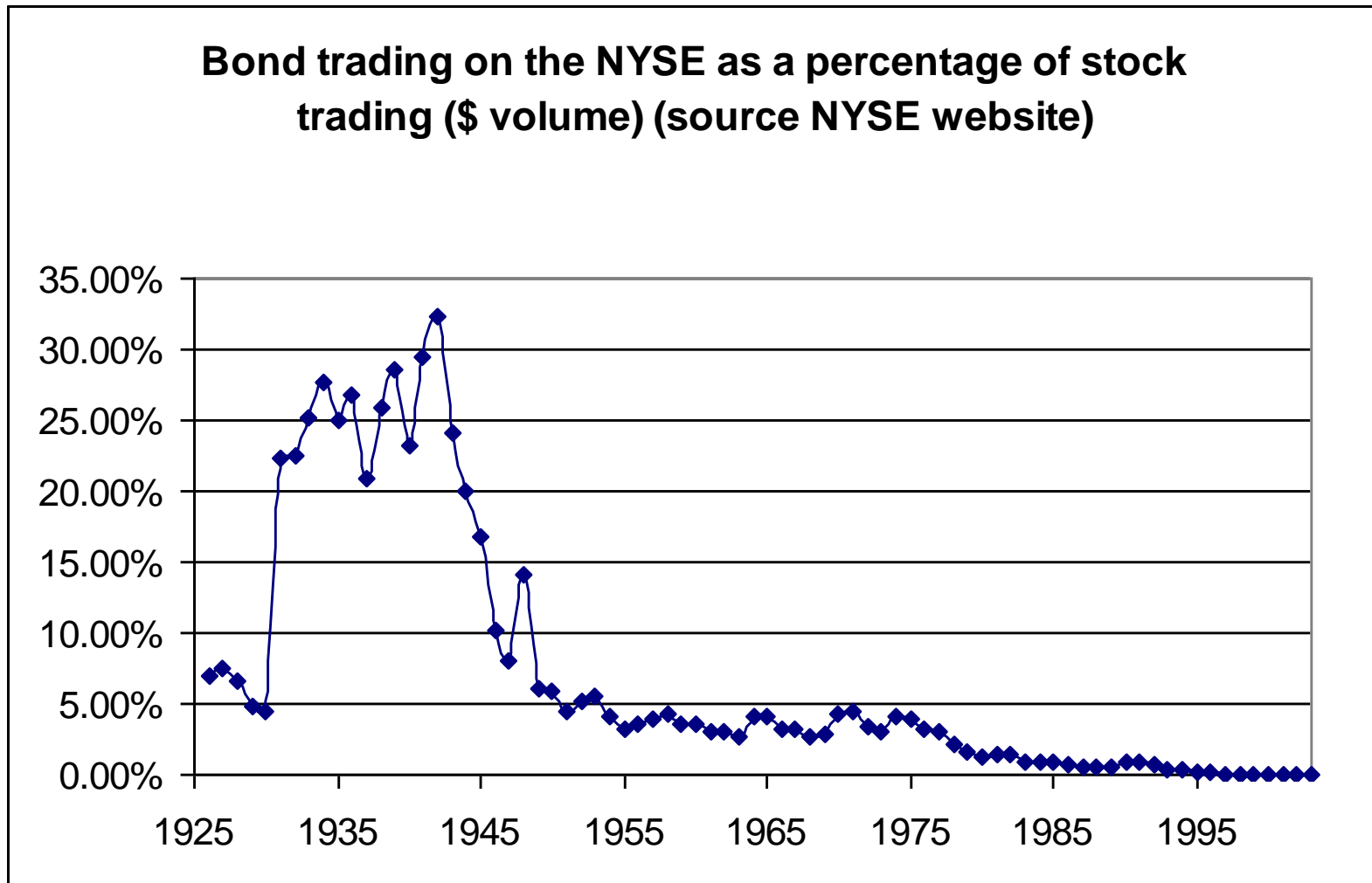
Where ?

NYSE Bond market active until 1945

**Turnover NYSE listed bonds (trading volume/par value,
source NYSE website)**



1930-1945: NYSE bond trading > 20% stock trading



Bonds traded in transparent limit order book (Shultz, 1946. Meeker, 1922)

Order driven, no specialist

Commissions deregulated for Treasuries & Munis

For other bonds, commissions < equities

Continuous floor trading between brokers

Cabinet: Physical limit order book, collecting orders to buy and sell (paper slips), price and time priority

All brokers can see all orders and trades & inform their customers

Trades immediately & widely disseminated by ticker

...along with OTC market (Prime 1946)

“...market ... made between dealers through bid & ask prices... securities houses ... act as dealers ... investment banking houses, OTC houses, municipal bond dealers, government bond dealers, stock exchange firms which operate OTC trading departments & dealer banks...”

Unlike exchanges, where sales in a particular security are concentrated at one post ... and the actual prices at which the security is sold are reported, the OTC market is unable to report all transactions in a security.”

Where did bonds trade?

Treasury-Fed Study(1959): *“...two forms of market organization have existed side by side. One has been the trading in Government securities on an organized market – the NYSE – and the other has been a less formally organized over-the-counter market ... Since the mid-1920’s the bulk of the trading in Government bonds has taken place on the over-the-counter market.”*

Shultz (1946): *“What is to be done about bond trading only 10 per cent of which is now done on the Exchange and the rest over-the-counter?”*

Institutions liked the OTC

Prime (1946, NYU professor):

“Institutional investors such as banks and insurance companies usually buy and sell securities in large blocks ... They desire to avoid a public record of large purchases or sales of bonds because of the adverse price such a transaction may have on the market price ...

Furthermore, since a large buying order on the Exchange ... must give precedence to all orders having priority ... the institutional order would experience difficulty in completion.”

OTC less attractive for retail

Gellerman (1957), securities broker:

“There is no record of transactions in the over-the-counter market, which puts the individual investor at a strong disadvantage. The professional or institutional investor can transact with an over-the-counter firm with some equality but the individual is more or less forced to rely on the integrity of the firm with which it is dealing...”

NASD has never ruled on what it considers a reasonable profit on a purchase or sale by one of its members, but it's known to favor between 3 and 5 per cent.”

Two issues

1) Before it disappeared, did the market work well?

Corporate bonds

Municipal bonds

Spreads should be tighter now than 80 years ago: better communication & information technology => access to market, information asymmetry, location of trading counterpart

2) Why did bonds stop trading on the exchange?

High frequency data on 4 corporate bonds on NYSE 1943-1947

American Tobacco, Great Northern, B&O, Hudson & Manhattan (3 railroad bonds)

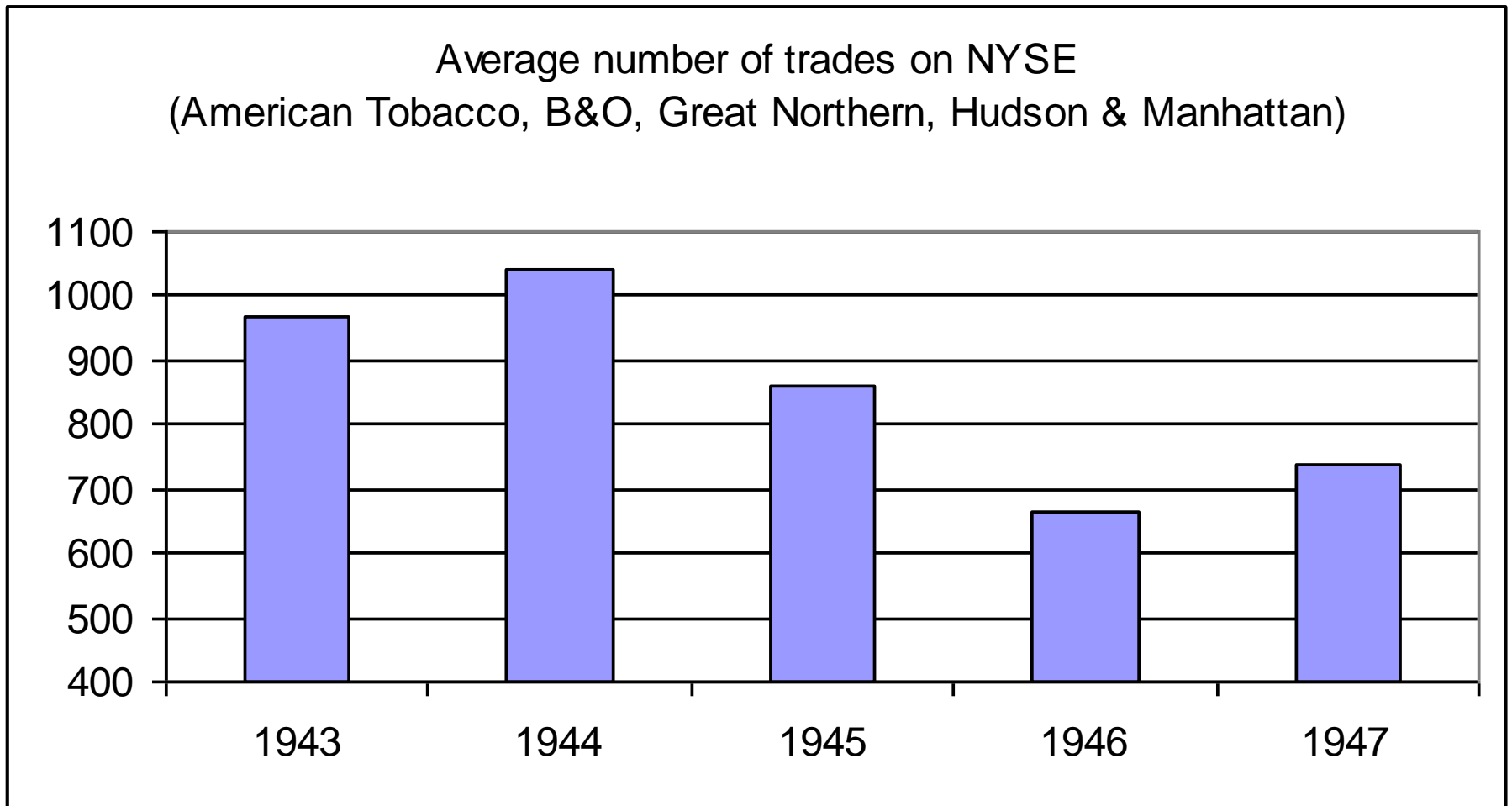
NYSE quotes & trades; daily bid and ask quotes observed at 11:00; transaction prices and volume

More trading (& data) than munis: 18647 trades 1943-1948

NYSE corporate bond trading

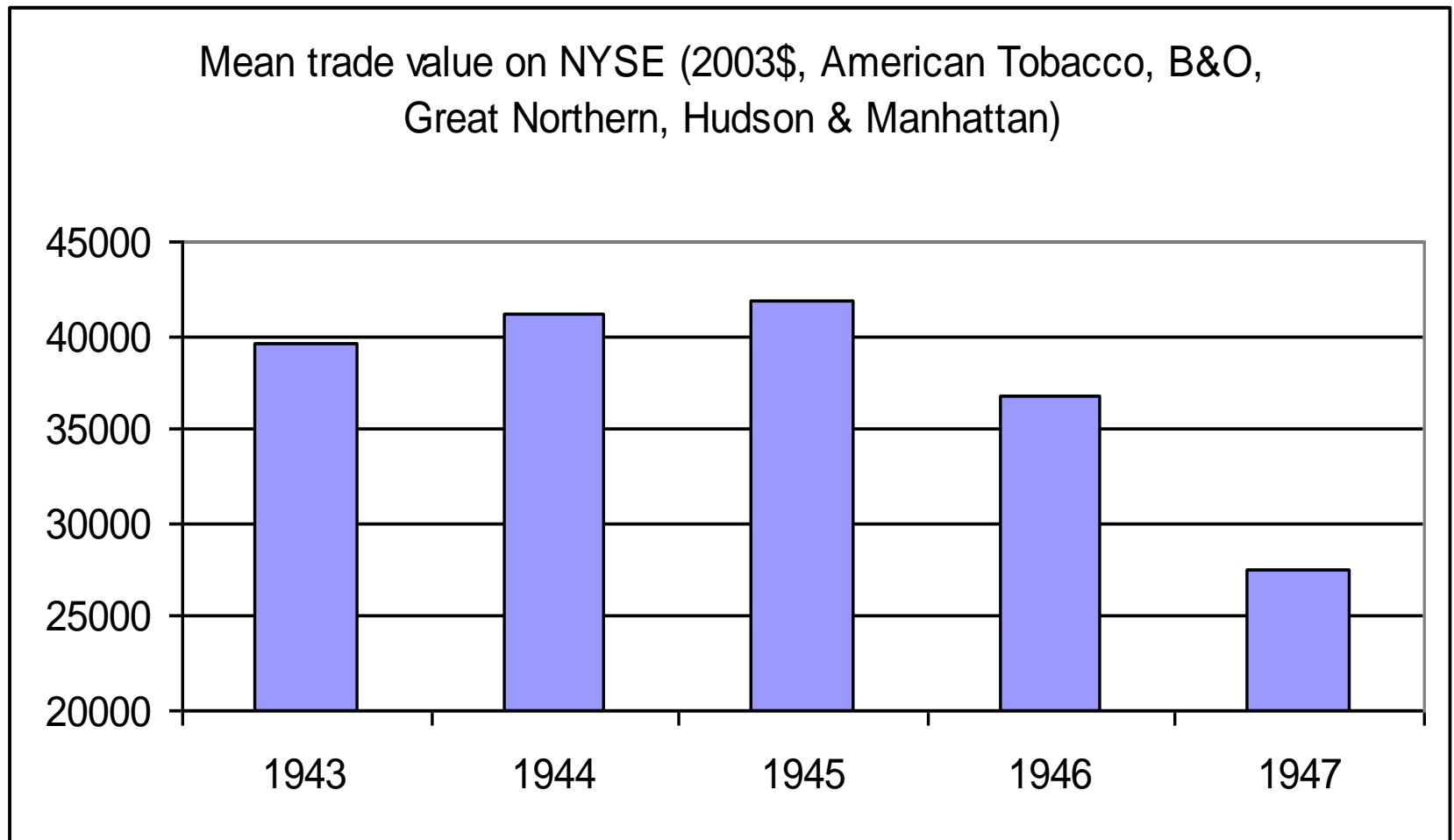
Active until 1944: 1000 trades / year

Currently: around 400



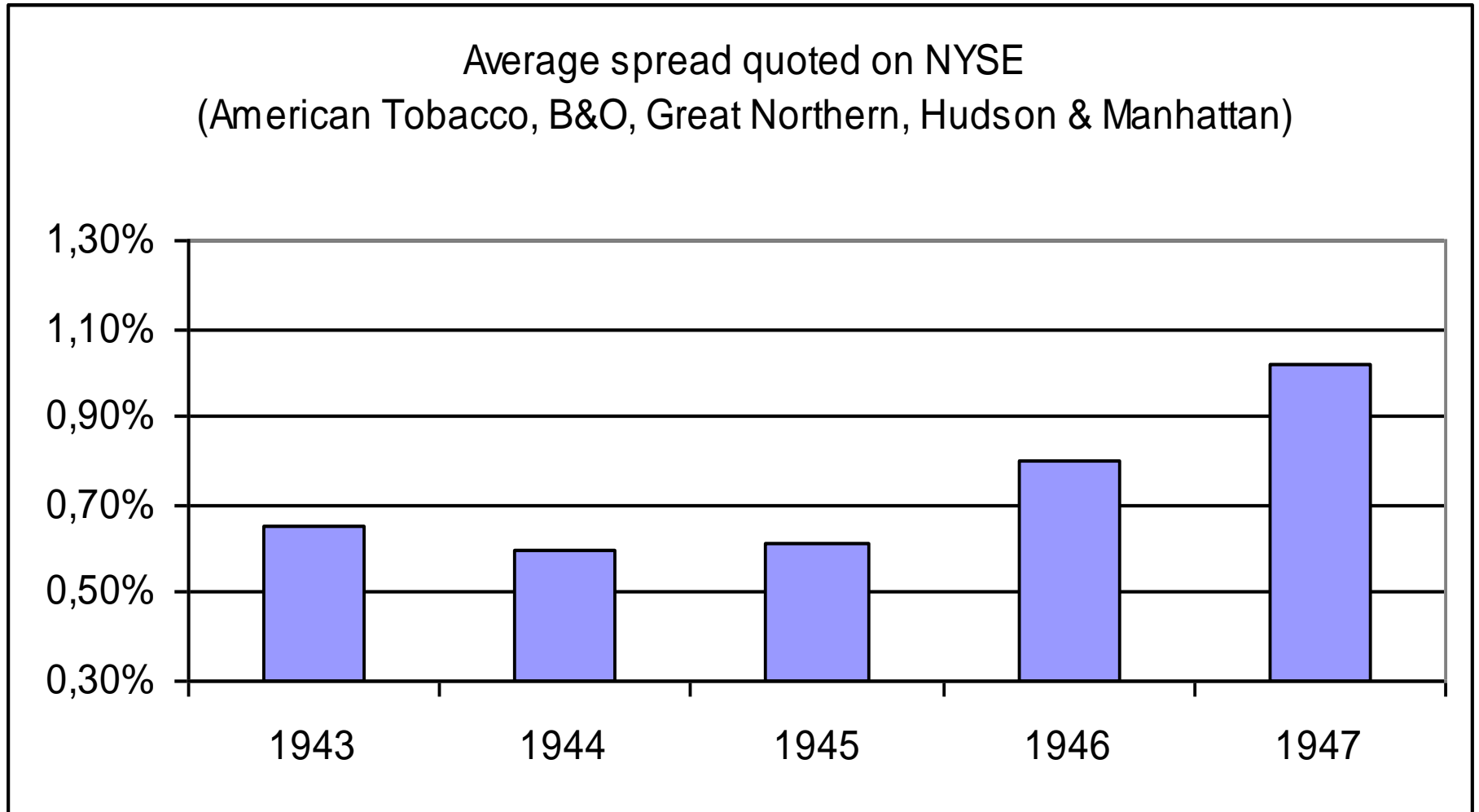
Average transaction size

Around 40,000 (2003) \$ until 1945

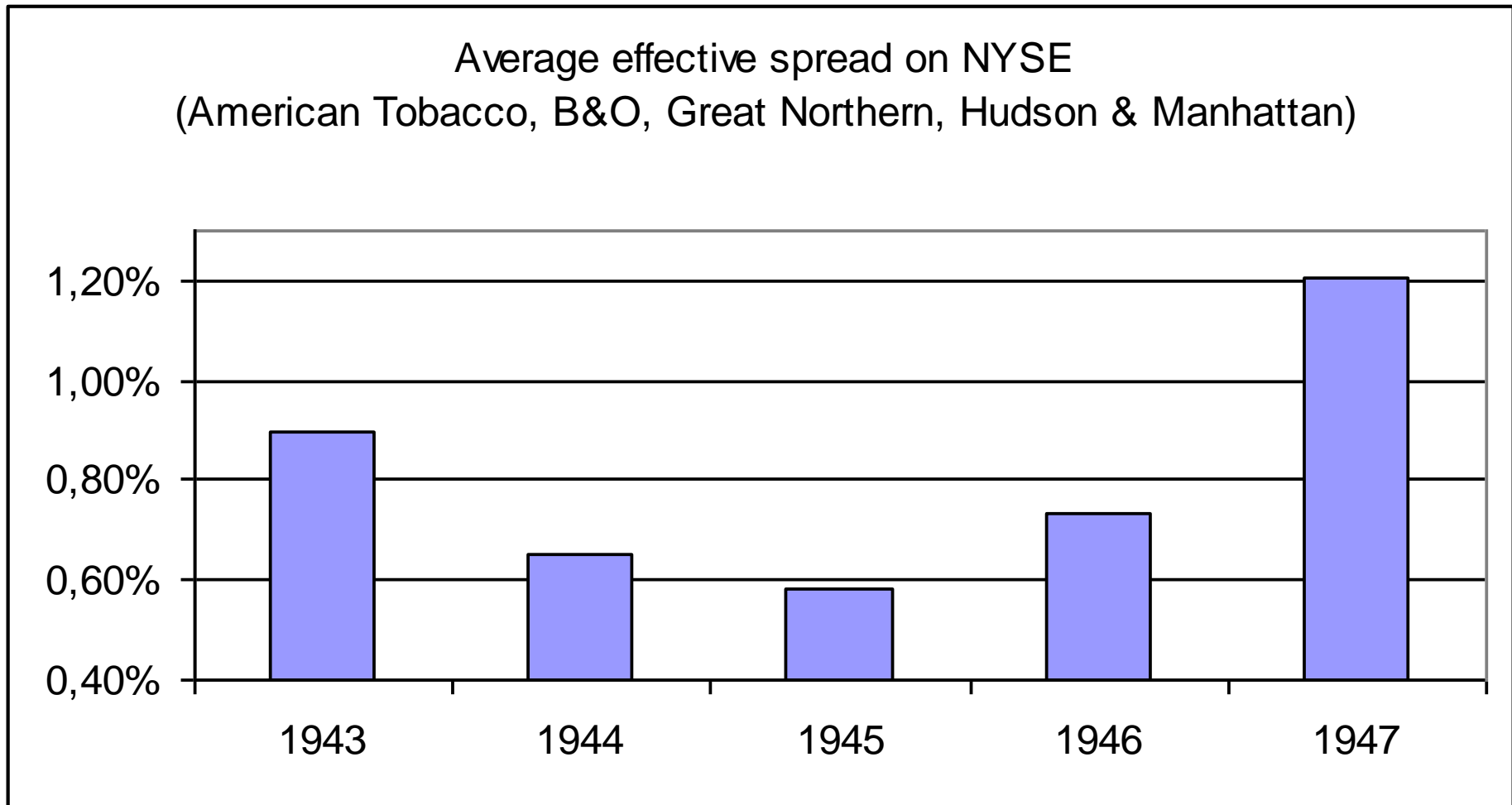


Average quoted spread

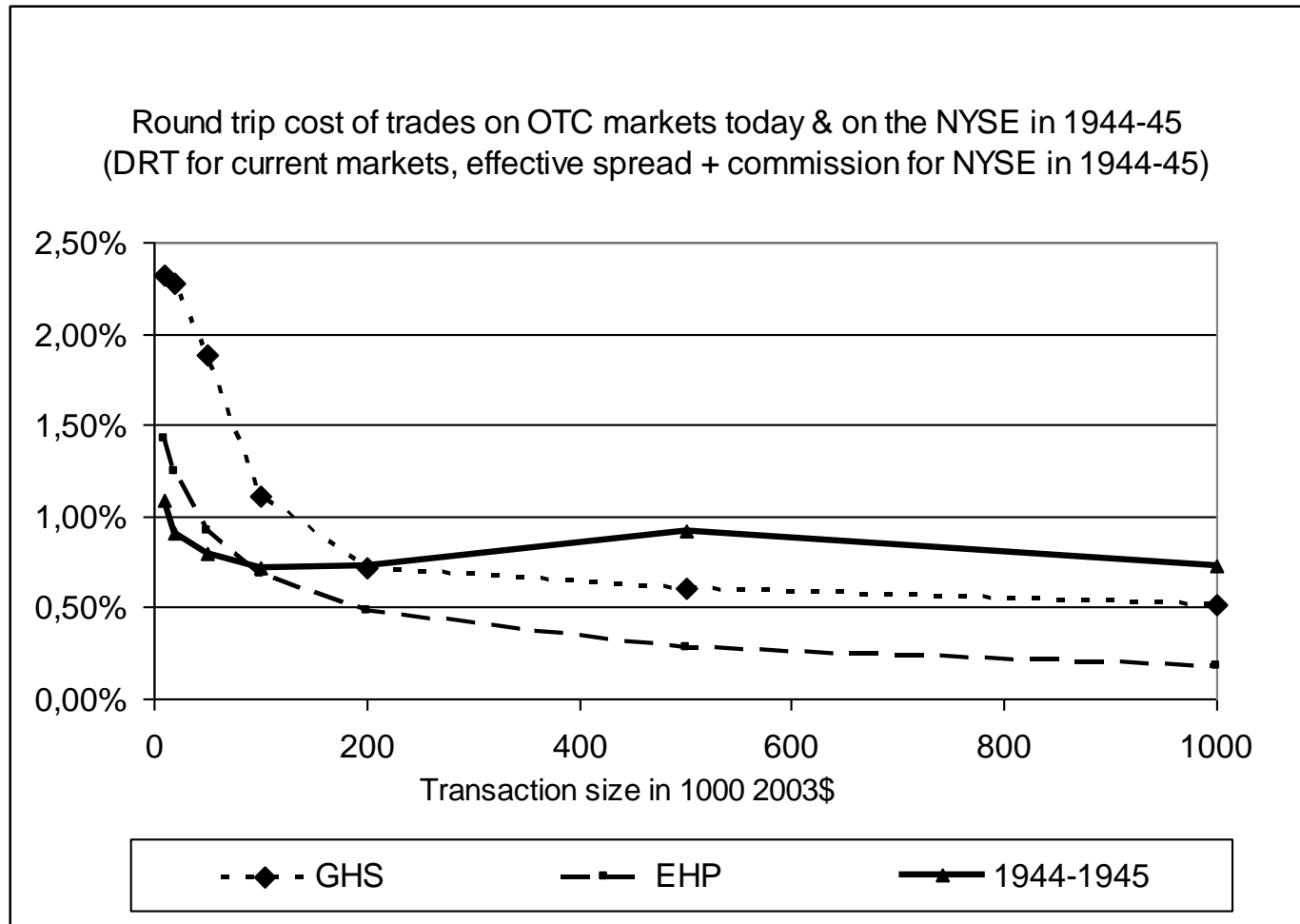
Low until 1945. Widens in 1946-47



Effective spread > quoted spread
Market impact of size
Tight until 1945, widens in 1946-47



Corporate bonds cheaper to trade on NYSE in 1944-45 than OTC in 2000

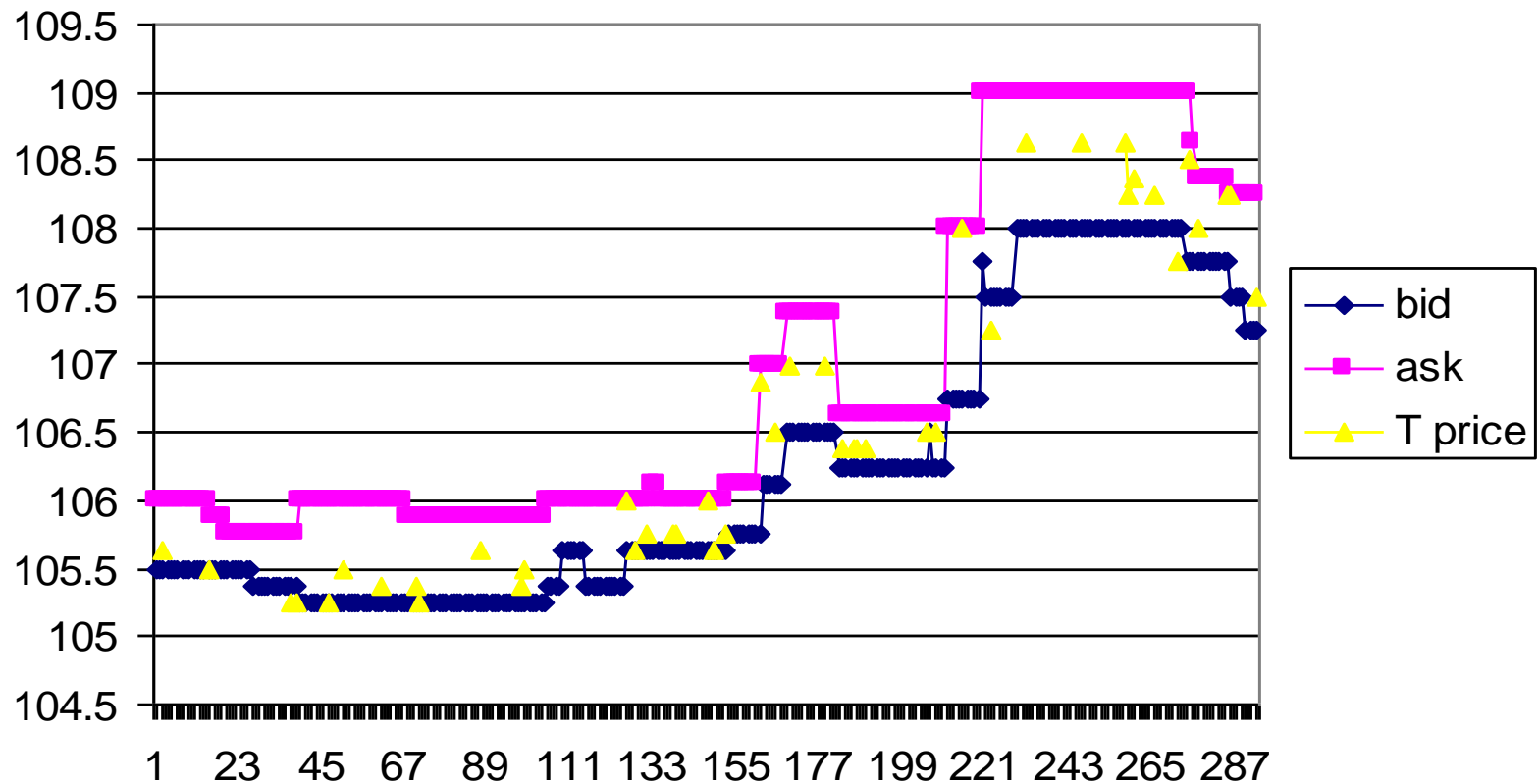


Goldstein, Hotchkiss, Sirri (2006), Edwards, Harris, Piwowar (2006)

6 Munis, 07/01/1926 03/31/1930

All NYSE trades (p, q, morning, noon, afternoon),
Quotes at 11:00 a.m.

Figure 6, Panel A: Quotes and trades in NYC Muni,
maturing 1957, cpn 4.5, July 1, 1926-june 30, 1927



Muni spreads tighter in 20s than now

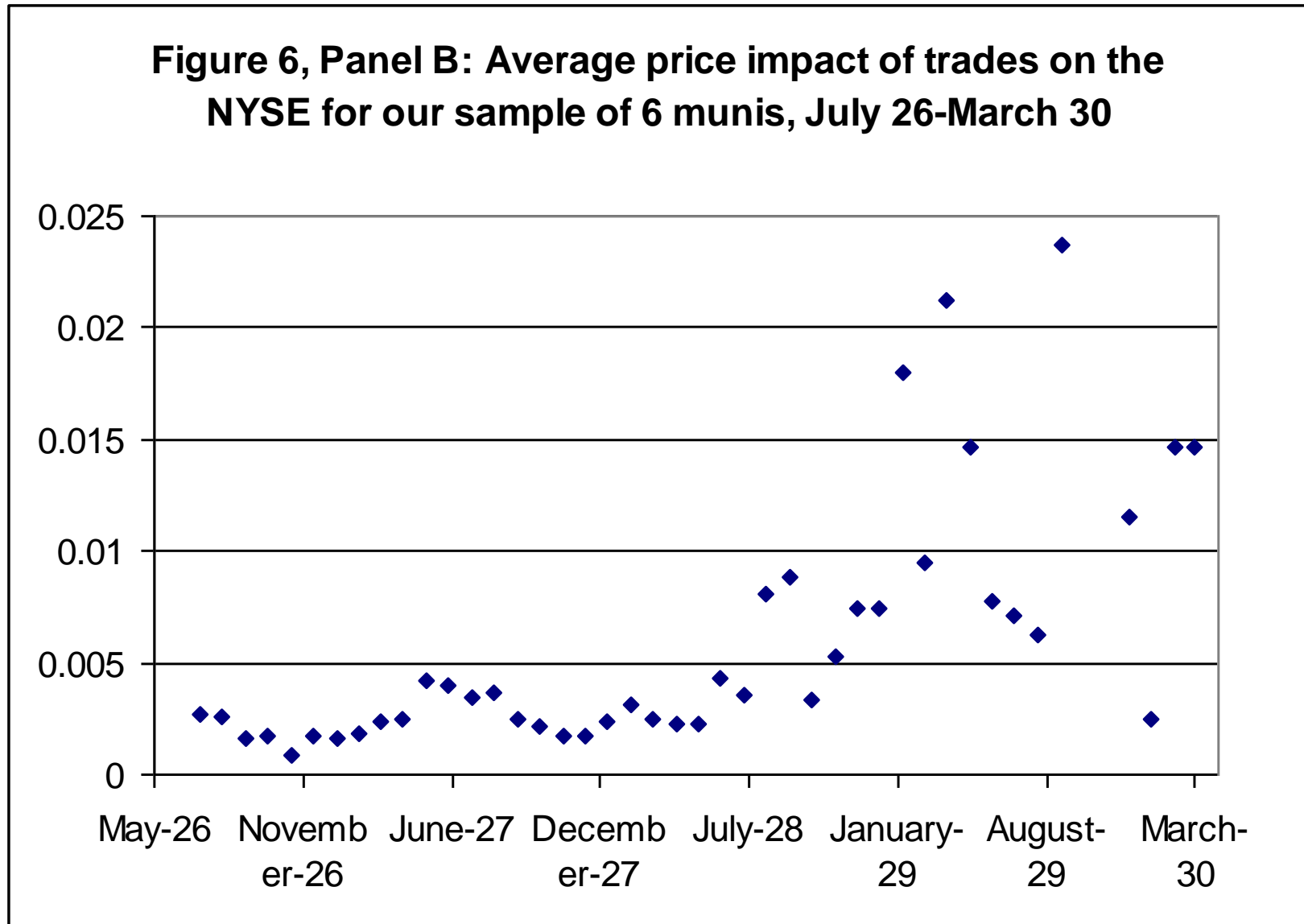
In the 20s, under pre and post trade transparency and with priority rules:

Average % effective spread = $\frac{1}{2}$ %

For similar bonds, in 2004, traded in opaque fragmented OTC:

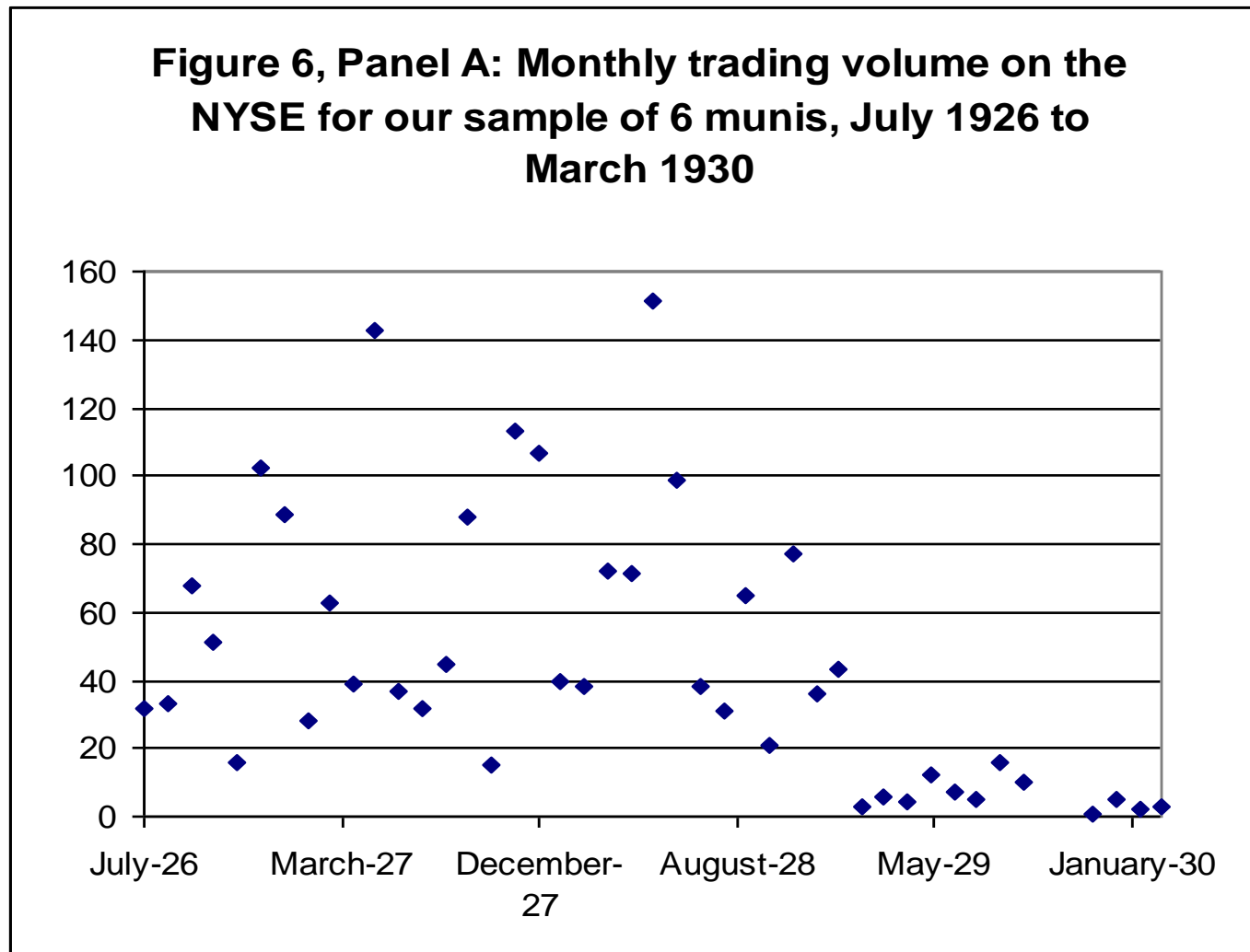
Effective spreads for retail trades: 2% to 2.5%.

Transactions costs rose in Fall 1928



Exchange trading in Munis died in 1929

(unlike corporate bond trading, very active until 40s)



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Capacity switched from bonds to stocks

Surge in volume in late 20s. Constrained capacity (Davis et al 2005) reallocated from bonds to stocks

Committee on Arrangements, January 3 1929, approved
“allowing Arthur E. French & Co. to have a telephone space in sections WA and WB in the bond crowd, for stock business.”

“The committee directed that Post 30 be removed to the Southerly Bond Crowd Room as soon as a separate tube station relay can be provided...As soon as post 30 is moved, telephone booths are to be placed in the space now occupied by that post”

18 stocks moved to Post 30 from other posts

Shift in muni clientele

Large recent stock returns => retail investors lost interest in munis, turned to equity. Only institutions kept buying and trading munis

New York Times, January, 1929: “...municipalities ... cannot borrow at nearly as advantageous rates this year as last... an investor will not take a municipal bond at 4% if he sees an opportunity to double his money in the stock market.”

New York Times, February, 1929: “Institutions continue to furnish most of the buying power, and, in addition to the new offerings, have been called upon to absorb various blocks of old issues which have been brought out of retirement.”

Migration of institutional trading

Retail volume dries up + trading facilities reduced => No reason for institutions to continue trading on Exchange

Institutional trading, and with it market liquidity, migrated to the OTC

Market never coordinated back to the previous equilibrium. Municipal bond trading never came back to NYSE.

Migration of corporate bond market to OTC reflects power of institutions & dealers

WWII: growth of Treasury market

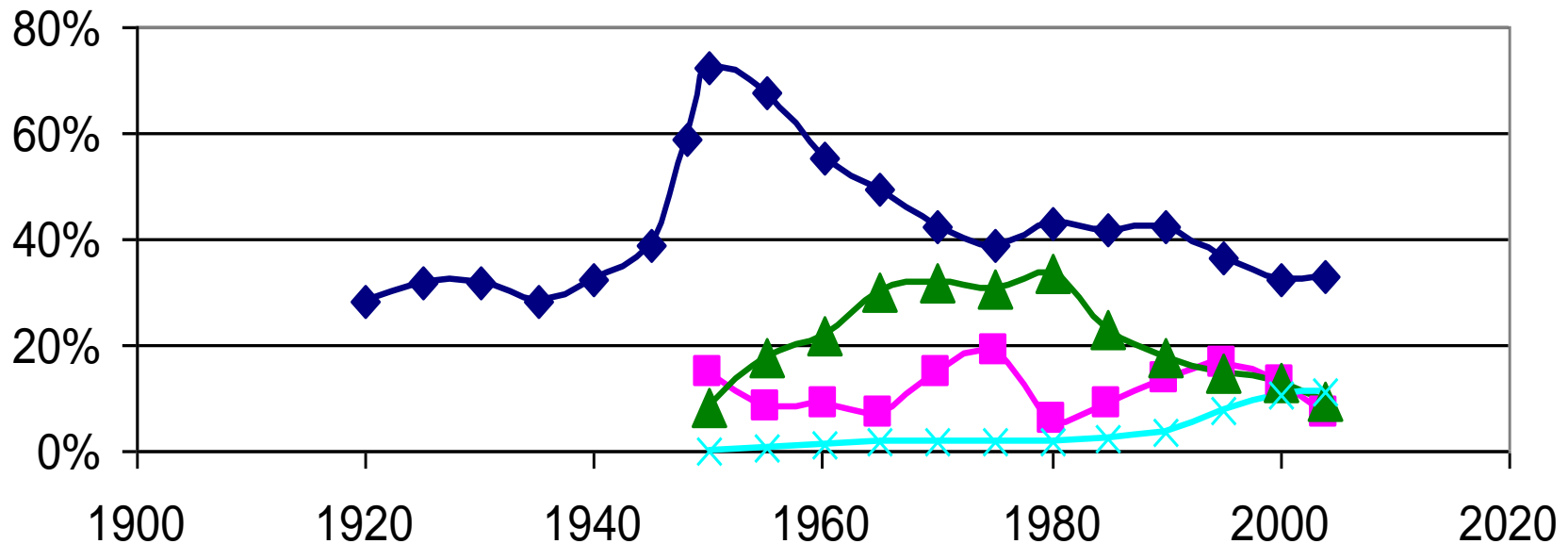
=> bond houses develop expertise, infrastructure & staff

=> extend in other segments of bond market

Institutions, which become the major force in bond markets in 40s, leave the NYSE to go to the OTC market.

Rise of institutional ownership in 40s

Figure 4, Panel A: Corporate Bond Ownership (data sources: Guthman, 1950 and FED)



◆ Insurance, banks, savings

▲ Pension funds

■ Household sector

× Mutual funds

Conclusion

Active NYSE bond trading until late 1940s

Low transactions costs for retail: Effective spread for small trades tighter 70 years ago than now

Transparent exchange trading of bonds possible & effective

Demise of exchange trading likely due to increased power of dealers & large institutions