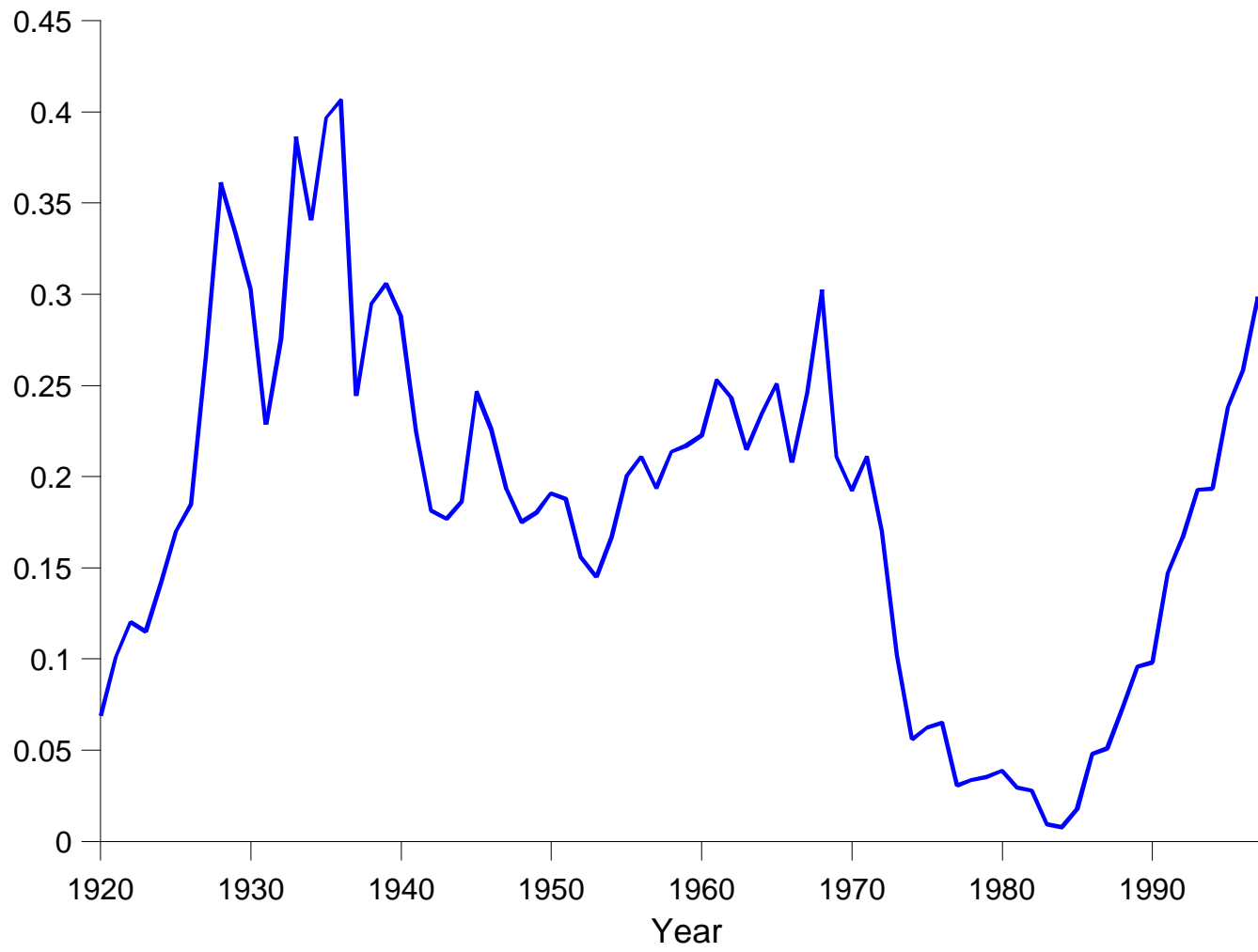
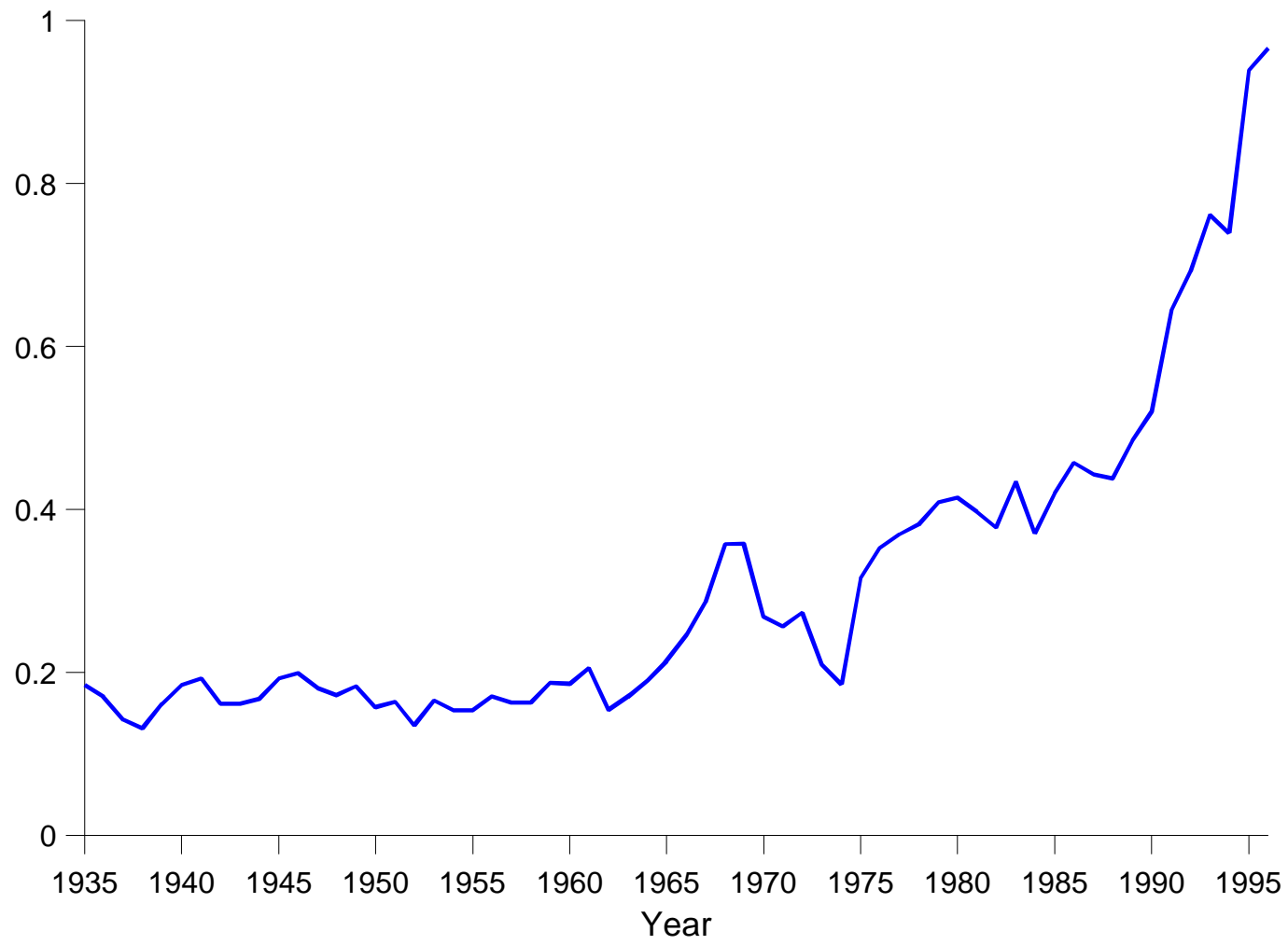


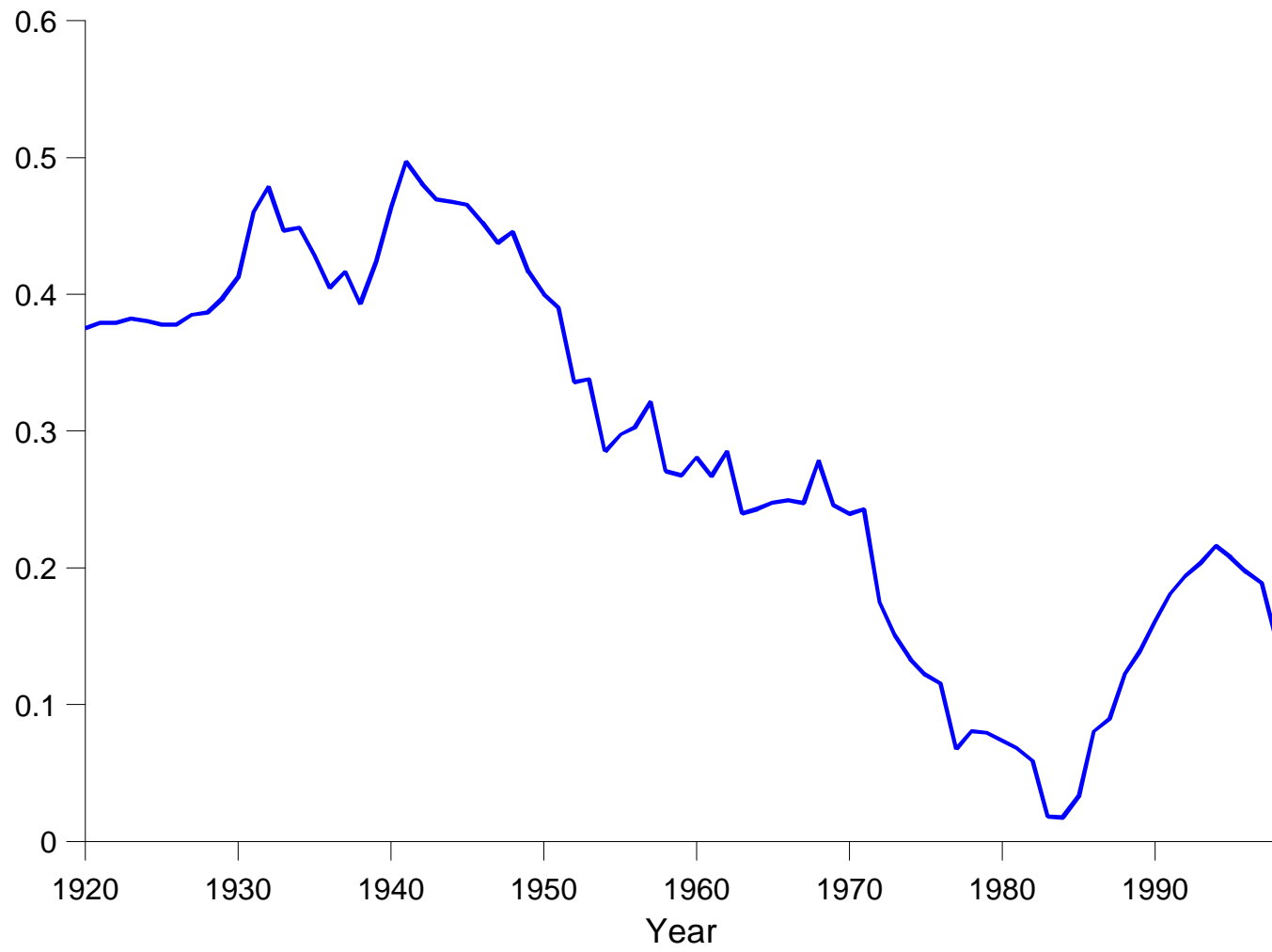
Equity Market Depth



(Flow of Funds - CRSP Capitalization)/GNP



Ratio of Transactions Value on Other Registered Exchanges to NYSE



Share of Market Capitalization "Missing" from CRSP

1 Deriving Total Market Capitalization

This requires constructing new series for regional capitalizations and the OTC prior to 1945, which is when the Flow of Funds data begin.

1.1 Initial information

From Flow of Funds,

$$NYSECAP_{1949} + REGIONALCAP_{1949} + OTCCAP_{1949} = \$117 \text{ bil.} \quad (1)$$

From Friend (1958), we have

$$NYSECAP_{1949} + REGIONALCAP_{1949} = \$95 \text{ bil.}$$

We also know from CRSP

$$NYSECAP_{1949} = \$68 \text{ bil.}$$

Therefore

$$REGIONALCAP_{1949} = \$27 \text{ bil.} \quad (2)$$

$$OTCCAP_{1949} = \$22 \text{ bil.} \quad (3)$$

1.2 Regional cap. estimates

From the SEC, we have the value of transactions on the NYSE and on the regional exchanges starting in 1935. We construct

$$R_t \equiv \frac{REGIONALTRAN_t}{NYSETRAN_t}$$

We observe that

$$R_{1949} = 0.18$$

We observe that in \$ billions

$$R_{1949} NYSECAP_{1949} = (0.18) 68 = 12.5 = REGIONALCAP_{1949}^*$$

From (2) we know that this is too small by a factor of 2.16.

We have R_t and $NYSECAP_t$ for $t = 1935$ onwards. We compute

$$REGIONALCAP_t^{**} = (2.16) REGIONALCAP_t^*.$$

Then,

$$REGIONALCAP_{1949}^{**} = 27 \text{ bil.}$$

This gets us back to 1935. To go back further, we observe that R was roughly steady from 1935-1950. We then assume that it was at this same value (.18) in the 1920's, and so we construct our pre-1935 estimate of the regional capitalizations as follows:

$$REGIONALCAP_t^{***} = (2.16) (R_{1935}) NYSECAP_t$$

1.3 OTC estimates

Let

$$Q_t \equiv \# \text{ of quoted OTC issues in year } t.$$

From Friend (1958) we know that

$$Q_{1949} = 5300, \quad Q_{1939} = 3700, \quad \text{and} \quad Q_{1929} = 1900.$$

We also know that in 1949, 75% of these issues were not listed on organized exchanges, and that the median mkt cap of these unlisted firms was \$2.4 mil. Therefore,

$$OTCCAP_{1949}^* = (0.75) Q_{1949} (\$2.4 \text{ mil}) = \$9.54 \text{ bil.}$$

Assuming the real median size does not change over time and using the GDP deflator, we have

$$OTCCAP_{1939}^* = (0.75) Q_{1939} (\$1.28 \text{ mil}) = \$3.55 \text{ bil}$$

and

$$OTCCAP_{1929}^* = (0.75) Q_{1929} (\$1.5 \text{ mil}) = \$2.13 \text{ bil.}$$

We observe from (3) that $OTCCAP_{1949}^*$ is too small by a factor of 2.31. We therefore adjust the benchmark $OTCCAP^*$ values by this factor. That is, we construct

$$OTCCAP_t^{**} \equiv (2.31) OTCCAP_t^*$$

We then linearly interpolate between the three points to obtain a series that we call $OTCCAP_t^{***}$, which is now defined for each year from 1929 to 1949.

Note that we now have an estimate of the share of the OTC market in total market cap in 1929:

$$\frac{OTCCAP_{1929}^{**}}{NYSECAP_{1929} + REGIONALCAP_{1929}^{***} + OTCCAP_{1929}^{**}} = \frac{(2.31) 2.13}{54.73 + 21.8 + 4.92} = 0.06.$$

We know from Friend (1959, p. 109) that the

$$\frac{OTCTRAN_t}{NYSETRAN_t + REGIONALTRAN_t + OTCTRAN_t} = \begin{cases} 0.14 & \text{for } t = 1929 \\ 0.07 & \text{for } t = 1926 \\ 0.06 & \text{for } t = 1920 \end{cases}$$

Next, we assume that in the years before 1929, transaction volumes were proportional to capitalizations. Since we know $NYSECAP$ and have estimated

$REGIONALCAP^{***}$ for 1926 and 1920. We then can backcast our capitalizations by solving, for $OTCCAP$ in the equations

$$\frac{OTCCAP_{1926}^{**}}{NYSECAP_{1926} + REGIONALCAP_{1926}^{***} + OTCCAP_{1926}^{**}} = \frac{0.07}{0.14} (0.06) = 0.03,$$

and

$$\frac{OTCCAP_{1920}^{**}}{NYSECAP_{1920} + REGIONALCAP_{1920}^{***} + OTCCAP_{1920}^{**}} = \frac{0.06}{0.14} (0.06) = 0.026.$$

Solving we obtain $OTCCAP_{1926}^{**} = 1.34$ and $OTCCAP_{1920}^{**} = 0.41$. We then linearly interpolate between these points to get an annual series.