State-local bonds and yields on taxable securities (for which the U.S. Government bond yield is a proxy).

Also influencing the demand for borrowed money are Federal grants-in-aid (having a positive effect) and an index of needs for new construction. The supply of funds has been positively affected by special movements in the wealth of high-tax-bracket individuals (measured by the ratio of the Standard & Poor's stock price index to total wealth) and by increases in the share of total wealth held in the form of time deposits at commercial banks. A possible weakness in the model and therefore in the findings may be the inadequacy of the variable used to measure total human and nonhuman wealth as well as the tax base (permanent income).

(1) Review of the Literature

In a Journal of Finance article written in 1960,[1] Frank Morris found a definite, although moderate, inverse cyclical association between interest rates on State and local securities and State and local bond issues, for the 1952–59 period. A more uncertain inverse relationship was also found between the same interest rates and the start of State and local outlays measured by contract awards. However, two types of bond sales and contract awards were found to be cyclically insensitive to interest rate fluctuations: those for educational buildings and facilities and those for water and sewer systems. Countercyclical fluctuations in sales and awards were therefore concentrated in the "other" category of each, which includes highways and bridges, hospitals and other social welfare institutions, and administrative buildings.

These conclusions were derived by comparison of fluctuations around trend in centered 12-month moving averages of bond sales, contract awards, and construction put in place, on the one hand, and fluctuations around trend in the Moody's index of AAA bond yields (not smoother by a moving average), on the other hand. The upward trends in the three smoothed series were ascribed to the growth of needs for State and local services, so that interest rate impacts could be measured by examining their correspondence with deviations from trends. Moving averages were used to isolate cycles in bond sales and contract awards because of the very large irregular components of both monthly series. On charts 1, 2, and 3, the two series plus construction put in place are updated to 1965, using contract award and construction data revised since this article. These series are then compared with his index of interest rates (Moody's AAA municipal bond yields).

Morris' implicit model—that factors underlying the demand for funds by State and local governments are cyclically insentitive, while the supply of funds and State and local adjustments to that supply are cyclically sensitive—is quite defensible as a rough approximation to a complex reality. Such indexes of "real" needs for publicly owned

[1] Frank Morris, "Impact of Monetary Policy on State and Local Governments: an Empirical Study," Journal of Finance, May 1960.