A PRIMER ON NONRESIDENTIAL CONSTRUCTION

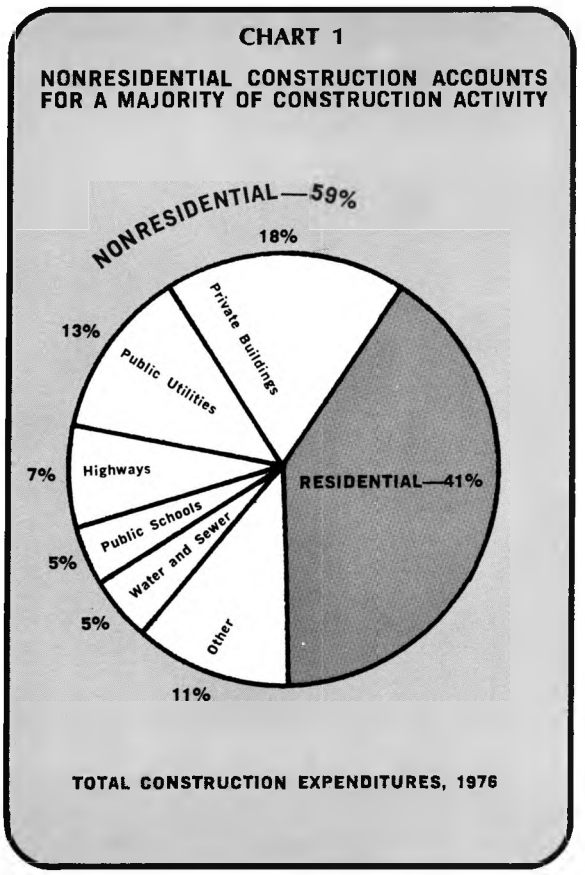
by B. Frank King

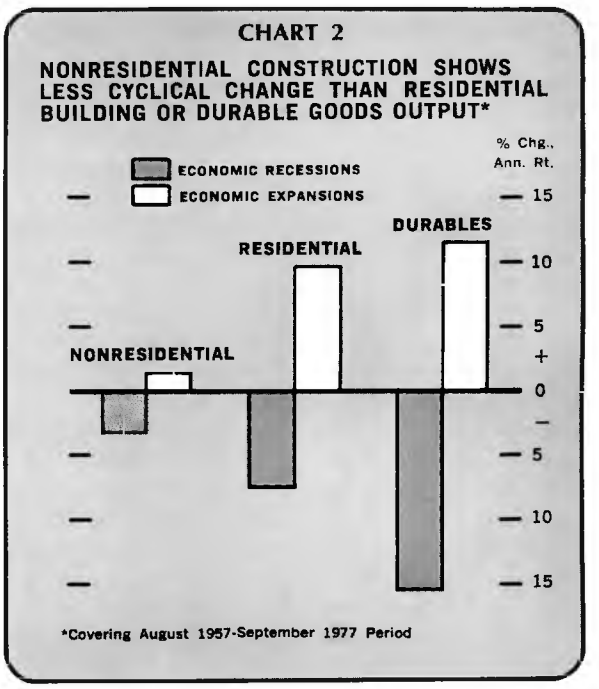
Over the years, construction analysts have concentrated on home building, while general information on nonresidential construction has remained obscure. This article is an attempt to remove some of the obscurity by providing rather simple answers to some broad questions about nonresidential construction.

How important is nonresidential construction? Despite the impressions given by analysts' emphasis on housing, the nonresidential sector accounts for a majority of construction spending. In 1976, nonresidential projects accounted for almost three-fifths of the value of new construction put in place in the United States. The major types of construction contributing to this spending were streets and highways, schools, water and sewer systems, public utilities, and private nonresidential buildings, such as offices, warehouses, and stores.

In the economy as a whole, nonresidential construction is also relatively important. The $86 billion spent on nonresidential construction in 1976 was equal to about 5 percent of the Gross National Product. This was only slightly less than expenditures for motor vehicles and parts and slightly above spending on petroleum and coal products. Employment accounted for by nonresidential construction is more difficult to measure because employment data lump some employment in the residential sector with that in the nonresidential sector. However, the number of people at work on nonresidential construction in late 1977 was probably between 2.5 and 3.0 million, about as many as worked for the Federal Government in civilian jobs.

Does the output of nonresidential construction vary as widely during the business cycle as activity in residential building and durable goods production? Spending for nonresidential construction would seem likely to behave in much the same way as spending for residential buildings and for durable goods. Because most nonresidential projects are marginal additions to a large capital stock, they may be postponed when investors recognize that conditions are unfavorable. Conversely, they may be built more





quickly than the need for them is growing when conditions are considered more advantageous. Thus, taking a simple view, one would expect real nonresidential spending to be falling off more sharply than total spending during an economic downturn and rising more rapidly during an expansion, just as residential building and durable goods output do.

These expectations about timing are borne out in business cycles since 1957. Spending for nonresidential construction has varied with the business cycle, but its changes have been considerably less than changes in either residential construction spending or durable goods output. In real terms, its fall in recessions was less than half that of residential building and only about one-fifth that of durable goods output. In expansions, its gains were less than one-eighth as much as either residential or durables expenditures.

In pursuing reasons for the smaller variation in nonresidential spending, two lines of speculation appear fruitful. For both public and private spenders, time lags between the start and the end of nonresidential projects are generally long (certainly longer than for most residential projects or durables production). Recessions have been short. Sponsors of nonresidential projects have shown a strong affinity for completed projects; thus, nonresidential projects started near the end of expansions continue to induce spending in recessions. In the next expansion, there is little need to catch up.

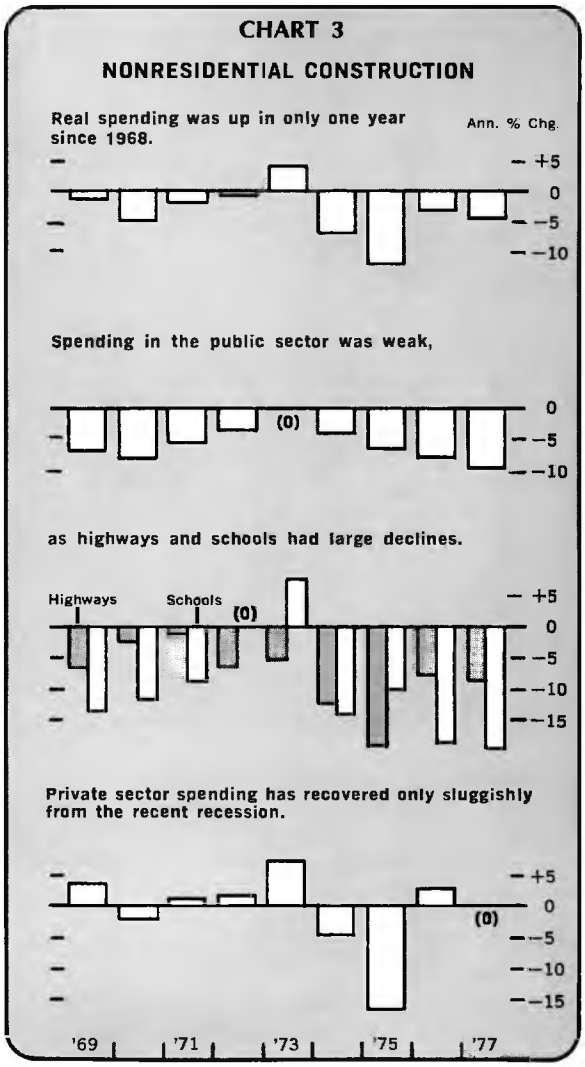
Further, about two-fifths of the spending in this category of construction is paid for by the public sector. Public construction spending has had little cyclical variation. Apparently, both national and subnational governments react slowly or not at all to tax problems caused by recession. Until the last recession, state and local governments' credit market access seemed assured. They also seemed to be successful in many cases in raising taxes to complete planned projects. Thus, governments were able to continue to finance construction projects.

What major trends have occurred in nonresidential construction spending in recent years? The late 1960s are a relevant

starting point because several longer term developments which still have major influences became apparent then. Since 1968, real spending on nonresidential construction has fallen. It moved up during only one year—in the early 1970s—but then plunged more steeply than before. This rather long period of decline is mainly accounted for by a steady contraction in public outlays.

Most types of public construction have been rather flat in real terms since 1968. Spending for water and sewer systems has risen steadily, but spending in the two categories that accounted for a majority of public construction in the late 1960s—streets and highways and educational facilities—has moved steadily downward. In 1968, such expenditures made up almost three-fifths of public construction; in 1977, about two-fifths. Nearly two decades of building streets and highways to accommodate rising automobile and truck use and of building schools to accommodate rising school populations reached a climax in 1968. Highways began to catch up with the use. Spending on the interstate system began to slow as more and more was finished. Crowded transportation corridors, neighborhood resistance, and opposition based on continued encroachment on urban tax bases also curbed highway building. More public funds began to shift toward mass transportation. School populations began to level off, then to fall. These two declining sectors account for the persistent drop in public construction since the late 1960s.*

Private nonresidential construction has behaved more cyclically than public since the late 1960s but has only recently made a weak move toward recovery from the recession that ceased in the housing industry almost three years ago. No major type had regained its 1973 real output level by 1976, and none improved much in 1977. Commercial building and public utilities construction, particularly that of electric generating facilities, were hard hit during the continuing recession in this industry. Excesses resulting from the major overbuilding of commercial buildings that



occurred from the late 1960s through at least 1973 have not yet been completely worked off. Electric utilities' spending has been slowed by the recession, higher electricity prices and the resulting decline in peak-load growth, seemingly stricter public service commissions (possibly reacting to lower projections of peak-load growth), nuclear uncertainties, and other delays.

What does the past tell us about future trends? The future growth of nonresidential output is likely to be tied closely to demand for schools, highways, offices and stores, and energy. Demand for the first two seems likely to continue to fall. The school-age population will diminish for a

*Construction of private schools, a minor expenditure sector, has fallen even more abruptly than public school construction during this period

while longer at least. The back-to-school movement by adults may limit the effect of this decline on school construction but is unlikely to overcome it. At the same time, no large, new highway building initiatives are on the horizon. Further decreases in spending may be partially offset by increased needs to repair the interstate system. Mass transit construction may make up for some of the loss in highway building.

Construction of private nonresidential buildings seems more likely to pull out of its slide in the near future. Permits and contracts for these buildings have risen in recent months as the economic expansion has caused more idle space to be occupied. Public utility spending, particularly in the energy field, is an enigma. Although real spending picked up some in 1976, recent moves toward further conservation and higher prices of electric energy lead one to question whether power plant building may not have entered a long period of decline similar to that of highway and school expenditures. On the other hand, the dollar value of contracts for electric generating plants awarded in 1977 was much greater than in 1976 and more than twice the value of such contracts in 1975. Further, although not on line now, substitute energy sources are certain to require a great deal of construction over the long haul.

This primer has approached four questions. The simple answers provided are only a starting point for analysis of nonresidential construction.

How important is nonresidential construction? Quite important as a source of demand, employment, and capital.

How has spending in this sector moved over the business cycle? Much less volatile than spending for residential buildings or durable goods.

What have expenditure trends been? Overall, downward in real terms for the past ten years, with particular weakness in the public sector and long-delayed recovery from the most recent recession in the private sector.

What does the future hold? Continued weakness in the public sector is likely. There are signs of limited recovery in the private sector. ■