

Variety stores experience shifting trend in productivity

Output per hour of all persons decreased at an average annual rate of 0.5 percent during 1967–86; however, from 1977, productivity improved modestly, aided by technological innovations

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Productivity, as measured by output per hour of all persons, in the variety store industry¹ decreased at an average annual rate of 0.5 percent from 1967 to 1986, compared with an average annual rate of 1.0 percent for the total nonfarm business sector of the economy during the same period.² The overall decline in productivity reflects an average annual decrease in output of 2.6 percent and a slightly slower rate of decrease in hours of 2.1 percent. (See table 1.) The decline in industry productivity was not a steady, gradual decline, but reflected a sharp falloff from 1972 to 1977, with modest increases in both adjoining subperiods.

In the 1967–72 period, productivity in the variety store industry advanced at a rate of 1.7 percent. Output rose at a rate of 2.7 percent and hours increased at a rate of 1.0 percent. Productivity and output both peaked in 1972. However, from 1972 to 1977, productivity declined at an annual rate of 4.3 percent, output declined at a rate of 7.1 percent, and hours declined at a 2.9-percent rate. It was the only sustained drop experienced by the industry and accounted for the overall decline in industry productivity. Within this period, the two largest declines were 13.0 and 6.5 percent, which occurred in 1976 and 1977. In those years, output fell by 14.7 and 6.7 percent, respectively, while hours dropped by only 2.0 and 0.3 percent.

Productivity turned around in 1978, increasing by 0.5 percent. This increase continued in 5 of the next 8 years. In the third subperiod, 1977 to 1986, productivity rose at

an average annual rate of 1.4 percent. Output fell at a rate of 1.4 percent, but this was more than offset by the rate of decrease in hours of 2.7 percent. In contrast to the first subperiod, productivity in the 1977–86 subperiod grew in the face of declining output. In the first subperiod, both output and hours were advancing.

Productivity in this latter period was quite volatile, declining in 1982, 1985, and 1986, and increasing substantially (10.3 percent) in 1981 as output declined by 0.5 percent and hours fell by 9.9 percent.

Unlike most of the industries examined by the Bureau of Labor Statistics, there is little correlation between output movements and changes in the business cycle for variety stores. Since the early 1970's, demand for variety store products has been adversely affected by increasing competition from drug stores, supermarkets, discount stores, and specialty stores. This has been a crucial factor in the average annual output decline of 3.4 percent since 1972. A major industry retailer declared bankruptcy in 1972. The vacuum left by this bankruptcy was not completely filled by other variety store operators and, as a result, industry output suffered.

Industry structure and employment

As their name suggests, variety stores offer the consumer a broad selection of merchandise. Sales of apparel constitute the largest category as a proportion of total sales. Other major categories include kitchenware and home furnishings; drugs, health, and beauty aids; sewing, knitting, and needlework goods; stationery and school supplies; toys; and curtains, draperies, and dry goods. The

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industry is characterized by moderate-size establishments. Almost half of the industry's sales are transacted in establishments with 20 to 99 paid employees. By contrast, only about 7 percent of sales took place in stores with more than 100 employees in 1982. This is a very different situation from department stores, which are also general merchandise stores. They transacted 84 percent of their sales in stores with more than 100 employees in 1982.

As is the case with sales, about 54 percent of all paid employees worked in establishments with 20 to 99 employees in 1982. This proportion has remained relatively steady over time.

From 1967 to 1972, the number of establishments increased slightly—from 21,046 to 21,852. However, the total number of establishments in the industry has declined since 1972. Most of the industry's sales are transacted by large chains. In 1982, about three-fourths of all sales took place in firms with 100 establishments or more. There were 12 such firms and they operated about 46 percent of the industry's establishments.

Between 1967 and 1986, the number of persons working in the variety store industry decreased by 18.0 percent, from 306,200 to 251,200. This represents an average annual rate of decrease of 1.8 percent. The total hours of all persons declined at an average annual rate of 2.1 percent. This reflects a decline in the average weekly hours of nonsupervisory employees of 4.2 percent—from 30.7 to 29.4—and a rise in part-time workers.

The work force of the variety stores industry consists of nonsupervisory employees, supervisory workers, partners and proprietors, and unpaid family workers. Nonsupervisory employees make up the largest group, representing about nine-tenths of all variety store personnel in 1967. Their proportion of the total remained relatively constant throughout the period and stood at 87 percent in 1986. The number of self-employed workers fluctuated throughout the period but declined overall, from 12,000 in 1967 to 9,000 in 1986.

Marketing and sales occupations accounted for the bulk of the industry's work force. In 1984, they represented about 67 percent of the total. The largest group is represented by salespersons, accounting for 40 percent of the industry total. Cashiers accounted for nearly 16 percent and sales floor stock clerks for 6 percent. Managerial and management related occupations were the next largest category and accounted for more than 14 percent of the total. Administrative support occupations, including clerical, were the third largest group and accounted for about 12 percent of the total. This group is largely dominated by various types of clerical workers.³

Factors affecting productivity

Productivity growth has been hindered by a number of factors. Declining industry output has contributed to the

Table 1. Variety stores indexes of output per hour of all persons and related data, 1967-86
(1977=100)

Year	Output per hour of all persons	Output per person	Output	Hours of all persons	All persons
1967	113.2	117.9	121.8	107.6	103.3
1968	119.2	122.3	127.4	106.9	104.2
1969	121.2	124.1	129.3	106.7	104.2
1970	126.1	131.5	136.4	108.2	103.7
1971	118.1	124.9	133.1	112.7	106.6
1972	126.7	134.0	141.1	111.4	105.3
1973	121.2	126.8	139.4	115.0	109.9
1974	119.7	122.5	132.5	110.7	108.2
1975	122.9	128.4	125.7	102.3	97.9
1976	106.9	109.6	107.2	100.3	97.8
1977	100.0	100.0	100.0	100.0	100.0
1978	100.5	98.6	98.6	98.1	100.0
1979	102.1	103.7	101.2	99.1	97.6
1980	107.3	107.9	94.5	88.1	87.6
1981	118.4	116.3	94.0	79.4	80.8
1982	112.5	113.0	90.6	80.5	80.2
1983	119.7	121.9	91.2	76.2	74.8
1984	123.7	124.8	94.6	76.5	75.8
1985	114.3	114.8	91.7	80.2	79.9
1986	101.2	102.0	86.5	85.5	84.8
Average annual rates of change (in percent)					
1967-86 ..	-0.5	-0.7	-2.6	-2.1	-1.8
1981-86 ..	-2.0	-1.7	-1.0	1.0	0.7

overall poor performance of productivity. Output peaked in 1972 and has been falling since. Although larger firms in the industry have been introducing and using sophisticated electronic technology, many firms cannot afford such investments and therefore have been unable to utilize computer technology to improve the efficiency of store operations. Also, this technology has been entering the industry more in recent years, so it would have had a limited effect in the earlier years of this study.

Because variety stores handle such a wide assortment of merchandise, they face tough competition from other retailers. Many competitors have expanded their merchandise offerings, limiting the available market and possible scale economies for the variety store industry. Drug stores have provided competition in toiletries and non-prescription drugs. Supermarkets have expanded their general merchandise items and traditional department stores, discount stores, and specialty stores all offer alternatives to the consumer. The low prices offered by many competitors have further held down variety store revenues and reduced the capital available for investment in computer technology.

Variety stores have also been adversely affected by the inability to locate in high sales volume areas. They have generally been unable to afford the rents associated with major shopping mall locations. Consequently, they have been unable to take advantage of the heavy shopper traffic which flows through these malls and shopping centers. This has had a negative effect on their merchandise turn-

over. Lower merchandise turnover has resulted in a reduced ability to utilize the benefits of economies of scale.

Mergers within the industry have led to increased concentration and the market share held by the largest chains has continued to increase. By 1982, the sales of the four largest firms were up to 61 percent from 51 percent in 1972. The economies of scale and greater financial strength of the largest chains has facilitated the introduction and utilization of computer technology. With all their retail outlets, they are better able to justify the investment in modern point-of-sale technology. However, the effect of this technology on the industry has been limited because many firms, especially smaller ones, are unable to afford the high cost of much of this equipment.

Many firms in the industry have not utilized the advantages of computer technology, but firms which could afford the investment in computers and point-of-sale technology have been able to derive a number of benefits. Inventory and the stocking of shelves can be controlled by computer technology.⁴ Coded information attached to merchandise can be picked up by optical character reading devices at checkout registers or manually entered into the computer, thereby keeping track of sales volume.⁵ The computer can alert the appropriate personnel when the supply of certain items is getting low. In addition to eliminating employee time required for monitoring shelf stocks, a computer system can avert the loss of sales by monitoring inventory.

The use of optical character recognition equipment in conjunction with computers or other memory-equipped devices removes the need to update price labels on individual products. Price information for all items can be entered into the system's memory. The point-of-sale equipment reads the coded information on the product labels and the appropriate price to charge the customer can then be retrieved from the system's memory. As prices change, information in the memory is updated, alleviating the need to reprice items on the shelves. Unfortunately, financial and other factors have limited the adoption of this equipment.

Because of their capability to store information and make it readily accessible, computers have been used to perform recordkeeping and administrative functions and thus greatly reduce the amount of worktime required for these tasks. They can handle the payroll, accounts payable, and accounts receivable. The word-processing ability of computers can reduce time spent on correspondence. Computers have also helped store operators increase sales

by providing the necessary information to determine the best selling items so that ordering can focus on a more optimal product mix.

Outlook for productivity

Industry productivity growth should gain some benefit from continued diffusion of computers and wand reading or other such scanning equipment. The development of more affordable personal computers should lead to more widespread adoption of computer technology within the variety stores industry.⁶ Increasing industry concentration should also serve to make new technology more affordable to firms and thus hasten its adoption. Point-of-sale technology should become more widely used. This technology permits optical character recognition equipment to be connected to computers so that information from coded merchandise can be automatically fed into a computer. In addition to the advantages of eliminating the need to update price stickers on merchandise, the marketing information gathered as a byproduct of merchandise sales should be helpful in boosting sales volume.

In addition to the expansion of current uses for computers, new uses may also be developed. One possibility would be the use of computer-aided design to lay out stores more efficiently. Because store design and layout can influence merchandise turnover, the use of computers to help with this sort of planning is a definite possibility. Computers make it easier for planners to produce solutions to "what if" questions. Among other things, a planner can input whatever restrictions there will be in a given store and use the computer generated information to help in developing an optimum layout.⁷

Although these technologies are available to increase sales per employee in the industry, their diffusion will depend on improved sales and capital expenditures. Declining demand has, to a large extent, limited productivity growth in the variety stores industry and this may be an important determinant of future trends in output per hour. Declining demand means smaller revenues to support investments in productivity enhancing equipment. Even available technologies will probably continue to be adopted very slowly and often on a limited basis. Declining demand also means a reduced ability to utilize the advantages of economies of scale. These problems may well continue to limit any future improvements in productivity if the industry cannot halt the decline in its market. □

FOOTNOTES

¹The variety stores industry is designated as Standard Industrial Classification (SIC) 5331. It consists of establishments primarily engaged in the retail sales of a variety of merchandise in the low and popular price ranges. Sales usually are made on a cash-and-carry basis, with the open

selling method of display and customer selection of merchandise. These stores generally do not carry a complete line of merchandise, are not departmentalized, do not carry their own charge service, and do not deliver merchandise.