To Spend, or Not to Spend
The Foundation of the Automobile Mountain
Farmers Assess Drought Damage

FEDERAL RESERVE BANK OF PHILADELPHIA

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Requests for additional copies should be addressed to Bank and Public Relations, Federal Reserve Bank of Philadelphia, Philadelphia, Pennsylvania 19101.
As we close the books on '65 and move into the new year, a long list of capital spending projects will be coming up for consideration in the carpeted offices of executive suites. So far capital spending has been a strong sustaining force in the business advance. Now there is some apprehension that business outlays may surge ahead of final consumer demand and sow the seeds for retrenchment. Certainly as the new year rolls along the pace of economic activity will depend significantly on the business conclusions reached—whether on a widening range of projects, the decision is . . .

TO SPEND, OR NOT TO SPEND*

Take a look at the questions the businessman must juggle around in his head before deciding whether to spend money on new plant and equipment. After doing so, you may feel lucky if you can call it a day at 5:00 and come home for a pleasant dinner and a good book. Among the tangled list of questions:

What is the present capacity to produce?
Is the rate of output in coming months likely to strain this capacity?
How are profits holding up; will the addition of new plant and equipment help to bolster profits in the future or will the costs of adding new capacity prove to be a drag on profits?
Are adequate funds available to expand capacity either from internal sources or from outside borrowing (if from outside, what are the costs of the money)?
Are technical developments likely to force added spending for plant and equipment in order to keep costs at competitive levels; can existing costs be lowered by introduction of more efficient productive facilities?

Must spending on plant and equipment proceed even if profit margins on new output are narrow just to maintain the present share of the market?
If expansion isn’t undertaken now, is it likely to cost more (or less) in the future because of rising (falling) prices?
How confident can we be that the general economy has the potential for buoyant long-term growth; what is the outlook for possible cyclical slumps in business; can public policy hold future recessions within a narrow range?
Convinced of the merits of dinner and a good book? The ulcer potential bears no comparison.

Yet, despite the many difficult questions which crop up in decisions on capital spending, more and more businessmen these days are judging the merits of increased capital outlays, and more and more of their decisions are in one direction: full speed ahead. In this article we take a look at the proportions of the current capital spending boom and make some comments on the future trend of capital outlays. The emphasis is on one principal question: is the current surge in capital spending likely to run ahead of final demand, resulting in retrenchment and possibly in recession, as has been the pattern in some past periods of capital spending boom?

* Much of the material in this article was derived from a talk entitled “Capacity and the Outlook for Capital Goods” delivered by David P. Eastburn, Vice President of the Federal Reserve Bank of Philadelphia, at a meeting on business prospects in 1966 sponsored by the National Industrial Conference Board and held at the Waldorf Astoria Hotel in New York on September 23, 1965.
HOW BIG THE BOOM?

When year-end rolls around, businesses will have spent in the last five years over $200 billion for plant and equipment, much more than in any other five-year period in the nation's history. Manufacturers will have increased their capacity to produce by almost one-fourth. In absolute terms, this is by far the biggest investment boom in history.

Despite the dollar size of the investment surge, however, a good argument could be made that the term "boom" may not be appropriate to the present period. Compared to the great capital spending surge of 1955-1957 (when practically every industry from thimbles to autos was scrambling for capacity), the present upsurge comes off second-best.

In real terms (corrected for price increases), total business spending on plant and equipment during the 1955-1957 upswing was almost 19 per cent higher at an annual rate in the peak quarter than at the trough. This compares to a little over 11 per cent increase from the second quarter of 1961 to the 1965's second quarter. Moreover, since prices of capital goods increased rapidly in the '55-'57 period, the current dollar differential between the earlier period and the present is even more striking.

Relative to total GNP, the present surge in capital spending also comes off second-best. In the 1955-1957 period, total business spending on plant and equipment in constant dollars rose from 7.0 per cent of GNP to 8.4 per cent, as shown in chart 2.

In the current period, the rise has been more modest, from 6.6 to 7.8 per cent.
But if the present expansion in its entirety seems to have less steam than its mid-fifties' counterpart, behavior of capital spending in more recent months paints a different picture. Beginning in 1964, businessmen began to step up their capital spending as industrial production forged ahead and pushed output closer to preferred rates. By mid-1965 the annual rate of capital spending in real terms was up 13.3 per cent over the final quarter of 1963, more than half again the gain from the first quarter of '61 to the final quarter of '63. Moreover, figures on capital appropriations and new orders for equipment through mid-1965 appear to indicate the continuation of a strong upward trend in capital spending for 1966.

All this leads to an interesting question. With capital outlays surging more strongly ahead, is it possible that an experience like the mid-1950's faces us in 1966? Will capital expenditures rise at so rapid a pace that price pressures will force fiscal and monetary policies into a posture of restraint while developing over-capacity lays the foundation for recession?

THE DYNAMICS OF CAPITAL SPENDING

There are several ways of estimating the volume of capital spending which might occur in 1966. These include surveys of capital spending plans, analyses of corporate cash flow, and many other techniques. One method which has received little attention in recent months (and which gives some insight into the economics of capital spending decisions) is the simple analysis of trends in output and capacity. How are these related to capital spending?

A business firm has a certain preferred rate of output at which the profit margin will be maximized. This rate may be 90 per cent of capacity, 93 per cent, or what have you. For manufacturing as a whole, it has been estimated to be around 92 per cent.

When the firm operates considerably below its preferred rate, fixed costs of production—ranging from heat and light to depreciation, interest and amortization on buildings and equipment—must be spread over fewer units of output. Consequently, costs per unit of output are relatively high and unit profits suffer. As output increases up to the preferred rate, fixed costs are spread over more output and output per man-hour tends to rise. The result: costs per unit decline and unit profits rise (assuming...
stable selling prices). When output rises even further and begins to exceed the preferred rate, however, unit costs begin to creep up again and unit profits decline. This is so because the firm may have to press less efficient machinery into service previously held in reserve, and because it may have to train more workers to run the less efficient machinery or may be forced to pay high overtime wages to the existing labor force to produce the additional goods.

In short, the firm will attempt to operate near its preferred rate to maximize its unit profits. As it approaches, reaches, and exceeds the preferred rate, it becomes more inclined in the short-run to increase capacity, hence the operating rate is an important consideration in spending for capital goods.

**A GLANCE INTO THE FUTURE**

If we can get some idea of the operating rates likely to prevail in 1966, it would then be possible to get some idea of the likelihood of an unsustainable capital goods boom. What is the likely trend of production and capacity and hence the operating rate?

Chart 3 shows an index of manufacturing capacity from 1948 to the present. The dotted lines indicate two different possibilities for capacity through 1966. The top projection represents an extension of the annual rate of increase prevailing from the fourth quarter of last year to the second quarter of this year—5.3 per cent. The lower projection reflects the slower rate of increase which prevailed both during the entire period 1948 to 1965 and during the current business expansion (1961–1965)—4.1 per cent.

Chart 4 presents a similar projection of manufacturing production. The top line is the annual rate at which production increased from the fourth quarter of 1964 to the second quarter of 1965—10.3 per cent. The middle line represents the production increase from 1961 to 1965 (8 per cent), and the bottom line is the gain in output over the long-run period 1948 to 1965—4.3 per cent per year.

The following table translates the different rate of increase in capacity and production into the operating rate. Since three possibilities were projected for production and two for capacity, we end up with six possible operating rates which might prevail by the end of 1966.
The highest operating rate would come out to about 99 per cent. This represents a combination of the rapid increase in production in the first half of this year with the slower increase in capacity over the longer periods. At the other extreme is an operating rate of 89 per cent. This represents the rapid increases in capacity at the 1965 rate combined with the slowest increase in production at the long-run trend.

What is the most likely possibility? With the large expenditures already under way and with the raised sights for the fourth quarter, the additions to capacity in 1966 will be substantial. A continuation of the 1965 rate seems reasonable, which would eliminate the top three possibilities in the table of operating rates.

Carrying further the process of elimination, the 10.3 per cent increase in output which occurred in the first half of 1965 seems an unlikely possibility for 1966. During this period, output was influenced by an unusual confluence of events: rapid acceleration in auto output after the fall automobile strike and building of inventories in anticipation of a possible steel strike. Such an unusually stimulative combination of events does not appear likely in the private sector of the economy in 1966 and, barring a further major escalation in Vietnam, the Government sector also seems unlikely to produce a stimulus of this magnitude.

We are left, then, with possibilities for output growing somewhere between 4 and 8 per cent. If the 8 per cent figure is reached in 1966, a 5 to 6 per cent increase in capacity would not be sufficient to prevent the capacity utilization rate from rising slightly above the preferred operating rate. Consequently, capital spending would probably be increased, perhaps at an annual rate in excess of 10 per cent, as has occurred in the past two years.

If output increases at a lesser rate, say close to 4 or 5 per cent—and early forecasts of industrial production seem indeed to be hovering around this mark—a 5 to 6 per cent increase in capacity coming on stream would mean a slight decline or leveling in the utilization rate. Since in the postwar period there has not been a single economic expansion in which manufacturers permitted rate of additions to capacity to outrun rate of additions to output for long, what might happen to capital spending if this latter case holds true?

Can capital spending continue rising even though the operating rate levels or declines slightly?

The answer is “yes,” for several reasons. In the first place, the “industry mix” may be such as to maintain capital spending. The utilization rate is not likely to behave the same way in all industries at the same time; some rates may still be rising even though the aggregate has leveled. Firms in these industries may increase their spending even after others have leveled or reduced their spending. Thus aggregate spending may still trend upward.

Second, a built-in lag exists between changes in the operating rate, decisions to alter capital outlays, capital appropriations, letting contracts, and actual construction and capital spending. Once appropriations are made and contracts are let, the project may continue even though the operating rate declines. In short, while capital spending is not likely to keep rising indefinitely with a stable operating rate, the factor of industry mix and the momentum of

(Continued on Page 10)
New car sales have climbed steadily upward for four years in a row. The 1965 total is expected to reach the rarefied 9 million mark.

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New Automobile Sales

Millions


One reason for these lofty automobile sales is simply the overall growth in the economy.

GNP Automobile Purchases As a Percentage of... Spending on Durable Goods

Per Cent

Average 1955-'60 Latest 4 Quarters

Although the average maturity of loans on new cars made by banks has increased in the past decade from under 28 months to over 36 months, the relative importance of credit does not seem markedly greater in the automobile market.

Percentage of New Automobiles Sold on Credit

Per Cent

Repayments on Automobile Loans As a Percentage of Disposable Income

Per Cent

Increased scrappage is another factor. The number of new cars sold for each one retired has remained constant. Scrappage has increased from a 1955-60 average of 4 million units to 5.5 million last year.

New Cars Sold for Each Car Scrapped

Number

Average 1955-'60 1955

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The steadiness of these relationships underlies a new plateau in automobile sales. It could be that today's sales norm is in the 8 million range compared to about 6 million in the last half of the 1950s.

Factors such as these help explain why this year will rise above the norm. In other words, it may well be possible to rise to the highest plateau. It is questionable, however, if similar rates of improvement can be taken for granted in the future.

For some time to come we can expect the nation's growing economy and population to form a solid foundation for the mountainous automobile market. Whether 1966 sales maintain recent year-to-year increases, however, seems to depend as much on what happens to prices, ownership percentages, two-car families, credit terms and such influences.
(Continued from Page 7) capital spending process could keep capital spending rising through 1966 even if the aggregate operating rate levels or declines.

And there are other reasons why capital spending in many firms and industries may continue to rise even though operating rates level off. Capital spending may be necessary to maintain a competitive position where new technical developments make old equipment obsolete or inefficient. The purchase of oxygen furnaces and continuous rolling mills in the steel industry are examples of this.

Capital spending plans may also continue even in the face of level or declining operating rates if business managers expect costs to rise in the future. Better interest payments on partially idle plants, the reasoning goes, then higher construction costs a few years hence.

Finally, increasing emphasis on long-range business planning may have changed the environment in which capital spending decisions are made. To the extent that businessmen anticipate and base capital spending plans on projections of long-range growth in the economy and in the demand for their products, then capital spending in the future should be less volatile. Certainly the postwar record of mild recessions and the present lengthy business expansion help encourage the “longer view.”

IN CONCLUSION
To return to the question asked at the outset, the current surge in capital spending need not contribute to the type of boom and bust cycle which occurred in the mid-fifties.

The great capital spending boom of the mid-1950's came on the heels of the 1953-1954 recession. The rapidity of the expansion following the recession pushed operating rates up to 92 per cent just five quarters after the trough. With such rapidly increasing demand in an inflationary environment manufacturers stepped up their capital spending sharply. A sudden drop in demand led to over-capacity and a sharp cut in capital spending.

This time we started from a lower operating rate, and, with a general absence of boom psychology and imbalances, the increase was more gradual. As a result, capital spending responded in a more orderly fashion. Indeed, it is entirely possible that capital spending may produce not a boom but instead a strong sustaining force in 1966 as capacity and output come into balance slightly below the preferred operating rate.

Yet, as already noted, capital spending has accelerated sharply since 1964 and, though the
current environment is quite different from that existing in the mid-fifties, still businessmen and public officials will do well to scan the horizon for developments which might add perspective to current business thinking and thus help check any tendency toward excessive enthusiasm.

They should be watching, for example, the differential growth rates which have developed in recent months between consumer goods production and output of business equipment and materials. As shown in chart 5, output of materials and equipment so far in 1965 has surged rapidly ahead while production of consumer goods has leveled at a high plateau.

Continued orderly expansion, of course, requires the proper balance between our abilities to produce and to consume. As we proceed into 1966, the maintenance of that balance will be of prime concern to business and Government alike.

FARMERS ASSESS DROUGHT DAMAGE

Drought has become a dirty word to farmers in the tri-state area of Pennsylvania, New Jersey, and Delaware. And well it might, because 1965 makes the fourth successive year in which rainfall shortages had their counterpart in shortages of crops grown for food or for livestock feed. It is the second straight year in which the large majority of our agricultural counties were given drought disaster status, making farmers eligible for low cost Government loans and feed grains at reduced prices from the Commodity Credit Corporation stockpile.

Fortunately, this season’s drought in many parts of the states comprising the Philadelphia Federal Reserve District was less persistent than in the earlier years. It was at its worst in the six months ended June. Relief in the form of widespread showers came during July. Although these rains were too late to salvage much of the early harvest, they were a great help to other crops that had reached a critical stage in their development.

We have talked with county agricultural agents about production, harvesting, and marketing problems experienced this season. Their reports of how local farmers assess drought damage plus examination of crop estimates by the Department of Agriculture suggest an overall situation shaping up as described in the following paragraphs.

Growing season spotty . . .
The 1965 growing season has been characterized by wide variations in moisture. Areas that were
much too dry experienced near failure of crops, but where the rains came farmers were reporting the best season in several years. Minimal hail damage occurred this summer. Some corn was hurt, as was fruit in scattered areas. Tobacco escaped permanent injury. Frost at the end of August ended the growth of crops in northerntier and some central-mountain counties. September’s heat wave was a mixed blessing. It hastened the maturity of corn, thus minimizing damage from a killing frost. But the high temperatures prematurely ripened some fall apples before they could size properly.

Field crops range poor to excellent . . .
Hay was the crop most damaged by the severe early season drought. Some fields were too poor to cut so were used to pasture cattle. Slow growth of alfalfa resulted in increased weevil damage. Much early corn eared poorly or not at all and was cut for silage. Development of late corn is in marked contrast and the crop seems well on the way to making a very fine one in both yield and quality.

Small grain harvests appear pretty good nearly everywhere. Wheat yields were high, although total production was off on a smaller planted acreage. Oats headed on short straw but the heads were well filled with grain. This, too, will be a short crop, possibly the smallest in a decade. Rye and barley both are fine crops and could even be record-breakers. Soybeans are said to be in excellent shape on a sharply higher planted acreage this year.

Tobacco a high quality crop . . .
Production of Pennsylvania seedleaf tobacco may be up a little, because higher yields promise to more than offset a 1965 acreage reduction. Crop growth was rapid, reflecting ample moisture most of the season. Producers report a minimum of disease and virtually no storm damage. Tobacco leaves are said to be heavier than usual, quite long and showing a fine dark green color. Given good curing weather and in the absence of frost, this high-quality crop should command a favorable price. For the 1964 crop, growers received nearly 30 per cent more per pound than the low price paid for the preceding year’s production.

Vegetables costly to produce . . .
In some parts of our District the rains reached vegetable gardens when they were most needed. In other places, notably southern New Jersey, expensive irrigation was necessary to make good crops. Water itself is not a cheap commodity and the labor necessary to man properly the pumps and the pipes can become very costly, as so many have discovered these past four years. Even under heavy irrigation, yields of some early vegetables were not too high, nor was quality always the best. Nevertheless, those who had irrigation were thankful for it.

Asparagus was a good early crop, the yield was high, and little irrigation was required. Early sweet corn, however, was maturing in very dry weather and some of it was badly damaged. Potato yields were off in some places, but chipping quality was high and both growers and processors were pleased. Tomato production per acre was not so heavy as it might have been but the quality left little to be desired. Peas and, in fact, most other vegetables grown for canning turned out pretty well in spite of the drought. There was a measure of consolation for most vegetable growers—market prices. Returns in fresh markets were fairly good and processing prices generally were the highest in several years.
Berry crops good . . .
Blueberry yields were larger and quality was definitely higher this year. Losses in marketing were much less in the absence of mold, and this crop brought better prices on the improvement in quality. Cranberries are said to look very promising in New Jersey. Production will be less than in the large harvest of 1964 but quality is excellent. Bloom and set of this fruit was lighter than a year ago but the berries are large and seem to be coloring nicely. Marketing prospects appear somewhat better on the strength of smaller crops in both eastern growing areas.

Orchard fruits mostly of good quality . . .
Peaches and early apples were good crops nearly everywhere. Although they lacked size in many cases because of the drought, both crops were high in quality and brought generally satisfactory prices. Pennsylvania’s sour cherry crop was sharply smaller than last year’s record-breaker. However, it was again far above average, so prices were disappointing to most growers.

Fall apples will make another above-average crop. There was a good bloom and a heavy set of fruit in the spring. The crop is coloring well but for the most part fruit is under size because of the drought. This season’s crop seems to be an unusually clean one and growers are planning to store heavily and wait for a favorable turn in prices. As processors are said to have relatively small stocks of most apple products, prices from this source should be satisfactory.

Dairymen short on hay . . .
Early pastures in many areas were little more than exercise lots, so much supplementary feeding was necessary. Heavy consumption of hay, with so little carried over the winter, was a costly experience for dairymen. More corn silage is being fed now while a good late crop of hay goes into the mows for cold-weather use. Dairymen should have plenty of silage on the basis of a substantially larger corn crop in prospect this season. Corn for grain, however, may be a bit short.

Dairy herds seem to have been maintained in top-notch condition in spite of the impact of the drought on feeding practices. Milk production continued high. The number of herds decreased further this year, continuing a trend in progress for some time. The size of dairy herds, however, is still increasing, while the replacement of culled by good producers is contributing to quality. Milk prices in the Philadelphia market appear to have been satisfactory, but some complaints were heard concerning both the Pittsburgh and New York markets.

Poultry situation mixed . . .
Broiler growers are in better shape this year. They are handling more birds and selling at somewhat higher prices than in 1964. Market strength stems in large part from the increased cost to consumers of red meats over the past several months. Although profit margins on broilers are narrow, income to growers is higher on the larger volume handled. Egg prices, on the other hand, continued unsatisfactory over much of the season. They are advancing seasonally now but gains so far have not been pronounced. Attrition still is reported for the small poultryman whose flock is of insufficient size to permit the degree of efficiency necessary to show a profit in this highly competitive business.

Production costs resume upward trend . . .
Nearly all areas of the cost picture show increases in 1965. This contrasts with the remark-
able degree of stability apparent last year. Wage rates for harvest hands have advanced on the higher minimum in effect this season. Meanwhile, the cost of experienced farm help has risen because of increased competition with industry. This was another season in which high irrigation costs were a factor to be reckoned with. Feed prices generally were high, with a further increase reported in the case of hay purchased in large quantities early this season. Machinery remains very expensive, and out of reach for too many farmers. Taxes in some parts of our District are increasing rapidly with rising land values.

**Capital spending surprisingly strong . . .**

Although farmers still are caught in a cost-price squeeze, modernization programs are being pushed wherever possible in the interest of greater operating efficiency. New facilities this year include silos and up-to-date equipment for dairy farms. And under pressure of rising wage scales, farmers say they are spending more for harvesting equipment. Outlays for expensive machinery, like tractors, however, promise to be very small again in 1965. The importance of expansion programs is well recognized, but another year of drought seems to have de-emphasized this area of capital spending in favor of modernization.

**Land values still rising . . .**

Speculation seems to be playing a fairly important part in the continuing rise in farm land values. Urban needs are exerting more and more pressure in many areas of Pennsylvania, New Jersey and Delaware, where values show increases of from 7 to 8 per cent over the past year. This compares with a 6 per cent rise in the country as a whole. And the thought has been frequently expressed by county agricultural agents that farm acreages are finding increasing favor as a possible hedge against inflation. In any case, sales to farmers do not appear to be increasing. Farmers are being priced out of the market in the vicinity of cities, where some land costs are said to exceed their value as crop-producing acreage.

**Financial status tied to growing conditions . . .**

Wherever drought relief came in time, farmers appear to be making out better this season than in 1964. From a marketing standpoint, 1965 promises to be a fair year. Total cash income from the sale of crops, livestock and livestock products was running a little above 1964 through the seven months ended July. Increases in receipts from crops marketed have been more pronounced than returns from livestock and livestock products sold.

Some farmers in the Philadelphia Federal Reserve District will make further progress in debt reduction this year. But they are mostly the larger, more efficient operators who through long experience seem best able to combat drought and other adverse circumstances. Many of our small farmers may need new financial assistance, unless the rains come in time to save the money crops or those grown for livestock feed.

Thus, although 1965 was not really a good year for any of our farmers, for most of them it also was a long way from being the worst, on the basis of either production or markets.
FOR THE RECORD...

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BANKING

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SUMMARY

Third Federal Reserve District United States

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MANUFACTURING

Production

Electric power consumed

Man-hours, total

Employment, total

Wage income

CONSTRUCTION

COAL PRODUCTION

TRADE

Department store sales

Department store stocks

BANKING

Deposits

Loans

Investments

U.S. Govt. securities

Other

Check payments

PRICES

Wholesale

Consumer

LOCAL CHANGES

Factory*

Employment

Payrolls

Department Store Sales†

Check Paymentst

Lehigh Valley...

Harrisburg...

Lancaster...

Philadelphia...

Reading...

Scranton...

Trenton...

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Wilmington...

York...

Per cent change Aug. 1965 from | Per cent change Aug. 1965 from | Per cent change Aug. 1965 from | Per cent change Aug. 1965 from |
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*Production workers only
**Value of contracts
***Adjusted for seasonal variation

†5 Cities
‡Philadelphia

*Not restricted to corporate limits of cities but covers areas of one or more counties.
†Adjusted for seasonal variation.