

# *Improving the Performance of the Food Distribution Industry*

Presented by DR. GORDON F. BLOOM

*Discusses the "productivity crisis" in the food industry and suggests positive and negative influences on the situation during the 1970's.*

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The American food industry is facing a productivity crisis. The simple fact is that the rate of our expected improvement in manhour output in the years ahead is quite unlikely to be sufficient to keep pace with the size of anticipated wage adjustments, with or without an income policy. The result is likely to be a continuing escalation in operating costs, declining margins, higher food prices, and a rising tide of public criticism with respect to industry performance.

During the past year, wage rates have been advancing in many sectors of the food industry at anywhere from 10 to 30 percent per annum. By contrast, forecasts made by the U.S. Bureau of Labor Statistics for the decade ahead indicate that productivity in the food industry will probably rise at a rate of only between 2.6 and 3.5 percent per annum.

This divergence between the trend in productivity, on the one hand, and wages, on the other hand, is sufficient in itself to produce a substantial increase in food prices. Add to this the inflationary effect of possible

unionization of farm workers, the impact of consumerist measures which have focused on the food industry, and the effect of environmental controls affecting the use of cans, bottles, and rubbish, and you have a level of cost pressure which will pose a major problem to the industry.

The President's action in instituting a wage-price freeze will slow the escalation of wages, but it does not meet the underlying problem of lagging productivity. Furthermore, the more effective a wage freeze is in cutting the size of wage increases, the more likely it is to swell worker resentment which will be reflected in a general attitude of giving less effort to the job and prolonging work into overtime hours.

Moreover, the incomes policy can only be temporary. During the balance of the decade of the seventies we will probably have to reckon with the impact upon wage levels of unabridged union power. It is a fact of life — attested to by the events of the past year — that in most major metropolitan areas of this country there are one or two substantial retail food companies which will not take a prolonged strike. The retail food business has become so competitive that food retailers cannot really win a strike. They know it and the unions know it — and the result will be seen in the accelerated escalation of wages and prices in the retail food industry.

Rising prices pose problems in any industry, but in the food industry they are of special concern to the public, not only because food represents the largest single component of the consumer's budget, but also because the food industry is basically a pass-through industry. When costs increase in other industries, rising imports or reduced consumer purchases may moderate the impact of the increase. But when costs rise in the food industry, people still must eat and foreign imports offer no respite. The result is that the American consumer pays for lagging productivity and higher costs in the food industry. In a very real sense, inefficiency and cost increases take money out of the very pocket of the American consumer.

How then can we improve productivity in the food industry? First we need to look more closely at the concept of productivity itself — what do we really mean by "productivity"? Application of the concept of productivity in the individual firm raises a number of problems.

In the first place, firms do not normally maintain productivity data on a company-wide basis. Rather it is customary to measure productivity at various points where statistics can be conveniently obtained. Thus, at the warehouse data are collected on tons per manhour or cases per manhour; at the store level data are maintained on sales per manhour. However, figures are not normally available on total physical units handled through a company in relation to total manhours.

Because productivity is measured only at specific points in an enterprise, its level at such point can be manipulated. Ask any warehouse director if he can improve productivity. "Sure," he will answer. How? By reducing service to the stores, by cutting variety, by laying out the warehouse on a movement rather than a family category basis, and by cutting down on frequency of delivery to the stores. Likewise the store can improve its productivity by shifting some of its problems to the warehouse. This is what we do when we divert direct delivery items to the warehouse.

A second complication in productivity figures involves the role of the consumer. Suppose Company A installs the automatic checkout, improves checker performance and reduces its front end complement by one-third. Its sales per manhour will evidence a substantial increase. Store B makes the same installation but elects to improve front end service and shorten lines at the checkout. Its "productivity" does not improve because there is no room in productivity data for savings effected in customer time. The food industry is a service industry. How do we take account of service in productivity data?

A third problem involves the conflict between social and private productivity. Take the issue of the non-returnable bottle. Banning the nonreturnable bottle would definitely have an adverse effect upon manhour requirements at the store level. On the other hand, if we look at social productivity, such action may reduce solid waste disposal costs and therefore have advantages for society as a whole. Is it sound for the food industry — and industry at large — to continue to measure productivity by standards which take no account of the impact of management decisions on the environment? In striving for improved productivity are we working at cross purposes with other important goals in our society?

I do not know the answers to these questions. I raise them because I believe that an industry commitment to higher productivity requires better data and a better understanding of what we are trying to achieve and to measure.

Productivity as presently measured in our industry is part of a trade off which every management official has to deal with in day-to-day decision-making in business. There is a trade off between service and product variety, on the one hand, and productivity in terms of man-hour output, on the other. Productivity in a service industry such as the retail food industry is never going to be a primary objective of company policy. At the very time that the industry is becoming increasingly concerned about productivity, more and more stores are putting in service departments and adding to product line with an obvious depressing effect upon the productivity of store labor. It is important to recognize, therefore, that the disappointing trend in productivity in our industry cannot be blamed on labor, or government or institutional barriers, but in large measure reflects conscious decisions made by management in the competitive battle to give the consumer what she apparently wants — service and variety, as well as low prices.

Despite the deficiencies in manhour output as a measure of productivity, it is the only concept we have

with statistical support. What has been happening to productivity so measured in the retail food industry? Data collected by Cornell University for warehouses operated by NAFC members show that since 1966 there has been an actual decline in tons per manhour or cases per manhour of direct labor at the warehouse. NAWGA data indicates that tons per manhour of direct labor handled in and out of wholesaler warehouses increased from about 1961 to 1966 and from then until 1970 remained relatively flat or showed some slight decline.

At the retail store, figures compiled by Super Market Institute indicate that sales per manhour increased from \$24.84 in 1960 to \$36.37 in 1970. However when this increase in dollar sales is adjusted for the change in retail food prices, productivity as measured by real output per manhour increased at an average annual rate of only 1.5 percent. Moreover, from 1969 to 1970 sales per manhour rose only about 5 percent while prices rose 6 percent so that there was an actual decline in physical productivity. It is obvious, therefore, that both at the warehouse level and at the store level the retail food industry is faced by a major productivity crisis.

Are there any trends or developments which are likely to improve this situation? At the warehouse level some significant new innovations are in process of introduction. Sophisticated automatic devices promise large improvements in productivity in the functions of receiving, storage, selection and replenishment. However, these technological developments are extremely costly, cannot be implemented well in existing warehouse structures, and therefore their impact upon the industry will be only slowly felt.

In meat warehouses, there is the promise of considerable savings in cost and improvement in productivity although in some areas the shift over to centralized meat cutting will have to be facilitated through agreements with organized labor which may take away some of the advantages sought to be achieved by the new system.

At the retail level, the primary new development on the horizon is the uniform code and automatic checkout, which may make possible savings of as much as one per cent before taxes, according to estimates of the U.S. Department of Agriculture. Not only would checker productivity be improved, but also the need for price marking would be eliminated and therefore considerable savings could be achieved in store level labor costs. However, it is important to recognize that all of the increase in productivity of checkers will not necessarily be reflected in a savings in front-end costs. Some companies may choose to use this new system to improve front-end service. Here again, the trade off between service and productivity in our business becomes evident. There are many problems which have to be solved before this new system becomes a reality and probably its general introduction is still 3 to 5 years away.

A final possibility should also be considered — is there likely to be an entirely new approach to food distribution, possibly by-passing the supermarket entirely and using electronic ordering, television screen viewing, etc.? This possibility may lie over the horizon, but it is unlikely that during the balance of the decade the supermarket will be dislodged from its position as the primary distributor of food to the consumer.

Then what can be done to achieve a major breakthrough in productivity in the food industry? The food industry does contain the potential for a substantial acceleration in the rate of productivity advance in the

decade ahead. However, it is my opinion that we are not going to be able to make any real impact upon productivity of labor in the dimensions necessary to offset prospective wage adjustments unless we adopt a systems viewpoint toward the problem. To put the matter simply and succinctly: I do not believe that efforts by individual companies in the food industry will be able to cope with the problems which impede productivity advance in the industry. It is sobering to consider that in the entire period from 1929 to 1958, which was marked by one of the most revolutionary changes in the long history of food distribution — the transition from service to self-service stores — the rate of improvement in manhour output in food wholesaling and retailing averaged only 2.8 per cent per annum.

That kind of rate of improvement, while adequate for the past, will not suffice for the future. If we really want to make possible large breakthroughs in productivity in the food industry, we must look at the movement of product from manufacturer to consumer as one system and in effect ask the question — if I ran this whole process as my business, what changes would I make to ensure greater efficiency? Obviously, there is not a simple answer to this question, because the fact is that wholesalers and retailers and manufacturers do have different interests with respect to many policies. But we must seek out those areas where there is a common interest and seek to implement cooperative agreements which will improve productivity for the entire industry.

What are some of these areas in which major breakthroughs in productivity must be sought?

1) The most urgent appears to be the unitization of loads from manufacturer to wholesaler or retailer. My impression gained from talking to manufacturers, wholesalers, and food retailers all over the United States is that the pallet program is in serious trouble.

Two problem areas are evident:

a) In the first place, while a two-pallet system is obviously better than one in which there are 90 different sizes, the real economies in materials handling are still limited with a hybrid system. The GMA 48 x 40 pallet is generally used by manufacturers and most chain retailers. However, the 40 x 32 pallet is still utilized to some extent in retail warehouses and is the most common pallet in wholesaler warehouses. In fact, NAWGA figures indicate that about 2/3 of all pallets in wholesaler warehouses are 40 x 32 size. The result of this differential is that the flow of merchandise is frequently interrupted while product is moved from one pallet to another. It takes an estimated 4 hours to unload a deadload trailer of merchandise compared to about 30 minutes if the shipment is palletized. Yet throughout this industry on this very day, trucks are being tied up for periods up to 4 hours while merchandise arriving on GMA pallets is taken off by hand and placed on the smaller pallets.

Obviously the flow of merchandise would be improved by having only one uniform size of pallet, but a smaller pallet would lower manufacturer productivity while a larger pallet would raise inventory levels on slow moving items for retailers and wholesalers. Either a compromise size pallet is needed or perhaps modules of cartons on a 16-inch dimension can be devised which would fit in multiples on both the 48 x 40 and the 40 x 32 pallet and could be overwrapped with film or a band to facilitate transference.

b) The second problem area involves the pallet pool itself. Both manufacturers and retailers are in-

creasingly complaining that certain members of the industry are not complying with the spirit of the pallet exchange system. As a result, pallets are not being properly repaired, standards are being lowered on new pallets, and manufacturers complain that they are receiving old pallets in exchange for new ones. A possible solution to this problem would be the development of a cheap disposable pallet or a plastic pallet which was economical in price and would require less repair. The disposable pallet, however, raises ecological problems, while the plastic pallet, on present technology, would be too costly. Nevertheless this problem must be met if the pallet system is to function effectively.

Some materials handling experts believe that in the decade ahead the problems created by the hybrid pallet system plus the rising cost of transportation will lead to the substitution of a new technique in place of palletization. During the 1960's manufacturers, in adopting palletized shipments, in effect traded off a savings in handling cost for an increase in unit transportation cost. Palletized shipments waste space in both trailers and cars and in addition create the need for the return transportation of the pallets. Today, with transportation costs rising more rapidly than other costs, manufacturers are looking for a better way of achieving unitized shipments.

That better way may well be provided by the use of shrink film used to bind together entire loads which may be supported by a slip sheet or disposable pallet. A major barrier to the broader use of this technique is the lack of high speed equipment to apply the shrink film. However, if the food industry were to concentrate its attention on this area, it seems highly likely that such equipment would be designed. As an example, once the industry evidenced its interest in moving ahead with the uniform code and automatic checkout, as many as thirty equipment manufacturers went to work to design scanning devices and checkout equipment to accommodate the new technique.

Concentration of the influence of the industry on the development of shrink film overwrap would have been many benefits. For one thing, it would remove some of the doubts which now cloud the development of automated warehousing. If it were known that by the end of the decade shrink film and slip sheets would replace pallets, the necessary design capabilities could be built into warehouses now on the drawing boards.

In addition to increased shipment by pallets, the American food industry needs to explore more fully the possibility of shipment of merchandise in unitized loads direct from manufacturer to store level. The development during the coming decade of the super supermarket with sales of over \$100,000 per week will make it feasible for more items to move in sufficient quantity so that this kind of shipment can be more frequently utilized. In Europe, where corrugated is expensive because of the shortage of pulp, many items move in this manner with a shrink film overwrap, rather than being shipped in cartons to the warehouse.

2) A second critical area requiring the attention of the industry is the proliferation of carton sizes. Manufacturers tend to standardize sizes of shipping containers in their own operations so they can utilize palletizers effectively. But they make no effort to make their container size compatible with those of other manufacturers. The result is that the wholesaler and retailer end up with a plethora of sizes. A study of a leading food chain's dry grocery warehouse revealed 2,587 different sizes and shapes of shipping cartons. Even the same size can be found to come packed in as many as six

or more different sizes of shipping cartons. In the fruit and produce industry it is estimated that more than 1400 different container sizes are in use.

Some degree of standardization in shipping cartons would improve productivity all along the line of physical distribution. If cartons do not fit on pallets there is a tremendous waste of space in transportation – and transportation costs are skyrocketing in our economy. Studies made by the U.S.D.A. have revealed that because carton sizes do not match pallet sizes, present modes of shipping various fresh fruits waste up to 40 per cent of total shipping space.

In the case of dry groceries, the lack of standardization in carton sizes wastes space causes product damage, and perhaps most important of all acts as a barrier to truly automatic warehousing. Today, sophisticated selection systems are being introduced in food warehouses which can double or triple the productivity of the average selector. However, because proliferation of carton size makes automatic palletizing impossible, where shipments to store are palletized the productivity of the selector under an automated system must be divided by a factor of two because another man is normally required for the palletization function.

Ideally what is needed in the food industry is a completely modular system in which retail pack, cartons, pallets, railroad cars, and trailers all conform to some basic module designed to ensure maximum efficiency in distribution. It is important that the industry begin to design such a system because other influences are being brought to bear which will undermine this system's concept. For example, the Fair Packaging and Labeling Act and various consumerist proposals with their emphasis upon standardization of package weight and contents, rather than package dimensions, may prove to be counterproductive in terms of distribution efficiency.

3) A third critical area is transportation. The distribution of food cannot be deemed efficient in this country when it relies on a transportation system in which railroad cars stand idle and unused 90 percent of the time; and in which trucks pass each other empty on the road and are tied up waiting for hours to unload at food warehouses. We are sitting on a transportation bombshell in this country and we in the food industry can no longer take the attitude that this is someone else's problem. There is every indication that transportation costs will rise faster than prices in general during the decade of the seventies. Therefore we must take a close look at our distribution practices in this industry and determine how some of the obvious inefficiencies can be eliminated. This means we must encourage experimentation with the unit train to improve car turnaround and usage; we must improve back-haul utilization by eliminating the cloud raised by the Federal Trade Commission concerning rebates from manufacturers using uniform delivered pricing systems; we must find some way to reduce detention time and to devise an appointment system which is fair and equitable to both warehouse, shipper, and trucker.

Time does not permit me to delimit all of the problem areas in this industry nor to suggest other major avenues for breakthrough in productivity. However, the problems which I have discussed have a common denominator: they extend beyond the purview of the individual company and require a high degree of cooperation among industry members.

I believe the key to productivity change in the decade of the seventies rests upon industry cooperation. I believe that the kinds of problems which must be met

are so complex and involve such a fundamental understanding of entire systems that some mechanism must be set up to deal with them on an industry-wide basis. Obviously there are constraints imposed upon such industry action under our existing antitrust laws.

The key to a breakthrough in productivity is a change in the relationship of government to business in this economy. In no other highly industrialized country of the world is there such distrust between government and business. In the decade of the seventies, government must take the lead in providing an environment which will encourage change and improvement in productivity. This must be implemented by changes in legislation which will outlaw the most blatant of union restrictions on technological change; which will clarify and liberalize the interpretation of cost-savings as a defense under the Robinson Patman Act; and which will encourage investment in new equipment through provision of an investment credit.

But more than this – and with specific reference to the food industry – government needs to adopt two new functions:

The first is the funding of basic research designed to improve productivity on a broad basis. The need for such research is particularly obvious with respect to a problem such as carton standardization. All members of the food industry seem to agree that modulation of carton sizes would be a good thing, but no one knows what the optimum module should be. Furthermore, the problem is so complex and the solution so remote in time that research funds are unlikely to be forthcoming within the industry.

The second is the establishment of an industry board or committee through which systems analysis and cooperative agreements can be undertaken without jeopardy under the antitrust laws. Such an industry mechanism – for all industries, not the food industry alone – will have to be designed eventually if the Congress acts favorably on the recommendation of the Secretary of Commerce and decides that the metric system should be adopted in the United States. The transition to the metric system will require the development and adoption of standards by industry groups and some system for reaching agreements with adequate safeguards to all members of an industry must be devised.

It would seem possible that some form of industry committee similar to that utilized by the Secretary of Commerce under the provisions of the Fair Packaging and Labeling Act might be utilized, perhaps with participation by a representative of Virginia Knauer's office, where interests of the public were directly involved.

Government action will take time. Meanwhile we as an industry cannot afford to sit on our apathy. It is time that we demonstrated a real commitment to the concept of improving productivity in the food industry. The first step in such a program should be the establishment of an industry committee composed of the chief executives of leading food manufacturers and wholesalers and retailers. We have had functioning for a number of years a Joint Distribution Committee composed of manufacturer and retailer personnel of companies which are members of GMA and NAFC. However, chief executives do not serve on this committee and therefore it has lacked the influence to make its presence felt. A prestigious committee of the type I have mentioned with adequate staff support could pinpoint key areas for research and development and induce research and experimentation outside of our industry on devices which we need to improve produc-

tivity. The manufacturers of scanning devices have in the last three years spent more money on research to serve our needs than all the food retailers have spent in the last 10 years.

In the decade ahead, the kinds of improvements which hold forth the promise of the greatest savings in cost may require industry direction and industry cooperative efforts. Our experience so far with the development process for the uniform code and the automatic checkout has taught us the benefit of planning and efforts at standardization. Technology which runs off in all directions at once may have been satisfactory for a less complex and interrelated industry but it will not necessarily work in the future. In Europe, where there was no centralized planning with respect to codes, two separate and distinct codes have developed — one in Germany and one in France. They are not compatible and the Common Market now has one more problem to unscramble. We must not make the same mistake with our uniform code or other techniques of this nature. I am not suggesting that all technological improvements require standardization, but I am suggesting that those which require a major undertaking by the food industry at large to secure their introduction may well require standardization.

The food industry must find a better way to improve its distribution system. We can limp along as we have in the past with an improvement rate of one to two

percent per annum or we can set our sights on five percent or more per annum. Such an acceleration in the rate of productivity will not happen unless we as an industry undertake a real commitment to productivity and implement it with the necessary support of personnel and funds. What we have done in the past simply will not be good enough to meet the challenge of the future.

*Editor's Note:*

*Discussion following presentation of the papers brought forth the following points.*

1. *What about the human element and productivity?*
  - a. *People coming out of schools today find the work in the food industry uninteresting. They seek fulfillment after work not at work or from their particular job.*
  - b. *Work should be made easier and not harder through a system analysis approach.*
2. *How do we measure productivity?*
  - a. *Consumer productivity*
  - b. *Private productivity*
  - c. *Social productivity*
3. *We must have consumer input because the food industry is a service organization.*
4. *Unions should be contacted prior to any major change is contemplated such as automation, etc.*