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Cost Justification of Price Differences

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The Robinson-Patman Act does make it possible to offer price discounts to some customers — but the conditions under which such differentials may be legally given are rigidly controlled. Here are some common errors to be guarded against.

COST JUSTIFICATION OF PRICE DIFFERENCES

by Herbert G. Whiting
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WITHIN the limitations set forth in the statute, the Robinson-Patman Act makes unlawful price differences that exceed related cost differences. This restriction is not inconsistent with management's recognition that it is often good business practice to pass along to customers part or all of cost savings resulting from differing methods or quantities in which merchandise is sold.

In fact, businesses that do not recognize these economic facts may soon find important customers seeking other sources of supply. It therefore follows that prudent managements, stimulated both by the Robinson-Patman prohibition and the desire to remain competitive in the market place, should have a clear understanding of the factors that give rise to such differences in cost.

A seller may seek to cost justify price differences for a variety of reasons. Among the principal ones are the following:

1. To revise an existing price list
2. To develop a new pricing system that will encourage customers to increase the average size of their orders
3. To develop a new pricing system designed to reward customers for concentrating their purchases with the seller
4. To determine the amount by which the seller can depart from his established list prices to obtain a desired contract
5. To show that price differences are no greater than differences in cost to manufacture, sell, and deliver in order to prevent the Federal Trade Commission from issuing a complaint
6. To answer a formal FTC complaint by submitting relevant cost data
7. To demonstrate compliance with a Commission order
8. To defend the seller in a treble-damage action brought by an aggrieved competitor.

In Robinson-Patman Act cases the burden of cost justification of price differences is on the seller. Needless to say, he will consult with competent counsel on all price differences to determine their defensibility under the statute. In the event of controversy the data he submits may be subjected to searching analysis.

Unfortunately, most companies do not maintain their accounts or

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accumulate the relevant statistics in a manner that makes it easy to determine differences in cost that arise from differing methods or quantities in which merchandise is sold. When an existing or proposed price difference needs defense, basic information must be reworked and underlying statistical data must be compiled.

This article reviews some of the basic principles and techniques that have been found useful in cost justification studies, with particular emphasis on justification of quantity discounts. In providing an overview of this important subject, it also seeks to remove some of the aura of mystery with which cost justification techniques are sometimes clothed.

Test techniques

Before new or revised discount schedules are adopted, it would be prudent for management to determine that cost justification exists. Similarly, it is wise to seek reassurance from time to time that cost differences continue to equal or exceed the price differences built into the lists governing the sale of products.

Cost justification of price differences under the cost proviso of Section 2(a) of the Robinson-Patman Act is often a time-consuming procedure. Its basis, of course, is determination and measurement of those transaction or customer costs that are fixed or that do not vary in direct proportion to increases in sales.

Yet it does not follow that months must pass while accounts are analyzed and transaction statistics are accumulated before the advisability of undertaking a full-fledged cost justification study can be determined. Indeed, in some circumstances the likelihood of the success or failure of a detailed cost study may be forecast with considerable accuracy.

If detailed analyses of cost differences have been used as a tool in setting price policy, they will be available to demonstrate whether or not a proposed discount is economically sound and supportable by cost differences. If not, the chances of the success of a detailed study can be forecast with a reasonable degree of accuracy by a comparatively easy test.

In testing the possible advisability of a cost justification study, fixed costs should be estimated on the high side. If the resulting cost differences between transactions or customers are smaller than the price differences for which justification is sought, it is a foregone conclusion that smaller and more precise unit costs will not produce the required cost differences. A simple example will illustrate the point.

Example

A producer of a heavy bulk chemical, which sells f.o.b. point of manufacture at $25 a ton in minimum quantities of a full rail carload (approximately 40 tons), is offered a contract for 500 to 1,000 carloads a year if it will reduce its f.o.b. shipping point price by 6 per cent. The producer does not want to reduce the selling price to other customers, to whom annual shipments range from 10 to 200 carloads. The only source of cost differences is sales solicitation and service expense.

The sales manager estimates (since exact records are not available) that salesmen typically pursue the following call schedule:

Customer Size (in carloads)	Annual Number of Sales Calls
10-40	12
41-80	24
81-150	36
151 and Up	50

The sales manager further estimates that each sales call costs approximately $30 regardless of customer size. After questioning, he agrees that study would probably show that calls on large customers (more than 100 carloads) are longer in duration than calls on smaller customers. Let us then assume for purposes of testing that a call on a small customer costs $60 and a call on a large customer costs $90. The cost sales relationships illustrated in Exhibit 1 on page 32 can now be developed.

Since the assumed differential costs are less than the 6 per cent proposed discount, it appears obvious that a discount of that magnitude is not susceptible to cost justification. Indeed, it is possible that even a one per cent discount to a 500-carload customer might be hard to justify since it is probable that more exact costing would narrow the spread in the percentages among the various classes.

The foregoing example is, of course, oversimplified, but the technique it illustrates may be applied regardless of the number of factors that enter into the calculation. One point must be kept in mind: The assumed differential unit costs must be set high enough so that there is no question that they are exaggerated. If price differences exceed cost differences calculated on the basis of admittedly overstated assumed unit costs, then they can never be justified by more precise cost calculations.

The use of assumed unit costs in the test study may indicate an excess of cost differences over price differences. No great comfort should be derived from this result, however; it merely indicates that a detailed cost study might — not necessarily would — produce the desired cost justification.

A recurring difficulty when assumed costs are used to test the advisability of making a full-fledged cost study is the tendency of nonaccountants to refer to the test as "that study you made that showed our price differences are all right." Every effort should be made to emphasize the nature and limitations of the test calculations.

If the test study looks promising, a full-scale cost justification study may be conducted. This article will now review some of the basic techniques of cost justification, using quantity discounts, one of the most common types of discount, as an illustration.

In general, price differentials must be supported against a charge

Quantity and volume discounts are often disguised as trade discounts.

of being illegal discriminations by one or more of the statutory defenses incorporated in the Robinson-Patman Act. The cost proviso of that act reads as follows: "PROVIDED, That nothing herein contained shall prevent differentials which make only due allowance for differences in the cost of manufacture, sale, or delivery resulting from the differing methods or quantities in which such commodities are to such purchasers sold or delivered."

Price differences to be justified can take a variety of forms. It should be possible, however, to classify them under one or more of the following categories:

1. Functional or trade discounts, which depend on the position in the distribution chain — manufacturer, wholesaler, dealer, or consumer — occupied by the purchaser
2. Volume discounts, which are dependent on the aggregate dollar amount or physical quantity of shipments over extended periods of time, frequently calendar quarters or contract years
3. *Ad hoc* discounts, which are price concessions made under competitive pressure, real or imaginary, which relate neither to quantity nor volume
4. Quantity or transaction discounts, which are determined by the dollar amount or physical quantity in a given order or shipment.

Functional or trade discounts as such do not give rise to cost justification problems since the required effect on competition is not present. However, it is not unusual for quantity or volume discounts to be disguised as functional discounts. For example, a company whose customers all perform the same basic function of reselling to retailers may classify them as distributors, warehouses, and jobbers. The contracts with these customers may specify that distributors' minimum orders be larger than the warehouses' minimum orders and that no minimums apply to jobber orders.

If the price list provides lower effective prices for distributors than for warehouses and others and if these groups are defined in this way, quantity discounts in fact exist rather than the functional or trade discounts that the seller thinks are the basis of the price structure. Since situations such as this are not uncommon, all so-called functional discounts should be examined carefully to determine their true nature.

Volume discounts are most often paid as a rebate at the end of a calendar quarter or a contract year. Sometimes, however, they are predicated on the prior period's volume or estimated current volume and are deducted to arrive at the net invoice price. An interesting variation that appears from time to time is a volume discount allowance based on the customer's estimated aggregate purchases of a given commodity or commodity line from all sources. The reason for such a policy is that customers are loath to purchase from alternate suppliers unless they are accorded prices as low as those available from principal suppliers.

Ad hoc discounts are all of those departures from list prices that arise as the result of particular pressures, usually competitive. They may take any number of forms, including the following: relaxation of order or volume quantity requirements; freight allowances; unloading or demurrage allowances; no charge for special packing; and back haul allowances.

Since *ad hoc* discounts are so closely identified with competitive pressures, they are seldom susceptible to cost justification.

Some volume and quantity discount schedules established years before and perpetuated through successive changes in price levels are also difficult to justify. The failure of cost justification for such

EXHIBIT I

DIFFERENTIAL COSTS
LARGE VS. SMALL CUSTOMERS

	Annual Carloads per Customer				
	25	50	100	200	500
Sales value	$25,000	$50,000	$100,000	$200,000	$500,000
Number of sales calls	12	24	36	50	50
Assumed cost per call	$ 60	$ 60	$ 90	$ 90	$ 90
Assumed call cost per customer	$ 720	$ 1,440	$ 3,240	$ 4,500	$ 4,500
Assumed call cost as a percent of sales	2.9%	2.9%	3.2%	2.25%	0.9%

discounts should not be surprising, for even if they were set originally with reference to related differences in costs, those relationships are no longer applicable.

Quantity discounts

Before we examine the problems involved in developing distribution and manufacturing cost differences in support of quantity discounts, it is necessary to analyze in more detail the essential characteristics of these allowances and the forms in which they appear.

Quantity discounts are price concessions designed to induce purchasers to order or accept deliveries of merchandise in quantities larger than the minimums in which the seller is willing to deal. They are predicated on single transactions—not, as with volume discounts, on cumulative transactions. Quantity discounts, as defined for the purpose of this discussion, are incorporated in the seller's basic pricing structure and hence are available to all purchasers who meet the order or shipment quantity minimums. In this respect they differ from special off-list concessions given to a favored few customers to meet real or fancied competitive situations.

In practice the old "cheaper by the dozen" pricing concept takes many forms. It may be part of a formal price list and hence available to all who qualify by reason of the quantities in which they order or accept shipments. It may not be incorporated in the formal price list and may be made known only to a favored few. Qualification for lower prices based on quantity may be predicated on such criteria as the following: the quantity of an individual item ordered for shipment at one time; the quantity of an individual item ordered for multiple deliveries over a period of time; the aggregate quantities of a number of items ordered for a single delivery; the aggregate quantities of two or more items ordered for delivery over a period of time.

Quantity or transaction discounts may be single- or multiple-step. A single-step discount structure provides for only two price levels — the basic price and the price that applies after minimum quantity conditions have been met. An example is a discount offered by a company to purchasers who order more than a given dollar value of specified products in a single transaction. Multiple-step discount structures have a base price from which two or more discounts may be deducted depending on quantities ordered or shipped. A typical multiple-step discount structure, expressed in terms of list price, would be as follows: less than $50, list price; $50 to $99.99, 5 per cent discount; $100 or more, 10 per cent discount.

An interesting modification of the application of quantity discount rates is the practice in one industry of classifying orders as "stocking" orders and "fill-in" orders. Stocking orders are for general replenishment of customers' inventories; fill-in orders are for small quantities of individual items required by customers so that they can continue to offer the manufacturer's full line. In this industry the discount rate applicable to the latest stocking order is applied to one or two fill-in orders regardless of the size of the order. This practice was adopted to encourage customers — in this case warehouse distributors — to maintain complete stocks of the manufacturer's product line.

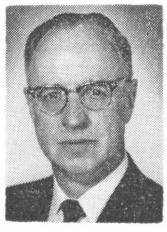
Quantity discounts are not always readily identifiable as such. For example, a number of products are ordinarily sold on a delivered-price basis, that is, the seller either prepays and absorbs the delivery charge or he allows the purchaser to deduct the delivery charge when the shipment is sent freight collect. In any such delivered-price systems freight is not allowed on small shipments and is only partially allowed on slightly larger shipments. The resulting unit price differences are quantity discounts. In industries that sell bulk materials on a delivered-price basis it is not unusual for an allowance for freight to be made equal to the lowest carload rate of freight at time of shipment from the point of shipment to destination. Freight terms such as these result in higher unit delivered prices for less-than-carload buyers.

In some cases the amount of discount is deducted from the extension of the list price on the invoice. In other instances the net quantity price may be shown on the invoice, thereby concealing the discount. The effective price is sometimes determined by adding a fixed set-up, die, or mold charge to the total price for producing the quantity of the product ordered.

Regardless of the manner in which they are granted, quantity discounts result in lower unit prices for large purchasers than for customers who place smaller orders. Injury to the purchasers of the smaller quantities may thus be inferred, and the discounts must be supported by an appropriate defense under the Robinson-Patman Act.

Distribution costs

For merchandise sold from stock, distribution costs represent the only source of cost differences in sup-



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port of quantity discounts. Factory cost differences are not pertinent because there is no identification of product with a specific customer's order at the time of manufacture.

The distribution costs to which the seller may look for justification of price differences are those that pertain to obtaining orders, to handling orders, to filling orders, and to delivery. Distribution costs that are controlled primarily by the number of customers, by the trade channels through which sales are made, or by other factors unrelated to the number of orders received and processed should be disregarded in computing the cost of obtaining or processing an order. Their inclusion would inflate order costs and hence would overstate unit cost differences between orders for large and small quantities.

To illustrate, let us consider the case of a company whose sales department has an annual budget of $50,000, of which $15,000 is for catalogues. The department's activities are governed by a volume of about 2,000 orders received each year from sales representatives whose commission compensation is not included in the departmental budget. All orders received are for about the same number of line items, and all take about the same time to process.

If the departmental order cost is computed by dividing the total $50,000 cost by the 2,000 orders, then the per order cost is $25, which in turn is 5 per cent of a $500 sales order and 2½ per cent of a $1,000 order. On the other hand, if the $15,000 catalogue cost is eliminated, as it should be, before the cost per order is calculated, then the per order cost is $17.50, or 3.5 per cent of a $500 sales order and 1.75 per cent of a $1,000 order. These percentages are not significant of themselves in cost justification, but the differences between them are. In this example, the extent of price difference for which cost justification exists is 1.75 per cent (3.5 minus 1.75), not 2.5 per cent (5 minus 2.5).

In practice, however, such a simple set of facts seldom applies. It is not unusual to find that orders for large quantities cost more to obtain and process than orders for small quantities. The salesmen who typically produce large orders may be more highly compensated and may spend more time per sales call than salesmen whose orders tend to consist of smaller quantities. Large orders may be for more of the items in the line and hence require more processing and order filling time, or they may require multiple shipments.

Thus an order cost pattern may show up somewhat as follows: $100 orders, $10 cost; $500 orders, $20 cost; $1,000 orders, $30 cost. Although in this case the dollar cost of orders increases as the size of orders increases, the order cost increase is not proportional to the order size increase; hence, unit cost differences in support of price differences may be adduced.

In measuring the extent of cost justification of quantity discounts, it is important not to be trapped into oversimplification of the problem. Computation of an average cost per order may conceal important cost differences between large and small orders that, when brought to light, may invalidate an otherwise painstaking study. As much time should be devoted to the development of the divisors, to determine that each is composed of like units, as is devoted to the accumulation of the dollars in the dividends. For example, it is usually an oversimplification when one-line orders are averaged with one-hundred-line orders to determine a single-order processing cost.

The development of accurate statistical data is perhaps the greatest difficulty encountered in cost justification studies. The number of orders, invoices, invoice lines, etc., can usually be determined without too much trouble although such counts, even on a sampling basis, may be time-consuming. The statistics measuring salesmen's activities, however, are less readily available. Few companies seem to maintain accurate records of the number of sales calls made, and even fewer have detailed information as to the time per call, travel time, telephone time, service time, and other essential elements of salesmen's activities. Many months may elapse while the pertinent information is being gathered for a cost justification study, and in seasonal industries as much as a full year may be required to allow for full representation of various activity levels.

Before order processing and procuring costs can be developed, the operations in branch and general sales departments must be studied. Personnel in a sales branch, for example, may include a service engineer whose assignment it is to help customers use the company's product and to handle complaints arising from deviations in product quality. Investigation of the sales engineer's activities, however, may reveal that they are not controlled by orders received and that the salary and expense relating to him must therefore be eliminated in the calculation of branch order cost.

Manufacturing costs

For purposes of cost justification, manufacturing costs may be ignored except for those products made to customers' orders. If individual manufacturing runs can be identified with specific customer orders, however, manufacturing costs — particularly those relating to scheduling, machine set-up, and machine speeds and efficiencies— often give rise to substantial cost differences.

These cost differences are buried in the accounts, and in few if any factory cost accounting systems can they be developed without special analysis. This is understandable because most factory cost accounting systems are designed primarily to yield acceptable product costs for cost of sales and inventory values.

In looking to factory costs as a source of unit cost differences among orders of varying size, the analyst must thoroughly understand both the cost system in use and the operations being costed. It

is not unusual to find that costs considered satisfactory for plant management and inventory valuation purposes conceal important cost differences between production runs of varying duration. In many cases it is necessary to accumulate costs by additional centers to bring out unit cost differences that otherwise would remain hidden.

To illustrate, in many industries it is general practice to spread the cost of quality control departments evenly over all production. In at least some instances a considerable portion of the activities and the cost of such departments are controlled by the number of production orders. For each production order, quality control personnel must review product specifications, adjust gauges and other testing equipment, etc. Furthermore, quality control procedures are usually more extensive during the early stages of a production run than at later stages, when initial production difficulties have been corrected.

The incremental cost concept has no place in the development of cost justification of price differences. If a scheduled production run of 50 units, with a set-up cost of $100, is extended to a run of 100 units because of the fortuitous receipt of an additional order, the set-up cost must be prorated over all units produced. It is not correct under any circumstances to fail to attribute set-up cost to the last 50 units. Similarly, when a combination production run for two or more customers is made, it may not be assumed that the production speeds and efficiencies that pertain to the last units manufactured apply to the goods made for any individual customer.

The only cost differences that may be used to support price differences are those "resulting from the differing methods or quantities." All cost differences that cannot be so identified should be eliminated from the calculation of differential costs.

An example of such a fortuitous cost saving that should not be used in a cost justification study might be the use of a standard raw material purchased at an advantageous price in manufacturing merchandise for a particular order or customer. Since the cost saving from the use of such material does not result from either the method of dealing or the quantities of finished goods ordered, it follows that it would not be recognized in a Robinson-Patman cost analysis.

Manufacturing cost example

The development of manufacturing cost differences that result from the quantities ordered by customers is illustrated in the following example. Widget Manufacturing Company makes widgets in various standard sizes. All production is against customer's orders, and no widgets are made for stock.

Widgets of a given size are all identical except for minor differences in color and identification with customers' stock numbers, which influence neither cost nor utility. In short, all widgets of a given capacity may be considered to be goods of like grade and quality.

Although the company accepts minimum orders for 1,000 units, all products are costed for purposes of inventory valuation and cost of goods sold as though they were made in production runs of 5,000 units. The manufacturing process involves riveting gadgets to the basic widget shell, interconnecting the gadgets with wiring between soldered terminals, and applying waterproofing and protective compounds to the completed widget. There is no recovery of materials on items rejected in inspection.

Review of records kept in the production control department shows that the percentage of rejects is high during the initial hours of each assembly run and decreases as the run lengthens. Production records also show that the number of units assembled each hour increases as production runs lengthen. These are normal gains experienced in many industries as a result of the assembly line workers' increased familiarity with

All the unit cost differences developed . . . result directly from the size of the customer's order; hence the total unit cost differences are the kind . . . contemplated in the cost proviso of the Robinson-Patman Act.

DEVELOPMENT OF COST OF MANUFACTURING TYPE A WIDGETS IN VARYING RUNS

	1,000-unit run		5,000-unit run		10,000-unit run	
Basic data						
Good units required	1,000		5,000		10,000	
Assembly efficiency (good units ÷ total units)	85%		90%		95%	
Total units to be assembled	1,176		5,555		10,526	
Assembly speed—units per hour	40		50		60	
Assembly hours required	29.4		111.1		175.4	
Cost rates						
Set-up cost	$ 100.00		$ 100.00		$ 100.00	
Material cost—per unit assembled	1.00		1.00		1.00	
Assembly dept.—cost per hour	35.00		35.00		35.00	
Cost development						
	Total $	Per Unit $	Total $	Per Unit $	Total $	Per Unit $
Set-up cost	100.00	.100	100.00	.020	100.00	.010
Material cost	1,176.00	1.176	5,555.00	1.111	10,526.00	1.053
Assembly cost	1,029.00	1.029	3,888.50	.778	6,139.00	.614
	2,305.00	2.305	9,543.50	1.909	16,765.00	1.677
Unit cost differences						
Vs. 1,000-unit runs		—		.396		.628
Vs. 5,000-unit runs				—		.232

EXHIBIT 2

the operations that they perform.

The facts are recognized by Widget's cost accounting department, which from time to time at the request of general management prepares profitability studies on various orders. The form the department uses in such comparative cost studies is reproduced in Exhibit 2 above.

Basic data

The first section of the schedule, Basic Data, summarizes the statistical detail pertaining to each production run. The assembly efficiency percentage represents the relationship of good units to total units produced. This percentage rises as runs increase in length because (1) the high proportion of rejects during the initial stages of the run is spread over greater total production, and (2) the number of rejected units drops sharply after the first few hours of each run as the assembly line workers become more familiar with the intricacies of the assembly.

The total number of units to be produced is calculated by dividing the assembly efficiency percentage into the number of good units required to fill the order. The assembly speed is expressed in total units assembled per hour. The increase reflects the gain experienced as the line workers become familiar with the assembly operation. The assembly hours required are calculated by dividing assembly speed into the total units to be assembled.

The second section of the schedule sets forth the applicable cost rates. For each Type A widget assembly run, it costs $100 to schedule the plant, set up the line, take the testing equipment from the storeroom, etc.

Material cost is the aggregate material cost as taken from the bill of materials necessary to assemble a Type A widget. Since all materials come from a common stock room, the unit material cost per assembled unit is the same regardless of the length of the run. Similarly, the assembly department cost per hour remains at the same figure since the same crew and the same production facilities are used on both short and long production runs.

Cost development

The third section of the schedule, Cost Development, is the calculation of the total and unit costs applicable to each production run. The set-up cost of $100 is constant in the total columns for each of the runs, but when it is divided by the number of good units in the runs it shows decreasing unit costs as the runs increase in length.

The unit material cost, compute l by dividing total material cost by the number of good units in each run, decreases from $1.176 per unit for the 1,000-unit run to $1.053 per unit for the 10,000-unit run. This cost difference results from the higher assembly efficiency in the longer run.

The total assembly cost is calculated by multiplying the assembly hours required by the hourly rate; the unit assembly cost is the

result of dividing the aggregate cost by the number of good units in each run. The decrease in the unit cost as the runs increase in length results from the combined effect of higher efficiency (fewer rejects per hundred assembled) and of higher assembly speeds.

All of the unit cost differences developed in this example result directly from the size of customers' orders, and hence the total unit cost differences shown on the bottom of the schedule are the kind of differences in cost contemplated in the cost proviso of the Robinson-Patman Act.

Buried cost differences

Although the example is oversimplified in many respects, it serves to illustrate the factors emanating from customer order size that influence manufacturing costs. It also brings to light the cost differences, often buried in a standard unit cost, that may be developed in support of quantity discounts on goods manufactured to customers' orders. As was emphasized earlier, such manufacturing cost differences are not available to support price differences on goods made for common inventories from which shipments are made to customers.

Manufacturing cost differences arising from efficiency and rate of production gains as orders increase in size are not limited to assembly operations. They are not unusual in molding, casting, and machining operations. In some cases they result from the use of more sophisticated or more fully automated equipment on longer production runs. Such machinery often has a high initial set-up cost and a relatively low operating cost per unit produced, as contrasted with the relatively low set-up cost and high operating cost per unit of smaller or manual equipment.

General guidelines

The foregoing discussion of cost justification of quantity discounts has indicated some of the basic concepts applicable to cost justification studies. It is not practicable to prepare a general program to be followed in all such studies. Even within an industry companies vary in size, organization structure, product mix, channels of distribution, and the like. But some general guidelines can be set down.

First, no comfort should be derived from the incremental cost concept. The difference in total costs with or without a particular transaction or piece of business does not measure cost differences resulting from differing methods or quantities. Where a common cost, such as a factory set-up charge, covers merchandise for two or more customers, each unit bears its proportionate share of the cost.

Similarly, it may not be assumed that cost justification exists for the differing prices of two products or product lines of like grade and quality merely because the lower-priced item yields a higher net profit percentage than the higher-priced item as shown by product line income statements. Cost justification has nothing to do with differences in net profit margins, which are influenced by the allocations of various indirect and administrative expenses for general purpose statements. While such allocations may be useful for general management purposes, they are typically not precise enough for determination of cost differences in support of price differences.

Second, factory costs may be ignored if goods are manufactured for stock. Unless specific factory runs may be identified with merchandise for a particular customer or class of customers, economies resulting from the long runs should be spread ratably over all production. In short, all similar units shipped from the same stock have the same unit factory cost. For cost justification purposes there is no merit in the argument that the low production cost on all items made possible only because of the large orders placed by Customer A should be used to justify quotation of favorable prices to him.

One example will suffice to illustrate this point. A company making

Acceptable cost justification studies cannot be based on broad averages; they must be predicated on costs as precise as the art of cost accounting can produce.

injection moldings purchases. Its raw material in 100-pound bags at 33 cents a pound. A large customer offers it a contract that will treble its production if it will base its selling price on a plastic cost of 31 cents a pound. The company finds that it can buy the raw material in bulk in carload lots at 30 cents a pound. Such bulk purchase would entail installation of raw material bulk handling equipment and a storage silo. With the volume that would be made possible by the contemplated contract, installation of the bulk handling equipment would be economically sound and bulk material would be used for all production.

The company asks if it can reduce the price of its product to the 31-cent raw material basis for the large customer only. The answer is that the raw material cost for all customers would be 30 cents a pound, and the cost saving made possible by purchasing in bulk benefits all items produced.

The only cost differences that may be used to support price differences are those "resulting from the differing methods or quantities." All cost differences that cannot be so identified should be eliminated from the calculation of differential costs.

Third, if specific factory runs can be identified with customers' orders, cost differences may reflect not only differences in set-up costs but also differences in manufacturing costs that arise from manufacturing efficiency and speed variations.

Fourth, in assigning distribution costs to types of transactions or to customer classes, great care must be taken to ensure that the groups or classes to which costs are assigned are homogeneous. For example, cost per sales call would be a meaningless statistic if calls varied markedly in duration or were made by salesmen whose compensation range was great. Similarly, cost of processing a one-item order should not be averaged with the cost applicable to a thirty-item order.

This restriction as to homogeneity makes necessary careful and precise analysis of expense accounts as well as careful and detailed study of the nature of the statistical units—such as sales calls, orders, order items, and invoices—for which unit costs are to be developed. Acceptable cost justification studies cannot be based on broad averages; they must be predicated on costs as precise as the art of cost accounting can produce.

When a question of cost justification arises, it is prudent to arrange for independent investigation of the costs involved. Company-trained accountants may not be familiar with the Robinson-Patman Act cost proviso and its refinements. Furthermore, their concept of cost may be clouded by allocation methods that are considered useful by the company in spreading costs for general managerial purposes but tend to disguise cost differences.

It is not unusual, for example, for companies using molds to recover mold costs on the basis of standard amortization charges per good unit produced. However, mold life in most industries using them is controlled not only by the total number of units produced, both good units and rejects, but also by such factors as obsolescence and the number of times the molds are put on and taken off the machines. Thus, it is not illogical in a cost justification study to expect to find mold amortization costs per good unit produced to be considerably less when production runs are long than is the case when they are short.

Still another common error is the tendency to rely on differences in total costs with and without the sales to the particular customer to whom a preferential price is being considered. Such cost differences may not be used in cost justification of price differences because the reduced cost per unit resulting from the greater volume must be spread over all units produced and the savings may not be allocated to the quantities sold to specific customers.

Finally, cost justification studies may be subjected to critical examination by attorneys or accountants in an adversary position. They should be prepared as carefully as possible, and all statistics, analyses, and allocations should be fully supportable.