

## PRICING IN WAR CONTRACTS\*

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Pricing in war contracts probably requires the contracting parties to deal in the face of unknown and changing conditions on a larger scale than in any previous experience. The lack of knowledge of costs, inexperience in making munitions and producing in volume beyond previous experience, at the outset of the war, are now well known. The constant reference to these uncertainties during the early months of the war has, by implication at least, given the impression that they no longer exist in sufficient volume to complicate pricing problems. This impression is inaccurate. It must also be recognized that new types of uncertainties, illustrated by total and partial terminations of contracts, have come into the picture, with the result that proper contracting and pricing in many fields are still extremely difficult.

According to figures recently published by the War Production Board, the 1943 output of war materials will be about 63 billion dollars, with the annual rate during the last quarter at 75 billions, while the 1944 schedule has been set at 80 billions. The 1944 rate is not spectacularly greater than the rate for the last quarter of 1943. These aggregates are not revealing insofar as stability of procurement problems is concerned. It is certain that the 1944 total will involve much smaller expenditures on construction, plant equipment, and certain military items, while the expansion required in other lines is far greater than the totals imply. For example, an increase of 50 per cent in airplane production over 1943 is called for. The many cutbacks and terminations in some lines, as well as step-ups in others, give a bird's-eye view of the extent which instability and uncertainty still dominate many a war production plant.

It must be recognized that many military items are necessarily less stable in design than most commercial products. This is true for three principal reasons: First, one of the major objectives in war production is steady improvement of the implements of war, and these improvements are constantly flowing through from

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orderly engineering developments; second, changes are constantly required to meet new developments introduced by the enemy; and third, the timing and kind of warfare in the different theaters is directly responsible for shifts in the quantities and characteristics required of many items.

Changing circumstances make it difficult to contract on a fixed-price basis even for short periods of time and doubly so for long periods. The choice of whether a contract shall be for a short or a long term is frequently not within the discretion of the contracting parties. Many long term commitments are unavoidable. This is true not only from the necessity of complying with CMP requirements, but even more often to meet the normal requirements incident to the flow of production. The failure to place orders and make advance allotments would prevent the contractor from obtaining a preferred position on the schedules of manufacturers of components and on the schedules of controlled materials producers. In some instances delay in placing orders and failure to make advance allotments might prevent the manufacturer from passing allotments down through the chain of subcontractors and suppliers in time to get orders for controlled materials placed during the quarter for which the allotments are valid. Because long-term commitments make proper pricing more difficult, it is highly desirable, on the other hand, to keep commitments as short as will assure orderly delivery of the material. Nevertheless this assurance has required and will require many contracts for deliveries extending 12 months or more into the future.

In this setting, problems which arise in the negotiation of sound prices at the time contracts are originally placed become easier to comprehend. The necessity in many instances for some form of price adjustment or renegotiation after at least part performance is also more apparent. In fact, if one dwells intensively upon the number and variety of shifting circumstances which frequently come into the picture after the original negotiation, to alter manufacturing plans, costs, and potential profits, one may persuade himself that attempts at careful buying of war materials are not worth the candle. Many people, both within the Government and in industry, have so persuaded themselves. It has been forcefully argued that the very conditions cited were the reasons why the renegotiation statute was passed, and that with it and the excess-profits tax law as backstops, little time and work should be spent on original negotiations. A second point of view goes even further and urges not only casual original buying but also repeal of the renegotiation law. This view appears to hold that the only evil of loose pricing is the possibility of the accrual of excessive profits and that for all intents and purposes that problem will be handled adequately by the excess-profits tax law, as it stands or with amendments. The third general point of view is that with or without the aid of statutory renegotiation the negotiation of contracts should be conducted on a business basis in a determined effort to arrive at a contractual relationship which is sound and defensible from the standpoint of both parties. The latter view has now been

pretty generally accepted by war procurement agencies and is the one on which this article is premised.

#### OBJECTIVES OF A PRICING POLICY

The term "close prices" is frequently used. This term in the sense in which it is used does not necessarily mean prices which are the lowest obtainable from a given contractor, but rather those found by careful, practical analysis to be fair and reasonable in the circumstances of the particular procurement. It might be said that close prices are those, as nearly as obtainable, which would exist under competitive conditions. The object is, to a large degree, merely to put into war purchasing by what might be called artificial or synthetic methods what competition normally contributed to peacetime buying.

The urgent importance of getting out production of the right quality and on time is beyond debate, but the importance of doing so on a business basis has frequently been questioned. Those who believe that the time and energy devoted to improving contracting and pricing methods could be better utilized in some other phase of the war effort, must necessarily take the position that the principal importance of these functions is to save money and that they have no effective relationship to efficient operations or adequate production. The trouble with this position is that it is not borne out by industrial experience. The most convincing proof that it is not borne out by experience is the long record of improvements in manufacturing methods and techniques made under the pressure of competitive prices. Also there are many examples in the procurement program which strongly indicate that satisfactory contractual relationships, including close prices, have a decided influence upon production methods and controls. There are also striking examples of the damage which can result to production from loose contracting and pricing practices. If the necessity of making a profit out of a close price has been as strong a force in manufacturing operations as experience in both peacetime and war production indicates, then the pricing phase of war procurement becomes a function not merely of dollars spent or saved, but of production and morale. Properly negotiated prices in this sense may contribute more toward winning the war and to effective postwar competitive positions of war producers than will the money saved.

It has often been said that no one knows what a proper price for a machine gun, a tank, or a bomber should be, and therefore excessive time spent in trying to find out is both futile and wasteful. It is undoubtedly true that no one does know what prices for such military items should be in an abstract sense, and that they cannot be discovered by mathematical abstractions. When related, however, to the specific conditions of a given procurement from an identified producer, overall disclosure of pertinent information dealt with by the contracting parties in a thoroughly cooperative manner through a high order of negotiations, presents a very different picture. In many instances the capacity of marginal producers is required, and a right price for such a producer may and often does vary substantially from a proper price to a more efficient producer. The soundness of differentials in prices

lies in understanding the reasons for the differences. In each important procurement there is an ideal price which would provide effective pressures and incentives to insure efficient operations and maximum production. Perfection, of course, cannot be attained, but the right kinds of cooperation and negotiations are constantly bringing prices within the practical limits of the objective.

In view of the relatively longer experience with war production in England, it is significant to note the conclusions of the Select Committee on National Expenditure in its Fourth Report to the House of Commons:

"The effort to maintain or restore some incentive to cheap production, which is the object of such modifications in adjusted price contracts, has been disparaged on the ground that output is more important than price and that attempts to effect paltry economies may seriously disturb the productive organisation. The answer to this lies in the relation between costs and efficiency, which experience shows to be so close that maximum output is unlikely to be attained under conditions in which costs are to any considerable extent above the minimum. Unwillingness to press for a return to fixed prices seems to be associated with the misapprehension that maximum output and economy are distinct and frequently incompatible aims. Maximum output is essential; but, if it is to be achieved, the expenditure of national resources—whether in man-power, in materials or in capital equipment—must be at a minimum for each unit of output; and one indispensable method of bringing this about is to pay the closest attention to sound methods of contract procedure. . . .

"The prime necessity in a war economy is for the maximum and most efficient use of man-power and materials. It is a fundamental mistake to suppose that a form of output may be comparatively expensive in terms of money and yet cheap in terms of these real resources."

The principal objectives of a sound pricing policy may be summarized in this manner: (1) Stimulation of higher production through efficiency and economy—the reduction of costs, both money costs and costs in materials and labor (unless such a policy is concentrated upon constantly more efficient use of labor, materials and machinery, it leaves contractors with little incentive to resist increases in wage rates and material costs and thus puts added strain on price and wage controls; inefficiency in war production also flows over into and directly affects civilian production, increases shortages of such production and aggravates the problems of rationing and price control; this is one of the most serious dangers of unsound procurement and is difficult to remove in most instances by any method other than close pricing at or near the inception of war contracts); (2) checking inflationary tendencies created by higher purchasing power, higher costs and fewer supplies on the market; within the military field this objective is closely tied in to the terms of actual procurements and cannot be handled by general policies and standards such as those available to OPA in its anti-inflation objectives and to the Treasury in administering the excess-profits tax law; (3) preventing public outcry and injury to morale; and (4) controlling costs of the war.

## PRICING METHODS

One of the most frequent mistakes made in pricing methods and in organizations set up to administer them is the presumption that contracting and pricing are made up of a series of independent elements. This leads to a mechanical system which has different people working independently on such things as comparative prices, cost breakdowns, contract clauses, financing provisions, and other price factors. Under this system no one person or group with a knowledge of all pertinent factors and with an understanding of their relationship to one another, can ever exercise judgment on what the final price should be. One of the most important phases, for example, of the War Department's present pricing program is an effort to integrate factual developments and negotiations. This system enables final judgment to take into account the use of such approaches as comparative prices, costs and trends of costs, contract provisions, and information developed in statutory renegotiation.

*Comparative Prices*

The practical utility of comparing prices is known to anyone who engages in the every-day activity of buying necessities. If the prices of two merchants differ substantially, the ordinary buyer either makes the purchase at the lower price or satisfies himself that the higher price is justified for some reason or other. Buying war materials is much more complicated because it is often essential to make use of every productive facility regardless of price and because valid comparisons are frequently much more difficult to make, as well as for other reasons which will appear hereinafter. Nevertheless, an intelligent comparison of prices is of value in furthering the object of buying war goods at right prices.

Price comparisons, without further analysis, can often be used to effect price reductions of peacetime items purchased for war uses. Under peacetime conditions, producers did not receive higher prices merely because they had higher costs. Differences in costs were absorbed within relatively similar prices and were reflected by different profit margins. There is, therefore, little need for allowing price differentials for ordinary commercial items because of higher costs. Comparisons of prices should govern the price analysis in most cases. This does not mean that peacetime prices will be paid for ordinary commercial items. The large assured volume brought about by war orders has substantially reduced the costs of many producers, and this fact should be taken into account in negotiating the prices to be paid.

Even with respect to strictly war materials, it is not uncommon for a skillful negotiator to employ comparative prices as a means of persuading high-price producers to bring their prices into line with low-price suppliers. The typical American manufacturer does not want to be known as one who sells at comparatively high prices. He desires, moreover, to maintain his place in competing for post-war business, and he knows or can be shown that high prices for war goods may lead

to inefficiencies which may continue after the war and impair his ability to compete with other and more economical producers. In this way the force of competition may be injected into the buying of war goods.

In many cases, however, the comparison and the process are not so simple. The Government representative must acquaint himself with the factors which tend to invalidate the comparison and must, in any case where the factors differ, perform the difficult task of reducing those differences to the common denominator of dollars and cents. Some of the more important of those price factors will now be briefly considered, after which appears a short discussion of the use of price indexes as an aid to sound pricing.

*Specifications.*—It is obvious that differences in specifications may justify or require differences in prices. The negotiator must acquaint himself with the technical differences between the items being compared and then, with whatever expert assistance may be available, evaluate those differences in terms of money.

*Size of the Order.*—No argument is necessary to establish that the factor of volume may have an important influence on the comparability of prices. It is clear that the unit price for 10,000 units should normally be lower than that for 2,000. On the other hand, there may be exceptions in cases of overloading, where the point of diminishing returns is reached and "creeping costs" begin to appear.

*Delivery Schedules.*—A contract calling for deliveries over a long period of time may have higher prices than a contract providing a shorter delivery schedule, because there are greater uncertainties and hence greater risks under the longer-term agreement. As pointed out below, the influence of such risks on prices may be affected by contract provisions for shifting the risks to the Government.

*Government-Furnished Materials and Facilities.*—Where the Government supplies a contractor either materials or productive facilities, or both, it is manifest that the price of that contractor is not comparable with prices of other producers who are not receiving similar treatment, unless an appropriate adjustment is made.

*Financing Provisions.*—In a case where the Government assists a contractor in financing his operations, by way of advance payments, unit payments, progress payments or the like, his prices are not fairly comparable with those of other producers without an adequate adjustment.

*Royalties.*—An adjustment is also necessary when one producer pays for the use of patent rights and the others do not.

*Sub-contracting.*—The influence of sub-contracting on the comparability of prices is subject to no single generalization. In some cases it may result in prices higher than if the prime contractor had himself fabricated the sub-contracted component. In other cases the prices may be lower. In still other cases sub-contracting may not affect the price in one way or the other. The one point is certain that it is generally difficult to evaluate the effect of sub-contracting on the price of a given producer.

A comparison of prices of important sub-contracted items is of considerable value in bringing about close pricing. It not infrequently occurs that one contractor pays more than another for an identical item obtained from the same sub-contractor. A higher price for an end item may result from an excessive price for a sub-contracted component, which fact may be discovered by the simple process of comparison.

*Comparing Individual Prices.*—Notwithstanding the fact that only limited conclusions can be reached from price comparisons because they merely reveal differences and do not explain them, they can often be used effectively in obtaining prices which are fair and reasonable. Thus, where the price factors and conditions of production are essentially similar between two contracts, prices should be similar. This similarity of price factors is found usually in (a) contracts for the same item with the same contractor, and (b) contracts with different contractors for standard commercial items.

It can generally be assumed that the price for an extension of an old contract or the price in a new contract covering an item in production should be no higher than the price under which deliveries are currently made. In many instances improved manufacturing techniques or increased volume will require that the new price be lower.

Notwithstanding differences in price factors, comparative prices can often be used directly to effect a price reduction. This is true because they permit the contracting officer to inject a competitive force into his buying. No contractor derives satisfaction from being the highest-price producer, and many will reduce prices simply to meet the lower price of another. Many corporations recognize that their post-war market positions will depend upon their comparative efficiency and ability to meet competition. They recognize that close prices have virtue in developing increased efficiency in production and for this reason will accept a competitive price reduction.

*Comparing Price Changes.*—Comparisons of individual prices are not so effective in revealing overpricing when applied to items whose manufacture is attended by wide variations in costs. These items, in the main, are those whose use is restricted solely to war and which are being produced by companies having widely varying peacetime activities and corresponding variations in manufacturing facilities. For such comparisons to be direct, price factors must be identical, a condition which often does not exist.

Perhaps the most effective price comparison to use in regard to non-competitive items is that which compares the price changes of one contractor with those of another for the same or similar item. Thus, it is assumed that even though prices are at different levels, experience in manufacture should result in price reductions by all contractors and that the rate of the reductions should be similar. To the extent that one company's price trend does not follow the decline of others, overpricing may be suspected.

The following records actual price actions on contracts for the same commodity produced by three contractors:

<i>Company</i>	<i>March 1942</i>	<i>June</i>	<i>July</i>	<i>August</i>	<i>December</i>
1 .....	\$52.50		\$45.13		\$38.69
2 .....	56.00			\$55.90	
3 .....	58.50	\$58.50			53.39

The first recorded price change occurred in July when Company 1, the lowest-price producer, reduced its price by 14 per cent. During August, Company 2 obtained a price practically unchanged from that which existed since March. Query: Why was there no greater reduction when compared with the 14 per cent decline registered by Company 1?

By December, Company 1 had reduced its price to a level 26 per cent under that of March; Company 3 had reduced its price by 9 per cent; and Company 2 remained unchanged. These comparisons indicate an inquiry into the prices of the two high-price producers.

The application of a number of price series as a yardstick is not a mechanical procedure. The fact that price changes of one company are wholly dissimilar to those of a number of other companies may suggest inspection of the majority rather than the one. Thus, the following prices were paid to a number of producers of one standard item:

<i>Company</i>	<i>Feb. 1942</i>	<i>April</i>	<i>May</i>	<i>Sept.</i>	<i>Nov.</i>	<i>March 1943</i>
1 .....	\$5.00	\$5.00	\$3.85	\$4.35	\$4.10	\$2.50
2 .....	7.00	6.00	6.00	6.50	6.50	6.00
3 .....	7.00	7.00	6.50	7.00	6.50	
4 .....			7.30		7.30	6.50
5 .....			6.37	6.87	6.87	
6 .....				7.25	7.25	6.25
7 .....			6.50	7.00		6.50
8 .....			7.25	7.75	7.75	6.50

The sharp reduction in the price of Company 1 (from \$5.00 to \$2.50), which started with a lower price, makes the prices of the other seven subject to question. The March, 1943, prices reflect such a wide range that differences in contractual and production circumstances would be examined.

The comparison of price movements does not require identical price factors. Therefore, it has been found that this method may be used for several non-identical items which are influenced by similar circumstances. Thus, a .50 caliber machine gun and a .30 caliber machine gun require similar materials and processes even though their production costs are not readily comparable. Therefore, a downward price movement for a .50 caliber gun would cast some doubt on the justification of increasing the price for a .30 caliber gun.

As might be expected, analysts who have compared many price series for the same or similar items will find that their procedures have become more and more



complicated as the number of series increased. The War Department is, therefore, developing a component series, which will reflect the *average* price movements of a number of items, to use as a yardstick in analyzing the price of one contractor.

The computation of average price movements, in the War Department, is resulting in a number of price indexes. A price index is being constructed for each of the major commodities, together with several overall indexes. The price analysis function is being coordinated with the index work on two bases: price analysis supplies the basic price information and will use the final indexes in aid of close pricing of future purchases.

Through the index material it will be possible to simplify many of the tasks of analyzing comparative price movements. As the specific indexes are applied, their usefulness will increase. In many cases the regularly prepared index series will be applicable to specific price situations. However, a price analyst may find that a new index, or a variation of a standard one, will apply to some of his specific problems more directly. In that event, it may be that a new index can be readily constructed to fit his specific needs.

Through these indexes the individual analyst is in a position to see the general trends of prices; whether certain key items are going up or down in other sections of the country; whether the prices of certain end items, such as airplane engines, are being reduced more quickly than those of others, such as air frames; what factors seem to affect these broad situations; and what to examine more closely in the individual procurement. The indexes will thus become a device to further the War Department policy of close pricing.

### *Cost Analysis*

It is often necessary to go beyond the analysis of comparisons in order to understand a price. Items purchased under several contracts may not be exactly comparable. There may be differences in specifications, Government-furnished equipment, Government-financed facilities, volume and risk factors. Therefore, an evaluation of the differences may be necessary in order to understand the price. In many cases it may be necessary to pay a higher price to one contractor because he is compelled to utilize high cost operations which cannot be replaced. Many procurements involve completely new items for which there are no comparable prices.

In this setting the analyst must go far beyond an accounting analysis of profits. He must look into the factors affecting costs and the basis for their evaluation. He must look into the possibilities of reducing costs by efficient production methods. He must consider the influence of the prices allowed on future efficiency and costs.

The forward look at costs cannot be applied mechanically. If cost analysis called merely for the addition of the elements of cost plus a profit, the influence of prices on costs and productive performance might be overlooked. Cost estimates for forward pricing require a considerable amount of business evaluation. Although past

costs are a good starting point, their future projection involves the exercise of sound judgment. For example, there may be differences in volume factors, wage rates, productive methods, and the relative efficiency of the operating organization, all of which must be intelligently evaluated.

On that account cost analysis in the procurement field must be regarded as an integral phase of price analysis. The examination of costs cannot be based upon either of the theoretical extremes of cost estimating. On the one hand, there is little to be gained from a complete cost accounting which follows through on all of the elements of cost for each individual part going into the final product. On the other hand, it is impracticable to estimate the costs of producing an item by the simple method of hefting it and looking it over. The cost analysis which should be utilized in this field must be based upon a practical effort to evaluate the particular problems which face the price analyst.

In many cases the major components of a final price will be found in the prices which the prime contractor pays for several sub-contracted components. In that event the analysis may be substantially complete by an evaluation of the prices paid for the components, including a study of comparative prices and of price factors affecting the sub-contract.

In many cases the study of comparative prices and factors will show specific differences which should be evaluated in cost terms. For example, one product may require the addition of several parts to the item which was purchased under a previous contract. If there is a substantial price justification for the previous contract, the cost analysis would essentially be a study of the cost of the additional parts.

The analysis of differences in cost factors is especially important in considering the prices paid for spare parts in many contracts. If all the parts used in the end product are purchased as spares, it is possible to build up a synthetic price for the final component unassembled, as in the case of engines. The analysis of the spare parts prices may be carried out by comparing the prices of spares, less the cost of special packaging, with the prices of the finished engine, less the cost of assembly, testing, and packing. Through this synthetized comparison it is often possible to tell whether or not the prices paid for a set of spares are sound in the light of the prices paid for the completed item.

When cost analysis is developed for a major procurement, the type of the total analysis will depend upon the nature of the end item and the cost problems which affect it. For example, an analysis of substantial price differences for an insecticide disclosed wide differences in the cost estimates for materials which two contractors submitted. An examination of these cost estimates disclosed that the high price contractor was contemplating the use of a very high proportion of an expensive raw material, whereas the low price manufacturer had estimated his costs on the basis of a smaller proportion of that material. An examination of the specifica-

tions disclosed that they did not require the larger quantity of the costlier material. With this information it was possible to show the contractor that his mixture of the materials should be changed and his price reduced. On the other hand, the procurement of a complicated item, such as radio equipment, carbines, or airplane engines, may require a detailed analysis of various elements going into cost comparisons with past and standard costs and an examination of the bases for the future cost estimates. Such an examination may call for a review of the contractor's cost accounting system and engineering estimates to check into the reasonableness of the cost forecasts. The discussion of costs may cover the bases for the forecast, expected changes in conditions, improvements in methods and in efficiencies and in the possibilities of reducing costs of sub-contracted items.

In a cost examination covering more complex items the relationships between price policies and productive performance become very clear. If a contractor's cost accounting system and cost estimates show that the contractor does not have cost records which reflect the efficiencies of his own operations, production as well as prices will be affected. The contractor who is watching costs in order to develop close prices is also watching costs in order to develop more efficient performance. On the other hand, the contractor whose cost information, including the data secured from his formal cost accounting system, engineering reports, and production schedules, is calculated to produce justifications for high prices, may very well conduct a decidedly inefficient operation.

At this point the analysis of costs must include a consideration of accounting control systems, engineering and production controls, relative operating efficiencies, and the factors affecting unit costs in order to develop an intelligent analysis of prices. Labor costs may be checked by analyzing the number of labor hours required for the total production and for component parts. Material costs may be analyzed by examining the total amount and type of materials used, scrap and salvage, and prices for sub-contracted parts. Through these two examinations it is often possible to detect relative inefficiencies as between producers. This analysis may have a direct effect not only on the prices but also on the production methods. For example, through such a consideration it was discovered that a high price contractor had been using hot rolled steel when cold rolled steel could have been used. As a result of the negotiations the producer changed to cold rolled steel, reduced his costs and prices, and increased his efficiency.

In some few cases cost surveys have been made of all the major producers of a particular item. These studies have shown cost differences which reflect clearly differences in production methods and efficiency. In those cases the price reductions were accompanied directly by improvements in productive performance which the less efficient producers were induced to make as a result of the studies.

It is impossible to develop any simple generalization about the kinds of cost analysis which a close pricing program requires. Since each analysis must be tailored to the particular procurement on the basis of the range and type of problems

presented, there can be no set pattern for cost examinations or evaluations. The complete accounting approach will not meet the requirements, nor will the complete engineering approach. The success of a realistic cost analysis program will in final analysis depend on the extent to which cost analysis implements and supports the overall function of price analysis.

A few producers for the war have been reluctant to furnish product costs for pricing purposes on the grounds that such information is confidential and that costs are immaterial in the fixing of prices. They point out that it was not customary to furnish peace-time buyers with costs of production and conclude that there is no more reason to furnish them to the Government as a war-time buyer. Most producers, however, have recognized that the use of product costs is the only effective substitute for peace-time competition and that they themselves are much better off to have this information in the hands of contracting officers. They feel that a contracting officer without the aid of effective competitive bids and with no reliable knowledge of a particular contractor's costs, is more likely to be arbitrary and unreasonable in his ideas of what prices should be. Contractors, therefore, find their own best protection in a policy that assures full information to the contracting officer on all factors pertinent to a transaction, even when this requires going beyond the requests made upon them.

Significant progress has been made in use of the type of cost analysis outlined above, which to a substantial degree is responsible for the steady progress being made in the pricing of war goods. This type of cost analysis is much broader in scope than an accounting approach. In addition to placing a heavy responsibility upon contractors to keep adequate records, it calls for an intelligent job of appraising and evaluating cost and price factors. Any war contractor who has not assumed this responsibility is indeed in a poor position to complain about arbitrary actions of Government procurement agencies.

### *Contract Provisions*

On account of the uncertainties arising out of changes, for example, in volume and specifications, referred to at the outset in this article, the possibility of increases in costs of labor and materials, and various other business hazards occasioned by the abnormalities of the war, it might well be argued that war contracts, especially those involving long-term commitments, should be made on some kind of cost-plus basis. In that way risks over which the contractor has no control, and for which he is not responsible, would be shifted to the Government, and the contractor would be virtually assured of some profit. Such a blanket solution of the problem, however, does not meet with favor by Government procurement agencies. Although the statute forbidding the use of cost-plus-a-percentage contracts expressly permits the use of cost-plus-a-fixed-fee contracts, agreements of the latter type are contrary to the policies of the Government in many fields of procurement. The reasons for this view are (a) that the fixed-fee contracts do not encourage efficiency to

the same extent as do fixed-price contracts and so do not lead to an economical use of man-power, materials and machinery or to improvements in manufacturing methods and processes; (b) that the administration of such contracts requires extensive and uneconomical use of accounting and other personnel; (c) that such contracts may lead to unsound competition for labor and the accumulation of inventories; and (d) that they do not bring about maximum production as effectively as do fixed-price agreements. For reasons such as the foregoing it is the announced policy of the War Department that "supply contracts will be made on a cost-plus-a-fixed-fee basis *only if no practicable alternative exists.*"

The true purpose of cost-plus-fixed-fee type of contracting has sometimes been misunderstood. One view seems to hold that the uncertainties in war buying make fixed-fee contracts appropriate in virtually all fields of contracting, while another condemns them altogether. Both views are extreme and, from the standpoint of relating contracting methods to production needs, are open to question. The questions of whether such contracts should be used and to what extent are not legal or abstract. These questions are significantly related to obtaining required results under given circumstances. For example, it might be extremely important in meeting military requirements that ammunition containers be produced in highly fluctuating quantities. These containers are too bulky for extensive storage or long hauls, but loading plants often cannot anticipate requirements far in advance. Yet such requirements, when known, are urgent. Under these circumstances a fixed-price contract would make it impossible to meet the necessarily erratic delivery schedules without abnormally high unit costs and prices. The determining factor in such a case should not be a pre-existing prejudice, arbitrary rule, or the success of a superior bargainer. The selection of the form of contract, as well as other features of the transaction, should be made in the manner most calculated to draw out maximum production from an existing situation.

The economic use of cost-plus-fixed-fee contracts may cover a wide range of conditions, such as necessity of extremely large volume from companies with small invested or working capital, early peak production, experimental and developmental work, or need for unusual flexibility of operations. If failure to use a fixed-fee contract seriously threatens the loss of these essential aspects of production, the question of whether it should be employed answers itself. Procurement policies based on this point of view do not leave the area for fixed-fee contracting to be dictated by mere failures in negotiations for fixed prices. The area is defined by production requirements, and a procurement policy squarely based on meeting such requirements does not need to be defensive or apologetic for merely recognizing production necessities. The secret is to locate this area of contracting and limit the use of fixed-fee contracts to it. Because many fields of war contracting have, in varying degrees, some of the characteristics of the areas within which fixed-fee contracting is sound, the decision on whether or not to use such contracts is not always easy. The area cannot be defined by inflexible rules. Thus, in many cases

several of the conditions warranting a cost-plus-fixed-fee contract may be effectively handled by appropriate clauses in fixed-price contracts. The process of selection gets back to the basic method for all war buying, that is, flexible negotiations based on full disclosure of pertinent facts and a thorough understanding of production needs and problems. The added administrative burden should, of course, be taken into account. The difficulties with this form of contracting center around its inappropriate application and ineffective administration rather than complete impracticability. The Government and war contractors should use the same standards in reaching decisions on which form of contract to use, since their production objectives are the same.

If fixed-fee contracts are not countenanced (except in certain areas of contracting) and war contractors are urged to commit themselves to fixed-price contracts, they will naturally seek to protect themselves against loss by including in their costs and prices charges sufficiently large to cover every possible contingency that might arise in the period of performance. Such a course is simply an application to a wartime problem of an accounting device designed to protect a businessman against losses of various kinds in time of peace as well as in time of war. The difficulty with its use in the pricing of war contracts is that the inclusion of contingency charges effectively prevents purchases at close prices. The question thus presented is, how are close prices to be obtained in view of all the uncertainties and risks resulting from the vagaries of war?

The answer to that question is that the risk resulting from such abnormal, war-caused uncertainties and hazards may be shifted, by contract, from the contractor to the Government. In other words, an intelligent application of contract provisions may give the contractor some of the certainty he desires and thereby induce him to commit himself to closer prices. The contract provisions which are presently used by War Department procurement agencies to effect such shifts of risks may be divided into two broad classes: (1) provisions designed to protect the contractor against virtually all cost increases not subject to his control; (2) provisions designed to protect him against specific cost increases. Of these in order:

#### *General Price Adjustment Provisions*

*Negotiated Revision of Entire Price.*—The authorized article<sup>1</sup> provides for one upward or downward revision of the entire price by negotiation on the basis of a "trial run," which shall be from twenty to forty per cent of production under the contract. The revised price may be different for different periods of the contract. Upon failure to agree upon a revised price, either party may terminate within a specified time. The article is to be used only in cases where the developmental or experimental nature of the item or lack of production experience or other causes preclude reliable cost estimates when the contract is made and make price revision essential. It should be noted that use of the provision is predicated on the con-

<sup>1</sup>For text of the article, see Appendix to Marbury and Bowie, *Renegotiation and Procurement*, *supra* 218, at 232.

tractor's elimination of substantially all contingency charges. As an incentive to the contractor, his profit margin may be increased if he reduces costs and prices by skillful management, careful buying or efficient production.

A related article<sup>2</sup> provides for downward redetermination of price on the basis of a formula. The authorized provision divides production into three periods: the preliminary run, the test run, and the remainder of the production. By the formula the cost of the remaining production is regarded as the same as the cost of the test run, and if those costs, together with the cost of the preliminary run, are less than the original cost estimate, the entire price is to be reduced by the amount of such difference. This clause is designed for use in certain cases where production cost cannot be estimated with reasonable accuracy when the contract is made, as in the case of entirely new items, experimental products, items subject to radical change, or where the contractor is wanting in experience.

*Periodic Price Adjustment.*<sup>3</sup>—These articles provide for a negotiated upward or downward adjustment of the price at the end of periods which may be fixed at from three to six months. In one of the articles the price for the first period is fixed, and in the other it is subject to a retroactive adjustment for the first period similar to the prospective adjustments for the succeeding periods. Every such adjustment is based on the cost experience for the preceding period or periods and on all other relevant factors. Either of the clauses may or may not provide for exemption from statutory renegotiation. Particularly where such exemption is provided for, there must be a substantial elimination of charges for contingencies and a relatively low profit margin. If costs are reduced and the Government benefits thereby through lower prices, as a result of the contractor's efficiency, the margin of profit may be increased for succeeding periods. The use of these articles is limited to cases where accurate cost data on the production are or will be available when the adjustment negotiations take place.

*Revision of Price.*—Where the price may be fairly fixed for the initial period but not for the remainder of the contract because of the uncertainty of future conditions, this article provides for a single upward or downward negotiated revision of the price at the end of that period. The revised price may be different for different periods, but the revision applies only to the remainder of the contract, not to the initial period. As in the case of the articles previously discussed, the price here must contain substantially no allowances for contingencies. Either party may terminate upon failure to agree upon revised prices.

*Escalation in Relation to O.P.A. Ceiling Prices.*—Although escalation is generally contrary to War Department policy, there are certain extraordinary cases where it may be used. The use of escalation clauses has been authorized in relation to lumber, coal, and fuel oil and gasoline. In the case of lumber the price fluctuates up and down by the same number of cents that the O.P.A. maximum price may be increased or decreased. With respect to the other products named,

<sup>2</sup> *Id.* at 231.

<sup>3</sup> *Id.* at 233.

the authorized articles provide for an increase in price by the same number of cents that the O.P.A. maximum price may be increased, for a decrease if such maximum price is reduced below the contract price, and for a redetermination of the price by negotiation at the option of the contracting officer. Such clauses are generally applicable to contracts running for a period of six months or more.

A somewhat similar provision is authorized in respect of rubber and other products where the Government actually fixes the price, as distinguished from cases where the Government merely prescribes the *maximum* price. The rubber article provides for an equitable adjustment of the price if the agreement between the War Department and Rubber Reserve Company shall be revised or terminated and the specified prices to the contractor for rubber are in consequence increased or decreased.

Depending on their use, it might be that clauses last discussed would fall into the second broad class referred to above.

### *Protection Against Specific Risks*

*Changes Article.*—Where the contracting officer is empowered to make changes in (i) shipping and packing directions, (ii) quantity, (iii) drawings and specifications, or (iv) delivery schedules, and such change or changes cause an increase or decrease in the amount of work or affect other cost factors, the article provides for an equitable adjustment of the price. In return for the inclusion of the clause the contractor is expected to eliminate reserves or allowances for the risk incident to such change or changes.

*Increase in Cost of Freight.*—Two provisions are available for protection against this kind of risk. One clause provides for an increase in price in case of an increase, authorized by the Interstate Commerce Commission, in freight rates on specified materials, after the date of the bid or the award. The other provides for an equitable adjustment of price if a change in the cost of freight on steel results from priority or allocation orders of the Government. The inclusion of either clause is predicated upon elimination of charges for the risk for which protection is given.

*Changes in Delivery Schedules.*—Whenever interruption of the production schedules will substantially affect the contractor's cost and there is a serious risk of such interruption by Government action, the authorized article provides for an equitable adjustment of the price (a) if the rate of deliveries is reduced by partial termination of the contract for the convenience of the Government or (b) if the contractor is prevented from following the delivery schedule by preference, priority or allocation order of the Government, and in consequence the contractor's cost is substantially affected. As in other provisions for the shifting of risk, the contractor is required to exclude allowances and reserves for such hazards.

*Taxes.*—The standard tax article contains a provision for an increase or decrease in price in case certain taxes are imposed on the contractor or in case he is relieved of liability for such taxes.



Even if the contract makes no provision for price adjustment or if the provision contained in the contract does not cover the particular exigency confronting the contractor, the policy of the War Department is to relieve the contractor from losses or threatened losses for which he is not responsible. Such relief is effected by a contract amendment which may or may not be supported by consideration. Examples of amendments with consideration which may result in price increases are: changes in specifications, delivery schedules, or the like; when the contractor's right to perform the contract according to his own methods is modified or restricted by the amendment; when the amendment changes volume or rate of production so as adversely to affect costs; and whenever the amendment is otherwise to the Government's advantage and is based on legal consideration.

Under the First War Powers Act and Executive Order No. 9001, amendments may be made without consideration. It is the general policy of the War Department to allow contract amendments to meet changed conditions when such action will facilitate the prosecution of the war. Examples of cases requiring amendments of this kind are: where the contractor has suffered or will suffer loss or lower profits as a result of a bona fide mistake of fact or as a result of Government action; when changed conditions result from enemy action or special circumstances of the war; where productive capacity or efficiency will be impaired by actual or threatened loss on a war contract; or where administration may be improved by an amendment.

Upward and downward adjustment of price is also provided for in connection with problems arising out of the Controlled Materials Plan.

It is apparent from the foregoing summary that the War Department has taken substantial steps directed toward elimination or reduction of many of the contractor's risks which are peculiar to war conditions. Proper use of the devices so provided should result in closer prices than would otherwise be possible.

#### INCENTIVE CONTRACTS

Some of the War Department provisions for fixed-price contracts, discussed hereinabove, give the contractor incentives to reduce costs by allowing greater profits and profit margins if he reduces his prices through efficiency. In cost-plus-a-fee agreements, and in other types of contracts with other Government agencies, similar incentives may be employed by the use of "target" prices or other like devices. The general tenor of such provisions is to allow the contractor a larger fee or profit if he succeeds in reducing costs or prices below a stated amount.

The War Department has an authorized provision of this type for incorporation in cost-plus-a-fee agreements. The article provides for the fixing of the target estimate after preliminary and test runs, and the adjustment of the fee upward or downward after complete performance of the contract. The fee is increased if the

experienced costs are lower than the target estimate and decreased if such costs are higher. Both a maximum and a minimum fee are prescribed.

A considerable amount of publicity has been given recently to Navy Department incentive contracts, although few such contracts thus far have been written. The agreements provide for a "contract price" and a "target cost." Ninety per cent of the cost savings below the "target cost" is deducted from the contract price. In effect, the profit margin is increased by ten per cent of the estimated cost savings. One hundred per cent of the increased costs is added to the contract price up to a specified maximum. The "contract prices" and "target costs" are set for succeeding quotas of production.

The Maritime Commission has several types of target price contracts. (1) The cost-plus-a-fee contracts for emergency cargo ships provide for adjustments of the fee based upon the number of man-hours used. The base fee is set in the contract along with delivery schedules and man-hour estimates. The fee is to be increased on the following bases: man-hours saved times fifty cents, and a bonus of \$400 per day for deliveries ahead of schedule. The fee is to be decreased on the following bases: man-hours used above the estimates times  $33\frac{1}{3}$  cents, and a penalty of \$400 per day for delays in delivery. Maximum and minimum fees are set. A maximum price is set—but it can be changed.

(2) The Maritime Commission's "price minus" contracts for concrete barges provide for costs-plus-fees adjusted on the basis of dollar savings. A basic contract cost is set, subject to escalation for changes in wage and material price indexes and changes in specifications. A base fee is set, usually at one and one-half per cent of estimated cost. The contractor's fee is adjusted by fifty per cent of the difference between the adjusted and the actual costs. In addition, penalties and bonuses for late and early deliveries are provided at a fixed amount per day. A maximum fee is set, usually at seven per cent of estimated cost.

(3) Recently, the Maritime Commission started to negotiate a third type of target price contract for merchant vessels. This provides for fixed prices and for the refunding of all profits in excess of maximum profits allowed. Exemption from statutory renegotiation is provided. A base price and a maximum allowable profit are established in the contract. If the base price is lowered for successive groups of ships, the maximum profits which may be retained are increased. In other words, when a contractor reduces his price, he takes on the risk of additional losses in return for which he may retain larger profits. The base prices are subject to escalation.

#### *Problems in Administering Target Price Contracts*

At first blush, the target price contract seems to provide considerable incentive for improved operations and cost controls. Since the contractor is given an additional reward for cost savings and suffers a penalty for cost increases, he should have strong incentives for improving his productive operations. However, this in-

centive approach depends upon the accuracy of the cost estimates which are provided and the administrative efficiency of the audit procedures.

*High Target Prices.*—The general concensus seems to be that most target prices have been set too high. The contractor is paid not so much for increased efficiency as for poor estimating. The Bethlehem Steel case<sup>4</sup> was based on target price contracts entered into with the Emergency Fleet Corporation during the last war and exhibited some of the disadvantages of this approach. Some who have examined target price contracts used during the last war have come to the conclusion that the targets were generally too high. The British Select Committee on National Expenditure has found that target price contracts are impracticable for use in the present war.

*Low Target Prices.*—Because of the problems presented by target prices which are too high, it has been suggested that the solution might be found in lower targets. It has even been suggested that the costs of the most efficient producer of a product be used as the target. Such a procedure, it is felt, would eliminate temptations to blow up the basic cost estimates. However, a target price system will not encourage industrial incentives if the target prices are unrealistic and discouraging. A contractor who is offered a reward for cutting his costs below an impracticable level would have no more incentive for reducing costs than under a cost-plus-fixed-fee agreement. Therefore, setting an effective target price requires an examination of the level of costs which may be achieved in the individual plant, taking into consideration available equipment, labor and materials, and the reasonable expectations of improvements in efficiency in the near future.

*Avoidance of the Cost-Plus Approach.*—Experience indicates that contracts which provide for adjustments of the fee based upon fixed percentages of estimated costs do not effectively stimulate contractors' incentives. As a matter of fact, a contract which provides that the fixed-fee shall be adjusted proportionately to costs so that it amounts to 5 per cent of costs is merely an adaptation of a cost-plus-percentage contract.

*Need of Cost Information.*—The proper administration of target price contracts requires that both the contractor and the Government have a sufficient amount of cost information. If the contractor has much more cost information than the Government, he may set the target too high without the knowledge of the contracting officer. On the other hand, a contracting officer with inadequate cost information may seek to protect his position by setting targets which are too low to stimulate incentives. The use of pilot costs developed through test runs is one means of developing adequate cost information. However, a contractor who sets out to develop a high target cost may accomplish this end through the test run rather than through the cost estimate.

*Audit Requirements.*—In any circumstances, a target price contract which calls

<sup>4</sup>United States v. Bethlehem Steel Corp., 315 U. S. 289 (1942).

for cost audits maintains many of the administrative disadvantages of a cost-plus-fixed-fee contract. These include requirements of large auditing staffs, expensive accounting systems and post-audits.

### *General Requirements for Stimulating Incentives*

The essential job of developing contractual incentives is to discover means for maintaining the natural incentives which are inherent in a profit and loss system. Businessmen have made higher profits over a period of years by cutting costs and by increasing production when the demand is great. Therefore, the development of incentives requires not the introduction of new drives but the purposeful application of existing profit motives.

A review of the types of arrangements which have been used shows that there are no magical formulas or trick contract provisions which will guarantee incentives for higher production. An understanding of the types of production and price problems which contractors have to face is much more significant than any general type of contract. Basically, efficient procurement, including a discriminating use of the various types of contract provisions, will do more to develop incentives than any single formula.

Incentives can be stimulated in individual contracts. However, a complete development requires that this general point of view should extend through all procurements, in all types of contracts, and among all Government agencies. Otherwise, the agency which develops incentives through a close pricing policy may find that contractors would rather deal with the other "more liberal" contracting officers.

When targets are used, there must be close targets, but not too low. They are useful in a practical program for improving the efficiency of all producers and for rewarding those who do a better job with the facilities they have. This means that a contractor who operates an obsolete plant efficiently should be given a greater reward than another who operates a modern plant ineffectively, even when the costs of the modern plant are lower. At the same time, the development of incentives must depend upon the possibility of developing losses as well as profits. The assurance of a return of costs will not drive business organizations to their best efforts.

A cooperative approach in contractual relationships is an integral part of an incentive system. This would include helping the contractor improve his operations through the use of comparative data. It would call for giving the contractor an opportunity to present suggestions for improved contractual and production relationships, covering such factors as the size of the order, the length of a production schedule, and simplification of the items he produces.

A complete incentive program would call for the injection of incentives into the production system at various levels. For example, salary and wage bonuses can

improve productive operations and constitute a general mechanism for strengthening profit incentives in day-to-day operations.

#### USE OF STATUTORY RENEGOTIATION IN FORWARD PRICING

The problems encountered in original pricing and in price adjustments made pursuant to clauses in individual contracts, on the one hand, and in statutory renegotiation under Section 403 on the other, have many points in common. Some of these points involve reward for production attainment and manufacturing efficiency; analysis of comparative costs of production; comparison of prices and price trends; and various other incidental but important contributions to the war effort. Under present procedures these two functions tackle their common problems from different points of view and therefore in the main are complementary and not overlapping. The procurement officer looks at the individual contract as one of a group of orders for the same or similar items. On the other hand, the price adjustment section considers the individual contract as one part of a company's overall business. The procurement officer is primarily concerned with prices, of which potential profits are only one element, whereas the renegotiator is primarily concerned with profits, the reasonableness of which is determined in part by the prices which the contractor has charged the Government. Renegotiation as now administered is capable of making a number of contributions to the procurement program which are unique because of the point of view from which renegotiation is conducted. Among these contributions are the following:

*An Overall Look at Contracts and Operations.*—The individual procurement officer can ordinarily influence at one time only a few prime contracts which may represent only a small proportion of the contractor's total business. Under renegotiation it is possible to consider all of the company's business and thus get a better perspective of the true meaning to the contractor of any one contract or group of contracts. Coordination and perspective, therefore, gained in the course of renegotiation can sometimes be a contribution to the work of the procurement officer which cannot easily be had from any other source unless he greatly enlarges his own activities. This is illustrated in those cases where prices for some items are high because of a price maintenance policy and other prices are too low except for corrective purposes. Here the price adjustment section can take an overall look and analyze the effective as well as the formal prices and make the results of its analysis available to the procurement officers.

*A Coordination of Examinations of Operating and Financial Factors.*—Procurement officers focusing on individual contracts have relatively little experience in and not too much opportunity for examination of operating and cost statements. Fiscal personnel can examine financial statements but have relatively little experience in or opportunity for studying operations. Production personnel examine operating factors in production but usually do not coordinate their points of view

with pertinent financial factors. Price Adjustment Sections, on the other hand, have both the experience and opportunity to look at all of these factors in their relationship to each other. Thus, unlike procurement and production personnel, Price Adjustment Sections can consider the causes of contingencies and the possibilities of rearranging them by considering the factors of risk as elements in price analysis. Charges for amortization, probable future claims because of performance guarantees, become more than a set of figures.

*Comparative Analyses of Companies Within Industries or According to Products Manufactured.*—Under the procedure of assigning a contractor to a single Price Adjustment Section, all prime and sub-contracts can be considered at one time—a procedure that the individual procurement officer cannot easily follow. Because of the complementary nature of the two activities, the procurement officer can secure a considerable amount of significant information from the reports developed under renegotiation or from the Price Adjustment Section. It is the only consistent source of material for use by price analysts in a comparison of components of price and costs coupled with additional knowledge of operations to permit an interpretation of their meaning. Often the most important objective is to discover why these elements differ. Conversely, this assignment system enables a company to discuss war production problems and corporate policy in one place. Because of the existence of the renegotiation procedure, many managements have seen the need for reducing prices and profits in a way which is not likely when individual transactions occupy their entire attention.

*Obtaining and Using Other Existing Material.*—Large duplications in work are avoided by Price Adjustment Sections acting as funnels through which pertinent information existing in the Bureau of Internal Revenue, O.P.A., S.E.C., W.P.B., and other agencies, is coordinated and made available to contracting officers. Securing this type of existing information is difficult and time-consuming if done by contracting officers directly, but it can be furnished through the Price Adjustment Sections as part of their regular procedure.

*Opportunities for Improvement and Unification of Procurement Policies.*—The renegotiation mechanism with its opportunities for coordinating material and points of view, with the necessity of drawing important conclusions, can affect procurement over so wide an area that it provides a practical administrative opportunity for improving procurement policies and procedures. The individual procurement officer, no matter how well he accomplishes his work, cannot look for such broad results. Large scale administration with reasonable uniformity in a somewhat technical field filled with variables is one of our major problems. Opportunity for thinking out questions together and planning their application is scarce.

*Summary Approach to the Cost Elements of Price Analysis.*—The functions of the cost analyst in assisting price adjustment boards or sections and of the price analyst in his relationship to procurement should be complementary, as their ap-

proach to costs is from different angles. Experience has shown that some of the help that can be given to the procurement officer, which leads quickly to a revision or confirmation of the price in a new bid proposal, is so simple that its effectiveness would not be believed if it were not for this experience. In renegotiation the cost analyst looks at the cost of sales of a contractor for the most recent closed accounting period for its entire business. These will be actual costs since the breakdown will be for a closed period. Merely placing the estimated costs presented in support of a new bid beside these experienced costs provides the procurement officer with pertinent and revealing questions. Variations may well be satisfactorily explained, but their discovery provides a speedy identification of both the reasons for and the amounts of apparent overpricing. Thus overall actual cost figures may be used as a starting point for testing the accuracy of the cost estimates in a bid proposal and may be the most practical method of identifying excessive estimates for material, labor or burden items and for discovering both the location and amounts of items included for contingencies. In addition, the renegotiation reports may provide procurement officers and price analysts with much other information such as administrative and general expenses, advertising costs, etc., and the contractor's performance record.

The discovery and measurement of manufacturing efficiency is one of the most difficult and yet important tasks with which renegotiation and procurement officials are charged. Success in this vital task is dependent upon good teamwork among those approaching the problem from different points of view—notably from the points of view of costs, engineering, and operations. Failure in any one weakens the others. A knowledge of efficiency is scarcely possible without a knowledge of how controllable items of expense have been controlled. This knowledge is linked inseparably with production accomplishment. A skillful classification and use of a breakdown of manufacturing costs therefore assume an importance in both renegotiation and procurement which should not be overlooked.

Any adequate consideration of how effective statutory renegotiation has been in the procurement pricing program would require a detailed study of: (1) the use which procurement officers have made of the information and experience gained in and the results of renegotiation; (2) the influence which the existence of the renegotiation law and administrative policies have had upon both procurement officers and contractors, and (3) general and specific forward pricing covenants included in renegotiation agreements. Space will permit only a brief and general treatment of these subjects.

*Use of Renegotiation Information and Experience.*—Notwithstanding the fact that statutory renegotiation deals principally with overall data, the necessity for segregating business between that subject to renegotiation and that not so subject introduces the question of how costs were allocated. To answer this question satisfactorily for some companies requires much the same data sought by the procurement officer in dealing with cost estimates for individual contracts.

Price Adjustment Sections, in dealing with overall cost data, must inspect certain expense items and judge to what extent they can be considered as costs of war business. Decisions of this character must also be made by procurement officers. Profit margins must be related to performance, to competitive price levels, and to contribution to the war effort—considerations also to be weighed when judging prices on specific contracts.

Each topic discussed in renegotiation reports, in varying degrees when applied to individual cases, has a bearing upon the judgment of both renegotiators and procurement officers. The substance of these reports, therefore, is often a common meeting ground of the two functions and has been found useful by interested procurement officers.

The manner in which certain topics are discussed may be illustrated by the following paragraphs taken from renegotiation reports prepared by Price Adjustment Sections.

#### *Segregation of Sales and Profits*

“Material and direct labor costs are divided on the basis of actual costs for the various products. All burden items are distributed through a standard cost system in operation for a number of years. Factory burden is distributed by an application of operating departmental burden rates to direct labor hours. Administrative and selling expenses are divided on the basis of net sales.”

The foregoing information is important to the Price Adjustment Sections for an understanding of the methods used in segregating sales and profits between renegotiable and non-renegotiable business. With this knowledge, the price analyst assisting the contracting officer is able to understand something of the costing method used by the contractor, and with this help he can do a better job testing cost estimates.

#### *Extraordinary Reserves*

“The company has provided from 1942 earnings special reserves totaling \$540,000, for future inventory losses. No part of these reserves has been allowed in respect to renegotiable business.”

The fact that the company has charged reserves of this type to its operations during 1942 is a warning to the procurement officer that the specific contract under review may be charged with a similar reserve either directly or through overhead.

#### *Selling and Advertising Expenses*

“A number of factors have required the company to maintain selling expenditures at a substantial level. (1) There is no shortage of production facilities of the type owned by the company, and it is faced with intense competition in the securing of Government contracts and subcontracts for products suitable for its equipment. Where the company formerly secured 30% to 40% of orders sought, it is now successful in only 10% of its bids; (2) the company has maintained its volume only by securing a large number of contracts and subcontracts from procurement agencies and prime contractors throughout the country; (3) the securing of these orders requires a great amount of preliminary



designing and engineering expenses which are carried out by the company's selling organization."

The foregoing discussion can assist the price analyst in understanding the nature of selling and advertising expenses allocated by the contractor to a specific contract. With this type of assistance care is more effectively taken to see that allocations of this character are made on a basis fair and reasonable to both the Government and the contractor.

*Financial Data.*—In the course of review of a contractor assigned for renegotiation, Price Adjustment Sections obtain from the contractor certain financial data which often can prove useful to procurement officers. These data may consist of trends in sales volume; something of the influence of changing volume upon factory overhead; the practices of the contractor in making charges for depreciation, rents and royalties, selling expenses and the like. A knowledge of these established practices enables a procurement officer more readily to understand and appraise cost breakdowns submitted in support of new bids.

*Influence of Existence of the Renegotiation Law and Policies.*—The influence of the existence of the renegotiation law and of the policies adopted for its administration is not simple to appraise. The difficulty of gathering evidence on a point of this kind is great in view of the many involved and interrelated factors in the picture. On the one hand, it has been argued that the renegotiation law as administered has encouraged high costs and high prices because in the last analysis the contractor came out better financially on that basis. On the other hand, it has been argued that the administration of the renegotiation law has made contractors more willing to reduce prices, since they realized they could not keep excessive profits anyway, and that this trend toward lower prices in turn has had an influence on efficiency and economy. The proponents of each point of view cite many examples to prove their case. Without attempting to review or weigh the evidence which exists on each side, it can be stated that the evidence indicating an influence for lower prices is substantial.

One of the announced policies in the administration of renegotiation is that contractors who maintain high prices and high profits will be considered as operating with less risk and will therefore be allowed smaller profits on renegotiation. Some procurement officers have noticed a marked difference in the whole tone of negotiations for new contracts by the contractors with whom they were dealing, almost immediately after this policy was announced. It is only reasonable to suppose that the influence of such policy upon contractors is substantial. This is a strategic point at which any influence is of extreme importance, because in the long run the full success of the procurement program will depend upon corporate policies which contractors adopt for themselves and in turn upon improved relationship between the contracting parties.

*Forward Pricing Covenants in Renegotiation Agreements.*—To the extent that renegotiation is retroactive pricing, it may apply to contracts fully or only partially

performed. To the extent that repricing of undelivered items is effected as a part of renegotiation, the repricing can apply only to the backlog of contracts yet to be performed at the time the renegotiation agreement is actually signed. The result is that there has not been and probably cannot be any very systematic pattern of forward pricing of deliveries to be made under existing contracts beginning with the close of the year to which renegotiation applies. For example, if a renegotiation agreement covering the calendar year 1942 containing a forward pricing clause, is actually signed November 1, 1943, the forward pricing clause cannot apply to deliveries made during the first ten months of the latter year. In some cases, however, the renegotiated company has agreed under such circumstances to make all future deliveries at a reduced price, and in addition has agreed to make a voluntary refund to the Government of an amount equal to the difference between the original and revised prices on deliveries made during the first ten months of the year. Due to this lag it is possible that the influence of statutory renegotiation upon deliveries made in 1944 will be greater than it has been on deliveries made in 1943.

The types of forward pricing clauses included in renegotiation agreements vary considerably depending partly on circumstances, but for the most part the following general type has been used:

"The contractor agrees to re-estimate its costs from time to time during its current fiscal year, giving consideration to its cost experience for the latest fiscal year covered by this agreement, and from time to time during the current fiscal year to adjust its prices under contracts and subcontracts subject to renegotiation under the provisions of the Act, to eliminate the accumulation during such current fiscal year of profits thereunder regarded by the contractor as excessive. The provisions of this paragraph, however, shall be without prejudice to subsequent renegotiation pursuant to the Act, relating to any fiscal year subsequent to the fiscal year covered by this agreement."

From this general type clauses vary and range to those in a few cases which are very specific, setting forth a completely revised schedule of prices for all of a contractor's war products. In some instances the clause has called for an overall percentage reduction in the contractor's prices, and in others the contractor has been left with the choice of products on which he will reduce prices.

The problem of administering these various clauses has been a difficult one. While the recapture of excessive profits lends itself to the overall approach, the adjustment in prices must ultimately occur on individual contracts. In some instances the contractor has prime contracts with several Government agencies and in addition has numerous sub-contracts. The more scattered the business of a given contractor, the harder the administrative problem becomes. No one administrative approach has been found wholly adequate. In some cases the Price Adjustment Board which conducted the renegotiation will follow up to ascertain at the right time what the contractor has done by way of complying with his covenants. In others the forward pricing clauses have been referred to the appropriate contracting officers for administration. The most difficult case arises in connection with

a sub-contractor, since such a contractor has no direct connection with any branch of the Government except the Price Adjustment Board to which it was assigned for renegotiation. In some such instances renegotiation agreements provide that the sub-contractor shall give the following kind of notice to the prime contractor in connection with price reductions:

"This reduction is the result of renegotiation pursuant to Section 403 of the Sixth Supplemental National Defense Appropriation Act, 1942, as amended by Section 801 of the Revenue Act of 1942 and therefore, in respect of your prime contracts with the Government or subcontracts to which Section (c) of said Section 403 is applicable, under which costs will be affected by this reduction, [that] the full benefit thereof shall be passed on to the Government through equivalent aggregate price reductions or refunds under these prime contracts and subcontracts. Contracting officers of the War Department, the Navy Department and the Treasury Department and the Maritime Commission are being advised accordingly."

In some cases renegotiation has been conducted on an industry basis, enabling comparison of prices and costs not only on an overall company basis, but also on a product basis. The forward pricing clauses in these cases have probably been more successfully administered than in any others.

#### CONCLUSION

From time to time different panaceas are offered for all the difficulties besetting war procurement. They vary widely, often emphasizing some one approach which is predominantly of an accounting, statistical, legal, or economic nature. But such panaceas with all their formulae offer little help. The hope for a procurement program which will be a credit to the democratic and private enterprise manner of doing things rests upon a simple business use of all these approaches. They are tools to be used in a manner which will bring and keep war producers and contracting officers into contact with the facts they must deal with. It should be recognized that arbitrary authority often rests upon error and that full disclosure and good faith in negotiations are the surest guard against error.

Any system limited to a profit analysis falls short of the goal. The central objective of maximum output requires a contractor to justify his costs by production performance. Progress is lost unless both buyer and producer of war materials strongly realize that costs and possible unit output are dynamic and never static. There are many indications that the use of the methods discussed in this article is effecting closer pricing, increased production, and improved utilization of manpower. As time goes on and both procurement officers and contractors become more proficient in the employment of these methods, it is believed that more cooperative action and generally improved contractual relationships can be expected. This in turn will result in prices which are fair and reasonable within practical limits and in more efficient and increased production. The extent to which these goals are approached or achieved will be the measure of the success of the policy. Final judgment on the overall effectiveness of the program will, however, have to await the termination of hostilities.