

## THE WORK OF THE NATIONAL COMMISSION ON SUPPLIES AND SHORTAGES

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National Commission on Supplies and Shortages

Many of you have probably heard of the National Commission on Supplies and Shortages, and are aware of its history. For those of you who are not, and for those of you who may have lost track of us, let me bring you up to date,

We were created by Public Law 93-426 which was signed on September 30, 1974. The legislation setting us up specified that the Commission be composed of two members of the Senate, two members of the House, four senior Administration officials, and five individuals from the private sector. The first group of appointments were made quickly. Senator Brock, Senator Tunney, Congressman Rees, and Congressman Stanton were named to represent the Congress. Secretary Simon, Mr. Lynn, Mr. Seidman, and Mr. Greenspan were named as the senior Administration officials. However, there was a delay of about one year in appointing the five private-sector Commissioners. Finally in the late summer of 1975, Philip Trezise, a senior fellow at the Brookings Institution and a former Assistant Secretary of State for Economic Affairs; George Kozmetsky, Dean of the Graduate School of Business at the University of Texas at Austin; Nat Weinberg, the retired Chief Economist for the United Auto Workers; Hendrik Houthakker, Professor of Economics at Harvard and formerly a member of the President's Council of Economic Advisers; and Donald Rice, President of the RAND Corporation, were named. Dr. Rice was designated as Chairman of the Commission. The Commission met for the first time in September, and at that meeting I was named Executive Director.

During the one-year interval between the first appointments I mentioned and the time when the Commission membership was filled out and began meeting, our congressional members, anxious to get things under way, requested the Office of Technology Assessment to initiate two projects, one on economic stockpiling, and a second on materials information systems. Both are topics that the Commission is required by statute to examine.

Al Paladino has already briefed you on the contents of these two assessments, so I will not comment further on them.

As I just mentioned, these two assessments were requested by our congressional members in order to give us a head start once we began operating. They realized that we would be under a tight schedule, and indeed we are. We are required to complete our

final report on or before the end of December 1976. To do this, we must have a draft final report ready for Commission discussion by the end of October. To meet this deadline—and we will meet it—the staff’s job of gathering information and data must be pretty much completed by just about now. **And** it is, During this month and next, the Commission, in a series of three meetings, will complete framing its general policy positions so that the report drafting can begin. In certain areas, such as stockpiling, this guidance has been received and drafting is now proceeding.

What I want to turn to now is a brief summary of where we now stand in regard to certain of our findings and conclusions. I must preface this with a caveat. The results I will be outlining here represent staff conclusions, not conclusions of the Commission. They should not be attributed to the Commission, but to me.

Now, what have we found?

A recent front-page interview that some of you probably noticed in *American Metal Market* was headlined “U.S. Supply Panel Finds Metals Levels Unperiled.” This would seem to be totally at variance with the title of this conference: “Engineering Implications of Chronic Materials Scarcity.” It may be, but let us not jump to conclusions.

We have not found that the world in the future will be untroubled by materials supply problems, that materials will be available in unlimited abundance at declining real or even nominal prices. We have found that the sort of problems we are likely to be facing in the years to come will not be of the sort that many people implicitly mean when they use the word “scarcity” or “shortage.” Instead, they are likely to be quite similar to the sort of problems that arose during 1973 and 1974, problems that had little or nothing to do with the level of the world’s reserves of key materials.

### **Extent of the 1973-74 Shortages**

The shortages experienced during 1973-74 were perceived by observers at the time as both widespread and severe. A special report in the June 30, 1973, issue of *Business Week* entitled “The Scramble for Resources” began by stating:

The prices of raw materials and industrial commodities from rubber and oil to scrap steel and copper spiraled higher. Purchasing agents complain that supplies of everything from wool to zinc are becoming increasingly difficult to get. The United States faces a full-fledged energy crisis, . . .

Articles appearing daily in the business press told of purchasing agents’ difficulties in securing necessary materials. Discounts disappeared. Customers were put on allocation. Inventory posi-

tions were jockeyed in an effort to adjust to the shortages.

Furthermore, the shortages affected behavior even after they disappeared. Our discussions with companies tell of a new concern on their part for stability and continuity of supply—even if it means that they must pay higher prices. For example, The Wall Street Journal recently reported the case of a purchasing agent who passed up an offer by a foreign supplier of cost savings of approximately \$67 per ton on steel products because he didn't want to risk alienating his traditional domestic source of supply.'

The scope of the shortages was evidenced by a survey taken in March 1974, by the Permanent Subcommittee on Investigations of the Senate Committee on Government Operations. This study, titled *Industry Perceptions of Shortages*, queried the 500 largest U.S. firms about the shortages of both primary and secondary materials they were then experiencing or expected to experience in the near future. The respondents to the survey (52 percent of those questioned) indicated that aluminum, copper, chemicals and petrochemicals, steel, paper, and plastics were areas of particular concern. Other less serious shortages were being experienced in caustic soda, chlorine, zinc, and various steel products.

The shortages experienced during 1973-74 were pervasive. They were also unique. The Commission staff requested commodity specialists at the Department of Commerce and the Department of the Interior to review the 30-year period, between 1946 and 1976, and identify periods when the commodities they follow were either in short supply or in surplus. What these two surveys reveal is that the only comparable period of widespread shortages was during the Korean War. With limited exceptions, the period from 1953 to the middle 1960's was characterized by a surplus of productive capacity in our basic industries. Throughout this period, there were occasional spot shortages involving a variety of products. During the Vietnam buildup these spot shortages became more frequent and widespread. But even then, they had a limited impact on the economy and were generally quite shortlived.

### **Causes of the Shortages**

The belief was apparently widespread at the time, and has prevailed among some to the present, that the shortages of 1973-74 were somehow related to a growing inadequacy of our natural resource base—that they were the first manifestations of the

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I "How Lloyd Konrad, A Purchasing Agent, Wheels for Good Deals," The Wall Street Journal. October 7, 1975. p. 1.

catastrophes that had been predicted by the authors of Limits to Growth.

The staff has searched diligently for indications that any of the shortages during 1973-74 were directly related either to a depletion or an inadequacy of natural resources. With the possible (and highly arguable) exception of natural gas, we can find no such example.

This is consistent with the entire record of postwar experience. I earlier referred to studies of shortages conducted at our request by the Commerce and Interior Departments. In addition to identifying the instances in which shortages occurred, the commodity experts were asked to list the causes of these shortages. A brief review of the results is instructive.

The primary cause of the shortages that occurred during the Korean War was the substantial and unexpected increase in demand that accompanied the outbreak of the war. The various spot shortages of particular commodities that were experienced during the mid-1950's to the early 1970's had a variety of causes, but none were related to a basic inadequacy of resources. For example, cattlehides experienced a brief shortage during 1965 as a result of a drought in Argentina which reduced supplies. There were shortages of nickel during 1966 as a result of an extended strike against Canadian producers, Zinc was in tight supply during 1963-65, in part due to the demand generated by the Vietnam buildup. Zinc was also affected by plant closings accelerated by EPA regulations. Between 1970 and 1974, domestic production of primary slab zinc fell by 40 percent in spite of sharply rising worldwide demand for the product. Other examples can be cited, but they uniformly tell of problems that are essentially short-term in nature.

The surveys that were made during the height of the shortage period in 1973-74 tell a similar story. The publication *Industry Perceptions of Shortages* identified four major causes of the shortages that were then occurring: first, a sharp increase in demand for most commodities; second, reductions in available supplies caused by factors such as price controls; third, the relatively low level of investment in capacity expansion that had occurred in the late 1960's and early 1970's due to low profitability, high interest rates, and the diversion of funds from capacity expansion to meeting environmental regulations; and, fourth, the increase by approximately 1 year in lead time required to build new industrial facilities.

A study undertaken in 1974 by Arthur D. Little, Inc. for the Department of Commerce placed particular emphasis on the effects of governmental actions. The impact of Government policy on shortage conditions was found to be most apparent in

benzene, steel scrap, and synthetic fibers. Price controls were said to have contributed to shortages in 25 of the 26 commodities. In addition to the governmental factors, other causal factors mentioned included, first, an insufficiency of productive capacity which had been brought on by the overcapacity in the late 1960's, which in turn had reduced profitability and led to reduced capital expenditures; and, second, the strong surge in foreign and domestic demand, which made the already tight capacity situation unmanageable.

In an effort to test the results of these broad surveys, the staff commissioned seven in-depth studies of specific commodities—titanium, aluminum, iron and steel scrap, pulp and paper, livestock and feedgrains, fertilizer, and low sulfur coal. These examples were chosen to span a wide range of market structures and a wide range of Government involvement. In each case, the contractor was asked to determine what caused the problems that were observed during 1973-74, and what adjustments were made by various parties. With the results of the Arthur D. Little study in mind, the contractors were asked specifically to see what impacts (either direct or indirect) Government actions had in creating the shortage or in easing it. In addition to these seven studies, the staff itself conducted a less extensive study of petrochemicals. Let me highlight the results.

Capacity limitations linked to low rates of return earned during the late 1960's were mentioned as a major shortage cause in five of the six cases where manufacturing capacity is a relevant limiting variable. Operation at substantially less than capacity levels had been the general rule from the end of the Korean War until the mid-1960's. While the Vietnam buildup and the economic expansion that accompanied it strained capacity for the first time in nearly a decade, it also set off an investment boom. The new capacity resulting from this investment began to come onstream in the latter part of the 1960's, just at the time the economy entered a downturn. The downturn itself would have reduced corporate profits; the depressing effect of the new capacity compounded the problem.

The decision by industry to defer adding further to capacity in the late 1960's was understandable, given this erosion in corporate profitability and the high interest rates that prevailed throughout much of the period. But low profitability was not the only factor tending to cause businessmen to exercise caution.

Beginning in the early 1970's, a new source of investment uncertainty appeared. At about this time, it first became clear that the growing demands to clean up the environment and to improve the health and safety of workers were going to result in Federal legislation. At this early stage, it was not clear exactly

what the ultimate impact of this legislation and the regulations that were certain to accompany it were going to be, but it was evident that complying with them would be expensive, particularly for the basic metals, chemical, and paper industries. It was also evident that engineering necessary controls into new plants would generally be less expensive than retrofitting existing plants. This uncertainty about what the regulations eventually would be and when they would apply did not create a climate particularly conducive to new investment. To the extent that business had to begin to take steps to bring existing plants into compliance with standards as they were promulgated, some funds apparently were diverted from capital expansion,

Another factor complicating both investment and production decisions during the early 1970's was price controls. In some cases, such as aluminum and petrochemicals, prices appear to have been frozen at levels that had been depressed by the price competition that had broken out during the 1970-71 recession. This directly undermined the incentive to add capacity. Even where this was not the case, the uncertainty generated by the rapid and seemingly unpredictable changes in the price control regulations and by the mere fact that the Government had instituted the controls after having repeatedly declared that it would not do so, tended to depress investment in new capacity.

If a slowdown in capacity expansion during the late 1960's and the early 1970's was the factor that set the stage for the shortages of 1973-74, our commodity studies confirm that the primary event that actually set them off was the worldwide surge in demand that began in 1972. The causes of this simultaneous boom in the economies of most of the industrialized countries are still not satisfactorily explained. Cooper and Lawrence<sup>2</sup> attribute the boom in primary commodities to the acceleration in the rate of U.S. inflation during 1972 and 1973, the stimulating effect of large U.S. balance of payments deficits during 1971 and 1972, and the sharp movements in currency exchange rates during 1971-73. Others have advanced explanations more consistent with a monetarist view of the world. But, regardless of the reasons for this upsurge in demand, the fact that it occurred almost simultaneously in most of the industrialized countries meant that when things became tight in the United States, we could not relieve the pinch by relying upon relatively cheap imports. If imports were to be a safety valve at all, they were going to be expensive,

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2. Richard N. Cooper and Robert Z. Lawrence, "The 1972-73 Commodity Boom," *Brookings Papers on Economic Activity*, 3:1975, pp. 672-677.

Finally, even the slowdown in the rate of capacity expansion and the boom in demand do not fully account for the pervasive nature of the shortages that occurred in 1973 and 1974. Capacity utilization was high in 1973, but the levels it reached were not unprecedented. Yet as we have seen, the magnitude of the shortages was. The critical additional factor in the equation is what one of our contractors has referred to as the "shortage mentality" that existed at the time. During late 1972 and early 1973, something happened that made purchasing agents hypersensitive to any sign that a shortage might be developing and especially quick to take defensive measures. The precise causes of this "shortage mentality" are hard to pin down. The publicity surrounding the publication in 1973 of *Limits to Growth* may have been a factor. The spot shortages created by quirks in the price control regulations may have been another. The point is that the phenomenon, though elusive, appears to have been real.

To cite one case, by 1972 paper producers were operating at close to rated capacity. In an effort to get more output out of existing plants, the industry began to rationalize its product lines, dropping off low profit items. These items had been added during the previous recession as the industry had attempted to maintain near-capacity operations by engaging in "product tailoring." This practice had shortened production runs and increased downtime on the papermaking machines.

However, the industry's efforts to reverse the proliferation of products it offered and thereby to increase its effective capacity to produce generated a misperception on the part of paper users. As our contractor put it:

Though entirely appropriate from the point of view of sound business practice, the industry's 1972 product rationalization programs became viewed by many buyers as evidence of an incipient product shortage. This stimulated a defensive surge in orders, which hit the industry at a moment when wood pulp inventories were unusually low.<sup>3</sup>

This reaction was typical. Similar examples are cited in our studies of titanium, aluminum, fertilizer, and petrochemicals. To be sure, most of the shortages evaporated once the true state of affairs was recognized, but not without substantial cost to the economy.

This last point requires some elaboration. Our commodity studies and the surveys that were taken at the time uniformly point to the last quarter of 1973 and the first half of 1974 as the period of the most severe shortages. Yet this was the period

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j Harbridge House draft study, pp. 4-21.

when, looking back, we now see that the economy was actually well into a downturn. This paradox seems explainable only by the "shortage mentality."

The oil embargo that OPEC announced in late 1973 was a traumatic phenomenon. Whether the embargo actually was effective or not is a matter of considerable dispute. What is important is that most people at the time apparently believed that it was effective. The tight capacity situation that then existed with regard to most materials, the apparent disruption in the supply of probably the most important industrial commodity, and the talk that immediately began to be heard from other raw materials suppliers in the Third World that they intended to emulate OPEC created a situation in which the natural reaction of purchasing agents was to build up inventories.

We now realize that the increase in oil prices acted very much like a substantial tax increase. Thus, it sharply reduced potential economic growth. In a recent book, Fried and Schultze have quantified this impact and have shown it to be substantial.<sup>4</sup> Given such a sharp change in the economic outlook, and given the fact that consumer spending on durable goods had turned downward as early as the second quarter of 1973, purchasing agents should have been slowing their rate of inventory accumulation. Instead, they sharply increased it, from an annual rate of \$14.2 billion in the third quarter of 1973 to an annual rate of \$24.4 billion in the fourth quarter of 1974.<sup>5</sup>

Once the full extent of the drop-off in consumer demand became evident, purchasing agents began to take corrective actions, canceling orders and liquidating their inventories. The correction was drastic. Between the fourth quarter of 1973 and the first quarter of 1975, investment in inventories shifted from accumulating at an annual rate of \$24.4 billion to being liquidated at an annual rate of \$19.0 billion. Industrial production, which had been artificially sustained by the surge of orders resulting from the inventory buildup, dropped precipitously, from an index value of 125.6 in August, 1974 (1967=100) to 109.9 only 6 months later,<sup>6</sup>

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<sup>4</sup>Edward R. Fried and Charles L. Schultze, editors, *Higher Oil Prices and the World Economy*, Brookings, 1976.

<sup>5</sup>There was a major revision in the inventory statistics during mid-1974. According to the old series, during the fourth quarter of 1973, inventories accumulated at an annual rate of \$10.9 billion. According to the revised series, during this quarter, inventories accumulated at an annual rate of \$24.4 billion. The Commission staff has been told that as soon as the revised inventory figures were published, a number of economists immediately realized that a serious recession was imminent and revised their forecasts accordingly.

<sup>6</sup>The drop-off in **primary metals** was even more severe but occurred over a more extended period. The index peaked at 130.7 in December 1973 and fell to 89.9 in May 1975.

Consequently, the “shortage mentality” and the behavior it generated, helped create the shortages that were observed during 1973-1974, artificially extended the boom, and contributed substantially to the severity of the recession that followed.

### **Implications for the Future**

I have gone into so much detail about the experiences of 1973-74 because it is my belief, based upon all the results of our work, that for the immediately foreseeable future (and by this I mean at least until the year 2000 and perhaps well beyond that date) the primary issues the United States must face with regard to the supply of basic materials will have relatively little to do with whether the world has sufficient quantities of natural resources extractable at reasonable cost, where “cost” includes the cost of protecting the environment from undue harm. This is not to say that we need to be unconcerned about the state of both U.S. and world resources. We are indeed beginning to exhaust our higher-grade domestic deposits of certain of our important minerals. Furthermore, due to the concern over the environment and the increasing price of energy, extracting the minerals that remain will be more expensive than previously expected. However, our concern over the state of our resource base, while real and deserving of attention, should not blind us to the fact that the important policy problems during the next several decades will be similar to the sort that created the shortages of 1973-74, what might be called “above-the-ground problems.” With this in mind, it is useful to evaluate how well we have been able to anticipate the appearance of such problems, monitor their development, decide when action is called for, and act in an appropriate and effective manner. In my view, we cannot give ourselves very high marks in any of these areas.

The situation that developed in 1973-74 was partly foreseeable and partly the product of uncontrollable events. Most of the basic trends were visible long in advance. What was happening with regard to investment in capacity expansion was clear to all who took the opportunity to look at the relevant data. Many of the factors tending to produce this drop-off were also clearly evident: the sharp decline in corporate profits after 1966, the record high interest rates of the late 1960's, and the sharp decline in capacity utilization between 1970 and 1972.

The force of the surge in demand that began in 1972 apparently was underestimated, and the fact that it occurred virtually simultaneously in all the major industrialized countries was a surprise, although the factors tending to tie the major world economies together (the factors mentioned by Cooper and Law-

rence) should have raised policy makers' sensitivities to this possibility. The impact that such a demand surge would have on our economy, given the situation we were in with regard to industrial capacity, seems not to have been appreciated.

Also not understood or appreciated was the impact upon businessmen of the increasing scope of involvement and method of operation by the Government in the economy. The passage of the environmental and occupational health and safety legislation signaled the intention of the Federal Government to interject its presence forcefully into areas where it previously had been only peripherally concerned. The imposition of price controls greatly expanded and made much more formal the movement of the Government into firms' pricing decisions. Both these moves signaled the rise of an important new source of uncertainty for the businessman, the uncertainty of Government policy.

The way the Government moved to exercise its new influence did nothing to quiet concern in this regard. In both the environmental and the occupational health and safety areas, the Government initially acted with little knowledge or even apparent concern about what the ultimate consequences of its policies might be. It was not until the mid-1970s that it began to assess in a serious and systematic way the impact that even a single agency's various rules and regulations might have on a specific industry. Even today there is extremely little information about how the totality of Government policies impacts on given industries and sectors and how these policies interact. Very little attention still is given to reducing the inconsistencies in the policies and regulations of various agencies.

In the case of price controls, the problems that inevitably arose were handled by one "quick fix" after another. Little thought had been given as to how to impose the controls in the first place. More, but still inadequate, thought was given regarding how to remove them. Once the controls were formally removed, the question of what type of continuing Government presence, if any, ought to exist was never really resolved.

It is little wonder that in contemplating how the Government had handled the substantial increase in the level of its involvement in the economy that had begun in the late 1960's, businessmen began to question the Government's ability to form and carry out rational and consistent policy. There can be little doubt that this climate of confusion and inconsistency played havoc with business' attempt to undertake the kind of long-range planning that is needed if they are to undertake investments which require large amounts of "front-end" money and take years to show a return.

What also was not adequately understood by the Government is that, all else held equal, it requires a much higher level of sophistication and skill to manage an economy that is operating at or near full capacity than one that is operating at well below capacity. Such relatively blunt fiscal policies as across-the-board tax cuts and increased public spending can work effectively in stimulating the economy in a situation in which bottlenecks are not immediately encountered. The 1964 tax cut is a good example of this. However, as became painfully evident during the 1972-74 period, a similar spurt in demand when the economy is already operating at close to full capacity can produce very different results. Monetary policy used primarily as a "fine tuning" instrument at times when the economy is close to capacity has turned out to be not as precise an instrument as policy makers would have liked. Furthermore, attempting to deal with such a situation by undertaking ad hoc actions that ignore the fundamental inter-relatedness of the industrial sector or by random jawboning do as little good and embody as much potential for creating harm as tying down the safety valve on an overheated boiler.

Another factor that was not adequately appreciated during 1973-74 was the importance of paying attention to factors which affect the attitudes of relevant decision makers in the private economy when the economy finds itself in a tight situation. If there is enough talk in the press predicting that we are about to run out of resources, and if responsible Government officials lend credibility to such talk, it is only natural for purchasing agents to be particularly alert for signs that the commodities they must acquire to keep their factories running are about to experience supply difficulties. And when they see such a signal—or believe that they see such a signal—they are bound to take steps to protect themselves, thereby producing a classic "run on the bank." In such times, it is especially critical that the Government be aware of the true state of the situation that exists in certain industries so that the potential impacts of its various actions or inactions are fully appreciated.

I have argued above that, when viewed in the context of our postwar experience, the shortages of 1973-74 were extraordinary events. But are they likely to be repeated?

Investment spending increased in 1973 and 1974 as the economy expanded and price controls were removed. However, the recession of 1975 caused many projects to be canceled or delayed. Now that the economy is emerging from the recession, capital spending is beginning to increase, but there is no sign yet of the sort of investment boom that would make up for the underinvestment of the late 1960's and early 1970's. The sharpness of the recession and the speed with which the shortages disap-

peared should not divert our attention from the tight situation we almost certainly would find ourselves in if demand picked up abruptly and remained at high levels for any extended period of time. The severity of the demand surge would be heightened if, as in 1972, all major industrial countries boomed simultaneously,

Certain basic industries continue to be heavily impacted by events such as the increased price of energy, environmental regulations, and occupational health and safety regulations which, when taken together with their previous investment history, may mean that these industries will encounter capacity bottlenecks somewhat before the rest of the economy, Aluminum and paper appear to be two such examples in the group of industries that the staff has studied. However, any such projections should be treated with extreme caution, since the intensity of any pressures that develop will be strongly affected by the particular pattern of the expansion in demand.

### **Implications for Government Policy**

Given what appears to be the basic problem that set the stage for the shortages of 1973-74—an insufficiency of productive capacity—it might be imagined that the natural recommendation would be for a program of increased government incentives for capital formation, particularly in the basic industries. Certainly the decision made in the early 1950's to build up our industrial base had the effect of adding substantially to capacity in these industries. And there is no doubt in my mind that, if sufficient incentives were created, capacity expansion could be greatly stimulated.

This will not be the staff's recommendation. To be sure, the incentives of the 1950's stimulated capacity expansion, but they also helped produce an excess capacity condition that lasted well into the 1960's. In their own way they contributed as much to the long-range problems as did the price controls of a later era,

I do not mean to imply that decision by the Government to provide special incentives for capacity expansion in a given industry or group of industries is never justified. What I do say is that if such a policy is undertaken on a piecemeal basis with no account taken of its impact on other industries or on the long-run health of the industry being "helped," the result is no more likely to be effective, and, indeed, is quite as likely to be harmful, as some of the policies whose results are documented in our commodity studies,

The Commission staff likely will be recommending, therefore, that the Commission place its primary emphasis on suggesting means by which the uncertainties that result from the way the

Government currently forms and implements what might be called its "macroeconomic policies" can be minimized, This will directly improve the climate for investment, particularly in the basic materials industries where added uncertainty in any form is disruptive. It will also permit informed evaluation and effective implementation of any proposals that might be made to aid specific firms or industries.

The question of information appears to be central, It is difficult, if not impossible, for someone who was not involved in a specific policy decision to know what information was available to policy makers, how that information was used, and what additional information, had it been available, might have changed the decision, Nonetheless, the staff studies, contractor reports, and work undertaken at the request of the Commission staff by other Government agencies tell a consistent story to the effect that Government actions, whether undertaken with the benefit of full information or not, contributed greatly to the creation of the underlying conditions that resulted in the shortages of 1.973-74. The Government's apparent lack of awareness of its growing influence over virtually all aspects of decisionmaking in industry, and its failure to exercise this influence in a more coordinated, informed, consistent, and responsible manner contributed to the shortfall in capacity expansion. Its apparent lack of understanding of the impact of its policies on aggregate demand both in this country and overseas prevented it from being sufficiently alert to the possibility of the strong demand pressures that began to be felt in 1972. The apparent failure of its monitoring of basic industries caused it to be unaware both of the bottlenecks that were developing and of the seriousness and abruptness of the inventory buildup that occurred in late 1973. The ad hoc actions that were taken to increase supply, apparently without a full understanding of their long-range consequences, created other problems, particularly in agriculture. Consequently, the staff's recommendations will concentrate on improving the flow of information available to Government decision makers.

Detailed suggestions for institutional changes are now being prepared and will be presented to the Commission at the next two meetings. They will be designed to achieve four objectives:

1. Improve the quality (notice that I say "quality," not "quantity") of the information the Government generates with regard to materials;
2. Improve the ability of the Government to monitor the condition of major industries and industrial sectors;
3. Improve the quality of forecasts and situation reports that alert the Government and the general public to important

emerging trends and potential problems; and

4. Improve the quality of the Government's policy analysis so that the Government can better understand the impact of particular policies, how these policies interrelate, and how they combine to affect business incentives, particularly the incentive to invest.

I will not go into detail about what the staff will be proposing to the Commission in these areas because I do not believe it appropriate to do this before the Commission has had a chance to see the results of the staff's work. Suffice it to say that we will be presenting a broad range of options.

Let me now turn very briefly to the subject of economic stockpiling. This medicine has been proposed as a cure for an astonishingly wide range of diseases. Yet, as with any medicine, in actual use it is likely to be less effective than its more optimistic proponents would contend, and it is likely to have a number of unpleasant side effects.

The "diseases" for which this medicine has been must seriously "prescribed" are three: (1) to offset the impact of actual supply disruptions, (2) to provide a defense against price increases by cartels or by other sources of monopoly power, and (3) to stabilize the prices of key raw materials on a continuing basis. It is undeniable that each of these objectives is laudable. Supply disruptions, or even just the threat of them, can create havoc in an economy that is being pressed to produce at close to its full potential. Private firms can indeed often take protective steps to limit the damages that such disruptions might cause, but these steps can themselves be quite destabilizing.

Although the cartel threat in minerals undoubtedly has been overplayed, and although the impact of price increases in any mineral where a cartel threat is remotely plausible would have considerably less impact on the economy than did the increase in petroleum prices, deterring such increases is a worthwhile goal—if it could indeed be done and at reasonable cost.

Price fluctuations such as we have observed in many basic commodities over the last several years are disruptive and lead materials users to take costly actions to offset them. Yet the record of attempts to stabilize materials prices does not hold out much hope that any scheme is likely to be both practical and reasonably inexpensive.

The Commission staff has examined each of these objectives in detail and has concluded that the first and, in certain cases, perhaps the second, appear practical. The Commission, after considering the staff's recommendations, has instructed us to prepare draft report language and draft legislation outlining in detail how a stockpiling agency designed to accomplish the first of the

objectives just mentioned would be constituted and would operate in practice, We are now proceeding to do this with the help of the staffs of our congressional Commissioners,

Before I close, let me make one final observation. In talking with many of you from the materials community about the work of the Commission, I have heard disappointment expressed that we weren't getting into areas that might be of special interest to you. For example, some of you were hoping that the Commission would identify and perhaps "anoint" promising technologies to promote substitution or that we would single out specific problem industries for Government attention, but a Commission like ours cannot be all things to all people. Materials are indeed important, as you keep reminding me, but they are only a part of the entire economy, In my mind, the factors that produced the shortages of 1973-74 and that will produce any significant shortages that we are likely to see in our lifetimes are symptomatic of a much broader set of problems, These problems have to do with the way the Government conducts its business and, in particular, how it relates to basic industry. It is these problems that we are attempting to address, And if this Commission can cause public attention to focus on these problems and can make sensible, implementable suggestions to resolve them. then it will have accomplished much more to help the materials sector than it could have by making solemn-sounding pronouncements that are beyond our own technical and scientific competence.