BY THE COMPTROLLER GENERAL

Report To The Congress

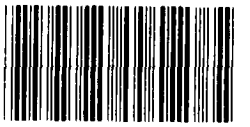
OF THE UNITED STATES

The Voluntary Pay And Price Standards Have Had No Discernible Effect On Inflation

Since October 24, 1978, the Council on Wage and Price Stability has developed and administered voluntary pay and price standards as part of the anti-inflation program. When combined with other anti-inflation tools, the wage-price guidelines program was intended to have a restraining influence on inflation. GAO, however, found that the current program has had no discernible effect on inflation since it was instituted.

Despite efforts by the Council to improve on past wage-price programs, problems remain in designing the standards, implementing the monitoring program, and administering the enforcement effort.

GAO recommends that the Council refocus its anti-inflation efforts by placing its highest priority on long-run measures to promote economic efficiency (in contrast to the short-run standards program). The Congress should reauthorize the Council and encourage the Council to shift to longer-run anti-inflation objectives.



PAD-81-02
DECEMBER 10, 1980

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COMPTROLLER GENERAL OF THE UNITED STATES
WASHINGTON D.C. 20548

B-200195

To the President of the Senate and the
Speaker of the House of Representatives

The inflation record of the past 2 years raises questions about the effectiveness of the voluntary pay and price standards of the Council on Wage and Price Stability in restraining inflation. This report provides an indepth evaluation of the effectiveness of the pay and price standards. It also examines other aspects of the Council's anti-inflation activities.

We are also sending copies of this report to the Chairman, Council on Wage and Price Stability; the Director, Office of Management and Budget; and the Chairman, Council of Economic Advisers.

Comptroller General
of the United States

COMPTROLLER GENERAL'S REPORT TO THE CONGRESS

THE VOLUNTARY PAY AND PRICE STANDARDS HAVE HAD NO DISCERNIBLE EFFECT ON INFLATION

D I G E S T

The Council on Wage and Price Stability should re-focus its anti-inflation efforts. Currently, the Council's highest priority is to develop and monitor voluntary standards for pay and prices. It is doubtful whether these short-run measures have been effective in restraining inflation or preventing unemployment. The Council has devoted a small portion of its resources to longer-run anti-inflation objectives, where the potential for effective action is greater and which could benefit from an increase in resources.

BACKGROUND

The pay and price standards administered by the Council set guidelines for changes in individual prices and wages. The purpose of the standards was to reduce inflation while avoiding a temporary surge in unemployment. The trade-off between inflation and unemployment is a dilemma that has confronted economic policymakers for at least 40 years. During this period, whenever measures have been taken to restrain inflation, they have normally been accompanied by increased unemployment, while steps taken to stimulate employment have usually produced a higher rate of inflation. An anti-inflation policy which avoids this trade-off, even at the expense of minor inefficiencies, is clearly desirable.

Although repeated experiments with wage-price standards have been tried in the United States and other industrial countries, none has been completely successful. GAO reviewed the economic record of five countries: the United States, the United Kingdom, Canada, Norway, and West Germany. No evidence exists in this record to show that wage-price guidelines produce a permanent reduction in the rate of inflation at a lower cost in unemployment than more conventional fiscal and monetary policy measures. (See pp. 71-86.)

CREDIBILITY IS AN ESSENTIAL ELEMENT OF A STANDARDS PROGRAM

To succeed, a wage-price guidelines program must change the behavior of wage and price setters in the economy. The program must be credible, especially if it is a largely voluntary program such as the current system of pay and price standards administered by the Council on Wage and Price Stability. It must modify expectations about further inflation. If a widespread conviction exists that the program will succeed, then this perception, when reflected in the actions of wage and price setters, will in itself lower the rate of inflation.

However, establishing and maintaining credibility are extremely difficult and none of the programs GAO surveyed has done so, except temporarily in some cases. Most often, inconsistent monetary and fiscal policies have undermined the programs.

Credibility can also be undermined when outside events, such as an increase in world oil prices, drive a wedge between the rates at which wages and prices are rising. When this happens, wage-price guidelines cannot protect real incomes while reducing inflation. Such events have bedeviled the current standards since their inception. The problem of establishing credibility has not been solved by any of the programs we have surveyed, including the present standards. (See pp. 22-26.)

METHODOLOGY AND CRITERIA FOR JUDGING THE EFFECTIVENESS OF WAGE-PRICE GUIDELINES

The real test of wage-price guidelines is whether they lower the expected rate of inflation. If they succeed at this, the other desirable consequences expected from such programs can follow, but it is difficult to test the guidelines' effect on anticipated inflation directly since these anticipations cannot be observed. However, indirect tests are possible. GAO believes the answers to three

questions can be used to evaluate the effectiveness of the current standards or any other program of wage-price guidelines.

--Did the rate of inflation decline after the guidelines were established?

--Was a recession avoided during the program?

--Is there a wide range of econometric evidence showing a statistically significant effect of the program on the rate of increase in wages and prices?

GAO believes that if the program were effective, the answer to at least one of these questions would be yes. If not, then the program's effectiveness is doubtful. GAO asked these questions of the current standards and the answers are all no. (See pp. 26-30.)

NO EVIDENCE FOUND FOR THE EFFECTIVENESS OF THE STANDARDS

During the 21 months following the announcement of the present standards, the price level as measured by the Consumer Price Index (CPI) rose 24 percent--a 13.1 percent yearly increase. By comparison, the average yearly increase for the 2 years preceding the establishment of the pay and price standards was only 7.5 percent. Although the CPI accelerated the most, other broadly-based price indexes showed a similar pattern. All have been rising more rapidly since the standards were announced. (See pp. 35-39.)

The break in the accelerating trend of price increases during the second quarter of 1980 did not reduce the rate of inflation to the levels achieved in the years immediately prior to establishing the standards. Moreover, it has been accompanied, in the usual pattern, by a sharp increase in unemployment.

The possibility remains that even though inflation and unemployment are now higher than they were when the standards were established, the guidelines may have prevented even greater increases in the rates of inflation and unemployment. The Council has made this claim, and in

a recent study has provided econometric estimates of the moderating effect of the guidelines.

GAO does not believe the econometric evidence supports this claim. A careful examination by GAO of the work done by the Council's staff in this area shows that even minor adjustments in their econometric model reduced the magnitude of their estimates. When GAO applied the Council's model to an appropriate measure of prices, it showed an unexplained acceleration in the rate of inflation during the period of the standards even after allowance was made for the effects of oil prices and interest rates. When GAO examined individual components of the broader indexes using a model developed by Data Resources Incorporated, a well known private economic forecasting service, no evidence of moderation in rates of price increase was found. (See pp. 53-62.)

GAO also developed its own models to estimate the effects of the standards. GAO's specifications of the relevant economic relationships are closer to those used by other economists than are those used by the Council. The statistical properties of GAO's models are at least as good as those of the Council. GAO's results show no effect for the standards at the usual levels of statistical significance. (See pp. 63-68.)

No single econometric model commands sufficient support among economists to demonstrate conclusively whether the standards were effective. However, GAO believes, and its work shows, that a wide range of econometric modeling is unable to provide any support for the Council's claims of effectiveness.

INEQUITIES

The economy of the United States is too complex for any system of wage-price guidelines to anticipate the appropriate rates of change for all the prices and wages it must cover. Problems inevitably occur.

In its investigation of the current pay and price standards, GAO discovered five examples of inequitable treatment in which the standards apply unfairly to different groups of firms or workers. (See pp. 88-97.)

--Hospital costs and physician fees are treated more leniently than other prices and wages.

--Cost-of-living adjustment clauses are valued at an unrealistically low rate of inflation, understating, for compliance purposes, the pay of workers whose contracts include such clauses.

--Relaxing the pay standard in the second year of the program has not been accompanied by a parallel modification of the price standard, putting some firms at a disadvantage.

--The profit-margin limitation calls for a reduction in the real profits of complying businesses.

--The standards permit companies with the appropriate records and accounting resources to subdivide into separate reporting units which could permit larger increases in prices and profits than are possible for firms not similarly situated.

Clearly, it would be desirable to remedy these problems. Unfortunately, any action the Council takes is likely to cause additional problems in other areas. The design of an equitable and flexible set of wage-price guidelines is nearly impossible.

HOW THE COUNCIL USES ITS RESOURCES

During the first 18 months of the pay and price standards, the Council publicly identified only 23 violators. The Council currently plans to monitor all firms whose yearly gross revenues exceed $100 million. However, it has never provided an economic rationale for this approach aside from

administrative convenience. GAO questions whether the current pattern of monitoring represents a wise use of the Council's limited staff. Currently, the purpose of the Council's monitoring is to detect noncompliance with the standards. But firms required to report have a strong incentive to be less than forthcoming. This has reduced the Council's usefulness as an information-gathering agency. (See pp. 104-109.)

The Council's legislative mandate expressly forbids the continuation, imposition, or reimposition of any mandatory economic controls. Without this authority, the Council's power to punish those who violate the standards is inherently limited.

The law establishing the Council authorizes it to perform a number of useful activities including productivity encouragement, economic data collection, industry study, and regulatory review and intervention. Few of the Council's present resources are devoted to these activities. Currently, only 22 staff members are assigned to regulatory review and no one has a primary assignment for productivity improvement. Monitoring and enforcing the pay and price standards have absorbed most of the Council's resources. (See pp. 115-120.)

RECOMMENDATIONS TO THE COUNCIL

The Council on Wage and Price Stability should re-focus its efforts in monitoring the problem of inflation, and it should reallocate some of its resources to higher payoff areas. GAO believes the Council should place its highest priority on long-run measures to promote economic efficiency by pursuing several initiatives. (See p. 128.)

RECOMMENDATIONS TO THE CONGRESS

The high rates of inflation that the Nation experienced in the 1970s persist today and are likely to continue well into the 1980s. GAO believes the Federal Government must give specific attention to this severe economic problem. GAO recommends that the Congress

reauthorize the Council on Wage and Price Stability for another year to give specific attention to the chronic problem of inflation.

However, based on GAO's findings that the present system of voluntary pay and price standards have had no discernible effect on inflation, the Congress should consider alternatives to the current guidelines. GAO recommends that the Congress re-focus the efforts of the Council to those areas where there are likely to be higher long-term payoffs in the effort to reduce inflation.

In devising its anti-inflation program, the Congress needs to consider all the ingredients as a package. Monetary and fiscal restraint are essential ingredients. The efforts of the Council should complement those two actions. By shifting its attention to longer-run concerns, GAO believes the Council can contribute best to the overall success of the anti-inflation program. (See p. 128.)

AGENCY COMMENTS

The Council on Wage and Price Stability and the Office of Management and Budget reviewed a draft of this report. Both expressed strong disagreement with GAO's view that the standards have produced no discernible effect on the rate of inflation and with GAO's related recommendation (see app. VII). As a result of these comments and subsequent meetings with Council officials, GAO modified the title and tone of the report to express more clearly and precisely what it had learned in its investigation. The basic conclusions and recommendations of the report have not changed. GAO's responses to specific criticism are in appendix VIII and elsewhere in the report.

Contents

ABBREVIATIONS

BLS	Bureau of Labor Statistics
CPI	Consumer Price Index
DRI	Data Resources Inc.
GAO	General Accounting Office
OFPP	Office of Federal Procurement Policy
OMB	Office of Management and Budget
OPEC	Organization of Petroleum Exporting Countries
PPI	Producer Price Index

FIGURES

FIGURES (cont.)

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CHAPTER 1

INTRODUCTION

On October 24, 1978, President Carter announced a new anti-inflation program. It included a promise to restrain the growth in Federal spending, a commitment to reduce the cost of Government regulation, and a threat to veto legislation that benefitted narrow special interest groups. As part of the program, the Council on Wage and Price Stability was ordered to establish voluntary standards for wages and prices and to monitor compliance with them.

During the past several months we have conducted an extensive investigation of the standards and the Council's monitoring efforts to determine whether they have had any effect on the rate of inflation. We also examined the standards to determine whether they include features which could cause inequities or inefficiencies, should the standards ever place a binding restraint on the actions of economic decisionmakers. Finally, we studied alternative uses for the Council's resources other than the development and monitoring of wage and price guidelines.

This report, presenting the results of our investigation, was prompted on our own initiative and subsequently by a request from the Subcommittee on Commerce, Consumer, and Monetary Affairs of the House Committee on Government Operations. The subcommittee requested that we examine the Council's effectiveness "* * * in defining, interpreting, monitoring, and enforcing wage and price policies, * * * how adequate these policies are to stem inflation, and whether [the Council] is an organization capable of carrying out its role." 1/

In addition, Senator Edward M. Kennedy, on behalf of the Energy Subcommittee of the Joint Economic Committee, asked us to look at certain activities of the Council, particularly the areas of regulatory review and the Council's allocation of its internal resources. 2/ Our response to this request can be found primarily in chapter 8.

The main question we try to answer is "How effective have the Council's wage and price standards been in restraining inflation?" This is a difficult question. In the

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1/See appendix I for the complete text of this letter.

2/The complete text of this request is printed in appendix II.

end, however, we could find no convincing evidence that the standards have had any effect on the rate of inflation. In our judgment, inflation would have been no worse during the past 2 years without the standards.

BRIEF HISTORY OF THE COUNCIL ON WAGE AND PRICE STABILITY

Public Law 93-387, as amended, established the Council on Wage and Price Stability in August 1974. The Council's legislative mandate specifically excluded the continuation, imposition, or reimposition of any mandatory economic controls. Instead, the Council was established to review, analyze, and appraise economic developments that affect the rate of inflation, and to report quarterly to the President its findings and recommendations.

President Carter's October 24, 1978, announcement fundamentally changed the nature of the Council and its functions. From a small staff of 39, responsible for reviewing the economy's inflationary tendencies, the Council grew to 233, responsible for administering voluntary pay and price standards. The staff's first new task was to formulate guidelines for acceptable increases in wages and prices. Its next task was to monitor compliance with those increases. The monitoring function has since absorbed most of the Council's resources. Reports are received from approximately 1,200 companies reporting under the price standards and 433 employee groups reporting under the pay standards.

The pay and price standards

The standards were designed to help monetary and fiscal policy lower the rates at which wages and prices were rising. During the first program year (October 1, 1978, to September 30, 1979), the pay standard called for an increase in wages and fringe benefits equal to no more than 7 percent for each employee unit. During the second program year, the standard was relaxed to encompass a band between 7.5 and 9.5 percent. It is the Council's hope that most pay agreements during the current year will provide increases near the midpoint of this band, 8.5 percent, rather than at its upper limit.

The three types of price standards are more complicated. The basic one sets a maximum permissible rate of increase for the average price of all the products sold by a firm. In the first program year the permissible rate equaled either 9.5 percent or one-half percent less than the firm's average price increase during the base period, whichever was smaller. Thus, a firm whose prices rose 7.5 percent during the base period could comply with the standard by holding its increases to

7 percent during the first program year. However, a firm whose prices rose 12 percent during the base period could only comply with the basic standard if it held its rate of price increase to 9.5 percent.

In those cases where a firm could not calculate an average price for its products or where it experienced uncontrollable cost increases, an alternative standard was available subject to the approval of the Council. This standard had a two-part restriction on profits that:

--limited a firm's profit margin to the average profit margin obtained during the best 2 of its 3 fiscal years prior to October 2, 1978; and

--limited the firm's dollar profit to the base year profit plus 6.5 percent and any positive percentage growth in physical volume.

Finally, the Council established various modified price standards for specific industries where the basic price standard was not applicable. Generally, these standards set limits for gross margins, fee increases, or dividend payments rather than prices or profits. For example, standards have been established for retailers, wholesalers, petroleum refiners, and electric and gas utilities that set limits on the permissible growth in the spread between their selling prices and the prices they paid their suppliers for their raw materials. By limiting these gross margins, the Council hoped to restrict price increases in these industries to only those needed to cover uncontrollable increases in costs.

During the second program year, the basic price standard was relaxed to allow an additional 1 percent increase in prices. The profit margin limitation and the various modified price standards were essentially unchanged.

New anti-inflation proposals

After the standards were established, inflation accelerated. By the first quarter of 1980, the rate of increase in the consumer price index (CPI) had reached 18 percent. On March 14, 1980, the President announced a series of proposals to strengthen his anti-inflation program. They included:

--continued monetary restraint;
--selective credit controls;
--a balanced budget for fiscal year 1981;
--a gasoline conservation fee;

--continued efforts to reduce the cost of regulation; and
--a major increase in the breadth and intensity of the Council's monitoring effort.

Although the standards were intended to apply very broadly, the Council had few resources with which to monitor the behavior of prices and wages. Prior to March 1980, only companies with annual sales in excess of $250 million were required to report to the Council. The President's proposal lowered the reporting threshold to include all firms with yearly sales over $100 million.

This proposal will require a substantial increase in staff. The Council has requested that its overall staff almost triple, from 233 to 637, and that its price monitoring staff increase almost fivefold, from 89 to 436 (see figure 1). If the Congress approves the staffing increase, it would also provide for a more comprehensive review of the reports, including a limited audit capability which the Council has lacked until now.

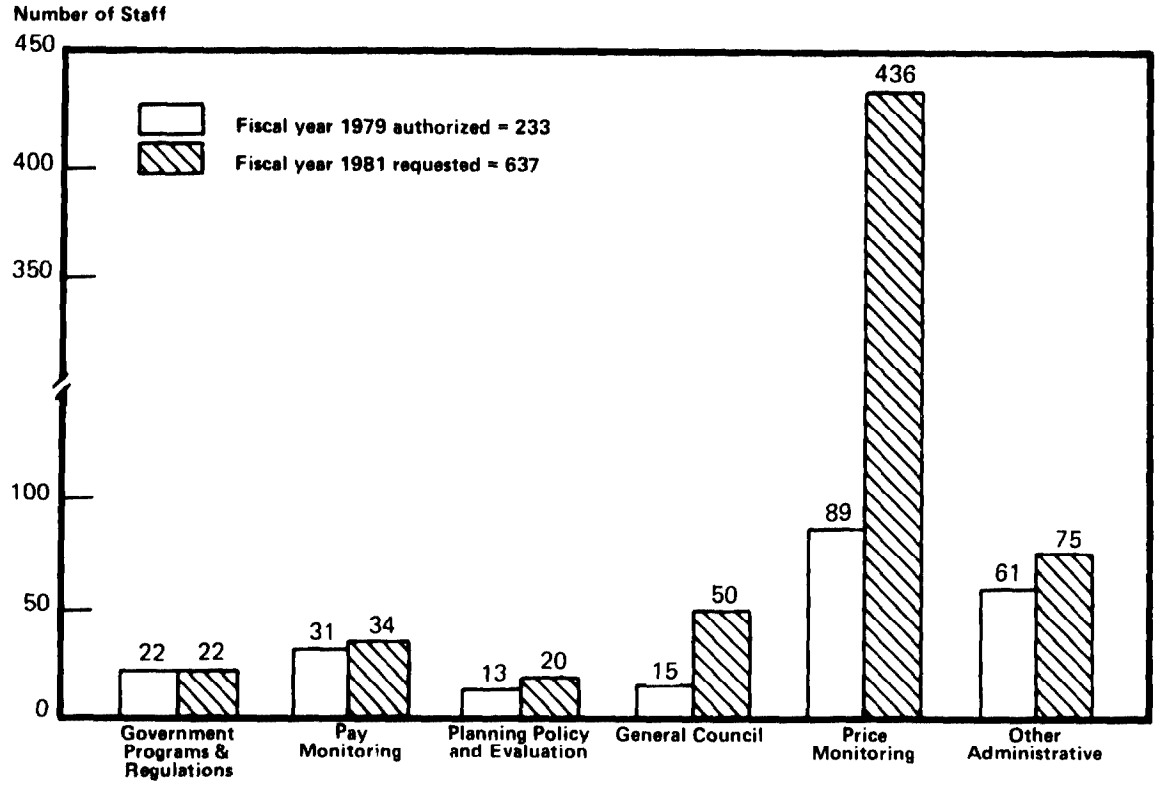
Most of the proposals the President made in March have not been implemented. The Congress has rejected the gasoline conservation fee. The Administration's current forecast is that the Federal budget will not be balanced in fiscal 1981, but that instead there will be a deficit. The Federal Reserve lifted the selective credit controls even before they were fully established. Both the Senate and the House Committee on Banking, Finance, and Urban Affairs have rejected the proposed staff increase for the Council on Wage and Price Stability.

At the same time the rate of inflation has declined. The economy is currently in the midst of a recession. Unemployment has risen precipitously and the Nation's output of goods and services has fallen. However, prices continue to rise at rates that are high by historical standards. Although the emergency posed by an 18 percent rate of inflation has passed, the long-run problem of rising prices remains.

The extent to which a voluntary program of wage and price guidelines can contribute to solving this problem remains questionable. In this report we examine the evidence to see how effective the standards have been so far. We believe an answer to the question of the standards' effectiveness will be useful in framing appropriate policies to deal with inflation in the years ahead.

Figure 1

Distribution of Proposed Staff Increase



OBJECTIVES, SCOPE, AND METHODOLOGY

This report examines the effect that the Council's wage and price standards have had in restraining inflation. Many perspectives exist from which one could evaluate the effectiveness of the Council's anti-inflation efforts. Wage-price guidelines appear to offer a way to reduce the rate of inflation without paying the usual costs of lost jobs and decreased output. This "case for wage-price guidelines" is discussed at length in chapter 2. Wage-price guidelines are seen to be as much an anti-unemployment program as they are an anti-inflation policy. One crucial test of their effectiveness is their success in preventing the usual short-run tradeoff between lower inflation and higher unemployment.

Such a program must be credible to moderate this tradeoff, even for a short period. Shortly after the voluntary pay and price standards were in place, Alfred Kahn said, "The President's anti-inflation program will work only if the public believes it can. 1/ If wage-price guidelines are not credible, they will be ineffective.

No action, policy, or program can be assessed without a criterion against which effectiveness can be measured. For wage-price guidelines in general, and the Council's voluntary pay and price standards in particular, we suggest effectiveness can be evaluated on how the following questions are answered:

--Did inflation decline?
--Was a recession avoided?
--Is there a substantial body of econometric evidence to suggest that the program restrained inflation?

A positive answer to any of these questions would indicate possible success, but a negative answer to all is substantial evidence that the program had no effect.

We examined other domestic and foreign incomes policies. From these experiences, we detected a number of common threads. First, in almost every case, wage-price programs have failed to produce a long-term reduction in the inflation rate. Second, in those cases where the inflation rate did decline while the guidelines were in effect, it did so only in the early months of the program. In no case did an apparently ineffective program become effective later. Finally, in those cases where inflation declined following the establishment of the guidelines, they were accompanied by restrictive fiscal and monetary policies, and their combined effects produced the usual recession.

Applying our criteria to the Nation's experience of the past 2 years shows that the Council's pay and price standards have not been effective. Clearly, inflation has not fallen since the program began. The recent reduction of inflation from the 18 percent level of early 1980 has been accompanied

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1/U.S. Congress, House of Representatives, Amendments to the Council on Wage and Price Stability Set: Hearings before the Subcommittee on Economic Stabilization of the Committee on Banking, Finance, and Urban Affairs, 96th Congress, First Session, February 6 and 7, 1979, p. 21.

by recession and a substantial increase in unemployment. Examination of both our own and the Council's econometric analysis in chapter 4 does not support the Council's contention that inflation has been lower than it would have been had the wage-price program not existed.

When wage-price guidelines are effective, economic problems may result. Programs of mandatory controls on wages and prices often cause serious economic disruptions, such as shortages and strikes. Voluntary programs may avoid such problems, but only if the standards do not actually require a change in economic behavior, or if the programs' sanctions are not strong enough to induce firms to comply with the guidelines.

The Council's wage-price program cannot be immediately classified as either binding or nonbinding. Although the program is described as voluntary, noncompliers are threatened with sanctions. Moreover, the pay and price standards are as detailed and comprehensive as most mandatory controls programs. However, the program's failure to produce a discernible effect on the rate of inflation leads us to believe that the program has been largely nonbinding. Nonetheless, the present standards include certain features which could cause market distortions or distributional inequities. These features are discussed in chapter 6.

In chapter 7 we examine the design and implementation of the Council's monitoring and enforcement efforts which also suggests that the program is nonbinding. Barry Bosworth, during his tenure as Director of the Council, said, "I do not think we can deal with the problem of inflation by exempting out half of the workers or half of business or anything else." 1/ Nevertheless, a substantial number of workers, and products such as import and raw materials, as well as interest rates, are excluded either from the standards' coverage or the Council's monitoring effort. Other products and services are partially or totally excluded from monitoring because of the reporting threshold used by the Council to determine which firms are required to submit regular reports.

Although the Council's limited resources preclude it from monitoring all firms, the decision to monitor only large

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1/U.S. Congress, Senate, The President's New Anti-Inflation Program: Hearings before the Committee on Banking, Housing, and Urban Affairs, 95th Congress, Second Session, November 31, 1978, p. 25.

firms has never been justified except on the basis of administrative convenience, nor has the relationship been clearly defined between the intensity of the monitoring effort and the resulting degree of compliance. The Council has not clearly explained the mechanism through which its isolated actions to restrain individual prices can be expected to affect the general rate of price increase.

Only two sanctions can be applied against firms who violate the standards. The Council can publicly identify violators and Government contracts can be denied to those firms who either do not comply or are unwilling to stipulate their compliance to the Office of Federal Procurement Policy. It is difficult to assess the impact of adverse publicity as a deterrent to noncompliance, although it is not likely to be great for those firms who do not have a national image or do not deal extensively with the public.

The procurements sanction can be avoided in at least three ways. The sanction applies only to contracts in excess of $5 million. Noncomplying firms can receive contracts below this amount. In addition, the sanction can be applied only to that division of a firm actually found in noncompliance. Since many firms are divided into two or more separate units for purposes of reporting to the Council, this division may provide another means of avoiding the sanction. Finally, the Government can for reasons of national security, public safety, or extreme urgency, waive the requirement that firms be in compliance with the pay and price standards. While there are no known instances where a violator has been denied a Government contract, 20 waivers have been reported to the Office of Procurement Policy, most granted by only one procurement agency and reported after our inquiry. 1/

Although we found that the pay and price standards and the associated monitoring effort have not produced a discernible effect on the rate of inflation, the Council's enabling legislation includes several other activities that could yield long-term economic benefits. Because of the resources needed to administer the pay and price program, relatively little emphasis has been given to many of these activities. Among the Council's mandates, three, we think, should be emphasized. First, the Council can resume its original role

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1/Most of these waivers have been granted, not to firms already identified by the Council as violators, but to firms that refuse to sign a statement stipulating that they are in compliance.

as an agency for collecting and analyzing data on inflation. In this role the Council's unique relationship with industry will facilitate indepth studies of problem industries. Second, the Council can allocate additional resources to the study of productivity and the ways Government can encourage productivity improvement. Finally, the Council's effort to review Government regulations and to intervene in rulemaking proceedings can be expanded substantially. Given the number and costs of Federal regulations, there is a need for the kind of outside review that can and is being provided by the Council. While we do not believe that these activities will affect the rate of inflation in the near term, they could provide a real contribution to the country's long-term economic health.

To determine the effectiveness of the Council's pay and price standards in restraining the rate of price increase, we used a number of different techniques to collect and analyze relevant information, including econometric models explaining how wage-price guidelines affect a rising price level, comparative examination of other domestic and foreign experiences with wage-price guidelines, and a management and systems audit of the Council's organization and activities.

Econometric analysis

That inflation has risen sharply over the past 2 years does not, in itself, constitute proof that the Council has been ineffective. Many things, including OPEC price increases and rising interest rates, have occurred outside the Council's control, resulting in higher prices for certain products. Whether these events have caused most of the observable increase in the general price level and whether the rate of inflation would have increased even more than it has without the standards cannot be determined by casual observation.

Econometrics, a set of statistical procedures widely used to analyze economic relationships, is the most systematic way to estimate what the rate of inflation would have been without the standards. Before econometrics can be used, however, it is necessary to choose, from all of the events happening in an economy as complex as ours, those factors or variables most likely to be related to changes in inflation. This choice depends on economic theory as well as judgment, and, in chapter 2 we develop a theoretical framework to help identify and define the correct relationships.

The framework shows that for wage-price guidelines to be truly effective, they must reduce inflation without as large an increase in unemployment as usually occurs. We

tested several models developed within this general framework. The results are discussed in chapter 4 and appendix III.

While the econometric tests and procedures are quite objective, developing a model is, to a large extent, a matter of judgment. Choices have to be made about the theoretical framework, the variables to be included, and even the form of the chosen variables. 1/ Because of this element of choice, no single model can provide conclusive evidence of the effectiveness of the Council's wage-price guidelines program. Confidence in the results of econometric analysis can, however, be greatly increased by testing a number of alternative formulations of the model. A pattern of general agreement clearly enhances the reliability of the conclusions that can be drawn from the analysis.

Comparative analysis

Wage-price guidelines have been tried before both in the United States and in many other countries. While the full range of this experience is too extensive to review in this report, we have examined recent U.S. experiments as well as the recent experiences of four foreign countries. Three of these countries, the United Kingdom, Canada, and Norway, have used wage-price guidelines extensively, but the other, West Germany, has not used this approach to deal with inflation during the past 30 years.

Programs to influence directly the level of wages and prices can vary substantially. Nevertheless, there are many similarities and much can be learned even from the differences. We discussed contemporary experiences with embassy officials from each of the foreign countries. We also reviewed their respective records for inflation and unemployment and, where possible, econometric evidence.

1/For example, unemployment is likely to be important in explaining changes in the rate of inflation. It can be included as the rate of unemployment, the inverse of the unemployment rate, or any of a number of other possibilities. Moreover, the unemployment rate chosen could be that for the total civilian population, for full-time workers 25 to 64 years old, or for some other alternative.

Management and systems audit of the Council on Wage and Price Stability

Since October 1978, the Council has been charged with developing and administering pay and price standards as part of the President's anti-inflation program. We have examined the Council, its functions, the standards, and the operations of the pay and price program by reviewing both publicly available and internal Council documents. In addition, we interviewed Council officials concerning the development and implementation of the standards. We also met with officials of the Department of Health and Human Services, the Office of Federal Procurement Policy, and the Congressional Budget Office.

We were unable to evaluate the Council decisions and the effects of specific exclusions and exceptions to the standards because we were refused permission to review any documents containing data that could be attributed to an individual company. This restriction was imposed by the Council based on section 4(f) of the Council on Wage and Price Stability Act, which states that no person other than Council officials shall have access to individual company documents which the Council deems confidential. 1/ We were also unable to obtain certain aggregate company data because the Council had not completed the development of its automated management information system. These restrictions did limit our ability to examine the effects of the standards at the level of individual companies and employee units, but they did not prevent us from examining their effect in the aggegate.

1/The complete text of P.L. 93-387, as amended, is found in appendix IV.

CHAPTER 2

JUDGING THE EFFECTIVENESS OF THE PAY AND PRICE STANDARDS

CONCEPTUAL BASIS OF THE STANDARDS

When President Carter announced the pay and price standards in October 1978, he expressed the hope that they would contribute to a gradual deceleration in the rate of inflation. However, in the months that followed, inflation did not decline; it increased. Did the acceleration of inflation mean the standards were ineffective?

Spokesmen for the Council on Wage and Price Stability do not think so. They claim that the standards have done a good job in controlling those prices which were reasonably expected to be controlled. According to the Council, inflation increased because the economy was subjected to a series of shocks. The standards were not designed to restrain cattle prices, crude oil prices, or interest rates. If these had not risen so rapidly, the Council believes little if any acceleration in inflation would have occurred. Indeed, the Council claims that even with the shocks, inflation would have been higher had the standards not been in place. In short, the standards worked. Inflation was higher than expected but due to factors beyond the control of the Council on Wage and Price Stability.

In this report, we examine these claims. In particular, we are concerned about the assertion that the standards were effective despite the obvious increase in the rate of inflation since they were first announced. To evaluate the Council's claim and to judge the effect of the standards, it is first necessary to lay some groundwork. If success does not depend on lowering the overall rate of inflation, then we must determine on what basis success does depend. This determination requires some understanding of how the Council's wage and price program is expected to work.

THE CASE FOR INCOMES POLICY

The Council's standards are a good example of an incomes or wage-price policy. Determining the effectiveness of such a policy can best be approached by examining why such a policy is needed, how it is expected to work, and what its limitations might be. Understanding these matters will help frame

reasonable criteria for judging the effectiveness of the Council's wage and price standards.

The case for a policy of controlling wages and prices rests on the proposition that no other way exists to end inflation except at the cost of lost jobs, decreased incomes, and bankrupt businesses. Incomes policy promises an end to inflation without recession. Critics agree that this is a desirable goal, but doubt that it can be achieved through wage-price policy. In short, they claim the policy cannot work. However, before we can consider their arguments, we need to know what incomes policy is and how it is expected to function.

When the Government acts directly to influence a broad range of prices in the private sector of the economy, it is pursuing a wage-price policy. Since 1940, the Federal Government has adopted such a policy on five separate occasions. The features that distinguish incomes policy from other economic policies are its purpose and its method. Its purpose is to stabilize the cost of living by curbing inflation--the persistent upward movement in the general level of prices. Although all major Federal actions probably have some effect (whether intended or not) on wages and prices somewhere in the economy, only incomes policy, in the form of wage-price guidelines or standards, is designed to control directly the overall rate of inflation.

Incomes policy tries to stabilize prices by limiting, if not reducing, the overall rate of price increases, as measured by one of the broad indexes, like the consumer price index (CPI). The Government intervenes directly in the determination of individual wages, salaries, and prices. Intervention usually takes the form of explicit rules setting permissible limits on the rate of increase in wages, prices, and profits. For example, the Kennedy-Johnson Administration set 3.2 percent a year as its "guidepost" for the appropriate rate of increase in hourly compensation. 1/ During phase II of the Economic Stabilization Program under the Nixon Administration,

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1/Initially the Guideposts called for wage increases in line with the average trend of productivity growth in the economy. This was approximately 3 percent in the early 1960s. Only in 1966 was the widely cited 3.2 percent figure specifically recommended in the President's Economic Report. See Economic Report of the President together with the Annual Report of the Council of Economic Advisors: 1967, (Washington, D.C.: United States Government Printing Office, 1967), pp. 120-125.

the standard for increases in compensation was 5.5 percent. 1/ The rules for prices and profits are usually more complicated and not always spelled out so clearly, but they also involve specific guidelines and numerical standards that complying firms and individuals must follow. This method of directly influencing prices is different from monetary and fiscal policies, which also influence the average level of prices, but do so indirectly.

By this definition the voluntary wage and price standards administered by the Council on Wage and Price Stability constitute an incomes policy. The standards set a numerical limit on acceptable increases in hourly compensation. In the first program year, the limit was 7 percent. The standards also provide detailed formulas for acceptable rates of price increase, and they are designed to directly restrain the rate of price inflation as measured by the CPI, or other broadly based price indexes.

A short history of inflation since 1939

We concentrate here on the experience of the United States. However, similar trends have emerged in many other countries during the 40 years from 1939 to 1979. In 1939 the consumer price index stood at 41.6. In 1979, it was 217.4, a fivefold increase in prices. A dollar put aside during World War II is worth less than 25 cents today in real terms. Even a dollar invested in a long-term bond paying an annual interest rate of 3 percent, a high rate in the 1940s, would have lost more than a third of its purchasing power by now.

Since 1939 inflation has been a fact of life for consumers and a persistent problem for policymakers. As measured by the CPI, the average rate of price inflation was 4.2 percent a year from 1939 to 1979. However, the severity of the problem has not been the same at all times during these 40 years. Most of the inflation occurred at the beginning and at the end of this period. The average annual increase in the CPI from 1939 to 1952 was 5.1 percent; from 1952 to 1965, it was 1.3 percent; and from 1965 to 1979, it was 6.1 percent.

Inflation normally accompanies and follows a major war as taxes fail to rise sufficiently to finance war expenditures.

1/ *Economic Report of the President* together with the *Annual Report of the Council of Economic Advisors: 1973*, (Washington, D.C.: United States Government Printing Office, 1973), p. 54.

The Government finances its deficit by adding to the supply of money and prices rise. Therefore, the inflation of the 1940s and early 1950s, while unwelcome, was not surprising. Similarly, some increase in the rate of inflation during the late 1960s was predictable as a result of the war in Viet Nam. However, following the end of American involvement in Viet Nam, inflation did not abate--it accelerated. By the end of the 1970s inflation had reached a postwar peak. Only in the immediate aftermath of World War II had prices risen more rapidly. There is no immediate prospect of a return to the relatively stable conditions of the 1950s.

Economists have long debated the magnitude of the social costs of a sustained rate of price inflation. Perhaps surprisingly, they have sometimes concluded that the social costs are relatively insignificant, consisting essentially of the effort needed to economize on the use of money when its value is falling steadily and predictably. Whatever the merits of this conclusion, it is essentially academic. Inflation has not occurred at a steady, sustained rate. Continuing inflation has meant unpredictable changes in the price level. The costs to society of such inflation are far from trivial; they have contributed substantially to the unwelcome economic developments of the past decade.

The side effects of restrictive monetary and fiscal policies

Historically, governments have curbed inflation by restraining the growth of demand for goods and services. This action requires restrictive monetary and fiscal policies. To pursue these policies a government must be willing and able to limit the growth in the money supply to a rate no greater than the growth of the nation's productive capacity plus an adjustment for any long-run trend in the rate at which money is changing hands. Such monetary discipline is usually possible only if the government is simultaneously practicing fiscal restraint.

Together, monetary and fiscal policies can stop inflation. They have done so in the past both here and abroad. In the 1950s and 1960s the United States achieved more than a decade of price stability primarily by adopting these policies. Table 1 shows that this period was also characterized by a slow growth in the money supply and a small deficit in the Federal budget.

However, such policies will work only if they are maintained. Twice in the past 12 years, 1969 and 1973-74, policies to restrict the growth of demand have been temporarily pursued. Although each occasion was followed by a temporary

Table 1

Monetary Expansion and the Federal Deficit

	Annual growth in currency and checking deposits	Average ratio of the federal budget deficit to gross national product	Average annual increase in the CPI
1939-52	9.0%	6.7%	5.1%
1953-65	2.4%	0.3%	1.3%
1966-79	5.9%	1.4%	6.1%

Sources: Economic Report of the President: 1980, Tables B-1, B-58, and B-72. U.S. Department of Commerce, Bureau of the Census, Historical Statistics of the United States, Colonial Times to 1957, (Washington, D.C., U.S. Government Printing Office, 1960). Series X 285, p. 648.

decline in the rate of inflation, a further acceleration followed within a few years. For the period as a whole, the average rate of monetary expansion did not decline but instead increased markedly.

Perhaps the major obstacle to effective policies of demand management are the initial effects of a shift to restraint. When monetary growth and government budget deficits are suddenly reduced, there is usually an immediate fall in output and an increase in unemployment, which was what happened in 1970 and in 1974-1975. Only gradually are the effects of such a policy shift reflected in slower rates of price increase. In the meantime, unemployment is higher than normal, businesses incur losses, and bankruptcies increase. If the restrictive policies are abandoned in an effort to stimulate the economy, the stage is set for a reacceleration in the rate of inflation.

Demand management through the conventional tools of monetary and fiscal policy places Government in a dilemma. If Government acts to lower the long-run rate of inflation, it is very likely to produce a recession in the short run. If it then reverses course to end the recession, it will not achieve a permanent reduction in the rate of inflation. Demand management can end inflation only if the Government is

willing to adopt policies that have high costs and few visible accomplishments in the short run. This dilemma has been summarized by economists as a tradeoff between reducing inflation and increasing unemployment.

The Phillips Curve and the tradeoff between unemployment and inflation

Wages, or payroll costs, have a central place in any discussion of inflation in industrialized economies. In the United States, labor compensation accounts for 75 percent of the national income. 1/ If the percentage mark-up firms charge on unit costs is stable and if the cost of imported raw materials is rising at the same rate as wages, then the rate of price increase for nonfarm products is roughly equal to the difference between the rate of wage increase and the percentage change in labor productivity. Under normal economic conditions mark-ups tend to be stable and, until the 1970s, the cost of raw materials tended to lag behind the average increase in wages. Therefore, economists observed a strong correlation between the rates of increase in wages and prices.

Many economists and business analysts have interpreted this correlation as a cause and effect relationship in which inflation is driven by rising wages. The policy implication of this interpretation is that inflation can be reduced only by taking steps to lower the rate of wage increase. Even those who reject this interpretation agree that successful measures to curb inflation must lower the rate of increase in wages. Consequently, the process of wage determination is widely recognized as a crucial factor in understanding the causes of inflation.

The short-run tradeoff between unemployment and inflation and the determinants of the rate of wage increase have been closely studied by economists. One of the earliest empirical studies was published by A.W. Phillips in 1958. 2/ Using British data, Phillips discovered an inverse relationship between unemployment and wage increases. He drew a diagram to illustrate his discovery and ever since the relationship has been called the Phillips Curve. Following Phillips' example, similar relationships were estimated for the United States,

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1/Economic Report of the President: 1980, Table B-19.

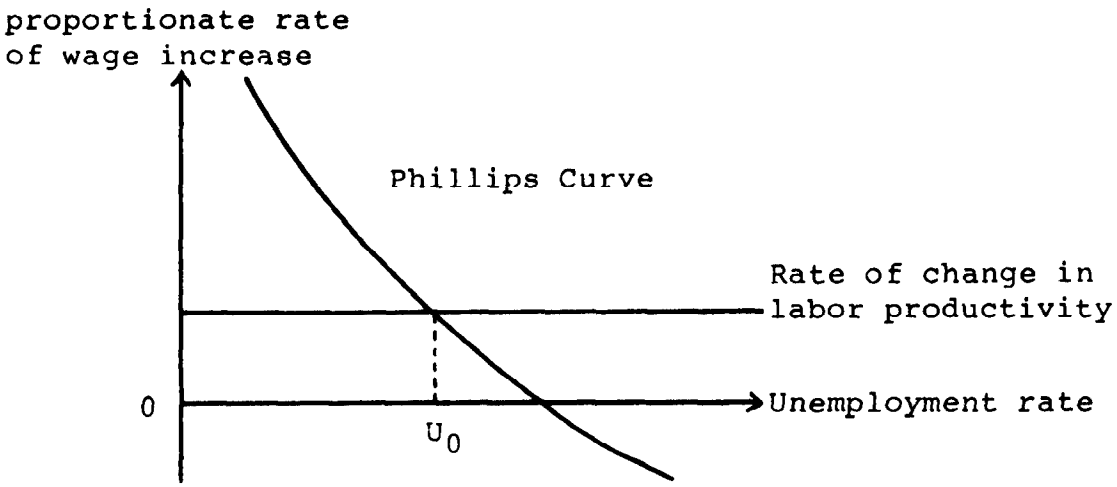
2/A.W. Phillips, "The Relationship between Unemployment and the Rate of Change of Money Wage Rates in the United Kingdom: 1861-1957," Economica, Vol. 26 (1958), pp. 283-99.

which generally showed that the rate of unemployment needed to maintain price stability was higher here than in Britain.

The Phillips Curve formalizes the notion that there is a tradeoff between unemployment and inflation in the short run. As shown in the hypothetical Phillips Curve depicted in figure 2, when the unemployment rate is low, there is a positive rate of increase in wages. As unemployment increases that rate declines. In this diagram, there is a rate of unemployment at which the rate of wage increase falls to zero, or in other words, the curve crosses the horizontal axis. At higher rates of unemployment wages decline.

Figure 2

The Phillips Curve



If labor productivity is rising at some positive rate and if the other conditions (constant mark-ups and stable nonlabor costs) needed to link wages and prices are met, the Phillips Curve can also be used to predict price inflation. The rate of price increase equals the rate of wage increase determined from the Phillips Curve less the rate of increase in labor productivity. Alternatively, the rate of unemployment consistent with any given rate of price inflation is predicted by adding the rate of change in labor productivity to the rate of inflation to determine the rate of wage increase. The Phillips Curve is then used to predict the unemployment rate associated with that rate of change in wages.

The horizontal line in figure 2 represents the rate of change in labor productivity. Where this line intersects

the Phillips Curve, wage increases are just offset by productivity gains. This is the only point on the curve consistent with price stability, and the associated unemployment rate, U_0, is the unemployment rate needed to maintain stable prices. If this level of unemployment exceeds what is generally regarded as the full employment rate of unemployment, then price stability and full employment cannot be achieved simultaneously.

The Phillips Curve illustrates one channel through which monetary and fiscal policies can work to reduce inflation. If restrictive policies of demand management raise the rate of unemployment, they will also lower the rate of increase in wages and, consequently, reduce the rate of inflation. In this way, higher unemployment can be traded off to attain a lower rate of price inflation. Alternatively, expansive demand management policies can be used to reduce unemployment in the short run. But the consequences of expansive policies will be to raise the rate of increase in wages, which will lead to a higher rate of price inflation.

In 1979 the unemployment rate averaged 5.8 percent for the year. 1/ Twenty years ago the original estimates of the Phillips Curve for the United States predicted a zero rate of inflation given this level of unemployment. 2/ In the years since those original estimates were made, the relationship between inflation and unemployment as revealed historically and estimated statistically has repeatedly broken down. Economists say the curve has shifted, which means that at any given level of unemployment experienced in the 1970s, the rate of increase in wages will be much higher than would have been observed given the same rate of unemployment in the 1950s or the 1960s.

Two reasons are usually given for this change in economic behavior. First, the composition of the labor force has altered since the 1950s. Today, more workers change jobs or periodically leave the labor force than has been the case in the past. This behavior raises the average level of unemployment throughout the course of the business cycle. Such demographic changes can explain some but not all, or recently even most, of the shift in relationship between unemployment and wage increases.

1/Economic Report of the President: 1980, Table B-29.

2/Paul A. Samuelson and Robert M. Solow, "Analytical Aspects of Anti-Inflation Policy, "American Economic Review," Vol. 50 (May 1960), pp. 177-94.

The other reason for the shift is the persistent inflation experienced since the mid 1960s. When inflation is expected, workers demand a higher rate of wage increase, and employers are willing to grant it since they expect their prices to rise as well. Once this process has been going on for some time, inflation acquires a momentum of its own that makes any attempt to control it more difficult and costly.

An increase in the expected rate of inflation causes the Phillips Curve to shift out, and thus a higher rate of wage increase is associated with any given level of unemployment. The main reason why a 5.8 percent rate of unemployment is accompanied by "double digit" inflation today, rather than stable prices, is that people expect a high rate of inflation and set wages and prices on that assumption. Over the long run the Federal Government has accommodated those expectations by pursuing fiscal and monetary policies inconsistent with a stable price level.

The Phillips Curve illustrated in figure 2 is essentially a short-run relationship. It holds true only as long as workers expect a particular rate of inflation to prevail. When that expectation changes, the curve shifts. In the long run there is no tradeoff between lower unemployment and higher inflation. By stimulating the economy, expansionary monetary and fiscal policies can temporarily push unemployment below the level that is consistent with price stability at the expense of moderate increases in the rate of inflation, but as time passes the tradeoff worsens, and the inflationary price of lower unemployment rises sharply. 1/

The long-run instability of the Phillips Curve does not alter the fact that a tradeoff between lower inflation and higher unemployment exists in the short-run. In figure 3, rates of inflation and unemployment are shown for the 5-year period since 1975. During this time unemployment gradually fell while the rate of inflation increased. The pattern of economic behavior in figure 3 is consistent with a short-run Phillips Curve, in which stimulative demand management policies lower unemployment while pushing up wages and prices at accelerating rates. This is especially true for the period since 1977 when inflation accelerated as unemployment dropped below 7 percent.

Incomes policy--a way to avoid the Phillips Curve tradeoff

Wage-price guidelines offer the hope that price stability can be achieved without a recession. A successful incomes policy shifts the Phillips Curve inward making possible a

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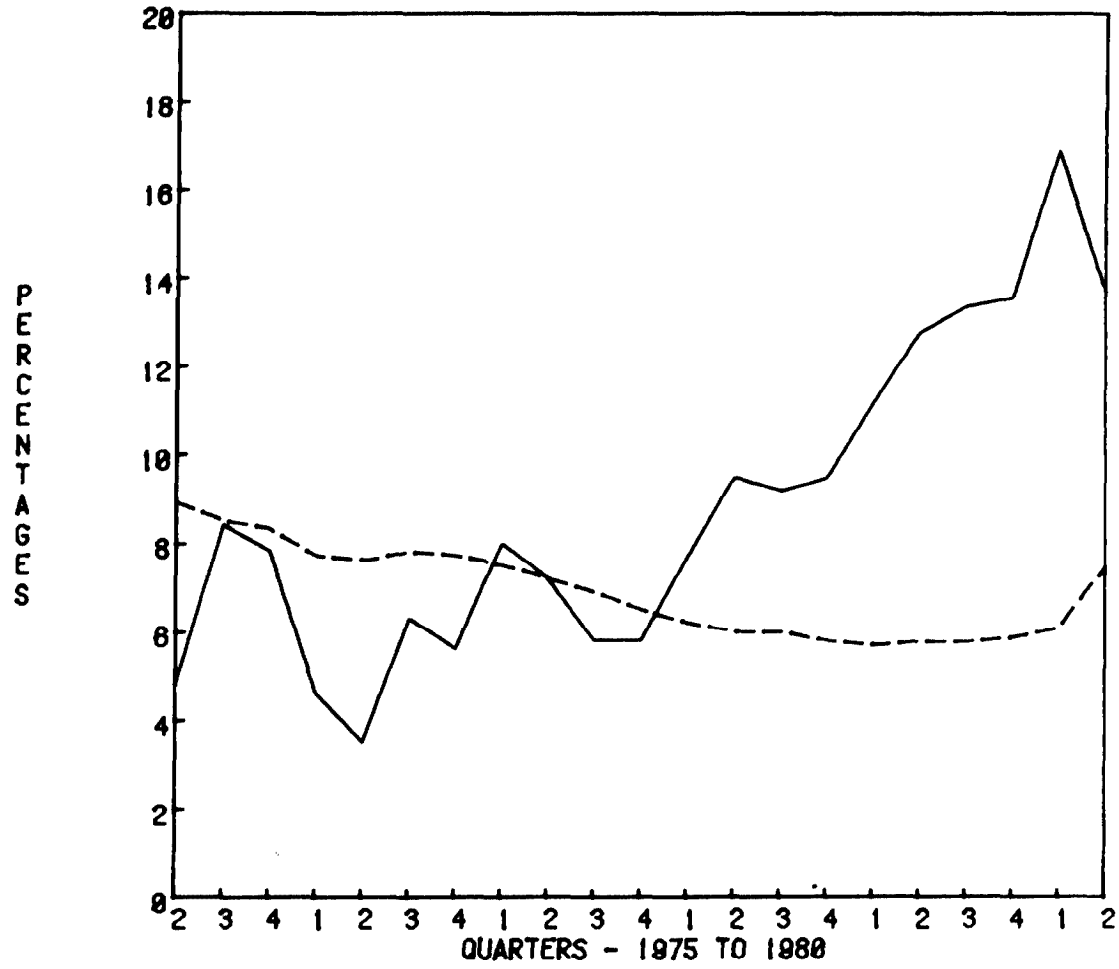
1/See the references cited in the footnote on p. 64.

Figure 3

Inflation and Unemployment
Since 1975



Inflation = ————

Unemployment = – – –

reduction in the rate of wage increase without the usual increase in unemployment. If price stability is accomplished through wage-price policy rather than through increases in unemployment, the high short-run social costs of recession can be avoided. It is this promise which is the heart of the case for incomes policy.

Whether this promise can be translated into performance and at what cost are the main points of controversy between advocates and critics of incomes policy. The next two sections of this chapter discuss the problems incomes policy must overcome if it is to succeed and the criteria that can be applied to judge whether such a policy is successful.

PROBLEMS INCOMES POLICY MUST OVERCOME

Incomes policy must solve a difficult set of problems if it is to succeed. An effective incomes policy must do more than set numerical standards. A voluntary program must be credible. Those who are expected to comply must believe it can work. If the Government does not pursue monetary and fiscal policies consistent with the goals of its incomes policy, this will not be possible. The Council on Wage and Price Stability has been consistent and persuasive in making this point. However, the main purpose of incomes policy is to avoid the highly restrictive demand management policies that would otherwise be needed to stabilize the price level. It has been difficult in the past for governments to strike a balance between policies that avoid excessive restraint and those needed to ensure the credibility of an incomes policy.

Obtaining compliance: the problem of credibility

In the United States few prices are determined in the competitive auction markets of classical economic theory. In most markets price setters exercise some discretion over the prices they charge. However, even in highly concentrated markets prices respond to economic forces. Although large firms and unions have some control over the prices and wages they set, they do not choose them arbitrarily. The prices they set reflect their estimate of current and prospective economic conditions and their self interest. An incomes policy will succeed only if it shapes or changes these judgments. If it attempts to override them, it will fail. An effective incomes policy must lower the rate of inflation wage and price setters expect.

Therefore, a voluntary program must be credible. If it convinces price setters that the rate of inflation will decline, they will find it in their self-interest to restrain price increases, thus producing the decline they expect. However, establishing credibility is extremely difficult. Frequently, a controls program must demonstrate some success before people will believe that further success is possible. This is why some incomes policies begin with a temporary freeze on all wages and prices.

It is possible, of course, to compel compliance, and an incomes policy that imposes mandatory controls on pay and prices has the apparent virtue of solving the compliance problem. However, given our political institutions and constitutional guarantees, any incomes policy requires a high degree of voluntary compliance even if it is a mandatory program. The main advantage of mandatory controls is that they may convince the majority who are willing to comply that the minority who are trying to evade the controls will be detected and punished. This is the main function of the sanctions in the current program. However, if the majority are not willing to comply, the program will be overwhelmed.

Once an incomes policy is in place, maintaining credibility can be very difficult as well. In a market economy, changes in supply and demand are continuously shifting the prices of particular products relative to other products. Similarly, changes in labor markets upset the relative structure of wages and salaries. No incomes policy can completely stifle this process, nor would it be economically efficient for it to do so. However, this means that the policy inevitably causes apparent changes in real income. Some groups may feel victimized by the wage and price controls, and this apparent sacrifice may turn into a genuine loss in real income if one group has complied while another has not.

Table 2 presents quarter-by-quarter changes in wages, labor productivity, unit labor costs, and prices for the seven quarters since the Council's current standards were announced. The rate of increase in the CPI rose by several percentage points during this period. Until the most recent quarter, little of this increase can be attributed to hourly earnings. By the end of the period, wages were rising at a rate only 1.4 percentage points greater than their rate of increase at the beginning of the period. Because compensation per hour rose more rapidly than hourly earnings and because productivity declined, unit labor costs accelerated more than wages, but the increase in unit labor costs lagged behind the acceleration in the rate of price inflation by a wide margin for most of 1979. The explanation for this phenomenon is not mysterious. The price of oil exploded in 1979. The home

Table 2

Wages, Productivity, Prices: 1978:4 to 1980:2
(Seasonally Adjusted, Quarter over Quarter Percentage Changes at Annual Rates)

	1978:4	1979:1	1979:2	1979:3	1979:4	1980:1	1980:2
Hourly earnings	8.2	8.5	7.1	8.5	8.5	9.6	9.6
Hourly compensation a/	8.8	10.3	7.9	8.6	9.4	10.2	9.3
Labor productivity	0.7	-3.0	-4.4	-1.4	1.0	-1.7	-5.0
Unit labor costs	8.0	13.9	12.6	10.0	8.5	11.9	15.3
CPI	9.5	11.2	12.8	13.4	13.6	16.9	13.7

a/Includes fringe benefits and payroll taxes.

Source: Data Resources, Inc., derived from data produced by the U.S. Department of Labor, Bureau of Labor Statistics.

purchase component of the CPI, which is heavily influenced by changes in mortgage interest rates, also rose very rapidly. A divergence between price inflation and the rate of wage increase was not surprising.

When the current standards were announced, real-wage insurance was proposed as a means of fostering compliance by assuring workers that their real incomes would be protected if they complied and the program did not succeed in reducing inflation. Although the Congress rejected the proposal, it is worth reviewing because it reveals some of the difficulties involved in trying to make a voluntary program credible. Real-wage insurance promised to pay complying workers the difference between 7 percent and the actual rate of increase in the CPI up to a limit of 10 percent. However, real-wage insurance can be very costly if workers comply and inflation fails to decline, as was the case in 1979.

In its 1979 report, the Council of Economic Advisors estimated that for each percentage point of inflation in excess of 7 percent real wage insurance would cost the Treasury $5

billion if three quarters of the workers covered by the pay standard complied. 1/ According to the Council, well over three quarters of the covered workers did comply with the pay standard last year. Therefore, real wage insurance would have cost nearly $15 billion in fiscal 1979 when the CPI rose by more than 10 percent, and it would still have failed to fully protect the real incomes of complying workers.

Demand management: the problem of consistency

In the current business climate incomes policy can work only if it succeeds in changing people's inflation expectations, and it can succeed at this only if the other elements of Federal policy that influence wages and prices, primarily monetary and fiscal policies, are revised to accommodate a slower rate of inflation. They must be consistent with the wage price guidelines.

Spokesmen for the Council on Wage and Price Stability have frequently made this point. As Alfred Kahn put it in describing the "real genius" behind President Carter's program before a House subcommittee, "It does not impose controls while continuing to inflate the money supply and increase the Federal budget deficit. On the other hand, it does not rely solely on monetary and fiscal restraints, let alone try to slam on the monetary and fiscal brakes." 2/ Kahn contrasted the President's policy mix with that followed during the Economic Stabilization Program in the early 1970s when, "One of the reasons controls did not work * * * was that they were accompanied by a highly expansionary monetary and fiscal policy." 3/

1/Economic Report of the President together with the Annual Report of the Council of Economic Advisors: 1979, (Washington, D.C.: United States Government Printing Office, 1979), p. 83. This is an optimistic estimate. Others put the figure as high as $11 billion. See Thomas Suppel, "Last Fall's Policy Changes: A Sound Program for Reducing Inflation," Federal Reserve Bank of Minneapolis Quarterly Review, winter 1979, pp. 7-9.

2/U.S. Congress, House of Representatives, The Administration's Voluntary Wage-Price Guidelines: Hearings before the Subcommittee on Economic Stabilization of the Committee on Banking, Finance and Urban Affairs, 95th Congress, 2nd session, November 22, 1978; p. 9.

3/Ibid., p. 8.

These observations command wide agreement among economists. Even in 1973 the Council of Economic Advisors realized that "controls would not be able to hold down prices and wages when there was a strong excess of demand, and that the effort to do so would result in shortages and distortion of production." 1/ Unfortunately, it is easier to identify expansionary monetary and fiscal policies in retrospect than it is to calculate precisely when demand stimulus will result primarily in inflation.

Whether the Federal Government is cautiously expanding or merely refusing to slam on the monetary and fiscal brakes is a distinction difficult to perceive by wage and price setters as they try to gauge future inflation by Government pronouncements and past experience. If they are not convinced, expectations of inflation will not be lowered and wage and price setters will not modify their behavior. There is also danger that inflation will worsen if the Government bases its monetary and fiscal policies on a mistaken assumption that incomes policy is reducing inflationary expectation. Ultimately the short-run costs of demand restraint may increase if the required adjustments in monetary and fiscal policies are postponed in the hope an incomes policy will work.

Previous experience within the United States shows a repeated pattern. Even when incomes policy temporarily succeeds in reducing inflation, it is followed by outbursts of inflation (see ch. 5). This indicates that the monetary and fiscal policies needed to convert a short-term reduction in the rate of inflation into a long-term decline have not been sustained.

An effective incomes policy--one that succeeds in lowering the rate of inflation--requires a high degree of voluntary compliance and demand management policies that support it. When these conditions are not satisfied, incomes policy will not reduce inflation.

OUR CRITERIA FOR JUDGING THE EFFECTIVENESS OF THE STANDARDS

No single criterion exists for judging whether or not an incomes policy has been effective. In part this is because the term effectiveness can be interpreted in various ways.

1/ Economic Report of the President together with the Annual Report of the Council of Economic Advisors: 1973 (Washington, D.C.: U.S. Government Printing Office, 1973), pp. 53-54.

This is a reasonable argument, but it presumes that it is actually possible to determine what would have happened if the standards had never been implemented. As R. Robert Russell, Director of the Council, explains, "There is only one way to do this, and that is by building an econometric model to represent the structure of the wage-price process and hence estimate how much wages and prices would have gone up in the absence of this program." 1/

We agree with the following provisions. First, the model must accurately reflect the true structure of the relevant economic relationships. Unfortunately, there is no single model that does this to everyone's satisfaction. The Council's staff has developed one model, whose deficiencies we discuss in chapter 4 and appendix III. We present other models that give different answers. Many other alternatives, besides ours, also exist.

Second, the most common econometric models take as given the Federal Government's monetary and fiscal policy. They are capable of testing what the rate of inflation might have been without the standards only on the assumption that monetary and fiscal policy were not altered as a result of the program. This is a strong assumption. For example, if the program of wage-price guidelines encouraged policymakers to undertake more restrictive measures than they would have otherwise pursued, then its contribution to the restraint of inflation went beyond whatever independent effect it had on wage and price increases. On the other hand, if the existence of the standards reduced the willingness to undertake more restrictive actions, then it is arguable that they contributed to higher inflation. At any rate, the overall impact of the program cannot be judged purely on the basis of the econometric evidence produced by the usual models.

We believe a fair and reasonable judgment concerning the effectiveness of the standards can be reached. However, it should be based not on the answer to any single question but rather on the answers to a combination of three questions.

1. Did the rate of inflation decline after the guidelines were established?

1/U.S. Congress, House of Representataives, To Authorize Extension of the Council on Wage and Price Stability: Hearings before the Subcommittee on Economic Stabilization of the Committee on Banking, Finance and Urban Affairs, 96th Congress, 2nd session, March 19, 26, and May 6, 1980, p. 374.

next few years to a tolerable level without forcing the economy to relapse into recession." 1/

A second question to ask in evaluating the effectiveness of wage-price guidelines is, "Was a recession avoided during the program?"

Although the answers to both questions presented here are useful and revealing, neither can be absolutely decisive in judging effectiveness. Other events and policies also influence the rates of inflation and unemployment, and it is possible that these influences are responsible if inflation declines following the announcement of an incomes policy. Some economists claim that the apparent effectiveness of the first two phases of the Nixon Administration's Economic Stabilization Program is accounted for in this way. 2/ Similarly, outside events may create a false impression of ineffectiveness when a program is effectively restraining inflation.

The Council on Wage and Price Stability claims that its standards were effective in holding the rate of inflation below the level it would otherwise have reached during the 18 months after they were announced. 3/ The standards' effectiveness is masked, according to the Council, by the increase in most price indexes for this period. Outside events, in particular increases in the price of crude oil and home purchase costs, pushed up the rate of inflation, but their effect was partially muted by the standards. In other words, the Council believes, inflation would have been even higher if there had been no standards, and argues that this means they were effective.

1/Amendment to the Council on Wage and Price Stability Act, Hearings before the Subcommittee on Economic Stabilization of the Committee on Banking, Finance, and Urban Affairs, House of Representatives, 96th Congress, first session, February 6 and 7, 1979, p. 73.

2/Edgar L. Feige and Douglas Pearce, "Inflation and Incomes Policy: An Application of Times Series Models, "The Economics of Price and Wage Controls, eds., Karl Brunner and Allan H. Meltzer, (Amsterdam: North Holland Publishing Co., 1976), p. 295.

3/Council on Wage and Price Stability, "Interim Report on the Effectiveness of the Pay and Price Standards," May 6, 1980, processed.

curve or to lower the levels of unemployment associated with particular inflation rates (i.e., to shift the Phillips curve toward the origin).

The third and final question--whether econometric evidence indicates a restraining effect--articulates the best criterion, one that the Council has advocated. Unfortunately, econometric tests are typically inconclusive and often are matters of professional contention. There are other criteria that can be used to evaluate the program. For example, the Council recently presented an analysis of company-specific pay and price data (The Pay/Price Standards Program: Evaluation and Third-Year Issues, July 8, 1980) to ascertain whether companies were constrained by the standards. Nevertheless, nowhere in the GAO report is the Council's analysis of company data treated, although other sections of the July 8, 1980 document are cited explicitly. * * * The program could also be evaluated on theoretical grounds if a more balanced assessment of the analytical literature were provided.

We agree that by itself our first question--did inflation decline--should not be decisive in judging the effectiveness of the standards. However, we do believe it is a useful starting point for examining their effectiveness. The Council, on occasion, has used the same starting point itself. We are told for example in The Pay/Price Standards Program: Evaluation and Third Year Issues, "The pattern of changes of wages and other measures of labor compensation suggest that the pay standard has had a definite restraining influence. Wage inflation during the first year of the program was slightly below the rate in the preceding year, despite the sharp acceleration that took place in the cost of living and concomitant decline in real wages" (p. 11, stress supplied).

The stated goal of anti-inflation policy is to lower the rate of inflation, not merely to prevent it from rising as high as it possibly could. Different policies could have produced even higher inflation than the Nation has experienced during the past 2 years, but this is scarcely evidence that the policies actually followed were effective in restraining inflation. Of course, there are "myriad factors" other than the standards which affect the rate of inflation, but this is beside the point. The test of an anti-inflation program ought to be its success in coping with these factors. If it fails to do so, for whatever reason, then it is properly

2. Was a recession avoided during the program?

3. Is there a wide range of econometric evidence showing a statistically significant effect of the program on the rate of increase in wages and prices?

If only one or perhaps two of the answers to these questions is no, it might be claimed that the incomes policy had some limited effect. However, if the answers to all three are no, then we believe this is sufficient reason to judge the program ineffective. An incomes policy that has not reduced the rate of price increase, that has failed to prevent a recession and for which there is little reliable econometric evidence of restraint should be judged ineffective.

It is of course possible that a program judged ineffective by these three questions may still have exerted some small but currently undetectable effect on the rate at which prices are rising. The effects of the current standards have not yet been widely tested using econometric methods. It is conceivable that future studies using more refined techniques may show a modest effect for the program. We would only contend that if a judgment is desired concerning the effects of the program based on what is currently known, then our procedure is a reasonable way of arriving at such a conclusion.

AGENCY COMMENTS AND OUR EVALUATION

The Council on Wage and Price Stability was given the opportunity to review and comment on this report. In reference to the criteria we describe above, the Council states in its letter of September 15, 1980:

> The first question--whether inflation declined--is overly simplistic, since it ignores the fact that the inflation rate is affected by myriad factors other than the standards. * * * The valid question is whether the inflation rate was lower than it would have been in the absence of the standards program.
>
> The second question--whether the inflation/unemployment tradeoff has been avoided--is unduly demanding. No sensible economist contends that this fundamental tradeoff can be avoided by an incomes policy; the objective is to change its nature--to make fiscal and monetary restraint work relatively more on inflation, as opposed to employment (i.e., to change the slope of the Phillips

However, it believes such evidence will be inconclusive. Although economists are notorious for their disagreements, this outcome is not inevitable. Whether future econometric studies of the pay and price standards will produce mixed results or whether a consensus will emerge concerning their effects remains to be seen. Nor do we regard our own efforts along these lines, described in chapter 4, as inconclusive.

We did not consider the company specific pay and price data presented in the Council's third year issues paper, because it is irrelevant to a judgment about the standards effectiveness. Whether or not companies and unions complied with the standards is relevant only if the standards changed their behavior and if that changed behavior was in turn reflected in the general price level. This is the point our three suggestions are designed to address. The data presented by the Council is no help in judging whether this occurred.

Finally, we are puzzled by the statement that the program can be evaluated on theoretical grounds. Our understanding of the relevant theory is that it was possible, theoretically, for the standards to produce an effect on inflation, but that there were serious practical difficulties confronting the program. Therefore, empirical analysis was needed to reach a judgment about their effectiveness.

SUMMARY

An incomes policy is an attempt by the Government to stabilize the price level by setting rules or standards to determine pay and prices. The goal of such a program is to reduce inflation while avoiding the usual short-run costs of higher unemployment and falling output. When conventional demand management policies are used alone to lower the rate of inflation, a recession is normally the result. This trade-off between lower inflation and higher unemployment is graphically depicted in the Phillips Curve. The goal of incomes policy is to shift this curve in a way that permits lower inflation without a recession.

The most difficult task for incomes policy is to establish its credibility. It cannot work if wage and price setters do not believe it will work. This requires demand management policies consistent with the goals of the program. If demand management is lax, the policy will fail to hold down inflation.

These requirements are difficult to meet. As explained in chapter 5, most previous incomes policies have not met them--they have failed either immediately or after some limited success. This record is relevant in judging the

judged ineffective. 1/ This is a simple test but that does not mean it is either unreasonable or unfair.

The test is not decisive for judging the effectiveness of the standards not because it is simplistic but because the standards are only one element in the anti-inflation program. To judge whether, by themselves, they have had a restraining effect on inflation, other evidence is needed. However, the evidence provided by the answer to our first question is still relevant since the overall anti-inflation program was affected by the existence of the standards. The other elements in the program might have been different had the standards not been established.

Our second question is directed towards one of the explicit goals of the standards program. It may be that no sensible economist believes that the fundamental tradeoff between lower inflation and higher unemployment can be avoided, but it is surely the case that the Council believed that if the standards were effective a recession could be avoided while inflation was reduced. We have quoted Chairman Kahn and Barry Bosworth to this effect. The current Director of the Council, R. Robert Russell, has also stated the same belief, "If our anti-inflation efforts are not successful, there is the clear danger of moving into a recession. If our anti-inflation efforts are not successful, there is the clear danger of moving into a period with higher unemployment and an exploding underlying inflation. This is what we are seeking to avoid in part through the application of the voluntary pay and price standards." 2/ Since the standards were designed to avoid recession, we continue to believe that a fair test of their effectiveness is whether they did so.

The Council agrees with us that econometric methods can be useful in evaluating the effectiveness of the standards.

1/Many economists believe that the appropriate response to an external shock like the oil price increase in 1979 is to permit a temporary increase in the rate of inflation. A reasonable argument can be made to support this position. However, this is essentially an argument against pursuing an effective anti-inflation policy, not about whether an apparently ineffective policy is in some arcane sense truly effective.

2/Inflation Situation, Hearings before the Subcommittee on Economic Stabilization of the Committee on Banking, Housing and Urban Affairs, United States Senate, 96th Congress, 1st session, October 11, 1979, p. 26, stress supplied.

CHAPTER 3

THE INFLATION RECORD RAISES QUESTIONS ABOUT THE EFFECTIVENESS OF THE CURRENT STANDARDS

The inflation objective for the first year of the pay and price standards (October 1, 1978 to September 30, 1979) was 6.5 percent. 1/ Had the objective been achieved, the rate of inflation would have returned to approximately the level reached in 1977 following the recession of the mid-1970s.

In the months that followed the establishment of the standards, inflation did not decline. From September 1978 through March 1980, the price level as measured by the CPI rose 24 percent--a 13.1 percent yearly increase. By comparison, the average yearly increase for the 2 years preceding the establishment of the pay and price standards was only 7.5 percent. Figure 4 shows the pattern of monthly increases in the CPI for the past 3 years. In the last 3 months of 1978 the CPI rose at an annual rate of 7.4 percent. 2/ In the first 3 months of 1979 the rate jumped to 12.8 percent. "Double digit" inflation had returned. Over the next 6 months inflation continued at a yearly rate of 14.1 percent. By the time the first program year of the standards had ended, the CPI had risen 12.1 percent, nearly double the Council's inflation objective.

Inflation continued at this high rate as the program's second year began. Then, in the first quarter of 1980, inflation accelerated again. From December 1979 to March 1980, the CPI rose 4.3 percent. 3/ This increase during one quarter was

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1/See, for example, the prepared statement of Barry Bosworth, Executive Director, Council on Wage and Price Stability, in U.S. Congress, House of Representatives, Adequacy of the Administration's Anti-Inflation Program, Part 1: Hearings before a Subcommittee of the Committee on Government Operations, 96th Congress, 1st session, February 5, 6, and 7, 1979; p. 385.

2/Inflation rates are calculated using data from the Economic Report of the President together with the Annual Report of the Council of Economic Advisers: 1980, Table B-49, (Washington, D.C.: United States Government Printing Office, 1980).

3/U.S. Department of Labor, Bureau of Labor Statistics, News Release, "The Consumer Price Index--May 1980."

Council's current pay and price standards. Since similar efforts in the past have usually failed, the evidence should be compelling if effectiveness is claimed for the current program. We believe the answers to three questions can be used to determine whether or not the wage-price guidelines have been effective:

1) Did inflation decline? (See ch. 3.)

2) Was a recession avoided? (See ch. 3.)

3) Is there a substantial body of econometric evidence to suggest the program restrained inflation? (See ch. 4.)

If the answers to all three of these questions are no, we believe it is reasonable to judge the program ineffective.

Although the CPI is probably the most widely publicized measure of inflation for the United States economy, it is not always the most revealing. Other measures, featuring different combinations of goods and services, should be considered in arriving at a balanced judgment concerning the magnitude of current inflation. One such index, compiled by the Bureau of Labor Statistics, is the producer price index (PPI), which measures wholesale prices. Generally, the PPI tends to be more volatile than the CPI, but over time the two indexes move together closely. During the first program year of the standards, the PPI for finished goods rose 11.8 percent and for industrial goods, 14.7 percent. 1/ The latter was considerably above the Council's inflation objectives for these commodities. 2/ During the next 6 months the rate of increase accelerated, reaching a peak in the first quarter of 1980. 3/ At seasonally adjusted rates, the producer price index rose 19.3 percent from December 1979 to March 1980. As with the CPI, the producer price index rose more slowly in the second quarter of 1980. Table 3 shows the pattern of quarterly increases in the PPI since 1977.

Wholesale prices thus reveal a pattern similar to the CPI. Inflation rose substantially during the first 18 months of the standards. It peaked at rates well above any recently experienced in the United States and after declining in the spring is still proceding at very high rates.

The Bureau of Economic Analysis also compiles a wide variety of different price indexes. Two of these are particularly useful in analyzing the record of inflation since the establishment of the pay and price standards.

The personal consumption deflator is an index of the prices paid for the goods and services included in the Commerce Department's measurement of personal consumption expenditures. It is an alternative measure of the increase in consumer prices. Although it is highly correlated with the CPI, the two indexes are constructed differently, and at times, they diverge. During the first year of the standards,

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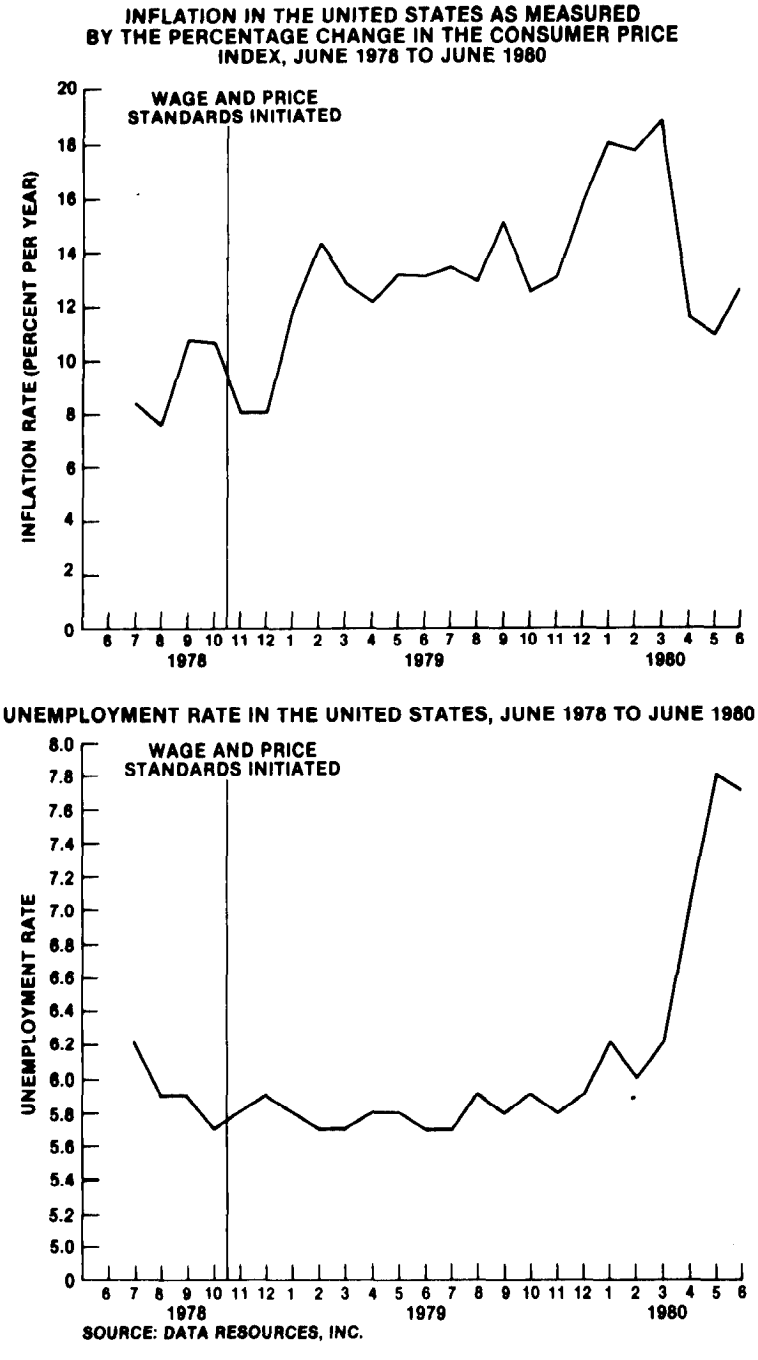
1/Economic Report of the President: 1980, Table B-54.

2/Adequacy of the Administration's Anti-Inflation Program, Part 1, p. 386.

3/Rates of increase during 1980 are calculated using data from various Bureau of Labor Statistics news releases.

Figure 4



greater than the increase in any year from 1952 to 1967. At an annual rate the CPI was increasing by more than 18 percent. This is apparently the peak rate of increase for the current business cycle. In the spring of 1980 inflation declined.

the personal consumption deflator rose 9.1 percent. 1/ This was 2 percentage points higher than its rate of increase during the preceding 12 months. In the fourth quarter of 1979, it rose at an annual rate of 9.8 percent, and then, in the first quarter of 1980, it accelerated to a yearly rate of 12.4 percent. 2/ In recent months the rate of increase in the personal consumption deflator has declined modestly from the first quarter peak, but current forecasts predict it will average approximately 10 percent for the remainder of 1980. This is a less dramatic profile than that presented by the CPI, but the pattern is similar. The rate of inflation increased following the October 1978 announcement of the standards, and it continued at a high rate throughout 1979, peaking in the first 3 months of 1980. It then declined somewhat, but failed to fall much below the rates experienced in 1979. (See table 3.)

Another useful price index is the implicit price deflator for the nonfarm business sector. Of the indexes discussed so far, it most closely parallels changes in unit labor costs. Therefore, it is a good measure of the responsiveness of prices to changes in pay. In the first year of the standards the implicit price deflator rose 8.8 percent. After declining to 7.5 percent in the fourth quarter of 1979, its rate of increase rose to 10.4 percent in the first quarter of 1980, and in the second quarter it rose again to 12.9 percent. (See table 3.)

Taken together, these various measures of inflation show a similar pattern. All of them reveal increases in the rate of change in prices in the 18 months following the establishment of the current program of wage price standards. Except for the nonfarm deflator, the measures all peak in the first quarter of 1980. Currently, they are still rising at very high rates. We believe the evidence is conclusive that the pay and price standards have not produced a decline in the rate of inflation. Inflation has been more rapid since they were announced.

The Council's underlying rate of inflation is inappropriate

According to the Council on Wage and Price Stability, "* * * the aggregate price data do not support the contention

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1/Economic Report of the President: 1980, Table B-3.

2/The Data Resources Review of the U.S. Economy - July 1980, p. II-44.

Table 3

Alternative Measures of Inflation at Annualized Rates

		Consumer price index	Producer price index	Personal consumption deflator	Implicit price deflator for the nonfarm business sector	Underlying rate (as calculated by the Council on Wage and Price Stability)
		(1)	(2)	(3)	(4)	(5)
1977:	1	8.0	7.9	7.3	4.5	
	2	7.2	8.1	5.6	8.7	
	3	5.8	4.6	5.0	6.4	
	4	5.8	6.6	4.9	4.9	
1978:	1	7.7	7.8	8.1	4.5	
	2	9.5	10.0	8.5	10.3	
	3	9.2	8.3	6.9	6.9	6.6
		----------Pay/Price Standards Begin----------				
	4	9.5	8.9	6.8	7.9	7.2
1979:	1	11.2	13.6	10.8	7.7	7.5
	2	12.8	9.7	9.2	10.8	7.2
	3	13.4	12.6	9.8	8.9	8.1
	4	13.6	15.0	9.8	7.5	8.6
1980:	1	16.9	17.1	12.4	10.4	12.7
	2	13.7	9.5	10.0	12.9	

Source: Columns 1 through 4 are calculated by Data Resources, Inc., based on data provided by the Bureau of Labor Statistics and the Bureau of Economic Analysis. Column 5 is from the Council on Wage and Price Stability, The Pay/Price Standards Program: Evaluation and Third-Year Issues, July 8, 1980, Table 1, p. 5, processed.

In testimony before a House subcommittee last year, Barry Bosworth, then Executive Director of the Council, claimed that, "When you add up farmers' prices, used home prices, and other exempt items, you will find about 15 percent of the CPI is not explicitly covered by the standards." 1/ If this is a valid estimate, then the overall CPI would appear to be a more accurate gauge of the standards' coverage than the "underlying rate of inflation," which excludes approximately 50 percent of the CPI.

The CPI-based "underlying rate of inflation" index is a misnomer. The commodity prices included in it are for final goods and services--entertainment, apparel, household furnishings, and new cars, for example. The prices of these commodities do not underlie or determine the prices of other goods. In fact, the prices of the goods and services excluded from the CPI in calculating the "underlying rate" probably bear a closer relationship to some elements of production costs than the "underlying rate" itself. Farm prices are correlated with the prices of many crude materials--plant and animal fibers, and hides and skins, for example. Mortgage interest rates move in tandem with the cost of business capital, and the prices consumers pay for energy are closely tied to the prices paid by manufacturers and other businesses.

The Council claims that its "underlying rate" is essentially a reflection of changes in production costs. 2/ However, according to its own econometric work, less than 15 percent of any increase in current unit labor costs is reflected in the "underlying rate." 3/ (See chapter 4 and appendix III.) If this is the case, then the "underlying rate" is no more responsive to changes in current production costs than any of the broad-based measures of inflation discussed earlier, including the CPI. In fact, since the third quarter of 1978, the quarterly increases in the "underlying rate" are actually negatively correlated with changes in

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1/U.S. Congress, House of Representatives, Adequacy of the Administration's Anti-Inflation Program, Part 1: Hearings before a Subcommittee of the Committee on Government Operations, 96th Congress, 1st session, Feb. 5, 6, and 7, 1979, p. 339.

2/Council on Wage and Price Stability, "Inflation Update," June 12, 1980, processed, p. 24.

3/Council on Wage and Price Stability, "Interim Report on Effectiveness of the Pay and Price Standards," May 6, 1980, processed, Tables 7 and 8.

that the standards were ineffective." 1/ Given the evidence in the preceding section, the Council's conclusion is puzzling. 2/ Apparently, the Council believes that the aggregate measures of inflation we have summarized here are a misleading picture of the "fundamental inflationary pressures in the industrial and service core of the economy." 3/ To measure these pressures more accurately, the Council has constructed a CPI-based measure of the "underlying rate of inflation." It consists of the portion of the CPI remaining when the components for food, energy, homeownership, and used cars are deleted. The Council describes the index as a proxy for the behavior of prices in those sectors of the economy covered by the standards.

In fact, the individual components of the CPI cannot be broken out in a way that will parallel the coverage of the standards. For example, the Council's measure of the "underlying rate of inflation" excludes food prices. Although the standards do not cover the prices farmers receive for their products, neither does the CPI include farmers' prices in its food component which consists of the prices of food products sold at grocery stores around the country. Most of the costs of food products are accounted for by transportation, processing, and marketing rather than by farm prices. And these costs are most definitely covered by the Council's standards. Similarly, gasoline and home heating oil are excluded from the "underlying rate of inflation." The cost of crude oil is an important element in the cost of these products. While crude oil is not covered by the standards, the prices of gas and heating oil depend on processing and distribution costs, and these are covered by the standards. Those products whose prices are included in the "underlying rate of inflation" also require raw materials, the prices of which are not covered by the standards. Apparel is included, but it could not be produced without raw cotton or synthetic fabrics produced from petroleum.

1/Council on Wage and Price Stability, The Pay/Price Standards Program: Evaluation and Third Year Issues, July 8, 1980, processed, p. 11.

2/This conclusion is apparently based simply on an examination of aggregate price data and is unrelated to the claim that econometric models show the standards were effective.

3/Council on Wage and Price Stability, The Pay/Price Standards Program: Evaluation and Third Year Issues, July 8, 1980. p. 9.

changes in individual markets, which affect the prices of particular goods or services, should be analyzed as deviations from the average, not as its determinants. The Iranian Revolution and the consequent developments in world oil markets raised the price of petroleum products and their substitutes, such as coal and natural gas, relative to the average level of all prices. At the same time, the increase in oil prices lowered the demand for and thereby lowered the relative prices of automobiles and other products that people consume in conjunction with petroleum products. 1/ These events were both "inflationary" and "deflationary" in that they caused both positive and negative deviations from the average level of all prices. To the extent that the depressing effects of the oil price increase were initially reflected in slower growth in real output, the effects did contribute to an increase in the average price level. However, this level cannot be measured simply by calculating how much the CPI's energy component increased.

The Council's "underlying rate of inflation" measures the rate of price increase for only a limited selection of goods (about half the components of the CPI). The "underlying rate" is incapable of distinguishing between changes in the relative prices of these goods and the broader trends in the average level of all prices, which is the usual definition of inflation. In the broader indexes, changes in relative prices offset one another so that the average price reflects broad macroeconomic trends. Because it is so narrowly defined, the "underlying rate" lacks this property. Movements in it may come about either because of changes in the rate of inflation or because microeconomic events alter the relative prices of the products composing it. The "underlying rate" is an inappropriate measure of inflation because this confusion between relative and absolute price changes is built into it.

If the standards have not lowered the overall rate of inflation as necessarily measured by a broad-based index of prices, then those standards have not been effective. If they have only created additional deviations from the average level of prices, then their only effect has been an arbitrary redistribution of income among different groups in the economy. On the other hand, if the standards were

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1/The relative price of new cars fell 5.2 percent in 1979 while the relative price of gasoline rose 34.4 percent. Calculated from their respective components of the CPI presented in The Economic Report of The President: 1980, Table B-49, B-50.

current unit labor costs. 1/ The Council has not supported its assertion that the "underlying rate" is closely related to changes in production costs. How, then, should the "underlying rate" be interpreted?

During a period of inflation almost all prices increase, but some rise more rapidly than others. The differences among the rates of increase for the various prices depend on changing market conditions for the individual goods and services. A bumper crop holds the rate of increase in agricultural prices below the average, while a drought raises it above the average. Changes in taste, technology, market power, and resource availability cause changes in these differentials. However, it is a mistake to assume that any particular price change is wholly explained by such factors. Such an assumption may be plausible only when the average level of prices is stable. When it is not, changes in particular prices depend not only on the microeconomic factors just mentioned but also on macroeconomic trends that affect all prices equally.

With respect to changes in the level of prices, the most important of these macroeconomic trends is the rate of growth in total spending. The rate of inflation is equal to the difference between the rate at which total spending is rising and the rate of increase in the total output of goods and services. From the third quarter of 1978 through the first quarter of 1980, total spending in the United States grew at an average yearly rate of 10.9 percent. 2/ This growth far exceeded the economy's capacity to increase its total output of goods and services. Inflation was inevitable. Had real output grown between 1.5 and 2.5 percent, an average rate of price increase between 8 and 9 percent was unavoidable. Even this amount of growth would have meant an acceleration, rather than a deceleration, in the rate of inflation. In fact, real economic growth was less than this and consequently inflation was higher.

The fundamental point is that macroeconomic trends largely determine the average rate of price inflation. Thus,

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1/The correlation coefficient is -0.17. It is calculated using the percentage rates of change given in the Council's Inflation Update - June 12, 1980, p. 29.

2/This rate is calculated using figures for gross national product (GNP) from the Economic Report of the President: 1980, Table B-1 and The Data Resources Review of the U.S. Economy, July 1980, p. II-33. The rate of increase for calendar year 1979, 1978:4 to 1979:4, was 10 percent.

oil. If the size of the oil price increase is completely beyond the influence of changes in other prices or wages (that is, if it does not depend on the overall rate of inflation), then increases in these other prices will not contribute to further increases in oil prices. If rising oil prices were simply a cause and not also, in part, a consequence of inflation, their most devastating effects on the economy could be avoided by high inflation. Neither the Council nor we believe that this is possible, because even oil prices depend to some extent on macroeconomic trends.

Therefore, we conclude that the only measures of inflation relevant to judge the effectiveness of the standards are the broad measures of prices discussed in the preceding section. The various "underlying rates" developed by the Council for this purpose are inappropriate.

The recent rise in the rate of unemployment

The second main objective of the incomes policy announced in October 1978 was to prevent a recession while lowering the rate of inflation. The goal was to avoid the usual short-run tradeoff between lower inflation and high unemployment. The Council's program also failed to achieve this objective.

In the summer of 1978 the rate of unemployment dropped below 6 percent for the first time in more than 3 years. 1/ During the first 15 months of the standards, the rate was virtually constant, fluctuating in a narrow band between 5.7 and 5.9 percent. 2/ During the first quarter of 1980, it edged above 6 percent, and then, as inflation declined in the spring, unemployment rose dramatically. In April and May 1980, the Bureau of Labor Statistics recorded the largest monthly increases in unemployment since monthly records began (see figure 4). For the second quarter, the unemployment rate averaged 7.6 percent. Current forecasts call for further increases throughout the rest of the year. 3/

In recent months, the rate of inflation has fallen, but this drop has been accompanied by a recession. The normal business cycle pattern represented by the Phillips Curve, in which a reduction in the rate of inflation is accompanied by

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1/Economic Report of the President: 1980, Table B-29.

2/Ibid.

3/The Data Resources Review of the U.S. Economy - July 1980, p. 166.

working to lower inflation, their effect would be felt even in those sectors of the economy that the standards did not explicitly cover.

A good example of such a sector of the economy is the mortgage interest component of the CPI. Interest rates are not covered by the standards, but if the standards had lowered the rate of inflation people expected, that change in anticipated inflation would be reflected in lower interest rates. 1/ That mortgage interest rates rose markedly during the first 18 months following the announcement of the standards is an indication that the program lacked credibility. The restrictive monetary policy followed by the Federal Reserve System, especially during the winter of 1979-80, also contributed to rising interest rates. One of the main objectives of the standards was to lower inflation without requiring such drastic measures. 2/ That such measures were taken and interest rates rose even further is another indication that the standards were not effective.

Another example illustrating a sector of the economy not explicitly covered by the standards yet affected by them involves the dramatic increase in oil prices during 1979 and the first quarter of 1980. The standards do not cover the price of crude oil and the Council could not do anything to prevent a substantial increase in the relative price of petroleum products. However, the size of the actual increase in the prices of gasoline and home heating oil was only partly determined by this change in relative prices. It was also partly determined by the overall rate of price inflation in the U.S. economy.

In analyzing inflation, the Council often ignores the contribution of the overall rate and treats the entire increase in oil prices as if it were independently determined. Surely this is a mistake. If the absolute magnitude of the increase in oil prices is given, then an appropriate response to it is an inflationary increase in other American prices to recapture the real income lost to the foreign suppliers of

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1/See "Inflation Update," June 12, 1980, p. 13, and Irving Fisher, The Theory of Interest (New York: The Macmillan Company, 1930), Chapter XIX.

2/See for example the statement of Alfred Kahn in U.S. Congress, House of Representatives, The Administration's Voluntary Wage-Price Guidelines: Hearings before the Subcommittee on Economic Stabilization of the Committee on Banking, Finance and Urban Affairs, 95th Congress, 2nd Session, November 22, 1978, pp. 4-12.

CHAPTER 4

ECONOMETRIC EVALUATION OF THE EFFECTIVENESS OF THE PAY AND PRICE STANDARDS

As we explained in chapter 3, the standards did not achieve their original intent, to slowly decelerate inflation. Instead, inflation accelerated following announcement of the standards. Recently, as inflation has declined from its peak in the first quarter of 1980, unemployment has risen and the economy has entered a recession. One objective of the standards was to break this pattern. Clearly, they have not done so.

The possibility remains that the standards may have prevented the rate of inflation from reaching even higher levels than it did during the past year and a half. Spokesmen for the Council on Wage and Price Stability have made this claim, and a recent study by the Council's staff provides empirical estimates of the standards' moderating effect. 1/ In this chapter we examine the evidence for this claim. The first section discusses the econometric methods used by the Council and by us to calculate the standards' effect on the rates of wage increase and price inflation. 2/ The second section discusses the Council's report and presents our assessment of its methods and conclusions. The third section describes an alternative set of estimates by us, contrasts these with the Council's results, and compares them to previous work by other economists.

The Council study mentioned above provides no direct econometric evidence of the effect of the standards on the overall rate of inflation. Instead, it offers indirect evidence based on calculations of the effects of the pay standard on wages and the price standard on what the Council calls the "underlying rate of inflation." 3/ The assumption that

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1/Council on Wage and Price Stability, "Interim Report on the Effectiveness of the Pay and Price Standards," May 6, 1980, in process.

2/Appendix III of this report gives a more detailed explanation of the econometric methods used.

3/Our criticism of this index as a measure of inflation is presented in chapter 3.

a recession, has not been avoided. The summary statistics for inflation and unemployment reveal no evidence that the standards were effective.

The Council on Wage and Price Stability, in response to our draft report, justified excluding food prices from the "underlying rate of inflation" on two grounds. First, farm prices account for most of the variation (about 70 percent) in retail food prices; second, the CPI cannot exclude the farm price component from other components. Therefore, one must include either the entire food component or no food component at all.

Although farm prices are volatile and account for much of the month to month variation in the food component of the CPI, most of these changes quickly reverse themselves with little effect on the overall trend. Over longer periods, the increase in retail food prices cannot be attributed primarily to rising farm prices. For example, from September 1978 to August 1980, farm prices rose at an average yearly rate of 11.2 percent. This would account for approximately 3.7 percent of the 9.5 percent yearly increase in food prices as measured by the food component of the CPI, since the cost of farm products accounts for only a third of retail food prices. The remaining 5.8 percent of the increase in food prices must be due to other factors, most of which were covered by the standards. Therefore, the short-run volatility of food prices fails to alter our finding that the "underlying rate of inflation" is not superior to the CPI as a proxy for the coverage of the standards.

SUMMARY

Two of the questions we posed in chapter 2 regarding the Council's wage-price guidelines have now been answered. First, a decline in the rate of inflation has not occurred since the program was announced. If anything, inflation has increased. Second, the voluntary pay and price standards have not avoided the usual tradeoff between inflation and unemployment. When the accelerating trend of price increases finally broke in the second quarter of 1980, the unemployment rate sharply rose.

The third criterion for judging the effectiveness of incomes policy is the evidence from econometric modelling of the policy's effect on the Phillips Curve. We analyze that evidence in chapter 4.

relationships suggested by economic theory. In most cases, theory suggests only the direction of change in one economic variable in response to changes in another. It does not indicate the magnitude of the response. To determine that, econometric techniques are needed.

With respect to the problem at hand, econometrics can simultaneously test for the existence of the restraining effect of the standards and measure the size of that effect. The first step is to specify precisely the economic processes that generate inflation in the U.S. economy. But specification is a major problem because there is considerable disagreement about what those processes might be. However, there is a group of models which, although not accepted by all economists, has been widely used to analyze inflation.

Each of these models of the inflationary process consists of two relationships. The first relates the rate of wage increase to the level of unemployment, as represented by the Phillips Curve described in chapter 2. In more recent work, this relationship is usually augmented by a term that tries to capture the expected rate of future inflation, since the rate of wage increase appears to respond directly to these expectations, independently of the level of unemployment. The second relationship in this model relates the rate of price inflation to the rate of change in unit labor costs, which consists primarily of wages adjusted for changes in labor productivity. This relationship is often augmented by additional variables such as the rates of price increase for oil or crude materials that do not depend on changes in wages.

These two relationships can be expressed in two simple equations as follows:

$$(1)\quad w = a + bU + cp^e$$

$$(2)\quad p = d + e(w - q) + fx$$

Equation (1) says that the rate of increase in money wages, w, depends on an unemployment rate, U, and the expected rate of price inflation, p^e. The constant term, a, is added to the equation to capture the influence of all other variables that might contribute to the average rate of increase in money wages, but are not explicitly allowed for in the equation. The values of b and c, determined statistically, will measure the contribution of U and p^e to w. For example, should the value of b be calculated as -0.8, it would mean that for each 1 percent rise in the unemployment rate, the rate of increase in wages would fall by 0.8 percent. Similarly, should c be equal to 1, it would mean that for

restraining wages and the "underlying rate of inflation" necessarily reduces inflation as measured by the broader indexes of prices is just that, an assumption. Without further evidence that this assumption is sound, we feel that our direct examination of the standards' effect on the aggregate price level is a more reliable indication of their restraining effect on inflation.

METHODOLOGY

To determine the effectiveness of any economic policy or program, economists must first form a judgment about what would have occurred if the policy or program had not been in effect. Any such judgment is necessarily probabilistic since there is no way to test economic policy by controlled experiment. Often the judgment is made simply by comparing the past and the present. In the case of the standards, we compared the rate of inflation before their announcement with the rate after they were in effect. On this test the standards were clearly ineffective. Inflation has been much worse since they were announced. However, such a comparison, by itself, would be an unfair test, since the rate of inflation prior to the announcement of the standards is a weak indicator of what inflation would have been had the standards not been established. Inflation last year could have been even worse than it was. The CPI, which rose by 13 percent in 1979, might have risen by 15 or 20 percent.

It is possible that the standards may have been effective in holding down inflation relative to what it would have been without standards, and it is this kind of effectiveness that is currently being claimed for them. If the standards had this kind of effect, they would have made an important contribution to controlling inflation, even though the rate of price increase rose last year. The problem, of course, is discovering what inflation would have been without the standards. The only systematic way to do this is through econometrics.

Econometrics is a method for statistically testing and empirically estimating economic relationships. For example, economic theory predicts that when the price of gasoline rises relative to other prices and incomes, the quantity consumed will decline, other things being equal. Econometric modeling is a way of examining the data on gasoline prices, consumption, and other relevant economic variables to determine whether, in fact, this happens and, if so, by how much. Thus, econometrics can be used for two related purposes. First, it is a way of testing economic theory, of confronting that theory with economic experience. Second, it is a way of estimating the numerical properties of the

This is the choice made in equation (1). Others prefer the reciprocal of the rate, 1/U. Although both specifications have been widely used, many other reasonable alternatives exist.

The third choice to be made is to select an observable counterpart for the expected rate of inflation, p^e. Here too, various alternatives exist and no single choice is clearly superior. Finally, a decision must be made about the additional variables, if any, to include in the price equation (the counterparts of the x's).

The final step in testing the effectiveness of the Council's standards econometrically is the choice of a method to measure their effect. In its study, the Council used two different methods. Either is acceptable econometrically, and both have been used in similar studies. In the first of these methods, a variable, called a dummy because it represents no actual data series, is used to measure the effect of the standards. For each period the standards are in effect, the dummy variable takes a value of 1. For each period they were not in effect, it takes a value of 0. In this way an artificial data series is constructed that distinguishes the periods following the establishment of the standards from those preceding it.

Equations (1) and (2) can thus be rewritten as:

$$(1') \quad w = a + bU + cp^e + nZ$$

$$(2') \quad p = d + e(w - q) + fX + mZ$$

In equations (1') and (2'), the new variable Z represents the dummy variable, and n and m measure its contribution to w and p^e. The calculated values of n and m can be interpreted as the direct effects of the standards on the rates of wage increase and inflation. If n and m are indistinguishable from 0, this would be evidence that the standards were ineffective. 1/ If either of them has the "wrong" sign, indicating an unexplained acceleration in inflation during the period the standards were in effect, this too would suggest that the standards were ineffective.

The alternative method of testing the effectiveness of the standards is to estimate the parameters (i.e., the values of a, b, c, d, e, and f) in equations (1) and (2) using data only from the period prior to the announcement of the

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1/This point is developed more fully in appendix III.

each 1 percent rise in the expected rate of inflation, the rate of increase in wages will also rise by 1 percent (i.e., expected inflation is fully incorporated in the rate of wage increase).

As with equation (1), equation (2), the price equation, says that the rate of inflation depends on the rate of increase in money wages, w, less the rate of increase in labor productivity, q. The variable x is initially left unspecified. In recent years the rate of increase in oil prices has been a candidate for the variable x. Changes in crude materials prices, farm prices, and interest rates might also be appropriate candidates. Often a measure of excess demand for final goods and services is included in the list of variables. Should more than one of these variables be used in equation (2), additional x's would be added and their influence on the price level independently calculated.

As above, the values of e and f measure the influence of (w - q) and x on the rate of inflation. A constant term, d, is also allowed to pick up the influence of other variables on the average rate of price increases.

The values of a, b, c, d, e, and f can be estimated statistically, using past data on unemployment, expected inflation, the rate of increase in money wages, the rise in labor productivity, and the variables represented by the x's. Before these computations can be made, other choices must be made.

First, we must choose from among the many available measures of unemployment, inflation, and wage increase, those which will be used to estimate the equations. For example, considerable evidence shows that the economic significance of the measured rate of unemployment has changed in recent years as the demographic composition of the labor force has altered. The total unemployment rate for all workers, therefore, may not be the best choice to include in equation (1), at least in the simple forms suggested above. Even those economists who place great confidence in the model of the inflationary process represented by equations (1) and (2) do not agree about how these choices should be made. The choices are matters of judgment that are generally settled by trial and error. Although the general framework represented by the two equations has wide acceptance, the detailed specification and interpretation, crucial to econometric analysis, is frequently disputed.

Second, a choice must be made about the exact form in which the unemployment rate will enter the equation. Several possibilities exist. Some researchers use the rate itself.

can be placed in the evidence than if effectiveness is demonstrated under a wide variety of reasonable specifications.

Another shortcoming of these techniques is that they are only capable of predicting what inflation would have been on the assumption that the other elements of the anti-inflation program were unaffected by the existence of the standards. For example, if monetary and fiscal policy were more restrictive because the standards were expected to reduce the employment and output losses usually associated with such measures, this effect of the standards will not be recognized by these econometric techniques. Alternatively, if monetary and fiscal policy were less restrictive because the standards were expected to check inflation without resorting to harsher measures, then this effect will also be overlooked by the econometric techniques discussed above.

Before going on to discuss our results, we caution the reader about the use and interpretation of econometric evidence. Econometric techniques are the methods economists have used to predict inflation, unemployment, and economic growth in recent years. That these models have often failed to predict accurately should warn anyone against relying on them too much as a means of simulating the effects of different policies. This is as true of our own modeling as it is for the Council's. It is true that retrospective simulation is easier than forecasting because events such as the OPEC (Organization of Petroleum Exporting Countries) oil price increase, which upset conventional forecasts, are known. However, even with this advantage, any estimate of what inflation would have been last year without the standards is at best a well-informed guess. This reinforces the point that other evidence of their effectiveness is crucial to a full evaluation of them.

THE COUNCIL'S ECONOMETRIC EVALUATION OF THE EFFECTIVENESS OF THE PAY AND PRICE STANDARDS

In a recent report, the Council on Wage and Price Stability claimed that the standards have had a moderating effect on wages and prices during the first year and a half following their announcement. 1/ The Council's claim rests on two distinct steps. First, it depends on the accuracy

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1/See "Interim Report on the Effectiveness of the Pay and Price Standards," Council on Wage and Price Stability, Washington, D.C., 1980.

standards. The estimated equations can then be used to project or simulate the behavior of wages and prices during the 18 months following October 1978, using the actual data for the explanatory variables during this period. 1/ If this retrospective forecast predicts wage increases and price inflation substantially greater than the actual experience, this would be evidence to support the Council's claim that the standards were successful in holding down inflation. On the other hand, if the simulated values for the rate of wage increase and price inflation are close to or less than the actual values, then this suggests the standards were ineffective.

Both methods are capable of revealing useful information about the effect of the standards, but both have shortcomings. The major shortcoming is that neither method can discriminate between the effect of the standards and any other shocks that are not fully reflected in the explanatory variables chosen for equations (1) and (2). If something other than a change in unemployment or a change in the proxy chosen to represent expected inflation causes the rate of wage increase to vary, this will be reflected in the estimated coefficient of the dummy variable or in the deviation of the simulated rate of wage increase from the actual value. That such shocks are possible will come as no surprise to anyone who has followed the recent record of econometric forcasting where similar methods are used to predict future economic developments.

Thus, even if these methods show strong evidence for the effectiveness of the standards, that evidence cannot be viewed as absolutely conclusive because the possibility would remain that something other than the standards caused wages or prices to diverge from their historic pattern of behavior. This shortcoming is also present in our own modeling. One implication of this shortcoming is that any claim for the effectiveness of the standards should be supported by more than a single specification of the relevant relationships--that is, by more than one specific formulation of a wage equation such as equation (1), in which all of the choices mentioned above have been made. If the evidence of effectiveness is contingent on a specific model, then less confidence

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1/For example using the estimated values of a, b and c, the actual values for U and p^e can be inserted in equation (1) for the period of the standards. This will permit the value of w to be calculated by simple multiplication. The computed value of w is compared to its actual value to judge the effectiveness of the standards.

The basis for the Council's claim is an estimated wage equation of the general form discussed in the previous section. Specifically, the wage equation takes the form:

$$(3)\quad w = a + b[(1/U) - (1/U_{-1})] + cp^e$$

which says that the rate of increase in money wages, w, depends upon the change in the reciprocal of the unemployment rate, 1/U, between the current quarter and the preceding quarter, and the expected rate of inflation, p^e. Because the expected rate of inflation is not observed directly, it must be estimated. In the Council's estimate, p^e is obtained by taking a weighted average of the current rate of inflation, p_0, and the rate of the four previous quarters, p_{-1}, p_{-2}, p_{-3}, p_{-4}, or

$$(4)\quad p^e = c_0p_0 + c_1p_{-1} + c_2p_{-2} + c_3p_{-3} + c_4p_{-4}.$$

In equations (3) and (4), the Council uses the unemployment rate for male workers aged 25 to 54 to represent unemployment and the rate of increase in the CPI to measure price inflation. The equation is augmented by a variety of dummy variables to capture the effects of previous incomes policies. The equation is estimated in two ways. In one estimation the Council includes a dummy variable to represent the effect of the pay standard. This yields an estimate of -1.6 percentage points for the effect of the standard on the average rate of wage increases. The second estimate uses data only from the period prior to the announcement of the standards. This equation is then simulated for the period of the standards and the average overprediction is 1.7 percentage points. Thus, the Council concludes the pay standard has lowered the average rate of wage increase by 1.6 to 1.7 percent.

We began our investigation by considering slight variations on the specification of equation (3). None of our specifications is inferior in terms of its statistical properties to the equation formulated by the Council's staff. Each is a reasonable alternative, and most fit the data as well or better than the Council's equation.

Our first variation was to use a seasonally adjusted index of hourly earnings for nonfarm production workers. The Council uses nonseasonally adjusted data and corrects for this by including seasonal dummy variables in its

of the econometric estimates of the effects of the standards on wages and the "underlying rate of inflation." Second, it depends on the appropriateness of the Council's method for translating a change in the "underlying rate of inflation" into a change in the CPI. In chapter 3, we discussed the flaws in the second step. The Council's "underlying rate" is a misleading measure of inflation. Changes in it do not necessarily reflect changes in the fundamental trends that determine the rate of inflation. The section that follows discusses the flaws in the first step.

The Council claims that without the standards, the rate of increase in the CPI would have been one-half to three-quarters of a percentage point higher than the 13.1 percent which actually occurred. This claim is based on econometric estimates of the effect of the standards on the Bureau of Labor Statistics (BLS) index of average hourly earnings and what the Council calls the "underlying rate of inflation." To our knowledge, the Council has made no attempt to estimate econometrically the effect of the standards on the CPI, or any other broad index of prices. Instead, the overall effect of the standards is calculated by scaling down their estimated effect on the "underlying rate of inflation." The Council estimates that the total effect of the standards on the "underlying rate of inflation" lay between 1.05 and 1.48 percentage points. Since the "underlying rate" is constructed by selecting about half the components of the CPI, the Council calculates that it lowered the rate of increase in the CPI by 0.53 to 0.74 percentage points, or one half of the calculated effect on the "underlying rate."

The Council's estimates of the effect of the pay standard are disputed

The Council estimates that the pay standard directly lowered the rate of wage increase by 1.6 to 1.7 percentage points during the program's first 18 months. Wages as measured by the BLS index of hourly earnings for nonfarm production workers rose at an average annual rate of 8.4 percent a year during this period. Thus, the Council's estimate implies that wages would have risen at annual rates close to 10 percent without the pay standard. Looking at it another way, the Council claims to have reduced the rate of wage increase by about 16 percent from what it would have been without the pay standard. This is a substantial effect, and it is compounded if the indirect effect on wages of lower price increases, which the Council also claims to have produced, is considered. It deserves careful scrutiny.

to -0.2 percent. The results of our calculations are summarized in table 4.

Table 4

Various Estimates of the Effect of the Pay Standards

	Percentage reduction in the average annual rate of wage increase: 1978:4 to 1980:1
Council's estimate	-1.58
Our variations:	
Seasonally adjusted wage index	-1.43
Alternative measures of inflation:	
--Personal consumption deflator	-0.92
--Gross domestic product of nonfarm business deflator	-0.31 a/
Alternative unemployment measurement: ΔU replaces $\Delta(1/U)$	-1.07 a/
Nonfarm business deflator replaces CPI and ΔU replaces $\Delta(1/U)$	-0.17 a/

a/Statistically insignificant at the 5 percent level (one-tailed test)

Our results show that the econometric evidence for the Council's claim that the pay standard restrained wage increases is shaky. Minor variations in the specification of the equation used by the Council to estimate the effect of the standard cause dramatic changes in that estimate. All of the equations we examined fit the data as well as the equation the Council analyzes, but the equations uniformly show a smaller effect of the standard than the Council claims. In several, the estimated effect is essentially zero. Similar results were obtained when we used a simulation to estimate the effect of the pay standard. 1/ When

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1/See appendix III in this report.

estimated equations. 1/ The effect of this substitution is to marginally reduce the estimated effect of the pay standard from -1.6 percent to -1.4 percent. 2/

Our second variation was to substitute the change in the rate of male unemployment ($U-U_{-1}$) for the change in the reciprocal of this unemployment rate. Thus we estimate

$$(3') \quad w = a + b(U - U_{-1}) + cp^e$$

rather than (3). The effect of this change is to lower the estimated effect of the pay standards to -1.0 percent.

Although the CPI is a commonly used measure of inflation, alternatives to it exist. Moreover, in recent months the substantial weight given to increases in mortgage interest rates in the CPI has provoked considerable criticism. The alternatives we consider are the implicit price deflators for personal consumption expenditures and for gross domestic product of nonfarm business. We consider the first as an alternative proxy for changes in the cost of living. When it is substituted for the CPI in equation (4) and the resulting estimate of expected inflation is included in equation (3), the estimated effect of the pay standard on wages falls to -0.9 percent. We used the nonfarm deflator because wages depend on both the price of goods workers expect to buy and the price of goods that employers expect to sell. The latter is better captured by the nonfarm deflator. When this index is used in equations (3) and (4), the estimated effect of the pay standards falls to -0.3 percent.

The final variation we considered was a combination of the two previously discussed. The nonfarm deflator was used to derive a measure of expected price inflation and the change in the rate of unemployment was substituted for the change in the reciprocal of the unemployment rate. This variation reduced the estimated effect of the pay standard

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1/The data used in the Council's study are quarterly. As such, they are likely to contain a seasonal factor. For example, unemployment would rise in the summer if it were not seasonally adjusted. Several methods exist for seasonal adjustment that are generally accepted by statisticians.

2/The two estimates are essentially equivalent even though ours is slightly lower (see appendix III). The remaining estimates cited in this chapter were obtained using the seasonally adjusted series for hourly earnings.

Aside from the inherent ambiguity in the concept of the "underlying rate of inflation," discussed in Chapter 3, this equation is probably misspecified, although it fits the data for the period under consideration. The Council has used only a fraction of the CPI to calculate the "underlying rate of inflation," but it uses economy-wide data for unit labor costs and crude materials costs. It makes no attempt to tailor its cost measure to the particular segments of the economy included in the "underlying rate of inflation." The Council's explanatory variables would be appropriate in an equation predicting an economy-wide measure of price inflation, but they are inappropriate in an equation predicting the rate of price increase for only a segement of the economy. If one is interested in the "underlying rate of inflation," we believe the explanatory variables should correspond to the sectors of the economy for which it is calculated.

In our investigation, we estimated equations similar to equation (5), in which the rate of increase in the CPI replaces the "underlying rate of inflation." In our equations we explicitly allowed for the three major exceptions to the price standard: farm prices, crude oil, and mortgage interest rates. These variables enter the equation directly. If they are responsible for all of the increase in inflation since 1978, that responsibility will be reflected in a close fit between our estimated rate of inflation and the actual increase in the CPI. What we find, in fact, is an unexplained acceleration of 2.1 percent in the rate of inflation. This acceleration appears if we include a dummy variable for the period of the price standards. The acceleration also occurs if we estimate the equation for the period prior to the standards and forecast inflation for the period since October 1978.

In this case, our predicted rate of increase in the CPI falls short of the actual rate of increase in each quarter (see table 5). The average overprediction is 1.8 percent.

Thus, on both approaches, there is an unexplained increase in the overall rate of inflation even after allowance is made for the effects of rising oil prices, mortgage interest rates, and volatile farm prices. What our results show is that the standards failed to restrain inflation last year, even after allowance is made for the effects of rising prices in the sectors of the economy not covered by the standards.

We have also examined rates of price increase in individual sectors of the economy. To do this carefully and accurately requires a separate specification of the relation between price and its determinants for each sector. We used the Data Resources Incorporated (DRI) model for this purpose.

we make further adjustments in equation (3) to bring it more in line with previous attempts to model this relationship, our conclusion is strengthened. Before discussing that work, we consider the Council's claim to have restrained the "underlying rate of inflation."

The Council's estimates of the effect of the price standard are disputed

The Council furnishes no direct econometric evidence that its standards have restrained the rate of price inflation as measured by the CPI or any other broad aggregate of prices. Instead, it calculates the effect of the price standard on the so-called "underlying rate of inflation," which consists of selected components from the CPI. During the first 18 months of the standards, this measure of inflation increased much less rapidly than the CPI. This is not surprising. In any period of rapid inflation some prices will increase less rapidly than others. The lower rate of increase in the "underlying rate" is no evidence for the effectiveness of the standards. (See chapter 3.)

To predict the effect of the price standards on the "underlying rate of inflation," the Council estimates the following equation:

$$(5)\quad p^* = c + e\,(w - q) + f_1 x_1 + f_2 x_2 + \ldots + f_n x_n$$

where p^* represent the "underlying rate of inflation," c and e are constant, $(w - q)$ is the increase in unit labor costs (the rate of wage increases less the increase in labor productivity), x_1, x_2,...x_n are additional variables, and f_1, f_2,...f_n are constants. The additional variables the Council considers here are the current and lagged values of the rates of price increase for crude materials and energy. The Council also includes the incomes policy and seasonal dummy variables that it used in the wage equation.

The Council estimates this equation (using a dummy variable to capture the effects of the price standards), and it also estimates the equation for the period prior to October 1978 and then simulates it for the period of the standards. On the first approach the estimated effect of the standards is a reduction of -0.8 percent in the rate of increase in the "underlying rate of inflation." Using the second approach, the average overprediction of the rate of increase in the "underlying rate of inflation" is 1.2 percent, which the Council takes as an alternative estimate of the effect of the standards.

Table 6

Unexplained Accelerations in the Prices of Industrial Commodities, 1979

	Council's target percentage change	Actual percentage change	DRI's unexplained acceleration in percent at quarterly rates
Textile products and apparel	6.1	5.6	0.1 a/
Chemical and allied products	2.4	17.7	1.2
Rubber and plastic products	5.3	14.5	0.3 a/
Lumber and wood products	9.5	0.4	0.4 a/
Pulp, paper, and allied products	3.6	12.6	0.6 a/
Metal, and metal products	6.3	15.6	0.9 a/
Machinery and equipment	5.8	9.4	0.3 a/
Transportation equipment	6.3	8.1	-0.1 a/

a/Statistically insignificant at the 10 percent level (two-tailed test).

Economic Analysis of the U.S. Department of Commerce. Table 7 shows the actual rate of increase for the major components of this price index in 1979. It also shows the unexplained accelerations and decelerations in these components as estimated using the DRI model. The only statistically significant unexplained consumer price decelerations occurring during the period of the standards are for other nondurable goods and other household operations. In all other categories there are either unexplained accelerations or prices do not depart in a statistically significant way from predicted price behavior.

Looking at the broad range of consumer and producer prices, we find that the econometric evidence does not support the Council's claim that its wage and price standards have had a moderating effect on prices. On the average the DRI model slightly underpredicts (by about 0.1 percent) the rate of inflation as measured by the aggregate personal consumption deflator for the period of the standards. The actual and predicted values for this index are shown in table 8.

Table 5

Actual and Predicted Rates of Increase in the CPI - 1978:4 to 1980:1 (in percent at annual rates)

	Actual	Predicted	Actual minus predicted
1978:4	9.5	7.8	1.7
1979:1	11.2	9.0	2.2
1979:2	12.8	9.6	3.2
1979:3	13.4	12.3	1.1
1979:4	13.6	13.3	0.3
1980:1	16.6	14.1	2.5

DRI estimates prices for a broad range of products and industries. We had them reestimate their model, including a dummy variable, to reflect any possible price deceleration during the period of the Council's standards. Table 6 presents their estimate of the coefficients of this dummy variable in a variety of equations for industrial prices. These coefficients can be interpreted as the unexplained changes in the prices of these products during the period of the standards. For comparison, we include the actual rates of price change in 1979 and the targeted percentage changes called for under the standards. 1/

In all cases but two, the actual rates of price increase exceeded those called for under the standards. More important, in all cases but one, the equations estimated by DRI showed no unexplained price deceleration relative to the historical pattern of price change in these sectors of the economy. The only cases in which there was a statistically significant break with previous patterns of explanation show unexplained accelerations in the rate of price change. 2/ There is no convincing statistical evidence that the standards had any effect in lowering the rate of price change for industrial commodities.

We also had DRI conduct a similar experiment with the equations it uses to predict consumer prices. These equations are based on the components of the implicit deflator for personal consumption expenditures compiled by the Bureau of

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1/See Bosworth's prepared statement in Adequacy of the Administration's Anti-Inflation Program: Hearings, p. 386.

2/We applied a two-tailed t-test at the 10 percent signficance level in reaching this conclusion.

Table 8

Actual and Predicted Values
for the Consumer Deflator
(in percent at annual rates)

	Actual	Predicted	Actual less predicted
1978:4	6.8	7.7	-0.9
1979:1	10.8	9.7	1.1
1979:2	9.2	8.8	0.4
1979:3	9.8	10.8	-1.0
1979:4	9.7	10.4	-0.7
1980:1	12.6	11.0	1.6

ALTERNATIVE SPECIFICATIONS

In the preceding section we showed that the econometric evidence presented by the Council to justify its claim that the standards have been an effective restraint on inflation is flawed. In this section we present further evidence of the ineffectiveness of the pay and price standards.

Although the equations the Council uses to estimate the effectiveness of the standards resemble the equations economists often use to model inflation, the Council's equations depart from conventional models in certain key aspects. We believe those departures may explain why the Council finds evidence for the effectiveness of the standards where we cannot. Consequently, we have formulated two alternative equations, one for wages and one for prices, which are closer to the usual specifications of these relationships. We use our equations in this section to investigate the possible effects of the standards.

The wage equation

The Council's wage equation is based on the Phillips Curve, relating wage increase to unemployment (see chapter 2). However, unlike most other specifications of this relationship, the Council's equation relates the rate of change in wages to the change in the unemployment rate rather than to the level of the unemployment rate. The implication of the Council's specification is that if unemployment is unchanging, so is the rate of wage increase, other things being equal. However, this implication is probably incorrect for either very high or very low levels of unemployment. When unemployment is very low, wages will not only rise, but they will rise at an accelerating rate. If unemployment is high,

Table 7

Unexplained Accelerations in Consumer Prices in 1979

	Actual percentage change in 1979	Unexplained acceleration in percent at quarterly rates
Implicit price deflators for personal consumption expenditures by major type of product		
Durable goods		
Motor vehicles and parts	6.5	-0.3 a/
Furniture and household equipment	4.6	0.1 a/
Other	9.2	1.2
Nondurable goods		
Food	8.8	-0.1 a/
Clothing and shoes	4.1	-0.2 a/
Gasoline and oil	50.5	3.2
Fuel oil and coal	62.3	1.0 a/
Other	6.6	-0.3
Services		
Housing	8.4	0.2
Household operations		
Electricity and gas	15.1	-
Other	3.5	-0.5
Transportation	10.1	0.5 a/
Other	10.2	0.6

a/Statistically insignificant at the 10 percent level (two-tailed test).

If the Council's standards were effective in restraining inflation, there should have been a break in normal patterns of pricing brought about the standards. We have no econometric evidence that any such break occurred.

in the labor market by using the difference between the current rate of unemployment for all workers and the normal rate of unemployment adjusted for changes in the demographic composition of the labor force. 1/ Second, we increase the number of periods over which expected inflation is calculated. This is a simple way of increasing the probability of obtaining a higher and, thus, more plausible estimate of the coefficient for expected inflation. However, any attempt to model expectations of inflation by taking averages of past experience while neglecting other relevant information has been severely criticized. The most appropriate way to use past information to construct the expectation variable is subject to question as is the appropriateness of relying on past information at all. However, until these questions are settled, some choice must be made. Our choice has been to include a fairly long lagged effect of previous inflation on current expectations. Finally, we add the difference between the current increase in the nonfarm business deflator and the rate of increase in the CPI, and the rate of increase in the minimum wage. Both have been used in previous studies as explanatory variables in the wage equation.

When this respecified wage equation is estimated for the period from 1964 to 1980, the equation explains 77 percent of the variation in the rate of wage increase. An increase of 1 percent in the expected rate of inflation leads to a 0.85 percent increase in the wage rate. Although this is still less than a full adjustment, it is closer to full adjustment than the Council's equation. The remaining difference may be explained by the problems involved in this method of predicting expected inflation. Finally, and most important, our wage equation gains nothing in explanatory power when dummy variables are introduced to reflect past incomes policies and the Council's pay standard. This result implies that neither previous policies nor the current pay standard have had any measurable effect on the rate of wage increase.

The fitted rates of wage increase during the first 6 quarters of the pay standard are displayed in table 9. Actual rates of wage increase are shown for comparison.

1/This formulation is patterned on that used by Michael Wachter, in "The Changing Cyclical Responsiveness of Wage Inflation," Brookings Papers on Economic Activity, No. 1, 1976, pp. 115-159.

the rate of wage increase will eventually decelerate. To reflect this behavior, an alternative specification of the effect of unemployment on wages is needed.

Another problem with the Council's wage equation is the low weight it gives to past rates of price inflation, which have a bearing on the expected rate of inflation. Recent work suggests that increases in the expected rate of inflation are fully reflected in the rate of increase in wages. 1/ The Council's equation implies that only half the increase in expected inflation is reflected in wages. Thus, when price inflation accelerates, wages fall behind and never catch up. In a sense, workers are permanently fooled by inflation. A more plausible specification attributes a greater weight to expected inflation.

A final shortcoming of the Council's wage equation is its heavy reliance on dummy variables. Econometricians normally prefer to model the underlying structure of economic relationships and try to avoid stopgap measures like dummy variables to reflect fundamental shifts in those structures. This problem would be less serious if the Council used dummy variables only to capture the effect of its own standards. However, it also uses these variables to reflect previous incomes policies. (In fact, a positive dummy is present in more than half the quarters used to estimate the equations.) That dummy variables may be not only reflecting the effects of previous policies but also other shocks to the wage determination process as well is strongly suggested by the Council's estimate of the effect of the Economic Stabilization Program followed during the Nixon Administration. Previous studies of this episode indicate that its most effective period occurred during Phases I and II in 1971 and 1972. The Council estimates that the opposite occurred, that Phases I and II had no discernible effect on wages, but that Phases III and IV had a substantial moderating influence. We find this conclusion implausible.

Our preferred specification takes each of these problems into account. First, we introduce the effect of excess demand

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1/Anthony M. Santomero and John J. Seater, "The Inflation-Unemployment Trade-off: A Critique of the Literature," Journal of Economic Literature, vol. XXVI (June 1978), pp. 499-544; David Laidler and Michael Parkin, "Inflation: A Survey," The Economic Journal, vol. 85 (December 1975), pp. 741-809; and Robert J. Gordon, "Recent Developments in the Theory of Inflation and Unemployment," Journal of Monetary Economics, vol. 2 (1976), pp. 185-219.

formation, remains the subject of dispute. Whatever the cause, a decline in trend productivity depresses wages relative to prices. Finally, to the extent that the treatment of housing costs has exaggerated the rise in the CPI relative to the average increase in the cost of living, the current disparity between inflation and the rate of wage increase is exaggerated.

We believe factors such as these account for the relative moderation in wages during the past 2 years. If the pay standard did exert some additional restraint, we were unable to detect it.

The price equation

A basic premise of the standards is that a tight link exists between unit labor costs and prices. Occasionally this relationship breaks down, but over longer periods it tends to re-establish itself. Therefore, it was surprising to us to discover that the equations the Council uses to predict the "underlying rate of inflation" attribute very little weight to changes in unit labor costs. These equations imply that the immediate effect of a 50 percent increase in unit labor costs is an increase of less than 4 percent in the rate of inflation as measured by the CPI. 1/ If these results were taken seriously they would destroy the usual rationale for wage-price guildelines.

A further implication of this feature of the Council's econometric work is that the price standard accounts for most of the reduction in the rate of inflation claimed for the standards. The Council estimated that the standards' total effect on inflation was to reduce the rate of increase in the CPI by 0.5 to 0.75 percentage points. It also estimated that the effect of the price standard alone was a reduction in the CPI of 0.4 to 0.6 percentage points. . Consequently, the pay standard, which the Council claims restrained wages by 1.6 to 1.7 percent, lowered the rate of inflation by less than 0.2 percentage points. If this is true, the Council has little to fear from a further acceleration in wages. It will contribute little to the "underlying rate of inflation." In fact, if all of the above were true, the main effect of the pay standard would have been to reduce real wages.

1/The effect of a 50 percent increase in unit labor costs on the "underlying rate of inflation" is approximately 7.3 percent, according to the Council. Since the "underlying rate accounts for only half the overall rate of increase in the CPI, this translates into the low rate cited above.

Table 9

Actual and Fitted
Rates of Wage Increase
(in percent at annual rates)

	Actual	Fitted
1978:4	8.2	7.9
1979:1	8.5	8.6
1979:2	7.1	8.5
1979:3	8.5	8.3
1979:4	8.5	8.6
1980:1	9.5	9.6

The only quarter in which the equation overpredicts the rate of wage increase by more than 0.1 percent is the second one of 1979. This is also the only quarter in which the rate of wage increase is close to the 7 percent rate called for by the pay standard. However, this quarter also saw the only decline in real output during 1979. Many believed a recession was beginning. Fear of recession may have had more to do with the moderate wage increases in this quarter than the pay standard. In any event, a single quarter's deviation provides no econometric evidence either for or against the effectiveness of the standards. However, 6 quarters over which the average overprediction was only 0.2 percent, is strong evidence that no break in the normal pattern of wage determination occurred as a result of the Council's activities.

The rate of wage increase did not accelerate in 1979 as much as the rate of price inflation did. What evidence there is for the effectiveness of the pay standard rests on this fact. Historically, wages have risen more rapidly than prices, but sometimes this pattern is broken. At business cycle peaks, prices usually race ahead of wages for a time since wage adjustment tends to be slower than price adjustment. This pattern occurred before the recessions of 1970 and 1974-75, as well as in 1979, before the current recession. 1/ Moreover, in both 1979 and in 1973, at the peak of the previous business cycle, real wages were depressed by the shock of rapid increases in the price of oil. Labor productivity fell in 1979 as it did in 1974. How much of this fall is a result of jumps in oil prices or the result of other economic trends, such as a declining rate of capital

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1/This pattern is even clearer if wages are adjusted to reflect the changing long-run trend in the growth of labor productivity.

specification, in only two of our tests is the coefficient on the dummy variable significantly different from zero, according to the usual statistical tests.

This point is also important in relation to a comment the Council makes concerning the wage equation, which we specify and test at the end of this chapter. The Council found that when it varied the specification of this equation, estimates were obtained "showing that the standards reduced inflation." What the Council actually discovered was that in these tests of our equation, the coefficient of the dummy variable used to represent the standards was negative. However, this observation, by no means, is evidence that the standards reduced inflation (even relative to what inflation would have been in their absence). The negative sign of this coefficient is only one part of a two-part requirement; both parts must be satisfied before such a claim can be made. The second part of this requirement is that the coefficient must pass a test to prove that it is significantly different from zero, in a statistical sense. The coefficients estimated by the Council fail to pass this test. In none of the variations on our equation shown to us by the Council staff in support of their claim is the coefficient of the dummy variable representing the standards different from zero at the usual levels of statistical significance.

Finally, the Council claims that if our "preferred" wage equation is estimated over the interval from 1964:2 to 1977:3, and then used to forecast inflation over the next 10 quarters, it underpredicts the rate of wage increase more before the standards were established than it does during the period after they were announced. In making this test, the Council did not use the equation we actually prefer as the best specification of the structural relationships governing the rate of wage increase. That equation includes no dummy variables. We estimated the equation over the period from 1964:2 to 1977:1, so as to be able to forecast periods of comparable length before and after the establishment of the standards (up to 1980:1). We found that it overpredicted the rate of wage increase from 1977:2 to 1978:3 by an average of 1.2 percent. However, during the period of the standards it only overpredicted the rate of wage increase by an average of 0.3 percent. The interpretation of this test is not entirely clear to us, but it certainly provides no evidence for an inflation-restraining effect of the standards. If anything, this test suggests that a special hypothesis is needed to explain wage behavior for the period before the standards were established, <u>not</u> afterwards.

In our judgment, the Council has yet to provide convincing econometric evidence that the standards affected the

We find these estimates implausible. They are at variance with most of the other research in this area. If correct, they would cast grave doubt on this entire approach to the analysis of inflation. 1/ Therefore, we have estimated an alternative equation that predicts the rate of increase in the implicit deflator for the gross domestic product of nonfarm business. As we estimate it, our alternative equation attributes a substantial fraction of the changes in the rate of inflation to changes in unit labor costs. A sustained increase in the latter will be largely reflected by an increase in inflation over a period of 2 years.

Our equation is patterned on one developed first by Robert J. Gordon. 2/ It explains more than 75 percent of the variation in inflation from 1964 to 1980. We added energy prices to the list of explanatory variables Gordon used and extended the period over which the equation is estimated to include the first 18 months of the standards.

We find that the fit of our estimated relationship is not significantly improved by including the dummy variables the Council uses to measure the effect of previous incomes policies. In fact, when we included them, our equation's explanatory power declined marginally. The result furnishes no evidence that the standards lowered the rate of price increase. There is an unexplained acceleration in inflation from October 1978 to March 1980, but it is small and statistically insignificant. No evidence exists here of a break with previous patterns of price determination.

AGENCY COMMENTS AND OUR RESPONSE

In response to our draft report, the Council on Wage and Price Stability noted that even though the wage equation presented in the Council's Interim Report is not robust, that "GAO's tests continue to indicate that the program restrained inflation, although the estimated effect is smaller and less significant." This statement is not correct. It is true that our tests of the Council's equation presented in table 4 show a negative coefficient on the dummy variable used to represent the effect of the standards. These results are, however, derived from relatively minor variations in the Council's equation. Even with the model's remaining errors of

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1/The grave doubts that many economists do have about this approach stem from other sources.

2/Robert J. Gordon, "Inflation in Recession and Recovery," Brookings Papers on Economic Activity, No. 1, 1971, pp. 105-166.

CHAPTER 5

RECENT DOMESTIC AND FOREIGN EXPERIENCES WITH INCOMES POLICY DO NOT DEMONSTRATE MUCH SUCCESS

The United States is not the only country that has established standards for wages and prices as a part of an anti-inflation program. History provides numerous examples of similar efforts. They have been tried in ancient Rome, the Middle Ages, and in modern totalitarian countries. If these experiences had been successful, one could place more confidence in another attempt. On the other hand, evidence of repeated failure suggests that new efforts are likely to encounter problems with a lower probability of success. This chapter describes recent domestic programs and a limited number of contemporary foreign examples. All the evidence available is too extensive to review in this report. However, we examined the historical and statistical record as well as discussed contemporary experience with embassy officials of Canada, West Germany, Norway, and the United Kingdom. Taken together, the evidence is an indirect test of the probable effectiveness of the Council's current standards.

THE UNITED STATES EXPERIENCE

Over the past 40 years, the United States has experimented five times with some explicit form of wage-price program or incomes policy. The first two times programs of wage and price controls were tried occurred during World War II and the Korean conflict. These two experiences were different from the programs of the 1960s and 1970s in several ways. They were mandatory programs, administered by large bureaucracies, and they were largely effective. These wage and price controls were crucial elements in the war effort and were perceived as such. Their success was possible because wage and price setters were usually willing to comply even though compliance sometimes entailed a perceived loss of real income. Indeed, one of the purposes of the controls was to hold down real income so as to release resources for the war effort. (Patriotic citizens are often willing to make such sacrifice to win wars.)

By contrast, the announced purpose of peacetime incomes policy is to protect real incomes by stabilizing prices without creating a recession. This purpose is a desirable goal but one for which people find it hard to sacrifice. If the program's goal is to protect real incomes, it is impossible to justify sacrifices in real incomes to achieve that protection. If everyone is called upon to sacrifice equally, then the program makes no sense. How can real incomes be

overall rates of increase in wages and prices. The Council did not comment on our econometric investigation of the standards' effect on prices. Its tests of our suggested wage equation do not show an effect for the standards which passes the usual statistical tests. If the standards had an effect on the rate of wage increase, that effect remains to be discovered.

SUMMARY AND CONCLUSIONS

Econometric methods make it possible to compare the actual record of price inflation to what might have occurred if there had been no pay and price standards in 1979 and 1980. The Council's staff have used these methods, and so have we, in trying to determine the effectiveness of the standards. The Council asserts that its econometric work provides evidence for its claim that the standards were effective. We dispute this claim.

We have carefully examined the Council's methodology and find it inadequate. In setting out the fundamental relationships governing pay and prices, the Council has made errors of specification. Results obtained using models with such errors conflict with theory and experience. Even minor modifications in the Council's model change the conclusions about the effectiveness of the standards. Our investigations show no evidence to support the claim that the standards were effective. Historical patterns of wage and price determination prevailing since the mid-1960s apparently have not changed fundamentally during the last 2 years. We found it unnecessary to make any adjustment in the usual models to reflect the existence of the pay and price standards.

The popular impression that the standards have been ineffective is not refuted by the evidence produced by econometric techniques. We conclude that the Council's pay and price standards have had no discernible effect on the rate of inflation.

After 1961, consumer price increases accelerated. By 1966, the year-to-year change in the CPI was almost 3 percent. During this same year some major unions publicly flouted the Guideposts with wage settlements in excess of allowable limits despite personal intervention by President Johnson. Settlements in the construction, metropolitan transit, and airline industries all broke the Guideposts. The rejection of the standards signalled the end of the program, even though its official demise did not occur until after the election of President Nixon in 1968, by which time the rate of inflation had reached 5 percent.

There are many criticisms of the Guideposts. Their ultimate failure has been attributed to the lack of a broad consensus and the nonparticipation of the private sector and the legislative branch in creating, monitoring, and enforcing the standards. Other criticisms include inflexibility, and the very limited, and in many ways, haphazard monitoring and enforcement procedures. While each criticism is valid, it is difficult to attribute the program's demise to any one, or even all of them. The fact is that the program appeared to work when there was relatively high unemployment and excess capacity, and thus little upward pressure on prices. As the economy tightened in response to expansionary fiscal and monetary policies, prices increased, firms and unions ignored the Guideposts, and the program was abandoned.

The question of whether the Guideposts had a short-run effect on the rate of inflation is difficult to answer. There is little doubt that prices and wages in certain industries were held, temporarily, to a lower level than might have prevailed without the Guideposts (e.g., the steel settlement in the fall of 1965), but this does not necessarily mean a moderation in the rate of inflation occurred. It may only indicate a change in the relative structure of prices (e.g., cheaper steel but more expensive food), without a change in the average level of all prices. Even if there was a modest temporary effect on the price level, the effect was probably dissipated during the "post-program catch-up." Arthur Okun has stated that some of the acceleration in inflation during 1969 may have resulted from earlier Government attempts to repress inflation in the private sector. 1/

How successful were the Guideposts? The actual rate of inflation rose from about 1 percent to 5 percent over the

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1/Arthur Okun, "The Controlled Experiment of 1969," Appendix to Inflation: The Problems and Prospects Before Us (Charles C. Moskowitz lecture, 1970), Brookings Reprint.

raised by lowering them? If only some people are required to accept cuts in real income, the program would be inequitable. In either case, obtaining compliance, and hence credibility, is much more difficult than when sacrifices can be justified as needed war measures. Therefore, instead of looking extensively at the war-time efforts, we concentrate on the two most recent experiences with incomes policies in the United States.

Some form of wage-price policy, broadly defined to include all Government attempts to influence the general level of wages and prices, has existed continuously in the United States since 1961. From mild Government pressure on business and labor to cooperate in restraining prices and wages, the Government has moved on three occasions to formal rules designed to obtain acceptable price or wage increases. Before the current anti-inflation program was announced, the two main attempts at incomes policy in the United States were the Kennedy-Johnson Guideposts and the Nixon Administration's Economic Stabilization Program.

The Kennedy-Johnson Guideposts, 1962-67

The Kennedy-Johnson Guideposts were the least formal incomes policy in recent U.S. history. No new agency was established to administer the guidelines. The Council of Economic Advisors took care of such administrative and staff requirements that existed, while the President and other Administration officials engaged in "jawboning" businesses and unions to observe the Guideposts. In 1961, the year before the Guideposts were announced by the Council of Economic Advisors, the rate of increase in the CPI was 1 percent and the producer price index (PPI) showed no change at all. The purpose of the Guideposts was not to reduce inflation, but to permit the Government to pursue expansionary fiscal and monetary policies without increasing inflation. The objective was to shift the Phillips Curve to the left by reducing unemployment without raising the price level.

The Guideposts were voluntary. The only enforcement tool was "jawboning" by public officials, including the President in important cases. The standard for wage increases was linked to average productivity increases in the economy; by 1966, the standard had become fixed at 3.2 percent. Acceptable price changes depended on the behavior of unit labor costs, which depended, in turn, on each industry's productivity growth relative to the national average. For example, an industry with lower-than-average productivity growth would experience increasing unit labor costs, which would justify an increase in prices. Productivity growth just equal to the national average required stable prices.

for an anti-inflation program, with the rate of inflation at 3.9 percent and falling, and a more dismal end, after almost 2 years of persistently rising prices and an inflation rate of 12.9 percent.

The wage and price controls did not cause this tremendous inflationary spurt, but there is every reason to believe that the controls did little to restrain the inflationary impact of expansionary fiscal and monetary policies, particularly when these policies were coupled in 1973 with shortages and rising prices for food, crude oil, and a number of other important raw materials. The econometric evidence of the program's short-run effects is mixed. Even for Phase II, early in the program, most estimates of the reduction in the inflation rate range from zero to about 2 percent. Some studies even show that inflation was about 2 percent higher during Phase II than would have been predicted without the program. 1/

In 1974, as the program was ending, the Council of Economic Advisors concluded that:

> "Despite the uncertainty about whether controls had affected inflation in 1973, no uncertainty exists about another and possibly more relevant proposition. The controls did not prevent a rate of inflation which was large compared to our past history, to the previous year, to our expectations for 1973, and to the goals of the program." 2/

Neither the Guideposts nor Nixon's wage and price controls supports the conclusion that incomes policies can effectively restrain inflation when expansionary demand management policies are simultaneously used to lower the rate of unemployment. After both programs ended, inflation was eventually reduced, but this required monetary and fiscal restraint, which was accompanied by an increase in unemployment and recession. At the end of each program, the short-run Phillips Curve was farther from the origin than when the program began.

The success of these programs is difficult to evaluate. Both programs attempted to lower the rate of increase in the

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1/See John Kraft and Blaine Roberts, "Wage and Price Controls: Success or Failure," in Wage and Price Controls. The U.S. Experiment, edited by J. Kraft and B. Roberts, Praeger (1975).

2/Economic Report of the President: 1974, p. 103.

course of the program. The econometric evidence of the program's short-run effects is mixed. George Perry, in a 1967 article, claimed that the program had a moderating effect on wage increases, but subsequent work has challenged this conclusion. 1/

The Nixon Economic Stabilization Program, 1971-74

While there are obvious differences between the wage and price controls imposed by President Nixon and the Guideposts of the Kennedy and Johnson Administrations, there are also some fundamental similarities. Both programs attempted to relate allowable wage changes to productivity changes, and both were based firmly on the concept that inflation would be controlled if wages were controlled and prices allowed to increase only to permit costs (mainly wage costs) to be passed through. Both programs were developed to permit the Government to pursue expansionary monetary and fiscal policies while avoiding the usual tradeoff between reduced unemployment and higher inflation.

The Economic Stabilization Program went through a series of stages known generally as Phase (or Freeze) I, Phase II, Phase III, Freeze II, and Phase IV. Of greatest interest here is assessing whether the program met its objectives and gaining a perspective on its success through all of its phases. The stated objectives of the program were to eradicate inflationary expectations and maintain a constant or falling rate of inflation. More specifically, the target rate of increase in the average level of prices was 2.5 percent per year.

This specific price goal was never reached except during Freeze I, when the annual rate of increase in the CPI was 2.3 percent. Figure 5 shows that from the second quarter of 1972 the rate of inflation accelerated almost without interruption throughout the remainder of the program, reaching almost 13 percent by the first quarter of 1974, when the controls were abandoned. It is hard to imagine a more auspicious start

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1/George L. Perry, "Wages and the Guideposts," American Economic Review, September 1967; Paul S. Anderson, "Wages and the Guideposts: Comment," American Economic Review, June 1969; Michael L. Wachter, "Wages and the Guideposts: Comment," American Economic Review, June 1969; Adrian W. Throop, "Wages and the Guideposts: Comment," American Economic Review, June 1969; Robert J. Gordon, "Wage and Price Controls and the Shifting Phillips Curve," Brookings Papers on Economic Activity, 2, 1972.

For example, the current pay and price standards are part of a broader anti-inflation effort involving many Federal agencies. The announced goal of that effort is to reduce the rate of inflation, and surely the relevant criterion for judging its effectiveness is what happens to the overall rate of price increase. Since the standards are a significant part of this program, a review of the inflation record since they were established is relevant to judging their effectiveness. This is especially true since the standards were designed to complement the other elements in the anti-inflation program, particularly monetary and fiscal policy.

As emphasized in the preceding section, the standards' credibility depends in large part on the public perception of the probable success of the anti-inflation effort. Credibility in turn is crucial to the effectiveness of the standards. Since public perceptions are undoubtedly influenced by actual experience, the inflation record since the standards were announced is relevant for this reason also. Therefore, we believe a reasonable starting point in judging the effectiveness of the standards is the question, "Did the rate of inflation decline after the standards were established?"

An effective incomes policy can minimize the short-run costs of a shift to more restrictive demand management policies. The normal pattern, when monetary and fiscal restraint are used to lower inflation, is a drop in real output and employment. An effective incomes policy minimizes these costs by lowering the inflation people expect in a way consistent with the change in demand management. The normal losses resulting from mistaken anticipations of continuing inflation can be avoided by a policy which successfully modifies these expectations.

One of the main goals of the current pay and price standards was to avoid recession. As Alfred Kahn said in November 1978, "Philosophically, I find it totally unacceptable to throw millions of people out of work in order to curb wage and price increases." 1/ Similarly, Barry Bosworth, then Director of the Council, stated, "The central objective of the anti-inflation program is to lower the inflation rate over the

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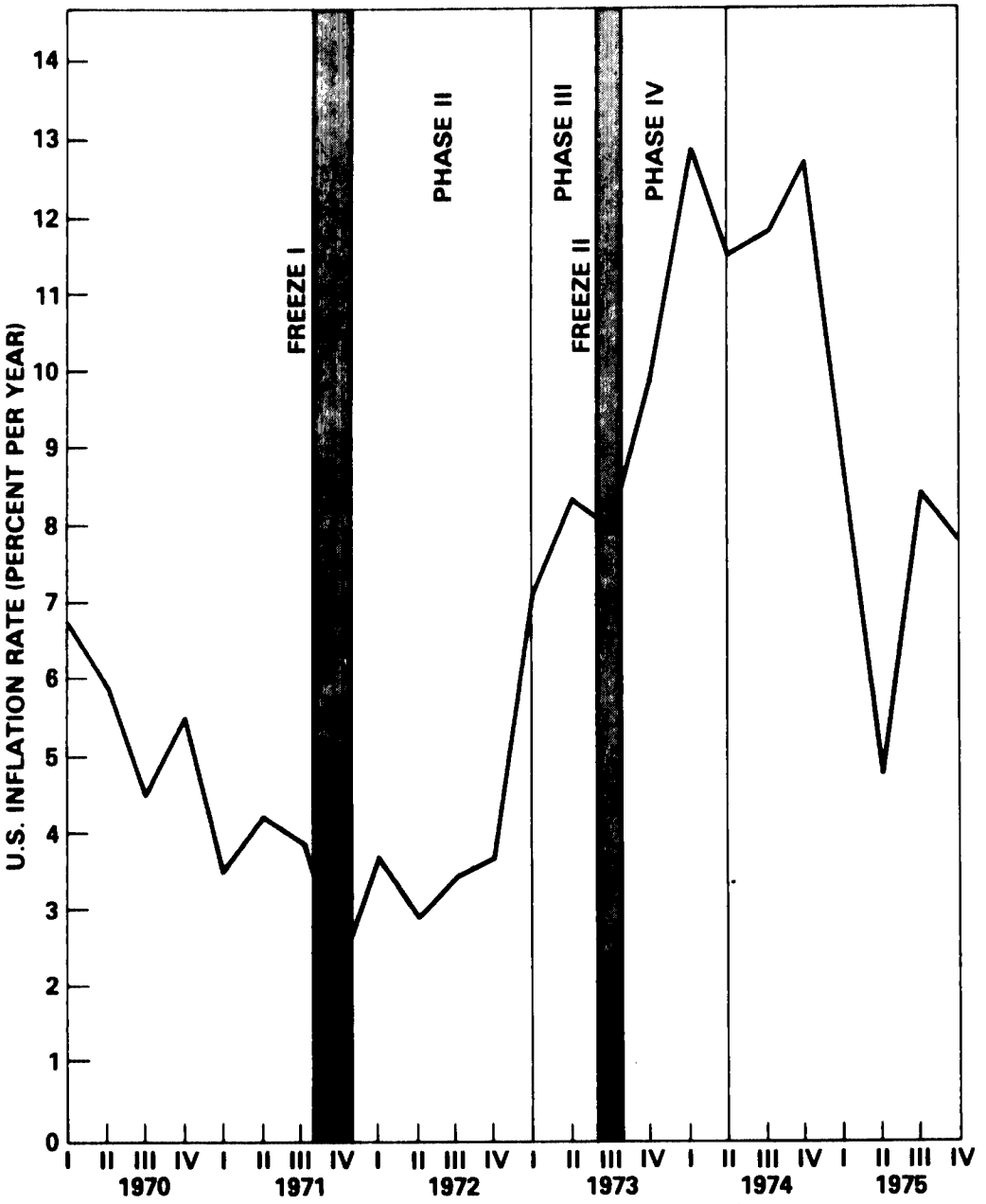
1/ The Administration's Voluntary Wage-Price Guidelines, Hearings before the Subcommittee on Economic Stabilization of the Committee on Banking, Finance, and Urban Affairs, House of Representatives, 95th Congress, second session, November 23, 1978, p. 6.

Figure 5

Inflation in the United States as Measured by the Percentage Change in the Consumer Price Index, 1970-75



SOURCE: DATA RESOURCES, INC.

FIGURE 1 INFLATION IN THE UNITED STATES AS MEASURED BY THE PERCENTAGE CHANGE IN THE CONSUMER PRICE INDEX, 1970-1975

cost of living without bringing on a recession, but their effectiveness in doing so is open to question. According to the evaluation criteria we discussed in chapter 2, the Guideposts and the Economic Stabilization Program showed some temporary effectiveness. However, neither produced a permanent reduction in the rate of inflation. At the end of both programs, inflation was higher than when they were announced.

FOREIGN EXPERIENCE

Since the end of World War II, many foreign countries have experimented with incomes policy. Wide differences exist in the structure and application of these policies. In this section we briefly survey the experiences of four countries: the United Kingdom, Canada, Norway, and West Germany. The first three have all used incomes policy to control inflation; West Germany has not. A comparison of their relative successes in achieving price stability, full employment, and economic growth is instructive.

Of course, foreign experience provides no conclusive proof that incomes policy either can or cannot work in the United States. Labor markets differ, and foreign governments are frequently more active than the U.S. Government in the wage-setting process. All of the countries we surveyed participate more in international trade in proportion to their size than does the United States. Before the 1970s, fixed exchange rates limited considerably the variation in rates of inflation among them. However, even with these caveats we feel their experiences are useful in giving perspective on the potential for success of incomes policy. 1/

United Kingdom

Every British Government between 1961 and 1979 pursued some form of incomes policy during its tenure in office. Table 10 shows that both voluntary and statutory programs have been adopted. Wage restrictions have varied from a complete freeze to complete indexing, in which wages rise in lock step with the cost of living. There is little evidence that any of these programs permanently lowered the rate of inflation or significantly improved the tradeoff between un-

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1/We were surprised to learn from the Council's staff that they have never made a systematic study of this experience.

Table 10

A Summary of United Kingdom Income Policies

Period	Name	Voluntary/ compulsory	Wage norm	Actual a/ wage increases	Actual price increases
Jul 61- Mar 62	Selwyn-Lloyd's pay pause	Voluntary but imposed in public sector	Zero for new agreements	4.3%	4.6%
Apr 62- Oct 64	Guiding light	Voluntary	2-2-1/2% p.a. adjusted to 3-1/2% p.a. in 1963	4.3%	2.7%
Dec 64- July 66	Statement of intent	Voluntary	3-3-1/2% p.a.	7.4%	4.2%
Jul 66- Dec 66	Freeze	Statutory	Zero, roll back of previous agreements	0.1%	3.5%
Jan 67- Jun 67	Severe restraint	Statutory	"Continued restraint"	8.6%	4.9%
Jun 67- Apr 68	Relaxation	Statutory	3-1/2% plus productivity agreements raised to 3-1/2-4-1/2% at end 1969	7.1%	5.4%
Apr 68- Jun 70	Jenkins: renewed restraint	Statutory			
Nov 72- Jan 73	Stage I Freeze	Statutory	Zero	1.1%	7.3%
Feb 73- Oct 73	Stage II	Statutory	£1 per week plus 4%	14.1%	11.0%
Nov 73- Feb 74	Stage III	Statutory	7% plus partial indexation	12.8%	18.9%
Mar 74- Jul 74	Social Contract	Voluntary	Wages to move in line with cost of living index	32.0%	24.4%
Aug 75- Jul 76	£6	Compulsory (not statutory)	£6 per week	17.5%	12.9%
Aug 76-	4-1/2%	Compulsory (not statutory)	£2.50-£4 per week		

a/Increase in the Index of Basic Hourly Wage Rates.

Source: Brittan and Lilley, The Delusion of Incomes Policy.

employment and inflation. As two disillusioned British economists have concluded, "The simplest lesson of all is that they have failed." 1/

The most striking aspect of the British experience is the sheer number of different policy initiatives. Brittan and Lilley count 13 in a period of less than 20 years. As one incomes policy followed another, inflation and unemployment fluctuated around rising trends. Table 11 shows average rates of price inflation, wage increases, and unemployment at 5-year intervals since 1960.

Table 11

British Inflation, Unemployment, and Hourly Compensation: 1960-78

	Rate of unemployment (percent)	Average percentage increase in consumer prices	Average percentage increase in hourly compensation
1960-64	2.7	3.2	6.0
1965-69	2.8	4.2	4.1
1970-74	3.3	9.6	14.2
1974-78	5.5	16.1	12.4

Source: Economic Report of the President: 1980, Tables B-107 and B-108.

During this 18-year period, the United Kingdom tried repeatedly to obtain the support and compliance of labor organizations with the pay restraint programs. Despite these efforts, the most common reason the programs failed was the disaffection of labor unions. Repeatedly, workers' outrage over the redistributive consequences of incomes policy was the catalyst for wage settlements that broke the guidelines.

Michael Parkin, in an article that applies the lessons of the British experience to Canada, claims that:

1/Samuel Brittan and Peter Lilley, The Delusion of Incomes Policy, (London: Temple Smith, 1971) p. 177.

> Whatever their superficial attractiveness, they simply do not work. They do not control inflation. At best, they are evaded by the skillful use of legal and financial talent--talent which is scarce and could, more importantly should, be put to productive use. At worst, they distort the allocation of scarce economic resources, they produce arbitrary and in general unjust redistributions of income, they generate a deterioration in industrial relations and they engender a disregard for the rule of law." 1/

Elsewhere, Parkin and others have estimated statistically the effects of the numerous British incomes policies. They concluded:

> "Finally * * * the failure of incomes policy to exert any direct effect on wage changes warrants emphasis. None of the episodes considered even registered a significant and correctly signed coefficient. [*]Indeed the pay pause of 1961-62 never picked up a negative sign. The second experiment examined produced little more in the way of positive results: the estimated average effect was a reduction in the rate of change of the weekly wage index of 0.54 percentage points per annum. Apart from the dubious statistical properties of this estimate, and ignoring any undesirable repercussions on the allocation of the labor force and all practical problems of enforcement in the long run, an impact of this magnitude on the wage inflation rate is derisory." 2/

Canada

Canada's most recent experience with incomes policy was one of the most effective programs we studied. During the

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1/Michael Parkin, "Wage and Price Controls: The Lessons From Britain," in The Illusion of Wage and Price Controls, 1976, p. 102.

*This is the usual test for whether an incomes policy has an effect on wages; see chapter 4 and appendix III.

2/Michael Parkin, Michael Sumner, and Robert Ward, "The Effects of Excess Demand, Generalized Expectations and Wage-Price Controls on Wage-Inflation, in the U.K.: 1956-1971," in The Economics of Price and Wage Controls, eds. Karl Brunner and Allan Meltzer (Amsterdam: North Holland, 1976), p. 213.

years (1975-78) in which the program was in effect, the rate of inflation actually declined. The Canadian plan was explicitly designed to cushion the effects of restrictive monetary and fiscal policy, a feature that distinguishes it from many of the other programs we surveyed. However, like them, the Canadian controls were intended to shift the Phillips Curve. The difference was that the Canadians wished to use the policy to lower inflation without raising unemployment, whereas in Britain and in the United States, the intention was to lower unemployment without raising inflation.

In 1975, the year the program was announced, consumer prices in Canada were increasing at 10.5 percent a year and wage increases were exceeding annual rates of 20 percent. As a result, the authorities decided to implement a policy of gradual demand restriction together with a wage-price program. The objective of the program was to reduce inflation to about 4 percent over a 3-year period while reducing increases in unit labor costs to roughly the same rate. In 1976, the rate of inflation fell to about 7.5 percent, before the monetary and fiscal measures had affected the high growth rates in output. By 1978, however, unemployment had risen from 6.9 percent to 8.4 percent. At the same time, inflation for 1977 was about 8 percent, and for 1978, about 8.9 percent. Both rates were substantially above the program's target, but below the 1975 rate of inflation. Table 12 shows the annual rates of unemployment and inflation in Canada from 1975 to 1978.

Table 12

Unemployment and Inflation in Canada: 1975 to 1978

Year	Rate of unemployment (percent)	Percentage increase in consumer prices
1975	6.9	10.8
1976	7.1	7.5
1977	8.1	8.0
1978	8.4	8.9

Source: Economic Report of the President: 1980, Tables B-107 and B-108.

The coordinated anti-inflation program in Canada did lower the rate of inflation, although it failed to achieve

the program's goals. Inflation continued at a high rate, nearly double the average yearly rate of increase in Canadian consumer prices from 1960 to 1974. Moreover, the reduction in the rate of inflation was accompanied by a sharp increase in the rate of unemployment. The aggregate data provide no evidence that the Canadians were successful in avoiding the tradeoff between lower inflation and higher unemployment.

A study commissioned by the Canadian Anti-Inflation Board on the effectiveness of the program concluded:

> "The moderate results obtained in most of the analyses presented in this paper are not surprising in retrospect. They appear to reflect the rather limited ambitions of the Anti-Inflation Program from the outset.

Further:

> "The Program was modest and apparently made a modest contribution to reducing the rate of inflation, and also served the useful purpose of allowing politicians to be seen to be doing something about inflation." 1/

We should note that the close ties between the Canadian and United States economies seriously constrains the Canadians' ability to pursue independent policies of economic stabilization. If the Canadians try to maintain a stable exchange rate, their price level will closely follow the price level in the United States. From 1975 through 1978, the period of the Canadian incomes policy, the simple correlation between rates of inflation in the two countries is 0.98. During this time there was no incomes policy in effect in the United States, but inflation did decline following the recession in the mid-1970s.

Norway

Norway's experience is interesting because, until 1978, its incomes policy was unlike any of the other programs we examined. We learned from an official at the Norwegian Embassy that the Government of Norway began in 1973 to participate in the annual wage negotiations between the Congress of Unions and the National Organization of Employers. The

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1/Wilson, Thomas A. and Gregory V. Jump, The Influences of the Anti-Inflation Program in Aggregate Wages and Prices: A Simulation Analysis, 1979, pp. 42-43.

Government's purpose was to shift the negotiations from a discussion of nominal wage increases to a settlement based on an agreeable increase in real wages. The Government then undertook to guarantee this increase in real wages through a number of actions that constitute the most serious attempt we know of to gain credibility for a voluntary program of pay restraint.

If the real wage increase agreed upon during the annual meetings was 2 percent while the Norwegian Government predicted inflation would be 5 percent, then the nominal wage increase would equal 7 percent. This increase would be just large enough to produce a real increase of 2 percent if the inflation forecast proved to be correct. If the forecast was wrong, the Norwegian Government promised to ensure that real wages increased by the guaranteed amount. This was accomplished through tax reductions or increases in social benefits. Clearly, the Norwegian Government preferred that its inflation forecast be accurate, and to the extent that increases in nominal wages lead, through labor costs, to increased prices the Government was in a position to assure that its forecast was correct. However, if the forecast underestimated inflation, the Government was committed to protect real wages.

Policymakers hoped that the lower nominal wage increases accepted by labor under this program would break the wage-price spiral and eliminate inflationary expectations. Labor costs would rise more slowly and businesses could restrain prices without threatening their profit margins. If all this happened, inflation should have declined. In the event that prices still rose faster than expected, however, the Government was expected to maintain the agreed-upon real wage.

The record shows that inflation rose in Norway from a low of 6.4 percent in 1971, to 7.6 percent in 1973, to 11.7 percent in 1975. Prices rose at about 9 percent per year in 1976 and 1977, and about 8 percent in 1978. Thus, for the first years of the program (following 1973), inflation actually rose substantially and, by 1978 the rate of price inflation was still higher than at the beginning of the experiment. Consequently, the Norwegian Government was compelled to fulfill its promise to protect real wages. It cut taxes and increased social benefits. It was able to undertake such policies without running substantial deficits because of North Sea oil revenues. Without this additional revenue, it is unlikely that the Norwegian Government could have continued the program.

Nevertheless, by 1978, the Government was seeking an alternative strategy for reducing inflation. Too much of

the oil revenue was being consumed and too little invested. In December of 1977 interest rates were permitted to increase; during the early part of 1978 both fiscal and monetary policy were tightened, particularly in the areas of consumer and installment credit. The Government did not participate in the annual wage negotiation for 1978, although the resulting wage agreements were quite restrained--negotiated wage increases averaged less than 2 percent in the unionized industrial sector. However, wage drift and higher settlements in the service and public sectors meant that average hourly earnings were still increasing at an annual rate of more than 7 percent during the first half of 1978.

A temporary price freeze was imposed in February 1978, extended and tightened in June, and converted to a general freeze on wages and prices on September 12, 1978. The stated objective of the general freeze was to reduce inflationary expectations and improve the export sector, with a specific target of 4 percent for nominal wage and price increases in 1979. Actual performance was close to the target. The rate of increase in the CPI for 1979 was 5.1 percent and growth in hourly compensation per employee was about 4.5 percent.

The freeze ended January 1, 1980, although a structure of price and wage controls remained. Despite these controls, consumer prices increased at an annual rate of 12.1 percent during the first quarter of 1980. The final success of the Norwegian price freeze depends on the duration and extent of this post-freeze catch-up. Nevertheless, the combination of tightening monetary and fiscal policy, together with the freeze, appears to have had a moderating effect on inflation in Norway.

West Germany

The Federal Republic of Germany has not experimented with an incomes policy in the post-war years. Nevertheless, it has had an inflation rate and level of employment that makes it the envy of many countries. Yet, given the factors frequently cited as influencing inflation, West Germany should have fared no better than its neighbors. West Germans must import 100 percent of the petroleum products they consume and, in recent years, they have had a larger deficit in their national budget relative to national income than has the United States. However, since 1965, the average rate of change in West German consumer prices has been 4.2 percent, with a maximum of 7 percent in 1973 and 1974. From this peak, the rate of inflation fell each year to 2.7 percent in 1978, rebounding somewhat in 1979 to 4.1 percent. Given price inflation in the world today, this is a remarkable record. It is all the more remarkable since the West German unemployment rate was very low during this period.

The West Germans' success in maintaining price stability can be attributed to a combination of favorable circumstances and intelligent government policies. Although West Germany today possesses one of the world's strongest currencies, this has not always been the case. Twice in this century the Germans have seen the value of their money destroyed by hyperinflation. Today the fear of inflation lingers and shapes public opinion. Because they know what can happen when inflation truly goes out of control, West Germans have been more willing than most to support government policies of demand restraint even when those policies are accompanied by short-run losses of jobs and output. This theme was repeatedly emphasized to us by officials at the West German Embassy.

Although the budget deficit of the West German Government is large in proportion to the size of its economy, it is financed mainly by borrowing from the West German public rather than by expanding the money supply. An extremely high savings rate has permitted the West German Government to engage in this kind of deficit financing without completely crowding private investors out of the West German capital markets.

A high savings rate and a strong commitment to monetary stability have made the West German mark one of the world's strongest currencies. In turn this has cushioned the West German economy from the full effects of the increase in world oil prices. Oil prices are quoted in dollars and since the mark has appreciated against the dollar, the increase has been less for the Germans than it has for Americans.

Finally, West Germany has relied heavily on foreign labor during its period of rapid growth following World War II. In earlier years, foreign workers bore the brunt of unemployment when the West German economy slowed down. Since many of them returned to their home countries when business conditions were slack, unemployment in West Germany was lower than it would have been otherwise. However, we learned at the West German Embassy that this pattern has changed recently. Today, far fewer of the foreign workers leave West Germany when they lose their jobs. As a result, West German unemployment has risen somewhat in the last 5 years.

The West German success in controlling inflation is composed of several elements. The key element to achievement appears to be a firm commitment to cautious policies of demand management, particularly a slow rate of monetary expansion. Unquestionably, other factors have made it easier for the West Germans to pursue these policies than has been possible in other countries, but West German history shows that stable prices are not simply a national characteristic that some countries are fortunate enough to possess while others do

not. Germany had the worst inflation record of all the major industrial countries in the first half of the 20th century. West Germany may well have the best when the second half ends.

SUMMARY

Price stability is the product of government policy. The one common characteristic in this brief survey is that those countries willing to pursue policies of demand restraint have had some success in reducing, if not ending, inflation. This is the case whether such policies were accompanied by formal programs of wage price control, like Norway and Canada, or whether, like West Germany, they were not. Those unwilling to practice demand restraint, like Britain, were not able to control inflation regardless of the number and variety of incomes policies they adopted.

Moreover, those countries that combined demand restraint with incomes policy had less success in controlling inflation than West Germany, which did not, and no better success in avoiding the short-run tradeoff between lower inflation and higher unemployment. This suggests, although of course, it cannot prove, that even when incomes policy is not used as a substitute for demand restraint, it weakens the commitment to the firm policy that must be followed if such measures are to work.

CHAPTER 6

WAGE AND PRICE STANDARDS ARE ARBITRARY AND POTENTIALLY INEQUITABLE

In chapter 2 we posed three questions that serve as our criteria for judging the effectiveness of incomes policy in general and the Council's voluntary standards in particular. After reviewing the recent record of inflation in the United States and the Council's econometric data, we concluded that the standards have produced no discernible effect on the rate of inflation. Our review of past experience with this type of policy in the United States and elsewhere also suggests that prospects for final success of the current standards are not good. Previous programs have failed for a variety of reasons:

--Limitations in coverage, compliance, and enforcement leave economic agents free to set prices without reference to the policy. The policy is ineffective because it does not require a change in economic behavior.

--Market distortions, resulting in shortages and strikes force the abandonment of the policy. The policy may have some effect on inflation, but fails because it puts the economy in a straitjacket.

--Inflation declines because demand management policies depress total spending but unemployment rises in the short run. The policy is ineffective because it does not prevent the recession that normally accompanies a decline in the rate of inflation.

Our point here is that wage and price policies can fail for different reasons, depending on 1) whether the program is voluntary or mandatory; 2) the extent of the program's coverage--general guidelines or detailed monitoring of individual firms; and 3) prevailing economic conditions, and in particular, the monetary and fiscal policies pursued while the guidelines are in effect.

In general, it will be difficult if not impossible to remedy the shortcomings of any particular program by trying to alter the details of its design. A voluntary program, which is ineffective because it is being ignored, or because its standards do not require a change in behavior can be made more effective by increasing the program's monitoring and enforcement powers but only at the risk of encountering the problems which normally bedevil a mandatory program.

Similarly a mandatory program that causes serious inefficiencies in the market can be made more flexible by relaxing the standards and penalties but only at the risk of losing its effectiveness.

In chapter 7 we concentrate on the problems of coverage, compliance, and enforcement in the current program of voluntary standards. The remainder of this chapter focuses on some potential inequities in the current wage-price standards and on the general problem of establishing equitable guidelines for wages and prices. Our analysis here and in chapter 7 shows that the Council's standards suffer from some difficulties. However, these difficulties do not justify strengthening the Council's monitoring and enforcement powers unless this can be done in a way that avoids more serious problems normally encountered by a mandatory program. We believe the prospects of such a transformation are slim.

Because our economy is complex, any administrative system that tries to substitute the market's price setting and resource allocation functions will be inadequate in some ways. Despite a genuine effort on the part of the Council to make its standards more flexible and less restrictive than previous programs, many weaknesses remain in the standards.

The Council's standards were first issued on December 28, 1978, 2 months after the President announced his anti-inflation program. Based on experience and public comments, the Council made a series of changes culminating with the second-year pay and price standards effective October 1, 1979. Since the standards were first published, the Council has resolved a number of technical problems, established several gross margin criteria for specific industries, and redefined the acceptable level of pay, price, and profit increases. Comments were recently requested by the Council on a proposed set of price standards for the third program year.

Since this report is primarily a study of the effectiveness of the standards in restraining the overall rate of price inflation, we do not present a comprehensive review of the Council's structure or operation. We do not attempt a detailed, line-by-line, analysis of the standards. However, our investigation has revealed five areas in which the current standards are, at least potentially, inequitable.

FIVE PROBLEM AREAS IN THE COUNCIL'S WAGE AND PRICE STANDARDS

The five problem areas we have identified are:

--the inadequate standards and monitoring procedures for hospital services and physician fees;

--the inequity of the evaluation of cost of living provisions;

--the basic price and pay standards, which are no longer related;

--the inability of firms using the profit margin limitation standard to maintain real profits; and

--the use of separate reporting units and variable standards.

Medical care costs are not covered

Although medical care costs constitute a significant portion of the consumer budget, they were not adequately covered by the President's anti-inflation program. 1/ The responsibility for controlling hospital and physician costs was assigned to the Department of Health, Education, and Welfare (now the Department of Health and Human Services) in October 1978. At that time the Department was developing legislation to establish voluntary limits for hospital expenses. This legislation, introduced in March 1979, has thus far remained in committee. Anticipating the passage of this legislation, the Department chose not to develop its own standard. Instead, it endorsed a voluntary guideline drawn up by a national private coalition, that limits hospital cost increases to 11.6 percent. However, there are no enforcement provisions in this voluntary guidelines and individual hospitals are not monitored. Moreover, the guideline is 22 percent higher than the maximum price increases allowed for other segments of the economy under the Council's basic price standard.

Physicians' services are subject to the Council's professional fee standard. However, at the time of our reviews neither the Council nor the Department of Health and Human Services planned to monitor individual physicians' fees for compliance with this standard.

Price increases in the health care areas have historically exceeded the general rate of inflation. From 1967 to September 1978, increases in the cost of medical care were 23 percent larger than the increase in the consumer price

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1/The relative importance of medical care in the CPI is 4.959 percent.

index. 1/ During the first program year, hospital costs increased 13.4 percent and physician fees increased 9.5 percent. These increases exceeded both the basic price standard (maximum price increase of 9.5 percent) and the professional fee standard (maximum fee increase of 6.5 percent).

In response to our draft report the Council noted that on August 1, 1980, it and the Department jointly called upon the hospital industry to slow voluntarily hospital expenditure increases by 1.7 percent from a current projected increase of 15.1 percent in 1980. If all hospitals comply, hospital expenditure increases would be held, by Administration estimates, to 13.4 percent. The Department plans to monitor expenditures of individual hospitals annually, and national, State, and regional hospital cost increases quarterly.

The evaluation of the cost-of-living provisions is inequitable

The Council's second-year pay standard limits overall wage increases to 7 percent in the first program year and 9.5 percent in the second program year. When computing the value of cost-of-living increases over the life of a contract, the Council assumes an inflation rate of 6 percent (7.5 percent in the second program year). This assumed inflation rate is substantially less than the 12.1 percent inflation rate that occurred during the first program year of the standards, and the 14.5 percent inflation rate that occurred during the first 9 months of the second program year. While inflation rates may be lower during the next few years, most current forecasts anticipate higher rates than the estimates used by the Council.

Since the Council uses a low estimate of the rate of inflation, employees with escalator clauses in their work contracts can exceed the maximum allowable pay raise without violating the standard.

Although most employees protected by cost-of-living adjustments normally do not receive a full adjustment for changes in the CPI they did, on average, receive one-half of the increase in consumer prices during 1979 and the first quarter of 1980. Assuming the inflation rate during the

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1/Economic Report of the President: 1979, Table B-49.

second program year equals the average maintained over the first 9 months, 14.5 percent, the average worker could receive a 13 percent pay increase in 1980, 3.5 percentage points more than the 9.5 percent pay standard. 1/ Unions with better escalator clauses, such as the autoworkers and steelworkers who recover up to 90 percent of the changes in the CPI, could of course receive substantially higher raises.

As of April 1, 1980, escalator provisions covered about 5.4 million workers, or 58 percent of the workers in large bargaining units. Additionally, the second-year pay standard allows employees without escalator clauses to exceed the 9.5 percent standard, if that is necessary to maintain historic relationships with other employees having cost-of-living clauses. Thus, more than 5.4 million workers may be exceeding the pay standard.

The Council's unrealistic evaluation of escalator clauses is inequitable. Complying workers who do not enjoy cost-of-living protection are limited to a 9.5 percent pay raise in the second program year. To comply with the price standard, business firms in industries with escalator clauses must either reduce their profits or deny pay increases to those employees without cost-of-living protection. This occurs because the price increases permitted under the price standard were directly related to the assumed increase in labor costs under the pay standard in the first program year. Finally, the Council's unrealistic method of computing the cost of escalator clauses permits firms using the profit margin limitation standard to raise prices more rapidly than firms on alternative standards. This occurs because all labor costs in compliance with the pay standard can be passed through to prices under the profit limitation standard, but the alternative standards assume labor costs will not rise by more than 7 percent (9.5 percent in the second program year).

In his March 17, 1980, testimony before the Senate Committee on Banking, Housing and Urban Affairs, the Council Chairman candidly noted that the escalator provision was part of the bargain developed and unanimously recommended by the Council's Pay Advisory Committee, a group of public, business, and labor representatives. In approving the combined

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1/With contracts which allowed employees to recover one-half of the consumer price index increase, the maximum pay raise could be: pay standard less one-half of the Council estimated inflation rate plus one-half of actual inflation rate or (9.5 percent - $\frac{7.5}{2}$ percent) + $\frac{14.5}{2}$ percent = 13.0 percent.

standard, the Council accepted the risk of substantially higher increases obtained by employees with escalator clauses in return for labor's acceptance of the pay standard.

The Council's bargain, however, continues to place the primary burden of restraining wage increases on workers without escalator clauses. If the standards have any effect at all, they will cause distortions in relative wages that are unrelated to market conditions and that are unfair to a portion of the labor force. As a result, the standards' treatment of cost-of-living adjustments provisions may also create an incentive for unions, and under certain conditions, firms, to negotiate contracts which index pay to the rate of inflation. Such escalator clauses insulate the labor force from other anti-inflationary pressures and potentially work against the good of inflation restraint.

Basic price and pay standards no longer related

During the first program year, the Council's pay and price standards were based on the assumption that the long established historical relationship between prices and unit labor costs would prevail. Throughout the economy, both were expected to increase an average of 6.5 percent after adjustments for the effect of alternative standards, exceptions, exclusions, legally mandated benefit increases, and anticipated productivity increases. The Council assumed only a moderate increase in the price of oil would occur in 1979. If its assumptions had proved correct and if everyone had complied with the standards, businesses could have held their price increases to about the same rate as their increases in labor costs, without incurring losses.

In the second program year the basic price and interim pay standards were raised by 1 percent. However, the final pay standard allowed pay increases of up to 9.5 percent, or 2.5 percentage points more than the first-year standards. Since the price standard was not revised at this time, businesses that complied with the pay standard could experience nonrecoverable increases in unit labor costs of 1.5 percent. Recognizing this problem, the Council's Price Advisory Committee recommended that the Council restore the relationship between the basic price standard and the pay standard.

Anticipated productivity growth was one of the key elements relating the price standard to the pay standard in the first program year. However, the productivity estimate used by the Council was not realized. The Council assumed that increases in unit labor costs would be restrained by a 1.75 percent increase in labor productivity--the average

increase during the last 10 years. In fact, productivity declined significantly during the first program year and has continued to decrease during the second program year. The trend rate of increase in labor productivity was probably substantially lower than the Council originally estimated.

On May 5, 1980, in response to a question submitted by us concerning the relationship of the pay and price standards, the Council Director told the Subcommittee on Economic Stabilization, House Banking Committee, that the basic price standard should not be modified for two reasons. First, the upper limit for pay increases under the pay standard is a band from 7.5 to 9.5 percent. The Council uses the midpoint, 8.5 percent, to calculate increases in unit labor costs. In the absence of mandated employment tax adjustments in the second year program, the Council believes that the 8.5 percent midpoint will result in increases in unit labor costs that continue to be equitably related to allowable price increases. Second, the Council argues that "slippage" in the standards allows prices to exceed the standards by a higher percentage than wages.

We do not understand the Council's reasoning on this point. The pay standard permits a maximum pay increase of 9.5 percent (exclusive of the cost of living adjustments discussed above). Although the Council has chosen to express the standard as a range (7.5 to 9.5 percent), the only possibly binding restriction is the upper limit. What purpose does the lower end of the range serve? We do not see the basis for using the midpoint in justifying the relationship to the price standard. Regardless of the average rate of pay increase throughout the economy, the individual business which pays the maximum increase cannot, if it complies with the price standard, raise its prices sufficiently to cover the increase in pay. That this happens strikes us as unfair.

The Council's response to our draft report noted that trend productivity, rather than current productivity, influences prices. While it is certainly debatable what that trend is, it is also clear that most firms last year did not achieve the productivity offset assumed by the Council.

On May 7, 1980, 2 days after the Director's response to our questions, a press release from the Chairman of the Council indicated agreement that the price limitation standard should be liberalized. However, rather than modify the standard, the Chairman stated the Council would be "very receptive" to individual exception requests to adjust a company's price limitation because of increases in pay.

Profit margin limitation standard decreases real profits

The Council's initial standards recognized that some firms with uncontrollable cost increases could not comply with the base price standard. Consequently, it developed an alternative profit margin limitation standard to allow a firm to maintain its profit margin with a maximum dollar profit increase of 6.5 percent plus any positive percentage growth in physical volume. The dollar limitation was supposed to prevent significant profit increases simply because of large cost increases. At the same time, the standard maintained real profits by allowing increases at the then assumed inflation rate of 6.5 percent.

Unfortunately, firms using this standard have had substantial decreases in their real profits because inflation markedly exceeded the Council's 6.5 percent estimate. While the Council partially recognized this higher inflation rate in developing the second-year pay standard, it actually restricted the profit margin limitation standard by redefining base year profits. During the first 18 months of the Council's program, a company using the profit margin standard could increase its profits 10 percent. During that same 18 months the CPI rose 20.7 percent. Therefore, measured in constant dollars, profits fell for firms who complied with this standard. If continued, the standard will eventually prevent a company from replacing its plants and equipment and from attracting investment capital.

In response to our draft report, the Council makes two observations. First it claims that we overlooked the purpose of the limitation on absolute dollar profits--to prevent firms from profiting from uncontrollable cost increases. Second, the Council notes that a basic objective of the standards was to be neutral with respect to the income shares of workers and employers and that this was achieved.

The Council misunderstands our comment. It is the size of the limitation rather than its purpose which we critize as unfair. A firm following the profit margin limitation must limit increases in profits to 6.5 percent even in the face of 9.5 percent pay increases. This is not neutral. If inflation exceeds 9.5 percent both pay and profits will decline in real terms. However, for a company in this situation the decrease is not shared proportionately.

The Council has presented evidence that in the aggregate the distribution of income between wages and profits has not been affected by the standards. The Council interprets this evidence as showing that, in spite of their modest effect on

inflation, the standards have been neutral with respect to the distribution of income. However, another interpretation of this evidence, and one we find more plausible, is that the standards have not been effective at all. If our econometric findings that the standards failed to restrain wage or price increases are valid, then no effect of the standards on income distribution would be expected.

Using separate reporting units and variable standards can increase both prices and profits

Any wage/price policy for our large and complex economy must be flexible. Recognizing this objective, the Council developed a basic price standard to gradually decelerate the average rate of price increase, and it offered several alternative gross margin and profit margin standards to allow companies to recover uncontrollable cost increases while maintaining profits. The Council also allowed companies to subdivide into separate reporting units, which were to be treated as independent units for compliance purposes. The only restrictions on this provision were the existence of records that were, or could be, disaggregated for each reporting unit; the reasonable allocation of overhead; and the use of generally accepted accounting principles.

While both provisions helped maintain flexibility, a company could substantially increase both profits and prices by using different standards for each reporting unit. Table 13 shows the results for a hypothetical company.

Even though this hypothetical company had an average cost increase of about 10 percent for the five reporting units, it increased prices 14 percent and overall profits 42 percent (over six times the amount allowed by the profit margin limitation standard). While the separation into compliance units seems reasonable for a conglomerate of distinct businesses merged into a single corporation, it would clearly give some companies an advantage that is unrelated to the demand for their products, the efficiency of their operations, or any other factor relating to normal market behavior. This is both a distortion and a potentially inequitable advantage for some firms.

In its response to our draft report, the Council notes that separate reporting units within the same firm were permitted to provide flexibility and avoid economic distortions. This is a commendable purpose, one we support. Certainly, reporting flexibility is desirable if a standards program is continued. Nevertheless, this provision is potentially inequitable since a firm's ability to benefit from it depends

Table 13

Profitability of a Hypothetical Company with Multiple Reporting Units

Reporting unit	Assumed base period average			Cost increase (decrease)	First program year average		
	Price	Cost	Profits		Price	Cost	Profit
A a/	$100	$ 90	$ 10	$ (5)	$109.50	$ 85	$24.50
B a/	100	90	10	5	109.50	95	14.50
C b/	100	90	10	10	110.65	100	10.65
D b/	100	90	10	15	115.65	105	10.65
E b/	100	90	10	25	125.65	115	10.65
Company total	$500	$450	$50	$50	$570.95	$500	$70.95

a/Units A and B increase prices by the maximum 9.5 percent allowed by the basic price standard. Because costs did not increase, profits almost double.

b/Units C, D, and E, faced with large uncontrollable cost increases, elect to use profit margin limitation standard, thus allowing a 6.5 percent increase in profits. 1979 prices equal profit plus base period cost plus cost increase.

on its accounting skills and practices. A firm with the necessary accounting records can report separately and, as a result, earn higher profits, economic conditions permitting. Without the necessary records, it is limited to a single standard. In trying to increase flexibility and avoid economic distortions, the standards have created a potential inequity.

A perverse incentive of wage-price guidelines

Inequities can arise in a program of wage-price guidelines whenever one group is treated more favorably by the standards than another. Most of the examples we describe above are of this general type. Another type of inequity occurs when only some firms or workers comply with the standards while others do not. In this case, the complying groups are penalized by cooperating with the program. As Professor J. Kenneth Galbraith stated in recent testimony before the House Subcommittee on Economic Stabilization:

> Voluntary compliance with wage and price ceilings is not only imperfect, but it provides a forthright pecuniary reward to the firm or organization that evades or refuses to go along. The firm that goes along, in contrast, gets less. There can be no more perverse application of the principle of pecuniary reward." 1/

GENERAL PROBLEMS OF WAGE AND PRICE STANDARDS

Whether voluntary or mandatory, Government standards for wage and price changes can have undesirable side effects. These can be usefully classified as: market distortions, distributional inequities, and social or political repercussions. The severity of these problems is usually related to the effectiveness of the standards in restraining wage and price increases. However, even an ineffective program may produce some of these problems.

Market distortions

Prices and wages are signals in a market economy. They indicate changes in the demand for or availability of the products and services that make up the economic system. To the extent that wage-price policy successfully controls prices, it stops these signals from transmitting correct information. Businessmen, who rely on price signals to make decisions, are left uncertain. Actions become more risky; investment capital becomes more expensive. Too much of some products is produced and too little of others. Shortages can occur, and attempts to escape the controls lead to black markets.

Besides the uncertainty resulting from faulty signals, businesses face the additional uncertainty of not knowing how the controls will be modified and interpreted. They must

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1/Hearings before the Subcommittee on Economic Stabilization, of the House Committee on Banking, Finance and Urban Affairs, March 19, 26, and May 6, 1980, p. 232. Professor Galbraith is, of course, a long-standing proponent of permanent mandatory controls on prices and wages in the more concentrated sectors of the economy. He does not point out that without draconian penalties even a mandatory program will create perverse financial incentives. Instances will always arise in which it pays firms to evade the controls.

predict the future evolution of the program--will the controls be tightened, lifted, or something in between? Uncertainty about the future increases the risks associated with capital formation and may also reduce industrial innovation. Finally, there is the direct cost of complying with the information requirements of the controls program. (The Council estimates the reporting burden on private companies for the first 6 quarters of the anti-inflation program at $20 to $25 million.)

The result of all these market distortions is that resources are misallocated and inefficiently used, and the economy does not produce those things which society needs and wants. Of course, substantial distortions are also created by accelerating inflation. It may be worth accepting the costs of the distortions associated with a wage-price program which effectively reduces inflation.

Distributional inequities

A reason often given for the failure of wage-price policies is the public's perception that the controls may be unfair. Whenever an industry, union, or other group appears to be treated differently from others, or whenever one group seems to be gaining an advantage over another, these perceptions occur. Any program of controls on pay and prices necessarily involves a host of arbitrary decisions as the complexities of an entire economy are reduced to a manageable system of regulation. Hence, there is no way to avoid inequities, whether real or perceived.

Distributional inequities are the inevitable result of an effective controls program. The very choice of a date to begin wage-price controls results in unequal and potentially unfair treatment of some groups. At the time of the program's inception, some labor contracts will have just been re-negotiated while others will be close to expiration. Some businesses will have recently raised prices, while others will not yet have done so. Whatever base period is chosen, some firms will find themselves locked into a period of low profits and others will be allowed higher-than-normal returns.

To be sure, these and other problems can be dealt with through exceptions. But widespread use of exceptions creates its own problems. The requesting and granting of exceptions is an additional drain on the resources of both the controls agency and the requesting firms. A liberal exceptions program impairs the credibility of the standards because exceptions are granted to some firms and not to others. The result is a whole new set of perceived inequities, even though the original intent was to redress existing problems.

Social and political repercussions

Some of the consequences of wage and price controls extend beyond the life of the program. These consequences may cause or reinforce changes in social attitutes that can affect both short- and long-run economic and political behavior.

Most wage-price policies must control profits if they are to be perceived as equitable. For example, if rapidly increasing materials costs make price ceilings untenable, some restriction on profit is needed. Because controls exist, it is only natural that many people will conclude that someone's misbehavior is responsible for inflation. The culprits may be greedy businessmen, workers grasping for something, or any of a number of other more or less plausible villains. The problem with such a conclusion is that it contributes to social rancor and distrust and, most important, it is false. Such a conclusion conflicts with the best understanding economists currently possess as to the fundamental causes of inflation. Inflation is not the result of sinful conduct.

Social enmity is not the only long-term effect of wage and price controls. To persuade special interest groups to abide by the controls, a government may be forced to make uneconomic and inequitable concessions. This has been particularly true in the United Kingdom. Labor unions there have successfully used the Government's need for cooperation to protect unproductive labor practices and to increase their bargaining power. Recently, the Carter Administration was forced to accept an unrealistically low estimated cost-of-living adjustment for evaluating wage-settlement compliance with the pay standard. This means that workers with escalator clauses can get higher pay increases than other workers and still comply with the standards, creating an obvious incentive for more indexed labor contracts. In these cases, wage/price policies will have made wages more resistant to market forces and have aggravated the problem they set out to solve.

Wage and price standards can appear to be a simple and relatively painless way to fight inflation. When such a solution is available, the temptation is great to avoid restrictive monetary and fiscal policy whose short-run costs are high and whose benefits occur only in the longer run. However, as spokesmen for the Council have pointed out repeatedly, a program of wage and price controls treats only the symptoms of inflation. They are not a real alternative to measures that restrict demand. In fact, as the Council has often emphasized, they are at best a complement to the appropriate

demand management policies. However, the repeated problem with wage and price guidelines has been that their use postpones the policies needed to deal with the fundamental problem. It remains to be seen whether a similar judgment will be passed on the current program.

SUMMARY

A major factor contributing historically to the ineffectiveness of wage/price policies is the perception of inequitable treatment when standards are applied differently to different groups. We have discussed five examples of such inequitable treatment and the distortions they could cause if the standards were mandatory.

--The Council currently calculates the value of cost-of-living adjustment clauses at an assumed inflation rate of 7.5 percent--far below the current rate of inflation. This calculation allows employees with escalator clauses to exceed substantially the Council's wage standard. It is unfair to businesses and employees without escalator clauses and provides a strong incentive for increased indexing in labor contracts.

--During the first program year, firms using the basic price standard could raise prices at the same rate as the anticipated increase in unit labor costs. During the second year, the pay standard was significantly relaxed compared to the basic price standard. If the price standard was an effective restraint, it could force firms to absorb rising wage costs, arbitrarily decreasing profit margins and investment incentives.

--The profit margin limitation standard was initially designed to allow firms with uncontrollable cost increases to maintain inflation-adjusted profits. Although inflation was substantially higher than the Council originally expected, the standard was not revised during the second program year. If the standard was effective, the resultant decrease in allowable real profits could eventually prevent a firm from replacing plant and equipment and from attracting investment capital.

--The standards provide the potential for a company with skillful accountants and appropriate records to rapidly increase both prices and profits by subdividing into separate reporting units, each using different price standards. This practice is unfair to firms not similarly situated.

--The cost of health care was treated more leniently than other prices. Hospital costs were subject to an industry-developed standard which was neither monitored nor enforced. Physicians' fees, which are subject to the professional fee standard, were not monitored.

These five points do not represent a comprehensive review of the design and structure of the standards. It is not our intent in this report to present such a review. Our purpose is only to present some examples of inequities and distortion which can exist even in a carefully designed system of wage-price guidelines. It should be pointed out that any action taken by the Council to remedy these problems may well lead to problems in other areas. We believe this is one of the lessons from previous wage-price policies. Indeed, some of the problems with the second-year standards resulted from attempts to resolve first-year difficulties. The design of an equitable and flexible wage and price controls program is dificult in the short run and the difficulty increases with time.

CHAPTER 7

THE PROBLEMS OF MONITORING, COMPLIANCE, AND ENFORCEMENT

During the first 18 months of the Council's program, only 23 violators were identified but prices increased by 20.7 percent. One reason for this discrepancy was because many products whose prices rose rapidly, such as interest rates, crude oil and other raw materials, and about one-half of all labor costs, were not covered by the wage and price standards. We are not suggesting that the Council could have or should have controlled these items, but the limited coverage of the standards is a principal reason why few violators have been identified during a period of high inflation. Even for the items covered by the standards, the Council only monitors those firms whose gross revenues exceed an arbitrary dollar threshold. Initially the threshold was set at $500 million. In April 1979, it was lowered to $250 million, and in March 1980 the threshold was lowered again to $100 million. The extent to which industries are monitored varies considerably, depending on the average size of the firms in a particular industry. If most firms are large, the industry is monitored. If most are smaller it is not. Thus, the Council's threshold means that some industries are fully monitored, while others are not. To our knowledge, the Council has not justified this pattern of monitoring except on the basis of administrative convenience. It certainly did not parallel the pattern of most rapidly increasing prices during 1979.

Even after a violator has been identified, it is debatable whether the Council can effectively enforce compliance. The Council's sanctions may be effective on companies who are concerned with their public image or who deal extensively with the Government. Other firms, however, are less likely to modify their behavior because of the standards.

MANY PRODUCTS NOT COVERED BY THE STANDARDS HAD RAPIDLY RISING PRICES

The Council claims that compliance has been widespread in spite of the rapid acceleration of inflation. If this is true, it reflects the limited coverage of the standards and the fact that only some of the prices and wages covered were monitored by the Council's staff.

An effective anti-inflation program affects all prices and wages by uniformly lowering the rate of increase in prices. However, since it is impractical to apply standards to some prices, the Council did not set guidelines for:

--products whose prices are determined by competitive market forces, including many raw materials and items sold on organized exchanges;

--imported raw materials and products;

--new or custom products and all exports;

--intracompany transactions and previously contracted products; and

--interest rates and taxes.

In some of these cases, standards would have been superfluous. Other Government agencies were already regulating some prices and interest rates. In still other cases, the prices were determined before the standards went into effect or they were set in foreign markets beyond the Council's influence. In the case of products sold on organized exchanges, competition could be relied on to lower the rate of price increase if the other elements in the anti-inflation program were effective.

As it turned out, the prices of some of the excluded goods and services rose very rapidly following the establishment of the standards. The wage-price guidelines were not designed to prevent this change in relative prices, and they obviously did not. Table 14 shows the increase in some of the excluded products during 1979.

Table 14

Percentage Increases for Selected Items Excluded from the Standards in 1979

Excluded items	Percentage increase
Mortgage interest rates	34.7
Crude oil price	58.5
Farm prices	11.1
Vehicle finance charges	16.3

For comparison, the overall increase in CPI during 1979 was 13.3 percent. Although most excluded items rose more than the CPI, farm prices did not. Food prices actually declined slightly relative to the other goods and services included in the CPI.

Only a fraction of the prices and wages covered by the standards were monitored. No one is certain exactly how many companies complied with the standards in 1979.

Moreover, we did not have access to the reports submitted to the Council by those companies who were monitored. Therefore, we could not determine whether any of them violated the standards but were not publicly identified.

MANY WORKERS' PAY EXCLUDED FROM THE STANDARDS

The Council's pay standard limited pay and benefit increases to 7 percent during the first program year and 9.5 percent during the second program year. The pay standard does not apply to three broad areas of labor costs. First, it excludes low income workers, employees whose pay is established by contract agreements signed prior to the development of the guidelines on October 25, 1978, and employees whose wages are traditionally or contractually tied to the latter, provided this can be demonstrated to the Council's satisfaction. Together these employees account for at least 43 percent of the total private work force.

Second, specific types of labor costs are not counted against the pay standard. Examples include the increased costs of legally mandated benefit programs such as Social Security, certain increased costs to maintain existing pension funds or health benefit plans, and pay increases resulting from changes in contractual work rules that improve productivity.

Third, the Council allows certain employee groups to exceed the pay ceiling when the increase is necessary to attract or retain employees during an acute labor shortage, or to avoid an "undue hardship" or a "gross inequity." Undue hardship is a situation that seriously threatens a company's financial viability. Gross inequity is any situation which, in the Council's opinion, is manifestly unfair. During the program year, the Council granted 570, or 90 percent, of the 613 exception requests. These exceptions allowed 1.7 million employees to obtain pay raises averaging 2.36 percent above the pay standard. During the first 5 months of the second program year, the Council rejected only one of the 183 completed exception requests. The number of employees involved and the amount by which they exceeded the pay standard were not available at the time of our review.

THE COUNCIL'S REPORTING THRESHOLD LACKS AN ECONOMIC RATIONALE

When it started the wage and price program in late 1978, the Council used a two-pronged approach to monitor a large and complex economy. First, it required firms with sales of $500 million or more to file compliance reports.

In criticizing this chapter of our draft report, the Council states that this chapter

> "* * * purports to criticize the administration of the standards program, but, in fact, it rarely discuses [sic] actual program operation and pays little, if any, attention to the typical measures used by GAO to evaluate the administration of a program (e.g., the number and quality of decision or the number and usefulness of reporting forms processed)."

What the Council neglects in raising this issue is that we were denied access to virtually all information about either Council decisions or the reports submitted to the Council except for a limited amount of highly aggregated data. We were, therefore, unable to evaluate such things as the "quality of decisions," although our investigation has not been materially affected. Our purpose has been to evaluate the overall effectiveness of the standards in restraining inflation, rather than to evaluate their administration. Nevertheless, this criticism by the Council is unwarranted.

SUMMARY AND CONCLUSIONS

We conclude that the Council has failed to justify its choice of a reporting threshold except as an administrative convenience. It has not related this choice to its information gathering responsibilities under the Council on Wage and Price Stability Act. There is no evidence that the firms it monitors are responsible for inflation nor that compliance with the standards is correlated with the pattern of monitoring. By using monitoring to identify firms that do not comply with the standards, the Council has possibly reduced the quality of the information it collects with no noticeable reduction in the rate of inflation. The Council has never explained how it expects isolated intervention, based on the information its monitoring effect produces, will help lower the rate of inflation throughout the economy.

The Council is also limited in its ability to enforce the standards. While the Council publicly identified some violators, press coverage was limited, and many companies have stated publicly that their sales were unaffected. Recently, the President has begun identifying violators and conducting "jawboning" sessions with problem industries. Although this may have had a sobering effect on some potential noncompliers, the evidence of significant changes in pricing behavior remains to be seen.

The effect of the other enforcement tools is difficult to assess. We could find no case where a major contract (in

Table 15

Proportion of Total Corporate Revenues Provided by Corporations with Sales in Excess of $250 Million and $100 Million, 1975

Economic sector	1975 business receipts for active corporations	Percentage of business receipts provided by corporations with annual revenues of: $250 million	$100 million
All industrial sectors	$2,961,730	48.2%	54.7%
Manufacturing	1,258,339	66.7	73.2
Transportation and public utilities	234,689	69.8	77.6
Construction	143,413	8.2	12.5
Retail and wholesale	951,464	28.1	33.8
Finance, insurance, and real estate	157,127	57.4	67.9
Services a/	125,747	9.0	14.8

a/Underestimates size because tax-exempt institutions are not included.

Administered pricing is sometimes offered as a reason for monitoring on the basis of firm size. Administered pricing is a way of describing the price setting practices of large firms. These firms have the market power to raise their prices more rapidly than small firms facing similar economic conditions. This observation has often been used to justify the opinion that large firms are responsible for inflation, although it is not well established that large firms actually do behave this way. In fact, the evidence suggests that large firms in highly concentrated industries, where a few firms account for most of the sales, raise their prices more slowly when the economy expands than firms in less concentrated industries. It is also true that they are somewhat slower to reduce their prices when the economy enters a recesion. 1/ In a study undertaken for the Council on Wage and Price Stability in 1975, Professor Ralph Beals, after surveying the available theoretical and empirical evidence, concluded that, "For most of the past 20 years average BLS [Bureau of Labor Statistics] wholesale prices in the concentrated industries have risen less rapidly

1/Phillp Cagan, Persistent Inflation: Historical and Policy Essays, (New York: Columbia University Press, 1979), pp. 26-28.

than prices in the unconcentrated industries." This conclusion was strongly endorsed by Dr. Albert Rees, then Director of the Council, who added:

> "Although it is probably true that concentrated industries charge higher prices than they would charge if they were more competitive, it does not appear to be true that prices in these industries rise more rapidly than other prices." 1/

In its response to our draft report, the Council states that a reporting threshold was chosen because large firms are no more difficult to monitor than small firms. Thus, concentrating on large firms permits more extensive monitoring with a minimum of the Council's resources. Larger firms also have more discretion over the prices they charge according to the Council. The Council also notes that the scrutiny reports received depends on economic considerations and that some smaller companies have been required to report.

We do not dispute thse points, but taken altogether they still do not constitute an economic rationale for the pattern of monitoring pursued by the Council. Large firms do have some discretion over the prices they charge, but so do many smaller firms. We are unaware of any systematic studies the Council has conducted which relate sellers' discretion to firm size. Moreover, the Council does not claim that large firms have used their power to set prices to cause inflation. Yet, unless this is the case, we fail to see why the Council has devoted so much of its resources to monitoring their prices.

We conclude that aside from administrative convenience, the Council's arbitrary reporting threshold lacks an economic rationale. The threshold fosters a pattern of monitoring that is unrelated to those sectors of the economy that have experienced (1) rapidly rising prices in recent years, and (2) other problems requiring special study by the Government.

At the time our report was written, the Council had lowered its reporting threshold (from $250 to $100 million) and planned to double its staff primarily to review the increased number of reports. The issue at that time was whether these additional resources should be used to monitor all companies with sales between $100 and $250 million or whether they should be allocated to industries where coverage had been more limited under the former $250 million threshold.

1/Hearings before the House Committee on Banking, Currency, and Housing, Subcommittee on Economic Stabilization, June 17, 19, and 20, 1975, p. 27.

Recently, the Congress rejected the Council's proposed staff increase. At the same time, the Council has taken steps to use its existing resources more effectively. For example, the Council is automating its initial desk audit of the reporting forms it receives. Steps such as this allow the staff to concentrate on problem cases rather than on routine review of reporting forms. While these steps will help direct the staff effort more quickly to potential violations by large firms, the overall patterns of monitoring is still dictated by the arbitrary reporting threshold.

MORE INTENSIVE MONITORING IS NOT LIKELY TO INCREASE THE EFFECTIVENESS OF THE STANDARDS

The purpose of monitoring is to gain information, which can be used in two different ways. It could be used simply to identify where economic problems are occurring, thereby helping the Council to formulate recommendations for new policies. Alternatively, monitoring can be used to publicly identify violators of the standards. In this case, monitoring and the associated sanctions are an attempt to encourage compliance by making a violation of the standards costly.

In the first case, monitoring poses no threat to those monitored because it does not require any modification of behavior. In the second case, when it is used to detect noncompliance with the standards, monitoring clearly poses a threat.

The Council currently requires monitored firms to submit a brief quarterly report containing a small amount of highly aggregated financial information. For example, companies on the price standard are required to submit percentage changes in the prices charged for each product line and two summary statistics--a sales weighted price change for the 2-year base period and the actual price change through the reporting quarter, both averaged over all products sold by the reporting unit. Reporting units under one of the margin standards are only required to submit figures for total revenue and total cost in the base period and in the current quarter.

Because the financial information submitted to the Council is highly aggregated, honest differences about how the standards should be interpreted as well as differences in the application of generally accepted accounting procedures could lead to a variation in the numbers submitted. In many cases, the information provided to the Council is not comparable to published financial information such as annual reports. Thus, it is more difficult to check the reports submitted to the Council for accuracy. Even if the companies

submitting reports do not misrepresent their financial position, the possibility would exist that the data they submit are different from that which would be furnished by an independent audit. Even if the companies represent their position, the Council has only a limited capacity to detect such behavior.

For these reasons, we believe using its monitoring to detect noncompliance may have reduced the quality of the information the Council receives from firms. Its ability to detect trends and predict future problems may have been hampered by how it uses the information it currently collects.

The Chairman of the Council has recently testified that, "In the critical months ahead, it seems to us essential to redouble our surveillance of prices particularly, in order to assure to the fullest extent possible compliance with the voluntary standards." However, little evidence exists to suggest that compliance in the first program year was related to the intensity of the monitoring effort. We know of no evidence which suggests that compliance with the standards was greater among those who were monitored than among those who were not.

The continued existence of any wage-price program, whether mandatory or voluntary, depends on the program's credibility. If business and labor believe that adhering to the standards will lower inflation without raising unemployment, there will be a much greater willingness to comply. If, however, business and labor think the program will not accomplish its objectives, they will have little incentive to change their behavior. In this case, monitoring to catch all noncompliers would require resources far beyond any the Council now has or is requesting. Even if all noncompliers could be identified, their future compliance would depend on the severity of the sanctions that could be applied to them. Since the program is voluntary, its sanctions are limited. We believe the Council's current monitoring procedures have reduced its ability to collect meaningful economic information, while at the same time producing no noticeable restraint in the overall rate of inflation.

THE COUNCIL HAS LITTLE AUTHORITY TO COMPEL COMPLIANCE

The Council has two mechanisms to encourage compliance with its standards. First, the Council can publicly identify violators. Second, the Office of Federal Procurement Policy does not allow violators to receive Federal contracts over $5 million. These sanctions may have some effect on companies that are concerned with their public image or have extensive sales to the Government. However, their effect is much more limited to firms that:

--do not receive Government contracts or deal directly with the public;

--receive Government contracts through subsidiaries or separate reporting units;

--receive Government contracts under $5 million, or obtain a waiver for contracts over $5 million.

Some companies do not deal with the Government or the public

Our review of the 23 violators reported as of April 2, 1980, identified 18 (78 percent) who had little or no dealings with the Government or the public. The Council's enforcement powers are relatively ineffective against these companies, consisting primarily of manufacturers, wholesalers, and trade associations. Over one-fourth of the violators did not bother to respond to the Council's notice of probable noncompliance. Many of them stated publicly that they are unconcerned about the Council's decision. Representatives of a large gypsum manufacturer, which rarely bids on Government contracts and does not sell directly to the public, stated that the company was not concerned about the Council's ruling. Representatives from a fried chicken company, which does sell directly to consumers but does not have any major Government contracts, stated that the Council's decision had not adversely affected sales.

During the first program year, there was little high-level criticism or extended press coverage of the violators. One exception was a highly published decision by Sears, Roebuck and Company to reduce its catalog prices after being advised that it would be ruled out of compliance with the standards. As inflation accelerated in early 1980, the President began to identify violators in his press conferences and speeches. In April 1980, he identified six violators--three of whom had been publicly identified by the Council over 2 months earlier. One of these violators, Mobil Oil Corporation, was accused by the Administration of exceeding allowable price increases by $45 million. While Mobil denied the accusation, the company eventually agreed to hold its revenues $30 million below what it could otherwise receive in the second and third quarters of this year. 1/

1/Mobil's net income was slightly above $2 billion in 1979. Its sales exceeded $44 billion. Retail gasoline prices, after rising steadily for more than a year, fell 0.6 percent in May. Mobil was only one of several companies to reduce prices slightly in recent months.

Violators can sell to the Government through separate reporting units

Executive Order 12092, dated November 1, 1978, emphasized the use of Federal procurement to encourage compliance with the standards, and gave the Office of Federal Procurement Policy (OFPP) responsibility for implementing this policy. The Office's February 15, 1979 regulations require companies to certify to the contracting agency that they have complied with the standards before bidding on Federal contracts over $5 million. The contracting agency is then required to deny contracts to firms that do not certify compliance unless a waiver is granted.

Nevertheless, some firms can continue to deal with the Government even though they may not be complying with the wage and price standards. The Council allows a firm to report the prices, profits, or margins of its subsidiaries, or even parts of its integrated operations, as separate units for compliance purposes. Only the individual noncomplying units are considered in violation and placed on the contract debarment list, which means that subsidiaries or separate reporting units can continue to receive Government contracts even if the parent company is in violation of the standards.

We were unable to determine directly the potential significance of this procedure because at the time of our review, centralized listings of Federal contracts were available only through September 30, 1979. By that time only four violators had been identified, none of whom had extensive Federal contracts either before or after they were listed as noncompliers.

However, several recent violators had Government contracts during fiscal year 1979. For example, on March 25, 1980, Ford Motor Company was listed as a violator and barred from receiving large Government contracts. The sanction, however, did not apply to Ford' s aerospace subsidiary, which negotiated or modified hundreds of Government contracts during 1979. Seventeen of Ford's contracts, totalling about $240 million, exceeded the $5 million threshold. Because centralized listings of fiscal year 1980 Federal contracts were not available, we could not find out how many contracts Ford's aerospace subsidiary received while Ford was in violation of the Council's pay standard. Any such contracts would be acceptable under the current regulations. Ford has since come back into compliance after a $10.4 million contract was threatened. Ford has agreed to hold management benefit increases to 7.5 percent or less to offset the substantially higher increases received by its other employees.

Violators can sell to the Government through small contracts or waivers

Violating companies have two other methods of escaping the procurement sanction. First, OFPP's prohibition applies only to contracts over $5 million, about one-half of the fiscal 1978 expenditures by major Federal procurement agencies. Several of the 23 violators reported as of April 2, 1980, had Federal contracts of less than $5 million.

Second, agency heads can waive the procurement prohibition for reasons of national security, public safety, or extreme urgency. While there are no known instances of a violator having been denied a Federal contract, 20 waivers have been reported to the Office of Federal Procurement Policy. Most of them granted by one procurement agency were reported after our inquiry. It is possible that even more waivers have been granted but have not been reported to the Office of Federal Procurement Policy.

The Council's comments and our response

In its response to our draft report, the Council notes that a number of companies have taken corrective actions to avoid the adverse publicity which public identification as a violator of the standards would generate. In the Council's opinion these actions demonstrate the effectiveness of the sanctions.

We do not claim that the Council has never influenced a pricing decision. Our finding was only that the standards did not have a discernible effect on the overall rates of wage and price increase. This is perfectly consistent with a finding that in some isolated cases prices were restrained.

The Council claims that $170 million in corrective actions have been taken as a result of the sanctions. While $170 million is a large sum, it is a trivial amount relative to the total size of the economy or even relative to the overall reductions in the cost of consumer goods also claimed for the standards by the Council (see chapter 4). Moreover, the Council has not demonstrated that these actions represent anything other than a change in the timing of an ordinary business decision. For example, the recent contract negotiated by the United Auto Workers violated the pay standard. To avoid being found in noncompliance, General Motors agreed to limit its price increases. However, in view of conditions in the automobile market in which large discounts from list prices and other inducements are available, it is unclear whether the prices actually paid by consumers were affected by this action.

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> "* * * purports to criticize the administration of the standards program, but, in fact, it rarely discuses [sic] actual program operation and pays little, if any, attention to the typical measures used by GAO to evaluate the administration of a program (e.g., the number and quality of decision or the number and usefulness of reporting forms processed)."

What the Council neglects in raising this issue is that we were denied access to virtually all information about either Council decisions or the reports submitted to the Council except for a limited amount of highly aggregated data. We were, therefore, unable to evaluate such things as the "quality of decisions," although our investigation has not been materially affected. Our purpose has been to evaluate the overall effectiveness of the standards in restraining inflation, rather than to evaluate their administration. Nevertheless, this criticism by the Council is unwarranted.

SUMMARY AND CONCLUSIONS

We conclude that the Council has failed to justify its choice of a reporting threshold except as an administrative convenience. It has not related this choice to its information gathering responsibilities under the Council on Wage and Price Stability Act. There is no evidence that the firms it monitors are responsible for inflation nor that compliance with the standards is correlated with the pattern of monitoring. By using monitoring to identify firms that do not comply with the standards, the Council has possibly reduced the quality of the information it collects with no noticeable reduction in the rate of inflation. The Council has never explained how it expects isolated intervention, based on the information its monitoring effect produces, will help lower the rate of inflation throughout the economy.

The Council is also limited in its ability to enforce the standards. While the Council publicly identified some violators, press coverage was limited, and many companies have stated publicly that their sales were unaffected. Recently, the President has begun identifying violators and conducting "jawboning" sessions with problem industries. Although this may have had a sobering effect on some potential noncompliers, the evidence of significant changes in pricing behavior remains to be seen.

The effect of the other enforcement tools is difficult to assess. We could find no case where a major contract (in

excess of $5 million) was actually denied. To be sure, some violators may have chosen not to bid on Government contracts, but there is no way to find out whether this has, in fact, occurred.

In any case, as we have explained, the contract sanction can be avoided in three ways. It might be possible to eliminate these options, but the benefits of doing so must be balanced against the administrative burden of monitoring numerous small contracts and the problems of obtaining critical items from alternative sources. In any case, such changes would affect only a relatively small number of firms. Thus, even if the Council had the resources and the power to identify all noncompliers, there is little reason to believe that the existing "voluntary" structure provides adequate sanctions to compel compliance.

CHAPTER 8

ALTERNATIVE USES FOR THE COUNCIL'S RESOURCES

The enabling legislation of the Council on Wage and Price Stability directs the Council to carry out a number of activities: 1/

--to conduct industry studies;

--to work with labor and management to improve the structure of competitive bargaining;

--to improve wage and price data bases;

--to conduct public hearings on specific inflationary problems;

--to focus attention on the need to increase productivity;

--to monitor the economy as whole;

--to review programs, policies, and activities of the Federal Government for unwarranted inflationary impact;

--to intervene and participate in rulemaking and other procedures of the Federal Government; and

--to review and analyze the effect on the United States economy on a number of domestic and international economic issues.

Since October 1978, the Council has devoted the majority of its resources to developing a set of pay and price standards and to monitoring the behavior of individual firms. For example, only 22 staff members are assigned to evaluate Government regulations and no one is primarily responsible for evaluating the methods to increase productivity. Moreover, even if the staff were to be increased to 637 as proposed, the Council does not plan any increase in either the Government regulation or productivity area.

As we have already noted, the voluntary wage and price program has had no perceptible effect on inflation. On the

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1/ The complete text of the Council on Wage and Price Stability Act, as amended, is found in appendix IV.

other hand, the Council can make a genuine contribution to the Nation's economic health by pursuing several of the other mandates given it by the Congress. For example, an important service the Council can provide to the Administration is to gather information necessary for enlightened decisionmaking. The Council's studies of particular industries, as well as the overall state of the economy, can provide valuable information. In addition, improving wage and price data bases would benefit analysts and policymakers alike. Other areas where the Council's resources would be employed usefully are productivity and Federal regulation. Although none of these measures promise much short-run relief from recent high rates of inflation, they would contribute significantly to the kind of long-run policies needed to restore price stability.

IMPROVING PRODUCTIVITY HAS RECEIVED LITTLE EMPHASIS

Since 1960, productivity has grown less in the U.S. than in any other major developed country. In the 1970s, the increase in U.S. productivity fell far below the post-World War II trend. Recognizing the situation, the Congress, when it established the Council in 1974, included a requirement that the Council focus attention on the need to increase productivity. This requirement was reemphasized in the 1979 amendments, which directed the Council to:

--consider the need to stimulate productivity; and

--review its policies on promoting productivity growth and report the results to the Congress.

Our report to the Congress 1/ discusses the Council's limited efforts to meet this mandate. The report noted that the Council believes its principal contribution to improving productivity should be restoring a stable, noninflationary business environment through an effective anti-inflation program and, in addition, commenting on the cost of proposed Government regulations. As a result, the Council's efforts center on monitoring wages and prices and reviewing a limited sample of Federal regulations. Our report indicates that the Council has done little to stimulate productivity growth in formulating pay and price standards, identifying specific productivity problems, or preparing reports recommending particular solutions to these problems.

1/U.S. General Accounting Office, "The Council on Wage and Price Stability Has Not Stressed Productivity in its Efforts to Reduce Inflation," FGMSD-81-08, October 16, 1980.

The importance of improving productivity was recently reemphasized by the House Committee on Banking, Finance and Urban Affairs in its May 15, 1980 report (no. 96-972) on the extension of the Council's authorization. That committee proposed a requirement that the Council establish a group primarily responsible for evaluating productivity problems. Whether or not this provision is eventually established in law, we believe the Council should consider expanding its efforts in this area.

EVALUATING GOVERNMENT REGULATIONS-- A VALUABLE SERVICE THAT SHOULD BE EXPANDED

The Council is responsible for evaluating the cost-effectiveness of Government programs and regulations. As only 22 staff members are assigned to this area, the Council must allocate its resources on a highly selective basis, limiting indepth analyses to regulations that appear most likely to have a detrimental effect on the economy. In addition to regulations which set precedents or involve barriers to competition, the Council targets, for review, regulations that have estimated compliance costs in excess of $100 million. These high-cost regulations are generally accompanied by a cost-benefit analysis prepared by the proposing agency.

In addition, the Council provides analytical support for the Regulatory Analysis Review Group, an interagency group composed of representatives from all executive branch economic and regulatory agencies, which is responsible for improving the quality of Federal regulations. While the Council may alert the Review Group to developments on particularly important proposals from independent agencies, the two groups never intervene in the same proceeding. During the 17-month period ending June 3, 1980, the Council and the Regulatory Analysis Review Group analyzed 76 regulatory proceedings, 36 of which involved high-cost regulations. A complete list of these regulatory reviews is included as appendixes V and VI of this report.

Although high compliance costs were an important criterion for review in 36 cases, the remaining regulations were selected because they:

--set a noteworthy precedent that will influence subsequent rulemakings;

--involved barriers to competition, such as rate or entry restrictions; or

--had other potential problems, such as effects on productivity, inadequacies in the proposing agency's cost analysis, or significant impacts on a certain industry.

Using these criteria, the Council tries to cover a wide spectrum of Federal regulations, from environment to international trade. Table 16 shows the regulatory proceedings reviewed by the Council and Regulatory Review Group during the 17 months ending June 3, 1980, by subject area and reason for intervention.

Table 16

Breakdown of the Regulatory Interventions by the Council and the Regulatory Analysis Review Group January 1, 1979 to June 3, 1980

	Main reason for intervention				
Subject	Cost	Precedent	Competition	Other	Total
Agriculture				1	1
Communications	1	1	2		4
Energy	15			2	17
Environment	15	3		5	23
Financial			2	1	3
International trade	1		1		2
Transportation			16	2	18
Product safety and quality	2				2
Other	2	—	2	2	6
TOTAL	36	4	23	13	76

As shown in the table, high compliance cost was the selection criterion for 36 regulatory interventions, 9 of which were the responsibility of the review group. Staffing and other factors limited the Council's interventions to 27 (18 percent) of the estimated 150 new Federal regulations

having compliance costs in excess of $100 million. Additionally, the Council either does not evaluate (or conducts very limited evaluations of) existing regulations, those with estimated compliance costs less than $100 million, and those developed by several important agencies, including the Internal Revenue Service and the Securities and Exchange Commission.

While the Council did not comment on about 80 percent of the new, high-cost regulations (compliance costs over $100 million) issued during the 17-month period, representatives of the Council indicated that it does perform at least a cursory review of all these regulations. Generally, this review consists of an analyst examining the regulatory analysis accompanying the proposed regulation. If the reviewer does not identify a major problem or a more cost-effective alternative, no further analysis is performed.

For example, the Council has not been extensively involved in the decontrol of domestic crude oil prices and the supporting series of regulatory steps imposed by the Department of Energy. The President's decision to phase out controls over a 2-year period and to request a windfall profits tax was made after extensive consultations among all of his key advisors, including the Council chairman. Because the Council believes that decontrol is less inflationary than continued controls in the long run, it has not intervened in most of the long series of regulations designed to implement this policy.

Another example is the motor gasoline "tilt" rule, which increased the allowable costs refiners could include in calculating the cost of gasoline production. Since the ceiling price for gasoline is determined on the basis of a cost pass-through, this permitted refiners to charge a higher price for gasoline than would have been possible using the previous formula for calculating such costs. Thus, under Department of Energy regulations, the "tilt" rule allowed firms to increase their profitability because, while the price of gasoline was tied to its costs of production, the prices of other refined products such as residual and distillate fuels were not. The "tilt" rule is completely independent of the Council's standards. The introduction of the "tilt" rule increases a refiner's allowable profit under the Department of Energy price regulations, but not under the Council's price and profit standards. After reviewing the Department of Energy's regulatory analysis, the Council staff chose not to comment on the proposed rule.

The Council helped develop the President's proposed oil import fee earlier this year. Under this proposal, the President wanted to shift the burden of that fee entirely

onto gasoline production, through an "entitlements system" similar to the crude oil entitlements system for price-controlled domestic crudes. The Council believed that although, in the short run, gasoline prices would have increased and inflation would have been slightly exacerbated, reduced imports over the long run would have made the economy more resistant to the inflationary effects of OPEC price increases.

In its response to our draft report, the Council claimed that we erroneously implied that developing and monitoring the standards resulted in de-emphasizing regulatory intervention and economic analysis. The Council noted that it currently devotes more resources to these areas than it did prior to establishing the standards. However, prior to the announcement of the standards, the Council had a staff of only 39. Our draft did not imply that these functions have been de-emphasized. We only pointed out that relative to its current size, the Council devotes only a small percentage of its resources to these areas.

CONCLUSIONS AND RECOMMENDATIONS

Since the October 1978 inception of the voluntary wage and price program, the Council has devoted most of its resources to developing the standards and to monitoring individual pay and price decisions for compliance. Even in the case of regulatory review and intervention, the activity other than the wage and price standards most energetically pursued by the Council, only 22 staff members out of the more than 230 full-time staff currently work in this area.

We continue to believe that a larger portion of the Council's resources should be reallocated to its mandated activities besides the voluntary standards. Although the Council's mandate is broad and includes several productive avenues of endeavor, three stand out because of current interest and long-term usefulness. We do not recommend these changes in the belief or expectation that they will provide a substantive reduction in inflation in the near term, but rather because they are worth doing and, to a large extent, are not the direct responsibility of any other Government agency.

First, we feel that the Council should continue to collect and analyze information about specific industries and the economy as a whole. Such information is invaluable for policy decisionmaking. The Council, with its experience and industry contacts, is uniquely capable of carrying out this assignment.

Second, the Council should devote more of its resources to studying productivity. The Council staff should expand its study of current productivity trends, their causes, and ways in which the Government can encourage increased productivity growth.

Finally, the Council's excellent efforts to review Federal regulations and to intervene where appropriate in rule-making proceedings should be expanded. We believe, along with the Council chairman, that an important contribution has been made in this area, and that an expanded effort will yield greater results in the future. With the increasing complexity and size of both the economy and the Government, it is vitally important that some group other than the issuing agency be involved in the regulatory review process. In addition to reviewing a larger selection of new regulations, increasing resources devoted to this activity may allow the Council to begin examining some existing regulations as well.

By rechanneling and refocusing its efforts into these three areas, we believe that the Council can both satisfy its legislative mandate, and provide a significant contribution to the economic health of this Nation.

CHAPTER 9

CONCLUSIONS AND RECOMMENDATIONS

This report addresses the question, "Have the pay and price standards administered by the Council on Wage and Price Stability been effective in restraining inflation?" To answer the question we reviewed the case for wage-price guidelines to learn how the policy was expected to work and the problems which it needed to overcome to be effective. This review suggested criteria which were useful in evaluating the effectiveness of the standards. Our conclusion, based on carefully examining the evidence, is that the standards have had no discernible effect on the rate of inflation.

The Council on Wage and Price Stability lacks the statutory authority to impose mandatory controls on pay and prices. Its standards are voluntary. However, the Council has used sanctions to encourage compliance with the standards. Although we were unable to detect a restraining effect of the Council's guidelines on economy-wide measures of wages and prices, there are a number of cases in which actions by the Council have influenced the pricing decisions of individual business firms. For this reason, and because the Council devotes the bulk of its resources to monitoring compliance with the guidelines, we also investigated the design of the standards, the administration of the monitoring effort, and the sanctions available to encourage compliance.

We believe the Council on Wage and Price Stability can perform valuable services in several areas related to the long-run policies needed to end inflation. Most notable are its efforts at regulatory review and intervention. These efforts could be strengthened and extended if additional resources were allocated to it.

The Council is only one agency involved in the anti-inflation effort. Monetary and fiscal restraint are essential ingredients of an effective anti-inflation policy, as the Council itself has often stated, but some activities of the Council could provide a useful complement to conventional demand management policies. By monitoring prices and related economic developments, the Council can focus public attention on various economic problems while helping to maintain the pressure to arrive at the best policies to deal with inflation.

THE PAY AND PRICE STANDARDS HAVE YET TO PRODUCE A DISCERNIBLE EFFECT ON THE RATE OF INFLATION

When the standards were announced in October 1978, the goal of the program was to assist monetary and fiscal policies to lower the rate of inflation gradually. During the first year of the program, the inflation objective was 6.5 percent, a modest reduction compared to the actual rate of inflation in 1978. An explicit inflation objective was not announced for the second year of the program, but universal compliance with the second year price standard would have produced a rate of inflation no higher than that prevailing at the beginning of the program.

Another announced goal of the standards was to prevent the recession that normally accompanies a decrease in the rate of inflation. The initial effects of monetary and fiscal restraint normally fall more heavily on output and employment than on prices and wages. If the standards had been effective, this normal pattern would have been avoided. Inflation would have been restrained without recession.

The main requirement for an effective program of voluntary wage-price guidelines is a public conviction that the guidelines, in concert with the other elements of anti-inflation policy, will actually produce a break with previous inflationary trends. In short, the program must be credible. If it is not, wage and price setters will have little incentive to modify their pricing decisions.

A lack of credibility can be masked by an appearance of compliance. If the standards are sufficiently flexible to permit wage and price setters to continue in their normal patterns of behavior while appearing to comply, then compliance does not produce a modification in prices or wages. However, if the program has been effective, evidence of that fact should be present in the statistics measuring prices, wages, and unemployment.

We believe three questions are useful in analyzing the statistical evidence to determine whether a program of wage and price guidelines is effective:

--Did the rate of inflation decline after the guidelines were established?

--Was a recession avoided during the program?

--Is there a wide range of econometric evidence showing a statistically significant effect of the program on the rate of increase in wages and prices?

The first two questions relate both to the announced goals of the program of voluntary pay and price standards and to the effect the standards may have had on inflation expectations. If the answer to either question is yes, that would indicate that the program had been effective. If the answers are no, then the prospect that a decisive shift in inflation expectations has occurred is much less. Without such a shift, the program's credibility, and hence its ultimate effectiveness, is doubtful.

Since the standards were established, there has been a marked acceleration in the rate of price inflation. The Consumer Price Index has risen at an average yearly rate of approximately 13 percent. By comparison it rose an average of 7.5 percent a year during the 2 years prior to the announcement of the standards. Other broadly based price indexes reveal a similar pattern. All have been rising more rapidly since the standards were announced.

In the second and third quarters of 1980, the rate of inflation declined compared with the peak rate of increase in prices reached during the first 3 months of 1980. However, this decline was accompanied by a sharp drop in output and a large increase in unemployment. The standards have not prevented the recession that normally accompanies a break in the upward trend of inflation.

Thus, the answers to the first two questions posed above are no. However, the possibility remains that inflation might have been still higher than it was. The Council claims that because of the standards, inflation was somewhat lower than it otherwise would have been, and that in this sense the standards were effective. As one might expect, such estimates are sensitive to the assumptions embodied in their construction. The only systematic way to make such estimates is through econometrics, a set of statistical techniques for measuring and analyzing economic activity. The Council bases its claim that the standards had a modest effect on inflation on econometric estimates.

In our own work we studied variants of the econometric models used by the Council and other models that we believe better represent both economic theory and actual experience. On the basis of generally accepted statistical tests, we found no significant deviation from historical patterns of wage and

price determination during the period of the voluntary standards. We believe a careful sifting of the econometric evidence provides no basis for the Council's claim that the standards were effective.

On all three criteria we found no evidence that the Council's pay and price standards made any contribution to the reduction of inflation. Although the standards have been in place for 2 years, and they have been supported by the President and revised by the Council, their effectiveness has not noticeably increased. It might be argued, if this were the first experiment with wage price guidelines, that additional time was needed to realize their potential, but this is not the first experiment. Similar policies have been tried many times before both in the United States and elsewhere. The record shows clearly that whenever such programs appear to be effective, it is in the earliest phases of their existence. Their effectiveness does not increase with time. If the standards are extended for a third program year, it is highly unlikely that they will be any more effective than they have been until now.

INEQUITIES IN THE DESIGN OF THE STANDARDS

Although the standards administered by the Council on Wage and Price Stability are voluntary, they have been spelled out in great detail. The only comparable body of detailed peacetime regulations governing pay and prices is the program of mandatory controls adopted in the early 1970s. As is true of any set of regulations that attempts to control prices and wages in our complex economy, the standards contain a number of potential inequities.

In our investigation, we discovered five examples of inequitable treatment in which the standards apply unfairly to different groups of firms or workers:

--Hospital costs and physician fees are treated more leniently than other prices and wages.

--Cost-of-living adjustment clauses are valued at an unrealistically low rate of inflation, understating, for compliance purposes, the pay of workers whose contracts include such clauses.

--Relaxing the pay standard in the second year of the program has not been accompanied by a parallel modification of the price standard, putting firms at a disadvantage.

--The profit margin limitation calls for a reduction in the real profits of complying businesses.

--The standards permit companies with the appropriate records and accounting resources to subdivide into separate reporting units which could permit larger increases in price and profits than are possible for firms not similarly situated.

A voluntary program of wage-price guidelines is not likely to produce the shortages and strikes which frequently occur when wage and price standards are mandatory. However, even a voluntary program can produce some of the negative side effects of wage and price controls. Guidelines, especially when they are revised at frequent intervals, make investment planning more uncertain. If the guidelines are monitored, the costs of monitoring are incurred. Real inequities arise when some firms and unions comply with the standards while others do not. Also, the possibility exists that policymakers may modify other elements of anti-inflation policy in the hope that the standards will be effective. If that hope is misplaced, inflation may be worse as a result of the program. The standards may also create incentives that threaten the long-term prospects of effective anti-inflation policy. For example, the current standards create a clear incentive for unions to bargain for cost-of-living-adjustment clauses in their contracts. Because such indexing makes inflation more difficult to control, the standards embody a perverse incentive.

MONITORING THE STANDARDS AND SANCTIONS TO ENCOURAGE COMPLIANCE

The Council on Wage and Price Stability does not have the resources to monitor the compliance of all the business firms and employee groups covered by the standards. It has concentrated its monitoring efforts on large firms. Originally, only firms with over $500 million in annual sales were monitored routinely. The threshold has since been lowered to $100 million. However, aside from administrative convenience, the Council has never presented an economic rationale for this method of allocating its monitoring resources. For example, it has never presented any evidence that firms with sales in excess of the threshold are more responsible for inflation than those whose sales fall below it. Moreover, there is no clear link between monitoring and compliance in the absence of a more vigorous enforcement effort.

Only two sanctions have been used to encourage compliance with the Council's standards. Firms and employee groups which the Council identifies as out of compliance are publicized,

and firms wishing to do business with the Government are requested to sign a statement indicating their intention to comply with the standards. Firms which fail to comply can be denied Government contracts in excess of $5 million, but we were unable to discover any firm which was denied a contract for this reason.

The sanction of bad publicity has surely had an effect on certain firms, but there is no evidence to indicate that its use has produced significant changes in the way the vast majority of business firms price their products. Only 23 firms were identified as noncompliers in the first 18 months of the program, and only a limited amount of publicity attended their disclosure. Several firms stated they were unconcerned by the publicity resulting from their identification as noncompliers.

Also, little evidence exists that the procurement sanction has been effective in restraining price increases. Even if a firm is out of compliance, a number of features of the procurement sanction would still permit the firm to continue doing business with the Government.

--The sanction only applies to that division of the company out of compliance with the standards. Other divisions of the same company may continue to receive Government contracts.

--Contracts for less than $5 million are not affected by the sanction.

--The firm can receive a waiver for reasons of national security, public safety, or extreme urgency.

Considering the limitations on the sanctions available to the Council to encourage compliance with the standards, it is difficult to believe that many firms have felt the necessity of behaving in a way contrary to their own perceived best interest.

OTHER ACTIVITIES OF THE COUNCIL

The public law establishing the Council mandates several activities, among them industry studies, productivity encouragement, the review of Government activities, and regulatory intervention. Since the introduction of the wage and price program in October 1978, only a small fraction of the Council's resources has been devoted to these activities. Twenty-two staff members are assigned to regulatory review activities and none has a primary assignment in the area of productivity. Other activities of the Council are carried out only as adjuncts to the monitoring effort.

RECOMMENDATIONS TO THE CHAIRMAN OF THE COUNCIL ON WAGE AND PRICE STABILITY

We recommend that the Council re-focus its efforts in monitoring inflation and reallocate some of its resources to higher long-term payoff areas. Currently, the Council's highest priority is on short-run measures designed to temporarily restrain increases in prices and wages. We were unable to discover any convincing evidence that the Council has been effective in pursuing this short-run objective. In addition, the Council has devoted a small fraction of its resources to longer-run objectives. We believe its potential for success here is much greater and could benefit substantially from an increase in resources. We believe the Council should place its highest priority on long-run measures to promote economic efficiency by pursuing several initiatives enumerated below.

First, the Council should continue to collect and analyze information about the economy and, where appropriate, about particular industries. Such information can be helpful in many areas of policymaking. The Council's industry contacts should provide a valuable resource in economic policy deliberations.

Second, a greater portion of the Council's resources should be devoted to the study of productivity, including the analysis of current trends and ways in which the Government can have a positive effect on productivity growth.

Finally, the Council should substantially increase the portion of its resources allocated to the review of Federal regulations, programs, and policies. The real contribution the Council has made in this area can be increased by expanding its efforts. Given the size and complexity of both the economy and the Government, it is very important that some group, other than the issuing agency, be involved in the regulatory review process.

RECOMMENDATIONS TO THE CONGRESS

Inflation has been a severe problem throughout the 1970s. The problem persists today and is likely to continue well into the 1980s. We believe that it is important that specific attention be given by the Federal Government to this serious economic problem. We recommend that the Congress reauthorize the Council on Wage and Price Stability for another year to give specific attention to the chronic inflation problem.

In recent testimony before the Congress, a number of experts, including a former Director of the Council on Wage and Price Stability, discussed the possibility of abolishing the voluntary pay and price standards. Most recently, the Council itself, when it requested comment on the extension of the voluntary wage and price program into a third program year, raised the possibility of letting the voluntary standards lapse. Based upon our findings that the Council has had no discernible effect upon inflation, we believe that the Congress should consider alternatives to the present system of voluntary standards.

Some may fear that such a step would be a signal that the Government is no longer serious about ending inflation. If the standards were the only or even the primary policy instrument available to the Government for controlling inflation, this fear might be justified. But the standards are not. The major responsibility for controlling inflation rests with the Federal Reserve System's monetary policy and with Government's fiscal policy. The Council's standards have a supporting role. There is no convincing evidence that they have been effective in this role, and there is no reason to believe that if the program is extended they will become more effective. Not extending the voluntary controls might be seen as a signal of greater realism in the struggle against inflation, rather than an indication that the struggle had been abandoned.

Based upon the findings of this study, we recommend that the Congress re-focus the efforts of the Council to those areas where there are likely to be higher long-term payoffs in the fight against inflation. In particular, we recommend that Congress should have the Council do the following:

--continue to collect and analyze economic data about inflation and industry problems;

--devote resources to the study of productivity; and

--increase the resources devoted to regulatory review.

In devising its anti-inflation program, the Congress needs to consider all the ingredients as part of a package. Monetary and fiscal restraint are essential ingredients of such a package, and the efforts of the Council should complement those two activities. By shifting its efforts to longer-run concerns, we believe that the Council could better contribute to the overall success of the anti-inflation program.

AGENCY COMMENTS

The Council on Wage and Price Stability and the Office of Management and Budget (OMB) formally reviewed a draft of this report. In his letter to us, the Council's Chairman stated that the draft was essentially an ideological polemic against all forms of incomes policy based on the preconception that changes in aggregate demand are the sole determinant of the behavior of the price level.

According to the Chairman, it was inappropriate for us to consider whether the rate of inflation declined in evaluating the effectiveness of the pay and price standards. He believes this is an example of the post hoc ergo propter hoc fallacy. 1/ He describes our discussion of determining the price level through the interaction of aggregate demand and aggregate supply as mistaking tautology for causation. At various other points he characterizes our analyses as casual, sophomoric, and simple-minded. The Chairman's letter to us is in appendix VII.

The Chairman misrepresents our report. At no point do we argue that the Council's standards were destined to fail because incomes policy can not deal with the fundamental causes of inflation. Our discussion of the macroeconomic determinants of the price level referred only to the shortcomings in the Council's preferred measure of inflation, the so-called "underlying rate of inflation." It was not intended nor does it imply that the voluntary pay and price standards were unable to produce an effect on the rate of inflation. Our position is that the standards could have been effective if they overcame certain intractable problems.

The most important of these problems is gaining credibility for the anti-inflation program. As the Chairman has pointed out on a number of occasions, the voluntary pay and price standards can only be effective if the public believes they can. The evidence we reviewed provides no indication that this problem has been solved. Neither the Chairman's letter nor the detailed comments we received from the Council and OMB address this fundamental issue. However, without a strategy to gain credibility, the program's prospects for eventual success are highly doubtful.

1/Literally, "after this, therefore necessarily because of this." To assume causation when two events happen together is to commit this fallacy.

As a result of the Council's comments, subsequent meetings with Council officials, and the comments of our outside reviewers, we modified the title and tone of the report. We revised our statement that the Council's standards had been ineffective to state that we had found no evidence that the standards had been effective.

The detailed comments of the Council are in appendix IX. Our responses are in appendix VIII and at various points throughout the report.

APPENDIX I

NINETY-SIXTH CONGRESS

Congress of the United States

House of Representatives

COMMERCE, CONSUMER, AND MONETARY AFFAIRS
SUBCOMMITTEE
OF THE
COMMITTEE ON GOVERNMENT OPERATIONS

RAYBURN HOUSE OFFICE BUILDING, ROOM B-377
WASHINGTON, D.C. 20515

December 20, 1979

Hon. Elmer B. Staats
Comptroller General
General Accounting Office
441 G Street, N.W.
Washington, D. C. 20548

Dear Mr. Staats:

The subcommittee is continuing its investigation into the administration by the Council on Wage and Price Stability (COWPS), of its price guidelines and related programs pertaining to petroleum and petroleum products. We are aware of your ongoing work concerning COWPS based on several discussions between my staff and the GAO staff. We are interested in that effort and hope that your final report will be available in the summer of 1980 in time for consideration with the renewal of the COWPS legislation in the fall.

The GAO report should fully discuss whether COWPS has been effective in defining, interpreting, monitoring, and enforcing wage and price policies. It should examine how adequate these policies are to stem inflation, and whether COWPS is an organization capable of carrying out its role.

It is especially urgent that GAO look into the effectiveness of the guidelines, regulations, and standards issued by COWPS in limiting the rapid price increases of crude oil and petroleum products. It would serve the needs of the subcommittee if GAO could prepare to testify on the following questions early in the next session, not later than the end of February:

1. Which phases of an oil company's operations are covered by COWPS standards; which are excluded? Can an oil company's operations in other (non-oil) areas be included for reporting purposes under COWPS standards? Are the lack of distinctions or adequate definitions practical in attempting to carry out a wage-price stability program?

2. Are the COWPS guidelines and monitoring of energy firms adequate to identify and contain inflationary pressures brought about by energy firms?

3. How strong is the COWPS commitment to holding down petroleum and petroleum product prices as evidenced by (a) COWPS policy statements, (b) effective guidelines, (c) strict enforcement, (d) timely action, (e) effective communication with the oil companies, (f) imposition of COWPS sanctions, and (g) other indicators?

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4. What alternatives to current COWPS procedures exist that might be more effective in containing inflationary pressures due to energy firms? What are the strengths and weaknesses of these alternative methods?

5. Does the Department of Energy's and COWPS' authority with respect to the pricing of petroleum and its products overlap in words and practice? What are the distinctions between the Department of Energy's and COWPS authority, practice and operations? Compare the effectiveness and omissions of both operations and determine whether it would be advisable to have all such price controls and guidelines centralized in one agency?

If you have any questions, kindly contact subcommittee chief counsel, Herschel F. Clesner.

Sincerely,

Benjamin S. Rosenthal
Chairman

BSR:bb

APPENDIX II

EDWARD M. KENNEDY
MASSACHUSETTS

United States Senate

WASHINGTON, D.C. 20510

June 19, 1980

The Honorable Elmer B. Staats
Comptroller General
General Accounting Office
441 G Street
Washington, D.C. 20548

Dear Mr. Staats:

It has come to my attention that the General Accounting Office is conducting a comprehensive analysis of the activities of the Council on Wage and Price Stability. Several aspects of the Council's work which particularly concern me are, according to conversations at the staff level, not directly addressed by your study in its current form. I, therefore, am requesting that you include answers to the following questions as part of your report on COWPS:

1) What criteria does the Council follow in allocating its resources?

In answering this question, please include the following:

-- A list of all the major activities of the Council.
-- The Council's estimate of the personnel, funds, and other resources assigned to conducting each of those activities.
-- The Council's estimate, if any, of the amount of inflation attributable to the problem addressed by each activity.

2) With respect to the activities of the Council's Regulatory Analysis Review Group in particular, what criteria does this group follow in allocating its resources?

In answering this question, please include the following:

-- A list of all the regulatory proceedings that the Council has targeted for comment, categorized so that one can compare the amount of Council time spent addressing health and safety with the time spent addressing economic regulations (rate-setting, e.g.).

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-- The Council's estimate of the personnel, funds, and other resources assigned to preparing each of these comments.
-- The Council's estimate of the amount of inflation attributable to the regulatory proceeding addressed by each comment.
-- The Council's explanation of why it does not comment on various regulatory decisions that have significant inflationary impacts -- e.g., DOE's gasoline TILT rule, DOE's proposed use of the entitlements system in support of an oil import fee, or DOE's decision to decontrol various categories of oil and gas.

3) Does GAO believe that the Council's criteria for allocating its resources, if any, results in the assignment of the most resources to addressing problems with the most significant inflationary impact?

I strongly believe that a thorough analysis of the Council should include answers to these critical questions. Please contact Mr. Jim Cubie (224-2993) or Mr. David Moulton (same) if you have any questions about this request.

Sincerely,

Edward M. Kennedy

APPENDIX III

STATISTICAL APPENDIX

This appendix describes in detail the econometric techniques employed and discusses the technical problems encountered in attempting to obtain statistical estimates of the effectiveness of the standards. The regression results underlying the discussion in chapter 4 are presented, as well as some additional tables and regression results to further substantiate our claims. A detailed description of the data used in our statistical analysis is also included.

ECONOMETRIC TECHNIQUES

The statistical estimates in chapter 4 are the result of applying ordinary least squares to wage and price equations of the general form given by equations (1) and (2). The principle of ordinary least squares estimation involves estimating the parameters of a linear equation by minimizing the sum of squared deviations of the observed values of the dependent variable from their mean. In simpler terms, this means fitting a line through the observed values of the data to obtain the "best" fit of the relationship between the dependent variable, such as w in equation (1), and the explanatory variables such as U and p^e.

The estimates of the coefficients obtained by ordinary least squares are probabilistic in nature. The equations we are estimating are not mathematical identities or physical laws of nature but rather behavioral economic relations for which some randomness or unpredictability is inherent. Specifically, this means that the relationship embodied in an equation such as (1) is actually:

$$W = a + bU + cp^e + E \qquad (1)$$

where E is an unobservable random disturbance term. Hence, there is a probability distribution associated with each of the estimated coefficients. The statistical inference undertaken in this appendix involves using the estimates of the coefficients along with the estimates of the probability distribution of the coefficients (in particular, the standard error) to determine whether particular coefficients are significantly different from zero, and to provide confidence intervals for the estimated coefficients to indicate the reliability of any given point estimate. Valid statistical inference can only be undertaken if E is truly random and this will not be the case if the systematic part of the

equation is misspecified and/or erroneous data are used. 1/ Thus, when one suspects that there are problems with both specification and data, as with the wage and price equations discussed in chapter 4, one must be cautious in interpreting the results of the statistical analysis.

Testing for the Effectiveness of the Standards

As mentioned in chapter 4, two related techniques are used to test for the standards' effectiveness: the use of a dummy variable designed to pick up the influence of the standards and the simulation of equations estimated with pre-program data for the period in which the standards were in effect. The dummy variable technique involves fitting the relevant wage and price equations by adding an explanatory variable that has a value of zero for all pre-program periods and 1 for all periods during the program. An equation such as (1) would become:

$$W = a + bU + cp^e + dZ \qquad (2)$$

where Z is dummy variable representing the effect of the standards. Technically, the use of the dummy variable to estimate the influence of the Council hypothesizes that the standards shifted the intercept term such as "a" in (2). Thus, if one suspects that the standards may have influenced the magnitude of coefficients other than the intercept, then the dummy variable technique is inappropriate. The interpretation of the sign and magnitude of the coefficient d is that if the standards held down the rate of wage inflation, then d must be negative, and if d is, say, -1.0, then this indicates that the standards have reduced the rate of wage inflation by one percent on average since their inception. The test of whether the standards had any measurable negative effect involves a one-tailed t-test of the hypothesis that the coefficient of the dummy variable is equal to zero. This presupposes that the dummy variable only reflects the influence of the standards, and therefore, the only two meaningful hypotheses are that the coefficient is equal to zero or it is negative. However, as is apparent from tables 3, 4 and regression synopsis 15, the coefficient is at times positive and significant at the 10 percent level using a two-tailed test.

1/This is not a rigorous definition of the conditions under which the regression estimates of the coefficients and standard errors are consistent. Essentially what is required is that the disturbance term must be independently and identically distributed with zero mean and be contemporaneously uncorrelated with the explanatory variables.

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This is not to imply that the standards are responsible for any unexplained acceleration in inflation, but rather that the variable representing the standards may be picking up other influences. This suggests that the appropriate test may be whether there was a significant break (positive or negative) with past behavior. Nevertheless, in our statistical reporting we primarily use a one-tailed test but occasionally report two-tailed test results, when of interest.

The simulation technique involves fitting the relevant wage and price equations with pre-program data and then using the estimated equations to predict the rates of wage and price inflation based on the actual observations of the explanatory variables. By calculating the predicted rates of inflation one may be able to ascertain what would have occurred in the absence of the standards. By comparing the actual versus the predicted rates of inflation, one can obtain a measure of the Council's effectiveness. However, since in general there will be a difference between the actual and predicted rates of inflation, to test whether the standards were effective we must determine whether this difference is significantly different from zero.

A final word of caution is needed in using either the dummy variable technique or the simulation technique. Each is only valid if the original model is properly specified so that insofar as there are missing or mis-specified explanatory variables, the results will be biased.

DATA

All regression results use quarterly time series data. Data were collected for the relevant variables from 1964:2 to 1980:1. The significance of the base date 1964:2 is that the Council in its own econometric investigation estimated its wage equation with data from the interval 1964:2 to 1980:1 and its price equation for the interval 1967:2 to 1980:1. To allow for comparison our regressions are estimated for the same time period. The following alphabetical list of data includes a brief description and source.

Symbol	Definition of Source
CHAHEINDEX	Percentage rate of change in average hourly earnings of production and non-supervisory workers, adjusted for overtime and interindustry shifts in employment (seasonally adjusted except for COWPS equation - Regression Synopsis 1). Bureau of Labor Statistics.

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Symbol	Definition of Sources
CHDEVPROD	Percentage rate of change in the ratio of actual output per manhour to the trend value of output per manhour, using seasonally adjusted data for the private, nonfarm economy. This variable is based on a construction by Robert J. Gordon.
CHFARMPRICES	Percentage rate of change in wholesale price index for farm products (seasonally adjusted). Bureau of Labor Statistics.
CHFUELPRICES	Percentage rate of change in wholesale price index for fuel prices (seasonally adjusted). Bureau of Labor Statistics.
CHMINWAGE	Percentage rate of change in Federal minimum wage. Employment Standards Administration.
CHMORTINTRATE	Percentage rate of change in effective conventional mortgage interest rate (new homes - combined lenders). Federal Home Bank Board (not seasonally adjusted).
CHPC	Percentage rate of change in the implicit price deflator for personal consumption expenditures (seasonally adjusted). Bureau of Economic Analysis.
CHPGDPNF	Percentage rate of change in the implicit price deflator of the gross domestic product-nonfarm business sector (seasonally adjusted). Bureau of Economic Analysis.
CHTRENDULC	Percentage rate of change in standard unit labor costs. Standard unit labor costs are found by dividing a fixed weight gross index of gross wages, including fringe benefits and adjusted for interindustry shifts and overtime by the trend value of output per manhour. This variable is based on a construction by Robert J. Gordon.

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Symbol	Definition of Source
CHULC	Percentage rate of change in the index of unit labor costs for the nonfarm sector (seasonally adjusted). Bureau of Labor Statistics.
CHWCMH	Percentage of change in the ratio of the fixed weight gross wage index to compensation per manhour. This variable is based on a construction by Robert J. Gordon.
DUMMYCOWPS	Dummy variable for the standards (1 for 78:4 to 80:1, 0 otherwise)
Dt	t = 1,2,3. Seasonal dummy variables.
ESP1	Dummy variable for phases 1 and 2 of Economic Stabilization program (1 for 71:3 to 72:4, 0 otherwise)
ESP2	Dummy variable for Phases 3 and 4 of Economic Stabilization Program (1 for 73:1 to 74:2, 0 otherwise)
GUIDEPOSTS	Dummy variable for Kennedy-Johnson guideposts.
INFENERGY	Percentage rate of change in the consumer price index for energy. Bureau of Labor Statistics.
INFUND	Percentage rate of change in the "underlying rate of inflation"-- consumer price index excluding food, energy, used cars, and home purchase, finance, insurance, and taxes. Calculated by Council on Wage and Price Stability.
INVRU	Inverse of the unemployment rate for males, 25 to 54 years of age (seasonally adjusted). Bureau of Labor Statistics.
MPDOT	Percentage rate of change of producer price index for crude materials for further procesing. Bureau of Labor Statistics.

Symbol	Definition of Sources
PDOT	Percentage rate of change in consumer price index (seasonally adjusted). Bureau of Labor Statistics.
POSTCONTROL	Dummy variable for post-Nixon controls catch-up period (1 for 74:3 t0 75:2, 0 otherwise)
RUM25@54	Unemployment rate for males, ages 25 to 54 (seasonally adjusted). Bureau of Labor Statistics.
(UFK/PUFK)	UFK is the ratio of real unfilled orders to capacity in manufacturing and PUFK is the trend value of this ratio. This variable is based on a construction by Robert J. Gordon.
ULC%TR	Percentage rate of change in unit labor costs; i.e., rate of change in average hourly earnings minus the trend rate of increase in productivity. Calculated by the Council on Wage and Price Stability.
UN	Normalized rate of unemployment. This variable is based on a construction by Michael Wachter.

REGRESSION RESULTS

The regression results underlying tables 4-9 and the other estimates reported in chapter 4 are presented and discussed in this section. A few supplementary tables and regression results are included to further substantiate our claims.

COWPS estimate of the effectiveness of the pay standard

The estimates of the effect of the pay standard in table 4 are the result of estimating various wage equations based on slight changes in specification of the wage equation estimated by the Council. The equations are fitted for the interval 1964:2 to 1980:1 with a dummy variable added to each equation designed to pick up the influence of the standards. The relevant regression results are in regression synopses 1-6 (all regression synopses are at the end of the appendix).

APPENDIX III

Regression synopsis 1 reports the results obtained by the Council in its own econometric investigation. In regression synopsis 1, the Council used data that are not seasonally adjusted for its dependent variable, but included seasonal dummies to take account of seasonal effects. It was our hypothesis that the use of seasonally adjusted or not seasonally adjusted data would not matter very much and this seems to be confirmed by our attempt at reproducing the Council's estimates as seen in regression synopsis 2. The estimated coefficients of regression synopses 1 and 2 are very similar and both equations explain about 75 percent of the variation in wage inflation. It is worth noting that the hypothesis that the coefficients of the dummy variable in the two equations are not significantly different from each other is accepted at the 10 percent level.

The signs of almost all of the estimated coefficients in regression synopses 1-6 are as hypothesized and the equations range from 74 to 79 percent in explaining the variation in the rate of change in wages. The Durbin-Watson statistics show no evidence of first order autocorrelation [this statement is true about all of the regression synopses in this appendix (see table 21) and hence will not be repeated].

The objections raised in the text of chapter 4 with regard to the measures of labor market tightness and price expectations used in this specification become clearer upon inspection of the equations and the estimated coefficients. The notion that the rate of change of wages only responds to changes in the rate of unemployment and not to some measure of the level of the unemployment rate itself is not consistent with either economic theory or previous empirical work in this area. It is true that the rate of change of the rate of unemployment has been used in recent research as an explanatory variable in wage equations to account for the clockwise type loops observed in the data but not as the sole measure of labor market tightness. 1/ In addition, the low sum of the coefficients from the polynominal distributed lag used to model price expectations for each of the equations in regressions 1-6 (the sums range from .40 to .52) is not consistent with either recent theoretical or empirical research. This research suggests that the coefficient for price expectations should be much closer to unity. To the extent that

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1/For a discussion of using the rate of change of the unemployment rate is an explanatory variable in wage equations. See J. Seater and A. Santomero, "The Inflation-Unemployment Trade-off: A Critique of the Literature" Journal of Economic Literature (June 1978).

they sum to less than unity, it means that expected inflation is only partially reflected in money wages.

To indicate the precision of the estimates, Table 17 presents 90 percent confidence intervals for the various point estimates of the dummy shown in Table 4. As should be immediately apparent, the confidence intervals are relatively wide which suggests that not too much emphasis should be placed on the actual magnitude of the point estimates. These confidence intervals cast further doubts on the claim that the pay standard directly lowered the rate of wage increase by 1.6 to 1.7 percent. Using the Council's own equation, a claim can be made that the pay standard appeared to have an effect significantly different from zero but how much of an effect remains unclear, given the standard error of their estimate. It should be noted that for the variations on the Council's equation embodied in regressions 3, 5, and 6, the coefficient of the dummy variable is not significantly different from zero at the 5 percent level using a one-tailed test (coefficients from 5 and 6 are not significantly different from zero at the 10 percent level). Using a two-tailed test, the coefficient is not significantly different from zero at the 10 percent level for regressions 3, 5, and 6.

The simulation of the same six specifications as those in regrssions 1-6 resulted in similar findings to those in table 4. The estimated equations used for simulation are reported in regression synopsis 7-12 with regression synopsis 7 being a copy of the equation the Council used for simulation. The average overpredictions from the simulations are summarized in table 8. The Council claims that all of the average overprediction can be attributed to the standards. However, since in general there will always be some difference between the actual and the predicted values due to the random disturbance term, at least part of the overprediction may be due to the variance of the random disturbance.

The pattern of the average overprediction estimates in Table 18 follows that of the dummy variable coefficient estimates in Table 4. With each slight change in specification, the average overprediction diminishes and, in several cases, the average overprediction is essentially zero.

The Council's estimate of the effectiveness of the price standard

The estimates of the direct effects of the price standard as given by the Council are the result of fitting a price equation to the interval 1967:2 to 1980:1. A copy of their

Table 17

Confidence Intervals for Estimates of Table 4

	Point estimate	90% confidence interval
Council's estimate	- 1.6	[-2.68, -.48]
Seasonally adjusted wage index	- 1.43	[-2.5, -.36]
Alternative unemployment measurement: ΔU replaces Δ(1/U)	- 1.07	[-2.15, -.20]
Alternative measures of inflation:		
Personal consumption deflator	- 0.92	[-1.75, -.103]
Gross domestic product of nonfarm business deflator	- 0.31	[-1.11, .48]
Nonfarm business deflator replaces CPI and ΔU replaces Δ(1/U)	- .17	[-.96, .63]

Table 18

Various Estimates of the Effect of the Pay Standard-Simulation Technique

	Average overprediction
Council's estimate	1.72
Variations:	
Seasonally adjusted wage index	1.6
Alternative unemployment measurement: ΔU replaces Δ(1/U)	1.13
Alternative measures of inflation:	
Personal consumption deflator	.95
nonfarm business deflator	.25
Nonfarm business deflator replaces CPI and ΔU replaces Δ(1/U)	.03

regression results is given in regression synopses 13 and 14. The estimate of the coefficient of the dummy variable in regression synopsis 13 is significantly different from zero at the 10 percent level using a one-tailed test.

As mentioned in the text, we found the Council's price equation using their own construction of an "underlying rate of inflation" to have serious problems. 1/ There are certain sectors of the economy which the standards do not cover. The three most important of these are food prices at the farm, mortgage interest rates, and crude oil prices. However, for reasons discussed in chapter 4, we object to the manner in which the Council attempted to "net out" those sectors. Our method is to estimate the direct effect of the price standards on the total CPI rather than some "underlying rate of inflation" and to explicitly allow for the major exceptions to the price standard. The regression results from this analysis are summarized in regression synopses 15 and 16. Our equation is fitted for the interval 1967:2 to 1980:1, the same interval used by the Council, although we did estimate the equations for the longer time period, 1964:2 to 1980:1. These regressions produced similar results. The equation estimated in regression 15 explains 92 percent of the variation in the CPI and, as hypothesized, the farm price, mortgage interest rate, and fuel price variables all have positive and significant coefficients. The coefficient of the dummy variable is positive (it should be negative if the standards were effective) and significant (using a two-tailed test) indicating that the standards had no direct effect on the CPI even after allowance is made for the effects of rising prices in the sectors not covered by them. If anything, this estimate suggests that there is an unexplained acceleration of the rate of inflation during this period. The equation estimated in regression synopsis 16 is used to produce the simulation results in Table 5. The average underprediction in this simulation is 1.8 percent. This again implies that the standards had no direct effect on the CPI.

Before proceeding, it is worth discussing a few of the troubling aspects of the estimates of the Council's price equation and our similar formulation. First and foremost, the hypothesized strong link between unit labor costs and prices that underlies this type of price equation is not confirmed by the estimates. The estimated coefficients for

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1/We also had some difficulty reproducing their "underlying rate of inflation" because it is a variable of their own construction and not available in any published source for the entire period.

the unit labor costs variable in these equations have a range from .11 to .14 while the theoretically hypothesized value is unity. Another distressing aspect of these equations is that the estimates for the constant term are relatively large in magnitude and significant. This is contrary to previous theoretical and empirical research which indicates that the constant term should be close to zero. In total, the link between economic theory and these empirical estimates is weak indicating that, although the fit of both of these equations is good, considerable caution should be used in interpreting the results.

We also examined rates of price increase in individual sectors of the economy by using the D.R.I. macroeconomic model's price equations to estimate the direct effect of the standards on each of the broad components of the producer price index and the personal consumption deflator. The regression results from this analysis do not appear in this appendix because of the number of regression equations involved. However, the results of this analysis are summarized in Tables 6, 7, and 8, and discussed in the text of chapter 4.

Alternative specifications: the wage equation

The regression results for our alternative (and preferred) specification of the wage equation are summarized in regression synopses 17, 18, and 19. Our equation differs from the Council's equation primarily by using a different measure of disequilibrium in the labor market and in the modeling of price expectations. The unemployment variable we use is the difference between the current rate of unemployment for all workers (and the "normal" rate of unemployment adjusted for changes in the demographic composition of the labor force). The normal rate of unemployment is calculated by a procedure that determines the normal rate of unemployment for different subgroups of the population and then aggregates on the basis of actual labor force participation rates. The calculated normal unemployment rate for all groups changes from 4.17 in 1955 to 5.5 in 1980 which is consistent with similar calculations by other economists. Our modeling of price expectations differs from the Council's primarily by increasing the number of periods over which expected inflation is calculated. It has generally been necessary in recent empirical work to allow for long lags if an auto-regressive scheme is used to model price expectations. Other differences between the Council's wage equation and ours include a variable that takes into account the effect of a difference between the rate of change of producer prices and consumer prices (which is expected to have a positive influence on wages) and one that measures the impact of increases in the Federal

minimum wage (which is also expected to exert a positive influence on wages).

The basic equation is that embodied in regression synopsis 17. The estimated equation explains 77 percent of the variation in wage inflation and all coefficients have the hypothesized sign and all are significant. We find a significant relationship between the rate of wage inflation and a more standard measure of disequilibrium in the labor market, and that the estimated coefficient for the price expectations variable is much closer to unity than is the Council's estimate. The actual and fitted rates of wage inflation from this equation are reported in Table 16. They indicate the precision of the equation during the program period and show that the residuals (actual minus fitted) have no pattern that would indicate that a dummy variable is needed to explain the variation in wage inflation during this period. To reinforce this claim, the estimates from regression synopsis 18 indicate that the addition of all of the various incomes policy dummies contribute nothing to the fit of the equation (R-bar squared is equal to .7654 for both equations and the coefficient of the dummy variable representing the standards is not significantly different from zero at the 10 percent level using a one-tailed test). Finally, the results of the simulation of the equation estimated with pre-program standards data are presented in Table 19 (based on equation in regression synopsis 19) and show an average overprediction of only .4 percent. In summary, our estimated wage equation which is closely alined with much of the recent research in this area and which fits the data at least as well as the Council's equation (R-bar squared of .77 for our equation compared to .75 for their equation) shows no direct effect of the pay standards on wage inflation.

Table 19

Actual and Predicted Rules of Wage Inflation, Based on Simulation of Equation in Regression Synopsis 19

	Actual	Predicted
1978:4	8.2	7.8
1979:1	8.5	8.7
1979:2	7.1	8.7
1979:3	8.5	8.5
1979:4	8.5	8.9
1980:1	9.5	10.1

APPENDIX III

Alternative specifications - the price equation

As discussed in Chapters 2 and 4, the arguments used to justify incomes policies rely heavily on the hypothesis that unit labor costs are the main driving force behind prices. Thus, it is surprising that the Council's estimated price equation is one which attributes very little of the variation in prices to changes in unit labor costs. Contrary to this, our alternative price equation is a good representative of the type of price equations whose theoretical underpinnings are based on a markup of prices over unit labor costs.

The regression results from estimating this alternative price equation are summarized in regression synopses 20, 21, and 22. The basic equation is that estimated in regression synopsis 20. The theory behind the basic equation is that the rate of change in prices (in this case the nonfarm business deflator) is primarily a function of standard unit labor costs but is allowed to vary in the short run in response to deviations in productivity from trend levels, changes in demand, changes in the ratio of wage to nonwage compensation and changes in the fuel prices. All but the last variable were included in the original R. Gordon specification. 1/

The estimated coefficients as reported in regression synopsis 20 all have the hypothesized sign and almost all are significantly different from zero at the 10 percent level (the exception being the demand variable UFK/PUFK). A key finding is that the estimated coefficient of standard unit labor costs is .77 which is still less than a complete markup but is considerably closer to one than the corresponding estimate of the Council's equation. Also of importance, the constant term is not significantly different from zero at the 10 percent level.

To test for the effectiveness of the standards, both the dummy variable and simulation techniques are used. The results from regression 21 indicate that the estimated coefficient of the dummy is positive (contrary to the Council's claims) but not significantly different from zero (using a two-tailed test). The simulation results are reported in table 20 (based on regression synopsis 22) and show no consistent pattern either of over- or underprediction. In total, the estimates from this alternative price equation offer no support for the Council's claim that the price standards had a direct effect on inflation.

1/Gordon, R. J., "Inflation in Recession and Recovery," BPEA, 1:1971.

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Table 20

Actual and Predicted Rates of Increase in the Nonfarm Business Deflator, Based on Simulation of Equation in Regression Synopsis 22

	Actual	Predicted
1978:4	7.9	6.3
1979:1	7.7	7.7
1979:2	10.8	9.0
1979:3	8.9	10.1
1979:4	7.5	10.4
1980:1	10.4	11.4

Table 21

Regression Results for Alternative Specifications of the Council's Wage Equation

Part A: Dummy Variable Approach
Quarterly (1964:2 to 1980:1) 64 Observations

	Regression Synopses - Dependent Variable: CHAHEINDEX					
Independent Variable	1	2	3	4	5	6
CONSTANT	4.81 (8.29) a/	4.6 (8.83)	4.75 (9.06)	4.5 (9.56)	4.96 (10.4)	5.0 (10.5)
INVRU - INVRU/1	11.02 (2.65)	10.37 (2.63)	-	8.11 (2.28)	8.33 (2.2)	-
RUM25@54 - RUM25054/1	-	-	-.94 (-2.03)	-	-	-.95 (-2.13)
PDL(PD@T,2, 5,NONE)	.45 (5.1)	.45 (5.2)	.41 (4.7)	-	-	-
PDL(CHPC,2, 5,NONE)	-	-	-	.53 (5.8)	-	-
PDL(CHPGDPNF, 2,5,NONE)	-	-	-	-	.43 (4.98)	.41 (4.76)
GUIDEPOSTS	-1.82 (-3.89)	-1.8 (-4.02)	-1.8 (-3.9)	-1.83 (-4.61)	-2.16 (-5.16)	-2.13 (-5.1)
ESP1	-.04 (-.08)	.027 (.06)	.018 (.04)	-.23 (-.6)	-.09 (-.21)	-.07 (-.16)
ESP2	-1.86 (-3.26)	-1.12 (-2.25)	-.93 (-1.8)	-1.57 (-3.4)	-.85 (-1.94)	-.78 (-1.77)
POSTCONTROL	-.425 (-1.6)	-.35 -.5	.21 (.26)	-.59 (-.81)	-1.12 (-1.48)	-.58 (-.71)
DUMMYCOWPS	-1.58 (-2.37)	-1.43 (-2.2)	-1.07 (-1.61)	-.92 -1.85·	-.31 (-.65)	-.17 (-.34)
D1	.195 (.58)	-	-	-	-	-
D2	-.94 (-2.3)	-	-	-	-	-
D3	-.006 (-.12)	-	-	-	-	-
$\bar{R}^2$	.75	.75	.74	.79	.77	.77
Durbin-Watson	2.08	2.13	2.14	2.32	2.19	2.16

a/t values in parentheses.

APPENDIX III

Table 21 (cont.)

Regression Results for Alternative Specifications of the Council's Wage Equation

Part B: Simulation Approach
Quarterly (1964:2 to 1980:1) 58 Observations

Regression Synopses - Dependent Variable: CHAHEINDEX

Independent variable	7	8	9	10	11	12
CONSTANT	4.55 (7.4)a/	4.37 (7.73)	4.6 (8.04)	4.43 (9.1)	4.96 (10.34)	5.02 (10.48)
INVRO - INVRU/1	10.98 (2.7)	10.77 (2.7)	-	8.3 (2.31)	8.71 (2.3)	-
RUM25@54 - RUM25054/1	-	-	-.97 (-2.03)	-	-	-1.03 (-2.27)
PDL(PD@T,2, 5,NONE)	.49 (5.2)	.49 (5.1)	.43 (4.5)	-	-	-
PDL(CHPC,2, 5,NONE)	-	-	-	.54 (5.78)	-	-
PDL(CHPGOPNF, 2,5,NONE)	-	-	-	-	.43 (4.9)	.40 (4.66)
GUIDEPOSTS	-1.64 (-3.4)	-1.66 (-3.5)	-1.7 (-3.5)	-1.78 (-4.4)	-2.15 (-5.11)	-2.13 (-5.08)
ESP1	-.08 (-.17)	.11 (.24)	.07 (.16)	-.19 (-.5)	-.073 (-.18)	-.06 (-.15)
ESP2	-1.93 (-3.44)	-1.22 (-2.38)	-.97 (-1.86)	-1.67 (-3.55)	-.88 (-2.02)	-.81 (-1.84)
POSTCONTROL	-.42 (-.59)	-.46 -.64	.16 (.19)	-.49 (-.65)	-.95 (-1.24)	-.35 (-.42)
D1	.26 (.73)	-	-	-	-	-
D2	-.89 (-2.43)	-	-	-	-	-
D3	-.08 (-.22)	-	-	-	-	-
$\bar{R}^2$	.75	.74	.75	.78	.76	.76
Durbin-Watson	2.02	2.09	2.11	2.3	2.24	2.21

a/t values in parentheses.

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Table 22

The Council's Price Equation

Regression Synopses - Dependent Variable: CHAHEINDEX

Independent variable	13 Quarterly (1964:2 to 1980:1) 64 Observations	14 Quarterly 1964:2 to 1978:3) 58 Observations
CONSTANT	5.13 (14.9) a/	5.25 (16.08)
PDL(NPDOT, 2,7,NONE)	.11 (3.91)	.09 (3.08)
INFENERGY/1	-.001 (-.13)	.017 (1.63)
INFENERGY/2	.039 (4.64)	.042 (4.3)
INFENERGY/3	.012 (1.32)	.015 (1.52)
ULCETR	.14 (2.9)	.12 (2.6)
ESP1	-2.76 (-6.74)	-2.74 (-7.15)
ESP2	-4.58 (-4.81)	-4.37 (-4.73)
POSTCONTROL	.30 (.51)	.39 (.68)
DUMMYCOWPS	-.81 (-1.69)	-
D1	-1.83 (-6.47)	-1.89 (-6.68)
D2	-.51 (-1.6)	-.61 (-2.0)
D3	-1.84 (-6.01)	-1.85 (-6.11)
$\bar{R}^2$	.92	.93
Durbin-Watson	1.80	1.84

a/t values in parentheses.

Table 23

Regression Results for Percentage Changes in the Consumer Price Index

Independent variable	Regression Synopses 15 Quarterly (1967:2 to 1980:1) 52 Observations	16 Quarterly (1967:2 to 1978:3 46 Observations
CONSTANT	3.42 (10.47) a/	3.50 (10.45)
CHULC	0.14 (3.03)	0.11 (2.02)
CHMORTINTRATE 1	0.055 (3.26)	0.056 (3.06)
PDL(CHFARMPRICES, 1,4,NONE)	0.081 (3.39)	0.09 (3.65)
PDL(CHFUELPRICES, 1,8,NONE)	0.16 (9.09)	0.17 (7.61)
ESP1	-2.08 (-4.34)	-2.21 (-4.56)
ESP2	-2.58 (-2.35)	-3.00 (-2.67)
POSTCONTROL	-2.05 (-2.68)	-2.32 (-2.64)
DUMMYCOWPS	2.07 (3.18)	
$\bar{R}^2$	0.92	0.87
Durbin-Watson	2.04	1.94

a/t values in parentheses.

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Table 24

Regression Results for Percentage Changes in Wages

Independent variable	Regression Synopses 17 Quarterly (1964:2 to 1980:1) 64 Observations	18 Quarterly (1964:2 to 1980:1) 64 Observations	19 Quarterly (1964:2 to 1978:3) 58 Observations
CONSTANT	2.53 (7.24) a/	3.51 (3.94)	3.61 (3.88)
UN-RU	0.77 (4.65)	0.65 (2.39)	0.65 (2.32)
PDL(PDOT 1, 4,16,NONE)	0.85 (10.49)	0.67 (3.98)	0.66 (3.75)
CHPGDPNF-PDOT	0.13 (2.15)	0.10 (1.37)	0.12 (1.42)
CHMINWAGE	0.014 (2.16)	0.016 (2.42)	0.016 (2.12)
GUIDEPOSTS		-0.88 (-1.37)	-0.95 (-1.42)
ESP1		-0.073 (-0.169)	-0.11 (-0.24)
ESP2		0.087 (0.164)	0.19 (0.34)
POSTCONTROL		0.87 (1.05)	0.93 (1.03)
DUMMYCOWPS		0.16 (0.24)	
$\bar{R}^2$	0.77	0.77	0.75
Durbin-Watson	2.09	2.32	2.32

a/t values in parentheses.

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Table 25

Regression Results for Percentage Changes in the Implicit Price Deflator of the Gross Domestic Product - Nonfarm Business Sector

Independent variable	Regression Synopses 20 Quarterly (1964:2 to 1980:1) 64 Observations	21 Quarterly (1964:2 to 1980:1) 64 Observations	22 Quarterly (1964:2 to 1978:3) 58 Observations
CONSTANT	0.74 (1.39)	0.45 (0.33)	0.71 (0.49)
PDL(CHTRENDULC, 4, 9 FAR)	0.77 (5.87)	0.85 (3.14)	0.74 (2.43)
PDL(CHDEVPROD, 4, 7, FAR)	-0.64 (-4.26)	-0.63 (-2.85)	-0.61 (-2.65)
CH(UFK/PUFK)	0.006 (0.28)	-0.008 (-0.25)	-0.011 (-2.65)
CHWCMH	-0.71 (-2.40)	-0.46 (-1.08)	-0.059 (-1.26)
PDL(CHFUEL PRICES, 1, 4, NONE)	0.042 (1.83)	0.024 (0.74)	0.072 (1.18)
GUIDEPOSTS		0.88 (0.64)	0.48 (0.33)
ESP1		-0.71 (-0.81)	-0.51 (-0.53)
ESP2		1.87 (0.96)	0.63 (0.26)
POSTCONTROL		-1.03 (-0.56)	-2.15 (-0.92)
DUMMYCOWPS		0.70 (0.53)	
$\bar{R}^2$	0.78	0.77	0.75
Durbin-Watson	2.54	2.43	2.51

a/t values in parentheses.

THE COUNCIL ON WAGE AND PRICE STABILITY ACT, AS AMENDED, 12 U.S.C.A. 1904 NOTE

Sec. 1 That this Act may be cited as the "Council on Wage and Price Stability Act."

Sec. 2(a) The President is authorized to establish, within the Executive Office of the President, a Council on Wage and Price Stability (hereinafter referred to as the "Council").

(b) The Council shall consist of eight members appointed by the President and four adviser-members also appointed by the President. The Chairman of the Council shall be designated by the President.

(c) There shall be a Director of the Council who shall be appointed by the President by and with the advice and consent of the Senate. The Director shall be compensated at the rate prescribed for level IV of the Executive Schedule by section 5315 of title 5, United States Code. The Director of the Council shall perform such functions as the President or the Chairman of the Council may prescribe. The Deputy Director shall perform such functions as the Chairman or Director of the Council may prescribe.

(d) The Director of the Council may employ and fix the compensation of such officers and employees, including attorneys, as are necessary to perform the functions of the Council at rates not to exceed the highest rate for grade 15 of the General Schedule under section 5332 of title 5, United States Code. Except that the Director, with the approval of the Chairman may, without regard to the provisions of title 5, United States Code, relating to appointments in the competitive service, appoint and fix the compensation of not to exceed five positions at the rates provided for grades 16, 17, and 18 of such General Schedule, to carry out the functions of the Council.

(e) The Director of the Council may employ experts, expert witnesses, and consultants in accordance with the provisions of section 3109 of title 5, United States Code, and compensate them at rates not in excess of the maximum daily rate prescribed for grade 18 of the General Schedule under section 5332 of title 5, United States Code.

(f) The Director of the Council may, with their consent, utilize the services, personnel, equipment and facilities of Federal, State, regional, and local public agencies and instrumentalities, with or without reimbursement therefor, and may transfer funds made available pursuant to this

Act to Federal, State, regional, and local public agencies and instrumentalities as reimbursement for utilization of such services, personnel, equipment, and facilities.

(g) The Council shall have the authority, for any purpose related to this Act, to --

(1) require periodic reports for the submission or information maintained in the ordinary course of business; and

(2) issue subpoenas signed by the Chairman or the Director for the attendance and testimony of witnesses and the production of relevant books, papers, and other documents, only to entities whose annual gross revenues are in excess of $5,000,000;

relating to wages, costs, productivity, prices, sales, profits, imports, and exports by product line or by such other categories as the Council may prescribe. The Council shall have the authority to administer oaths to witnesses. Witnesses summoned under the provisions of this section shall be paid the same fees and mileage as are paid to witnesses in the courts of the United States. In case of refusal to obey a subpoena served upon any person under the provisions of this section, the Council may request the Attorney General to seek the aid of the United States district court of any district in which such person is found, to compel that person, after notice, to appear and give testimony, or to appear and produce documents before the Council.

Section 3 (a) The Council shall --

(1) review and analyze industrial capacity, demand, supply, and the effect of economic concentration and anticompetitive practices, and supply in various sectors of the economy, working with the industrial groups concerned and appropriate governmental agencies to encourage price restraint;

(2) work with labor and management in the various sectors of the economy having special economic problems, as well as with appropriate government agencies, to improve the structure of collective bargaining and the performance of those sectors in restraining prices;

(3) improve wage and price data bases for the various sectors of the economy to improve collective bargaining and encourage price restraint;

APPENDIX IV

(4) conduct public hearings necessary to provide for public scrutiny of inflationary problems in various sectors of the economy for the purpose of controlling inflation;

(5) focus attention on the need to increase productivity in both the public and private sectors of the economy, focus attention on the need to move toward full employment and take into consideration the need to stimulate productivity in monitoring wages and prices to determine compliance with promulgated standards;

(6) monitor the economy as a whole by acquiring as appropriate, reports on wages, costs, productivity, prices, sales, profits, imports, and exports;

(7) review and appraise the various programs, policies, and activities of the departments and agencies of the United States for the purpose of determining the extent to which those programs and activities are contributing to inflation;

(8) intervene and otherwise participate on its own behalf in rulemarking, ratemaking, licensing and other proceedings before any of the departments and agencies of the United States, in order to present its views as to the inflationary impact that might result from the possible outcomes of such proceedings; and

(9) review information about and analyze the effects on the United States economy of --

(A) the participation of the United States in international trade and commerce;

(B) the changing patterns of supplies and prices of commodities in the world market;

(C) the investment of United States capital in foreign countries;

(D) short- and long-term weather changes in the world;

(E) interest rates;

(F) capital formation; and

(G) the changing patterns of world energy supplies and prices.

(b) Nothing in this Act, (1) authorizes the continuation, imposition, or reimposition of any mandatory economic controls with respect to prices, rents, wages, salaries, corporate dividends, or any similar transfers, or (2) affects the authority conferred by the Emergency Petroleum Allocation Act of 1973.

(c) The Council is directed to review its policies with respect to the national interest in promoting greater productivity growth and shall submit a report of its findings and recommendations to the Congress by July 1, 1979. Such review shall include, but not be limited to, the need for flexibility in determining compliance with pay and price standards based upon documentable productivity gains resulting from improved efficiency of the workforce.

Section 4 (a) Any department or agency of the United States which collects, generates, or otherwise prepares or maintains data or information pertaining to the economy or any sector of the economy shall, upon the request of the Chairman of the Council, make that data or information available to the Council.

(b) Disclosure of information obtained by the Council from sources other than Federal, State, or local government agencies and departments shall be in accordance with the provisions of section 552 of title 5, United States Code.

(c) Disclosure by the Council of information obtained from a Federal, State, or local agency or department must be in accord with section 552 of title 5, United States Code, and all the applicable rules of practice and procedure of the agency or department from which the information was obtained.

(d) Disclosure by a member or any employee of the Council of the confidential information as defined in section 1905 of title 18, United States Code, shall be a violation of the criminal code as stated therein.

(e) Consistent with the provisions of section 7213 of the Internal Revenue Code of 1954, nothing in this Act shall be construed as providing for or authorizing any Federal agency to divulge or to make known to the Council the amount or source of income, profits, losses, expenditures, or any particular thereof, set forth or disclosed solely to the provisions of the Internal Revenue Code of 1954, thereof, to be seen or examined by the Council.

(f)(1) Product line or other category information relating to an individual firm or person and obtained under section 2(g) or submitted voluntarily pursuant to a Council request and judged by the Council to be confidential information shall be considered as confidential financial information under section 552(b)(4) of title 5 of the United States Code. Neither the Director nor any member of the Council may permit anyone other than sworn officers, members, and employees of the Council to examine such data.

(2) Periodic reports obtained by the Council under section 2(g) or submitted voluntarily pursuant to a Council request and copies thereof which are retained by the reporting firm or person shall be immune from legal process.

Section 5. The Council shall report to the President and through him to the Congress, on a quarterly basis and not later than thirty days after the close of each calendar quarter, concerning its activities, findings and recommendations with respect to the containment of inflation and the maintenance of a vigorous and prosperous peacetime economy.

Section 6. There is authorized to be appropriated to carry out the provisions of this Act not to exceed --

(1) $6,952,000 for the fiscal year ending September 30, 1979; and

(2) $8,483,000 for the fiscal year ending September 30, 1980.

Section 7. The authority granted by this Act terminates on September 30, 1980.

Section 8. Notwithstanding any other provision of this Act, no payment under this Act may be made except to such extent, or in such amounts, as are provided in advance in appropriation Acts.

INFORMATIONAL LISTING OF THE COUNCIL'S REGULATORY INVERVENTIONS JANUARY 1979 TO JUNE 1980

Subject	Date	Estimated compliance cost a/
AGRICULTURE		
Council submits comments to U.S. Department of Agriculture on reconstituted milk	2/29/80	D
COMMUNICATIONS		
Council comments on Federal Communications Commission's cable television rules (number 341)	10/05/70	C
Council submits comments to Federal Communications Commission on non-dominant common carriers	2/14/80	C
Council submits comments to Federal Communications Commission on radio deregulation	3/25/80	A
Council submits comments to Federal Communications Commission on cellular mobile communications	5/01/80	B
ENERGY		
Council endorsed Department of Energy plan to reduce the $1.1 billion in Federal subsidies now paid to small petroleum refiners	2/05/79	$1.1 billion
Council submits a staff report to Department of the Interior on the proposed coal management program	5/19/80	A
Letter to Tennessee Valley Authority on electricity rates	6/13/79	A
Council comments to Department of Energy on the residential conservation service program	9/04/79	$2.5 billion over 5 years

Subject	Date	Estimated compliance cost a/
ENERGY (cont.)		
Council comments to Federal Energy Regulatory Commission on integrating incremental pricing and curtailment policies	9/05/79	A
Council comments to incentives for producing natural gas	10/15/79	D
Council opposes extra entitlement benefits	10/26/79	$100 million
Letter to Department of the Interior on coal lease target for Green River Area	11/08/79	D
Council comments to Department of Energy on sequential bidding system for outer continental shelf oil and gas	11/14/79	A
Letter to Department of Energy on importation of LNG by Columbia LNG Corporation	11/24/79	A
Letter to Department of Energy on gasoline pricing rules for resellers and resellers-retailers	2/01/79	$2.0 to 2.4 billion
Letter to Federal Energy Regulatory Commission on incremental pricing for industrial users of natural gas	3/07/80	A
Council submits comments to Department of Energy on proposed profit-sharing bidding system for outer continental shelf oil and gas leases	3/07/80	A
ENVIRONMENT		
Council opposes a "local coal" determination by Environmental Protection Agency for Ohio coal under section 125 of the Clean Air Act	2/26/79	B

APPENDIX V

Subject	Date	Estimated compliance cost a/
ENVIRONMENT (cont.)		
Council submits to Environmental Protection Agency comments on the proposed "Bubble Concept" for controlling air pollution	3/23/79	A
Council submits staff report to Environmental Protection Agency on premanufacture notification requirements	3/26/79	D
Council comments on proposed diesel particulates regulation	4/19/79	$86 to $237 million
Council comments on Environmental Protection Agency's proposed water quality criteria	6/13/79	A
Council comments on Environmental Protection Agency's proposed heavy-duty truck emission standards	6/29/79	$2.5 billion
Council comments on proposed railroad noise standards	7/02/79	$118 billion
Staff report on economic incentives in the control of air pollution	8/30/79	A
Council comments to Department of Interior on areas of critical environmental concern	9/05/79	D
Council comments to Environmental Protection Agency injection control program	9/12/79	$800 million over 5 years
Council submits letter to Environmental Protection Agency on light-duty truck emission standards	10/10/79	$1.97 billion
Council comments to Environmental Protection Agency on Ohio's water quality standards	10/19/79	A

Subject	Date	Estimated compliance cost a/
ENVIRONMENT (cont.)		
Letter to Department of the Interior on sediment control at coal mines	11/19/79	B
Letter to Environmental Protection Agency on toxic effluent standards for timber processing plants	2/15/80	D
Letter to Environmental Protection Agency on toxic effluent standards for textile mills	2/15/80	$126 million
Council submits comments to U.S. Department of Agriculture on the proposed watershed protection program	2/19/80	D
Letter to Environmental Protection Agency on toxic effluent standards for ink formulating industry	3/31/80	D
Letter to Environmental Protection Agency on toxic effluent standards for the petroluem refining industry	4/19/80	$186.1 million
Council submits comments to Environmental Protection Agency on listing of ammonia as a toxic pollutant	6/03/80	B
FINANCIAL		
Council submits to the Federal Home Loan Bank board comments on a proposal to allow statewide bank branching	3/16/79	C
Council comments on Federal Reserve Bank, Federal Deposit Insurance Corporation, and Federal Home Loan Bank board proposals to create new deposit categories	5/04/79	C
Letter to Department of Labor on proposed definition of plan asset under Employee Retirement Income Security Act of 1974	2/27/80	D

Subject	Date	Estimated compliance cost a/
INTERNATIONAL TRADE		
Council Comments to International Trade Commission regarding carbon steel plate from Poland	6/04/79	C
Council submits comments to the International Trade Commission on dumping of steel by European producers	4/23/80	A
TRANSPORTATION		
Council filing before the Interstate Commerce Commission on new procedures in motor carrier revenue proceedings	1/26/79	C
Council supports efforts by Interstate Commerce Commission to relax its standards for entry into trucking and intercity bus industries	2/05/79	C
Council comment before the Interstate Commerce Commission on upward rate flexibility for intercity buses	2/16/79	C
Council comments on proposed truck rate increases	3/20/79	C
Council comments on Interstate Commerce Commission's expedited procedures for recovery of fuel costs	5/17/79	D
Council protests additional charges by steel carriers tariff association	5/21/79	C
Council supports proposal to expand bus service	6/13/79	C
Council comments on railroad car service orders	7/02/79	C
Council comments to Interstate Commerce Commission on railroad, truck, and bus industry rate increases	9/12/79	C

Subject	Date	Estimated compliance cost a/
TRANSPORTATION (cont.)		
Council comments to Interstate Commerce Commission on bus fare flexibility	9/20/79	C
Council comments to the Interstate Commerce Commission on revenue need standards for the motor carrier industry	11/19/80	C
Council submits comments to Interstate Commerce Commission on bus entry	1/07/80	C
Council submits comments to Interstate Commerce Commission on the entry of a second rail carrier into the Powder River Area	1/21/80	C
Council submits comments to Interstate Commerce Commission on incentive per diem charges for box cars and gondolas	2/11/80	C
Council submits comments to Federal Aviation Administration on aircraft/airport security requirements	2/11/80	D
Council submits comments to the Interstate Commerce Commission on market dominance for railroads	4/02/80	C
Council submits comments to the Interstate Commerce Commission on seasonal or regional rate flexibility for railroads	4/21/80	C
Council submits comments to the Interstate Commerce Commision on direct-route authority for motor carriers	4/24/80	C

APPENDIX V

Subject	Date	Estimated compliance cost a/
PRODUCT SAFETY AND QUALITY		
Letter to National Highway Traffic Safety Administration on bumper standard	1/25/80	A
OTHER		
Council comments on the Postal Service's classification of extremely urgent letters	8/10/79	C
Council comments to Federal Trade Commission on alternative forms of price advertising	8/29/79	C
Council comments to health and human services on day care	9/21/79	$96 million
Council submits comments to Department of Labor on proposed nondiscrimination on the basis of handicaps	3/04/80	$128 million
Letter to the Department of Energy on improving their implementation of Executive Order 12044	4/25/80	D
Council sends letters to Federal Trade Commission on medical prepayment plans	5/19/80	D

a/The estimated compliance costs were not available for many of the regulatory interventions listed above. For those regulations which are not accompanied by a cost figure, the Council's main reason for intervention is indicated by the appropriate letter which can be interpreted as follows:

APPENDIX V

A = actual figures were not available; however, compliance costs are estimated to exceed $100 million.

B = the regulation sets a noteworthy precedent which will influence subsequent rulemakings.

C = the regulation involved barriers to competition, such as rate and entry restrictions.

D = the regulation had other problems such as effects on productivity, inadequacies in the agency's cost-benefit analysis, or a large impact on a certain industry.

INFORMATIONAL LISTING OF THE REGULATORY ANALYSIS REVIEW GROUP'S INTERVENTIONS JANUARY 1979 TO JUNE 1980

Subject	Date	Estimated compliance cost
ENERGY		
Department of Energy's proposed regulations to implement the Powerplant and Industrial Fuel Use Act of 1978	3/12/79	$1.2-$1.6 billion
Department of Energy's interim rules to implement the Powerplant and Industrial Fuel Use Act of 1978	10/31/79	$1.2-$1.6 billion
National Highway Traffic Safety Administration's proposed light truck average fuel economy standards for model years 1983-93	3/31/80	$3.9-$4.8 billion
Department of Energy's energy performance standards for new buildings	4/30/80	A a/
ENVIRONMENT		
Environmental Protection Agency's proposal for the revision of the new source performance standards for electric utility steam generating units	1/15/79	$3.3 billion
Environmental Protection Agency's proposed hazardous waste guidelines and regulations	3/16/79	$900 million
Environmental Protection Agency's proposed policy and procedures for identifying, assessing, and regulating airborne substances posing a risk of cancer	2/21/80	A a/

a/Actual figures were not available; however, compliance cost is estimated to exceed $100 million.

APPENDIX VI

Subject	Date	Estimated compliance cost
ENVIRONMENT (cont.)		
Environmental Protection Agency's proposed effluent limitation guidelines for the leather tanning and finishing industry	2/25/80	$99 million
PRODUCT SAFETY AND QUALITY		
Food and Drug Administration's proposed rules for patient labeling requirements for prescription drugs	11/05/79	$90 million

EXECUTIVE OFFICE OF THE PRESIDENT
COUNCIL ON WAGE AND PRICE STABILITY
WINDER BUILDING, 600 - 17TH STREET, NW.
WASHINGTON, D.C. 20506

SEP 15 1980

Dear Mr. Staats:

I regret to say that the draft GAO report, "The Pay and Price Standards of the Council on Wage and Price Stability Have Been Ineffective in Controlling Inflation," is, essentially an ideological polemic against any and all incomes policies, on principle, rather than an objective analysis of the effectiveness of the President's present standards or of CWPS' administration of them, in terms of what they were designed to accomplish.

The principal theme of the report is that no incomes policy has ever worked or can ever be successful. The review of the mixed evidence on our recent experience is clearly dominated by this ideological preconception, and the review of foreign experience, leading to a similar dismissal, can be described only as casual.

I recognize that opposition to incomes policies is a perfectly defensible intellectual position; many economists, particularly monetarists, share the views expressed in this paper. Many other economists, however, have a different view. Since econometric evidence in this area is typically inconclusive, these controversies tend to be resolved on the basis more of conjecture than demonstrable fact. What is disturbing is that the GAO report represents so clearly and essentially the adoption of a particular set of preconceptions, representing the position of one segment of the economics profession, and tthat this predisposition has precluded a fair characterization of what the standards might reasonably have been expected to accomplish, let alone an objective appraisal of their success or failure.

Note A

In our attached comments we address ourselves to the details of the argument and the draft's assessment of the evidence. In this covering letter, I want to document briefly the foregoing summary judgments.

The most obvious reflection of these preconceptions is the persistence with which the draft repeats the simple question:

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*Note is in appendix VIII.

"did the rate of inflation diminish after institution of the standards?" and the associated proposition that if it did not, then clearly the standards were a failure. The report periodically recognizes that the only pertinent question is how prices behaved under the program as compared with how they would have behaved in the program's absence. But the persistent return to the initial refrain is unmistakable evidence of an underlying post hoc ergo propter hoc fallacy.

That this is not accidental is demonstrated even more conclusively by the theoretical discussion of the proper measure and significance of the underlying rate of inflation, on pp. 3-11-15, and the dismissal of the Council's overview that the program's success is properly measured against the behavior of a portion of the general price level. That discussion begins with the undeniable assertion that the behavior of individual prices depends not merely on the changes in conditions of demand and supply for those individual products, "but also on the macroeconomic trends that affect all prices equally." (3-11) That "affect" in this context means "cause" or "determine" is demonstrated by the restatement of the propositon on the next page: "The fundamental point is that the average rate of price inflation is largely determined by macroeconomic trends" (stress supplied), and the summary conclusion: "If the standards have not lowered the overall rate of inflation as measured, necessarily, by a broad-based index of prices, then they have not been effective" (3-13). So we are returned to the simple post hoc ergo propter hoc fallacy.

More important, this reasoning simply mistakes tautology for causation:

> "The rate of inflaton is equal to the difference between the rate at which total spending is rising and the rate of increase in the total output of goods and services. From the third quarter of 1978 through the first quarter of 1980, total spending in the United States grew at an average yearly rate of 10.9 percent. This growth far exceeded the economy's capacity to increase its total output of goods and services. Inflation was inevitable." (3-11, stress supplied)

My point here is not to argue with the view that changes in aggregate demand are the primary causal determinant of the behavior of the price level: the President's anti-inflation program is based on that same premises. What I do quarrel with is the flat assertion, based on the foregoing reasoning, that they are sole determinant, and that incomes policies, directed at only some prices and not others, are irrelevant.

The relation between total spending and the value of total sales in the economy is a sheer tautology; they are different ways of looking at the same phenomenon. There is no question that to the extent an increase in spending exceeds an increase in

the physical quantum of sales, the difference must be the measure of changes in average prices. When the first exceeds the second, it means that average prices have increased by definition. It does not mean that "inflation is inevitable" -- in the sense that whenever it occurs it is always caused exclusively by increases in total spending exceeding the economy's capacity to supply.

Reasoning by that tautology automatically, and by definition, excludes the possibility that the behavior of individual prices -- under the influence of such exogenous shocks as the Iran revolution or bad harvests, or as a result of increases in wages that can not possibly be explained purely in terms of changes in competitive market conditions (like the increase in the wages of steel workers when steel unemployment was mounting rapidly) -- could have a causal influence on the general price level -- by definition, because what happens to total spending is, by this reasoning, a complete and sufficient "determinant."

Incomes policies are premised on the view -- which the foregoing, simple-minded reasoning is incapable of refuting -- that micro-behavior also has a causal influence; that in imperfectly competitive markets wage and price policies can have an effect on the way in which a given increase in total spending is distributed between increases in aggregate output and in average prices. To take a specific example, one cannot explain the increase in the wages either of teamsters, automobile or steel workers or of all workers taken together in 1980 on the basis of a discrepancy (see the quotation from p. 3-11, above) between the rate of growth of total spending and "the economy's capacity to increase its total output of goods and services."

The notion that a sufficiently restrictive macroeconomic policy could force other wages and prices down enough to offset such administered micro-increases is not incorrect, but simply ignores the costs of such measures -- which are the reason for attempting instead to influence those micro-decisions. And the report's simple-minded dismissal of the possible contribution of the standards to improving the terms of the trade-off between those costs and inflation control -- the Phillips curve -- by simply pointing out that in 1980 inflation abatement was accompanied by an increase in unemployment (pp 3-16-17) is as sophomoric as the post hoc delinquency I have already described.

The report is filled with remarks that betray an approach to this appraisal on the basic of preconception. I offer the following gratuitous observation as only one example among many:

> "if restraint occurred, surely its consequences were preverse, since the evidence that the price standard failed to moderate the cost of living is overwhelming. The goals of the Council's standards surely do not include a declining real wage for the American worker. Yet, if the Council's

estimates are valid, that is what they have accomplished." (4-32, stress supplied)

True, it is not a direct goal of the standards to reduce real wages. On the other hand, an explicit goal of the standards is to leave unaltered, in so far as possible, the distribution of national income among various claimants. In a period in which real national income declines, perforce, because of sharp increases in the price of imported oil and a decline in per capita productivity, it is indeed a goal of the standards to attempt to ensure a fair sharing of that decline. There is nothing "perverse" about a pay standard that attempts to prevent particular groups of workers from successfully recouping in wages the real increases in the price of oil: that increased real cost is one that all Americans must and should share, and success of any one group in avoiding that burden only means a proportionately greater burden -- via inflation -- on the rest of us.

Sincerely,

Alfred E. Kahn
Chairman

Enclosure

Mr. Elmer B. Staats
Comptroller General of the United States
General Accounting Office
441 G Street, N. W.
Washington, D. C. 20548

EXECUTIVE OFFICE OF THE PRESIDENT
COUNCIL ON WAGE AND PRICE STABILITY
WINDER BUILDING, 600 - 17TH STREET, NW.
WASHINGTON, D.C. 20506

SEP 15 1980

Morton A. Myers
Director
Program Analysis Division
United States General Accounting Office
Washington, D. C. 20548

Dear Mr. Myers:

Please find enclosed four copies of the Council's comments on the draft of GAO's proposed report to the Congress on the voluntary wage and price standards program and Chairman Kahn's cover letter to Comptroller General Staats. The original has been delivered to Mr. Staats.

Our comments mainly are limited to a general critique of the analytical approach of the draft report; we have not attempted to note every statement that raises questions or concerns. We believe that it would be useful for our staffs to meet as soon as possible to discuss the details of the report and to explore further our general criticism.

Please feel free to contact me if you have any questions or reactions to our comments. I appreciate your consideration in extending our deadline for commenting on the draft.

Sincerely,

R. Robert Russell
Director

Enclosures

COUNCIL ON WAGE AND PRICE STABILITY

COMMENTS ON GAO DRAFT REPORT,

"THE PAY AND PRICE STANDARDS OF THE

COUNCIL ON WAGE AND PRICE STABILITY

HAVE BEEN INEFFECTIVE IN CONTROLLING INFLATION"

The GAO report does not represent a balanced and objective assessment of the effectiveness of the Council's voluntary pay and price standards. Since the report is quite long and repetitive, we will restrict our comments to its major themes, using illustrative examples, and will not refer to each point in the text where we disagree with a particular argument. Our disagreements with the report are both general and specific; however, we believe that the most efficient way to explore specific problems is through a meeting with the staff, in which we can discuss individual passages or sentences.

Note B*

1. Overview. The most basic problem with the report is its obvious bias against the potential effectiveness of any incomes policies. Its fundamental premise -- that the average price level is determined solely by aggregate demand -- guarantees the conclusion that the standards programs is ineffective in restraining inflation, and that, if it has any effect, it would only influence relative prices (and hence can only cause distortions in the economy). This contention embraces -- without serious justification -- one side of a debatable issue in the economics profession and ignores the substantial body of literature pertaining to this debate.

This preconception might account for the fact that the first two of the three criteria used to assess the effect of the program are specious. It might also account for the report's misrepresentation of Council objectives: it misconstrues the Administration's position with respect to the relationship of the voluntary pay/price standards of fiscal and monetary policy -- as complements rather than as substitutes; it overstates the Council's goals -- a modest improvement in the inflation rate and a modest change in the Phillips curve tradeoff (rather than its avoidance); and it ignores the numerous caveats pertaining to the achievement of the Council's objectives -- for example, the absence of extreme shocks to the economy. It also misunderstands the Council's rationale for using the underlying rate of inflation to gauge the program's effect on prices.

*Notes are in appendix VIII; page numbers refer to the text of our report.

The report shows that the Council's preliminary econometric results on the effect of the program are sensitive to minor and reasonable changes in specification -- at least with respect to magnitude. We have shown, on the other hand, that GAO's conclusion of no effect is also not robust -- with respect to both magnitude and sign. These sensitivity analyses reflect the general problem of nonrobustness of estimated wage and price equations.

Finally, the report's discussion of the design and administration of the standards program is at best superficial.

2. Failure to Justify the Basic Supposition.

The supposition that the average price level is determined solely by aggregate demand implies that incomes policies can affect relative prices but will necessarily be ineffective in restraining inflation. The report doesn't even discuss the economic literature supporting the view that microeconomic behavior and events can affect the distribution of aggregate-demand changes between changes in output and changes in prices. Nor does it consider the extent to which fiscal and monetary policies respond to microeconomic forces. The views espoused in this literature provide a rationale for incomes policies, since such policies may affect microeconomic behavior. Both this position and GAO's are defensible, but neither should be used as the principal basis for evaluating this program without providing a compelling reason for adopting it to the exclusion of the other. Nevertheless, GAO's defense of this argument -- and hence the bulk of its report -- rests essentially on a single table (Table 2-1) that presents numbers on the annual growth in the money supply, the average ratio of the federal budget deficit to GNP, and the average annual increase in the CPI for the periods 1939-52, 1953-65, and 1966-79. Without raising some obvious questions about whether this table even supports this conclusion, we simply note that the pretense that these nine numbers demonstrate that aggregate demand polices are the sole determinants of inflation can only be termed sophomoric.

Note B*

3. GAO's Criteria. The three questions used in evaluating the pay and price standards are repeated throughout the report and serve as the basis for the analysis. The first question -- whether inflation declined -- is overly simplistic, since it ignores the fact that the inflation rate is affected by myriad factors other than the standards. If, for example, world oil prices had plummeted rather than escalated, the U.S. inflation rate might have declined irrespective of any beneficial effect of the standards. The valid question is

pp. 30-33*

*Notes are in appendix VIII; page numbers refer to the text of our report.

whether the inflation rate was lower than it would have been in the absence of the standards program. This question can be answered only by statistical inference -- by building econometric models; this is the content of GAO's third question (which is never raised in assessing the sample of foreign incomes policies in Chapter 5).

The second question -- whether the inflation/unemployment tradeoff has been avoided -- is unduly demanding. No sensible economist contends that this fundamental tradeoff can be avoided by an incomes policy; the objective is to change its nature -- to make fiscal and monetary restraint work relatively more on inflation, as opposed to employment (i.e., to change the slope of the Phillips curve) or to lower the levels of unemployment associated with particular inflation rates (i.e., to shift the Phillips curve toward the origin).

The third and final question -- whether econometric evidence indicates a restraining effect -- articulates the best criterion, one that the Council has advocated. Unfortunately, econometric tests are typically inconclusive and often are matters of professional contention. There are other criteria that can be used to evaluate the program. For example, the Council recently presented an analysis of company-specific pay and price data (The Pay/Price Standards Program: Evaluation and Third-Year Issues, July 8, 1980) to ascertain whether companies were constrained by the standards. Nevertheless, nowhere in the GAO report is the Council's analysis of company data treated, although other sections of the July 8, 1980 document are cited explicitly (e.g., p. 3-7). (We do acknowledge that these data support the view that the program was effective in restraining inflation only under the maintained assumption that it is possible to lower wage and price increases in the covered sector without the inevitability of offsetting increases elsewhere.) The program could also be evaluated on theoretical grounds if a more balanced assessment of the analytical literature were provided.

pp. 30-33*

4. Misrepresentation of the Administration's Objectives.

a. The relationship of the program to fiscal and monetary policy. The report implies that this program was intended to substitute for restraint of aggregate demand. See for example, the language in "The Case for Incomes Policy" (p. 2-2) that "the case for a policy of controlling wages and prices rests on the proposition that no other way exists to end inflation except at the cost of lost jobs, falling incomes, and bankrupt businesses." In fact, the standards have consistently been characterized by the Administration as complementary to macroeconomic policies. For example,

Note C*

*Notes are in appendix VIII; page numbers refer to the text of our report.

APPENDIX VII

Note C*

in the same testimony cited by GAO (p. 3-1), the Council Director said, "The voluntary standards for noninflationary pay and price decisions are an important complement to the more restrictive monetary and fiscal policies. The central objective of these standards is to create an economic environment in which monetary and fiscal restraint work as much as possible toward moderating inflation and as little as possible toward reducing aggregate demand" (emphasis added).

Note D*

b. The rate of inflation. The GAO report states that the Council's "inflation objective" for the first program year was 6.5 percent (p. 3-1), but this ignores numerous caveats that linked this objective to the absence of price shocks to the economy. See, for example, the Council's first-year Compendium, which states that "full compliance with the price standard, including this (profit-margin) exception, inflation would be about 6-1/2 percent in the absence of raw-material shortages or external supply shocks" (p. 1-1, emphasis added).

5. The Relevance of the Underlying Rate of Inflation. The primary measure used by the Council to assess the program's effect on prices is the CPI-based underlying inflation rate -- the CPI excluding the volatile prices of food, energy, and used cars and the cost of home purchase, finance, insurance, and taxes. This a crude proxy for the prices covered by the standards; the Council has repeatedly explained the rationale for the use of this index (see, for example, The Pay/Price Standards Program: Evaluation and Third-Year Issues, July 8, 1980, pp. 4-11).

The report notes correctly that, to the extent that the program has been effective in constraining prices in the covered sectors, one would expect secondary restraining effects in uncovered areas such as mortgage interest costs (p. 3-13). Nevertheless, these spillover effects are difficult to discern statistically because of the multiplicity of economic factors that influence these excluded components of the CPI.

p. 46*

Finally, the exclusion of all food prices rather than just farm-level prices from the underlying rate of inflation (criticized by GAO on pp. 3-7 and 3-8) can be justified on two grounds: (1) although farm prices -- which are excluded from coverage -- account for only one-third of retail prices, most (about 70 percent) of the variation in retail food prices is accounted for by variations in farm prices alone; and (2) since the CPI doesn't disaggregate changes in retail food prices into farm prices and other components, one must choose between excluding or including the entire component; the former is less misleading.

*Notes are in appendix VIII; page numbers refer to the text of our report.

pp. 68-70*

6. Econometric Analysis

The Council agrees with GAO's position that the effectiveness of the standards in reducing inflation should be evaluated using econometric techniques. The report we issued in May, 1980, presented a set of preliminary results that tended to indicate that the standards had a depressing effect on wages and prices. Our estimate that the standards restrained inflation by approximately 1.5 percentage points was consistent with the Council of Economic Advisors' estimate (see the Economic Report of the President, 1980, p. 38). We specifically labelled this report interim because we anticipated that revisions would be necessary after others reviewed our work. In fact, we have received several helpful comments, including the ones from GAO, and are currently revising the Interim Report.

A widely used method of evaluating econometric results is sensitivity analysis. This technique, employed by GAO in analyzing our reported wage equation, tests the robustness of an estimated equation to changes in the way variables are measured, the sample of observations, and the structure. Unfortunately, sensitivity analyses have shown that econometric models that attempted to explain the inflationary process -- wage and price equations -- are generally not very robust. Not surprisingly, GAO's sensitivity test shows that our preliminary estimates of the effect of the standards are not robust. At the same time, however, all of GAO's tests continue to indicate that the program restrained inflation, although the estimated effect is smaller and less significant.

GAO also presented their preferred wage and price equations, and these equations indicate no restraining effect of the program; indeed, they indicate that the effect is positive -- but statistically insignificant. Our own sensitivity analysis of GAO's equations shows that this estimated effect of the standards is unstable; minor and theoretically reasonable changes in the specifications result in estimates showing that the standards reduced inflation, using GAO's basic equations. We also estimated GAO's preferred wage equation up to 1977:3 and forecasted 1977:4 to 1980:1. The equation underpredicted wage inflation by more before the standards (1977:4 to 1978:3) than during the standards period. Thus, even GAO's wage equation gives modest support for an inflation-restraining effect for the program.

7. Evaluation of the Design of the Standards. Although the bulk of the report is essentially a criticism of the Administration's decision to have an incomes policy, a modest amount of attention is devoted to the particulars of the

*Notes are in appendix VIII; page numbers refer to the text of our report.

program. The title of Chapter 6, "Wage and Price Standards are inevitably arbitrary and potentially inequitable" (emphasis added) signals the fact that the report's analysis of the design of the standards is not and cannot be objective. Rather the chapter begins (p. 6-1) by asserting that "it is not possible to remedy the shortcomings of any particular incomes policy by trying to alter the details of its implementation." Possibly because the result is assumed, the report made no mention of Council advances in the design of the standards to minimize the distortions created by previous programs.

Note E*

The discussion of potential inequities again reflects a one-sided view, for it nowhere discusses the distortions created by inflation itself, or the costs of lost output and unemployment associated with a policy that relies solely on fiscal and monetary measures to combat inflation. Accordingly, it completely avoids the hard truth that decisionmakers confront -- all policy choices have associated costs as well as benefits. Given the general condemnation of the standards program, it is curious that only five problem areas are identified and that only one -- the third -- can fairly be characterized as a design question.

Note F*

a. The absence of Council standards or monitoring procedures for hospital services and physician fees. The report correctly notes that, early in the program, responsibility for monitoring this sector was assigned to HHS (then HEW); but the decision was made, not because that Department was developing hospital cost containment legislation, but rather because it has the staff, resources, and technical expertise to administer such a program. There is nothing unique about this delegation of responsibility: for example, monitoring of public utilities has been delegated to state public utility commissions.

Note G* p. 89* p. 90*

In addition, the report is in error in saying that "neither the Department nor the Council has established a hospital care cost standard". The Department issued a voluntary expenditure guideline for the hospital industry in December 1978 -- an 11.7-percent increase for calendar year 1979 -- and on August 1980 HHS and the Council issued an expenditure standard for calendar year 1980 -- a deceleration of 1.7 percentage points in the rate of increase in hospital expenditures. Compliance with this voluntary guideline is being monitored by HHS's Health Care Financing Administration (HCFA).

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*Notes are in appendix VIII; page numbers refer to the text of our report.

b. The COLA assumptions. The report correctly notes that, for purposes of evaluating cost-of-living clauses, the Council assumed an inflation rate of 6 percent in the first program year and 7.5 percent in the second program year. While the actual rates of inflation for these years were significantly higher, the report fails to mention that most COLA clauses are part of three-year contracts, and that most economists have been and are projecting declining rates over the next several years.

Note G* p. 90*

The report also fails to mention that the 7.5-percent assumption was unanimously recommended by the Pay Advisory Committee, which consists of representatives of business, labor, and the public. Although the Administration recognized that 7.5 percent was probably too low, it concluded that this underestimate was acceptable in exchange for continued cooperation with the program. In all fairness, the report should have cited Chairman Kahn's candid explanation of the COLA issue before the Senate Committee on Banking, Housing, and Urban Affairs on March 17, 1980.

pp. 91-92*

c. The nexus between the pay and price standards. The report's analysis contains several misstatements. For example, the Council never stated (see p. 6-14) that it expected wages, after various adjustments, to average 6.5 percent (see e.g., p. 1-1 of the first-program-year's Compendium). Also, the report's very brief mention of the productivity assumption (p. 6-16) ignores the fact that there is general agreement among economists that it is trend productivity, not actual productivity, that influences prices.

Note H* p. 93*

d. The Effect of the profit limitation on real profits. Despite elsewhere asserting that the price standards have had no effect, this section of the report asserts that firms using the profit-margin exception have suffered a decrease in real profits. Such a summary statement overlooks both the basis for the limitation -- that firms faced with uncontrollable costs should not profit thereby -- and, more important, the basic intent of the program -- to be neutral with respect to income shares. Because a number of shocks to the economy caused real incomes (for both workers and business) to fall, and because there has not been a systematic shift in income shares during the program, it follows that both real profits and real wages fell.

p. 94*

e. Choice of organizational structure and standards. If this section is intended as a criticism of the program, it is inconsistent with the overall complaint that incomes programs create distortions. It was precisely to avoid these distortions, as well as to offset some of the economic effi-

p. 95*

*Notes are in appendix VIII; page numbers refer to the text of our report.

p. 95*

ciency losses and administrative costs (particularly for decentralized firms) that such flexibility was built into the standards.

p. 113*

8. Evaluation of the Council's Administration of the Program. Chapter 7 purports to criticize the administration of the standards program, but, in fact, it rarely discuses actual program operation and pays little, if any, attention to the typical measures used by GAO to evaluate the administration of a program (e.g., the number and quality of decisions or the number and usefulness of reporting forms processed).

Note I*

The report's criticisms of the Council's policy of excluding certain sectors of the economy from coverage seems to be yet another concomitant of the GAO's basis preconception of the inflation process (discussed above). It should be noted that the report confuses exceptions (which entail Council scrutiny and approval) with exclusion. For example, the report (p. 7-4) misstates that "employees whose wages are traditionally or contractually tied to [others]" are "exclude[d]" from the program. In fact, such employees may, under an exception, maintain their historical relationship with another group, but may not improve on that relationship (as would be true if they were excluded from the pay standard).

p. 107*

A second criticism relates to the Council's decision to concentrate (although not exclusively) on large firms. Council officials have repeatedly stated that the decision to monitor large firms is based on a desire to use the Council's resources cost-effectively. Large firms are no more difficult -- indeed easier -- to deal with than smaller ones, and the 1200 companies with sales above the $250 million threshold account for 32 percent of value added. (Indeed, the Report admits that the reporting universe captures a majority of total transactions). Moreover, as the Council has stated repeatedly, the effectiveness of standards is related to the degree of seller discretion in setting prices, which most economists agree is in turn correlated with company size. (Contrary to the Report's insinuation (p. 7-9), industries that engage in administered pricing are monitored not because of any culpability for inflation but because standards work best where there is substantial discretion over pricing actions.) Company size is not, of course, a foolproof criterion; for that reason, the Council has monitored compliance of smaller companies (with as little $1 million in sales) in selected problem industries. Moreover, a distinction should be drawn between reporting thresholds and the targeting of monitoring activities; some reports are analyzed more thoroughly than others.

*Notes are in appendix VIII; page numbers refer to the text of our report.

[Note J*-p. 112*]

Finally, the report criticizes the program because the Council has little authority to compel compliance. Here too, whatever the merits of the philosophical debate about voluntary vs. mandatory, the report jumps too readily to the conclusion that the program is ineffective. The report ignores evidence that the publicity sanction is an effective deterrent -- for example, the large number of formal corrective actions (totaling almost $170 million) and numerous informal corrective actions -- agreed to by companies in order to avoid adverse publicity. The prototypical case involving Sears Roebuck and Co. was fully discussed with GAO staff, but is not mentioned in the Report.

[p. 120*]

9. Alternative Uses for the Council's resources. The report erroneously implies (without any documentation) that the standards program has caused the Council to deemphasize its programs of regulatory intervention and economic analysis. In fact, the Council commits more resources to these areas now than it did before the standards program was begun.

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*Notes are in appendix VIII; page numbers refer to the text of our report.

GAO RESPONSES TO AGENCY COMMENTS

A. Because the substance of Chairman Kahn's letter is repeated in the comments from the Council staff, we have not responded separately to the issues raised in the letter.

B. In its comments on our draft report, the Council charges us with an "obvious bias against the potential effectiveness of any incomes policies." According to the Council, we hold the view "that the average price level is determined solely by aggregate demand." Since the Council standards do not affect aggregate demand, they would necessarily be ineffective if this supposition were correct.

Frankly, we are puzzled at how the Council came to this conclusion. There is absolutely no basis for it in our draft report. If our "basic supposition" was that incomes policy could never be effective, our report would have been much different; at the very least, it would have been much shorter. If no incomes policy can work, then there is no need to review the evidence to evaluate its effectiveness--no need to explain, as we do in chapter 2, how the policy might produce an effect on the aggregate price level. In fact, we could have answered the question about the effectiveness of the standards in a letter.

Our basic position is that an incomes policy such as the Council's standards can be effective if it overcomes certain problems. This view is stated explicitly on pp. 20-22, 25, 26, in the conclusion of chapter 2, and at other points throughout the report. Our position is straightforward, but given the Council's misrepresentation it is worth repeating here. There is no theoretical reason why an incomes policy cannot succeed in lowering inflation with less unemployment than would occur if demand restraint alone was used to do the job. As we state in chapter 2, there is a case for incomes policy. However, to be effective an incomes policy must overcome serious practical difficulties. 1/

1/Our finding, reported in chapter 5, that most peacetime incomes policies in the United States and abroad have failed to overcome these difficulties in the long term is consistent with our basic position. By no means does it imply that the policies were doomed to fail because they flew in the face of economic theory. They could have been effective if they had solved the problems we identify.

The most important of these difficulties is establishing credibility for the program, convincing business and labor that there will actually be a change in the rate of inflation. As expectations are modified, prices and wages will be restrained because wage and price setters will find it in their self-interest to practice restraint. The Phillips Curve will have shifted. However, without credibility of this kind, a voluntary program will not be able to alter behavior in the aggregate. We doubt that the standards were effective because we were unable, after an extensive investigation, to discover any convincing evidence that the current program had succeeded in solving this problem.

The Council did not choose to comment on our discussion of this crucial problem. Had it done so, instead of attacking us for an imaginary bias, we may have finally learned what its strategy for dealing with this problem is.

Since the "basic supposition" the Council claims to find in our report is not there, the criticism of our failure to justify it is beside the point. However, here too there are striking inaccuracies in the Council's characterization of our work.

The Council states that "The report does not even discuss the economic literature supporting the view that microeconomic behavior and events can affect the distribution of aggregate demand changes between changes in output and changes in prices." This statement is simply untrue. The Phillips Curve has been for many years the main theoretical tool economists have used to analyze the differential short-run effects of a shift in aggregate demand on output and prices. Our report discusses the Phillips Curve at length in chapter 2 and it is the basis for the econometric estimates of the effect of the standards in chapter 4. It should be emphasized that our analytical approach to this issue is essentially the same as that employed by the Council in its "Interim Report on the Effectiveness of the Pay and Price Standards."

The Council claims to find in our Table 1 evidence for its assertion that we believe that "aggregate demand policies are the sole determinants of inflation." This is a startling assertion since nowhere in the discussion of this table is such a statement made. The purpose of table 1 is not, as the Council contends, to demonstrate that monetary and fiscal policies are the sole causes of inflation, but simply to illustrate that they can be used to stop inflation. The table, of course, cannot prove this but then we did not expect it to be controversial, perhaps because it <u>is</u> one of the points usually made in the sophomore economics course. As Dornbusch and Fisher said in a recent textbook,

"If a country wants to reduce the average inflation rate, it has to somehow reduce the average growth of the money stock." 1/ This has no bearing on whether incomes policy can be effective in the short-run in helping reduce the rate of inflation when combined with the appropriate monetary and fiscal policies.

In criticizing our draft report for an imaginary bias the Council is attacking a strawman of its own devising. The question is not whether the standards could have had an effect on inflation but whether, in fact, they did so. The latter can only be settled by examining the evidence. Our reading of the evidence for the current program is presented in chapters 3 and 4. It is on this basis that we doubt the standards produced an effect on the rate of inflation.

C. The Council criticizes our draft report for implying that the pay and price standards were "intended to substitute for restraint of aggregate demand." There is no basis for this criticism. The Council refers to a passage from the report to support its charge, but this passage merely states that wage-price policy is often justified as the only way to lower inflation without recession. It is silent about the other policies that may be pursued in conjunction with an incomes policy. The passage certainly does not imply that wage-price guidelines preclude a restrictive demand management policy. Later in the same chapter we quote the Chairman of the Council on the cautious demand management policies announced simultaneously with the standards.

It is also true, however, that the Council has no direct responsibility for either monetary or fiscal policy. Less restrictive policies might have been pursued as a result of the standards program because of congressional or Federal Reserve actions, independent of the Administration's intentions when the standards were announced. The Council has never spelled out precisely what it means by restrictive policies in terms of numerical goals for policy instruments such as the monetary base or the deficit in the Federal budget. There have been several pronounced changes in demand management policy since the standards were established, and apparently the Council has found all of them complementary to the standards program. With this degree of looseness between the standards program and demand restraint, we believe caution is appropriate in evaluating the Council's claim that the

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1/Rudiger Dornbusch and Stanley Fischer, Macroeconomics, (New York: McGraw-Hill Book Company, 1978), p. 379.

standards were an important complement to more restrictive policies. That caution is reflected in our report, but it cannot be reasonably construed to imply that the Administration deliberately used the standards to avoid a cautious policy of demand restraint.

D. The Council criticizes our draft report for ignoring "numerous caveats" that linked the Council's inflation objective for the first year of the standards to the absence of price shocks to the economy. It cites the Council's first year Compendium which was issued in June 1979, 9 months after the standards were announced. These caveats do not seem to us to alter the fact that when the program was announced its goal was to reduce the rate of price increase to 6.5 percent. Clearly, there were many factors which prevented the goal from being reached. The Council's caveats in various places identify the most significant of these. The 6.5 percent figure was not a forecast, but we do believe it is fair to describe it as an objective or goal since this is clearly what the Council hoped to achieve when the program was first announced. See, for example, the Council's Fact Book: Wage and Price Standards issued on October 31, 1978, which states:

> "Some exceptions to the strict numerical standards have been adopted to ensure the degree of flexibility required to avoid gross inequities and inefficiencies. Some competitive markets--especially farm product markets--could continue to be sources of inflationary pressures. Widespread compliance with the wage/price standards is likely, however, to reduce inflation to the range of 6 to 6-1/2 percent over the next year. This would represent significant progress over 1978. In future years, as success is achieved, the wage/price program will achieve price stability over a period of several years while simultaneously avoiding recession and maintaining real incomes."

E. That inflation creates distortions is, of course, true. If, as a result of our investigation, we had concluded that the wage and price standards were a significant restraining influence on inflation, it would then have been appropriate to weigh the costs of the program relative to the costs of alternative policy options (one of which is, clearly, to do nothing). However, given our finding that the standards had no discernible effect, such a comparison would be superfluous.

F. The implication that the responsibility for hospital and physician costs was assigned to the Department of Health, Education, and Welfare because of the hospital containment legislation that was being developed by the Department was deleted.

G. We added that cost-of-living increases are computed "over the life of a contract" (p. 90).

H. The word "wages" was changed to "unit labor costs" (p. 92).

I. The use of "exceptions" and "exclusions" has been corrected.

J. The Sears, Roebuck and Company case is included on p. 110.

EXECUTIVE OFFICE OF THE PRESIDENT
OFFICE OF MANAGEMENT AND BUDGET
WASHINGTON, D.C. 20503

October 25, 1980

Mr. Morton A. Meyers
Director, Program
Analysis Division
United States General
Accounting Office
Washington, D. C. 20548

Dear Mr. Meyers:

GAO's draft report "The Pay and Price Standards of the Council on Wage and Price Stability Have Been Ineffective in Controlling Inflation" does not appear to us to represent an objective and balanced evaluation of the effectiveness of the pay and wage standards. We have serious objections to the criteria used in assessing the effectiveness of the program. We also question whether the analytical approach taken by the report is appropriate.

The report sets the following criteria in evaluating the Administration's voluntary wage and price program:

1) "Did inflation decline?"

2) "Was the tradeoff between lower inflation and higher unemployment avoided?"

3) "Is there a substantial body of econometric evidence to suggest that the program restrained inflation?"

The first criterion is logically flawed. The rate of inflation has been affected by many factors other than the pay and price standards. The oil price explosion of 1979 and early 1980, which was unexpected, had a major impact on the inflation rate. The sharper-than-expected increases in mortgage interest rates also raised the rate of increase in the CPI. The relevant question is not whether the rate of inflation declined following the introduction of the program but whether the inflation rate was lower than it would have been in the absence of standards. That question is addressed by the third criterion. The report notes all of this on page 1-19, but then proceeds as if it had no relevance.

The second criterion sets up a straw man. No one would claim that incomes policies allow the economy to <u>avoid</u> the tradeoff between inflation and unemployment. The relevant question would be whether the inflation-unemployment tradeoff was improved. Again, that question is addressed by the third criterion listed above.

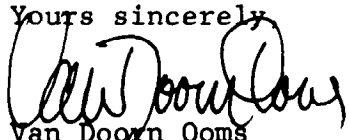
With respect to the third criterion, econometric techniques have been used to evaluate the Kennedy-Johnson guideposts, Phases I-IV of the Economic Stabilization Program of the early 1970's, and the current wage and price standards. The evidence regarding the effectiveness of these various programs is relatively inconclusive. The present GAO work confirms what much of the earlier work has shown -- that the results depend, among other things, on the theoretical framework used, the specification of the relevant wage and price equation, the choice of explanatory variables, and the period covered. One cannot reasonably conclude from such evidence that CWPS's pay and price standards have been ineffective in controlling inflation.

Consequently, the basic conclusions of the report, the title of the report, and the chapter headings are inappropriate and should be modified.

The analytic approach taken by the report also appears to us inappropriate. This is most apparent in the discussion of the relationship between price changes in major commodities, such as petroleum and its products, and changes in aggregate price indexes. No doubt price increases in important individual markets have income effects which may, especially over a longer period, have secondary price effects in other markets. This commonplace observation hardly warrants the conclusion that "...changes in individual markets, which affect the prices of particular goods or services, should be analyzed as deviations from the average, not as its determinants..." (page 3-12). Using this analytical approach the report appears to conclude that inflation is wholly demand-determined, and that demand restraint should be viewed as a substitute for incomes policies. A more careful and balanced analysis, we believe, would view demand restraint and incomes policy as complementary weapons in the battle against inflation. It would not argue that incomes policy is largely a futile attempt to "avoid" demand restraint.

A number of more detailed comments are provided in the margins of the report, which is enclosed.

Yours sincerely,



Van Doorn Ooms
Assistant Director for
Economic Policy

Enclosure

NOTE: The criticism of the draft report in this letter repeats the criticism made by the Council. Our response to these comments is on pages 31-33, 68-70, and in appendix VIII.

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