Hospital Wage and Price Controls: Lessons From the Economic Stabilization Program

Ronald J. Ozminkowski, Ph.D., Gary Gaumer, Ph.D., Anne Jenny Coit, B.A., and Mary Gabay, M.S.

The Clinton Administration has implied that short-run failures to control health care costs may cause a reexamination of wage and price controls as elements of comprehensive health care reform. The most recent imposition of mandatory wage and price controls was the Economic Stabilization Program (ESP) of the early 1970s. We analyze trends in hospitals' economic behavior and utilization before, during, and after ESP. We also review the relevant literature to estimate ESP's impact, considering other factors that influence hospital behavior. Noting important changes in the hospital industry since the 1970s, we conclude that ESP had limited effect and that similar controls would have little effect today.

INTRODUCTION

Two of the health care reform bills considered recently by the Congress (the President's plan and the Wellstone/McDermott/Conyers plan) list specific efforts to control the rising costs of medical care, including global budget limits, fee schedules for hospital or physician care, drug price limits, health maintenance organization (HMO) capitation rates, insurance premium caps, or negotiation strategies (Citizen Action, 1993). The President's plan also called for a voluntary cost-containment program for all health care sectors to limit the growth in medical care and insurance prices.

In September 1993, President Clinton said that mandatory wage and price controls are not necessary to control costs. He justified his position on mandatory controls by noting that drug companies and other segments of the health care industry have volunteered to keep prices within the overall inflation rate for the next 2 years. If voluntary price controls do not work in the short run, however, White House Press Secretary Dee Dee Myers indicated that "a variety of actions" would be considered (Bureau of National Affairs, 1993). Presumably, these actions would include mandatory wage and price controls.

How effective would mandatory controls be? While the answer to this question involves a good deal of speculation, history may help. The last time a price freeze for health care services was applied at a national level was during the first phase of the Nixon Administration's ESP, from August-November 1971. ESP began as a result of Congressional and other pressures to control costs. Before ESP, President Nixon steadfastly refused to consider wage and price controls as inflation control policy (Dornbusch and Fischer, 1981).

We reviewed the available evidence to describe the impact on hospital behavior of the ESP wage and price freeze and subsequent wage and price controls. Examples from the health services and economic literature are used for two purposes in this article. First, along with neoclassical theory, the literature is used to

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help present a brief rationale for regulating hospital behavior and for promoting hypotheses of the effects of ESP on hospitals (after we describe the features of that regulatory program). These hypotheses are followed by a discussion of descriptive trends in prices for hospital services, the expenses involved in producing hospital care, and hospital utilization before, during, and after ESP. The second use of the literature is to facilitate the interpretation of the general trends we present. By focusing on the literature which accounts for a variety of factors that influence hospital behavior, we are better able to ascribe changes either to ESP or to other factors. Afterwards, we provide a discussion of the effects of ESP on hospitals and offer some thoughts on the usefulness of price controls in current health care reform efforts. Finally, we offer a summary and conclusions about the effects of wage and price controls on hospitals.

WHY CONTROL WAGES AND PRICES?

Neoclassical economic theory makes a strong case against any type of wage and price controls in competitive markets, and some leading economists strongly criticized the Nixon Administration for instituting such controls (Friedman, 1971; Reynolds, 1971). Mandatory wage and price controls are problematic in competitive markets for several reasons:

- Monetarist economists (Friedman, 1971; Reynolds, 1971; Alchain and Allen, 1972) argue that the major cause of inflation is the oversupply of money relative to the desire for goods and services. This oversupply increases disposable income, resulting in substantially increased demands for goods and services, thus driving up prices. Wage and price controls do not address the underlying cause of inflation and hence cannot remove inflationary pressures.
- Reynolds (1971) argued that much of the inflation in the medical sector was due to the implementation of the Medicare and Medicaid programs, which drastically reduced out-of-pocket prices for the elderly and poor and hence drove the demand for medical care upward. This, he said, coupled with legal restrictions imposed by State licensing boards that effectively limited the supply of physicians, resulted in prices that were higher than would be the case in competitive markets.
- Relative, uncontrolled movements in wages and prices, be they upward or downward, result in the efficient allocation of goods and services. Wage and price controls distort that process and remove the natural ability of the economy to steer itself.
- Wage and price controls may cause shortages because lower prices lead to higher quantities of goods and services demanded. This may in turn lead to increased waiting time for scarce goods and services. Indeed, much rhetoric regarding the desirability of European or Canadian models for health care reform surrounds the relatively longer waiting times required to receive care in those countries compared with the United States. Those waiting times result directly from the imposition of a controlled, zero-dollar price for services.
- Finally, the imposition of wage and price controls actually reduces the purchasing power of the dollar, by legally restricting consumers' rights to use dollars to bid for the goods and services they desire (Alchain and Allen, 1972).

The effects of wage and price controls on hospitals depend on two important factors.

One is the relationship between prices and the demand for care, and the other is the degree of competition in the hospital industry. If the demand for medical care is not very responsive to price changes, consumers overall may be worse off under controls, because the loss to consumers who are rationed out of the market because of shortages will be larger than the gain to consumers who can buy care at lower prices (Pindyck and Rubinfeld, 1992).

All of this suggests that wage and price controls should not be used if medical care markets are competitive. However, many regulatory actions, including current efforts at health care reform, have been proposed because of anti-competitive market conditions. This justification was offered for ESP (*Business Week*, 1971).

Arguably, the most important reason for the lack of competition in the hospital industry is the tremendous information differential between hospital providers and patients or third parties. Even with current emphases on utilization review and efforts to publicize differences in hospital-level outcomes of care, the result of this information gap is that patients have little incentive to "vote with their feet." This is a problem that current reform efforts, such as managed competition strategies, must take into account. Sloan and Steinwald (1980) offered the following additional justifications for regulation in the 1970s; all of these are still relevant today:

- The non-profit status of most hospitals may reduce pressures for efficient production, compared with firms in other industries that strive to maximize profits.
- Insurance reimbursement mechanisms provide few incentives for hospitals to be low-cost producers of care, or for patients to shop for lower out-of-pocket prices.
- Many hospitals are the only providers of hospital services in their communities, and many are the major local employer. This provides tremendous market power to hospitals, allowing them to avoid competitive wage and pricing strategies.
- The choice of hospitals by physicians and patients is limited by physicians' privileging systems, thus reducing the options for alternative treatment sites.

The purpose of many hospital regulatory programs (of which ESP is an example), is to reduce inflation by placing limits on increases in charges and input expenditures (Sloan and Steinwald, 1980). Regulators act by setting output prices or by establishing limits on revenues or input prices. Alternatively, regulators may act to reduce the speed with which hospitals respond to inflationary pressures. This was the goal of the wage controls in the ESP program (Sloan and Steinwald, 1980).

ESP AND THE NATIONAL ECONOMY

The ESP operated nationwide from August 1971 to April 1974. It was a four-phase wage and price control program intended to reduce U.S. wage and price inflation by one-half. At 5 percent annually in the first quarter of 1971, inflationary pressures were perceived as high (Horowitz, 1973), and there was strong political pressure on the administration to take action.

ESP consisted of a wage, price, and rent freeze and three wage and price control phases, one of which contained a second price freeze. ESP was a response to inflationary pressures that had been building since the late 1960s, due to a highly stimulated economy. Monetary controls that had been used before the freeze had decreased inflation somewhat, but at the expense of increased unemployment (Dornbusch and Fischer, 1981).

The first phase of ESP was a mandatory 90-day wage, price, and rent freeze which began on August 15, 1971, and continued until November 13, 1971. This freeze was apparently effective in reducing the rate of increase in the Consumer Price Index (CPI); inflation levels declined to about 2 percent during the freeze period (Horowitz, 1973; Dornbusch and Fischer, 1981).

Phase II of the program took effect on November 14, 1971, and lasted until January 10, 1973. This was a phase of mandatory but varied regulation with somewhat confusing rules regarding allowable wage and price increases (*Economic Report of the President*, 1974; Meyer, 1982). For most of 1972, inflation was below pre-ESP levels, ranging from 2.8 to 3.5 percent (Bureau of Labor Statistics, 1987).

Phase III of ESP was a more flexible system of regulation which began on January 11, 1973, and continued until June 13, 1973 (Meyer, 1982; *Economic Report of the President*, 1974). Due to increasing domestic and international price inflation pressures which resulted in inflation rates of 4.7 and 5.9 percent in the first and second quarter of 1973, respectively, this phase was followed by a 60-day price (but not wage) freeze that ended August 12, 1973.

Phase IV controls went into effect for the general economy (but not for the health care sector) on August 12, 1973, and lasted until ESP expired on April 30, 1974. Phase IV price regulations resembled those of Phase II, but were somewhat more restrictive. Wage regulations under Phase IV were similar to those in Phase III (Meyer, 1982; *Economic Report of the President*, 1974).

In each phase, there were exceptions to or exemptions from the program, and certain industries, such as health services, had special regulations (*Economic Report of the President*, 1972).

ESP AND HEALTH CARE

Special regulations were created for the health services industry for several reasons, including: (1) difficulties in defining the "products" produced by institutional providers; (2) technological advances that increase costs and/or the intensity of services provided; and (3) the perverse incentives of cost-based reimbursement. All of these factors contributed to relatively high inflation in the health care sector (Altman and Eichenholz, 1976).

The health sector controls separated the industry into two categories: institutional providers (hospitals and nursing homes) and non-institutional providers (predominantly physicians and dentists, but also medical and dental laboratories). For hospitals, the regulations allowed price increases only where justified by allowable costs adjusted for productivity gains. The limit was set at 6 percent on increases in aggregate annual revenue due to price increases (*Economic Report of the President*, 1972; Taylor, 1979). The regulations required that increases from 2.5-6.0 percent be reported to the Internal Revenue Service (IRS) with supporting justification; increases also had to be reported to the appropriate Medicare intermediary (*Economic Report of the President*, 1972). Increases above 6 percent required an exception issued by the Price Commission, which was created under the auspices of the Cabinet-level Cost of Living Council, the body responsible for policy decisions under ESP. The system also allowed for a 2-percent "intensity factor," applicable to payments made by third-party payers that reimbursed on the basis of per diem costs (Altman and Eichenholz, 1976). This intensity factor raised the effective limit on price increases for hospitals to 8 percent per patient day. The regulations also specified that an institution's profit

margin could not be greater than that of a base period defined as the month preceding August 15, 1971.

Contrary to ESP regulations for other sectors, the regulations did not mandate specific wage-increase limits on employees of health care providers. Instead, hospitals were limited to a 5.5-percent increase in their payroll expenditures that could be used to justify price increases. Like the wage regulation for the general economy, this limitation of total payroll expenditures did not apply to low-wage workers. Any wage increases greater than 5.5 percent that were made for low-wage workers could be passed through in the form of higher prices.

Regulations also restricted hospitals' ability to passthrough other types of cost increases, including limitations on the passthrough of non-labor cost increases (2.5 percent), fringe benefit cost increases (0.7 percent), and new technology cost increases (1.7 percent). For non-institutional providers, regulations allowed average aggregate weighted price increases, justified by cost increases, of up to 2.5 percent per year (*Economic Report of the President*, 1972). The regulations also contained a special-exceptions procedure (Taylor, 1979). Under Phase III, many institutional providers requested exceptions because of limitations imposed by the profit ceilings (*Federal Register*, 1973). On January 16, 1974, new regulations for the health industry were issued, but these regulations did not take effect before the program expired in April 1974.

The IRS enforced the regulations for hospitals. Although the consensus was that voluntary compliance with the regulations was high, it is likely that some hospitals accidently violated the specifications. Ambiguities prevented the IRS from finding violations. Regulations were enforced most effectively via the Medicare program, which would not reimburse more than 109 percent of the previous year's per diem unless the Price Commission granted an exception (Ginsburg, 1976).

HYPOTHESES

Because the health care reform bills recently debated do not discuss the implementation of mandatory wage and price controls, hypotheses of provider responses based on these bills cannot be generated. Thus, the ESP remains the only example of regulatory wage and price controls upon which hypotheses can be based. These hypotheses are discussed in subsequent sections of this article.

In most studies published in the 1970s and 1980s, hypotheses of the effects of regulation were not based on a theoretical model of hospital behavior. Exceptions are Ginsburg (1976) and Sloan (1981). Ginsburg assumed that hospitals attempt to maximize a combination of the quantity of care provided, the intensity of that care, and "managerial slack." Managerial slack was thought to include payments to labor in excess of wages in alternative occupations (philanthropic wages) and the costs of inputs in excess of the minimum necessary to produce a given output-intensity combination. In his model, this maximization process was constrained by a long-run desire to break even. Sloan (1981) assumed that hospitals were quantity, quality, and profit maximizers.

Coelen, Mennemeyer, and Kidder (1986) argued that theories to date regarding hospital behavior were not sufficiently advanced to allow for unambiguous hypotheses of regulation's effects on hospital performance. Phelps (1992) notes that the impact of price controls depends upon the objectives that hospital decisionmakers

strive to obtain. Sloan and Steinwald (1980) noted that their theoretical work led to many ambiguities regarding regulatory effects on hospital costs and the use of inputs required to produce hospital care. As a result, researchers often relied on regulatory intent to derive hypotheses regarding the effects of inflation policy. This combination of theory and heuristic reasoning led to several hypotheses regarding the influence of ESP on hospital behavior. Under ESP:

- Profits were expected to fall because the ability of hospitals to respond to reductions in revenue by cutting expenses was limited in the short run (Ginsburg, 1976).
- Liquidity was expected to fall as revenues grew at slower rates than expenses and hospitals were forced to use cash reserves to meet operating and capital needs (Furst and Dunkelberg, 1978; Coelen, Mennemeyer, and Kidder, 1986).
- However, hospital costs per capita were expected to fall eventually (Ashby, 1984).
- Even though revenues were constrained, the exemption of wages for low-wage employees in ESP meant that higher wage employees became relatively less expensive to use. Under Ginsburg's (1976) model of behavior, this would result in a shift to a more costly labor mix during ESP.
- Ginsburg (1976) suggested there also may be an incentive to substitute labor for non-labor inputs when hospital care is produced, if controls affect labor prices more than non-labor prices. However, if hospitals face an upward-sloping labor supply curve, wage controls may lead to labor shortages.
- Finally, the impact of controls on quantity and intensity of care is ambiguous. In Ginsburg's (1976) model, quantity and intensity (e.g., admissions and length of stay [LOS]) were expected to increase. Phelps (1992) suggests that intensity will fall, but that the quantity of care provided will either increase or decrease, depending upon the strength of the price controls.

GENERAL TRENDS

The figures which follow present findings from descriptive analyses of trends in output prices and revenues, hospital expenses and input prices, and utilization. Trends are described before, during, and after ESP. Much of the data for these graphs come from the American Hospital Association's (AHA's) National Hospital Panel Survey.[1] We addressed the seasonal differences and reporting anomalies in panel survey data by reporting annual percentage differences in variables of interest by quarter. Values from the first quarter of a given year were subtracted from values for the first quarter of the following year. To obtain percentage changes, the result was divided by the first quarter value from the prior year. This was done for every year and quarter combination from 1968 to 1977. This process also allowed us to comment on the effects of regulatory programs intended to influence changes over time in revenues, expenses, or other variables.[2]

Output Prices and Revenues

ESP was designed to directly control hospital output prices and revenues.

[1]The AHA's National Hospital Panel Survey is a monthly survey of a disproportionate, stratified sample of roughly 25 percent of the short-term general community hospitals in the United States. For our analyses, we aggregated monthly data to calendar quarters.

[2]Because many hospitals plan and budget on an annual basis, the presentation of findings by quarter may be affected adversely by measurement error. This error would arise as respondents to the panel survey develop estimates of revenues, expenses, utilization, or other variables requested in the survey without going through the same detailed processes they used when annual plans and budgets were developed. The process of generating annual differences by quarter should negate this problem if measurement errors are seasonal in nature.

Trends in output prices and revenues are presented in Figures 1-3. Figure 1 presents trends in two estimates of output prices that were available only annually. The first measure is the hospital semiprivate room and board component of the Medical Care Price Index (MCPI). The second measure is an output price index estimated by the Health Care Financing Administration's (HCFA's) Office of the Actuary. This latter measure was calculated by multiplying HCFA's Hospital Input Price Index by a factor that adjusts for hospital profitability.

Both the MCPI hospital room and board component and HCFA's estimated output price index are imperfect measures of hospital prices (Feldstein, 1988). Neither adequately accounts for the variety of services offered in a hospital setting or for changes in hospital services and technology over time. Probability sampling techniques were not used to identify items to be priced in the MCPI until 1978. Moreover, the MCPI did not cover purchases by the elderly until 1978, although the elderly population were major consumers of hospital care before then. Finally, it is difficult at best to separate price changes from quality changes in hospital services over time. Despite these problems, the MCPI and the HCFA output price index do provide evidence of changes in prices over time for a constant set of services.

As evidenced in Figure 1, annual changes in output prices followed a cyclical pattern. The trend is more pronounced for the MCPI hospital room charge than for the HCFA output price index. In both cases, price changes were fairly steady before 1971, began to decline during the period 1971-72, and then began an upward climb early in Phase III of ESP (early 1973). This suggests a possible ESP effect in Phase I and Phase II, as would be expected given the strength of the controls in those phases. Clearly, the trend line for these two variables after 1971 is not what one would have projected based on the pre-1971 values.

Changes in inpatient revenue per admission and patient day, relative to the change in purchasing power in the general economy, are shown in Figure 2.[3] Revenues per admission and per patient day began to fall before ESP started. However, average inpatient revenues per admission and patient day were lower throughout the ESP period than either before or after. It is difficult to determine how much of this is due to ESP. The annual changes in outpatient revenues per visit presented in Figure 3 show fluctuations before and during ESP that illustrate no real trend. This may be because incentives to substitute less costly outpatient care for inpatient treatment were not incorporated into ESP regulations until Phase IV, which was never implemented (*Federal Register*, 1973). An upward climb in outpatient revenues per visit is not apparent until well after the end of ESP.

Input Prices and Expenses

ESP also included incentives to control increases in input prices and wages for hospital employees. In his conceptual work, Ginsburg (1976) suggested that these provisions may be less important than the price controls, but his empirical work shows stronger ESP effects on wages than on revenues or other expenses.

Figure 4 shows annual changes in total expenses per adjusted admission and

[3]Trends in monetary variables reflect differences between percentage changes in those variables and percentage changes in the gross national product implicit price deflator. This provides some perspective regarding the change in revenues and expenses for medical care services and inputs, relative to changes in purchasing power in the general economy. In this sense, all figures reflect "real" changes.

adjusted patient day,[4] relative to changes in purchasing power in the general economy. Figure 5 illustrates the annual changes in payroll expenses per adjusted admission and adjusted patient day, relative to purchasing power. These follow the same general pattern described earlier. The downward trend in changes in expenses began before ESP. This was followed by upward movement during Phase III. Evidence consistent with a relatively strong wage effect during ESP is provided by negative changes in payroll expenses relative to the general economy, i.e., hospital wages increased at rates less than in the general economy during ESP. Taylor (1979) found the same pattern in her descriptive work.

Trends in the annual changes in hospital input prices are shown in Figure 6. Because changes in input prices have a strong impact on changes in hospital expenses, the pattern illustrated in this exhibit is the same one found in the exhibits describing trends in total and payroll expenses.

Hospital Utilization

Annual changes in admissions are illustrated in Figure 7. After a decline in the 2 years before ESP, percentage changes began to increase during the ESP years. This was followed by a decline immediately after ESP. One is tempted to attribute the upward trends in the early 1970s to ESP, but multivariate studies that adjust for confounding influences generally report no significant changes in this utilization measure (Ginsburg, 1976; Coelen, Mennemeyer, and Kidder, 1986). Figure 8 shows a general downward trend in annual percentage changes in outpatient visits during Phases II and III of ESP, but the decline actually started before ESP began. Figure 9 shows a general upward trend in average hospital LOSs midway in Phase II. Changes in average LOS were fairly constant after that, with only one (perhaps questionable) exception early in Phase III.

EVIDENCE FROM THE LITERATURE

The previous section provided general trends in economic factors and utilization without adjustments for variables other than ESP that may have influenced those trends. Lacking primary or secondary data on economic factors, utilization, or other variables, we did not conduct a controlled study of ESP's effects. Instead, this section presents evidence from the literature regarding hospital profits, revenues, input prices, expenses, and other factors likely to be influenced by ESP regulations. Some of the studies described reflect previous efforts to isolate the impact of regulatory strategies. By highlighting similarities and differences from the results we obtained in our descriptive analyses, more informed comments about the impact of ESP can be made. Before the trends noted in the literature are described, we briefly discuss methodological characteristics of the studies that may influence their results.

Methods

A few studies of ESP's effects used descriptive methods to assess trends before, during, and after ESP on profitability, hospital expenses and input prices, hospital revenues and output prices, or utilization. Altman and Eichenholz (1976) and Furst and Dunkelberg (1978) conducted descriptive analyses only.

[4] Adjusted admissions and adjusted patient days are meant to account for hospital outpatient activity and inpatient care in the same output measure. As practiced by the AHA, adjusted admissions and adjusted patient days were obtained by multiplying actual admissions or patient days by the factor (1 + outpatient revenue [OR]/inpatient revenue [IR]).

Some studies that estimated the effects of ESP in multivariate analyses were designed to assess the effects of several regulatory programs, such as certificate of need (CON) programs, Medicare section 1122 programs, Professional Standards Review Organizations (PSROs), and other utilization review mechanisms. The only studies designed to focus primarily on ESP were done by Ginsburg (1976) and Taylor (1979). As a result, ESP effects often must be inferred by regression coefficients representing dummy variables indicating years or quarters when ESP operated.

Several studies used information on hospital performance for several facilities and time intervals before, during, and after ESP (e.g., Ginsburg, 1976; Lave and Lave, 1978; Taylor, 1979; Sloan and Steinwald, 1980; Sloan, 1981; Coelen and Sullivan, 1981; Ashby, 1984; Coelen, Mennemeyer, and Kidder, 1986). Estimation techniques attempted to adjust for unmeasured area, facility, or time-independent characteristics that shift trends in behavior upward or downward, so the influence of regulatory factors can be estimated efficiently and without bias.

In most studies, adjusted admissions or adjusted patient days were used as units of hospital output. All such studies, except Coelen, Mennemeyer, and Kidder (1986), used the AHA's method of adjusting for outpatient activity. To use that approach, one simply multiplies inpatient days or admissions by (1 + OR/IR). Coelen, Mennemeyer, and Kidder (1986) argued against this because AHA data often excluded information on outpatient revenues and the AHA adjustment did not include other important sources of revenue (e.g., from inpatient long-term care). As previously noted, we used the AHA approach because data on other sources of revenue were not available; in addition, most of the studies we reviewed incorporated the AHA adjustment procedure. Most studies reported results according to adjusted patient day or adjusted admission, but Ashby (1984) differs, arguing that variables should be measured in per capita terms so the net effect of changes in unit costs and changes in utilization can be estimated. Coelen, Mennemeyer, and Kidder (1986) reported results per capita and per admission and patient day.

Finally, most of the studies of the effects of regulation on hospital behavior used the AHA Annual Survey of Hospitals and the AHA National Hospital Panel Survey to obtain information on hospital performance. However, Coelen, Mennemeyer, and Kidder (1986) argued that data from Medicare Cost Reports were preferable, because Cost Report data were audited for accuracy and hospitals had financial incentives to report information accurately. No such incentive existed for the AHA surveys. In an earlier study, Coelen and Sullivan (1981) used AHA data after making several edits based on comparisons with Medicare Cost Report data. A few studies used information from special surveys (e.g., Furst and Dunkelberg, 1978; Coelen, Mennemeyer, and Kidder, 1986 [to get information for payer-specific analyses]). Unaudited figures from these surveys also may be subject to reporting error, which may result in unknown biases or less precise estimates of the effects of regulatory programs.

Results

In descriptive analyses, Ginsburg (1976) noted the same general trends in revenues and expenses per admission as Altman and Eichenholz (1976) and as described in our analyses. These trends reflect a large increase immediately after Medicare

began, followed by a decline beginning before ESP and lasting through Phases I and II. Generally, revenues tended to fall sooner than expenses during ESP.

Altman and Eichenholz (1976) presented descriptive trends before, during, and after ESP. They noted that, in the first 13 months of Phase II, the rate of increase in the hospital semiprivate room and board rate fell by 50 percent. We found the same result in our trend analyses of changes in the MCPI hospital room charge component (Figure 1). Even though they were careful to point out that ESP's effects on other variables of interest were much smaller, and that downward trends in the semiprivate room and board rate preceded ESP, Getzen (1990) points out that the 50 percent reduction figure has been misquoted and taken out of context in other studies.

In a review of the empirical work, Steinwald and Sloan (1981) found that descriptive studies of the effects of ESP and other regulatory programs showed larger reductions in hospital costs than did multivariate studies adjusting for confounding influences such as CON, section 1122 programs, utilization review activities, and other factors. In the following sections, we present descriptive and multivariate findings noted in the literature, with respect to hospital profits, output prices and revenues, input prices and expenses, and utilization.

Profits

Coelen and Sullivan (1981) noted that regulatory controls often have an immediate effect on revenues, but hospitals require more time to adjust expenses in response to budget constraints. Thus, regulations often resulted in quicker and perhaps larger reductions in revenues than in expenses and may have led to deteriorating financial position in the short run. Some evidence consistent with this hypothesis was provided by Furst and Dunkelberg (1978), but because this study did not adjust for factors other than ESP that influenced profits, their results may be biased and should be viewed with caution. In their descriptive study, Furst and Dunkelberg (1978) showed profits declining during ESP among hospitals in North and South Carolina. Profits tended to rebound after ESP, but not quickly. Smaller hospitals (fewer than 200 beds) especially had problems rebounding, not reaching pre-ESP margin levels until the late 1970s. However, trends in other measures of financial performance, such as liquidity, did not match the trends in profit margins. In the Furst and Dunkelberg (1978) study, liquidity actually rose slightly in the ESP years.

Multivariate studies showed smaller changes in profit margins than descriptive studies, because multivariate studies incorporated efforts to adjust for factors other than ESP that influenced hospital behavior. Sloan (1981) found about a 1-percent decline in profits during ESP. Coelen, Mennemeyer, and Kidder (1986) showed margins falling between 0.6-1.6 percent from 1971 to 1972. They found that margins rebounded and were up by 1.1 percent in 1974, the year that ESP ended.

Revenues and Output Prices

As previously noted, during Phase II of ESP the increase in the average price of a hospital semiprivate room dropped by 50 percent, to about 5.4 percent, from November 1971-January 1973. Altman and Eichenholz (1976), Ginsburg (1976), and Getzen (1990) pointed out that the drop in output prices began before the start of ESP, after the tremendous rise following the implementation of the Medicare and Medicaid programs.

In our descriptive work, we saw sharp declines in the annual change in real inpatient revenue per admission and patient day during ESP (Figure 2). Multivariate work showed much smaller drops during ESP in the rates of increase in revenues per admission and per patient day than noted in our descriptive work. This was expected, because we were unable to adjust for confounding influences. Ginsburg (1976) found no significant drop in inpatient revenue per adjusted day or adjusted admission, nor in outpatient revenue per visit during ESP. Coelen, Mennemeyer, and Kidder (1986) found that total billed charges per admission and per day fell by about 2 percent in 1972 and 1973, but increased by about 3 percent in 1974. The same pattern was observed for Medicare Part A charges per admission and patient day.

Expenses, Wages, and Input Prices

According to Altman and Eichenholz (1976), the major causes of inflation in the pre-ESP period were increases in the demand for care associated with the growth in third party coverage, increased labor costs due to "catchup" wages as the wage gap between hospitals and other service industries closed, construction and other capital cost increases, and inflation in the general economy. Taylor (1979) showed that the 3 years under ESP were the only ones from 1968-77 in which hospital wages did not rise faster than wages in other service industries or in the general economy. ESP may have helped to depress wages to a rate below that of wage inflation elsewhere in the economy, but Ginsburg (1976) noted that the rate of increase in wages began to fall before ESP.

Multivariate studies showed a relatively strong impact of ESP on wages and employment. These are consistent with the large changes noted in our trend analyses (Figure 5). Ginsburg (1976) estimates a large wage effect; his multivariate model suggests that wages during 1973 were about 7 percent less than would have been the case without controls. In her econometric analyses, Taylor (1979) found real hospital wages to decrease by 0.9 percent during Phase I and 1.6 percent during Phases II and III. Employment fell by 0.6 percent during Phase I and 3.0 percent during Phases II and III. These were only partial effects, as she noted. Taylor (1979) argued that increases in prices in previous years encouraged hospitals to expand and hire more workers, leading to wage inflation. Because ESP restricted prices, an indirect effect on wages would be felt via its effects on the price of hospital care.

Some studies reported changes in the use of inputs needed to produce hospital care or in expenses per adjusted admission, adjusted patient day, or per capita. Ginsburg (1976) reported a 4.5-percent decline in the ratio of labor to non-labor input use during ESP. This was contrary to his hypothesis that hospitals would shift toward more labor inputs if wage controls affected labor prices more than non-labor prices. He found that other inputs per adjusted patient day and per adjusted admission dropped by about 1 percent.

Sloan and Steinwald (1980) used econometric techniques that allowed the estimation of short-term and long-run effects of ESP. They found that non-labor expenses per adjusted patient day and adjusted admission were about 0.6 percent and 0.7 percent smaller during ESP, respectively. Long-run savings were about 0.9 percent.

Sloan (1981) found short-run declines during ESP of 2.0-3.3 percent in total hospital expenses per admission and patient day, adjusted and unadjusted. In their multivariate work, Lave and Lave (1978) showed

smaller rates of inflation in hospital expenses during the ESP years than before (0.5-2.6 percent), but they noted that inflation rates began to fall before ESP started. These inflationary trends were similar to the approximate 1-percent decline noted in our descriptive work (Figure 4).

Coelen and Sullivan (1981) presented multivariate results showing ESP effects that were similar in magnitude to Sloan's (1981) estimates. The pattern of results here is interesting. Changes in hospital expenses per adjusted admission and per adjusted patient day and the change in hospital expenses per capita were negative from 1971-73, ranging from -0.7 to -2.9 percent. However, changes were always significant and positive in 1974, the year that ESP ended. In more recent work, the same pattern was found by Coelen, Mennemeyer, and Kidder (1986).

Ashby (1984) found that total hospital expenses per capita were 5.4 percent less during ESP than other years. Coelen, Mennemeyer, and Kidder (1986) found a smaller effect (about 3 percent) in 1972 and 1973, with an increase of about that magnitude in 1974. Their data set spanned a longer period of time than Ashby's, and Ashby was not clear with regard to estimation techniques. We place more confidence in the results obtained by Coelen, Mennemeyer, and Kidder (1986).

Utilization

Changes in utilization under ESP were difficult to predict from theoretical models of hospital behavior. With the exception of admission patterns, multivariate studies generally found smaller changes in utilization than noted above in our trend analyses (Figures 7-9). As previously noted, Ginsburg (1976) found admissions to increase very slightly (0.4 percent, not statistically significant), compared with about 4 percent during ESP, as noted in our trend analyses (Figure 7). Ginsburg found that average LOS decreased by about 1 percent during ESP; our trend analyses showed about a 1-percent decline during Phase I with a rebound to pre-ESP levels in Phases II and III (Figure 9). Ashby (1984) found patterns in admissions per capita that were similar to Ginsburg. Coelen, Mennemeyer, and Kidder (1986) found a very small (0.7 percent) increase in average LOS in 1972, followed by no differences in LOS in 1973 and 1974 and non-ESP years. They also found no change in acute-care admissions per capita during ESP.

DISCUSSION

Overall, ESP appeared to be associated with small declines in profits from 1971-73, with a rebound in 1974. Small declines in hospital expenses also occurred. Larger declines in revenues than in expenses may have led to the negative trends in profits, as hospitals needed time to introduce cost-saving approaches. Changes in wages and employment were greater than changes in profits or expenses, suggesting that hospitals eventually reacted to wage and price controls by addressing payroll and staffing mix. Thus, ESP may have affected wages more than other factors, at least in the short run. Utilization changes were minor.

Generally, multivariate studies showed smaller changes in economic factors and about the same size changes in utilization as our trend analyses. Where the results differ, we place more confidence in the results of multivariate studies that adjust for a variety of factors other than ESP that influence hospital behavior and utilization.

Ginsburg (1976) suggested that the relatively small effects of ESP on hospital costs were due to four factors: (1) the ambiguous

and oft-changing ESP regulations; (2) fears that current costs would be used as a basis for future price controls, leading to incentives to increase costs during ESP; (3) the expectation that the program would be short-lived; and (4) the lack of incentives to control costs for hospitals with annual cost increases less than 6 percent. Sloan and Steinwald (1980) suggest that the relatively small effects of ESP and other regulatory programs on hospital costs may reflect the inadequacy of a piecemeal approach to containing costs.

It is important to note, however, that even small changes in costs or profitability can be very important for smaller hospitals, since their profits tend to be initially small (Furst and Dunkelberg, 1978). Furthermore, smaller hospitals tend to take longer to adjust to regulatory pressures. Special considerations for the unique problems of smaller facilities may be warranted if future regulatory programs are to avoid undue financial pressure.

ESP's largest effects seem to be on hospital wages and employment. Taylor (1979) indicated that rising hospital employment and wage rates before controls were not the major causes of the rapid rise in hospital costs. She argued against using any government policy that focuses on hospital labor costs as the key to reducing inflation. Such policies may have a strong impact on earnings and employment, raising equity problems regarding who should bear the brunt of hospital cost controls.

We later describe differences in the regulatory environment that present challenges for estimating the impact of new ESP-like programs. Steinwald and Sloan (1981) cited work noting 40 different types of concurrent hospital regulation in Massachusetts; many of these programs appeared to work at cross-purposes. The design of a new price-control system could benefit from a review of the complete inventory of regulatory programs currently in effect. This would help generate hypotheses regarding the likely effects of the new program on the behavior of decisionmakers who determine the nature and extent of hospital use.

Finally, virtually none of the studies allowing inferences about ESP reported changes in patient outcomes or other factors that attempt to measure access to care or the quality of care provided. New ESP-like programs would be implemented in a context without corresponding controls in other sectors of the economy. To speculate, controls on wages could result in labor shortages, as workers move to other more profitable service sectors. Physicians or other providers may respond to price controls by attempting to provide care more efficiently, perhaps with fewer support personnel. Previous studies provide no clues as to how such changes might affect access to care or the likelihood of obtaining successful clinical outcomes.

Generalizing to the Present

The operating environment of the health care industry is not the same today as it was in the early 1970s. The differences are important to understanding how the effects of ESP on health care inflation might be generalized to the present.

The central issue of the effects of any ESP-type program relates to the reimbursement environment and the important changes that have occurred in the last 20 years. Hospitals in particular are today subject to administered pricing systems established for Medicare, Medicaid, other payers, and managed care organizations. Given that the environment of the early 1970s emphasized reimbursement based on costs and charges, there are two issues that relate to

Table 1

Percent Change in Annual Rates of Increase of Unit Costs for State Prospective Reimbursement (PR) Programs: 1986

Period	Mandatory PR Programs		Voluntary PR Programs	
	Expense per Case	Expense per Day	Expense per Case	Expense per Day
Pre-ESP[1]	-1.6	-1.6	0.1	-0.5
During ESP	*0.0	*0.7	*-1.1	-0.8
Interim Period[1]	*-1.6	*-1.6	*0.1	-0.5
During VE	-1.9	*-0.7	-0.5	0.0

*Change in effect previous period is statistically significant at $p = .05$, two-tailed test.

[1]Models do not differentiate between the pre-ESP and interim periods.

NOTE: ESP is Economic Stabilization Program. VE is the Carter Administration's Voluntary Effort.

SOURCE: (Coelen, Mennemeyer, and Kidder, 1986).

how ESP might generalize to today's kind of working environment. First, would the effects of ESP on hospital payments, however large or small, augment the inflation-control aspects of these other reimbursement policies? Or would price control systems like ESP simply change the nature of the constraints on managers, causing a somewhat redundant application of price controls? Second, is there a possibility that ESP-type controls or freezes could be imposed without the attendant "bounce-back" of prices if, at the end of the freeze period, they were replaced with a program of administered prices for all payers?

HCFA's National Hospital Rate-Setting Study results bear indirectly on these questions (Coelen, Mennemeyer, and Kidder, 1986). This project used data from the 1970s to evaluate the impact of 15 State prospective reimbursement programs for hospital services. Tables 1 and 2 show the estimated effect of the 15 voluntary and mandatory State prospective reimbursement systems from 1970-83 on inflation rates of expenses and net patient service revenues.[5] The cost and revenue containment effects of mandatory programs (e.g., New York, New Jersey) during ESP were virtually insignificant. Table 2 shows that mandatory ratesetting programs shaved approximately 2.8 percentage points off the annual inflation rates in net patient revenues during the period between ESP and the beginning of President Carter's effort to control prices in 1977.[6] During ESP, however, the effect was virtually non-existent, while during 1977-78, the program's effectiveness was somewhere in between. We interpret these results to mean that the comparison group hospitals (in States without prospective reimbursement programs) had rates of inflation that were reduced during ESP. The reduction in inflation in those facilities was roughly the same as in hospitals in mandatory prospective payment programs during the same period. The Carter Administration's effort in 1977-78, on the other hand, seems less effective. It appears that comparison hospitals experienced reductions in the inflation rate of net patient service revenues of about 1 percentage point, making the implied effectiveness of mandatory ratesetting programs somewhat less during the period of the Carter effort.

[5]Because these early ratesetting programs were undoubtedly less sophisticated than programs being administered today, we should point out that estimates of their impact during ESP are not likely to be completely transferable to today's ratesetting environment.

[6]In 1977, national hospital and medical associations began a voluntary effort to control prices as a result of threats from the Carter administration to impose price controls again.

Table 2

Percent Change in Annual Rate of Growth of Net Patient Service Revenue for State Prospective Reimbursement (PR) Programs: 1986

Period	Mandatory PR Programs		Voluntary PR Programs	
	Revenue per Case	Revenue per Day	Revenue per Case	Revenue per Day
Pre-ESP[1]	-2.8	-2.3	-0.3	0.3
During ESP	*0.1	*-0.2	*-0.9	*-1.2
Interim Period[1]	*-2.8	*-2.3	*-0.3	*-0.3
During VE	*-1.9	-2.6	0.3	-0.2

*Statistically significant change in effectiveness from previous period at $p = .05$, two-tailed test.

[1]Models do not differentiate between the pre-ESP and interim periods.

NOTE: ESP is Economic Stabilization Program. VE is the Carter Administration's Voluntary Effort.

SOURCE: (Coelen, Mennemeyer, and Kidder, 1986).

For State voluntary prospective reimbursement programs, the results are different. The effects of ratesetting programs during ESP for these programs exceed the effects during the interim periods. This occurs for both expenditures (Table 1) and revenues (Table 2).

Taken together, these results suggest that ESP and the mandatory prospective payment programs were essentially substitutes. The presence of ESP tended to affect the comparison group hospitals in ways that made them indistinguishable from hospitals being paid under mandatory prospective payment programs. In other words, ESP and mandatory State prospective payments systems of the 1970s seemed to be substitute policies for containing growth in expenses and revenues, posing essentially redundant constraints on hospital managers. On the other hand, voluntary programs and ESP were complementary.

The results of this research suggest that the effects of State voluntary programs on inflation in spending and revenue were minimal. Imposing ESP on such programs tended to make those programs more effective than in comparison hospitals where only ESP was being imposed. It is not clear why this should be the case, although it may be that voluntary programs provided a budgeting and introspective process that, under the discipline of ESP, allowed hospital managers to outperform their counterparts in facilities not exposed to the budgeting program. These results also help to corroborate the possible effectiveness of ESP, pointing toward a view that ESP may have been as effective in controlling hospital behavior as were the mandatory State ratesetting programs during the 1970s (i.e., by reducing annual rates of inflation by about 1.6 percentage points [Table 1] and reducing revenue inflation by about 2.8 percentage points [Table 2]).

The results from the National Hospital Rate-Setting Study also suggest that if ESP were implemented in today's hospital reimbursement environment, the results of wage and price controls may be reduced from those levels of effectiveness that were observed in the 1970s. Cost-control programs now proliferate. There are the Medicare prospective payment system (PPS), State Medicaid prospective payment programs, and other prospective payment programs and contracting arrangements run by payers with similar reimbursement rules. These programs, which are certainly more sophisticated than those operating in the early 1970s, provide an incentive structure that has led to revenue and expenditure levels that are unquestionably lower than would have otherwise existed. While the magnitude of these savings is contested,

and potential for further economies certainly exists, there does seem little question that hospital costs and revenues are lower than they would otherwise have been. Hence, it seems likely that the potential for further economies might be lower than existed in the early 1970s. If this is true, then the savings we might expect from a program of controls and freezes similar to ESP would be smaller in the 1990s than those observed in the 1970s.

The effectiveness of ESP on inflation must be measured with full consideration of any bounceback effects that may have occurred when the controls were eliminated. An immediate return to high list prices after controls are lifted would provide evidence of one of the major problems with wage and price controls noted by leading economists of the day. Friedman (1971) argued that controls affect stated prices, but, as controls continue, stated prices will differ more and more from actual prices as producers respond by altering discount strategies, service quality, and the availability of overtime and perquisites by employees. He noted that any end-of-controls bounceback in prices is likely to be a biased signal of actual price changes. He and others (Reynolds, 1971) feared that this bias would erroneously influence future pricing policies. Thus, a program of controls that allows an assessment of stated and real price changes will be more useful than one where true wage and pricing behavior is unmeasured.

During the implementation of ESP in the 1970s, there was no special provision for phasing out the program in ways that would capture any real savings in suppressed inflation created by the controls. Hospitals during this time recovered from ESP by returning to the unfettered reimbursement world of costs and charges, and prices rose sharply, with health care inflation rates of the MCPI exceeding the inflation rates in the CPI in 1974 and beyond. If Friedman's analysis is correct, this bounceback may overestimate the impact of controls; however, data do not exist which allow us to estimate how much actual prices really changed.

Other Generalizability Issues

Many circumstances in the health care environment have changed, possibly affecting the generalizability of the ESP experience of the 1970s. We identified four changes in market situations and indicate whether the consequence of that change could be expected to create larger or smaller effects of ESP-type programs on inflation.

The first issue relates to the possibility that less slack in hospitals will reduce the potential for hospitals to be able to reduce expenditures. Depending on the choice of control mechanisms, this could limit the effectiveness of the program on inflation. It could cause substantial declines in profit margins and/or financial viability, or it could cause compromises in patient care.

The second issue relates to the fact that hospitals and physicians may be less able to circumvent controls on revenue by creating volume increases. Practice patterns today may be affected by utilization review programs that limit options more so than in the early 1970s. Even though there is little evidence of volume effects of ESP in hospitals, to the extent that opportunities for circumventing controls are less available, ESP would probably be more effective in today's environment.

The third issue we identified is the industry-specific application of wage and price controls today, as contrasted with the economy-wide (or nearly so) plans of the early 1970s. This difference may contribute to a diminished effectiveness of controls in

today's health care marketplace. This hypothesis stems from the fact that hospitals and other health care providers were able to purchase from suppliers in the early 1970s who themselves were subject to price controls. This would not be the case in the 1990s. In the early 1970s, providers had support in their output price objectives from the application of controls to other sectors of the economy. Not only were prices for things that were purchased likely to be controlled, but pressures on wages were diminished generally, not only in the health sector. Thus, it would be more difficult for providers today to sustain discipline on their own output prices without compromising financial viability or patient care.

Fourth, the general level of inflation in the economy and unemployment levels will affect the impact of new wage and price controls. For non-labor inputs, low levels of inflation would seem to mitigate the consequences of our earlier point that not including all industries under the controls would diminish the effectiveness of ESP-type programs. For labor, one would expect controls to be less effective on payroll spending if health care providers must compete for workers with other employers who would not themselves be subject to controls. However, to the extent that movement between industries is hindered by the costs of education and retraining, the extent of competition for employees across industries is not complete.

Finally, the level of unemployment at the time of controls will bear on the extent of any shortages created by the controls. Dornbusch and Fisher (1981) note that controls were imposed in 1971 when unemployment was higher than in previous years. As a result, the controls did not generate shortages in many individual markets in the following years. Currently however, unemployment appears to be relatively stable and at fairly low levels. Dornbusch and Fisher argue that, in an economy with low levels of unemployment, controls may soon lead to shortages and other microeconomic distortions.

Long-Run Effects

In the hospital industry, the impact of ESP in the short run appears to have been small. Some may argue that controls would be more effective if extended indefinitely, but theory and experience elsewhere suggest the opposite. Dornbusch and Fisher (1990) note that inflation cannot be eliminated indefinitely by wage and price controls without inducing serious distortions in the mix of capital and labor inputs used to produce goods and services, resulting in production inefficiencies. To avoid this, they note, policies that attempt to reduce inflation via wage and price controls must still allow relative prices to change. The authors point out that "this is either impossible or extremely difficult over any extended period" (Dornbusch and Fischer, 1990).

Experience in other countries (e.g., Israel, Argentina, Great Britain) suggests that controls either break down or are unstable in the long run (after 3-5 years), for political and economic reasons (Dornbusch and Fisher, 1990). Moreover, the longer controls are in place, the less effective they appear to be. The British experience with 5 years of wage and price controls in the 1960s suggests some short-run success, but with rising inflation later on and a strong spurt in stated prices at the end of the fifth year (*U.S. News and World Report*, 1971).

Long-term controls in the health care industry in the 1990s and beyond would require a policymaking or advisory board similar in function to the Committee on the Health Services Industry that operated

during the ESP years. That committee was dominated by providers, though consumers were represented as well (Horowitz, 1973). Over time, a new policy or advisory board may be subject to "capture" by hospital lobbyists, such that the regulated group may come to dominate the decisions made by regulators. Eastaugh (1992) notes that capture is not necessarily problematic, if efficient decisionmaking requires cooperation between industry and government. Nevertheless, the greater the control of the policymaking or advisory board by those who are regulated, the less likely wage and price controls would curb inflation in the long run.

Wage and Price Controls or Ratesetting?

We previously addressed the potential substitutability of ratesetting mechanisms for wage and price controls. To a great extent, the relative merits of these mechanisms depend upon the goals of the inflation control program and value judgements regarding who should be most affected and induced to change behavior. Much debate can occur, for example, regarding the desirability of limiting total national health expenditures versus simply setting competitive prices for individual services. Similarly, debate may rage according to how much emphasis should be placed upon incentives for patients versus providers. This article cannot attempt to answer the question of which inflation control mechanism is best. We do, however, offer some general thoughts about the advantages and disadvantages of each.

- Wage and price controls do not allow relative prices to change, so market behavior may become distorted and inefficient. For example, wage and price freezes affect the status quo, freezing some prices and wages that were still in the process of adjusting to reach competitive equilibria. Ratesetting methods typically involve much effort to set "correct" prices in efforts to mimic a competitive environment, so distortions should be fewer and less problematic.
- Wage and price controls are less familiar to the industry than ratesetting, since there is a history of State prospective payment programs, the Medicare PPS, the Medicare resource-based relative value scale, and other programs. Thus, hospital behavior may be easier to predict under ratesetting. The large volume of work describing a variety of impacts of ratesetting methods (Coulam and Gaumer, 1992; Coelen, Mennemeyer, and Kidder, 1986) also contributes to reduced uncertainty regarding the likely effects of hospital behavior.
- Wage and price controls tend to be unstable, often collapsing or being revoked after a few years. To the contrary, ratesetting efforts (e.g., PPS) often have a longer lifespan.
- Wage and price controls are easier to begin—they can be implemented by one stroke of the President's pen. On the contrary, ratesetting methods require much start-up effort to determine how and where rates should be set.
- With some forethought, both wage and price controls and ratesetting mechanisms can embody incentives and financial rewards for providers or organizations that play by the rules, but government monitoring efforts would have to be expanded, resulting in additional bureaucracy. Either another advisory board or commission would have to be created, or ProPAC, the Physician Payment Review Commission, the U.S. Congressional Budget Office, and/or HCFA would have to accept broader missions. In support of these expanded missions or to support a

new advisory body, it is not clear where data would come from to address changes in the treatment of non-Medicare patients.

- Wage and price controls address outpatient and non-hospital institutional care with one fell swoop. On the contrary, with ratesetting, products like Resource Utilization Groups are needed to appropriately classify and pay for nursing home care; Ambulatory Patient Groups (or other grouping methods) would be necessary to address outpatient care; etc. It is not clear how these mechanisms can or should relate to each other, or whether acceptable episode-based reimbursement methods can be constructed that would contribute to efficient price setting for the entire treatment process, regardless of setting.
- Ratesetting methods may induce cost-shifting until all-payer systems are put in place, whereas wage and price controls avoid this problem.
- Finally, without controls on wages or other prices paid by hospitals for supplies, materials, equipment, etc., ratesetting mechanisms leave providers at the mercy of inflation in labor and other input markets. Inflation that is beyond the control of hospital providers and administrators must be considered as appropriate rates are set.

A great deal of policy-relevant information could be gained from a systematic comparison of the results of ESP and the variety of ratesetting methods that have been or are being tried.

SUMMARY AND CONCLUSIONS

The ESP was a combination of two short wage and price freezes and approximately 2 years of varying controls on wages and prices applied to the American economy from 1971-74. Macroeconomic analysts do not agree on the effects of these controls on inflation. Feige and Pearce (1976) argue that controls had no real effect on inflation, other than during the Phase I freeze. However, Cagan (1973) notes that expectations of inflation were reduced by the imposition of controls, and inflationary expectations often lead to actual inflation in future periods. Nevertheless, prices had begun to fall immediately before the Phase I wage and price freeze. While the evidence from the initial freeze and the subsequent year indicated moderated inflation rates, there is no decisive evidence that these effects would not have occurred in the absence of the ESP controls. However, one might argue that the experience with ESP was an inadequate test for the ability of controls to reduce inflation, because the Nixon Administration was so reluctant to come to the decision to use controls in the first place (Dornbusch and Fisher, 1981) and because the rules of the program were confusing and often changing (Ginsburg, 1976).

The evidence of ESP's effects on the health care industry is similarly mixed. The evidence for hospitals suggests that the ESP period was associated with the reduction of one-half to three percentage points in the annual rates of inflation in revenues and expenses. Because of differences in the timing of the phases of ESP and the dates for which secondary data on hospital behavior are collected in annual surveys, this evidence is unable to distinguish between the effects of the freezes from the effects of the broader systems of Phase II and Phase III controls. Most of the ESP effect appears to come from labor (reduced payroll growth composed of a slower growth on both wages and employment). There is no reliable evidence on whether hospitals responded to the controls by increasing volumes; our

descriptive analyses showed an upward trend in adjusted admissions, but multivariate studies showed small or insignificant increases in admissions during ESP.

The current environment is different in many ways from the economic climate of the 1970s, and it is not easy to generalize about whether ESP-type controls would be more or less effective in the 1990s. The fact that the hospital and other health care sectors have been exposed to many years of cost containment pressures argues for smaller effects of an ESP-type program today. The general level of efficiency may be greater now than it was under cost-based reimbursement in the 1970s, and utilization review procedures make it more difficult in the 1990s to offset price controls by increasing the volume of care provided.

The likelihood that controls similar to ESP would have limited effect today is exacerbated by the fact that the application of controls in the 1990s would be to the health care industry alone, rather than economy-wide, as they were in the 1970s. This is because health care providers make purchases of products and labor in markets that, unlike the 1970s, are not subject to controls, and employees may be free to move to more lucrative markets. Any resulting shortages in hospital labor markets may threaten the viability of the controls.

One factor that might strengthen the impact of controls in the 1990s, compared with the 1970s, is that such controls now could perhaps more easily be extended to include a phase-in to other forms of administrative price and volume controls on hospitals, physicians, and possibly other services.

It may seem surprising that wage and price controls, widely regarded as "strong medicine" for fighting inflation, had such modest and even ambiguous effects on the general economy and health care markets of the 1970s. As Ginsburg (1976) notes, better enunciation of the rules and limiting exceptions of a stable wage and price control policy may have shown greater effects. A stronger impact would also be associated with a clear understanding of post-control payment policies with strong incentives to curb inflation. At this time, the full list of advantages and disadvantages of wage and price controls versus hospital ratesetting efforts is unknown. However, one lesson from ESP may be that ill-defined, poorly understood, and oft-changing wage and price control policies are of limited value as means for containing the rising costs of health care in the United States.

ACKNOWLEDGMENTS

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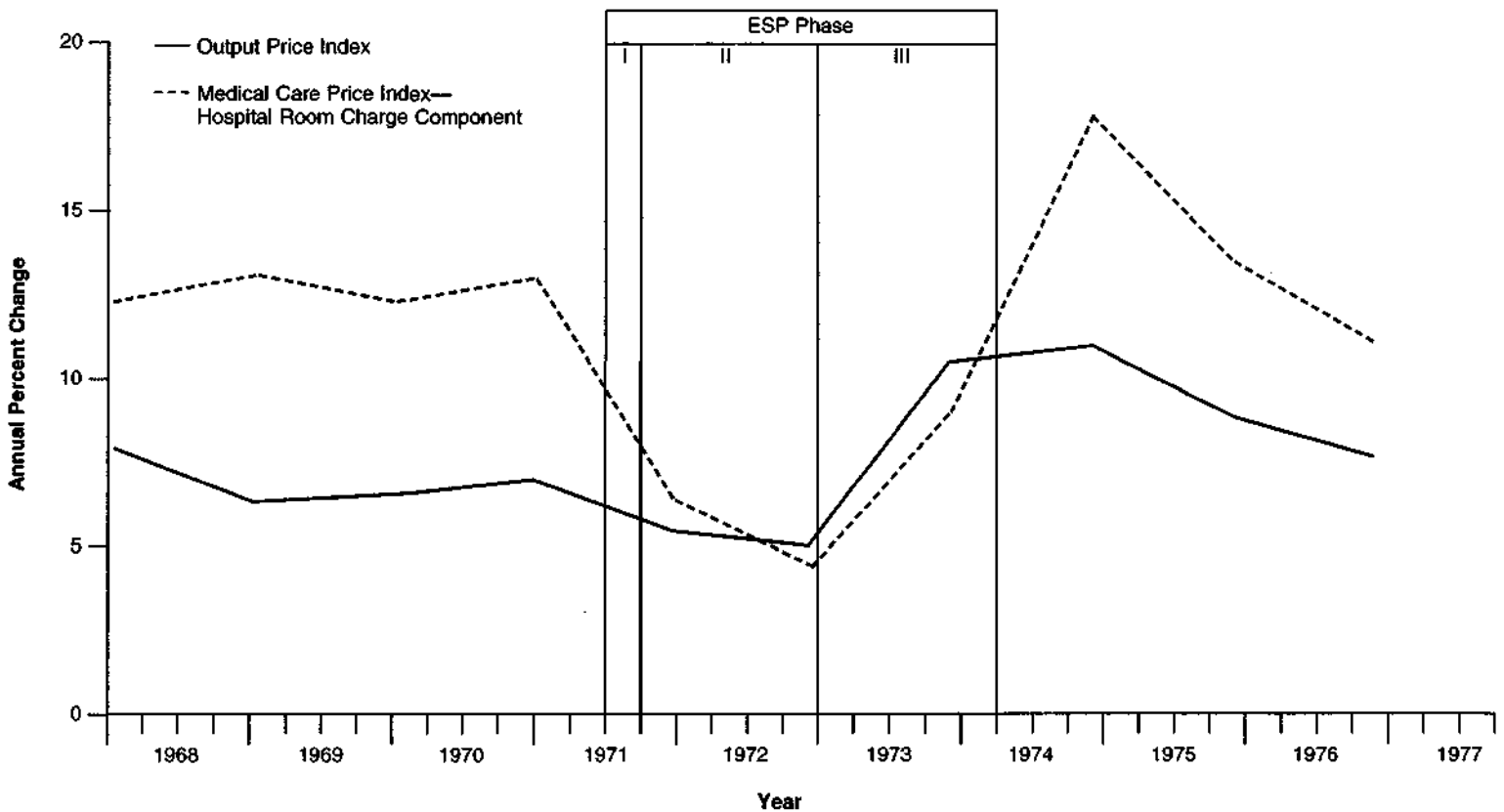
Figure 1
Annual Percent Change in Hospital Output Prices: 1968-77

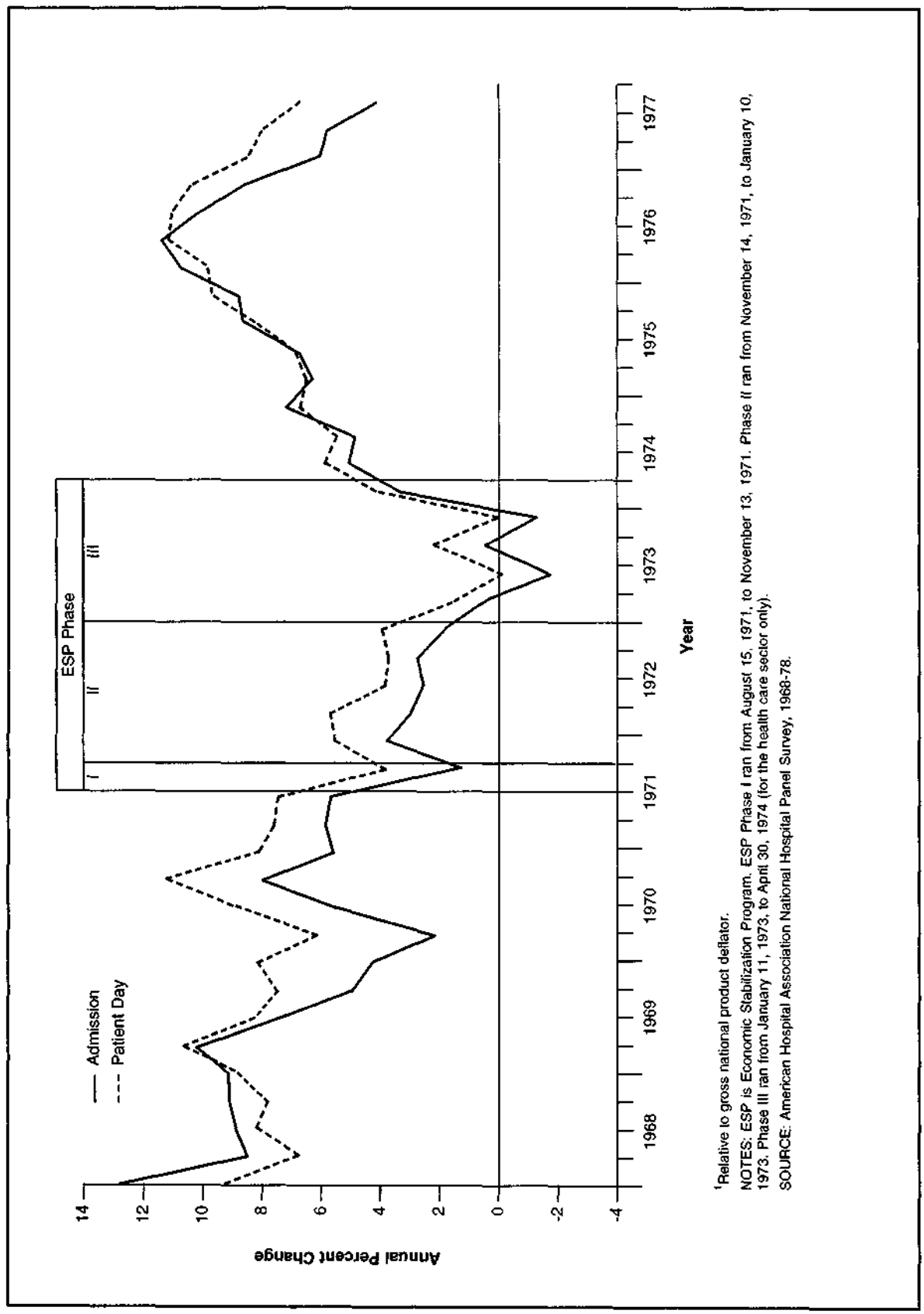


NOTES: ESP is Economic Stabilization Program. The output price index is derived by adjusting the Health Care Financing Administration's Hospital Input Price Index for hospital profitability. ESP Phase I ran from August 15, 1971, to November 13, 1971. Phase II ran from November 14, 1971, to January 10, 1973. Phase III ran from January 11, 1973, to April 30, 1974 (for the health care sector only).

SOURCES: Health Care Financing Administration: Data from the Office of the Actuary, 1993; U.S. Bureau of Labor Statistics, 1993.

Figure 2

Annual Percent Change[1] in Inpatient Revenue per Admission and Patient Day: 1968-77



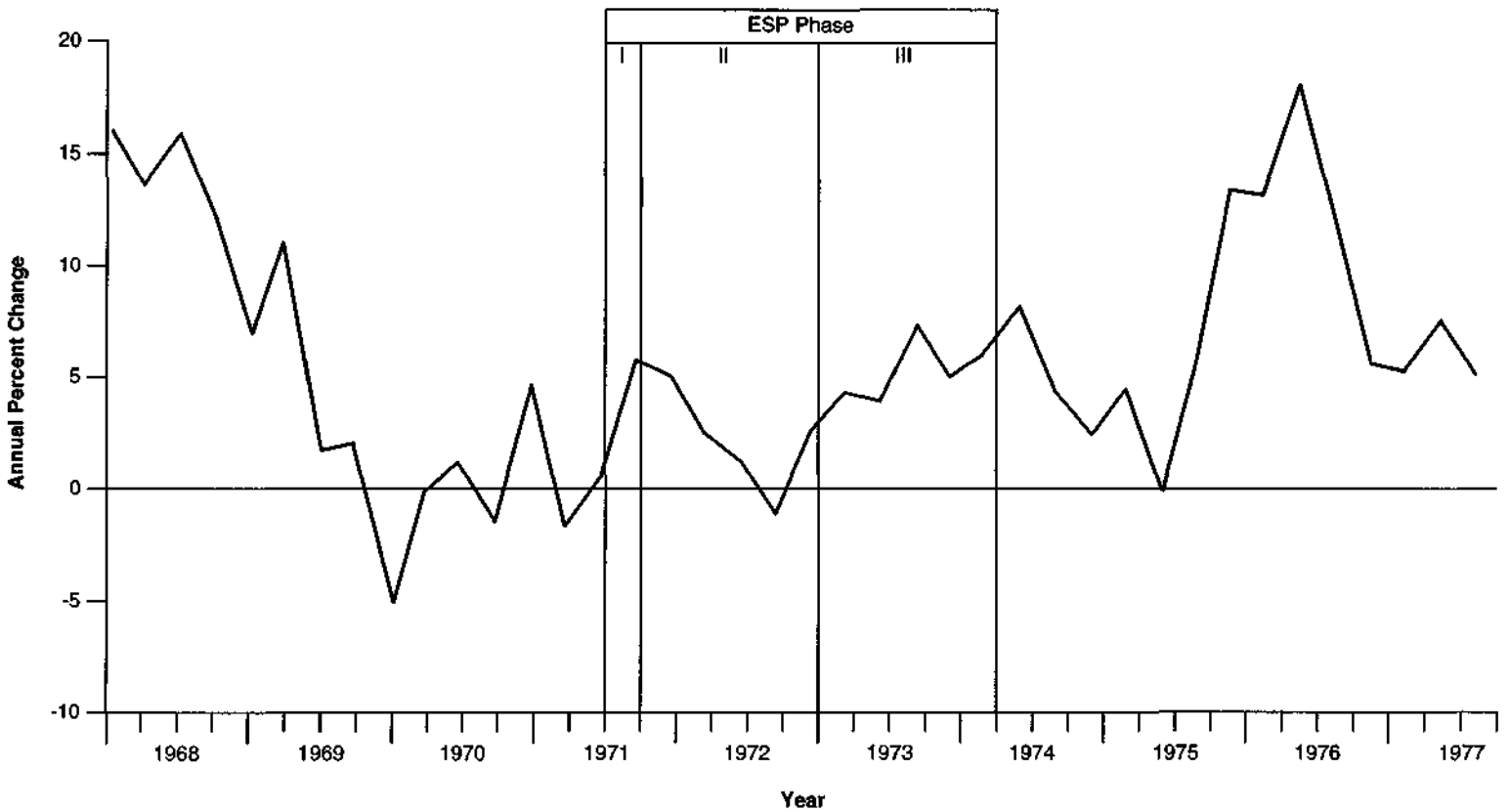
[1]Relative to gross national product deflator.

NOTES: ESP is Economic Stabilization Program. ESP Phase I ran from August 15, 1971, to November 13, 1971. Phase II ran from November 14, 1971, to January 10, 1973. Phase III ran from January 11, 1973, to April 30, 1974 (for the health care sector only).

SOURCE: American Hospital Association National Hospital Panel Survey, 1968-78.

Figure 3

Annual Percent Change[1] in Outpatient Revenue per Visit: 1968-77



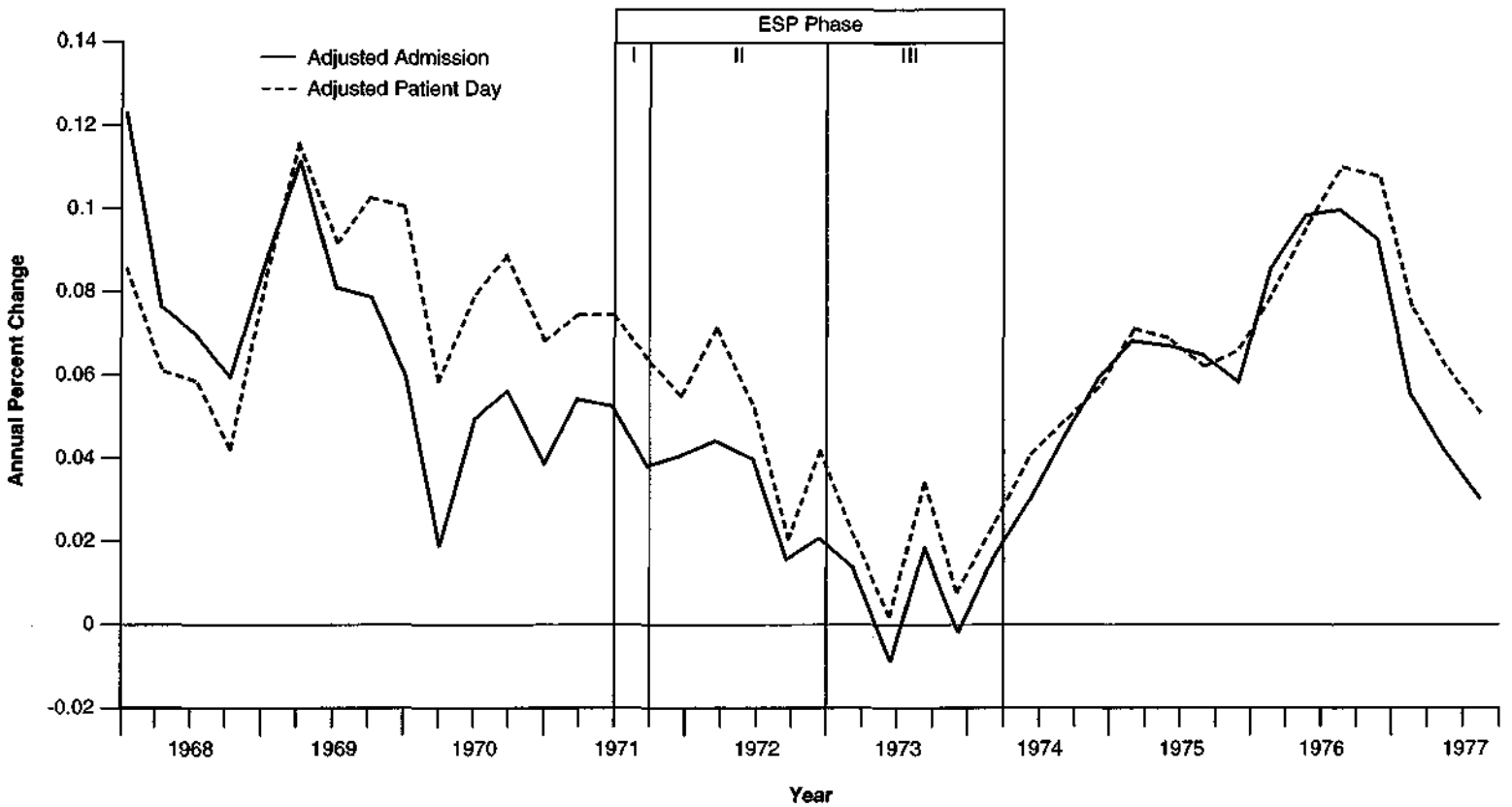
[1]Relative to gross national product deflator.

NOTES: ESP is Economic Stabilization Program. ESP Phase I ran from August 15, 1971, to November 13, 1971. Phase II ran from November 14, 1971, to January 10, 1973. Phase III ran from January 11, 1973, to April 30, 1974 (for the health care sector only).

SOURCE: American Hospital Association National Hospital Panel Survey, 1968-78.

Figure 4

Annual Percent Change[1] in Total Expenses per Adjusted Admission and Adjusted Patient Day: 1968-77



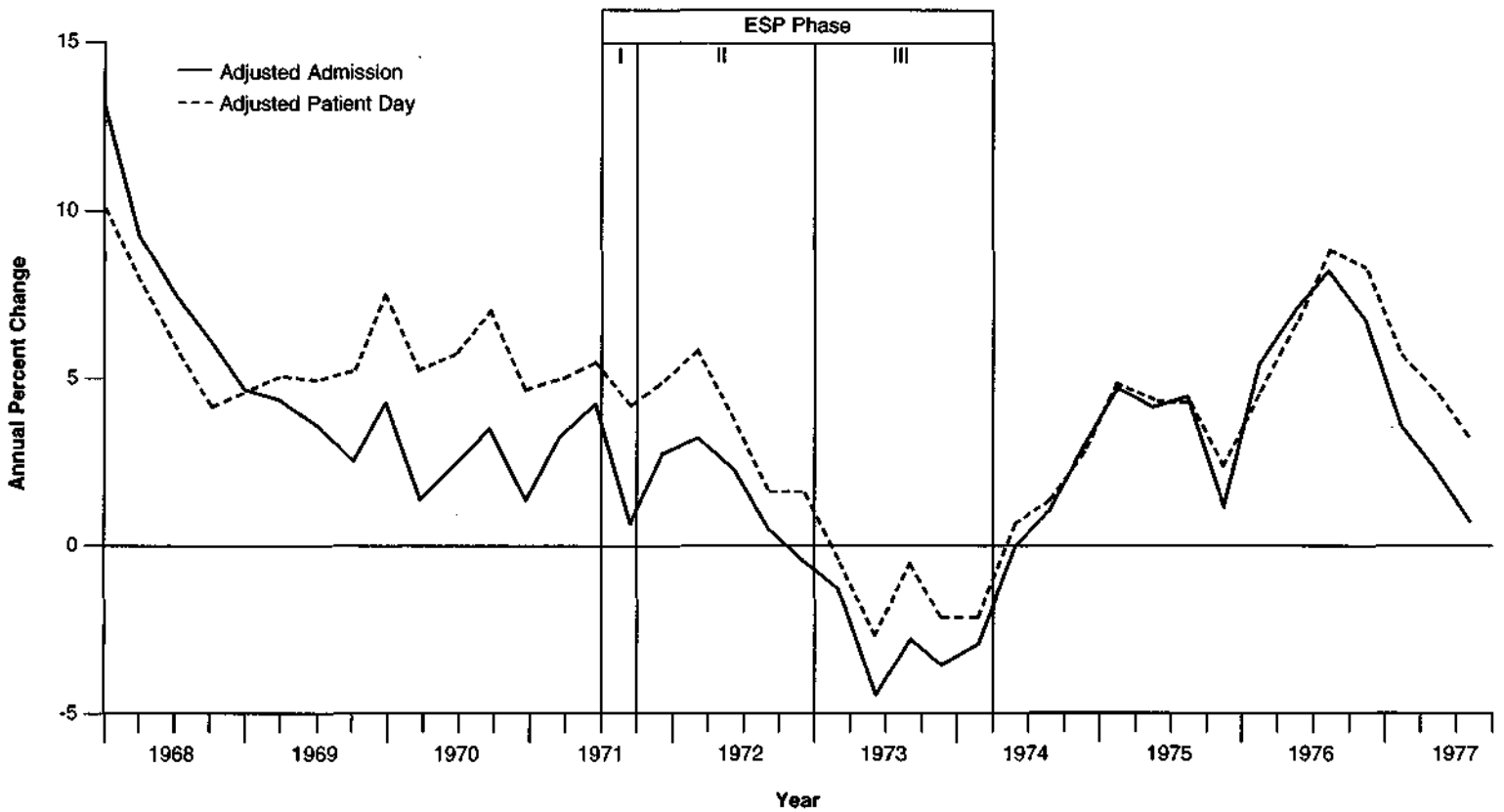
[1]Relative to gross national product deflator.

NOTES: ESP is Economic Stabilization Program. ESP Phase I ran from August 15, 1971, to November 13, 1971. Phase II ran from November 14, 1971, to January 10, 1973. Phase III ran from January 11, 1973, to April 30, 1974 (for the health care sector only).

SOURCE: American Hospital Association National Hospital Panel Survey, 1968-78.

Figure 5

Annual Percent Change[1] in Payroll Expenses per Adjusted Admission and Adjusted Patient Day: 1968-77

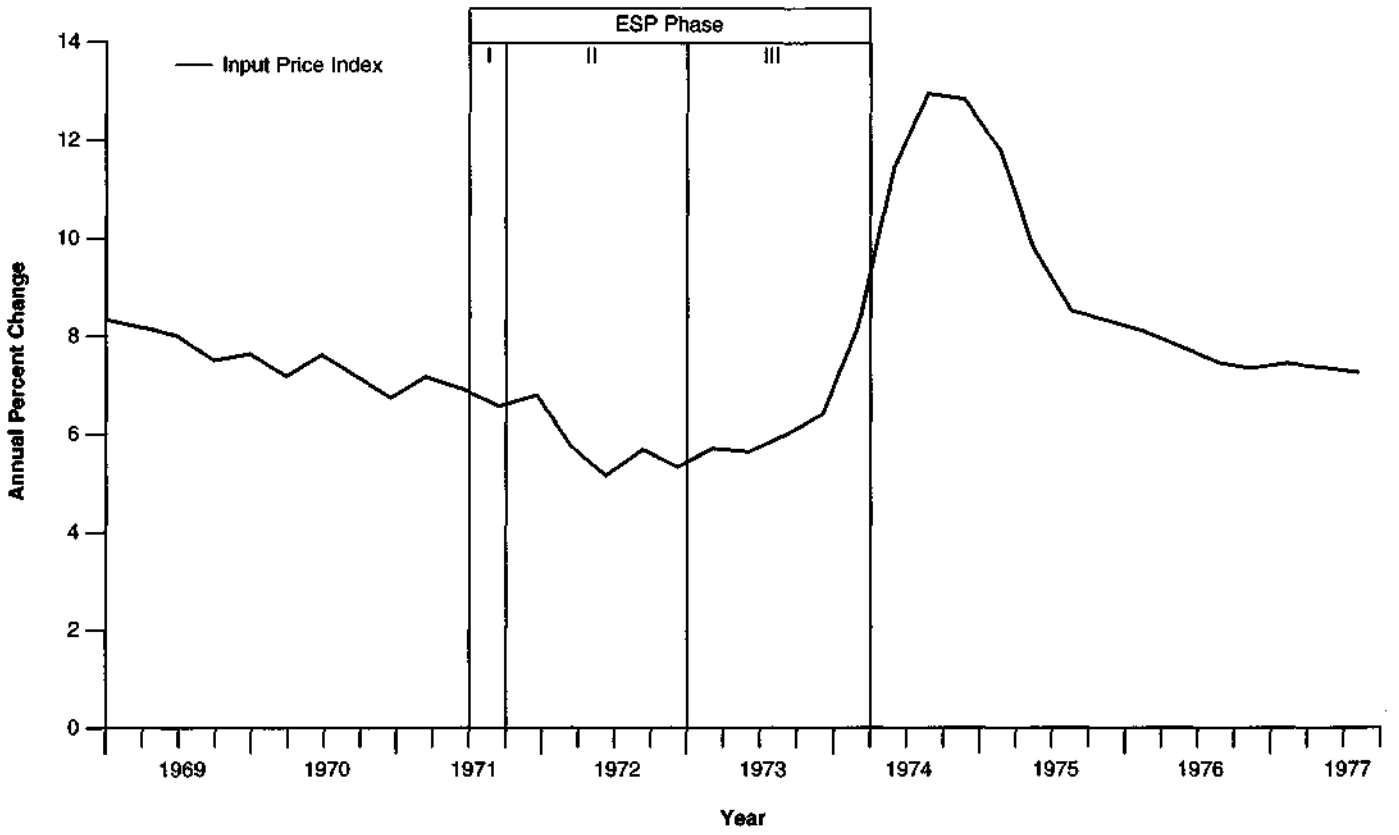


[1]Relative to gross national product deflator.

NOTES: ESP is Economic Stabilization Program. ESP Phase I ran from August 15, 1971, to November 13, 1971. Phase II ran from November 14, 1971, to January 10, 1973. Phase III ran from January 11, 1973, to April 30, 1974 (for the health care sector only).

SOURCE: American Hospital Association National Hospital Panel Survey, 1968-78.

Figure 6
Annual Percent Change in Hospital Input Prices: 1969-77

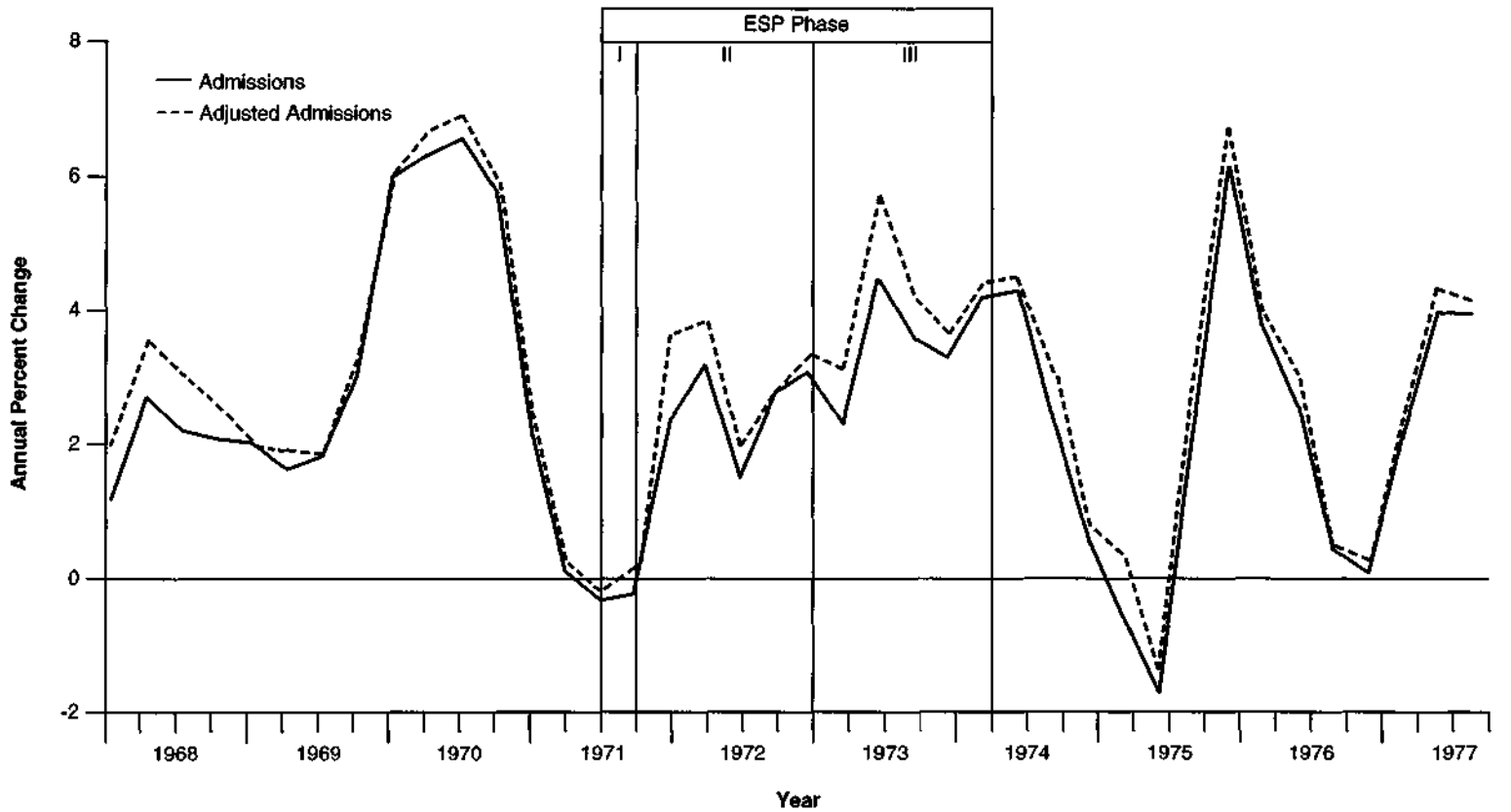


NOTES: ESP is Economic Stabilization Program. ESP Phase I ran from August 15, 1971, to November 13, 1971. Phase II ran from November 14, 1971, to January 10, 1973. Phase III ran from January 11, 1973, to April 30, 1974 (for the health care sector only).

SOURCE: Health Care Financing Administration: Data from the Office of the Actuary, 1992.

Figure 7

Annual Percent Change in Admissions and Adjusted Admissions: 1968-77



NOTES: ESP is Economic Stabilization Program. ESP Phase I ran from August 15, 1971, to November 13, 1971. Phase II ran from November 14, 1971, to January 10, 1973. Phase III ran from January 11, 1973, to April 30, 1974 (for the health care sector only).

SOURCE: American Hospital Association National Hospital Panel Survey, 1968-78.

Figure 8

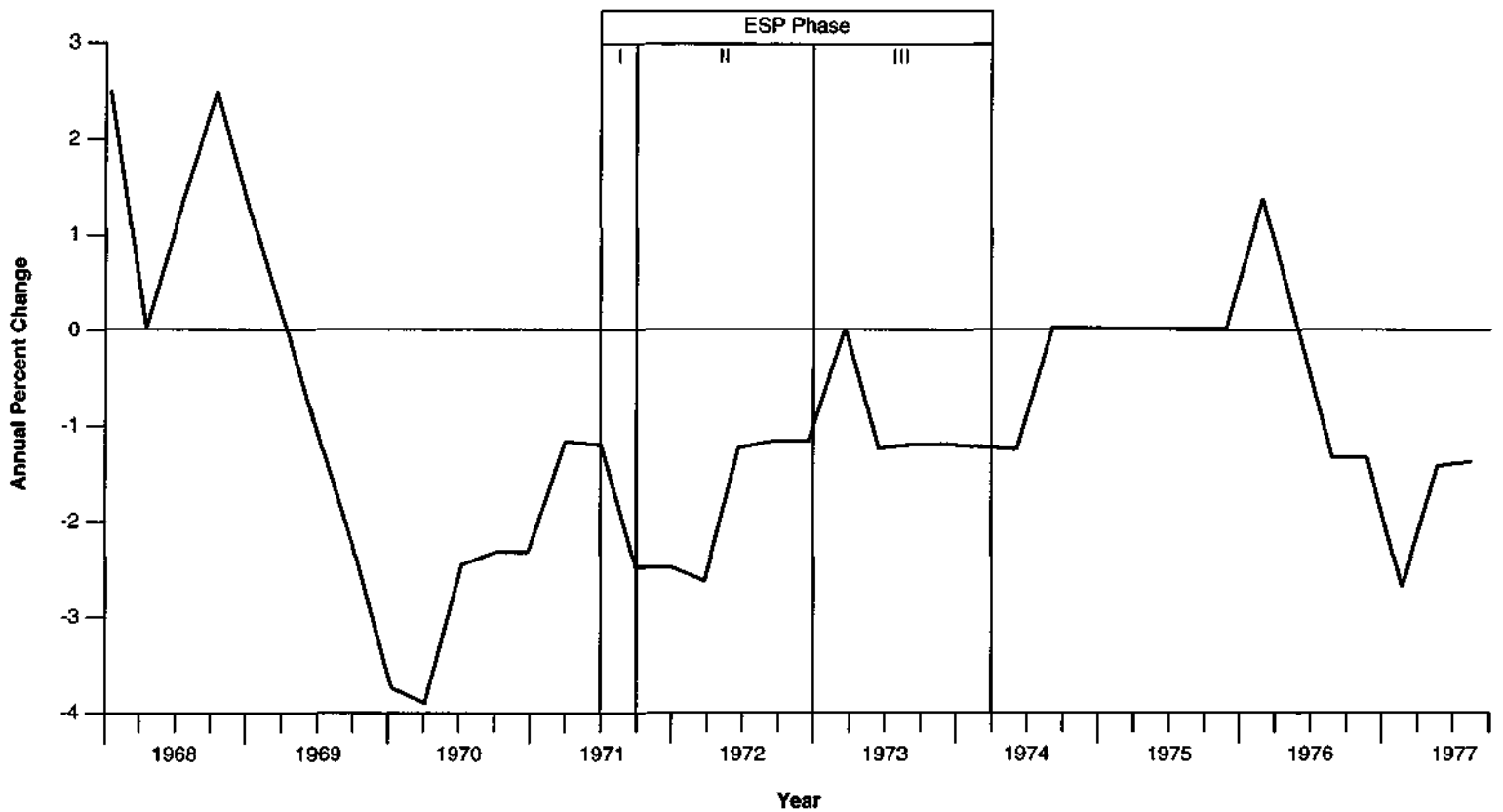
Annual Percent Change in Outpatient Visits: 1968-77

NOTES: ESP is *Economic Stabilization Program*. ESP Phase I ran from August 15, 1971, to November 13, 1971. Phase II ran from November 14, 1971, to January 10, 1973. Phase III ran from January 11, 1973, to April 30, 1974 (for the health care sector only).

SOURCE: American Hospital Association National Hospital Panel Survey, 1968-78.

Figure 9

Annual Percent Change in Average Length of Stay: 1968-77



NOTES: ESP is Economic Stabilization Program. ESP Phase I ran from August 15, 1971, to November 13, 1971. Phase II ran from November 14, 1971, to January 10, 1973. Phase III ran from January 11, 1973, to April 30, 1974 (for the health care sector only).

SOURCE: American Hospital Association National Hospital Panel Survey, 1968-78.

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Reprint Requests: Ronald J. Ozminkowski, Ph.D., Abt Associates Inc., 4800 Montgomery Lane, Suite 600, Bethesda, Maryland 20814.