

Relations industrielles Industrial Relations



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Volume 32, Number 4, 1977

URI: <https://id.erudit.org/iderudit/028826ar>

DOI: <https://doi.org/10.7202/028826ar>

[See table of contents](#)

Publisher(s)

Département des relations industrielles de l'Université Laval

ISSN

0034-379X (print)

1703-8138 (digital)

[Explore this journal](#)

Cite this article

Reid, F. (1977). The Response of Wages to the Removal of Controls: The American Experience. *Relations industrielles / Industrial Relations*, 32(4), 621–628. <https://doi.org/10.7202/028826ar>

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COMMENTAIRES

THE RESPONSE OF WAGES TO THE REMOVAL OF CONTROLS: THE AMERICAN EXPERIENCE

Frank Reid

From August 1971 to April 1974 a program of wage and price controls was in effect in the United States which was, in some respects, similar to the Canadian controls program. In both countries mandatory controls were implemented about five years following the termination of a voluntary controls policy. It is also interesting that in both countries controls were introduced in a surprise policy reversal by administrations which had taken strong political stands against controls. In view of the similar circumstances surrounding the implementation of controls and the basic similarity of the two economies, an examination of the U.S. experience with controls seems worthwhile.

The basic format of the U.S. controls program is reviewed in Section 1. In Section 2 a model is developed to explain the rate of wage change and, in Section 3, the model is used to measure the effect of controls on the rate of wage change, both while controls are in force and when the controls are removed. The final section draws conclusions from the results of the empirical analysis.

AN OVERVIEW OF U.S. WAGE CONTROLS

U.S. peacetime experience with wage controls began with the announcement of a set of wage and price Guideposts in January 1962 in the *Economic Report of the President*. The economic situation prior to their introduction was one in which unemployment was high and inflation was low (0.6% during 1961). The Guideposts were intended to reduce the inflationary impact of adopting an expansionary monetary and fiscal policy. The basis of the policy was that wage increases were to be limited to the national rate of productivity growth, which in a subsequent report was specified as 3.2% per year. Price changes were to be related to unit costs, implying that prices would rise in industries with

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** Paper presented at the Annual Meeting of the Canadian Industrial Relations Research Institute, Fredericton, N.B. June 7,8, 1977.

below average productivity growth, fall in industries with above average productivity growth rates, and result in a stable aggregate price level.

The Guideposts were not enforced through detailed regulations — instead the government relied on ad hoc intervention in “key” wage and price decisions. The best known example is President Kennedy’s dramatic confrontation with the steel industry in April 1962, but there were many other less well publicized cases of intervention by the government in price and wage decisions in which a wide variety of methods were used in an attempt to obtain compliance with the policy.

By the end of 1966, however, the inflation rate had risen to 3.3% and it was obvious that in this situation the government could not ask unions to settle for the 3.2% Guidepost. The administration was reluctant to set a new higher Guidepost and, in January 1967, the guidepost policy was essentially abandoned in the Council of Economic Advisors annual report.

The *Economic Report of the President* in the following few years referred disparagingly to wage and price controls as a possible policy alternative. Strong statements were made to the effect that controls were ineffective, inequitable, unworkable, and the least desirable of policy alternatives. On August 15, 1971 the President announced a controls program in a surprise policy reversal. The legal authority for the program was provided in the Economic Stabilization Act of 1970 which had been passed by a Democratic Congress, allegedly to embarrass a Republican President who was ideologically opposed to controls.

Phase I of the controls program was an immediate 90 day freeze on wages, prices and rents. Authority was delegated by the President to the cabinet-level Cost of Living Council which then administered the program through the Office of Emergency Preparedness.

The wage control component of the program froze wages at the level in effect during the month prior to the announcement of the program. There was some reluctance to disallow deferred wage increases which were specified in contracts negotiated in good faith before the freeze. It was decided, however, that on the grounds of equity they must be disallowed — to do otherwise would be unfair to workers who were not covered by contracts. The Internal Revenue Service undertook over 85,000 spot checks during the freeze and reported over 90 percent compliance (U.S. President, 1972, p. 84).

Phase II of the program was implemented on November 15, 1971 with the objective of reducing inflation to 2-3% by the end of 1972. The guidelines established were that pay increases should be limited to 5-½% per year which, with a 3% productivity growth rate, was expected reduce inflation to 2-½% per year.

Two new bodies were established to administer the program, the Pay Board and the Price Commission. The Pay Board was initially a tripartite board of 15 members, 5 each from business, labour and the public. In March 1972, however, four of the five labour members

withdrew from the Board as a result of a disagreement over the Pacific longshoreman's settlement. Business representation on the Board was then also reduced to maintain the labour-management balance.

For administrative purposes wage settlements were divided into three tiers. Tier 1, settlements affecting 5,000 or more workers (10% of all employees) required prior approval by The Pay Board. Settlements in Tier 2, i.e. those affecting 1000 to 5000 employees (7% of all employees) were required to be reported to the Pay Board; and settlements in Tier 3, i.e. those affecting less than 1000 workers (83% of all employees), required no reports but were subject to monitoring and spot checks.

In December 1971 the Economic Stabilization Act, which was scheduled to expire in April 1972, was extended to April 1973 by Congress and substantially amended. The policy which emerged was that generally, deferred increases negotiated prior to Phase I were to be allowed, and retroactive payments were permitted for income lost during the Phase I freeze. There were numerous provisions for exceptions from the guideline. A three-year catchup provision was provided allowing increases up to 7% to workers who had averaged less than 7% in the past three years. Increases up to 7% would also be allowed in situations where a "tandem relationship" existed, or where deemed necessary by the Pay Board to attract or retain essential labour. There were no restrictions on the "working poor" (a term which the Courts interpreted to mean those earning less than \$2.75 per hour), a group which included over 40 percent of the workers in the private nonfarm sector. Finally, all workers in firms (except construction and health) with 60 or less employees were exempt from controls.

Phase III was implemented in January 1973. The Pay Board and the Price Commission ceased to operate and the program was one of voluntary restraint with some monitoring by the Cost of Living Council.

The voluntary restraint program of Phase III was found to be unsatisfactory and was replaced by Phase IV in August 1973, which reimposed the mandatory controls of Phase II. In an attempt to achieve a smooth transition to an uncontrolled economy and avoid an "explosion" of wages and prices at the end of the program, a policy of sector by sector decontrol was also implemented. Phase IV ended when the Economic Stabilization Act, which had been renewed for an additional year, expired on April 30, 1974.

THE WAGE EQUATION

In order to assess the effects of controls on the rate of wage change, it is necessary to have a model to predict what the rate of wage change would have been in the absence of controls. It is essential to employ such a model in assessing the effects of controls because, when controls are introduced other things are not held constant. It can be highly misleading to simply observe whether the rate of wage change

rose or fell when controls were introduced and to attribute any change to controls. In many instances, though, policy discussions do not rise beyond this rather inadequate level.

The rate of wage change is measured by the quarter-to-quarter percentage change in average hourly earnings, converted to an annual rate.¹ The explanatory variables employed are the expected inflation rate, the job vacancy rate, the change in the job vacancy rate, and three seasonal dummy variables to capture seasonal bargaining patterns. The model was estimated by OLS using quarterly data over the 21 year period 1955-I to 1975-IV, excluding the four Phases of controls.

The expected inflation variable was constructed using a weak form of the rational expectations hypothesis. More specifically, an expected inflation variable was constructed by regressing the current inflation rate on the inflation rates in the previous four quarters, with weights constrained to follow a linear pattern.²

The job vacancy rate series was constructed using the index of Help-Wanted Advertising published in *The Conference Board Statistical Bulletin*. Maximum explanatory power was achieved using the current and one-period lagged value of the inverse of the job vacancy rate.

This specification of the model avoids some of the more common statistical problems with wage equations. In particular, using the one-quarter rather than the four-quarter change in the wage index as the dependent variable avoids inducing autocorrelation; the fact that the expected inflation variable does not include the current inflation rate avoids simultaneous equation bias; and the use of the vacancy rate rather than the unemployment rate avoids the problem that the unemployment rate may not be a consistent measure of labour market conditions over time due to changes in the demographic structure of the labour force and the amount of structural unemployment in the economy.

The model performs reasonably well when assessed by the usual criteria. The coefficients are of the expected magnitude and statistically significant, there is no evidence of autocorrelation, the equation explains 57% of the variation in the dependent variable, and an F-test does not show any structural instability over time.

THE RESPONSE OF WAGES TO THE IMPLEMENTATION AND REMOVAL OF CONTROLS

Table 1 summarizes the results of using the model to measure the effect of controls on the rate of wage change. For each period of controls the Table shows the wage guideline (or target) established by the government and the estimated reduction in the rate of wage change

¹ For details of the statistical tests reported in this paper see REID (1977).

² The four quarter distributed lag gave maximum explanatory power. F-tests indicated that at the .95 confidence level the linear constraint could not be rejected and higher order polynomials did not add significantly to explanatory power.

due to controls. The table also displays an *effectiveness coefficient* (k) which expresses any reduction in the rate of wage change due to controls as a fraction of the difference between the announced guideline and the rate of increase which would have occurred without controls. The effectiveness coefficient can vary between zero for a completely ineffective controls period, and unity for completely effective controls.

TABLE 1

The Effect of Controls on the Rate of Wage Change.

<i>Name of Period</i>	<i>Date of Period</i>	<i>Guideline</i>	<i>Reduction while controls in force</i>	<i>Effectiveness Coefficient (k)</i>	<i>Explosion when controls removed</i>
Guideposts	1962-I to 1966-IV	3.2%	-1.8*	0.4*	-0.7
Phase I	1971-IV	0.0%	-4.0*	0.6*	3.9*
Phase II	1972-I to 1972-IV	5.5%	0.5	0.0*	n.a.
Phase III	1973-I to 1973-II	5.5%	-0.3	0.0	n.a.
Phase IV	1973-III to 1974-I	5.5%	-3.9*	0.4*	2.9*

Note: Asterisks indicate statistical significance at the 95 percent confidence level. Dates for the wage explosions are: Guideposts, 1967-I to 1967-IV; Phase I, 1972-I; Phase IV, 1974-II to 1974-IV. The symbol "n.a." indicates that the test for an explosion is not applicable since controls had no restraining effect while in force.

In assessing any controls policy it is crucial to examine the behaviour of wages (and prices) when controls are removed in order to determine if any restraining effect of controls is partially or totally offset by an "explosion" when controls are removed. An "*explosion*" of wages is defined to be an increase in the rate of wage change above the rate predicted, given the actual values of the explanatory variables. Thus, in order to measure the amount of any wage explosion, the wage equation is required to predict what would have occurred if controls had not been implemented. The final column of Table 1 presents the results of using a shift dummy to measure the amount of wage explosion which occurred following effective periods of controls.

Phase I, the 90 day freeze, was found, not surprisingly, to be the most effective period of controls ($k = 0.6$). This resulted in a reduction in the rate of increase of average hourly earnings by 4.0 percentage points during the period that the controls were in force. It was found, however, that when Phase I terminated an "explosion" in the rate of wage change occurred which almost completely offset the reduction during the control period.

Phase IV and the Guideposts were both found to be substantially effective while in force ($k = 0.4$), reducing the rate of wage change by 3.9 and 1.8 percentage points respectively. However, Phase IV was followed by an explosion which offset most of the reduction during controls, whereas there was no evidence of such an explosion following the Guideposts.

During Phase II and Phase III there was no evidence of controls restraining the rate of wage change, even while the controls were in force. Thus it was not necessary to test for an explosion at the end of these periods.

CONCLUSIONS FROM THE ANALYSIS OF THE U.S. WAGE CONTROL PROGRAM

The empirical evidence presented above indicates substantial heterogeneity in the effect of controls on the rate of wage change in the five periods considered. In two of the periods there was no measurable effect, even while the controls were in force; in two other periods the effects while the controls were in force were offset by an explosion when controls were removed; and in the fifth case controls were effective while in force and there was no evidence of an explosion when the controls were removed. An attempt will now be made to provide an explanation for these divergent results.

In my view, the reason for the effectiveness of the Phase I controls while they were in force, and the explosion which followed, is simply that the freeze caused a postponement, until the end of the 90 day period, of any new settlements or deferred increase that otherwise would have occurred. This is obviously not the basis for a lasting policy of restraint. The policy makers did not, of course, intend for new contracts to be settled at the "0% guideline" during the freeze. The goal was simply to allow time for administrative machinery to be established and possibly to achieve some political shock effect. When the freeze ended all the postponed increases took effect, in addition to the normal round of new settlements, producing the explosion.

The ineffectiveness of controls during Phase II is, I think, explained by the fact that most of the work force were eligible for exemptions of increases up to 7% (under the provisions for deferred increases, catchup, tandem relationships, and the working poor). Since the model predicts that the rate of wage change would have been just under 7% in the absence of controls, the lack of restraint due to the controls is understandable. Not much restraining effect can be expected when the effective guideline is above the rate of increase predicted without controls!

Phase III was also found to be ineffective, but for a different reason. The lack of effectiveness resulted from an attempt to move from a program of mandatory restraint to one of voluntary restraint. It was, in effect, no restraint at all.

The Guideposts period and Phase IV were both found to be substantially effective while in force ($k = 0.4$); however a wage explo-

sion occurred following Phase IV but not following the Guideposts. What is the explanation for this difference?

An explanation suggested by economic theory is that the level of real wages in individual markets, and for the economy as a whole, is determined by basic economic factors such as marginal productivity, the degree of competition in factor and product markets, etc. If controls displace any of these real magnitudes from their equilibrium levels, the equilibrium will be re-established by adjustments which occur when the controls are removed. Similarly, the level and rates of change of nominal prices and wages are determined by the money supply. If controls displace the equilibrium rates from that determined by monetary factors, the equilibrium will be re-established when controls are removed.

The theoretical model outlined in the previous paragraph yields predictions about the occurrence of explosions which allow the hypothesis to be tested. The model predicts that an explosion of wages, but not prices, will occur following controls if the effect of controls is to reduce real wages, i.e. if controls were more effective in restraining wage increase than price increases. If controls reduce both wage and price inflation by corresponding amounts, i.e. there is no reduction of real wages, then controls are simply forcing unions to hold wage increases down to what they *would have* negotiated if they had been able to correctly anticipate actual inflation.

The model also predicts an explosion of both wages and prices will occur following controls if controls impose nominal rates of change of prices and wages which are inconsistent with basic monetary factors.

To test this hypothesis an equation was estimated in which the dependent variable was the quarter-to-quarter percentage change in the *real* wage. The results indicated that during the Guideposts there was no significant reduction in the rate of change of real wages, i.e. both prices and wages were restrained. During Phase IV, however, there was a significant reduction in the rate of change of *real* wages of approximately the same amount as the reduction in the rate of change of money wages; i.e. there was no measurable restraint of prices. Thus the predictions of the model are confirmed — a wage explosion following Phase IV was required to restore the equilibrium level of real wages, but an explosion did not occur following the Guideposts because real wages were not reduced.

In reviewing the evidence on the U.S. experience with control and decontrol of wages, perhaps the most important lesson is that sweeping generalizations about the effectiveness of controls should be avoided. Various periods of controls can have quite different effects and they should be analyzed accordingly.

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LE CONTRÔLE ET LE DÉCONTRÔLE DES PRIX ET DES REVENUS: UN COMMENTAIRE

CLAUDE MONTMARQUETTE

La question des contrôles des prix et des revenus n'a cessé d'être commentée et débattue depuis la création, en 1975, de la Commission de lutte contre l'inflation (CLI) dont l'objectif était de limiter les augmentations de prix et de revenus au Canada. À la veille de l'abandon, ou du moins d'une redéfinition des contrôles, et alors que l'économie canadienne s'apprête à entrer dans la période post-contrôle, il me semble pertinent de rappeler et présenter certains arguments et facteurs économiques reliés à cette question. Non seulement certains de ces facteurs et arguments économiques me semblent avoir été négligés, mais ils m'apparaissent comme déterminants du contexte économique général dans lequel vont évoluer les négociations salariales collectives et les politiques de prix des entreprises dans la période post-contrôle.

Si on accepte de simplifier la question, on peut retenir que trois principaux éléments, extérieurs à l'économie canadienne, furent responsables de la poussée initiale inflationniste des années 1973-75. Le premier de ces éléments a été la pénurie de certains produits alimentaires résultant de plusieurs sécheresses d'importance à travers le monde. Même si cet élément ne fut que de courte durée, affectant surtout les consommateurs, il s'est avéré une force importante dans la montée initiale des prix et dans ce que l'on a appelé la « psychose de l'inflation ». Le deuxième élément, et peut-être le principal, a été la fixation unilatérale du prix du pétrole par le cartel des pays producteurs (OPEP). Ce cartel a réussi, chacun le sait, à quadrupler le prix du pétrole. Ce phénomène ne pouvait être considéré comme temporaire et devait ultimement comporter un *ajustement dans les prix relatifs* et entraîner un *transfert réel* de ressources des pays consommateurs vers les pays

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** Je tiens à remercier le professeur Léonard Dudley de ses commentaires fort pertinents. Les erreurs que peut contenir ce texte demeurent par ailleurs ma seule responsabilité.