

**GOVERNMENT POLICIES
AND THE U.S. PRIVATE SECTOR
Is There a Political Phillips Curve?**

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The theory that politically determined government policies can encourage the successful operation of private enterprise economies has been debated by various authors, including E.R. Tufte, who commented that:

...the political control of the economy operates at the margin – a shift in the inflation rate here, a fluctuation in unemployment there – rather than on the underlying structure of the economy, public and private" (Tufte, 1978, pp. 138).

Clearly the degree to which private enterprise economies can be aided or retarded by government intervention is of great political and economic interest, and we here propose to examine this topic further.

Thus, expectations as to what policies a Democratic or Republican administration might adopt can effect the decisions made by the private sector. Traditional economic theory perceives the private sector of the economy and individuals in general as having complex computational capabilities that allow them to process an extensive amount of available relevant information. Individuals' expectations, under the rational expectations theory, are translated into actual economic performance complementing or countering the impact of government intervention and other direct stimuli.

Available *political* information is transformed by individuals into expectations and thus affects economic outcomes, and this process modifies the impact of political controls on the economy. Following Lucas (1976), it is argued that macroeconomic explanatory models respond to changes in the political

environment. Different partisan administrations, such as the Democratic and Republican parties in America, give rise to different sets of expectations and result in different sets of underlying equations.

The basic hypothesis is that under Democratic administrations macroeconomic activity is better explained by a more political model, whereas under Republican administrations it is better explained by a more economic model. In a sense this is a two-step expectational model, where the initial decision is a dichotomous one, i.e. which of the two partisan models is in effect. The second decision is concerned with determining the exact derived equation underlying each one of the two partisan administrations. Methodologically, the two steps can and will be eventually incorporated into one, overall regression model.

Although problematic, this simplistic one-to-one examination of the Phillips curve is far too tempting to be left out of further economic investigations due to its policy implications. The Phillips curve was and still is interpreted by policy-makers as a causal relation between inflation and unemployment, independent of other environmental characteristics.

As will be demonstrated later, the Phillips curve relationship is part of the unemployment model. Statistical evidence indicates that unemployment is endogenous to preceding inflation rates with no recursive feedback. Inflation thus produces unemployment rates with unemployment being irrelevant to inflation explanation. Yet, due to the unique policy implications, a separate examination of the Phillips curve has to be dealt with.

The null hypothesis to be confronted with is Milton Friedman's, that is, the discriminative private political control of the economy hypothesis (1977). There, empirical evidence for the three-stage (negative, neutral-zero, and positive) Phillips curve is provided and backed by explanations concerning the reasons for their occurrence. The approach taken here is slightly different from that taken by Hibbs (1977), Beck (1982), and Alt (1985). An attempt is made to establish the comparative magnitude of the impact of economic and political

TABLE 1 - INL-UN, REPUBLICAN ADMINISTRATIONS

<u>both-down</u>	<u>both-up</u>
1953, 55, 56, 59, 72, 73, 76, 83, 84	57, 58, 70, 71, 74, 75, 81
total-9	total-7

<u>INL-down; UN-up</u>	<u>INL-up; UN-down</u>
54, 82	69
total-2	total-1

<u>INL-down; UN-no change</u>
60
total-1

overall- 20 years.

determinants upon unemployment outcomes. The separate examination of the directions taken by economic and political determinants in the explanatory model is an interesting study to follow but is of minor importance here. Here we examine a somewhat rarer approach which has been borrowed from the related field of industrial relations and strike activity in the United States. Snyder (1975, 1977) argues that the determination of strike activities shifts over time from a primarily political arena to an economic one due to the growing stability and institutionalization of the trade unions and the collective bargaining system.

Friedman (1977), Wells and Gootzeit (1981) have provided us with different explanations for the probable existence of a positively sloped Phillips curve. In part, the explanations hold true for Republican administrations as exemplified by the strong and consistent finding of a positive inflation-unemployment relationship under Republican administrations.

Friedman once suggested that new empirical results lead to changes in ideas and research approaches (1977, pp. 17). He suspected that the introduction of the third stage, accompanied by a positively sloped Phillips curve, would give rise to the treatment of

... at least some political phenomena not as independent variables – as exogenous variables in economic jargon – but as themselves determined by economic events – as endogenous variables... The third stage will, I believe, be greatly influenced by a third major development – the application of economic analysis to political behavior...

The Phillips curve relationship presented here has incorporated the long-awaited political phenomena as both independent and intermediate variables without addressing the question of their determinants, whether it be economic, as Friedman suggested, or political. This intriguing question of course, could provide for even further research.

The intermediate partisan administration introduction calls for a long-run, one stage, more stable Phillips curve. All three post-war Phillips curves described by Friedman are well

TABLE 2 - INL-UN, DEMOCRATIC ADMINISTRATIONS

<u>both-down</u>	<u>both-up</u>
1950, 62, 77	46, 61, 63, 80
total-3	total-4
<u>INL-down; UN-up</u>	<u>INL-up; UN-down</u>
49	48, 51, 52, 64, 65, 66, 78, 79
total-1	total-8
<u>INL-up; UN-no change</u>	<u>UN-down; INL-no change</u>
47, 67	68
total-2	total-1

overall- 19 years (1945 missing).

contained within the partisan administration framework, and most important, remain correct when the broader model for unemployment reproduction is considered.

Expectations and direct stimuli effects of economic determinants can hardly be untangled. The application of somewhat crude technique indicates that inflation does not exert any direct stimuli effects on unemployment when controlling for hypothesized expectations. The result follows from the model's assumption as to Republican-expectational, Democratic-direct stimuli economic effects. Yet, the above finding can be dismissed following an argument about countering direct stimuli and expectational effects leading to the same zero inflation impact during Democratic administrations.

The expectational-direct stimuli dilemma contained in economic determinants gives rise to the purely expectational political determinants. As follows from Cox and Snell (1981), all the variance that is captured by the gender dichotomy, after controlling for various physical and mental traits, is probably due to expectations about sex differences. There is no action-orientation contained in a political determinant when accompanied and controlled by policy measures that exhaust most or all direct stimuli relevance in it. Political researchers like Hibbs, Tufte, Beck, and Alt failed to separate direct stimuli from expectational effects. They thus attached direct stimuli interpretations to the political dichotomies they have used in their research in the absence of needed economic controls.

Theoretically the application of political determinants in economic expectational models is thus appealing. We have yet to discover how frequently they are applied in practice so as to allow for a more helpful distinction between policy oriented direct stimuli economic impact and the purely expectational political phenomena.

The Phillips Curve

The term Phillips curve originally referred to the inverse relationship between the British unemployment and wage inflation rates, noticed by Phillips (1958). Sargent (1979) reports that the phenomenon, although often thought to have

been originally spotted by Phillips in British data, was analyzed long before by Irving Fisher and business cycle analysts at the Nat. Bureau of Economic Research and elsewhere (pp. 324).

The Phillips curve, as put forth by Phillips, expressed the rate of change of wages as a function of unemployment. The stable negative relation between the two suggested that high levels of unemployment were accompanied by falling wages, and conversely low levels of unemployment were to be accompanied by rising wages. "The wage change in turn was linked to price changes by allowing for the secular increase in productivity and treating the excess of price over wage cost as given by a roughly constant mark-up factor" (Friedman, 1977, pp. 10).

The Phillips curve, it might be noted, is but a part within a much broader framework. The demand-output framework examines how a change in aggregate nominal demand, however produced, works itself out through changes in employment and price levels; and, also what are the factors that account for changes in aggregate nominal demand (Friedman, 1977, pp. 9-10).

The introduction of aggregate demand and its reciprocal relationship with the Phillips curve through aggregate supply and other exogenous determinants complicates the examination of any trade-off. Strong assumptions about the way aggregate demand relates to the Phillips curve and its components are required. Such assumptions may affect the quality of the results obtained from the Phillips curve examination.

Lipsey (1960) and Perry (1966), among others, argued that the Phillips curve examination is too simplistic and that factors other than the unemployment rate determine the course of wage inflation. Another complication, probably a more problematic one, is the fact, reported by Sargent (1979), "that the unemployment rate and deviations of real GNP from its trend are highly serially correlated, i.e., strongly and positively correlated with their own lagged values" (pp. 300).

The belief of some policy-makers that one can achieve a lower unemployment rate but only at the expense of a higher

inflation rate and vice versa was unaffected by academic economic controversy over the type of relationship existent on the Phillips curve. The following citation illustrates the frequent insensitivity of administrations to academic opinions. Thus the Carter administration in its 1979 Economic Report of the President stated that:

Some analysts have suggested that increases in the level, duration, and availability of unemployment benefits and other transfer payments have raised the unemployment rates for some groups in the labor force by facilitating longer and more frequent periods of job search. These factors, together with changes over time in the structure of labor markets, in rates of productivity growth, and in the reaction of wages to past and expected rates of inflation, make it difficult to estimate the rate of unemployment below which wage acceleration is likely to occur. A number of studies have attempted to determine that rate, but have produced a wide range of results. And, In view of the acceleration in inflation which has occurred, a further reduction of the unemployment rate during 1979 would run some risk of generating excess demand and creating inflationary pressures in labor markets (pp. 65, 67).

In February 1982 the Reagan administration, in its Economic Report of the President, issued the following statement as to the inflation-unemployment trade-off:

The major failure of the late 1960's and 1970's was to give insufficient weight to the long-term effects of economic policies. For example, the so-called Phillips curve - the observed inverse relationship between wage inflation and unemployment and its implication that a tradeoff is possible was one of the key notions relied on by economic advisors. But nothing in Phillips' work or in subsequent studies showed that higher inflation was associated with sustainable lower unemployment, and nothing in economic theory gave reason to believe that the relationship uncovered by Phillips was a dependable basis for policies designed to accept more inflation or less unemployment. The speed with which the case made for this tradeoff was accepted as a cornerstone of economic

Table 3 - UNEMPLOYMENT QUARTERLY EQUATION (1945, 3-1984, 4).

INRL INCLUDED.

INDEPENDENT VARIABLE	B-COEFFICIENT	BETA	T-VALUE
CONSTANT	.72		5.88
UNL	1.48	1.48	25.44
UNL2	-.64	-.64	-11.55
OILL	.11	.07	3.34
INRL	.11	.05	3.19
WARL	-.17	-.04	-2.53

ADJUSTED R-SQUARE=.967 DURBIN'S H=1.098 (NO AUTOCORRELATION)

policy contrasts with the slow acceptance of both neoclassical economic theory and the substantial body of evidence which suggests that there is no lasting tradeoff between inflation and unemployment. The economic policies which are now being implemented by the administration are grounded in this tradition (pp. 49).

Executive statements, it seems, lag behind academic traditions. Reagan, in 1980, was the first president to dismiss the long-term negative Phillips curve. His administration was doing just this when the United States witnessed a new positive stage on the Phillips curve that was to last for some eight years.

Empirical observations of the relation between inflation and unemployment for the post-World War II era have evidenced three stages, each with a different form of relationship on the Phillips curve. Each stage was assigned with different explanations and underlying assumptions as to why the Phillips curve has changed its shape.

In the first stage the hypothesis was that the rate of unemployment varied inversely with the rate of change in wages and followed price inflation. High unemployment was thus accompanied by falling wages and prices, low unemployment by rising wages and prices. For policy making purposes the choice was relatively simple; it was suggested that economic policies could have been used to achieve a preferred equilibrium between employment, independent of other sources of unemployment, and inflation. The measures that would produce the level of aggregate nominal demand required to achieve the desired unemployment and accompanied inflation rates could be monetary, fiscal, a combination of the two, or perhaps of a different kind altogether (i.e. employment legislation, etc.).

Experience from the mid and late 1960's and the beginning of the 1970's seemed to be inconsistent with the classical Phillips curve hypothesis and an alternative hypothesis was developed by Phelps (1967, 1970) and Friedman (1968). In the second stage it was suggested that short and long-run effects of nominal demand should be distinguished. It was also empha-

Table 4 - UNEMPLOYMENT QUARTERLY EQUATION (1945, 3-1984, 4).

INRL AND INDL INCLUDED.

INDEPENDENT VARIABLE	B-COEFFICIENT	BETA	T-VALUE
CONSTANT	.74		5.78
UNL	1.47	1.47	24.84
UNL2	- .63	- .63	-11.47
OILL	.12	.08	3.19
INRL	.10	.04	2.54
WARL	- .16	- .04	- 2.35
INDL	- .01	- .01	- .63

ADJUSTED R-SQUARE=.967 DURBIN'S H=1.228 (NO AUTOCORRELATION)

sized that unanticipated changes in nominal demand have very different effects on inflation and unemployment. The adaptability of labor to changing market conditions made it possible for constant price changes to induce employment changes in the short-run; only accelerating unanticipated inflation could allow for unemployment fluctuations in the long run.

The natural rate Phillips curve hypothesis thus suggested that the long-term relationship between inflation and unemployment was vertical. The short-term Phillips curve, which incorporated adjustment errors to it, still supported the rationale behind the inversely shaped Phillips curve. The second stage Phillips curve has shifted, to a degree, the directional hypothesis, introducing inflation as an exogenous rather than an endogenous variable to the explanation of unemployment in most researches.

For the overall nominal demand-supply framework this was not much of a change. The broader framework encompasses a theoretical rationale for the existence of the two concepts as both exogenous and endogenous. Theoretically, the second stage introduces a more significant change when the shift suggestion, described above, is considered. The change reflected field evidence (Friedman and Schwartz, 1963) and the discovery of a tight association between money and inflation as well as the new long-term zero correlation between inflation and unemployment. It was then hypothesized that an anticipated change in the stock of money will only affect nominal determinants, prices for example, but not real variables such as employment and output, and that, like money determinants, anticipated price changes do not affect any real variables in any consistent way.

In the neutral long-term Phillips curve stage individuals were presumed to be far more sophisticated than they were in the first. Now, however, the state was perceived as being less able to affect the economy. The state of the economy and unemployment could be shaped by the state for only short periods of time and only in an incremental fashion.

Initially, under the hypothesis of the neutrality of money, it was argued that the core rate of unemployment, the natural

Table 5 - UNEMPLOYMENT QUARTERLY EQUATIONS (1945, 3-1984, 4),

INRL AND INL INCLUDED.

INDEPENDENT VARIABLE	B-COEFFICIENT	BETA	T-VALUE
CONSTANT	.74		5.78
UNL	1.47	1.47	24.84
UNL2	-.63	-.63	-11.47
OILL	.12	.08	3.19
INRL	.12	.05	3.24
WARL	-.16	-.04	-2.35
INL	-.01	-.01	-.63

ADJUSTED R-SQUARE=.967 DURBIN'S H=1.228 (NO AUTOCORRELATION)

rate, could fluctuate only as a response to real changes in the labor force and the economy. Later research and the evidence on the highly serially correlated process characterizing unemployment short-term data have resulted in the transfer of even greater power into the hands of individuals. Lucas, among others, has claimed that much of the variance in unemployment is due to movements of the natural rate rather than deviations of unemployment from its natural rate. If money and inflation impacts on employment were short and almost negligible, expectational impact, induced by past values of unemployment, worked deeper to account for changes in the constantly changing natural rate.

The third stage, the positive Phillips curve, minimizes even more the impact of state policy on employment and output. The introduction of outside events, such as the oil crisis, accounts for at least a part of the new trend, which apparently occurred a year earlier in most western societies. Gordon's explanation for the positively sloped Phillips curve ignored the impact of inflation on employment and claimed that outside events, among other independent forces, were responsible for rising inflation and unemployment rates, independent of one another (1975a; b).

Others have suggested that inflation and unemployment have been mutually reinforcing, and that higher rates of inflation have, at least for a short period of time, positive effects on unemployment to account for a positive relation between inflation and unemployment. Friedman (1977) provides an explanation of the short-run Phillips curve. He maintains that high inflation, especially if volatile, can impair political cohesiveness by disturbing expectations about actual or anticipated inflation. Gainers and losers are polarized. Pressure for government action against inflation is frustrated at a time when there is increasing difficulty in governing. Although regarded as negative in essence, government intervention in the form of indexation could, at least in the short-run, be developed to cope with volatile inflation. It was shown earlier (Gray, 1976) that increased volatility shortens the optimum length of unindexed commitments and renders

indexing more advantageous to counter frequent changes in labor contracts, and possible movements (and at least short-run increases) in unemployment rates. It should be noted that, as reported by Jaffe and Kleiman (1975) and Logue and Willett (1976), the higher the rate, the more volatile inflation is likely to be.

Friedman, although in general less supportive of government intervention, was willing to accept real intervention in the economy to confront possible political and economic instability due to rising rates of inflation and unemployment.

Friedman provides us with yet another explanation for the existence of the positively sloped Phillips curve. Relative market prices, he argues, are distorted and information about prices is thus transmitted less efficiently. He goes on to argue that economic agents may, in such economies, resort to barter or to external currency with obvious adjustment employment consequences.

A different explanation, one that claims short and long-term applicability for the positive relationship between inflation and unemployment, is rooted in the rational expectations tradition, while failing to conform to its classical assumptions. The explanation, provided by Wells and Gootzeit (1981), adds an "important behavioral assumption" to the rational expectations Phillips curve:

...employers overestimate prices simultaneous to workers underestimating them. This assumption appears much more capable of empirical verification than the assumption of a rightward shifting short-run labor supply curve, which is a function of the real wage rate. (pp. 127).

According to Wells and Gootzeit this means that:

... workers believe they cannot bargain successfully enough so the money wage established is relatively low and employers believe that workers bargained too successfully so the money wage is relatively high compared to the expected price level. If this type of 'fooling' occurs, an unexpected price increase may be much larger than firms expected and smaller than

workers expected thus causing a lower level of output than would otherwise be produced. This will lower the actual level of employment (*op. cit.*).

Wells and Gootzeit add that for their proposition to be true the inflation rate has to be accelerating; otherwise, the incorrect price estimation would lead to a negatively sloped Phillips curve.

Policy recommendations that follow from their analysis call for a believable monetary policy that "would help both parties achieve the equilibrium real wage rate without disruptive changes in employment, even during the adjustment to the lower rate of inflation." (pp. 128).

In following sections of this work the reasoning for the hypothesized Republican-positive; Democrats-zero Phillips curve is discussed. The rationale follows the explanations provided here and takes into account the political context within which the relationship exists. It is argued, as mentioned earlier, that there exists a one-stage Phillips curve for the post-war era with two resulting partisan variants.

Hypotheses

The Phillips curve and trade-offs between lagged inflation (INL) and unemployment (UN) take a positive direction under Republicans (INRL), and a zero correlation for Democratic administrations (INDL). This follows the hypothesis that Democratic administrations are expected to be more interventionist than their Republican counterparts, especially when the issue at hand is unemployment. In Democratic years inflation results and economic indicators in general will thus be contaminated by a fooling behavior to a larger degree. In turn, the public will rely on the more consistent and predictable political arena for expectations formation and resultant actual unemployment outcomes. Weak economic INDL impact can still be present as a reflection of direct stimuli economic influence, but it is assumed to amount to zero. Indexation application with its intervention consequences has often been referred to as an efficient means of curbing inflation, but

information-flow and market adjustment in Friedman terms would probably neutralize the impact of inflation on unemployment more rapidly. Indexation has more than an interventionist flavor to it. In the United States the fixed-rate home mortgage causes inflation to erode savings accounts while enriching borrowers. "Many homeowners are still paying off 4 and 5 percent mortgages, while the value of their homes in many cases is increasing at 8 or 10 percent a year." (Gordon, 1978, pp. 323). Wage indexation has wealth consequences attached to it as well and the same groups pay the price of inflation corrections.

Imagine that a supply shock, for instance an oil price increase, raises the consumer price index and that all wages are indexed to the consumer price index. If domestic firms have experienced no increase in the demand for their products, they will not be able to raise prices to pay for the higher wages. Thus supply shocks can cause business bankruptcies when wages are fully indexed. To prevent bankruptcies, the central bank may step in and raise the growth of aggregate demand, thus endowing indexed economies with a permanent increase in inflation resulting from a temporary supply shock. (*op. cit.*, pp. 326).

The Brazilian and the Israeli economies with their indexing systems were particularly vulnerable to the supply shocks of 1973-74 and the sudden increase in oil prices (Robock, 1975; Aridor et. al., 1984). It was only natural that by 1984 a conservative Likud government argued for the elimination of the wage indexation system initiated by the Israeli Labor government (Mevorach, 1984).

In the United States, homeowners and the self-employed are the major beneficiaries from the existing unindexed inflation system. Republican administrations prefer the status quo to a politically dangerous indexation intervention. Status quo refers to the present partial social security conditional indexation compensation system which leaves intact the above-mentioned groups of homeowners and self-employed.

Assuming absence of such interference, Republican adminis-

trations are hypothesized to experience a positively sloped Phillips curve as suggested by Friedman, yet, unlike Friedman, it is arguable that this relation holds true for the whole post-war era, not only the post-oil crisis years. Homeowners' benefits were long present before the outbreak of the 1973 supply shock, and this leads us to suspect the comprehensive indexation to be undesirable from the Republican standpoint.

Rising inflation has led to an erosion in wages and savings accounts with no compensation to the workers and renters, the weak components of society. Yet Democrats, with their unemployment awareness, hold forth the promise of untangling the Phillips circle and reducing unemployment. With Republicans, the average individual is expected to accept the impact of changes in aggregate demand, in decreasing real disposable income, and consequent employment fluctuations.

Inflation hurts even when it takes a downward trend. A 1% inflation rate still has meaningful implications on real disposable income when mediated by income changes and rent increases to adjust for inflation. There are no balancing benefits created by the adjustment of property values to inflation and there remains a fixed interest rate on mortgages.

The weaker groups, it is hypothesized, perceive inflation as a threat no matter how great it may become. They pay its price at any existing level. The employment consequences are far more threatening to them and the price paid is probably even higher. Indexation puts a wall between inflation and unemployment and this assures that no side-effects spill over from inflation to unemployment.

Indexation was never practiced in full in the United States, yet under Democratic administrations, by ignoring the otherwise fooling irrelevant signals provided by the market (inflation included), the public enjoyed a degree of protection from unemployment. The hypothesis presented here is that Democrats have found a surrogate to indexation, at least as far as the linkage between unemployment and inflation is taken into account.

Under Republican administrations economic signals direct expectations. Rising inflation rates make it difficult for the

market to adjust and for contracts to be designed over longer periods of time. Employment figures will be associated with inflation rates. Republicans are less interventionist, especially when unemployment is of concern. Unemployment is politically less dangerous and less threatening for Republicans. Republicans will enjoy the employment consequences of declining inflation, and pay the employment prices of rising inflation. The Republican Phillips curve is assumed to be identical for both rising and declining inflation rates, as opposed to both the explanations provided by Friedman (1977) and Wells and Gootzeit (1981). Market adjustment to a declining inflation rate is delayed yet rational. Clearer information allows for contracts to be designed for longer terms as uncertainties due to prices are minimized to allow for a lesser degree of employment fluctuations.

The unsophisticated individual assumed under the negative Phillips curve has not been in existence during the post-war era to the degree assumed by the negative Phillips curve advocates. The use of the interventionist discrimination rule for discarding/accepting information as relevant is far too simplistic to assume significant changes in the course of twenty years or so.

The simple negative Phillips curve justification was one that assumed money wages to remain constant while expansionist monetary and fiscal policies offered new profit opportunities to businesses. This was to be achieved by way of increased levels of spending and consequent output and employment. Uncertainty implications to firms on the production side (prices of raw materials, etc.) were ignored, but more important, the organized and unorganized individual worker, otherwise rewarded with instantaneous adjustment capabilities to systematic non-surprising monetary and fiscal interventions, was left to be fooled for the so-called short-run with sometimes months elapsing before he or she was allowed to adjust. On the one hand we perceive an adjusting individual and on the other an irrational worker who permits the gradual erosion of his income with no immediate reaction.

An adjusting average individual with the capabilities

assigned to him under ratex theory should be able to incorporate surprises into his decision-making processes and this enables him totally to discard interventionist behavior when confronted with an interventionist administration (Democrats). It also allows him to make surprises work to his own benefit in a more relaxed environment, by assuring that surprise interventions will have an all-encompassing effect preventing a non-selective frequent use of policy means during Republican administrations. Consequently, Republicans are confronted with an economic system in which erroneous intervention proves disastrous in both fields.

Economic reality operates in accordance with political wishes. During Democratic administrations intervention is assumed to have a favorable outcome, one which leads a separation of inflation and unemployment. This serves both public officials and any individual concerned about unemployment in the short term. Republicans have to be reminded of their inflation responsibility, as it is not evident that Republican identifiers lose from low levels of inflation. Thus, inflation is tied to other economic indicators and this creates a sufficient incentive for Republicans to curb inflation, where it is considered big enough a problem to be fought against.

A new feature to ratex theory is thus the implicit assumption that a conscious anticipation of surprises occurs to offset unwanted intervention consequences. The assumption elevates the average individual to a more sophisticated level. The more sophisticated individual metaphor is capable of incorporating an inflation premium to wage calculations with a shorter lag than the one assumed earlier in the negative Phillips curve literature. It means a reaction to monetary expansion with a decreasing rather than increasing level of employment due to the uncertainty introduced.

Methodologically it is suggested that the political party of the president acts as a moderator, or intervening variable, in the relationship between inflation and unemployment. In addition to Lucas' specific observation, this general concept was put forward by Godwin and Shepard (1976) in a related context and was also employed by Tufte (1978) when he

considered the intervention impact of presidential election years (pp. 22). To test for differences between the two differing patterns of correlations between inflation and unemployment during Republican and Democratic administrations, a test suggested by Blalock (1979) was used. It demonstrated that the political party of the president has significant moderating effects on the relationship between inflation and unemployment.

Phillips Curve Results

The inflation-unemployment trade-off examination followed Friedman's directional hypothesis and maintained that inflation leads to unemployment with a certain lag (in his design a six months lag). Hypothesized directions in the research were positive for Republicans and zero for Democrats. It was expected that the trade-off would be consistent even after the introduction of the broader model for reproducing unemployment and the results seem to be in accordance with the hypotheses.

In the following two tables a simple breakdown of the INL-UN inflation lagged-unemployment relationship is presented for each of the separate partisan administrations. The two partisan administrations manifest clear within-group similarities and between-group differences excepting that of the Kennedy term in office.

Republican presidents and Kennedy seem to follow the term in office both-down, both-up pattern in the inflation lagged (INL), unemployment (UN) trade-off representation. Only four years fall under different categories. No Republican president falls under one, up or down category, for the whole term(s). The number of both-down years, nine, is similar to the number of both-up years, seven.

Democratic presidents, save Kennedy, follow a very different pattern. Each of the three, Truman, Johnson, and Carter has at least two years of INL-up; UN-down, but each one also falls under at least two other categories providing us with an overall zero correlation between INL and UN, and probably a zero correlation within each administration as well. Kenne-

dy performed as a Republican president in his three year term. In 1962 the economy fell under the both-down category and in 61, 63 under the both-up category. The 1964 tax cut proposed by him and passed in Congress in 1964, after his death, might offer a partial explanation for his term being an exception to the Democratic pattern. As a matter of fact, the three consecutive years after his death, assigned to Johnson, all followed the INL-up; UN-down trend.

The simple Pearson correlation between INL and UN on the annual level for Democratic administrations amounts to 0.08278 with a significance level of 0.36809. The number of cases for this examination is 19 (1945 lost due to the lagged inflation).

The simple Pearson correlation between INL and UN on the annual level for Republican administrations is 0.69654 with a significance level of 0.00032. The number of cases for this examination is 20.

Quarterly results resemble the annual findings but with a weakened trade-off between INL and UN for Republican administrations.

The simple Pearson correlation between INL and UN on the quarterly level for Democratic administrations is -0.07018 with a significance level of 0.54152. The simple Pearson correlation between INL and UN on the quarterly level for Republican administrations is 0.30148 with a significance level of 0.00657. Autocorrelation results for both the annual and the quarterly levels of analysis were not obtained and thus were not corrected for if and when existent.

The Republican-positive, Democratic-zero Phillips curve relationship remained stable even when a broader framework, both annual and quarterly, for unemployment reproduction was incorporated. On the quarterly level, INRL (inflation lagged under Republican administrations) appeared to be positive and significantly correlated to UN (unemployment) even when controlling for two lags (UNL, UNL2), the lagged war dichotomy (WARL), and lagged oil prices (OILL). (For a more detailed justification of the above specification, and the annual results, see Mevorach, 1985).

The quarterly unemployment equation, with an adjusted R square of 0.96719 included INRL with a standardized beta of 0.05 and a T-value of 3.19, significant at 0.002.

Also addressed was the expectational-direct stimuli dilemma. Embodied in the thesis is the presumption that Democratic UN equations allow for direct stimuli effects of INL, as expectational impact is hypothesized to amount to zero. Thus, following the hypotheses, any inflation impact shown to be significant during Democratic administrations is due to direct stimuli effects of inflation on unemployment. INDL (inflation lagged during democratic administrations) was thus added to the unemployment quarterly equation.

In Tables 3-5, regression results of the direct stimuli-expectational examination are exemplified. The initial UN equation was estimated with the additional INDL determinant. INRL kept its original standardized coefficient, 0.05, with a very similar T value, 2.55. INDL, in accordance with the simple Phillips curve correlations presented above, was assigned an insignificant beta. The quarterly equation shows no autocorrelation indication.

Although indicating a zero direct stimuli impact during Democratic administrations as follows from my zero expectational hypothesis for Democrats, one could still hold, following a different framework of analysis, that expectational effects, during Democratic administrations, counter direct stimuli effects, to provide with a zero overall INL-UN partial correlation.

INRL proves to be superior to the indiscriminating INL (inflation lagged for the whole period) as demonstrated in Table 5. Here again, no problematic autocorrelation indication is existent.

The Phillips curve results, as presented above, comply, for the most part, with the initial modeling and prevailed over a variety of controlling exercises to sustain a positive correlation with UN during Republican administrations.

As suggested earlier, the differences between INL-UN relationships due to administration changes were compared with those obtained by utilizing Friedman's three periodical

stages (1977). Blalock's testing for the difference between two correlations for two independent samples was applied.

The raw correlations for Friedman's long-run shift observation and the annual level in my research are as follows:

1945-1960	1961-1973	1974-1984
n = 15	N = 13	N = 11
R = -0.1818	R = -0.0674	R = 0.254
sig = 0.258	sig = 0.413	sig = 0.225

The correlations, although insignificant, follow the three stage discussion presented earlier.

Again, the annual raw correlations for the administration intervention hypothesis are as follows:

Democrats	Republicans
n = 19	n = 20
R = 0.08278	R = 0.69654
sig = 0.36809	sig = 0.00032

The above raw correlations translate to the following z scores obtained from Blalock (the transformation of R's into z's is taken from Table K in Blalock, *op. cit.*, pp. 617-618):

Comparison Period	Z score
Administrations	1.75 (significant at 0.05)
1945-60 vs. 61-73	0.27
1961-73 vs. 74-84	-0.68
1945-60 vs. 74-84	-0.95

The long-run comparison conforms with my model better than with the periodical developmental explanation provided by Friedman.

Upon a comparison of Democratic years versus Republican years in each of the sub-periods offered by Friedman, the results remain similar. Democratic years are without doubt significantly different from Republican years. The results are not reported here due to the small number of years and the

difficulty in constructing a meaningful reliable comparison for each sub-period, yet the need for a separation is evident.

Conclusions

Friedman has suggested that government policy about inflation and unemployment has been at the center of political controversy. Ideological war has raged over these matters. It is further suggested here that the drastic change that has occurred in economic reality is probably a result of that ideological warfare. It has resulted from divergent political beliefs or aims. It has responded to the force of events, too: brute experience together with different ideologies seem to account for the changing relationship between inflation and unemployment.

The traditional Phillips curve and its followers have to be divided when discussed and presented. Different curves and trade-off formats exist under different partisan administrations.

The Democratic-neutral, Republican-positive Phillips curve extends to the short-run as well. Quarterly examinations have confirmed the long-term hypothesis to be also existent in the short-run.

The differential political impact maintains its significance even when different screening methods were applied. The simple Pearson correlation between INL and UN replicated itself in the regression equations and in addition some overall models were operationalized to provide us with a more complete explanation of unemployment. Results were similar on both annual and quarterly, short and longer-run examinations, yet, at different strengths.

The political Phillips curve presented here should be incorporated into further macroeconomic models. If not as a substitute to the original three stage model, then at least it should serve as an additional consideration to be taken into account during analysis.

Hibbs and Beck's underspecified unemployment models were further examined and their partisan or personal administration effects proved to be erroneous in light of the broader specification provided here. The introduction of oil prices and

lagged inflation to the model enabled the significant inclusion of the war dichotomy, much desired but never achieved by Hibbs. When economic considerations were added, namely the Phillips curve hypothesized trade-offs, results cast doubt on the whole Hibbsian model. When controlled for the two lags, oil prices, wars, and the Phillips curve relationship, partisan administration shows no significant impact on unemployment. And when the B coefficient washes out, the non-linear highly sophisticated highly questionable D coefficient falls with it. As Beck concludes:

... note that if the b term is zero, i.e., if party has no effect, then the d term (speed of adjustment) is not identified. Insofar as the b term is small but not zero, many values of d will be roughly consistent with the data. (pp. 92).

Later applications (Alt, 1985) with the newly introduced terminology (to adjust for the D coefficient and the sustained versus transitory hypotheses), fall apart when confronted with a zero B coefficient due to the more conclusive model specification for unemployment (for the more extensive analysis, see Mevorach, 1985).

The independent political effect on unemployment presented in this paper is partial. The political context, including both the partisan and the personal hypotheses, can be incorporated in order to pursue the private political control of the economy hypothesis even further. Pursuant to the removal of lagged effects via autocorrelation correction measures, although unwarranted according to classical autocorrelation tests, the "hidden" underlying political effect "shines through" to further confirm the discriminative decision-making process discussed above and introduce an equally strong mixed, political and economic, model of unemployment (Mevorach, 1985). Due to space limitations the present paper excluded the independent political impact on the Phillips curve existing during Democratic administrations, and dealt with only the intermediate partisan rule provided here.

Data Sources and Methods for Data Operationalization

Unemployment Rate (civilian workers, year to year).

Annual: Economic Report of the President, February 1985, Table B-29, 226.

Quarterly:

1945-1946: The Economic Report of the President, January 8, 1947, Table XII, 51 (December 1946, Midyear Economic Report of the President, July 21, 1947, Table VII, 67).

1947-1977: Macroeconomics, Robert J. Gordon, Little, Brown and Company, 1978, Table B-2, XVIII-XXI (seasonally adjusted).

1978-1980: Economic Report of the President, January 1981, Table B-27, 265 (seasonally adjusted).

1981-1983: Economic Report of the President, February 1984, Table B-29, 255 (seasonally adjusted).

1984: Economic Report of the President, February 1985, Table B-33, 271 (seasonally adjusted).

Inflation Rate-Consumer Price Index (for all items, year to year, 1967=100).

Annual: Economic Report of the President, February 1985, Table B-54, 294.

Quarterly: Economic Report of the President, various issues. Inflation rate was computed as follows:

$$(\text{INCPI}-\text{INL})/\text{INCPI}$$

Due to rounding, Unemployment Rate and Inflation Rate-Consumer Price Index, quarterly observations may vary from their annual counterparts.

Oil Prices: Oil prices were taken from two sources:

1945-1954: Paying for Energy, Report of the Twentieth Century Fund Task, 1975, 46-47, Table 3: Prices and Government Takes: Oil at the Persian Gulf, Estimated Market Price (current dollars per barrel). For 1945-1954, posted instead of estimated price. Data for the missing years in Table 3 (1946,51,59,54) are derived by linear interpolation between given annual values.

1955-1984: Sub-Saharan agriculture and Trade Prospects, Shamsher Singh, World Bank Staff Working Papers number 608, Washington, D.C., 1983, 42, Table 11: Inflation and Petroleum Prices, Average OPEC Petroleum Prices (current dollars per barrel). Quarterly observations for 1983-84 are linear interpolations between 1982 actual price and 1985 forecast.

The prices in both tables are almost identical for overlapping periods. Quarterly observations for a given year through 1972 have identical

values. Beginning in 1973, quarterly adjustments were made, following rapid changes (increases) in oil prices. Quarterly observations were adjusted for rapid annual changes via linear interpolations or using the more detailed information for 1973 and 1974 provided in Paying for Energy, Table 3. The prices in both tables mentioned above are based on Arabian light 34 at Ras Tanura.

War: World War II: formal end-August 14, 1945. Following different applications, for example, A Century of Evidence on Wage and Price Stickyness in the United States, the United Kingdom, and Japan, Robert J. Gordon in James Tobin (ed.), 1983, 84, 1946-47 were included as war years. Gordon included 1946-47 as war years in his explanatory equations for annual changes in prices, wage rates and the real wage rate in the United States, 1892-1980.

Korea: June 27, 1950 through July 27, 1953. Source: *The Wages of War 1816-1965 – Statistical Handbook*, J. David Singer and Melvin Small, John Wiley and Sons, Inc., 1972, 68. The first quarter of 1950 was coded as a peace quarter, from then on, war. The first three quarters of 1953 were coded as war quarters.

Vietnam: Beginning on April 1, 1965. Source: *United States Foreign Policy and World Order*, James R. Nathan and James E. Oliver, Little, Brown and Company, Third Edition, 1985, 314: "On April 1, 1965 President Johnson ordered that American troops would be used in offensive action in South Vietnam..." Ending on January 23, 1973 with the Paris peace agreement. Source: *White House Years*, Henry Kissinger, Little, Brown and Company, 1979. The Vietnam war was coded, beginning in the second quarterly observation for 1965 and ending in the second quarterly observation for 1973.

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WILL CHINA HAVE HER PERESTROIKA IN THE YEAR 2000?

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The resurgence of Japanese economic power and the rapid economic growth of the newly industrialized Pacific Rim countries – notably the "four tigers" of East Asia: Taiwan, South Korea, Hong Kong and Singapore – have become important items on the agenda of international studies. Mainland China also has progressed substantially over the past ten years under Deng Xiaoping's *Open Door Policy*. However, the image of the Chinese giant becoming rapidly modernized was shattered by the Tiananmen Square incident, which resulted from an infusion of the Western concept of "news-media freedom" and "political democracy" combined with an inefficient pattern of distribution and an atmosphere of economic uncertainty in China. Ignited by the death of party leader Hu Yaobang, Chinese university students started a nation-wide protest against the Communist regime which lasted from late April to early June, 1989. On the evening of June 4, the Beijing government finally sent in tanks to crush what was described as a "very, very small faction of anti-revolutionists." Two years later, this tragic incident in China was partially reflected in disturbances which led to the destabilization of Eastern Europe's Marxist governments. But while we have witnessed the unification of the two Germanies, as well as emergent democratic revolutions in Russia, Poland, Czechoslovakia, Hungary and other former Marxist controlled European nations, there has been no such collapse of Communist government in China.

Despite the claim by some Chinese dissidents that the Chinese Communist government would collapse within a year of the Tiananmen Square incident, the Beijing government