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Distributional Effects of Monetary and Fiscal Policy: *Impacts on Unemployment Rates Disaggregated By Race and Gender*

By JOHN D. ABELL*

ABSTRACT. The use of *vector autoregression* techniques provides empirical verification that *monetary and fiscal policies* do not have equal impacts on *unemployment* rates disaggregated by *race* and *gender*. In general, it was found that *white males* benefited from *macro-policies* more than any other category. However, *black females* were also shown to benefit significantly. Results were reported from both the 1970s and 1980s and indicate that these differential *unemployment rate* responses became magnified during the 1980s. The results for white males are consistent with a number of theories that have been offered by several writers, but the results for black females might seem, at first, to be difficult to explain. However, a close inspection of *educational attainment* scores for black *women* over recent decades reveals a potential source of this finding.

I

Introduction

ONE CONSTANT REMAINS as macroeconomic policy analysis evolves over time. While shifts in focus from Keynesian to monetarist, to "new classical," and so on occur, most analyses tend to focus on only highly aggregated variables such as GNP or overall unemployment rates. It is rare to find a study that is concerned with the distributional effects of such policies. The present analysis addresses this deficiency by examining the impact of monetary and fiscal policies on unemployment rates that are disaggregated by race and gender.¹

In theory, the employment response of black vs. white Americans, or males vs. females to a policy change should not differ. Demand management actions influence unemployment rates through the usual transmission channels, and depending on the stance of the business cycle, the effect may be transitory or of a more permanent nature. However, as will be discussed below, a number of observers have suggested that, in practice, differential unemployment effects do result from common governmental policy initiatives.

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Monetary Policy

THE URBAN Institute, Everson Hull (1983) and others have argued that with regard to monetary changes, the employment response of blacks and whites is unequal.² In particular, it is suggested that monetary contractions that are associated with recessions are more harmful to blacks than to whites in regard to their employment. Also, the "stop-go" pattern of discretionary monetary policy, designed to combat inflation, creates market uncertainty that results in a shrinking pool of credit that is extended only to those with the best of credit ratings. Unfortunately, this group tends to be disproportionately non-black. For example, during the months following the monetary tightening and high interest rates associated with the Federal Reserve's October 1979 policy shift, the largest banks and their best customers did not behave as if they were credit constrained. According to William Greider (1987), funds were simply rationed away from smaller, riskier clients as bankers "improved the quality" of their investment portfolios.³

For smaller and weaker banks and their customers, the ensuing recession and abnormally high real rates of interest provided a different sort of experience. The number of bank failures began increasing dramatically from an average of 40 or so in 1982 to nearly 200 per year in 1987. According to the FDIC, the number of "problem" banks increased from approximately 200 per year at the start of the decade to nearly 1500 by 1987.⁴ In an environment such as this, if big banks and their affluent customers are not detrimentally affected, then the burden tends to fall on less-preferred customers, those with marginal credit ratings, along with smaller and riskier enterprises. To the extent racial or gender discrimination exists, when it is compounded by credit rationing, it causes minority and female entrepreneurial opportunities to diminish rather significantly.

Though red-lining and other discriminatory lending practices have been illegal for a number of years, evidence suggests that such practices still exist. For example, Ladd (1982) offers evidence of discrimination against women in the mortgage lending industry and Leahy (1985) offers evidence of racial discrimination in the same industry. As recently as January 1989, the *Atlanta Journal and Constitution* reported that racially unequal lending practices were found to be a persistent problem among savings institutions in the U.S.

Greider, after conducting an exhaustive number of interviews with former Federal Reserve board members, concluded that in spite of being cognizant of various distributional problems associated with their policy actions, the Fed viewed itself as operating from a basically neutral stance. In other words, following the dictates of classical economic theory, the Fed (p. 56) made "economic decisions . . . not to reward one group or to punish another but simply to advance the universal objective of 'sound economics'." He further notes though,

that according to Galbraith (1975, p. 86), "what is called sound economics is very often what mirrors the needs of the respectably affluent."

Thus, while the Federal Reserve's policy reaction functions appear to include only aggregate concerns such as overall unemployment rates, interest rates, inflation, and GNP, the institutional environment in which monetary policy is conducted can lead to a number of distributional distortions. First of all, open market operations are conducted among an elite group of banks and government security dealers located primarily in New York City. In *theory*, the benefits of an open market purchase are instantaneously diffused throughout the system. Whether banks in depressed and minority dominated areas of the country benefit in *practice* is open to debate.

Also, once the Fed has created new money, the distribution of that money is delegated to the overall banking community without any specifications as to how the additional credit should be allocated. As Greider points out, bankers decide who qualifies for loans and who does not. They decide which projects are wise gambles and which are not. In fact, they play a large role in deciding which individuals, neighborhoods, cities, and regions of the country, will grow and prosper and which ones will not.

Therefore, rather than rely on classical economic theory in regard to the relative impacts of monetary changes on black and white or male and female unemployment rates, it seems that this is an empirical issue which will be addressed with the use of time series modeling techniques.

Fiscal Policy

WITH REGARD to fiscal policy, Ronald Johnson (1984) argues that color-blind demand management decision-making will influence whites and blacks unequally. Because of current and past racial discrimination there is disproportionately high employment of blacks in politically weak industries that are more sensitive to both the business cycle and governmental spending and taxation decisions. If his reasoning and data are correct, the employment response to fiscal stimuli for blacks and other minorities relative to those of whites may be dampened. On the other hand, as he notes, blacks are disproportionately represented in both the civilian and military sectors of the government, in both of which there may be few cyclical effects. (At least during the 1980s, one might expect increased employment opportunities for blacks given the enormous growth of government budgets during this period). Here, then, is another empirical issue which the following empirical models are designed to address.

Institutional Labor Environment

FURTHER REASON to expect differential employment impacts, according to Doeringer and Poire (1971), is the existence of a dual labor market in which jobs

are divided into primary and secondary sectors, and where there are differential opportunities for earnings, upward mobility, and job security. Contemporary Marxist thought suggests that the capitalist system creates racial and sexual antagonisms that help to perpetuate such a polarized job market.⁵ In the primary sector, a disproportionately large number of white males find lucrative employment, while the secondary sector contains a disproportionately large number of women, minorities, and youths. Because of the low pay and frequently crowded and unpleasant working conditions, employment in the secondary sector tend to be less stable. To the extent such a job market exists and/or that current and past racial discrimination have become institutionalized, there is no reason to expect identical racial or gender unemployment rate responses to government initiatives.

In addition, Gastwirth and Haber (1976) suggest that minorities tend to be significantly handicapped in the job search process because they live in areas with few job opportunities and lack information and possibly skills regarding the jobs which are available. Thus, even if government initiatives led to an overall reduction in the unemployment rate, minorities may not necessarily benefit equally.

Finally, Almquist (1979, p. 181) has identified a hierarchy with regard to income distribution among race and gender classifications that is similar to that for employment opportunities. Both place white males at the high end of the distribution.

II

Unemployment Rate Evidence

SELECTED UNEMPLOYMENT RATES during the 1970s and 1980s are presented in Table 1. They help to accentuate the point that each employment category does *not* respond equally to the same set of economic conditions. The first two columns of numbers correspond with the sample periods examined in the empirical section of this study. The third column corresponds to the various peak unemployment rates experienced during the recession of the early 1980s. White unemployment rates peaked in December 1982 and black unemployment rates peaked in January 1983. The fourth column reports unemployment rates during the last month of the 1980s sample period under consideration.

The above statistics reveal that the black-white unemployment rate differentials widened during the 1980s relative to the 1970s in both the male and female categories. Even by December 1987, four full years beyond the recession, the differentials had not fallen to the levels achieved during the 1970s, a period which also includes a major recession. The failure of the unemployment differentials to return to previous levels is particularly disconcerting because in

Table 1
UNEMPLOYMENT RATES:
RACE, GENDER and BLACK/WHITE DIFFERENTIALS
Selected years

Rates:	74:1-80:4	81:1-87:4	82/83 peak	Dec. 87
Total	6.6	7.8	10.6	5.8
Black female	13.4	15.7	20.0	12.5
Black male	12.2	16.5	22.4	11.9
White female	6.7 (6.7)*	6.7 (9.0)	9.3 (10.7)	4.9 (7.6)
White male	5.3 (6.9)	6.9 (9.6)	10.0 (12.4)	4.9 (7.0)

Note: * The numbers in parentheses are black minus white unemployment rate differentials.

Source: Bureau of Labor Statistics

the period following the recession some of the highest sustained monetary growth rates ever experienced in the U.S. occurred.

The unemployment rate differentials at the peak of the recession in late 1982/early 1983 highlight Hull's concern that blacks fare worse than whites during a recession. Also notice that black males seem to have suffered more than any other category of worker during this period. However, since white females suffered slightly less than white males during the recession, it may be that females (whites in particular) were employed in service related jobs that did not experience the massive layoffs associated with industrially related jobs during the recession.

The following section will describe the methodology used to specify the empirical models that are designed to test this hierarchical unemployment rate response to macro policy initiatives. An analysis of the results will follow.

III

VAR Methodology

THE PROPOSITION that there is a hierarchy of unemployment rate responses to monetary and fiscal policy initiatives is tested in a macro rational expectations setting. According to Lucas (1973) and others, if economic agents are forward-looking in their assessment of the impacts of policy initiatives, then those actions which have been announced previously, or have been anticipated in some other way, will have little or no impact on real economic variables at the time of their actual occurrence. On the other hand, policy actions that were not anticipated could not already have been discounted, and may, indeed, then exhibit a causal influence on real economic activity.

VAR Description

Sims (1980 a, b) introduced an econometric technique that is well suited to the task of identifying the temporal response of an economic variable, such as an unemployment rate, to an unanticipated shock, or innovation, to a policy variable. The methodology makes use of a vector autoregression (VAR), which can be thought of as a simultaneous system of reduced form equations. Each variable is treated as potentially endogenous and given an equation of its own. Within each equation, the dependent variable is expressed as a function of its own lags and the lags of all the other variables. This has several advantages over simpler structural models. First, to the extent that the monetary and fiscal policy equations represent policy reaction functions, the use of "lagged only" relationships is consistent with the rational expectations notion that expectations of future policy actions are derived on the basis of only that information which is known up to the present time. Also, in addition to avoiding problems of simultaneity bias, the "lagged only" model is well equipped to capture the dynamic nature of the various relationships.

Having specified a VAR, it is then a straightforward procedure to generate the moving average representation of the model which can be used to trace out over time the response of a goal variable, such as an unemployment rate, to an innovation in one of the policy variables.

Description of Data

SEPARATE (3×3) VAR models are specified for each of the following unemployment rates: total (UN), black female (BF), black male (BM), white female (WF), and white male (WM).⁶ The policy variables in each model are the M2 money supply (M) and the cyclically adjusted government budget deficit (D), each expressed in growth rates.⁷ The budget deficit is multiplied by negative one so that the variable is expressed as a positive series. M2 is used as a measure of the stance of monetary policy because of the uncertainty of M1 velocity during the 1980s and because of the Fed's lack of faith in M1 as a policy guide during the same period. The use of the cyclically adjusted budget deficit is a more realistic measure of the stance of fiscal policy than the unadjusted deficit series. By its construction, the cyclically adjusted series has had the effects of the business cycle removed, thus, theoretically it captures only those taxing and spending decisions that are initiated by Congress. Since the deficit series is reported on a quarterly basis, the analysis is conducted using quarterly observations of all variables.

Stationary data, as Hsiao (1981) has pointed out, is required for time series modeling such as this. Autocorrelation functions indicate that the two policy series (money and deficits) are stationary as defined (in growth rates), but that

each of the unemployment rate series required further transformation into growth rates to achieve stationarity.

Verification of Sample Split

WHILE DATA were obtained to allow for an analysis of the 1974:1–1987:4 period, because of the possible ramifications for employment due to the break in economic ideology between the Carter and Reagan administrations, separate models were estimated over the periods 1974:1–1980:4 and 1981:1–1987:4.

To establish statistical confirmation of the break date of 1980:4–1981:1, for each of the unemployment rates, unrestricted “Sims type” VARs of the following form (using the overall unemployment rate (UN) as an example) were estimated using ordinary least squares (OLS) techniques over the entire sample period:

$$\begin{vmatrix} UN_t \\ M_t \\ D_t \end{vmatrix} = \begin{vmatrix} a_{11}(L) & a_{12}(L) & a_{13}(L) \\ a_{21}(L) & a_{22}(L) & a_{23}(L) \\ a_{31}(L) & a_{32}(L) & a_{33}(L) \end{vmatrix} \begin{vmatrix} UN_t \\ M_t \\ D_t \end{vmatrix} + \begin{vmatrix} c_1 \\ c_2 \\ c_3 \end{vmatrix} + \begin{vmatrix} e_{1t} \\ e_{2t} \\ e_{3t} \end{vmatrix}$$

The $a_{ij}(L)$ are polynomials in the lag operator L , where for example, $a_{11}(L)UN_t = \sum_{k=1}^m a_{11}^k UN_{t-k}$. The c_i and e_{it} are constants and error terms respectively. An optimal lag length (m) of three quarterly lags was established for each variable in each of the models following a series of likelihood ratio tests and a search of lag lengths up to a year and a half. (These individual test results are available upon request to the author.)

Next, the sample period was split at the 1980:4–1981:1 break date and these unrestricted three lag models were re-estimated and Chow tests were performed. The likelihood ratio test statistics used to test the hypothesis that the model variances of the two separate periods (1974:1–1980:4, 1981:1–1987:4) were the same were 128.8, 136.2, 146.7, 134.8, and 139.4 for the UN, BF, BM, WF, and WM models respectively, vs. a critical Chi-Square (5%, 27 df.) = 40.1. Thus, the hypothesis of identical variances cannot be accepted and the separation of the two periods is appropriate.

Causality Testing

TO ADDRESS the issue of unemployment rate/macro-policy causality, new VARs are specified for each unemployment rate in each of the two time periods. To conserve degrees of freedom and because, most likely, all variables in each model do not have an exact three lag relationship, particular attention is given to the choice of optimal lag length. Akaike’s final prediction error (FPE) criterion is used to first establish the optimal “own” lag length, and then, in a stepwise manner to establish the optimal lag lengths of the remaining variables. A search of up to six quarterly lags is conducted. This procedure is by now, well-established and the reader may refer to Ahking and Miller (1985) for general details.

Each model, within both sample periods, is then exposed to a series of zero restrictions (using likelihood ratio tests) to identify causality (in the Granger sense) among the variables. To overcome the problem of contemporaneous covariance (which becomes a problem in a VAR that does not have identical lag lengths: see Theil, p. 298), each system of equations is estimated using the generalized least squares procedure of the RATS statistical package, thus generating estimates that are asymptotically more efficient than equation-by-equation OLS.

A variable (X) is said to Granger-cause another variable (Y) if the past values of X along with past values of Y can be used to predict future values of Y more accurately than if only past values of Y are used. Results from the zero restrictions and likelihood ratio tests may indicate unidirectional causality, bi-directional causality, or no causality. This type of testing will provide evidence on two separate issues related to unemployment rates. First of all, are the various unemployment rates causally prior to either of the policy variables? Evidence on the significance of the a_{21} and a_{31} variables will reveal whether or not policy makers respond to changes in any of the unemployment rates by an appropriate adjustment in their policies. Second, are the policy variables causally prior to any of the unemployment rates? Evidence on the significance of the a_{12} and a_{13} variables will reveal whether or not the unemployment rates actually respond to monetary or fiscal policy initiatives.

Impulse Response Functions

BECAUSE OF THE difficulty in interpreting the coefficients from a VAR model, to establish the direction and magnitude of change of one variable in response to another variable, impulse response functions will be generated from the moving average representation of each VAR system. The moving average representation expresses each of the variables as a function of current and past lags of each of the disturbance terms. It is possible, using the coefficients of these disturbances or shocks (Sims refers to them as innovations), to trace out over time the response of any one variable to a given shock to another variable. The entire time path of the affected variable is called an impulse response function.⁸

Interpretation of Reported Findings

TABLE 2 contains an abbreviated coefficient matrix (*i.e.*, the a_{ij}) for each of the VAR models in both time periods. The numbers indicate the order of the lag; for example in the 74:1–80:4 period, there are two money lags in the black female (BF) equation and five money lags in the white male (WM) equation.⁹ As mentioned, each model was subjected to a sequence of zero restrictions and the restricted models were compared to the unrestricted models using likelihood

Table 2
 VAR RESULTS, 1974:1 - 1980:4, 1981:1 - 1987:4

Abbreviated coefficient matrices showing lag order and likelihood ratio test results regarding the imposition of zero restrictions on each variable.

	1974:1 - 1980:4			1981:1 - 1987:4		
	UN	M	D	UN	M	D
UN	2*	1***	1	1***	1	5**
M	1**	1***	1	1	1	2***
D	1***	1	1***	1	1	2**
	BF	M	D	BF	M	D
BF	1	2	1	3***	4***	1**
M	1**	1***	1	1	1	2***
D	2***	1**	1***	1	1	2**
	BM	M	D	BM	M	D
BM	1	1***	1	1**	2	1
M	1	1***	1	1	1	2***
D	1***	1	1	6***	1	2***
	WF	M	D	WF	M	D
WF	1*	1***	1	1***	1	1
M	6***	1***	1	1***	1**	2**
D	1***	1	1***	1*	1	2**
	WM	M	D	WM	M	D
WM	2**	5***	1	6***	4***	3
M	1**	1***	1	1	1	2***
D	1***	1	1**	1	1	2**

Note: ***, **, and * indicate significance at the 1%, 5%, and 10% levels or higher respectively.

ratio tests. The matrix entries in Table 2 with asterisks indicate that the variance of the system in question was significantly increased by the imposition of the zero restriction at the 10% level or greater, thus helping to establish Granger causality. For example, in the 74:1-80:4 period, money (M) is causally prior to the overall unemployment rate (UN) at the 1% level, but the deficit (D) is not significantly causally prior to UN. A number of the relationships were significant at the 20% level or better but are not reported in the table. Variance decompositions are available upon request that provide evidence on the degree of causality among the variables.

Table 3 shows the impulse response functions that were generated from the moving average representations of the VAR models indicated in Table 2. The entries in the table show the 12 quarter accumulated response of each of the

Table 3
CUMULATIVE IMPULSE RESPONSE FUNCTIONS, 12 MONTH HORIZON

		[----- 1974:1 - 1980:4 --]				[----- 1981:1 - 1987:4 ---]			
		One standard deviation shock to M and D							
		M		D		M		D	
		Months 1-6	7-12	1-6	7-12	1-6	7-12	1-6	7-12
		.0000	-.0606	.0000	.0065	.0000	.0149	.0000	-.0514
		-.0209	-.0576	.0053	.0063	.0060	.0134	.0064	-.0517
A		-.0437	-.0558	.0068	.0062	.0111	.0123	.0014	-.0515
UN		-.0589	-.0553	.0079	.0063	.0144	.0116	-.0111	-.0506
C		-.0645	-.0555	.0075	.0064	.0159	.0111	-.0255	-.0475
U		-.0638	-.0560	.0070	.0065	.0160	.0110	-.0436	-.0439
M									
L		.0000	-.0281	.0000	-.0007	.0000	-.0459	.0000	-.0176
A		.0017	-.0270	-.0016	-.0008	-.0011	-.0566	.0096	-.0193
T		-.0102	-.0260	-.0010	-.0008	-.0087	-.0613	.0101	-.0224
E	BF	-.0200	-.0254	-.0013	-.0008	-.0134	-.0649	.0026	-.0280
D		-.0262	-.0252	-.0008	-.0008	-.0316	-.0703	.0007	-.0299
		-.0283	-.0252	-.0009	-.0008	-.0398	-.0729	-.0072	-.0316
R									
E		.0000	-.0784	.0000	.0064	.0000	-.0051	.0000	.0051
S		-.0348	-.0778	.0153	.0065	.0098	-.0044	.0055	.0045
P		-.0608	-.0774	.0090	.0065	.0037	-.0036	.0123	.0039
O	BM	-.0743	-.0773	.0095	.0066	.0016	-.0041	.0127	.0046
N		-.0786	-.0773	.0069	.0066	.0001	-.0047	.0071	.0048
S		-.0791	-.0773	.0069	.0066	-.0026	-.0039	.0047	.0040
E									
		.0000	-.0394	.0000	.0085	.0000	-.0018	.0000	.0051
O		-.0151	-.0378	.0040	.0082	-.0008	-.0018	.0041	.0047
F		-.0295	-.0346	.0068	.0074	-.0011	-.0018	.0058	.0046
	WF	-.0382	-.0304	.0086	.0065	-.0013	-.0018	.0045	.0048
		-.0406	-.0260	.0089	.0055	-.0016	-.0018	.0041	.0048
		-.0410	-.0232	.0090	.0050	-.0018	-.0018	.0049	.0047
		.0000	-.0819	.0000	.0058	.0000	-.1046	.0000	-.0763
		-.0232	-.0931	.0040	.0061	-.0088	-.1184	.0022	-.0844
		-.0655	-.1003	.0058	.0066	-.0152	-.1205	-.0060	-.0862
	WM	-.0950	-.0965	.0075	.0065	-.0365	-.1213	-.0241	-.0879
		-.0822	-.0898	.0074	.0060	-.0636	-.1216	-.0398	-.0873
		-.0774	-.0856	.0056	.0058	-.0876	-.1243	-.0582	-.0878

unemployment rates to a one standard deviation shock to either money (M) or the deficit (D).

IV

Empirical Results: 1974:1-1980:4

AN INSPECTION of the a_{21} and a_{31} entries in the models reported in Table 2 reveals that with one exception, that of black males, each of the unemployment rates is causally prior to each of the policy variables. In general, this suggests that during the 1970s, both monetary and fiscal policy was conducted in such a manner as to respond to changes in the various unemployment rates. The failure of monetary policy to respond to changes in the black male unemployment rate, by itself, is probably not sufficient proof of institutional racism. However, as will be indicated in the ensuing discussion of the impulse response functions, this observation is consistent with the finding that the black male unemployment

rate response to a monetary shock experienced the largest decline from the 1970s to the 1980s of any of the unemployment rates.

With regard to the issue of whether the policy variables exert a causal influence on the various unemployment rates, the evidence on monetary policy causality is shown by the significance (with one exception) of the a_{12} entries in each of the models in Table 2. The exception was the BF model. Since the money coefficients in this model were significant at the 15% level, however, this is not a serious deviation from the other results.

The impulse response functions in Table 3 bring evidence to bear on the relative magnitudes of the various unemployment rate responses to innovations in monetary policy. The results indicate, as the above theories might have predicted, that the white male unemployment response ($-.0856$ after 12 quarters) was greater than any of the other categories. The negative sign is an indication that a *positive* money growth rate innovation leads to a *decrease*, or, in other words, an improvement in the unemployment rate. The black male unemployment response was the next biggest ($-.0773$), followed by black females ($-.0252$), and white females ($-.0232$).

With regard to the influence of fiscal policy, the *insignificance* of the a_{13} entries in each of the models is an indication of the failure of unemployment rates to respond to government spending and taxation initiatives. This result is consistent with the findings of much of the "St. Louis equation" literature where it has been fairly consistently observed that monetary influences tend to overwhelm fiscal policy influences on economic activity.¹⁰

This result is further reinforced by the relatively small impulse response functions for each of the unemployment rates with respect to innovations in fiscal policy. In fact, with the exception of black females, the *positive* accumulated impulse response functions indicate an actual worsening of the unemployment rates in response to fiscal policy increases, though the magnitude of this effect, as mentioned, is very small. As will be discussed below, this observed beneficial result for black female unemployment rates is not necessarily a spurious finding.

V

Empirical Results: 1981:1–1987:4

DURING THIS PERIOD there is less of a clear pattern of monetary or fiscal policy-makers altering their policies in response to changes in unemployment rates. The significance or insignificance of the a_{21} and a_{31} for the four individual unemployment rates does not seem to follow any logic or hierarchy defining which group policymakers respond to. The results for the overall unemployment rate (UN) suggest that neither monetary nor fiscal policy decisions were influenced by changes in unemployment rates. This behavior is consistent with the stated

objectives of the Reagan administration, namely to scale back the influence of the federal government on the economy. It is also consistent with the advice that might have been given to the Administration by supply-siders and new classicals who subscribed to notions of the Lucas policy ineffectiveness hypothesis.

With regard to the causal influences of monetary policy, an examination of the a_{12} entries indicates that white male and black female unemployment rates are significantly influenced by monetary increases, while those of black males and white females are not. The causality for white males fits many of the theories mentioned above, though the significant response of black females (but not black males or white females) stands out as a possible anomaly. However, it has been suggested by observers such as Farley and Allen (1987) that women in general, and black women in particular, have been making the greatest strides in terms of academic achievement relative to their male counterparts. Also, Blau and Ferber (1986) have noted that among black workers, women have experienced higher educational attainment than men. For example, black females (ages 14–34) experienced the largest percentage increases in enrollment in institutions of higher learning over the period 1975–1986 according to the National Center for Education Statistics, relative to any of the other categories.¹¹ To the extent that this is a critical factor, it may be that a better educated black female work force is in a more advantageous position to secure jobs which federal monies have helped create.

It has also been suggested that in spite of attempts by the Reagan Administration during the 1980s to eliminate affirmative action policies, many companies have forged ahead with their own aggressive minority hiring plans. *Fortune* magazine (September 16, 1985, pp. 26–30), for example, reports the results of a survey by Organization Resources Counselors in which 95% of the company respondents claim that they will continue to pursue numerical objectives with regard to placement of women and minorities within their companies regardless of governmental objectives. The National Association of Manufacturers adopted a policy statement supporting affirmative action as “good business policy.” Thus, when such progressive attitudes on the part of businesses are coupled with a growing pool of well educated black females, the significant causal relationship of monetary policy and black female unemployment rates is not necessarily the anomaly one might have thought.

These findings are reinforced by the impulse response functions in Table 3 where it is shown that white males who were helped most significantly in the 1974:1–1980:4 period (12 quarter response = $-.0856$), were helped even more in the 1981:1–1987:4 period (12 quarter response = $-.1243$). Black females followed in terms of the magnitude of response. Their unemployment rate response nearly tripled from 1974:1–1980:4 (12 quarter response = $-.0252$) to

1981:1–1987:4 (12 quarter response = $-.0729$). On the other hand, while the responses of black male and white female unemployment rates were still beneficial in this latter period, they were substantially diminished relative to the earlier period. In fact, the black male response fell nearly 95% from $-.0773$ to $-.0039$.

With regard to the impact of fiscal policy, the a_{13} entries in Table 2 indicate that deficits are causally prior only to the black female unemployment rate. Recall that in the 1970s, deficits were not causally prior to any of the unemployment rates. Thus, the educational and business environment that apparently exists for black women that was discussed above seems to work to their benefit in regard to fiscal policy initiatives as well. There may also be a direct fiscal policy effect on black females if the presence of growing budget deficits in the 1980s helped to generate a growing bureaucracy that resulted in the creation of a number of new clerical positions. The significance of this supposition is that, according to Fox and Hesse-Biber (1984), the percentage of black females in clerical positions has more than tripled since 1960, while the percentage of white females in such positions has remained constant. Thus, it seems that black women indeed have been the primary beneficiaries from the *growth* in such positions.

The impulse response functions reveal that (relative to the other categories), white males benefitted the most from innovations in fiscal policy during this latter period (12 quarter response = $-.0878$). This stands in contrast to the 1970s when their unemployment rate actually *increased* slightly in response to increased deficit spending. As was the case for monetary policy, the next largest response was that of *black females* (12 quarter response = $-.0316$). Recall also, that in the 1970s, only black females were helped by budget deficits. For black males and white females, the impact of budget deficits on their respective unemployment rates was still detrimental. So, for both fiscal and monetary policies in the 1980s, the hierarchical pattern exists that white male unemployment rates are helped the most, followed by black females. The responses for the other two groups are significantly less beneficial.

A final interesting observation, above and beyond the unemployment rate results, remains to be made. As was mentioned above, the money equation in each model can be thought of as a partial monetary policy reaction function in which the Federal Reserve is seen to be responding to changes in unemployment rates, past monetary changes, and changes in the budget deficit. During the 1970s, the Fed was viewed as following a rather accommodative monetary policy in which budget deficits were monetized to avoid upward pressure on interest rates. This contrasts with the 1980s behavior of the Fed. The tight monetary policies of the very early part of the decade when the Fed was attempting to break the cycle of inflation, stand out prominently. In reality, during many years

of the decade of the 1980s, the money supply grew at historically high rates. To the extent these high growth rates were designed to accommodate the huge budget deficits of the 1980s, the significance of the a_{23} coefficients (which indicate the response of money growth to budget deficits) in each of the models of the 1981:1–1987:4 period is not surprising. In contrast, during the earlier period with much slower monetary growth rates, the same coefficients are *not* significant, indicating a less accommodative policy stance than was previously assumed.

VI

Conclusion

THIS PAPER has empirically examined the proposition (using vector autoregression techniques) that unemployment rates disaggregated along racial and gender lines do not respond equally to common innovations in monetary and fiscal policy initiatives. A number of studies have suggested that because of segmented labor markets and because of current and past racial and gender discrimination, policy actions will tend to favor whites in general and white males in particular.

The results here derived indicate that indeed such a hierarchy exists. In general, white male unemployment rates responded more favorably to policy innovations than any of the other categories. However, black female unemployment rates also responded quite strongly, especially in the 1980s. For example, in the case of monetary policy, the 12 quarter accumulated impulse response function of black females was nearly twenty times that of black males and even greater when compared to white females. In regard to fiscal policy, white male and black female unemployment rates were the only categories that benefitted from fiscal policy innovations in the 1980s. There is a growing body of literature that suggests the strong black female unemployment rate response is not an anomaly but rather a result of educational gains on the part of black females and an increased awareness on the part of businesses of the advantages of affirmative action hiring. This result, of course, begs the question of whether black males might also benefit from an improvement in educational attainment.

The substantially different results for the various unemployment rate categories suggest that macro policy studies that ignore distributional effects are insufficient for the purpose of generating meaningful policy implications. It is simply not enough to target an overall unemployment rate goal in the hopes that if the goal is obtained all worker groups will benefit equally or even sufficiently.

Notes

1. Abell (1989) examined demand management impacts on employment growth rates disaggregated along racial (but not gender) lines.

2. A summary of the Urban Institute's findings are reported in the *Reagan Record*, J. L. Palmer and I. V. Sawhill, eds., Ballinger (1984).

3. Greider (1987) reports that the return on equity for the largest banks during the recession of the early 1980s was over 13%, significantly higher than average returns of the previous three decades.

4. These statistics were obtained from F. Mishkin, *Money, Banking and Financial Markets*, 2nd ed., Glenview, Illinois: Scott, Foresman and Co., p. 190.

5. See Thomas Boston (1988) for a review of this and other positions related to segmented labor markets.

6. It has been suggested that movement in one unemployment rate may possibly influence another unemployment rate. Pairwise cross correlations between each of the unemployment rates reveal a wide range of correlation among the series from a high of .99 between the overall unemployment rate and the white male unemployment rate, to a low of .45 between the black male and black female unemployment rates. For example, the cross correlation between white and black male unemployment rates was only .73. Given the mixed cross correlation results and the fact that the study is more concerned with statistical causality among policy variables and unemployment rates than with correlation among unemployment rates, the decision was made to specify separate models for each of the unemployment rates.

7. The unemployment rates were obtained from the Bureau of Labor Statistics in Washington, D.C., the money supply data were obtained from the Federal Reserve Board of Governors, and the cyclically adjusted government budget deficit data were collected from the *Survey of Current Business*, Vol. 66 No. 3, March 1986, with revised data from 1981 to the present coming from *Monetary Trends*, published by the Federal Reserve Bank of St. Louis.

8. For a thorough discussion of VAR techniques in general, and impulse response functions in particular, see Porter and Offenbacher (1983).

9. By appropriate choice of lag length, residual serial correlation was eliminated in each equation. Q statistics are available upon request.

10. The seminal study that sparked two decades of research on the relative effects of monetary vs. fiscal policy was by Andersen and Jordan (1968).

11. The data were obtained from the U.S. Department of Education, National Center for Education Statistics, *Digest of Education Statistics*, 1988, Table 151.

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In a Word

THE PERSISTENT UNANSWERED QUESTION in my mind these days is whether or not, or when, the prevailing economic climate in these United States will get bad enough to represent "uncertainty," in a pragmatic sense; and thus whether or not, or when, there may come a willingness, or a readiness, to entertain seriously the idea things might be done differently than they have so long been done.

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