Welfare Programs and the State Economy

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Abstract

Welfare policy has been controversial and support is often drawn along political affiliation lines, the economic return of investment in welfare programs is frequently cited as a justification for new and expanded policies. To investigate the direct and indirect effects of welfare programs on economic performance, the authors develop a multilink approach, through employment and investment. The relationship is then tested with data from each of the United States from 1976 to 2006. Findings show welfare programs have no direct effect on a state’s economy. Indirectly, welfare has a negative effect through investment, though the effect on employment is minimal.
Introduction

Welfare policy has been, and continues to be, one of the most contested policy concerns in the United States. Since the 1930s, federal and state policymakers have enacted major welfare reform initiatives ranging from the establishment of Temporary Assistance to Needy Families (TANF) to Old Age Assistance and work re-education programs. Such initiatives are seen as a means of returning American families to solvency as productive citizens, but this claim has been challenged by accusations that welfare programs foster long-term dependency and that recipients are lazy and unmotivated (Armey, 1994; Jarrett, 1996). In response, both Republicans and Democrats have frequently cited the economic return of investment in welfare programs as a means of overcoming controversy and sparking reform (Browning, 1986; Chelf, 1992; Martin, 1990; Teslik, 2009). However, support is often drawn along party lines (Seccombe, Walters, & James, 1999) and reform has remained relatively stagnant.

The issue of welfare policy, however, has regained importance following the collapse of the US housing market in 2008. As the recession lingered, its scope expanded beyond the spheres of government and corporate finance and has penetrated the everyday lives of American families. As the citizenry struggles financially, the demand for government assistance has begun to overextend available resources. In response, both federal and state level officials have adopted policies that provide increased funding for welfare services. It is hoped that the provision of additional welfare services and resources will ensure that American families remain solvent and that their improved access to capital will help restore motion to the economy (Teslik, 2009). With tremendous stakes riding upon government spending and plans to repair the economy, the assumption that welfare programs will positively influence growth has been called into question.
What remains to be determined is if, and how much, an expansion of welfare policies will improve economic growth.

Despite the use of welfare programs and policies as tools for growth, the literature has provided little in the way of definitive guidance to the researcher or policy-maker regarding the actual impacts of welfare spending. In an effort to clarify the roles that welfare programs play in economic recovery, we explore the multilink approach by the developing of a theoretical basis for the direct influence of welfare programs on growth based on the existing literature. This newfound basis is then tested for immediate and delayed effects of welfare on the economy of U.S. states from 1970 to 2006 using an augmented Solow approach. Since investment and employment are presumed to improve economic growth, we also test the effects of welfare programs through indirect channels using separate models. Although the previous literature has primarily focused on welfare policies at the national level, investigating these policies at the state level is more appropriate for several reasons. First, the federal government relies on states to distribute funds. Second, though viewed by many as a small share of total state government expenditures, welfare programs have historically accounted for between 20 and 30 percent of state budgets, see Figure 1. Lastly, states are given broad discretion to determine recipient eligibility and programmatic goals and needs. Conducting this study at the state level will allow for a better understanding of the impacts of the programs by accurately measuring how welfare program expenditures are spent and how they influence the economy.

[Figure 1 about here]

In addition to the theoretical connection developed in this paper, our contribution to the understanding of welfare policies is in the policy implications of our findings. Should there be a positive association, an increase in welfare services would further support the use of welfare
programs as structural policy elements for economic reforms designed to enhance economic growth during recessions. More importantly, however, are the implications for improving efficiency in budgetary decisions. If the individuals crafting and modifying governmental budgets do not understand how particular combinations of budgetary expenditures affect their constituents and the economy, then budgetary changes in welfare programs may produce unexpected and, at times, disastrous outcomes.

**Theories and Models**

In investigating the relationship between welfare expenditures and economic growth in a state-level context, we acknowledge that welfare expenditures can have both direct and indirect impacts on the economic growth of the United States. To capture each of these effects we focus on three measures: employment, investment, and total economic growth.

**The Effects of Welfare Programs on Employment**

The improvement of employment status among welfare recipients has been a pivotal issue in welfare policy reform since the 1960s (Grogger & Karoly, 2005). The effects of welfare programs on employment, however, are complex. Not only does increased government spending provide jobs directly, but it can also improve employment levels through other channels. For instance, welfare programs provide job training and education opportunities to recipients, allowing them to achieve higher levels of education and become employable at increased wages (B. L. Wolfe, 2002). Devereux, Head, and Lapham (2000) contend that welfare programs can also increase employment levels during specific market inefficiencies by providing training to recipients for key industries, such as technology and medical related fields (see also McCallum...
& Blais, 1987). In addition, the organizations and industries producing government related goods and services create indirect employment, itself a function of government and private sector suppliers producing services and managing programs (B. D. Jones, 1990). As a result of this indirect job creation function, some supporters of welfare initiatives argue that any reduction in welfare programs would create unemployment (Chelf, 1992; Figlio & Ziliak, 1999).

There are also reasons, however, to suspect a negative relationship. Principal among these are the impacts of welfare on work incentives and the effects of increased taxation. The effects of incentives are threefold: relaxation of job search efforts (Haskins, 2006), increase in reservation wages (Grogger & Karoly, 2005; Seccombe, et al., 1999), and imposition of costs on workers (B. L. Wolfe, 2002). Lichter and Jayakody (2002) posited that while welfare expenditures have helped to reduce poverty, expenditures and programs have not been able to successfully transition recipients to stable employment and financial independence. Additionally, social safety measures increase the mobility of labor as people become comfortable leaving one job to search for another resulting in rising transitory unemployment rates (Phelps, 1994).

Attempts to increase employment through the expansion of welfare services also require additional resources likely causing an increase in the marginal tax rates of business and individuals. Businesses pass these higher tax costs onto their customers by way of increased prices. Additional tax effects are passed on to employees in the form of reduced benefits, frozen or lowered wages, and downsized staffs. As prices and tax rates increase and benefit levels decrease, the level of disposable income plummets. In an effort to maintain their previous standards of living, families substitute do-it-yourself work for services previously purchased (e.g. cooking, home repairs, vehicle maintenance, etc.) thereby reducing demand for such services.
Reduced demand requires cutbacks and layoffs on the part of service providers, thus increasing unemployment levels.

Although the ideological relationship between employment and welfare programs suggests a positive relationship, the theoretical support for the direction does not exist. Thus, we hypothesize the following:

\[ H_1: \text{Welfare programs have a negative effect on employment.} \]

To test for an impact, we assume that each state maintains an equilibrium in labor, driven by market conditions and its various regulations. A change in a state’s welfare expenditures would then be expected to shock the equilibrium and influence the overall level of employment. To capture this equilibrium, we use a simple regression model to plot welfare expenditures, \( W \), and non-welfare expenditures, \( N \), against unemployment, \( U \).

\[ U_t = \alpha + \beta_1 W_t + \beta_2 N_t + \varepsilon \quad (1) \]

Next, we include a lagged measure of unemployment to account for any persistent deviation from the long-term equilibrium. Lagged variables for welfare and non-welfare expenditures are also included to account for any delayed effects due to changes in government spending. The model is specified as follows:

\[ U_t = \alpha + \beta_0 U_{t-1} + \sum_{i=0}^{n} \beta_1 W_{t-i} + \sum_{i=0}^{n} \beta_2 N_{t-i} + \varepsilon \quad (2) \]

The Effects of Welfare Programs on Investment

A key argument behind welfare policies is the ability to transform program recipients into positive consumers. This argument is pivotal, given that within the macroeconomic literature, investment is considered to be a crucial part of economic growth based on the belief that an economy’s future product is dependent upon its available capacity. A Keynesian approach to
welfare programs suggests that by providing increased services and supplemental income to poor persons, welfare raises the marginal utility of income of recipients which, in turn, provides the capital needed for welfare recipients to invest (Grogger & Karoly, 2005).

Conversely, some research has found that government expenditures may crowd-out private investment (Bairam & Ward, 1993). Within an economy resources are finite, such that welfare programs and private investment both compete for available capital (Chelf, 1992). Crowding-out occurs due to the lower return on fixed capital, reducing the investment available to finance capital formation in the private sector. As welfare expenditures increase, the capital available for private investment declines, forcing the choice between investing in either welfare programs or the private sector. Thus, trade-offs in welfare programs are expected to occur between maximizing an individual’s utility and putting the money into another area that can be more productive (Gueron & Pauly, 1991; Plaut & Pluta, 1983). Lichter and Jayakody (2002) found that while welfare expenditures helped to reduce poverty, it provides no positive return on investment to the economy because expenditures and programs have not been able to successfully transition recipients to a state of financial independence.

Crowding-out may also occur as a result of how the expenditures are financed (Miller & Russek, 1997). To finance any government program, initial investments are required, which can only be financed by creating new taxes, increasing the budgetary deficit, or by issuing new money (Mofidi & Stone, 1990). Historically, welfare programs have been financed by new taxes, which restricts growth by lowering the expected after-tax return on capital and reducing the flow of savings available to finance capital formation (Bairam & Ward, 1993; Ljungqvist & Sargent, 1995). As Ahmed (2000, p. 124) explains, “[h]igher income taxes reduce the after-tax return on
private investment, and thus affect growth negatively by lowering investment” (p. 124). The result is punctuated declines in the level of private capital available for investment.

Although this relationship is counter intuitive to the conventional wisdom of welfare policy, it leads us to consider that a trade-off occurs within the economy for welfare expenditures. Thus, we hypothesize:

\[ H_2: \text{Welfare programs have a negative effect on investment.} \]

To test the effects of welfare programs on investment, we develop a modified version of the model originally proposed by Clark (1917) and improved upon by Koyck (1954). As noted by Clark (1979), not only is this approach practically estimable, but it maintains superiority in its performance. Additionally, the approach allows us to isolate the impact of welfare programs from other government expenditures. We start with a model where investment, \( I \), is a function of the economy’s previous output, \( Y \), and capital stock, \( K \). This relationship can be demonstrated as:

\[
I_t = \sum_{i=0}^{\infty} \beta_0 \Delta Y_{t-i} + dK_{t-1} \quad (3)
\]

Next, within the neoclassical approach, gross domestic product (GDP) is defined as the sum of an economy’s consumption, \( C \), investment, \( I \), total government expenditures, \( G \), and net exports, which is equal to total exports, \( EX \), minus imports, \( IM \). This relationship can be demonstrated as:

\[
Y = C + I + G + (EX - IM) \quad (4)
\]

Making the assumption that the private sector, \( P \), is comprised of consumption, investment and net exports, we get:

\[
Y = P + G \quad (5)
\]

Disaggregating the government sector into welfare expenditures, \( W \), and non-welfare expenditures, \( N \), equation (5) can be rewritten as:

\[
Y = P + W + N \quad (6)
\]
Using the distributive law, the rate of change in Y is equal to the sum of the rate of change for the private, welfare and non-welfare sectors. That is,

\[ \Delta Y = \Delta P + \Delta W + \Delta N \quad (7) \]

From equations (3) and (7), we arrive at:

\[ I_t = \sum_{i=0}^{\infty} \beta_i \Delta P_{t-i} + \sum_{i=0}^{\infty} \beta_{W2} \Delta W_{t-i} + \sum_{i=0}^{\infty} \beta_{N2} \Delta N_{t-i} + dK_{t-i} \quad (8) \]

To obtain the sector proportions to GDP, we divide each side by Y. Adding constant and error terms for ease of estimation, the resulting model becomes:

\[ \frac{I_t}{Y_t} = \alpha + \sum_{i=0}^{\infty} \beta_i \frac{\Delta P_{t-i}}{Y_t} + \sum_{i=0}^{\infty} \beta_{W2} \frac{\Delta W_{t-i}}{Y_t} + \sum_{i=0}^{\infty} \beta_{N2} \frac{\Delta N_{t-i}}{Y_t} + \beta_4 \frac{dK_{t-i}}{Y_t} + \epsilon \quad (9) \]

**Direct Effects of Welfare Programs on Economic Growth**

As previously discussed, the economic return on investment from welfare programs has often been used as a justification for welfare reform and expansion. Regarding the economic impact of welfare spending on growth in the United States, however, there has been little agreement about the cause and direction of the association (Haskins, 2006). From the debate three perspectives have emerged. One group of scholars argue that government spending on welfare related programs promotes economic growth. For instance, Ploug (2005) contends that welfare promotes growth by creating a flow of capital, ultimately leading to a return of recipients to the workforce, who spend capital, invest savings, and pay taxes on wages. Wolfe (2002) posited that welfare improves growth because welfare recipients who achieve higher levels of education undertake employment at higher wages, providing a return of taxation and higher levels of investment (see also McCallum & Blais, 1987). However, Gueron and Pauly (1991) argue that while the return to the government, through increased long-term tax revenue,
outweighs the costs of welfare programs, the net benefits are typically small. Similarly, Brooks (2007) also finds a positive association between welfare expenditures and economic productivity.

Alternatively, a second group of scholars contend that welfare expenditures can hamper economic growth in the United States (Persson & Tabellini, 1994; Weede, 1986). A core contention of this perspective is the link between incentives and expenditures, whereby welfare programs serve to encourage recipients to remain unemployed. As Lindbeck et al. (1993) note, incentives can limit growth by creating an overburdened economy. Lichter and Jayakody (2002) found that while welfare expenditures helped to reduce poverty, it provides no positive return on investment to the economy as recipients are expected to continuously draw upon governmental resources, crowding out resources that could be used in more productive areas.

In contrast to the previous viewpoints, Hansson and Henrekson (1994) and Landau (1985) find an insignificant relationship between welfare expenditures and economic growth. Wolfe (1931) reports that welfare programs, and their expenditures, have no connection to economic growth, or economic theory as a whole, but rather exist as an ethical issue, concluding that economics has only become entwined with this issue as a means to validate individuals’ stances towards the poor. Conversely, Jones (1990) argues that, dependent on the policy and implementation, some expenditures may improve growth while others may reduce growth.

Due to the mixed results displayed in the literature between welfare expenditures and economic growth, we are presented with a choice of perspectives upon which to base our analysis. Given that each perspective outlined above is theoretically based, we can assume that the relationship is an empirical issue rather than a theoretical one. Due to the lack of consensus in the literature and the idea that the relationship may be empirically based, we follow the
previously hypothesized negative relationship for employment and investment and hypothesize the following:

\( H_3: \text{Welfare programs have a negative effect on economic growth.} \)

To test the direct effect between welfare programs and economic growth, we rely upon a neoclassical production function, which is a commonly used method in the study of government spending and economic growth (B. D. Jones, 1990; Romer, 1990). Based on the work of Solow (1956) and Swan (1956), this approach uses a supply-side description of changes to aggregate output, which, in turn, explains growth as a function of labor and capital. The growth equation of the Solow model is derived by linearizing the transition path of per capita output around the steady-state. Although a simple explanation of economic growth, strength of the approach is its ability to provide a realistic description of economic performance (Mankiw, Romer, & Weil, 1992). Of further interest is the ability to extend the model to account for various fluctuations and impacts while maintaining the rich theoretical tradition that the Solow model holds. As such, it is possible to extend the standard Solow model to incorporate the association of welfare programs and economic performance.

Following this tradition, we start with an aggregate neoclassical production function that features labor-augmenting technological change:

\[
Y_t = K_t^n [A_t L_t]^{1-\alpha} \quad (10)
\]

where the notation \( Y \) is aggregate real income, \( K \) is real capital output, \( L \) is labor, and \( A \) is the total factor of productivity (TFP). It is assumed that labor and technology grow exogenously at the rates \( n \) and \( g \), respectively.

\[
L_t = L_o e^{nt} \quad \text{(11)}
\]

\[
A_t = A_o e^{gt} W_t^\rho \quad (12)
\]
Included in the assumptions of TFP is $w$, the share of welfare expenditure in gross state product (GSP), which creates a specification of productivity that suggests a permanent change in $w$ will not affect the long-run steady state growth. It does, however, have the possibility of producing a leveling effect on per-capita income along the growth path. It could also affect the transitory growth rate as it moves towards a new equilibrium.

Within the traditional assumptions of the Solow model, a constant rate of savings, $s$, is invested, and a given rate of depreciation, $\delta$, is witnessed. Further, $y$ is defined as output per laborer, $y=Y/AL$, and $k$ as capital stock per laborer, $k=K/AL$. Within the model, capital accumulation is described as:

$$\dot{k}_i = sy_i - (n + g + \delta)k_i$$

(13), (14)

This implies a steady-state of $k$ as:

$$k_i^* = \left[ \frac{s}{n + g + \delta} \right]^{\frac{1}{1-\alpha}}$$

(15)

After linearly adjusting equation (14) around the steady state, and using equation (15), this becomes:

$$\frac{\partial \ln k_i}{\partial t} = (\alpha - 1)(n + g + \delta)\left[ \ln k_{i,t} - \ln k_i^* \right]$$

(16)

Since $\ln y_i = \ln(Y/AL) = \alpha \ln k_i$ within the steady-state, we get:

$$\frac{\partial \ln y_i}{\partial t} = (\alpha - 1)(n + g + \delta)\left[ \ln y_{i,t} - \ln y_i^* \right]$$

(17)

Thus, equation (17) approximates the transition dynamic of output per laborer as it approaches the steady-state:
\[ y_t^* = \left[ \frac{s}{n + g + \delta} \right]^\frac{a}{(1-a)} \] (18)

In order to prepare the model for empirical use, we move equation (17) forward from \( t-1 \) to \( t \):

\[ \ln y_{i,t} = e^\psi \ln y_{i,t-1} + \left( 1 - e^\psi \right) \ln y_t^* \] (19)

where:

\[ \psi = (\alpha - I)(n + g + \delta) \] (20)

Using equations (11), (18), and (19), we relate \( y_e \) to the observed output per laborer through:

\[ \ln y_t = e^\psi \ln y_{i,t-1} + \left( 1 - e^\psi \right) \left\{ \ln A_b + \frac{\alpha}{1 - \alpha} \left[ \ln s - \ln(n + g + \delta) \right] \right\} \\
+ \theta \ln w_t - e^\psi \theta \ln w_{i,t-1} + \left[ e^\psi - e^\psi_{i,t-1} \right] g \] (21)

It must be noted that \( y \) evolves according to:

\[ \ln y_t^* = \ln y_t^* + \ln A_o + \theta \ln w^* + g_t \] (22)

Within this steady-state, \( \theta \) represents the elasticity of income with respect to the long-run welfare expenditure share of GSP. In its final form, the direct model of economic growth is:

\[ \Delta \ln y_t = \beta_1 + \beta_3 x_{i,t} + \beta_4 \ln n_t + \beta_5 \ln (s_t + g_t + \delta_t) + \beta_6 \ln w_t + \beta_7 \ln w_{i,t-1} + \varepsilon \] (23)

**Methodology**

**Data**

In this study, data from each of the fifty states in the United States are collected for the period 1976 to 2006, are outlaid in calendar years, and are expressed in 2000 constant dollars. Estimates of gross domestic product (GDP), GSP, and gross private domestic investment (GPDI) are from the Bureau of Economic Analysis’s *Regional Economic Accounts*. To measure gross private state investment (GPSI), we assume that the ratio of GPDI to GDP at the national level
holds at the state level. We then impose this ratio upon GSP to construct the measure of GPSI.\textsuperscript{1} To measure capital stock, we adopt the formulation set forth by the Federal Reserve Bank of Boston (see Munnell, 1990). In doing so, we rely upon Brown, Hayes, and Taylor’s (2003) estimations of capital stock from 1976 to 1996. For the remaining years of interest, we rely upon a slightly modified version of the bank’s methodology, which captures the changes in the nature of capital investments since the start of the technology boom.\textsuperscript{2} Total state expenditures and welfare expenditures\textsuperscript{3} are obtained from the U.S. Census Bureau’s database of State Government Finances. Non-welfare related government spending was obtained by subtracting welfare expenditures from total state expenditures. The measure of the private sector is obtained by subtracting total state expenditures from GSP.

All labor and employment data are from the U.S. Department of Labor’s Bureau of Labor Statistics. We measure $n$ as the growth rate of the employed labor population. As a proxy for growth in TFP, represented as $g$, we use the Bureau of Labor Statistics’ private business sector’s multifactor productivity index. Finally, we follow Mankiw, Romer, and Weil (1992) and measure capital depreciation, $\delta$, at 0.03, assuming that any reasonable change in this assumption will have little effect on the estimates.

**Estimation**

Before turning to the results of our empirical analysis, several methodological issues must be addressed. To estimate the above models, this paper employs a pooled cross-sectional time series design that can explain variation in economic growth both over time and across states. This approach allows for the explanation of co-variation between the economy and the independent variables that are predicted to impact economic growth. In a general, or random
effects, specification of a pooled OLS approach, it is assumed that the coefficients are the same for each state in this analysis. The adoption of a random effects model would also assume that the error term for each state is uncorrelated with the other states in the panel. A fixed effects model, however, takes into account state specific factors in the determination of pooled coefficients. To ensure best estimation, we employ Hausmen’s test to determine whether a random or fixed effects model is more appropriate. Given the results of this test, and the fact that government structures and welfare programs vary across states, a fixed effect approach is adopted. Furthermore, while the models of economic growth and investment provide a priori information regarding the form of estimation, to estimate our model of employment, we employ the natural logs of each variable to estimate rate of changes.

Two other issues of estimation must also be addressed. First, is the determination of the appropriate lag for variables included within each of the models. According to Gujarati (1988), the inclusion of a distributed lag allows for the capturing of dynamic effects by including changes in variables over time. Since the specifications of the investment, employment, and growth models contain distributed lags, and there is no a priori information on the lag structure, an objective criterion is needed to determine the proper number of lags. To accomplish this task, we rely on a standard information criterion (SIC), as suggested by Schwarz (1978) and Geweke and Meese (1981). According to Mintz and Huang (1991), “[t]his criterion involves a statistic that incorporates a measure of the precision of the estimate and a measure of the parsimony of the statistical model” (p. 748).

The second issue to be addressed is the potential presence of autocorrelation within the results, given the longitudinal nature of the study. In estimating our findings, both model 2
(investment) and model 3 (economic growth) exhibited autocorrelation. These problems were addressed using AR(1) processes.

**Empirical Results**

The results of the empirical analysis are reported in Table 1. We focus first on the findings of model 1 (employment). The results of the employment model reveal that welfare expenditures aggravate unemployment in the short term, but reduces unemployment a year later. This result means that welfare programs may encourage recipients to free-ride immediately, but is successful at returning them to employment later on. Regarding the size of the effects, a 1 percent increase in welfare expenditures leads to an immediate increase in the unemployment rate by 0.09 percent. In the following year, however, welfare expenditures produce a negative influence on unemployment with an estimated drop in the unemployment rate by 0.19 percent for every 1 percent increase in spending. In contrast to expectations, we also find that non-welfare related government expenditures have no significant influence on state unemployment.

[Table 1 about here]

Turning to model 2 (investment), we find that current welfare expenditures hinder investment and continue to do so long-term. This finding supports our hypothesis of welfare expenditures crowding-out investment, suggesting that the money spent on public welfare programs could have been used towards other areas that are more productive. Considering the short and long term impacts of welfare expenditures on investment (-0.44 and -0.59 respectively), we find an increase in welfare expenditures by 1 percent leads to a final decline in investment by 1.03 percent. On the other hand, we find that a state’s non-welfare related expenditures neither help nor hinder investment. As to the other control variables, both the share
of capital stock and the previous year’s share of capital stock have a positive and significant effect on investment, as does the private sector’s share of GSP within the current time period. The findings also suggest that investment within the state economy is not driven entirely by state expenditures, but rather that other influences can, and do, exist. As expected, these other influences include the private sector, which has both short term (0.14) and long term (0.06) influence, and capital stock, which similarly influences investment (0.01 and 0.002 respectively).

Last, we turn to the estimate of model 3 (the direct model of economic growth). According to the estimates, welfare expenditures are found to have no significant influence on the economic growth of states. In contrast to Brooks’ (2007) and Wolfe’s (2002) argument that welfare expenditures improve economic growth, we find that welfare expenditures neither help nor hinder growth. Similarly, we find that the model’s accounting for capital investment ($ln s$) showed no significance. Although welfare expenditures had previously been shown to influence investment, the insignificance of the investment measure suggests that welfare expenditures do not indirectly impact state economic growth through investment. As expected, however, the labor sector [represented as $ln(g + n + δ)$] was significant and positive, suggesting that a 1 percent shift in the labor sector produces an increase in growth of 0.02 percent. In combination with the effect of welfare expenditures on employment (model 1), we can conclude that while welfare expenditures do not have a direct effect, they do have an indirect effect on growth.

**Conclusions and Policy Implications**

With the start of the global recession in 2008, both the federal and state governments have increased funding to welfare programs with the intent of rebuilding the economy. Given the persistence of the financial crisis and the continuing struggle of the American household, these
increases are likely to continue. This trend, coupled with increasing budget deficits, has generated renewed interest in studying the relationship between welfare expenditures and economic growth. Although a relationship is believed to exist between welfare provision and economic growth, there has been a void in the development of a theoretical foundation on which the relationship can be based. To further the understanding of the effects of welfare programs and to provide the much needed theoretical foundation, we developed a multilink model of welfare expenditures and state economic growth based on standard economic principles. The model was then empirically tested with data from the fifty United States for the period 1976 to 2006.

Our analysis reveals that welfare programs do influence economic growth, but that the influence is indirect, coming through the channel of employment. The negative effect on employment, however, is only a short-term effect, as a positive association is seen the following year. Since employment helps economic growth, we can conclude that welfare has an indirect, positive effect on the state economy. Although investment was not shown to be a driver of state economic growth, the analysis shows that welfare programs crowd-out investment. The crowding-out of investment is both immediate and also appears with a year lag. The direct impact of welfare expenditures on growth, on the other hand, is absent as the empirical estimations failed to show significance. One potential explanation for the lack of a direct relationship is the variation in the relative size of welfare programs compared to the rest of government spending across states. In 1976, for example, 4.6 percent of Wyoming’s government expenditures went to welfare related programs, as compared to California who spent 21.8 percent. By 2006, spending had increased more than three-fold in Wyoming to 14.3 percent of expenditures, whereas California witnessed much slower growth to only 23.5 percent of
expenditures. Despite the variation, both states have shared similar progressions of economic
growth, reducing the variance within the direct model.

In addition to the development of a theoretical connection, the findings of this study
suggest a couple important policy implications. First, economic recovery may be aided through
the adoption of policies that provide incentives for companies to hire. Our findings support the
conclusion that welfare spending can have a positive impact on employment. Following
Keynesian economics, the expectation is that a high level of government spending will provide
new opportunities for employment. Such policies have been shown to have long-term positive
impacts on growth as the additional revenue is often used to increase the workforce or improve
technology, both of which have positive spillover effects. Other types of policies can also be
utilized to increase employment. The most direct method is for governments to subsidize salaries
and/or benefits in areas of greatest need. Less direct are tax breaks and fee reductions for
businesses that meet hiring requirements. Another possibility is to amend current policies so as
to reduce the costs to businesses of regulatory compliance. A less obvious option is for states to
incentivize employment by reducing the cost of, or removing, unfunded mandates as these costs
are passed onto taxpayers by the local governments.

Second, any policy alternative that involves economic stimulus through direct welfare
provision needs to be carefully scrutinized as such policies are generally unlikely to be
successful. For example, amidst a decline in revenue, the current economic recession has left
many states considering their own stimulus packages. Many of these plans have included new
spending for welfare related programs, intending to improve the economy by creating a more
productive citizenry and turning welfare recipients into fiscal contributors. Our findings indicate,
however, that this transition in the economy is not likely to occur. As a result we recommend that
states seeking to improve their economies refrain from implementing new, or substantially expanding current, income redistribution programs in favor of more productive policies (e.g. policies that reduce unemployment).

Finally, the efficiency of budgetary decisions can be improved through a better understanding of the impacts of welfare expenditures on policy goals. If the individuals crafting and modifying governmental budgets do not possess an accurate understanding of how particular combinations of budgetary expenditures affect their constituents and the economy, then budgetary changes in welfare programs may produce unexpected and, at times, disastrous outcomes. Given the negative association between welfare expenditures and growth, the current reliance on welfare programs to promote growth is likely to produce an accelerator effect on future government revenues and budgetary decisions. The accelerator occurs when welfare expenditures crowd-out other government programs, leading to reduced government revenue and a tightened budgetary constraint. Following previous budgetary precedent, tougher times lead to more welfare expenditures, again tightening budgetary constraints in the following years. Understanding this accelerator effect not only helps lawmakers make improved policy decisions, but contributes to avoidance of a budgetary downfall from which it can be difficult to escape. Following this understanding, policy recommendations to avoid the accelerator include the expansion of programs designed to return welfare recipients to work (e.g. tax incentives to companies for increased employment, training programs, etc.) and avoiding programs that supplement income or provide alternative services to welfare recipients.
References


Figure 1. Total U.S. State Expenditures, by Function ($ Millions)
Table 1: The Impact of Welfare Programs on the State Economy

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<th>Variable</th>
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<tbody>
<tr>
<td><strong>Model 1: Employment</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dependent Variable: Unemployment Rate</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Constant</td>
<td>0.2916</td>
<td>0.60</td>
</tr>
<tr>
<td>Unemployment (_t-1)</td>
<td>0.8049</td>
<td>49.66 ***</td>
</tr>
<tr>
<td>Welfare Expenditures (_t)</td>
<td>0.0929</td>
<td>2.29 ***</td>
</tr>
<tr>
<td>Welfare Expenditures (_t-1)</td>
<td>-0.1967</td>
<td>-4.96 ***</td>
</tr>
<tr>
<td>Non-Welfare Government Expenditures (_t)</td>
<td>0.0894</td>
<td>1.11</td>
</tr>
<tr>
<td>Non-Welfare Government Expenditures (_t-1)</td>
<td>0.0080</td>
<td>0.10</td>
</tr>
<tr>
<td>(R^2 = 0.8007)</td>
<td></td>
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</tr>
<tr>
<td><strong>Model 2: Investment</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dependent Variable: Investment Ratio</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Constant (_t)</td>
<td>0.1429</td>
<td>146.43 ***</td>
</tr>
<tr>
<td>Private Sector (_t)</td>
<td>0.1094</td>
<td>14.68 ***</td>
</tr>
<tr>
<td>Private Sector (_t-1)</td>
<td>0.0646</td>
<td>9.51 ***</td>
</tr>
<tr>
<td>Welfare Expenditures (_t)</td>
<td>-0.4443</td>
<td>-3.93 ***</td>
</tr>
<tr>
<td>Welfare Expenditures (_t-1)</td>
<td>-0.5944</td>
<td>-5.12 ***</td>
</tr>
<tr>
<td>Non-Welfare Government Expenditures (_t)</td>
<td>-0.0279</td>
<td>-0.65</td>
</tr>
<tr>
<td>Non-Welfare Government Expenditures (_t-1)</td>
<td>0.0473</td>
<td>1.11</td>
</tr>
<tr>
<td>Capital Stock (_t)</td>
<td>0.0104</td>
<td>5.57 ***</td>
</tr>
<tr>
<td>Capital Stock (_t-1)</td>
<td>0.0021</td>
<td>1.22 *</td>
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<tr>
<td>AR(1) = 0.4419</td>
<td></td>
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</tr>
<tr>
<td>(R^2 = 0.1852)</td>
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</tr>
<tr>
<td><strong>Model 3: Economic Growth</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dependent Variable: Economic Growth</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Constant</td>
<td>0.1177</td>
<td>3.64 ***</td>
</tr>
<tr>
<td>GSP (_t-1)</td>
<td>-0.0006</td>
<td>-0.25</td>
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<tr>
<td>Capital Investment (_t)</td>
<td>0.0008</td>
<td>0.07</td>
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<tr>
<td>Labor (_t)</td>
<td>0.0281</td>
<td>18.37 ***</td>
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<tr>
<td>Welfare Expenditures (_t)</td>
<td>-0.0030</td>
<td>-0.35</td>
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<tr>
<td>Welfare Expenditures (_t-1)</td>
<td>0.0035</td>
<td>0.41</td>
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<tr>
<td>AR(1) = 0.2266</td>
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<td></td>
</tr>
<tr>
<td>(R^2 = 0.2405)</td>
<td></td>
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</tr>
</tbody>
</table>

* Significance at 0.1
** Significance at 0.05
*** Significance at 0.01.
Endnotes

1 Although our model includes a measure of private investment by state, no such data is collected on a consistent basis. To accommodate for this shortcoming, we note that historical trends have suggested that the rate of investment will reach a steady state across like economies (C. I. Jones, 2002). Assuming that the U.S. has reached this state, it is reasonable to impose the rate on all states given the similarities between states and the national government.

2 Our methodology diverges from Munnell’s in several respects. First, given a lack of data for 1997, we relied upon the 2001 shares of aircraft and the 1999 shares of water transportation. For 2005 and 2006, we relied upon 2003 state shares due to incomplete information in the 2007 Economic Census. Remaining differences involve how variables are measured. For state shares of national, nonmanufacturing capital stock, we relied upon miles of telegraph wire and optical fiber cables rather than miles of telegraph. We also relied upon the value of shipping and receipts in mineral mining and state assets in finances rather than state assets in banking. Last, regarding waterborne commerce, we relied upon tonnage of commerce by state rather than the value of commerce by state to estimate state ratios of the overall national capital stock.

3 Within the State Government Finances database the term “welfare expenditures” refers to any government spending that provides support and assistance “to needy persons contingent upon their need” (U.S. Census Bureau, 2008). This includes expenditures that are “paid directly to needy persons under the categorical programs Old Age Assistance, Temporary Assistance for Needy Families (TANF) and under any other welfare programs; Vendor payments made directly to private purveyors for medical care, burials, and other commodities and services provided under welfare programs; and provision and operation by the government of welfare institutions. Other public welfare includes payments to other governments for welfare purposes, amounts for administration, support of private welfare agencies, and other public welfare services. Health and hospital services provided directly by the government through its own hospitals and health agencies, and any payments to other governments for such purposes are classed under those functional headings rather than here.