Explaining State Unemployment in the U.S.: Cross-national Versus Political Predictors

William A. McCracken

Doctoral Student Department of Political Science The University of Alabama Tuscaloosa, Alabama 35487-0213, USA.

J. Norman Baldwin

Professor Department of Political Science The University of Alabama Tuscaloosa, Alabama 35487-0213, USA.

Abstract

This article endeavors to determine (1) whether political variables or traditional predictors of cross-national economic growth are better predictors of state unemployment and (2) whether national or state political and economic factors are better predictors of state unemployment in the United States (U.S.). Twenty-three years of panel data were gathered on the 48 states in the continental United States. All models were tested through generalized least squares (GLS) regressions with panel corrected standard errors. The findings indicate that state unemployment and unemployment growth decrease as four-year colleges and highway expenditures increase and increase with Democratic Congresses and as savings and national unemployment rates increase. The state equivalents of cross-national variables prove to be the most consistent predictors of unemployment. However, a limited number of national economic and political variables must also be considered in pursuing remedies to unemployment because they explain a substantial amount of variance in state unemployment and unemployment growth.

1. Introduction

As the recession that began in 2007 reached its depths, nearly one out of every ten working-age Americans faced each day without the income from a job (U.S. Bureau of Labor Statistics, 2013). Given the global interdependence of the U.S. economy, the languishing economies of many of America's trading partners, and the political turmoil precipitating from the alarmingly high unemployment in many European countries, some Americans have spent several years waiting for the second proverbial shoe to drop on the economy. Meanwhile, while political candidates offer clichéd solutions in an endless barrage of media sound bites, three questions surface from the body of research on state unemployment. First, what can we learn from the immense body of cross-national research on economic development that might help us understand how to address unemployment at the state level? Second, what ideological orientation has been the most successful in dealing with the employment crises? And third, how relevant are state versus national economics (Boockmann, 2010;Jurajda and Terrell, 2009) were quick to note that there is no remedy for the unemployment problems of Europe as a whole, one wonders to what extent economists and politicians should be focusing on state-level phenomena in addressing unemployment problems at the subnational level.

We investigate the effects of classic predictors of cross-national economic growth on unemployment rates and unemployment growth in the 48 states of the continental United States. We specifically look at the impact of education, population growth, savings, and infrastructure spending on unemployment and unemployment growth rates. We also investigate the effects of party affiliations of governors, divided government, and party control of Congress and state legislatures on state unemployment rates and unemployment growth. Although national and cross-national research investigates the relationship between political variables and unemployment, the state-level unemployment research has yet to explore the role of both state and national-level politics in addressing unemployment.

2. Cross-national Predictors and Theory

Reviews of the research and meta-analyses (Barro and Sala-i-Martin, 2004; Nijkamp and Poot, 2004; Poot, 2000; Temple, 1999) identify a consistent set of cross-national predictors of economic growth to be investigated here education, infrastructure spending, population growth, savings, and initial economic growth measured as initial employment. We consequently control for the state-level counterparts of the most common forecasters of crossnational economic growth, which is commonly measured as growth in per capita income, gross state product, and employment. With the exception of infrastructure expenditures, these variables are all elements of human capital theory and neoclassical economic growth theory, which is based on the Solow-Swan growth model (Solow, 1956; Swan, 1956). This model asserts that stable economic growth depends on labor, technology, and capital, with savings and population growth—two of our predictors—determining changes in capital.

Neoclassical growth theory contends employment development is a product of labor and capital, with the rate of capital growth being determined by investment or savings (Poot, 2000: 520). Savings allows investments that increase capital and employment growth beyond what is realized if all the capital is consumed. Neoclassical theory further asserts that the ratio of capital to labor falls as populations grow, therefore, diminishing returns and the capital for new jobs (Sedgley, 1998). High population growth also lowers the steady-state level of capital and output per worker and increases the competition for jobs (Barro and Sala-i-Martin, 2004). Population growth resulting from migration, in turn, raises unemployment in the short-run as immigrants consume time to learn labor market information and language skills (Blackley, 1989).

Human capital theory asserts that knowledge, skills, abilities, training, experience, and aptitude are investments in human capital that realize a flow of future benefits when developed (Jorgensen and Fraumeni, 1992; Mincer, 1994). Education reduces unemployment through augmenting the qualifications of individuals and diminishing the inconsistencies between the supply and demand for skilled labor (Borooah and Mangan, 2008; Manacorda and Petrongolo, 1999). Highly educated individuals are more indispensable because they are more likely to be productive and less likely to have redundant skills (Nickell, 1979; Nistor, 2009).

Individuals with more education are less prone to experience unemployment because they are more likely to migrate to geographic areas that have job openings (Partridge and Rickman, 1995, 1997). States with highly educated citizenry also reduce unemployment thought appealing to new or existing businesses looking to relocate and requiring highly-skilled, highly-paid employees (Baldwin and McCracken, 2013; Jones and Vedlitz, 1993). Human capital operationalized as the proportion of a state's population with a college degree is most commonly investigated and consistently predicts a reduction in unemployment (Blackley, 1989; Murphy and Payne, 2003; Nistor, 2009; Partridge and Rickman, 1995; Partridge and Rickman, 1997).

Individuals with college and graduate degrees are attractive employees because they develop new products, enhance the value of their outputs, and bring to industry the leading technologies of universities (Bradshaw, Kennedy, and Davis, 2003; Feller, 2004: 140). Jones and Vedlitz (1993) further assert that higher education reduces unemployment through (1) the research and development mission stimulating entrepreneurialism, business creation, and innovation and (2) the creation of jobs for the operation of colleges and universities.

Initial unemployment rate, an additional control from the cross-national research, is investigated because it allows us to test the Solow-Swan prediction that unemployment growth is inversely associated with initial levels of unemployment. The Solow-Swan model contends that rich states experience diminishing returns to capital, while poor states experience increasing returns from investment that enhance employment (Barro and Sala-i-Martin, 2004; Solow, 1956; Temple, 1999). Unemployment reduction are more inclined to occur in poor states because poor states learn from advanced states while avoiding sunk costs that advanced states experience in developing new means of production and technology (Crihfield, Giertz, and Metha, 1995; Temple, 1999). This "convergence" is particularly relevant to state unemployment because technology transfer and resource mobility, such as mobile unemployed citizens, are less regulated across states than between nations in the U.S. (Crihfield et al., 1995: 553).

Regional economic theory asserts that infrastructure spending reduces unemployment through increasing spatial accessibility and decreasing transportation costs (Rephann, 1993).Infrastructure spending also enhances the return to ongoing investments that lets organizations grow and retain their labor forces (Gramlich, 1994; Temple, 1999: 146). Infrastructure further increases employment through making business locations accessible to more markets and to larger labor forces (Garcia-Mila and McGuire, 1992; Rephann and Isserman, 1994).

3. Political Theory and Research

The relationship between politics and unemployment can be derived from theories of political rationality in decision making. Landau (1969), Wildavsky (1974), and Stone (2011) assert that political outcomes are a result of political reasoning instead of the economic self-interest associated with public choice theory. Political rationality relates more to the community, versus the market, and typically explains policy as the result of conflicts between political actors who define values, objectives, and problems in different ways (Stone, 2002).

Theories about the policy making process popularized originally by scholars such as Dye, Hofferbert, and Sharkansky in the 1960s also provide explanation for the relationship between political variables and unemployment (Bloomquist, 2007; Sabatier, 2007). As variants of system theories developed in the biological sciences (von Bertanlanffy, 1950), these theories regard unemployment as the result of the complex interactions among a myriad of variables in the external and internal environments of dynamic systems. Political variables are causal factors that can be found operating in both the internal and external environment of the system.

Given that elected leaders are often held responsible for the performance of the economy and that incumbents often hang their hats on achieving lower unemployment rates, Kalecki (1993) and Jacoby (2000) emphasize the importance of political variables and issue framing in unemployment research. Kalecki notes that, even in ardently capitalist societies, government intervention in the markets to stimulate employment is typically widely accepted.Subnational research on partisan control of government and unemployment is scarce, and national-level research produces different findings with different policies as intervening variables. Cross-national research by Alt (1985), however, indicates that unemployment declines under left-wing governments and increases under right-wing governments, though this effect is limited when viewed in the context of global economic movements. Extending Hibbs's (1982) research, Alt showed that Labour (UK) and Democratic (US) governments advance policies that reduce unemployment, while Conservative and Republican governments advanced policies that boost unemployment. Alt further found the polities with single-party parliamentary majorities have a higher probability of displaying the expected effects on unemployment based on their right and left wing ideologies. Roubini and Sachs (1989) lend additional support to this finding.

Examining monetary policy, Chappell and Keech (1986) find right-winged parties generally more accepting of unemployment and left-wing parties generally more accepting of inflation. Research (Clark, Fordham, and Nordstrom, 2011) also reveals that U.S. Democratic political officials are more inclined to take action to stimulate the economy and reduce unemployment, while U.S. Republican political officials are more inclined to take military action abroad to distract from high unemployment. Wright's (2012) research on U.S. gubernatorial and Presidential elections shows that high unemployment tends to advantage Democratic candidates and consequently provides Democrats more room to demonstrate decreases in unemployment.

4. The Data and Analysis

Following the example of Woessmann (2007) and Entorf and Spengler (2000) who used panel data to examine social issues at the state-level in Germany, we utilized longitudinal panel date to investigate predictors of unemployment in the 48 states in the continental United States from 1988 to 2010. The data set consequently involved 1,104 cases.

To develop per capita measures of variables, state population data were gathered from *Statistical Abstracts of the United States*. All of the monetary variables were also recalculated from current dollars to 2000 constant dollars and we conducted our analyses using the natural logs of higher education expenditures, K12 expenditures, junior colleges per million, four-year colleges per million, highway expenditures, savings, and national GDP. State unemployment data were retrieved online through the U.S. Bureau of Labor Statistics (2012). To control for the effects of the national economy on unemployment, data on GDP were retrieved online from the U.S. Bureau of Economic Analysis (USBEA) (USBEA, 2007, 2010), and data on national unemployment were retrieved from the U.S. Bureau of Labor Statistics (2012).

The first measure of public investment in higher education is the state and local government operations appropriation per capita for higher education. Because attaining a college degree, finding a job, and getting up to speed in a new job takes time, a seven-year lag was assumed for this variable. Data on operations appropriations were consequently gathered through the State Higher Education Executive Officer's (SHEEO) (2007) website for the years 1982 to 2003. To ensure comparability across states and over time, SHEF reports employ the following adjustments: COLA (Cost of Living Adjustment), Enrollment Mix Index (EMI), and Higher Education Cost Adjustment (HECA) (SHEEO, 2003; 2010: 14).

Because each level of attainment in higher education becomes progressively more expensive to administer, the EMI adjusts appropriations based on the proportion of enrollments in the different Carnegie classifications (SHEEO, 2003: .49). The Employment Cost Index (ECI) and Gross Domestic Product Implicit Price Deflator (GDP IDP) are used to determine the HECA. To investigate the effects of higher educational attainment, we collected data on the percentage of the population 25 years and older holding a four-year college degree. Data on college attainment from 1989 to 2010 was accessed online through the U.S. Census Bureau (2007, 2013).Because attainment rates were unavailable for 1992, we estimated 1992 rates through 48 regressions between time and the 19 known college attainment rates for each state. Data on high school graduation rates were also obtained from the Census Bureau data.

As noted, the wealth of cross-national research ultimately provided the source from which control variables were selected. Along with education, this body of research identified spending on infrastructure, savings, population growth, and initial unemployment. State highway disbursements from 1989 to 2010 provided the measure of spending on infrastructure. Because physical capital benefits are assumed to occur almost immediately, the measure of infrastructure spending is not lagged. These data were obtained from the U.S. Department of Transportation's (2007, 2010) Office of Highway Policy Information website and include capital outlays for state highways, local roads, and streets; disbursements for maintenance and service of state highways, local roads, and streets; funding for administration, research, and planning; and monies for bond retirement and grant and aid to local governments.

Per capita year-end deposits in Federal Deposit Insurance Company (FDIC) (FDIC, 2007, 2010) insured commercial banks from 1989 to 2010 provided the basis for the measure of mean savings deposits. These data were accessed online through the FDIC and include domestic and foreign deposits from individuals, partnerships, and corporations; from the U.S. government; from states and their political subdivisions; and from "other" sources (FDIC, 2010).

State population data from 1988 to 2010 found in multiple volumes of Statistical Abstracts of the United States (U.S. Census Bureau) were used to determine growth in population. Data for initial unemployment were obtained through the Bureau of Labor Statistic's Local Area Unemployment Statistics archives (U.S. Bureau of Labor Statistics, 2012a). Finally, we gathered data on state expenditures for elementary and secondary education through multiple hard copies and online versions of the Digest of Education Statistics (U.S. Department of Education[DOE]). Excluding monies for capital outlays and school debt interest, the data include funding for salaries, fixed charges, student transportation, books and materials, and energy costs (U.S. DOE, 2005: 726). Because completing high school requires 12 years and finding a job, learning a job, and becoming productive in a new job can take a year, the effects of K12 expenditures are lagged 13 years.

Given that our research involves longitudinal panel data, we utilized Hausman, Lagrange Multiplier, and F tests to confirm that random effects rather than fixed effects were present. Because some panels in a longitudinal analysis may have greater error variance than others and the errors of one panel may be contemporaneously correlated with those of another panel, we tested our models by running GLS regressions with panel corrected standard errors. Although AR1 corrections increase the risk for Type 1 errors, all models were also run with AR1 corrections as robustness checks. The substantive findings were similar to those without the correction, while the dissimilar findings were consistent with the increased risk of a Type1 error. Each model was also tested for multicolinearity. No variables in any of the models demonstrated high enough variance inflation factors to warrant removal from the models.

5. Results

Model 1 in Table 1 indicates that all of the predictors from the cross-national research are significantly related to state unemployment.

Moreover, all of the variables except savings and initial unemployment demonstrate a negative association with unemployment. When national-level economic controls are added to the model (see Model 2), the same pattern of significant relationships persist and the national unemployment rate reveals a positive relationship with unemployment, while the log of the national GDP fails to demonstrate a significant relationship with unemployment at the state level. Model 3, in turn, shows that the log of four-year colleges has a negative relationship with unemployment growth, while the log of savings in FDIC banks has a positive relationship with unemployment growth.

When national economic controls are added to model 3 (see Model 4), four-year colleges and highway spending have negative associations with unemployment growth, while savings and the national unemployment rate have positive associations with unemployment growth. National controls (see Models 2 and 4) also substantially increases the amount of explained variance found in Models 1 and 3.

Predictors	Unemployment				Unemployment Growth				
	Model 1		Model 2		Model 3		Model 4		
	В	SE	В	SE	В	SE	В	SE	
Log Junior Colleges	1950***	.0625	1898***	.0577	0402	.0435	0532	.0412	
Log 4-year Colleges	7367***	.1472	6043***	.1061	2285**	.1070	1301*	.0706	
Population Growth	-23.0692**	10.2798	-22.3188***	5.3393	-4.4384	7.8484	-4.2846	4.4881	
Log Hwy Expends	7144**	.3270	-1.0996***	.2433	0030	.2023	2992***	.1103	
Log Savings	3.60e-06*** 1.28e-06		1.75e-06*** 5.20e-07		2.27e-06** 1.04e-06		1.09e-06*** 4.12e-07		
% Initial Unemployed	.2115***	.0206	.1924***	.0167	.0302	.0258	0024	.0176	
% Nat'l Unemployed			. <mark>88</mark> 92***	.0187			.7130***	.1284	
Log National GDP			1042	.2107			4820	1.4332	
R ²	.1475		.7232		.2584		.6598		

Table 1: Multiple Regressions Predicting Unemployment and Unemployment Growth 1988-2010

*p<.10, **p<.05, ***p<.01

Table 2 adds three state-level political variables—Democratic Governor, Democratic legislature, and partisan divided legislature—to the models in Table 1. Model 5 of Table 2 reveals that all of the cross-national controls are significantly related to unemployment with the same pattern of positive and negative relationships revealed in Model 1. Moreover, a divided legislature has a positive relationship with state unemployment rates. When national controls are added to Model 5 (see Model 6), the same statistically significant relationships in Model 5 persist and the national unemployment rate is also positively associated with unemployment.

Predictors	Unemployment				Unemployment Growth			
	Model 5		Model 6		Model 7		Model 8	
	в	SE	В	SE	В	SE	в	SE
Log Junior Colleges	2039***	.0682	1837***	.0571	0491	.0491	0500	.0418
Log 4-year Colleges	7014***	.1418	5901***	.1052	2175**	.1014	1318*	.0691
Population Growth	-22.4108**	10.6401	-23.1039***	5.7933	-3.1156	8.0924	-4.3021	4.6148
Log Hway Expends	6673**	.3342	-1.0923***	.2393	.0513	.2084	2956***	.1088
Log Savings	3.42e-06**1.37e-06		1.57e-06**	5.37e-07	2.26e-06**	1.11e-06	1.07e-07**	4.33e-07
Initial <u>Unemploy</u>	.2079***	.0239	.1937***	.0164	.0354	.0274	0004	.0177
Democrat Governor	.2025	.1341	0363	.0940	.1393	.1223	0291	.0592
Democrat Legislature	.1456	.1134	.0139	.0712	.1336	.0940	.0071*	.0557
Divided Legislature	.2755*	.1526	.2001*	.1203	.0955	.1077	0192	.0692
% Nat'l Unemployed			.8867***	.0188			.7127***	.1284
Log National GDP			0516	.2118			4624	1.4390
R ²	.1561		.7256		.0234		.6599	

Table 2: Multiple Regressions Predicting Unemployment and Unemployment Growth with State Political Predictors 1988-2010

*p<.10,**p<.05,***p<.01

When state-level political variables are added to Models 3, none of them are significantly associated with unemployment growth (see Models 7). In turn, the log of four-year colleges continues to show a negative association with unemployment growth, while the log of savings continues to show a positive association with unemployment growth. With the addition of national controls (see Model 8), a Democratic state legislature reveals a positive association with unemployment growth, as do the log of saving and the national unemployment rate. The log of four-year colleges and the log of highway expenditures, by contrast, repeat their negative relationship with unemployment growth. Again, the addition of national level economic controls substantially increases the amount of explained variance in the models without them.

With the inclusion of two national political variables—Democratic Congress and national political unity—to the models in Table 2, all of the cross-national predictors continue to show statistically significant relationships with unemployment both with and without the inclusion of national economic controls (see Models 9 and 10 of Table 3). A divided state legislature and Democratic Congress also reveal significant positive relationships with unemployment when national economic controls are both excluded from and included in the models. Moreover, with the inclusion of national economic controls, national political unity and the national unemployment rate are positively associated with unemployment.

Predictors	Unemployment				Unemployment Growth				
	Model 9		Model 10		Model 11		Model 12		
	В	SE	В	SE	В	SE	в	SE	
Log Junior Colleges	1558***	.0563	1820***	.0571	0271	.0422	0439	.0418	
Log 4-year Colleges	6060***	.1092	5901***	.1051	1665**	.0720	1385**	.0683	
Population Growth	-19.9617***	6.7130	-22.9766***	5.7982	-3.7115	4.6722	-4.2055	4.0164	
Log <u>Hway</u> Expends	9050***	.2548	-1.0895***	.2401	1205	.1240	2326**	.1058	
LogSavings	1.18e-06**	5.99e-07	1.55e-06***	5.41e-07	1.07e-06**	4.51e-07	8.90e-07**4	.03e-07	
Initial <u>Unemploy</u>	.1930***	.0165	.1933***	.0163	.0208	.0198	.0060	.0176	
Democrat Governor	0622	.0955	0418	.0943	0200	.0569	0098	.0554	
Democrat Legislature	.0405	.0730	.0170	.0710	0069	.0553	0345	.0517	
Divided Legislature	.2810**	.1263	.2011*	.1203	0638	.0733	.0497	.0642	
Democratic Congress	4.1202***	.6349	.2997*	.1800	3.3 <mark>1</mark> 35***	.5398	.0310	.8102	
Nat'l Political Unity	.5712	.8116	.3744*	.2129	6080	.6923	-3.7143***	.9938	
% Nat'l Unemployed			.8817***	.0319			.2322*	.1429	
Log National GDP			7220*	.4224			6.3088***	1.9821	
R ²	.6102		.7260		.6681		.7674		

Table 3: Multiple Regressions Predicting Unemployment and Unemployment Growth with State and National Political Predictors 1988-2010

*p<.10.**p<.05.***p<.01.

With the addition of national political predictors to Model 7 of Table 2, Model 11 of Table 3 reveals that fouryear colleges have a negative relationship with unemployment growth, while savings and Democratic Congresses have positive relationships with employment growth. With the inclusion of national economic controls, four-year colleges, highway expenditures, and national political unity demonstrate a negative relationship with unemployment growth, while savings, national unemployment, and the national GDP demonstrate positive associations with unemployment growth. In contrast to all other models that excludes national economic predictors, Models 9 and 11 explain a substantial amount of variance with the inclusion of national *political* predictors. However, including the national *economic* predictors in Models 10 and 12 maximizes the explained variation in unemployment and unemployment growth.

6. Discussion

In sum, the findings from every model tested demonstrate that U.S. state unemployment rates and unemployment growth rates decrease as four-year colleges increase and increase as savings and national unemployment rates increase. In a majority of the models tested, highway expenditures also have a negative relationship and Democratic Congresses a positive relationship with our two measures of unemployment. Looking strictly at state unemployment *rates*, as junior colleges and population growth increase, unemployment decreases. Moreover, unemployment rates increase as initial unemployment increases and with politically divided state legislatures. In turn, unemployment growth decreases with increases in four-year colleges and highway expenditures and increases as savings and national unemployment rates increase.

Overall, the variables drawn from the cross-national research are more robust predictors of our two measures of unemployment than the political predictors. However, their cumulative effect explains a modest amount of variance in unemployment rates and growth. In contrast, while only two of the five political predictors reveal significant relationships with the dependent variables, Democratic Congresses allows our models (see Table 3) to explain a substantial amount of variance in unemployment and unemployment growth. Moreover, the national employment rate consistently predicts our measures of unemployment and substantially increases the explained variation in unemployment rates and unemployment growth.

That savings appears to affect unemployment opposite the way it affects economic growth measured as gross domestic product and per capita income is likely a function of unspent money sitting in banks that could otherwise be used to employ people. This tendency was pronounced during the economic downswing in 2002 and the recession beginning in 2007 (USBEA, 2013). American executives not only cutback their labor forces, they invested in safe places and patiently observed the economy before returning to investments in personnel.

That Democratic Congress, in turn, has an unpredicted positive association with unemployment in three of four models tested might partially be a function of inheriting an economic downturn in 2007 that has been anomalous in contemporary times in terms of its causes, impact, and longevity (e.g., Aaronson, Mazumder, and Schechter, 2010; Ireland, 2013). Although the unexpected association might reflect the failure of Democratic solutions to effectively address unemployment, the positive association could also be a function of omitted variable bias. When national economic variables are added to the model including Democratic Congress, the positive association disappears. Democratic Congress is also closely correlated with national unemployment and national GDP and involves a small number of observations. As the coefficient is close to zero and the standard error is large, whether the true effect of Democratic Congress is positive or negative is uncertain. The unexpected inverse relationship between population growth and unemployment, in turn, likely reflects poor economic performance in states where the unemployed are migrating to jobs in other states at high rates, but not at rates high enough to keep up with the states' unemployment rates. This likely happens due to the time that it takes to find a job and because per capita new job creation rates are higher than the per capita migration rates into and out of a state.

Two of the more interesting findings from the study are that unemployment does not improve when state initial unemployment is already high, and conditional convergence is not demonstrated when unemployment growth is the dependent variable. That these findings are likely a function of hysteresis is consistent with Cheng, Durmaz, Kim, and Stern's (2012) assessment of the impact of the recent economic downturn on unemployment in the states. Failure to demonstrate convergence may also be a function of the longitudinal limits of the study.

7. Conclusion

Given the role of the national economy in driving state unemployment and that states have balanced budget requirements, U.S. states are constrained in their capacity to influence their unemployment rates. However, this research suggests the need for policies and programs to coax individuals and institutions to spend their savings. Other options might include lowering sales taxes, sales tax holidays, increasing taxes on interest income, programs to subsidize the purchase of durable goods, and federal transfers to state and local government during economic downturns (Auerbach, Gale, and Harris, 2010; Cooper, Lutz, and Palumbo, 2011). Government spending and tax cuts to stimulate consumer spending are other hotly debated approaches to reducing unemployment because of their mixed effects if not appropriately targeted and timed (Auerbach et al., 2010; Konstantinou and Tagkalakis, 2011).

The research also reinforces the importance of building more four-year collegiate institutions and more highways. To reduce unemployment rates, versus unemployment growth, this research suggests the expansion of junior colleges. Our research also contributes to common concerns over the inability of divided state legislatures in nonparliamentary democracies to move forward with bi-partisan solutions to a significant economic problem. It further demonstrates the importance of addressing what affects national unemployment rates in order to reduce state-level unemployment. Approaches to dealing with national unemployment are extensive and vary substantially depending on target group (e.g., youths, minorities), geography, industry, type of unemployment (e.g., structural, frictional, and cyclical), political ideology, and theoretical approach (e.g., see Gali, 2011; Kates, 2011; Long-term Unemployment, 2010; and Walshok, Tapan and DeVries, 2011).

To provide a well-rounded picture for identifying directions for fiscal and monetary policy, future research might investigate the effects of our predictors on economic indicators such as GDP growth, per capita income growth, and inflation growth. Future research might include the effects of region and regional migration. Such controls might reveal interesting interactions with political variables such as the solid South with its unique breed of conservative Democrats now turned Republican in the U.S... Other appealing controls for future research include inflation rates, interest rates, and expenditures on unemployment insurance, minimum wage growth, and college graduation rates. Given the political predictors investigated here were not the most consistent predictors of unemployment, future research might investigate the effects of politics as mediated by other leading predictors of unemployment.

In conclusion, this research reveals that all political predictors but Democratic governors demonstrate at least one statistically significant relationship with unemployment and unemployment growth. However, the predictors from the cross-national economic growth research more consistently predicted unemployment and unemployment growth. That political unity at the federal level shows a positive relationship with unemployment and a negative relationship with unemployment growth is an interesting finding that suggests the importance of being patient with each party and looking beyond unemployment rates to see the progress in reducing unemployment growth before casting aspersions. This research also suggests that, although the political obstruction made possible by divided state legislatures may be a successful strategy for staying within the graces of one's party and winning reelection, it is likely to heighten state unemployment rates. Most notably, this research establishes the importance of who politically controls Congress and the role of national unemployment in explaining unemployment and unemployment and unemployment growth rates in the states of the United States.

8. References

- Aaronson, D., Mazumder, B., & Schechter, S. (2010). What is behind the long-term rise in unemployment? *Economic Perspectives*, 34(3/4), 28-51.
- Alt, J. E. (1985). Political parties, world demand, and unemployment: Domestic and international sources of economic activity. *The American Political Science Review*, 79(4), 1016-1040.
- Auerbach, A. J., Gale, W. G., & Harris, B. H. (2010). Activist Fiscal Policy. *Journal of Economic Perspectives*, 24(4), 141-164.
- Baldwin, J. N.&W. A. McCracken. (2013). Justifying the ivory tower: Higher education and state economic growth. *Journal of Education Finance*, 38(3), 181-209.
- Barro, R. & Martin, X. S. (2004). Economic growth. Cambridge, MA: MIT Press.
- Blackley, P. R. (1989). The measurement and determination of state equilibrium. *Southern Economic Journal*, 56 (2), 440-456.
- Boockmann, B. (2010). The combined employment effects of minimum wages and labor market regulation: A meta-analysis, discussion paper no. 4983. Bonn, Germany: Institute for Applied Economic Research.
- Borooah, V. K. & Mangan, J. (2008). Education, occupational class, and unemployment in the regions of the United Kingdom. *Education Economics*, 16(4), 351-370.
- Bradshaw, T. K., Kennedy, K.M., & Davis, P. R. (2003). Science first: Contributions of a university-industry toxic substances research and teaching program to economic development. *The Journal of Higher Education*, 74 (3), 292-320.
- Chappell Jr., H. W., & Keech, W. R. (1986). Policy motivation and party differences in a dynamic spatial model of party competition. *The American Political Science Review*, 80(3), 881-899.
- Cheng, K. M., Durmaz, N., Kim, H., &Stern, M. L.(2012). Hysteresis vs. natural rate of US unemployment. *Economic Modelling*, 29(2), 428-434.
- Clark, D. H., Fordham, B. O. & Nordstrom, T. (2011). Preying on the misfortune of others: When do states exploit their opponents' domestic troubles? *Journal of Politics*, 73(1), 248-64.
- Cooper, D. H., Lutz, B. F. & Palumbo, M. G.(2011). Quantifying the role of federal and state taxes in mitigating income inequality, (working paper), Public Policy Discussion Papers. Boston: Federal Reserve Bank of Boston.
- Crihfield, J. B., Giertz, J. F., & Mehta, S. (1995). Economic growth in the American states: The end of convergence? *Quarterly Review of Economics and Finance*, 35 (Special issue), 551-577.
- Crown, W. H., & Wheat, L. F. (1995). State per capita income convergence since 1950: Sharecropping's demise and other influences. *Journal of Regional Science*, 35, 527-552.
- Entorf, H.& Spengler H. (2000). Socioeconomic and demographic factors of crime in Germany: Evidence from panel data of the German states. *International Review of Law and Economics*, 20(1), 75-106.
- Federal Deposit Insurance Corporation. (2007, 2010). *Historic statistics on banking commercial banks reports*. <u>http://www2.fdic.gov/hsob/SelectRpt.asp</u>? Accessed 14 April 2006, 2 February 2007, and 23 August 23, 2010.
- Feller, I. (2004). Virtuous and vicious cycles in the contribution of public research universities to state economic development objectives. *Economic Development Quarterly*, 18 (2), 138-150.
- Gali, Jordi. (2011). Unemployment fluctuations and stabilization policies: A new Keynesian perspective. Cambridge: MIT Press.

- Garcia-Mila, T. & McGuire, T. J. (1992). The contribution of publicly provided inputs to states' economies. Regional Science and Urban Economics, 22,229-241.
- Gramlich, E. M. (1994). Infrastructure investment: A review essay. Journal of Economic Literature, 32, 1176-1196.
- Hibbs, D.A. with assistance from Rivers, D. & Vasilatos, N. (1982). The dynamics of political support for American presidents among occupational and partisan groups. American Journal of Political Science, 26(2), 312-332.
- Ireland, P. N. (2011). A new Keynesian perspective on the great recession. Journal of Money, Credit, and Banking, 43(1), 31-54.
- Jacoby, W. G. (2000). Issue framing and public opinion on government spending. American Journal of Political Science, 44(4), 750-767.
- Jones, B.D. & Vedlitz A. (1993). Higher education, business creation, and economic growth in the American states. In W. Becker, and D. Lewis (Eds.) Higher Education and Economic Growth. Norwell, MA: Kluwer Academic Publishers.
- Jurajda, S. & Terrell, K. (2009). Regional unemployment and human capital in transition economies. Economic of Transition, 17(2), 241-274.
- Kalecki, M. (1993). Socialism: economic growth and efficiency of investment. Vol. 4. Oxford University Press, 1993.
- Konstantinou, P. & Tagkalakis A. (2011). Boosting confidence: Is there a role for fiscal policy? Economic Modeling, 28(4), 1629-1641.
- Landau, M. (1969). Redundancy, rationality, and the problem of duplication and overlap. Public Administration Review, 29(4), 346-358.
- Long-term unemployment: causes, consequences, and solution. (2010). 111 Cong., 2nd Sess. Hearing before the Joint Economic Committee, April 29.
- Manacorda, M. & Petrongolo B. (1999). Skill mismatch and unemployment in OECD countries. Economica, 66, 181-207.
- Mincer, J. (1994). The production of human capital and the lifecycle of earnings: Variations on a theme. Cambridge, MA: National Bureau of Economic Research, NBER Working Paper #4838.
- Nickell, S. (1979). Education and lifetime patterns of unemployment. Journal of Political Economy, 87(5), S117-S131.
- Nijkamp, P. & Poot J. (2004). Meta-analysis of the impact of fiscal policies on long-run growth. Tinbergen Institute Discussion Paper. 23 April 2003. http://www.tinbergen.nl/scripts/papers.pl?paper=02028.rdf. Accessed March 2007.
- Nistor, A. (2009). Assessing the effectiveness of human capital investments on the regional unemployment rate in the United States: 1990 and 2000. International Regional Science Review, 32, 65-91.
- Partridge, M. D. & Rickman D. S. (1997). The dispersion of US state unemployment rates: The role of market and non-market equilibrium factors. Regional Studies, 31(6), 593-606.
- Poot, J. (2000). A synthesis of empirical research on the impact of government on long-run growth. Growth and Change, 31, 516-546.
- Rephann, T. J. (1993). Highway investment and regional economic development: decision methods and empirical foundations. Urban Studies, 30 (2), 437-450.
- Rephann, T. J. & Isserman A. (1994). New highways as economic development tools: An evaluation using quasiexperimental matching methods. Regional Science and Urban Economics, 24, 723-751.
- Roubini, N.& Sachs J. D. (1989). Political and economic determinants of budget deficits in the industrial democracies. *European Economic Review*, 33(5), 903-933. Sabatier, P. A. (2007). *Theories of the Policy Process*, 2nd ed. Boulder, CO: Westview Press.
- Sedgley, N. H. (1998). The role of industrial innovation in growth and convergence across US states. Dissertation, University of New Hampshire.
- Solow, R. (1956). A contribution to the theory of economic growth. *Quarterly Journal of Economics*, 70 (1), 65-94.
- State Higher Education Executive Officers. (2003). State higher education finance fy2003. http://archive.sheeo.org/finance/shef_fy03.pdf. Accessed 31 December 2012.

- State Higher Education Executive Officers. (2007). Public postsecondary enrollment, educational appropriations per FTE, and total educational revenues per FTE 1980-2005. www.sheeo.org/finance/shef/shef_data.htm. Accessed 5 February 2007.
- State Higher Education Executive Officers. 2010. *State higher education finance: FY2010*.<u>http://www.sheeo.org/finance/shef/SHEF_FY10.pdf</u>. Accessed 3 January 2012.
- Stone, D. (2011). Policy paradoxes: The art of political decision making, 3rd ed. Norton: New York, NY.
- Swan, T. W. (1956). Economic Growth and Capital Accumulation. Economic Record, 32 (63), 334-361.
- Temple, J. R. W. (1999). The new growth evidence. Journal of Economic Literature, 37, 112-156.
- U.S. Bureau of Economic Analysis. (2007, 2010). Gross domestic product by state. http://www.bea.gov/bea/regional/gsp. Accessed 7 December 2006, 7 June 2007, and 3 August 2010.
- U.S. Bureau of Economic Analysis. (2013). Comparison of personal saving in the national income and product accounts (NIPA) with personal saving in the flow of funds accounts (FFAs). U.S. Bureau of Labor Statistics. (2012). Local area unemployment statistics. <u>http://www.bls.gov/lau/lauov.htm</u>. Accessed 11 May 2012.
- U.S. Bureau of Labor Statistics (2013).Databases, tables, &calculators by subject. http://data.bls.gov/timeseries/LNS14000000. Accessed 30 August 2013.
- U.S. Census Bureau. (2007). *Educational attainment in the United States*. www.census.gov/population/www/socdem/education/cps2004.html. Accessed 23 February 2007.
- U.S. Census Bureau. (2013). *Current population survey data on educational attainment*. <u>http://www.census.gov/hhes/socdemo/education/data/cps/</u>. Accessed September 2013.
- U.S. Census Bureau. (1985-1990, 1992-1995, 1999, 2001-2006, 2010). Statistical abstracts of the United States. Washington, DC: US Census Bureau.
- U.S. Department of Education. (2005). National Center for Education Statistics. Digest of Education Statistics Tables and Figures. *Digest of Education Statistics*.<u>www.nces.ed.gov/programs/digest/</u>. Accessed 8 October 2008.
- U.S. Department of Education. National Center for Education Statistics. Digest of Education Statistics Tables and Figures. *Digest of Education Statistics*. <u>www.nces.ed.gov/programs/digest/</u>. Accessed 25 September 2008, 8 October 2008, 1 September 2010, and 3 January 2012.
- U.S. Department of Transportation, Office of Highway Policy Information. (2007). *Highway statistics publications*. <u>www.fhwa.dot.gov/policy/ohpi/hss/hsspubs.htm</u>. Accessed 1 February 2007 and 31 August 2010.
- U.S. Department of Transportation, Office of Highway Policy Information. (2010). *Highway Statistics Series* 2010. <u>http://www.fhwa.dot.gov/policyinformation/statistics/2010/</u>. Accessed 31 December 2012.

von Bertalanffy, L. 1950. An outline of general system theory. The British Journal for the

Philosophy of Science, 1(2), 134-165.

- Walshok, M. T., Munroe, T. & DeVries H. (2011). Closing America's job gap. El Monte, CA: W. Business Books.
- Wildavsky, A.B.1974. The politics of the budgetary process. Boston: Little, Brown.
- Woessmann, L. (2007). Program on education policy and governance. Cambridge, MA: Harvard University.
- Wright, J. R. (2012). Unemployment and the Democratic Electoral Advantage, American Political Science Review, 106(4), 685-702.