EMPLOYMENT AND GUBERNATORIAL ELECTIONS DURING THE GILDED AGE

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The theory of political business cycles predicts economies will experience a short-run expansion during an election period. Cross-sectional evidence from 1870, 1880, 1890, 1900, and 1910, does not reveal statistically significant differences in gainful employment rates between states with and without a gubernatorial election in that year. Pooled regression analysis suggests gubernatorial elections are positively correlated with the state employment rate, but an annual fixed effect model designed to account for differences over time in the measurement of gainful employment mitigates this conclusion.

1. INTRODUCTION

The state of the national economy is often an important determinant to incumbent success at the polls. Because of this, incumbents have an incentive to manipulate the economy to reduce unemployment prior to an election, even though unemployment may be worse following the election (Nordhaus, 1975). Unemployment cycles are therefore expected to be correlated with the timing of elections of federal officials.1

The ability of state governors to manipulate the local economy in this same manner has been questioned. Peltzman has repeatedly referred to governors as the “chief executive in a small open economy without a central bank” (1987, p. 293; 1990, p. 55) inferring they have little control over policies and therefore the economy. He therefore expects voters would not hold them responsible for economic conditions. In support of this he finds that gubernatorial vote share equations are typically not affected by adding economic variables, such as inflation and transitory income differences (Peltzman, 1990) or the difference between state and national growth rates (Peltzman, 1987). Chubb (1988) finds the change in growth of per capita personal income is significant at 10% but the marginal effect is very small. Adams and Kenny (1989) find that neither state growth rates, national growth rates, nor their differences significantly affect the probability of incumbent reelection. These results suggest governors do not have

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* I thank Diane Sullivan for technical assistance on the original draft of this paper and two anonymous referees for their suggestions. Remaining errors are my own responsibility.

1 For a recent discussion of the empirical results from tests of political cycles, and variations on this theme, see Keech (1995).
an incentive to be concerned with the local economy since gubernatorial elections are immune to economic conditions. However, Case (1994) has recently provided evidence that incumbent governors fare better when unemployment is reduced in their state when they are seeking reelection. Thus, a political unemployment cycle is to be predicted at the state level, since governors should concentrate on temporarily improving the unemployment rate.

In this paper, I test the state-level political unemployment cycle theory in the post-Civil War period. Previous testing of political cycles during this period has been limited to presidential elections and GNP. Klein (1996) relies on hazard analysis to search for peaks and troughs from 1855–1991, and Heckelman and Whaples (1996) test for cycles from 1869–1929 using Box-Tiao intervention analysis. Neither study is able to uncover significant evidence of a Nordhaus-type political business cycle.

Should we expect state governors to be able to temporarily alter unemployment? Arguing against Peltzman’s position, Adams and Kenny (1989) discuss many tools governors have at their disposal to affect the economy, including veto power, the power of appointment, and tax rates and subsidies. In fact, Case (1994) and Besley and Case (1995) show that adjustments to tax policies in an election year are dependent upon the governor’s decision to run for reelection. In the post-Civil War period, tax revenue comprised a large percentage of state revenue. Governors also had the ability to offer public works projects and patronage to directly affect employment opportunities, and could influence the regulation of state banks to alter the local currency in circulation even while the nation was tied to the gold standard. Since markets were not as highly developed or integrated in the postbellum period, state and local policies during this time period may have had greater local impact compared to contemporary conditions. Given a fair amount of latitude on these decisions, it might be possible to fool myopic voters by temporarily improving the local economy and thereby improve prospects for an incumbent candidate or party reelection.

2 PRELIMINARY EVIDENCE OF EMPLOYMENT CYCLES

As a first test for the importance of gubernatorial elections affecting state unemployment rates, comparisons are made between states with and without elections in a given year. State unemployment series do not exist on an annual basis during the analyzed period, so instead employment estimates are proxied by the percentage of men over the age of sixteen who are gainfully employed, as

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2 According to White (1983), banks typically considered both state and national regulations in deciding whether or not to join the National Banking System, which was established in 1865. State legislation concerned capital, asset reserve and deposit reserve requirements, and restrictions on loan portfolios to alter the level of available credit. The zealosity of legislation varied by state and increased over time. In theory, then, state governors may have been in a position to influence banking regulations but I have not yet been able to uncover any direct evidence of this. I am indebted to an anonymous referee for pointing out the connection between bank regulation and local money supply.
measured for the census years of 1870, 1880, 1890, 1900, and 1910, which includes all decade estimates between the Civil War and American involvement in World War I. Since labor force estimates are not available until 1920, the use of employment rates avoids any confusion over the proper base for measuring “unemployment”. Of course, this will not affect measures of marginal impact except by reversing the expected sign, although estimated elasticities will be much smaller. The employment rates used here are the estimates published in a study by Miller and Brainerd (1957, Table L-3).3

Table 1 reports the means, standard deviations, and mean differences of employment in each year between states with an election and those without. Employment rates are on average higher in states with elections in 1870, 1880, and 1890. The trend is reversed for the 1900 and 1910 elections. The largest increase in employment occurs in 1890, in which the 27 states with an election have a three-quarters of a percentage point higher employment rate on average than the 17 states not holding an election. The smallest differences occur in 1880 and 1900. This may be due, in part, to these being presidential election years as well. This notion will be investigated in the next section. The 1910 results are more difficult to explain. The percentage of gainfully employed males is on average almost a full percentage point lower in states with an election in that year. However, none of the years yield statistically significant results.

The pooled comparisons in the final column are in effect weighted differences in the means for all the years combined, where the weights are determined by the number of observations. For the entire sample, states holding a gubernatorial election experienced two-tenths of a percentage point higher employment on average than the remaining states. The difference runs in the predicted direction,

\[ n \] refers to the number of states with and without (w/o) gubernatorial elections in that year and \[ \text{diff} \] is the unweighted mean differences

<table>
<thead>
<tr>
<th>Year</th>
<th>1870</th>
<th>1880</th>
<th>1890</th>
<th>1900</th>
<th>1910</th>
<th>1870–1910</th>
</tr>
</thead>
<tbody>
<tr>
<td>election with w/o</td>
<td>mean</td>
<td>s.d.</td>
<td>mean</td>
<td>s.d.</td>
<td>mean</td>
<td>s.d.</td>
</tr>
<tr>
<td>n</td>
<td>18</td>
<td>18</td>
<td>23</td>
<td>15</td>
<td>27</td>
<td>17</td>
</tr>
<tr>
<td>mean</td>
<td>89.55</td>
<td>89.01</td>
<td>91.20</td>
<td>91.14</td>
<td>90.75</td>
<td>90.73</td>
</tr>
<tr>
<td>s.d.</td>
<td>2.75</td>
<td>3.24</td>
<td>2.34</td>
<td>2.57</td>
<td>1.79</td>
<td>2.18</td>
</tr>
<tr>
<td>diff.</td>
<td>0.54</td>
<td>0.06</td>
<td>0.76</td>
<td>0.15</td>
<td>1.25</td>
<td>0.26</td>
</tr>
</tbody>
</table>

3 The employment estimates in Miller and Brainerd (1957) are based in part upon the census enumerations of all persons 10 years of age and older who claim gainful employment. The implications of their estimation methodology are discussed in Section 4. Gainful employment, although not as ideal as actual employment at the time of the census enumerations, is the only measure available for this time period.

but is too small in value to place much confidence in its importance. Again, the \( t \)-statistic does not come close to suggesting statistical significance at conventional levels.

3. REGRESSION ANALYSIS

The preceding analysis suggests a weak connection may exist between gubernatorial elections and the percentage of gainfully employed males in the state, but the evidence is not particularly compelling on its own. The results vary widely from large positive differences in 1870 and 1890, negligible differences in 1880 and 1900, and a large negative difference in 1910. The pooled mean differences may be confounded by both the presence of presidential elections in 1880 and 1900, as well as general changes in gainful employment not related to gubernatorial elections.

The political business cycle literature traditionally assumes that continued party power is the prime objective of incumbent politicians, so lame-ducks are treated no differently than others. This assumption is questionable in light of evidence that lame-ducks do behave differently in setting policy (Case, 1994) and are not loyal to their party’s position (Besley and Case, 1995). In addition, state governors can rely upon help from the president in a gubernatorial election year as, for example, federal public work projects are directed to specific states. This is more likely to occur when the sitting governor and president are of the same party.

There are also non-political factors to employment which need to be considered. The opportunity for employment is likely to be much higher in urbanized areas relative to rural areas and normal business cycle fluctuations are likely to differ between the two types of areas. Finally, since employment is measured here simply as the percentage of all males 16 and older who claim gainful employment, the measure will be biased downward for older populations, as those of retirement age are included in the base.

To control for these factors, a simple regression is estimated of the form

\[
\text{EMPLOYMENT}_{st} = a_t + b_{1t} \text{GOV ELECTION}_{st} + b_{2t} \text{INCUM}_{st} \\
+ b_{3t} \text{GPPARTY}_{st} + b_{4t} \text{URBAN}_{st} + b_{5t} \text{OVER65}_{st} + e_{st}
\]

(1)

where EMPLOYMENT is the percentage of males aged 16 and older gainfully employed, GOV ELECTION is a dummy variable for a state holding a gubernatorial election, INCUM is a dummy variable for an incumbent governor running for reelection, GPPARTY is a dummy variable for the governor in a state holding an election being of the same party as the President, URBAN is the percentage of urban residents in the state, OVER65 is the percentage of population at least 65 years of age, \( e \) is the regression residual, \( t = 1870, 1880, 1890, 1900, 1910, \) and \( s \) denotes the different states.
The underlying assumption for the INCUM variable definition is that incumbent governors know at the start of their term whether or not they will run for reelection, and therefore whether or not they have additional incentive to create an employment cycle. The presence of an incumbent could conceivably be endogenous to the employment rate, as those unsuccessful in raising employment are not nominated by their party to challenge for the governor’s seat in the next election. Without information regarding party nominations during this time period, it will have to be assumed that the decision for an incumbent to seek reelection is independent of the actual level of gainful employment in the state.

All election variables are taken from Congressional Quarterly’s Guide to U.S. Elections (1975) and the population variables are calculations based on raw numbers in Historical Statistics (1975). Means and standard deviations are listed in Table 2. The percentage of states holding an election increased in each year until 1910 when there was a slight drop. Several states altered the timing of their elections, as well as the length of the term, during these years. The percentage of states which had an incumbent running for reelection declined in the first three census years before rebounding slightly in 1900. The mean of GPPARTY in each year basically measures the percentage of governors in a state holding a gubernatorial election that were Republican, except for 1890 when a Democrat (Grover Cleveland) was President. Urbanization spread quickly across the nation, almost doubling from 1870 to 1910. This was not consistent in every state, as evidenced by the increasing standard deviation. The increase in life expectancy over time is witnessed by the steady increase in the percentage of the population that is at least 65 years of age.

Each cross-section for Equation (1) is estimated using ordinary least squares and the results are presented in Table 3. None of the election variable coefficients are significant, except for GOV ELECTION in 1890, which shows a large

<table>
<thead>
<tr>
<th>Year</th>
<th>GOV ELECTION</th>
<th>INCUM</th>
<th>GPPARTY</th>
<th>URBAN</th>
<th>OVER65</th>
</tr>
</thead>
<tbody>
<tr>
<td>1870</td>
<td>0.50 (0.51)</td>
<td>0.31 (0.47)</td>
<td>0.44 (0.50)</td>
<td>21.83 (16.93)</td>
<td>2.94 (1.65)</td>
</tr>
<tr>
<td>1880</td>
<td>0.61 (0.50)</td>
<td>0.18 (0.39)</td>
<td>0.26 (0.45)</td>
<td>24.83 (19.00)</td>
<td>3.39 (1.76)</td>
</tr>
<tr>
<td>1890</td>
<td>0.63 (0.49)</td>
<td>0.14 (0.35)</td>
<td>0.19 (0.39)</td>
<td>30.10 (20.00)</td>
<td>3.69 (1.68)</td>
</tr>
<tr>
<td>1900</td>
<td>0.76 (0.43)</td>
<td>0.20 (0.40)</td>
<td>0.33 (0.48)</td>
<td>33.39 (20.84)</td>
<td>3.98 (1.42)</td>
</tr>
<tr>
<td>1910</td>
<td>0.67 (0.47)</td>
<td>0.24 (0.43)</td>
<td>0.41 (0.50)</td>
<td>38.21 (21.03)</td>
<td>4.19 (1.44)</td>
</tr>
<tr>
<td>1870–1910</td>
<td>0.64 (0.48)</td>
<td>0.21 (0.41)</td>
<td>0.33 (0.47)</td>
<td>30.21 (20.41)</td>
<td>3.68 (1.63)</td>
</tr>
</tbody>
</table>

4 There were three Fusion party governors in 1900 (Colorado, Nebraska, South Dakota) and they are treated as Democrats in this study. See Argersinger (1980) for details concerning the fusion between the Democratic and Populist parties for some candidates during this time.

5 The party of the current governor was not always the same as the winner of the previous election. In a few instances, an elected governor was impeached or died in office, and was replaced by the lieutenant governor who was occasionally of the opposition party.
positive increase in employment in those states holding an election. The incumbency and presidential party variables do not add any additional explanatory value. The degree of urbanization is only an important contributing factor in 1890. Most surprisingly, OVER65, although always negative, is not significant in the first two census years.

However, with so few observations in each year, the cross-sectional estimates may suffer from high standard errors, rather than low marginal effects. With the exception of 1880, the explanatory power of the regressions increases with the number of observations.\textsuperscript{6} This suggests there are efficiency gains from pooling the data to increase the number of available observations.

The pooled sample representation is given as follows.

\[
\text{EMPLOYMENT}_{st} = a + b_1 \text{GOV ELECTION}_{st} + b_2 \text{INCUM}_{st} /n \hspace{1cm} + b_3 \text{GPPARTY}_{st} + b_4 \text{URBAN}_{st} + b_5 \text{OVER65}_{st} /n \hspace{1cm} + b_6 \text{PRES ELECTION} + e_{st}
\]

The only modification from (1) is the single coefficient representation and the inclusion of a dummy variable for the presidential election years of 1880 and 1900.

During a presidential election year, there may already be a political unemployment cycle generated by the Oval Office (Nordhaus, 1975). In this case, state

\textsuperscript{6}The number of observations is statistically significant in a bivariate regression with the $R^2$ measure.

Standard errors in parentheses.

\*Significant at 5%.

\begin{tabular}{l c c c c c}
\hline
 & 1870 & 1880 & 1890 & 1900 & 1910 \\
\hline
Constant & 89.91* & 92.13* & 91.45* & 93.11* & 93.88* \\
 & (1.16) & (1.08) & (0.76) & (0.93) & (0.99) \\
GOV ELECTION & -1.81 & -0.19 & 1.45* & -0.15 & 0.18 \\
 & (2.37) & (1.06) & (0.62) & (0.63) & (0.76) \\
INCUM & 0.83 & 1.04 & -1.26 & -0.08 & -0.54 \\
 & (1.56) & (1.13) & (0.84) & (0.58) & (0.69) \\
GPPARTY & 2.46 & -0.13 & -0.26 & -0.31 & -0.98 \\
 & (2.32) & (1.16) & (0.77) & (0.64) & (0.80) \\
URBAN & 0.23 & 0.92E-3 & 0.031* & 0.011 & 0.011 \\
 & (0.34) & (0.25) & (0.015) & (0.012) & (0.015) \\
OVER 65 & -0.54 & -0.35 & -0.55* & -0.64* & -0.69* \\
 & (0.33) & (0.26) & (0.17) & (0.20) & (0.22) \\
\hline
R\textsuperscript{2} & 0.13 & 0.09 & 0.30 & 0.31 & 0.35 \\
\# observations & 36 & 38 & 43 & 45 & 46 \\
mean & 89.28 & 91.11 & 91.02 & 90.72 & 91.02 \\
\hline
\end{tabular}
employment rates should increase for every state regardless of the presence of a gubernatorial election. Evidence in Heckelman and Whaples (1996) and Klein (1996) suggest presidential elections during part of this time period are not necessarily conducive to altering business cycles at the national level. An advantage in using state-level data is an increase in precision from the extra observations.

The traditional political (un)employment cycle generated by the White House is found by $b_6 > 0$. Note that a positive coefficient for $b_6$ would explain that the states have on average higher gainful employment rates in the presidential election years of 1880 and 1900, but does not determine if the average employment rate for the entire nation increased, since each state in a given year is given equal weight in the regressions.

The pooled regression, reported in Table 4, yields standard errors that are much lower compared to any of the individual cross-section regressions. The sign on the control variables URBAN and OVER65 remain the same, but due to the increase in precision they are now statistically significant. In addition, the GOV ELECTION variable now reveals that states holding a gubernatorial election are expected to have almost a full percentage point increase in gainful employment. The presence of an incumbent in this election does not further alter employment, but surprisingly when the sitting governor and president are of the same party the employment rate is lower than when they are of opposite parties. The net effect, found by adding the coefficients on GOV ELECTION and GPPARTY, is still positive. Gainful employment across the states is marginally higher in the presidential election years of 1880 and 1900, but the effect does not approach standard levels of statistical significance.

The current specification may result in biased estimates if there are important differences to employment that remain after controlling for state urbanization rates. For example, those with lower incomes can be expected to work for longer periods of time as their labor–leisure tradeoff entails a lower opportunity cost. Including a direct measure such as income would certainly introduce an endogeneity bias, so instead we consider an alternative specification. Incomes throughout the south were much lower than in other areas of the nation, especially the east and midwest where the gains from the industrial revolution were much greater. Therefore, the region of the state may capture these income differences and serve as a sufficient proxy without introducing a simultaneity problem. If regional importance remains in the sample, the error term in (2) is not distributed as a standard normal and therefore does not satisfy the requirements for Ordinary Least Squares analysis.

This argument suggests instead that $e_{st} = v_r + u_{st}$. The regression residual has both a region-specific and observation-specific (random) component. The region-specific error component can be captured by the inclusion of dummy variables which allow unique intercepts for each region of the country.

Klein (1996) finds differences in the parties’ ability to create output cycles, but partisan cycles occur only after World War I.
Table 4  Election Effects on Percentage of Gainfully Employed, 1870–1910

<table>
<thead>
<tr>
<th></th>
<th>Pooled</th>
<th>Pooled</th>
<th>Fixed Effect</th>
</tr>
</thead>
<tbody>
<tr>
<td>Constant</td>
<td>91.42*</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td></td>
<td>(0.43)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>GOV ELECTION</td>
<td>0.91*</td>
<td>1.00*</td>
<td>0.60†</td>
</tr>
<tr>
<td></td>
<td>(0.39)</td>
<td>(0.36)</td>
<td>(0.34)</td>
</tr>
<tr>
<td>INCUM</td>
<td>−0.23</td>
<td>−0.24</td>
<td>0.28</td>
</tr>
<tr>
<td></td>
<td>(0.41)</td>
<td>(0.37)</td>
<td>(0.35)</td>
</tr>
<tr>
<td>GPPARTY</td>
<td>−0.84*</td>
<td>−0.66†</td>
<td>−0.31</td>
</tr>
<tr>
<td></td>
<td>(0.39)</td>
<td>(0.36)</td>
<td>(0.34)</td>
</tr>
<tr>
<td>PRES ELECTION</td>
<td>0.32</td>
<td>0.31</td>
<td>−0.02</td>
</tr>
<tr>
<td></td>
<td>(0.31)</td>
<td>(0.28)</td>
<td>(0.27)</td>
</tr>
<tr>
<td>URBAN</td>
<td>0.019*</td>
<td>0.030*</td>
<td>0.019*</td>
</tr>
<tr>
<td></td>
<td>(0.0082)</td>
<td>(0.0091)</td>
<td>(0.0086)</td>
</tr>
<tr>
<td>OVER65</td>
<td>−0.46*</td>
<td>−0.35*</td>
<td>−0.51*</td>
</tr>
<tr>
<td></td>
<td>(0.10)</td>
<td>(0.11)</td>
<td>(0.11)</td>
</tr>
<tr>
<td>east</td>
<td>—</td>
<td>90.10*</td>
<td>1.11</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(0.87)</td>
<td>(0.82)</td>
</tr>
<tr>
<td>south</td>
<td>—</td>
<td>91.69*</td>
<td>1.92*</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(0.47)</td>
<td>(0.45)</td>
</tr>
<tr>
<td>midwest</td>
<td>—</td>
<td>89.25*</td>
<td>−0.39</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(0.57)</td>
<td>(0.55)</td>
</tr>
<tr>
<td>west</td>
<td>—</td>
<td>91.07*</td>
<td>1.31*</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(0.59)</td>
<td>(0.56)</td>
</tr>
</tbody>
</table>

R² | 0.13 | 0.29 | 0.30 |
regional effect | — | 14.72* | 14.88* |
mean | 90.67 | 90.67 | −0.97E-8 |

Number of observations is 208. Standard errors in parentheses. Regional effect tests regional dummy regression against null of single intercept model and is distributed as F(3,198) with critical value of 2.60 at 5% level. Regional state groupings listed in the appendix. Fixed effect found by transforming dependent variable as deviations from annual means listed in Table 3.

*significant at 5%.
†significant at 10%.

\[
\text{EMPLOYMENT}_{st} = b_1 \text{GOV ELECTION}_{st} + b_2 \text{INCUM}_{st} \\
+ b_3 \text{GPPARTY}_{st} + b_4 \text{URBAN}_{st} + b_5 \text{OVER65}_{st} \\
+ b_6 \text{PRES ELECTION} + \sum b_7 \text{REGION}_r + u_{st}
\]

where REGION is a dummy variable for eastern, southern, midwestern and western regions of the country, \( r = e, s, mw, w \). Regional definitions are listed in the appendix. The constant term \((a)\) is dropped to avoid perfect collinearity with the regional dummies.\(^8\)

\(^8\)An alternative specification would be to instead include the constant term and drop one of the regional dummies. The coefficients on the regional dummies would then determine how the intercepts for these regions differ from the default region’s intercept. Coefficients on the other variables and specification tests are not affected by the choice of representation.
As shown in the middle column of Table 4, inclusion of the regional dummies enhances the marginal impact of a gubernatorial election and the degree of urbanization. The coefficient on OVER65 is slightly lower but still significant. The presidential election variable and incumbency effect are not affected at all. The importance of GPPARTY is greatly reduced; it is now considered significant only with a 10% error allowance. The improvement in fit from including the regional dummies is substantial; Equation (3) explains more than twice the variation in employment rates compared to (2). An $F$-test which compares the null of the single intercept model (2) against the alternative unrestricted multiple intercept model (3) is easily rejected. When pooling the data, regional effects need to be included.

4. RE-EXAMINING THE DATA

Although the pooled sample greatly enhances the number of observations considered in the regressions, the reliability of pooled data depends upon the series being consistently estimated across units. Although the explanatory variables are clearly defined and consistently measured across states and years, there is some cause for concern of the employment series. The census counted all persons, 10 years of age and older, who claimed an occupation. As stated in *Historical Statistics*, there may be some incompatibilities in comparing gainful employment across decennial census.

Since the percentage of persons under the age of sixteen who worked was consistently dwindling over time, Miller and Brainerd (1957) present estimates of the number of males at least 16 years of age gainfully employed. To do this, they estimate first the participation rates of males between the ages of 10–15 gainfully employed and subtract this number from the original data. Because the enumeration techniques and descriptions differed in each census, they modified the procedure for each year to make the series more comparable over time than the original census values. The importance here is not on the specific methodology used by

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$^9$We would normally expect a great increase in explanatory power by the inclusion of additional regressors, especially a fixed dummy variable routine. Each of the individual dummy coefficients are significantly greater than zero, but the individual $t$-tests are not meaningful since the dummy coefficients represent mean values for each region when there is no election and the entire population is rural and under the age of 65. Clearly, the mean values should not be anywhere near zero. The important question is whether the region coefficients are equal to each other. If they are, equation (2) is the proper model since (3) entails a loss in efficiency from estimating additional parameters. The standard $F$-test of joint significance ($b_{7e} = b_{7s} = b_{7mw} = b_{7w} = 0$) is again not the proper specification. Instead, an $F$-test which directly compares the multi-intercept model against the null of a single intercept ($b_{7e} = b_{7s} = b_{7mw} = b_{7w} = a$) is employed and the null is easily rejected. This test is conducted by including the intercept and dropping one of the regional dummies, and comparing the estimated sum of squared residuals from this regression against the estimated sum of squared residuals from (2). The test statistic is distributed as $F(3,198)$ and reported as “regional effect” in Table 4.
Miller and Brainerd, but rather on the final consistency of the estimated series.\textsuperscript{10}

The census tabulations and descriptions from which Miller and Brainerd worked differed by census, as did their estimation procedure. But the enumeration and methodology was applied uniformly for each state in each particular census year. This suggests the “true” gainful employment rate, as measured by their estimates, is subject to error that varies symptomatically each year. Specifically,

\[
\text{ESTIMATED EMPLOYMENT}_{st} = \text{TRUE EMPLOYMENT}_{st} + w_t + u_{sf}
\]

where \(w_t\) is a normal random error which does not vary across states. This implies the pooled regressions are likely to have a year-specific error component previously unaccounted for.

The simplest way to adjust for the fixed year effect is by including census dummy variables as done for the regional effect hypothesized in (3). But the presence of the presidential election variable leads to perfect collinearity with individual dummies for 1880 and 1890. An alternative approach to modeling a fixed effect is by adjusting for differences in the average employment rates for a given year. The dependent variable is then transformed as deviations from the annual mean. Since the average employment rate for each year is the same for each state in that year, this corresponds to a fixed year effect.

Regression results from this specification are presented in the final column of Table 4. The coefficients now measure changes in the state deviations from the census average. Since this is a monotonic transformation in each year, the interpretation of the coefficient signs remain the same except for the fixed regional and presidential variables. The regional coefficients are now measured relative to each other, since they explain if states in a specific region are consistently above or below the census averages. The presidential election variable now explains if state deviations from the year means change in 1880 and 1900, as compared to the other census years. This would be the case if the variation or kurtosis of gainful employment across states differed in these years. Not surprisingly this variable, with the new definition, clearly has no effect on the regression. For consistency with the other regressions, the PRES ELECTION variable is still included in the reported results, but dropping the variable does not alter any of the other variable effects.

The control variables URBAN and OVER65 remain significant, and the southern and western states are seen to have higher employment rates in each census year relative to the eastern and midwestern states. The effect is more pronounced in the south, where states are estimated to have on average almost two percentage points higher gainful employment than the census means, controlling for the other effects.

\textsuperscript{10} Readers particularly interested in the details of the Miller and Brainerd estimation procedure are directed to pages 364–371 of their study.
Of course, the primary concern here is on the gubernatorial election variables and these do not appear to have much effect. The magnitude of GOV ELECTION and its statistical significance are both significantly reduced, and neither INCUM nor GPPARTY are significant at any reasonable level (their t-ratios are below 1). There is still mild evidence that employment rates are higher in states holding a gubernatorial election but the rates do not further differ when an incumbent runs for reelection or when the incumbent is of the same party as the president. Thus there is no evidence of a partial presidential political business cycle where the benefits are directed only toward those states where the governor and president are members of the same party.

A final consideration for pooling concerns the stability of the coefficients across the subsamples. Judging from the presentation in Table 1, elections were positively correlated with gainful employment for the first three census years, but negatively correlated with employment in the last two census years. Again, these correlations are not statistically significant, but they are suggestive of election effects possibly changing between 1890 and 1900. The presidential election of 1896 has been hypothesized by several political historians to have changed the competitive nature of elections at the federal level, resulting in spillover effects into the individual states. If this is true, the marginal effects from the presence of elections would differ before and after this critical election. A Chow test can be used to test for a change in the slopes of the regression before and after this period. Under the null hypothesis of no structural break, the coefficient vectors in each subsample should be the same. The test statistic is distributed as $F(10,188)=1.07$ ($p$-value = 0.39). No structural break is found to have occurred between the 1890 and 1900 census which lends confidence to the slope coefficients reported in the final column of Table 4. The weak relationship between elections and employment remained the same from 1870–1910.

5. CONCLUSIONS

The evidence that gubernatorial elections are positively correlated with employment for the decade years between 1870–1910 is decidedly mixed. To test the notion of electorally induced employment changes, I have relied upon pooled cross-sectional estimates of state gainful employment rates. Due to a lack of observations on annual employment rates, each state could not be tested individually. This paper, in the spirit of Nordhaus’ (1975) seminal study, has concentrated solely on employment. The conclusion is that state elections had only mild and uncertain effects on employment, either due to a lack of strong economic manipulation, or simply unsuccessful attempts. Certain policy variables, such as tax revenues and state expenditures, are available from annual state auditor reports that would allow for standard time-series

\[11\] Dropping INCUM and GPPARTY from this regression does not improve the statistical significance of GOV ELECTION.

\[12\] See Burnham (1974) and the references therein.

techniques to be employed on individual states. This would give more direct evidence of possible attempts at policy manipulation, but this paper is inconclusive regarding the possibility that state business cycles were driven by the desire to keep incumbent political parties in control of the governor’s seat.

A more definitive conclusion can be reached regarding political employment cycles created at the federal level. Average employment is found to not differ in the presidential election years of 1880 and 1900 compared to the non-presidential election years of 1870, 1890 and 1910. This is consistent across all specifications. This coincides with Heckelman and Whaples (1996) who were unable to find a significant presidential election effect on real GNP.

The results generated here are not conclusive regarding the role of state elections in affecting employment opportunities but, in conjunction with the strong findings of Case (1994) and Besley and Case (1995) on contemporary gubernatorial policy cycles, are suggestive that more empirical studies of electoral cycles need to be conducted at the state level for historical elections.

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**APPENDIX**

Regional definitions


**South:** Maryland, Virginia, West Virginia, North Carolina, South Carolina, Georgia, Florida, Kentucky, Tennessee, Alabama, Mississippi, Arkansas, Louisiana, Oklahoma, Texas.

**Midwest:** Ohio, Indiana, Illinois, Michigan, Wisconsin, Minnesota, Iowa, Missouri, North Dakota, South Dakota, Nebraska, Kansas.

**West:** Montana, Idaho, Wyoming, Colorado, Nevada, Utah, Washington, Oregon, California.

**REFERENCES**


