

## ABSTRACT

SHORT, ADAM DALE. *An Examination of the Effects of Institutional and Individual Characteristics on the Importance of Information Sources to Analysts in State Legislative Fiscal Offices.* (Under the direction of Charles K. Coe.)

State legislative fiscal offices (LFOs) play an important role in the state budget process. Legislators began creating them in the mid-twentieth century to provide independent analysis of the executive budget. All state legislatures now have such staff, though these exist in a diversity of organizational structures. Despite the importance of such staff, little is known about how they utilize information and whether the diversity of organizational structures has an effect on the use of such information; this study attempts to fill this gap in the literature.

First, this study presents an overview of the development of LFOs and offers a typology based on information from the directory for the National Association of Legislative Fiscal Offices (NALFO), legislative web sites, and discussions with legislative fiscal staff. This confirms the basic typology from previous studies, but also lays out how legislatures often employ a hybrid structure that utilizes multiple staff entities to provide analysis of budget requests.

Second, this study uses the multiple rationalities framework developed by Thurmaier and Willoughby (2001) as a lens to review the available literature on LFOs, finding evidence that analysts use types of information associated with the technical (objective analysis of the best way to handle specific requests) and political (the views of key decision-makers)

rationalities (the views of key decision-makers) to analyze and make recommendations about budget problems.

Third, this study analyzes data from a 2006 survey of legislative staff by the National Conference of State Legislatures to explore factors influencing the importance of eight different information sources to 300 legislative staff involved in the budget process. A factor analysis of this data finds that the information sources group in a manner consistent with the technical and political rationalities described by Thurmaier and Willoughby (2001), as well as a third rationality (not in the five original rationalities) comprised of information sources from outside the state. This study uses the resulting factor scores in a series of regression models to examine the effect of the organizational structure of legislative budget staff and other institutional or individual variables on the importance of types of information to legislative budget staff. The results showed that LFO structure did have an effect on political sources of information, but had no effect on technical or external information factors, suggesting that no matter the structure of the LFO a base set of information for technical analysis of budget problems is used by all legislative staff. The findings also indicate that dedicated fiscal analysts utilize political sources of information less than do other types of budget staff, suggesting that legislative staff members are different from one another in how they approach information and thus future research on legislative budget staff should examine these differences.

The research does have limitations, most notably from the survey's low response rate, inclusion of only a limited number of information sources, and problems selecting non-fiscal analysts involved in the budget process in the dataset. However, the use of a national dataset

allows comparisons of institutional characteristics across a larger number of states than previous research. Likewise, the inclusion of non-fiscal analysts allows an examination of budget staff ignored in previous research.

Thus, these findings contribute to the literature on budgetary decision-making by developing a more nuanced view of key actors in the state budget process and modeling the complexity of the structure of legislative fiscal offices in a more detailed way than previous research. The limitations and findings together suggest a number of ways to further aid our understanding of how legislative budget staff members use information as they provide analysis of state budgets.

© Copyright 2013 by Adam Dale Short

All Rights Reserved

An Examination of the Effects of Institutional and Individual Characteristics on the  
Importance of Information Sources to Analysts in State Legislative Fiscal Offices

by  
Adam Dale Short

A dissertation submitted to the Graduate Faculty of  
North Carolina State University  
in partial fulfillment of the  
requirements for the Degree of  
Doctor of Philosophy

Public Administration

Raleigh, North Carolina

2013

APPROVED BY:

---

Thomas A. Birkland  
Public and International Affairs

---

James R. Brunet  
Public and International Affairs

---

Charles K. Coe  
Public and International Affairs  
Chair of Advisory Committee

---

Richard C. Kearney  
Public and International Affairs

## **DEDICATION**

This dissertation is dedicated to my wife, Andrea, whose love and support through the years made it possible to complete this project.

## BIOGRAPHY

Adam Short currently serves as a project coordinator on the *Race to the Top* project management team at the North Carolina Department of Public Instruction, but has extensive experience in other organizations. Prior to his current position, he spent six and a half years as a lecturer in the Department of Political Science and Policy Studies at Elon University teaching courses in American government, public administration, and policy analysis. He has also served as a middle school English teacher, a program director, and as a research assistant for the k-12 education analyst in the Fiscal Research Division (FRD) of the North Carolina General Assembly. His experience in FRD led to his interest in how fiscal offices functioned and the state budget process generally that led to the work in this dissertation. He has a B.A. in English from the University of North Carolina at Chapel Hill and a master's degree in Public Administration from North Carolina State University. He resides in Cary, North Carolina with his wife and two children.

## ACKNOWLEDGEMENTS

There are many people to thank for their assistance completing this project. First, thanks are due to my chair, Charlie Coe. He introduced me to the multiple rationalities framework and was patient with me as I developed my topic. Along the way he developed my interest in public budgeting and was supportive through the ups and downs of my research process. Additional thanks are due to the members of my committee, Thomas Birkland, James Brunet, Richard Kearney, and Yan Solihins, for the feedback they provided in this process. Other faculty members at North Carolina State University provided assistance as well. David Garson, in particular, patiently answered questions and provided feedback on statistics and methodology at multiple stages of the process. I owe a debt of gratitude to Nicole Darnall for suggesting I enter the PhD program in the first place and for exposing me to the study of public policy and policy analysis; I also owe a debt of gratitude to Jim Svara for providing a challenging introduction to the traditions of public administration that helped me see that the doctoral program and the discipline were a good fit for me. Thom Little at UNC-G was helpful in exposing me to the Political Science literature on state legislatures. I am thankful also to my peers in the PhD program, specifically Jay Gerlach, Bradley Wilson, Carolyn Hannaway, and Jason Jolley for providing support working through courses and preliminary exams several years ago. Mac McGee also deserves thanks for helping me keep up with the paperwork and logistics associated with moving through the program.



A number of individuals provided specific help developing my topic and better understanding the structure and operations of legislative fiscal offices. Arturo Perez, Brian Weberg, and Karl Kurtz at the National Conference on State Legislatures were gracious with their time and sharing data that made this analysis possible in the first place. Douglas Snow, Katherine Willoughby, Carolyn Bourdeaux, and Doug Goodman were willing to speak with me at various points about my topic and their own work on this subject. I also owe a debt of gratitude to countless legislative staff, fiscal analysts, and legislative fiscal office directors across the country who took time in the summer of 2010 to speak with me about the structure of budget staffs in their state. These conversations were enlightening and provided important background information that shaped the construction of variables and my understanding of how these staff organizations operate. Staff members in the Fiscal Research Division of North Carolina's General Assembly were also very helpful in this process, mainly by being good colleagues and mentors during my limited time there. Specific thanks are due to Adam Levinson for giving me the chance to work for him (twice) and to help me understand how the state budget process worked, and to Lynne Muchmore, Charlotte Todd, and Jim Mills for giving of their time after their retirements for background discussions on my topic that helped me understand the nuances of life as a fiscal analyst, as well as the literature and limitations of my research better.

There were others I need to thank for the moral support and encouragement they provided during this process. The colleagues I worked with at Elon University were a great source of support and feedback as I worked through these chapters over the course of several

years. Special thanks are due to Sean Giovanello, Hunter Bacot, Betty Morgan, Alison Morison-Shetlar, and Mary Morison who encouraged me and urged me to finish even when I was unsure if I wanted to or could. Laura Anderton deserves thanks for introducing me to what a PhD was at an early stage of my life and encouraging me to be curious about the world; in my adolescence, Gene McDowell provided an example of persistence completing a PhD while working a demanding job that I drew on frequently when pushing myself to work after hours or on weekends. I owe thanks to my mother for stressing the importance of education from an early age; she encouraged me to pursue the degree and then kept tabs on my progress when I was tempted to slow down. I am also indebted to my father, who may not have always understood what I was doing in my research but offered support where he could.

Finally, I owe a special debt of gratitude to my wife and children. Henry and Isabel provided necessary breaks from the drudgery of revisions and formatting, and helped inspire me to push through the final months of the project. My wife was supportive through the years that it took to complete this project, and I cannot thank her enough for all she did for me. She endured the uncertainty about why I wanted this degree, my slow progress through the years, and the late nights and weekends it took to finish. She gave me the time and space I needed, and helped pick me up at my lowest points. I am grateful for all the support she has provided.

# TABLE OF CONTENTS

<b>LIST OF TABLES .....</b>	<b>xii</b>
<b>LIST OF FIGURES .....</b>	<b>xvi</b>
<b>1. Overview of Legislative Fiscal Offices .....</b>	<b>1</b>
<b>1.1 Introductory Comments and an Overview of the Study .....</b>	<b>1</b>
<b>1.2 Background on LFOs and the Need to Study Their Structural Diversity .....</b>	<b>3</b>
<b>1.2.1 The Role of an LFO in the Overall Legislative Staff Structure .....</b>	<b>4</b>
<b>1.2.2 Historical Development of LFOs .....</b>	<b>7</b>
<b>1.2.3 Structures of LFOs Today .....</b>	<b>14</b>
<b>1.2.4 Responsibilities of LFOs.....</b>	<b>20</b>
<b>1.2.5 The Need to Provide Legislators with Information on the Effect of Structural Choices for LFOs .....</b>	<b>22</b>
<b>1.3 How a Study of LFOs Contributes to the Literature on Information Use by State Legislators .....</b>	<b>23</b>
<b>1.3.1 The Role and Importance of Staff to Information Flow within a Legislature .....</b>	<b>24</b>
<b>1.3.2 Factors Explaining the Importance of Staff as Information Sources for Legislators .....</b>	<b>27</b>
<b>1.3.3 The Varied Uses of Information by Legislators .....</b>	<b>29</b>
<b>1.3.4 The Potential Effect of Structural Decisions on Information Flow and Usage by State Legislators .....</b>	<b>31</b>
<b>1.3.5 Potential Differences with Legislative Information Use in the Budget Process.....</b>	<b>33</b>
<b>1.4 Importance of the Study of Differences in LFO Structure and Responsibilities to Budget Theory .....</b>	<b>36</b>
<b>1.4.1 Budget Theory and Executive Legislative Budget Relations .....</b>	<b>36</b>
<b>1.4.2 Merging “Micro” and “Macro” Forces in Budget Theory.....</b>	<b>38</b>
<b>1.4.3 How this Study Develops the Literature on Budget Theory .....</b>	<b>43</b>
<b>1.5 Chapter Summary and Next Steps.....</b>	<b>44</b>
<b>2. Literature Review .....</b>	<b>46</b>
<b>2.1 The Multiple Rationalities Model.....</b>	<b>46</b>
<b>2.1.1 Effectiveness Decisions (Social, Political, and Legal Rationalities) .....</b>	<b>48</b>
<b>2.1.2 Efficiency Decisions (Economic and Technical Rationalities).....</b>	<b>51</b>
<b>2.1.3 Summary of the Multiple Rationalities .....</b>	<b>52</b>
<b>2.1.4 Findings on the Use of Rationalities among Executive Budget Analysts .....</b>	<b>53</b>
<b>2.1.5 Extension of Multiple Rationalities to the Legislative Environment.....</b>	<b>55</b>
<b>2.2 Review of Existing Studies of LFOs .....</b>	<b>59</b>
<b>2.2.1 Overview of the LFO Studies.....</b>	<b>59</b>

<b>2.3 Evidence from Literature Regarding Usage of Multiple Rationalities .....</b>	<b>64</b>
2.3.1 Policy Distance .....	64
2.3.2 LFO Structure.....	66
2.3.3 Independent Budget Recommendations .....	70
2.3.4 Changes in Leadership .....	72
2.3.5 Economy .....	73
2.3.6 Summary of Evidence Regarding Multiple Rationalities .....	74
<b>2.4 Additional Findings of Interest in Literature on LFOs.....</b>	<b>75</b>
<b>2.5 The Need for a Broader Study of LFOs.....</b>	<b>77</b>
<b>2.7 Discussion .....</b>	<b>79</b>
<b>3. Factor Analysis of Importance of Information Sources to LFO Staff .....</b>	<b>83</b>
<b>3.1 Data.....</b>	<b>84</b>
3.1.1 Survey Size and Non-response Bias in Data .....	84
3.1.2 Building the Dataset for Analysis .....	88
<b>3.2 Dependent Variable.....</b>	<b>90</b>
3.2.1 Description of the Information Sources in NCSL Survey .....	90
3.2.2 Selecting the Information Sources to Include in Dependent Variable .....	92
3.2.3 Assessing the Influence of Missing Data .....	95
<b>3.3 Factor Analysis .....</b>	<b>97</b>
3.3.1 Issues with Previous Studies Analyzing Multiple Rationalities .....	97
3.3.2 Expected Relationships among Information Sources .....	98
3.3.3 Description of Factor Analysis Techniques Used .....	100
3.3.4 Results of Factor Analysis .....	102
3.3.5 Discussion of How Factors Relate to the Multiple Rationalities Framework .....	103
<b>3.4 Summary .....</b>	<b>106</b>
<b>4. Bivariate Tests Examining Potential Influences on the Importance of Information to Legislative Budget Staff.....</b>	<b>108</b>
<b>4.1 Information Factors and Combined Importance of Information (Dependent Variables) .....</b>	<b>109</b>
4.1.1 Scale Variables for Individual Factors.....	109
4.1.2 Scale Variable to Measure Combined Importance of Information Sources.....	110
4.1.3 Descriptive Statistics for Scale Variables and Assessment of Missing Data .....	112
<b>4.2 Structure of Legislative Fiscal Offices (Independent Variables).....</b>	<b>114</b>
4.2.1 Hypotheses.....	115
4.2.2 Variable Construction .....	122
4.2.3 ANOVA Tests.....	125
4.2.4 Discussion .....	128

<b>4.3 Legislative Professionalism (Control Variable)</b> .....	<b>130</b>
4.3.1 Hypotheses .....	130
4.3.2 Variable Construction .....	132
4.3.3 Correlations .....	133
4.3.4 Discussion .....	134
<b>4.4 Divided Government (Control)</b> .....	<b>135</b>
4.4.1 Hypotheses .....	135
4.4.2 Variable Construction .....	138
4.4.3 T-tests .....	140
4.4.4 Discussion .....	141
<b>4.5 Term Limits and Legislative Turnover (Control)</b> .....	<b>142</b>
4.5.1 Hypotheses .....	142
4.5.2 Variable Construction .....	145
4.5.3 Correlations .....	146
4.5.4 Discussion .....	146
<b>4.6 Strength of the Governor (Control)</b> .....	<b>147</b>
4.6.1 Hypotheses .....	147
4.6.2 Variable Construction .....	149
4.6.3 Correlations .....	150
4.6.4 Discussion .....	150
<b>4.7 Fiscal Analyst or Other Staff (Independent)</b> .....	<b>151</b>
4.7.1 Hypotheses .....	151
4.7.2 Variable Construction .....	153
4.7.3 T-tests .....	154
4.7.4 Discussion .....	155
<b>4.8 Age of the Legislative Staff Member (Control)</b> .....	<b>155</b>
4.8.1 Hypotheses .....	156
4.8.2 Variable Construction .....	158
4.8.3 Correlations .....	159
4.8.4 Discussion .....	160
<b>4.9 Gender of the Legislative Staff (Control)</b> .....	<b>160</b>
4.9.1 Hypotheses .....	161
4.9.2 Variable Construction .....	162
4.9.3 T-tests .....	163
4.9.4 Discussion .....	164
<b>4.10 Summary</b> .....	<b>164</b>
<b>5. Examining Influences on the Importance of Information to Legislative Budget Staff with OLS Regression Analyses</b> .....	<b>167</b>
<b>5.1 Rationale for the Use of Regression Analysis</b> .....	<b>168</b>

5.2 Regression Model.....	169
5.2.1 Categorical/Ordinal Variables in the Model .....	170
5.2.2 Preliminary Assessment of the Model .....	171
5.2.3 Regression Model Equation and Summary of Hypotheses .....	175
5.3 OLS Regression Results for External Information Factor .....	177
5.4 OLS Regression Results for Political Information Factor .....	181
5.5 OLS Regression Results for Technical Information Factor.....	184
5.6 OLS Regression Results for Total Information Factor .....	187
5.7 Discussion .....	192
<b>6. Key Findings, Limitations, and Directions for Future Research .....</b>	<b>196</b>
6.1 Key Findings .....	196
6.2 Implications for Theories of Budgetary Decision-Making .....	205
6.3 Implications for Legislators and Legislative Staff .....	207
6.4 Threats to Validity and Other Limitations of the Research .....	209
6.4.1 Threats to Internal Validity .....	209
6.4.2 Threats to External Validity .....	212
6.4.3 Other Limitations to the Study .....	214
6.4.4 Summary of Limitations of the Study .....	215
6.5 Directions for Future Research .....	216
6.5.1 Refining the Typology of LFOs .....	216
6.5.2 Identify Additional Rationalities used in the Budget Process .....	218
6.5.3 A More Detailed Examination of how Legislative Analysts Use Information .....	219
6.5.4 Exploring Additional Variables Influencing the Use of Information .....	220
6.5.5 Examine the Link between Legislative Fiscal Staff and Legislators .....	224
6.5.6 Exploring the Idea of Administrative Conservatorship .....	225
6.5.7 Summary of Future Research Options .....	227
6.6 Conclusion.....	227
<b>REFERENCES.....</b>	<b>230</b>
<b>APPENDICES.....</b>	<b>244</b>
<b>Appendix A: Typology of Legislative Fiscal Offices.....</b>	<b>245</b>

<b>Appendix B: Detailed Overview of Studies of Legislative Fiscal Offices.....</b>	<b>251</b>
<b>Appendix C: Factor Scores for Imputed Data .....</b>	<b>288</b>
<b>Appendix C: Descriptive Statistics Output for Imputed Data.....</b>	<b>295</b>
<b>Appendix D: Assumption Tests for OLS Regression.....</b>	<b>307</b>
<b>Appendix E: OLS Regression Output for Imputed Data.....</b>	<b>317</b>

## LIST OF TABLES

<b>Table 1.1: Dates of Establishment for Nonpartisan Legislative Fiscal Offices .....</b>	<b>12</b>
<b>Table 1.2: Example of LFO Structure in Five States .....</b>	<b>17</b>
<b>Table 1.3: Sample Responsibilities of Select LFOs .....</b>	<b>21</b>
<b>Table 2.1: Summary of the Multiple Rationalities of Thurmaier and Willoughby (2001) .....</b>	<b>52</b>
<b>Table 2.2: Summary of Findings of Case Studies and Descriptive Research on LFOs..</b>	<b>60</b>
<b>Table 2.3: Summary of Quantitative Studies Involving LFOs and their Findings.....</b>	<b>62</b>
<b>Table 2.4: Summary of Evidence for Hypotheses in Literature on LFOs.....</b>	<b>74</b>
<b>Table 3.1: Summary of Information Types Asked about in NCSL Survey.....</b>	<b>90</b>
<b>Table 3.2: Descriptive Statistics for Importance of Individual Items Measuring the Information Sources .....</b>	<b>93</b>
<b>Table 3.3: Frequency of Responses on the Importance of a Respondent's Own State's Statutes, Constitution, or Rules .....</b>	<b>94</b>
<b>Table 3.4: Missing Data for Items on Importance of Information Sources .....</b>	<b>95</b>
<b>Table 3.5: Results of Statistical Tests Examining Patterns in Missing Data on the Items for Importance of Information Sources .....</b>	<b>96</b>
<b>Table 3.6: Rotated Component Matrix for Information Factors .....</b>	<b>102</b>
<b>Table 3.7: Summary of Factors Related to Information Use among Legislative Staff.</b>	<b>103</b>
<b>Table 4.1: Descriptive Statistics for Factor Scores .....</b>	<b>113</b>
<b>Table 4.2: Statistical Tests Examining Patterns in Missing Data on Scale Variables for Information Sources .....</b>	<b>114</b>
<b>Table 4.3: Hypotheses for Effect of LFO Structure on Dependent Variables .....</b>	<b>121</b>



<b>Table 4.4: Frequencies for LFO Structure in Dataset.....</b>	<b>123</b>
<b>Table 4.5: Frequencies for Level of Partisan Staffing.....</b>	<b>124</b>
<b>Table 4.6: Comparison of LFO Structure and Presence of Partisan Staff in Dataset..</b>	<b>125</b>
<b>Table 4.7: ANOVA Results for LFO Structure Variable.....</b>	<b>126</b>
<b>Table 4.8: Means for Dependent Variablesby the Structure of the LFO .....</b>	<b>127</b>
<b>Table 4.9: ANOVA Results for Presence of Partisan Staffing Variable.....</b>	<b>127</b>
<b>Table 4.10: Means of Dependent Variables by Level of Partisan Staffing.....</b>	<b>127</b>
<b>Table 4.11: Hypotheses on the Expected Effect of Legislative Professionalism on Dependent Variables.....</b>	<b>132</b>
<b>Table 4.12: Descriptive Statistics for Professionalism of Legislature .....</b>	<b>133</b>
<b>Table 4.13: Correlation Coefficients for Professionalism of Legislature and Dependent Variables .....</b>	<b>133</b>
<b>Table 4.14: Hypotheses on the Effect of Divided Government on the Dependent Variables .....</b>	<b>137</b>
<b>Table 4.15: Percentage of Respondents from Unified and Split Legislatures .....</b>	<b>139</b>
<b>Table 4.16: Percentage of Respondents from Unified and Split Branch Legislatures .</b>	<b>139</b>
<b>Table 4.17: T-tests for Split Chamber Variable.....</b>	<b>140</b>
<b>Table 4.18: T-test Results for Split-Branch Variable.....</b>	<b>141</b>
<b>Table 4.19: Hypotheses on the Effect of Term Limit Laws and Legislative Turnover on the Dependent Variables .....</b>	<b>144</b>
<b>Table 4.20: Descriptive Statistics for Legislative Turnover.....</b>	<b>145</b>
<b>Table 4.21: Correlation Coefficients for Legislative Turnover and Dependent Variables .....</b>	<b>146</b>

<b>Table 4.22: Hypotheses on the Effect of Gubernatorial Strength on the Dependent Variables .....</b>	<b>148</b>
<b>Table 4.23: Descriptive Statistics for Gubernatorial Power .....</b>	<b>149</b>
<b>Table 4.24: Correlation Coefficients for Strength of Governor and Dependent Variables .....</b>	<b>150</b>
<b>Table 4.25: Hypotheses on the Expected Effect of Status as a Fiscal Analyst on the Dependent Variables.....</b>	<b>153</b>
<b>Table 4.26: Frequencies of Fiscal Analysts and Other Types of Staff .....</b>	<b>154</b>
<b>Table 4.27: T-test Results for Fiscal Analyst.....</b>	<b>155</b>
<b>Table 4.28: Hypotheses on the Expected Effect of Age on the Dependent Variables...</b>	<b>157</b>
<b>Table 4.29: Descriptive Statistics for Age of Respondents.....</b>	<b>159</b>
<b>Table 4.30: Correlation Coefficients for Age of Legislative Staff Member and Dependent Variables.....</b>	<b>159</b>
<b>Table 4.31: Hypotheses on the Expected Effect of Gender on the Dependent Variables .....</b>	<b>162</b>
<b>Table 4.32: Frequencies of Gender in Dataset .....</b>	<b>163</b>
<b>Table 4.33: T-test Results for Gender .....</b>	<b>163</b>
<b>Table 4.34: Summary of Observed Relationships between Dependent and Independent Variables .....</b>	<b>166</b>
<b>Table 5.1: Correlations among Independent Variables .....</b>	<b>175</b>
<b>Table 5.2: Summary of Hypotheses Tested .....</b>	<b>177</b>
<b>Table 5.3: Regression Results for External Information .....</b>	<b>178</b>
<b>Table 5.4: External Information Regression Coefficients for Fiscal Analysts and Non-Fiscal Analysts.....</b>	<b>180</b>

<b>Table 5.5: Regression Results for the Importance of Political Information.....</b>	<b>181</b>
<b>Table 5.6: Results of Separate Regressions on Political Information by Fiscal and Non-fiscal staff .....</b>	<b>183</b>
<b>Table 5.7: Regression Results for the Importance of Technical Information .....</b>	<b>185</b>
<b>Table 5.8: Results of Separate Regressions on Technical Information by Fiscal and Non-fiscal Staff .....</b>	<b>186</b>
<b>Table 5.9: Regression Results for the Importance of Information Sources Combined</b>	<b>188</b>
<b>Table 5.10: Results of Separate Regressions on Combined Importance of Information by Fiscal and Non-fiscal Staff .....</b>	<b>191</b>
<b>Table 5.11: Hypotheses on Importance of Information for Legislative Staff Updated with Results of Regression Analyses .....</b>	<b>193</b>
<b>Table 5.12: Relationships for Fiscal Analysts.....</b>	<b>194</b>
<b>Table A.1: Summary of Cook’s D Statistics for Regression Models .....</b>	<b>309</b>
<b>Table A.2: VIF values for Independent Variables .....</b>	<b>310</b>
<b>Table A.3: Summary of Durbin-Watson Statistics .....</b>	<b>311</b>

## LIST OF FIGURES

<b>Figure 1.1: Number of States with Nonpartisan LFOs by Year of Establishment (National Conference of State Legislatures, 2001)</b> .....	<b>12</b>
<b>Figure 3.1: Path Diagram for Linking Multiple Rationalities to Information Sources in NCSL Data</b> .....	<b>99</b>
<b>Figure A.1: Plot of Standardized Predicted Value and Factor Loadings for External Information</b> .....	<b>312</b>
<b>Figure A.2: Plot of Standardized Predicted Value and Factor Loadings for Political Information</b> .....	<b>312</b>
<b>Figure A.3: Plot of Standardized Predicted Value and Factor Loadings for Technical Information</b> .....	<b>313</b>
<b>Figure A.4: Plot of Standardized Predicted Value and Factor Loadings for Total Information</b> .....	<b>313</b>
<b>Figure A.5: P-P Plot for External Information</b> .....	<b>314</b>
<b>Figure A.6: P-P Plot for Political Information</b> .....	<b>315</b>
<b>Figure A.7: P-P Plot for Technical Information</b> .....	<b>316</b>
<b>Figure A.8: P-P Plot for Total Information</b> .....	<b>316</b>

# **1. Overview of Legislative Fiscal Offices**

## **1.1 Introductory Comments and an Overview of the Study**

The National Conference of State Legislatures (NCSL) defines a legislative fiscal analyst as a member of the legislative staff who is expected to “gather and analyze fiscal data (revenue and expenditure information) to assist legislators in making informed budget decisions... independent of the governor” (National Conference of State Legislatures, n.d.). All fifty state legislatures have fiscal analysts to assist with their budget decisions, but legislatures house these analysts in legislative fiscal offices (LFOs) with a variety of organizational structures. Some LFOs function as any other kind of committee staff in the legislature (partisan or nonpartisan) and serve mainly the committee chair, while others reside in central staff agencies and provide nonpartisan information to both chambers and/or all members of legislature. Many states rely on a combination of staff organizations to assist with analysis of the budget. Legislatures also give a range of responsibilities to LFOs, requiring some to do very little besides gather information on the budget and others to conduct revenue forecasts or create performance audits of executive agencies.

Researchers know that state legislators value LFOs as an information resource in the budget process (Sabatier & Whiteman, 1985; Gosling, 1985; Weissert & Weissert, 2000; Hoffman, 2006; Rosenthal, 1974; Hird, 2005) but the literature is relatively silent on the possible effects the different institutional arrangements of the LFOs may have on the work done by their respective staff members. These decisions about the structure of LFOs reflect

conscious, collective choices made by a legislative body about the type of information it wishes to have in the budget process (Krehbiel, 1991) but there has been no examination of whether these different arrangements lead to similar or different types of information LFOs provide for legislators.

This dissertation uses OLS regression on data from a survey conducted by NCSL of legislative staff (including LFO staff) in 44 states to determine the effect of institutional structure and other institutional (e.g., legislative professionalism) and individual factors (e.g., the age of individual analysts) on the number and type (state agencies, lobbyists, research staff, etc.) of information sources used by LFO analysts in their work. The NCSL survey allows analysis of a smaller number of types of information sources (8 in all) than previous research (Goodman & Clynych, 2004) but includes LFO analysts from a larger number of states that allows analysis of a wider range of institutional and individual factors on information use by LFO analysts. Analysis of this data will address three research questions:

- 1) Do LFO structural factors such as whether the LFO is centralized or non-centralized, partisan/nonpartisan, or the presence of multiple staff agencies working on the budget alter the number or type of information sources used by LFO analysts?
- 2) Do factors associated with the legislature as a whole such as legislative turnover or the overall professionalism of the legislature alter the number or type of information sources used by LFO analysts?
- 3) Do fiscal analysts differ from other types of legislative staff who might be involved in the budget process in the importance they place on different types of information?

These are important questions to answer for three reasons. First, legislatures have shown an interest in modifying the structures of their LFOs in recent years and a better understanding of the effect of such changes on the information they may receive could better inform such decisions. Second, as LFO staff are supposed to provide independent information to legislators about the budget a better understanding of the types of information they use in preparing work for legislators could shed light on the budget process as a whole. Finally, this study is important because it adds to the literature on budget theory in two ways: by examining the operations of one tool (LFOs) used in the struggle between state legislatures and governors to better understand the checks and balances involved in state budgeting, and by further developing the multiple rationalities framework described by Thurmaier and Willoughby (2001) and elaborated on by Goodman and Clynch (2004) to help understand the lenses through which different actors in the state budget process approach budget problems they encounter. The remainder of the chapter explores each of these points in more detail.

## **1.2 Background on LFOs and the Need to Study Their Structural Diversity**

Since the late nineteenth century legislators have increasingly relied on staff agencies to provide them with assistance in the legislative process. LFOs represent an important type of staff, but among LFOs there exists diversity in structure and responsibility from one state to the next. Since the 1980's many state legislatures have added additional LFOs to their staff capacity or altered the state of their existing LFO structure (Weberg, 1989) but little research has been done on the possible influence these changes may have. One of the

purposes of this study is to explore the effect of structure on the information used by LFO analysts (and thus the information they will pass along to legislators) in the hopes of informing these structural choices. Before progressing, though, it is worth exploring the distinct nature of LFOs in more detail.

### **1.2.1 The Role of an LFO in the Overall Legislative Staff Structure**

Between eight and fifteen types of legislative staff exist in state legislatures with duties ranging from document production to bill drafting to specialized research and political advice.<sup>1</sup> Most of these provide support for the day-to-day operations of the legislature but several types of staff provide information to legislators as they create, debate, and vote on legislation. LFOs fall into the latter category, but it is worth spending some time distinguishing their role from that of other types of staff, particularly research, committee, party/caucus staff, and personal staff.

Research and legislative library staff members provide objective analysis and research on issues related to mainly non-budget related legislation. For instance, if a legislator wanted to know how different states regulated charter schools or whether a certain

---

<sup>1</sup> The eight types described by Little and Ogle (2006, pp. 99-104) are: managerial, document production, and record-keeping staff; information technology staff; legal and bill drafting staff, research and library staff; budget, fiscal, and audit staff; committee staff; party or caucus staff; personal staff. However, these groupings are somewhat artificial (reference and library staff are not often discussed together). NCSL (2010) maintains a network of 13 professional associations or networks for different types of staff, including separate associations for some of the types of staff such as security and public information officers that are left out of the list by Little and Ogle (2006). Rosenthal (2008) has a similar breakdown of staff types as the other sources (he describes roughly ten) but rather than focusing on the duties themselves he focuses more on where the staff are housed (e.g., in the office of presiding members, a joint legislative services agency, or partisan offices) in the legislature. Regardless of the number of staff types, the breakdown in each of these sources is between operational staff (e.g. printing services, office assistants, security) and staff to provide information and technical expertise.



mining technique is viewed as safe, they may go to research staff for help on those issues as opposed to their LFO staff. These staff agencies are usually rated as very effective and helpful by legislators, but their primary purpose is to gather and summarize information for legislators and not to provide advice on political matters (Hird, 2005; Weissert & Weissert, 2000). They are usually organized in nonpartisan, centralized staffing agencies that make their services available to all legislators.<sup>2</sup>

Committee staff exist to provide both operational support and to provide information and analysis to legislators. They assist the chair or co-chairs of the committee with scheduling hearings and finding speakers to testify, preparing materials for meetings, assisting members of the committee with questions, and providing research and analysis on issues before the committee. Committee staff members in state legislatures originate from one of several sources. In a few of the most professional legislatures (e.g., CA, NY, PA) committees have their own majority and minority professional staff as do committees in Congress. In a few other state legislatures (e.g., MA, MI) committees may have their own nonpartisan or bi-partisan professional staff. In either of these cases, staff members serve committees in only one chamber and are selected by either the committee chair independently or in conjunction with the leadership of a chamber. The more common arrangement for committee staff support in state legislatures is to assign research staff or

---

<sup>2</sup> “Available to all legislators” means that any member of the House or Senate could come to a member of the research staff with a question, whether the member sat on a committee in the staff member’s area of expertise. For example, a legislator may not sit on the committee that deals with education policy but would like to know something about charter school regulations. The member could go to a research staff member for support, whereas in states where committee staff members provide such information the member may not have access to them.

LFO analysts to serve on relevant committees where the expertise of staff could be utilized (Little & Ogle, 2006). For instance, a committee dealing with transportation issues could receive staff support from the research staff members who specialize in transportation policy and possibly the LFO staff members who serve the appropriations subcommittee that deals with transportation funding.

Party or caucus staff members are usually few in number, partisan in orientation, and serve only one chamber of the legislature. These staff may perform research but their role tends to be more in broadly shaping the direction of policy rather than analyzing specific issues (National Conference of State Legislatures, n.d.). They seek information for electoral purposes in addition to assisting with policy development: majority staff members seek to put issues in a light that will help their party stay in power, while minority staff members seek to find and exploit issues that weaken the majority party ahead of the next election (Little & Ogle, 2006). Personal staff members in most legislatures provide mainly clerical assistance to members, but in larger legislatures with more resources these staff may perform special research or assist with constituent issues (Little & Ogle, 2006).

The distinction for LFOs among the types of legislative staff is that they provide specialized knowledge and expertise to assist legislators as they work through the budget process. This is essential because most legislators lack the technical expertise to understand the budget, and if they do have the knowledge they lack the time to review the budget in sufficient detail to make informed choices (Little & Ogle, 2006). The importance of the budget to legislators and the technical expertise of LFO analysts give them a special place

among legislative staff and may afford them more influence in the budget process than other types of staff have in their respective policy areas (Weissert & Weissert, 2000). As LFOs may be organized in central, nonpartisan offices, as committee staff, or as party/caucus staff it is their specialized knowledge rather than the structure that distinguishes them from other types of legislative staff.

### **1.2.2 Historical Development of LFOs**

The development of legislative staff occurred in three waves (Weberg, 1989). First, legislatures created nonpartisan staff to help with a variety of functions. The Massachusetts legislature created the first reference library in 1890 and by 1950 all 48 states had some office (though they varied in size and ability) dedicated to providing nonpartisan research help to its legislators (Graves, 1953). The second wave of staff provided specialized, technical information to legislatures, and the final wave involved the addition of partisan staff to provide more political information. LFOs mainly originated as a part of the second wave of staff development in the 1940's and 50's (Weberg, 1989).

Legislators in the early part of the twentieth century had little problem managing governmental finances. As the size of state government grew, though, budgeting became more challenging; legislators dealt with larger amounts of money and more technical problems associated with programs and services administered by states. Legislators often wanted to make changes to the budgets proposed by governors, but felt they lacked adequate information on which to base those changes and often deferred to the executive branch (Graves, 1953). In 1941 California became the first state to create an independent staff

agency to provide detailed analysis of the state's budget. Few legislatures followed suit to create independent agencies like California had done, citing cost issues and duplication of work as the reason (Graves, 1953). Most legislatures that did wish to gather independent information simply added a staff person to their existing research or reference agencies or made use of "Legislative Councils" to provide them with information in the policy process (Graves, 1953).

By 1960, 26 legislatures had created some kind of LFO-like capacity to assist them in reviewing the governor's budget (Patterson, 1964). These staff offices were often small and occasionally housed outside of the legislature (Rosenthal, 1998), with some even operating under the authority of the Governor (Graves, 1953). South Dakota, for instance, technically created a nonpartisan LFO in 1951, but this office was staffed by representatives of the Governor's office until the 1970's (National Conference of State Legislatures, 2001). In general these offices varied in organization (some served the whole legislature while some served part of the legislature), in the duties they carried out (in California the LFO reviewed the entire budget but in Oregon the LFO reviewed only the major appropriations), in what they focused on in the budget (in California they tended to focus on line item reductions while in Oregon they focused on weighing alternative spending proposals), as well as the professionalism their work displayed (Patterson, 1964). The overall effect of these early reforms, while well-meaning, was minimal as legislators in the 1960's still relied heavily on the governor for information and cues on the validity of agency spending requests (Sharkansky, 1968).

Where legislatures could establish a credible and independent LFO it provided them with an important asset in the budget process. Wisconsin provides an illustrative case. Prior to 1965 legislators in the state depended on staff in the Department of Administration for analysis of the budget, but in 1965 the legislature was able to hire a fiscal director along with two full-time and two part-time staff thanks to a demonstration grant. By 1967 the legislature voted to nearly double funding and staff size for the office the following year, and a survey of members of the legislature found that 2/3 of them rated the new agency as very effective (nine of ten members of the joint finance committee rated them as such) (Rosenthal, 1974, p. 153). Between 1967 and 1969 the office made 70 recommendations, of which the legislature accepted 29 without modification and 14 with some modification resulting in savings of roughly \$9.7 million dollars (\$62 million in constant dollars) for the state (Rosenthal, 1974, p. 157). Aside from assisting with general review of the budget, the new Fiscal Bureau helped the legislature focus on waste in higher education and public welfare in a manner they couldn't have done before (Rosenthal, 1974, pp. 158-159).

The mixed capacity of legislatures to independently review the executive budget was emblematic of larger problems they faced in checking the power of the governor (e.g. short session length, low pay, lack of staff support). During the 1960's there was a push to modernize state legislatures and draw attention to these problems that culminated with a report issued by the Citizens Conference on State Legislatures (CCSL) in 1971. This group evaluated each legislature against a set of criteria (later called the FAIR system)<sup>3</sup> that

---

<sup>3</sup> FAIR stands for functional, accountable, informed, independent, and representative.

measured institutional resources such as office space, member pay, and staff resources to assess how well a legislature performed its basic tasks of representing its constituents, checking the power of the governor, and enacting legislation (Little & Ogle, 2006). The authors of the report argued that the more of these capacities a legislature had the better it was able to do these jobs. The legislatures with the most resources (CA, NY, FL, IL) were classified as professional by the CCSL and set as the models to which other legislatures should aspire (Little & Ogle, 2006).<sup>4</sup> The rankings had a powerful effect, as no state wanted to be near the bottom and thus states quickly moved to improve their capacities (Kurtz & Weberg, 2010).

Professional staff such as LFOs received a good deal of attention in the CCSL report because they related to the FAIR standards of being informed about issues and about being independent of the governor.<sup>5</sup> Legislators in the less professional states tended to rely more heavily on external sources of information (such as lobbyists and members of the executive branch) than the more professional states, which had the capacity to evaluate information on their own (Wissel, O'Connor, & King, 1976). Staff resources were seen as important to

---

<sup>4</sup> When researchers discuss the “professionalism” of legislatures in political science or public administration, the origins for such a classification system originate with the CCSL report. Though there have been multiple indexes of professionalism over the years, most use three factors found in the original CCSL classifications: member salary, member time constraints, and staff resources (Squire, 2007; King, 2000). Legislatures are commonly grouped into one of three categories based on these factors: professional/full-time, hybrid, or citizen/part-time (Citizens Research Council of Michigan, 2007). NCSL has recently converted to a five level classification system to provide more of a continuum for classification, but the basic components of the scale remain the same (National Conference of State Legislatures, 2009).

<sup>5</sup> “Staff” for the CCSL was often inclusive of all types of staff: bill drafting, research, administrative, and fiscal/budget research. Many recommendations dealt with staff for analysis of the budget, but staff in most cases for the CCSL had a broader connotation. I have tried to make the distinctions between staff in general and fiscal/budget staff in particular where appropriate.

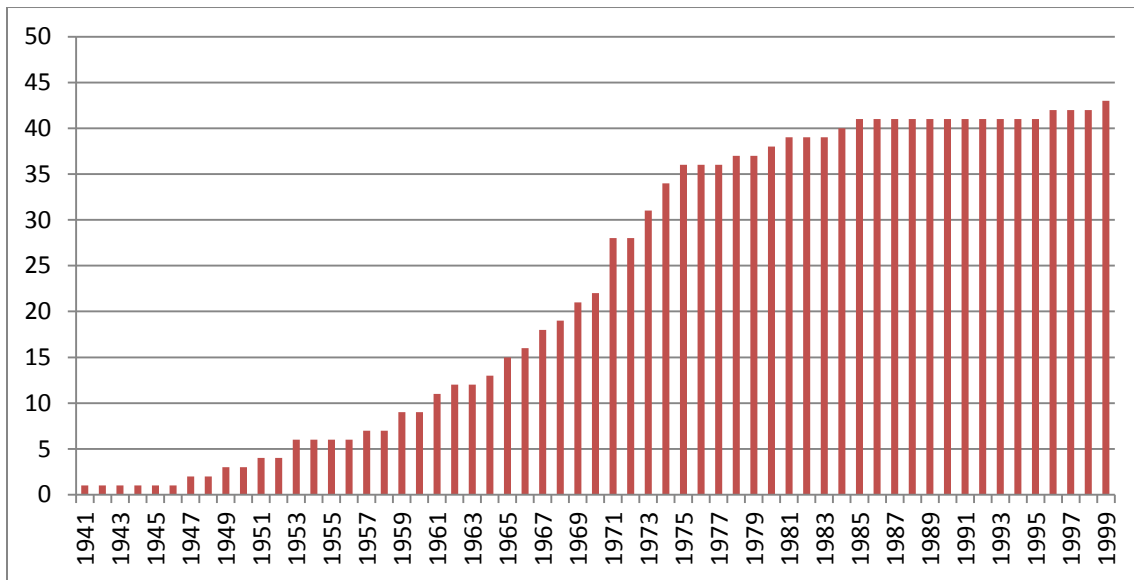
improving legislatures at the time because they could be created fairly easily (some reforms, such as drastically increasing member pay, were less politically realistic in the short term) and then these new staff organizations could be controlled by the legislatures (Rosenthal, 1974).

In the recommendations on legislative staffing made by the CCSL, only 11 of the 50 states did not have a recommendation to increase the size, capability, and resources of its staff (including staff dedicated to budget analysis) and four states (SC, TN, VA, and WY) were singled out for having absolutely no independent analysis of an executive budget (Citizens Conference on State Legislatures, 1971). The CCSL recommendations had an almost immediate effect, as within ten months of the report 39 states had made major changes to their staffing structures (Rosenthal, 1974). Table 1.1.1 provides a list created by NCSL of the dates state legislatures established a nonpartisan LFO (the dominant but not the sole type of LFO structure) and Figure 1.1 displays the same information graphically. If one takes the CCSL report in 1971 as a dividing line, it seems that about half of these offices came into being before the report and about half came in to being afterwards.

**Table 1.1: Dates of Establishment for Nonpartisan Legislative Fiscal Offices**<sup>6</sup>

Decade	State
Pre-1950	CA (1941), MD (1947), TX (1949)
1951-1960	SD (1951), NH (1953), WV (1953), NM (1957), CO (1959), OR (1959)
1961-1970	NE (1961), RI (House - 1961), ME (1962), MI (1964), ND (1965), UT (1965), AZ (1966), IA (1967), TN (1967), IN (1968), DE (1969), WI (1969), GA (1970)
1971-1980	AK (1971), CT (1971), ID (1971), IL (1971), NJ (1971), NC (1971), AR (1973), OH (1973), VT (1973), KS (1974), LA (1974), MT (1974), AL (1975), NV (1975), KY (1978), RI (Senate - 1979), FL (1980)
Post-1980	OK (1981), MS (1984), WY (1985), MN (Senate - 1996/House - 1999), TN (1999), VA (1999)

Source: National Conference of State Legislatures (2001)



**Figure 1.1: Number of States with Nonpartisan LFOs by Year of Establishment (National Conference of State Legislatures, 2001)**

<sup>6</sup> The dates of establishment are included to provide a sense of the growth of these offices over time. The information comes from a 2001 NCSL survey of the founding dates of only nonpartisan LFOs that, while extensive, does not portray itself as comprehensive. The figure of 26 LFOs in 1960 from Patterson (1964) includes part-time staff, partisan staff, and committee staff which would not be included in the 2001 NCSL data. Additionally, the date provided in the table for the establishment of the Legislative Fiscal Bureau in Wisconsin in the table seems to contradict the dates provided by Rosenthal (1974). However, the date in the NCSL information reflects the official statutory establishment of the Legislative Fiscal Bureau as a permanent staff agency in the legislature (Wisconsin Legislative Fiscal Bureau).



The creation of stronger LFOs that could analyze a governor's budget enhanced the power of legislatures in the budget process and led to a resurgence in perceptions of legislative power over the budget in the 1970's and 1980's (Rosenthal 1990; Rosenthal, 1998; Abney and Lauth, 1998). Part of this influence came from simply providing an additional source of information, but the presence of an LFO also seemed to have a deterrent effect on governors and executive budget analysts as they prepared their budgets as the notion that the legislature had staff that could review requests sometimes caused members of the executive branch to think twice before making questionable recommendations (Balutis, 1975a; Caiden, 1984).

Research has shown that legislators have come to value these offices a great deal. A survey of committee chairs in California found that the Legislative Analyst's Office (the non-centralized, nonpartisan LFO) was perceived as the most important source of information to them followed by committee staff (California also has partisan professional staff assigned to its budget committees) (Sabatier & Whiteman, 1985). A more recent survey of legislators in four states (AZ, KS, ME, CO) found that among legislative fiscal analysts, legislators, agency officials, and executive budget officials, 73 percent of those surveyed felt that legislative fiscal analysts were either influential or very influential in the state budget process (Hoffman, 2006). Weissert and Weissert (2000) examined the influence of legislative staff in the health policy arena and found that fiscal staff had more influence in the legislature than did general policy staff because of the technical nature of the information and analysis they

provided. LFO staff also played key roles in aiding legislators with adding performance information to the budget process (Botner, 1985; Bourdeaux & Chikoto, 2008).

Though LFOs play an important role, state legislatures have continued to alter their structures since the professionalism movement peaked in the 1980's. Most legislatures originally formed centralized, nonpartisan LFOs but over time many developed more complex staffing structures including personal and party/caucus staff (Sabatier & Whiteman, 1985; Weberg, 1989). The number of personal staff increased in the 1980's (Weberg, 1989), and party/caucus staff have been on the increase in recent decades to the point that today about half of the states have more partisan than nonpartisan staff (Kurtz, 2006) and partisan staff account for about 30% of legislative staff nationally (Kurtz & Weberg, 2009). LFOs have not been immune to this trend; a survey of LFO directors found that they felt the influence of partisan staff has been on the rise while that of nonpartisan staff has been decreasing (Weberg & Kurtz, 2007).

### **1.2.3 Structures of LFOs Today**

As a result of the continuing evolution of legislative staff structures LFOs exist in a variety of forms in state legislatures. NCSL (n.d.) recognizes six types of LFOs based on which chamber is served, the partisanship of the analysts, and the major responsibilities of the office:

- 1) Centralized, nonpartisan offices with budget and tax responsibilities
- 2) Centralized, nonpartisan offices with EITHER budget or tax responsibilities
- 3) House and/or Senate nonpartisan offices with budget and tax responsibilities
- 4) House and/or Senate nonpartisan offices EITHER budget or tax responsibilities

- 5) Majority or minority offices (or caucus/committee staff) with budget and tax responsibilities
- 6) Majority or minority offices (or caucus/committee staff) with either budget or tax responsibilities

They acknowledge that many states have multiple LFOs, and that larger and more urban states seem to have more complicated LFO structures while rural states tend to have centralized and simpler LFO structures. Unfortunately, NCSL does not maintain a comprehensive list of legislative fiscal offices using this typology and it is also difficult to assess which LFOs perform which roles through publicly available data so it is difficult to operationalize this typology.<sup>7</sup>

An attempt by Snow and Clarke (1999) to address this deficiency led to a slightly different classification structure for LFOs. Based on interviews with LFO directors in 20 states they identified two factors, labeled “locus” and “mission”, which distinguished LFOs from one another. “Locus” referred to the LFO’s place in the legislature, and in their work the researchers recognized four different types of office based on who the LFO served:

- 1) Single LFO that reports to a joint management committee made up of members of both parties and both chambers
- 2) Single LFO that reports to the appropriations committees for both chambers
- 3) Separate LFOs that report to the appropriations committees in each chamber
- 4) Separate LFOs that report to the majority and minority caucus in each chamber

---

<sup>7</sup> NCSL attempted such an effort in 1999, but the results are incomplete, especially in terms of identifying the responsibilities assigned to different LFOs.

The authors see these structural arrangements as important because they shape how analysts see themselves as serving, or the “mission” of the office, of which they recognized three basic types for LFOs:

- 1) Institutional Focus (Nonpartisan)
- 2) Committee Focus (Bipartisan)
- 3) Caucus Focus (Partisan)

Those analysts with an institutional orientation tended to think about the legislature as a whole and focused on reviewing the Governor’s budget against legislative priorities.

Analysts with a committee focus viewed themselves as serving all members of a committee, but in practice Snow and Clarke (1999) found that they often worked for the committee chair and focused their work on the chair’s priorities for the budget. Those analysts with a caucus focus sought to push the majority or minority party interests (particularly those of the leadership) in the budget process. This typology is more nuanced than that used by NCSL, but it is somewhat subjective and only captures the structure of LFOs in twenty states.

While neither of these typologies is comprehensive, taken together they provide a picture of the important structural features of today’s LFOs. One important feature is whom the LFO serves. Both typologies seem to agree that whether an LFO serves the legislature as a whole, one chamber as a whole, a committee, or the caucus or leadership of a party are important functional differences among LFOs. Second, the partisanship of the LFO is an important structural factor. NCSL recognizes only a split between partisan and nonpartisan staff while Snow and Clarke recognize a third type: the bi-partisan staff.

Relying on these points of agreement, one can see four basic types of LFOs whose existence in the modern legislature (either alone or in conjunction with other LFOs) can be verified using multiple sources of information:

- 1) Centralized, nonpartisan LFOs serving members of both chambers
- 2) Nonpartisan LFOs that serve only the House or Senate
- 3) Bi-partisan LFOs that only serve committees in the House or Senate
- 4) Majority/Minority LFOs that serve committees, leadership, or a caucus in the House or Senate

For illustrative purposes, Table 1.2 provides examples of the structure of LFOs in five states (a full breakdown of LFO structure by state can be found in Appendix A). The numbers in parentheses by the name of the state indicate the corresponding number in the structural typology developed for this study.

**Table 1.2: Example of LFO Structure in Five States**

<b>State (<i>Type of LFO</i>)</b>	<b>Legislative Fiscal Office</b>
Michigan (2)	House Fiscal Agency Senate Fiscal Agency
North Carolina (1)	Fiscal Research Division
Pennsylvania (4)	Senate Democratic Appropriations Committee Staff Senate Republican Appropriations Committee Staff House Democratic Appropriations Committee Staff House Republican Appropriations Committee Staff
South Carolina (3)	Senate Finance Committee Staff House Ways and Means Committee Staff
West Virginia (3)	House Finance Committee Staff Senate Finance Committee Staff

Using this typology one can cross-reference existing data sources to classify states by the type and number of LFOs that operate in their legislatures and came up with the following breakdown:<sup>8</sup>

- The dominant structural type for an LFO is a centralized, nonpartisan office that serves both chambers of the legislature as 40 states have such LFOs.
- 32 states have only one type of LFO:
  - 25 of these are centralized, nonpartisan LFOs serving both chambers
  - 4 of these are nonpartisan but serve a single chamber or its respective appropriations committee (MI, RI, OK, SC)
  - 3 of these states only have partisan staff within each chamber attached to the appropriations committees (MA, NY, PA)
- 18 states have multiple LFOs to serve their members, but these exist in a variety of combinations and it is unclear how large some offices may be.

This typology is not perfect and can't capture all of the nuances in LFO structure.<sup>9</sup>

Admittedly, it drops NCSL's distinction between budget and tax responsibilities, as there are

---

<sup>8</sup> These include: a 1998 NCSL survey of organizational structure in LFOs, a 2001 NCSL survey of Nonpartisan LFOs and their date of establishment, a review of available LFO websites, the classification of the 20 states in the Snow and Clarke (1999) typology, a 2006 profile of legislative staff services created by NCSL, and the 2008 directory of the National Association of Legislative Fiscal Offices (NALFO). Aside from the NALFO directory and the 2006 NCSL staff services profile, none of these sources is comprehensive so a comparison of multiple sources allowed me to fill in gaps in information. The NALFO directory may seem like an odd source to include, but it allowed me to augment the information from other sources. For instance, in most cases the LFO of record for California is the Legislative Analysts' Office. The NALFO directory, though, contains listings for committee, caucus, and leadership staff that play a role in the budget process. While it is doubtful the directory includes all relevant offices, it portrays a more complicated staff structure for working on the budget in state legislatures than do the other sources. At some point in the future, a detailed survey of LFOs should be conducted to clarify their structures and responsibilities, but such a project falls outside the scope of this study and the typology described here reflects my best attempt to classify these offices with existing sources of information.

<sup>9</sup> For instance, even within a centralized nonpartisan office there can be differences. In North Carolina's Division of Fiscal Research most analysts work on a particular issue area such as education, transportation, or taxation and do so for both the House and Senate. However, there are a few analysts that serve either the chairs of the budget committee in either the House or the Senate and deal only with the partisan leadership of these groups. Unlike regular analysts, they do not have contact with members of both chambers until the conference process begins. Likewise In Nevada the analysts serve all members but there are co-directors for the agency (one appointed by the House, one appointed by the Senate) who serve only their respective chambers.

problems verifying which LFOs only handle budget or tax issues, as there are problems verifying the “locus” distinction made by Snow and Clarke (1999) between LFOs reporting to a joint management committee and those reporting to appropriations committees. In light of these difficulties both distinctions are omitted from the typology presented here, though future research on LFOs should address this discrepancy and seek to develop a typology that better captures the nuances in task and location for LFOs.

What does emerge from this breakdown is that many legislatures employ multiple types of LFO in their work, confirming observations made in previous studies (NCSL, n.d.; Snow & Clarke, 1999; Snow & Willoughby, 2002). This raises the question that if the only information needed from these agencies is to independently review the Governor’s budget, then why is the centralized nonpartisan form not the only one that exists? While it remains the dominant form for LFOs, 18 states have created rival LFOs that provide competition for the chance to provide budget information to legislators. One may expect such a division of labor in a more professional legislature like California, which has more resources to create an array of staff organizations, but hybrid structures also exist in smaller legislatures like Missouri (which has permanent partisan staff assigned to monitor the budget as well as nonpartisan staff in each chamber) and Louisiana (which added chamber staff to provide budget analysis in addition to the centralized, nonpartisan entity). The existence of these “hybrid” structures is missing from previous typologies (though the presence of such entities is mentioned) that allowed for only one type of LFO in a state, and thus little is understood about how they operate.

This seems to follow a trend in recent years that has seen legislatures increase the number of information sources available to them within the legislature. In the 1980's Oklahoma split its centralized staff into chamber specific agencies (Weberg, 1989). The Georgia Senate created its own budget office in 2003 and the Florida Senate followed suit in 2009 (though the Florida office has since been closed). Missouri added a centralized, nonpartisan LFO to its chamber and committee oriented structure in 2007 only to abandon it a few years later. Party/caucus and personal staff members have increased in number and influence in the budget process since the 1980's (Weberg, 1989; Weberg and Kurtz, 2007; Kurtz and Weberg, 2009). Thus while LFOs originally provided independence from the governor, they now may be providing independence from other legislators. However, aside from the limited work of Snow and Clarke (1999) there has been no study of the influence of these changes in the information LFO analysts seek or provide. If legislatures are creating these offices to narrow the type of information they receive do the changes have an effect?

#### **1.2.4 Responsibilities of LFOs**

In addition to structural variety, LFOs also vary in the tasks they perform for a legislature. As has been stated before, they primarily exist to review the Governor's budget (and often the budget version from the other legislative chamber) and aid legislators in altering it or creating their own budget.<sup>10</sup> To this end analysts review agency requests, gather information to help legislators make more informed decisions on items, analyze trends in the

---

<sup>10</sup> A legislature's power to alter the budget depends on the state. In a place like Colorado or Texas, the legislature has the power to rewrite the Governor's budget. In a state like Maryland, legislators may decrease amounts in the Governor's budget but they may not add new items or zero out categories.



budget, and provide background briefings and materials to members to help legislators understand the budget and explain it to constituents.

While this is the main role for LFOs to perform, it is not the only one. LFOs often serve as committee staff for the legislature’s appropriations and finance committees, meaning that they must work with chairs to schedule hearings and speakers for those hearings, answer questions during hearings, and prepare materials for hearings. LFOs often have the responsibility for preparation of fiscal notes that detail the financial effect of proposed legislation (outside the appropriations process). LFOs also sometimes participate in consensus revenue forecasting with members of the executive branch, address constituent questions, analyze the federal budget, conduct audits, and conduct long term research on fiscal or program issues.

Table 1.3 provides a sampling of some of how these responsibilities vary in a selection of LFOs.

**Table 1.3: Sample Responsibilities of Select LFOs<sup>11</sup>**

	<b>Participate in Revenue Forecasting</b>	<b>Prepare Fiscal Notes</b>	<b>Conduct Audit Investigations</b>	<b>Conduct Federal Budget Analysis</b>
MI	Yes	Yes	No	Yes
NC	Yes	Yes	No	No
PA	No	Yes	Yes	Yes
SC	Yes	No	Yes	Yes
WV	No	No	No	No

<sup>11</sup> The information on revenue forecasting combines two NCSL sources: an online database of legislative budget procedures accessed at <http://www.ncsl.org/default.aspx?tabid=12637> on June 2, 2010 and results from a 1998 survey of LFOs obtained from Arturo Perez at NCSL. All other columns are based on the 1998 NCSL survey.

Each such responsibility given to an LFO by its legislature requires different types of information, and it is possible that the more responsibilities an LFO has the more types of information it will need to serve the legislature. For example, an LFO that participates in revenue forecasting needs to have staff with expertise in economics, whereas LFOs that simply provide budget analysis may need only staff with business, public administration/policy, or accounting backgrounds. Likewise, some responsibilities such as revenue forecasting may be very important to helping a legislature balance the power of the governor in the budget process (Anton, 1967; Lauth, 1990). LFOs that work on more important tasks may be relied on more in the legislative process and trusted to provide more types of information. Despite the variability in the responsibilities assigned to LFOs across the states, we know little about what the effect these different combinations of tasks have on LFO analysts. Unfortunately, as there is not a reliable database that summarizes the responsibilities of each LFO, an examination of the effects these different tasks have on the work done by LFO analysts is beyond the scope of this analysis. This discussion is included because it does seem relevant to better understanding these offices and to encourage future research on this subject.

### **1.2.5 The Need to Provide Legislators with Information on the Effect of Structural Choices for LFOs**

Legislators created LFOs to assist them with the budget by providing them with information to review the executive budget and make the changes they want. While LFOs originally worked to counter the power of the governor, changes made to the structure of

LFOs since the 1980's suggest that legislators may desire information to help them gain independence from their peers in rival parties or chambers within the legislature. Likewise legislatures have assigned varying tasks to LFOs, which may be a result of their desire for information as a whole or within the institutional constraints they face in the budget process (i.e., limits on what they can change in an executive budget). Little research has been done on the effect of either of these types of choice about how an LFO should be designed, though, and so as legislators consider such changes they are left to do so based on anecdotal tales from their colleagues in other states or in suppositions about how a change could better provide them with the information they desire in the budget process. This study hopes to shed light on at least one facet of this issue: whether diversity of structure and responsibility influences the information used by LFO analysts.

### **1.3 How a Study of LFOs Contributes to the Literature on Information Use by State Legislators**

The original purpose of LFOs was to provide independent information on and analysis of the executive budget. While this may have been the main informational need in the budget process during the 1960's and 70's, the increasingly diverse structure of LFOs suggests that the information preferences for legislators may have evolved over time. Unfortunately, there is little research on the way legislators use information in the budget process specifically to identify in what specific ways their information preferences may have changed (Rubin, 1990). There is, however, a body of literature on information use in the general legislative process and on the role and importance of staff as a whole (inclusive of

LFO, research, and committee staff) that provides a sense of why these structural choices about LFOs may in fact reveal something about the preferences of legislators for certain types of information.

### **1.3.1 The Role and Importance of Staff to Information Flow within a Legislature**

Legislative staff members (such as LFO analysts) act as a kind of gate-keeper for information in the legislative process. Information exists both inside and outside the legislature, and for external information to be useful it must somehow make its way to legislators who will draft and vote on public policy. Prior to the growth of staff in the professionalism movement, researchers used a “two-step model” of information flow, where information flowed from outside the legislature to specialist legislators who then filtered the information to their non-specialist colleagues,<sup>12</sup> to describe how external information moved into the legislative process (Porter, 1974).

Later, though, Sabatier and Whiteman (1985) studied the California legislature and found that where more developed staff structures existed external information moved through a legislature in a “three step” model where information from external sources first moved through central or committee staff, then to specialist legislators, then to non-specialist legislators. They also found a modified “two-step” model where information flowed directly from staff to non-specialist legislators without going through specialist legislators at all and a

---

<sup>12</sup> Specialist legislators are those who focus on a particular policy area. For instance, if a legislator serves on a committee dealing with transportation policy, he or she likely knows more about pending transportation legislation than colleagues who do not sit on the committee. Non-specialist legislators often rely on specialist legislators for cues on how to vote on an issue.

“one-step model” where legislators found their own information from outside sources still existed, but the “three-step model” seemed to dominate information flow within the legislature. This implies that a majority of the external information that entered the legislative process first passed through the hands of some type of staff member.

This role as a “gatekeeper” for information is an important one. Information in a legislature increases as people compete to define the problem and its policy solution (Oh, 1997; Jones, Baumgartner, & de la Mare, 2005; Workman, Jones, & Jochim, 2009). However, this increase in information bears an opportunity cost for legislators; to be useful information must be reviewed and its credibility determined, both of which could take time away from other legislative activities (McCubbins, Noll, & Weingast, 1987). Legislators can assess the information themselves, trust the external provider of information, or rely on a third party such as lobbyists or staff to act as evaluators of the information (Lupia & McCubbins, 1994).

Research on information use in legislatures supports the “three-step model” and the role legislative staff organizations play in it. In surveys, staff members consistently rank external sources of information such as executive agencies more highly than do legislators (Balutis A. , 1975b; Sabatier & Whiteman, 1985; Gray & Lowery, 2000; Sorian & Baugh, 2002). Staff members also place a greater value on longer, more technical research reports than do legislators implying that they soak in greater quantities of information than may be needed and then summarizing the relevant sections for legislators (Sorian and Baugh, 2002). Additionally, when researchers seek to advise external actors on how to influence legislation,

they often recommend cultivating relationships with staff in order to influence the legislative process implying that external actors see staff as a gateway to the legislature (Jackson-Elmoore, 2005). These studies indicate that staff serve as a kind of screening mechanism for external information, which given the origins of staff agencies in the movement to professionalize state legislatures should come as no surprise. It was not always clear, though, that staff would help legislatures overcome information problems. In fact, some researchers believed staff could create more information asymmetries for legislators than they helped legislators overcome.<sup>13</sup>

Despite early fears, though, research on the importance of various information sources to legislatures indicates that they value staff agencies (including LFOs) highly. In a survey on information use in 11 mostly southern states, Guston, Jones, and Branscomb (1997) found legislative staff to be the most important information source ranked by legislators. Sabatier and Whiteman (1985) found that committee chairs in California ranked legislative staff as the most useful sources of information available to them. Jackson-Elmoore (2005) conducted phone surveys of 507 legislators in 12 states and found legislative staff ranked second behind only grassroots organizations as an important information source. Sorian and Baugh (2002) surveyed 292 legislators across the country and found that they most often went to legislative staff as an information source. Hird (2005) surveyed 773 legislators from around the country and found they ranked nonpartisan research staff behind

---

<sup>13</sup> Rosenthal (1974) found that the professionalization of staff could actually increase the workload of legislators more staff meant that they could find more problems to solve and legislators could review more legislation. Meller (1967) found a similar trend and worried that because legislators would lack time for oversight staff could eventually be “unaccountable to its principal for the bulk of activity” (p. 388) of the legislature.

only their constituents in terms of importance as an information source. Gray and Lowery (2000) interviewed legislators in Minnesota and found legislative staff rank behind experience, constituents, and other legislators as a source of information.

It is clear from these studies that staff members are one of the most important sources of information for legislators, and this likely is partially because staff agencies such as LFOs have been put into a gate-keeper role by legislators to help them process the external information available in the legislative process. However, there are other factors that may explain the importance of staff as a source of information.

### **1.3.2 Factors Explaining the Importance of Staff as Information Sources for Legislators**

In addition to being placed in a role as gatekeeper for information by legislators, staff likely are important because legislators tend to favor internal sources of information (such as legislative staff or colleagues) over external ones (Mooney, 1991a; Rich & Oh, 2000). This is particularly true in states with better developed committee and staff structures that can deliver information from within the legislature (Wissel, O'Connor, & King, 1976). There are several reasons for this preference. First, information provided by internal sources tends to be less complex than outside sources of information (Mooney, 1991a). Staff members know the preferences of legislators for information that is timely, relevant to issues they are currently dealing with, and that they can easily skim and understand (Jackson-Elmoore, 2005; Hanushek, 1990; Sorian & Baugh, 2002; Bradley, 1980; Guston, Jones, & Branscomb, 1997) even over stated preferences for rich, complex, and objective information (Sabatier & Whiteman, 1985). Legislators face time constraints in the policy process that make it

difficult for them to review complex, technical reports, and they need to be able to communicate about complex policy issues with their constituents (Caiden, 1984; Webber, 1987). Staff must work with these preferences for concise information or risk irrelevance in the process: in studying information sources used in the U.S. House of Representatives, Zweir (1979) found that reports from central staff agencies like the General Accountability Office and the Congressional Research Service were ranked lower as sources of information than committee staff due to the tendency of the GAO and CRS to produce long, technical reports that were difficult for legislators to consume.

Additionally, how similar an information source is to a legislator influences how important the source may be (Mooney, 1991b). Staff members understand the pressures and traditions of a legislature better than those providing external sources of information might. This understanding helps staff build trust with legislators, something they view as very important to their jobs (Guston, Jones, & Branscomb, 1997; Weissert & Weissert, 2000). Even factors such as physical proximity may matter: factors such as serving on committees together or even sitting close to one another increases the chance legislators will listen to one another (Caldeira & Patterson, 1987). The budget process in particular involves long, repeated interactions during a session and possibly over a number of years. This gives LFO staff and legislators a chance to know one another, and over time helps legislators value the information provided by LFO staff.

Aside from their position as gate-keepers in a process of information flow, staff members are an important source of information because they understand how to translate



information into a form that legislators will find helpful and they can build trust and rapport with legislators through repeated interactions with the daily work of the legislature.

However, taken together these two points suggest that as the number of staff agencies increases, staff could act as gate-keepers not only for external sources of information but for internal ones as well, thus limiting the interactions with legislators for some types of staff and possibly their importance as an information source. Based on the literature on how legislators use information, this may be the point.

### **1.3.3 The Varied Uses of Information by Legislators**

Legislators do not always perform a rational, linear search for information (where they identify a problem, seek information on possible solutions to it, and then choose the most efficient alternative in that order) when developing, modifying, debating, or voting on legislation. They may rely on it for background on an issue, use it to tweak aspects of a specific policy they already know they want, or they may act strategically and selectively choose or interpret information to support pre-existing positions and counter those they disagree with (Whiteman, 1985). Information can be used simply to help items move up on an agenda (e.g., warnings about an urgent issue that need to be addressed) or it can be a diversionary tactic to stall debate or seem to take action when in fact nothing is actually done (e.g., a decision to study a problem rather than passing substantive legislation) (Weiss, 1979; Weiss, 1989).

The roles legislators feel they play within the institution may also shape the type of information they find useful in the legislative process. Some legislators are more oriented to

legislative bargaining and thus tend to value information that fits their position or the position they wish to broker; other legislators believe their job is to carefully examine problems and thus they may value and actively seek more objective information about an issue (Webber, 1984; Oh, 1997). Those in leadership positions tend to read more and seek more information than those who aren't (Rosenthal, 1981; Gray & Lowery, 2000). Committee members use more information sources on bills in their committee than bills not in their committee, and legislators use more information sources on issues with salience for constituents than on noncontroversial issues (Mooney, 1993). Legislators in non-competitive districts may seek more information from a wider array of sources substantively (i.e., with no preset agenda) because they can afford to risk upsetting status quo arrangements (Rosenthal, 1981).

Legislators also use information differently at different stages of the legislative process. Mooney (1991a) found that legislators used internal sources (such as colleagues and staff) most often in the voting decision phase of the legislative process. He hypothesized that legislators at this stage had little time to look for and evaluate outside sources, so they turned inwards to sources they could review quickly and that they trusted. When drafting proposals he found that legislators engaged in more extensive information searches because they had time to do so and an incentive to be well-informed on an issue.

This is true for staff as for other sources of information; while important, they may be more helpful at certain stages of the process. Gray and Lowery (2000) found that legislators ranked information from staff most helpful in developing solutions to an already identified problem. Rosenthal (1998, p. 160) also noted that legislators found staff more helpful in

preparation of bills than in floor or committee review. Weissert and Weissert (2000) found that committee staff members were more useful in gathering information than on drafting proposals. Songer (1988) found that in terms of influencing voting decisions, committee members ranked information from legislative staff more highly than did rank and file members in South Carolina (though fellow legislators and personal values were more influential overall in influencing voting decisions). Hird (2005, p. 153) examined the importance of nonpartisan research agencies and found legislators valued their work most for “gathering and summarizing information” and least for providing “new ideas and fresh perspectives” or critically evaluating proposed legislation.

This literature suggests that legislators do not have monolithic information needs like maintaining independence from the executive. They seek and use information differently based on how committed they are to a proposal, the stage of the process, and factors like their electoral concerns or their place in the leadership hierarchy.

#### **1.3.4 The Potential Effect of Structural Decisions on Information Flow and Usage by State Legislators**

Researchers have hypothesized that institutional or structural differences may account for differences in information use across legislatures (Ray, 1982) and particularly in the role staff play in providing that information (Bradley, 1980). However, these questions have received minimal attention by researchers even though analysis of the literature on state legislatures has shown a need for greater understanding of the effect of different legislative structures on legislative decision-making (Bimber, 1991; Clucas, 2003). The literature on the

role and importance of staff in the information flow process, the factors that make staff an important source of information, and the multiple ways that legislators seek and use information by legislators suggest how this might occur.

Legislators place staff in a gate-keeper role in the information flow process to help them sort through and interpret the potentially useful information attempting to enter the legislative process from outside sources. In this role staff members come into constant contact with legislators that allows them to learn the best way to present information to legislators and to earn their trust, both increasing the value of information provided by staff over other sources. However, legislators seek information for a variety of purposes and may wish to have staff not only assess information but to translate it into a form that has strategic rather than explanatory value. To this end, they can make varying requests of existing staff or they could create a new level of staff to act as a gate-keeper for information from internal staff sources of information (Sabatier and Whiteman 1985; Whiteman 1985). If they choose the latter approach, legislators may limit the interactions they have with the original staff agency and take away the constant interaction and trust that made it an important source of information. As a result, staff agencies could change the type of information they provide in an effort to avoid duplication and retain relevance to legislators (Rosenthal, Kost, & Hill, 1989). As they narrow the type of information they provide, they may have to narrow the sources from which they draw information and go for depth rather than breadth.

There is qualitative evidence from studies on legislatures that suggests such a process has occurred. For instance, when staff serve a committee rather than the legislature as a

whole it may alter the way they collect and present information. In Congress, researchers have found that committee staff take objective analysis done by the staff of the CRS and CBO staff or from external sources and use it to support proposals of the majority party members on the committee and in particular the committee chair (DeGregorio, 1988; Weiss, 1989). Congressional committee staff members often will provide information on both sides of an issue though it may be in order to prevent their chair from being surprised on an issue rather than for general knowledge as might a staffer from a central research agency (DeGregorio, 1988).

Limited studies at the state level have showed the same trend in committee staff members (Weissert & Weissert, 2000; Sabatier & Whiteman, 1985) and among LFO committee staff in particular (Snow and Clarke, 1999). Committee staff members in state legislatures also tend to serve the majority party committee members (particularly the chair) more than the committee members from the minority party (Little and Ogle, 2006; Snow and Clarke, 1999; Weissert and Weissert, 2000). It is likely that there may be differences between staff that only serve a committee and staff serving a dual role (i.e., LFO staff who serve the legislature as a whole and staff the appropriations committees) but there has been no examination of the effect of these or other structural decisions on the information they use to assist legislators.

### **1.3.5 Potential Differences with Legislative Information Use in the Budget Process**

Most of the research on how legislators use information and the importance of staff in that process is about the legislative process in general and does not specifically deal with the

budget process. While the two processes are technically the same, a state's budget is a complex and technical undertaking that may place special informational needs on legislators. Many legislators lack experience with the technical questions that arise in a budget or may face difficulty managing its scope (Little & Ogle, 2006). Because of its size, the budget process also involves more actors than most other legislation (Rubin, 2006). The cyclical nature of the budget may allow these external actors (like agencies or interest groups) to better prepare and inundate legislators with information about potential additions or subtractions to the budget in a way they cannot with other legislation (Kingdon, 2003). Budgets are also bound by more procedural rules than many other types of legislation (like item vetoes and balanced budget requirements) and they are open to environmental factors like disasters or the overall economy (Rubin, 2006).

Despite the fact that the special nature of the budget may call for different types of information than does the normal legislative process, there remains little understanding about legislative information use in the budget process (Rubin, 1990) or how differences in legislative structure and capacities could influence it (Bourdeaux, 2006). While consideration of information use in the budget by legislators is beyond the scope of this study, an examination of information use by LFO analysts provides useful detail on the kinds of information legislators value in considering the budget; legislators design these institutions and the LFO analysts have to learn what information legislators need if they want to be successful in their work. The fact that all fifty state legislatures have developed specialized staff offices to provide information and analysis in the budget process serves as an

illustration of the special informational needs the budget process inflicts on legislators. These LFOs exist in a variety of structures and carry out different functions from state to state. Krehbiel (1991) argued that legislators make decisions about their internal structure to reduce uncertainty about the connection of policy to outcome and that these choices reflect the consensus of a majority of legislators about the type of information they feel they need (or can accept) in the legislative process. Thus the structure and responsibilities of an LFO indicate a revealed preference for budget information by a majority of legislators in that state.

Like the limited studies that show committee staff and central staff provide different types of information in the legislative process, studies of executive budget offices (the peer organizations of LFOs) have shown that structural differences likely do matter in the types of budget information they provide to the governor. The organization of these offices (particularly their proximity to and interaction with the governor) shapes the type of work they do in the budget process and the informational cues they use in their work; the less they interact with key decision makers, the fewer types of analysis they tend to offer and the fewer sources of information they tend to use (Thurmaier, 1995; Thurmaier & Willoughby, 2001). However, we cannot simply assume organizational structures function in the same way in LFOs as they do in executive budget offices, as legislative fiscal analysts differ from their executive counterparts in how they view their job and the pressures they face (Bradley, 1980; Willoughby and Finn, 1996; Goodman and Clynch, 2004; Goodman, 2007) so they likely will vary in the types of information they seek.

By examining the effect different LFO structures and responsibilities have on the information used by LFO analysts, this study will further develop the literature on legislative information by providing detail about informational needs in an important and unique part of the legislative process (the budget) and on the effect different structures have on information use in a legislature. Both are important questions that need further attention by researchers.

#### **1.4 Importance of the Study of Differences in LFO Structure and Responsibilities to Budget Theory**

Aside from aiding legislatures in making decisions about the types of staff and information they want to assist them in the budget process, a better understanding of how LFOs work would add to the literature on the theory of budgetary decision-making. This has long been a problem for public administration as researchers have struggled to answer Key's (1940, p. 1138) call for an answer to the basic question of "on what basis shall it be decided to allocate X dollars to activity A instead of activity B?" He sought to divine a set of principles that could shape decision-making in order to help those involved in the budget process make more efficient decisions, but the quest for such a formulation has become a kind of "holy grail" that has eluded researchers for the past half-century.

##### **1.4.1 Budget Theory and Executive Legislative Budget Relations**

One of the most important jobs of a state legislature is to serve as a check on the power of the governor, and nowhere is this more important than in the budget process (Rosenthal, 1996). Despite the importance of this role, though, individual legislators say that of their multiple jobs (i.e. passing laws, representing constituents) they are least capable at



checking the power of a governor (Rosenthal, 2004). Over time various reforms in the budget process have swung power to one branch at the expense of the other and we lack a full understanding of what causes those swings; this has been identified as a key area for the development of budget theory (Rubin, 1990).

Unfortunately, most of the research that has been done on this issue deals with the perceptions of actors in the process, notably executive and legislative staff or individual legislators, about whether the governor or the legislature dominates the budget process. As one would expect, these sources tend to be biased towards their own institution, (Abney & Lauth, 1998; Goodman, 2007). Some of these studies find that the governor is more powerful in budget negotiations (Sharkansky, 1968; Moncrief & Thompson, 1980; Abney & Lauth, 1987; Lauth, 1990; Clarke, 1997), while others find that the legislature has re-gained the upper hand in recent decades (Rosenthal, 1990; Abney and Lauth, 1998; Rosenthal, 1998). There is some research that has argued that the balance of power may not be an either/or proposition, but that aspects of a strong or more professional legislature may increase the effectiveness of a governor and vice versa (Willoughby & Finn, 1994; Dilger, Krause, & Moffett, 1995; Ferguson, 2003; Grossback & Peterson, 2004; Goodman, 2007).<sup>14</sup>

These last mixed findings deal more with institutions shaping the relationship between legislators and governors than perceptions of influence by staff members. This suggests that a focus on the effect of various institutions (e.g., term limits, procedural rules,

---

<sup>14</sup> The lack of consensus may relate to the data used and in the scope of the studies. Many of these draw conclusions based on perceptions of legislative and executive staff, and others involve the study of single or a limited number of states

organizational structures) may provide an opportunity for explaining the balance of power between the legislative and executive branches in the budget process.

#### **1.4.2 Merging “Micro” and “Macro” Forces in Budget Theory**

The dominant theory of budgetary decision-making that evolved in response to Key’s challenge was incrementalism, which argued that the biggest factor in budgetary decision-making was last year’s budget figures, that changes were made at the margins, and that these changes generally reflected only small changes of five to ten percent over the previous year’s budget. This approach described a “bottom-up” process that critics argued did not take into account external factors like the increasing use of the budget as a policy document for executives and external factors such as the general economy (Bozeman & Straussman, 1982; Kettl, 1989; LeLoup, 2002). In other words, because of its “micro” orientation incrementalism could not fully explain budgetary decision-making because it did not take important “macro” factors into account (Rubin, 2006, p. 33). Despite criticisms, though, incrementalism is still widely used in discussions of budgetary decision-making and “has become a ‘straw man’ in theory building” (Breuning & Koski, 2012, p. 49).

Irene Rubin (2006) developed a model of “real-time budgeting” based off of Kingdon’s (2003) policy agenda setting model that tried to account for some of these outside factors. She argued that budgetary decision-making happened at the nexus of five streams: balance, process, revenue, expenditure, and execution. She believed that budgetary decision-making was non-linear (i.e. decisions about expenditures could be completed before decisions about revenue had been made) and subject to influence by external or institutional

factors (i.e. who is allowed to engage in the budget deliberations or how “balance” is defined in the budget can shape the decisions that are made). This model attempted to account for the absence of some of the “macro” forces affecting the budget, but like the agenda setting model it lacked predictive ability (one of the basic goals of budget theory) and almost went too far in the opposite direction. While incrementalism sometimes operated in a “black box”, “real-time budgeting” almost ignored the individual actor altogether.

An additional attempt to counter incrementalism came through the idea of punctuated equilibrium, which posited that policy making is dominated by long periods of stability where change is slow and difficult, followed by periods of short, rapid, consequential change, often because the institutions that kept the status quo in place can no longer maintain their control over the policy domain (Baumgartner & Jones, 1993). Originally applied to agenda setting in Congress, this work was later expanded to cover budgeting outcomes. However, this model focused more on policy outcomes than on a particular way of making policy decisions (Jones & Baumgartner, 2005). In particular, punctuated equilibrium by itself did not account for the individual decision-maker and how he or she handled information. This mattered because unlike a market where information may be withheld, copious amounts of information are made available to legislators in a policy domain like budget process because there is no incentive for interest groups or executive agencies to withhold information and because legislators create specific institutions (like LFOs) to provide them with information, creating a problem of how to make sense of it all (Jones & Baumgartner, 2005).

Ideally, legislators use mental calculations to create complex weighted indices to help them weight these options, but more often than not they engage in “disproportionate information processing” (Jones and Baumgartner, 2005, p. 334) where they simplify the process and focus on certain aspects of information. Likewise, “cognitive/organizational friction and institutional friction” prevent decision-makers from acting on information moving into the system to make changes to a budget (Jones & Baumgartner, 2012, p. 7). The outcome is that there is stability in the budgetary-decision making process akin to what incrementalism describes, but it is because legislators work on limited information by choice and thus create faulty decisions that compound until the problem cannot be ignored any longer and sudden quick action needs to be taken, hence changes in budgetary outcomes can be punctuated rather than incremental.

Additional work on the modified version of punctuated equilibrium has tried to determine how various factors shape the incidence of budget punctuations, though discussions of how specific institutions may interact with the process are lacking in the literature (Breuning & Koski, 2009). Research has shown that budget punctuations occur less when spending is mandated by formula than when it is discretionary (Breuning & Koski, 2012). Also, a comparative study of budget outcomes in seven OECD countries found a strong correlation between the number of decision-making bodies in a system and the number of budget punctuations (Jones, et al., 2009), and research on US states, strong gubernatorial powers are associated with increased budget punctuations in state budgets (Breuning & Koski, 2009).

More relevant to this dissertation, though, is the work of Ryu (2011). He analyzed state government expenditures and found that the presence of legislative staff was associated with budget punctuations. In some cases, this was possibly because the legislators needed help understanding an issue and so staff may have served to smooth the process, while in others staff may have been used to preserve institutional or chamber-specific priorities and thus acted as a source of institutional friction. Ryu (2011) did not look at different structures aside from the availability of House and Senate staff, and he did not distinguish between staff functions (e.g., clerical vs. fiscal research). While this is instructive for explaining how budget decisions get made, it is still generally vague in explaining the decisions of individuals and makes no distinctions among different types of actors in the budget process. Kingdon's (2003) work, to which both real-time budgeting and punctuated equilibrium both owe a debt, made a distinction between "visible" and "hidden" (pp. 68-70) groups of actors in decision-making process, noting that their importance varied based on the stage of the process. The work on institutions in punctuated equilibrium research described above suggests that they do, but the findings do not elaborate on why or how this might be.

Research that tries to fill in some of these gaps is that of Kurt Thurmaier and Katherine Willoughby (2001) who attempted to develop an approach to budgetary decision-making that bridged the gap between micro and macro forces with their framework of multiple rationalities. They examined the decision-making criteria used by budget analysts for the governors in eleven states looking for the usage of cues such as political goals of the governor, legal requirements, the social importance of a program/agency under review, and

the economy in general. Complete analysts, they argued, would use a varied set of criteria when making recommendations, but differences in contact with key decision makers and organizational structures shaped the usage of these cues by the analyst. These findings are important, as they focus on the work of actors in the process and suggest that factors such as how an office is structured influence the type of information that analysts will provide about the budget. With a better understanding of these effects, a better understanding of the effect of external forces on individual actors could be achieved.

However, the problem with such extrapolations is that Thurmaier and Willoughby (2001) developed their framework with a limited sample of states. While they feel these rationalities do receive use among different budget actors, there is evidence that legislative budget analysts make different use of the rationalities than do their executive counterparts (Willoughby and Finn, 1996; Goodman and Clynch, 2004). All of these studies examine only a few states, and for the theory to be useful it needs to be tested across a wider group of actors and institutional environments. The purpose of this study is to provide some of this information by looking at the rationalities used by legislative fiscal analysts in a larger number of states. Such a study would cover the variety of forms available at the state level, allowing better comparisons to be made; additionally, it should provide good information about another group of actors, one's with a different challenge than executive analysts who have a single decision-maker to answer to.

### **1.4.3 How this Study Develops the Literature on Budget Theory**

Such work comparing budget institutions across jurisdictions and determining their effectiveness and adaptability to change is missing in the literature on public budgeting (Caiden, 1992). There is also a lack of research on how different groups act in the budget process, particularly in legislatures. Budgets have gotten more complicated over time, with entitlements taking away much of the discretionary power of legislators and the budget becoming more of a policy document than simply a means to control resources, but we know little about the effect of those changes (Rubin, 1988)). Likewise, we know that institutional factors may shape the relationship between the legislative and executive branches, but we don't know much about how these operate in different contexts. There is a need to understand how different groups act across a variety of organizational contexts, and to understand the trade-offs between different institutions or organizational structures (Rubin, 1990).

This study seeks to address these gaps by looking at how organizational structure influences the information used by LFO analysts and other staff who may be involved in the legislative budget process. The primary job of these staff organizations is to provide information to legislators in the budget process, and legislators have designed them in ways to provide the information they need. By comparing the importance of different types of information sources used by analysts across a variety of states one can see how these differences in structure (e.g., centralized or non-centralized) shape the information used by analysts in their work and thus introduced to legislative decision-making on the budget.

## 1.5 Chapter Summary and Next Steps

This chapter has sought to provide an overview of LFOs and to place this study in the context of the literature on information use in state legislatures and the literature on public budgeting theory. It has established that LFOs play an important role for legislative staff as “gate-keepers” to information and that legislators value their services. The chapter also established that legislators have multiple potential ways to organize these offices and since the 1980’s they have created more complex LFO structures though little is known about the effect of these. The chapter established a typology for these structures that included hybrid structures omitted from previous typologies, thus aiding the understanding of the nature of these entities.

Subsequent chapters explore these findings in more detail. Chapter two provides an overview of the key findings and limitations of existing research on LFOs after discussing the multiple rationalities framework of Thurmaier and Willoughby (2001) in greater detail. Chapter three includes a factor analysis to test for the existence of multiple rationalities in a national survey of state legislative staff involved in the budget process. Chapter four then lays out a set of hypotheses to test about the effect of different institutional and individual level factors on the association of a legislative staff member with the factors uncovered in the analysis in chapter three, and presents the results of bivariate statistical tests of these hypotheses. Chapter five presents the results of OLS regressions that further test the hypotheses presented in chapter four, and chapter six summarizes the key findings of the



study, the limitations of the research, and the directions for future research suggested by the findings of the study.

## **2. Literature Review**

The purpose of this chapter is to further define the research questions of this dissertation (exploring the structural and institutional factors shaping information use by LFO analysts) by exploring how these issues have been covered in existing research on budgetary decision-making and on LFO analysts specifically. The first section explains the multiple rationalities model of budgetary decision-making as defined by Thurmaier and Willoughby (2001) in more detail. This includes a discussion of their work applying this concept to executive budget analysts, and the hypotheses developed by Snow and Willoughby (2002) to examine how legislative budget analysts may use multiple rationalities in their work. These serve as a frame of reference in the second section of the chapter, which explores the known research on legislative fiscal offices from the early 1960's until today, detailing their major findings in light of the hypotheses laid out by Snow and Willoughby (2002). This review allows for an assessment of how this dissertation fits into the context of existing research on LFOs, and to examine evidence in support of or refuting the five preliminary hypotheses originating from the review of the multiple rationalities literature. These efforts will inform the development of the final hypotheses to be outlined in chapter three.

### **2.1 The Multiple Rationalities Model**

Thurmaier and Willoughby (2001) sought to develop a model of budgetary decision-making that could: 1) “explicate the factors that influence the decisions and

recommendations of individuals in the budget process” (p. 77), and 2) demonstrate how individuals (in their case executive budget analysts) use multiple “decision factors” (p. 77) under different sets of circumstances to address a budget problem. They felt that the economic choice model of rationality, where one must “separate means from ends, gather all the pertinent facts, and analyze alternatives to identify the option that maximizes results “(p. 72) provided only a limited view of budgetary decision-making despite the fact that it was the dominant view in the literature on the topic. They felt that this focus on the economic choice model discounted the political nature of the budget process and only partially explained the outcome of budget decisions that may result from negotiation rather than technical analysis (p. 106).

To address this limitation, they proposed a more expansive understanding of rationality in the budget process for a particular set of actors: budget analysts working for governors. Rather than subscribing to a single definition of rationality, Thurmaier and Willoughby (2001) believe that there are five types of rationalities that can be brought to bear on a budget problem: those related to questions of effectiveness (which they termed social, political, and legal rationalities) and those related to questions of efficiency (which they termed technical and economic rationalities) (p. 106). To Thurmaier and Willoughby (2001) an analyst makes a rational request if he or she applies these five rationalities to the budget problem and the resulting recommendation: 1) does not “violate the rationality of any facet of the budget problem at hand”, 2) is likely to be accepted with minimal change by the relevant decision-maker (in their case, the governor or budget director), and 3) is consistent with the

techniques or findings or previous work by the analyst (p. 110). The ability of an analyst to make a recommendation that reflects this budget rationality depends mainly on institutional or external factors such as the state's economy, the mission of the executive budget agency, and most importantly the communication distance between the analysts and the governor (p. 109).

While their work focuses on executive analysts, their goal is to better understand budgetary decision-making overall. To accomplish this, though, the use of these multiple rationalities needs to be explored in other actors besides executive budget analysts and in a variety of environments. The analyses in this dissertation seek to accomplish this by examining information use among legislative budget analysts, and this chapter presents an examination of the existing literature on legislative fiscal offices with a particular focus on what the studies reveal about the existence and use of these rationalities by legislative fiscal analysts and how their usage may differ from their executive counterparts.

### **2.1.1 Effectiveness Decisions (Social, Political, and Legal Rationalities)**

The authors characterize effectiveness decisions as those involving “conflicts of values... and a focus on social relations” (p.81) in the budget process. These decisions involve three types of rationality: social, political, and legal. An analyst making use of these rationalities examines information about the underlying values of a budget problem to make an acceptable recommendation.

Decisions that are socially rational “promote greater social integration” in a community (p. 84), meaning that they promote agreement in society about core elements of

policy areas that are usually not up for debate in a budget process. The authors offer the example of the provision of fire and police services. In areas with high social integration, members of the community take as a given that the government should provide and fund these services though individuals may disagree about smaller issues like the need to replace fire or police equipment in a given year. There is likely a finite set of budget problems or issues that meet this description, though, and it is unclear exactly what types of information an analyst could use to measure the “social integration” associated with budget alternatives. Presumably an analyst could examine the history of budget decisions in an area to see how funds have changed or remained the same; consistent appropriations might reflect continuing agreement about the importance of an item or service, while fluctuations could reflect more disagreement. The results of citizen surveys, focus groups, or comments from budget hearings or community meetings might also reasonably be thought to provide some information about the level of public consensus around an issue. These sources of data often reflect only a subset of a community, though, as opposed to the beliefs of the full community. Also, budget problems are often highly technical and the average citizen may not fully understand the issue enough to make any read of public opinion instructive. A classic example is that of public support for foreign aid at the federal level, where citizens often overestimate the percent of the federal budget devoted to this spending by 9-10% (Caplan, 2007). Thurmaier and Willoughby (2001) do little with this rationality in their own work, and the studies described later in this chapter barely mention it, so it is questionable how useful this particular rationality may be.

When using the legal rationality, an analyst considers the various legal obligations that may be involved with a budget problem. Decisions that are legally rational take into account the laws about the budget process, the legal authority of a program or agency to carry out a task, the rights of various groups (e.g., k-12 students) to funding (as defined in law or by court rulings), and contractual obligations with other levels of government, nonprofits, or businesses (p. 94). This rationality is easier to understand and operationalize than the social rationality, but despite this it is also not developed extensively in the work of Thurmaier and Willoughby (2001) or in the subsequent studies that make use of the multiple rationalities framework. This may be because researchers have taken it as a given that analysts would obey the laws and rules of their environment when crafting budget solutions and thus expect little variety in its application to budget problems.

While in social rationality the focus is on how feasible a budget decision is given the community's views, the focus of political rationality is on how feasible a budget decision is given the views of key actors (such as a governor, legislative leaders, budget committee chairs, or key lobbyists) and the structure of the relationships and interactions between them (p. 86). A budget actor utilizing this rationality may focus on public comments or private conversations with key budget actors, written or verbal directions from them about desired actions, or personal observations made in meetings. The political rationality is relatively easy to understand and operationalize, and is discussed more than the previous rationalities in both the work of Thurmaier and Willoughby (2001) and in subsequent studies discussed in this chapter.

### **2.1.2 Efficiency Decisions (Economic and Technical Rationalities)**

Thurmaier and Willoughby (2001) believe that efficiency decisions focus less on the underlying values of a budget problem and instead focus on the means to achieve predetermined policy ends (p. 98). The authors believe that such decisions involve the consideration of two rationalities: economic and technical.

Economically rational decisions “allocate the given resources among the alternative ends so as to maximize achievement of that goal” (p. 103). Decisions making use of technical rationality seek to find the “maximum achievement of a specified end with given resources” by allocating “resources across alternative inputs to maximize output within a single process or program” (p. 101). The key distinction between the two rationalities used in making efficiency decisions is scope. The economic rationality focuses on how to meet a goal, and in doing so may look across agencies or program areas to explore a set of means-ends relationships that could meet that goal. The technical rationality, on the other hand, focuses on a single issue and the most cost effective way to address it. An analyst using either of these analyses would make use of the conventional tools of policy and budget analysis, though Thurmaier and Willoughby (2001, p. 103) note that an analyst using economic rationality would focus on the marginal utility of different proposals while an analyst using the technical rationality would focus on output/input ratios.

As an example of how these rationalities could be employed, consider the question of whether a government entity should provide funds to help low income families with child care. Economically rational decisions would take the goal of providing childcare to low

income families as a given (i.e., already settled by key decision-makers and the community) and then examine whether vouchers for childcare, the expansion of government-sponsored child care centers, or incentives for employers to provide assistance would be the most effective at achieving this goal. An analysis of this issue using technical rationality would examine a single one of these options, such as vouchers, to determine the best and most cost-effective way to distribute these and manage the program.

### 2.1.3 Summary of the Multiple Rationalities

Table 2.1 summarizes the five rationalities and the main criteria someone would use to evaluate an analyst's recommendation for each.

**Table 2.1: Summary of the Multiple Rationalities of Thurmaier and Willoughby (2001)**

<b>Rationality</b>	<b>Criteria for Rationality</b>
Social	Socially rational recommendations promote social integration by promoting compromise and reducing conflict (p. 107)
Political	Politically rational recommendations represent multiple viewpoints but arrive at a clear decision according to agreed-upon decision-rules (p. 107)
Legal	Legally rational recommendations operate within existing legal frameworks that govern the process and relationships between the government, its citizens, or other relevant actors (p. 94)
Economic	Economically rational recommendations consider alternative methods for achieving a given goal and determine the allocation of resources that maximizes achievement of the goal (p. 100)
Technical	Technically rational recommendations maximize the input/output ratio of a single means-ends relationship (p. 107)



Thurmaier and Willoughby (2001) believe that analysts who examine a budget problem using each of these rationalities will have a more complete view of the budget problem and will be able to tailor a recommendation that is acceptable to the key decision-maker, in this case the governor. This does not mean that the final recommendation is the best one for solving a problem, just that it has the best chance of making it past the veto points. This projects a “messier” (but probably more accurate) picture of budgetary decision making than the economic choice model, which was their intent.

#### **2.1.4 Findings on the Use of Rationalities among Executive Budget Analysts**

To test their ideas about multiple rationalities Thurmaier and Willoughby (2001) conducted extensive in-person interviews with 182 budget analysts in State Budget Offices serving the governor in five southern (AL, GA, NC, SC, VA) and six Midwestern (IL, IA, KS, MN, MO, WI) states. They found that all analysts used certain types of information, such as “historical fiscal data, attention to statutory code, as well as federal and state mandates” (p.344), when approaching budget problems. However, they also found that analysts used the political and economic rationalities to differing degrees based on various institutional and environmental factors, the most important of which was the office’s “policy distance” from the governor, which they define as the “degree to which examiners find the governor’s policy priorities and agenda a salient or remote factor influencing their analysis and recommendations on agency budget requests” (p.132).

Analysts in some offices briefed the governor directly on budget matters, sat in on policy meetings, and met with other key decision-makers like the governor’s budget director

and agency heads. These analysts faced a “shorter policy distance” that “enables examiners to secure a much clearer understanding of the political rationale of budget problems” (p.344). As a result, analysts in these offices “engage each of the rationalities (at some point) that comprise both the efficiency and effectiveness facets of problems, and can more effectively frame budget decisions for effective recommendations to the budget director—and eventually the governor”(p. 344). In contrast, analysts in other budget offices faced a greater policy distance and had little (if any) direct contact with the governor. They presented requests only to the governor’s policy staff or budget director, met only with budget staff in the agencies (as opposed to agency heads), and provided mainly technical and accounting help in the budget process (p.322). These analysts utilized the legal and technical rationalities (and the social rationality to a limited degree) but “their inability to get at the governor’s priorities precludes full understanding of the political rationality of budget problems, and it prohibits their ability to exercise economic (allocative) rationality” as they cannot understand the given values to consider when examining trade-offs between alternatives (p. 345).

Besides policy distance, Thurmaier and Willoughby (2001) identify other factors that could influence the use of rationalities in the process, though they do not delve into them in detail. They believe that the fiscal climate of a state may influence the use of rationalities; specifically, they feel that a weak economy may increase the use of technical rationality, as analysts in such a situation focus more closely on accounting controls and worry less about values or political considerations when making recommendations (p. 348). Likewise the personal style of a governor possibly influences the rationalities used; a governor could come

into office with the intention of creating a great policy distance between he and his budget analysts, then suddenly decide to close the gap and give them more access (p. 346). Doing so would presumably increase the use of the political rationality by analysts, and earlier studies have found evidence of such changes in Midwestern states (Gosling, 1987; Thurmaier & Gosling, 1997). The same could be said for relationships with the budget director, as analysts in all offices viewed this person as the most common source of information about a governor's priorities (Thurmaier and Willoughby 2001, p. 332).

To sum up, the work of Thurmaier and Willoughby (2001) suggests that all executive budget analysts make use of basic types of information related to the technical, the legal, and (to some degree) the social rationalities when making recommendations. However, the use of economic and especially the political rationalities may be based on institutional factors that offer or deprive analysts of the opportunity to gather the information that would be needed to fully utilize the rationality. Likewise other factors such as the economy or personal styles of leaders could expand or contract the usage of these rationalities.

### **2.1.5 Extension of Multiple Rationalities to the Legislative Environment**

Since the work done by Thurmaier and Willoughby (2001) focused on the information used by executive budget analysts to make recommendations, additional work is needed to explore how the idea of multiple rationalities works in different contexts. Snow and Willoughby (2002) laid a foundation for such efforts by conceptualizing how the idea of multiple rationalities could apply to the budgetary decision-making of LFO analysts and in

particular how the different institutional and environmental factors that face LFO analysts could explain their use of rationalities in budgetary decision-making.

One major factor they believe could have an effect on the use of rationalities is the structure of the LFO. They identify four basic types based on examinations of the NALFO directory and interviews: 1) centralized, nonpartisan staffs that serve both chambers of the legislature, 2) bi-partisan committee staff that serve all members of an appropriations or budget committee but work most closely with the committee chair(s), 3) nonpartisan staff that serve a single chamber in the legislature, and 4) majority and minority staffs that serve members of the appropriations or budget committees in each chamber.<sup>1</sup> Each state legislature tends to have a single LFO (though in some cases there may be combinations of these) and the authors believe that the type of LFO influences the rationalities employed in decision-making. They believe that the centralized staff members play more of an “institutional role” that focuses on protecting the interests of the legislature against the governor, whereas partisan staff members play more of a “political” role to protect the interests of their caucus or chairs. Those with an institutional role might downplay the political rationality, while those with a political role might focus on the political rationality to the detriment of the other rationalities.<sup>2</sup>

---

<sup>1</sup> This breakdown corresponds fairly closely to the typology outlined earlier in section 1.2.3, and mirrors the typology constructed by Snow and Clarke (1999) described in chapter one, most likely because Snow was a co-author on both papers. The main distinction here is the inclusion of proximity to the committee chair in the typology.

<sup>2</sup> A distinction in terms of the use of the political rationality seems to be whether the analyst focuses on the governor vs. legislator struggle or on the struggles within the legislature itself. They assume only the latter indicates usage of the political rationality for LFO analysts.

Likewise they argue that the type of work done by an LFO may influence the rationalities used. In most states LFO analysts work behind the scenes to assist legislators with putting together the budget, though in a few cases among nonpartisan, centralized LFOs the analysts make independent recommendations.<sup>3</sup> The authors hypothesize that analysts making independent recommendations use more of the rationalities than other analysts, though they downplay the use of the political rationality in their formal presentation of the recommendations. Nonpartisan analysts who provide behind the scenes help focus more on the technical and economic rationalities, while committee-based (bi-partisan and partisan) analysts may rely more heavily on the political rationality than do other analysts.

The authors believe that other factors such as “the financial climate of the state, the partisan makeup of the government, communication flow up and down the legislative hierarchy, and the organizational specifics of the analysts themselves” (p.13) all influence the role and mission of the LFO and in turn the rationalities used by LFO analysts in their budgetary decision-making. However, the authors do not offer specifics on how these relationships may work nor do they proceed beyond the conceptualization phase to test any of these hypotheses. However, if combined with the findings of Thurmaier and Willoughby (2001) about factors shaping the use of multiple rationalities among executive budget analysts one can identify five hypotheses about the way LFO analysts may use the various rationalities proposed by Thurmaier and Willoughby (2001):

---

<sup>3</sup> Texas is an example of an LFO that makes independent recommendations.

- 1) The greater the policy distance<sup>4</sup> from key decision-makers in the legislature, the more limited the use of the political and economic rationalities will be.
- 2) The location and structure of the LFO in the legislature affects the use of rationalities by LFO analysts; those in centralized or chamber based offices rely less on the political rationality than do the analysts in committee or caucus positions.
- 3) The nature of the tasks performed by LFO analysts affects their use of rationalities, with those making independent recommendations using the political rationality less than LFO analysts who work with legislators to make their recommendations.
- 4) Changes in leadership or party control could either contract or expand the use of rationalities used by LFO analysts; changes associated with an increase in contact between key decision-makers and LFO staff may increase use of the political and economic rationalities, while changes associated with a decrease in communication may decrease the use of political and economic rationalities.
- 5) A weak economy increases the use of the technical rationality and limits the use of political and economic rationalities by an LFO analyst.

Unfortunately, the literature that examines hypotheses such as these is extremely limited. There have been only a handful of studies that expand on the multiple rationalities framework for executive and legislative analysts. However, examining the literature on information use by legislative analysts (while also limited) provides an opportunity to look for evidence related to these hypotheses. To apply one of the rationalities to a budget problem, an analyst has to collect information from a source that would help the analyst

---

<sup>4</sup> See section 2.1.4 for the definition provided by Thurmaier and Willoughby (2001). The level of salience an analyst gives to the views of a key decision-maker, such as the Governor, is difficult to assess and thus operationalizing this variable presents a problem for researchers. There is not a suitable proxy measure in the dataset used for the analyses in chapters three and five. However, the discussion of this variable by Thurmaier and Willoughby (2001) often relates to the frequency of the interaction between a key decision-maker, such as the Governor, and the individual analyst. This could provide future researchers with a better way to operationalize the variable when surveying or interviewing budget analysts: in other words, the more layers that the recommendation of an analyst must pass through before reaching the key decision-maker, the greater the policy distance.

understand the relevant dimension of the problem. Thus studies that address the sources of information used by legislative budget analysts may be just as important as work that deals specifically with the multiple rationalities framework in understanding the work of these individuals and how variables like the organizational structure of their office may influence the information they collect and share in the budget process.

The remainder of this chapter examine the literature on LFOs for evidence about the five hypotheses outlined in this section and to determine if legislative analysts make use of the multiple rationalities framework and if, they do, whether organizational structure affects how they use information associated with the rationalities in the same manner as it does for executive analysts in the work of Thurmaier and Willoughby (2001).

## **2.2 Review of Existing Studies of LFOs**

As mentioned in the previous chapter, there are limited studies that have been conducted on LFOs and those that exist fall into one of two groups: the first utilizes a descriptive or case study approach that seeks to provide detail about the way in which LFOs work, while the second uses various quantitative methods to study LFOs and their analysts across a number of states. Each group of studies is discussed below, along with a discussion of the conclusions that can be drawn from them as pertains to the current study.

### **2.2.1 Overview of the LFO Studies**

Several of the existing studies of LFOs make use of a single-state case study design or of descriptive research on multiple states. These approaches have difficulties with

external validity because they discuss only a limited number of LFOs and with internal validity because they lack statistical controls to better assess changes in any measured dependent variables. Despite these weaknesses the studies provide detail on how LFOs operate and suggest areas for additional research that are relevant to this study. Table 2.2 summarizes the main findings from these studies, with a particular focus on the conclusions that can be drawn about the effect of the structure of the fiscal office on the work of the analysts in the LFOs and the conclusions that can be drawn about information use by LFO analysts.

**Table 2.2: Summary of Findings of Case Studies and Descriptive Research on LFOs**

<b>Study</b>	<b>States in Study</b>	<b>Conclusions about Structure</b>	<b>Conclusions about Information Use</b>
Patterson 1964	Unknown - CA and OR are the only ones mentioned	LFOs vary in quality of work, extensiveness of budget review, and types of recommendations made	LFO staff utilize objective information more than executive budget analysts
Budke 1975	New Mexico	LFO served committee, focused on their projects of committee members more than general budget analysis or requests from other members	N/A
Kyle 1975	Florida	Nonpartisan LFOs in House and Senate differed in what they examined and their backgrounds. LFO staff had more freedom in choosing topics than did executive staff.	N/A
Farnum 1975	Michigan	Two nonpartisan LFOs, each serving a single chamber, performed similar tasks.	Analysts use many sources but relied most heavily on legislators, executive agencies, and the governor's budget staff. Analysts were expected to provide objective information.



Table 2.2 Continued

Study	States in Study	Conclusions about Structure	Conclusions about Information Use
Kent 1975	Illinois	Partisan staffers differed little in terms of the recommendations they made because they worked using professional obligations.	Legislators expected analysts to take partisan information into account, but during the recommendation phase and not during information gathering. Legislators wanted to know both sides of an issue.
Hartmark 1975	Wisconsin	Analysts fulfill four roles: technical, policy-making, representative, and political. The joint committee on finance determines the scope of the analyst's work based on their preferences, the nature of the budget problem, and external factors. Analysts can determine what within the parameters set by the committee to consider.	Analysts rely on multiple sources of information: executive agency documents and performance, legislators, the public, and media.
Balutis 1975	New York	Norms held by staff shaped the relationships among partisan staff on committees and between chambers. Reporting structures differed between the assembly and the senate, with the committee chair having more power in the senate.	Analysts depended heavily on executive agencies for information. Analysts consult interest groups when no other data is available or they wish to double check information from executive agencies
Butler 1975	Texas	Analysts work with legislature to create independent budget and review agency requests directly. Analysts play more of a technical role than a creative one. The legislator expects analysts to recommend cuts and highlight only important aspects of the budget.	Analysts expected to be objective, while the LFO director pays attention to political cues for analysts.
Caiden 1984	California	Analysts have to work to maintain objectivity in the process, sometimes resisting attempts by legislators to draw them into new areas. LFOs over time may move from technical analysis to more policy-oriented work. LFO structures may not translate well from one legislature to another.	Analysts worked to preserve the integrity of the LAO by using objective, quantitative data rather than political or value-based information.

The research on LFOs that has been conducted in the last twenty years has (for the most part) marked a shift from qualitative studies of single states to comparisons of LFOs in multiple states using basic quantitative methodologies. There are only a handful of these, though, and they mostly focus on assessing the influence of analysts or how they differ from executive analysts rather than examining the multiple rationalities framework. Table 2.3 provides a summary of the major quantitative studies of LFO analysts (detailed discussions of each study are available in Appendix B).

**Table 2.3: Summary of Quantitative Studies Involving LFOs and their Findings**

<b>Study</b>	<b>Study Aim</b>	<b>Unit of Analysis</b>	<b>n/N</b>	<b>Method</b>	<b>Outcome</b>
Willoughby and Finn 1996	To examine differences in information used to make budget recommendations among legislative and executive budget analysts.	Executive and legislative budget analysts	89 LFO analysts in 9 southeastern states	OLS Regression, Cluster Analysis	LFO analysts use more information cues (particularly in the technical rationality category) than do their executive counterparts. There are multiple patterns of information use among LFO analysts. Younger, female LFO analysts tended to focus more on technical rationality sources than did other legislative analysts.
Snow and Clarke 1999	To explore the structure and key institutional variables for legislative fiscal offices	LFOs	20 LFO directors	Analysis of Interview Responses	LFOs reporting to joint groups or committees had an institutional focus, while LFOs reporting to individuals or small groups had more of a political focus. Partisan LFOs are asked to take political information into account more than nonpartisan LFOs.

**Table 2.3 Continued**

<b>Study</b>	<b>Study Aim</b>	<b>Unit of Analysis</b>	<b>n/N</b>	<b>Method</b>	<b>Outcome</b>
Chadha, Permaloff, and Bernstein 2001	To determine whether joint LFOs performed more duties than central LFOs	LFOs	39 LFO directors	OLS Regression	Joint LFOs did perform on average one more duties than central LFOs. There was little evidence of any effect from institutional factors.
Goodman and Clynch 2004	To examine differences in information use among legislative and executive budget analysts	Individual executive and legislative budget analysts from thirteen states	205 budget analysts (111 legislative and 94 executive)	Kruskal-Wallis test, OLS regression	Executive analysts rely on more political cues than do legislative analysts. Divided government increases the number of cues used in making budget recommendations.
Hoffman 2006	To determine the influence of LFO analysts in the budget process	1) LFO analysts, chairs and members of appropriations committees, executive agency officials, and executive budget analysts, 2) budget recommendations made by LFO analysts in AZ and CO	1) 57 individuals, 2) undisclosed number of recommendations from two of the four states in the study	Descriptive Statistics	Legislative analysts are influential actors, primarily because of the information they provide in the process. Different institutional factors (independence of LFOs, reputation of office, number of responsibilities of LFOs, contact with key budget actors) may limit that influence, though.
Goodman 2008	To examine differences between executive and legislative budget analysts	Individual executive and legislative budget analysts from nine states	179 analysts (84 executive and 95 legislative)	Descriptive Statistics	Legislative and executive analysts similar, but legislative budget analysts make less use of political cues in their work and have more of a policy orientation than executive analysts.

## **2.3 Evidence from Literature Regarding Usage of Multiple Rationalities**

Even though the bulk of these studies do not specifically address the multiple rationalities framework or information use among legislative analysts, their findings are helpful in understanding how the multiple rationalities framework may operate in a legislative environment and the role the organizational structure may play in shaping information use. The following sections organize the literature on LFOs using the hypotheses outlined in section 2.1.5 above.

### **2.3.1 Policy Distance**

Hypothesis one argues that LFO analysts with more frequent contact with key decision-makers in the legislature (e.g., leadership or appropriations committee chairs) will use information sources associated with the political rationality (such as the political preferences of legislators, information from partisan staff, or information from lobbyists) in their work more than analysts with that have more separation from legislators. Thurmaier and Willoughby (2001) argued that information such as the views of key decision-makers and those around them were more likely to be found and used when executive budget analysts had more contact with the sources, and in the absence of such interactions (usually due to the recommendations of analysts filtering through multiple layers) it would be difficult for analysts to obtain such information and make use of it in their recommendations.

None of the studies of LFOs address this issue directly, but some of the findings provide evidence to inform the hypothesis. One trend that emerged is that, for the most part, LFO analysts have regular contact with and make use of the information they receive from

legislators (Balutis A. P., 1975a; Farnum, 1975; Hartmark, 1975). LFO staff members often take cues about how to structure their work from the disposition of the key decision-makers for whom they work (Balutis A. P., 1975a). For example, if the committee wants to focus on cutting budgets the LFO analysts would present certain types of recommendations they might not for a committee more interested in making decisions based on performance measures (Balutis A. P., 1975a). Hoffman (2006) found that actors in the budget process (appropriations committee chairs, executive analysts, legislative analysts) believed that the influence of legislative fiscal analysts increased as they had more direct contact with legislators, highlighting the importance a shorter policy distance plays for LFO staff members.

Fewer studies addressed situations where LFO analysts may have a reduced sense of policy distance from legislators. In his description of Texas, Butler (1975) noted that the LFO analysts there made independent recommendations to legislators, but kept themselves apart in order to be seen as objective. This may be a defining aspect of the relationship for some LFOs, especially for centralized, nonpartisan organizations which may need to create a sense of policy distance in order to maintain the image of neutrality for their office (Patterson, 1964; Caiden, 1984). They are tasked with serving both chambers and parties, and seeming too close to one could make it difficult for them to do their jobs. This kind of tension can lead to resentment from members of the minority party or from legislators with limited access to key budgetary decisions (Budke, 1975).

Thus it does appear that LFO analysts with more interactions with key decision-makers use information in their work. In general, most LFO analysts have a short policy distance from key decision-makers, though in some offices the LFO staff members may seek to create a sense of separation and downplay political information in their work in order to preserve the objectivity of their offices.

### **2.3.2 LFO Structure**

This hypothesis is based on the finding by Thurmaier and Willoughby (2001) that the structure of an executive budget office influenced the policy distance between the budget analysts and the governor. By extension, LFO analysts in states with partisan, committee based LFOs use the political rationality less than analysts in centralized and chamber-based, nonpartisan LFOs; these offices may work more closely with key decision-makers in the legislature and by necessity have to find political sources of information more salient to their work; in contrast, LFOs in nonpartisan offices, whether centralized or chamber based would find the information less salient and useful because they had to serve all legislators and not just a small group of partisan leaders.

Some of the information in the studies supports this view: the partisan analysts in New York and Illinois, for example, were expected to use information from partisan sources or about political objectives when crafting recommendations (Balutis, 1975; Kent, 1975) while the nonpartisan analysts in Texas were not (Butler, 1975). Snow and Clarke (1999) found that partisan staff identified “meetings with the committee chair and support of conference committees” as the most important times they influence the process while

nonpartisan staff pointed to committee hearings. One may surmise that this could be because partisan staff serve a smaller group of legislators and thus have more frequent interactions with them, while nonpartisan staff may have limited (though still substantial) interactions.

However, other studies paint a more nuanced view of the influence of organizational structure on political information use among LFO analysts. For example, Kent (1975) found that in Illinois the LFO analysts were expected to use political information when directed, but also to include objective information as much if not more than political information when briefing legislators. He also found that the majority and minority staff members often came to similar conclusions as one another for a budget problem because they shared professional norms for their work. This suggests that while partisan staff members are expected to use information that would be associated with the political rationality, it is not to the exclusion of information associated with the technical or economic rationalities needed to analyze something as technical as a state's budget.

There is also evidence in these studies that analysts in centralized, nonpartisan LFOs may make extensive use of information that might be associated with the political rationality, though they may use it differently than partisan LFO staff might. Goodman and Clynch (2004), for example, did not find a statistically significant effect on the use of political or other types of information by LFO analysts based on whether their state had a centralized, nonpartisan staffing agency, implying that there may not be a relationship between the structure of the office and the use of political information. Evidence from the case studies supports this conclusion. Analysts in Florida and Michigan (chamber-based, nonpartisan

LFOs) were expected to present all sides of an issue (including political ramifications) though they might be limited in lobbying for their recommendations (Farnum, 1975; Kyle, 1975). In Wisconsin, knowing what legislators thought about issues shaped the type of projects LFO analysts chose to pursue; they wanted their analyses to have an effect on the budget process, and if they knew a project was not politically acceptable then they may steer towards a project with a better chance of success (Hartmark 1975). Analysts in California used knowledge of the preferences of the legislature to create budget guides to help them explain decisions to constituents (Caiden, 1984). As stated before, analysts in nonpartisan offices also have the pressure of maintaining the integrity of their offices even when it goes against what individual legislators may wish for them to do, such as estimating a higher or lower cost for a program than what the legislator needs (Caiden, 1984). In these cases, LFO analysts are likely keenly aware of the politics at play and use that knowledge to avoid potential quagmires and preserve their neutrality (Patterson, 1964).

An additional factor related to LFO structure and information use is worth noting here. States with multiple LFOs, even if designed to do the same things, may operate differently from one another. Balutis (1975a) found differences in the reporting structures of the House and Senate legislative staff offices in New York, with analysts in one chamber reporting to leadership while in the other they reported to the committee chairs. Kyle (1975) found differences in the work and make-up of the House and Senate LFOs in Florida; Senate staff had more of an accounting background and only reviewed the governor's proposals while the House staff had more of a business and political science background and reviewed



both the governor's proposals and those of the executive agencies used by the governor to create his budget. These provide evidence that legislators craft LFO structures to meet their informational needs. It is conceivable that analysts in different chambers could make use of different sets of information, though it is only implied and these studies and isn't developed fully.

A broader statistical analysis of the tasks performed by LFOs provides some support for this idea. The study found that LFOs serving only one chamber performed on average one more task than did centralized LFOs serving both chambers, and that dual LFOs had a higher median number of staff and a higher staff per legislator ratio (Chadha, Permaloff, & Bernstein, 2001). This may be because having multiple LFOs is a symptom of competition between chambers or other groups of legislators in the budget process: legislators in such situations may augment the tasks of the offices that serve them in order to either gain the upper hand in the battle with the other chamber for information on the budget or to prevent the other chamber from doing so (Rosenthal, 1998; Chadha, Permaloff, & Bernstein, 2001; Hird, 2005).

In summary, there is some evidence to support the hypothesis that LFOs in partisan, committee based LFOs utilize the political rationality more directly than their peers in nonpartisan settings. However, LFO analysts in partisan offices seem to use political information in addition to (rather than at the expense of) the more objective, technical information that aids the primary job of analyzing executive budget. Likewise, while analysts in centralized, nonpartisan office may use political information less directly they still

make use of it to help direct their work and craft what they do to serve the needs of legislators. Analysts in these nonpartisan offices must balance the need to use political information with the need to maintain the neutrality of their office, which is key to their success in such an organizational structure. Analysts in different offices within the same legislature (e.g., House and Senate) may utilize different sources of information, or use the same source differently, though this idea needs further refinement.

### **2.3.3 Independent Budget Recommendations**

The third hypothesis offers the position that legislative analysts who make independent recommendations will utilize information sources associated with the political rationality less than analysts who are not tasked with making independent budget recommendations. Only a few states ask LFO analysts to make independent recommendations, as most LFO analysts work closely with legislators to assist them in making decisions and putting together their version of the budget. Analysts making independent recommendations may have to be more careful than other analysts to preserve their neutrality, and basing their work on technical, objective sources of information aids in this endeavor. These analysts also tend to make their recommendations publicly, making it even more important to avoid seeming biased.

The studies of LFOs provide mixed evidence for this hypothesis. In support of it, analysts in Texas made independent recommendations and utilized political information less than analysts in other states (Butler, 1975). However, that was a single state case study. Goodman and Clynch (2004) looked at analysts in multiple states and found a statistically

significant positive relationship between the use of political information and whether a legislature creates an independent budget. This does not necessarily mean that the analysts themselves make independent recommendations, though.

The studies did find that analysts had discretion over their work, even if they did not have to make formal recommendations or where the legislature made its own budget. This is important, as budget actors perceive that legislative analysts with more independence are also more influential in the budget process (Hoffman, 2006). This independence often relates to how they carry out their work, though, and may be dependent on the type of information they use. Analysts in the centralized, nonpartisan LFO in California received leeway in their analyses as long as legislators perceived that they focused on technical aspects of their analysis (Caiden, 1984); analysts in Michigan received leeway in recommending items, though they did not have an ability to actively lobby for their recommendation (Farnum, 1975); and analysts in Wisconsin had leeway to choose projects for special analysis, though they tended to limit themselves to things that would be received well by those in charge of the legislature (Hartmark, 1975). The independence afforded these analysts may partially result from the fact that nonpartisan staff serve both parties making it difficult to build in political information to their recommendations. Executive analysts, for instance, have only one figure's political views to account for and partisan legislative analysts have one (or at least a more limited number) of views to consider and thus can be held more accountable for using such information (Kyle, 1975; Goodman, 2008).

In summary, there is limited support for the hypothesis that legislative analysts who make formal recommendations use the political rationality less than analysts in states where they do not make independent recommendations. Analysts that are seen as more independent are also seen as more influential, though this does not necessarily mean that the analysts use information differently. There is evidence to suggest that analysts are given discretion in their work, but that it is often contingent on them remaining neutral and focusing on the technical aspects of their work. Likewise, legislative analysts may have more independence and discretion in states where they serve larger numbers of legislators, as they are not as beholden to a unified political view. States where the legislature as a whole creates an independent budget utilize the political rationality more.

#### **2.3.4 Changes in Leadership**

Hypothesis four presented the notion that changes in leadership of committees or in partisan control of a legislature could alter the use of rationalities, though in which way would depend on the disposition of the new personnel. Several of the studies make the point that legislative analysts take their cues about how to conduct their work from those they serve and that if legislative attitudes change so will the approach used by analysts (Balutis, 1975a; Butler, 1975; Hartmark, 1975), but this does not provide much more information than the hypothesis itself. On the other hand, Snow and Clarke (1999) found that LFO directors felt in general that analysts were more likely to take political cues into account when party control in the legislature changes or is closely divided. This occurs in order to “allay fears that existing staff will pose problems for the new administration” (p.12), but it is something

that the analysts are uncomfortable with. The LFO directors surveyed also felt that in terms of influence, LFO analysts had to work to build trust with newer members especially in situations where turnover was higher (such as in states with term limits). It is unclear if the political cues mentioned by the LFO directors enter directly into the analyses performed by their staff, but it is more likely that the use of the cues more closely mirrors the use of political information described by Hartmark (1975) and Caiden (1984) where analysts use the cues to shape the nature of their work more than the substance of the analyses they perform.

### **2.3.5 Economy**

Hypothesis five argued that in times of economic scarcity, LFO analysts would use political information less and technical information more as they had to focus on examining the budget closely to find ways to meet the needs of the state with fewer resources. There was only limited evidence for this in the original work of Thurmaier and Willoughby (2001) and Snow and Willoughby (2002) only hypothesized about this relationship. Only one of the studies examines this at all, and it refutes the hypothesis by arguing that analysts used political cues and more sources of information during times of scarcity than they did in times of plenty (Hartmark, 1975). This seems to be because in times of scarcity legislators may look for political cover for making tough decisions that upset key constituent groups; in such instances, technical analyses dealing with efficiency can be helpful, and thus analysts may use more information as they have greater opportunity to have an influence. In contrast, during times of plenty the pie is expanding and legislators may be less receptive to technical analyses, especially if those call for budget cuts or austerity. However, this was only

discussed briefly in a case study of a single state, and thus it is difficult to say much about this hypothesis except that more research is needed before drawing conclusions.

### 2.3.6 Summary of Evidence Regarding Multiple Rationalities

Table 2.4 summarizes whether the findings from the relevant studies offer support or challenge the hypotheses laid out in section 2.1.5.

**Table 2.4: Summary of Evidence for Hypotheses in Literature on LFOs**

<b>Hypothesis</b>	<b>Supports</b>	<b>Qualified Support</b>	<b>Challenges</b>
1: Greater policy distance leads to limited use of political and economic rationalities	Hartmark 1975, Balutis 1975, Butler 1975, Farnum 1975, Kyle 1975, Hoffman 2006	None	None
2: Centralized or chamber LFOs rely less on the political rationality than party or caucus LFOs	Balutis 1975, Butler 1975, Snow and Clarke 1999	Patterson 1964, Kent 75, Hartmark 75, Caiden 84	Kyle 75, Farnum 75, Goodman and Clynch 2004
3: LFO analysts making independent recommendations utilize the political rationality less than analysts working behind the scenes	Patterson 64, Budke 75, Farnum 75, Kent 75, Balutis 75, Butler 75, Snow and Clarke 1999	Farnum 1975, Hartmark 1975, Kyle 1975, Caiden 1984	None
4: Changes in leadership or party control may effect the use of rationalities	Hartmark 75, Balutis 75, Butler 75, Snow and Clarke 1999, Goodman and Clynch 2004, Goodman 2008	None	None
5: A weak economy increases the use of the technical rationality	None	None	Hartmark 1975

## **2.4 Additional Findings of Interest in Literature on LFOs**

The literature on LFOs includes additional insights about the structure and operations of LFOs, many of which have at least an indirect bearing on how their analysts may use information in their work. For example, one of the major findings in the literature is that legislative analysts in general use information differently than their executive counterparts; legislative analysts traditionally rely more on technical, objective information while executive analysts make more use of political information (Patterson, 1964; Kyle, 1975; Willoughby & Finn, 1996; Goodman & Clynch, 2004; Goodman, 2008).

There are a number of possible reasons for this. LFO analysts tended to serve both major political parties while executive analysts may represent and advocate for the budget positions of a single actor, the governor (Patterson, 1964; Kyle, 1975). Legislative analysts may have more time for budget review than their executive peers because the executive analysts had a number of day-to-day agency control issues they had to deal with (Kyle, 1975). Legislative analysts tend to see themselves as fulfilling more of a policy analysis role, while executive analysts see themselves in more of a control oriented role (Goodman, 2008), and they tend to use information such as agency workload and efficiency than do executive analysts (Willoughby & Finn, 1996). Legislators may contribute to this, as at least in one case they utilized staff more on narrow technical issues in the budget (e.g., the new amounts for a district related to a change in a funding formula) rather than on issues that involved trade-offs between public priorities (e.g., whether to cut reading programs or arts programs) (Hartmark, 1975). Executive analysts also tend to operate on the budget at the beginning

stages of the budget process, while legislative analysts tend to operate on a fully defined budget where many political bargains have already been struck and represented; thus legislative analysts may have less need to take political cues into account in their work (Goodman & Clynch, 2004). While this does not inform subsequent analyses in this dissertation, it underscores the importance of examining information use among different actors in the budget process. Legislative analysts operate differently than their executive counterparts, so it is likely that other actors also use information and relevant multiple rationalities differently than either of these groups. Examining these differences in detail is important to develop a more complete understanding of budgetary decision-making at the state level.

The studies provide evidence of other institutional and individual level variables that may influence the use of information by legislative fiscal analysts. In particular, differences in structure do matter in determining the focus of the LFO (Snow and Clarke 1999) and to some degree they matter in determining the amount of work an LFO can accomplish and the size of the LFO (Chadha, Permaloff, and Bernstein 2001). Legislative analysts are more likely to use political information when their office is partisan, for example (Snow and Clarke 1999). The role that the office is asked to play varies based on the personalities of legislators even across similar structures (Snow & Clarke, 1999) and these roles shape the nature of analysts' work (Hartmark, 1975; Goodman & Clynch, 2004).

Aside from structure other factors influence information use by analysts. The political climate, for instance may matter. Hartmark (1975) found that legislators in



Wisconsin used analysts less in times of unified government when they did not want to challenge the governor, while Goodman and Clynch (2004) found a statistically significant relationship between the presence of divided government and the use of political information sources by legislative analysts; likewise, executive and budget analysts in states with divided government saw the legislature's role as creating its own government, while states with unified government saw the legislature's job as simply reviewing and commenting on the executive budget (Goodman & Clynch, 2004; Goodman, 2008). On an individual level, younger, female legislative analysts rely more on technical, objective information sources than do their peers (Willoughby & Finn, 1996); while it is unclear why this relationship exists, it indicates that information use is influenced by individual as well as institutional characteristics.

## **2.5 The Need for a Broader Study of LFOs**

There are a number of methodological issues with the studies described in this chapter that need to be mentioned. The case studies in particular are problematic for a variety of reasons. First, the majority of conclusions described here come from case studies of small numbers of states and that are over twenty years old. This creates several problems for interpretation; even though a number of structural forms are described in these studies the authors do not employ a consistent framework for identifying different types of LFOs, and the focus of most of these studies is on describing the basic structure and work of the offices rather than delving into the effects these structures might have on the work of analysts (while they do provide information on information use, it is not the express intent of most of the

studies). Second, almost all of these case studies rely only on the personal experience of the author working in the LFOs they describe. While useful, very few involve information from other sources (inside or outside the legislature). Third, there are no controls employed in this analysis. Fourth, none of these studies is less than 25 years old and most were written in the infancy of the creation of LFOs; as noted in the previous chapter, LFOs have gone through a number of changes in the past two decades that may limit the relevance of the conclusions from these studies. Finally, the states in these cases over-represent the most professional legislatures in the country. Four of the eight states described in these cases had professionalism ranks on the Squire (2007) index that would have put them among the top 10 most professional legislatures in the country, with only New Mexico falling in the bottom half (Squire, 2007). Not surprisingly, Census data for 1980 indicates that 6 of the 8 states mentioned were among the 10 largest states in the nation, and only New Mexico had a population in the bottom thirty states.

The quantitative studies also have several issues that make drawing conclusions from them problematic. For example, none of the studies described in Table 2.3 covers all LFOs in the country, and several focus on a single region (e.g., southeast, west) where they may not be enough variety in LFO and legislative structure to make effective comparisons about the influence of such variables. Likewise, where structure is considered it is only in terms of partisan/nonpartisan or dual/joint considerations that miss the hybrid or alternative LFO structures that exist today. While this allows one to make better conclusions about the

influence of institutional factors on information use by LFO analysts, it would be beneficial to examine a greater variety of LFOs and legislatures.

Taken together, these indicate that there is a need for research on information use by legislative analysts that covers a wider number of states in order to assess the effect of some of the institutional variables described in this chapter. There is also a need for a study to assess differences that may exist within a legislature, such as the presence of multiple LFOs in a state that is almost entirely absent in these studies.

## **2.7 Discussion**

This chapter began with a discussion of the multiple rationalities framework proposed by Thurmaier and Willoughby (2001) as a means to understanding how budget analysts approach their work and the types of information they use when making recommendations to legislators. The framework says that analysts may use up to five types of information (social, political, legal, economic, and technical) when approaching a budget problem and institutional factors (such as the reporting structure of a budget office) may limit the number of rationalities an analyst actually uses. The framework had only been expressly applied to executive budget analysts, though, and to be truly helpful in advancing our understanding of budgetary decision-making it needed to be extended into other venues, notably that of legislative fiscal analysts (Snow & Willoughby, 2002).

The existing studies of LFOs were then examined to determine whether their findings could shed light on the use of information by legislative budget analysts, and the relationship between the structure of an LFO and how legislative analysts used information. Based on the

studies described in this chapter, one can draw the following conclusions about information use among legislative fiscal analysts:

- 1) Legislative budget analysts use information differently than their executive counterparts, relying less on political information and more on information from technical, objective sources in making budget recommendations (Patterson, 1964; Kent, 1975; Willoughby and Finn, 1996; Goodman and Clynch, 2004; Goodman, 2008).
- 2) Regardless of their partisan status, legislative analysts with more frequent contact with legislators utilize political information more than do analysts with less frequent contact with key legislators, though they may do so in different ways (Balutis 1975a; Butler, 1975a; Caiden, 1984; Farnum, 1975; Hoffman, 2006; Kyle, 1975).
- 3) Legislative analysts vary from one another in how they use political information, largely based on the structure of the office in which they work. Partisan legislative analysts are expressly asked to use political information (e.g., the political objectives of legislators, information from partisan staff, information from lobbyists) when analyzing budget problems and making recommendations (Balutis, 1975a; Kent, 1975); nonpartisan legislative analysts use such information to structure their work (Hartmark, 1975) but have to maintain some distance from legislators in order to preserve the appearance of neutrality (Patterson, 1964; Caiden, 1984).
- 4) Characteristics of the legislature, such as the disposition of key decision-makers towards the budget (Balutis, 1975a; Hartmark, 1975), internal tensions over the use of LFO staff and their reporting structure (Balutis, 1975a; Budke, 1975), the level of trust analysts have with legislators (Snow and Clarke, 1999; Hoffman, 2006) or changes in leadership (Snow & Clarke, 1999) can influence the types of information used by LFO analysts in their work.
- 5) Other factors such as the presence of unified or divided government in a state (Hartmark, 1975; Goodman & Clynch, 2004), the state of the economy, or the age and gender of analysts also play a role in shaping information use among legislative analysts.

One thing that stands out is that rather than focusing on five rationalities as do Thurmaier and Willoughby (2001) and to a lesser extent Willoughby and Snow (2002), the literature focuses mainly on either technical, objective information or political information.

Scant attention is given to information sources that line up with the legal or social rationalities; Thurmaier and Willoughby (2001) largely ignored these, implying that all executive analysts used them equally so there was little need to examine them. It is possible that the breakdown of five rationalities is incomplete, and that there may be other rationalities beyond those identified. The political rationality they describe, could be broken down between internal (e.g., the consequences of a recommendation for the internal politics of the legislature) and external (e.g., what legislators and external players think) considerations. However, parsing the rationalities further may be a task without end and adding more dimensions to the framework could limit its utility.

While it remains an open question how useful the framework is, the distinction between the use of political and technical, objective information does seem a useful dichotomy to pursue in future research, though one should be careful in discussing these as legislative analysts at least may use political information differently depending on the needs and structure of the office in which they work. While the studies discussed in this chapter provide additional information about how LFO analysts apply the multiple rationalities framework differently than executive analysts and the ways institutional variables affect the application of the framework, the limited number of samples covered in the studies, methodological flaws, and the limited application of institutional variables employed in the studies makes it difficult to draw firm conclusions about whether aspects of an LFO's structure, factors associated with the legislative environment, or the individual aspects of analysts most influence the use of rationalities on budget problems. The following chapters

attempt to address these concerns by analyzing the results of a national survey of legislative staff to look for evidence of the multiple rationalities described by Thurmaier and Willoughby (2001) and to examine the effect of institutional and individual variables on information use by legislative staff involved in the budget process.

### **3. Factor Analysis of Importance of Information Sources to LFO Staff**

The previous chapter presented the multiple rationalities framework of Thurmaier and Willoughby (2001) and examined existing literature on LFOs for evidence of the existence of such rationalities and how information associated with them might be used by legislative analysts. There was limited evidence of the political rationality and some of either the technical or economic rationalities (though it is impossible to apply the findings of specific studies to either). The evidence came from small numbers of states, and when information use was specifically addressed (Willoughby & Finn, 1996; Goodman & Clynych, 2004) the manner used to create index variables using similar information sources was somewhat haphazard.

This chapter does two things. First, it describes the primary data set for the analyses in this dissertation, which consists of the results of a national survey of legislative staff. The dataset is culled from a larger set of respondents, so it is important to discuss the methodology used to select the subset of respondents and the implications of these decisions for interpreting the results. Second, a factor analysis is run on items in the data set that asked legislative staff about the importance of different information sources to determine if these line up as one might expect based on the multiple rationalities framework and findings from the literature on LFOs described in chapter two. This allows an test of the existence of multiple rationalities in a national dataset, which has not been done in previous research. The factor loadings from this analysis serve as dependent variables for the analyses in

chapters four and five that test the effects of institutional and individual characteristics on the work of LFO analysts.

### **3.1 Data**

The primary data source for this analysis is a survey conducted by NCSL in 2006 that asked legislative staff about sources of information used in their work, the effectiveness of partisan and nonpartisan staff, and how the effectiveness of their legislatures had changed over time. The main items of concern for this chapter are the items that asked about the importance of information sources in their work. This section discusses the response rate and issues with the survey, as well as the efforts used to reduce the data from the survey to focus on the most relevant cases for this dissertation.

#### **3.1.1 Survey Size and Non-response Bias in Data**

The survey went to a sample of 4,695 individual staff members in legislatures across the country and had 1,522 responses for a response rate of 34 percent (Kurtz 2006). Despite the large number of respondents, survey research is subject to the problem of non-response bias, or a systematic bias in the data occurring because fundamental differences exist between respondents and those who chose not to complete the survey. There are three main types of non-response bias: 1) non-coverage, which occurs because some parts of a population never had a chance to be included in a sample, 2) unit non-response, which occurs when a member of a sample opts not to provide any information, and 3) item non-response, which occurs when a member of a sample provides information to some, but not to all of the



items in the survey (Kalton, 1983). These types of bias can cause problems interpreting the results of statistical tests, as they may bias any estimators and artificially increase variances, lead to misleading results from hypothesis tests, and lead to a lack of precision in the results (Kalton, 1983; Dillman, Eltinge, Groves, & Little, 2002; Lee & Forthofer, 2006).

It is tricky to evaluate the presence of non-coverage and unit non-response bias given the data available about the survey. NCSL only did minimal analysis of the data for reporting purposes, and provided only a codebook and the raw data for secondary analysis. No information is available about the sampling technique, the final sampling frame, or which respondents actually received the survey to allow a comparison (at least on state-based variables) between respondents and non-respondents.

NCSL indicates that in 2009 legislatures employed 27,567 permanent staff (National Conference of State Legislatures, 2009). Neither NCSL, NASBO, nor the Council of State Governments tracks the number of fiscal staff employed by legislatures. The best estimate available is from a 2007 conference paper that estimated 1,204 LFO analysts based on interviews with LFO directors, though the researcher who obtained the number is not confident that it paints an accurate portrait of staffing levels (Bourdeaux, 2007). Combining these two numbers indicates that fiscal staff members make up approximately 4.4% of all permanent legislative staff. In this survey, 188 respondents identified their job title as fiscal analyst, thus the percentage of respondents in the survey (16%) is higher than what could be expected in the population of legislative staff. However, given the absence of demographic information about the population of LFO analysts, it is difficult to know how representative

the sample of fiscal analysts is. Moreover, the data focuses on other staff engaged in fiscal or policy analysis besides those who identify themselves as fiscal analysts. There is no estimate available about the number of these staff members, nor is any information available about the demographics about this population. For these reasons, it is difficult to rule out non-coverage and unit non-response bias in the data even though there are a large number of observations from both populations of interest.

The third type of non-response bias in survey data is item non-response, where a respondent provides information on some items but not others. If the respondents who do not answer the question are different substantially from those who did respond to the item, then the dataset could be biased (Garson, 2012d). To address this, a researcher can either impute values for missing data or drop cases with missing data from the analysis<sup>1</sup>. A commonly used cut-off for determining if it is acceptable to drop missing cases with list-wise deletion is if the missing values compromise less than 5% of a large sample (Garson, 2011a). In cases where the sample is not large enough for this measure, or where the researcher wishes to examine the issue more closely, the researcher can compare cases with missing values against those who answered the question using demographic variables to divide the samples (Garson, 2011a). If there is no pattern to the missing values, or “missing completely at random”, then a researcher may allow the listwise deletion process in software such as SPSS to remove cases missing any value on one of the independent or dependent variables from the

---

<sup>1</sup> Listwise deletion is the default procedure in SPSS software for addressing missing data. Imputation procedures are available through the “Missing Values Analysis” module available as an add-on to the basic version of SPSS.

analysis. If there is a pattern to the missing variables, though, the analysis may be biased and it would be preferable to either collect more data or impute values for the missing data.

Due to the way this data set has been constructed, some of the individual variables (e.g., age, gender, etc.) from the NCSL survey have missing values while other variables do not. The percentage of missing values is low for individual variables, with no item having more than five percent of respondents failing to provide an answer to the question. However, because of the problematic aspects of the sample, values are imputed for missing data using the multiple imputation (MI) method. This uses Monte Carlo techniques to examine multiple possible replacement values for a missing value and comparing the results to find the best approximation; this method does not assume normality, and works well with Likert variables such as the ones included in this dataset (Garson, 2012d).

Results presented in subsequent analyses reflect the original data. All statistical procedures are run using both the original and the imputed datasets; any differences in the results of the analyses will be discussed in the paper, otherwise it should be assumed that the substantive results remained the same. Where applicable, the percentage of cases with missing variables is presented and either t-tests or Chi-square tests are used to compare the groups across gender, age, education level, and the Squire (2007) Index score for the staff member's legislature to look for patterns or bias in missing values. The results of these evaluations will be presented where appropriate in this and following chapters.

### **3.1.2 Building the Dataset for Analysis**

To complete the analysis, it made sense to select a subset of the survey respondents based on two criteria: ties to the budget process and the ability to create state level variables for each case. First, not all of the respondents are involved in the budget process. The most obvious group to include in the data set was fiscal analysts. The best way to identify these individuals in the data came from a question in the survey that asked the legislative staff to select a job title for themselves, where 188 of them selected “fiscal analysis” from the available list of choices. While it is not possible to be one hundred percent sure that these individuals work in an LFO, it is highly likely that they do as this was the only budget-related choice in the question. As noted in previous chapters, though, there are other types of staff members who become involved in the budget process. They may not spend all of their time on the budget itself, but they may be heavily involved with providing information at some stage of the process. To identify these individuals, this analysis used a question in the survey that asked legislative staff how much of their time they spent on fiscal or policy analysis. Like the question on job titles, this is not an exact match for budget work, but for the available options of how a legislative staff member may spend his or her time in the survey, this is the best item available to screen. Among non-fiscal analysts, 149 other legislative staff members in the survey indicated that they spent at least 50% of their time on policy or fiscal analysis. These other staff worked in capacities such as research or committee staff, personal staff, leadership or caucus staff, performance evaluation or auditing, and top management of a staff agency (one of these groupings, performance evaluation and auditing,

was not included in the dataset).<sup>2</sup> In order to explore differences in the importance of information among a wider group of legislative staff, these respondents also were included in the dataset for analysis providing a starting number of 337 respondents in the dataset.

A second problem with the data is the need to know the state of a legislative staff member in order to create many of the institutional variables that are important to the regression model. However, respondents did not always indicate in which state they worked and in such instances the cases were deleted from the dataset. This was the 75<sup>th</sup> item out of 84 total items on the survey, thus it came late in the process and could serve as an indicator for an incomplete survey. The state of a respondent would be difficult to impute from other survey data, and without it several of the key institutional variables could not be added to a case. This resulted in the deletion of 14 responses from among the fiscal analysts and 20 from among other staff, bringing the total to 174 fiscal analysts and 129 others. In addition, three fiscal analysts were dropped from the analysis because they indicated they were from the state of Nebraska. One of the independent variables assumes that it is possible to have split party control in the legislature, a condition that is not possible in Nebraska because of its unicameral body. This brought the final size of the survey to 300 respondents: 171 fiscal analysts and 129 other legislative staff members that spend at least half of their time on fiscal and policy analysis.

---

<sup>2</sup> These individuals most likely work in offices akin to the Program Evaluation Division in North Carolina or the Joint Legislative Audit and Review Commission (JLARC) in Virginia. These agencies perform special analyses for legislature outside of the normal budget process (and its ensuing time pressures), and operate more as performance auditors than analysts.

## 3.2 Dependent Variable

### 3.2.1 Description of the Information Sources in NCSL Survey

The dependent variable in this analysis is the importance of various information sources to individual LFO analysts and other legislative staff who spend a considerable amount of time on fiscal or policy analysis. The NCSL survey provides a proxy measure for this concept by asking respondents to indicate the importance of each of ten information sources (summarized in Table 3.1) in terms of performing their work as a legislative staff member.

**Table 3.1: Summary of Information Types Asked about in NCSL Survey**

<b>Information Type</b>
Your State's Constitution, Statutes, and/or Rules
Other States' Constitution, Statutes, and/or Rules
Internet Research
NCSL and other Interstate Organizations
Lobbyists
Executive Agencies
Research or Information from Nonpartisan Legislative Staff
Research or Information from Partisan Legislative Staff
Media
Personal Expertise

For each item, respondents could choose from four options: not at all important (1), somewhat important (2), important (3), or very important (4). The categories of information

omitted some important options (e.g., academic research and public interest groups) but included categories known to be important to legislative staff in general: lobbyists, executive agencies, nonpartisan staff, and partisan staff (Gray and Lowery, 2000). As such, these items allow tests of the effect of institutional and individual characteristics on the importance of a variety of information sources to legislative staff and address the main question of this dissertation.

This set of survey items has several limitations, though. First, it only provides a global, self-reported measure of the usefulness of information sources. These questions do not provide insight into how analysts might have used the information (e.g., for background information, to develop recommendations, to write fiscal notes, or to answer member's questions) or if their usefulness depended on that use (e.g., information from executive agencies was useful but only in answering member questions). Likewise, these questions do not ask what information typically came from these sources (e.g., did lobbyists provide information only on the effect of legislation on their clients or on other sources as well?)

A second limitation is that the information types in the survey do not line up with the multiple rationalities described by Thurmaier and Willoughby (2001). At best these approximately correspond to legal rationality ("Your State's Constitution, Statutes, and/or Rules"), technical rationality ("Executive Agencies") and political rationality ("Research or Information from Partisan Legislative Staff"). However, the lack of detail on the specific types and uses of information from each source makes it difficult to determine the validity of these approximations. Some of the other types of information asked about in the survey

could straddle different rationalities. For example, information from lobbyists could be an example of the social rationality if used to determine how broadly a budget recommendation may be supported in the public or the political rationality if used to indicate whether an interest group plans to block a recommendation. Information from nonpartisan research staff could vary based on the state and the structure of the office (e.g., some offices use multiple rationalities while others may use a limited set) and “Internet Research” is broad and could conceivably relate to any rationality.

### **3.2.2 Selecting the Information Sources to Include in Dependent Variable**

When conducting statistical analyses, it is important to have variation in the data so the techniques can detect the effect of differences among the variables. This is particularly true for the dependent variable in OLS multiple regression, where it is not acceptable to use ordinal data that has too few categories and/or the observations cluster in too few levels (Garson, 2012c). Table 3.2 provides a sense of the range of variation for each of the items measuring the importance of information sources to legislative staff members.



**Table 3.2: Descriptive Statistics for Importance of Individual Items Measuring the Information Sources**

	<b>N</b>	<b>Minimum</b>	<b>Maximum</b>	<b>Mean</b>	<b>Std. Deviation</b>
Your State's Statutes, Constitutions, or Rules	298	2	4	3.77	.484
Other State's Statutes, Constitutions, or Rules	297	1	4	2.00	.747
Internet Research	296	1	4	3.06	.75
NCSL and Other Interstate Organizations	299	1	4	2.72	.813
Lobbyists	298	1	4	2.2	.8
Executive Agencies	299	1	4	3.17	.68
Research or Information from Nonpartisan Research Staff	291	1	4	3.22	.867
Research or Information from Partisan Research Staff	295	1	4	2.01	.937
Media	297	1	4	1.81	.709
Personal Expertise	297	1	4	3.11	.811

This illustrates some of the limitations of this data, as the number of answer choices (4) is below the minimum of five typically allowed for using an ordinal variable as a

dependent in OLS regression (Garson, 2012c). This is particularly pronounced in the case of responses for the item asking about the importance of the laws, rules, and constitution of an analyst’s own state (see Table 3.3).

**Table 3.3: Frequency of Responses on the Importance of a Respondent's Own State's Statutes, Constitution, or Rules**

	<b>Frequency</b>	<b>Percent</b>
Not at all Important	0	0.0
Somewhat Important	8	2.7
Important	54	18.0
Very Important	236	78.7
Total	298	99.3
Missing	2	0.7

Here, 78% of the respondents no matter their staff role or state found this information source to be very important to their work, and no respondent felt that the information source was unimportant. As a result, it seems safe to conclude that the legal rationality is important to analysts no matter what type of institution they work in, which should not be surprising. Thurmaier and Willoughby (2001) left discussion of this rationality out of their work on executive budget analysts for this very reason, though the results here cover a wider range of states and organizational structures and are thus somewhat more robust.

Because of the lack of variation and the skewed nature of the responses, this item is not included in additional analyses. The item that asked respondent to rate the importance of “personal expertise” is also deleted from the analysis. This could be interpreted as “intuition” or it could refer to an analyst’s ability to interpret and assemble information. It

seems to focus on internal processing ability rather than an external source of information, and thus is not included in scale-building efforts.

### 3.2.3 Assessing the Influence of Missing Data

Table 3.4 below summarizes the number of cases for each type of information source included in the survey; the percentage of missing cases for each item is relatively low, with the highest being 3%, which is a good sign that missing values likely do not influence the results of this analysis.

**Table 3.4: Missing Data for Items on Importance of Information Sources**

	<b>Valid</b>	<b>Missing</b>
Other State's Statutes, Constitutions, or Rules	297 (99%)	3 (1%)
Internet Research	296 (98.7%)	4 (1.3%)
NCSL and Other Interstate Organizations	299 (99.7%)	1 (0.3%)
Lobbyists	298 (99.3%)	2 (0.7%)
Executive Agencies	299 (99.7%)	1 (0.3%)
Research or Information from Nonpartisan Research Staff	291 (97%)	9 (3%)
Research or Information from Partisan Research Staff	295 (98.3%)	5 (1.7%)
Media	297 (99%)	3 (1%)

To explore whether respondents who failed to provide answers for items are systematically different from those who did answer the questions, chi-square tests and t-tests were

performed on four demographic variables in the data set. Table 3.5 summarizes the results of these tests, with a “yes” indicating statistically significant differences at the 0.05 level.

**Table 3.5: Results of Statistical Tests Examining Patterns in Missing Data on the Items for Importance of Information Sources**

	<b>Gender</b>	<b>Education</b>	<b>Age</b>	<b>Squire<sub>3</sub></b>
Other State's Statutes, Constitutions, or Rules	No	No	No	No
Internet Research	No	No	No	No
NCSL and Other Interstate Organizations	No	No	N/A <sup>4</sup>	N/A
Lobbyists	No	No	No	No
Executive Agencies	No	No	N/A	N/A
Research or Information from Nonpartisan Research Staff	No	No	Yes	Yes
Research or Information from Partisan Research Staff	No	No	No	No
Media	No	No	No	No

In most cases the respondents with missing information did not vary systematically from respondents who answered the items. However, there was a statistically significant difference between the mean age and the mean Squire Index score for the item indicating the importance of nonpartisan staff information to legislative staff members. Respondents who provided an answer for the item had a mean age of 44 while those with missing values had a mean age of 51. In terms of the Squire Index, those answering the item came from states

<sup>3</sup> This is a measure of the professionalism of a legislature, or the level of resources available to a legislature in carrying out its work, developed by Squire (2007). The variable is described in more detail in chapter four.

<sup>4</sup> In cases where N/A appears, t-tests could not be performed because only one respondent in the dataset failed to provide an answer, thus making a comparison of means impossible.

with a mean score of 0.22 while those not answering the item came from states with a mean score of 0.14. This implies that for this item, those not answering the question may be slightly older and from less professional legislatures than those who did answer the question. This could be because less professional legislatures tend to have nonpartisan staff only, so the respondents may not have thought it applied to them, or it could be because they were reluctant to answer the question for some reason.

### **3.3 Factor Analysis**

#### **3.3.1 Issues with Previous Studies Analyzing Multiple Rationalities**

Three previous studies tested the ideas in the multiple rationalities framework, either directly or indirectly. Willoughby and Finn (1996) asked legislative analysts about a variety of decision-making cues and used a cluster analysis to explore how those cues grouped together along demographic lines. This was a useful approach, but the study covered only a handful of states in the Southeast and the clusters were based more on the characteristics of the analysts than the cues themselves. Thurmaier and Willoughby (2001) looked for evidence of the rationalities in executive analysts in the Southeast and Midwest, but they made determinations about how information tied to rationalities based on their own judgment which may or may not match the underlying constructs represented by the interview responses. Goodman and Clynch (2004) asked legislative and executive analysts in Western states about a range of information sources used in their work, but this covered states with only a limited number of LFO institutional forms, and when grouping the information

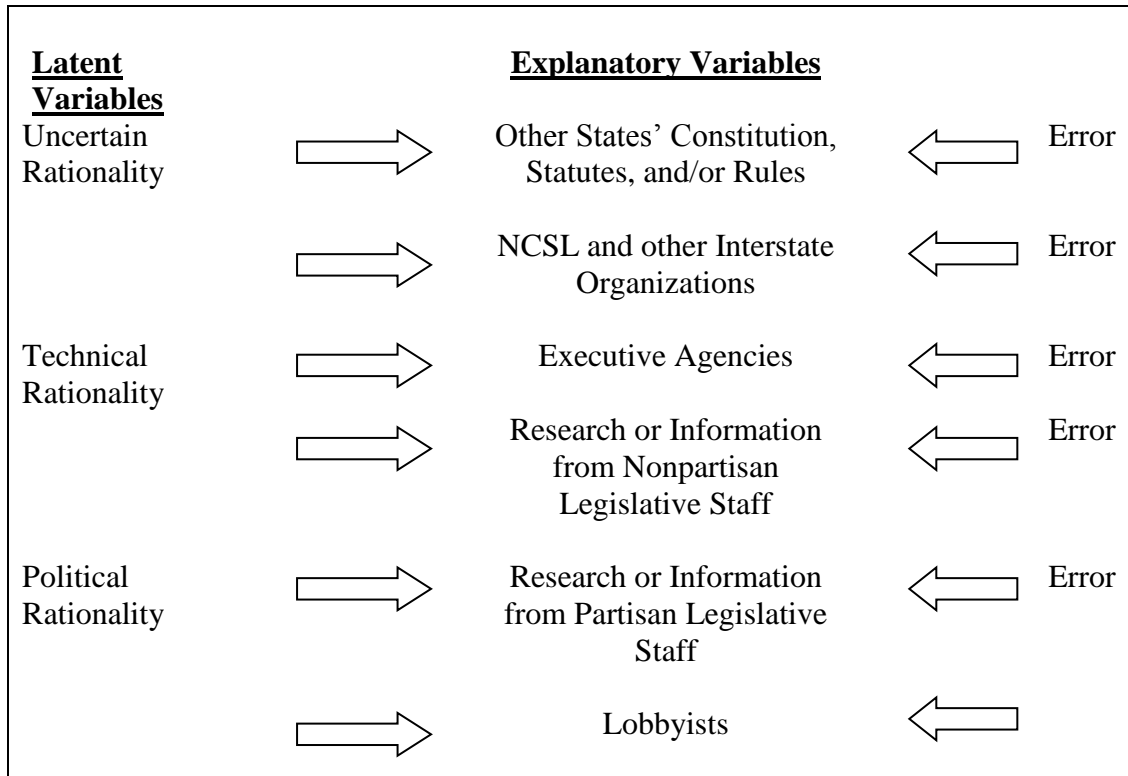
sources together they used an additive index based on how they felt the groupings should be rather than assessing whether the responses represented the same construct. It may well be that the findings of these studies about information use are valid, but there is a need for an analysis of information use from legislative analysts from a wider number of states and one that assesses how well the groupings of information sources we expect to see based on the multiple rationalities framework actually match what the responses show.

### **3.3.2 Expected Relationships among Information Sources**

The NCSL survey dataset, after changes described in section 3.2.2, includes separate items that ask legislative staff about the importance of eight information sources to them in their work. Figure 3.1 below lays out expected relationships between the latent variable representing the relevant rationalities from the framework proposed by Thurmaier and Willoughby (2001) and information sources in the survey that can be used as explanatory variables.

The relationships in the figure mirror the hypothesized connections to the multiple rationalities framework in section 3.2.1. There are, however, a few notable exceptions. First, it seems likely that responses to the items measuring the importance of other states' constitutions and laws and the importance of information from NCSL would be consistent. Their usage could reflect the social rationality if they are used to assess whether a state's response to a budget problem was "beyond the pale" of how other states responded to similar problems. However, their usage could also reflect an external or comparative rationality that is not described in the framework of Thurmaier and Willoughby (2001). Legislators and

legislative staff may go to these sources to generate ideas for possible solutions to budget problems or to see how a state compares for purposes such as economic development (e.g., how teacher pay or tax rates compare to those in other states). It seems plausible, though, that these will group together in the analysis even if it is unclear at this point exactly why.



**Figure 3.1: Path Diagram for Linking Multiple Rationalities to Information Sources in NCSL Data**

Survey items that ask about the importance of internet research and media to legislative staff are also difficult to categorize. These could conceivably measure a number of rationalities. Internet research could be connected to the technical rationality if used to gather information from executive agencies; it could be used in a similar manner to

information from outside the state; or it could be used in a different way and thus responses for this item would not be consistent with responses from other items. Information from media sources could be linked to the political rationality if used to obtain the views of key decision-makers, the social rationality if used to determine the public's views on a budget problem.

### **3.3.3 Description of Factor Analysis Techniques Used**

Factor analysis is a technique that “uses correlations among variables to identify subgroups... characterized by relatively high within-group correlation among variables and low between-group correlation among variables” (Berman, 2007, p. 280). This technique allows two things: 1) it assesses whether the survey items group along the lines of what might be expected based on the framework of multiple rationalities, and 2) it allows the creation of scale variables for any such rationalities that can be used in tests of bivariate relationships and OLS regression. This section outlines the specific dimensions of the factor analysis applied to the data.

There are two basic types of factor analysis: exploratory and confirmatory. The former is used primarily when a researcher does not have a sense about prior relationships among the variables, while the latter seeks to confirm the existence of an underlying structure. Despite the relationships hypothesized in Figure 3.1, this factor analysis should be viewed as exploratory rather than confirmatory for several reasons. First, not all of the items about the importance of information from the survey can be tied to specific rationalities, so the hypothesized structure is incomplete. Part of the purpose of this analysis, then, is to help



fill in the blanks. Second, the nature of the data is not optimal for confirmatory factor analysis. In factor analysis with survey data, it is preferable to use items with a mean that is closer to the center of the range than items with a mean near one extreme of the range, as “a lopsided mean or a low variance for any reason will tend to reduce an item’s correlation with other items” (Develiis, 1991, p. 83). Unfortunately, as could be seen in Table 3.2, very few of these items had means close to the center of the range so the correlations between items could be lower than they might otherwise be, making it harder to identify a clear factor structure.

The method of factor extraction used is “principal component analysis” which examines variance among the variables and the associated errors for various components (Garson, Factor Analysis, 2012b). If the variance in the items for the survey is caused by the variance in the same underlying construct, then they should be similar for all items in the component or factor (Develiis, 1991, p. 28). Factors are determined partially based on eigenvalues, which measure the amount of total variance in the sample explained by components or factors. Factors with an eigenvalue measure below one, which is the traditional cut-off point (called the Kaiser criterion), have been dropped from the analysis (Garson, 2012b). The rotation method selected is varimax, which simplifies the interpretation of the component matrix by providing variables with high or low loadings on components in the factor analysis (Garson, 2012b). Given the limited range of answer choices for each item in the NCSL survey, this method should make it easier to determine which variables load on which factors.

### 3.3.4 Results of Factor Analysis

The analysis extracted three components using the survey items on the importance of information to legislative staff. Combined, these factors explain 59.8% of the variance in the sample. The rotated component matrix in Table 3.6 below provides the factor loadings for each variable on the components.

**Table 3.6: Rotated Component Matrix for Information Factors**

	<b>Components</b>		
	<b>1</b>	<b>2</b>	<b>3</b>
Other State's Statutes, Constitutions, or Rules	<b>.714</b>	.207	-.105
Internet Research	<b>.822</b>	.053	.010
NCSL and Other Interstate Organizations	<b>.746</b>	.105	.221
Lobbyists	.138	<b>.766</b>	.162
Executive Agencies	.034	.048	<b>.792</b>
Research or Information from Nonpartisan Research Staff	.034	.088	<b>.756</b>
Research or Information from Partisan Research Staff	.010	<b>.793</b>	-.027
Media	.211	<b>.660</b>	.064
Extraction Method: Principal Component Analysis. Rotation Method: Varimax with Kaiser Normalization. a. Rotation converged in 4 iterations.			

The square of the factor loading score represents the percent of variance in the variable explained by the factor (Garson, Factor Analysis, 2012b). In the case of the variable

about the importance of a staff member’s state laws or constitution, 32% of the variance in the item can be explained by the third factor. Likewise, 68% of the variance in the importance of information from partisan staff sources can be explained by the second factor. It would be preferable for the factor loadings to be higher, though no variables load onto multiple factors, and each loading is above 0.6.<sup>5</sup>

### 3.3.5 Discussion of How Factors Relate to the Multiple Rationalities Framework

Aside from simply determining the number of factors present among the items, it is necessary to assess the content validity of the factor groupings and make sure that what we see in the data makes sense. Table 3.7 summarizes the types of information for each factor and provides a name for the proposed latent variable each represents.

**Table 3.7: Summary of Factors Related to Information Use among Legislative Staff**

<b>Factor 1: External</b>	<b>Factor 2: Political</b>	<b>Factor 3: Technical</b>
Other States’ Statutes, Constitution, and Rules	Lobbyists	Executive Agencies
Internet Research	Partisan Legislative Staff	Nonpartisan Legislative Staff
NCSL and other Interstate Organizations	Media	

<sup>5</sup> Constructed variables such as these are subject to problems of two types of external validity that may make interpreting results problematic. Convergent validity, for example seeks to make sure the items in a scaled variable measure the same underlying trait. The fact that there was a simple factor structure in the analysis likely alleviated this concern, though. Discriminant validity, which seeks to prove that items making up a scaled variable are not better related to items in another scaled variable, is another concern for external validity (Garson, 2012a, p. loc. 213). The results of the factor analysis used to create the scaled variables provide some evidence that this is not a problem here; a second way is to examine correlations between the scaled variables and the individual items used to construct them: these should be highest for the scaled variables they are a part of, and below 0.85 for other scaled variables (p. loc. 213), and all of the items in the scaled dependent variables meet this criteria.

Factor Two seems to be the easiest to explain. Information from lobbyists and from partisan legislative staff conveys messages about the policy preferences of key stakeholders in the budget process, and may have some bias built into the results. Media sources can provide different types of information, but the presence in this factor suggests that legislative staff may use such information for the perspective it gives of the views of key stakeholders in the budget process (e.g., letters from leadership in the editorial pages, coverage of political battles in the budget). A rival explanation could be that these represent the least used sources of information by analysts, as two have the lowest means of the information variables in the data set. Legislators generally have a preference for information from nonpartisan sources compared to partisan ones (Hird, 2005), so it is possible the same preference extends to legislative staff. However, even if these represent the least used sources of information it is interesting that they seem to group together.

Factor Three includes information sources that might normally be associated with the technical rationality described by Thurmaier and Willoughby (2001, pp. 101-103), which involves comparing input/output ratios to determine the most efficient way to carry out a process. Executive agencies provide perspective on existing programs and goals, and data that can be used for independent analysis that would be necessary for such work. Nonpartisan legislative staff members sometimes focus on more objective, technical analysis of options for solving a problem (Patterson, 1964; Willoughby & Finn, 1996; Goodman & Clynch, 2004; Goodman, 2008), or on providing basic context for an issue. This also could be helpful to assessing the best way to solve a given problem. It could be that the information

crosses into other rationalities, but these are the places where traditional policy analysis is most likely to occur and they both are sources of information that filter material through the lens of state agencies or programs, and thus are technical sources as opposed to sources listed in Factor One.

Factor One includes information sources that seem to fall outside of the other rationalities outlined by Thurmaier and Willoughby (2001). These all relate to external information searches, most likely to learn what other states have done about a policy or budget problem in order to benchmark their own state's practices or see what can be learned from the experience of others. This fits with the idea of policy diffusion, where legislators or governors learn from one another and policy ideas spread through communication or research (Berry & Berry, 2007). NCSL sponsored the survey used in this analysis, so the emergence of this factor may relate to the categories included in the survey and these are of primary interest to NCSL. However, it also makes sense that when confronted with a budget problem, analysts may look outside of their own state to see how others have handled the issue or what research is available that could help analysts make sense of what they are seeing. This type of information may find its way into briefings from executive agencies or nonpartisan legislative staff, but it seems different and if the point of this analysis is to explain the process used by analysts to solve budget problems, then "What have others done?" is a reasonable lens to expect them to view the problems through in addition to trying to find the best way to do something. It is not likely that this analysis will determine how

similar or different this “external/comparative rationality” is from the “technical rationality” but it could help direct additional research to explore the distinction.

### **3.4 Summary**

This chapter accomplished two things. First, it described the NCSL survey that provides most of the data used in analyses in this dissertation. This is a national dataset that allows an examination of information use among legislative fiscal analysts and other staff that may be involved in the budget process. No previous research on LFOs has used a national survey, nor have previous studies include legislative staff that may work on the budget but not work for the LFO. This group has increased in recent decades, but less is known about them and their information use than is known about LFO analysts.

Second, a factor analysis using items from the NCSL survey about the importance of eight information sources to legislative fiscal analysts and other staff engaged in the budget process shed light on the existence among legislative staff of the multiple rationalities described by Thurmaier and Willoughby (2001). The presence of the technical and political rationalities seem likely based on the results; more importantly, though, the results suggest the existence of at least one additional rationality that examines budget problems in light of what other states have done about budget issues they face. This may be something unique to the legislative environment, or it may simply be a product of the types of information included in the survey. Previous studies focused on information sources within the confines of a state rather than those outside of the states. Additional research is needed to determine how important this potential rationality is to actors in the budget process, how it is used (e.g.,

does it help generate ideas or is it used to justify votes or decisions?), and whether actors outside of the LFOs use it. The existence of this factor in the data also serves as a caution to researchers about the sources of information they include in their analysis. The framework of Thurmaier and Willoughby (2001) may be incomplete, but these results do not indicate how complete or incomplete the framework may be. Researchers need to be specific about what rationalities (or similar constructs) they measure, and use techniques to assess the underlying constructs behind their measures. Likewise, additional research needs to be done to assess what rationalities may be missing from Thurmaier and Willoughby's (2001) framework. They went into their research with a predetermined set of potential information cues in their interviews (which was likely necessary to manage the data collection process); future research, though, may wish to take a more open ended approach to determine what kinds of information analysts use and the ways in which they use them to further refine the multiple rationalities framework and advance the literature on budgetary decision-making.

#### **4. Bivariate Tests Examining Potential Influences on the Importance of Information to Legislative Budget Staff**

The previous chapter established that legislative budget analysts and other legislative staff engaged in the budget process seem to find related sets of information, and that these sets of information correspond to some of the rationalities proposed by Thurmaier and Willoughby (2001). However, the literature described in chapter two indicated that various institutional and individual characteristics likely influence the use of such information. The factor analysis results alone provide no information about these relationships.

This chapter provides preliminary analyses of the relationship between various institutional and individual level variables and the importance of information sources to fiscal analysts and other legislative staff likely to be involved in the budget process. The chapter begins with a description of the construction of the dependent variables representing the information factors (external, political, technical) described in chapter three as well as a fourth scale variable measuring the importance of eight information sources combined. The chapter then examines the relationship between the importance of information to legislative staff and the structure of the Legislative Fiscal Offices in states where they work, which is a central question for this dissertation. This includes development of hypotheses about the relationship, a description of the operationalization of the two variables measuring the structure of LFOs, and the results of one-way ANOVA tests of the hypotheses. The chapter then provides similar analyses for four institutional variables (the presence of divided government, the professionalism of the legislature, the strength of the governor *vis-a-vis* the



legislature, and the rate of legislative turnover) and three individual variables (age, whether the respondent is a fiscal analyst, and gender) that the literature indicates may have an effect on the importance of various information sources to legislative staff in the budget process. The results of these analyses are summarized, and are used to develop the OLS regression models tested in chapter five.

#### **4.1 Information Factors and Combined Importance of Information (Dependent Variables)**

One of the advantages of using a factor analysis is that the results from the analysis can be used to create scale variables that can be used in different statistical procedures. This section describes the technique used to create the scale variable, the validity of the scale variables, and explores the effect of missing data on the scale variables.

##### **4.1.1 Scale Variables for Individual Factors**

Factor scores estimate the relationship between a particular observation and the corresponding factor by examining “linear combinations of the observed variables which consider what is shared between the item and the factor (i.e., the shared variance) and what is not measured (i.e., the uniqueness or error term variance)” (DiStefano, Zhu, & Mindrila, 2009, p. 3). In other words, the scores measure the underlying constructs represented by the factors, in this case the external, political, and technical information constructs. The hope is to produce “factor scores that are highly correlated with a given factor and to obtain unbiased estimates of the true factor scores” (DiStefano, Zhu, & Mindrila, 2009, p. 4). There are three common methods available for computing factor scores: regression scores, Bartlett scores,

and Anderson-Rubin scores. Bartlett scores are used for this research, as the method used produces scores highly correlated with the underlying factor and is more likely than the other two methods to produce unbiased estimators of the factor scores (DiStefano, Zhu, & Mindrila, 2009, pp. 4-5). In general with factor analysis to build a scale, a researcher wants to see between 5 and 10 cases per item in the scale (Develiiis, 1991, p. 106). In this analysis, no scale has more than three items so the sample is not in danger of violating this preference.

#### **4.1.2 Scale Variable to Measure Combined Importance of Information Sources**

While the use of Bartlett scores allows bivariate statistical tests and regression models to be run for each factor to assess the effect of institutional and individual variables on their importance to legislative staff, this approach does not allow an examination of the overall use of information by legislative staff involved in the budget process. Thurmaier and Willoughby (2001, p.122) advanced their model of multiple rationalities because they believed that budget problems are complex and that analysts need to “define the set of budget alternatives that are feasible from the perspective of multiple problem frames and then recommend an alternative”. Different types of budget problems need different types of solutions so the overall importance of information sources sheds some light on the complexity of problems addressed by legislative staff: those that find mainly information from the technical sources important but not other types may work more as number crunchers, while those that find political information sources important may work on different types of budget problems or be involved mostly at different stages of the budget process (Thurmaier & Willoughby, p. 106). A fiscal analyst or legislative staff member that

utilizes more sources of information in concert on budget problems has a more complete picture of the budget problem and possible solutions, and may have a better chance of having their recommendations or analysis used (Hartmark, 1975; Thurmaier & Willoughby, 2001). Thus it is important to assess the usage of these information sources in total as well as looking at the importance of individual factors.

Using factor scores is not feasible for this, though, since such an indicator would combine all the remaining items. An alternate way of building a scale is to add the values for the indicator variables to build a scale for “importance of multiple sources of information” (Kim & Mueller, 1978, p. 78). This can be constructed by summing the scores for each of the eight types of information, with possible values ranging from four to thirty-two. Goodman and Clynch (2004) used this approach to create scale variables for the information sources included in their analysis of legislative and executive budget analysts.

However, using this method to construct a scale lacks the statistical testing of techniques like factor analysis to ensure the items in the scale are consistent with one another and should be combined. An alternate way to look at the internal consistency is to examine the Cronbach’s Alpha for the items constituting a scale (Develiis, 1991, p. 84). This value measures the relationship between the summed variances for individual items in the scale with the variance of the scale itself: if these are very close, then the alpha will be closer to zero and the scale is not related, while if the variability of the scale is larger than the individual items, the alpha will be closer to one and the scale can be said to be more reliable (Norusis, 2005, p. 436). The lower the alpha goes, the higher the estimates of the standard

error of measurement and the less consistent the measures of the scale will be; it is preferable for the alpha to be above 0.8, though 0.6 can be accepted for exploratory measures (Garson, 2011b).

For the eight items in this scale, the Cronbach's alpha value is 0.641. This meets the bare minimum threshold for acceptance, though it would be preferable for the alpha value to be closer to 0.8 suitable measures do not exist in the dataset for this purpose.<sup>1</sup>

#### **4.1.3 Descriptive Statistics for Scale Variables and Assessment of Missing Data**

While it is helpful to examine missing values on individual items, these items will be used to create scale variables for the regression model and so the same analysis of missing values needs to be performed on these scale variables. Table 4.1 provides descriptive statistics for each of these variables. For each scale variable, the number of missing cases was 18, or 6% of respondents. This is a small number, and means that missing data may not be a problem in further analyses. Table 4.2 summarizes the results of statistical tests to

---

<sup>1</sup> Though factor analysis is usually enough to determine the validity of a scale, the Cronbach's alpha values for the items comprising the three individual factors also were computed. For the external factor, the value was 0.665. For the political factor the value was 0.617. For the technical factor, the value was 0.421. The low value for the technical factor is concerning, as it is below the threshold of 0.6 that is appropriate for exploratory research. However, Cronbach's alpha is sensitive to the number of items in a scale, which in this case is only two. The more items in a scale, the more likely the alpha is to approach one while conversely the fewer items in the scale the harder it will be for the alpha to approach one (Norusis, 2005, p. 437). Kim and Mueller (Factor Analysis: Statistical Methods and Practical Issues, 1978, pp. 71-72) note that the results of a factor analysis because there may be misleading because measurement errors could lead to the given scores, and as a result results should be taken as a suggestion and that "once we accept that the particular numbers obtained contain substantial 'noise,' it may be wise to ignore minor distinctions and differences." As such, the model with technical sources as its dependent variable will be run, though future research in this area may wish to collect more include more potential items related to such sources of information in order to improve the reliability of scales.

determine whether those with missing values differ from those who answered the item, with a “yes” indicating that the test showed statistical significance at the 0.05 level.

The only demographic variable here that showed a pattern was age. For each factor, the mean age for those not answering at least one item was 50 and the mean age for those who answered all items was 44. Thus the difference in age is slightly smaller between the two groups than it was for the individual item on the importance of nonpartisan information, but the difference is still present. The indicator variables for each of the factors thus shows possible bias in terms of age, with older respondents choosing to answer items used in the scales less than younger analysts. This means the items may be subject to some item non-response bias. However, given the low number of missing values and the use of Multiple Imputation for the Factor Analysis and OLS Regression to allow for analysis of the potential effect of missing values in the data, the scale variables will remain as dependent variables in subsequent analyses.

**Table 4.1: Descriptive Statistics for Factor Scores**

	<b>N</b>	<b>Minimum</b>	<b>Maximum</b>	<b>Mean</b>	<b>Std. Deviation</b>
External Factor	282	-2.69	2.67	.00	1.00
Political Factor	282	-1.88	3.14	.00	1.00
Technical Factor	282	-3.66	1.73	.00	1.00
Total Information Use	282	13.00	29.00	20.24	3.37
Valid N (listwise)	282				

**Table 4.2: Statistical Tests Examining Patterns in Missing Data on Scale Variables for Information Sources**

	<b>Gender</b>	<b>Education</b>	<b>Age</b>	<b>Squire</b>
Technical	No	No	Yes	No
External	No	No	Yes	No
Political	No	No	Yes	No
Total	No	No	Yes	No

## **4.2 Structure of Legislative Fiscal Offices (Independent Variables)**

Legislatures organize their organizational structure and rules to facilitate the provision of information they need to accomplish their tasks (Krehbiel, 1991). Thus, the decision by a legislature about how to structure their LFO (or LFOs) reflects the preferences for information in the budget process, and thus understanding the effect of these decisions can advance our understanding of budgetary decision-making.<sup>2</sup> This particular analysis seeks to explore the effect LFO structure may have on the importance of information to legislative staff involved in the budget process. This section lays out the variables used to test this relationship, the hypotheses about this relationship, and the results of ANOVA tests to provide an initial test of these hypotheses.

---

<sup>2</sup> There is evidence that other organizational decisions made by a legislature influence legislative behavior in the budget process. For example, states with centralized committee structures (spending and tax decisions combined) sometimes bring in more revenue and spend less than states that separate these types of decisions (Crain & Muris, 1995). This may be because legislators develop specialized knowledge that helps them target areas for more spending and increases transaction costs that might limit the number of areas where interest groups can work against one another to check spending (Dharamapala, 2003).

### 4.2.1 Hypotheses

The literature described in chapter two does not provide a consistent message about the possible effect of the structure of an LFO on the importance of information to legislative staff. For example, Goodman and Clynych (2004) found no statistically significant effect of the presence of a centralized, nonpartisan staff office on the use of political or technical information use among legislative budget analysts in western states; while this seems conclusive, the dominant LFO structure in their dataset was centralized, nonpartisan so there was little variation and thus likely explains the finding. On the other hand, the work of Thurmaier and Willoughby (2001) indicates that the structure of a budget office affects the number of rationalities executive budget analysts consider in making recommendations; specifically, those who briefed the governor directly tended to use more rationalities in their work. This was based on the idea of policy distance, though, which the work in chapter two showed mattered regardless of the structure of an LFO and this dataset does not have a way to operationalize.

Other studies found that partisan LFO staff members were expected to take political sources of information into account while nonpartisan LFOs often shied away from such information (Balutis A. P., 1975a; Butler, 1975; Kent, 1975; Snow & Clarke, 1999), that analysts in centralized, nonpartisan offices may use political information for different purposes than partisan staff (Hartmark, 1975; Caiden, 1984), and that differences in information use may exist even between House and Senate staff (Balutis A. P., 1975a; Kyle, 1975). In general these suggest that the structure of an LFO influences the importance of

information to LFO analysts; the one specific direction this points to is that analysts in partisan, committee based offices would likely find political information more pertinent to their work as they are likely expressly asked to include it in their recommendations.

The research on information use by legislators (discussed more extensively in chapter one) is helpful in refining hypotheses about the relationship between staff organizational structures and information use by budget analysts. Where partisan staff organizations exist, for example, legislators may have a preference for technical information from nonpartisan staff or other internal sources (Guston, Jones, & Branscomb, 1997; Hird, 2005). This likely is because of specialization of sorts, where nonpartisan staff members focus on technical issues while partisan staff members provide political information. This specialization may occur out of necessity; where there is more competition for the attention of legislators among staff (as in more professional states like California or states like Louisiana with multiple LFOs), an LFO may develop a niche to preserve its legitimacy and serve a role for legislators (Rosenthal, 1998; Chadha, Permaloff, & Bernstein, 2001; Hird, 2005). In contrast, where an LFO is one of the only options legislators have for information about the budget (e.g., in smaller states with fewer staff resources), legislators may rely on the LFO analysts for more tasks and information and thus the analysts will need to use more types of information to conduct their work.

An additional type of situation may arise in states where the legislature has a single LFO structure, but divides the office based on chamber or caucus as in New York or Virginia. Analysts in these offices serve only one chamber or party, and as such may be



involved in discussions of a more political nature than their counterparts in the other situations. These analysts likely resemble the executive budget analysts described by Thurmaier and Willoughby (2001) most closely; they have fewer political principals to take into account, and thus may be able to craft their recommendations more closely to the desires of those individuals (Snow and Willoughby, 2002). Thurmaier and Willoughby (2001) found executive analysts with more access to decision-makers to use more rationalities overall, so one might expect that they would use all but the technical sources of information more than analysts in states with centralized, nonpartisan LFOs. This is not to say centralized, nonpartisan LFO staff members do not value political information or that they are never asked to share their views on the matter; it may simply be that they are reluctant to share it or indicate its importance because they have to balance between two parties and two chambers (Patterson, 1964; Caiden, 1984).

Taken together, these findings from the literature suggest a set of hypotheses about the relationship between the structure of legislative staff and the importance of information sources to legislative staff involved in the budget process. Each of these is described below in terms of the variables used in the analysis.

Legislative staff involved in the budget process will find the external information factor (e.g., other states' laws, NCSL, internet research) important to different degrees based on the legislative staffing structure in their state. One might expect that legislative staffs in states with centralized, nonpartisan offices (or in states with few partisan staff available) are asked to do more than staffs in states with additional agencies. Likewise, such legislatures

have less of a capacity to generate their own information, and thus those in such places may need to utilize external sources more to generate ideas and complete their work than their peers in other states.

In terms of the political information, one might expect that legislative budget staff in states with centralized, nonpartisan offices likely find the political information factor less important than legislative staff in states with centralized, nonpartisan structure. Budget staff in states with committee structures may be asked to take partisan information into consideration (Balutis A. P., 1975a; Kent, 1975) and staff in states with chamber LFOs may have to do the same to a degree because of competition between the upper and lower chambers of the legislature. Budget staff in states with hybrid structures may use the political information less than those in states with centralized, nonpartisan staff; in hybrid structures they may have to specialize, and as there is more competition for the attention of legislators, the ability to brief key decision-makers directly may diminish making it more difficult or unnecessary for budget staff to gather the political information sources needed to make use of this information factor. In terms of the levels of partisan staffing, the relationship might be slightly different. Partisan staff research is a source of information included in the political information factor. The presence of more partisan staff could likely also indicate the increased presence of lobbyists in a state, which is also included in the political information factor. Thus, as the level of partisan staffing increases, one would expect the importance of the political information source to increase for analysts if for no

other reason than the policy systems in such states have the capacity to create such information.

In terms of the technical information factor, it should be important for all legislative staff involved in the budget process. However, those staff in states with centralized, nonpartisan staff offices likely find it more important than those in states with a single, split structure LFO; the staff in the centralized LFOs have to preserve their perceived neutrality and thus fall back on this type of information more readily. Staff in states with centralized, nonpartisan offices may rely on this type of information slightly less than legislative staff in states with hybrid structures that face competitive pressure for the attention of legislators and my specialize accordingly. The same logic applies to different levels of partisan staffing; legislative staff members in states with few partisan staff available to legislators likely rely on technical information sources more than their peers in states with moderate amounts of partisan staff, but less than their peers in states with a high number of partisan staff available to legislators.

The relationship between the combined importance of information sources (the “total” factor) and the structure of the legislative staff in states should be similar to the relationships described for the technical information source (for similar reasons). Staff members in states with centralized, nonpartisan LFOs likely find more information sources important overall than do those in states with hybrid structures, though less than those in states with single, split structures. In the former case, this is because of the specialization expected to occur in states with hybrid structures; in the latter case it is because staff in states

with single-split structures are expected to have easier contact with key decision-makers than staff in states with centralized, nonpartisan LFOs. Thurmaier and Willoughby (2001) found that this kind of situation led to increased use of multiple rationalities among executive budget analysts, so a similar relationship may exist for legislative analysts. For the level of partisan staff, the importance of all information sources combined may be expected to increase as the level of partisan staffing increases; as was hypothesized for the political information factor, this may be a product of the ability of legislative policy systems to create more information for staff to use in their work.

Table 4.3 summarizes the hypotheses about the relationships between the structure of legislative staff and the importance of information sources to them.

**Table 4.3: Hypotheses for Effect of LFO Structure on Dependent Variables**

<b>Dependent Variable</b>	<b>Expected Effect on Dependent Variable</b>
External Information Factor	<p>1) External sources of information will be <b>more important</b> to legislative staff in states with centralized, nonpartisan LFO structure as opposed to states with other LFO structures.</p> <p>2) As the level of partisan staffing increases, the external information factor will be <b>less important</b> for legislative staff.</p>
Political Information Factor	<p>1) Political sources of information for legislative staff in states with a centralized, nonpartisan LFO:</p> <ul style="list-style-type: none"> <li>• Will be <b>less important</b> than for legislative staff in states with a single LFO structure, split across chambers or caucuses</li> <li>• Will be <b>more important</b> than for legislative staff in states with a hybrid LFO structure</li> </ul> <p>2) As the level of partisan staffing increases, the political information factor will be <b>more important</b> for legislative staff.</p>
Technical Information Factor	<p>1) Technical sources of information for legislative staff in states with a centralized, nonpartisan LFO:</p> <ul style="list-style-type: none"> <li>• Will be <b>more important</b> than for legislative staff in states with a single LFO structure, split across chambers or caucuses</li> <li>• Will be <b>less important</b> than for legislative staff in states with a hybrid LFO structure</li> </ul> <p>2) Technical sources of information for legislative staff in states with a small number of partisan staff available to legislators:</p> <ul style="list-style-type: none"> <li>• Will be <b>more important</b> than for legislative staff in states with a moderate number of partisan staff</li> <li>• Will be <b>less important</b> than for legislative staff in states with a large number of partisan staff</li> </ul>
Importance of Eight Information Sources Combined	<p>1) The combined importance of the information for legislative staff in states with a centralized, nonpartisan LFO:</p> <ul style="list-style-type: none"> <li>• Will be <b>less important</b> than for legislative staff in states with a single LFO structure, split across chambers or caucuses</li> <li>• Will be <b>more important</b> than for legislative staff in states with a hybrid LFO structure</li> </ul> <p>2) As the level of partisan staffing increases, the combined importance of information sources will be <b>more important</b> for legislative staff.</p>

#### 4.2.2 Variable Construction

Two variables in the dataset examine the structure of fiscal offices. The first is a categorical variable that assigns each respondent a code based on the LFO structure in the state in which they work (using the information from the table found in Appendix A):

- 1) Centralized, nonpartisan,
- 2) Multi-office (either chamber or caucus) but single structure, and
- 3) Hybrid structure (combination of centralized, nonpartisan along with committee, caucus, or chamber offices working on the budget).

This three-part typology is slightly different from the four part typology described in section 1.2.3 and displayed here for reference:

- 1) Centralized, nonpartisan LFOs serving members of both chambers
- 2) Nonpartisan LFOs that serve only the House or Senate
- 3) Bi-partisan LFOs that only serve committees in the House or Senate
- 4) Majority/Minority LFOs that serve committees, leadership, or a caucus in the House or Senate

There are several reasons for using the three part coding scheme. First, using the basic four part typology ignores the fact that there may be several LFOs within a state, or a hybrid structure. This is an important distinction, to make. Centralized, nonpartisan offices, for example, exist in states where they are the main provider of budget information (e.g., South Dakota, North Carolina) and in states where they are one of several providers of budget information (e.g., California, Louisiana). However, even though the basic structure of the immediate office is the same, the office in the state with more competition among the staff organizations may find a need to specialize in order to justify their existence (Rosenthal,

1998; Chadha, Permaloff, & Bernstein, 2001; Hird, 2005). Thus even though they work in the same basic office, they might use information differently, and including the “hybrid” option attempts to take this into account.

A second reason for condensing the categories is that there were not enough respondents from states with chamber-based LFOs and committee-based LFOs to merit including them in separate levels of the variable. These two groups have some key differences (namely that one tends to be partisan and one nonpartisan) but they are also more closely related than the centralized, nonpartisan LFOs and the LFOs that operate in hybrid states. Had the number of respondents been larger, the variable would have had four levels as opposed to three. This is a weakness of the dataset, and future researchers should work hard in their surveys to ensure enough analysts from each type of state are included in order to examine the differences. Table 4.4 presents descriptive statistics for this variable as constructed.

**Table 4.4: Frequencies for LFO Structure in Dataset**

	<b>Frequency</b>	<b>Percent</b>
Centralized, Nonpartisan	141	47.0
Chamber, Committee, or Caucus, but Only One Form	63	21.0
Hybrid Structure	96	32.0
<b>Total</b>	<b>300</b>	<b>100.0</b>

The second measure of LFO structure comes from an item in the NCSL survey that asked respondents whether they worked in a legislature with a few, a fair amount, or a large number of partisan staff available for legislators. Though subjective, it is possible that this item captures some of the nuance of legislative structure that the other variable could have missed. A partisan staffer who works on the budget may appear in the NALFO directory, but it is just as likely that they would not. Thus this variable serves as an alternate means to assess the structure of legislative staffing arrangements in a legislature. Table 4.5 presents descriptive statistics for this variable as constructed.

**Table 4.5: Frequencies for Level of Partisan Staffing**

	<b>Frequency</b>	<b>Percent</b>
Few Partisan Staff Available	87	29.0
Moderate Number of Partisan Staff Available	129	43.0
Large Number of Partisan Staff Available	84	28.0
Total	300	100.0

Table 4.6 examines the relationship in the data between the two sets of independent variables. The pattern is significant, and mirrors what one would expect: states where a centralized, nonpartisan LFO dominates show “few partisans” as the most common category, while those with a hybrid structure have more partisan staff (based on the perceptions of legislative staff). The question that follows is whether these sets of independents measure different underlying concepts of legislative staff structure or the same one. Despite the pattern, each of the LFO structure variables has 1/3 to 1/2 of respondents in states with at



least a “fair” number of partisan staffers. Such a high number (particularly among the respondents from states with centralized, nonpartisan LFOs only implies that the variables measure different constructs and thus both sets will be included in the regression models.

**Table 4.6: Comparison of LFO Structure and Presence of Partisan Staff in Dataset**

	<b>Few Partisans</b>	<b>Fair Number of Partisans</b>	<b>Large Number of Partisans</b>	<b>Total</b>
Centralized, Nonpartisan	69 (53.5%)	45 (34.9%)	15 (11.6%)	129
Single Structure, Split	5 (9.1%)	30 (54.5%)	20 (36.4%)	55
Hybrid Structure	13 (11.2%)	54 (46.6%)	49 (42.2%)	116
	87	129	124	

*\*Chi-Square = 73.004, 4 df is significant at the 0.05 level*

### 4.2.3 ANOVA Tests

The independent variables measuring the type of LFO in a state and the level of partisan staffing are three-level categorical variables. The one-way ANOVA procedure allows testing of the null hypothesis that the means for legislative staff at each level of the variable are equal (Norusis, 2005). These tests are performed to provide a preliminary examination of the relationship between these variables and the dependent variables.

Table 4.7 provides the results for the ANOVA tests for the null hypothesis that the group means for legislative staff in states with different types of LFO are equal, and Table 4.8 provides the corresponding means for each group. As hypothesized, staff members in

states with single, split structures value political information more than staff in states with centralized, nonpartisan LFOs. Staff members in states with hybrid LFO structures also value this information more than their peers in states with centralized, nonpartisan LFOs, though, which is counter to the hypothesized relationship. Post-hoc tests reveal that each of these mean differences is significant at the  $p < 0.01$  level, indicating the null hypothesis that the mean differences displayed for respondents in states with centralized, nonpartisan LFOs and legislative staff in other states is actually zero should be rejected. This may indicate that the legislative policy system in states with hybrid LFOs produces more political information, and the availability of such information gives it a chance to be important that does not exist in states with centralized, nonpartisan offices as the dominant LFO structure. Though the ANOVA results were not significant for the remaining factors, the direction of the hypothesized relationships was in the hypothesized direction; future research with a larger dataset may be able to find statistical evidence to better evaluate these relationships.

**Table 4.7: ANOVA Results for LFO Structure Variable**

	Between Groups			Within Groups			F
	Sum of Squares	df	Mean Square	Sum of Squares	df	Mean Square	
External	1.16	2	0.580	279.84	279	1.00	0.579
Political	24.39	2	12.12	256.61	279	0.92	13.26***
Technical	5.52	2	2.77	275.48	279	0.99	2.80
Total	56.66	2	28.33	3142.95	279	11.27	2.52

$N=282$ , (\*\* denotes significance at 0.05, and \*\*\* denotes significance at 0.01)

**Table 4.8: Means for Dependent Variables by the Structure of the LFO**

	<b>External Information Factor</b>	<b>Political Information Factor</b>	<b>Technical Information Factor</b>	<b>Total Information</b>
Centralized, Nonpartisan	0.07 (0.97)	-0.31(0.83)	0.09 (0.90)	19.83 (3.24)
Single, split structure	-0.05 (1.14)	0.30 (1.14)	-0.27 (1.15)	20.22 (3.30)
Hybrid	-0.07 (0.96)	0.27 (1.00)	-.05 (1.01)	20.85 (3.30)

*N=282, Standard errors for each mean are in parentheses*

**Table 4.9: ANOVA Results for Presence of Partisan Staffing Variable**

	<b>Between Groups</b>			<b>Within Groups</b>			<b>F</b>
	<b>Sum of Squares</b>	<b>df</b>	<b>Mean Square</b>	<b>Sum of Squares</b>	<b>df</b>	<b>Mean Square</b>	
External	1.27	2	0.63	279.73	279	1.00	0.63
Political	19.02	2	9.51	261.98	279	0.94	10.13***
Technical	0.51	2	0.25	280.45	279	1.01	0.25
Total	72.29	2	36.15	3127.31	279	11.21	2.23**

*N=282, (\*\* denotes significance at 0.05, and \*\*\* denotes significance at 0.01)*

**Table 4.10: Means of Dependent Variables by Level of Partisan Staffing**

	<b>External Information Factor</b>	<b>Political Information Factor</b>	<b>Technical Information Factor</b>	<b>Total Information</b>
Very few	0.11 (0.93)	-0.42(0.81)	-0.003 (0.94)	19.43 (3.00)
Moderate	-0.03 (1.01)	0.13 (0.90)	-0.04 (0.98)	20.46 (3.33)
Large Number	-0.07 (1.05)	0.21 (1.18)	0.06 (1.08)	20.68 (3.67)

*N=282, Standard errors for each mean are in parentheses*

These results indicate that there is a statistical difference in the mean importance to legislative staff of political information sources across differing levels of partisan staffing in

a state. As hypothesized, the importance increases as the level of staffing increases which may indicate that importance and availability are intertwined for analysts. Post-hoc tests reveal that each of these mean differences is significant at the  $p < 0.01$  level, indicating the null hypothesis that the mean differences displayed for respondents in states with few partisan staff and legislative staff in other states is actually zero should be rejected. Also, as hypothesized the combined importance of information sources increases as the level of partisan staffing increases. However, post-hoc tests only found the mean differences significant at the  $p < 0.10$  level so the null hypothesis that the mean differences displayed for respondents in states with few partisan staff and legislative staff in other states is actually zero cannot be rejected using the conventional significance value of 0.05. Though neither achieves significance, the direction of the relationships between the importance of the external and technical information sources across levels of partisan staffing are in the hypothesized directions; future research with a larger dataset may be able to find statistical evidence to better evaluate these relationships.

#### **4.2.4 Discussion**

The results of the ANOVA tests and the related post-hoc tests confirm two basic findings related to the relationships between the dependents and these two independent variables:

- Legislative budget staff members in states with centralized, nonpartisan LFOs value political and total information less than their peers in other states.

- Legislative budget staff members in states with few partisan staff value political information and the combined measure of information less than their peers in states with moderate or large numbers of partisan staff.

Examining the means for the dependent variables across the levels of LFO structures and levels of partisan staffing indicates that the relationships conform to the hypothesized directions, though aside from those mentioned above they fail to achieve statistical significance. It is not surprising that there was no difference across structure in the importance of the technical information factor. Previous literature showed that legislative analysts tend to favor technical, objective information more than their executive peers (Patterson, 1964; Kyle, 1975; Willoughby & Finn, 1996; Goodman & Clynch, 2004) and at least in some cases fiscal analysts working in partisan LFOs are expressly told to present all sides of an issue and present the technical considerations of a budget problem in their work (Kent, 1975). The negative results here suggest that this is still the case, and that the technical information factor is important to legislative budget staff no matter what.

While the literature also suggests greater variation in political sources of information, one thing that remains unclear is whether structure truly matters in terms of the importance of political information, or if it is simply that as the information becomes more available in a legislative policy system it can become more important. Additional research needs to be done on this subject, both to try and control for other variables that may influence the relationship and to determine if legislative staff involved in the budget process use the information in different ways. While the latter is beyond the scope of this dissertation, the

following sections present a number of variables that may influence this relationship in greater detail.

### **4.3 Legislative Professionalism (Control Variable)**

As described in chapter one, the “professionalism” of a legislature refers to the resources available to a legislature (e.g., staff, salaries, time allowed to meet, offices, etc.) to assist its members in performing its key roles and responsibilities, such as crafting a budget and checking the power of the governor. Less professional legislatures have fewer resources with which to work, and thus may play a more limited role in a state; more professional legislatures, though, may have the time and resources to take on more challenges. This analysis includes legislative professionalism as a control because of the potential for the range of institutional capacities it captures to influence the importance of legislative information outside of the structure of the LFO staff.

#### **4.3.1 Hypotheses**

The literature on legislative fiscal staff is silent on this issue. The point is not addressed directly in most of the case studies, and the multi-state quantitative studies usually focus on legislatures within a similar band that would make comparisons difficult. However, the literature on information use in state legislatures is helpful in developing hypotheses. In the literature on state legislatures, there are two schools of thought in the research about the effect of professionalism on budgetary decisions. The first is that professionalization leads to greater per capita spending in a state (Owings & Borck, 2000). This is likely because more

professionalized legislatures have more staff resources, and thus can analyze more areas of a budget and make significant changes to it. Other research, though, has found that if one takes the increased informational needs of a professional legislature into account, there is no appreciable difference in spending between citizen and professional legislatures (Malhotra, 2008).

In either case, the presence of more staff for legislators increases the dependence of legislators on their staff for information. Staff members in more professional legislature play an important role for the legislators in filtering information (Sabatier and Whiteman, 1985), making external sources such as executive agencies less important to the members (Guston, Jones, and Branscomb, 1997). As a consequence, staff members may have to pursue additional sources of information themselves in order to fully brief legislators on budget issues. In less professional legislatures, then, staff resources may be lower in the same way overall legislative resources are lower (e.g., there may be less money to pay staff, so the workload of an LFO analyst is increased) and thus staff may have to concentrate on fewer sources of information in their work. Thus, it is possible that as the professionalism of a legislature increases so does the importance of information sources to legislative staff; more work is done, and more information of all types enters into the policy system that staff may have to filter. Table 4.11 provides hypotheses related to the effect of a legislature's professionalism on the importance of information sources to legislative staff members involved in the budget process. If confirmed, this would shed some light on the findings in the previous section about the role legislative staff structure might have on the importance of

political information sources to legislative budget staff (indicating that perhaps the availability of information is what drives the relationship).

**Table 4.11: Hypotheses on the Expected Effect of Legislative Professionalism on Dependent Variables**

<b>Dependent Variable</b>	<b>Expected Effect on Dependent Variable</b>
External Information Factor	As the professionalism score for a legislature increases, the importance of external sources of information <b><u>will increase</u></b> for legislative staff involved in the budget process.
Political Information Factor	As the professionalism score for a legislature increases, the importance of political sources of information <b><u>will increase</u></b> for legislative staff involved in the budget process.
Technical Information Factor	As the professionalism score for a legislature increases, the importance of technical sources of information <b><u>will increase</u></b> for legislative staff involved in the budget process.
Importance of Eight Information Sources Combined	As the professionalism score for a legislature increases, the importance of combined importance for the sources of information <b><u>will increase</u></b> for legislative staff involved in the budget process.

### 4.3.2 Variable Construction

This analysis uses the most recent version of the Squire (2007) index (covering the year 2003) as a measure for legislative professionalism. This is an index variable that combines measures of base legislative salary, the number of days a legislature can meet, and the total number of legislative staff and compares them against similar measures for the U.S. Congress (Squire, 2007). The advantage of the measure is that it is easy to understand and replicate, but many criticize it because the inclusion of only three variables may fail to capture the complexities of legislative structures (Mooney, 1994). However, the Squire



index shows high correlations with other indices of legislative professionalism that capture this complexity while using fewer variables itself (Mooney, 1994). Given this, it is the best variable to measure the overall institutional capacity of state legislatures.

Table 4.12 presents descriptive statistics for this variable in the dataset. Because of dropping cases that did not provide the state where they worked, all cases in the dataset have a value on the Squire index, which ranges from zero to one. The midpoint for Squire’s (2007) scores for 2003 is 0.148, and both the median and mean for this dataset are higher than this value. This indicates that the respondents in the data may represent more professional legislatures than might be expected.

**Table 4.12: Descriptive Statistics for Professionalism of Legislature**

	<b>N</b>	<b>Mean</b>	<b>Minimum</b>	<b>Maximum</b>	<b>Std Dev</b>
Squire Index Score	300	0.22	0.051	0.626	0.143

### 4.3.3 Correlations

The Squire Index Score is interval level data, so the Pearson correlation coefficient is used to assess the strength and direction of the relationships between these and the dependent variables. The tests of statistical significance test the null hypothesis that the observed correlation coefficient is zero. Table 4.13 presents the results of this analysis.

**Table 4.13: Correlation Coefficients for Professionalism of Legislature and Dependent Variables**

	<b>External</b>	<b>Political</b>	<b>Technical</b>	<b>Total</b>
Professionalism of Legislature	-0.14*	0.137*	-0.06	-0.03

*N= 282, (\* denotes significance at the 0.05 level and \*\* denotes significance at the 0.01 level)*

The weak inverse relationship between the importance of external information and the professionalism of the legislature in which a legislative staff member works is counter to the hypothesis. This may mean that since the legislative policy system creates more information for itself, so legislative budget staff members do not need to look outside of the system for information; other actors may do that, and then legislative staff act as filters in the manner described by Sabatier and Whiteman (1985). The weak positive relationship between professionalism and the importance of political information supports the hypothesis. More professional legislatures likely have more partisan staff, lobbyists, etc. that can provide information associated with this factor; if it is available, it has a chance to be used and thus found important, whereas in less professional legislatures such information may exist in limited quantities or not at all.

#### **4.3.4 Discussion**

The correlations support the idea that the professionalism of a legislature is related to the importance of information to the legislative staff involved in the budget process. Technical information is important to all such staff; in contrast, the importance of external sources of information decreases and the importance of political sources of information increases as a legislature with increasing levels of professionalism (as measured by the Squire Index). Additional analysis is needed to determine if other variables may influence this relationship.

#### **4.4 Divided Government (Control)**

Divided government, defined as a situation where both major parties control one of the policy-making institutions in a state has been identified as an important variable in research on state governments and budget-making in particular. Divided government can take two forms. First, it can involve a split within the legislature where each major party controls one of the chambers (split-legislature). Second, it can involve a situation where the legislature is controlled by one party and the governor is of a different party (split-branch). Variables for both of these variables are included as controls in this analysis to see if they may have an effect on the importance of information sources to legislative staff involved in the budget process.

##### **4.4.1 Hypotheses**

The literature includes several references to the relationship between the presence of divided government and budgetary decision-making in state government. Alt and Lowry (1994) examined state responses to fiscal crisis and found that states with split branches of the legislature were not able to adjust to unexpected shocks in the economy as quickly as unified legislatures. In a study of legislative spending between 1982 and 1988, Crain and Murriss (1995) found that if a governor did not control either house of the legislature, revenue for the state generally dipped, while states where one party dominated generally spent more and brought in more revenue. Clarke (1998) examined conflict between legislative and executive branches on budget requests and found that when one party controlled the legislature and the other controlled the governor's mansion, conflict in the budget process

increased; however, he also found that in situations where the legislature was split, the budget priorities of the governor tended to be upheld. These studies all find that how much control a party has over the state government influences the structure of the budget and the nature of the debate surrounding it.

Based on the known effect of split party control on the budget process, one could expect that legislative analysts would need to rely on different types of information in these different situations. In fact, research on LFOs has provided evidence of this. Goodman and Clynch (2004) found that divided government resulted in an increase in the number of decision-making cues that executive and legislative analysts used in their work. At least in one case the power struggles associated with divided government led to a changed role for fiscal staff. In 1991 Maine faced a split branch situation where Democrats controlled both chambers of the legislature facing a Republican governor; the two sides could not come to agreement on budget issues and failed to pass a budget by the start of the fiscal year, causing a government shutdown (Adams, 2011). In the reforms that followed, the legislature decentralized power and moved the LFO to a more limited role providing budget training to all members rather than assisting with the back room creation of the actual budget proposal (Kousser & Straayer, 2007, p. 155). Georgia saw a similar situation occur when Republicans gained control of the Senate in the early 2000's, creating a separate LFO to provide information independent of that provided by the House LFO.

It seems most likely that legislative staff working in the presence of divided government would pursue more information than those working in states with unified

government. Goodman and Clynch (2004) found this to be the case in their work, and Hartmark (1975) found that in Wisconsin, the LFO was called on more in times when the legislature was of a different party than the governor than in times of unified government. Thus, it could be expected that legislative staff in the presence of divided government, whether across branches or within the legislature, would find all sources of information to be more important than would legislative staff members working in states with unified government. Table 4.14 summarizes the hypotheses for this set of independent variables.

**Table 4.14: Hypotheses on the Effect of Divided Government on the Dependent Variables**

<b>Dependent Variable</b>	<b>Expected Effect on Dependent Variable</b>
External Information Factor	The presence of divided government <b>increases</b> the importance of external sources of information to legislative staff members involved in the budget process.
Political Information Factor	The presence of divided government <b>increases</b> the importance of political sources of information to legislative staff members involved in the budget process.
Technical Information Factor	The presence of divided government <b>increases</b> the importance of technical sources of information to legislative staff members involved in the budget process.
Importance of Eight Information Sources Combined	The presence of divided government <b>increases</b> the importance of the combined sources of information to legislative staff members involved in the budget process.

#### 4.4.2 Variable Construction

There are different approaches to examining the effect of divided government on state policy. For instance, Alt and Lowery (1994) divided legislatures into southern and non-southern and then classified the legislatures as unified Democratic, unified Republican, split branch, and split legislature. They ran separate regressions on their dependent variables for each category and compared the results, with the only political variable included being a dummy variable for whether a state had a Republican government. Reed (2006) examined the effect of party control on state spending, and used the percentage of time in the five years leading to a spending decision that parties controlled the legislator and the governorship in a state. The more common approach is that employed by Clarke (1998), who created two dichotomous variables to measure divided government: one for split-legislature and one for split-branch based on data from *The Book of the States* published by the Council of State Governments. Goodman and Clynch (2004) also included variables for divided government in their analysis of LFO and executive budget analysts. Like Clarke (1998), they created two dichotomous variables, one for split-branch and one for split-legislature. However, they considered legislatures where Democrats and Republicans controlled equal numbers of votes in at least one chamber as a split-legislature. This makes sense, as the minority party in such a situation should have at least some control over agenda setting and committee assignments in the chamber.

This analysis will follow the approach of Goodman and Clynch (2004). Using data from *The Book of the States*, one dummy variable accounts for split-branch situations where

one party controls the legislature and the governor is from the other party in 2006. The second variable measures split-legislature situations where the chambers are either controlled by different parties or Republicans and Democrats have an equal number of votes in one of the chambers in 2006. As with legislative professionalism, all cases have a measure of split-branch and split-legislature in the analysis. Table 4.15 and Table 4.16 summarize the frequency of each variable in the dataset.

**Table 4.15: Percentage of Respondents from Unified and Split Legislatures**

	<b>Frequency</b>	<b>Percentage</b>
Unified Legislature	249	83%
Split Legislature	51	17%

**Table 4.16: Percentage of Respondents from Unified and Split Branch Legislatures**

	<b>Frequency</b>	<b>Percentage</b>
Unified Branch	160	53%
Split Branch	140	47%

The unified/split branch variable has more variety among the respondents, which is preferable for regression analysis. There are considerably fewer cases of split-legislature situations in the data set, unfortunately, which could make determining the effect of the variable difficult.

### 4.4.3 T-tests

The independent variables measuring the presence of divided government are dichotomous variables. T-tests, which examine the difference in means for both groups and test the null hypothesis that the mean difference is zero, are performed to provide a preliminary examination of the relationship between these variables and the dependent variables.

Table 4.17 presents the results of the t-tests of means of the dependent variables using the split chamber variable. Legislative staff members in split control states had lower mean factor loadings on each of the four dependent variables than legislative staff members in unified control states, which is counter to the hypotheses. However, the results fail to achieve statistical significance in each case, meaning that we cannot reject any of the null hypotheses; this suggests that there is no relationship between these variables.

**Table 4.17: T-tests for Split Chamber Variable**

	<b>Split Control</b>	<b>Unified Control</b>	<b>t</b>	<b>Std. Error for Mean Difference</b>
External	-.13	.03	-0.99	0.16
Political	-.07	.01	-0.55	0.16
Technical	-.02	.01	-0.19	0.16
Total	19.85	20.32	-0.88	0.53

*N=282, (\* denotes significance at 0.1, \*\* denotes significance at 0.05, and \*\*\* denotes significance at 0.01)*

Table 4.18 presents the results of the t-tests of means of the dependent variables using the split branch variable. Legislative staff members in split control states had lower mean factor loadings on each of the four dependent variables than legislative staff members in



unified control states, which like the results for the split-chamber variable runs counter to what was expected based on the hypotheses. Only the hypothesis that external sources of information would be more important to legislative staff members in split control states holds up to an examination of the group means. However, the results fail to achieve statistical significance in all four tests meaning that we cannot reject any of the null hypotheses and that there is no relationship between these variables.

**Table 4.18: T-test Results for Split-Branch Variable**

	<b>Split Control of Branches</b>	<b>Unified Control of Branches</b>	<b>t</b>	<b>Std. Error for Mean Difference</b>
External	0.01	-.01	0.17	0.12
Political	-0.05	0.05	-0.84	0.12
Technical	-0.06	0.06	-1.03	0.12
Total	20.04	20.43	-0.97	0.40

*N* = 282, (\* denotes significance at 0.1, \*\* denotes significance at 0.05, and \*\*\* denotes significance at 0.01)

#### **4.4.4 Discussion**

The results of this analysis suggest that there is no relationship between the presence of divided government, whether across branches or within the legislature, and the importance of information sources to legislative staff members involved in the budget process. This runs counter to the findings of Goodman and Clynch (2004), though it is unclear why. The primary role for these staff, whether in states with one or two party control is to provide information, and there may be other factors that are more important to driving this need among legislators and thus the work of staff. It may also be that subtle differences exist that cannot be detected in the measures used here. Because of the null results, these variables are

not included in the regression analysis in chapter five. Future research on this subject that includes a different set of data may wish to re-examine the effect of these variables to see whether the results are consistent with those seen here or in Goodman and Clynych (2004).

#### **4.5 Term Limits and Legislative Turnover (Control)**

One of the major developments in the past twenty years has been the spread of legislative term limits. Since the early 1990's, fifteen states have enacted some kind of term limit law that places a limit on the number of years a legislator can serve in a particular office. Though existing literature on LFOs does not address term limits directly, Snow and Clarke (1999) found that legislative fiscal directors worried about the influence these laws would have on the work done by staff, especially if they increased turnover among legislators. Because of this concern, variables measuring legislative turnover is included in this analysis as a control to see what effect it has on the importance of information to legislative staff in the budget process.

##### **4.5.1 Hypotheses**

Term limits are known to have had several effects on the budget process in states. First, governors have gained power over legislatures in term limited states (Carey, Niemi, & Powell, 2000; Kousser & Straayer, 2007; Carey, Niemi, Powell, & Moncrief, 2006), especially in the budget process (Kousser, 2005). Second, contrary to what many thought, states with term limited legislatures have seen a rise in their spending, possibly because of a disentangling of electoral concerns to the decision-making process, as well as the weakening

of leadership and committee chairs (Erlor, 2007). Third, term limits have an effect on the way legislators approach budget decisions. Carey *et al* (2006) found that legislators in term-limited states tended to focus on their own beliefs rather than the concerns of their constituents and that the influence of leadership and committee chairs weakened (over time).

Legislative staff members have not been immune to these changes. Snow and Clarke (1999) found that the directors of legislative fiscal offices were concerned about the turnover that would result from term limit laws, breaking relationships they had formed and leading to increased use of information to educate new members and to try and understand their preferences. A 2005 survey of LFO directors similarly found that those in term limited states felt that the influence of nonpartisan staff would increase in the coming years, largely because of the need to educate new members about budget issues (Weberg & Kurtz, 2007). The number of background hearings conducted by LFO staff did seem to increase as the perceived knowledge of legislators about policy and legislative procedure decreased in states with term limits (Kousser & Straayer, 2007). This implies two things. First, the role of individual legislators in the budget process may have diminished in states with term limits. Second, staff in such states may have an increased need for information of all sorts as they have to educate members and read cues about the preferences of new members in order to be of the most help to them.

One question that arises from this discussion of term limits is whether the problems result from the laws themselves or the resulting turnover. The logic based on the findings in the literature seem to support the notion that the turnover rather than the laws is the problem;

high turnover could occur in states without term limit laws, though (such as North Carolina in 2012, which saw a record number of new legislators enter the General Assembly). Neither approach has been examined in the literature on legislative fiscal analysts, but in order to examine the wider issue this analysis focuses on legislative turnover. Examining this variable captures turnover related to term limits, but it also captures turnover related to wave elections or new district maps (depending on the period examined).<sup>3</sup> Table 4.19 summarizes the hypotheses about the relationship between legislative turnover and the importance of information to legislative staff involved in the budget process.

**Table 4.19: Hypotheses on the Effect of Term Limit Laws and Legislative Turnover on the Dependent Variables**

<b>Dependent Variable</b>	<b>Expected Effect on Dependent Variable</b>
External Information Factor	As legislative turnover increases, external sources of information will be <b>more important</b> to legislative staff involved in the budget process.
Political Information Factor	As legislative turnover increases, political sources of information will be <b>more important</b> to legislative staff involved in the budget process.
Technical Information Factor	As legislative turnover increases, technical sources of information will be <b>more important</b> to legislative staff involved in the budget process.
Importance of Eight Information Sources Combined	As legislative turnover increases, the combined importance of the sources of information will be <b>more important</b> to legislative staff involved in the budget process.

<sup>3</sup> Measuring term limit laws is somewhat problematic in research on state legislatures, as the typical approach of including a dichotomous variable for the presence of term limit laws ignores differences in strength of those laws and the potential for members to “recycle” from one chamber to another (Sarbaugh-Thompson, 2010). Alternate approaches to measuring the strength of these laws are still in the early phases of development, which factored into the decision to exclude a measure focusing exclusively on the presence of term limits from the analysis.

### 4.5.2 Variable Construction

There are several ways to handle the issue of legislative turnover. A method used by some economists is to look at the relationship between available seats and incumbents who pursue the seats (Sobel, 1998), though this involves examining the political cost of tax and spending decisions on electoral chances which is of less interest here. One can look at the rate of lower and upper chambers by year (Moncrief, Niemi, & Powell, 2004) or one can take an aggregate measure. This analysis uses data from *The Book of the States* to create a measure of legislative turnover. The dependent variable comes from data obtained in 2006, so the data covers the results of elections from 2004 and 2005. The variable sums the average turnover rates for the upper and lower chambers of the legislature across two years using this formula:

$$\frac{((2004 \text{ Lower Chamber Turnover } \% + 2005 \text{ Lower Chamber Turnover } \%) + (2004 \text{ Upper Chamber Turnover } \% + 2005 \text{ Upper Chamber Turnover } \%))}{2}$$

This seems reasonable because the vast majority of state legislatures have 2 year terms, all of which are captured in this cycle. The resulting figure represents the average legislative turnover across both chambers during this period.

Table 4.20 presents descriptive statistics for this variable in the dataset. Some of the legislatures represented in this dataset had very little turnover, while some experienced turnover of 41%.

**Table 4.20: Descriptive Statistics for Legislative Turnover**

	<b>N</b>	<b>Mean</b>	<b>Minimum</b>	<b>Maximum</b>	<b>Std Dev</b>
Legislative Turnover	300	0.20	0.05	0.41	0.097

### 4.5.3 Correlations

The measure of legislative turnover is interval level data, so the Pearson correlation coefficient is used to assess the strength and direction of the relationships between these and the dependent variables. The tests of statistical significance test the null hypothesis that the observed correlation coefficient is zero. Table 4.21 presents the results of this analysis.

**Table 4.21: Correlation Coefficients for Legislative Turnover and Dependent Variables**

	External	Political	Technical	Total
Legislative Turnover	-0.03	-0.10	-0.01	-0.03

*N= 282, (\* denotes significance at the 0.05 level and \*\* denotes significance at the 0.01 level)*

None of the correlation coefficients achieve statistical significance, and three are practically indicating no relationship between turnover and the importance of information to legislative staff involved in the budget process.

### 4.5.4 Discussion

Despite the concerns and beliefs of legislative fiscal directors about term limits and the problems created by legislative turnover, it does not appear that there is a relationship between turnover and the importance of information to legislative budget staff. This could be because it doesn't matter, or it could be because it matters depending on the rate of turnover among certain groups of legislators (e.g., appropriations committee chairs). Future research may want to examine this more closely, and once better measures of term limits are

available to use those to analyze the effect of different types of term limit laws on information use among legislative staff. However, for the purposes of this dissertation, turnover is not included in the OLS regression tests in chapter five because it does not appear that there is a relationship between it and the dependent variables.

#### **4.6 Strength of the Governor (Control)**

Another variable often examined in research on state legislatures is the strength of the governor in relation to the legislature. An earlier variable measured instances of divided government, where the legislature and governor are from different parties. A separate issue deals with the power of a governor to push his or her agenda; in cases of unified government, an institutionally weak governor may not be able to accomplish much of his or her agenda while an institutionally strong governor may be able to despite having to work across the aisle. This analysis includes a variable to measure these institutional powers of the governor as a control variable to examine its effect on the importance of information to legislative staff involved in the budget process.

##### **4.6.1 Hypotheses**

There is evidence in the literature that the strength of the governor shapes the budget process in the legislature, and in turn the work done by legislative budget staff. Goodman (2007) found that legislative analysts felt they had greater responsibility for the budget where the legislature could create an independent budget from that of the governor; this would imply that stronger legislatures (in respect to the governor) may need more information to

complete their work. Abney and Lauth (1987) found in another survey of legislative and executive budget directors that in states where the governor had greater budget powers, the legislators focused more on the concerns of their districts rather than concerns of efficiency; in general they believed that the dominant branch had more responsibility, and thus may have a need to obtain more types of information in the budget process. Taken together, these imply that where the governor is stronger in the budget process, legislators play a more limited role, may need less information from staff, and thus the staff may find fewer sources of information to be important. Table 4.22 summarizes the hypotheses based on the literature.

**Table 4.22: Hypotheses on the Effect of Gubernatorial Strength on the Dependent Variables**

<b>Dependent Variable</b>	<b>Expected Effect on Dependent Variable</b>
External Information Factor	Where the governor is institutionally stronger in relation to the legislature, legislative staff involved in the budget process will find external sources of information <b>less important</b> than do legislative staff in states with institutionally weaker governors.
Political Information Factor	Where the governor is institutionally stronger in relation to the legislature, legislative staff involved in the budget process will find political sources of information <b>less important</b> than do legislative staff in states with institutionally weaker governors.
Technical Information Factor	Where the governor is institutionally stronger in relation to the legislature, legislative staff involved in the budget process will find technical sources of information <b>less important</b> than do legislative staff in states with institutionally weaker governors.
Importance of Eight Information Sources Combined	Where the governor is institutionally stronger in relation to the legislature, legislative staff involved in the budget process will find the combined importance of the sources of information <b>less important</b> than do legislative staff in states with institutionally weaker governors.



#### 4.6.2 Variable Construction

This analysis uses a modified version of Beyle’s (2007) “Index of Governors’ Institutional Powers.” This creates a score (from one to five) for each Governor based on their veto powers, appointment powers, budget powers, potential to remain in office, and whether the Governor’s party controls the legislature. One of the categories, party control, mirrors one of the variables used to measure divided government separately and so it will be excluded from the index in this analysis.<sup>4</sup> The result is an interval-level variable with possible values ranging anywhere from zero to five, with scores closer to five indicating a governor with greater institutional powers.

There is criticism that this measure misses subtle differences in the institutional powers from state to state, so that the position of governor may receive the same code even though significant differences may exist in implementation or through closer readings of the law (Reisinger, 2008). However, this is a measure of gubernatorial power accepted in the discipline (Dilger, 1995) and in the absence of a more nuanced measure serves as the indicator. Table 4.23 presents descriptive statistics for this variable in the dataset.

**Table 4.23: Descriptive Statistics for Gubernatorial Power**

	<b>N</b>	<b>Mean</b>	<b>Minimum</b>	<b>Maximum</b>	<b>Std Dev</b>
Strength of Governor	300	3.68	2.60	4.10	0.341

---

<sup>4</sup> The methodology used by Beyle (2007) to come up with an overall score remains the same. Rather than taking the sum of the six categories he uses and dividing by six, this analysis takes the sum of the five remaining categories excluding “Party Control” and dividing by five.

### 4.6.3 Correlations

The measure of gubernatorial power is interval level data, so the Pearson correlation coefficient is used to assess the strength and direction of the relationships between these and the dependent variables. The tests of statistical significance test the null hypothesis that the observed correlation coefficient is zero. Table 4.24 presents the results of this analysis.

**Table 4.24: Correlation Coefficients for Strength of Governor and Dependent Variables**

	External	Political	Technical	Total
Strength of Governor	-0.05	0.139*	0.06	0.01

*N= 282, (\* denotes significance at the 0.05 level and \*\* denotes significance at the 0.01 level)*

There is a weak, statistically significant relationship between the importance of political information sources and the strength of the governor, though it is in the opposite direction than expected. The relationship between technical information and the strength of the governor is also in the opposite direction of the hypothesized relationship, although the coefficient fails to achieve statistical significance.

### 4.6.4 Discussion

The strength of the governor does seem to be associated with variation in the importance of information to legislative budget staff: the more important the governor, the more important political information appears to be to analysts. This may be because legislative staff members have to take additional considerations about the politics of the

budget into account when conducting their work, or if it is an artifact of a relationship between this and another institutional variable. In the interests of building a more parsimonious regression model, this variable is not included in the OLS regressions in chapter five. It only seems to have a relationship with one of the dependent variable, and the nature of the construction of the variable makes interpretation difficult. If information sources such as the views of the governor or the governor's staff were included in the survey items, it would make more sense to include here. Future research should take this into account and attempt to examine this relationship in more detail.

#### **4.7 Fiscal Analyst or Other Staff (Independent)**

Aside from state level variables, there are a number of traits associated with individual legislative budget staff members that the literature indicates have a bearing on the importance of information to them. The first (and most important for this dissertation) is whether the staff member is a dedicated fiscal analyst. The dataset includes individuals who spend 50% of their time on fiscal or policy analysis but perform different primary jobs, and the examination of whether these groups find different sources of information to be important may provide legislators with information about the consequences of altering the types of staff that assist them.

##### **4.7.1 Hypotheses**

Previous studies have shown a difference between the way legislative fiscal analysts and executive budget analysts use information: legislative analysts tend to use more types of

information overall (Willoughby and Finn, 1996) though they also tend to make less use of political information than do their executive counterparts (Patterson, 1964; Caiden, 1984; Goodman and Clynch, 2004; Goodman, 2008). Also, research on LFO analysts operating in partisan settings has shown that though they may be more attuned to political information, they still are expected to provide objective analysis and that professional norms may guide their interactions with their peers across the aisle (Balutis, 1975; Kent, 1975). While this might not always be the case, it does suggest that LFO analysts may approach budget problems differently than do other types of staff; dedicated fiscal analysts may value technical, external, and total sources of information more and political sources of information less than their counterparts among other types of legislative staff.

While prior research has examined the differences between legislative and executive budget analysts, no prior work has explored whether LFO analysts differ in information use from other types of legislative staff who may work on budgetary or fiscal matters. The structure of this dataset allows such a comparison, however, which could be an important contribution to the literature on this topic. Table 4.25 provides a summary of the hypotheses for this variable.

**Table 4.25: Hypotheses on the Expected Effect of Status as a Fiscal Analyst on the Dependent Variables**

<b>Dependent Variable</b>	<b>Expected Effect on Dependent Variable</b>
External Information Factor	External sources of information will be <b>more important</b> for fiscal analysts than for other types of legislative staff members.
Political Information Factor	Political sources of information will be <b>less important</b> for fiscal analysts than for other types of legislative staff members.
Technical Information Factor	Technical sources of information will be <b>more important</b> for fiscal analysts than for other types of legislative staff members.
Importance of Eight Information Sources Combined	The combined importance of the information sources will be <b>more important</b> for fiscal analysts than for other types of legislative staff members.

#### **4.7.2 Variable Construction**

The survey included an item that asked respondents to choose from a list of job titles, one of which was fiscal analyst. Using this question allows the creation of a dichotomous variable, with a value of one indicating that the respondent is a fiscal analyst and a zero indicating that the respondent works in some other capacity. There is one potential issue with this construction method. One of the options for job title was “top manager of an office or agency” which could mean that the respondent was the top manager of an LFO. However, Butler (1975) found in the Texas LFO that the analysts tended to focus on objective sources of information while the head of the LFO kept a stronger eye on political information that could influence the work of analysts. Hartmark (1975) described something similar in Wisconsin where the head of the LFO may be able to advise analysts about the politics of their recommendation in order to improve the chance of successful adoption. Eighteen

respondents (6%) chose this option, and all indicated they were nonpartisan staff. Given the small number of respondents in this category and the likelihood that the nature of their position (e.g., more contact with legislative leaders) has them work on different tasks than LFO analysts, the construction of this variable was not altered for the analysis. Table 4.26 displays frequencies for this variable.

**Table 4.26: Frequencies of Fiscal Analysts and Other Types of Staff**

	<b>Frequency</b>	<b>Percent</b>
Fiscal Analyst	171	57.0
Other Staff	129	43.0
Total	300	100.0

### **4.7.3 T-tests**

Table 4.27 presents the results of the t-tests of the null hypothesis that for each of the dependent variables the difference between the means of the fiscal analysts and for other types of legislative staff was zero. The results provide support for the hypotheses that political information is less important for fiscal analysts than for other types of staff and for the hypothesis that technical information is more important for fiscal analysts than for other types of staff. However, the results are counter to the hypothesis that external sources of information and overall sources of information are more important for fiscal analysts than for other types of staff. Each of these cases is statistically significant, meaning that we can reject the null hypotheses.

**Table 4.27: T-test Results for Fiscal Analyst**

	<b>Fiscal Analysts</b>	<b>Other Staff</b>	<b>t</b>	<b>Std. Error for Mean Difference</b>
External	-0.15	0.19	-2.98***	0.12
Political	-0.31	0.40	-6.22***	0.11
Technical	0.13	-0.17	2.48***	0.12
Total	19.43	20.28	-4.74***	0.39

*N=282, (\*\* denotes significance at 0.05, and \*\*\* denotes significance at 0.01)*

#### **4.7.4 Discussion**

These results support the conclusions of previous studies about the differences between legislative fiscal analysts and executive budget analysts, extending the findings to differences about the importance of information to fiscal analysts and other types of legislative staff. Fiscal analysts seem to find the technical sources of information more important while relying on alternate sources of information less than other staff. This may be because the nature of their work differs, meaning that fiscal analysts are occupied by a highly complex task (the budget) that does not call for extensive political or external information. The results may also be the product of the data, though, and controlling for the effects of other variables (such as the structure of the legislative staff in a state) may make it easier to interpret the results.

#### **4.8 Age of the Legislative Staff Member (Control)**

One variable that has been shown to influence information use among budget analysts is age. It is included here as a control to determine the possible influence it may have on the importance of information sources to legislative budget staff across a large number of states.

#### **4.8.1 Hypotheses**

One of the studies of legislative staff in particular found an association between age and information use. Willoughby and Finn (1996) compared the use of different types of information among executive and legislative budget analysts, and found an association between younger analysts and the use of information from executive agencies (specifically efficiency and the reputation of the agency head) more than other types of information when analyzing budget problems. They did not elaborate on why this relationship might exist, though one could speculate that younger analysts are less sure of their knowledge and have had less of a chance to build a reputation with legislator, something that is important to success for legislative budget staff members (Hoffman, 2006). Younger staff members may also be less inclined to take risks in making recommendations, and may stick closer to types of information associated with their primary duties of analyzing the executive budget, especially in states with centralized, nonpartisan staff that worry about protecting the reputation of their offices (Caiden, 1984).

This finding contrasts somewhat from research in other fields about the relationship between age and information use. For example, the field of consumer marketing research has shown that age is often inversely related to the intensity of a search for information (Cole & Balasubramanian, 1993; Guo, 2001; Loibol, Diekmann, Batte, & T., 2010), though factors such as income or additional education may mitigate these trends (Guo, 2001). This is not simply a factor of decline in information processing abilities; older adults may be better at weeding out unnecessary information than younger adults, possibly due to their ability to



interpret the information in light of accumulated experiences and because they gain expertise in subject matter (Lambert-Pandraud, Laurent, & Lapersonne, 2005; Drolet, et al., 2008). As age relates to career status, research has found that early career individuals have a preference for more information than they do at later stages of their careers (Morison, 1993; Kuhlthau, 1999).

Taken together, these studies suggest that older legislative budget staff may likely find fewer sources of information useful than their younger counterparts. This may be because they have more experience, either in terms of technical knowledge or in the ability to filter irrelevant information. The exception to this may be information from sources associated with the political information factor. The younger analysts in the study by Willoughby and Finn (1996) seemed to distance themselves from such information, and the author’s experience working with fiscal analysts in North Carolina supports this conclusion. Table 4.28 summarizes the hypotheses related to this variable.

**Table 4.28: Hypotheses on the Expected Effect of Age on the Dependent Variables**

<b>Dependent Variable</b>	<b>Expected Effect on Dependent Variable</b>
External Information Factor	As the age of a legislative budget staff member increases, external sources of information will become <b><u>less important</u></b> .
Political Information Factor	As the age of a legislative budget staff member increases, political sources of information will become <b><u>more important</u></b> .
Technical Information Factor	As the age of a legislative budget staff member increases, technical sources of information will become <b><u>less important</u></b> .
Importance of Eight Information Sources Combined	As the age of a legislative budget staff member increases, the combined importance of the sources of information will become <b><u>less important</u></b> .

#### 4.8.2 Variable Construction

The survey included an item that asked respondents for their year of birth. Unfortunately, if a respondent was born prior to 1941 it is impossible to determine his or her exact age because of the response categories. Luckily, only two of the 300 respondents in the dataset chose the “1941 or before” option. There were three options for using this variable in the regression. The first would be to recode the two respondents who chose the unclear response as “missing” but it did not seem wise to lose this data. The second would be to recode all of the cases into categories based on groups of ages. However, in regression is preferable not to truncate data as “collapsing an interval variable into fewer categories leads to attenuation and will reduce  $R^2$ ” (Garson, 2012c, p. loc. 1887). It seemed that the loss of the variability in 298 cases on behalf of two would not be worth the change. Thus, a third option was chosen. The two cases of concern were re-coded as having been born in 1941, the actual year mentioned in the answer choice and the only viable option. This keeps them at the upper end of the age range, though it is unclear where exactly they may fall on that range. Future analyses should take care to include more dates for such a variable than might be expected in order to avoid such a problem. The dates given for birth year were subtracted from 2006 to get an approximate age for each respondent in the data set. Table 4.29 displays descriptive statistics for this variable. In terms of the cases with missing data on age, none of the statistical tests for comparisons with gender, education level, or Squire Index score were significant at the 0.05 level.

**Table 4.29: Descriptive Statistics for Age of Respondents**

	<b>N</b>	<b>Mean</b>	<b>Minimum</b>	<b>Maximum</b>	<b>Std Dev</b>
Age	292	44.22	25	65	10.15

### 4.8.3 Correlations

The measure of the age of the respondents is interval level data, so the Pearson correlation coefficient is used to assess the strength and direction of the relationships between these and the dependent variables. The tests of statistical significance test the null hypothesis that the observed correlation coefficient is zero. Table 4.30 presents the results of this analysis.

**Table 4.30: Correlation Coefficients for Age of Legislative Staff Member and Dependent Variables**

	<b>External</b>	<b>Political</b>	<b>Technical</b>	<b>Total</b>
Age	-0.03	-0.231**	0.06	-0.16**

*N= 282, (\* denotes significance at the 0.05 level and \*\* denotes significance at the 0.01 level)*

There is a moderate, statistically significant inverse relationship between the importance of political information and the age of the legislative staff member, which is in the opposite direction as was hypothesized. It is unclear why this might be, unless political information is one of the types of information more experienced staff members filter out as they do their work. It may also be that some other variable may influence the relationship, so the results could change once variables are examined together in the regression. The combined importance of the information sources and the age of the legislative staff member also shows

a weak, statistically significant relationship though this is in the hypothesized direction; this provides support for the idea that older legislative budget staff find fewer sources of information to be important than do younger legislative budget staff.

#### **4.8.4 Discussion**

The results of this analysis indicate that age does have an influence on the importance of information sources to legislative budget staff. The finding that the importance of political information sources is lower among older staff members in the sample is surprising, and needs additional tests to control for the effects of variables like the structure of the LFO that could account for the results seen here. It may be that older analysts know what is important and do not need to use political sources as much; they may have developed an expertise that made them valuable to the staff and need only information from sources that would help them build on their prior knowledge.<sup>5</sup>

#### **4.9 Gender of the Legislative Staff (Control)**

A final variable to consider in this analysis is the gender of the legislative staff. This variable was shown to have a relationship to information use in the literature on fiscal

---

<sup>5</sup> One may wonder why age is included as a variable here but the experience of the legislative budget staff member is not. First, while age had been shown to have an effect on information use in the literature, experience in a position had been found to have no effect (Goodman & Clynch, 2004). Second, the survey did not have a good way to measure this trait. There was an item that asked if a respondent had served in the legislature for more than ten years, but this did not indicate if the individual had served in the same position or in different areas. Also, a member of the legislative budget staff may have not served in the legislature for long, but have tremendous experience with legislators and specialized knowledge that they use in their work. For example, an individual who had worked as an assistant director of a state's pension plan likely would have had extensive contact with legislators and highly technical knowledge of subject matter than an analyst with a few years of service to the legislature. Future research may wish to examine the influence this trait in more detail, but care should be taken in developing a relevant measure.

analysts, and it has been shown to influence information use in other areas as well. It is included here as a control variable to determine its possible effect on the importance of information sources to the legislative budget staff in this sample.

#### **4.9.1 Hypotheses**

Willoughby and Finn (1996) found an association between female budget analysts and the use of information from executive agencies (specifically efficiency and the reputation of the agency head) in their work; specifically, they found that these analysts relied on information from executive agencies more than did other analysts when examining budget problems. However, they offer no explanations for why this relationship may exist. In his examination of the information preferences of legislators, Hird (2005) found that female legislators expressed a desire for more information than their male counterparts. This supports conclusions from other fields that women utilize more information in their decision-making processes than males (Meyers-Levy & Sternhal, 1991; Kim, Lehto, & Morrison, 2007), and women are less prone to make snap decisions (Meyers-Levy & Sternhal, 1991).

Taken together, these studies suggest that female legislative budget staff may be expected to find information from the external and technical information factors more important and sources associated with the political information factor less important than their male counterparts. Females seem to utilize more information in their searches (both inside and outside the legislative environment), and female budget analysts have specifically

been shown to use technical information from sources like executive agencies more than their male counterparts. Table 4.31 summarizes the hypotheses for this variable.

**Table 4.31: Hypotheses on the Expected Effect of Gender on the Dependent Variables**

<b>Dependent Variable</b>	<b>Expected Effect on Dependent Variable</b>
External Information Factor	External sources of information will be <b>more important</b> for female legislative staff members than for male legislative staff members.
Political Information Factor	Political sources of information will be <b>less important</b> for female legislative staff members than for male legislative staff members.
Technical Information Factor	Technical sources of information will be <b>more important</b> for female legislative staff members than for male legislative staff members.
Importance of Eight Information Sources Combined	The combined importance of available information sources will be <b>more important</b> for female legislative staff members than for male legislative staff members.

#### **4.9.2 Variable Construction**

The survey included an item that asked respondents to identify their gender; this was then coded into a dichotomous variable with a value of one for males and zero for females. Table 4.32 presents frequencies for this variable in the dataset. In terms of missing data, none of the tests exploring differences in terms of education, age, or Squire Index scores showed significance at the 0.05 level.

**Table 4.32: Frequencies of Gender in Dataset**

	<b>Frequency</b>	<b>Percent</b>	<b>Valid Percent</b>
Female	135	45.0	45.9
Male	159	53.0	54.1
Total	294	98.0	100.0

### 4.9.3 T-tests

Table 4.33 presents the results of the t-tests of the null hypothesis that for each of the dependent variables the difference between the means of men and women was zero. These provide support for the hypotheses that external information, technical information, and total information are more important for female legislative staff members than for male staff members, but the hypothesis that political information is more important for male legislative staff is not supported. The null hypothesis can be rejected in all cases excepted for the difference in the means for the technical rationality variable.

**Table 4.33: T-test Results for Gender**

	<b>Male</b>	<b>Female</b>	<b>t</b>	<b>Std. Error for Mean Difference</b>
External	-.15	.16	-2.66***	-2.66
Political	-.10	.15	-2.09**	.12
Technical	-.075	.05	-1.08	-.37
Total	19.49	21.13	-4.08***	.40

*N=282, (\*\* denotes significance at 0.05, and \*\*\* denotes significance at 0.01)*

#### **4.9.4 Discussion**

The findings here support the general conclusion that female budget staff find more types of information important than their male counterparts. However, they seem to run counter to the findings of Willoughby and Finn (1996) that political information is less important to female budget analysts while they focus more on technical information. The researchers utilized a cluster analysis technique, though, and so their results included a group of younger, female analysts that may have skewed results. Controlling for other variables (such as age) in the regression analyses could change the findings here, or it could uphold them and indicate that in general female budget analysts use more types of information in their work.

#### **4.10 Summary**

Table 4.34 displays a summary of the relationships observed through the bivariate tests described in this chapter. For independent and control variables that had a significant relationship with the dependent variables, the relevant categories or direction of the variable if interval (i.e., “more” or “less” of the variable) are separated into the relevant columns in order to make interpretation easier.

The individual results were discussed in the previous sections, but there are several general results worth mentioning here. First, there seems to be little variation in the importance of technical information sources (such as from executive agencies and nonpartisan staff) unless the distinction is between dedicated fiscal staff and other types of staff. Technical information is the hallmark of budget analysis, and the fact that different



types of jobs find different sources of information to be important does have important ramifications for understanding budgetary decision-making in a legislature. While very little seems to influence the technical information factor, many factors seem to influence the importance of the political information factor.

The structure of an LFO and the level of partisan staffing are two of these, but in general it seems that this type of information is more important in stronger legislatures with more complex staffing structures. The results don't indicate whether increased importance is a product of additional need caused by the complexity of the staffing structure, or merely of additional supply of information that is likely less available in less developed legislatures. These broad findings do seem consistent with the general push of the literature described in chapter two: in general, technical information sources of information are important to all legislative budget analysts, while political information is important to varying degrees. These results indicate that legislative budget staff members are different in important ways that need to be better understood.

**Table 4.34: Summary of Observed Relationships between Dependent and Independent Variables**

	<b>Increased Importance of Information</b>	<b>Decreased Importance of Information</b>	<b>No Statistically Significant Relationship</b>
External Information Factor	Less Professional Legislature, Other Staff, Female	More Professional Legislature, Fiscal Analyst, Male	LFO Structure, Level of Partisan Staffing, Divided Government, Legislative Turnover, Strength of Governor, Age
Political Information Factor	Centralized Nonpartisan LFO, Very Few Partisan Staff, More Professional Legislature, Weaker Governor, Other Staff, Younger, Female	Other LFO, Moderate/Large Partisan Staff, Less Professional Legislature, Stronger Governor, Fiscal Analyst, Older, Male	Divided Government, Legislative Turnover
Technical Information Factor	Fiscal Analyst	Other Staff	LFO Structure, Level of Partisan Staffing, Professionalism of Legislature, Divided Government, Legislative Turnover, Strength of Governor, Age, Gender
Combined Importance of Information Sources	Centralized Nonpartisan LFO, Very Few Partisan Staff, Younger, Female	Other LFO, Moderate/Large Partisan Staff, Fiscal Analyst, Older, Male	LFO Structure, Professionalism of Legislature, Divided Government, Legislative Turnover, Strength of Governor

The next chapter takes another step in that direction. The results presented here are from bivariate tests and lack statistical controls to assess the influence other important variables may have on the observed relationships. The next chapter uses OLS regression to account for this and see if the relationships change when multiple variables are accounted for.

## **5. Examining Influences on the Importance of Information to Legislative Budget Staff with OLS Regression Analyses**

The previous chapter established that a number of institutional and individual variables influence the importance of information to legislative budget staff. This is especially true of information from sources such as lobbyists, partisan staff, and the media which comprise the political information factor described in chapter three. The relationships between these variables need to be considered in conjunction with one another, though, to determine how large an effect they have when controlling for the other variables. This chapter presents the results for OLS regression analyses that examine the relationship between state and individual characteristics of legislative budget staff on the self-reported importance of different information sources they use in their work. The chapter begins with a description of the methodology, followed by a description of the regression models and changes made to data described in chapter four to make it useful for regression. The results of tests of regression models for all legislative budget staff to see how much of the variation in the importance of the various information sources can be explained by the independent variables. The results of separate regressions for fiscal analysts and non-fiscal analysts are also presented to determine if the models work the same for each of these sub-groups; whether a staff member identified as a fiscal analyst was the one variable that had a significant relationship with all of the dependent variables, so it is important to examine these groups in more detail.

## 5.1 Rationale for the Use of Regression Analysis

One of the commonly used tools to analyze data in the social sciences is regression analysis. This technique assumes that there is a linear relationship between a dependent variable (Y) and a set of independent variables (X). The most common form of this analysis, ordinary least squares (OLS) regression, involves estimating an intercept and a set of partial slope coefficients that minimize the sum of the squared errors, or distances between the predicted and the observed values of Y for a set of independent variables; if done correctly, these partial slope coefficient estimates allow a researcher to show the average amount of change in the dependent variable associated with a change in the independent variable, holding the other independent variables constant (Lewis-Beck, 1980). The use of this technique is in line with existing studies on information use among legislative fiscal analysts. Among the studies reviewed on legislative fiscal offices, OLS regression was used in three of the studies that analyzed data (Willoughby and Finn, 1996; Chadha, Permaloff, and Bernstein, 2001; Goodman and Clynch 2004) and the only advanced statistical technique used in any study.

It is preferable to use a technique other than OLS regression, such as hierarchical linear modeling, with data where respondents in the same groups, here states or staff agencies within those states, may have correlated error terms. This is a problem for OLS regression because it may cause a situation where “standard errors are smaller than they should be, resulting in a greater chance of committing Type I errors” (Luke, 2004, p. 22). However, it is preferable with multilevel analysis to have large sample sizes, particularly at the second level

of analysis, as small sample sizes at the second level may result in lower standard errors and prevent the technique from addressing the problem it seeks to correct (Maas & Hox, 2005). This data potentially has three levels of analysis: the individual, the staff organization, and the state legislature. The number of states represented in the data comes close to capturing that population and is less of a concern. However, there is no way to know precisely how many measures we have from each type of staff organization, though it is likely far below the fifty generally required for linear mixed models. Because of the small number of cases from offices and the fact that OLS regression has been accepted in similar studies OLS regression has been chosen as the technique for analysis and the different levels of independent variable are included; tests are performed to check the degree to which autocorrelation of error terms may be a problem in the analysis.

## **5.2 Regression Model**

The regression models tested in this chapter use factor scores for the three information factors (external, political, and technical) described in chapter three and the summative index values measuring the combined importance of information sources as the dependent variables. Three independent variables (LFO structure, level of partisan staffing, whether a legislative staff member is a fiscal analyst) and three control variables (professionalism of the legislature, age of the legislative staff member, and the gender of the legislative staff member) are included in the models to examine their effect on the importance of information to legislative staff involved in the budget process. This group of variables reflects what that the literature on legislative fiscal staff and the literature on

information use in legislatures indicate influence information use by legislative budget staff members; these variables are a subset of a larger group discussed in chapter four, that have significant bivariate relationships and that have research to support their inclusion.

### **5.2.1 Categorical/Ordinal Variables in the Model**

The data sources for the dependent and independent variables are those described in chapters three and four. One change was made to the variables measuring the structure of an LFO in a state and to the variable measuring the level of partisan staffing. The former variable is categorical, which the variable must be broken up into two dummy variables with a reference category omitted to prevent the presence of perfect collinearity among the variables and violating one of the regression assumptions. Hardy (1993) recommends that the reference category should be preferably be: 1) well-defined, 2) an upper or lower bound category, and 3) the largest category if others have small numbers. For the variable measuring the structure of the LFO in a state, it makes sense to use the centralized, non-partisan category for the reference group, as it meets all three criteria. The variable measuring the level of partisan staffing is an ordinal variable, but because it only has three levels it is not recommended that it be used without creating dummy variables (Garson, Multiple Regression, 2012c). Based on the criteria set by Hardy (1993), the level for few partisan staff will serve as the reference category.

### 5.2.2 Preliminary Assessment of the Model

There are multiple assumptions about the data and models that must hold in order for the results of regression analyses to be useful for researchers. Three of these are discussed below; tests of the assumptions that require data from the analyses are described presented in Appendix D.

#### *Sample Size*

For the multiple regression models this analysis seeks to test, the sample size of 300 should be adequate. Garson (2012c) offers two guides for determining adequate sample size for this method: sample size should be greater than 104 plus the number of independent variables or it should be greater than 20 times the number of independent variables. In either case, this sample size meets these criteria for the formula to be analyzed.

#### *Proper Specification of the Model*

The proper specification of the regression model is an important assumption for the results of regression analysis to be interpreted correctly. This can be violated in one of two ways. First, it can occur if the researcher has assumed a linear relationship between the dependent and independent variables when the relationship may be different (e.g., curvilinear) though preliminary tests did not indicate this would be the case here.<sup>1</sup> The second way this assumption can be violated is if the researcher has included causally irrelevant but correlated independent variables or excluded important ones from the model. Either of these

---

<sup>1</sup> As a precaution, curve fitting tools in SPSS were used to examine bi-variate relationships in the data to see if non-linear models would be a better fit. None of the models examined (e.g., curvilinear, exponential) showed a better fit with the data.

errors may inflate the standard errors associated with parameter estimates and thus make it difficult to determine whether the partial slope estimates differ significantly from zero (Berry & Feldman, 1985; Kahane, 2007). In order to avoid violating this assumption, it is best to build a model based on sound research and theory in order to attempt to include only the most important variables (Berry & Feldman, 1985). While this is difficult to perfectly specify the model, it is good for a researcher to ground the decision to include variables in the model on what is known about the relationship between the dependent and independent variables.

The previous chapter attempted to lay the rationales for the variables out and to test the strength of the relationships between the dependent and independent variables; the resulting model thus represents a best effort at proper specification in order to avoid violating this assumption.

### ***Measurement Error in the Model***

A second data-based assumption that needs to be addressed in this chapter is that there is a sound relationship between the indicator variable used in the model and the underlying factor that it is supposed to represent. In other words, is the model free from measurement error? There are many types of measurement error, but two of the more common types are when the indicator the researcher uses to represent a single factor actually represents multiple factors or there are problems with measurement related to issues like respondents guessing on a survey or coding problems occur (Berry & Feldman, 1985). The presence of random error in a multiple regression weakens the goodness-of-fit measure for



the regression equation, inflates the standard error for parameter estimates (making it difficult to show the parameter estimates are significantly different from zero or from each other), and possibly leads to biased estimators for the partial slope coefficients (Berry & Feldman, 1985). The preferred method of dealing with this is to collect multiple measures for an underlying construct, but this is often impossible when conducting secondary data analysis because multiple measures may not exist (Berry & Feldman, 1985).

Some of variables (e.g., gender, age) likely have no measurement error, but others possibly do. LFO structure is a good example of this. As noted in chapter one, there is not a reliable typology of LFOs that is widely available. Two variables attempt to measure this here (coding of states described in chapters one and four, using data from the table in Appendix A) and the reported level of partisan staffing in a state by respondents in the NCSL survey. While this uses multiple measures to capture the construct, it is possible that something is missing between these variables. Legislative professionalism is also subject to this. Here it serves as a proxy for the resources of a legislature and the amount of information that may be available in the policy environment generally. This seems reasonable and there is not a better variable for this, but at the same time the match between what the variable can do and what it is intended to do may not be an exact match. The included variables represent a best effort to measure these constructs and are in line with prior research, but it is still possible that measurement error is present in the models.

### *Relationships among the Independent Variables*

For OLS regression to be accurate, the independent variables included in the model should not be related to one another in order to show the unique contribution to the variance in the dependent variables. Table 5.1 shows the Pearson correlation coefficients (or bi-serial correlations in the case of the dichotomous variables) for relationships between the independent variables. No correlation is above the typical cutoff of 0.8 to indicate a serious problem for regression (Berry & Feldman, 1985). The variable measuring legislative professionalism (Squire) has a moderate relationship with the dummy variable for a state with a large number of partisan staff. This makes sense, as many states with a hybrid LFO are the more professionalized, such as California. The correlation is not as high as could be expected, though, and it makes sense to leave this in as a control.

**Table 5.1: Correlations among Independent Variables**

	Hybrid	Dual	Large Partisan	Fair Partisan	Squire	Age	Fiscal Analyst	Gender
Hybrid	--	-0.35 (***) N=300	0.24 (***) N=300	-0.004 N=300	0.52 (***) N=300	-0.21 (***) N=292	-0.10 N=300	-0.05 N=294
Dual	--	--	0.12 (**) N=300	-0.07 N=300	-0.13 (**) N=300	0.02 N=292	-0.15 (***) N=300	.06 N=294
Large Partisan	--	--	--	-0.54 (***) N=300	0.31 (***) N=300	0.12 (**) N=292	-0.06 N=300	0.01 N=294
Fair Partisan	--	--	--	--	0.05 N=300	-0.07 N=292	-0.14 (***) N=300	-0.09 N=294
Squire	--	--	--	--	--	-0.10 N=292	-0.14 (***) N=300	.004 N=294
Age	--	--	--	--	--	--	0.03 N=292	.15*** N=289
Fiscal Analyst	--	--	--	--	--	--	--	0.07 N=294
Gender	--	--	--	--	--	--	--	--

(\*\* denotes significance at the 0.05 level, and \*\*\* denotes significance at the 0.01 level)

### 5.2.3 Regression Model Equation and Summary of Hypotheses

The equation below outlines the specific regression models that will be tested in the analysis presented in this chapter:

$$Y_{1...4} = \beta_0 + \beta_1x_1 + \beta_2x_2 + \beta_3x_3 + \beta_4x_4 + \beta_5x_5 + \beta_6x_6 + \beta_7x_7 + \beta_8x_8 + \alpha$$

$Y_1$  = The Importance of External Information Sources

$Y_2$  = The Importance of Political Information Sources

$Y_3$  = The Importance of Technical Information Sources

$Y_4$  = The Importance of Total Information Sources

$x_1$  = Chamber/Caucus LFO Compared to Centralized, Nonpartisan LFO

$x_2$  = Hybrid LFO Structure Compared to Centralized, Nonpartisan LFO

$x_3$  = Fair Number of Partisan Staff Compared to Few Partisan Staff

$x_4$  = Large Number of Partisan Staff Compared to Few Partisan Staff

$x_5$  = Legislative Professionalization Score

$x_6 = \text{Age of the Legislative Staff Member}$   
 $x_7 = \text{Gender of the Legislative Staff Member}$   
 $x_8 = \text{Whether the Legislative Staff Member is a Fiscal Analyst}$   
 $\alpha = \text{Error Term}$

Table 5.2 summarizes the hypotheses about the relationships between the independent and dependent variables in the model. These are the same as those developed in chapter four, and are included here simply as a reference. The sections that follow present the results for analysis of the regression models for each of the four dependent variables. Separate models are also run for fiscal analysts and non-fiscal analysts to see how the models perform for these subgroups.

**Table 5.2: Summary of Hypotheses Tested**

	<b>External</b>	<b>Political</b>	<b>Technical</b>	<b>Total</b>
Hybrid LFO	More important than for analysts in centralized, nonpartisan LFO	Less important than for analysts in centralized, nonpartisan LFO	Less important than for analysts in centralized, nonpartisan LFO	Less important than for analysts in centralized, nonpartisan LFO
Single LFO, Split	More important than for analysts in centralized, nonpartisan LFO	More important than for analysts in centralized, nonpartisan LFO	Less important than for analysts in centralized, nonpartisan LFO	More important than for analysts in centralized, nonpartisan LFO
Presence of Partisan Staff	As number of partisan staff increases, the importance decreases	As number of partisan staff increases, the importance increases	As number of partisan staff increases, the importance decreases	As number of partisan staff increases, the importance increases
Professionalism of Legislature	As the professionalism of the legislature increases, the importance increases	As the professionalism of the legislature increases, the importance increases	As the professionalism of the legislature increases, the importance increases	As the professionalism of the legislature increases, the importance increases
Age	As age increases, importance decreases	As age increases, importance increases	As age increases, importance decreases	As age increases, importance decreases
Fiscal Analyst	More important for fiscal analysts	Less important for fiscal analysts	More important for fiscal analysts	More important for fiscal analysts
Gender	More important for females	More important for males	More important for females	More important for females

### 5.3 OLS Regression Results for External Information Factor

Table 5.3 presents the results of the regression analysis for the dependent variable measuring the importance of external sources of information to legislative staff members. The model is significant, though the  $R^2$  value indicates that only 6% of the variance in the dependent variable can be explained by the independents. The two variables measuring the

structure of legislative staff in a state do not achieve significance, indicating that the importance of the sources included in the external information factor does not vary across structures or if more partisan staff are present. This is the same result as was seen in the ANOVA tests in chapter four.

**Table 5.3: Regression Results for External Information<sup>2</sup>**

<b>Variables</b>	<b>Unstandardized <math>\beta</math></b>	<b>Standard Error</b>	<b>Standardized <math>\beta</math></b>
<b>Constant</b>	0.836	0.315***	--
<b>Single, Split LFO</b>	-0.240	0.168	-0.97
<b>Hybrid LFO</b>	0.006	0.161	0.003
<b>Fair Number of Partisan Staff</b>	-0.94	0.155	-0.047
<b>Large Number of Partisan Staff</b>	0.064	0.182	0.029
<b>Squire Score</b>	-1.389	0.521***	-0.197
<b>Age</b>	-0.002	0.006	-0.023
<b>Gender</b>	-0.265	0.121**	-0.133
<b>Fiscal Analyst</b>	-0.407	0.125***	-0.202
<b>F</b>	3.151***		
<b>R<sup>2</sup></b>	0.06		
<b>N</b>	272		

\*\* $p < 0.05$ , \*\*\* $p < 0.01$

The results indicate that as a legislature becomes more professional, external sources of information (other states' statutes, internet research) are less important for legislative staff as they do their jobs. This is counter to the hypothesized relationship, but confirms the

<sup>2</sup> Five additional regressions were run using imputed data. The results were similar for all analyses, though the sign for the coefficient changed from positive to negative in four of the imputed regressions for the variable indicating a large presence of partisan staff, and in two cases for the variable indicating a state had a hybrid staff member. Additionally, in all five regressions using imputed data the variable for the Squire index was significant, but only at the 0.10 level. Output for the regressions with the original and imputed data can be found in Appendix C.

results of the correlations described in the previous chapter. More professional legislatures exist in policy environments with the capacity to produce more of their own information, so there is less need for legislative staff members to look outside of the state. There are likely better staffed executive agencies, more extensive media, and a stronger lobbying presence that can gather information from outside of the state and put it in a relevant context for legislative staff members, allowing legislative staff in these states to play more of a gatekeeper role for information (Sabatier & Whiteman, 1985). In contrast, legislative staff in states with less professional legislatures may have to gather information from these sources for themselves. Alternatively, the overall lack of resources in their legislature (such as time the legislature can meet in a year) may focus the attention of the legislature on a more limited set of tasks that precludes the need for this type of information.

In terms of gender, the results indicate that external sources of information are more important for female staff members than they are for male staff members, as being male in this dataset reduces a staff member's factor score by 0.265. This confirms the hypothesis for this relationship, and it confirms the results of the t-tests described in the previous chapter.

The results also indicate that external information sources are less important for fiscal analysts than they are for other for other types of legislative staff, as being a fiscal analyst reduces the factor score by 0.41 and an examination of the standardized coefficients indicates that this variable plays the most significant role in explaining the variance in the dependent variable. This is the opposite of the hypothesized relationship, but confirms the results of the t-tests described in the previous chapter. This could be because the bulk of the

work fiscal analysts do is to put together and monitor the budget for a state, which is a very large and time-consuming task. It is also a somewhat insular task for a state, and so for the most part they can get the information they need from other sources within a state.

Table 5.4 presents the coefficients from separate regression analyses for fiscal analysts and for other legislative staff members. One of the first things to notice is that the F-test of the overall significance of the model for non-fiscal analysts fails to achieve statistical significance, meaning that we cannot be certain any of the variables included explain the variation in the dependent variable.

**Table 5.4: External Information Regression Coefficients for Fiscal Analysts and Non-Fiscal Analysts**

Variables	Fiscal Analysts		Non-Fiscal Analysts	
	Unstandardized $\beta$	Standard Error	Unstandardized $\beta$	Standard Error
<b>Constant</b>	0.831	0.375**	0.305	0.52
<b>Single, Split LFO</b>	-0.324	0.228	-0.188	0.259
<b>Hybrid LFO</b>	-0.27	0.194	0.051	0.292
<b>Fair Number of Partisan Staff</b>	-0.173	0.193	0.024	0.267
<b>Large Number of Partisan Staff</b>	0.097	0.228	0.031	0.322
<b>Squire Score</b>	-1.585	0.676**	-1.172	0.862
<b>Age</b>	-0.009	0.008	0.006	0.10
<b>Gender</b>	-0.322	0.155**	-0.149	0.204
<b>F</b>	2.802***		-0.026 <sup>3</sup>	
<b>R<sup>2</sup></b>	0.077		0.058	
<b>N</b>	153		118	

\*\* $p < 0.05$ , \*\*\* $p < 0.01$

<sup>3</sup> A negative adjusted-R<sup>2</sup> value is uncommon, but not unheard of. The R<sup>2</sup> value is 0.035, or fairly close to zero. The adjusted-R<sup>2</sup> value takes this and makes a reduction based on the number of variables in the model. This reduction can sometimes dip below zero. The overall conclusion is that the model explains very little of the variance in the dependent variable for non-fiscal analysts.



The model for fiscal analysts does have an F-test that achieves significance. The professionalism of the legislature and the gender of the analyst are significant here, as they were in the full model. The standardized regression coefficients (-0.228 for professionalism and -0.173 for gender) indicate that the professionalism of the legislature explains more of the variance in the dependent variable. This could mean that for external information sources the resources of the legislature matter more in explaining the importance of information sources in which analysts operate is more important than the other variables in the model.

#### 5.4 OLS Regression Results for Political Information Factor

Table 5.5 presents the results of the regression analysis for the dependent variable measuring the importance of political sources of information to legislative staff members involved in the budget process. The overall F test of the model achieves significance, and the model explains roughly 19% of the variance in the dependent variable.

**Table 5.5: Regression Results for the Importance of Political Information**

<b>Variables</b>	<b>Unstandardized <math>\beta</math></b>	<b>Standard Error</b>	<b>Standardized <math>\beta</math></b>
<b>Constant</b>	0.771	0.289***	--
<b>Single, Split LFO</b>	0.337	0.154**	0.136
<b>Hybrid LFO</b>	0.401	0.148***	0.188
<b>Fair Number of Partisan Staff</b>	0.324	0.142**	0.161
<b>Large Number of Partisan Staff</b>	0.389	0.167**	0.77
<b>Squire Score</b>	-0.350	0.477	-0.049
<b>Age</b>	-0.016	0.005***	-0.163
<b>Gender</b>	-0.130	0.111	-0.065
<b>Fiscal Analyst</b>	-0.628	0.114***	-0.311
<b>F</b>	10.501***		
<b>R<sup>2</sup></b>	0.189		
<b>N</b>	272		

\*\* $p < 0.05$ , \*\*\* $p < 0.01$

The variables measuring the structure of the LFO both are significant indicating that legislative staff members in states with centralized, nonpartisan LFOs value political information less than legislative staff members in other states. Higher levels of partisan staffing are also associated with greater importance being placed on political information. Both of these are similar to the results of the ANOVA tests in chapter four, and confirm the hypotheses for these variables. It is interesting that these variables are significant, while the variable measuring the professionalism of the legislature is not in this model. This suggests that aspects of the staffing structure influence the importance of information more than the resources of the legislature in which a legislative staff member serves.

In terms of individual variables, the results indicate that being a fiscal analyst and being older both lead to decreased value being placed on political information by legislative staff. Both of these results mirror the results of the bivariate tests described in the previous chapter, providing further support for the hypothesis that being a fiscal analyst leads to decreased importance being placed on political information for legislative budget staff. This also seems to confirm that the relationship seen in research on legislative and executive budget analysts (Willoughby & Finn, 1996; Goodman & Clynch, 2004) extends within the legislature; fiscal analysts find political information to be less important in their work than do other types of staff involved in the budget process. The results indicating that the importance of political information is less important for older legislative staff members runs counter to the hypotheses about this variable. There are a number of potential reasons for this. It may be that the staff find it to be less necessary in their work, or it may be that they feel more

independent in making recommendations and worry less about how the recommendations are received by leadership. Additional research is needed to understand whether either of these reasons is true or if some other thing drives the relationship.

Table 5.6 presents the coefficients from separate regression analyses for fiscal analysts and for other legislative staff members. Both models achieve statistical significance, though the adjusted  $R^2$  values for each model are smaller than for the full model.

**Table 5.6: Results of Separate Regressions on Political Information by Fiscal and Non-fiscal staff**

Variables	Fiscal Analysts		Non-Fiscal Analysts	
	Unstandardized $\beta$	Standard Error	Unstandardized $\beta$	Standard Error
<b>Constant</b>	-0.026	0.364	0.996	0.445**
<b>Single, Split LFO</b>	0.461	0.221**	0.289	0.221
<b>Hybrid LFO</b>	0.390	0.188**	0.493	0.250**
<b>Fair Number of Partisan Staff</b>	0.268	0.187	0.429	0.229
<b>Large Number of Partisan Staff</b>	0.297	0.221	0.591	0.275**
<b>Squire Score</b>	0.043	0.655	-1.019	0.738
<b>Age</b>	-0.015	0.007**	-0.017	0.008**
<b>Gender</b>	0.033	0.150	-0.375	0.174**
<b>F</b>	3.486***		3.176***	
<b>R<sup>2</sup></b>	0.103		0.114	
<b>N</b>	153		119	

\*\* $p < 0.05$ , \*\*\* $p < 0.01$

For fiscal analysts, the variables indicating the structure of the LFO are significant while the variables measuring the level of partisan staffing are not. This suggests that for

fiscal analysts, those working in states with committee or chamber based LFOs or states with multiple LFOs (e.g., a centralized, nonpartisan LFO and separate chamber based LFOs) do find political information sources to be more important in their work. For non-fiscal analysts, the same is also true although the level of partisan staffing is also important. This suggests that one consequence of a decision by a legislature to switch the structure of the LFO from centralized, nonpartisan to a more complicated structure is that the analysts may value and use information from partisan staff, lobbyists, and media sources in their work. The results also suggest that this may be more pronounced in places with single, split LFOs than in states with hybrid structures. The increase in the importance of political information sources is greater for fiscal analysts than non-fiscal analysts in single-split LFO states, while the increase is less for fiscal analysts than non-fiscal analysts in hybrid LFO states. Fiscal analysts in the states with single, split LFOs work more closely with committee or caucus leaders, and this may explain why the coefficient is higher for this dummy variable.

The results for the variable measuring the age of the respondent are consistent with the results from the full model; however, the results for gender only achieve significance for the model with non-fiscal analysts. It is unclear why this may be, and needs additional research to determine why this relationship may exist.

## **5.5 OLS Regression Results for Technical Information Factor**

Table 5.7 presents the results of the regression analysis on the dependent variable measuring the importance of technical sources of information to legislative staff members involved in the budget process. The variables in the model seem to explain little of the

variance in the importance placed on technical information sources; the overall F test of the model achieves significance, but only at the 0.1 level, and the model explains roughly 2% of the variance in the dependent variable.

**Table 5.7: Regression Results for the Importance of Technical Information** <sup>4</sup>

<b>Variables</b>	<b>Unstandardized <math>\beta</math></b>	<b>Standard Error</b>	<b>Standardized <math>\beta</math></b>
<b>Constant</b>	-0.323	0.320	--
<b>Single, Split LFO</b>	-0.293	0.171	-0.119
<b>Hybrid LFO</b>	0.071	0.164	0.034
<b>Fair Number of Partisan Staff</b>	0.155	0.158	-0.077
<b>Large Number of Partisan Staff</b>	0.253	0.185	0.116
<b>Squire Score</b>	-0.730	0.529	-0.104
<b>Age</b>	0.008	0.006	0.077
<b>Gender</b>	-0.133	0.123	-0.067
<b>Fiscal Analyst</b>	0.206	0.127	0.103
<b>F</b>	1.681		
<b>R<sup>2</sup></b>	0.02		
<b>N</b>	272		

\*\* $p < 0.05$ , \*\*\* $p < 0.01$

The two variables driving the limited significance are whether a legislative staff member is a fiscal analyst is associated with an increase in the importance of technical information sources, and being a legislative staff member in a state with a split LFO. Both of these support the hypotheses about the relationships, and confirm the results of the bivariate tests described earlier in the chapter. However, the general lack of significance suggests that

<sup>4</sup> Five additional regressions were run using imputed data. In all five of these, the overall model achieved statistical significance at the 0.05 level. Likewise, both the variable for whether a state had a single, split LFO and the variable measuring whether a legislative staff member was a fiscal analyst were significant at the 0.05 level. Output for the regressions with the original and imputed data can be found in Appendix C.

there is little difference in how important sources associated with the technical information factor are to legislative staff members involved in the budget process. This supports the idea that even in states with partisan LFOs, analysts are expected to present all sides of the issue and make sure legislators understand the technical nature of the budget problems before them (Balutis A. P., 1975a; Kent, 1975). These results also support the conclusions from previous studies that legislative budget analysts in general utilize technical information sources more than their executive peers (Willoughby & Finn, 1996; Goodman & Clynh, 2004).

**Table 5.8: Results of Separate Regressions on Technical Information by Fiscal and Non-fiscal Staff**

Variables	Fiscal Analysts		Non-Fiscal Analysts	
	Unstandardized $\beta$	Standard Error	Unstandardized $\beta$	Standard Error
<b>Constant</b>	-0.147	0.402	0.051	0.476
<b>Single, Split LFO</b>	-0.211	0.244	-0.397	0.237
<b>Hybrid LFO</b>	0.237	0.194	-0.344	0.267
<b>Fair Number of Partisan Staff</b>	0.306	0.206	-0.186	0.245
<b>Large Number of Partisan Staff</b>	0.542	0.245**	-0.335	0.295
<b>Squire Score</b>	-0.743	0.724	-0.409	0.790
<b>Age</b>	0.001	0.008	0.010	0.009
<b>Gender</b>	0.048	0.166	-0.274	0.186
<b>F</b>	1.405		2.029	
<b>R<sup>2</sup></b>	0.018		-0.026	
<b>N</b>	153		119	

\*\* $p < 0.05$ , \*\*\* $p < 0.01$

Table 5.8 presents the results of the separate regressions for fiscal analysts and non-fiscal analysts. The model for non-fiscal analysts achieves significance at the 0.1 level, though neither model explains more than 2% of the variance in the importance of technical information sources. One thing to note is that the variable measuring whether a state has a large number of partisan staff achieves significance for fiscal analysts even though the model does not. This suggests that there may be a problem of model fit, or that there may be something the data cannot capture well because of a smaller number of analysts in states with large numbers of partisan staff. The result is interesting, as it suggests that analysts in those states do value technical information more than their peers in states with centralized, nonpartisan LFOs. However, the size of this effect is likely very small and it appears that for the most part analysts value this information regardless of the structure of the office in which they work.

## **5.6 OLS Regression Results for Total Information Factor**

Table 5.9 presents the results of the regression analysis on the dependent variable that sums the scores of the importance for each information source in the analysis. The model achieves statistical significance and explains 16% of the variance in the dependent variable.

Table 5.9: Regression Results for the Importance of Information Sources Combined <sup>5</sup>

Variables	Unstandardized $\beta$	Standard Error	Standardized $\beta$
<b>Constant</b>	23.471	1.102***	--
<b>Single, Split LFO</b>	-0.398	0.541	-0.047
<b>Hybrid LFO</b>	1.092	0.518**	0.151
<b>Fair Number of Partisan Staff</b>	0.897	0.499	0.131
<b>Large Number of Partisan Staff</b>	1.520	0.586***	0.204
<b>Squire Score</b>	-5.216	1.672***	-0.217
<b>Age</b>	-0.032	0.019	-0.096
<b>Gender</b>	-1.226	0.390***	-0.180
<b>Fiscal Analyst</b>	-1.965	0.400***	-0.287
<b>F</b>	7.537***		
<b>R<sup>2</sup></b>	0.162		
<b>N</b>	271		

\*\* $p < 0.05$ , \*\*\* $p < 0.01$

The results indicate that legislative budget staff members in states with hybrid LFO value the combined importance of the information sources more than their peers in states with centralized, nonpartisan LFOs while those in states with a single, committee or chamber based LFO value the combined importance of information less than their peers in states with centralized, nonpartisan LFOs. These are counter to the hypothesized relationship, but consistent with the ANOVA results described in chapter four. These results are interesting, as the hypotheses were based primarily on the findings from Thurmaier and Willoughby (2001) that for executive analysts, working more closely with the governor led to the use of more of the rationalities. It seemed a logical conclusion that the LFO staff members in states

<sup>5</sup> Five additional regressions were run using imputed data. In four of the five regressions, the variable indicating that a state had a hybrid LFO was still significant, but only at the 0.1 level. In two of the five regressions, age was significant but at the 0.05 level instead of the 0.1 level in the original model. Output for the regressions with the original and imputed data can be found in Appendix C.



with chamber or committee LFOs would have a smaller number of principals to take into account and thus might find more information sources to be useful. However, these results seem to suggest that legislative staff in such states use a more limited number of information sources. They find political information very important, but the increase in the importance of this type of information may offset lower levels of importance placed on sources from other information factors.

The second variable measuring the structure of legislative staff organizations is also significant. Legislative staff members in states with higher levels of partisan staffing value total information more than legislative staff in states with few partisan staff members. This is consistent with the ANOVA results in chapter four and consistent with the hypothesized relationship that the overall importance of information would increase with increased levels of partisan staff. Taken with the results for the structure variable, this could mean that (to degree the variables would line up) there are important differences between the chamber based, nonpartisan LFOs and the partisan, committee based LFOs that cannot be captured in this data. Future research that can better separate these two groups may be able to flesh this distinction out more.

The results from this model also indicate that legislative staff members in states with more professional legislatures place less importance on overall information than do their peers in states with less professional legislatures. This is counter to the hypothesized relationship, but consistent with the results of the correlation analyses presented in chapter four. As was the case for the analysis of the external information factor model, this may be

because the policy environment in more professional legislatures can generate more information itself, or because the number of actors in the system allows specialization and focus on specific types of information in their work (Rosenthal, 1998; Chadha, Permaloff, & Bernstein, 2001; Hird, 2005).

In terms of individual level variables, whether a staff member is a fiscal analyst explains the most of the variance in the importance of these information sources combined, though it also suggests that fiscal analysts find the overall importance of information to be less important than do non-fiscal analysts. This finding is counter to the hypothesis about the relationship, but is consistent with the results of the t-tests presented in chapter four. The finding seems consistent with those of Willoughby and Finn (1996) and Goodman and Clynch (2004) who found that legislative fiscal analysts used fewer sources of information than did their executive counterparts; the findings here suggest that this difference extends to fiscal analysts and other types of staff inside the legislature as well. The size and nature of the task facing fiscal analysts means that they may simply not have the time or need to look for a wide variety of information to complete their tasks.

An increase in the age of the staff member and the staff member being male are also associated with a decrease in the importance of total information sources for legislative staff members. These results support the hypotheses for these relationships and are consistent with the tests of the bivariate relationships described in chapter. It is unclear why these relationships exist, so additional research is needed to understand them better.

Table 5.10 shows the results of the separate regression analyses for fiscal analysts and non-fiscal analysts. Both models achieve significance, though there are notable differences in the results between the two groups. For example, the presence of a hybrid LFO and the presence of a large number of partisan staff are both significant for fiscal analysts but not for non-fiscal analysts. Being in either kind of state increases the overall value of information to fiscal analysts, though there appears to be no difference between fiscal analysts in centralized, nonpartisan LFOs and those in single, split structure states. The professionalism of the legislature in which staff members serve is significance for non-fiscal analysts but not for fiscal analysts. The significance of the variable in the full model for this variable is thus likely driven by non-fiscal analysts, while the significance of the structure of LFOs in the full model is driven by fiscal analysts.

**Table 5.10: Results of Separate Regressions on Combined Importance of Information by Fiscal and Non-fiscal Staff**

Variables	Fiscal Analysts		Non-Fiscal Analysts	
	Unstandardized $\beta$	Standard Error	Unstandardized $\beta$	Standard Error
<b>Constant</b>	21.739	1.269***	23.615	1.568***
<b>Single, Split LFO</b>	-0.179	0.770	-0.544	0.781
<b>Hybrid LFO</b>	1.280	0.655**	0.727	0.881
<b>Fair Number of Partisan Staff</b>	0.705	0.651	0.948	0.807
<b>Large Number of Partisan Staff</b>	1.765	0.773**	0.972	0.971
<b>Squire Score</b>	-4.166	2.286	-6.180	2.603**
<b>Age</b>	-0.050	0.026	-0.018	0.029
<b>Gender</b>	-0.803	0.524	-1.678	0.614***
<b>F</b>	3.861***		2.272**	
<b>R<sup>2</sup></b>	0.151		0.070	
<b>N</b>	153		119	

\*\* $p < 0.05$ , \*\*\* $p < 0.01$

## 5.7 Discussion

The analyses in this chapter primarily sought to address the effect of the structure of legislative staffing on the importance of information sources to staff involved in the budget process while controlling for various state and individual traits that may also influence the use of information by legislative staff. Table 5.11 summarizes the findings related to the hypotheses for the variables in the regression models.

There are several key findings from the analyses presented in this chapter.

- Among legislative staff who may be involved in the budget process, fiscal analysts use technical information more and political and external information less than other types of staff members. This is consistent with the results of earlier studies that found legislative fiscal analysts used less political information than their executive counterparts, but extends the findings to show that there are similar differences that exist among different types of legislative staff.
- Legislative staff in states with more partisan staff or in states with more complex LFO structures value political information more than peers in states with few partisan staff or with only a centralized, nonpartisan LFO to assist with the legislative budget. It is unclear from these results whether this is because there is something about the staffing structure that makes political information more valuable, or if it is simply that this type of information is more available in the legislative environment.
- Legislative staff members who may be involved in the budget process seem to value sources associated with the technical information factor regardless of the type of LFO in their state or the level of partisan staffing in the state. This suggests that all such analysts rely on a base level of knowledge in order to do their work, confirming the findings of previous research.
- As the professionalism of the legislature increases, the importance of external information and of overall information (especially for non-fiscal analysts) to staff members decreases. This could be because the capacity of the policy environment within which the legislature operates in these states is sufficient to address the information needs of legislative staff.

**Table 5.11: Hypotheses on Importance of Information for Legislative Staff Updated with Results of Regression Analyses**

	<b>External</b>	<b>Political</b>	<b>Technical</b>	<b>Total</b>
Hybrid LFO	<del>More important than for analysts in centralized, nonpartisan LFO</del>	Less important than for analysts in centralized, nonpartisan LFO (-)	<del>Less important than for analysts in centralized, nonpartisan LFO</del>	<del>Less important than for analysts in centralized, nonpartisan LFO</del>
Single LFO, Split	<del>More important than for analysts in centralized, nonpartisan LFO</del>	More important than for analysts in centralized, nonpartisan LFO (+)	<del>Less important than for analysts in centralized, nonpartisan LFO</del>	More important than for analysts in centralized, nonpartisan LFO (+)
Presence of Partisan Staff	<del>As number of partisan staff increases, the importance decreases</del>	As number of partisan staff increases, the importance increases (+)	<del>As number of partisan staff increases, the importance decreases</del>	As number of partisan staff increases, the importance increases (+)
Professionalism of Legislature	As the professionalism of the legislature increases, the importance increases (-)	<del>As the professionalism of the legislature increases, the importance increases</del>	<del>As the professionalism of the legislature increases, the importance increases</del>	As the professionalism of the legislature increases, the importance increases (-)
Age	<del>As age increases, importance decreases</del>	As age increases, importance increases (-)	<del>As age increases, importance decreases</del>	As age increases, importance decreases (+)
Fiscal Analyst	More important for fiscal analysts (-)	Less important for fiscal analysts (+)	<del>More important for fiscal analysts</del>	More important for fiscal analysts (-)
Gender	More important for females (+)	<del>More important for males</del>	<del>More important for females</del>	More important for females (+)

(+) denotes hypothesis confirmed, (-) denotes opposite of hypothesized relationship confirmed, strikethrough denotes no statistically significant relationship

In terms of the separate analyses for fiscal analysts and other types of staff, fiscal analysts seem to find a narrower band of information to be important in their work. Table 5.12 provides a breakdown of the statistically significant relationships from the regressions for fiscal analysts alone.

**Table 5.12: Relationships for Fiscal Analysts**

	<b>External</b>	<b>Political</b>	<b>Technical</b>	<b>Total</b>
Single, Split LFO		+		
Hybrid LFO		+		+
Fair Number of Partisan Staff				
Large Number of Partisan Staff				-
Squire Score	-			-
Age		-		-
Gender	-			

(+) denotes statistically significant direct relationship, (-) denotes statistically significant inverse relationship

Key findings from these analyses include the following:

- Among fiscal analysts, those operating in centralized, nonpartisan LFOs use political information less than their peers in states with alternative LFO staffing structures; the difference is greatest between analysts in states with centralized nonpartisan offices and states with single, split structures.
- Among fiscal analysts, those operating in states with large numbers of partisan staff may use technical information more than their peers in states with few, if any partisan staff members. Overall, though, there is no difference in terms of how important these sources of information are for fiscal analysts.

The purpose of a legislative fiscal office is to provide the legislature with independent analysis of a state’s budget. The most important sources of information for this work likely fall in the technical factor and in that sense these results suggest that no matter the structure fiscal analysts do value these sources of information. The results also suggest that analysts in LFOs that operate in a more complex information environment may use more of the information sources associated with the rationalities described by Thurmaier and Willoughby (2001) as they conduct their work. The results do not indicate how analysts or other legislative staff members use these types of information in their work, but it suggests that

decisions to alter the structure of a state's LFO would affect the information provided by analysts. Moving from a centralized, nonpartisan LFO to a more complex structure will not likely limit the importance of technical information, but will introduce more political information in the work of fiscal analysts. This seems consistent with the qualitative studies of LFOs in Illinois (Kent, 1975) and New York (Balutis A. P., 1975a). In both cases, staff existed in a partisan, committee based arrangement that required them to be aware of political factors and considerations. However, analysts in both states were also expected to present the effect of potential budget decisions using objective information to make sure legislators were fully informed.

## 6. Key Findings, Limitations, and Directions for Future Research

Chapter one presented three research questions that subsequent analyses in this dissertation have sought to answer:

- 1) Do LFO structural factors such as whether the LFO is centralized or non-centralized, partisan/nonpartisan, or the presence of multiple staff agencies working on the budget alter the number or type of information sources used by LFO analysts?
- 2) Do factors associated with the legislature as a whole such as term limits or legislative power vis-à-vis the governor alter the number or type of information sources used by LFO analysts?
- 3) Do fiscal analysts differ from other types of legislative staff who might be involved in the budget process in how they use information?

The findings from this study have provided answers to each of these questions that enable an enhanced understanding of information use among different types of legislative staff involved in the state budget process and the potential consequences of legislative decisions to alter the structure in which these staff offices operate. This chapter summarizes the results of previous chapters and puts the findings in the context of budgetary decision-making at the state level. The first section presents the four most important conclusions from the research, which is followed by a discussion of the limitations of the research and a discussion of additional research items that could build on the findings of this dissertation.

### 6.1 Key Findings

*Legislators employ a variety of LFO structures to provide them with independent analysis of the budget; existing typologies typically miss some of the nuance in these associated with the hybrid forms that are being created as legislators add staff capacity to provide different information than the traditional LFO in their state.*



Previous studies attempted to identify the structures of legislative fiscal offices (Snow & Clarke, 1999; Snow & Willoughby, 2002) and studies of state legislatures often include a variable to control for the effects of staffing structures on their research question (Goodman & Clynch, 2004; Ryu, 2011). However, because there is not a clear typology of LFOs available from a source like NCSL, the most common tactic is to use a dichotomous variable based on information from *The Book of the States* about whether staffing in the legislature is provided by a centralized agency. This ignores the nuance that exists in these staffing structures and may lead to false conclusions about their effects in the budget process.

The typology presented in chapter one of this dissertation built primarily on the work of Snow and Clarke (1999) and agreed with them that there seemed to be four basic types of LFOs: 1) centralized, nonpartisan offices, 2) nonpartisan, chamber specific offices (e.g. House and Senate staff) offices, 3) bi-partisan, committee based offices, and 4) partisan, committee or caucus based offices. The analysis presented in this dissertation attempted to validate this typology using documents from NALFO, LFO websites, and interviewing fiscal analysts and legislative staff to examine nuances in structure that could not be explained through the other sources. The findings confirmed this basic structure, but also found that in many states legislators have either created multiple LFOs or introduced staff outside of the traditional LFO to provide information in the budget process. Sometimes this is in a professional legislature like California, which has a staffing structure more similar to that found in Congress. In other cases, though, it is in a smaller state like Missouri where the House and Senate have added a small number of partisan staff in addition to the nonpartisan

LFOs, and where a second nonpartisan LFO was created to operate like the CBO only to be closed after a few years of operation.

Snow and Clarke (1999) had noted the emergence of this trend, but provided little discussion about what the effect of increasing the number of LFOs within a state might be or how widespread it appeared to be. The classification effort (summarized for each state in Appendix A) provides a sense of the scope of the hybrid LFO structures and how they are constructed. The prevalence of these hybrid LFO structures today means that researchers wishing to examine the effect that staff structure has on the state budget process may miss an important part of the dynamic if they assume that only one type of LFO exists. By using this classification table, a multi-level variable capturing additional layers of variety in the structure of LFOs was operationalized and included in the quantitative analyses in chapters three and four. Ideally, more levels could have been included in the variable but this analysis shows that it is possible to create more nuanced variables for LFO structure and that there are significant differences in how they approach information.

***This research provides evidence from a national dataset that the political and technical rationalities, as described by Thurmaier and Willoughby (2001), are used by state legislative budget staff and that there is an external (or comparative) rationality used by legislative budget staff that is not described in the original framework.***

Thurmaier and Willoughby (2001) theorized the existence of five rationalities that a person may use to analyze a budget problem and make a decision or recommendation to solve it: social, legal, technical, economic, and political. Previous research that looked for evidence of these relied on limited samples and techniques, though. Thurmaier and

Wiloughby (2001) found existence of these rationalities among executive budget analysts, but for only a limited number of southern and Midwestern states. Additional research found that executive and legislative analysts differed in their use of information (specifically, legislative analysts use fewer and less political sources of information) but the findings were based on analysts in a limited number of western states and did not validate the relationships among information sources.

The dataset used in this dissertation included legislative staff from a wider range of states than previous studies, allowing an examination of whether the rationalities existed beyond regional samples. The use of factor analysis also allowed a validation of whether or not information sources grouped in expected patterns rather than simply summing groups based on a researcher's best guess as to how they related to one another. The findings from the factor analysis of survey items asking about the importance of a variety of information sources grouped the items in a manner consistent with what might be expected from the political and a technical rationality. The former included items related to lobbyists, media, and partisan staff, all of which could be used to determine the views of political elites in the legislature. The latter included information from nonpartisan staff and executive agencies, both of which likely provide technical, objective information that could be used to analyze consequences of possible solutions on relevant agency activities.

The remaining information sources (other state's statutes, organizations like NCSL, and internet research) also group together, suggesting the existence of an "external" or "comparative" rationality that was not discussed in the original research on multiple

rationalities. This indicates that in analyzing budget problems, legislative budget staff may look to see how other states solved similar problems at least occasionally. This is important for two reasons. First, it suggests that researchers should be careful with the types of information they ask about in surveys about the importance of information use. The external rationality could be real, or it could simply be a product of the items included in the survey; had there been a different list, this rationality may not have existed. It is impossible to include every potential information source, so this may mean that researchers should be clear about the focus of their work and what potential information sources are excluded.

A second reason the existence of the external rationality is important is that it seems to reflect a national trend in legislative behavior. The rationalities proposed by Thurmaier and Willoughby (2001) are, in the context of a state's legislative environment, inward looking and assume that external pressures (aside from legal restrictions in the system of federalism) do not exist. However, legislators and governors often look to other states for ideas about how to innovate or to simply see what the competition is doing (Berry & Berry, 2007). At least in the media, it is impossible to ignore the discussion of this trend of nationalizing state politics. For example, model legislation is disseminated by groups such as the American Legislative Exchange Council (ALEC), and national studies and rankings are a favored tactic of interest groups. Future studies (qualitative or quantitative) of information use in the state budget process should include common information sources that come from outside of the state in which a legislator or staff member serves. It is likely they have a limited or specialized role in budgetary decision-making process, but in certain instances that

role could be important. Such research could shed light on perceptions of the influence of outside groups, while at the same time helping these and state-specific organizations better understand how they could be most effective in sharing information with budgetary decision-makers. Future research could also explore how the literature on policy diffusion (Berry & Berry, 2007) to see what insights it could offer for explaining the use of this rationality in state budget processes.

Finally, the existence of the additional rationality suggests that the five part framework described by Thurmaier and Willoughby (2001) is incomplete and more work needs to be done to determine the other types of rationalities that budget analysts may consider when making budget recommendations. While it would be impossible to make a comprehensive list, there are likely important rationalities or information sources that analysts consider on a regular basis and failing to identify these could lead to an incomplete picture of how this framework can inform the literature on budgetary decision-making.

***The organization of legislative fiscal staff affects the importance of political information sources to staff members, but does not affect the importance of technical information sources or external information sources; this confirms findings of earlier studies and provides evidence from a national as opposed to a regional sample to support it.***

One of the principal questions of this dissertation was whether or not the structure of a legislative office in which a budget staff member served influenced the importance of information they used in their work. If it did, this would mean that when legislators created new offices or restructured existing ones such decisions could have large (possibly

unintended) effects on the type of information they received during their work in the budget process. The analysis presented in chapter five approached this question in a way prior studies had not.

First, the analysis examined the structure of legislative staff from a multilevel perspective as opposed to using only a dichotomous variable measuring whether or not a state had a centralized, nonpartisan staffing agency. One of the variables included here used the information collected about LFOs in chapter one to create a variable measuring multiple types of LFO. A second variable that asked about the levels of partisan staffing offered a look at the structure of the staffs from the perspective of the respondents. A third variable focused on dedicated fiscal analysts and other types of staff that may be involved in the budget process (such as appropriations committee staff) allowed another way to examine differences among staff members. Taken together, these provided multiple lenses through which to examine the effect of organizational structure on the importance of information to staff.

Second, this analysis utilized a national dataset that enabled comparisons across states with different structures. The dominant type of LFO is the centralized, nonpartisan office and previous research relied heavily on comparisons of staff within these types of offices. The inclusion of respondents from more states made it possible to examine multiple types of office at one time and to include statistical controls missing from the case studies that had done most of the comparisons of structures. The use of the NCSL survey also allowed the inclusion of different types of staff that may be involved in the budget process, which had not

been done in previous research, in order to assess whether they find different sources of information differently from dedicated fiscal analysts.

The regression analysis found that structure did influence the importance of information sources associated with the political information factor (or rationality), but that it had no influence on information sources associated with the technical or external rationalities. Staff members in states with more than one LFO or with only a chamber or committee LFO found political information to be more important in their work than did their peers in centralized, nonpartisan offices. The same was true for levels of partisan staffing, where staff in states with moderate or large numbers of partisan staff found political information to be more important than staff in states with few partisan staff. Separate regression models on fiscal analysts and non-fiscal analysts revealed the same pattern, as self-identified fiscal analysts in states with centralized, nonpartisan LFOs found information from political sources less important in their work than did fiscal analysts in states with either multiple types of LFOs or LFOs that divided staff by chamber, caucus, or committee. Fiscal analysts valued technical information sources no matter what structure they worked in.

These findings are in line with previous research on the differences in information use between legislative and executive analysts that found the former used political information less than the latter (Willoughby & Finn, 1996; Goodman & Clynch, 2004), but the results show that similar differences exist among legislative budget staff. Likewise, the findings support the observations from case studies that found even partisan LFO staff members were expected to use technical information in their analyses (Balutis A. P., 1975a; Kent, 1975).

This suggests that while changing the structure of an LFO may alter the use of political information, there likely remains a heavy reliance on information that is needed to perform the analyses that are a part of the core competencies of these offices.

*Concepts such as legislative turnover or partisan control of state government have little to do with the importance of information sources to legislative staff involved in the budget process. The professionalism of a legislature often does, as do individual traits of legislative staff.*

The original hypotheses included a number of variables at the state and individual level to include as controls. Surprisingly, very few of these emerged as important in the tests of bivariate relationships conducted ahead of the regression analyses. It may be that with better data or through qualitative research that can examine more details and specifics of a situation legislative turnover or party control could matter more in explaining the types of information used by legislative staff in their work. In this analysis, though, it seems that internal structural variables such as the professionalism of a state's legislature, the level of partisan staff, or the structure of an LFO do shape information use among staff. Staff in more professionalized states use external information and the measure for overall information less than do their peers in less professionalized states; these effects are greater for fiscal analysts than for non-fiscal analysts. This suggests that legislative staff involved in the budget process, and fiscal analysts in particular, need to rely on fewer sources of information to accomplish their work as the complexity of the policy environment around the



budget and the information it can provide grows. They may rely on outside groups to provide them with information, or they may specialize to find a competitive niche within the environment (Rosenthal, 1998; Chadha, Permaloff, & Bernstein, 2001; Hird, 2005).

Women appear to find more sources of information important in their work, even when controlling for age. It is unclear why this is, although in his study of information use among state legislators Hird (2005) found that female legislators more often indicated a desire for more information, and it is possible the same factor could be at work here. The results of the analyses in chapter four also indicated that as analysts get older, they rely on fewer sources of information. This may be because their experience level increases they either retain knowledge they need or are more efficient in their information searches.

Additional research would be needed to explore the relationship between these variables and information use before making conclusions. It seems prudent for researchers to include these variables as controls in future studies of information use among individuals operating in a state legislature.

## **6.2 Implications for Theories of Budgetary Decision-Making**

Chapter one provided an overview of the major theories of budgetary decision-making, and noted that one of the problems with these ideas is that some focused on the individual budget decision (such as incrementalism) while ignoring the complexity of the system in which the decisions occurred, while others looked at the larger system in which the decision was made (such as real-time budgeting) but covered in only limited detail how the variety from system to system and variables associated with the individuals in the system

could shape decisions. The multiple rationalities framework presented by Thurmaier and Willoughby (2001) attempted to bridge this gap by identifying a set of “lenses” that budget analysts use in their work and then examining the institutional factors that shaped the usage of the rationalities. However, they focused only on executive budget analysts in a limited number of states, so it was difficult to make generalizations to other actors in the process.

The results of this analysis provide support for the existence of a multiple rationalities framework among a separate set of budget actors, legislative budget staff, and that institutional and individual factors do play a role in shaping at least the importance of political information to legislative budget staff. This confirmed the results of previous studies, but did so using evidence from a national as opposed to a regional or single-state sample that allowed broader comparisons of institutional factors that influence the use of information in the budget process. However, the results also suggest that the five rationalities presented by Thurmaier and Willoughby (2001) are incomplete, as there is at least an external/comparative rationality that budget analysts may use in their work. There are likely others, though additional research is needed to identify what those could be and in what stages of the budget process these may be more useful.

Broadly speaking, then, the results of this research support the notion that there are sets of information, or lenses, that individuals bring to bear on a budget problem placed before them. How they deploy these is conditioned by a wide range of possible institutional and individual factors beyond those considered in the regression analyses. These could include the role of the individual in the budget process; institutional structures that set up

preferences for certain types of information; the stage of the process where the decision occurs (e.g., drafting the budget as opposed to voting on it); organizational culture and professional norms; the nature of the problem before them (e.g., a highly technical issue as opposed to a values-driven problem); environmental factors, such as the state of the economy; interpersonal relationships; and the individual's values, cognitive limitations, experiences, and biases.

While it is impossible to develop a full catalog of the potential forces that shape these decisions, detailed examinations of actors in the process (such as the one undertaken in this analysis) add layers of understanding that researchers can build on and reveal more and more components of how such decisions are made. Legislative staff members are important actors in the budget process, but they are not monolithic and to understand how they make decisions and assist legislators, researchers need to better understand how factors like the variety of institutional structures that LFOs exist in shape work of staff and their relationships with legislators.

### **6.3 Implications for Legislators and Legislative Staff**

While the findings in the research are important for advancing the literature on budgetary decision-making, they also have more practical implications for legislators and legislative staff. As noted in chapter one, a trend in legislative staff in recent decades has been to restructure LFOs, often adding offices or staff on top of existing structures. However, little work has been done to systematically examine the effect such decisions have on information given to legislators by such staff in the budget process. Legislators organize

their institutions to provide the information they need (Krehbiel, 1991), and so at least on the surface such decisions should reflect conscious decisions to provide different information. This could be a desire for more political advice on the budget, but it could also be because they perceive an office to lack confidence or that they lack trust with the analysts in the office.

The results of this analysis should provide some comfort for legislators in any of these situations. Decisions by a legislature to restructure their fiscal office(s) may not alter the core functionality of the fiscal staff. Moving away from having only a centralized, nonpartisan office, increasing the number of partisan staff, or adding non-fiscal analysts to provide information in the budget process likely will increase the availability and importance of political information legislators can access, but it also will not likely decrease the importance placed on more technical sources of information (such as those from executive agencies or nonpartisan staff). The budget is a highly technical document, and LFO staff members are useful to legislators because of their expertise in understanding it. This core expertise would likely need to be a hallmark of any budget staff, partisan or nonpartisan and the research suggests that is the case.

However, there are likely additional trade-offs associated with a shift in the structure of budget staff that could not be captured in this analysis. For example, this research represents a snapshot of a point in time and cannot say anything about the growing pains that an LFO staff and legislators might experience in such a restructuring. Additional research is needed to examine what happens in a period of such change before undertaking such a move.

## **6.4 Threats to Validity and Other Limitations of the Research**

Despite the significance of the findings, there are limitations to the study that need to be considered when interpreting the results. With any research design, the goal is to examine some sample of a population, draw conclusions about relationships in the sample, and then generalize those to the population of interest. However, there are often flaws that either make it difficult to draw conclusions about relationships in the sample (internal validity) or to generalize those results to the population of interest (external validity) that need to be identified so the researcher can either fix the problems or use caution in interpreting the results (Berman, 2007). This section provides an overview of the known or possible issues with this research in order to provide the reader with a better understanding of the limitations of the research.

### **6.4.1 Threats to Internal Validity**

Threats to internal validity reflect flaws in the research design that make conclusions about the nature of the relationships between the dependent and independent variables difficult to determine. The research described here does have traits that suggest that the internal validity is strong. A common problem to internal validity is when events occur during administration of the survey that could have influenced the answers (e.g., a survey about attitudes towards civil liberties protections spanning a period before and after 9/11) (Garson, 2012a); all of the respondents in this data set took the survey in 2006 between May 8<sup>th</sup> and May 15<sup>th</sup> so it is unlikely an intervening event influenced the respondents. Another strength of this analysis in terms of internal validity is that the legislative staff that completed

the survey did so in their offices or homes rather than in a laboratory setting, meaning their answers likely better show their true feelings (Garson, 2012a).

However, statistical validity, meaning that the research design meets the assumptions needed for the chosen statistical test to work, is another threat to validity and one that this analysis seems to have difficulty with (Garson, 2012a). While the results of the factor analysis in chapter three do show simple factor structure with no cross loadings, some of the actual loadings themselves do come near the 0.6 cutoff that serves as a minimum for assigning meaning (Garson, 2012b). Most of the necessary assumptions needed to reliably interpret results from the regression analysis, described and tested in Appendix D, seem to hold and provide evidence that the results can be viewed to have statistical validity.

However, the fact that the results of the analyses with imputed data showed different results for the models using the external and technical information factors as dependent variables suggests that at least for these analyses missing data could have an effect on the results.

Likewise, all of the models have relatively low adjusted  $R^2$  values, meaning that the variables in the model overall explained only a small amount of the variation in the dependent variables (especially for the external and technical information factors). As noted in chapter three, the variables included in the model represented a best attempt to explain variation in the use of information based on the relevant literature and the availability of information in the dataset. However, it is likely that there are better variables that can explain the importance of information (especially technical and external information sources) to legislative budget staff.

An additional threat to the internal validity of the results comes from the fact that the variables measuring the structure of the LFOs may not capture what they are intended to capture; in other words, the content validity of the results may be threatened. The variable measuring the type of LFO in a state and the variable measuring the level of partisan staffing represent a step towards studying the structure of LFOs in a more nuanced way, but both have problems. The typology of LFOs represents a best effort to distinguish the staff involved in a budget process in a state, but there could still be nuances that are missed. Likewise, while the national study enabled the creation of a multi-layered variable for LFO structure, there were not a sufficient number of respondents to break out the committee, chamber-based, and partisan chamber based staff into separate variables. Collapsing these could obscure important differences in how each type of staff structure affects the use of information by its analysts. Future research should strive to include more analysts from states with these forms in order to analyze the differences. Likewise, while the inclusion of the dummy variable for states with hybrid LFO structures is useful, this does not allow for comparisons among the different types of offices constituting the hybrid structure. These are treated as the same, but they have many different combinations that are worth studying. Running the separate regression models for fiscal analysts and non-fiscal analysts got at this to some degree, and controlling for the professionalism of the legislature also helped, but it would be better if there was a way to know the specific office a staff member worked in in order to compare the effects of the structure of LFOs within a hybrid structure.

The variable measuring the level of partisan staffing in a state also has problems. The first of these is that it is based on the perception of the respondent and is not validated in any way. The terms themselves are vague, as what is moderate to one person might be a large number to another. The underlying assumption that this is a proxy for LFO structure could also be held suspect. The growth in partisan staff has trended upwards (Kurtz & Weberg, 2009) but just because a state has more partisan staff does not mean it has more partisan budget staff. The assumption is not necessarily wrong, either, but it means that caution should be used in interpreting results for this variable.

#### **6.4.2 Threats to External Validity**

In terms of threats to external validity, the major concerns is whether the sample being studied adequately reflects the population of interest, which in this case is the universe of state legislative staff involved in the budget process. The individuals whose views are analyzed in this dissertation reflect a subset of respondents to a national survey of legislative staff. The fact that this is national sample makes it possible to generalize to a degree, as a wider scope of legislative staff were included than previous research. At the same time, though, there are number of concerns with this sample that limit the confidence with which the results can be generalized to the population of interest.

The first problem with the generalizability of the research deals with the sample and response rate of the survey that provides most of the data for the analysis. Preferably with a survey, the sample of respondents would be drawn randomly with each member of the population of interest having an equal chance of being selected. As noted in chapter three, it



is not clear whether NCSL staff used a random sampling technique for this survey. Though the large initial sample drawn compared to the overall number of legislative staff suggests they likely did, it is impossible to be certain. Also as noted in chapter three, the survey response rate was 34%; a higher rate would lessen the risk of selection bias, where those who chose not to complete the survey are significantly different from those who did. This response rate applies to the full sample, while this analysis makes use of a subset of the overall set of respondents, so the response rate for this group of individuals could be higher or lower than that for the set of respondents as a whole. This could be a concern because of the timing of the survey, which occurred during one week in May of 2006. For some legislatures, this is a down-time after the session has ended, but for others it is a very busy time as the start of the fiscal year approaches. All staff likely could find time to complete the survey, but those in a busier legislature may have been less likely to do so and thus could be under-represented in the dataset.

A second problem in generalizing the results of the analysis is that the sample may include staff members that are not involved in the budget process. Most of the individuals in this dataset indicated that they are fiscal analysts, but in order to try and capture other types of staff known to be involved in the budget, respondents that indicated they spent 50% of their time on fiscal or policy analysis were also included. This was the best proxy available in the dataset to identify non-fiscal analysts who work on the budget, and for some states it is likely that this method succeeded in capturing the relevant staff. A good example is the Illinois legislature, which has partisan staff attached to appropriations committees; the

respondents included in the dataset from Illinois reported their jobs as committee staff, and thus would have been excluded from the analysis if only fiscal analysts were included. Despite this, it is not certain that all such individuals are involved in the budget process (or even those from Illinois); they could simply be research staff or personal staff devoted to specific policy issues. However, as one of the important questions for this research was to assess the influence of diverse LFO structures, the potential of being able to examine other types of staff seemed worth the risks of including those who truly had no ties to the budget process.

#### **6.4.3 Other Limitations to the Study**

Aside from the threats to validity, the main limitation of the study relates to the nature of the data and what it can actually say about budgetary decision-making. The items used in the analyses presented in chapters three through five offer only a limited picture of the types of information that legislative budget staff might use in their work. Goodman and Clynch (2004), for example, asked about 17 different types of information though there are likely many more that could be considered. Also, the items used to create the dependent variables ask only about the importance of information; none of the items in the research asked about why the information sources were important or how they were used in the process. The literature on legislative fiscal offices, for example, found that analysts used information about the views of key decision-makers (associated with the political rationality) differently; partisan staff were expected to include information about political ramifications of decisions in their recommendations (Balutis A. P., 1975a; Kent, 1975) while centralized, nonpartisan

staff used such knowledge to choose analyses they thought had a chance of success or to frame information in a way that would be of more service to legislators (Hartmark, 1975; Caiden, 1984). Both find this information to be important, but they use it in different ways based on the roles proscribed by the structure of the LFO in which they work. Such a conclusion cannot be made from the data in this study because it lacks sufficient detail about what staff members do with the information sources included in the survey.

What makes legislative budget staff worth studying is that they are important providers of information to legislators, and as such understanding how they use information allows a better understanding of the information legislators seek and design their institutions to provide (Krehbiel, 1991). However, while this study provides some clues about the effects of different variables shaping the importance of information sources, the fact that staff find an information source to be important does not necessarily mean that it is used to make recommendations to legislators. It may, but care should be used when talking about the results in order to not oversell them. Additional research could support the findings here, or find that importance has little correlation to usage.

#### **6.4.4 Summary of Limitations of the Study**

While the findings of this study are useful in understanding the importance of information in the legislative budget process, caution should be used in interpreting the results. In terms of drawing conclusions from the relationships observed in the data, there are several possible problems. Important variables that affect the importance of technical and information sources are not included in the analyses, and the variables used to measure the

structure of LFO staff organizations may not line up exactly with what they are intended to measure, making it difficult to draw conclusions about their effect. Generalizing results to the population of legislative staff may also be problematic because of the survey design and response rate making it difficult to rule out selection bias and because to capture more variety in staff structure non-budget staff may have been included in the sample. Finally, the results should be understood to reflect only the importance of information to legislative budget staff and conclusions should not be drawn about why that information is important or whether importance means that it filters through to influence the decisions made by legislators. This may be the case, at least in some examples, but such conclusions are beyond the scope of this research.

## **6.5 Directions for Future Research**

Taken together, the findings of the study and the limitations associated with them suggest a number of directions for future research related to the importance of legislative fiscal staff, their use of information, and the effects of the variation in their organizational structures. This section discusses a number of the areas that seem most promising.

### **6.5.1 Refining the Typology of LFOs**

One of the major challenges associated with studying variation among legislative fiscal analysts is understanding how their offices are structured. This dissertation classified the LFO structure of each state using information from the NALFO Directory, the websites of the offices, and interviews with legislative staff to try and clear up any discrepancies

between the documents. The classification presented in Appendix A is useful, but could be further refined and validated.

A broad survey of fiscal directors and follow-up interviews could capture a wider array of traits of these offices that could be used to classify them based on their partisanship, location in the organizational structure as the typology presented here attempts to do, but other traits such as the duties performed by the office, the size of the office, and the hiring or appointment processes used to select staff members. This would be a large undertaking, but would facilitate a deeper understanding of the role of these offices. This would be useful for researchers, as they would have a better control variable to include in quantitative research or to inform case selection for qualitative studies. Ideally this would be something that could be validated by LFO staff and maintained in a manner similar to variables that measure the professionalism of a legislature (Squire, 2007) and the strength of a governor (Beyle, 2007). Having a consistent measure maintained over time would also allow for better comparisons of changes in LFO structures and responsibility over time, opening additional lines of research.

Such a classification effort would be useful to legislative staff and legislators as well, though. In informal conversations with legislative staff during the process of classifying the LFOs, they expressed great interest in having a record of the different structures and duties of LFOs across the country. They, or their legislators, often are interested in modifying the tasks or structure of an LFO and having a better typology would make it easier for them to know who to speak with to conduct research.

### **6.5.2 Identify Additional Rationalities used in the Budget Process**

The results of this study indicated that there is likely a rationality that exists beyond the five proposed by Thurmaier and Willoughby (2001). There are likely other sets of information, or rationalities, that individuals may utilize when making decisions about items in the budget. One type of consideration that may be included is what consequences of a recommendation would be for the integrity of the institution in which an individual work (e.g., “How would this make us look?”). The literature on legislative fiscal offices described in chapter two included mentions that preserving the integrity of the office was a concern, especially for LFO staff working in centralized, nonpartisan offices (Patterson, 1964; Hartmark, 1975; Caiden, 1984; Snow & Clarke, 1999). Information such as the history of relations between the office and the legislature, the reputation of the office, and the professional norms of the office could be considered as a part of this rationality.

Another set of information that might consider when making budget recommendations is interpersonal in nature, and may involve things such as the reputation of the individual or group making a request or prior experience the analyst has had with the agency or individual. Where the agency has a reputation for skewing information or being flippant with numbers, the analyst may be predisposed to scrutinize and turn down a request, while agencies that have a good working relationship with the analyst may be more likely to give the agency the benefit of the doubt.

There are likely other sets of information analysts and other actors in the budget process use to evaluate budget requests, and while it is likely impossible to develop a

comprehensive list of all possible rationalities it is worth trying to determine those most commonly used. Surveys or interviews of budget actors in a variety of roles (e.g., executive budget analysts, legislative budget analysts, agency analysts, legislators, lobbyists, etc.) that ask about an extensive list of information items gleaned from the literature could be a first step in the process. These could be large in order to capture many different characteristics and variation across states, or it could focus within specific areas of the budget such as education or transportation to explore how the rationalities are used in a specific context.

### **6.5.3 A More Detailed Examination of how Legislative Analysts Use Information**

The dependent variables used in the analyses presented here involve the importance of information to legislative budget staff. The assumption is that if something is important, it will be used to help them analyze requests and make recommendations, and thus the survey items are an appropriate measure to examine. However, there is likely a more nuanced story and additional research is needed to tell.

A good first step would be to interview fiscal analysts from a number of states picked to represent the diversity of LFO structures. It might be best to focus on the rationalities, operationalizing them more specifically than what was provided by Thurmaier and Willoughby (2001) and asking the analysts about whether or not they use such information, what specific types of information or considerations they use out of those rationalities, and how they apply such information. The conversations should also discuss the different stages of the budget process to determine if the analysts use information differently at different stages (e.g., when helping members during floor vote procedures versus helping legislators in

stages of budget review). An alternative approach would be to ask types of budget decisions, such as Rubin's (2006) five clusters of the budget process (balance, spending, process, revenue, and implementation) or looking at specific policy areas such as education, transportation, or natural resources. It is likely that any of these factors could shape the type of information analysts need and use in their work, though prior research is silent on these and analysis of such variables was not possible in this analysis. The information obtained from these interviews could then inform the creation of larger survey of legislative budget staff. With a large enough set of respondents, the survey would enable an analysis to see if the information obtained from the interviews was widespread or isolated to certain cases.

#### **6.5.4 Exploring Additional Variables Influencing the Use of Information**

One of the limitations of the regression analyses was that the variables included in the models explained little variation in the dependent variables. Developing more refined typologies of LFOs (as described in section 6.5.1) could help with this, as could information gleaned from interviews with fiscal analysts (as described in section 6.5.3). It is worth thinking about what other variables may better explain the variation in the dependent variables, though.

One such variable could be the background of a legislative budget staff member that has prepared them for their position. This is different than a simple measure of how many years a person has served in their present position, office, or in the legislature overall; it is likely that those serving longer have more experience than novice analysts, but this alone is not sufficient and may miss important and relevant experience outside of their position. It is



also different than simply recording the education of an individual; most of these types of staff have similar backgrounds. While there are likely differences among different degrees (e.g., public administration, public policy, law, accounting, business), there are also likely differences amongst those with similar degrees. For one thing, the quality of their training could have varied substantially based on the institution providing it. Also, the reason a person sought the training could complicate interpreting this variable; if a person sought the training to further develop his or her skillset, then the degree would likely be relevant to include. However, if the individual sought the training more as a credential to validate the person's existing ability and thus less relevant value was added. A better measure of a person's relevant background might be to offer them a number of different types of preparation, such as undergraduate education, graduation experience, experience in their present position, experience in the legislature, or experience in a previous position and ask the individual to identify the one or two most important items they feel prepared them for their current position, along with the option to identify a specific training program or type of position. The other demographic questions could still be asked, but this question might provide a better opportunity to see how background influences analysts at different stages of their work and in turn how they view information sources differently.

Another factor worth examining, especially in light of events over the past five years, is the condition of the economy in a state. This was mentioned briefly in the literature described in chapter two, though the two studies disagreed with one another. Snow and Willoughby (2002) thought that legislative analysts might use less information in times of

scarcity than in times of plenty, while Hartmark (1975) thought that analysts (at least in the case of Wisconsin) were given license to be more analytical in times of scarcity, likely because legislators need political cover for tough decisions they must make and objective analyses from nonpartisan staff are one tool for that purpose. A measure of the economic health of the state was not included in the regression models tested in this study partially because of the lack of discussion of them in the literature and partly for the purpose of maintaining a parsimonious model. Given the limits of the included variable, a measure such as the average change in GDP for a state for the previous three years or the number of years the state's revenue exceeded its expenditures for some previous period could be included as a proxy measure to examine the effects of the economy on information use among legislative analysts. If it were possible to undertake comparative studies over time (e.g., replicating the survey), it would be interesting to see if the importance of this variable changed over time. The recent economic crisis was so unique and deep for state governments, that it may be worth asking about how or if their use of information changed during that crisis; this would likely be a better question for interviews, particularly for staff members that had been in a position long enough to have a sense of perspective for different periods of surplus and recession.

Another factor not included in the model that could be worth considering is the level of threat to an LFO, particularly in terms of changes to mission or structure. If legislators did not trust an LFO and targeted its members, the staff could respond by pulling back on some (most likely political) information sources while focusing on others (probably technical)

more. Likewise the LFO staff might alter how they present information, or generally find ways to be seen as trustworthy and helpful (Caiden, 1984). It would be difficult to measure this construct exactly, but there are proxies that could be examined. While legislative turnover did not have an effect on the importance of information in bivariate comparisons, this may be because it was the wrong type of turnover. The measure used in the analysis made no distinction between a change in party control and simply having new members. The former is likely more of a concern to LFOs, especially in cases where one party had dominated a legislature for a long period of time. It should be possible to use information in *The Book of the States* to build a measure of whether or not party control recently changed hands, and of how long one party was dominant in the legislature. It would be nice to also have a measure indicating a change in leadership of the dominant party, which is also a situation that could result in changes to an LFO, but this would be more difficult to measure. These would not be precise measures of the existential threat those in an LFO might feel, but they reflect situations that have led to such changes in the past (as in the cases of Georgia or Maine described in chapter one).

There are likely other variables that influence the importance of information sources and their use by legislative analysts that are difficult to measure quantitatively. The organizational culture of an LFO could condition analysts to favor certain types of information over others, as could the reputation of the office. Who provides the information could also matter more than the information source itself. This study assumes all information from executive agencies is the same (as there is no alternative way given the data) but it is

highly unlikely that analysts see it this way. They have experience with individuals in the agency that may condition their importance; if the person they deal with is deemed trustworthy, the information may be more important than if the opposite were true. The same is likely true for information from lobbyists or partisan staff. It is difficult to measure this variable, as one information source could be provided by different individuals and it would be these sets of relationships that needed to be analyzed. These variables could be examined through interviews, though, where analysts are given a chance to describe these relationships generally.

There are likely other variables that could be included in analyses such as the one included here, but ones described in this section reflect some of the most likely and easiest to include in future analyses. Exploring these or other variables that emerge from additional research would provide a better understanding of the factors that influence the importance of information sources to legislative budget staff.

### **6.5.5 Examine the Link between Legislative Fiscal Staff and Legislators**

Another extension of this study would be to survey legislators about the importance of legislative fiscal staff and other types of information to them in the budget process. Chapter one laid out the argument that LFO staff members are important to study because legislators rely on them and similar staff for information, so understanding what the LFO staff consider in putting together those recommendations says something about the information preferences of legislators. However, while there are numerous studies of information use by legislators in general, there are few that deal specifically with the budget

process. It would be useful to explore this in more detail, surveying legislators about various information sources and how much use they are to them in the budget process. Like the potential research described in section 6.5.3, it might be useful to ask about different stages of the budget process or different types of budget decisions to try and isolate where or under what conditions LFO analysts may have the most chance for influence. Combined with a better, validated typology of LFOs, the results of such a survey could help determine if the importance of fiscal staff varied across different types of LFOs, providing more information about the effect these different organizational structures may have on information in the budget process.

#### **6.5.6 Exploring the Idea of Administrative Conservatorship**

Though it was only mentioned in a few of the studies, one of the interesting ideas in the literature described in chapter two is the need for directors of LFOs to watch over the integrity of their offices. For example, while analysts in Texas were expected to be nonpartisan and objective, the director of the LFO paid closer attention to the politics of the legislature and used that knowledge to help the analysts craft their recommendations (Butler, 1975). The head of the Legislative Analysts' Office in California indicated that he worked to make his office responsive without capitulating; this included making information available about the effects of budget decisions on constituents and even in keeping the appearance of the office to look frugal by not updating furniture or carpet regularly (Caiden, 1984). Likewise, Snow and Clarke (1999) found that many of the LFO directors worried about the fate of their offices, especially in the face of higher legislative turnover from term limits.

This type of concern by leaders of a public organization has been observed in the broader public administration literature before. Most notably, Terry (2003) presented the idea of administrative conservatorship, or “an active and dynamic process of strengthening and preserving an institution’s special capabilities, its proficiency, and thereby its integrity so that it may perform a desired social function” (p. 25). This idea posits that leaders of public bureaucracies have an obligation to maintain the ability of their organization to conduct their work and serve the public; these leaders, though, walk a delicate line “between the need to serve and the need to preserve” (p. 29), which in the case of LFOs would mean when to accommodate the political needs of a legislator and when to stand by a recommendation or analysis. Terry (2003) might not include LFO directors in his definition of “administrative elites” that he focuses on because LFO directors tend to be political appointees. However, many LFO directors do serve through periods of party changeover; they also often “hold administrative positions by virtue of a merit system” (p. 27) and “influence public policy by virtue of their administrative discretion” (p. 27). Thus they do seem to provide a unique opportunity to examine the idea of administrative conservatorship in a different setting and provide more information about behaviors associated with this theory.

Of particular interest to this study is whether the behaviors LFO directors undertake to preserve the integrity and reputation of their offices differ depending on the structure in which they work. It is likely that directors in centralized, nonpartisan offices feel the most pressure in this regards, as they have to navigate between both parties and run the risk of making all sides unhappy with their work (Patterson, 1964; Caiden, 1984). However, LFO

directors that operate in different structures may also feel pressure to preserve the integrity of their LFO and undertake different strategies to accomplish that. Determining how LFO directors handle these situations in different settings would help further develop the idea of administrative conservatorship, but it would offer a different perspective on differences in LFO structure that analyses of information use cannot provide.

### **6.5.7 Summary of Future Research Options**

The findings and also the limitations of research presented in this dissertation suggest a number of potential directions for additional research into the use of information in the budget process, the use of information by legislative budget analysts, and the effects of different LFO structures. There are additional research topics, but the ones described here present the most logical next steps to build on the results of the analyses from chapters three through five.

## **6.6 Conclusion**

State legislative budget staff members play a very important role in the budget process, and this study advanced the literature on their information use. By utilizing a national survey that allowed comparison of budget staff across a variety of institutional and individual characteristics, the study found that how a legislature structures its staff is associated with differences in information use. For example, dedicated fiscal analysts are more technical in their orientation, whether compared to other legislative staff or their executive counterparts. They use political information in their work, but its importance

varies with the structure of the office in which they work (analysts in centralized, nonpartisan LFOs value it less than analysts in other LFO structures). These findings indicate that the decision by legislators to change the structure of an LFO would undoubtedly have consequences for the types of information used by analysts and thus likely passed on to the legislators, but the results of also suggest that they would rely on technical information sources regardless of the change in structure so the base recommendations may not change much. Future research should focus on what ways these structures effect the work of fiscal analysts to better inform such decisions, and may focus on how the policy environment shapes the relationship between legislators and the fiscal analysts who support them.

The results of this analysis also advance our understanding of budgetary decision-making at the state level. The importance of fiscal staff as an information source is underscored through the literature review in chapters one and two, and the results of the analyses support the theme in the literature that the structure in which they operate seems to matter little in shaping the core work they do. The findings also support the idea that actors in the budget process use sets of information, or rationalities, to help them analyze budget requests, and that the previously identified set of five rationalities (Thurmaier and Willoughby, 2001) should at least be expanded to add an external/comparative rationality that involves analysts looking to other states for ideas about how to solve their own budget issues.

There are limitations to the study, notably the low response rate, problems accurately identifying non-fiscal analysts involved in the budget process to include in the dataset, and



missing variables that could explain more variation in the importance of information to legislative budget staff, but the findings are still important and additional research could help solidify and build on the new understandings about legislative budget staff identified in this study.

## REFERENCES

- Abney, G., & Lauth, T. P. (1987). Perceptions of the Impact of Governors and Legislatures in the State Appropriations Process. *The Western Political Quarterly*, 40(2), 335-342.
- Abney, G., & Lauth, T. P. (1998). The End of Executive Dominance in State Appropriations. *Public Administration Review*, 58(5), 388-394.
- Adams, G. (2011, June 26). *Maine Recalls Government Shutdown Twenty Years Ago*. Retrieved August 18, 2011, from Bangordailynews.com: <http://bangordailynews.com/2011/06/26/politics/maine-recalls-government-shutdown-20-years-ago/>.
- Alt, J. E., & Lowry, R. C. (1994). Divided Government, Fiscal Institutions, and Budget Deficits: Evidence from the States. *The American Political Science Review*, 88(4), 811-828.
- Anton, T. J. (1967). Roles and Symbols in the Determination of State Expenditures. *Midwest Journal of Political Science*, 27-43.
- Balutis, A. (1975b). The Role of the Staff in the Legislature: the Case of New York. *Public Administration Review*, 35(4), 355-363.
- Balutis, A. P. (1975a). The Budgetary Process in New York State: the Role of the Legislative Staff. In A. P. Balutis, & D. K. Butler (Eds.), *The Political Pursestrings: the Role of the Legislature in the Budgetary Process* (pp. 139-171). New York, NY: Sage Publications.
- Baumgartner, F. R., & Jones, B. D. (1993). *Agendas and Instability in American Politics*. Chicago, IL: University of Chicago Press.
- Berman, E. M. (2007). *Essential Statistics for Public Managers and Policy Analysts*. Washington, D.C.: CQ Press.
- Berry, F. S., & Berry, W. D. (2007). Innovation and Diffusion Models in Policy Research. In P. A. Sabatier (Ed.), *Theories of the Policy Process, Second Edition* (pp. 223-260). Cambridge, MA: Westview Press.
- Berry, W. D., & Feldman, S. (1985). *Multiple Regression in Practice*. Thousand Oaks, CA: Sage Publications.

- Berry, W. D., & Feldman, S. (1985). *Multiple Regression in Practice* (Kindle ed.). Newbury Park, CA: Sage Publications.
- Beyle, T. (2007, June 18). *Gubernatorial Powers*. Retrieved August 16, 2011, from <http://www.unc.edu/~beyle/gubnewpwr.html>.
- Bimber, B. (1991). Information as a Factor in Congressional Politics. *Legislative Studies Quarterly*, 585-605.
- Botner, S. B. (1985). The Use of Budgeting/Management Tools by State Governments. *Public Administration Review*, 45(5), 616-620.
- Bourdeaux, C. (2006). Do Legislatures Matter in Budgetary Reform? *Public Budgeting and Finance*, 120-142.
- Bourdeaux, C. (2007). Dimensions of Legislative Budgetary Control. *Paper Presented at the October, 2007 meeting of the Association for Budgeting and Financial Management*.
- Bourdeaux, C., & Chikoto, G. L. (2008). Legislative Influences on Performance Measurement Reform. *Public Administration Review*, 68(2), 253-265.
- Bozeman, B. B., & Straussman, J. (1982). Shrinking Budgets and the Shrinkage of Budget Theory. *Public Administration Review*, 42, 509-516.
- Bradley, R. B. (1980). Motivations in Legislative Information Use. *Legislative Studies Quarterly*, 393-406.
- Breuning, C., & Koski, C. (2009). Punctuated Budgets and Governors' Institutional Powers. *American Politics Research*, 37(6), 1116-1138.
- Breuning, C., & Koski, C. (2012). The Tortoise or the Hare? Incrementalism, Punctuations, and their Consequences. *Policy Studies Journal*, 40(1), 45-67.
- Budke, M. S. (1975). The Legislative Fiscal Staff's Role in the Budgetary Process - New Mexico. In A. P. Balutis, & D. K. Butler, *The Political Pursestrings: the Role of the Legislature in the Budgetary Process* (pp. 49-67). New York, NY: Sage Publications.
- Butler, D. K. (1975). The Legislative Budget in Texas. In A. P. Balutis, & D. K. Butler (Eds.), *The Political Pursestrings: the Role of the Legislature in the Budgetary Process* (pp. 173-199). New York, NY: Sage Publications.

- Caiden, N. (1984). An Interview with A. Alan Post, Legislative Analyst for the State of California, 1950-1977. *Public Budgeting and Finance*, 75-91.
- Caiden, N. (1992). Public Budgeting amidst Uncertainty and Instability. In J. Shafritz, & A. Hyde (Eds.), *Classics of Public Administration, Third Edition*. Pacific Grove, CA: Brooks/Cole.
- Caldeira, G. A., & Patterson, S. C. (1987). Political Friendship in the Legislature. *The Journal of Politics*, 953-975.
- Caplan, B. (2007). *The Myth of the Rational Voter: Why Democracies Choose Bad Policies*. Princeton, NJ: Princeton University Press.
- Carey, J. M., Niemi, R. G., & Powell, L. W. (2000). *Term Limits in the State Legislatures*. Ann Arbor: The University of Michigan Press.
- Carey, J. M., Niemi, R. G., Powell, L. W., & Moncrief, G. F. (2006). The Effects of Term Limits on State Legislatures: a New Survey of the 50 States. *Legislative Studies Quarterly*, 31(1), 105-134.
- Chadha, A., Permaloff, A., & Bernstein, R. (2001). The Consequences of independence: Function and Resources of State Legislative Fiscal Offices. *State and Local Government Review*, 202-207.
- Citizens Conference on State Legislatures. (1971). *State Legislatures: An Evaluation of Their Effectiveness*. New York: Praeger.
- Citizens Research Council of Michigan. (2007, June). *Legislative Term Limits and Full and Part-Time Legislatures*. Retrieved June 3, 2010, from <http://www.crcmich.org/PUBLICAT/2000s/2007/note200703.pdf>
- Clarke, W. (1997). Budget Requests and Agency Head Selection Methods. *Political Research Quarterly*, 50(2), 301-316.
- Clarke, W. (1998). Divided Government and Budget Conflict in the U.S. States. *Legislative Studies Quarterly*, 23(1), 5-22.
- Clucas, R. A. (2003). Improving the Harvest of State Legislative Research. *State Politics and Policy Quarterly*, 3(4), 387-419.

- Cole, C. A., & Balasubramanian, S. K. (1993). Age Differences in Consumers' Search for Information: Public Policy Implications. *Journal of Consumer Research*, 20(1), 157-169.
- Crain, M. W., & Muris, T. J. (1995). Legislative Organization of Fiscal Policy. *Journal of Law and Economics*, 311-333.
- DeGregorio, C. (1988). Professionals in the U.S. Congress: An Analysis of Working Styles. *Legislative Studies Quarterly*, 13(4), 459-476.
- Develiiis, R. F. (1991). *Scale Development: Theory and Application*. Newbury Park: Sage Publications.
- Dharamapala, D. (2003). Policy with Unified and Decentralized Appropriations Authority. *Public Choice*, 3(4), 347-367.
- Dilger, R. J. (1995). A Comparative Analysis of Gubernatorial Enabling Resources. *State and Local Government Review*, 27(2), 118-126.
- Dilger, R. J., Krause, G. A., & Moffett, R. R. (1995). State Legislative Professionalism and Gubernatorial Effectiveness, 1978-1991. *Legislative Studies Quarterly*, 20(4), 553-571.
- Dillman, D. A., Eltinge, J. L., Groves, R. M., & Little, R. J. (2002). Survey Nonresponse in Design, Data Collection, and Analysis. In R. M. Groves, D. A. Dillman, J. L. Eltinge, & R. J. Little (Eds.), *Survey Nonresponse* (pp. 3-26). New York: John Wiley and Sons, Inc.
- DiStefano, C., Zhu, M., & Mindrila, D. (2009). Understanding and Using Factor Scores: Considerations for the Applied Researcher. *Practical Assessment, Research and Evaluation*, 14(20).
- Drolet, J. E., Gutchess, A., Lambert-Pandraud, R., Mullet, E., Norton, M., & Peters, E. (2008). Decision Making and Brand Choice by Older Consumers. *Marketing Letters*, 19(3/4), 355-365.
- Farnum, E. (1975). The Legislative Fiscal Staff's Role in the Budgetary Process in Michigan. In A. P. Balutis, & D. K. Butler, *The Political Pursestrings: the Role of the Legislature in the Budgetary Process* (pp. 81-89). New York, NY: Sage Publications.

- Ferguson, M. R. (2003). Chief Executive Success in the Legislative Arena. *State Politics and Policy Quarterly*, 3(2), 158-182.
- Garson, G. D. (2010, May 5). *Multiple Regression*. Retrieved August 9, 2010, from Statnotes: Topics in Multivariate Analysis: <http://faculty.chass.ncsu.edu/garson/pa765/statnote.htm>
- Garson, G. D. (2011, December 19). *Data Imputation for Missing Values*. Retrieved June 4, 2012, from Stat Notes: Topics in Multivariate Analysis: <http://faculty.chass.ncsu.edu/garson/PA765/missing.htm>
- Garson, G. D. (2011, December 20). *Scales and Standard Measures*. Retrieved March 19, 2012, from StatNotes: Topics in Multivariate Analysis: <http://faculty.chass.ncsu.edu/garson/PA765/standard.htm#alpha>
- Garson, G. D. (2012). *Missing Values Analysis and Data Imputation*. Asheboro, NC: Statistical Associates Publishing.
- Garson, G. D. (2012a). *Validity* (Kindle Edition ed.). Asheboro, NC: Statistical Associates Publishing.
- Garson, G. D. (2012b, February 9). *Factor Analysis*. Retrieved March 19, 2012, from StatNotes: Topics in Multivariate Analysis.
- Garson, G. D. (2012c). *Multiple Regression* (Kindle edition ed.). Asheboro, NC: Statistical Associates Publishing.
- Goodman, D. (2007). Determinants of Perceived Gubernatorial Budgetary Influence Among State Executive Budget Analysts and Legislative Fiscal Analysts. *Political Research Quarterly*, 43-54.
- Goodman, D. (2007). Determinants of Perceived Gubernatorial Influence among State Executive Budget Analysts and Legislative Fiscal Analysts. *Policy Research Quarterly*, 60(1), 43-54.
- Goodman, D. (2008). Executive Budget Analysts and Legislative Fiscal Analysts: State Budgetary Gatekeepers. *Journal of Public Budgeting, Accounting, and Financial Management*, 299-322.
- Goodman, D., & Clynych, E. (2004). Budgetary Decision Making By Executive and Legislative Budget Analysts: The Impact of Political Cues and Analytical Information. *Public Budgeting and Finance*, 20-37.

- Gosling, J. J. (1985). Patterns of Influence and Choice in the Wisconsin Budgetary Process. *Legislative Studies Quarterly*, 457-482.
- Gosling, J. J. (1987). The State Budget Office and Policy Making. *Public Budgeting and Finance*, 7(1), 51-65.
- Graves, W. B. (1953). *American State Government*. Boston: D.C. Heath and Company.
- Gray, V., & Lowery, D. (2000). Where Do Policy Ideas Come From? A Study of Minnesota Legislators and Staffers. *Journal of Public Administration Research and Theory*, 573-597.
- Grossback, L. J., & Peterson, D. (2004). Understanding Institutional Change: Legislative Staff Development and the State Policymaking Environment. *American Politics Research*, 32, 26-51.
- Guo, C. (2001). A Review on Consumer External Search: Amounts and Determinants. *Journal of Business and Psychology*, 15(3), 505-519.
- Guston, D. H., Jones, M., & Branscomb, L. M. (1997). The Demand for and Supply of Technical Information and Analysis in State Legislatures. *Policy Studies Journal*, 451-469.
- Hanushek, E. A. (1990). The Policy Research Markets. *Journal of Policy Analysis and Management*, 146-154.
- Hardy, M. A. (1993). *Regression with Dummy Variables* (Kindle edition ed.). Newbury Park, CA: Sage Publications.
- Hartmark, L. S. (1975). The Role of the Legislative Budget Staff in the Budgetary Process of Wisconsin. In A. P. Balutis, & D. K. Butler, *The Political Pursestrings: the Role of the Legislature in the Budgetary Process* (pp. 103-138). New York, NY: Sage Publications.
- Hird, J. A. (2005). *Policy Analysis in the States*. Washington, D.C.: Georgetown University Press.
- Hoffman, K. U. (2006). Legislative Fiscal Analysts: Influence in State Budget Development. *State and Local Government Review*, 41-51.

- Jackson-Elmoore, C. (2005). Informing State Policymakers: Opportunities for Social Workers. *Social Work*, 251-261.
- Jones, B. D., & Baumgartner, F. R. (2005). A Model of Choice for Public Policy. *Journal of Public Administration Research and Theory*, 15(3), 325-351.
- Jones, B. D., & Baumgartner, F. R. (2012). From There to Here: Punctuated Equilibrium to the General Punctuation Thesis to a Theory of Government Information Processing. *Policy Studies Journal*, 40(1), 1-19.
- Jones, B. D., Baumgartner, F. R., Breunig, C., Wlezien, C., Soroka, S., Foucault, M., . . . Walgrave, S. (2009). A General Empirical Law of Public Budgets: a Comparative Analysis. *American Journal of Political Science*, 53(4), 855-873.
- Jones, B. D., Baumgartner, F., & de la Mare, E. (2005). The Supply of Information and the Size of Government in the United States. *Unpublished Manuscript*. Retrieved from [http://www.personal.psu.edu/frb1/Supply\\_of\\_Info\\_April\\_05.pdf](http://www.personal.psu.edu/frb1/Supply_of_Info_April_05.pdf)
- Kahane, L. H. (2007). *Regression Basics* (Second ed.). Los Angeles, CA: Sage Publications.
- Kalton, G. (1983). *Compensating for Missing Survey Data*. Ann Arbor: Institute for Social Research at the University of Michigan.
- Kent, J. D. (1975). Legislative Fiscal Staffing in Illinois. In A. P. Balutis, & D. K. Butler, *The Political Pursestrings: the Role of the Legislature in the Budgetary Process* (pp. 91-101). New York, NY: Sage Publications.
- Kettl, D. F. (1989). Trends and Traditions in the Budgetary Process. *Public Administration Process*, 231-239.
- Key, V. (1940). The Lack of a Budgetary Theory. *The American Political Science Review*, 34(6), 1137-1144.
- Kim, D.-Y., Lehto, X. Y., & Morrison, A. M. (2007). Gender Differences in Online Travel Information Search: Implications for Marketing Communications on the Internet. *Tourism Management*, 28(2), 423-433.
- Kim, J.-O., & Mueller, C. (1978). *Factor Analysis: Statistical Methods and Practical Issues*. Thousand Oaks, CA: Sage Publications.



- King, J. D. (2000). Changes in Professionalism in U.S. State Legislatures. *Legislative Studies Quarterly*, 327-343.
- Kingdon, J. W. (2003). *Agendas, Alternatives, and Public Policies, Second Edition*. New York: Longman.
- Kousser, T. (2005). *Term Limits and the Dismantling of State Legislative Professionalism*. New York: Cambridge University Press.
- Kousser, T., & Straayer, J. (2007). Budgets and the Policy Process. In K. T. Kurtz, B. Cain, & R. G. Niemi, *Institutional Change in American Politics: the Case of Term Limits* (pp. 148-164). Ann Arbor: The University of Michigan Press.
- Krehbiel, K. (1991). *Information and Legislative Organization*. Ann Arbor, MI: The University of Michigan Press.
- Kuhlthau, C. C. (1999). The Role of Experience in the Information Search Process of an Early Career Information Worker: Perceptions of Uncertainty, Complexity, Construction, and Sources. *Journal of the American Society for Information Science*, 50(5), 399-412.
- Kurtz, K. T. (2006, July/August). Strong Staff, Strong Institutions: Custodians of American Democracy. *State Legislatures*, pp. 28-32.
- Kurtz, K., & Weberg, B. (2009, July/August). The State of Staff. *State Legislatures*, pp. 42-45.
- Kurtz, K., & Weberg, B. (2010, July/August). What Legislatures Need Now. *State Legislatures*, pp. 47-50.
- Kyle, J. F. (1975). Florida Legislative Budget Review Process. In A. P. Balutis, & D. K. Butler, *The Political Pursestrings: the Role of the Legislature in the Budget Process* (pp. 69-79). New York, NY: Sage Publications.
- Lambert-Pandraud, R., Laurent, G., & Lapersonne, E. (2005). Repeat Purchasing of New Automobiles by Older Consumers: Empirical Evidence and Interpretations. *Journal of Marketing*, 69(2), 97-113.
- Lauth, T. P. (1990). The Governor and the Conference Committee in Georgia. *Legislative Studies Quarterly*, 441-453.

- Lee, E. S., & Forthofer, R. N. (2006). *Analyzing Complex Survey Data, Second Edition*. Thousand Oaks, CA: Sage Publications.
- LeLoup, L. T. (2002). Budget Theory for a New Century. In A. Khan, & W. B. Hildreth (Eds.), *Budget Theory in the Public Sector* (pp. 1-21). Westport, CT: Quorum Books.
- Lewis-Beck, M. S. (1980). *Applied Regression: an Introduction* (Kindle Edition ed.). Newbury Park, CA: Sage Publications.
- Little, T. H., & Ogle, D. B. (2006). *The Legislative Branch of Government: People, Process, and Politics*. Santa Barbara, CA: ABC-CLIO, Inc.
- Little, T. H., & Ogle, D. B. (2006). *The Legislative Branch of Government: People, Process, and Politics*. Santa Barbara, CA: ABC-CLIO, Inc.
- Loibol, C., Diekmann, F., Batte, & T., M. (2010). How to Target Extension Resources to Different Age Groups: Segmenting the Public According to Interests and Information Search Strategies. *Journal of Extension*, 48(1).
- Luke, D. A. (2004). *Multilevel Modeling*. Thousand Oaks, CA: Sage Publications.
- Lupia, A., & McCubbins, M. D. (1994). Who Controls? Information and the Structure of Legislative Decision Making. *Legislative Studies Quarterly*, 19(3), 361-383.
- Maas, C. J., & Hox, J. J. (2005). Sufficient Sample Sizes for Multilevel Modeling. *Methodology*, 1(3), 86-92.
- Malhotra, N. (2008). Disentangling the Relationship between Legislative Professionalism and Government Spending. *Legislative Studies Quarterly*, 33(3), 387-414.
- McCubbins, M. D., Noll, R. G., & Weingast, B. R. (1987). Administrative Procedure as Instruments of Political Control. *Journal of Law, Economics, and Organization*, 3(2), 243-277.
- Meller, N. (1967). Legislative Staff Services: Toxin, Specific, or Placebo. *The Western Political Quarterly*, 20(2), 381-389.
- Meyers-Levy, J., & Sternhal, B. (1991). Gender Differences in the Use of Message Cues and Judgments. *Journal of Marketing Research*, 28(1), 84-96.

- Moncrief, G. F., & Thompson, J. A. (1980). Partisanship and Purse Strings: a Research Note on Sharkansky. *The Western Political Quarterly*, 33(3), 336-340.
- Moncrief, G. F., Niemi, R. G., & Powell, L. W. (2004). Time, Term Limits, and Turnover: Trends in Membership Stability in U.S. State Legislatures. *Legislative Studies Quarterly*, 39(3), 360-381.
- Mooney, C. Z. (1991a). Information Sources in State Legislative Decision Making. *Legislative Studies Quarterly*, 445-455.
- Mooney, C. Z. (1991b). Peddling Information in the Legislature: Closeness Counts. *The Western Political Quarterly*, 433-444.
- Mooney, C. Z. (1993). Strategic Information Search in State Legislative Decision Making. *Social Science Quarterly*, 185-198.
- Mooney, C. Z. (1994). Measuring U.S. State Legislative Professionalism: an Evaluation of Five Indices. *State and Local Government Review*, 26(2), 70-78.
- Morison, E. W. (1993). Newcomer Information Seeking: Exploring Types, Modes, Sources, and Outcomes. *Academy of Management Journal*, 36(3), 557-589.
- National Conference of State Legislatures. (2001). *Non-partisan Legislative Fiscal Offices: Years Established*. Denver, CO: National Conference on State Legislators.
- National Conference of State Legislatures. (2009). *Full and Part-Time Legislatures*. Retrieved June 2010, 2010, from <http://www.ncsl.org/?tabid=16701>
- National Conference of State Legislatures. (2009). *Size of State Legislative Staff: 1979, 1988, 1996, 2003, 2009*. Retrieved August 11, 2011, from National Conference of State Legislatures: <http://www.ncsl.org/default.aspx?tabid=14843>
- National Conference of State Legislatures. (2010). *Legislative Staff Services*. Retrieved June 10, 2010, from <http://www.ncsl.org/default.aspx?TabID=788&tabs=857,45,392#392>
- National Conference of State Legislatures. (n.d.). State Legislative Fiscal Offices.
- Norusis, M. J. (2005). *SPSS 13.0 Statistical Procedures Companion*. Upper Saddle River, NJ: Prentice Hall.

- Oh, C. (1997). Explaining the Impact of Policy Information on Policy-Making. *Knowledge and Policy*, 25-55.
- Oleszek, W. J. (2007). *Congressional Procedures and the Policy Process, Seventh Edition*. Washington, D.C.: CQ Press.
- Owings, S., & Borck, R. (2000). Legislative Professionalism and Government Spending: Do Citizen Legislatures Really Spend Less? *Public Finance Review*, 28(3), 210-225.
- Padgett, J. F. (1980). Bounded Rationality in Budgetary Research. *The American Political Science Review*, 74(2), 354-372.
- Patterson, K. D. (1964). Legislative Budget Review: An Economist's Viewpoint. *Public Administration Review*, 7-13.
- Porter, H. O. (1974). Legislative Experts and Outsiders: The Two-Step Flow of Communication. *The Journal of Politics*, 703-730.
- Ray, D. (1982). The Sources of Voting Cues in Three State Legislatures. *The Journal of Politics*, 1074-1087.
- Reed, R. W. (2006). Democrats, Republicans, and Taxes: Evidence that Political Parties Matter. *Journal of Public Economics*, 90(4-5), 725-750.
- Reisinger, T. L. (2008). *Beyond Beyle: Assessing the Measurement of Institutional and Informal Gubernatorial Powers*. Masters Thesis, Virginia Tech University, Political Science, Blacksburg, VA.
- Rich, R. F., & Oh, C. H. (2000). Rationality and Use of Information in Policy Decisions. *Science Communication*, 173-211.
- Rosenthal, A. (1974). *Legislative Performance in the States: Explorations of Committee Behavior*. New York: The Free Press.
- Rosenthal, A. (1981). Legislative Behavior and Legislative Oversight. *Legislative Studies Quarterly*, 115-131.
- Rosenthal, A. (1998). *The Decline of Representative Democracy: Process, Participation, and Power in State Legislatures*. Washington, D.C.: CQ Press.

- Rosenthal, A. (2004). *Heavy Lifting: the Job of the American Legislature*. Washington, DC: CQ Press.
- Rosenthal, A. (2009). *Engines of Democracy: Politics and Policymaking in State Legislatures*. Washington, D.C.: CQ Press.
- Rosenthal, A., Kost, J., & Hill, E. (1989). Staff Wars: Relations between Partisan and Nonpartisan Staff. *The Journal of State Government*, 198-201.
- Rubin, I. S. (1988). Introduction. In I. S. Rubin (Ed.), *New Directions in Budget Theory* (pp. 1-15). Albany, NY: State University of New York Press.
- Rubin, I. S. (1990). Budget Theory and Budget Practice: How Good the Fit? *Public Administration Review*, 50(2), 179-189.
- Rubin, I. S. (2006). *The Politics of Public Budgeting: Getting and Spending, Borrowing and Balancing, Fifth Edition*. Washington, D.C.: CQ Press.
- Ryu, J. E. (2011). Legislative Professionalism and Punctuations in State Government Sub-Functional Expenditures. *Public Budgeting and Finance*, 31(2), 22-42.
- Sabatier, P., & Whiteman, D. (1985). Legislative Decision Making and Substantive Policy Information: Models of Information Flow. *Legislative Studies Quarterly*, 395-421.
- Sarbaugh-Thompson, M. (2010). Measuring "Term Limitedness" in U.S. Multi-State Research. *State Politics and Policy Quarterly*, 10(2), 199-217.
- Sharkansky, I. (1968). Agency Requests, Gubernatorial Support, and Budget Success in State Legislatures. *The American Political Science Review*, 1220-1231.
- Snow, D. R., & Clarke, W. (1999). Legislative Budget Staffs in the States: A Typology. *Association for Budgeting and Financial Management*. Washington, D.C.
- Snow, D., & Willoughby, K. (2002). Legislative Fiscal Staff Influence in Legislatures: a Model of Decision-making. Washington, D.C.
- Sobel, R. S. (1998). The Political Costs of Tax Increases and Expenditure Reductions: Evidence from State Legislative Turnover. *Public Choice*, 96(1-2), 61-80.
- Songer, D. R. (1988). The Influence of Empirical Research: Committee vs. Floor Decision Making. *Legislative Studies Quarterly*, 375-392.

- Sorian, R., & Baugh, T. (2002). Closing the Gap Between Research and Policy. *Health Affairs*, 264-273.
- Squire, P. (2007). Measuring State Legislative Professionalism: The Squire Index Revisited. *State Politics and Policy Quarterly*, 211-227.
- Terry, L. D. (2003). *Leadership of Public Bureaucracies: the Administrator as Conservator*. Armonk, NY: M.E. Sharpe.
- Thurmaier, K. (1995). Decision-making in the Executive Budget Process: Analyzing the Political and Economic Propensities of Central Budget Bureau Analysts. *Public Administration Review*, 55(5), 448-460.
- Thurmaier, K. M., & Willoughby, K. G. (2001). *Policy and Politics in State Budgeting*. Armonk, NY: M.E. Sharpe.
- Thurmaier, K., & Gosling, J. J. (1997). The Shifting Roles of the State Budget Office in the Midwest: Gosling Revisited. *Public Budgeting and Finance*, 17(4), 48-70.
- Webber, D. J. (1984). Political Conditions Motivating Legislators' Use of Policy Information . *Policy Studies Review*, 110-118.
- Webber, D. J. (1987). Factors Influencing Legislators' Use of Policy Information and Implications for Promoting Greater Use. *Policy Studies Review*, 666-676.
- Weberg, B. (1989). Changes in Legislative Staffs. *The Journal of State Government*.
- Weberg, B., & Kurtz, K. T. (2007). Legislative Staff. In K. T. Kurtz, B. Cain, & R. G. Niemi (Eds.), *Institutional Change in American Politics: the Case of Term Limits* (pp. 90-106). Ann Arbor, MI: The University of Michigan Press.
- Weiss, C. H. (1979). The Many Meanings of Research Utilization. *Public Administration Review*, 426-431.
- Weiss, C. H. (1989). Congressional Committees as Users of Analysis. *Journal of Policy Analysis and Management*, 411-431.
- Weiss, C. H. (1989). Congressional Committees as Users of Analysis. *Journal of Policy Analysis and Management*, 8(3), 411-431.

- Weissert, C. S., & Weissert, W. G. (2000). State Legislative Staff Influence in Health Policy Making. *Journal of Health Politics, Policy, and Law*, 1121-1148.
- Whiteman, D. (1985). The Fate of Policy Analysis in Congressional Decision-Making: Three Types of Use in Committees. *The Western Political Quarterly*, 294-311.
- Willoughby, K. G., & Finn, M. A. (1994). Organizational Professionalism and Technological Sophistication: Budget Offices in the South. *Public Productivity and Management Review*, 18, 19-35.
- Willoughby, K. G., & Finn, M. A. (1996). "Decision Strategies of the Legislative Budget Analyst: Economist or Politician?" *Journal of Public Administration Research and Theory*, 6(4), 523-546.
- Wisconsin Legislative Fiscal Bureau. (n.d.). *The Wisconsin Legislative Fiscal Bureau*. Retrieved June 3, 2010, from <http://www.legis.state.wi.us/lfb/LFB/lfbduy.pdf>: <http://www.legis.state.wi.us/lfb/LFB/lfbduy.pdf>
- Wissel, P., O'Connor, R., & King, M. (1976). The Hunting of the Legislative Snark. *Legislative Studies Quarterly*, 251-267.
- Workman, S., Jones, B. D., & Jochim, A. E. (2009). Information Processing and Policy Dynamics. *The Policy Studies Journal*, 37(1), 75-92.
- Zweir, R. (1979). The Search for Information: Specialists and Nonspecialists in the U.S. House of Representatives. *Legislative Studies Quarterly*, 31-42.

## APPENDICES



## **Appendix A: Typology of Legislative Fiscal Offices**

State	LFO Type	Names of Offices or Staff Positions	Sources
AK	Hybrid	Legislative Finance Division, Finance Committee Staff	NALFO Directory, Agency Website, Interview
AL	Centralized, Non-partisan	Legislative Fiscal Office	NALFO Directory, Agency Website
AR	Centralized, Non-partisan	Bureau of Legislative Research	NALFO Directory, Agency Website, Interview
AZ	Centralized, Non-partisan	Joint Legislative Budget Committee Staff	NALFO Directory, Agency Website, Interview
CA	Hybrid	Legislative Analyst Office, Senate Appropriations, Senate Budget and Fiscal Review, Assembly Revenue and Taxation, Senate Revenue and Taxation, Assembly Republican Fiscal Staff, Budget Director to the Speaker, Assembly Budget and Appropriations Consultant, Fiscal Policy Advisor to President Pro Tem	NALFO Directory, Agency Website
CO	Centralized, Non-partisan	Joint Budget Committee Staff	NALFO Directory, Agency Website
CT	Centralized, Non-partisan	Office of Fiscal Analysis	NALFO Directory, Agency Website
FL	Committee, Chamber, or Caucus	Senate Appropriations, Senate Finance and Tax, House Policy and Budget Council	NALFO Directory, Agency Website, Interview
GA	Committee, Chamber, or Caucus	House Budget Office, Senate Budget and Evaluation Office	NALFO Directory, Agency Website, Interview
HI	Committee, Chamber, or Caucus	Senate Ways and Means, House Committee on Finance	NALFO Directory, Agency Website, Interview

<b>State</b>	<b>LFO Type</b>	<b>Names of Offices or Staff Positions</b>	<b>Sources</b>
IA	Committee, Chamber, or Caucus	Legislative Services Agency	NALFO Directory, Agency Website, Interview
ID	Centralized, Non-partisan	Legislative Services Office	NALFO Directory, Agency Website
IL	Committee, Chamber, or Caucus	Office of Senate Majority Leader Director of Appropriations, Office of Senate Minority Leader Director of Appropriations, House Democratic Staff (Office of the Speaker), House Republican Staff	NALFO Directory, Agency Website
IN	Hybrid	Legislative Services Agency, Office of Fiscal and Management Analysis, House Republican Caucus Fiscal Analyst, House Democratic Fiscal Analyst , Republican Fiscal Analyst Senate Finance Committee, Democratic Fiscal Analyst Senate Finance Committee	NALFO Directory, Agency Website
KS	Centralized, Non-partisan	Legislative Research Department	NALFO Directory, Agency Website
KY	Centralized, Non-partisan	Office of Budget Review, Appropriations and Revenue Committee Staff (Under Legislative Research Commission)	NALFO Directory, Agency Website, Interview
LA	Hybrid	Legislative Fiscal Office, Senate Fiscal Services, Fiscal Division of House of Representatives	NALFO Directory, Agency Website, Interview

State	LFO Type	Names of Offices or Staff Positions	Sources
MA	Hybrid	House Ways and Means Committee, Senate Ways and Means Committee, House Staff Joint Committee on Revenue, Senate Staff Joint Committee on Revenue, Fiscal Director in Office of Senate President, Chief Fiscal Advisor in Office of House Speaker	NALFO Directory, Agency Website, Interview
MD	Centralized, Non-partisan	Office of Policy Analysis, Department of Legislative Services	NALFO Directory, Agency Website
ME	Centralized, Non-partisan	Office of Fiscal and Program Review	NALFO Directory, Agency Website, Interview
MI	Hybrid	Senate Fiscal Agency, House Fiscal Agency, Senate Majority Policy Office, Senate Democratic Policy Office	NALFO Directory, Agency Website
MN	Committee, Chamber, or Caucus	House Fiscal Analysis Department, Senate Counsel (Research and Fiscal Analysis)	NALFO Directory, Agency Website, Interview
MO	Hybrid	Senate Research, House Research, Senate Appropriations Staff, House Appropriations Staff	NALFO Directory, Agency Website, Interview
MT	Centralized, Non-partisan	Legislative Fiscal Analyst	NALFO Directory, Agency Website
NC	Centralized, Non-partisan	Fiscal Research Division	NALFO Directory, Agency Website
ND	Centralized, Non-partisan	Legislative Council	NALFO Directory, Agency Website
NH	Centralized, Non-partisan	Legislative Budget Assistant Office	NALFO Directory, Agency Website
NJ	Centralized, Non-partisan	Office of Legislative Services	NALFO Directory, Agency Website, Interview

State	LFO Type	Names of Offices or Staff Positions	Sources
NM	Centralized, Non-partisan	Legislative Finance Committee	NALFO Directory, Agency Website
NV	Centralized, Non-partisan	Fiscal Analysis Division	NALFO Directory, Agency Website
NY	Committee, Chamber, or Caucus	Majority/Minority staff for Assembly Ways and Means, Majority/Minority Staff for Senate Finance	NALFO Directory, Agency Website, Interview
OH	Hybrid	Legislative Services Commission, Majority/Minority Budget Staff for House Caucus, Majority/Minority Budget Staff for Senate Caucus	NALFO Directory, Agency Website
OR	Centralized, Non-partisan	Legislative Fiscal Office, Legislative Revenue Office	NALFO Directory, Agency Website
PA	Committee, Chamber, or Caucus	Majority/Minority staff for Senate Appropriations, House Appropriations, and House Finance	NALFO Directory, Agency Website, Interview
RI	Committee, Chamber, or Caucus	House Fiscal Advisory Staff, Senate Fiscal Office	NALFO Directory, Agency Website
SD	Centralized, Non-partisan	Legislative Research Council	NALFO Directory, Agency Website
TN	Centralized, Non-partisan	Office of Legislative Budget Analysis, Joint Committee on Fiscal Review	NALFO Directory, Agency Website, Interview
TX	Hybrid	Legislative Budget Board, Director of Budget and Policy, Office of Speaker, Budget Director, Lt. Governor's Office	NALFO Directory, Agency Website
UT	Centralized, Non-partisan	Legislative Fiscal Analyst Office	NALFO Directory, Agency Website
VA	Committee, Chamber, or Caucus	Senate Finance Committee, House	NALFO Directory, Agency

<b>State</b>	<b>LFO Type</b>	<b>Names of Offices or Staff Positions</b>	<b>Sources</b>
		Appropriations Committee	Website, Interview
VT	Centralized, Non-partisan	Joint Fiscal Office	NALFO Directory, Agency Website
WA	Hybrid	Senate Ways and Means, House Program Research Office, House Democratic Research, House Republican Fiscal Staff, Senate Republican Caucus, Senate Democratic Caucus	NALFO Directory, Agency Website, Interview
WV	Committee, Chamber, or Caucus	House Finance Committee Staff Senate Finance Committee Staff	NALFO Directory, Agency Website, Interview
WI	Centralized, Non-partisan	Legislative Fiscal Bureau	NALFO Directory, Agency Website, Interview

## **Appendix B: Detailed Overview of Studies of Legislative Fiscal Offices**

This appendix presents more detailed summaries of the major findings and methodologies for the studies of legislative fiscal staff described in chapter two. The first part of the appendix covers the qualitative studies, while the second part describes the relevant quantitative studies. These correspond to the information presented in the summary tables in chapter two.

## **Qualitative Studies**

### ***Patterson 1964***

In this study the author examined 26 states that had some type of freestanding LFO or a staff housed within an existing agency dedicated to analysis of the executive budget, though it is unclear exactly which states the author contacted, how many analysts he interviewed or how many documents he reviewed.<sup>1</sup> The author sought: 1) to learn about the ways these offices or individuals approached their primary task of reviewing the budget by conducting interviews with a sample of these analysts to ask about the tasks they performed and, 2) to assess the overall quality of their work by reviewing a sample of written documents from these offices or analysts.

The author found that LFOs during this early period of development varied in their capacity to carry out analysis (some were professional while others produced incomplete or shoddy work), the comprehensiveness of their budget reviews (some analyzed the whole budget while others analyzed only the major spending areas), and the types of

---

<sup>1</sup> California and Oregon are the only two states mentioned specifically in the study.



recommendations they made (some only adjusted the amount of an agency's request while others made recommendations for other ways to use the requested funds). Additionally, he found that LFO analysts relied more on objective information to conduct their work than did their executive counterparts.<sup>2</sup> The author attributed this difference to the fact that LFO analysts tended to serve both major political parties while executive analysts may represent and advocate for the budget positions of a single actor, the governor. Having multiple principals meant that there could not be a single perspective to push in the budget process and that LFO analysts were safer if they focused on objective sources of information and made more balanced recommendations.

### ***Farnum 1975***

This is a single-state case study of the LFOs in the Michigan Legislature that focuses on three main areas: the structure of the LFOs in Michigan, the impact analysts had in the legislative process, and the types of information LFO analysts used to review the executive budget. In terms of structure, Michigan has separate nonpartisan LFOs for the House and Senate that performed two basic tasks: a technical task that involved creation of the budget bill and an analytical task that involved reviewing budget proposals. The author noted that between these two tasks the analysts enjoyed the budget review more because it allowed them to use their creativity and bring more research to bear on an issue. The author found multiple examples of the impact of the LFOs in Michigan, including adding depth to

---

<sup>2</sup> The author never clearly defines "objective" information, but the meaning he seems to give implies two possible meanings. First, analysts focus almost exclusively on numbers and technical aspects of the budget. Second, analysts present multiple sides of an issue rather than a single perspective,

committee hearings, improving the ability of legislators to check spending against legislative intent, better screening of potential legislation, and better reviewing the effectiveness of state programs. The author noted that analyst impact is limited, though, because they do not make the final budget decisions and political concerns often trump their analysis.

In terms of information use, the author found that analysts used “all available sources of budgetary information” (p.85) in their work but they had the most contact with legislators, representatives from executive agencies, and the governor’s budget staff. It is unclear whether the specific information LFO analysts receive from these sources is technical or political in nature, though, so it is difficult to determine to which of the rationalities these equate. However, there are hints that these analysts utilized more than simply the technical or economic rationalities when conducting their work. LFO analysts were expected to present all sides of an issue and to be objective, timely, and accurate in their information, implying that they are supposed to know the political issues but not to push one side or another. Also, analysts mostly worked to help legislators assemble the budget, but they did have leeway to conduct independent research and did at times make independent recommendations (though they could not lobby for them).

### ***Budke 1975***

This is a single-state case study of the LFO staff for the Joint Legislative Finance Committee (LFC) in the New Mexico legislature.<sup>3</sup> The case provides a historical overview

---

<sup>3</sup> At the time of this study, the LFC consisted of four representatives and three senators, with chairs of the house and senate committees dealing with appropriations or revenue and taxation serving as ex officio members.

of the founding and early years of the LFO and is descriptive in its approach. The author notes that the New Mexico Legislature created their LFO as a nonpartisan office based within the Legislative Council which served as the main staffing body for the legislature as a whole. However, conflicts quickly arose since the LFO staff served mainly the members of a newly formed interim committee that dealt with finance issues rather than all legislators.<sup>4</sup> Requests from legislators who did not sit on the LFC received little attention from LFO analysts, and interim committee projects such as examining and restructuring the tax code often took precedence over general budget analysis.<sup>5</sup> To address this problem, the legislature created a separate position in the Legislative Council office to assist non-members of the LFC with fiscal questions, made the LFO staff wholly responsible to the LFC members, and by the end of the 1970's tasked the LFO staff with coming up with an independent budget for the legislature rather than reviewing the executive budget.

### ***Kyle 1975***

This is a single-state case study on the LFOs for the Florida Legislature that focused on describing the structure of the offices, differences among the multiple LFOs operating in the legislature, and differences between the LFOs and their executive counterparts. In Florida, the appropriations and tax committees in each chamber had a nonpartisan staff that

---

Today the LFC consists of eight senators and eight representatives, with members coming from both parties based on their proportion in the chamber and the committee chairs now acting as full members.

<sup>4</sup> The legislature debated both structures, but eventually chose to go with the committee approach for reasons such as a desire by committee members to have more control over staff and because the legislative council staff had a tradition of neither endorsing nor opposing legislation.

<sup>5</sup> This was also partially because the legislature did not receive an official executive budget until a special session in 1964.

served as the LFOs for the chamber as a whole.<sup>6</sup> The author noted that while the primary purpose of the LFO staff in Florida was to review the executive budget proposals, other tasks performed by the offices included preparing revenue estimates, drafting fiscal notes, performing oversight of budget implementation, and providing support to the interim committees when the legislature was not in session. Despite performing similar tasks, though, the author found some differences in how LFOs in the House and Senate carried out these tasks. For instance, senate staff only reviewed the governor's proposals while the house staff reviewed both the governor's proposals and those of the executive agencies used by the governor to create his budget. Also, senate staff had more of an accounting background while the house staff had more of a business and political science background, though the author only reports the existence of such differences between senate and house staff and does not elaborate on their impact.

A second finding in the study dealt with differences between legislative and executive budget analysts in Florida. This language seems to foreshadow the description of the political rationality offered by Thurmaier and Willoughby (2001) and imply that analysts do not use it.

A third aspect of the case deals with differences between LFO staff and staff on policy committees, finding that one of the primary difference is in what they focus on in making recommendations. The author states that a policy staff member offers his or her opinion about what the members should do with potential legislation, while an appropriations

---

<sup>6</sup> The Senate combined its appropriations and tax committees into one committee while the House had separate committees for both.

staff member “never looks into whether the agency should or should not be performing the function or whether there are new functions that the agency should perform” (p.76) and focuses on “how well the agency is doing the job they were given to do” (p. 76). This seems to address the distinction between “effectiveness” and “efficiency” decisions made by Thurmaier and Willoughby about taking values as *a priori* when making recommendations. This implies that LFO analysts in Florida focus less on the social and political rationalities and more on the technical and economic rationalities, something that seems to echo the findings of Patterson (1964).

### ***Kent 1975***

This is a single-state case study of the LFO staff in the Illinois Legislature describing the basic structure of the LFOs in Illinois and the impact of partisan staff on the budget process. The author observed that in Illinois the legislature included partisan LFOs for the majority and minority members on the appropriations committees in each chamber as well as a nonpartisan LFO created mainly to forecast revenue and perform performance audits of government agencies. The author did not delve into differences between the nonpartisan and partisan staff, instead focusing on the latter. In terms of influence, the author found that legislators generally trusted partisan staff recommendations unless: 1) the party leadership told them not to, or 2) the bill affected their district. Also, majority and minority staff did not seem to differ in the budget recommendations they made; they shared similar professional backgrounds and training for reviewing budgets, and at least in terms of gathering information on agency requests they tended to examine multiple objective sources of

information. Legislators expected analysts to take partisan information and positions into account during the recommendation phase and not while gathering information to make the recommendation; the author noted that one legislator said that they wanted facts even if they didn't use them to make their final decision.

This case does present a more nuanced view of information use by partisan analysts than that proposed by Snow and Willoughby (2002). While political information is valued, part of the task of these analysts was to pull information from objective sources as well. This suggests that LFO analysts in these offices may utilize all of the rationalities, but may emphasize some more than others at different stages of the budget process. This also seems to follow some of the information on legislative information use, which suggests that legislators want more objective information early in the process and more political or strategic information later on.

### ***Hartmark 1975***

This is a single-state case study that examined the LFO in the Wisconsin Legislature, a nonpartisan agency that served both chambers of the legislature. The case focused on the roles analysts performed for legislators, the factors that shaped the type of analysis conducted by the LFO analysts, and the information used by the LFO staff in their work.

The author described multiple roles for staff in the legislative process: technical, policy-making, representative, and political. The technical role involved making estimates, checking numbers, and drafting the budget bill. The policy-making roles involved participating in meetings where legislators and agency officials made decisions about the

budget. The representative role involved assisting citizens or groups with finding general budget or fiscal information or assisting legislators with constituent issues. The political role involved representing the position of the legislature in budget negotiations with the executive branch (an institutional rather than a partisan role). The author does not describe the extent to which analysts play each role or what impact playing multiple roles has on the analysts. In terms of information, the author stated that analysts utilized a variety of sources in their work: notes from public and private meetings with agency officials, executive documents, performance of the agencies, the perspectives of legislators, information from citizens speaking at the hearings, and media items. While the author does not identify how useful each was or if analysts utilized some more than others, these sources of information seem to line up with the technical, economic, political, and social rationalities proposed by Thurmaier and Willoughby (2001).

Another item discussed in the study is how analysts determine the nature and scope that their analysis of the budget will entail. The author noted that the legislators on the Joint Committee on Finance shaped much of this based on personal preferences, the nature of the budget problem, and external factors. In terms of their own preferences, some committee members wanted a more technical approach involving close examination of line items and the rate of change in requests while other members focused on policy issues in the budget. In terms of the nature of the problem, the author found that legislators utilized staff more on narrow technical issues in the budget (e.g., the new amounts for a district related to a change in a funding formula) rather than on issues that involved trade-offs between public priorities

(e.g., whether to cut reading programs or arts programs). External factors also shaped the amount of analysis the LFO could conduct. For instance, staff could analyze more of the budget when the governor had taken an aggressive approach to the budget or in times of scarce resources; staff undertook fewer analyses when the governor was less active, when there was unified government and the legislature did not wish to challenge the governor, or when economic resources were plentiful. The author discusses these factors generally, though, and noted that even within the limited history of the LFO there had been exceptions to these observations.<sup>7</sup>

The study also noted that staff had some discretion over what aspects of an agency or program to conduct detailed analysis on, and to determine what these would be staff members, in consultation with the LFO director, considered a variety of factors like the relevance of the issue to legislators, the willingness of the committee to hear from staff on the issue, the timing of the issue, the ability to describe the issue in non-technical terms in 2-4 pages, the possibility to find tangible markers of agency performance, the ability of analysts to present multiple options and remain objective, the political reality, and the chance that the analyst's report will have an impact on budget proceedings before making a decision about whether or not to undertake the analysis.

### ***Balutis 1975***

This is a single-state case study of the LFO staff in New York, which consists of majority and minority staffs for the appropriations committees in both chambers. The author

---

<sup>7</sup> In particular the author noted that the legislature had stood up to a governor at least once when they came from the same party.



focused on the role of the LFOs, the types of information they used, the norms that guided their work, and differences in the structure and reporting requirements of the LFOs in the Assembly and the Senate.

The author found that LFO staff performed several functions for the legislature: gathering information on the budget and fiscal issues, connecting the chambers to one another and to executive agencies or other outside parties, and offering new ideas for public policy. In terms of information use, the author found that legislative staff depended heavily on information from executive agencies to conduct their work. He also found that they did consult interest groups and lobbyists for information, mainly when other data was not available or they wished to have a check on data from an executive agency or another interest group. Regardless of the type of information, the author found that LFO staff mainly collected and interpreted information from other sources rather than producing original research. Legislators expected analysts to make use of partisan information sources when making recommendations.

The author also found that norms within the legislature shaped the work and interactions of LFO analysts. Most important among these was the disposition of the committee towards the budget, as LFO staff members “tend to adopt the norms and orientations of the committees for which they work “(p. 144). In other words, if the committee tends to focus on cutting the governor’s budget then the staff focuses on and talks about cutting the governor’s budget.

The author also observed that committee chairs in the two chambers had differing levels of power over their staff members. In the Senate, the chair had more control over the committee staff than in the House as tax and budget authority resided in one committee and staff reported directly to the committee chair who then reported to the leadership. In the Assembly, separate committees existed for tax and budget issues which gave committee chairs control over fewer areas of the budget, and the staff of the tax committee reported to both the chair and the speaker, a structure that further limited the control of the committee chair. The author does not delve into the reasons for these differences nor does he provide specific examples of the impact of these arrangements.

***Butler 1975***

This is a single state case study of the LFO for the Texas Budget Board based on the author's experience working with the agency. The study found that LFO staff performed more of a technical review of the budget requests from agencies (in Texas the legislature creates its own budget) and the members of the budget board usually accepted the recommendation of the budget staff for what to do with an agency. Analysts were expected to be objective and nonpartisan in their recommendations, while the director of the LFO was supposed to keep an eye on political concerns related to the recommendations. LFO staff in Texas did not have complete freedom in recommendations, though; legislators informally expected staff recommendations to come in under agency request and highlight only important increases in the budget as opposed to walking them through the whole process.

### *Caiden 1984*

This is not a case study, but an interview about the career of a retired director of the Legislative Analyst's Office (LAO) in the California Legislature that appeared in *Public Budgeting & Finance*. Despite its informal nature this interview provides detail about the workings of an LFO in much the same way as do the case studies described in this chapter and as such is worth reviewing here.

One thing that stands out in the interview is that a major difficulty faced by the director was keeping "the reputation of the office for balance, objectivity, impartiality" (p. 79) intact and that the office had its greatest success and security when "developing an objective price tag using quantitative analysis for support" (p.79) rather than making value-based or political arguments. As long as he and the other analysts did this they were given a wide berth to make recommendations by the members of the budget committee. Even if legislators didn't agree with the results of LAO reports they (for the most part) respected the role the LAO had evolved to play in the budget process.

Another important thing the director talked about was the struggle to respect the authority of the legislature while maintaining the professional credibility of the LAO. Sometimes this took the form of performing a service based on an understanding of the needs of legislators. For instance, rather than presenting a technical budget report, the office created an annual guide to the budget for legislators that was easy to understand and free of technical language so members could process the report and explain legislative actions and decisions to their constituents. At other times, though, the LAO staff had to resist efforts by

legislators to use the office for inappropriate purposes. For example, the LAO staff had to resist requests from legislators to rewrite the whole executive budget on a few occasions (it was not in the legislature's power to do so) and to resist using questionable assumptions to estimate the impact of projected tax changes to balance the budget. Drafting bill analyses (fiscal notes) proved particularly difficult for LAO staff. Legislators worried about these because a negative analysis could kill the legislation, so the office had to balance being positive on the legislation with maintaining credibility. This is reminiscent of Hartmark's (1975) discussion of the LFO analysts in Wisconsin and how they considered the chance of a recommendation's political success before making it. As long as LFOs have access to political information, then, these two examples suggest that they do make use of it when determining what to recommend. It may not be the most common source of information, but if it serves as a filter for what they will or won't put before legislators then it may be more important than previously surmised.

Another point discussed in the interview dealt with the expansion of the tasks performed by the LAO over time. At the beginning, the LAO mainly provided an analysis of the governor's budget line by line. Over time, though, they covered more areas of the budget (like education) and added in more historical background and analysis of issues. The director noted that they wanted to differ from the executive budget (which they saw as mainly numerical) and he felt the legislative budget should be narrative as well as quantitative. Over time the LAO also occasionally began to venture out into non-budget areas. At one point the head of an executive agency asked the LAO to get involved with a debate over water quality

legislation because the debate lacked objective information. The LAO also got involved with transportation policy at one point helping with a revision of public transit in the San Francisco area. These outside policy projects were the exception rather than the rule for the LAO. While it is probable that changes in leadership or party control could change the types of rationalities employed by LFO analysts, the California example suggests that if an LFO creates, builds, and maintains its reputation over time then that could lead to an expansion in the scope of duties and the types of information used. The office began as more of a number crunching entity and expanded to handle policy issues. The LAO in California is one of the first LFOs, and is twenty to thirty years older than most other offices. It stands to reason that some of these could follow a similar path to expanded duties and use of rationalities.

A final important detail related to the ability to replicate the LFO model from California to other states. While the director did not describe how it might be replicated overall, he did note that he didn't feel the California model (of a central, nonpartisan agency that had the power to make independent recommendations about the executive budget) would work well in states where the legislature was more divided along party lines. Because the LAO made independent recommendations in a public report, the office had a lot of power and influence that legislators might not want to relinquish in a more closely contested legislature. This does indicate that the structure of an LFO is embedded within other characteristics of a state, and without understanding how this relationship works it would be difficult to generalize about which LFO structure is "best".

## **Quantitative Studies**

### ***Willoughby and Finn 1996***

This study examined and classified the cues (types of information) used by legislative budget analysts to make budget recommendations and: 1) whether or not the usage of these cues differed based on the analysts' age, gender, and salary level, and 2) whether or not usage of these cues differed between legislative and executive budget analysts. The authors used an experimental design based on Social Judgment Theory to test their hypotheses, distributing a questionnaire to eighty-nine analysts from LFOs in nine states in the southeast that included forty budget scenarios for them to review and make a recommendation about how to deal with the issue in the scenario. The authors then compared the results to an earlier study of executive budget analysts in the southeast.

Each scenario made use of different potential cues: the workload and efficiency of the agency, the requested amount against the current year's budget, the perspective of the governor and legislature, the reported trust analysts had in the agency head, and how much support the public gave the request. OLS regression results showed that some individual analysts relied heavily on political cues to make their budget recommendations while others relied on a more mixed set of cues. The authors then used cluster analysis to group analysts by their recommendations and cue usage, finding five different types of analysts: bureaucrats (who weighed agency efficiency and the reputation of the agency head most highly), politicians (who weighed the position of the legislature as most important), rationalists (who weighed agency workload as most important), mixed value (who weighed agency workload,

efficiency, and the perspective of the legislature almost equally), and rationalist/incrementalist (who weighed agency workload and the request's position in regards to the current budget as most important). The mixed value type appeared most often among the analysts, and across all roles the efficiency of the agency, agency workload, and the position of the legislature were the most important individual cues used in assessing the scenarios.

In terms of individual differences, the authors found that the bureaucrat type tended to consist of younger, female, analysts with lower average salaries. The authors also found that executive analysts were more likely to use a political cue (governor's position) as the most important factor, while legislative analysts were more likely to use a mix of factors in making the recommendation. In particular, legislative analysts tended to use more "economic factors" (such as agency workload and efficiency) than did executive analysts.

There are three conclusions in this study that should inform future research on LFOs. First, analysts within an office may employ the rationalities to differing degrees. The authors do not indicate that the five possible types that LFO analysts may fall into based on the importance they place on information sources tend to fall across different offices. A second important conclusion is that individual attributes of LFO analysts such as gender, years of experience, and age may influence the importance placed on information sources by analysts. Combined, these two conclusions raise the question of to what degree individual traits rather than institutional ones shape the use of rationalities by analysts. The authors never compare results using institutional variables even though they feel a host of these (revenue estimates,

location of the LFO within the structure of the legislature, the technology available to the LFO, its size, how the director is appointed, the format of the state's budget document) likely shape the information used by LFO analysts. Including such variables in future analyses could help determine whether individual or institutional variables matter more in shaping the use of information by LFO analysts.

The third conclusion is that when the authors compared to their executive counterparts the LFO analysts showed a tendency to place importance on a larger number of information sources when making recommendations and to focus more on economic or efficiency measures (as opposed to political information) when reviewing budget information. This seems to support the observations made by Patterson (1964) and Kyle (1975) that legislative analysts use more objective sources of information than their executive counterparts and may suggest that a type of professional norm has evolved among LFOs regardless of where they are. This could suggest that legislative analysts in general are more inclined to avoid the political rationality proposed by Thurmaier and Willoughby (2001) than executive counterparts regardless of institutional characteristics, be it because of a norm of objectivity or discretion resulting from the absence of a single political voice to guide their work. Looking at information use across different types of LFO and legislative environment could determine to what degree this is the case.

***Snow and Clarke 1999***

This conference paper sought to develop a typology of LFOs and the roles played by their analysts based on telephone interviews with the directors of fiscal offices in 20 states.



The interviews focused on four areas: the location of the office within the legislature, the primary mission of the office, the type of influence held by analysts, and the role they played in the decision-making process. The authors presented the results in a typology rather than using statistical methods.<sup>8</sup>

In terms of the location within the legislature, the authors found two dimensions of importance: to whom the LFOs reported and the partisan status of the LFO. The LFOs in their study either reported to a joint management committee or to a specific individual or group with the legislature (such as an appropriations chair, leadership of the chamber, or to caucus leadership). In terms of partisanship some staffs operated on a nonpartisan basis, some operated on a partisan basis, and some operated on what they termed a “bi-partisan” basis. They found that the nonpartisan staff appointed by a joint management committee had an institutional focus, while the other two (which reported to specific individuals or groups) had more of a political focus. This means that the analysts either focus on the goals of the institution (*vis-à-vis* the governor) or the preferences of the majority party or committee chair(s) when conducting their work. In terms of information use, partisan staff members were expected to take political cues into account while nonpartisan staff members were not. However, they point out that nonpartisan staff may be more likely to take political cues into account when party control in the legislature changes or is closely divided. This occurs in order to “allay fears that existing staff will pose problems for the new administration” (p.12), but it is something that the analysts are uncomfortable with.

---

<sup>8</sup> The paper is included in this section of the chapter because of the number of states covered by the analysis.

In terms of influence, the authors found that LFO analysts felt their greatest source of influence came through the provision of information. While this was true regardless of structure, the authors found that partisan staff identified “meetings with the committee chair and support of conference committees” as the most important times they influence the process while nonpartisan staff pointed to committee hearings. It is unclear whether the committee hearings are open or closed to the public and whether the hearings were for general information or to make decisions about the legislative budget, though this may suggest that some nonpartisan analysts face greater policy distance than those who work in a partisan staff structure.<sup>9</sup> The LFO directors surveyed also felt that in terms of influence, LFO analysts had to work to build trust with newer members especially in situations where turnover was higher (such as in states with term limits).

The main item from this study that relates to the discussion of multiple rationalities among LFO analysts is that the authors found differences in information use and task between partisan and nonpartisan LFO analysts. Partisan staff analysts seem to make more use of political information except when there is a change in party control or party control is closely divided. Partisan staff may have influence at different points in the process (though this may be the result of factors not discussed here such as the openness of the process) and focus on a more limited set of goals. This may more closely resemble the situation that exists between the governor and executive analysts, as opposed to the situation described by Patterson (1964) and Kyle (1975) that exists between legislative analysts and multiple

---

<sup>9</sup> It could also be that the sample of LFO directors included some who made public recommendations in budget hearings, though most LFOs do not engage in this practice.

principals they serve. The question the authors do not answer is whether political cues dominate an analyst's work or are just one item that is considered. Who controls the legislature, legislative turnover, and the tenure of members can also impact the work that an LFO can do and where possible these variables should be considered in research on the subject.

***Chadha, Permaloff, and Bernstein 2001***

This research note examined differences in the duties performed by LFOs serving one chamber in a legislature and LFOs that served both chambers (referred to as "dual LFOs"). The researchers mailed surveys to the heads of LFOs in 49 states (Nebraska was excluded) and received responses from 49 offices: 13 dual offices and 34 joint offices. Researchers then used both bivariate comparisons and ordinary least squares (OLS) regression to examine the impact of various institutional and environmental variables on three dependent variables: the number of tasks performed by an LFO, the number of staff in the office, and the staff per legislator ratio.

The bivariate comparisons revealed that LFOs serving only one chamber performed on average one more task than did centralized LFOs. They also found that dual LFOs had a higher median number of staff and a higher staff per legislature ratio. The researchers then used OLS regression to control for the effects of different institutional or environmental factors that may have impacted the duties performed by LFOs aside from whether offices are dual or centralized. These control variables included the professionalism of the legislature (measured by the Squire (1992) index), whether or not the legislature shared budget

responsibility with the governor (measured by data from the *Book of the States*), the size of the state's budget, the likelihood of split-party control between the legislature and the governor and within the legislature (based on data from *Vital Statistics on American Politics*), party competition (based on data from *Vital Statistics on American Politics*), and the relative power of the governor (based on scores for a state on the Beyle (2007) index).

The regression model using the number of tasks performed by the LFO as the dependent variable found only the dichotomous variable for whether or not a legislature had a dual LFO to be significant at the 0.05 level. The model using the size of the LFO staff as the dependent variable found only the size of the state budget significant at the 0.05 level, while the model using the staff to legislator ratio as the dependent variable found only the dichotomous variable for whether or not a legislature had a dual LFO to be significant at the 0.05 level. Based on the results of these analyses, the authors conclude that dual LFOs do perform more tasks than do centralized LFOs and that they have a higher staff per legislator ratio than do centralized LFOs. They hypothesize that this is due to competition between chambers in the budget process: in a joint LFO legislature, the chambers continually augment the tasks of their offices in order to either gain the upper hand in the battle with the other chamber for information on the budget or to prevent the other chamber from doing so.

While this conclusion is interesting, several issues with the data and its analysis may indicate a need to view the results with caution. Perhaps the most important of these is that

the researchers misclassified seven LFOs as centralized instead of dual.<sup>10</sup> The authors relied on data from the 1960's to determine which states had dual LFOs, but a number of states created such structures in the 1970's and 1980's. The correct classification of these states would have almost doubled the population of dual LFOs in the study and led to more reliable results.

Another problem is that the authors never indicate which states responded to the survey and which did not. Certain types of legislature could be over or underrepresented for each type of LFO and thus bias the results of the analysis. For instance, the legislatures in the eight states identified as having dual LFOs tend to be more professional and have larger staffs than does the average legislature.<sup>11</sup> There is no way to know if the three offices who did not respond include the LFOs in the smaller or less professional legislatures among this group. Likewise, if the seven missing respondents from the centralized LFOs represent larger, more professional states then there is a danger the dichotomous variable constructed by researchers to assess the impact of dual LFOs could instead measure the impact of whether or not an LFO is found in a large, professional legislature. The authors do not address this issue in the body of the paper or the endnotes, and without knowing the composition of the respondents it is difficult to correctly interpret the results.

---

<sup>10</sup> California has both centralized and dual staffs, though Hawaii, Missouri, South Carolina, Virginia, Washington, and West Virginia all have dual LFOs and did have such structures at the time of this research.

<sup>11</sup> Eight state legislatures had more than 900 permanent staff members in 2003 and five of those eight (FL, MA, MI, NY, PA) are among the legislatures identified as having dual LFOs (NCSL 2009). In terms of professionalism ranks on the Squire (2007) index, four states with dual LFOs are in the top 10 most professionalized legislatures and only one (Rhode Island) falls outside the top 25.

Another potential problem is with the specification of the regression model using the number of tasks performed by an LFO as a dependent variable. This combination of variables had an adjusted  $R^2$  of 0.02, meaning that the model explains only two percent of the variance in the number of tasks performed by an LFO. The adjusted  $R^2$  values increase for the other two models, but this may not be surprising given the collinearity problems that exist between the dependents and at least one independent in those models.<sup>12</sup> This suggests that important variables may have been omitted from the equation, although the authors do not discuss this issue or what types of other variables could influence the dependent variable. One hypothesis could be that some type of structure besides the decision to create a dual or centralized LFO could explain the number of tasks performed by an LFO. Among the eight states with that type of structure there is at least a little structural variety. New York and Pennsylvania have partisan committee staff; Florida and Massachusetts have nonpartisan committee staff (though the minority presence in the Massachusetts legislature is much smaller than in other states); Minnesota, Michigan, Rhode Island, and Oklahoma have nonpartisan offices that serve the chamber as a whole as opposed to just functioning as committee staff. Another curious omission in this regression model was the number of staff; one could hypothesize that larger staffs would be able to perform more tasks, whether in a dual or centralized LFO. The authors chose to run these as dependent variables rather than control variables, though.

---

<sup>12</sup> The number of staff, which serves as at least a component of the dependent variable in two of the three regression models, is a component of the professionalism scores used as a control variable.

A final problem deals with the significance tests performed on the standardized beta coefficients in the regression models. For the model that used the ratio of staff to legislator as the dependent variable the authors indicate that the variable assessing whether or not a legislature has a dual LFO was the only one significant at the 0.05 level. However, they also note in the table that this significance is based on a one-tailed rather than a two-tailed test. The norm in regression analysis is to use a two-tailed test unless certain about ruling out one direction in the relationship between an independent and a dependent variable (Garson, *Multiple Regression*, 2010). The authors never express why this may be, nor do they indicate whether they used one-tailed tests for all of the coefficients in the models or for this one instance. As such the relationship of the presence of a dual LFO and the staff per legislator may be overstated.

Overall, then, this study does suggest that there are important differences among LFOs based on the structure of the office. However, given the methodological issues and unanswered questions about this research, additional research needs to be conducted to validate that the importance of these differences.

#### ***Goodman and Clynch 2004***

The study examined the personal and institutional factors that explain differences in the use of analytical and political cues by legislative and executive budget analysts as they make budget recommendations. The authors surveyed LFO and executive analysts in 13 states mostly in the western part of the nation, receiving responses from 111 LFO analysts and 94 executive analysts. In the survey they asked analysts about 17 possible influences on

their decision making in the budget process, rating each on a four point scale from zero to three.

The authors analyzed the data in two steps. In the first, they utilized a Kruskal-Wallis test (a nonparametric test to determine whether the medians between two groups are significantly different) to look for differences in the usage of cues between the two types of analysts. They found significant differences for eight of the nine political influences but only two of the eight possible analytical influences. Based on these results, the authors concluded that executive analysts take more political cues (especially from outside sources such as the public and interest groups) than do legislative analysts. They hypothesize that this difference may exist for two reasons: 1) executive analysts only have to take one political agenda (the governor's) into account and thus can use political information, and 2) since they do most of their work in the preparation stage of the process they may need to think more about political consequences down the line, while LFO analysts deal with the budget more at the end stages of the process.

For the second stage of their analysis, the authors summed the responses for the nine political and eight analytical cues in the survey to create index variables for each type. They use these as dependent variables in OLS regression to determine the influence individual variables and institutional factors play in shaping usage of those cues. The researchers identified three independent variables that related to the individual analyst. One dealt with whether or not the analyst had senior or junior status in the budget office, which the authors determined by examining the job titles offered by analysts. Another variable related to the



individual analyst was the length of time that analysts had served in their budget office.

Finally, the analysts created a variable to measure the philosophical orientation of the budget analysts about the intended use of the budget and their role in the budget process. Using the work of Gosling (1987), Thurmaier and Gosling (1997), and Thurmaier and Willoughby (2001) they identified four possible orientations:

- A “control” orientation that involves a focus on “controlling expenditures and assisting the governor or legislature with balancing the budget” (p.30)
- A “policy” orientation that involves a focus on “reviewing alternative solutions, making recommendations, providing background information to the governor/legislature, and identifying issues that become the subject of policy analysis” (p.30)
- A “management” orientation that involves “ensuring and evaluating agency efficiency and effectiveness” (p.30)
- A “planning” orientation that involves a focus on “providing long-range planning” (p.30)

In the survey the authors asked about the importance of 17 budget tasks relating to each of these areas. They summed the scores for related items to create four variables, one for each of the possible orientations.

The authors also included several variables related to the institutional environment in which analysts worked. They created three of these variables using the perceptions of analysts from the survey. One such variable is the orientation of the budget office (control, management, policy, planning) as opposed to the orientation of the individual analyst. The authors measured this by summing the responses of analysts within a budget office about the importance of six budget tasks performed by their budget office. Another such variable is the influence of the governor in the budget process, which they measured using variables at the

institutional and individual level: 1) an index variable for each state based on the perceptions of all budget analysts in that state about how influential the governor was, and 2) individual perceptions of analysts regarding the influence of the governor used to create the index. The third perception-based variable is whether or not the legislature creates an independent budget as measured by the perception of individual analysts about whether their job is to review the governor's budget or to create an independent document.

The authors also created several institutional variables using secondary data sources. These included: whether or not the executive office is located in the governor's office (measured by data from the National Association of State Budget Officers (NASBO)), whether or not the LFO is centralized (though no indication is given as to how they measure this variable)<sup>13</sup>, the presence of divided government (measured by two variables: 1) whether or not the governor is of a different party than both chambers of the legislature, and 2) either different parties control the two chambers or there is an equal number of votes for both parties in one chamber), and the strength of a governor's item veto power (measured using data from NASBO). Using these individual and institutional variables the authors ran regression models for each group of analysts on two dependent variables, one for the influence of these factors on the political cues used by executive analysts and one for the influence of these factors on the political cues used by legislative analysts.

The authors conclude that when making budget recommendation, executive analysts are more likely to take analytical and political information into account when they see their

---

<sup>13</sup> *The Book of the States* includes such a variable, though it is based on overall legislative staffing and not specifically based on fiscal offices. This seems like the likely source of data for the variable.

role as one of focusing on policy tasks and when different parties control each chamber of the legislature. The authors also conclude that when making budget recommendations, legislative analysts are more likely to take political information into account when they perceive their individual role as focusing on policy tasks and when they perceive their office's role as focusing on roles other than planning, when they perceive that the governor has more influence in the budget process, when the legislature creates its own budget as opposed to simply reviewing the governor's budget, and when the governor and legislature are from different parties. The authors also conclude that those legislative analysts who see their role as focusing on control, management, or policy and who see the role of the office as focusing on policy are more likely to utilize analytical information when making budget recommendations.

There are two potential issues with the authors' analysis. One has to do with the construction of the index variables. The authors never indicate how they determine which of the 17 decision-making cues are classified as analytical and which are political. It is possible to examine the list and (based on the authors' discussion of these terms) determine that nine cues are analytical in nature and eight are political. However, it is possible that there could be additional ways to group these cues. For example, some of the seemingly analytical cues focus on the dollar amounts of an agency request while others focus on the effectiveness of the agency. Some cues, like the reputation of the agency head, may straddle these categories. The same problem exists for the list of budget tasks used to create variables for the role individual analysts felt they played in the budget process. The authors assume that they

know the underlying constructs or ideas that these cues and tasks represent, but there could be alternate constructions of them (i.e. analytical, management, and political instead of only analytical and political cues) had that they used some type of factor analysis procedure to confirm that the cues they believed to be analytical or political actually tended to group together.

Another problem has to do with the authors' use of OLS regression. Their independent variables cover two units of analysis: individual analysts and state-level institutions. The problem with such multi-level models is that they tend to violate the assumption of OLS regression that cases be independent of one another. For example, it is likely that the role individual analysts have towards the budget are not independent of one other but related to and influenced by the views of others in their office. This aspect of multilevel data in OLS regression sometimes leads to inaccurate estimation of the standard errors and thus some of the independent variables may have attenuated significance (Erikson, Pinto, and Rader 2010). The authors could have examined the intra-class correlation coefficient for their models to see how much of the variance in the dependent variable could be explained by group (state level) effects, but there is no indication that they took such precautions (Luke 2004, p.21). In the absence of such a test, it is unclear whether the standard errors are correctly estimated and thus how accurate the significance tests are.

Thus, while the results should be viewed with caution due to possible methodological problems, they indicate that executive and legislative analysts do rely on analytical and political information to varying degrees, and that the use of such information by legislative

analysts is subject to a wider range of influences than is the use of such information by executive analysts.

***Hoffman 2006***

This study sought to determine the level of influence LFO analysts had in the budget process by conducting phone interviews with 57 key budget actors (appropriations committee chairs and members, agency budget officials, executive budget analysts, and LFO analysts) in four states (AZ, CO, KS, ME) to determine their views on the influence of LFO analysts and by reviewing budget recommendations made by LFO analysts in two of the states (AZ and CO).

In the survey, the author tried to assess the influence of LFO analysts using two questions. The first asked about the influence of LFO analysts in isolation from other actors in the budget process and 73% of the respondents ranked LFO analysts as very influential or influential in the budget process. The second question asked about the influence of LFO analysts in relation to other budget actors and on this question the respondents ranked LFO analysts as the fourth most important group (out of eight possible budget actors).

Respondents felt that appropriations committee members, the governor, and the governor's budget director were more influential than LFO analysts. The final measure of influence looked at variations in the budget recommendations made by LFO analysts in Arizona and Colorado with the proposed executive budget and the final legislative budget. The author found that there was little variation between the versions of the budget, though the final

budget was slightly closer to LFO recommendations than to the executive recommendations in the budgets for four of the six agencies examined.

The author followed up these results with an examination of a number of potential factors for the influence LFO analysts had in the budget process. The most important of these was the ability of LFO analysts to provide information in the process, both in terms of providing background on issues and in highlighting key areas in the budget for debate.

Along those lines, the LFO analysts (n=11) viewed their task of reviewing agency requests as the most important task they performed. The author also felt that the timing of when the legislature begins consideration of the budget could impact the influence of LFO analysts, as the LFOs in three of the four states (ME is the exception) could review agency requests before the start of the legislative session. Another possible source of influence was the ability to make independent recommendations. The author found a discrepancy between the perceptions of executive officials and legislators about whether or not the ability to make recommendations was a source of influence for LFO analysts: executive officials thought that it was, while legislators thought that it was not. To attempt to address this discrepancy, the author compared the perceptions of LFO analysts about how much direction they received from committee chairs when making recommendations with the perceptions of committee chairs about the level of direction they gave LFO analysts in making recommendations, then comparing these with constraints on analyst recommendations reported in internal LFO documents. However, when budget actors perceived LFO analysts to have more independence the actors also tended to perceive that LFO analysts had more influence.

In addition to these findings, the author examined several other factors to see if they caused perceptions of LFO analyst influence to vary. The author found that budget actors perceived that the more contact LFO analysts had with legislators, the more influence those LFO analysts had. The author compared the perceived influence of LFO analysts using the Squire (1992) index for legislative professionalism and found that there were no differences across actors in the four states. The author also looked for differences in the influence of LFO analysts based on the budget knowledge of legislators (measured by the presence of legislative term limits, the use of a biennial budget, and the average tenure of legislators) but did not find differences in the influence of LFO analysts based on these variables. Finally, the author believed that a positive fiscal office reputation may give analysts more influence in the process, though it is unclear how this was operationalized.

The main problems with this analysis are that it examines only a small number of states and it lacks a detailed description about the method of analysis. The four states examined by the author have centralized, nonpartisan LFOs. The absence of other types of structures among the studied LFOs makes it hard to generalize about the influence of LFO staff, though in fairness this may not have been the goal of the author. Even among these four states, there are differences that may be important but that go unaddressed. In Kansas, for example, the fiscal staff and research staff work together more closely than they do in the other states. Additionally, Maine has a smaller number of analysts than do the LFOs in the other states.

Where the author does attempt to account for different structural differences, it is unclear how exactly she made the comparisons. For example, she examined whether or not the presence of legislative term limits in two of the states had an impact on the influence of LFO analysts (AZ, CO, and ME have them while KS does not). It is not clear if she simply created crosstabs of the responses or reviewed them more generally. This variable in particular has issues, as term limit laws vary in their strength and failure to include this variety may cause researchers to underestimate the effects of term limits (Sarbaugh-Thompson 2010). Likewise, it is unclear how many of each type of budget actor she talked to in the four states. She notes that executive branch officials tended to rank the LFO analysts as less influential in the budget process, so if this group was overrepresented in one of the states it could skew the analysis.

While the study does not examine the impact that the location of an LFO within the legislature has on its influence in the budget process, the results do suggest that the tasks given an LFO may impact its influence. Specifically, the ability to review agency request information before the start of the session, the ability to make independent recommendations, the level of contact LFOs have with legislators, and the reputation of the LFO all may increase the influence an LFO has in the budget process. Because of the limited sample and lack of detail about the analysis, though, these results need to be validated with information from a broader group of LFOs that reflect more institutional diversity.



### *Goodman 2008*

This study analyzed surveys of 179 executive and legislative budget analysts in nine western states to determine similarities and differences in cues they utilized in their decision-making process, the primary responsibilities they felt their offices had in the budget process, the area of emphasis placed by their office in the budget process, and their basic demographics.<sup>14</sup>

Based on how important each group views the position of elected officials, Goodman feels that executive analysts have a more political orientation than their legislative counterparts.

He feels that this is likely because the legislative analysts take a more technical approach to their recommendations and do not worry about what the legislators will think of them.

Goodman concludes that the two offices perform a number of the same tasks, though he felt that legislative analysts may have more of an orientation towards policy analysis while executive analysts may have more of a management and control orientation. He cites only balancing the budget as a non-policy responsibility for legislative analysts, while executive analysts cite two non-policy responsibilities (balancing the budget and oversight of agencies).

In their overall orientation, a majority of LFO analysts cited policy analysis as their primary area of emphasis in the budget with controlling spending a distant second. For executive analysts, the top emphases were controlling spending and policy analysis but neither was singled out by a majority of analysts.

---

<sup>14</sup> The study utilizes the same dataset as Goodman (2007) and Goodman and Clynch (2004) but narrowed to deal with nine of the thirteen states in the data so as to find enough executive and legislative analysts for comparison.

The author performed only limited comparisons based on institutional factors. He found that the presence of unified or divided government mattered in the responses provided by both sets of analysts about the purpose of LFOs in a state. Where divided government existed (defined as the opposition party controlling at least one chamber) a majority of respondents said the purpose of the LFO was to create an independent budget, while analysts in states with unified government said the purpose was to review and comment on the governor's budget. He acknowledged the existence of multiple structural forms in both the executive and budget analysts in the study, notably two different types of LFOs (central, nonpartisan and separate chamber/committee staff) and two forms for executive analysts (housed within the Governor's office or in outside agencies), but did not examine any differences in the use of decision-making cues or the tasks performed by the office based on these differences. Likewise, he recognized three different types of legislative budgeting based on responses: 1) review and comment on governor's budget, 2) constructing a legislative budget based on the governor's budget, and 3) building an independent legislative budget, but did not examine differences in the usage of cues or the tasks performed by the office based on these.

There are two major problems with this study. First, the study utilizes descriptive statistics. It mentions how structural variables such as divided/unified government and the nonpartisan/partisan orientation of an LFO might impact the results and draws on interviews to provide anecdotal points. This is helpful, but limited. Second, the study only covers nine western states. There is little variety in their structure, and even the author recognizes that

the results should be expanded. Finally, while he provides the response rates for LFO and executive budget analysts as a group, he does not provide the response rates for individual states. It makes sense that he would have chosen nine that he felt showed a more representative sample of state governments as a whole, but without knowing the overall size of the offices it is hard to know how representative it may be.

For the purpose of this dissertation, the study confirms other studies that suggest LFO analysts differ from their executive counterparts in terms of the information in that they focus on more objective types of information and less on political cues.

## **Appendix C: Factor Scores for Imputed Data**

This appendix presents the relevant SPSS output from the factor analysis described in chapter three for the original and imputed datasets. The first matrix reflects the results of the analysis on the original data and corresponds to the table presented in chapter three. The additional matrices reflect the results of the analysis on the five imputed data sets.

**Rotated Component Matrix<sup>a,b</sup>**

	Component		
	1	2	3
Other State's Statutes, Constitutions, or Rules	.714	.207	-.105
Internet Research	.822	.053	.010
NCSL and Other Interstate Organizations	.746	.105	.221
Lobbyists	.138	.766	.162
Executive Agencies	.034	.048	.792
Research or Information from Nonpartisan Research Staff	.034	.088	.756
Research or Information from Partisan Research Staff	.010	.793	-.027
Media	.211	.660	.064

Extraction Method: Principal Component Analysis.

Rotation Method: Varimax with Kaiser Normalization.

a. Imputation Number = Original data

b. Rotation converged in 4 iterations.

**Rotated Component Matrix<sup>a,b</sup>**

	Component		
	1	2	3
Other State's Statutes, Constitutions, or Rules	.699	.195	-.136
Internet Research	.817	.013	.062
NCSL and Other Interstate Organizations	.758	.120	.176
Lobbyists	.131	.776	.115
Executive Agencies	.020	.060	.803
Research or Information from Nonpartisan Research Staff	.050	.077	.764
Research or Information from Partisan Research Staff	-.004	.790	-.039
Media	.188	.647	.109

Extraction Method: Principal Component Analysis.

Rotation Method: Varimax with Kaiser Normalization.

a. Imputation Number = 1

b. Rotation converged in 4 iterations.

**Rotated Component Matrix<sup>a,b</sup>**

	Component		
	1	2	3
Other State's Statutes, Constitutions, or Rules	.711	.195	-.091
Internet Research	.824	.022	.030
NCSL and Other Interstate Organizations	.753	.117	.156
Lobbyists	.118	.773	.163
Executive Agencies	.019	.058	.803
Research or Information from Nonpartisan Research Staff	.043	.068	.764
Research or Information from Partisan Research Staff	.001	.792	-.057
Media	.219	.652	.079

Extraction Method: Principal Component Analysis.

Rotation Method: Varimax with Kaiser Normalization.

a. Imputation Number = 2

b. Rotation converged in 5 iterations.

**Rotated Component Matrix<sup>a,b</sup>**

	Component		
	1	2	3
Other State's Statutes, Constitutions, or Rules	.705	.177	-.095
Internet Research	.813	.034	.024
NCSL and Other Interstate Organizations	.750	.119	.194
Lobbyists	.126	.777	.126
Executive Agencies	.002	.092	.793
Research or Information from Nonpartisan Research Staff	.069	.052	.774
Research or Information from Partisan Research Staff	.018	.786	-.037
Media	.184	.669	.109

Extraction Method: Principal Component Analysis.

Rotation Method: Varimax with Kaiser Normalization.

a. Imputation Number = 3

b. Rotation converged in 4 iterations.



**Rotated Component Matrix<sup>a,b</sup>**

	Component		
	1	2	3
Other State's Statutes, Constitutions, or Rules	.685	.205	-.116
Internet Research	.815	.030	.039
NCSL and Other Interstate Organizations	.751	.119	.193
Lobbyists	.127	.751	.135
Executive Agencies	.027	.036	.812
Research or Information from Nonpartisan Research Staff	.045	.098	.749
Research or Information from Partisan Research Staff	.006	.796	-.029
Media	.216	.657	.081

Extraction Method: Principal Component Analysis.

Rotation Method: Varimax with Kaiser Normalization.

a. Imputation Number = 4

b. Rotation converged in 4 iterations.

**Rotated Component Matrix<sup>a,b</sup>**

	Component		
	1	2	3
Other State's Statutes, Constitutions, or Rules	.700	.192	-.123
Internet Research	.823	.030	.025
NCSL and Other Interstate Organizations	.741	.113	.212
Lobbyists	.136	.777	.106
Executive Agencies	.009	.059	.798
Research or Information from Nonpartisan Research Staff	.056	.063	.771
Research or Information from Partisan Research Staff	-.028	.796	-.019
Media	.241	.631	.084

Extraction Method: Principal Component Analysis.

Rotation Method: Varimax with Kaiser Normalization.

a. Imputation Number = 5

b. Rotation converged in 4 iterations.

## **Appendix C: Descriptive Statistics Output for Imputed Data**

This appendix provides the relevant descriptive statistics and frequency output from SPSS for the independent and dependent variables used in the analyses in chapter four and chapter five. As mentioned in the body of the paper, missing data was imputed using a Multiple Imputation technique. For variables where this occurred, the output includes six rows as opposed to one. The first row provides the descriptive statistics or frequency information for the original data, and the other five following rows present the descriptive statistics for separate, imputed data sets used in the OLS Regression.

## Dependent Variables

Descriptive Statistics for Scale Variables for Information Factors

Imputation Number		N	Minimum	Maximum	Mean	Std. Deviation	Skewness
		Statistic	Statistic	Statistic	Statistic	Statistic	Statistic
Original data	External Factor	282	-2.68623	2.66880	.0000000	1.00000000	.113
	Political Factor	282	-1.87817	3.13524	.0000000	1.00000000	.538
	Technical Factor	282	-3.66218	1.72893	.0000000	1.00000000	-.546
	Total	282	13.00	29.00	20.2411	3.37439	.397
	Valid N (listwise)	282					
1	External Factor	300	-2.72428	2.61983	.0000000	1.00000000	.056
	Political Factor	300	-1.87139	3.14904	.0000000	1.00000000	.560
	Technical Factor	300	-3.38833	1.70927	.0000000	1.00000000	-.576
	Total	300	13.00	29.00	20.1967	3.37876	.395
	Valid N (listwise)	300					

**Descriptive Statistics for Scale Variables for Information Factors**

Imputation Number	Statistic	N	Minimum	Maximum	Mean	Std. Deviation	Skewness
		Statistic	Statistic	Statistic	Statistic	Statistic	Statistic
2	External Factor	300	-2.74350	2.61038	.0000000	1.0000000	.018
	Political Factor	300	-1.85071	3.07455	.0000000	1.0000000	.512
	Technical Factor	300	-3.20185	1.69766	.0000000	1.0000000	-.468
	Total Information Use	300	13.00	29.00	20.1867	3.41624	.354
	Valid N (listwise)	300					
3	External Factor	300	-2.83182	2.61817	.0000000	1.0000000	-.049
	Political Factor	300	-1.89514	3.11203	.0000000	1.0000000	.489
	Technical Factor	300	-3.39632	1.86263	.0000000	1.0000000	-.520
	Total Information Use	300	13.00	29.00	20.1767	3.36400	.415
	Valid N (listwise)	300					
4	External Factor	300	-2.75621	2.58357	.0000000	1.0000000	.009
	Political Factor	300	-1.83459	3.08732	.0000000	1.0000000	.511
	Technical Factor	300	-3.25605	1.81375	.0000000	1.0000000	-.509
	Total Information Use	300	13.00	29.00	20.1867	3.40349	.382
	Valid N (listwise)	300					

**Descriptive Statistics for Scale Variables for Information Factors**

Imputation Number		N	Minimum	Maximum	Mean	Std. Deviation	Skewness
		Statistic	Statistic	Statistic	Statistic	Statistic	Statistic
5	External Factor	300	-2.95921	2.64669	.0000000	1.0000000	-.030
	Political Factor	300	-1.85484	3.10033	.0000000	1.0000000	.513
	Technical Factor	300	-3.29788	1.86681	.0000000	1.0000000	-.478
	Total Information Use	300	13.00	29.00	20.1467	3.44452	.358
	Valid N (listwise)	300					

**Independent Variables**

**Age of Legislative**

Imputation Number		N	Minimum	Maximum	Mean	Std. Deviation
		Statistic	Statistic	Statistic	Statistic	Statistic
Original data	Age	292	25.00	65.00	44.2158	10.14896
	Valid N (listwise)	292				
1	Age	300	22.80	65.00	44.1733	10.18353
	Valid N (listwise)	300				
2	Age	300	25.00	65.00	44.1409	10.04546
	Valid N (listwise)	300				
3	Age	300	25.00	65.00	44.1275	10.10878
	Valid N (listwise)	300				
4	Age	300	25.00	66.22	44.1430	10.19781
	Valid N (listwise)	300				
5	Age	300	23.16	65.00	44.2286	10.12908
	Valid N (listwise)	300				

**Legislative Turnover for Legislative Staff Member's State**

		N	Minimum	Maximum	Mean	Std. Deviation
Imputation Number		Statistic	Statistic	Statistic	Statistic	Statistic
Original data	Legislative Turnover	300	.05	.41	.2026	.09722
	Valid N (listwise)	300				
1	Legislative Turnover	300	.05	.41	.2026	.09722
	Valid N (listwise)	300				
2	Legislative Turnover	300	.05	.41	.2026	.09722
	Valid N (listwise)	300				
3	Legislative Turnover	300	.05	.41	.2026	.09722
	Valid N (listwise)	300				
4	Legislative Turnover	300	.05	.41	.2026	.09722
	Valid N (listwise)	300				
5	Legislative Turnover	300	.05	.41	.2026	.09722
	Valid N (listwise)	300				

**Squire Index Score for Legislative Staff Member's State Legislature**

		N	Minimum	Maximum	Mean	Std. Deviation
Imputation Number		Statistic	Statistic	Statistic	Statistic	Statistic
Original data	Squire Index Score	300	.051	.626	.22215	.143085
	Valid N (listwise)	300				

**Modified Beyle Index Score for Legislative Staff Member's State**

		N	Minimum	Maximum	Mean	Std. Deviation
Imputation Number		Statistic	Statistic	Statistic	Statistic	Statistic
Original data	Modified Beyle Index Score	300	2.60	4.10	3.6783	.34140
	Valid N (listwise)	300				



**Existence and Strength of Legislative Term Limit Laws in Legislative Staff Member's State**

Imputation Number		N	Minimum	Maximum	Mean	Std. Deviation
		Statistic	Statistic	Statistic	Statistic	Statistic
Original data	Existence and Strength of Term Limit Laws	300	.00	1.99	.3393	.52747
	Valid N (listwise)	300				
1	Existence and Strength of Term Limit Laws	300	.00	1.99	.3393	.52747
	Valid N (listwise)	300				
2	Existence and Strength of Term Limit Laws	300	.00	1.99	.3393	.52747
	Valid N (listwise)	300				
3	Existence and Strength of Term Limit Laws	300	.00	1.99	.3393	.52747
	Valid N (listwise)	300				
4	Existence and Strength of Term Limit Laws	300	.00	1.99	.3393	.52747
	Valid N (listwise)	300				
5	Existence and Strength of Term Limit Laws	300	.00	1.99	.3393	.52747
	Valid N (listwise)	300				

**LFO Structure in Legislative Staff Member's State**

Imputation Number			Frequency	Percent	Valid Percent
Original data	Valid	Centralized, Nonpartisan Chamber, Committee, or Caucus, but Only One Form	141	47.0	47.0
		Hybrid Structure	96	32.0	32.0
		Total	300	100.0	100.0

**Presence of Partisan Staff in Legislative Staff Member's State**

Imputation Number			Frequency	Percent	Valid Percent	Cumulative Percent
Original data	Valid	My legislature has very few, if any, partisan staff available to assist members.	87	29.0	29.0	29.0
		My legislature has a fair number of partisan staff who primarily serve leaders or the caucus.	129	43.0	43.0	72.0
		My legislature has a large number of partisan staff who are directly available to most legislators.	84	28.0	28.0	100.0
		Total	300	100.0	100.0	
1	Valid	My legislature has very few, if any, partisan staff available to assist members.	87	29.0	29.0	29.0
		My legislature has a fair number of partisan staff who primarily serve leaders or the caucus.	129	43.0	43.0	72.0
		My legislature has a large number of partisan staff who are directly available to most legislators.	84	28.0	28.0	100.0
		Total	300	100.0	100.0	

**Presence of Partisan Staff in Legislative Staff Member's State**

Imputation Number			Frequency	Percent	Valid Percent	Cumulative Percent
2	Valid	My legislature has very few, if any, partisan staff available to assist members.	87	29.0	29.0	29.0
		My legislature has a fair number of partisan staff who primarily serve leaders or the caucus.	129	43.0	43.0	72.0
		My legislature has a large number of partisan staff who are directly available to most legislators.	84	28.0	28.0	100.0
		Total	300	100.0	100.0	
3	Valid	My legislature has very few, if any, partisan staff available to assist members.	87	29.0	29.0	29.0
		My legislature has a fair number of partisan staff who primarily serve leaders or the caucus.	129	43.0	43.0	72.0
		My legislature has a large number of partisan staff who are directly available to most legislators.	84	28.0	28.0	100.0
		Total	300	100.0	100.0	

**Presence of Partisan Staff in Legislative Staff Member's State**

Imputation Number			Frequency	Percent	Valid Percent	Cumulative Percent
4	Valid	My legislature has very few, if any, partisan staff available to assist members.	87	29.0	29.0	29.0
		My legislature has a fair number of partisan staff who primarily serve leaders or the caucus.	129	43.0	43.0	72.0
		My legislature has a large number of partisan staff who are directly available to most legislators.	84	28.0	28.0	100.0
		Total	300	100.0	100.0	
5	Valid	My legislature has very few, if any, partisan staff available to assist members.	87	29.0	29.0	29.0
		My legislature has a fair number of partisan staff who primarily serve leaders or the caucus.	129	43.0	43.0	72.0
		My legislature has a large number of partisan staff who are directly available to most legislators.	84	28.0	28.0	100.0
		Total	300	100.0	100.0	

**Gender of Legislative Staff Member**

Imputation Number			Frequency	Percent	Valid Percent	Cumulative Percent
Original data	Valid	Female	135	45.0	45.9	45.9
		Male	159	53.0	54.1	100.0
		Total	294	98.0	100.0	
	Missing	System	6	2.0		
	Total		300	100.0		
1	Valid	Female	140	46.7	46.7	46.7
		Male	160	53.3	53.3	100.0
		Total	300	100.0	100.0	
2	Valid	Female	137	45.7	45.7	45.7
		Male	163	54.3	54.3	100.0
		Total	300	100.0	100.0	
3	Valid	Female	139	46.3	46.3	46.3
		Male	161	53.7	53.7	100.0
		Total	300	100.0	100.0	
4	Valid	Female	138	46.0	46.0	46.0
		Male	162	54.0	54.0	100.0
		Total	300	100.0	100.0	
5	Valid	Female	138	46.0	46.0	46.0
		Male	162	54.0	54.0	100.0
		Total	300	100.0	100.0	

**Is the Legislative Staff Member a Fiscal Analyst?**

Imputation Number			Frequency	Percent	Valid Percent	Cumulative Percent
Original data	Valid	Other Job	129	43.0	43.0	43.0
		Fiscal Analyst	171	57.0	57.0	100.0
		Total	300	100.0	100.0	

**Is Control of the Branches Unified or Split?**

Imputation Number	Frequency	Percent	Valid Percent	Cumulative Percent
Original data Valid	Unified Branches	160	53.3	53.3
	Split Branches	140	46.7	100.0
Total	300	100.0	100.0	

**Is Control of the Legislature Unified or Split?**

Imputation Number	Frequency	Percent	Valid Percent	Cumulative Percent
Original data Valid	Unified Legislature	249	83.0	83.0
	Split Legislature	51	17.0	100.0
Total	300	100.0	100.0	

## **Appendix D: Assumption Tests for OLS Regression**

This appendix presents the results for tests of the main assumptions of OLS regression for the four main regression models. Based on the findings presented here, the assumptions are assumed to hold for the most part meaning that the results of the regression analyses can be viewed with confidence.

One assumption of OLS regression is that the model is properly specified and that important variables are not omitted. As described in chapter three, the model for these regressions represents the author's best attempt to specify the correct model for the available data. One of the challenges of using secondary data is the lack of control of what is included in the dataset. The low  $R^2$  values for three of the models indicates that there are likely variables omitted; more detailed surveys or additional qualitative research could help illuminate these to inform additional analyses. A similar assumption is that there is no missing data to bias the results. This was addressed by running five separate regressions with missing data replaced through multiple imputation methods. Results of the original analyses were compared with results from the imputed regressions as a kind of sensitivity analysis, and in most cases the findings were robust. There were some instances in the models with technical and external information as the dependent variables that the results changed as a result of the imputation (these are described with the relevant tables in chapter four), but only for limited variables. Missing data may be somewhat problematic, but as the conclusions for the imputed analyses only change in very limited cases this assumption holds for the most part. Output for the imputed regressions can be viewed in Appendix C.



A third assumption for OLS regression is that there are no outliers that may exert leverage on the data and make it difficult to produce reliable results. One way to diagnose the presence of problematic outliers is to examine the *Cook's D* values for residuals; values of  $D > 1$  indicate a possible outlier problem (Garson, Multiple Regression, 2012). Table A.1 presents a summary of the Cook's D values for each of the regression analyses. The mean values in each case are close to zero, and the absolute values of the maximum and minimum values are not above the cutoff of one. This indicates that for each of the main regressions there are likely no outliers exerting influence on the results.

**Table A.1: Summary of Cook's D Statistics for Regression Models**

	<b>Mean Cook's Distance</b>	<b>Standard Deviation</b>	<b>Minimum</b>	<b>Maximum</b>
External	0.029	0.009	0.000	0.036
Political	0.004	0.007	0.000	0.065
Technical	0.004	0.006	0.000	0.045
Total	0.004	0.005	0.000	0.025

A fourth assumption for OLS regression is that multicollinearity is not a problem among the independent variables. This means that the independents are not linear functions of one another, so the coefficients obtained from regression measure separate underlying constructs. Looking at correlation coefficients is one way to diagnose a problem, but even low correlation coefficients could still suffer from problems of multicollinearity. A better test is to look for variance inflation factor scores greater than 2.5 (Allison, 1999, p. 141). This measure derives from a regression of the independents on one another, adjusting the

resulting R-squared value. VIF values greater than 10 indicate that multicollinearity may be a problem for a variable. Table A.2 presents these values for the independent variables in the main regression models, none of which approach the cut-off point of ten. This indicates that the assumption of no multicollinearity holds for the regression models.

A fifth assumption of OLS regression is that the error terms are independent of one another. The problem with this is that coefficient measures may be inaccurately measured and relationships may seem statistically significant when in fact they are not (Allison, 1999, p. 129). One way to examine this is to look at the Durbin-Watson statistic for the residuals; values of this statistic should be between 1.5 and 2.5 (Garson, Multiple Regression, 2012). Table A.3 presents these values of the Durbin-Watson statistic for each of the four models, and in no case are they outside of the accepted range indicating that the assumption of independence of error terms holds.

**Table A.2: VIF values for Independent Variables**

	External	
	Tolerance	VIF
Dual Staff Structure	.746	1.340
Hybrid Staff Structure	.604	1.656
Fair Number of Partisan Staff	.581	1.722
Large Number of Partisan Staff	.501	1.997
Squire Index Score	.638	1.567
Age	.938	1.066
Gender	.943	1.061
Fiscal Analyst?	.905	1.106

**Table A.3: Summary of Durbin-Watson Statistics**

	<b>Durbin-Watson</b>
External	1.878
Political	1.957
Technical	2.003
Total	1.879

A sixth assumption for OLS regression is that the error variance is constant around the regression line (homoscedastic errors). If this assumption is not upheld, then it is difficult to derive standard errors for the regression coefficients and to obtain accurate p-values for hypothesis tests (Kahane, 2008, p. 130). One way to test for this is to plot the standardized predicted residuals on the y-axis and the values of the dependent variable on the x-axis; there should be a similar spread of dots around the fit line, with no cone or funnel shape forming (Garson, Multiple Regression, 2012). Figures A.1-A.4 present these scatter plots for each of the four regression equations. In each, the dots are fairly similarly distributed on both sides of the fit lines, with only minor funneling tendencies. These do not indicate perfect homoscedasticity, but they likewise do not indicate that problematic violations of this assumption are present.

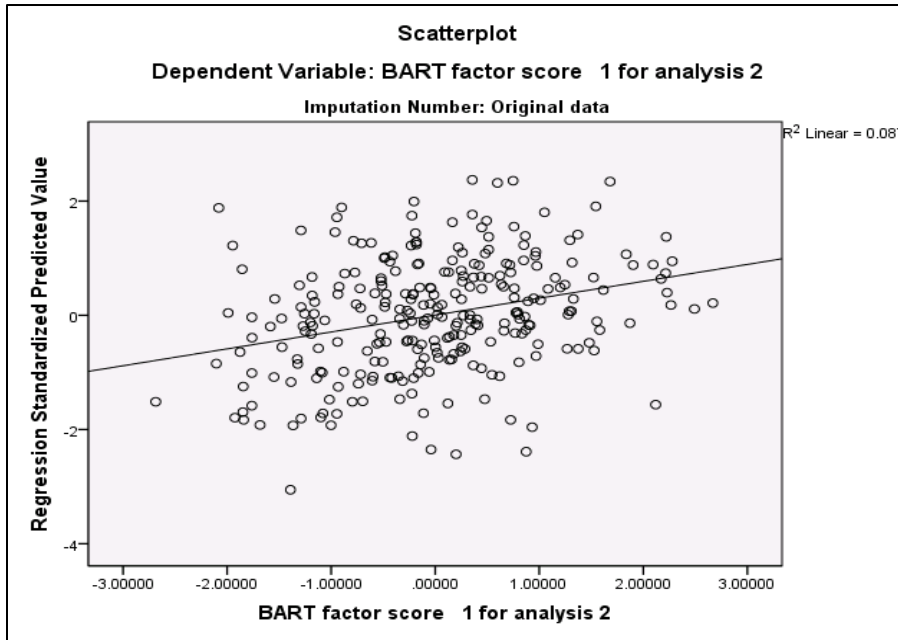


Figure A.1: Plot of Standardized Predicted Value and Factor Loadings for External Information

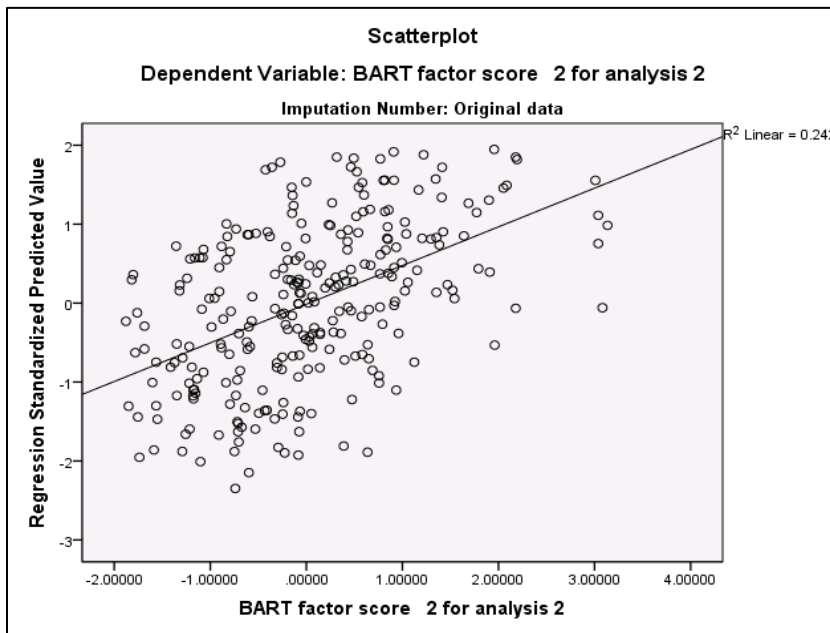


Figure A.2: Plot of Standardized Predicted Value and Factor Loadings for Political Information

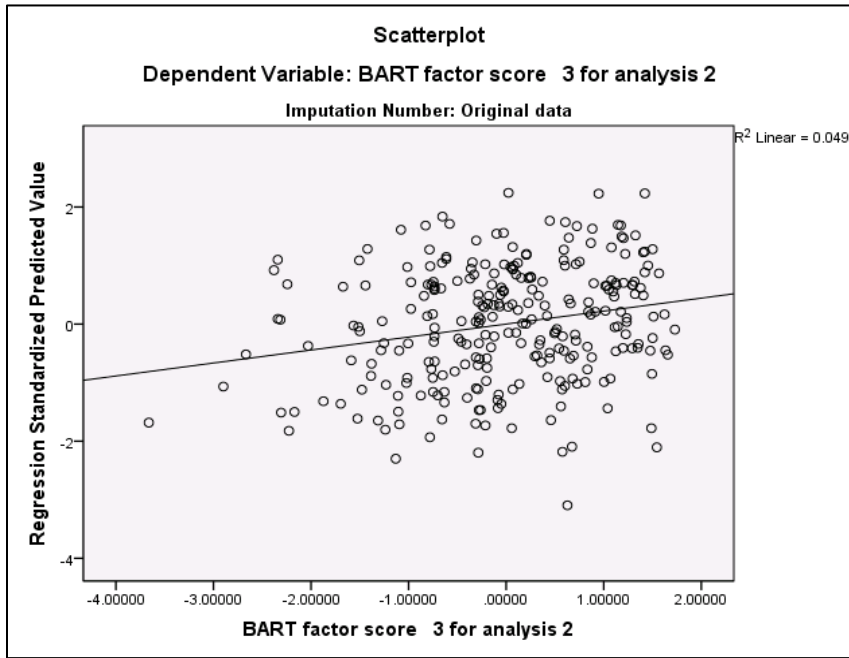


Figure A.3: Plot of Standardized Predicted Value and Factor Loadings for Technical Information

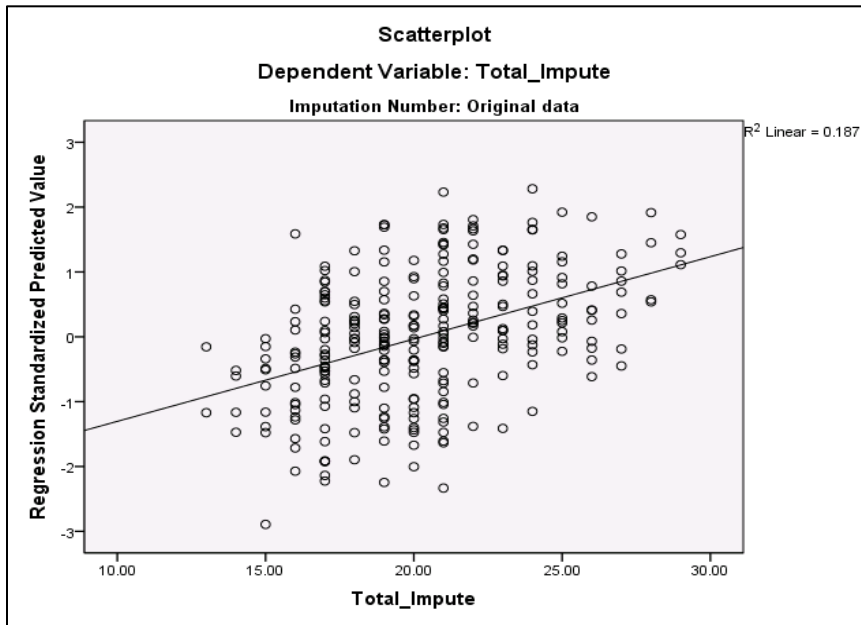


Figure A.4: Plot of Standardized Predicted Value and Factor Loadings for Total Information

A final assumption examined here is that the error terms have a normal distribution. When this assumption is violated, the standard errors may not be accurate and thus it will be difficult to obtain p-values for hypothesis tests. This can be checked by examining the Q-Q plot (called the P-P Plot in SPSS output) of residuals. This compares the observed and predicted probabilities of standardized residuals, and where errors have a normal distribution the dots should be relatively close to the fit line. Figures A.5 through A.8 present these plots each of the four main regression equations. In each there are minor departures from the expected pattern, but there does not seem to be a major departure from normality. However, this assumption may be less important with sample sizes above 200 so smaller departures such as these likely indicate that the assumption holds (Allison 1999, p. 130).

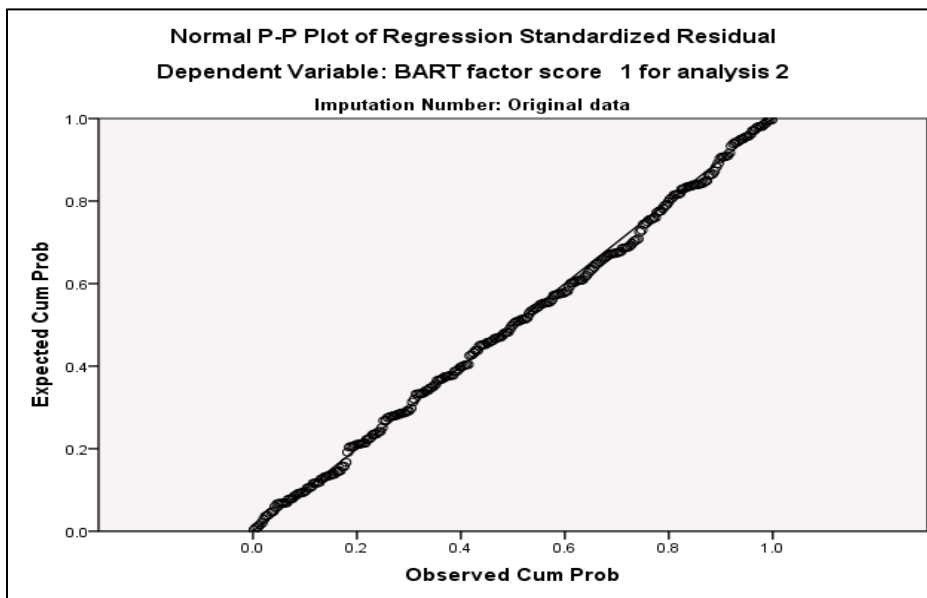


Figure A.5: P-P Plot for External Information

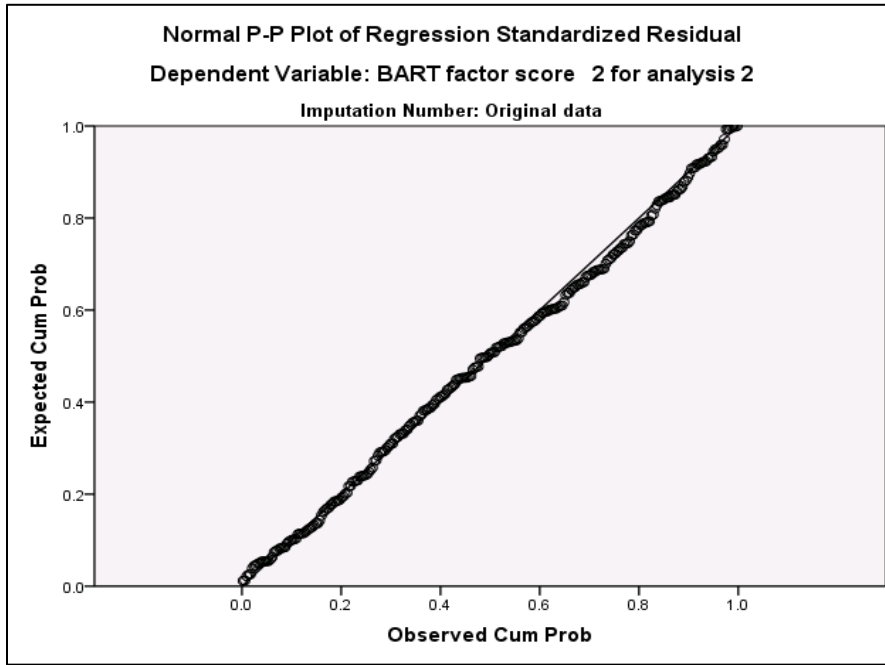


Figure A.6: P-P Plot for Political Information

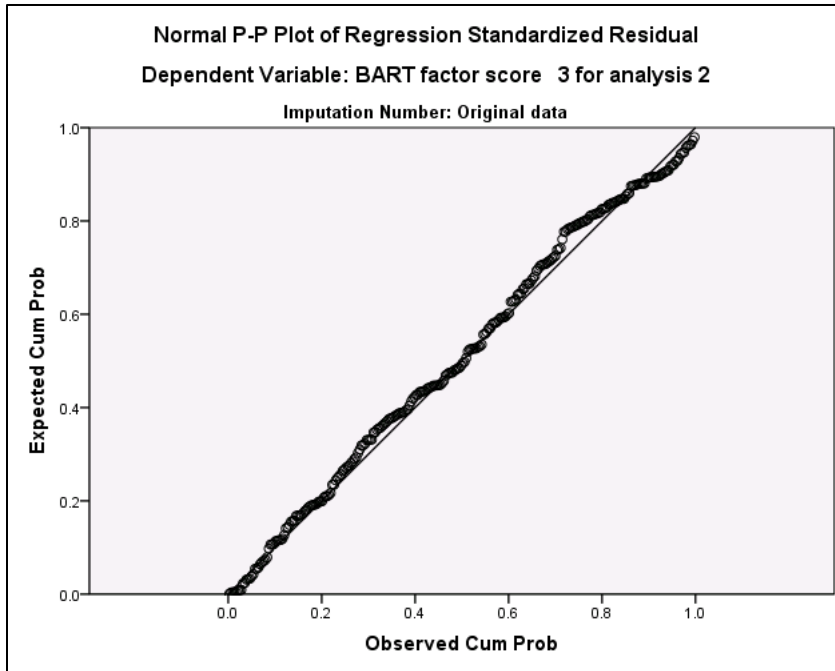


Figure A.7: P-P Plot for Technical Information

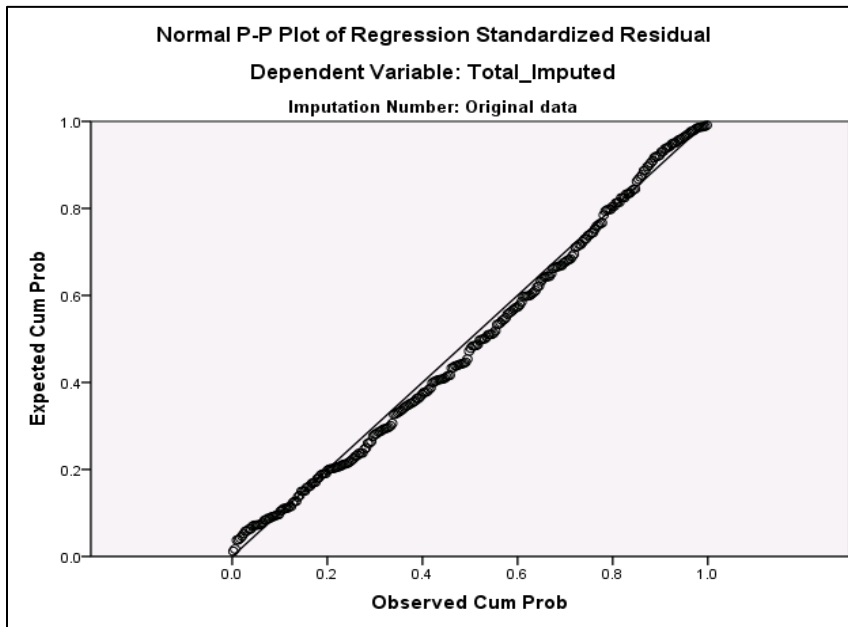


Figure A.8: P-P Plot for Total Information



## **Appendix E: OLS Regression Output for Imputed Data**

This appendix provides the relevant descriptive statistics and frequency output from SPSS for the independent and dependent variables used in the analyses in chapter four and chapter five. As mentioned in the body of the paper, missing data was imputed using a Multiple Imputation technique. For variables where this occurred, the output includes six rows as opposed to one. The first row provides the descriptive statistics or frequency information for the original data, and the other five following rows present the descriptive statistics for separate, imputed data sets used in the OLS Regression.

**Output for OLS Regression with External Information Factor**

**Model Summary<sup>b</sup>**

Imputation Number	Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
Original data	1	.296 <sup>a</sup>	.087	.060	.96989491	1.878
1	1	.295 <sup>a</sup>	.087	.062	.96850109	1.983
2	1	.289 <sup>a</sup>	.083	.058	.97053886	1.999
3	1	.278 <sup>a</sup>	.077	.052	.97364168	1.986
4	1	.284 <sup>a</sup>	.081	.056	.97184168	1.981
5	1	.295 <sup>a</sup>	.087	.062	.96861716	1.985

a. Predictors: (Constant), Fiscal Analyst?, Hybrid Staff Structure, Gender, Fair Number of Partisan Staff, Age, Dual Staff Structure, Squire Index Score, Large Number of Partisan Staff

b. Dependent Variable: BART factor score 1 for analysis 2

## ANOVA

Imputation Number	Model		Sum of Squares	df	Mean Square
Original data	1	Regression	23.716	8	2.965
		Residual	247.403	263	.941
		Total	271.119	271	
1	1	Regression	26.044	8	3.255
		Residual	272.956	291	.938
		Total	299.000	299	
2	1	Regression	24.894	8	3.112
		Residual	274.106	291	.942
		Total	299.000	299	
3	1	Regression	23.138	8	2.892
		Residual	275.862	291	.948
		Total	299.000	299	
4	1	Regression	24.157	8	3.020
		Residual	274.843	291	.944
		Total	299.000	299	
5	1	Regression	25.978	8	3.247
		Residual	273.022	291	.938
		Total	299.000	299	

ANOVA<sup>b</sup>

Imputation Number	Model		F	Sig.
Original data	1	Regression	3.151	.002 <sup>a</sup>
		Residual		
		Total		
1	1	Regression	3.471	.001 <sup>a</sup>
		Residual		
		Total		
2	1	Regression	3.304	.001 <sup>a</sup>
		Residual		
		Total		
3	1	Regression	3.051	.003 <sup>a</sup>
		Residual		
		Total		
4	1	Regression	3.197	.002 <sup>a</sup>
		Residual		
		Total		
5	1	Regression	3.461	.001 <sup>a</sup>
		Residual		
		Total		

Coefficients<sup>a</sup>

Imputation Number	Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
Original data	(Constant)	.836	.315		2.651	.009		
	Dual Staff Structure	-.240	.168	-.097	-1.425	.155	.746	1.340
	Hybrid Staff Structure	.006	.161	.003	.035	.972	.604	1.656
	Fair Number of Partisan Staff	-.094	.155	-.047	-.604	.547	.581	1.722
	Large Number of Partisan Staff	.064	.182	.029	.348	.728	.501	1.997
	Squire Index Score	-1.389	.521	-.197	-2.667	.008	.638	1.567
	Age	-.002	.006	-.023	-.375	.708	.938	1.066
	Gender	-.265	.121	-.133	-2.185	.030	.943	1.061
	Fiscal Analyst?	-.407	.125	-.202	-3.264	.001	.905	1.106
1	(Constant)	.849	.301		2.820	.005		
	Dual Staff Structure	-.128	.158	-.052	-.810	.419	.758	1.319
	Hybrid Staff Structure	.023	.155	.011	.149	.881	.599	1.669
	Fair Number of Partisan Staff	-.121	.145	-.060	-.834	.405	.609	1.643
	Large Number of Partisan Staff	-.054	.172	-.024	-.314	.753	.524	1.908
	Squire Index Score	-.912	.489	-.130	-1.863	.064	.640	1.563

**Coefficients<sup>a</sup>**

Imputation Number    Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics		
		B	Std. Error	Beta			Tolerance	VIF	
		Age	-.003	.006	-.033	-.569	.570	.933	1.072
		Gender	-.350	.114	-.175	-3.056	.002	.959	1.043
		Fiscal Analyst?	-.405	.117	-.201	-3.451	.001	.926	1.080
2	1	(Constant)	.904	.307		2.947	.003		
		Dual Staff Structure	-.152	.158	-.062	-.963	.336	.758	1.320
		Hybrid Staff Structure	.008	.155	.004	.051	.959	.600	1.668
		Fair Number of Partisan Staff	-.138	.146	-.069	-.951	.343	.605	1.654
		Large Number of Partisan Staff	-.073	.173	-.033	-.423	.672	.522	1.914
		Squire Index Score	-.896	.490	-.128	-1.829	.068	.640	1.562
		Age	-.004	.006	-.044	-.750	.454	.929	1.076
		Gender	-.344	.115	-.172	-2.986	.003	.951	1.052
		Fiscal Analyst?	-.379	.118	-.188	-3.225	.001	.926	1.080
3	1	(Constant)	.833	.304		2.742	.006		
		Dual Staff Structure	-.165	.159	-.067	-1.037	.301	.757	1.322
		Hybrid Staff Structure	-.006	.155	-.003	-.038	.970	.601	1.665
		Fair Number of Partisan Staff	-.091	.146	-.045	-.622	.535	.608	1.646

**Coefficients<sup>a</sup>**

Imputation Number	Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
	Large Number of Partisan Staff	.016	.173	.007	.090	.928	.524	1.909
	Squire Index Score	-.903	.492	-.129	-1.837	.067	.640	1.562
	Age	-.004	.006	-.039	-.663	.508	.930	1.075
	Gender	-.317	.116	-.158	-2.741	.007	.951	1.051
	Fiscal Analyst?	-.391	.118	-.194	-3.316	.001	.927	1.078
	(Constant)	.832	.301		2.766	.006		
4	Dual Staff Structure	-.137	.158	-.056	-.866	.387	.758	1.319
	Hybrid Staff Structure	.022	.155	.010	.142	.887	.600	1.668
	Fair Number of Partisan Staff	-.112	.146	-.055	-.767	.444	.606	1.649
	Large Number of Partisan Staff	-.036	.173	-.016	-.210	.834	.523	1.911
	Squire Index Score	-.939	.491	-.134	-1.912	.057	.640	1.562
	Age	-.003	.006	-.033	-.567	.571	.935	1.069
	Gender	-.353	.115	-.176	-3.060	.002	.955	1.048
	Fiscal Analyst?	-.370	.118	-.183	-3.140	.002	.927	1.079
	(Constant)	.848	.304		2.789	.006		
5	Dual Staff Structure	-.224	.158	-.092	-1.419	.157	.755	1.325

**Coefficients<sup>a</sup>**

Imputation		Unstandardized		Standardized	t	Sig.	Collinearity	
		Coefficients		Coefficients			Statistics	
Number	Model	B	Std. Error	Beta			Tolerance	VIF
	Hybrid Staff Structure	-.016	.155	-.007	-.103	.918	.600	1.666
	Fair Number of Partisan Staff	-.107	.145	-.053	-.738	.461	.605	1.652
	Large Number of Partisan Staff	-8.328E-5	.172	.000	.000	1.000	.522	1.914
	Squire Index Score	-.917	.489	-.131	-1.874	.062	.640	1.562
	Age	-.003	.006	-.030	-.513	.608	.930	1.076
	Gender	-.295	.115	-.147	-2.564	.011	.950	1.052
	Fiscal Analyst?	-.450	.117	-.223	-3.831	.000	.926	1.079

a. Dependent Variable: BART factor score 1 for analysis 2



**Residuals Statistics**

Imputation Number		Minimum	Maximum	Mean	Std. Deviation	N
Original data	Predicted Value	-.9185246	.6869664	-.0146880	.29582808	272
	Std. Predicted Value	-3.055	2.372	.000	1.000	272
	Standard Error of Predicted Value	.133	.269	.175	.024	272
	Adjusted Predicted Value	-.8882177	.6982021	-.0145371	.29730501	272
	Residual	-2.62236857	2.62000704	.00000000	.95547188	272
	Std. Residual	-2.704	2.701	.000	.985	272
	Stud. Residual	-2.742	2.748	.000	1.002	272
	Deleted Residual	-2.69707155	2.71066356	-.00015096	.98938418	272
	Stud. Deleted Residual	-2.777	2.783	.000	1.006	272
	Mahal. Distance	4.080	19.841	7.971	2.495	272
	Cook's Distance	.000	.036	.004	.006	272
	Centered Leverage Value	.015	.073	.029	.009	272
	1	Predicted Value	-.7549807	.6896268	.0000000	.29513129
Std. Predicted Value		-2.558	2.337	.000	1.000	300
Standard Error of Predicted Value		.122	.252	.166	.023	300
Adjusted Predicted Value		-.7218448	.6997696	.0000643	.29601758	300
Residual		-2.68203187	2.61564517	.00000000	.95545671	300
Std. Residual		-2.769	2.701	.000	.987	300
Stud. Residual		-2.802	2.744	.000	1.002	300
Deleted Residual		-2.74576020	2.70032787	-.00006433	.98629021	300
Stud. Deleted Residual		-2.836	2.776	.000	1.006	300
Mahal. Distance		3.760	19.191	7.973	2.468	300
Cook's Distance		.000	.033	.004	.005	300
Centered Leverage Value		.013	.064	.027	.008	300
2		Predicted Value	-.7550594	.7059320	.0000000	.28854268
	Std. Predicted Value	-2.617	2.447	.000	1.000	300
	Standard Error of Predicted Value	.121	.253	.167	.023	300
	Value					

**Residuals Statistics**

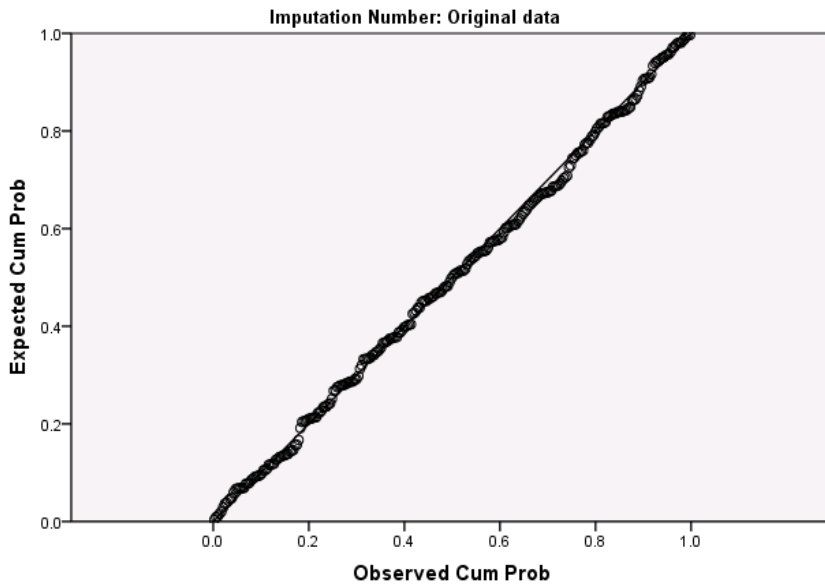
Imputation Number	Minimum	Maximum	Mean	Std. Deviation	N
Adjusted Predicted Value	-.7235816	.7159506	.0001589	.28940235	300
Residual	-2.73069930	2.64178228	.00000000	.95746703	300
Std. Residual	-2.814	2.722	.000	.987	300
Stud. Residual	-2.848	2.766	.000	1.002	300
Deleted Residual	-2.79742765	2.72765756	-.00015886	.98827584	300
Stud. Deleted Residual	-2.883	2.798	.000	1.006	300
Mahal. Distance	3.654	19.285	7.973	2.502	300
Cook's Distance	.000	.033	.004	.005	300
Centered Leverage Value	.012	.064	.027	.008	300
3					
Predicted Value	-.7505429	.6533881	.0000000	.27818312	300
Std. Predicted Value	-2.698	2.349	.000	1.000	300
Standard Error of Predicted Value	.122	.253	.167	.023	300
Adjusted Predicted Value	-.7235564	.6610501	.0001352	.27920877	300
Residual	-3.00042796	2.59156370	.00000000	.96052806	300
Std. Residual	-3.082	2.662	.000	.987	300
Stud. Residual	-3.119	2.704	.000	1.002	300
Deleted Residual	-3.07409525	2.67550230	-.00013518	.99150448	300
Stud. Deleted Residual	-3.167	2.734	.000	1.006	300
Mahal. Distance	3.731	19.205	7.973	2.474	300
Cook's Distance	.000	.034	.004	.006	300
Centered Leverage Value	.012	.064	.027	.008	300
4					
Predicted Value	-.7482318	.6711335	.0000000	.28424289	300
Std. Predicted Value	-2.632	2.361	.000	1.000	300
Standard Error of Predicted Value	.122	.253	.167	.023	300
Adjusted Predicted Value	-.7171463	.6789355	.0000595	.28516201	300
Residual	-2.71870542	2.59517360	.00000000	.95875230	300
Std. Residual	-2.797	2.670	.000	.987	300
Stud. Residual	-2.831	2.713	.000	1.002	300

**Residuals Statistics**

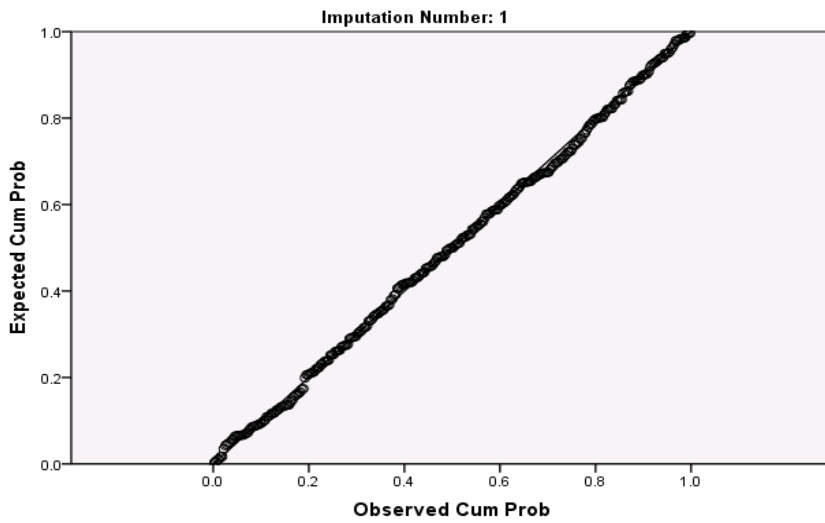
Imputation Number	Minimum	Maximum	Mean	Std. Deviation	N
Deleted Residual	-2.78471589	2.67922354	-.00005950	.98973757	300
Stud. Deleted Residual	-2.866	2.744	.000	1.006	300
Mahal. Distance	3.697	19.245	7.973	2.496	300
Cook's Distance	.000	.034	.004	.005	300
Centered Leverage Value	.012	.064	.027	.008	300
5					
Predicted Value	-.7587998	.6980256	.0000000	.29476034	300
Std. Predicted Value	-2.574	2.368	.000	1.000	300
Standard Error of Predicted Value	.121	.252	.166	.023	300
Adjusted Predicted Value	-.7323737	.7088808	.0002144	.29591852	300
Residual	-2.95880270	2.61850452	.00000000	.95557121	300
Std. Residual	-3.055	2.703	.000	.987	300
Stud. Residual	-3.123	2.747	.000	1.002	300
Deleted Residual	-3.09290266	2.70309997	-.00021441	.98675004	300
Stud. Deleted Residual	-3.171	2.778	.000	1.006	300
Mahal. Distance	3.701	19.282	7.973	2.477	300
Cook's Distance	.000	.049	.004	.006	300
Centered Leverage Value	.012	.064	.027	.008	300

a. Dependent Variable: BART factor score 1 for analysis 2

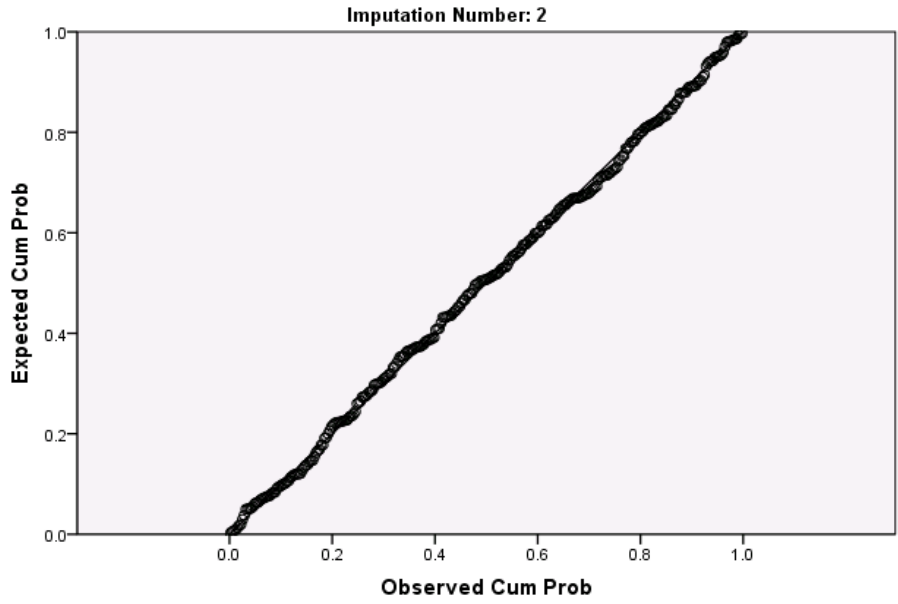
Normal P-P Plot of Regression Standardized Residual  
Dependent Variable: BART factor score 1 for analysis 2



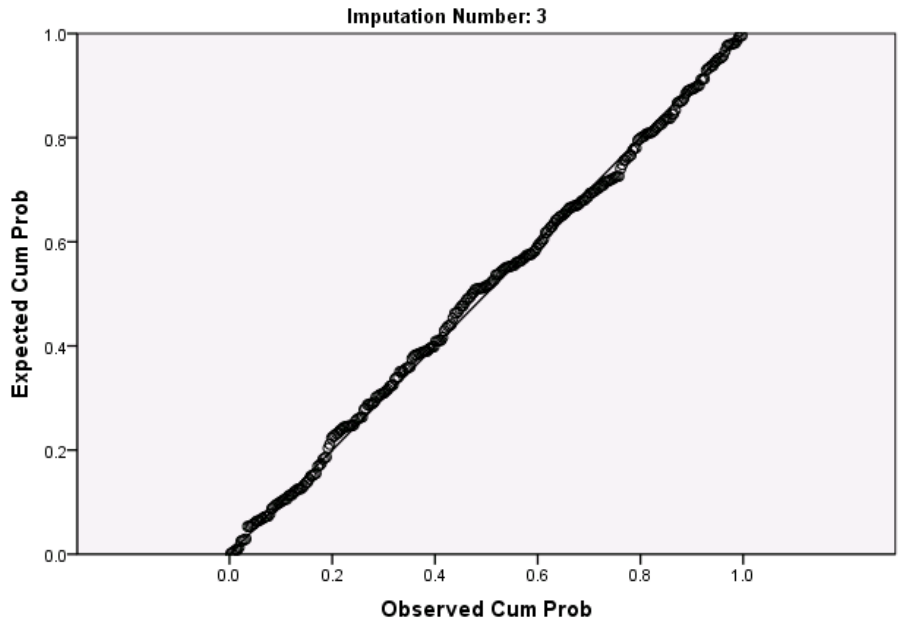
Normal P-P Plot of Regression Standardized Residual  
Dependent Variable: BART factor score 1 for analysis 2



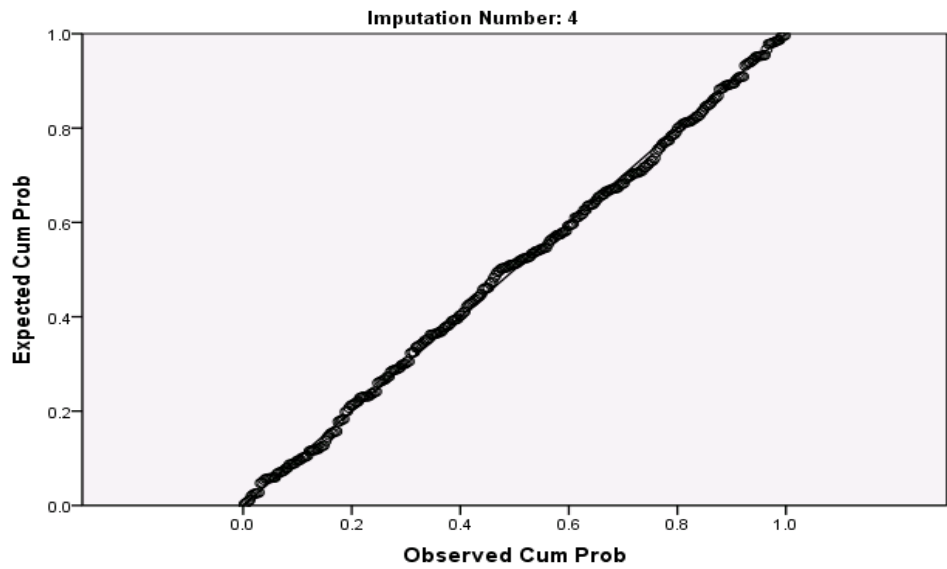
Normal P-P Plot of Regression Standardized Residual  
Dependent Variable: BART factor score 1 for analysis 2

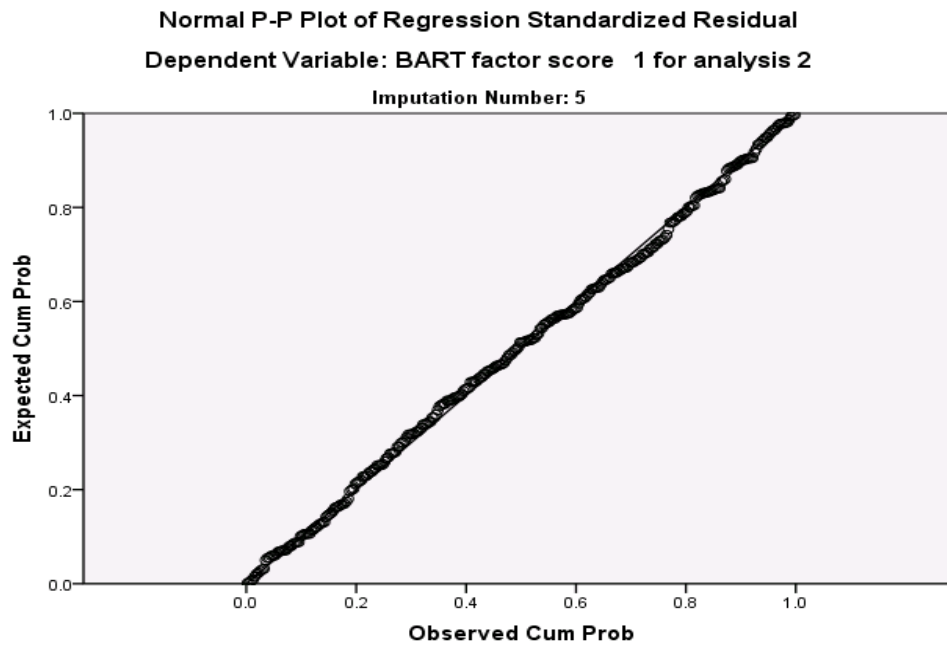


Normal P-P Plot of Regression Standardized Residual  
Dependent Variable: BART factor score 1 for analysis 2



Normal P-P Plot of Regression Standardized Residual  
Dependent Variable: BART factor score 1 for analysis 2





**Output from OLS Regression with Political Information Factor as Dependent Variable**

**Model Summary<sup>b</sup>**

Imputation Number	Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
Original data	1	.492 <sup>a</sup>	.242	.219	.88768863	1.957
1	1	.459 <sup>a</sup>	.211	.189	.90064573	1.967
2	1	.464 <sup>a</sup>	.215	.194	.89803645	1.973
3	1	.468 <sup>a</sup>	.219	.198	.89576973	1.978
4	1	.463 <sup>a</sup>	.214	.193	.89845779	1.898
5	1	.459 <sup>a</sup>	.211	.189	.90033071	1.944

**Model Summary<sup>b</sup>**

Imputation Number	Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
Original data	1	.492 <sup>a</sup>	.242	.219	.88768863	1.957
1	1	.459 <sup>a</sup>	.211	.189	.90064573	1.967
2	1	.464 <sup>a</sup>	.215	.194	.89803645	1.973
3	1	.468 <sup>a</sup>	.219	.198	.89576973	1.978
4	1	.463 <sup>a</sup>	.214	.193	.89845779	1.898
5	1	.459 <sup>a</sup>	.211	.189	.90033071	1.944

a. Predictors: (Constant), Fiscal Analyst?, Hybrid Staff Structure, Gender, Fair Number of Partisan Staff, Age, Dual Staff Structure, Squire Index Score, Large Number of Partisan Staff

b. Dependent Variable: BART factor score 2 for analysis 2



**ANOVA<sub>b</sub>**

Imputation Number	Model		Sum of Squares	df	Mean Square
Original data	1	Regression	66.196	8	8.274
		Residual	207.242	263	.788
		Total	273.437	271	
1	1	Regression	62.952	8	7.869
		Residual	236.048	291	.811
		Total	299.000	299	
2	1	Regression	64.317	8	8.040
		Residual	234.683	291	.806
		Total	299.000	299	
3	1	Regression	65.501	8	8.188
		Residual	233.499	291	.802
		Total	299.000	299	
4	1	Regression	64.097	8	8.012
		Residual	234.903	291	.807
		Total	299.000	299	
5	1	Regression	63.117	8	7.890
		Residual	235.883	291	.811
		Total	299.000	299	

ANOVA<sup>b</sup>

Imputation Number	Model		F	Sig.
Original data	1	Regression	10.501	.000 <sup>a</sup>
		Residual		
		Total		
1	1	Regression	9.701	.000 <sup>a</sup>
		Residual		
		Total		
2	1	Regression	9.969	.000 <sup>a</sup>
		Residual		
		Total		
3	1	Regression	10.204	.000 <sup>a</sup>
		Residual		
		Total		
4	1	Regression	9.926	.000 <sup>a</sup>
		Residual		
		Total		
5	1	Regression	9.733	.000 <sup>a</sup>
		Residual		
		Total		

a. Predictors: (Constant), Fiscal Analyst?, Hybrid Staff Structure, Gender, Fair Number of Partisan Staff, Age, Dual Staff Structure, Squire Index Score, Large Number of Partisan Staff

b. Dependent Variable: BART factor score 2 for analysis 2

**Coefficients<sup>a</sup>**

Imputation Number	Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std.	Beta			Toleran ce	VIF
			Error					
Original data	1 (Constant)	.771	.289		2.673	.008		
	Dual Staff Structure	.337	.154	.136	2.189	.029	.746	1.340
	Hybrid Staff Structure	.401	.148	.188	2.716	.007	.604	1.656
	Fair Number of Partisan Staff	.324	.142	.161	2.279	.023	.581	1.722
	Large Number of Partisan Staff	.389	.167	.177	2.329	.021	.501	1.997
	Squire Index Score	-.350	.477	-.049	-.735	.463	.638	1.567
	Age	-.016	.005	-.163	-2.949	.003	.938	1.066
	Gender	-.130	.111	-.065	-1.170	.243	.943	1.061
	Fiscal Analyst?	-.628	.114	-.311	-5.503	.000	.905	1.106
1	1 (Constant)	.831	.280		2.968	.003		
	Dual Staff Structure	.291	.147	.119	1.984	.048	.758	1.319
	Hybrid Staff Structure	.348	.144	.162	2.414	.016	.599	1.669
	Fair Number of Partisan Staff	.327	.135	.162	2.425	.016	.609	1.643
	Large Number of Partisan Staff	.439	.160	.198	2.746	.006	.524	1.908
	Squire Index Score	-.603	.455	-.086	-1.326	.186	.640	1.563
	Age	-.017	.005	-.170	-3.148	.002	.933	1.072
	Gender	-.137	.106	-.068	-1.285	.200	.959	1.043
	Fiscal Analyst?	-.567	.109	-.281	-5.200	.000	.926	1.080

**Coefficients<sup>a</sup>**

Imputation Number	Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
2	1 (Constant)	.789	.284		2.782	.006		
	Dual Staff Structure	.333	.146	.136	2.275	.024	.758	1.320
	Hybrid Staff Structure	.362	.144	.169	2.519	.012	.600	1.668
	Fair Number of Partisan Staff	.288	.135	.143	2.135	.034	.605	1.654
	Large Number of Partisan Staff	.393	.160	.177	2.462	.014	.522	1.914
	Squire Index Score	-.545	.454	-.078	-1.202	.230	.640	1.562
	Age	-.015	.005	-.150	-2.787	.006	.929	1.076
	Gender	-.178	.107	-.089	-1.663	.097	.951	1.052
	Fiscal Analyst?	-.582	.109	-.288	-5.344	.000	.926	1.080
3	1 (Constant)	.829	.280		2.964	.003		
	Dual Staff Structure	.302	.146	.123	2.068	.040	.757	1.322
	Hybrid Staff Structure	.359	.143	.168	2.510	.013	.601	1.665
	Fair Number of Partisan Staff	.299	.134	.148	2.232	.026	.608	1.646
	Large Number of Partisan Staff	.386	.159	.174	2.429	.016	.524	1.909
	Squire Index Score	-.489	.453	-.070	-1.081	.281	.640	1.562
	Age	-.016	.005	-.162	-3.016	.003	.930	1.075
	Gender	-.164	.106	-.082	-1.540	.125	.951	1.051
	Fiscal Analyst?	-.597	.108	-.296	-5.504	.000	.927	1.078
4	1 (Constant)	.844	.278		3.034	.003		
	Dual Staff Structure	.327	.146	.133	2.234	.026	.758	1.319
	Hybrid Staff Structure	.354	.144	.165	2.464	.014	.600	1.668
	Fair Number of Partisan Staff	.289	.135	.144	2.151	.032	.606	1.649
	Large Number of Partisan Staff	.365	.160	.164	2.288	.023	.523	1.911

**Coefficients<sup>a</sup>**

Imputation Number    Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std.	Beta			Toleran ce	VIF
			Error					
	Squire Index Score	-.509	.454	-.073	-1.122	.263	.640	1.562
	Age	-.016	.005	-.165	-3.074	.002	.935	1.069
	Gender	-.165	.107	-.083	-1.554	.121	.955	1.048
	Fiscal Analyst?	-.588	.109	-.292	-5.403	.000	.927	1.079
5	1 (Constant)	.846	.283		2.993	.003		
	Dual Staff Structure	.297	.147	.121	2.024	.044	.755	1.325
	Hybrid Staff Structure	.345	.144	.161	2.396	.017	.600	1.666
	Fair Number of Partisan Staff	.286	.135	.142	2.121	.035	.605	1.652
	Large Number of Partisan Staff	.378	.160	.170	2.360	.019	.522	1.914
	Squire Index Score	-.449	.455	-.064	-.987	.325	.640	1.562
	Age	-.017	.005	-.168	-3.104	.002	.930	1.076
	Gender	-.171	.107	-.085	-1.595	.112	.950	1.052
	Fiscal Analyst?	-.567	.109	-.281	-5.199	.000	.926	1.079

a. Dependent Variable: BART factor score 2 for analysis 2

**Residuals Statisticsa**

Imputation Number		Minimum	Maximum	Mean	Std. Deviation	N
Original data	Predicted Value	-1.1337061	.9891149	.0266457	.49423083	272
	Std. Predicted Value	-2.348	1.947	.000	1.000	272
	Standard Error of Predicted Value	.121	.246	.160	.022	272
	Adjusted Predicted Value	-1.1568371	.9760531	.0265880	.49565523	272
	Residual	-2.00783467	3.08453774	.00000000	.87448806	272
	Std. Residual	-2.262	3.475	.000	.985	272
	Stud. Residual	-2.321	3.554	.000	1.002	272
	Deleted Residual	-2.11340284	3.22665143	.00005770	.90546398	272
	Stud. Deleted Residual	-2.340	3.636	.001	1.007	272
	Mahal. Distance	4.080	19.841	7.971	2.495	272
	Cook's Distance	.000	.065	.004	.007	272
	Centered Leverage Value	.015	.073	.029	.009	272
1	Predicted Value	-1.1716717	.9344617	.0000000	.45884706	300
	Std. Predicted Value	-2.554	2.037	.000	1.000	300
	Standard Error of Predicted Value	.114	.234	.155	.021	300
	Adjusted Predicted Value	-1.1950725	.9382690	-.0001202	.46015756	300
	Residual	-2.05262852	3.29335117	.00000000	.88851527	300
	Std. Residual	-2.279	3.657	.000	.987	300
	Stud. Residual	-2.313	3.716	.000	1.002	300
	Deleted Residual	-2.11467457	3.40149808	.00012024	.91658676	300
	Stud. Deleted Residual	-2.331	3.801	.001	1.007	300
	Mahal. Distance	3.760	19.191	7.973	2.468	300
	Cook's Distance	.000	.055	.004	.007	300
	Centered Leverage Value	.013	.064	.027	.008	300
2	Predicted Value	-1.1355609	.9445544	.0000000	.46379771	300
	Std. Predicted Value	-2.448	2.037	.000	1.000	300
	Standard Error of Predicted Value	.112	.234	.154	.021	300
	Adjusted Predicted Value	-1.1570075	.9515538	-.0002182	.46510257	300

**Residuals Statisticsa**

Imputation Number		Minimum	Maximum	Mean	Std. Deviation	N
	Residual	-2.02201414	3.02407622	.00000000	.88594113	300
	Std. Residual	-2.252	3.367	.000	.987	300
	Stud. Residual	-2.300	3.433	.000	1.002	300
	Deleted Residual	-2.11341906	3.14291000	.00021815	.91432129	300
	Stud. Deleted Residual	-2.317	3.499	.001	1.007	300
	Mahal. Distance	3.654	19.285	7.973	2.502	300
	Cook's Distance	.000	.051	.004	.006	300
	Centered Leverage Value	.012	.064	.027	.008	300
3	Predicted Value	-1.1400872	.9448979	.0000000	.46804442	300
	Std. Predicted Value	-2.436	2.019	.000	1.000	300
	Standard Error of Predicted Value	.113	.233	.154	.021	300
	Adjusted Predicted Value	-1.1609749	.9453732	-.0002398	.46953066	300
	Residual	-2.00467181	3.02197218	.00000000	.88370494	300
	Std. Residual	-2.238	3.374	.000	.987	300
	Stud. Residual	-2.290	3.439	.000	1.002	300
	Deleted Residual	-2.09920526	3.14077330	.00023984	.91205656	300
	Stud. Deleted Residual	-2.307	3.505	.001	1.006	300
	Mahal. Distance	3.731	19.205	7.973	2.474	300
	Cook's Distance	.000	.052	.004	.006	300
	Centered Leverage Value	.012	.064	.027	.008	300
4	Predicted Value	-1.1372274	.9483935	.0000000	.46300284	300
	Std. Predicted Value	-2.456	2.048	.000	1.000	300
	Standard Error of Predicted Value	.113	.234	.154	.021	300
	Adjusted Predicted Value	-1.1574086	.9675620	-.0000925	.46440693	300
	Residual	-1.96108627	2.99615455	.00000000	.88635680	300
	Std. Residual	-2.183	3.335	.000	.987	300
	Stud. Residual	-2.234	3.399	.000	1.002	300
	Deleted Residual	-2.05341029	3.11342621	.00009247	.91453446	300
	Stud. Deleted Residual	-2.249	3.463	.001	1.006	300

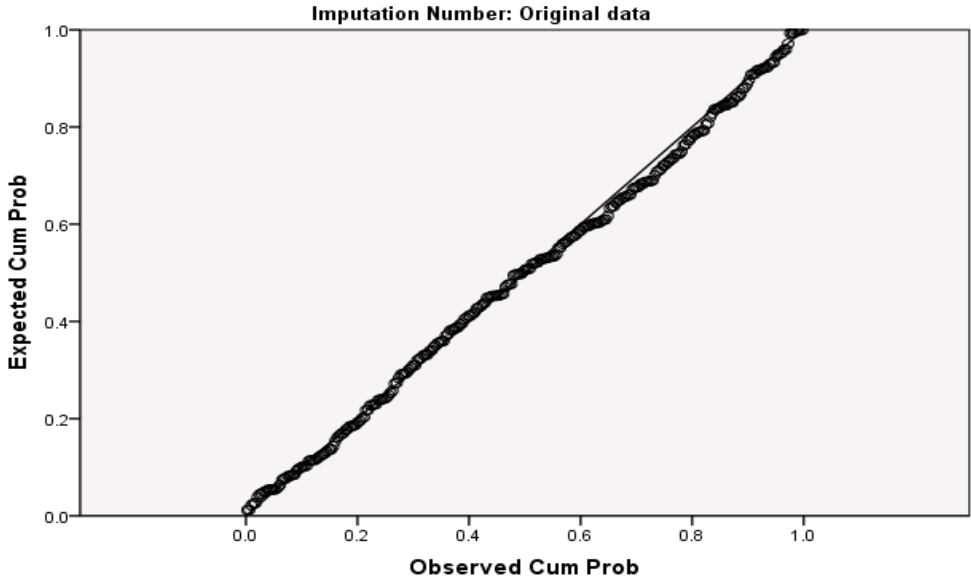
**Residuals Statisticsa**

Imputation Number	Minimum	Maximum	Mean	Std. Deviation	N
Mahal. Distance	3.697	19.245	7.973	2.496	300
Cook's Distance	.000	.050	.004	.006	300
Centered Leverage Value	.012	.064	.027	.008	300
5					
Predicted Value	-1.1154515	.9351662	.0000000	.45944835	300
Std. Predicted Value	-2.428	2.035	.000	1.000	300
Standard Error of Predicted Value	.113	.234	.154	.021	300
Adjusted Predicted Value	-1.1339885	.9372820	-.0001595	.46077703	300
Residual	-1.97189724	2.99526620	.00000000	.88820449	300
Std. Residual	-2.190	3.327	.000	.987	300
Stud. Residual	-2.236	3.392	.000	1.002	300
Deleted Residual	-2.05989289	3.11366558	.00015953	.91633445	300
Stud. Deleted Residual	-2.252	3.455	.001	1.007	300
Mahal. Distance	3.701	19.282	7.973	2.477	300
Cook's Distance	.000	.051	.004	.006	300
Centered Leverage Value	.012	.064	.027	.008	300

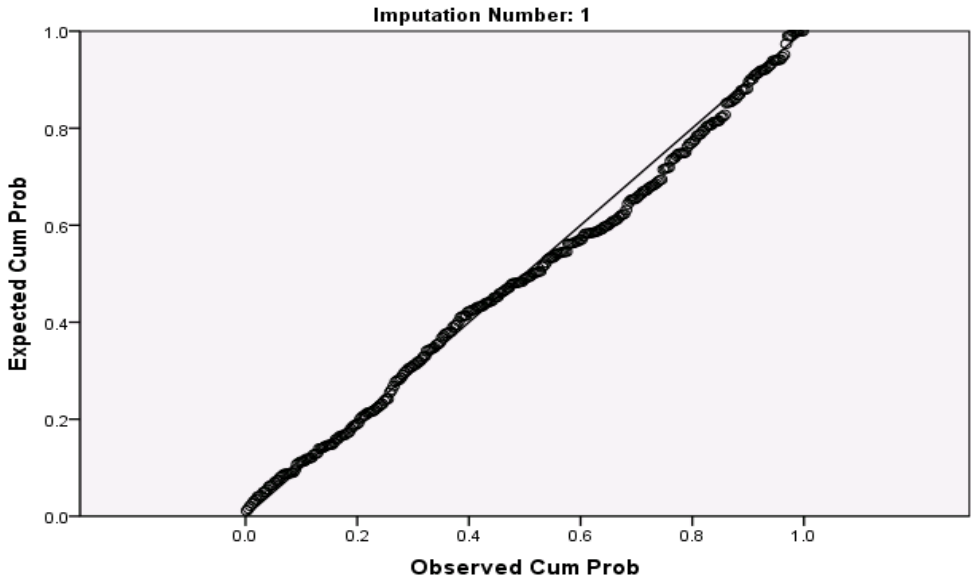
a. Dependent Variable: BART factor score 2 for analysis 2



Normal P-P Plot of Regression Standardized Residual  
Dependent Variable: BART factor score 2 for analysis 2

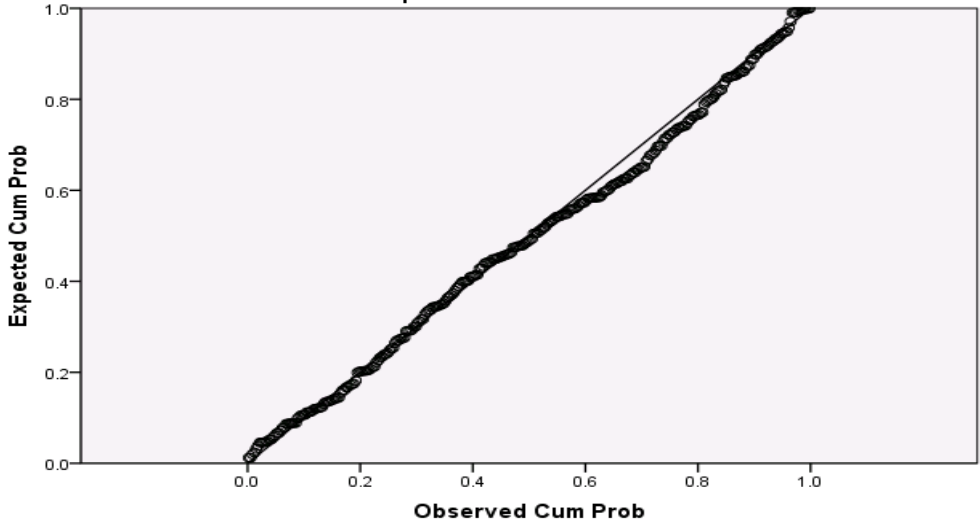


Normal P-P Plot of Regression Standardized Residual  
Dependent Variable: BART factor score 2 for analysis 2

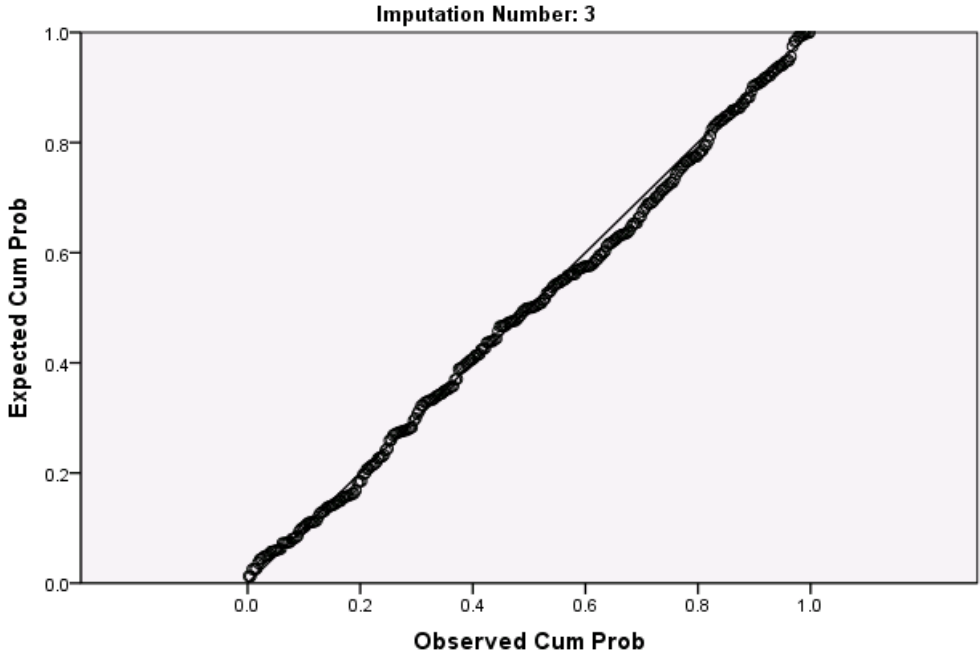


Normal P-P Plot of Regression Standardized Residual  
Dependent Variable: BART factor score 2 for analysis 2

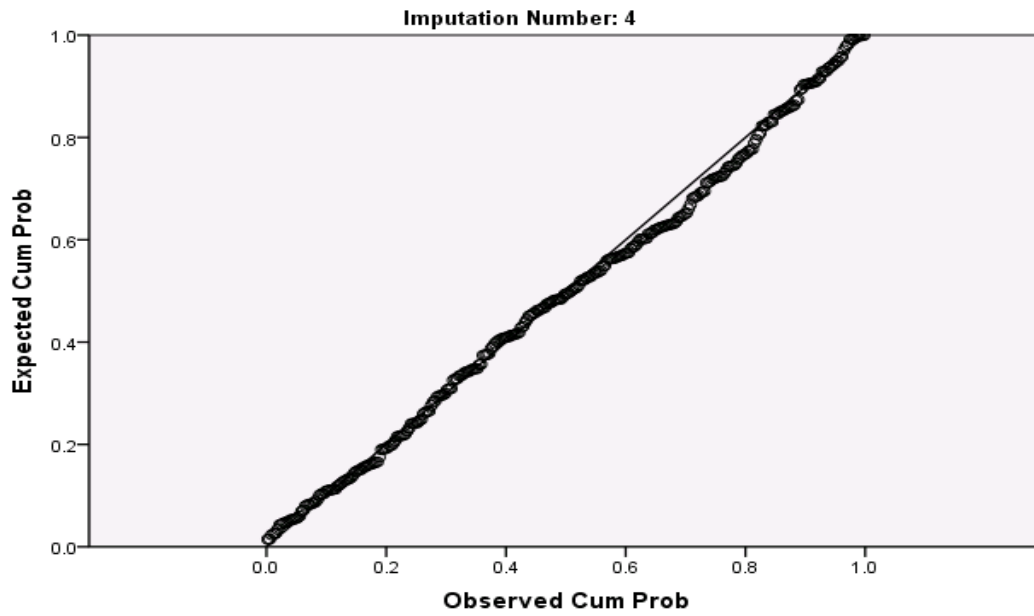
Imputation Number: 2



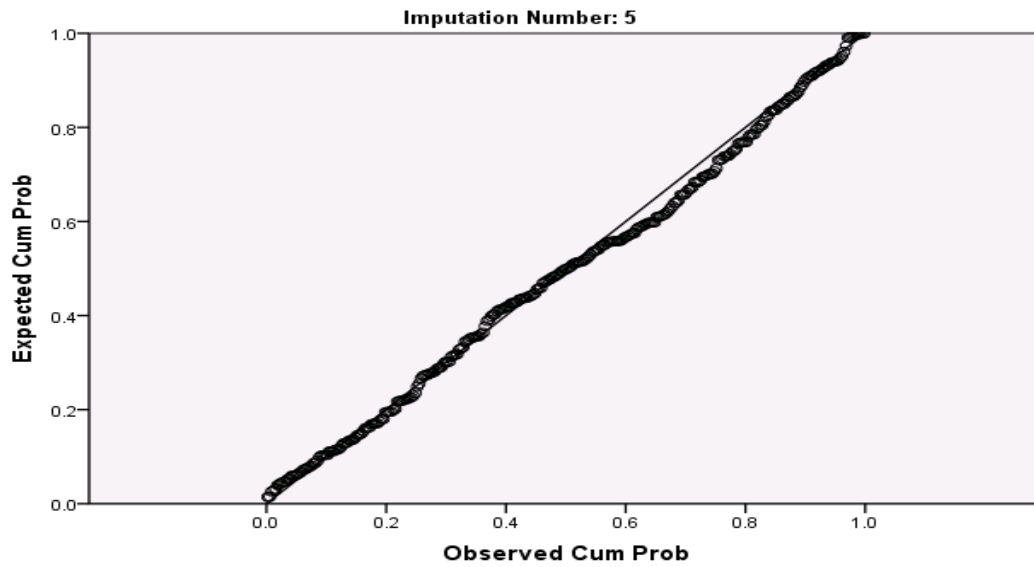
Normal P-P Plot of Regression Standardized Residual  
Dependent Variable: BART factor score 2 for analysis 2



Normal P-P Plot of Regression Standardized Residual  
Dependent Variable: BART factor score 2 for analysis 2



Normal P-P Plot of Regression Standardized Residual  
Dependent Variable: BART factor score 2 for analysis 2



**Output from OLS Regression with Technical Information Factor as Dependent Variable**

**Model Summary<sup>b</sup>**

Imputation Number	Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
Original data	1	.221 <sup>a</sup>	.049	.020	.98484738	2.003
1	1	.229 <sup>a</sup>	.053	.027	.98660676	2.138
2	1	.246 <sup>a</sup>	.060	.035	.98254623	2.120
3	1	.231 <sup>a</sup>	.053	.027	.98621935	2.104
4	1	.236 <sup>a</sup>	.056	.030	.98509588	2.120
5	1	.238 <sup>a</sup>	.057	.031	.98442045	2.091

a. Predictors: (Constant), Fiscal Analyst?, Hybrid Staff Structure, Gender, Fair Number of Partisan Staff, Age, Dual Staff Structure, Squire Index Score, Large Number of Partisan Staff

b. Dependent Variable: BART factor score 3 for analysis 2

**ANOVA<sub>b</sub>**

Imputation Number	Model		Sum of Squares	df	Mean Square
Original data	1	Regression	13.041	8	1.630
		Residual	255.090	263	.970
		Total	268.131	271	
1	1	Regression	15.743	8	1.968
		Residual	283.257	291	.973
		Total	299.000	299	
2	1	Regression	18.069	8	2.259
		Residual	280.931	291	.965
		Total	299.000	299	
3	1	Regression	15.965	8	1.996
		Residual	283.035	291	.973
		Total	299.000	299	
4	1	Regression	16.610	8	2.076
		Residual	282.390	291	.970
		Total	299.000	299	
5	1	Regression	16.997	8	2.125
		Residual	282.003	291	.969
		Total	299.000	299	

ANOVA<sup>b</sup>

Imputation Number	Model		F	Sig.
Original data	1	Regression	1.681	.103 <sup>a</sup>
		Residual		
		Total		
1	1	Regression	2.022	.044 <sup>a</sup>
		Residual		
		Total		
2	1	Regression	2.340	.019 <sup>a</sup>
		Residual		
		Total		
3	1	Regression	2.052	.041 <sup>a</sup>
		Residual		
		Total		
4	1	Regression	2.139	.032 <sup>a</sup>
		Residual		
		Total		
5	1	Regression	2.192	.028 <sup>a</sup>
		Residual		
		Total		

a. Predictors: (Constant), Fiscal Analyst?, Hybrid Staff Structure, Gender, Fair Number of Partisan Staff, Age, Dual Staff Structure, Squire Index Score, Large Number of Partisan Staff

b. Dependent Variable: BART factor score 3 for analysis 2

**Coefficients<sup>a</sup>**

Imputation			Unstandardized		Standardized	t	Sig.	Collinearity	
			Coefficients		Coefficients			Statistics	
			B	Std. Error	Beta			Tolerance	VIF
Number	Model								
Original data	1	(Constant)	-.323	.320		-1.009	.314		
		Dual Staff Structure	-.293	.171	-.119	-1.716	.087	.746	1.340
		Hybrid Staff Structure	.071	.164	.034	.436	.663	.604	1.656
		Fair Number of Partisan Staff	.155	.158	.077	.981	.328	.581	1.722
		Large Number of Partisan Staff	.253	.185	.116	1.364	.174	.501	1.997
		Squire Index Score	-.730	.529	-.104	-1.381	.168	.638	1.567
		Age	.008	.006	.077	1.247	.213	.938	1.066
		Gender	-.133	.123	-.067	-1.079	.282	.943	1.061
		Fiscal Analyst?	.206	.127	.103	1.625	.105	.905	1.106
1	1	(Constant)	-.265	.307		-.863	.389		
		Dual Staff Structure	-.346	.161	-.141	-2.155	.032	.758	1.319
		Hybrid Staff Structure	.032	.158	.015	.206	.837	.599	1.669
		Fair Number of Partisan Staff	.145	.147	.072	.980	.328	.609	1.643
		Large Number of Partisan Staff	.205	.175	.092	1.171	.243	.524	1.908
		Squire Index Score	-.648	.499	-.093	-1.299	.195	.640	1.563
		Age	.006	.006	.063	1.069	.286	.933	1.072
		Gender	-.127	.117	-.063	-1.088	.278	.959	1.043
		Fiscal Analyst?	.255	.120	.126	2.129	.034	.926	1.080



**Coefficients<sup>a</sup>**

Imputation Number    Model			Unstandardized		Standardized	t	Sig.	Collinearity	
			Coefficients		Coefficients			Statistics	
			B	Std. Error	Beta			Tolerance	VIF
2	1	(Constant)	-.355	.310		-1.143	.254		
		Dual Staff Structure	-.360	.160	-.147	-2.248	.025	.758	1.320
		Hybrid Staff Structure	.065	.157	.030	.415	.678	.600	1.668
		Fair Number of Partisan Staff	.148	.147	.073	1.004	.316	.605	1.654
		Large Number of Partisan Staff	.226	.175	.101	1.291	.198	.522	1.914
		Squire Index Score	-.630	.496	-.090	-1.269	.206	.640	1.562
		Age	.007	.006	.075	1.275	.203	.929	1.076
		Gender	-.120	.117	-.060	-1.031	.304	.951	1.052
		Fiscal Analyst?	.277	.119	.137	2.326	.021	.926	1.080
		3	1	(Constant)	-.294	.308		-.955	.340
Dual Staff Structure	-.322			.161	-.131	-2.005	.046	.757	1.322
Hybrid Staff Structure	.087			.157	.041	.552	.582	.601	1.665
Fair Number of Partisan Staff	.140			.148	.069	.950	.343	.608	1.646
Large Number of Partisan Staff	.191			.175	.086	1.091	.276	.524	1.909
Squire Index Score	-.718			.498	-.103	-1.442	.150	.640	1.562
Age	.007			.006	.070	1.190	.235	.930	1.075
Gender	-.129			.117	-.065	-1.106	.270	.951	1.051
Fiscal Analyst?	.249			.119	.123	2.085	.038	.927	1.078

Coefficients<sup>a</sup>

Imputation Number	Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics		
		B	Std. Error	Beta			Tolerance	VIF	
4	1	(Constant)	-.231	.305		-.757	.449		
		Dual Staff Structure	-.372	.160	-.152	-2.321	.021	.758	1.319
		Hybrid Staff Structure	.049	.157	.023	.309	.757	.600	1.668
		Fair Number of Partisan Staff	.163	.148	.081	1.107	.269	.606	1.649
		Large Number of Partisan Staff	.217	.175	.098	1.240	.216	.523	1.911
		Squire Index Score	-.586	.498	-.084	-1.178	.240	.640	1.562
		Age	.005	.006	.048	.816	.415	.935	1.069
		Gender	-.121	.117	-.060	-1.037	.301	.955	1.048
		Fiscal Analyst?	.264	.119	.131	2.209	.028	.927	1.079
	5	1	(Constant)	-.347	.309		-1.124	.262	
		Dual Staff Structure	-.324	.161	-.132	-2.018	.045	.755	1.325
		Hybrid Staff Structure	.058	.157	.027	.369	.713	.600	1.666
		Fair Number of Partisan Staff	.176	.148	.087	1.191	.235	.605	1.652
		Large Number of Partisan Staff	.235	.175	.106	1.340	.181	.522	1.914
		Squire Index Score	-.541	.497	-.077	-1.088	.277	.640	1.562
		Age	.006	.006	.061	1.041	.299	.930	1.076
		Gender	-.115	.117	-.058	-.985	.326	.950	1.052
		Fiscal Analyst?	.297	.119	.147	2.492	.013	.926	1.079

a. Dependent Variable: BART factor score 3 for analysis 2

**Residuals Statisticsa**

Imputation Number		Minimum	Maximum	Mean	Std. Deviation	N
Original data	Predicted Value	-.6854433	.4854970	-.0065188	.21936450	272
	Std. Predicted Value	-3.095	2.243	.000	1.000	272
	Standard Error of Predicted Value	.135	.273	.178	.024	272
	Adjusted Predicted Value	-.7623261	.5052410	-.0071149	.22140482	272
	Residual	-3.28653598	2.01180434	.00000000	.97020200	272
	Std. Residual	-3.337	2.043	.000	.985	272
	Stud. Residual	-3.395	2.095	.000	1.002	272
	Deleted Residual	-3.40180373	2.11596704	.00059613	1.00299155	272
	Stud. Deleted Residual	-3.465	2.109	-.001	1.006	272
	Mahal. Distance	4.080	19.841	7.971	2.495	272
	Cook's Distance	.000	.045	.004	.006	272
	Centered Leverage Value	.015	.073	.029	.009	272
1	Predicted Value	-.6929358	.4765540	.0000000	.22945819	300
	Std. Predicted Value	-3.020	2.077	.000	1.000	300
	Standard Error of Predicted Value	.124	.256	.169	.023	300
	Adjusted Predicted Value	-.7594579	.4955534	-.0003272	.23091275	300
	Residual	-2.93998694	1.90341330	.00000000	.97331852	300
	Std. Residual	-2.980	1.929	.000	.987	300
	Stud. Residual	-3.029	1.973	.000	1.002	300
	Deleted Residual	-3.03703880	1.99059057	.00032721	1.00381817	300
	Stud. Deleted Residual	-3.072	1.983	-.001	1.005	300
	Mahal. Distance	3.760	19.191	7.973	2.468	300
	Cook's Distance	.000	.034	.003	.005	300
	Centered Leverage Value	.013	.064	.027	.008	300

**Residuals Statisticsa**

Imputation Number		Minimum	Maximum	Mean	Std. Deviation	N
2	Predicted Value	-.7550512	.5113157	.0000000	.24583109	300
	Std. Predicted Value	-3.071	2.080	.000	1.000	300
	Standard Error of Predicted Value	.123	.256	.169	.023	300
	Adjusted Predicted Value	-.8137819	.5347307	-.0004405	.24712424	300
	Residual	-2.74552870	1.97029829	.00000000	.96931268	300
	Std. Residual	-2.794	2.005	.000	.987	300
	Stud. Residual	-2.840	2.050	.000	1.002	300
	Deleted Residual	-2.83671021	2.05967307	.00044051	.99933914	300
	Stud. Deleted Residual	-2.876	2.062	.000	1.005	300
	Mahal. Distance	3.654	19.285	7.973	2.502	300
	Cook's Distance	.000	.030	.003	.005	300
	Centered Leverage Value	.012	.064	.027	.008	300
3	Predicted Value	-.6937388	.4798782	.0000000	.23107338	300
	Std. Predicted Value	-3.002	2.077	.000	1.000	300
	Standard Error of Predicted Value	.124	.256	.169	.023	300
	Adjusted Predicted Value	-.7559332	.4842027	-.0005234	.23251812	300
	Residual	-2.93936849	2.02264094	.00000000	.97293633	300
	Std. Residual	-2.980	2.051	.000	.987	300
	Stud. Residual	-3.029	2.097	.000	1.002	300
	Deleted Residual	-3.03661823	2.11465335	.00052338	1.00299885	300
	Stud. Deleted Residual	-3.073	2.109	-.001	1.005	300
	Mahal. Distance	3.731	19.205	7.973	2.474	300
	Cook's Distance	.000	.034	.003	.005	300
	Centered Leverage Value	.012	.064	.027	.008	300
4	Predicted Value	-.7062448	.4486209	.0000000	.23569125	300
	Std. Predicted Value	-2.996	1.903	.000	1.000	300
	Standard Error of Predicted Value	.123	.256	.169	.023	300
	Adjusted Predicted Value	-.7695508	.4674844	-.0003775	.23713794	300

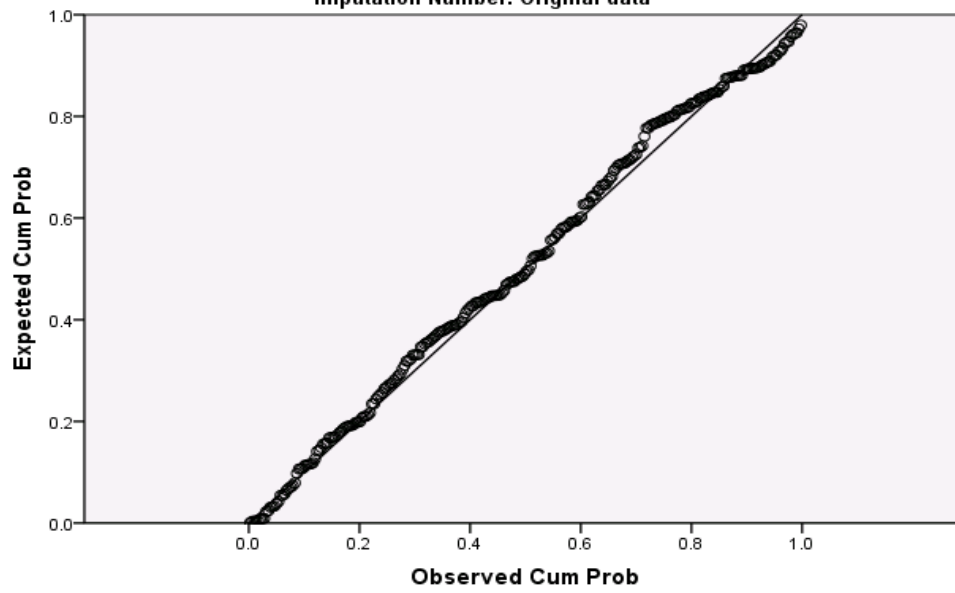
**Residuals Statisticsa**

Imputation Number	Minimum	Maximum	Mean	Std. Deviation	N
Residual	-2.78094411	1.99233770	.00000000	.97182799	300
Std. Residual	-2.823	2.022	.000	.987	300
Stud. Residual	-2.869	2.054	.000	1.002	300
Deleted Residual	-2.87290049	2.06626487	.00037748	1.00222141	300
Stud. Deleted Residual	-2.906	2.066	-.001	1.005	300
Mahal. Distance	3.697	19.245	7.973	2.496	300
Cook's Distance	.000	.031	.003	.005	300
Centered Leverage Value	.012	.064	.027	.008	300
5					
Predicted Value	-.7266060	.4748675	.0000000	.23842198	300
Std. Predicted Value	-3.048	1.992	.000	1.000	300
Standard Error of Predicted Value	.123	.256	.169	.023	300
Adjusted Predicted Value	-.7905105	.4948954	-.0003928	.24009203	300
Residual	-2.86004257	2.01551294	.00000000	.97116165	300
Std. Residual	-2.905	2.047	.000	.987	300
Stud. Residual	-2.953	2.094	.000	1.002	300
Deleted Residual	-2.95449495	2.10746384	.00039281	1.00135656	300
Stud. Deleted Residual	-2.993	2.106	-.001	1.005	300
Mahal. Distance	3.701	19.282	7.973	2.477	300
Cook's Distance	.000	.032	.003	.005	300
Centered Leverage Value	.012	.064	.027	.008	300

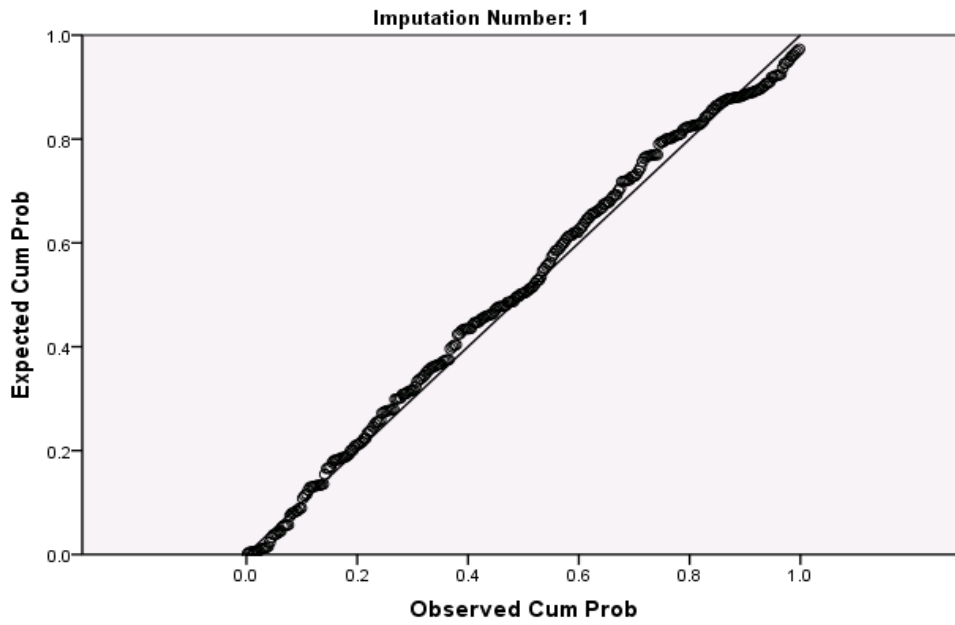
a. Dependent Variable: BART factor score 3 for analysis 2

Normal P-P Plot of Regression Standardized Residual  
Dependent Variable: BART factor score 3 for analysis 2

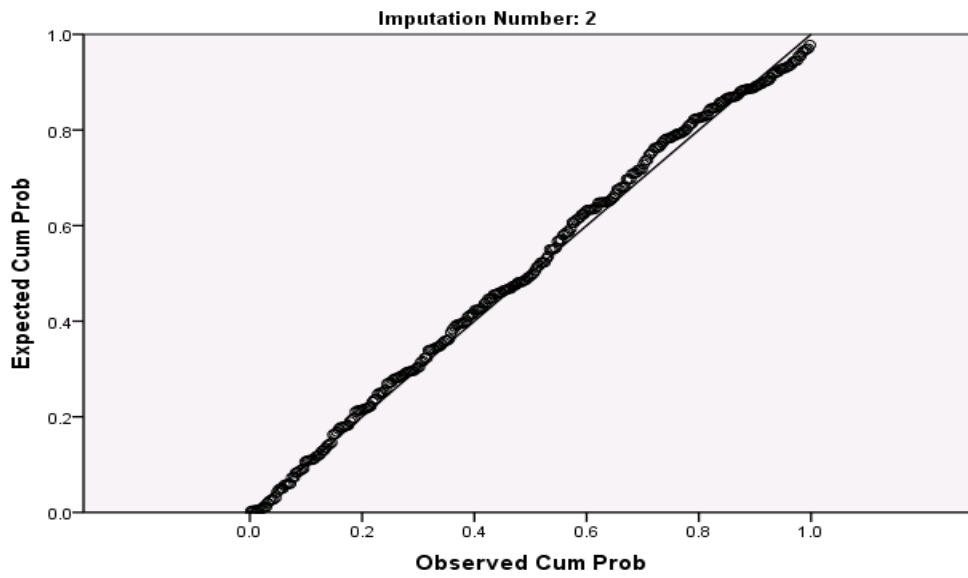
Imputation Number: Original data



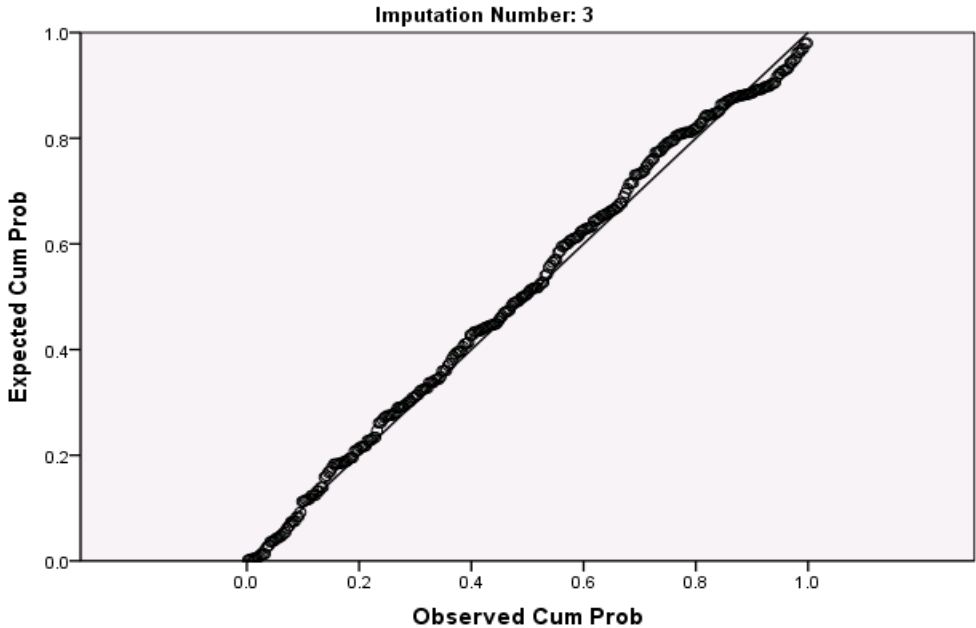
Normal P-P Plot of Regression Standardized Residual  
Dependent Variable: BART factor score 3 for analysis 2



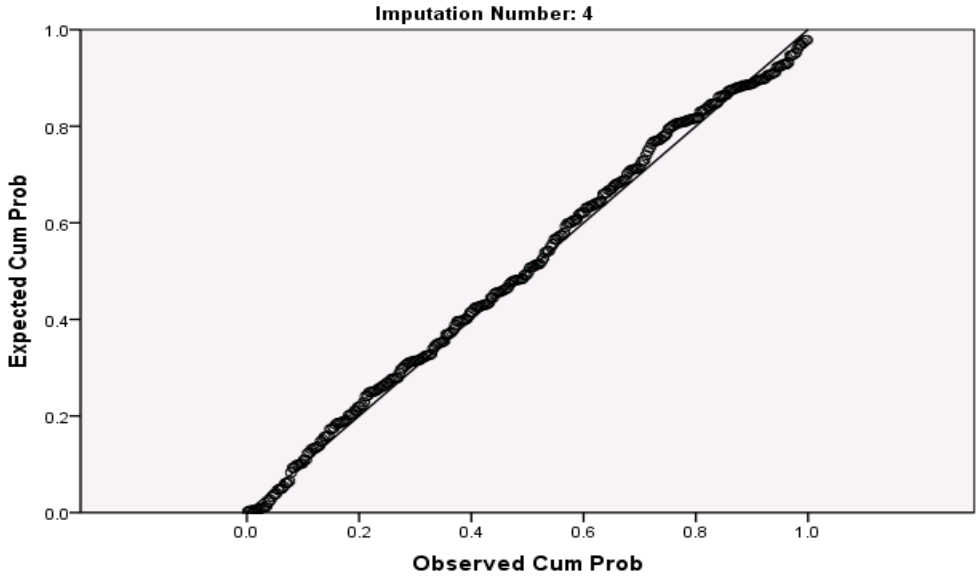
Normal P-P Plot of Regression Standardized Residual  
Dependent Variable: BART factor score 3 for analysis 2



Normal P-P Plot of Regression Standardized Residual  
Dependent Variable: BART factor score 3 for analysis 2



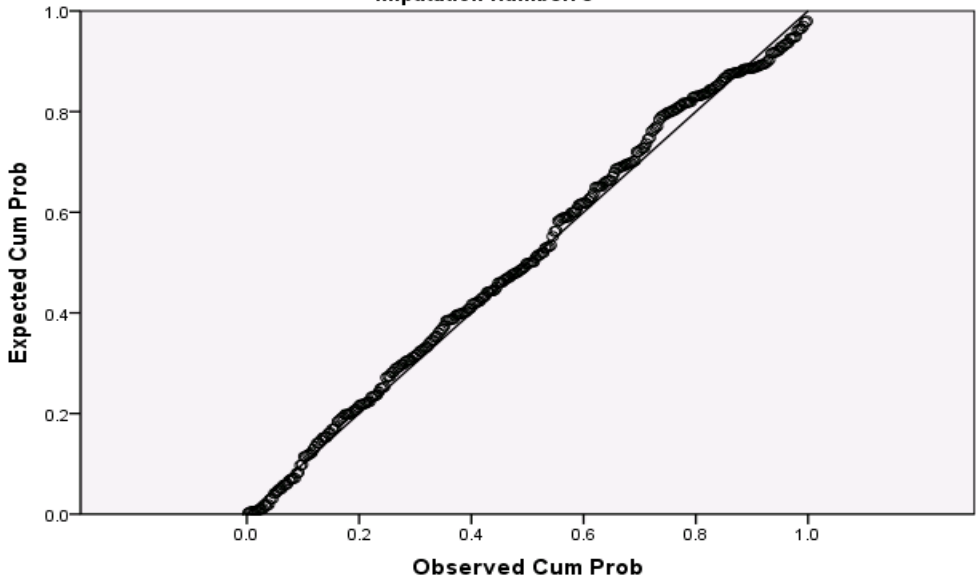
Normal P-P Plot of Regression Standardized Residual  
Dependent Variable: BART factor score 3 for analysis 2





Normal P-P Plot of Regression Standardized Residual  
Dependent Variable: BART factor score 3 for analysis 2

Imputation Number: 5



## Output from OLS Regression with Total Information Factor as Dependent Variable

Model Summary<sup>c</sup>

Imputation Number	Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
Original data	1	.432 <sup>a</sup>	.187	.162	3.11396	1.879
1	1	.413 <sup>b</sup>	.170	.148	3.11929	1.925
2	1	.412 <sup>b</sup>	.170	.147	3.15562	1.937
3	1	.418 <sup>b</sup>	.174	.152	3.09847	1.952
4	1	.415 <sup>b</sup>	.173	.150	3.13823	1.911
5	1	.406 <sup>b</sup>	.165	.142	3.19115	1.932

a. Predictors: (Constant), Gender, Large Number of Partisan Staff, Fiscal Analyst?, Age, Dual Staff Structure, Squire Index Score, Hybrid Staff Structure, Fair Number of Partisan Staff

b. Predictors: (Constant), Gender, Squire Index Score, Fair Number of Partisan Staff, Dual Staff Structure, Age, Fiscal Analyst?, Hybrid Staff Structure, Large Number of Partisan Staff

c. Dependent Variable: Total\_Imputed

## ANOVAc

Imputation			Sum of Squares	df	Mean Square
Number	Model				
Original data	1	Regression	584.699	8	73.087
		Residual	2550.243	263	9.697
		Total	3134.941	271	
1	1	Regression	581.970	8	72.746
		Residual	2831.427	291	9.730
		Total	3413.397	299	
2	1	Regression	591.779	8	73.972
		Residual	2897.768	291	9.958
		Total	3489.547	299	
3	1	Regression	589.894	8	73.737
		Residual	2793.743	291	9.600
		Total	3383.637	299	
4	1	Regression	597.643	8	74.705
		Residual	2865.903	291	9.848
		Total	3463.547	299	
5	1	Regression	584.164	8	73.021
		Residual	2963.382	291	10.183
		Total	3547.547	299	

ANOVA<sup>c</sup>

Imputation			F	Sig.
Number	Model			
Original data	1	Regression	7.537	.000 <sup>a</sup>
		Residual		
		Total		
1	1	Regression	7.476	.000 <sup>b</sup>
		Residual		
		Total		
2	1	Regression	7.428	.000 <sup>b</sup>
		Residual		
		Total		
3	1	Regression	7.681	.000 <sup>b</sup>
		Residual		
		Total		
4	1	Regression	7.585	.000 <sup>b</sup>
		Residual		
		Total		
5	1	Regression	7.171	.000 <sup>b</sup>
		Residual		
		Total		

a. Predictors: (Constant), Gender, Large Number of Partisan Staff, Fiscal Analyst?, Age, Dual Staff Structure, Squire Index Score, Hybrid Staff Structure, Fair Number of Partisan Staff

b. Predictors: (Constant), Gender, Squire Index Score, Fair Number of Partisan Staff, Dual Staff Structure, Age, Fiscal Analyst?, Hybrid Staff Structure, Large Number of Partisan Staff

c. Dependent Variable: Total\_Imputed

**Coefficients<sup>a</sup>**

Imputation		Unstandardized		Standardized	t	Sig.	Collinearity	
		Coefficients		Coefficients			Statistics	
Number	Model	B	Std. Error	Beta			Tolerance	VIF
Original data	1 (Constant)	23.471	1.012		23.189	.000		
	Dual Staff Structure	-.398	.541	-.047	-.737	.462	.746	1.340
	Hybrid Staff Structure	1.092	.518	.151	2.109	.036	.604	1.656
	Fair Number of Partisan Staff	.897	.499	.131	1.799	.073	.581	1.722
	Large Number of Partisan Staff	1.520	.586	.204	2.595	.010	.501	1.997
	Squire Index Score	-5.216	1.672	-.217	-3.120	.002	.638	1.567
	Age	-.032	.019	-.096	-1.670	.096	.938	1.066
	Fiscal Analyst?	-1.965	.400	-.287	-4.910	.000	.905	1.106
	Gender	-1.226	.390	-.180	-3.144	.002	.943	1.061
	1	1 (Constant)	23.595	.970		24.323	.000	
Dual Staff Structure		-.371	.508	-.045	-.731	.465	.758	1.319
Hybrid Staff Structure		.936	.499	.129	1.877	.062	.599	1.669
Fair Number of Partisan Staff		.814	.466	.119	1.745	.082	.609	1.643

**Coefficients<sup>a</sup>**

Imputation		Unstandardized		Standardized	t	Sig.	Collinearity	
		Coefficients		Coefficients			Statistics	
Number	Model	B	Std. Error	Beta			Tolerance	VIF
	Large Number of Partisan Staff	1.303	.554	.173	2.352	.019	.524	1.908
	Squire Index Score	-4.600	1.576	-.195	-2.918	.004	.640	1.563
	Age	-.036	.018	-.110	-1.981	.048	.933	1.072
	Fiscal Analyst?	-1.742	.378	-.256	-4.608	.000	.926	1.080
	Gender	-1.339	.369	-.198	-3.633	.000	.959	1.043
2	1 (Constant)	23.570	.997		23.637	.000		
	Dual Staff Structure	-.344	.514	-.041	-.670	.503	.758	1.320
	Hybrid Staff Structure	.964	.504	.132	1.911	.057	.600	1.668
	Fair Number of Partisan Staff	.692	.473	.100	1.462	.145	.605	1.654
	Large Number of Partisan Staff	1.194	.561	.157	2.127	.034	.522	1.914
	Squire Index Score	-4.362	1.594	-.183	-2.736	.007	.640	1.562
	Age	-.034	.019	-.101	-1.816	.070	.929	1.076
	Fiscal Analyst?	-1.737	.382	-.252	-4.543	.000	.926	1.080
	Gender	-1.439	.375	-.210	-3.837	.000	.951	1.052

**Coefficients<sup>a</sup>**

Imputation		Unstandardized		Standardized	t	Sig.	Collinearity	
		Coefficients		Coefficients			Statistics	
Number	Model	B	Std. Error	Beta			Tolerance	VIF
3	1 (Constant)	23.550	.967		24.350	.000		
	Dual Staff Structure	-.367	.505	-.045	-.727	.468	.757	1.322
	Hybrid Staff Structure	.966	.495	.134	1.952	.052	.601	1.665
	Fair Number of Partisan Staff	.734	.464	.108	1.583	.115	.608	1.646
	Large Number of Partisan Staff	1.245	.550	.166	2.262	.024	.524	1.909
	Squire Index Score	-4.451	1.565	-.189	-2.844	.005	.640	1.562
	Age	-.035	.018	-.104	-1.880	.061	.930	1.075
	Fiscal Analyst?	-1.781	.375	-.263	-4.748	.000	.927	1.078
	Gender	-1.381	.368	-.205	-3.755	.000	.951	1.051
	4	1 (Constant)	23.669	.972		24.361	.000	
Dual Staff Structure		-.360	.511	-.043	-.704	.482	.758	1.319
Hybrid Staff Structure		.947	.502	.130	1.888	.060	.600	1.668
Fair Number of Partisan Staff		.767	.470	.112	1.631	.104	.606	1.649
Large Number of Partisan Staff		1.210	.558	.160	2.169	.031	.523	1.911

**Coefficients<sup>a</sup>**

Imputation Number	Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
	Squire Index Score	-4.331	1.585	-.182	-2.732	.007	.640	1.562
	Age	-.038	.018	-.113	-2.041	.042	.935	1.069
	Fiscal Analyst?	-1.734	.380	-.253	-4.562	.000	.927	1.079
	Gender	-1.425	.372	-.209	-3.830	.000	.955	1.048
5	(Constant)	23.532	1.001		23.500	.000		
	Dual Staff Structure	-.498	.521	-.059	-.956	.340	.755	1.325
	Hybrid Staff Structure	.864	.510	.117	1.695	.091	.600	1.666
	Fair Number of Partisan Staff	.755	.478	.109	1.579	.115	.605	1.652
	Large Number of Partisan Staff	1.286	.568	.168	2.265	.024	.522	1.914
	Squire Index Score	-4.057	1.612	-.169	-2.517	.012	.640	1.562
	Age	-.036	.019	-.106	-1.916	.056	.930	1.076
	Fiscal Analyst?	-1.782	.387	-.257	-4.609	.000	.926	1.079
	Gender	-1.340	.379	-.194	-3.533	.000	.950	1.052

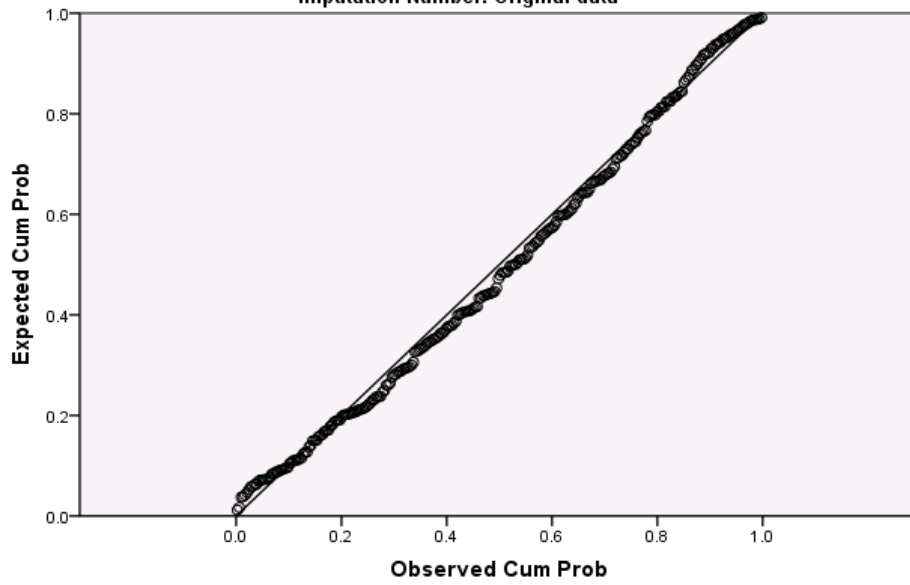
a. Dependent Variable: Total\_Imputed



**Normal P-P Plot of Regression Standardized Residual**

**Dependent Variable: Total\_Imputed**

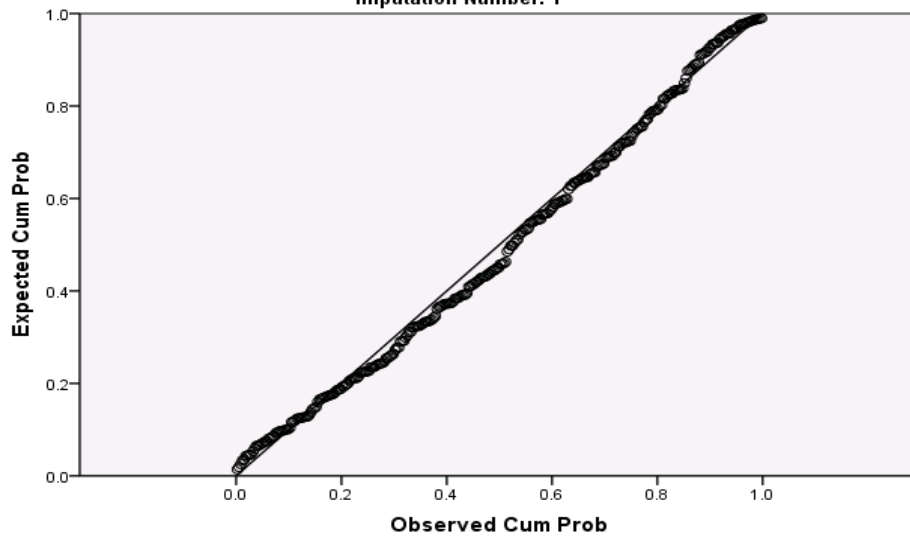
**Imputation Number: Original data**



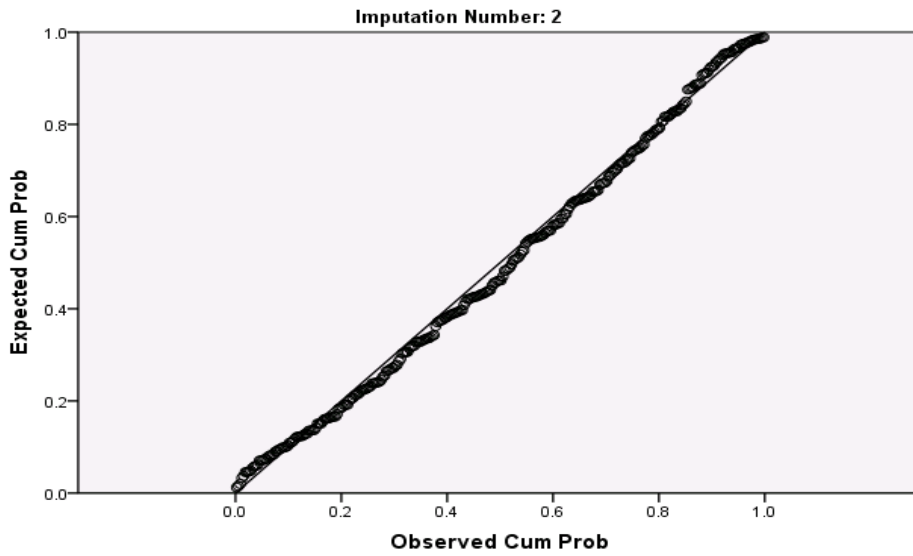
**Normal P-P Plot of Regression Standardized Residual**

**Dependent Variable: Total\_Imputed**

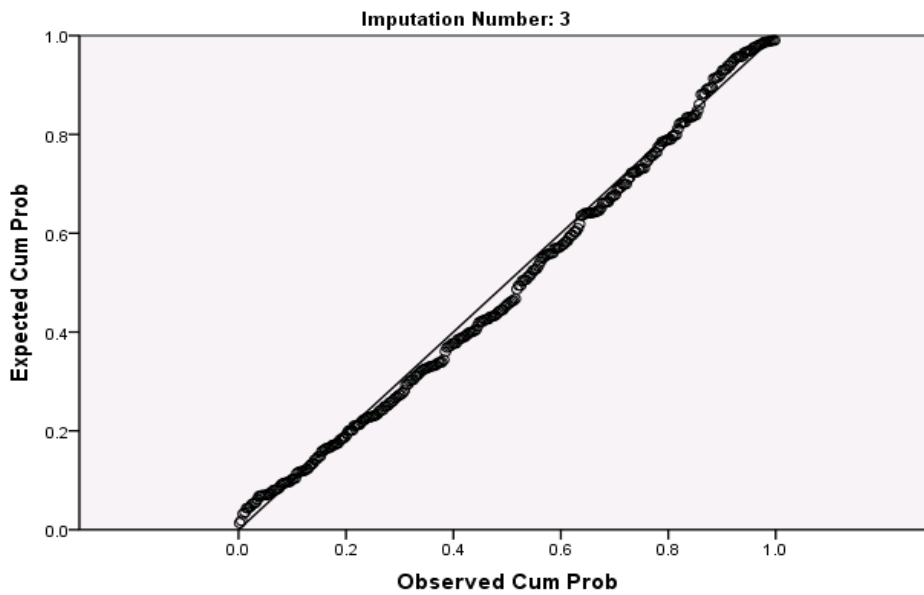
**Imputation Number: 1**



Normal P-P Plot of Regression Standardized Residual  
Dependent Variable: Total\_Imputed



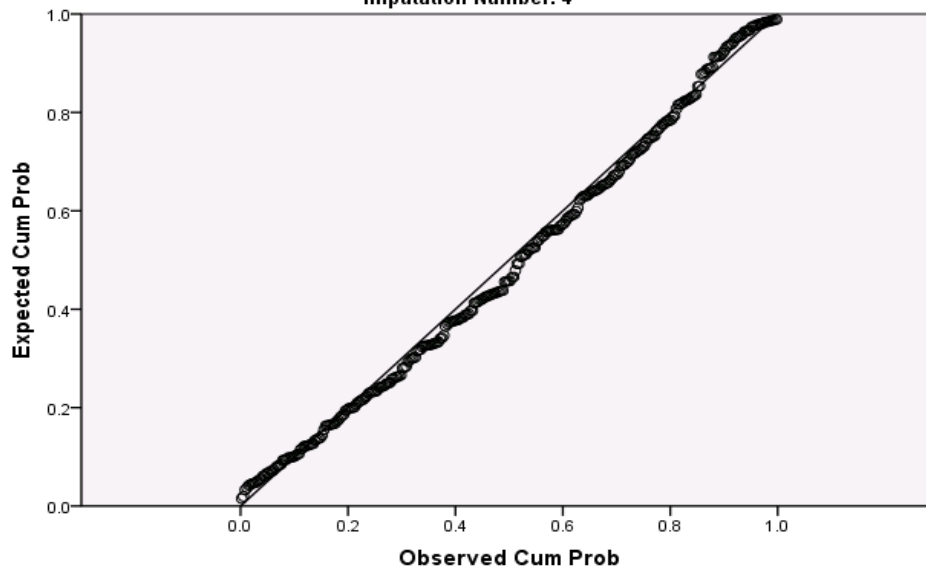
Normal P-P Plot of Regression Standardized Residual  
Dependent Variable: Total\_Imputed



Normal P-P Plot of Regression Standardized Residual

Dependent Variable: Total\_Imputed

Imputation Number: 4



Normal P-P Plot of Regression Standardized Residual

Dependent Variable: Total\_Imputed

Imputation Number: 5

