

How Do Governments Make Budget Cuts During Fiscal Crises?

A Case Study of the Arizona Department of Health Services During 2008 Fiscal Crisis

by

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## ABSTRACT

This research reveals how governments cut budgets during fiscal crises and what pattern may emerge based on the cuts. It addresses a significant gap in literature by looking into the details of an agency for a full recession period to explain how cutback requirements were met. Through investigating a large Arizona state agency during the 2008 recession in the United States, the research reveals that cutback management is a stage-by-stage process lagging the immediate deterioration of the state's economy and that patterns found among cuts are more often rational than not.

Cutbacks in this agency proceeded through three stages: the beginning, middle and the end period of cuts. In each stage, the author used descriptive analysis, process map analysis and cause and effect analysis to explore the features of cuts made. These methods of analysis were used to break down an annual budget reduction into original appropriation budget cuts, mid year reductions and the final budget cuts required to end the fiscal year in balance. In addition, the analytical methods permitted more detailed analysis of specific appropriation line items. The information used was secondary data collected from seven fiscal years around the recession and from various sources, including budgetary materials, legislation, accounting materials and many program reports related to budget cuts.

The findings suggested that across-the-board cuts are implemented at the beginning of cutback stage mainly to non-mandatory programs without jeopardizing the core functions of the agency. Later, in the middle period of the recession, selective cuts are made on large programs. Fund transfers and excess balance transfers are also preferred to reduce the budgets of other restricted funds. At the end stage of budget cuts, new revenue

sources are established to support programs which had relied on general fund revenues in the past.

Overall, the cutback process observed in this research reflects decremental and rational patterns of decision making, contrasting with the randomness observed in previous research on cutback management. Across the board cuts are decremental; the remainders are rational, even strategic decisions. This investigation reminds researchers to be aware of the context and the level of observation when analyzing cutbacks.

For my family and friends

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For the future, I hope I can give more input on academic research and knowledge sharing on public finance and budgeting. I hope what I hoped above is not just a hope.

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## CHAPTER I INTRODUCTION

### 1.1 Background

A government budget is an administrative spending plan, which reflects government priorities against limited public resources. In a capitalist system, economic cycles affect budgets. In 2008, the severe global economic crisis seriously affected the economy and budgets at all levels of government and governments made many of cuts. This dissertation uses the Arizona Department of Health Services (DHS) in the United States, a state department which receives various funds from different levels of governments as a case to examine how government agencies cope with financial crises that result in severe budget cuts.

### 1.2 Problem Statement

City, county, state and federal governments share the impact of change in the New Federalism. Economic change leads to government budgets vulnerability, which is much worse at the state government level than the federal government level. From fiscal year (FY) 2008 to 2012, states closed 45 percent of their budget gaps through spending cuts (CBPP, 2016). Financial shortage affects government's service capacity and its operation. Uninterrupted, efficient and effective government operation is heavily dependent on the budget. If there are no funds, no operation can occur.

However, knowledge at present about performing budget cuts is not sufficient to guide practice. On the one hand, research interest on cutback management goes up and down depending on how urgent the issues are and which publications are concentrated on

government budgeting periodically. This will be explained in greater detail, in Chapter II. Since economic crises are cyclical, it is difficult to draw the continuous attention of scholars to the problem of cutback management. On the other hand, when facing financial austerity, our memories about cutback actions in the past often become too vague to use. Additionally, there are gaps in cutback literature to stimulate further study.

In order to best serve the purpose of this research, I have raised two research questions for investigation as below:

1. How do governments cut budgets?
2. Do cutbacks follow certain patterns, and if so, what are they?

### 1.3 Importance

The impacts of government budget cuts affect, but are not limited to, personnel management, government service capacity, continuous service providing ability, and citizen's confidence in government. Therefore, how governments cut budgets matters. In this case, in order to improve the understanding of cutbacks and the predictability of cutbacks in the future, there is a need for further research to confirm or disconfirm what little is known, and explore new patterns of cuts during a financial crisis.

## CHAPTER II LITERATURE REVIEW

### 2.1 Financial Crises and Cuts

In this section, I will first look at periods of major public resources decline and identify what has been done to solve the issues. I will also revisit the requirements and constraints of deficits at different levels of government to explain why public officials and administrators have to make cuts.

Before investigating what is happening at present, I suggest look back to what was done in a similar situation in the past. Upon examination of historical financial crises, one has to ask what parameter to use to measure a severe fiscal condition – the size of deficit, deficit in current dollars or something else. The U.S. Office of Management and Budget's (OMB) historical data provide a few parameters to measure the size of deficits, including the Deficit as Percentages of GDP (or DAPG). The DAPG is quite helpful in understanding the extent of financial shortages. Not surprisingly, data show that the Federal Government has established the tradition of borrowing since 1930 (Table 2.1). From 1930 to 2022 (with projections), there are only 13 years out of 93 years in which the Federal Government does not bear a deficit. Among these years, three periods carry outsized budget deficits – from 1942 to 1945 with DAPG of 13.9 to 29.6 percentages, from 1982 to 1986 with DAPG of 3.9 to 5.9 percentages, and from 2009 to 2012 with DAPG of 8.5 to 9.8 percentages. It might be reasonable to name these three periods respectively as the Great Depression, the Reagan era, and the 2008 recession.

Table 2.1

*Summary of Receipts, Outlays, and Surpluses or Deficits (–) As Percentages of GDP:  
1930–2022*

Year	GDP (in billions of dollars)	Total		
		Receipts	Outlays	Surplus or Deficit (–)
1930	98.4	4.1	3.4	0.8
1931	84.8	3.7	4.2	-0.5
1932	68.5	2.8	6.8	-4.0
1933	58.3	3.4	7.9	-4.5
1934	62.0	4.8	10.6	-5.8
1935	70.5	5.1	9.1	-4.0
1936	79.6	4.9	10.3	-5.4
1937	88.9	6.1	8.5	-2.5
1938	90.2	7.5	7.6	-0.1
1939	90.4	7.0	10.1	-3.1
1940	98.2	6.7	9.6	-3.0
1941	116.2	7.5	11.7	-4.3
1942	147.7	9.9	23.8	-13.9
1943	184.6	13.0	42.6	-29.6
1944	213.8	20.5	42.7	-22.2
1945	226.4	19.9	41.0	-21.0
1946	228.0	17.2	24.2	-7.0
1947	238.9	16.1	14.4	1.7
1948	262.4	15.8	11.3	4.5
1949	276.8	14.2	14.0	0.2
1950	279.0	14.1	15.3	-1.1
1951	327.4	15.8	13.9	1.9
1952	357.5	18.5	18.9	-0.4
1953	382.5	18.2	19.9	-1.7
1954	387.7	18.0	18.3	-0.3
1955	407.0	16.1	16.8	-0.7
1956	439.0	17.0	16.1	0.9
1957	464.2	17.2	16.5	0.7
1958	474.3	16.8	17.4	-0.6
1959	505.6	15.7	18.2	-2.5
1960	535.1	17.3	17.2	0.1
1961	547.6	17.2	17.8	-0.6
1962	586.9	17.0	18.2	-1.2
1963	619.3	17.2	18.0	-0.8
1964	662.9	17.0	17.9	-0.9
1965	710.7	16.4	16.6	-0.2



Year	GDP (in billions of dollars)	Total		
		Receipts	Outlays	Surplus or Deficit (-)
1966	781.9	16.7	17.2	-0.5
1967	838.2	17.8	18.8	-1.0
1968	899.3	17.0	19.8	-2.8
1969	982.3	19.0	18.7	0.3
1970	1,049.1	18.4	18.6	-0.3
1971	1,119.3	16.7	18.8	-2.1
1972	1,219.5	17.0	18.9	-1.9
1973	1,356.0	17.0	18.1	-1.1
1974	1,486.2	17.7	18.1	-0.4
1975	1,610.6	17.3	20.6	-3.3
1976	1,790.3	16.6	20.8	-4.1
1977	2,028.4	17.5	20.2	-2.6
1978	2,278.2	17.5	20.1	-2.6
1979	2,570.0	18.0	19.6	-1.6
1980	2,796.8	18.5	21.1	-2.6
1981	3,138.4	19.1	21.6	-2.5
1982	3,313.9	18.6	22.5	-3.9
1983	3,541.1	17.0	22.8	-5.9
1984	3,952.8	16.9	21.5	-4.7
1985	4,270.4	17.2	22.2	-5.0
1986	4,536.1	17.0	21.8	-4.9
1987	4,781.9	17.9	21.0	-3.1
1988	5,155.1	17.6	20.6	-3.0
1989	5,570.0	17.8	20.5	-2.7
1990	5,914.6	17.4	21.2	-3.7
1991	6,110.1	17.3	21.7	-4.4
1992	6,434.7	17.0	21.5	-4.5
1993	6,794.9	17.0	20.7	-3.8
1994	7,197.8	17.5	20.3	-2.8
1995	7,583.4	17.8	20.0	-2.2
1996	7,978.3	18.2	19.6	-1.3
1997	8,483.2	18.6	18.9	-0.3
1998	8,954.8	19.2	18.5	0.8
1999	9,510.5	19.2	17.9	1.3
2000	10,148.2	20.0	17.6	2.3
2001	10,564.6	18.8	17.6	1.2
2002	10,876.9	17.0	18.5	-1.5
2003	11,332.4	15.7	19.1	-3.3
2004	12,088.6	15.6	19.0	-3.4
2005	12,888.9	16.7	19.2	-2.5

Year	GDP (in billions of dollars)	Total		
		Receipts	Outlays	Surplus or Deficit (-)
2006	13,684.7	17.6	19.4	-1.8
2007	14,322.9	17.9	19.1	-1.1
2008	14,752.4	17.1	20.2	-3.1
2009	14,414.6	14.6	24.4	-9.8
2010	14,798.5	14.6	23.4	-8.7
2011	15,379.2	15.0	23.4	-8.5
2012	16,027.2	15.3	22.1	-6.8
2013	16,515.9	16.8	20.9	-4.1
2014	17,220.0	17.5	20.4	-2.8
2015	17,904.0	18.2	20.6	-2.4
2016	18,407.4	17.8	20.9	-3.2
2017 estimate	19,161.9	18.1	21.2	-3.1
2018 estimate	20,013.7	18.3	20.5	-2.2
2019 estimate	20,947.3	18.2	20.7	-2.5
2020 estimate	21,980.6	18.1	20.3	-2.2
2021 estimate	23,092.7	18.0	20.0	-2.0
2022 estimate	24,261.3	18.1	19.9	-1.8

*Note.* Data source is from the Office of Management and Budget at the White House. <https://www.whitehouse.gov/omb/historical-tables/>

When the gap between government revenue and expenditure surges, what does the U.S. federal government do to handle the situation? It appears that policymakers do nothing but borrow the funds to cover the deficit. The idea of running a deficit, regardless of the size of the deficit, appears quite acceptable and apparent. In fact, this practice has been applied for 80 out of 93 years from 1930 to 2022 in the federal budget. Scholars most often attribute the value of running a deficit to Keynesian economics, which suggests that in the short run, especially during a recession, the output of the economy can be boosted by increasing aggregated demand through government spending. However, it is hard to believe 80 years can be regarded as a short run. An economic recession occurred less than five times from 1930 to 2022, yet running a deficit has

continued year after year.

Another historical event that scholars used to explain the discrepancy between revenue and expenditure is the launch of welfare programs represented by the Social Security Act, enactment under President Franklin D. Roosevelt in 1935. The Act has brought renowned social welfare programs to serve unemployed populations, women and dependent children, to provide medical assistance to low-income populations and elders, and to offer education and housing services to the neediest groups. Consequently, a series of government agencies has also been created to administer these programs, such as the U.S. departments of Labor, Health and Human Services, Education, and Agriculture. Expansion of welfare programs and the government agencies managing them has led both to acceptance of a safety net for those affected by an economic crisis and the hike of government expenditures, through which the safety net is maintained at the cost of deficits year by year.

Based on the facts, one may conclude that the Federal Government does not care to cut expenditure and balance the budget because the safety net is important to maintain. Although there are ups and downs for some programs under different administrations, the fluctuations do not change the fact that at the aggregate level, total expenditures in a majority of years have exceeded total revenues overwhelmingly. It might be rational to regard the cuts and additions in the federal budget as development of programs influenced by the political environment or something else other than making solid budget cuts.

If making budget cuts to the Federal Government budget is not that urgent and favorable, what is it like at the lower levels of government? Most states are required by

laws and regulations to have balanced budgets. According to the National Association of State Budget Officers (NASBO, 2015), there are 45 states that have a balanced budget requirement.

At the local level of government, according to the National League of Cities (NLC, 2011) state laws require cities to operate under balance-budget as well. In this case, state and city governments are required to make budget cuts during recessions.

## 2.2 Cutback Strategies and Impact

How did governments make budget cuts over the same three periods of fiscal distress? Literature suggests that existing knowledge on this issue is limited due to inadequate attention given the question.

Cutback management theory emerged in the late 70s in the United States. At the time, research focused on the study of organizational decline and fiscal crises that were occurring in a number of developed countries. Although the theory cutback management is a young in comparison to many other theories in the fields of management and public administration, its importance cannot be neglected.

First of all, cutback management theory as a threshold has opened a new research direction in public finance and budgeting. After World War II, public budgeting and management theories were based on the assumption that revenues and expenditures would grow continuously (Wildavsky, 1964). In the 1970s, when state and local governments started to experience revenue decline and contraction, researchers began to focus on managing declining and retrenchment under limited resources. The fundamental change in the assumption, from continuously increasing to periodically declining

resources, has had significant implications for public finance and budgeting and has affected both research and practice.

Second, the latest severe financial crisis in the U.S. and many other countries required scholars to revisit cutback management theory, think innovatively, and propose workable solutions to cope with the great decline. Starting from the end of 2007 with the meltdown in the sub-prime mortgage market, the U.S. entered a period of economic decline which affected businesses, governments, and individuals. To public leaders, the major impact was decreasing revenues. At the federal level, the federal budget deficit ballooned to \$1.3 trillion by the end of Fiscal Year 2011, an amount which represented 8.7% of GDP (CBO, 2011). At the state level, NASBO (2010) reported that aggregated state general fund revenue decreased by 10% from 2008 to 2010. Therefore, how to manage under serious economic downturn and stagnation has become an immediate question for public administrators.

Third, existing cutback management research has laid a solid platform on which researchers can build. Over the past 40 years' development, cutback management research has covered a wide variety of questions, which include the origin of decline, the retrenchment tactics (either to avoid cuts or absorb cuts), institutional interactions and the impact on budget cuts, as well as the frameworks of cutback. However, due to the cyclical nature of decline from past decades, cutback management publications appeared to focus on the issue only periodically. Given that economic downturn occurs regularly generating great impacts to all levels of governments (local, state and federal), an intermittent, ad hoc approach is not enough to find the answers of how to deal with financial crisis. Rather, a systematic and continuous approach is preferred.

Generally, cutback management research can be divided into four stages, each of which represents distinguishing characteristics (See Table 2.2). The first stage was in the late 1970s, when scholars such as Levine, Behn, and Brewer started to use normative methods to explain public organizational decline, the strategic choices under decline, and what public administrators should do, or the most suitable strategy. In this stage, the research subjects were very general, and the levels of government were not specified. Although scattered cases were cited, researchers provided anecdotal examples rather than systematic, in-depth analyses.

The second stage was in the first half of 1980s, during which scholars became interested in the constraints and challenges of managing retrenchment in public organizations and the factors that facilitate successful cutbacks. In this period, research methods shifted from normative methods to empirical designs. Qualitative analyses using mainly case studies were used widely, research subjects were better defined, and research focused mostly on cities.

The third stage of research was from the late 1980s to the mid-2000 could be characterized by the intensive use of quantitative analysis. Scholars applied descriptive, regression, factor and discriminant analyses to conduct in-depth queries into the effects of cutback management. Some of the areas of interest were the relationship between resource decline and employment change, the comparative analysis of the adaptation to cutbacks in different countries, and factors that affect deficit adjustment.

The fourth stage was from the mid-2000 to 2010, when scholars either applied new data to test the theories suggested in the literature from the 70s or summarized and developed theoretical models based on previous research. Quantitative methods remained

popular in this stage, and many authors preferred to collect and analyze original data. In the next section, each of these stages will be discussed separately.

Table 2.2

*An Inventory of Major Cutback Management Research*

Author	Period (stage)	Year of Publishing	Level of Government	Year of Data	Qualitative Method	Quantitative Method	Characteristics of Data (e.g. case study, cross sectional data, longitudinal data, panel data)	Does It Explain The Reasons of Cuts?
Levine	1	1978	general	N/A	no	no	normative research	yes
Behn	1	1978	general	N/A	no	no	normative research with examples	no
Brewer	1	1978	general	N/A	no	no	normative research	no
Levine	1	1979	general	N/A	no	no	normative research	no
McTighe	1	1979	general	N/A	no	no	normative research	yes
Lewis & Logalbo	2	1980	city	N/A	no	no	normative research	yes
Levine, Rubin & Wolohojian	2	1981	city	1976-1980	yes	no	two case studies	yes
Stenberg	2	1981	federal, state and city	N/A	no	no	normative research	no
Levine, Rubin & Wolohojian	2	1982	city	1965-1978	yes	no	case study	yes



Author	Period (stage)	Year of Publishing	Level of Government	Year of Data	Qualitative Method	Quantitative Method	Characteristics of Data (e.g. case study, cross sectional data, longitudinal data, panel data)	Does It Explain The Reasons of Cuts?
Caraley	2	1982	city	N/A	no	no	discussion excerpts	no
Rubin, H.; Rubin, I., Grush & Dobson	2	1983	city	1982	yes	no	case study, survey design and evaluation	no
Levine	2	1985	city (police department)	1976-1981	yes	yes	field interviews and survey responses. cross sectional data	yes
Behn	2	1985	federal and city	1980's	yes	no	case studies	yes
Lewis	3	1988	city	1979-1983	no	yes	panel data,	yes
Schick	3	1988	country (OECD)	late 70's and early 80's	yes	no	case study	no
Bertola & Drazen	3	1993	country (Denmark and Ireland)	1982-1986	no	yes	panel data	no
Berne & Stiefel	3	1993	city (NY)	mid 1970's	no	yes	longitudinal data	yes
Poterba	3	1994	State	1988-1992	no	yes	panel data	no
Bartle	3	1996	city (61 cities of NY state)	1990-1992	no	yes	panel data	yes

Author	Period (stage)	Year of Publishing	Level of Government	Year of Data	Qualitative Method	Quantitative Method	Characteristics of Data (e.g. case study, cross sectional data, longitudinal data, panel data)	Does It Explain The Reasons of Cuts?
Bozeman & Pandey	3	2004	state	2002	no	yes	cross sectional data	no
Willoughby	4	2004	state	2000	no	yes	cross sectional data	no
Bowling	4	2006	state	2004	no	yes	panel data	yes
Maher & Deller	4	2007	city	2004	no	yes	cross sectional data	yes
Packard et. al	4	2008	county	2003, 2004	no	yes	grounded theory	no
Pynes & Spina	4	2009	city	2008	yes	yes	small sample survey data	yes
Miller, G.	4	2009	city	2009	no	yes	cross sectional data	yes
Miller, G. & Svava	4	2009	city	2007-2009	yes	yes	descriptive analysis & literature review	yes
Hoene & Pagano	4	2009	city	2009	no	yes	panel data	no
Svava, J.	4	2010	city	2009	yes	yes	descriptive analysis	yes

Author	Period (stage)	Year of Publishing	Level of Government	Year of Data	Qualitative Method	Quantitative Method	Characteristics of Data (e.g. case study, cross sectional data, longitudinal data, panel data)	Does It Explain The Reasons of Cuts?
Miller, L.	4	2011	city	2007-2009	yes	yes	descriptive analysis and literature review	no
Pandey	4	2010	general	N/A	no	no	normative	no
Scorsone & Plerhoples	4	2010	state and city	N/A	no	no	literature review, normative research	no

### 2.2.1 The First Stage

In the first stage, Levine (1978) suggested that cutback management was used to solve organizational decline issues. Unlike the traditional belief that public organizations were eternal or immortal (Kaufman, 1976), he pointed out that public organizations can shrink and die. This was driven by either political or economic reasons, or internal or external threats (see Levine's two-by-two matrix in Figure 2.1). Using this typology, Levine divided organizational decline into four categories, each of which had its own strategic choices to either resist or absorb cuts.

	Internal	External
Political	Political Vulnerability	Problem Depletion
Economic/Technical	Organizational Atrophy	Environmental Entropy

Source: Levine (1978)

Figure 2.1 The Cause of Public Organization Decline

Behn (1978) echoed Levine's observation in organizational decline, yet he narrowed his focus to the termination of a program or an agency. Behn asserted that the causes of termination were due to policy change, public opinion change and/or government economy change. Once a termination decision was made, administrators should, Behn argued, expect high level of tension and resistance from opponents, who would seek support to survive. Therefore, a successful termination required public administrators to obtain enough support to defeat the opponents of termination and provide sufficient transitional assistance to those who were affected. When closing an agency, public

leaders had to realize that the actual savings were usually lower than the expected savings, and cuts can affect the morale of employees.

Similarly, Brewer (1978) focused on termination of policies and programs during cutback management. He suggested termination was a policy change, and the process of termination was using a set of new rules and expectations to substitute the old rules and expectations. Regarding the selection criteria of termination tactics, Brewer suggested considering the impact of termination in the long run. Brewer reasoned:

If one highly values contingent events in the longer term, and hence place very low discount rates on the future, then the ramifications of termination must be rather carefully and systematically assessed... Conversely, if one discounts the future highly... and employs a very short time perspective, then rather different termination strategies and preferences should be expected: quick and ruthless firings without compensation. (p.339)

In addition, Brewer also claimed that though evaluation was recommended when making the decision about termination, changes of ideology and attitude played much more significant roles.

In terms of termination instruments, Brewer suggested the use of zero-base budgeting empowered by sunset laws. He argued that the two could theoretically help carry out a termination. However, neither was flawless. Zero-base budgeting requires high-quality data, which is usually difficult to obtain. Moreover, the future impact of termination is hard to estimate. As for sunset laws, the selection criteria, “by age and by length of time since last review” (p.342) is debatable. Additionally, sunset review encourages poor performance because the agency under review may feel pessimistic about the future.

In 1979, Levine revisited cutback management and several constraints and challenges that occurred when implementing cutback management. He then defined

cutback management as “managing organizational change toward lower levels of resource consumption and organizational activities” (p.180). He explained that cutting back was not an easy process because (1) people were less likely to accept change under serious circumstance; (2) public organizations had limited ability to make cuts due to requirements from laws, procedures and regulations; and (3) cutback management reduced the morale of employees and their job satisfaction.

Levine argued that, in addition, cutback management had to solve tensions between limited resources and desired budget and performance improvement. Practitioners had to make tradeoffs when selecting the strategies of cutback, such as making cuts either by the value of equity or efficiency, resisting or absorbing cuts, and sharing the reduction or centralizing cuts on specific programs.

Around the same time, McTighe (1979, p. 87) found that managers received very little training on cutback management compared to their training on allocating excess resources. Therefore, he shared his perspective as a practitioner on the seven factors to consider when selecting the best strategy. The factors he mentioned were political attitudes, organizational mission, cause of resource decline, personnel system, centralization, clientele, and past stability. McTighe suggested watching for political attitude change in order to acquire the support of elected officials. The organizational mission was equally important, he said, because it determined how much flexibility an agency had to implement cutbacks. Moreover, the causes of decline were all worth considering in order helping select the best strategy.

In summary, observation at a high level of generality in the 1970s has prefaced cutback management research. The 1970s set up a platform for scholars coming afterward,

guiding them to either drill into specific areas or to broaden their scope of research. Prior to the 1970s, management theories were primarily built on the assumption of continuous growth, while cutback management research suggested a fundamental change - that decline did exist and was worth studying. Normative research design was the dominant research method during this time, through which scholars and practitioners expressed their perspectives based on experience and observations without having focused subjects of study. When making arguments, scholars tended to address what ought to be instead of what actually happened. Although scattered cases were cited in some of the articles, they were seen as anecdotal observations without giving any focused, in-depth analysis.

### *2.2.2 The Second Stage*

In the second stage, empirical methods were introduced to cutback management research, and the study subjects were better defined. Lewis and Logalbo (1980) narrowed their focus to city government. They suggested that city government leaders had the least influence on budgetary decisions because their budgets heavily relied on state and federal budgetary policies and allocations. Given that cities were in an interrelated “budgetary web” (p. 185), Lewis and Logalbo hypothesized that cities’ strategies of cutback management included only two choices: reduce services and improve efficiency. These two choices had to work together to generate the best result in the short run and in long run. Under these two broad choices, the authors suggested that practitioners often responded by reducing expenditures and services, improving resource bases and improving personnel management.

Meanwhile, Levine, Rubin, and Wolohojian (1981) studied the relationship between

the type of city governments and its efficiency in implementing cutbacks. Compared to Lewis and Logalbo (1980), Levine, Rubin and Wolohojian (1981) further clarified their empirical design in that it not only had the clear research subject of city governments, but also a clearly stated hypothesis. In this case, that hypothesis was that the council-manager type government with higher centralization and lower politicization can implement retrenchment better.

To test the hypothesis, the authors investigated the cases of Oakland and Cincinnati, both of which were council-manager governments. The former was regarded as more centralized than the latter according to the city managers' scope of control. They found that in general, a council-manager type government implemented cutback management effectively because the city manager can take quick action, maintain transparency over a budget situation, and make only minimum budget manipulation.

However, the degrees of centralization and politicization did affect cutback management. Lower centralization, which was represented by the semi-autonomy departments in Cincinnati, influenced the budget cut priorities. In addition, high politicization, represented by the number of interest groups, tended to promote across-the-board cuts instead of targeted cuts.

At the same time, Stenberg (1981) studied cutback management at the federal level. He found that cutbacks in 1978 were implemented by procedure adjustment, structure reform, and functional reform. According to the author, procedure adjustment referred to the consolidation of managerial functions across agencies, enhancement of fiscal control and audit, reduction of administrative costs, emphasis on planning, management and program evaluation, and a reframing of grant recipients from applicants to jurisdictions



among different levels of governments. Meanwhile, structural reforms led federal agencies to consolidate various grants-in-aid with similar purposes into block grants. Last, functional reform made the Federal Government leave certain functions and services to be performed and provided by states and local governments.

In comparison to other cutback management research, Stenberg's research focused on macro level reforms rather than specific cutback tactics. He also explained the dynamics among different levels of governments and posted several questions to other researchers to answer regarding what the functions for each level of government – federal, states and localities – should be. In terms of research method, Stenberg did not use a standard empirical design but followed a more normative research approach. However, the author did use rich examples and data to justify his observation.

Years later, Levine, Rubin, and Wolohojian (1982) studied the City of New York from the 1960s to 1982 and found the city's leaders generally following a multistage model to deal with contractions. This model involved not only managerial changes but also political changes. Levine et al. found that government resource levels affected the adaptation behavior of the city to a great extent. When resources grew continually but moderately, a pluralist model of politics appeared, in which case agencies, groups and officials representing different interests tended to seek additional resources to make marginal changes to their supported programs. If revenues increased dramatically, some interest groups were likely to form a coalition and capture the new resources to establish new programs.

However, when there was no revenue increase, interest groups were unlikely to maintain any loyalty to the elected official and administrators. Meanwhile, officials and

administrators tended to deny the fiscal problem or frame the issue as a short-term problem. They preferred to borrow short-term debts to cover deficits. Gradually, when decline continued and became noticeable, officials and administrators would make expenditure cuts, and groups and agencies affected also started to resist cuts accordingly. In this scenario, across-the-board cuts were preferred. Cities also looked into alternatives to increase revenues.

Lastly, the authors found that if resource decline was even worse, officials were forced to make deep cuts through managerial instruments and political changes. Managerially, officials selected certain programs to cut. These programs could be the ones that expanded the most before fiscal crisis. Alternatively, administrators can also look into program performance, make necessary reorganization, renegotiate labor contracts and reduce benefits.

On the other hand, politically, officials recentralized formal authority, such as change in top personnel, change in political party control, or even change of bankruptcy procedures. In this stage, new coalitions form again to resist cuts. However, coalitions' effects are weak because "the choice of what to cut will be made on political rather than technical grounds" (p.128).

Other notable research published in the same period including Levine and Behn's studies. Levine (1985) studied local police departments and found that strategic management was required in cutback management to cope with prolonged decline when the departments have exhausted other short-term cutback tactics. As opposed to the traditional cutback method, strategic management required long-term planning from three to five years, the ability to reallocate resources, significant changes on organizational

structure and personnel activities, and a comprehensive examination of an agency's goal, mission, and structure (p. 691).

To implement strategic management successfully, a police department, Levine argued, had to maintain its flexibility and be able to change its strategy based on the situation. The department had to be equipped with strategic capacity by establishing sound budget forecasting and accounting systems. In addition, managers had to research and consider alternative service delivery options in the long run and think innovatively to utilize all possible cost reduction options.

Compared with Levine's early research in 1979, his 1985 study defined strategic management as coping with a long-term resource decline, and distinguished it from short-term cutback tactics. At the operational level, priority setting was advocated instead of managing on all cases as they appeared. At the program level, strategic management required considering service delivery alternatives while the old cutback tactics focused on prioritizing existing programs. In terms of intraorganizational structure, traditional tactics emphasized cost control while strategic management addressed human resource capacity building. Lastly, strategic management suggested building networks between an agency and other individuals, organizations, and institutions that formed its environment. On the contrary, traditional approaches suggested reducing cooperation between an agency and its environment (p. 698). For example, as Levine observed, police managers either neglected interactions with other departments and private companies or integrated with them for law enforcement purposes only.

Behn (1985) investigated decremental budgeting, naming it the negative form of Wildavsky's incremental budgeting (1964). He found that decremental budgeting was a

top-down model, which needed strong leadership and extensive negotiations among different parties. Unlike incremental budgeting, in which groups were willing to form and stay in a coalition, “a decremental coalition has no such stability.... No one desires to join. No one benefits from joining. Indeed, the only way to benefit is to jump ship” (p. 162).

However, instability did not mean impossibility. Behn suggested that if the cutback issue was defined as an overarching problem, groups can still be attracted to work together. What public administrators need to do was preparing a reconciliation budget bill or a comprehensive cutback package to the legislators to vote instead of asking them to vote on every individual program cut.

When comparing Behn’s study with Levine’s research, both sets of findings reveal movement beyond the then-popular notion of developing an inventory list of cutback tactics. From the macro level, Behn developed a decremental budgeting model that echoed the incremental budgeting model in the 60s. This model was featured by (1) an overarching issue; (2) in the form of omnibus reconciliation budget bill; (3) equitable as perceived by the majority and (4) equipped with some sort of leadership to go through the legislative process. Levine suggested using strategic management to cope with long-term decline. In terms of research methods, neither study was standard empirical research designs. However, compared with their earlier normative research, these two articles had better-defined research subject and included some examples. Descriptive statistics were also used.

Despite the research mentioned above in the second stage, two additional articles were published in the same period of time. Caraley’s article (1982) was a discussion transcript which recorded a seminar of several New York City officials who had

participated in the city's cutback management in the late 1970s. In this transcript, strong leadership, good communication, and innovative thinking were recognized as critical tools to manage successful cutback management. Additionally, Rubin, Rubin, Grush, and Dobson (1983) described their survey experience in collecting citizen's opinions on taxation, service cuts and specifically, what should be cut in DeKalb, Illinois. The authors reported that citizens were overall satisfied with public services and trusted public officials. The city council also found the survey was helpful in collecting public opinion, easing their concerns of making budget cuts and providing possible directions for acceptable services reduction.

### *2.2.3 The Third Stage*

The third stage of cutback management was from the late 1980's to the middle of 2000. In this stage, researchers mainly focused on two questions (1) the pattern of cutbacks and reasons behind who gets cut, whether cuts were across-the-board or selective, and under what conditions cuts were likely to have been made and (2) the impact of cutback impact in the long run, how cuts affect private spending and the budgeting process. The investigative methods used were either qualitative or quantitative methods, with quantitative design as the dominant method.

When investigating the patterns of cutback management, Lewis (1988) found that cuts were not fairly distributed. By looking at employment cuts, he found that cuts were heavier in areas/functions with lower growth, and unessential services had a higher chance of being cut than necessary services. However, areas with higher-than-average staffing levels had fewer cuts than counterparts. This paper was based on panel data

including revenues and employment information of 50 cities from 1979 to 1983.

Descriptive analysis and regression analysis were applied.

In 1989, Dunsire and Hood published their extensive research on the pattern of cuts made in Britain from the mid-70s to the 80s. They categorized cuts by program, location, economic status, department, personnel group and spending authority. The authors found that politics and bureaucracy were two important factors affecting how cuts were made.

Besides this result, what was more appealing was their method. The authors claimed to use “bureaometrics” to study cuts, a concept derived from econometrics, which refers to the application of bureaucracy theories to analyze statistical data. The data used in the research were all second-hand data, either already published, or shared by request, and the authors developed numerous figures and tables to demonstrate the marginal changes, e.g., change of mean, percentage or dollar amount. As the authors admitted, the fact that their hypotheses were based on available data was a limitation of this research.

Meanwhile, pieces of data retrieved from different contexts did not allow the research to concentrate on a consistent unit of analysis.

Years later, Bartle (1996) claimed that no pattern existed to summarize how cities manage cuts. Instead, cuts were determined at the municipal level with different patterns. Using the financial data of cities in the state of New York from 1990 to 1992, Bartle used descriptive analysis and concluded that there was not a trend to summarize how cities cutback when facing state aid decreases. Regardless of the amount of aid lost, cities’ decisions, whether to increase municipal revenues or decrease services, were based on context or factors specific to a place and time.

When investigating the speed of cuts, Poterba (1994) used panel data and found that

states with more restrictive financial rules were able to react to deficits faster than states with less restrictive rules. Moreover, quick reactions also happened when states' legislatures and governors were controlled by the same political party. In gubernatorial election years, actions to adjust deficits, either cut expenditures or raise taxes, were much more conservative than non-gubernatorial years.

Last, when comparing cutback decisions with IT decisions made by state officials, Bozeman and Pandey (2004) found that cutback decisions were made promptly and by the cost-effectiveness value. IT decisions were driven by the value of technical feasibility and usefulness. Cutbacks were viewed as unstable in the future because cutbacks were temporary decisions involved with many interruptions in the decision process. Cutbacks decisions were changeable without enough stability. Compared to the other research mentioned earlier in this period, data of this research was first-hand data collected by the authors. Their surveys were distributed to the state level human service managers in 2002, and the authors used descriptive analysis, correlation analysis and discriminant analysis.

Other research from the third stage focuses on the impact of cutback management. Schick (1988) reported that fiscal stress affected both macro and micro budgeting. Macro budgeting referred to the total expenditure limit, and micro budgeting was the expenditure limits of a particular program. Tensions between macro and micro budgeting needed to be alleviated by adaptable processes. Although cutback management was regarded as a feasible solution, there were limitations. On one hand, cuts could be avoided by stretching expenditures over years, or "down payment" (Schick, 1988, p. 524). On the other hand, cutback, which was expected to be a decremental budgeting process, had changed public administrators' behavioral in many OECD countries in the sense that

they reduced spending requests and looked for expenditure savings actively. Moreover, decisions about cuts frequently involved limited participation; or instead of cutting certain programs, cuts were distributed across-the-board or substituted by not filling positions. In many OECD countries, politically sensitive cuts were grouped into packages and introduced as supplements of the regular budget.

Berne and Stiefel (1993) discussed the long-term impact of cutbacks. They looked at cuts made to New York City school districts in the mid-1970s and found that cuts reflected through operating expenditure per student. Personnel-student ratios were not recovered when the economy improved, with the exception of teachers' salaries. In terms of research methods, the authors used time series data and created several new indices to make the comparison between New York City and other cities in New York State. This method was straightforward yet powerful enough to explain their observation.

In addition, from the perspective of economics, Bertola and Drazen (2001) studied several European countries and revealed the impact of cutbacks on private spending. Unlike the conventional belief that government cutbacks and private spending were not related, the authors found that cutbacks led to private spending increases at the beginning, and after a certain point, private expenditure decreases. In this dissertation, authors used economic modeling, which was a method distinguished from all the others reviewed here, to explain their observations.

#### *2.2.4 The Fourth Stage*

The fourth stage of research appeared in the middle of 2000 and stretched to 2010. In this period, scholars applied empirical design continuously to test the accuracy of cutback



management theories from the past.

Willoughby (2004) found that during cutback management, performance budgeting played no role. She surveyed hundreds of state budget officials on their usage of performance budgeting. In the responses officials said that performance budgeting was not used when making budget cut decisions.

Bowling and Burke (2006) did a comparative study on strategies and tactics used by state-level officials in 1984 and 2004. They found that tactics and strategies did not evolve much during this period. However, agencies with sizeable budgets applied a greater variety of cutback tactics compared with agencies with smaller budgets. For states that had tax and expenditure limitations (TEs), broad-base cutback strategies were used more often than in states without TEs.

Similarly, Maher and Deller (2007) also focused on cutback techniques by using cross-sectional data collected from municipal officials in Wisconsin. They found that cutback techniques remained static over the years and reflected three cutback models simultaneously: rational, incremental and random. The authors suggested that public officials responded to fiscal stress by means of eliminating services and employees, which were rational. Across-the-board cuts were decrements and an incremental pattern. However, one of the models in their research was not statistically significant, meaning variations were not well explained. This supported the randomness of cutbacks. Packard et.al (2008) interviewed officials from county health departments in the state of California and asked how they made cuts in 2003 and 2004. The researchers found that hiring freezes, travel restrictions and purchase restrictions were the top three techniques used. In the decision process, officials believed communication, program evaluation and

assessment were all important. When determining the best techniques for cutting budgets, officials preferred actions which had minimal impact on employees, clients and expected performance.

Regarding the dynamic between elected officials and appointed officials, Pynes and Spina (2009) suggested that during economic crisis, city managers and mayors were mostly cooperative with each other rather than playing separate roles.

In addition, some research studies covered the most recent financial crisis from 2007 to 2009. Miller (2009) analyzed the ICMA's State of Profession 2009 Survey and found that very few managers made across-the-board cuts. Instead, they preferred to set up priorities, address the core value of organizations, and cut selectively on the unessential services and programs. Moreover, Miller found that those cutback strategies taken by managers were farsighted. As opposed to making small cuts to cope with cash issues, managers were cutting and planning for the future through making permanent changes on revenue structure and budget allocation.

Using the same ICMA survey data, Svara's study (2010) reconfirmed Miller's observation that more and more local managers took a long-term oriented approach to cut. While several cities with serious fiscal stress made both across-the-board cuts and selective cuts, the majority of cities allocated cuts to certain programs that were not the priorities of localities or that lacked efficiency. Additionally, managers took the recent crisis as an opportunity to improve their systems and reform business process. Svara reported that managers favored innovative cutback strategies and strategic planning when making cuts.

Looking at the same period, Hoene and Pagano (2009) reported that almost half of

cities they surveyed had raised revenues through increasing fee for services, impact fees or development fees. Moreover, a quarter of the cities raised their property tax rates. On the other hand, cities reduced expenditures through hiring freezes, laying off staff members and delaying capital projects.

In addition, Miller and Svara (2009) suggested that financial difficulties could also stimulate managers' spirit of innovation and creativity. However, their research showed that several cutback principles persisted over time, which included: (1) maintaining spending rather than cutting capital projects when the amount did not help much with operating budget; (2) remembering that the effects of across-the-board are not distributed across-the-board evenly; (3) realizing that position cuts need to be used thoughtfully to generate the desired impact; (4) encouraging innovation at all levels; and (5) seeking information on cutbacks from community members to make the organization stronger. The authors also suggested that borrowing and pension costs were predicted to produce the most intensive fiscal pressures. Due to borrowing cost increases, managers had to avoid financing capital projects at least temporarily. Due to the contraction of pension funds, administrators had increased employee contributions and increased the eligible age or limited access for new employees.

Besides these empirical studies mentioned above, there were also theoretical research studies published in this stage. Scorsone and Plerhoples' (2010) literature review found that cutback theories were not well developed regarding the impact of cutback choices. Pandey (2010) used the idea of "publicness" to further analyze Levine's paradox of cutbacks or the conflicts between the necessary of making cuts and the responsibility of providing public goods. According to Pandey, publicness means how much an

organization could be considered a public one – such as governments and not for profit organizations versus a private, closely held business. Pandey concluded that cutback management should embrace long-term and holistic perspectives rather than balancing the book at present at the cost of sacrificing the future.

### *2.2.5 Summary*

Overall, the literature on cutback management in the past 40 years has covered a wide variety of subjects, from the reasons decline drives cutbacks to the inventory of cutback techniques as well as from the patterns of cuts to the impact of cuts in the short-term and long-run. Regarding research design, both normative and empirical methods have been used, although in different depths and to different extents. While it is difficult to conclude whether cutback management is a rational process, a decremental procedure or a random process, querying the reason for cuts may help with the classification. Moreover, as Levine (1978) suggested, “cutback management is a two-crucible problem” (p. 320). Not only do administrators have to decide the cutback tactics generally, but they also need to determine what programs to cut. Therefore, it is worth studying how cuts are made on the detailed level and generalize from them what tactics were used or try to correlate tactics with what actually appeared in budgets. This literature review has found that scholars developed a rich inventory of cutback techniques over the years, yet investigations on how to make tradeoffs and select from competing values are still limited. Just like Dunsire and Hood (1989) asserted, “what has been lacking is a systematic analysis of what did happen in a specific country in a specified period” (p. xiii), it is the process which is missing. The next section will focus on those

publications which explain the reason for cuts, or answer the question of “why cut program A instead of program B.”

### 2.3 The Reason for Cuts and the Method of Exploring

Less than half of the literature on budget retrenchment (12 out of 28) in the prior section, talked about the reason for cuts, or how they occur. The research methods of scholars have evolved from earlier normative design, to qualitative and quantitative designs, or later a combination of both (See Table 2. 3). In this section, queries concentrate on the methods used in the studies, and how the researchers came to their conclusions. This discussion will be divided into three parts, each of which covers a method - normative, qualitative and quantitative.

Table 2.3

*How did Authors Observe/Identify the Reason(s) of Cuts?*

Author	Year	Research Question	Research Method	How is data collected?	DV(s)	IV (s)	CV(s)	What have been cut?	Why have been cut?	Conclusion
Levine	1978	the reason of organizations decline and what to do	normative	N/A	N/A	N/A	N/A	it depends. Based on what values are used to guide cuts	value driven (efficiency or equity)	the four cell typology
McTighe	1979	what affects strategy development and what managers should do	normative	N/A	N/A	N/A	N/A	it depends. Based on the results of compromising different factors	factors affected (political attitudes, organizational mission, cause of resource decline, personnel system, centralization, clientele and past stability)	a set of strategies has been developed to solve the issue of revenue declining
Lewis & Logalbo	1980	what local officials should do when making cuts	normative	N/A	N/A	N/A	N/A	it depends. Based on the result of dynamics among different levels of governments and the decision made by managers.	dynamics of governments and the strategic choice made by managers	cutback techniques are different depending on situations.

Author	Year	Research Question	Research Method	How is data collected?	DV(s)	IV (s)	CV(s)	What have been cut?	Why have been cut?	Conclusion
Levine, Rubin & Wolohojian	1981	The management of retrenchment in Cincinnati and Oakland	Qualitative (case study)	unknown	N/A	N/A	N/A	police, fire, recreation, highway maintenance	prior growth, affected by priorities of the city and influenced by interest groups	centralized government (council-manager type) take quick cut action. Employee union, department head and customers affect cutback decision making.
Levine, Rubin & Wolohojian	1982	Managing retrenchment in public sector	Qualitative (case study)	unknown	N/A	N/A	N/A	it depends. Based on how severe the resources decline is.	Level of resource decline	The way of managing retrenchment is associated with the degree of resource declining.
Behn	1985	what makes a successful cuts	Qualitative (case study)	unknown	N/A	N/A	N/A	federal social security	SS was cut due to the way it is been formulated, the voting procedure and strong leadership.	Conflict is not avoidable in the cutback process. Cuts tend to be made successfully if the issue is phrased as an overarching issue, vote in a procedure with minimized conflict, and has a strong leader.

Author	Year	Research Question	Research Method	How is data collected?	DV(s)	IV (s)	CV(s)	What have been cut?	Why have been cut?	Conclusion
Lewis	1988	how cuts are made in the municipal level	Quantitative	US census Data -52 cities from 1979-1983			population, employment level, salary level, geographic location, age of city.	highway/street services, parks/recreation and financial admin are cut heavier than police and firefighter.	luxury services are likely to be cut first and most during cutbacks. Also, area which are insensitive to revenue change are vulnerable to cuts.	Cuts are selective, not evenly distributed. Fiscal health does not necessarily associated with the amount of targeting, yet fiscal stress does affect all functions. When making cuts, inefficient area are cut more than efficient area.
Dunsire & Hood	1989	Who is vulnerable in cutback management?	Quantitative	second-hand data from various resources	change of budget and staff level	complexity, self-finance, % R and D, % lower clerical, % blue collar, % public service staff, % staff reduced by improving efficiency	budget link, portfolio, cabinet, % of R&D,	dept. of housing and community amenities	high capital spending program got cut early and much. Departments which are visible, have low ability to resist cuts and with low output effect get cut early and much.	see why have been cut column



Author	Year	Research Question	Research Method	How is data collected?	DV(s)	IV (s)	CV(s)	What have been cut?	Why have been cut?	Conclusion
Berne and Stiefel	1993	Does cutback has a long term effect? Or does cut get filled back when economy grows.	Quantitative	second-hand data from various resources on NYC schools and other schools from NYS	city/the rest of state AOE (approved operating expenditure) ratio	time	indicator variable for post -1976 years	Capital budget, maintenance, number of teachers (non-minority) nonessential services.	Minority teachers are better protected by rules. Did not explain the reason of cutting capital budget and nonessential services.	Cutback of 1976 and 77 did not get filled back when economy started to grow. Teachers' salaries were not cut when making cuts.
Bartle	1996	How do cities response to aid cuts in NYS?	Quantitative and Qualitative	second-hand data from various resources	N/A	N/A	N/A	Capital spending. Other department except for police and fire.	Cut capital spending is a temporary solution like cut cash balance. For the department selection, politically, it is easy to cut the others.	Cities with least cut increased cash balance most; cities with most cuts increase tax moderately but increase wages most. Cities with moderate cut increase tax most. Cut do not show any pattern.
Maher & Deller	2007	What are the municipal responses to fiscal stress?	Quantitative	email survey (n=119)	response to fiscal stress	fiscal stress	social economical factors, management structure	overall expenditure and public services	Administrators stress are high.	When their stress is high, they would cut services. It is hard to say cutback management fit into any of the three decision models.

Author	Year	Research Question	Research Method	How is data collected?	DV(s)	IV (s)	CV(s)	What have been cut?	Why have been cut?	Conclusion
Pynes and Spina	2009	How do council and manager interact facing fiscal stress?	Qualitative (case study)	email survey	N/A	N/A	N/A	a variety of departments had cut, yet government employees were cut most.	Elective officials see them as less powerful group. Managers cooperate to avoid government shutdowns.	Managers and elected officials tend to cooperate when facing fiscal stress. Managers are taking the lead to make cuts, and elected officials would follow. During cuts, councils are focus on preserve constituents' services while managers like to cover internal expenditures.

*Note.* DV is dependent variable; IV is independent variable; and CV is control variable.

### *2.3.1 Normative Research*

Levine (1978), McTighe (1979) and Lewis and Logalbo (1980) used normative design in their papers. A normative approach is defined as an argument about what should be done and “does not consist primarily of investigating matters of fact” as Shively argues (1984, p. 5). For example, Levine (1978) suggested that making cuts involved a tradeoff between equity and efficiency. If taking equity as the principle, administrators should use across-the-board cuts. On the contrary, an efficiency standard required managers to consider the cost and benefit of cuts, because “the distribution of pain and inconvenience requires that the value of people and subunits to the organization have to be weighted in terms of their expected future contributions” (p. 320). Conclusions like this were largely reliant on experience or existing theories. Similarly, McTighe (1979) believed the selection of tactics depended on a group of factors, such as political attitudes, organizational missions or cause of decline. Although the author did not specify the reason for cuts, he outlined a group of decline scenarios and their potential solutions. Lastly, Lewis and Logalbo (1980) narrowed their normative argument to city government and suggested cuts were determined by the nature of municipals and manager’s strategic choices. Based on these research studies, readers do not seem to have the answer to why program A should be cut instead of program B, but scholars did lay out the possibilities. Given that it was the earlier stage of cutback management, and there was no retrenchment theory driving cutbacks, it was understandable that scholars chose the normative method to summarize and propose solutions based on values and other established theories.

### *2.3.2 Qualitative Research Method*

Starting from the 1980s, empirical study, in which qualitative methods were the dominant design, became more popular. At the same time, the quantitative analysis of cutbacks emerged more gradually. Based on literature review, there are four articles which used qualitative design to explain the reason for cuts. Three of these reasons were concentrated in the 1980s, and the latest one was published in 2009.

Levine, Rubin and Wolohojian's (1981) comparative research of Cincinnati and Oakland found that in Cincinnati, police, fire, recreation and highway maintenance were most frequently cut compared to other departments. This was because these departments had higher growth rates prior to the recession, and the last three departments were not among the priorities of the council when further cuts needed to be made. However, due to the power of unions, personnel cuts in fire and police departments were recovered later, and a good percentage of the rehires were minorities. In Oakland, cuts came in two stages. Before Proposition 13 limited property tax increases in 1975, the fire department took a heavy cut. Surprisingly, parks budgets were not cut, and only moderate cuts were made to spending on museums, libraries and general government. In 1979, the city set priorities to help with cutback decisions. After the establishment of city priorities, the fire department was protected from cuts because of strong union advocacy rather than technical criteria. According to the authors, the reason for cuts was to "minimize public opposition" (p. 623). In addition, the city council's preferences were also used as justifications to avoid reductions.

Later, Levine and his colleagues (1982) conducted similar research in New York and found that the way officials manage cuts was associated with the city's revenue. That is,

(1) if revenue growth slowed or stopped, officials would deny decline, keep services and use short-term borrowing to cover the deficit. Then, (2) if revenues decreased moderately, across-the-board cuts are likely to follow and represent a compromised result of interactions between administrators and other stakeholders. Ultimately, (3) if revenues decrease severely, officials will recentralize power to seek authority, and this time, selective and deep cuts will be made.

In 1985, Behn found that federal budget cuts in the Social Security program in 1983 were due to the strong leadership, the low conflict voting procedures, and the way that issue was defined. In this paper, Behn did not specify whether data was collected through interviews or second-hand materials.

The latest research using qualitative methods was by Pynes and Spina (2009). In 2008, they sent email surveys to city managers who were members of the Florida City County Management Association District VII and asked them questions about how they handle fiscal stress. It was found that the biggest cuts centered on government employee costs and numbers as opposed to other services or programs. The authors reported that elected officials saw government employees as a less powerful group. In order to protect their constituents, officials preferred to cut government employee benefits, raises, or pay. This decision, although with which managers did not agree at first, was accepted later to avoid government shutdowns.

Based on the four cases mentioned above, it is obvious that studies that use qualitative analysis to inquire about the reason for cuts are limited. Most of the scholars who utilize case studies explored the techniques of cuts, the stages of cutting back, and the strategic arrangement of cuts and the process of making them. Out of these papers,

Behn's (1985) design fits the rational decision model, in which all cutbacks follow the same process – identify the problem, design the process and rely on leadership. Behn suggested that the conditions of implementing a successful budget cut consist of an overarching problem, a low-conflict process, and strong leadership. In terms of how well the research answers the question of why program A is cut instead of program B, Behn's conclusion is very broad. He suggests a correlation between successful cuts and the other three conditions, yet it is unknown whether there is any causality, or further, if the correlation might measure the relationship.

The research of Levine and colleagues (1982) fits the randomness or “garbage can” model. The authors find that cuts and expansion are associated with levels of revenue. Depending on the degree of revenue decline/increase, there are different treatments available. When focusing on merely on cuts it is important to recall that Levine et al. suggested three scenarios: (1) if revenues' growth slows down or stops, officials would deny decline, keep services and use short-term borrowing to cover the deficit. (2) If revenues decrease moderately, across-the-board cuts are likely to happen, as a compromise between administrators and other stakeholders. (3) If revenues decrease severely, officials will recentralize power to seek authority, and make deep cuts selectively. As one can tell, the selection of cutback treatment is associated with the degree of fiscal deterioration, yet randomness is reflected in agenda setting, treatment selection and participants (Cohen, March and Olson, 1972 ), meaning that solutions are independent of either the problems or decision makers. In addition, the observation of Levine and his colleagues is based on the case study of New York City, whose data are the city's revenue and official's cutback tactics from 1960 to the 1980s. Increased amount

of data could provide much more telling detail on how a city's officials reacted in a given period, yet due to limitations of the case study method, it is hard to assert that other cities will have the same reactions facing fiscal stress. Compared with Behn and Levine et al.'s study, Pynes and Spina's (2009) research was based on collected survey data. With surveys reaching eight counties in Florida, the results are reliable only regionally.

### *2.3.3 Quantitative Research Method*

The last group of research (five articles) is characterized by their quantitative designs. Descriptive analysis and regression are the most used methods in this group.

Lewis (1988) used panel data to study the relationship between revenue and employment change at the municipal level. He selected cities with a population of 50,000 or higher in both 1970 and 1980 and regressed revenue change on city government employment change while controlling cities' demographic characteristics. He found that there was a positive relationship between revenue change and employment change, and if breaking down employment by departments, employment of highway services and recreation services were much more sensitive to revenue change than police and fire departments. The reason, as the author interpreted, was because police and fire were essential services. On the other hand, administrators saw highways and recreation services as less essential. Nevertheless, police and fire departments were not always safe from cuts. When officials wanted to raise revenue, they could cut these departments' at first in order to capture the attention of the public.

Although Lewis' finding that the positive relationship between revenue change and employment change was not new, the method was quite advanced in the early 80s.

Additionally, prior literature suggested the relationship between revenue and cuts, such as Levine's research in 1982. However, nothing in prior research revealed its "elasticity" as Lewis called it, or the measurement of how much. In this sense, Lewis' regression analysis did add some value to cutback management research. In terms of limitations, the author did not go further to explain why certain departments were cut to a greater extent than the others.

Similar research by Bartle (1996) explored the relationship between cuts and fiscal stress. He first referred to the conclusion from Levine et al. (1982) in order to test the correlation between revenue level and specific cuts in cities in New York State, yet few of the relationships were statistically significant. Bartle then compared the percentages of state aid cuts with changes in revenues, expenditures and cash balances. He found that regardless of how severe the declines were the capital budget was consistently being cut. On the expenditure side, transportation, utilities, and environment were cut most, while police and fire department had increased outlays. The reason for cutting the capital budget, according to the author, was to direct cash from the capital budget to operating budget to solve the short-term operating problems. Meanwhile, cutting fire and police departments would generate more political difficulties compared to cutting the other programs. Based on his analysis, the author suggested that budget cutting was a chaotic process rather than a sequential and rational process. When comparing Bartle's research with Lewis', it becomes apparent that their findings on fire and police department are very similar, yet their approaches are quite different. Bartle's descriptive analysis is much more straightforward yet convincing enough to make his argument.

In 2007, Maher and Deller applied logit regression analysis to study the relationship



between fiscal stress and cutback tactics. Unlike Lewis and Bartle's use of published statistics, Maher and Deller's data was a combination of secondary-source data and survey data. They emailed surveys to 119 municipal officials in Wisconsin in 2004 that included questions about their perspectives on budget stress and their proposed solutions. The authors first applied factor analysis to select five cut strategies out of 20 tactics - improving productivity, increasing revenues, avoiding cuts or borrowing, cutting services and reducing spending - then regressed financial stress on them when controlling for socio-economic demographics and administrative structure. They found that when fiscal stress was high, administrators were likely to cut services rather than improve productivity. Although the authors did not specify what services were cut and why, their research is still worth mentioning because of their method. Unlike Bartle (1996), who applied descriptive analysis to reveal cutback strategies, Maher and Deller (2007) were able to use tactics as dependent variables to explore their relationship with fiscal stress. By using factor analysis, the authors transferred a large number of chaotic cutback tactics into categories of strategy, each representing a group of similar tactics.

However, this method also has limitations. On the one hand, the surveys distributed to the city officials were used to measure their attitudes or feelings about their cities' fiscal status. Due to the differences of personal understanding and individual attributes, their attitudes or feels may not reflect their cities' true fiscal status. The solutions that officials selected were based on their wishes and preferences regardless of what had been done in their cities, or whether they were feasible politically. Therefore, measures of variables, if not closely reflecting the reality of cutbacks, may hurt the validity of the design. On the other hand, multicollinearity was a potential threat to validity in this paper.

The correlations between independent variables, such as perceived stress and changes in fiscal stress, or revenue level and change in government aid, affected the accuracy of some coefficients. Although the functions were mostly statistically significant, and the degrees of tolerance were high, the majority of coefficients were not statistically significant. Comparing some of the results to theories, Maher and Deller found that their findings were the opposite of what theories suggested. For example, one of their findings was that on average, when fiscal stress decreases by 1% spending is likely to decrease by 17.5%<sup>1</sup>

In addition, Berne and Stiefel (1993) used interrupted times-series regression to test whether cuts had any long-term impact. Their research subjects were New York city school districts, and the data was panel data covering school expenditures of city and state districts from 1966 to 1989. The independent variable was a post-1976 indicator, which was regressed on the ratio of NYC's school expenditures by New York state school expenditures, and controlled for time. As a result, it was found that after 1976, the city's school expenditures per student were still lower than the state's rate of the state by 13%. In regard to what had been cut, Berne and Stiefel relied on a descriptive statistics approach and found that cuts were concentrated on teachers' positions, but salaries of teachers did not decline. Out of those teachers who were laid off, the majority of them were white and black. Hispanic teachers were least likely to be cut. The reason, according to the authors, was because a growing number of Hispanic students required schools to

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<sup>1</sup> Maher and Deller (2007) use fiscal stress, which is defined as the percentage change of revenue divided by the percentage change of expenditure between 1990 and 2001. In this case, the higher the value, the lower the stress level, because a high value (e.g. 5 vs 0.5) indicates the growth of revenue outweighs the growth of expenditure. Presumably, when officials' fiscal stress is low, cuts are less likely to occur. However, the result (pp.1566) shows that reducing fiscal stress level by one unit is associated with a 17.5% of spending reduction. The authors call this result "a bit less clear. While the relationship between perceived fiscal stress and emphasis on spending cuts is theoretically consistent, the relationship between changes in the ratio of expenditures to revenues is in the opposite direction" (pp.1567).

maintain Hispanic teachers. The number of black teachers went up soon after the cuts since the hiring process was easier for black teachers, and black teachers had a higher chance of being recalled after layoffs comparing to white teachers. Overall, using panel data to test the long-term impact of budget retrenchment was creative at that time, yet it would be interesting to see the changes if more variables were controlled, such as city policy change, political party, and administrative structure.

Lastly, research using the quantitative method to study the reason for cuts was by Dunsire and Hood (1989). Unlike all other studies covering retrenchment in the US, this resource was a book on cutbacks in Britain from the 70s to the 80s. Dunsire and Hood compared the change of expenditures for national government departments from 1978 to 1985 and related these changes to the structure and characteristics of each department. They found that departments with a higher percentage of capital spending, such as housing, communities amenities, transportation and communication, tended to be cut earlier and to a greater extent than those with higher current spending. In addition, open-ended programs would be capped in the earlier stage of cutting back. Programs providing grants or subsidies to the others were cut earlier and heavier.

In short, quantitative design research questions are similar to publications that do not use the quantitative method. For example, the question of how to deal with cutbacks or what makes cutting back successful are studied using both methods (Levine 1978; Behn 1985; Bartle 1996; Pynes and Spina 2009). In this sense, quantitative design is another method to investigate the same questions, and it may or may not lead to the same conclusion as earlier research. The quantitative method has the advantage of giving a precise measurement of correlations and demonstrating the severity of budget cuts, yet it

also bears the drawbacks that scholars need to limit their observations in small research settings in order to ensure manageable data collection. Therefore, the validity of conclusion is based on whether a research problem is investigated through proper methods. However, a noticeable strength of quantitative design is using a set of data to testify or verify conclusions according to experience or observations. Regarding limitations, quantitative design does not help explain how cutback decisions are made, or answer the question of “why program A should be cut instead of B”. Instead, answers heavily rely on the observations and interpretations of the authors, which are also affected by scholars’ knowledge and qualitative data acquired, such as demographic characteristics, prior economic facts, and political structures.

#### *2.3.4 Summary*

Overall, cutback researchers have built a solid theoretical foundation on causes of organizational decline. They have assembled, an inventory of cutback techniques, discovered factors to be aware of for successful cuts at present and in the future, and developed measures of extrinsic variables representing sources influencing the decision of what and how much to cut. In terms of cutback patterns, scholars’ observation periods and research questions affected their conclusions to a great extent– whether it is incremental, random, rational or some others. The inventory of cutback techniques may remind us of the garbage-can model, while decremental budgeting process supports the pattern of incrementalism, although from the reversed perspective. Short-term observations, no matter if it is a tested correlation relationship between fiscal stress and budget cut or an action of switching programs under different funding sources without

reduction, are believed to be rational. However, disparate conclusions are difficult to utilize and do not help one form an integrated perspective on budget cuts. I argue that researchers must look into the details of a research subject for an extended period of time, ideally for a full recession period, to be able to explain what it is and what is the pattern based on cuts. Therefore, research to serve this purpose is much desired.

Each research design has its strength and weakness (see Table 2.3). Normative research design articles published in the late 70s and early 80s reveal scholars' understanding of resource decline and its solutions. They are theories about what should be done to improve the phenomenon based on values, experience and knowledge. However, without data, it is impossible to test if these solutions would work. In another words, the validity of research is not verifiable.

Later, empirical research methods were used. These studies include qualitative and quantitative analyses. Compared with normative designs, empirical methods enhance the validity of research, and scholars start to bring data into the articles to support their arguments. Within the group of qualitative analysis, case study and grounded theory are used most to provide more details about the cutback context, cutback tactics and impacts of cuts. In addition, qualitative studies captured the new trend of cutbacks effectively. These studies included Levine's finding (1985) that some government officials used strategic management to guide cuts and Larry Miller's study (2011) exploring the relationship between environment and the choice of cutback methods.

However, a potential challenge of qualitative design is that the conclusion is very specific to the research context rather than generalizable to other research subjects. For instance, the relationship between revenue level and cutback trends discovered by Levine

and his colleagues in 1982 is not observed by Bartle (1996) or Maher and Deller (2007), who found that cuts are selective and chaotic.

In terms of quantitative method, descriptive comparison and regression analyses are used widely. Descriptive statistics capture the characteristics of cuts across multiple units, such as cities, departments or programs. These methods are straightforward and have low requirements for data. Regression was used quite creatively, which means there are not only multivariate regression studies, but also discriminate analyses and studies using logic regression. Regression has its strength in revealing the relationship between cuts and environment in a broader, current context, as well as assessing the impact of cuts in the long run. However, regression analysis has greater data requirements, such as sufficient quantity of data and linearly independent predictors among others. In addition, if not carefully regulated, multicollinearity can challenge many cutback management studies that use regression.

In terms of research subjects, most of the research focused on local governments, and only four of them investigate state-level cutbacks - either regarding a state institutions' impact on budget cutting, or the roles of performance budgeting and strategic planning in the cutback decision process. Given that state government is an important entity in the budget web along with the federal and city government, more research should be carried out to reveal the characteristics and potential uniqueness of cutback management at the state level.

When narrowing the focus on research studies investigating the reason for cuts, this literature review revealed that quantitative method research designs were comparatively weak. Although the studies suggest the existence of correlations between cuts and their

context, the dynamics behind this contention is not clear. Rather, researchers must go back to the other data to answer these questions. Interestingly, much of the data in these studies were obtained through qualitative methods, particularly case studies or participatory observation. Therefore, a combination of both qualitative and quantitative methods might be a viable design in order to investigate the reason for cuts.

## CHAPTER III HYPOTHESES AND METHODS

### 3.1 Introduction

In this chapter, I will first revisit the research questions and propose a set of related hypotheses. Second, I will introduce the research subject, Arizona Department of Health Services, and briefly discuss why it was selected as the observation unit. Third, the research method will be introduced. Last, I will discuss the validity of this research.

### 3.2 Research Questions

The purpose of this research is to examine how governments make budget cuts during a recession. Based on discussions in Chapter II, it is found that researchers studying cutbacks have built a solid theoretical foundation on causes of organizational decline. They have assembled an inventory of cutback techniques, discovered factors to be aware of for successful cuts at present and in the future, and developed measures of extrinsic variables representing sources influencing the decision of what and how much to cut.

In terms of cutback patterns, the observation periods of scholars and research questions affected their conclusions to a great extent— whether it was incremental, random, rational or some other pattern. The inventory of cutback techniques represents the garbage-can model, while decremental budgeting process reflects the pattern of incrementalism. Additionally, scholars, such as Maher and Deller (2007), conclude the correlation between fiscal stress and its associated cutback decisions reveal that cutback is rational. However, the disparate conclusions are difficult to utilize and do not help one form an integrated perspective on budget cuts. I argue that researchers must look into the



details of a research subject for an extended period of time, ideally for a full recession period, to be able to explain what cutbacks are and what the pattern is, based on cuts.

Research to serve this purpose is much desired.

Therefore, this study seeks to answer the follow questions:

- (1) How do governments cut budgets?
- (2) Do cutbacks follow certain patterns, and if so, what are they?

### 3.3 Hypotheses

To serve the purpose of this research, I developed a set of hypotheses under a multi-stage framework (Table 3.1). This model exhibits cutback management as a multi-stage process, meaning that different cutback strategies are implemented at different stages of a fiscal crisis. When the number of cuts increase over time as a fiscal crisis persists, if it does not grow more severe, public administrators tend to change their strategies in order to meet the needs of reduction.

Table 3.1

*Hypotheses - A Multi-Stage Model of Cutback Management*

<b>Categories</b>	<b>The Beginning</b>	<b>The Middle</b>	<b>The End</b>
<b>I. By Funding Sources</b>	H1. General fund takes the majority of cuts while the other restricted funds have less or no cuts.	H4. Cuts on the restricted fund are implemented through fund transfers to the general fund.	H7. As general fund cuts get severe, programs which depend on general fund are stimulated to establish or increase fees to become self-funded programs.
<b>II. By Programs</b>	H2. Across-the-board cuts are allocated to the non-mandatory programs.	H5. As the financial situation gets worse, selective reductions or even elimination of certain non-mandatory programs are preferred.	H8. When the required lump-sum cuts keep getting higher, mandatory programs become the targets of cuts.
<b>III. By Expenditure Categories</b>	H3. Both personnel services and contract out expenditures are cut from the beginning of the fiscal crisis.	H6. In the middle of fiscal crisis, cuts on personnel expenditures become stabilized. And the majority of newly allocated cuts are taken from contract allocations.	H9. Toward the end of fiscal crisis, public administrators prefer to reform personnel rules and business process to maintain low operating costs for the purpose of efficiency.

The first row of Table 3.1 classifies three stages of cuts – in the beginning, in the middle and at the end. The relationship among the stages is that the number of required cuts increases progressively. For example, if I set one year’s budget as the baseline, which is a year prior to budget cuts. In this case, at the beginning of budget reductions, cuts are made for X% compared with the baseline year; Y% is reduced in the middle and Z% is the allocated cut at the end of the fiscal crisis compared with the baseline budget, the relationship is that  $X < Y < Z$ .

After dividing fiscal crisis into cutback stages, it is estimated that increasing fiscal distress demands that different cutback strategies are implemented at different stages. Here, in order to measure and describe the variations of cutback strategies in a systematic approach, I select three observation perspectives – by funding sources, by programs and by expenditure categories (as listed in the first column of Table 3.1). First, funding sources refer to the types of fund, such as general fund, federal fund or other earmarked funds with designated sources and use according to the legislation. Second, programs are the appropriated line items. Here, I use the dichotomy of mandatory and non-mandatory programs to differentiate programs as suggested by Leloup (1978), and Schick (2002) et. al. Third, expenditure categories are used to record a budget allocation by the nature of the goods or services purchased. Expenditure categories at the general level include personal services, employee-related expenditures, professional and outside services, travel, contract out, other operating expenditures and equipment.

The reason for choosing these three perspectives as opposed to the others is because, in the state of Arizona, they are the standard parameters used to record a budget, according in its Appropriation Report developed every year. Any budget can be displayed by funding sources, programs or spending categories, yet regardless of which measurement to use, the budget total ought to be the same. In this sense, exploring cutbacks by funding sources, program allocations and expenditure categories help track and understand retrenchments in a comprehensive manner.

## 3.4 Methods

### *3.4.1 The Research Subject*

The purpose of this section is to outline the methods and procedures used to investigate cutback management in a single state agency. More specifically, this dissertation focuses on what public administrators do to manage resource decline and how these efforts were pursued at the Arizona Department of Health Services from fiscal year (FY) 2008 to 2011.

I selected the Arizona Department of Health Services for three reasons. First, choosing a single department in a specific state puts the research subject in a controlled environment to minimize the variations that attribute to different policies and regulations from state to state and from agency to agency.

Second, the Arizona Department of Health Services is a typical and unique agency in and of itself. On the one hand, Arizona was one of the first, and most affected states by the 2008 fiscal crisis (The Financial Crisis Inquiry Commission, 2011). A prolonged-recession along with severe fiscal shortfalls provided a significant amount of data for the research.

On the other hand, within the state of Arizona, the Department of Health Services (or the Department) receives funding from federal, state and local governments. Investigating an agency with such a complex funding structure helps develop understanding of cutback management under the background of fiscal federalism, and a complicated funding system makes the investigation a more rewarding experience substantively. In addition, the recession period overlapped with national health care

reform discussions during the Obama Administration, which to the Department has added an extra layer of variables to demonstrate the Federal Government's intention and efforts to mitigate fiscal crisis.

Last, I chose the Arizona Department of Health Services as the research subject because of the benefit of participant observation. I worked in the Department of Health Services budget sector for several years. The working experience made me a participant observer. According to Maxwell (2005, p. 94) participant observation "often provides a direct and powerful way of learning about people's behavior and context in which this occurs", and information collected through observation along with primary data analysis or interviews "will provide a more complete picture than either piece alone" (O'Sullivan, Rassel and Berner, 2003, p. 39).

#### *3.4.2 The Research Design*

In general, the research design utilized to explore the cutback management is a single case study of the Arizona Department Health Services (DHS) with time series data. DHS is a state department of Arizona with an average annual appropriated budget around 1.5 billion US dollars<sup>2</sup>. Its funding sources mainly include a general fund, federal fund and other state collected funds with designated expenditures required by the state legislation. Guided by the mission of improving the health and wellness of people and communities in Arizona, the department provides public health services, family health services, and behavior health services to the residents Arizona state.

The advantage of conducting a single case study is its ability to fill the gap in the

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<sup>2</sup> This was prior to FY2017. In FY2017, The budget included the transfer of behavioral health services from DHS to AHCCCS pursuant to Laws 2015, Chapters 19 and 195.

cutback literature. There is a lack of research that looks into the details of a research subject for an extended period of time, or a full recession period, to explain how a cutback requirement is processed. In Chapter II, I have expressed my concern on the case-specific characteristics of a case study, whose results may not be applicable in a broad context. However, due to the theory gap in literature, case study is appropriate for building theory. Eisenhardt (1989) argues that, “the case study is research strategy which focuses on understanding the dynamics present within single settings” (p. 534). Through case studies, she suggests, novel theories are likely to be generated; emergent theory can be verified and resultant theory tends to be empirically tested. In addition, “The intimate interaction with actual evidence often produces theory which closely mirrors reality” (p. 547). Of significance is the use of case study Behn (1985) and Levine, Rubin, and Wolohojian (1982), who discovered profound patterns during budgeting cutback.

Primary data used in this research includes the General Appropriation Act (Arizona State Legislature, n.d.) of the past few years and the Legislative Appropriations Reports (Joint Legislative Budget Committee of Arizona, n.d.) for the same period of time. Both of the data sources are public records and available on the state legislature website. In this study, I intend to cover all appropriated budget including general fund, federal fund, and other state earmarked funds in order to explain the strategies of cutback on different funding sources. Medicaid Title XIX programs represent a great majority of the Department’s budget, and covering all funding sources is helpful in understanding the dynamic between a state general fund and federal fund.

The time period included in this study will be from FY2007 to FY2013 (covering seven years). In Arizona, budget cuts started from FY2008 and lasted to

FY2011. However, expanding this period to include FY2007 allows for a better understanding of the budget level before cuts, and adding FY2013 is to demonstrate the budget level after cuts. As such, the budget of FY2007 and FY2013 will provide the comparison bases in this study of cutback management.

Budget cutting is a complicated process, especially during recessions. In a regular year without a recession, there is usually only one budget bill for the fiscal year with no further adjustments. This budget bill is passed in the legislature, signed by the governor and implemented by agencies through a fiscal year in orders without legislative amendment of the original appropriation.

However, during recessions, the budget amounts have to change several times within the fiscal year. At the macro-level, the estimated revenue shortfalls make budget change along the same direction. Furthermore, because revenue estimations change depending on the economic situation, budget numbers have to change simultaneously. At the micro-level, the way cuts are made, and the impacts they have are pondered and discussed by decision makers, contractors, the services-affected population, employees and media. All of these form a feedback loop to legislators and the governor to influence short-term, within-the-fiscal year, adjustments in the form of amendments to the original appropriation. An issue that attracts media attention may expand to the public at large. Discussions, evaluations or comments contributed by the public, regardless of the facts, can influence budget decisions. First, these discussions may influence the decision of the elected officials regarding how much to cut and the components of cutbacks. Second, decisions of elected officials change the cutback plans made by the budget staff and department. Third, if implemented smoothly, actions of media and elected officials can

overhaul the actual budget amount. If not handled smoothly, the problem of how to make budget cut goes back to the department, to the budget staff and to the elected officials for reconsideration. In this sense, cutbacks, in fact, are achieved through a process of negotiation. Any chaos or turbulence inherited in a negotiation co-exists in the cutback process. The factors that determine the end of the budget cut negotiation could be agreement or disagreement. Meanwhile, the cutback process may be rational or irrational, thoughtful or crude, strategic or short-sighted. In most cases, running-out-of-time is a powerful force to bring up a decision.

Knowing that budget cut is a chaotic process, I use an inductive approach in this research to crystallize the details of cutback process. Following data collection, I use three different analytical frameworks (Kumar, Ghildayal and Shah, 2011) to organize and analyze the data:

1. Descriptive data analysis;
2. Process map analysis;
3. Cause and effect analysis.

First, the descriptive data analysis can demonstrate the budget change from year to year by funding sources. The intended purpose is to substantiate how cuts were made at different stages, and how much was cut from year to year.

Second, the process map analysis is used to explain the budget-cutting process in the state of Arizona and the stages of cuts in each year. On the one hand, a study in budget cutting is not complete without introducing the budget cut process in the jurisdiction, and process map analysis is regarded as a powerful tool to reveal the step-by-step route. On the other hand, budget cutting is not a one-time shot decision limited to a single year.



Rather, it is a series of decisions based on the needs of economic condition and policy change. In this case, the process map features the stages of cuts, which are the bases of further discussions, such as whether cuts in one stage are different from those in another. If not, one would want to know what the differences are. For example, legislators may decide to allocate X dollars to the agency based on the economic forecast at the beginning of a fiscal year. Later, in the middle of the fiscal year, when the estimated revenues fall short of the initial estimate, additional Y dollars of cuts could be allocated to the agency. Using a process map to distinguish these stages is helpful to understand the trend of cuts in each stage.

Third, cause and effect diagramming is the next step of analysis after process mapping. It is used to determine what has been cut and what the consequences of that cut are, within a stage. For example, the cause might be that the legislature directs a department to cut a general, lump sum at its discretion and the effect is the department's decision of how to allocate the amount within the organization. The questions are clear - when legislatures allocate X dollars to the department at one time, what are the reactions? Or how does the department absorb the cuts among programs?

In summary, these three analyses will be utilized in stages to reveal the answers to the research questions:

- (1) How do governments cut budgets?
- (2) Do cutbacks follow certain patterns, and if so, what are they?

### *3.4.3 Generalizability and Bias*

In this section, the validity of the research method is discussed. This discussion

consists of four components: internal generalizability, external generalizability, bias and methods to alleviate bias.

Maxwell (2005, p. 115) suggests that generalizability consists of internal and external generalizability. “Internal generalizability refers to the generalizability of a conclusion within the setting or group studied, while external generalizability refers to its generalizability beyond that setting or group.” In this sense, a single case study including data from multiple sources (e.g., primary data analysis and participant observation) ought to provide a reliable conclusion within the group and satisfy the requirement of internal generalization. Fine (2015) points out that the benefit of participant observation is the ability to collect rich data, and findings are closely related to the observation subject. Guest, Namey, and Mitchell (2013) indicate that participant observation can “produce penetrating insights and highly contextual understanding” (p. 76).

Regarding external generalization, the conclusion of this unique case study makes it difficult to represent cutbacks in the other government entities. However, from a practice standpoint, understanding cutbacks in the Arizona Department Health Services can potentially help scholars understand the retrenchment of the other health departments in the nation. As Freidson (1975) suggested, case study provides reference values to the other similar entities. In addition, Maxwell (2005, p. 116) claimed that, “qualitative analysis is a development of a theory that can be extended to other cases.” In this sense, an in-depth case study like this can add some contributions to cutback theories and fill specific gaps in the literature.

Lastly, bias is another threat to this research design. Fine (2015) found that it is hard to differentiate perspectives and bias in participant observation research. The background

and experience of a participant observer influences his/her interpretation of a particular scene, and another participant observer who has different background may hold a different understanding of the same observation subject. Therefore, systematic bias is a prominent disadvantage of this research method. In addition, in this research, my understanding of cuts can be influenced by the Department's advocate and perspective.

However, a remedy to correct bias is to use primary data to verify the information collected through participant observation, or as Yin (1981) suggests, "the presentation of facts and interpretation is balanced" (p.106). For example, comparing the Appropriation Acts of two years reveals a budget shortfall amount, and this shortfall can be used as an instrument to check and verify whether the participant observer has covered all of its components. If not, it will require the observer to justify how much it is uncovered and the reason it is not covered.

## CHAPTER IV FINDINGS

### 4.1 Budget of DHS during 2008 Fiscal Crisis

The Arizona Department of Health Services is a state department of Arizona with an average annual budget of approximately 1.4 billion dollars<sup>3</sup> over the seven fiscal years investigated in this study. The department's primary funding source is a Medicaid federal fund, which is used to provide behavioral health services to the eligible population under the Social Security Act Title XIX Medicaid requirement. The second largest funding source is the state's general taxes and revenues, accounted for in the general fund. State law designates financing of specific expenditures with other state collected funds, and these are accounted for separately too. Guided by the mission of improving the health and wellness of people and communities in Arizona, the Department provides public health services, family health services, and behavioral health services to the residents of Arizona.

During the period 2007 to 2013, due to the economic recession, the Department suffered severe budget cuts (Table 4.1), as did many other state government departments. The Department's general fund decreased from 578 million dollars in FY2008 to 436 million in FY2011 (Figure 4.1), or a decrease of 24.5%. During the same period, the state general fund revenue was reduced to 8,378 million dollars in FY2011 from 9,944 million in FY2008, or a decrease of 15.7 %, with the lowest point in FY2011 of 7,843 million (Figure 4.2).

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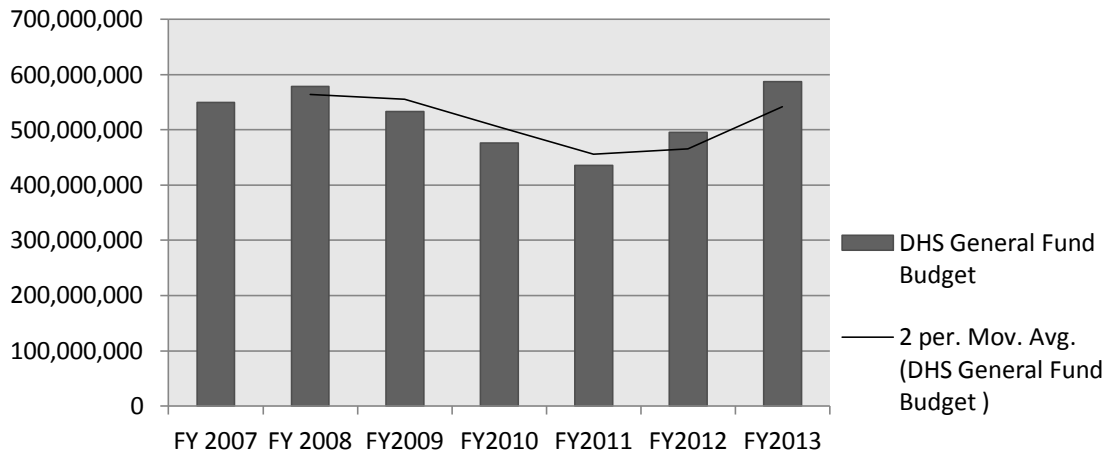
<sup>3</sup> This was prior to FY2017. In FY2017, The budget included the transfer of behavioral health services from DHS to AHCCCS pursuant to Laws 2015, Chapters 19 and 195. Of the \$517,304,700 being transferred, \$418,991,900 was for Medicaid-funded behavioral health services and \$98,312,800 was for non-Medicaid behavioral health services.

Table 4.1

*Arizona Department of Health Services Enacted General Fund Budget and State of Arizona General Fund Revenue FY2007 to FY2013 (In millions)*

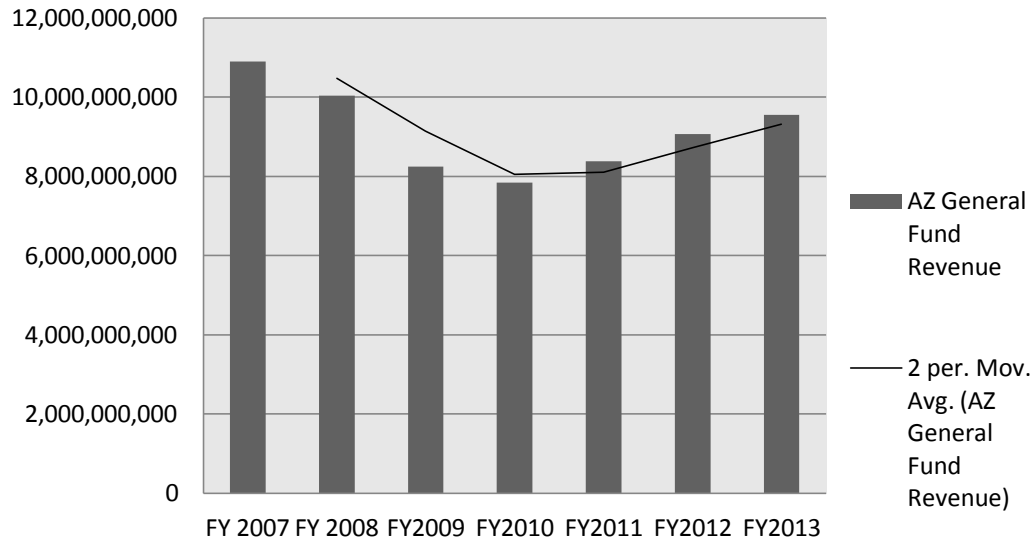
Categories	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
DHS General Fund Enacted Budget	549.2	578.4	533.6	476.70	436.2	495.7	587.5
AZ General Fund Revenue	10,897.5	10,045.1	8,248.5	7,843.8	8,378.0	9,066.7	9,559.5

*Note.* DHS General Fund Enacted Budget is from Appropriations Reports of FY2008 to FY2014 of Arizona. AZ General Fund Revenues are from FY2016 Appropriations Report – May 2015, “Then and Now” p.BH-24.



Source: Appropriations Reports from FY2008 to FY2014

*Figure 4.1* Enacted general fund budget of DHS from FY2007 to FY2013



Source: FY2016 Appropriations Report – May 2015, “Then and Now” p.BH-24

Figure 4.2 General fund revenues of Arizona from FY2007 to FY2013

Table 4.2

*DHS Enacted Total Budget FY2007 to FY2013 (in millions)*

Fund	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
General Fund	549.2	578.4	533.6	476.7	436.3	495.7	587.5
Medicaid							
Federal Fund	636.3	721.3	921.9	1,086.1	1,089.8	805.9	877.0
Other							
Appropriated Fund	34.2	34.8	34.4	43.1	46.8	52.8	53.0
<b>TOTAL</b>	<b>1,219.7</b>	<b>1,334.5</b>	<b>1,489.9</b>	<b>1,605.9</b>	<b>1,572.9</b>	<b>1,354.4</b>	<b>1,517.5</b>

Note. Data is from Appropriations Reports of FY2008 to FY2014 of Arizona.

## 4.2 How Cuts Were Made?

In this paper, I use a multi-year model to demonstrate that government budget cuts are made differently at different stages of fiscal crisis – the beginning, the middle and the end. However, the question I faced first was how to define the boundary of each stage. Why would a given fiscal year be classified as the beginning but not part of the middle stage?

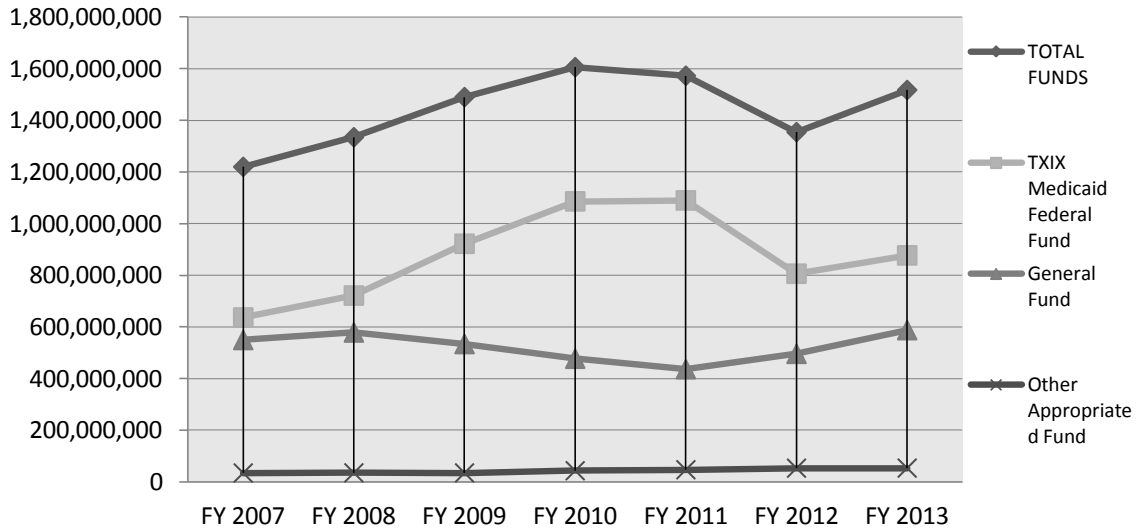
Two parameters were applied to define the stages, which are Arizona state general fund revenue and DHS general fund budget. When looking at the general fund revenue of the state, the budget showed that revenue continued to decrease for four years, from FY2007 to FY2010 (Figure 4.3), but it started to rebound beginning in FY2011. However, one has to remember that revenue changes appearing in the budget normally lag behind one year or so, depending on how quick budget makers take actions to handle the resource declines. In the case of DHS, general fund budget cuts were made mainly from FY2008 through FY2011 (Figure 4.3), which was two years behind the revenue trend. Because the general fund is the prominent state financial resource, I used the decrease in the general fund budget level to classify the stages of cuts other than stages of economic crisis itself.

In Figure 4.3, it is worth noticing that when the general fund plateaued and started to increase, the Medicaid federal fund level dropped. This phenomenon was a result of the funding mechanism of Medicaid programs. As I mentioned at the beginning of this chapter, the Department's primary funding source is the Medicaid federal fund, which is used to provide behavioral health services to the eligible population under Social Security Act Title XIX Medicaid requirement. Medicaid programs are co-founded programs,

meaning that their funding sources consisting of two portions: state match funding and federal match funding. Usually, the ratio between state match funding and federal match funding is about 1:2. This means for every dollar that state government provides, the Federal Government appropriates two dollars to match, which equals three dollars at the program level. However, during a recession, it is the intention of the Federal Government to increase the federal share and decrease the state share, which changes the state fund versus federal fund ratio to 1:3. This ratio is also called federal Medicaid assistance percentages, or FMAP. Therefore, in Figure 4.3, when general fund budget started to decrease in FY2009, the Medicaid federal fund budget went up. This trend was kept for years until FY2012. From FY2012, when the state general fund budget began to recover from the reductions in previous years, the Medicaid federal fund budget decreased sharply to bring the FMAP back to its regular level of approximately 1:2.

Overall, the funding structure of Medicaid programs explained above made the total appropriated budget of DHS increase during the recession period. However, significant general fund reductions did exist from FY2008 to FY2011 as shown in Figure 4.3.

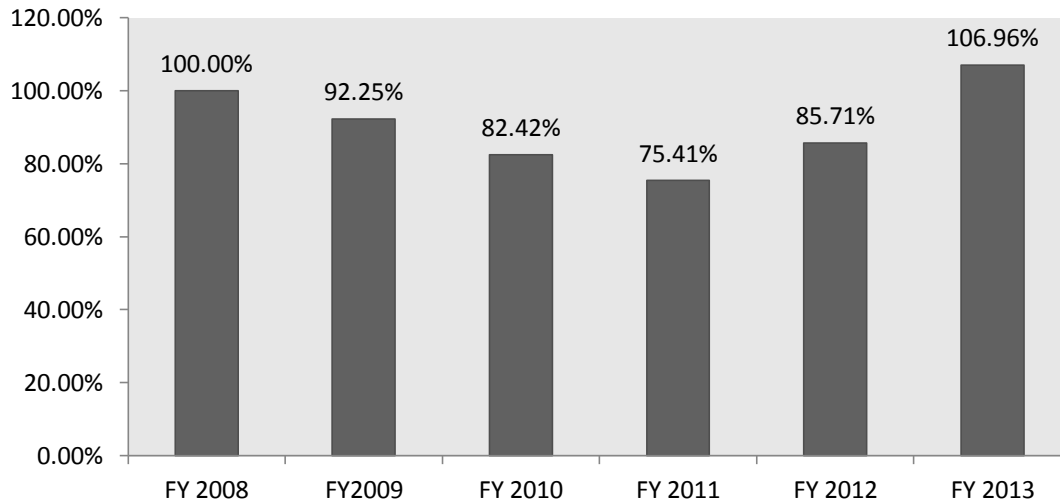




Source: Appropriations Reports from FY2007 to FY2013

Figure 4.3 DHS Enacted total budgets from FY2007 to FY2013

- (1) The beginning stage: FY2009, when general fund budget was 92.25% of FY2008 level;
- (2) The middle stage: FY2010, when general fund budget was 82.42% of FY2008 level;
- (3) The end stage: FY2011, when general fund budget was 75.41% of FY2008 level.



Source: Appropriations Reports from FY2007 to FY2013

*Figure 4.4* DHS general fund budget of FY2009 through FY2013 as a percentage of FY2008 level

In summary, DHS had experienced severe budget cuts from FY2008 to FY2011. Although its appropriated total budget had increased due to a dramatic increase of Medicaid federal fund during an economic crisis, its general fund had been cut by 25% during this same period. Therefore, I use cuts on the general fund to mark the stages of cuts. FY2009 represents the beginning of cut, FY2010 marks the middle of cuts and FY2011 represents the end of cuts.

#### *4.2.1 The Beginning of Budget Cut*

In this section, I will report findings for the following research questions:

- (1) How do governments cut budgets?
- (2) Do cutbacks follow certain patterns, and if so, what are they?

4.2.1.1 Descriptive Analysis

At the beginning stage of budget cuts, which refers to budget reductions in FY2009, the total budget went up from 1,334.5 million to 1,489.8 million (Table 4.3). At the fund level, the general fund received a cut of 44.8 million; the Medicaid federal fund had a budget increase of 200.5 million and the other earmarked state funds received cuts and adds at the same time, which ended up with a net decrease of 393.4 thousand dollars.

Table 4.3

*Descriptive Analysis - the Beginning of Budget Cuts, Enacted Budget of Arizona  
Department of Health Services, FY2008-FY2009*

Fund	FY2008	FY2009	Comparison
General Fund	578,383,100	533,581,400	(44,801,700)
Medicaid Federal Fund	721,339,000	921,864,288	200,525,288
Other Appropriated Fund	34,805,900	34,412,500	(393,400)
<b>TOTAL</b>	<b>1,334,528,000</b>	<b>1,489,858,188</b>	<b>155,330,188</b>

Note. FY2009 and FY2010 Appropriations Reports.

Scrutinizing cuts on programs, I divided appropriated programs into four categories based on their funding sources (Table 4.4):

- (1) Programs funded by general fund only (represented by gfo, including 39 programs);
- (2) Programs funded by other state appropriated fund only (represented by ofo, including 8 programs);
- (3) Programs co-funded by both general fund and other state appropriated fund (represented by gf+o, including 12 programs);
- (4) Programs co-funded by general fund and TXIX Federal fund (represented by gf+19, including 15 programs).

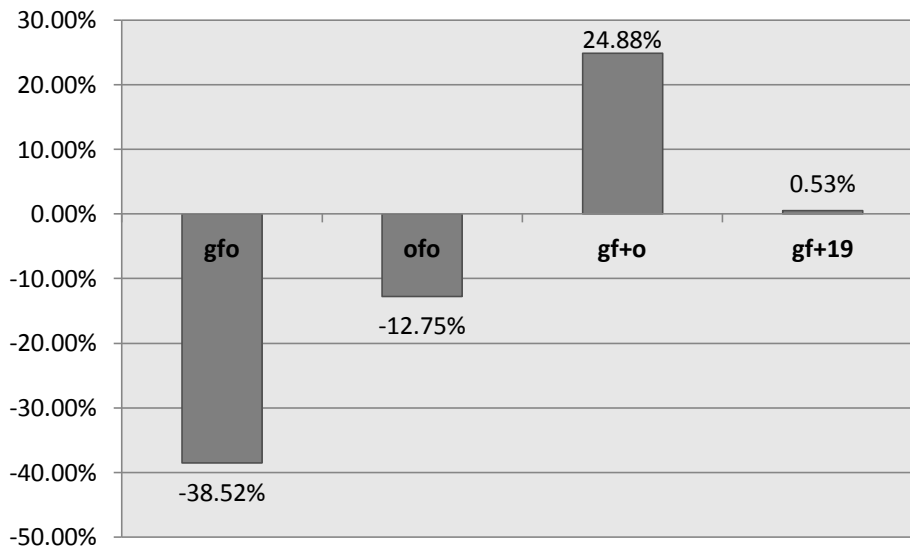
Table 4.4

*Means and Standard Deviations on Cuts of Programs by Funding Structure*

Funding Structure	n	Means	SD
General Fund Only (gfo)	39	-0.3852	0.4458
Other Funds Only (ofo)	8	-0.1275	0.3525
General Fund + Other Funds (gf+o)	12	0.2488	0.7040
General Fund + Medicaid Federal Fund (gf+19)	15	0.0053	0.3164

*Note.* Data is from FY2009 and FY2010 Appropriations Reports.

When counting the reductions by funding source from FY2008 to FY2009 (Figure 4.5), it appears that programs funded by the general fund only received a cut of 38.52% on average, while programs funded by other state appropriated funds only received a reduction of 12.75%. Programs funded by the general fund and other funds actually received an increase of 24.88% from FY2008 to FY2009; programs funded by the TXIX Federal Medicaid fund had a small increase of 0.53%.



*Figure 4.5* Distribution of Cuts on Programs of Different Funding Structures

Next, I use a T-test to determine if the differences between every two categories are

statistically significant. The T-test values are listed in Table 4.5, and suggest that the difference between cuts on general-fund-only funded programs and cuts on general fund and other fund funded programs are statistically significant. Meanwhile, the differences between cuts on general-fund-only programs and cuts on general fund plus the TXIX Federal Medicaid fund co-funded programs are statistically significant. In another word, programs funded by general-fund-only share more cuts than programs funded by multiple funding sources, and the difference is statistically significant.

Table 4.5

*Two Sample T-Test of Funding structure and Characteristics of Cuts*

Funding Structure	Percentage of Cut			
	n	Means	SD	p value of T-test
General Fund Only(gfo)	39	-0.3852	0.4458	0.131959 vs. ofo, 0.000502* vs. gf+o, 0.003149* vs. gf+19
Other Funds Only(fo)	8	-0.1275	0.3525	0.181174 vs. gf+o 0.366755 vs. gf+19
General Fund + Other Funds (gf+o)	12	0.2488	0.7040	0.241181 vs. gf+19
General Fund+ Medicaid Federal Fund (gf+19)	15	0.0053	0.3164	

*Note.* \* $p < 0.05$  means difference is statistical significant.

Comparing the budget level within FY2009 between the original appropriations at the beginning of the fiscal year and the enacted budget finalized at the end of the fiscal year, Table 4.6 shows that general fund appropriation was reduced by 86.6 million; federal fund increased by 139.7 million, and the other funds, collectively, were reduced by about 1 million. At this point, it is confirmed that the general fund takes the majority of cuts while the other restricted funds have fewer or no cuts, and evidence includes:

- (1) Comparing the enacted budget of FY2008 and FY2009, the general fund took the majority of cuts;

(2) By looking programs being cut, those funded by general fund only had been cut more than the others;

(3) Comparing the general fund level within FY2009 at the beginning and the end of year, general fund took the majority of cuts.

Table 4.6

*FY2009 Appropriations Change*

Fund	Appropriation	Enacted Budget	Differences
General Fund	620,277,000	533,581,400	(86,695,600)
Medicaid Federal Fund	744,872,500	884,539,488	139,666,988
Other Appropriated Fund	72,764,800	71,737,300	(1,027,500)
Total	1,437,914,300	1,498,858,188	51,943,888

*Note.* Data is from Appropriations Report of FY2009 and FY2010.

*4.2.1.2 Process Map Analysis*

In this section, I report the results of my process map analysis. In the research methods chapter, I defined the process map analysis as the technique I would use to explain the budget-cutting process in the state of Arizona within a fiscal year. As mentioned earlier, the budget cut process is relatively complicated given that cutback decisions are made several times within a fiscal year. Here, I use the general fund (in Table 4.6) to demonstrate how cuts proceed from the beginning to the end during a fiscal year.

At the end of June 2007, the Arizona legislature passed budget bill HB2209, and the Governor signed it. In this bill, the appropriated general fund budget of DHS was 620.2 million as listed in Table 4.7. In addition, the budget bill also required DHS to make a discretionary cut of 8.6 million, which was a portion of the lump sum cuts distributed among all state agencies.

Table 4.7

*Process Map Analysis - DHS General Fund Cuts in FY2009*

<b>Item</b>	<b>Laws</b>	<b>Time</b>	<b>Amount</b>
Original Budget	HB2209 / A.R.S. § 36-103	07/2008	620,277,000
\$8.6M Lump Sum Cut	HB2209 / A.R.S. § 36-103	07/2008	(8,650,000)
Back of the Bill Adjustment	HB2209 / A.R.S. § 36-103	07/2008	113,100
Hiring Freeze Reduction	HB2209 / A.R.S. § 36-103	07/2008	(232,900)
TXIX Supplemental Appropriation	SB1001	01/2009	11,050,300
Lump Sum Reduction	SB1001	01/2009	(26,790,800)
Personnel Expenditure Reduction	SB1001	01/2009	(1,328,600)
FAMP Assistance	SB1001	01/2009	(80,728,100)
TXIX Additional Appropriation	SB1001	01/2009	19,871,400
<b>Enacted Budget</b>			<b>533,581,400</b>

*Note.* Data is from Appropriations Reports of FY2009 and FY2010.

Later, around the middle of FY2009 in January 2008, the legislature held a special session to make further budget cuts, or what legislators called midyear adjustments.

During this special session, the budget adjustment bill SB1001 was brought up, which required DHS to make three cuts:

- (1) Another discretionary general fund cut of 26.7 million;
- (2) 1.3 million cut derived from forced salary reductions for state employees (State furlough savings);
- (3) 80.7 million reduction in state general fund match contributions to Medicaid programs<sup>4</sup>.

*4.2.1.3 Cause and Effect Analysis*

In this section, I report the results of cause-effect analysis. In the research methods chapter, I used this analytical technique to answer the question - within a stage, what has

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<sup>4</sup> It is the TXIX Medicaid Program adjustment. In a regular year without recession, for every dollar's state match funding, the federal government appropriate 2 dollars to make a total of 3 dollar. In this case, the match ratio is about 1:2. However, the 2009 American Recovery and Reinvestment Act (ARRA) increased the federal Medicaid Assistance Percentage (FMAP) to 75.93%, which makes the ration 1:3. In this case, the state funding can be saved and costs are shifted to the federal government.

been cut and what are the consequences?

After narrowing the focus down to how DHS made cuts, data showed that three rounds of general fund discretionary cuts were made – an 8.6 million lump sum cut, plus another 26.7 million lump sum cut as well as the 1.3 million personnel furlough savings, which totaled 36.7 million dollars. These cuts affected 68 programs<sup>5</sup> altogether. Among these programs, two of them were mandatory programs. One was Arnold vs. Sarn program, which funded a comprehensive community mental health system in Maricopa County as required by a court decision ruling that DHS failed to comply with a federal statute requirement in 1981. Another mandatory program was Dual Eligible Part D Copay Subsidy, which funded prescription drug copayments for low-income individuals who qualified for both Medicare and Medicaid. Other than these two programs, sixty-six programs cut were non-mandatory programs, which consisted of a total cut of 35.1 million.

In the first round of general fund lump sum reduction (Table 4.8), 22 programs received cuts. These programs were mainly public health and family health programs, such as vaccinations, Alzheimer disease research and breast and cervical cancer screening. Most of the programs cut were prevention programs, surveillance programs, research programs and nutrition programs.

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<sup>5</sup> 68 programs refer to the frequency of programs being cut. For example, if a program was cut for twice due to furlough savings and discretionary cut respectively, it is recorded as 2 programs here.



Table 4.8

*Cause and Effect Analysis - SB1001 General Fund \$8.6M Lump Sum Cut*

APPROPRIATION LINE ITEM	Amount
Alzheimer Disease Research	(750,000)
**Arizona Statewide Immunization	(40,000)
**Assurance & Licensure	(50,000)
Breast & Cervical Cancer Screening	(332,800)
Children's Behavioral Health SVCS	(500,000)
County Prenatal Services Grant	(114,900)
County Public Health	(200,000)
County Tuberculosis Provider Care & Control	(200,000)
Diabetes Prevention Control	(300,000)
*Hepatitis C Surveillance	(100,000)
High Risk Perinatal Services	(200,000)
Kidney Program	(50,500)
**Operating Lump Sum Appropriation-Behavioral Health	(75,000)
**Operating Lump Sum Appropriation-Family Health	(200,000)
**Operating Lump Sum Appropriation-Public Health	(445,000)
**Operating Lump Sum-Administration	(918,000)
Renal & Non-Renal Disease Management	(270,000)
Senior Food Program	(100,000)
Seriously Emotion Handicapped Children	(500,000)
STD Control Subventions	(26,300)
Substance Abuse Non-Title XIX	(1,000,000)
Vaccines	(2,277,500)
Total (22 programs)	(8,650,000)

*Note.* \*Mandatory programs.

\*\*Personnel related programs.

Data come from the Appropriations Reports of FY2009 and FY2010

In addition, there were 1.3 million personnel expenditure reduction. According to SB1001 (Forty-ninth Legislature, First Special Session, 2009), Section 6, “notwithstanding any other law, the following state general fund amounts are reduced from appropriations made to state agencies for personnel expenses and related benefit costs in fiscal year 2008-2009.” Approximately 1.3 million dollars of those cuts were from the DHS budget. The legislature allowed state departments to implement furloughs in the mid-year budget reconciliation bills. Table 4.9 below, shows the allocation of cuts.

Table 4.9

*Cause and Effect Analysis - SB1001 General Fund Personnel Expenditure Reduction*

APPROPRIATION LINE ITEM	Amount
**Arizona Statewide Immunization	(9,538)
**Assurance & Licensure	(232,423)
**Community Health Centers	(11,666)
**Laboratory Services	(81,540)
**Operating Lump Sum Appropriation-Behavioral Health	(17,179)
**Operating Lump Sum Appropriation-Family Health	(71,645)
**Operating Lump Sum Appropriation-Hospital	(551,487)
**Operating Lump Sum Appropriation-Public Health	(148,542)
**Operating Lump Sum-Administration	(203,734)
Total (9 programs)	(1,327,754)

*Note.* \*\*Personnel related programs.

Data come from the Appropriations Reports of FY2009 and FY2010

Lastly, there were 26 million lump sum cuts pursuant to legislations of the mid-year reduction (SB1001, Section 3). DHS allocated the cuts to 37 programs. These programs included prevention, research, disease screening and nutrition funding. In addition, behavioral health non-Medicaid programs were cut. According to the appropriations report, non-Medicaid behavioral health programs were used to provide prevention and treatment services to people who need behavioral health services but who are not eligible for Medicaid. Examples of these programs were (see Table 4.10) children’s behavioral health services, non-Medicaid seriously mentally illness treatment, and substance abuse non-Medicaid services.

Table 4.10

*Cause and Effect Analysis - SB1001 General Fund Lump Sum Reduction*

APPROPRIATION LINE ITEM	Amount
Adult Sickle Cell Anemia	(6,600)
Alzheimer Disease Research	(1,125,000)
**Arizona Statewide Immunization	(95,000)
*Arnold v Sarn	(1,350,000)
**Assurance & Licensure	(350,000)
Children's Behavioral Health SVCS	(531,108)
Children's Rehabilitative Services	(771,400)
**Community Health Centers	(2,405,048)
Community Placement Treatment	(2,310,930)
**Contract Compliance	(673,400)
County Prenatal Services Grant	(250,000)
County Tuberculosis Provider Care & Control	(242,100)
Diabetes Prevention Control	(36,473)
Direct Grants	(115,075)
*Dual Eligible Part D Copay Subsidy	(335,808)
**Electronic Medical Records	(131,767)
**Hepatitis C Surveillance	(152,190)
High Risk Perinatal Services	(1,287,238)
**Laboratory Services	(221,000)
Loan Repayment	(61,430)
Mental Health Non-Title XIX	(500,000)
NTXIX SMI TTMN	(4,167,002)
**Operating Lump Sum Appropriation-Behavioral Health	(350,000)
**Operating Lump Sum Appropriation-Family Health	(536,653)
**Operating Lump Sum Appropriation-Hospital	(294,850)
**Operating Lump Sum Appropriation-Public Health	(329,083)
**Operating Lump Sum-Administration	(238,936)
Poison Control Center	(150,500)
Reimbursement to Counties	(16,975)
Scorpion Antivenom	(30,000)
Senior Food Program	(424,955)
**Sexually Violent Persons	(205,150)
Substance Abuse Non-Title XIX	(1,500,000)
Telemedicine	(52,000)
Teratogen Program	(25,000)
U of A Poison Control Center	(249,500)
Vaccines	(4,635,329)
Total (37 programs)	(26,157,500)

*Note.* \*Mandatory programs.

\*\*Personnel related programs.

Data come from the Appropriations Reports of FY2009 and FY2010

How are cuts distributed between personnel budgets and services budgets? Out of the 68 programs involving cuts, 29 of them (marked with \*\*) were personnel related programs, representing 42% of all programs. In terms of amount, cuts on personnel related programs totaled 9.1 million USD, or 25% of total cuts. On the contrary, 39 programs were services programs, which funding was used to support a variety of health care related services. The budget reductions on services programs represented 75% of the total cutback amount.

#### *4.2.1.4 Summary*

Overall, I found that:

1. The general fund took the majority of cuts while the other restricted funds had few or no cuts.
2. Across-the-board cuts are allocated to the non-mandatory programs, the largest being the general fund.
3. Both personnel services and contract expenditures cut deeply.

First, at the beginning of budget cuts, the general fund overwhelmingly shared the majority of cuts while the other state funds received few reductions. Furthermore, programs funded by the general fund only was reduced more than the programs funded by multiple funding sources – either cofounded by the general fund and other state earmarked funds or the general fund and the federal fund.

Second, budget makers allocated lump sum cuts to non-mandatory programs. These programs were mainly used to provide research funding, preventive services, disease screening services and nutrition services. In the case of DHS, two out of 68 programs

with cuts were mandatory programs.

Third, discretionary cuts were made on both personnel related programs and services providing programs. However, budget reductions to the services programs were much greater than personnel related programs.

#### 4.2.2 The Middle Stage of Budget Cuts

In this section, I report findings for the major question of my research, how the Arizona legislature cut budgets in FY 2010, the middle period of the fiscal crisis, and what the Arizona Department of Health Services did to comply. Again, I use descriptive, process map and cause-effect analyses to report the research question's answers.

##### 4.2.2.1 Descriptive Analysis

Midway through budget cutting from FY2009 to FY2010, the budget situation grew worse. DHS's state general fund received a cut of 56.8 million, or 10.7% reduction compared with FY2009 enacted budget (Table 4.11), which ended up with a general fund appropriation of 476.7 million.

Table 4.11

*Descriptive Analysis -- the Middle of Budget Cuts, Enacted Budget Comparison of DHS from FY2009 to FY2010*

Fund	FY2009	FY2010	Comparison
General Fund	533,581,400	476,696,600	(56,884,800)
Medicaid Federal Fund	921,864,288	1,086,093,800	164,229,512
Other Appropriated Fund	71,737,300	80,386,100	8,648,800
<b>TOTAL FUNDS</b>	<b>1,527,182,988</b>	<b>1,643,176,500</b>	<b>115,993,512</b>

*Note.* Data is from FY2010 and FY2011 Appropriation Reports, since enacted budget is on the following year's appropriation report.

4.2.2.2 Process Map Analysis

Next, out of the 56.8 million’s cut, 25.9 million was discretionary cuts (Table 4.12), which consisted of three rounds of discretionary reductions – 13.9 million, 11.9 million and 64.8 thousand.

Table 4.12

*Process Map Analysis - DHS General Fund Cuts in FY2010*

Item	Laws	Time	Amount
Original Budget	The General Appropriation Act of 2010	07/2009	458,168,100
Lump Sum Reduction	SB1001, 5 <sup>th</sup> special session	12/2009	(13,972,200)
Medicaid Supplemental	HB2001 7 <sup>th</sup> Special session	03/2010	44,500,300
Lump Sum Reduction	HB2001 7 <sup>th</sup> Special session	03/2010	(11,934,800)
Personnel Expenditure Reduction	HB2001 7 <sup>th</sup> Special session	03/2010	(64,800)
Enacted Budget			476,696,600

*Note.* Data is from the General Appropriation Act 1st Regular Session, 1st and 3rd Special Sessions of the 49th Legislature.

4.2.2.3 Cause and Effect Analysis

After carrying over the cuts made in FY2009, what were the programs available for further reductions? Surprisingly or not, it turned out to be behavioral health programs, which were cut-proof items in the prior year. Except for personnel savings of 64.8 thousand (Table 4.13) that had to be proportionally shared by personnel related programs, 97.5% of cuts were made on behavioral health services, or a reduction of 25.9 million. There were 12 programs that were cut (Table 4.14 & Table 4.15). Seven of them were Medicaid programs’ state match funding, and five of them were non-Medicaid programs. Because cuts of FY2010 were absorbed by behavioral health services, no program was eliminated.

Table 4.13

*Cause and Effect Analysis – HB2001 General Fund Personnel Expenditure Reduction*

<u>Appropriation Line Item</u>	<u>Amount</u>
Operating Lump Sum-Administration	(9,400)
Operating Lump Sum Appropriation-Public Health	(6,800)
Laboratory Services	(4,000)
Arizona Statewide Immunization	(400)
Operating Lump Sum Appropriation-Family Health	(3,200)
Operating Lump Sum Appropriation-Behavioral Health	(4,900)
Operating Lump Sum Appropriation-Hospital	(28,800)
Community Placement Treatment	(7,300)
<u>Total (8 programs)</u>	<u>(64,800)</u>

*Note.* Data come from Appropriations Reports of FY2009 - FY2011.

Table 4.14

*Cause and Effect Analysis – SB1001 Lump Sum Reduction*

<u>Appropriation Line Item</u>	<u>Amount</u>
Children'S BHS TXIX State Match	(2,259,400)
Prop. 204 Children's TXIX State Match	(252,200)
Prop. 204 SMI TXIX State Match	(1,840,200)
Serious Mentally Ill TXIX State Match	(1,840,200)
Prop. 204 MH/SA TXIX State Match	(3,890,100)
MH/SA TXIX State Match	(3,890,100)
<u>Total ( 6 programs)</u>	<u>(13,972,200)</u>

*Note.* Data come from Appropriations Reports of FY2009 - FY2011.

Table 4.15

*Cause and Effect Analysis – HB2001 Lump Sum Reductions*

<u>Appropriation Line Item</u>	<u>Amount</u>
Children's BHS State Only	(4,223,441)
Substance Abuse non- TXIX	(207,714)
Medicare Clawback Payments	(4,101,000)
Mental Health Non TXIX	(470,095)
Court Monitoring	(98,750)
Children's BHS TXIX State Match	(2,833,800)
<u>Total (6 programs)</u>	<u>(11,934,800)</u>

*Note.* Data come from Appropriations Reports of FY2009 - FY2011.

In addition to the general fund, cuts on the other state restricted funds totaled 2.5 million and affected 22 programs (Table 4.16 and Table 4.17). Table 4.16 demonstrated the fund reduction and transfer amount (FRAT) required by the legislature, which was clearly stated in the Appropriations Report of FY2010.

Table 4.16

*Cause and Effect Analysis—FY2010 Other State Funds' Reduction and Transfer*

Appropriation Line Item	Fund	Amount
Indirect Cost Fund	Indirect Cost Fund	(1,147,800)
Operating Lump Sum-Administration	Indirect Cost Fund	(142,100)
Assurance & Licensure	Hearing and Speech Professional Fund	(20,900)
Attorney General Legal Services	Emergency Medical Services Operating Fund	(7,100)
Operating Lump Sum-Administration	Emergency Medical Services Operating Fund	(29,700)
Loan Repayment	Emergency Medical Services Operating Fund	(92,100)
EMS Operations	Emergency Medical Services Operating Fund	(458,100)
Trauma Advisory Board	Emergency Medical Services Operating Fund	(57,400)
Operating Lump Sum Appropriation-Public Health	Emergency Medical Services Operating Fund	(118,600)
Laboratory Services	Environmental Lab Licensure Revolving Fund	(41,300)
Vital Records Maintenance	Vital Records Electronic Systems Fund	(66,000)
Child Fatality Review Team	Emergency Medical Services Operating Fund	(20,900)
High Risk Perinatal Services	Emergency Medical Services Operating Fund	(63,700)
Substance Abuse Non-TXIX	Substance Abuse Services Treatment Fund	(250,000)
Total (14 programs)		(2,515,700)

*Note.* It is named FRAT in the Appropriation Report - Fund Reduction and Transfer. An agency's operating budget would be reduced and the savings would be transferred to the General Fund (FY10 Appropriation Report, pp.520-521).

Table 4.17 showed the personnel reduction on the other state earmarked funds, which was very small compared with reductions on services programs.



Table 4.17

*Cause and Effect Analysis – FY2010 Other State Fund Personnel Reduction*

<u>Appropriation Line Item</u>	<u>Fund</u>	<u>Amount</u>
Indirect Cost Fund	Indirect Cost Fund	(5,300)
Assurance & Licensure	Hearing and Speech Professional Fund	(400)
EMS Operations	Emergency Medical Services Operating Fund	(3,300)
Laboratory Services	Environmental Lab Licensure Revolving Fund	(700)
Vital Records Maintenance	Vital Records Electronic Systems Fund	(300)
Assurance & Licensure	Health Services Licensing Fund	(11,700)
Newborn Screening Program	Newborn Screening Program Fund	(2,800)
Child Fatality Review Team	Child Fatality Review Fund	(200)
TOTAL (8 programs)		(24,700)

*Note.* Data is from the Appropriations Report of FY2010.

Meanwhile, excess balance transfer (or EBT, see Table 4.18) was applied to the other state restricted funds. EBT was used to transfer extra accumulated fund balances back to general fund to alleviate its shortfall. In FY2010, DHS took an EBT of 2.6 million, a number greater than the budget cut amount. EBT did not affect the current year’s spending authority, but it did reduce the fund balances. In another word, EBT worked as a collection tool to move funds within the state authority to backfill the general fund.

Table 4.18

*FY2010 Other State Funds Excess Balance Transfer*

<u>Fund</u>	<u>Amount</u>
Child Fatality Review Fund	(135,300)
Emergency Medical Services Operating Fund	(685,800)
Indirect Cost Fund	(707,800)
Substance Abuse Services Treatment Fund	(408,800)
Vital Records Electronic Systems Fund	(378,400)
Total	(2,316,100)

*Note.* Excess Balance Transfer. This option typically reflects transferring 50% of the excess fund balance in FY 2010 (FY10 Appropriation Report, pp.520-521).

#### *4.2.2.4 Summary*

Overall, in the middle stage of budget cuts, it was found that:

1. Cuts on the restricted fund were implemented through fund transfers and excess balance transfers to the general fund.

2. As the financial situation got worse, selective reductions were preferred. In the case of DHS, lump sum cuts were allocated to programs of Behavioral Health Divisions, and some Medicaid state match programs received cuts.

3. In the middle of fiscal crisis, cuts on personnel expenditures became stabilized, meaning the amount of cuts was very small compared with reductions on services programs. Therefore, the majority of newly allocated lump sum cuts were taken from services programs' allocations.

First, cuts on the restricted funds are implemented through two instruments: FRAT – fund reduction and transfer – and EBT – excess balance transfer. FRAT affected the budget of programs, meaning the budget of programs had to be reduced. However, EBT was fund balance transferring at the fund level (Table 4.18). EBT did not require reducing the budget of programs; and as one can tell from Table 4.18, fund balance reductions just needed to be assigned to the fund other than to certain programs. The process of EBT was transferring the unallocated fund revenues to the general fund, through which to increase the general fund revenues.

Second, a deteriorating financial situation did not lead to the elimination of certain programs as suspected in Chapter III. Instead, budget makers preferred to cut TXIX Medicaid state match funding accounted for in the general fund, to reach the reduction goal. In addition to behavioral health's Medicaid state match funding, five non-Medicaid

state funded appropriations received reductions for about 9 million (see Table 4.15, excluding Children's BHS TXIX State Match). In this sense, when legislators required larger and larger lump-sum cuts, DHS top managers preferred to select certain programs for budget reductions instead of making across-the-board cuts.

Third, cuts on personnel services were relatively mild in FY2010. On the contrary, cuts on services funding were much harsher. Appropriated positions (or FTEs - Full time Equivalent) were reduced to 1,538.6 in FY2010 compared with 1,699.1 in FY2009 (Appropriation Reports of FY2010) to comply with the legislative requirement of eliminating 5% of appropriated positions. In DHS's case, since the eliminated positions were all vacant positions, appropriated position cuts did not help with reducing expenditures. Reducing positions may affect the department's ability to recruit in the future, but at that time, it cannot help generate savings to the current budget year.

#### *4.2.3 The End of Budget Cuts*

In this section, I report findings about the last stage of budget cuts. That is, for the major question of my research, how the Arizona legislature cut budgets in FY 2011, the last period of the fiscal crisis and what the Arizona Department of Health Services did to comply. Again, I use descriptive, process map and cause-effect analyses to report the research question's answers.

##### *4.2.3.1 Descriptive Analysis*

During this year, the general fund enacted budget, meaning the final budget after all cuts, was reduced by 40.5 million and ended up with the lowest general fund budget

during 2008 recession at 436.2 million (Table 4.19). The other state appropriated funds received a net budget increase of 2.5 million, and federal Medicaid fund was reduced by 32.4 million.

Table 4.19

*Descriptive Analysis -- the End of Budget Cuts, Enacted Budget Comparison of DHS from FY2010 to FY2011*

Fund	FY 2010	FY 2011	Comparison
General Fund	476,696,600	436,168,700	(40,527,900)
TXIX Medicaid Federal Fund	1,086,093,800	1,053,682,500	(32,411,300)
Other Appropriated Fund	80,386,100	82,926,900	2,540,800
Total	1,643,176,500	1,572,778,100	(70,398,400)

Note. Data is from the Appropriations Report of FY2011 and FY2012.

*4.2.3.2 Process Map Analysis*

Comparing the FY2011 general fund original budget with the enacted budget of the same year, general fund was reduced from 485.6 million to 436.2 million (Table 4.20). Reductions were made based on two bills: the initial General Appropriation Act of FY2011 and the mid-year budget cut bill SB1612.

In the General Appropriation Act of FY2011, there were three reduction items: (1) 13 thousand lease-purchase reduction due to lowering rent charges; (2) 1.68 million furlough saving; and (3) 45 million Medicaid state match funding reduction due to the Federal Medicaid Assistance Percentage (or FMAP) changes.

In SB1612, there was a 2.57 million mid-year reduction and an uncaptured pay savings of 200.2 thousand. The uncaptured pay savings was due to the calculation differences between the reduced budget and the actual savings of the required six furlough days in FY2011.

Table 4.20

*Process Map Analysis –DHS General Fund Cuts in FY2011*

Item	Laws	Time	Amount
Original Budget	The General Appropriation Act of 2011	05/2010	485,638,800
Back of The Bill Adjustment	The General Appropriation Act of 2011	05/2010	(13,100)
Personnel Expenditure Reduction	The General Appropriation Act of 2011	05/2010	(1,686,700)
FY2011 Medicaid Reduction	The General Appropriation Act of 2011	05/2010	(45,000,000)
Mid-Year Reduction1/ Uncaptured Pay Savings1/	SB1612 1st Regular Session	04/2011	(2,570,100)
	SB1612 1st Regular Session	04/2011	(200,200)
Enacted Budget			436,168,700

*Note.* 1. 1st Regular Session of the 50th Legislature, Laws 2011 Chapter 24.

*4.2.3.3 Cause and Effect Analysis*

In terms of the allocation of budget reductions, 2.57 million came from children’s behavioral health services TXIX state match funding in order to implement 5% capitation rate reduction required by the legislature. In addition, personnel expenditure reductions were proportionally shared by personnel related appropriation line items based on the number of employees that they supported. Since there was no lump sum cut in FY2010, the cause and effect analysis table would not be provided.

Comparing FY2010 with FY2009, the mid-year reduction was much smaller. However, a mild reduction on general fund did not mean that legislators or DHS policy makers met programs’ funding requests. Instead, the legislature created new funding sources to alleviate the negative impact of general fund appropriation reductions; health care licensing fund was an example.

Health care licensing fund was established in the middle of FY2010. In FY2011, legislators increased this appropriation by 88%, from FY2010’s 4.5 million to FY2011’s 8.4 million. The establishment of the fund was explained in the Appropriation Report of

FY2010. Legislators stated that:

As permanent law, the Health and Welfare Budget Reconciliation Bill (BRB) (Laws 2009, 3<sup>rd</sup> Special Session Chapter 9) allows the department to establish and collect nonrefundable fees for license, renewal licenses and architectural drawing reviews. Prior to the passage of the Health and Welfare BRB, these fees were set forth in permanent law, however, the new law now allows the department to establish and raise fees for health care institutions. Fees collected on or before December 31, 2009 are deposited into the General Fund, which is where revenues were deposited prior to the statutory change. The Health and Welfare BRB requires the department to deposit 90% of assurance and licensure fees into the Health Services Licensing Fund with the remaining 10% to be deposited into the General Fund beginning January 1, 2010. Monies in the Health Services Licensing Fund are subject to legislative appropriation. (p. 227)

According to the legislature, the fund was created to tie the funding sources with their uses. The arrangement legislators chose allowed the new fund to contribute 10% of what flowed into the general fund to be a discretionary funding rather than mandate 100% of the licenses and fees flow to the Health Care Licensing Fund. The reason that its budget received a substantial increase was because it was annualized to the full-year's appropriation in FY2011 as opposed to the prior year's half- year appropriation. Revenue for the fund (and general fund) began flowing in on January 1, 2010, which is in the middle of FY2010. Therefore, revenues collected in the funds in FY2010 represented only a half of the full fiscal year's budget. And FY2011's budget reflected the full year's revenue associated with this fund.

Toward the end of the last stage of budget cuts, DHS management started to change personnel rules and business processes through avenues such as elimination of vacancies, substituting paper works to electronic forms and reducing the frequency of trash collection in the office building. Reflected in numbers, DHS operating expenditures, meaning the expenditures to run the department, were lower than the amount in FY2010

for about 4.4 million (by comparing the total expenditure of FY2011 and FY2010 in Table 4.21).

Table 4.21

*FY2008 –FY2011 Actual Expenditure and Full Time Equivalent Position Comparison*

	FY2008 Actual Expenditure	FY2009 Actual Expenditure	FY2010 Actual Expenditure	FY2011 Actual Expenditure
Full Time Equivalent Positions	1821.4	1818.4	1628.4	1632.1
Personal Services	47,964,000	48,307,000	56,846,100	51,422,500
Employee Related Expenditures	17,391,800	17,540,400	23,262,000	21,900,800
Professional and Outside Services	9,036,400	8,748,100	10,782,200	10,990,800
Travel - In State	198,200	173,500	421,500	408,600
Travel - Out of State	16,500	1,600	3,085,400	53,100
Other Operating Expenditures	21,902,300	25,105,700	32,578,000	37,595,200
Equipment	871,900	314,600	766,600	970,500
Operating Expenditure	97,381,100	100,190,900	127,741,800	123,341,500

*Note.* Data come from Appropriations Reports of FY2008 to FY2012.

However, by looking at the longitudinal data from FY2008 to FY2011 in Table 4.22, the operating budget did not fall as expected. Instead, the operating budget of FY2011 was higher than FY2010's for about 30 million.

Table 4.22

*FY2008-FY2011 Enacted Operating Budget and Full Time Equivalent Position Comparison*

	FY2008 Enacted Budget	FY2009 Enacted Budget	FY2010 Enacted Budget	FY2011 Enacted Budget
Full Time Equivalent Positions	1821.4	1818.4	1628.4	1632.1
Personal Services	51,211,300	48,440,800	48,590,700	49,783,700
Employee Related Expenditures	18,032,500	17,125,900	17,671,300	20,714,100
Professional and Outside Services	8,949,900	8,545,500	9,049,400	11,766,800
Travel - In State	283,000	257,700	195,100	385,600
Travel - Out of State	33,100	23,200	7,300	41,300
Other Operating Expenditures	45,439,400	20,205,700	25,171,700	46,846,600
Equipment	297,000	741,700	254,400	923,500
Operating Budget	124,246,200	95,340,500	100,939,900	130,461,600

*Note.* Data come from Appropriations Reports of FY2008 to FY2012.

*4.2.3.4 Summary*

Overall, findings above suggest that:

1. As general fund cuts became more severe, programs which depended on general fund resources were stimulated to establish or increase fees to become self-funded programs.

2. No lump sum cuts were requested at the end of budget cuts stage.

3. Toward the end of the fiscal crisis, DHS top managers began reforming personnel rules and business processes to maintain low operating costs to gain efficiency, but data showed that they failed to reduce expenditures immediately.

To explain in more detail, first, as general fund cuts grew more severe, program managers, who depended heretofore on general fund resources, were stimulated to find ways to make their programs support themselves. The establishment of the health care licensing fund was an apt illustration. This fund was established in the middle of FY2010



with the purpose of collecting designated revenues and being able to avoid the general fund budget cuts. Because the general fund sources were the largest funding pool in the state, its resources were also widely shared. However, during recessions such as the one creating revenue shortfalls in 2007-2010, the impact of the general fund budget reductions must spread to many programs that were funded by it. In this case, setting up a new fund was beneficial in terms of securing and earmarking funding sources with its uses. When other programs face a general funding cut, a separated state fund can easily avoid being cut.

Second, surprisingly, lump sum cuts were not assigned to DHS this year. Instead, there was a 45 million reduction on Medicaid programs, which was to reflect the changes of FMAP. At the beginning of FY2011, the enhanced FMAP, meaning the federal government paid a higher percentage of approximately 75% of total Medicaid budget, was said to expire in the middle of FY2011. Thus, the state legislature incorporated this factor into the DHS budget at the beginning of the fiscal year. Later, Congress had passed legislation to extend the enhanced FMAP for another six months until June 30, 2011, which to DHS was a savings on the general fund. Therefore, the state legislature required DHS to cut the Medicaid state match general fund budget for 45 million, which helped to alleviate the financial difficulties the state faced without hurting the services capacity of DHS.

Last, toward the end of the fiscal year, operations expenditures did not get reduced. Instead, the actual expenditures and operating budget increased. Therefore, one cannot conclude the department's operating costs were reduced after years of severe budget cuts. DHS top managers had started to find ways to overhaul administrative processes and

enable the department to lower costs while becoming more efficient and productive. Yet the effect was not reflected through savings during the recession years.

## CHAPTER V DISCUSSION AND CONCLUSION

### 5.1 Introduction

This chapter consists of five sections. After this introduction, in the second section, I will briefly restate the findings. In the third section, I will provide my interpretation and analysis of the pattern of cutbacks. In the fourth section, I present my conclusions about this research, covering what research, including mine, suggests about cutback budgeting. In the fifth section, I will discuss my research's policy implications. That is, I will suggest how this research might be used by other researchers and practitioners to understand budget cutting during events such as the 2008 recession.

### 5.2 Restatement of the Findings

This research reveals the budget cutback process within a large Arizona state agency during and after the 2008 recession in the United States. It reveals that cutback management is best understood as a stage-by-stage process lagging the immediate deterioration of the state's economy. Each Department of Health Services budget cutback stage has distinct characteristics.

First, at the beginning stage of budget cuts, the general fund took the bulk of cuts while the other restricted funds had few cuts. Across-the-board cuts were allocated to non-mandatory programs, the largest being the general fund. Moreover, both personnel and services budgets in these non-mandatory programs were cut deeply.

Second, in the middle period of budget cuts, cuts on the restricted fund were implemented through fund transfers and excess balance transfers from state earmarked funds to the general fund. Selective reductions were preferred, which were concentrated

on Medicaid programs state match funding. In addition, cuts in personnel expenditures stabilized, meaning the amount of cuts was small, and the majority of newly allocated cuts were taken from services budgets.

Third, at the end stage of budget cuts, program managers who depended on general fund resources began establishing or increasing fees to develop self-funded programs. Public administrators demonstrated great interests on reforming personnel rules and adjusting business processes through avenues such as elimination of vacancies, substituting paper works to electronic forms and reducing the frequency of trash collection in the office building to lower operating costs, but data showed that they failed to reduce expenditures immediately.

### 5.3 Patterns of Cutbacks

#### *5.3.1 Possible Patterns within the Findings*

Based on the findings above, what patterns did cutbacks demonstrate? Do cuts demonstrate certain sequences? And if so, what are they? Pattern, according to the Oxford dictionary, refers to “a regular and intelligible form or sequence discernible in the way in which something happens or is done”. Here, it is used to describe how cuts are made across time during a fiscal crisis. Research studies on cutbacks have revealed conflictive patterns. In general, there are three different patterns suggested by scholars: decremental, punctuated decremental and rational. If not, we can declare that cuts are random and there is no pattern.

(1) Levine, Rubin and Wolohojian (1982)’s interpretation of cutbacks can make cutting back be read as a random process or no pattern. In this sense, cutting back follows

the “garbage can” model by Cohen, March and Olsen (1972). They observed decision makers facing uncertainty similar to that of the Arizona Department of Health Services faced in the 2008 fiscal crisis, intervening randomly in such a way that problems, solutions and participants joined in unpredictable ways. Rubin and Wolohojian could be saying that, in hindsight, there is no discernible pattern among cutbacks.

(2) The pattern of decremental cutbacks is featured in the studies by Schick (1986, 1988) and Behn (1985). Schick suggested that “budget is an adaptive process” (1988, p. 523). Adaptations were made along with the economic and political changes. During fiscal crises, cutback budgeting was achieved through marginal reductions on expenditures, which Schick called a decremental budgetary process. Behn (1985) pointed out that budget cutback was a decremental process.

(3) Levine’s 1985 study is aligned with the “punctuated decremental” model (Baumgartner and Jones, 1993). He pointed out that cutback management in the long run, meaning five years or more, was a decremental process punctuated by strategic management and innovation, or using his words, a transition from “traditional approaches” to “non-traditional approaches” (p. 698). At the beginning of a fiscal crisis when cuts were moderate, budgeters tended to make piecemeal cuts from here and there covering a wide variety of programs. Gradually, as the financial crisis got worse or prolonged, government officials would have to make creative innovations and apply strategic management approaches, e.g. decentralization management, changing service delivery models, and partnering with private entities to generate savings.

(4) The rational decision model suggests that budget cuts are made on the basis of strategic priorities and the performances of the various organizations, their subunits and

their programs (Faudla, Savi et.al, 2015). Cutting back rationally requires budget makers to predict the consequences of cuts prior to making them in order to achieve the goal of Pareto optimality, or at least minimize the negative effects brought by cuts.

### *5.3.2 Patterns among the Findings*

Relating the patterns of cuts to the case of DHS, the characteristics of different stage demonstrated patterns as well. I will explain by stages.

First of all, at the beginning of cuts, lump sum cuts were distributed to a wide variety of non-mandatory programs, which reflected the pattern of decremental cuts. On one hand, decremental budget cuts followed a top-down model (Behn, 1985). In the case of DHS, the legislature required cutback amounts by lump sum appropriations. The choices within the lump sum cuts were decided by DHS' top managers.

In the DHS case, top managers decided the total amount available for individual programs (Schick, 1986). To be more specific, DHS top managers chose how much cuts was to be shared among programs. On the other hand, the distribution of lump sum cuts through across-the-board cuts reflected the adaptive nature (Schick, 1986) of decremental budgeting. Public administrators use the baseline to calculate cutback objectives at the agency level. How much to cut was heavily dependent on the base appropriation given to a program in the first place.

In addition, the cuts were widely distributed. In DHS' case, piecemeal cuts were made to 68 programs for a total cut of 36 million. By having almost all programs share the pain, DHS top managers hoped (Humble, 2009) program managers would perceive the cutbacks to be equitable (Behn, 1985). The perception of equity might increase the

chance of making successful cuts. Meanwhile, across-the-board cuts, a decremental rationale, avoided jeopardizing a few programs heavily and spread less pain more widely by accumulating baby step cuts on a wide variety of programs. The decremental approach could possibly help minimize unforeseeable turbulence brought by cuts.

Furthermore, by looking at the programs selected for cuts, I argue that a rational pattern was observed among decremental cuts. Recalling the findings at this stage, cuts were mostly allocated to prevention, health research, nutrition and early diagnosis programs, such as the senior citizen food program, vaccines, folic acid dietary supplemental, and Alzheimer's disease research. These programs dealt with non-fatal health problems. Before making decisions to cut these programs' budget, the department had gone through rounds of evaluations regarding the impacts of cuts. Department budget staffs were required to provide impact statements to the top managers explaining the potential consequences and remedial measures of cutting 5%, 10%, 15% and 20% of programs' budget. Cutting only non-fatal health problem programs contrasted with cutting those for acute care programs, DHS managers swapped the now for the uncertain future; cuts to programs for non-fatal health problems may bring negative consequences to the system of public health in the future.

Second, in the middle stage of cuts, the pattern of decremental cutback persisted, and evidence suggested that cuts made in FY2009 – the beginning of budget cuts, were carried over to FY2010 along with additional reductions.

Selective cuts were also made to large programs. During this period, two rounds of services program lump sum cuts, or a total reduction amount of 26 million, were absorbed by only 12 programs. Compared with the across-the-board cuts in FY2009 on

68 programs, FY2010's cuts were much more concentrated.

In addition, the composition of programs being cut was also worth noticing. Out of these twelve programs, eight of them were Medicaid behavioral health state match funded programs, representing a total cutback amount of 21 million. However, the question arises as to how a state department can cut entitlement programs' budgets such as Medicaid?

Consider that programs being cut can be divided into three types:

a. Children's Medicaid Behavior Health Services state match was cut by 2.8 million. The reason? The portion cut from the state general fund was paid back from the Medicaid federal fund, a fund swap that did not affect the services capacity of Medicaid programs.

b. Medicare Claw Back payment program was cut for 4.1 million. This was due to the enhanced Federal Medical Assistance Percentage (FMAP) recalculation under the American Recovery and Reinvestment Act of 2009. In this case, the recalculation of the federal match helped Arizona save 4.1 million in state matching funds with the federal government taking the increased funding obligation.

c. 13 million was cut in FY2010 from six Medicaid state match programs due to the savings found in them. The budget of Medicaid behavioral health programs was calculated based on the eligible population plus the cost per person per visit. During recessions, health care managers expect eligible population increases due to the increasing number of people whose incomes were falling under the federal poverty line necessitating visits to public clinics rather than private ones funded by private insurance schemes. In this case, the budget of Medicaid should have increased. However, in reality,



the number of people who actually went to receive behavioral health services was not as much as budgeted. Therefore, the budget of Medicaid was higher than the actual expenditure, which enabled the department to cut the budget of state match programs while not affecting the service capacity for those that needed medical care.

Therefore, based on the reasons above, I argue that selective cuts were made during the middle stage of cutbacks, and the selection was thoughtful in the sense that cuts did not hurt the service capacity of the department. In a letter issued by the director of DHS at that time to the citizens to explain the budget cut in FY2010, he suggested an argument similar to my own (Humble, 2009). He said “regardless of whether you agree with ultimate decisions that we made to reduce our budget, I want you to know that our goal was to minimize the overall impact that the reductions will have on the services that we provide for Arizonans and protecting, to the extent possible, the long-term health of Arizona’s public health and behavioral health systems.”

During the same period of time, in addition to the cuts made in the general fund, other state fund transfers to the state general fund and cuts in personnel budgets were made. These cutback requirements were spelled out so clearly in the General Appropriation Act that DHS managers were forced to follow the requirements without much discretion.

Third, in the end stage of cutback in FY2011, the legislature’s lump sum cuts ended. Instead, two new funds emerged in that year. One was the health care licensing fund, and the other was the medical marijuana fund. The health care licensing fund was established to secure a funding source licensing programs previously financed by the general fund. The action was a rational one in the sense that an earmarked funding source was less

likely to be cut during a fiscal crisis. Segregated funding sources and uses provide continuous support for the program and, perhaps, protect the program budget when facing economic recessions.

Why is segregated funding helpful in legislative deliberations over cutbacks? Despite considering fund transfers (FRAT) and excess balance transfers (EBT), legislators whose ostensible aim is to maintain programs dependent on the general fund for support calculate whether the program had a means of self-funding. Those programs that are funding themselves through fees or licenses will not need FRAT or EBT.

For example, the medical marijuana fund was also established in FY2011. Since the fund was created through a ballot initiative voted by citizens of Arizona, I understood its creation as a phenomenon during the recession to expand financial resources without the general fund – or general tax – support despite the political support evident in the ballot initiative results.

In addition, DHS also took actions to reform its business processes. Among these actions were avoiding filling vacant positions, consolidating administrative functions, substituting paper works with electronic forms and utilizing performance measures to evaluate employees' performance. The problem was that these actions did not bring immediate reductions in agency expenditures.

### *5.3.3 Summary of Patterns*

Overall, I argue that the patterns of cutbacks at DHS during the 2008 recession were decremental and rational. In the first stage of budget cutback, across-the-board cuts were made in order to meet the required lump sum cuts. Across –the –board cuts were

decremental yet the selection of programs was rational – cuts were allocated on those non-fatal health services discretionary programs, such as prevention programs, nutrition programs and public health research programs, amongst others, without bringing serious consequences immediately to the public health like cutting acute care programs. In the middle of the cutback stage, selective cuts were made, but were in thoughtful ways without hurting the department’s actual services capacity. At the end of budget cuts, new funds were created to secure the sources and uses and provide programs better protection from cutbacks in future recessions. Self-funding also suggests a rational pattern of cuts.

#### 5.4 Conclusion

Based on evidence accumulated during the 2008 recession, I found that the pattern of cutbacks within DHS was decremental and rational. Facing lump sum cuts, across –the –board cutbacks were taken at first to distribute fiscal stress among a wide variety of programs. Later, when selective cuts were needed, the selections were rational in the sense of minimizing the negative effects and preserving the core functions of departments. Unlike patterns suggested by many scholars, I did not observe much randomness among cuts. I also did not witness the cutback pattern of punctuated equilibrium in which only sporadic efforts are made to cutback budgets. Public administrators did their best to make cuts without bringing immediate negative impacts. However, one could argue that in the long run, cutting programs such as prevention and research programs may lead to poorer public health services as a consequence. Yet compared- with cutting acute care, crisis intervention or trauma services, which can jeopardize the welfare of certain individuals at present, prevention and research may have to wait on a restoration of funding, including

efforts to backfill appropriations that were cut.

In addition, I wonder why random cutting was not observed, since it was a typical type of cut suggested by many scholars (Levine, 1978, Pammer, 1990, Lewis and Logalbo 1980, Maher and Deller 2007 et. al). My understanding is that the narrow scope of my research subject, my role of participant observer, the multiple years' observation period covered in the research and the level of details I looked at, ruled out the conclusion of random cuts.

For example, Pammer (1990) surveyed 120 cities to see administrators' reaction to cuts and found retrenchment strategies were random. So did Maher and Deller (2007), who used cross-sectional data in order to find the patterns of cuts among different cities. Or even earlier, Levine (1978) provided a cluster of cutback tools and often read use as unpredictable. However, I think the conclusion of randomness was not thoughtful enough. First of all, when comparing many cities in a study with the purpose of finding similarities of cuts, the observation stand point was too macro to make sense of the context. And if no similarities were found, just saying cuts were random may not be thoughtful either. Just like the case of Maher and Deller (2007), the random conclusion was based on the result that four of their five models were statistically significant, and the percent of variance explained was relatively low. The statistical analysis provided support for a random pattern of cutbacks (p.1568).

Second, when researchers list the cutback tool box or inventory, one has to be very careful to say it represents a random pattern. Cutback techniques were provided to administrators to use, but it did not mean the selection was random. Instead, this research informed me that public administrators in fact select the tools and decide the programs to

cut very carefully and thoughtfully, at least at the department level where managers must face and absorb lump sum cuts to specific programs instead of delivering lump sum cuts to the next level again. In this case, I suggest reviewing the validity of randomness cutback conclusions to see if it provides enough useful information or trends.

I do admit that my observations of rational and decremental patterns are not perfect either. In reality, rational decision making – especially when based on the assumption of an all-knowing, all-seeing person - does not exist and boundedly rational decision making makes more sense. And I agree that my labeling the cuts as rational should have been “boundedly” rational.

Moreover, decremental patterns need to be pondered further. Some scholars believe incrementalism is a biased observation and incomplete summarization of the cutback process. Natchez and Bupp (1973) studied the budget at the Atomic Energy Commission (AEC) and reported that “in the context of the ‘massively stable’ processes cited by other scholars, there is considerable variation in the fortunes of federal activities at the program level” (p. 962). According to the authors, budget figures, which were used by some scholars to justify the incremental nature of budget were actually determined by two distinguished processes simultaneously – budgetary process and policy process.

Budgetary process was a public accounting process established for the purpose of recording the dollar amount of allocations at the aggregated level by different units. From the administrative behavioral standpoint, budgetary process appeared to be incremental. However, budget figures were also affected by the policy process, which was a competitive process among subprograms for limited resources. Compared with a budgetary process, a policy process included many unpredictable incidents, which made

it rather chaotic. Therefore, if considering budget as the product of a budgetary process and a policy process, one should not make the statement that budgeting is an incremental process.

Additionally, LeLoup (1978) had a similar skepticism toward incremental budgeting. He pointed out that when incrementalism was used as the framework to interpret and analyze budgeting, the conclusions were unlikely to be incremental. In addition, the level of aggregation, the time, the objective of analysis and the selection of variables can all influence how people understand budgeting. First, “the risk of a higher level of aggregation is that variation is often masked, gains and losses by competing programs cancel each other out in the totals, [all of which have] a tendency to bias results towards incremental interpretations” (p.498). Second, as a common practice, the annual budget was used most in budget studies. However, “the analytical choice of single years as the time frame precludes theoretical explanations of three quarters of the budget” (p.500). Last, incrementalists tended to use appropriation levels to measure and analyze budget. However, studies showed that if using other parameters to analyze budget - for example, percentage change in appropriation - the conclusion could be overturned.

However, in order to respond to the criticism from scholars above, I argue that my level of observation is at the budgetary process one, and I intentionally leave out the policy process. For instance, my observation started at how lump sum cuts were absorbed within the department instead of questioning how lump sum cuts were given to the agency in such amounts and why. Therefore, I argue that only in this budget, not policy, sense, the budgetary process of cutbacks is decremental.

In addition, I reply to LeLoup that the observations I made in my research went

beyond the aggregated budget level and the annual budget of a single year. Instead, my observation went from the aggregate to the individual cutbacks, from the top level to the very bottom of what programs were being cut. In this case, conclusions are not masked by the aggregated budget numbers.

Lastly, if I altered the measurement of cuts by percentage points as reminded by LeLoup (1978), I think my conclusions would not change. The reason came from the fact that more than 60 programs had shared the cuts in my study, and in this case, measuring by dollar amount or percentages would not make much difference.

### 5.5 Policy Implications

As mentioned in chapter I, cutback research efforts in government settings have not increased as expected for many reasons. Public administrators prefer either running a deficit if it is allowable, just like what happens at the federal government, or imposing scenarios that no budget cut is necessary, such as increase revenue base by levying tax or charging fees. However, cutback itself has not been paid much attention. In this sense, this research adds value to the budget cutback literature; looking at the cutback process over a period of time reveals distinctive characteristics at different stages, and the pattern of decremental cuts yielding to more rational ones prevailed. This research also has methodological contributions. It focuses on a state agency and analyzes the secondary data of seven years during recession from various resources, including budgetary materials, legislation, accounting materials and many program reports related to budget cuts.

It is a longitudinal comparison and descriptive analysis from year to year. It also

drills down to a single year and explains the rounds of cuts within that year: what they are and what for. In addition, it goes to each round of cuts and finds out the reduction allocation on programs: what programs they are and how much they have been cut. In the meantime, when differences are observed, statistical tests are applied to verify whether these appear-to-be trends are statistically significant.

Being a participant observer in the research has the advantages of maintaining a comprehensive understanding of the cutback numbers and being able to utilize various sources to verify what I suspect. It also helps conquer the situations that cutback researchers either go to number comparisons from a grand stand point without many details, or concentrate on a few programs with sufficient detail but sacrifice coverage.

For public administrators in dealing with a fiscal crisis as severe as the 2008 recession in the future, they should keep the value of protecting vital programs; make cuts in a thoughtful way and seek restoration of funding after the fiscal crisis. Establishing new funds to secure funding sources and uses in order to sustain programs can be an option to deal with cuts. However, sources and uses have to be budgeted and managed well. If revenues are greater than outlays, the fund will have accumulated fund balances, which can be transferred to backfill the general fund. In addition, if vacancies are not filled in a timely manner, during recessions, these vacancies can be eliminated as a strategy of cutbacks.



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