PUBLIC ADMINISTRATOR CHOICE

IDAHO SCHOOL DISTRICT FINANCE POLICY OBSERVED

by

Cameron Marcus Arial

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The following individuals read and discussed the dissertation submitted by student Cameron Marcus Arial, and they evaluated his presentation and response to questions during the final oral examination. They found that the student passed the final oral examination.

Gregory Hill, Ph.D.	Chair, Supervisory Committee
Stephanie L. Witt, Ph.D.	Member, Supervisory Committee
Richard Osguthorpe, Ph.D.	Member, Supervisory Committee
Justin Marlowe, Ph.D.	Member, Supervisory Committee

The final reading approval of the dissertation was granted by Gregory Hill, Ph.D., Chair of the Supervisory Committee. The dissertation was approved by the Graduate College.

DEDICATION

I dedicate this dissertation to my family: My wife Jamie whose steady encouragement pushed this boulder up the hill even though some days it refused to move; my children—Beck, Lincoln, Cache, Golden and Mabel who unknowing sacrificed their Dad. Thank you for all the hours away. I will work to make them up to you.

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AUTOBIOGRAPHICAL SKETCH OF AUTHOR

The author Cameron Marcus Arial graduated with a Bachelor of Arts degree in Law and Constitutional Studies from Utah State University. During his senior year he completed correspondence course work while doing an internship at the Utah State Legislature and Lee and Smith, PC in Washington, DC. He later completed a Master of Public Administration and a Graduate Certificate in Community and Regional Planning from Boise State University while working full-time. A distinct uniqueness of his academic path is that his studies were always accompanied by practical application in his work. In his career as a Municipal Advisor he was able to directly apply his academic endeavors to real-life scenarios to the benefit of his municipal clients. He became particularly expert in municipal budgeting, organizational theory, intergovernmental relations, principal-agent applications, government relations, and public finance. Mr. Arial has for many years presented at Idaho municipal conferences on public finance related topics and has been published in numerous newsletters and periodicals.

ABSTRACT

Physical facilities are essential for Idaho public school districts to fulfill their constitutional mandate "to establish and maintain a general, uniform and thorough system of public, free common schools."[1] Because these physical facilities cost millions of dollars to construct, a common and prudent means of financing them is to borrow through the municipal bond market. Accessing the bond market to obtain these needed funds is an infrequent and complex process for most Idaho school districts and the administrators who are charged with carrying out these financings. For this purpose, school administrators look to the guidance of financial professionals to assist them. Prior to 2001, administrators were required to use a competitive sale (selection of an underwriter is done through an open bidding process) to issue their school district's bonds. Following a 2001 policy change that made it permissible to use a negotiated sale (bonds are sold to a pre-selected underwriter), 73 bonds were issued using a negotiated sale using only an underwriter (financial professional acting as the broker who buys all the bonds and resales them to investors) and with no municipal advisor (financial professional who has a fiduciary duty to their municipal client). On August 2, 2006, the McCall-Donnelly School District used a request for proposal (RFP) to select a municipal advisor (MA) and at that MA's recommendation the District used a competitive sale to issue its bonds. This was the first competitive sale since the policy change. Since then through 2016, there

[1] Constitution of the State of Idaho; Article IX: Education and School Lands; Section 1. Legislature to Establish System of Free Schools.

were 109 bonds issued with a mix of 75 negotiated and 34 competitive sales. First, this dissertation examines, with the aid of industry best practice and past scholarly research, whether there is a fiscal impact of competitive sales compared to negotiated sales using a dataset of all 194 Idaho school district bonds sales from 2001 through 2016. Second, this research seeks to understand the decision-making process school administrators undertake to issue their bonds. This is accomplished using an original survey that was sent to the entire population of Idaho school district administrators. Ultimately, this dissertation provides insight into the effects of Idaho's shift to more negotiated sales and why administrators choose the financing methods they do.

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LIST OF ABBREVIATIONS

BSU	Boise State University
CSG	Council of State Governments
CUSIP	Committee on Uniform Securities Identification Procedures
DV	Dependent Variable
EFIB	Endowment Fund Investment Board
EMMA	Electronic Municipal Market Access
GC	Graduate College
GFOA	Government Financial Officer's Association
GO	General Obligation
H	Hypothesis
IASA	Idaho Association of School Administrators
IASBO	Idaho Association of School Business Officers
ISBG	Idaho School Bond Guaranty
ISSA	Idaho School Superintendents Association
IV	Independent Variable
LOGIT	Logistical Regression
MA	Municipal Advisor
MIG	Municipal Investment Grade
MMD	Municipal Market Data AAA Curve
MSRB	Municipal Securities Rule-Making Board

NCSL	National Conference of State Legislatures
NGA	National Governors Association
NSBA	National School Boards Association
RFP	Request for Proposals
S. 1158	Senate Bill 1158
SQ	Screener Questions
SEC	Securities and Exchange Commission
SPSS	Statistical Package for Social Sciences
TDC	Thesis and Dissertation Coordinator
TIC	True Interest Cost
TM3	The Municipal Market Monitor

CHAPTER 1: INTRODUCTION

I. Introduction

Prior to 2001, Idaho school district bonds were required to be sold using a competitive bond sale, a transparent bidding process used to select an underwriting firm that buys all the district's bonds and then resells them to investors (MSRB, 2018). During the 2001 legislative session, the Senate Local Government and Taxation Committee debated Senate Bill No. 1158, which was a significant overhaul of the municipal bonding statues. The most significant change the legislation made was that it allowed school districts the option of issuing bonds through a negotiated bond sale, described as a

> private sale of bonds, notes or other obligations pursuant to a written contract, and not to the award of sealed or electronic bids submitted at public sale. (A) Written contract means a written contract between the issuer of the bonds, notes or other obligations, as seller, and the purchaser, which contract shall specify the principal amounts, maturities, interest rates, redemption provisions, if any, and other relevant terms of the sale (S. 1158, 2001).

According to the bills' main supporters, Floyd Ayers of Seattle Northwest Securities and the Idaho Bankers Association Executive Director Barbara Strickfaden, who were "testifying on behalf of the public finance companies in Idaho,":

> Idaho Law currently requires that all school district general obligation bonds be sold at competitive (bid) sale. Cities and some other local government entities may sell revenue bonds at negotiated sale, and State agencies such as the State Treasurer, the Student Loan Fund, Housing Agency, Water Resource (Board), are permitted to negotiate their bond issues.
>
> The purpose of the proposed legislation is to add a marketing option to school districts. School districts are currently compelled to offer their bonds at public auction. In today's marketplace of volatile interest rates, picking a date to hold an auction of bonds can arbitrarily subject the entity to market swings of 50 basis points or more (100 basis points equals one percent). The only recourse

> currently available to the unity of local government is to reject all bids and, in some cases, negotiate. Or re-advertise for bids with the same delay and the same risk in arbitrarily picking another date (S. 1158, 2001).

The bill received some minor criticism from the Idaho Newspaper Association Executive Director Bob Hall who stated, “This is a radical, historic making decision, and…the public should have the opportunity to view private sale options.” The committee held the bill and asked that Mr. Ayers and Mr. Hall meet to come up with some amicable solutions. The bill was brought back to the Committee with minor amendments like,

> If bonds are sold at private sale, notice of the intention to sell such bonds at private sale shall be published once in the name of such issuer in a newspaper of general circulation within the issuer’s boundaries at least (3) three days prior to the time scheduled by the issuer for approving the private sale of such bonds. Failure to comply with this requirement shall not invalidate the sale of the bonds, so long as the issuer has made a good-faith effort to comply (S. 1158, 2001).

The bill was then passed out of committee and the full Senate on a 32-1 vote. In the House Revenue and Taxation Committee, Steve Purvis, City of Boise Finance Manager, and Phil Homer, lobbyist for the Idaho Association of School Administrators, testified in support of the legislation. It was then approved out of committee and the full House on a 64-0 vote. The governor signed the legislation into law on March 31st, 2001.

S1158aa.....by LOCAL GOVERNMENT AND TAXATION
BONDS - NOTES - ELECTRONIC BIDDING - Amends and adds to existing law to authorize the sale of bonds, notes and other obligations of public entities at public or private sale; to authorize sale by electronic bidding; to require a deposit in such amount as the government body deems necessary; and to authorize the use of a surety bond as bid security.

02/12 Senate intro - 1st rdg - to printing
02/13 Rpt prt - to Loc Gov
03/02 Rpt out - to 14th Ord
03/08 Rpt out amen - to engros
03/09 Rpt engros - 1st rdg - to 2nd rdg as amen
03/12 2nd rdg - to 3rd rdg as amen
03/13 3rd rdg as amen - PASSED - 32-1-2
AYES -- Andreason, Boatright, Branch(Bartlett), Bunderson, Burtenshaw, Cameron, Danielson, Darrington, Davis, Deide, Dunklin, Frasure, Geddes, Goedde, Hawkins, Ingram, Ipsen, Keough, King-Barrutia, Lee, Lodge, Noh, Richardson, Risch, Sandy, Schroeder, Sorensen, Stegner, Stennett, Thorne, Wheeler, Whitworth
NAYS -- Williams
Absent and excused -- Brandt, Sims
Floor Sponsor -- Thorne
Title apvd - to House
03/14 House intro - 1st rdg - to Rev/Tax
03/20 Rpt out - rec d/p - to 2nd rdg as amen
03/21 2nd rdg - to 3rd rdg as amen
03/26 3rd rdg as amen - PASSED - 65-0-5
AYES -- Barraclough, Barrett, Bedke, Bell, Bieter, Black, Boe, Bolz, Bruneel, Callister, Campbell, Chase, Clark, Collins, Crow, Cuddy, Deal, Denney, Ellis, Ellsworth, Eskridge, Field(13), Gagner, Gould, Hadley, Hammond, Hansen, Harwood, Henbest(Farley), Higgins, Hornbeck, Jaquet, Jones, Kellogg, Kendell, Kunz, Lake, Langford, Loertscher, Mader, Marley, McKague, Meyer, Montgomery, Mortensen, Moss, Pearce, Pomeroy, Raybould, Ridinger, Roberts, Robison, Sali, Schaefer, Sellman, Shepherd, Smith, Smylie, Stevenson, Stone, Tilman, Trail, Wood, Young, Mr. Speaker
NAYS -- None
Absent and excused -- Bradford, Field(20), Moyle, Pischner, Wheeler
Floor Sponsor -- Kellogg
Title apvd - to Senate
03/28 To enrol - rpt enrol - Pres signed
03/29 Sp signed - to Governor
03/31 Governor signed
Session Law Chapter 264
Effective: 03/31/01

Figure 1.1: S. 1158 Daily Bill Tracking History

Source: S. 1158, 2001

a. The Paradigm shifts from Competitive Sales to Negotiated Sales

This paradigm shift in policy, from all competitive sales to then allowing negotiated sales, was a logical change and did provide method of sale options that Idaho

municipalities did not have before. School districts and other municipalities now had the option of choosing the method of sale that best fit their individual district's needs.

Curiously, all 73 school district bonds that were issued after S. 1153 passed until 2006 was done through the new method of negotiation[2]. Even though school districts still had the option to issue bonds using a competitive sale, none of them chose to do so. It is worth noting that the only public finance company that had a physical presence in Idaho and that conducted all but one of the negotiated sales was Seattle Northwest Securities.

b. The McCall-Donnelly School District Uses a Competitive Sale

In 2006, the McCall-Donnelly School District #421 was the first school district in five years to again use a competitive sale to issue bonds. *Bloomberg News* captured the significance of this public finance policy change back to competitive sales as follows:

> An Idaho school district will take bids from investment banks today for $28.5 million of bonds, seeking to lower debt costs by bringing competition back to the way (Idaho) borrows. In Idaho, all new school bonds had to be sold through competitive bidding until the legislature changed the law in 2001 to allow negotiation. Since then, all 73 school bond issues, worth $832 million, have been sold by negotiating exclusive agreements with underwriters (Preston, 2006).

Bloomberg News went on to call this pivotal point in Idaho's school district finance history a "complete revival" (Preston, 2006).

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[2] In 2002, the Blackfoot School District 55 competitively sold a bond using a municipal advisor, but the advisor actually won the financing. How competitive the sale was is difficult to determine. Regulation at the time allowed for an advisor to set-up the financing and then bid on it. There were also 4 short-term notes issued by the Blaine School District 61 rated using Moody's Investment Grade (MIG) criteria. These and other taxable and federally subsidized bonds such as Build America Bonds (BABs), Qualified School Construction Bonds (QSCBs) and Qualified Zone Academy Bonds (QZABs) were excluded from the analysis. More detail is provided in Chapter 2, but suffice it to say that these were non-uniform outlier bonds and the intent of the sample was to identify a pool of homogeneous bonds.

c. Idaho School District Bond Finance from 2001 to 2016

From McCall-Donnelly School District #421's 2006 competitive sale until the end of 2013, eighty-two school districts issued bonds. Twenty-six, or 32 percent, were assisted by a municipal advisor. *All* twenty-six used a competitive sale. The remaining fifty-two issues, or 68 percent, used only an underwriter and *no* municipal advisor. *All* fifty-two sold bonds through a negotiated sale. From 2013 through 2016, there have been 6 instances of districts using a municipal advisor and a negotiated sale. Figure 1.2 provides a good illustration of the history of Idaho school district bond issuances.

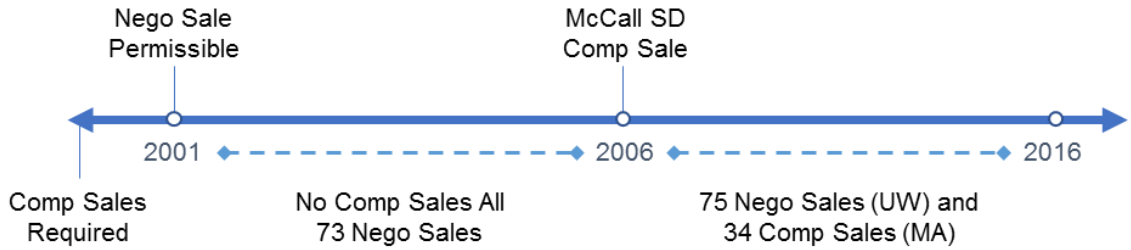

Figure 1.2: Timeline of Idaho School District Finance Policy from 2001 to 2016

d. Education Funding Remains a Priority and Purpose of this Dissertation

Education funding is a top priority of Idahoans as consistently found in recent polls (Albertson's, 2014 and 2015; Boise State, January 2016 and September 2016; Idaho 2020, 2015 and 2016; Idaho Politics Weekly, 2015). This dissertation seeks to lend significant insight into Idaho school district bond financing by understanding 1) is there a quantitative difference between competitive and negotiated sales, and 2) why do Idaho's public school districts and their administrators, who carry-out their respective district's bond financing policies, choose the method of selling bonds they do. Exploring this research question has theoretical and practical significance.

The remainder of this introductory chapter will provide valuable context into 1) understanding the bond sale process, 2) describing the advantages and disadvantages to each type of sale, 3) review the Government Financial Officer's Association (GFOA) established criteria and recommendations for choosing a method of sale, 4) Conclude with some observations that further support the two research questions mentioned above.

e. Introduction to GFOA and Public Finance Literature

According to the GFOA, there are best practices for selecting financial professionals, selecting a method of sale (GFOA, Method of Sale, 2007; GFOA, Municipal Advisor, 2014; GFOA, Underwriter, 2014). Since the late 1970s, public finance scholarship has debated both the pros and cons of methods of sale. Many suggest that governments make bond finance decisions that are not efficient when selecting professionals and processes. As a result, these governments are likely to pay more than is necessary[3] (Forbes & Peterson, 1979; Guzman & Moldogaziev, 2012; Justice & Miller, 2011; Leigland & Lamb, 1986; Liu, 2018; Luby & Moldogaziev, 2013; Miller, 1993; Marlowe, 2009; Robbins & Simonsen, 2007; Robbins & Simonsen, 2008; Simonsen, Robbins & Helgerson, 2001; Vijayakumar & Daniels, 2006).

f. Primary Research Goals

This dissertation seeks to further explore this method of sale debate with a logical subset of Idaho school district bond data. It also seeks to discover why public officials make the method of sale choices they do using a survey of all Idaho school district administrators. This research may lead to policy recommendations that could reduce the

[3] There is research that has discovered alternative results (Johnson & Kriz, 2005; Kriz, 2003; Leonard, 1996).

costs associated with bond financing for schools. Therefore, reducing the tax burden on Idaho taxpayers and/or allowing Idaho's school districts to spend scarce resources on other programs. Districts' uses of potential savings is a political decision that is independent of the finance questions discussed in this dissertation, but that are certainly worthy of addition research.

g. Secondary Research Goals

Secondary effects of the study address the concepts of increased government transparency and administrator accountability, possibly opening competitive forces and innovations to this segment of the Idaho public finance market, and increased administrator competency and professionalism. In the public sphere, these benefits translate into increased public trust and increased government efficiency, theoretically helping address Idahoans' education funding concerns.

h. Public Administration Impacts

This dissertation strikes at several core tenants of public administration and is rich with opportunities to expand the field of public finance scholarship. The public finance literature focuses primarily on the policy outcomes of bonding methods (Liu, 2018), the impacts of market professionals on bonding results (Luby & Moldogaziev, 2013), and the consequences of using the same methods repeatedly over time (Robbins & Simonsen, 2008). There is some empirical research in the broader public administration literature regarding administrator decision making (Hildreth, 1993 & 1996), but virtually no research focused on public finance administrative decision-making. This gap in the public finance research is an important one that this dissertation attempts to fill.

i. Contributions to Literature

This research will significantly contribute to the field of public finance research by: (1) providing insight into broader national and global financial concerns that continually trouble the capital markets and their interaction with responsible government; (2) analyzing existing Idaho bond results to understand if there is a quantifiable difference between method of sale types; (3) using a well-planned and administered survey of the entire Idaho school district administrator population to better understand individual administrators choices of sale methods; and (4) using quantitative statistical techniques to analyze the data collected from the survey and using the results of that analysis to formulate policy recommendations, which can institute preferred outcomes.

The results could be applied across multiple disciplines, such as economics, sociology, education, and finance. Examples of this may include competitive bidding practices for school district procurement or financing advice to corporations when they sale corporate bonds.

Beyond testing weather or not competitive bond sales are less expensive than negotiated sales as applied to Idaho school district bonds, the main gap in the literature this study seeks to fill is to answer why administrators choose the methods of sale they do? The main literary concepts it seeks to test are information asymmetry, anchoring, principal/agent dilemmas and decision theory. These concepts are described in greater detail in Chapter 2.

II. Background

a. Idaho Funding Options

Idaho's 115 public school districts have a variety of infrastructure needs that originate from growing populations, technology needs, and aging facilities (IASA, 2013). Districts have four basic ways of meeting these needs: save and pay, pay as you go, grants, and bonds. It is impractical for districts to save up funds to build needed facilities (save and pay) because taxpayers and the State Legislature do not favor the hoarding of public funds. This practice was seen in several districts I reviewed, particularly those districts that carried an ongoing fund balance. Also, teachers' unions tend to demand higher salaries when districts carry significant fund balances. Paying for facilities over time through an annual budget line-item (pay as you go) is also impractical because it may take years to construct a needed facility. Grants—if secured and administered properly—are helpful but are often insufficient to fund an entire project and often have prohibitive red tape associated with them.

Prudent districts use a combination of these methods, but to finance costly facilities, districts primarily issue general obligation bonds that require a public vote in Idaho and an approval threshold of 66.66%. This threshold is extremely difficult to obtain and Idaho is one of only two states that require such a threshold.

b. Definition of Idaho School District Administrators

Idaho school districts rely on the superintendent and the business officer to be responsible for setting a district's finance policies. In principal/agent theory, these administrators are the principals (Downs, 1957). They have the responsibility of conducting bond election campaigns, selecting a method for issuing the bonds, and

administering the ongoing finance policies of their districts. Due to the complex and specialized nature of the bond finance process, and because Idaho school districts issue bonds infrequently in general, these administrators are charged with selecting agents or other financial/legal professionals to assist them. Therefore, there seems to be a relationship worth exploring between district administrators and the expertise necessary to navigate the public bonding process.

c. Financial Professionals Defined

Administrators turn to financial professionals to assist them with their bond financing needs. In principal/agent theory, these financial professionals are the agents (Downs, 1957). The two types of financial professionals are a *municipal advisor* who has a fiduciary responsibility to the district and an *underwriter* who has no fiduciary responsibility and who ultimately buys the district's bonds and resells them to bond investors. It is important to note that an underwriter is necessary in both methods of sale as they are the ones who provide the funds to the districts in exchange for the bonds. The method, competitive or negotiated, simply determines how the underwriter is selected. The Idaho data suggests that both municipal advisors and underwriters are largely selected without using a bidding process.

d. Bond Sale Process

Figure 1.3 below is an illustration of the bond issuance process. This study focuses on understanding the method of sale section of the process. The overwhelmingly used methods of sale of Idaho school district bonds are negotiated and competitive sales. The private placement method is infrequent and unique in that it does not use the market

to sale the bonds but relies on a sole investor or a select few investors. For these reasons this method is excluded from this study[4].

[4] Though a private placement is a reasonable method of sale, there are only two known instances of a private placement being used during the sample period. Also, these financings had unique credit qualities, were unrated, or had limited disclosure associated with them making them incompatible with the sample. A private placement is defined as a capital raising event that involves the sale of securities to a relatively small number of select investors. ... A private placement is different from a public issue in which securities are made available for sale on the open market to any type of investor (Investopedia, 2018).

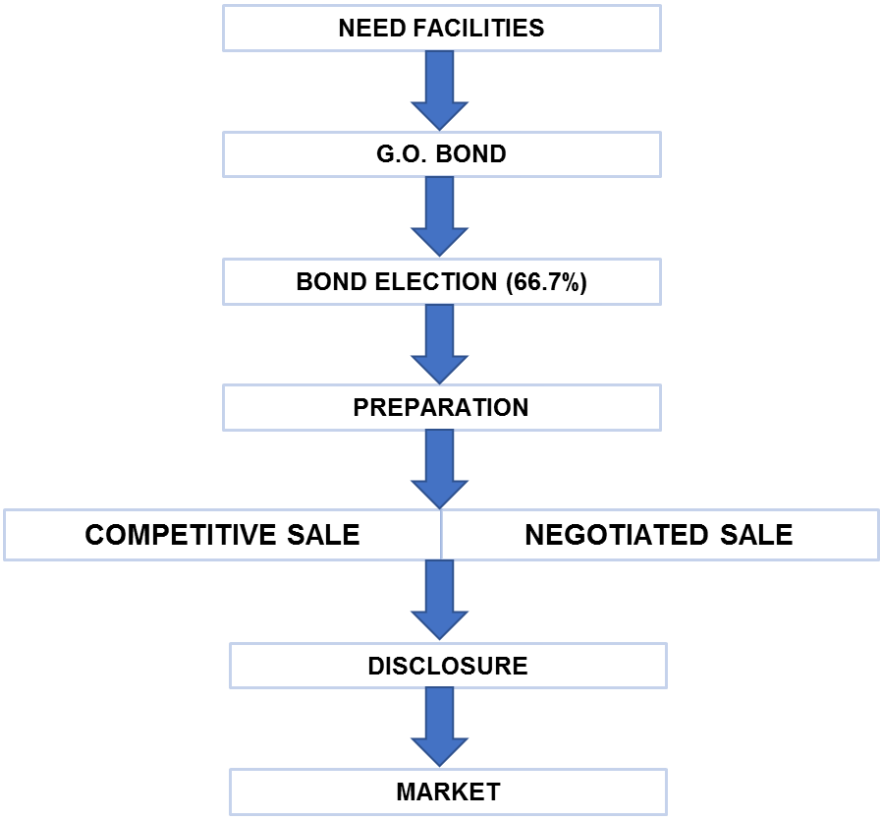

Figure 1.3: Debt Issuance Process

e. Methods of Selling Bonds

Administrators typically choose one of two methods to issue bonds. The first method is a *competitive sale*, where the entire market of underwriters can bid on the district's bonds in a transparent process where the underwriter with the lowest interest rate wins and purchases all of the bonds. Underwriters bid electronically now to purchase the bonds, and the bid with the lowest interest cost wins the bonds. In a competitive sale, the government structures the sale itself, usually with the assistance and advice of an expert financial advisor, also called a municipal advisor (MA). The issuer and the municipal advisor decide on the timing of the sale, the amount, the maturity schedule, bidding specifications, and all other particulars of the sale. When the bids are opened, the underwriter bidding the lowest interest rate wins the bonds. After the bonds are purchased

by the underwriter, they are typically resold to investors. The difference between what the underwriter pays to the issuer and the selling price to investors is called the gross underwriter spread or simply the spread. The underwriter's expenses, commissions, and profit are paid out of the spread (Simonsen & Hill, 1998).

For a negotiated sale the underwriter is chosen beforehand by the issuer. The interest costs and the particulars of the offering for a negotiated sale are determined by the terms of the agreement between the underwriter and the issuer. If the sale is large enough several underwriters may get together and form a syndicate and collectively purchase the bonds. Syndicates are formed to raise sufficient resources to purchase the bonds and share the risks of underwriting the issue. One or two of the underwriter firms will be the lead manager(s), or senior manager(s) that administer the operations of the syndicate (Simonsen & Hill, 1998).

Simonsen & Hill (1998) found that “the vast majority of the evidence suggests that competitive sales result in lower interest costs on average compared to negotiated sales, and the magnitude of this difference gets larger as the number of bids increase” (Simonsen & Hill, 1998).

f. Advantages and Disadvantages of the Methods of Selling Bonds

Each finance method has advantages and disadvantages. The literature (Simonsen & Robbins, 1996) suggests that competitive sales will generally produce the following advantages and disadvantages:

Advantages of a Competitive Sale

- Market competition is advantageous for the protection of the public interest
- Achieves an effective interest cost that is as low as possible

- Lower gross underwriting spreads, which means the margin between what the underwriter purchases the bonds and what they resale the bonds for to investors.
- Avoids allegations of unfairness or impropriety through open process.

Disadvantages of a Competitive Sale

- Limited ability to adjust the timing and structure of the bond issue
- Limited influence over choice of winning underwriting firm
- Limited influence on which firms will compose the underwriting syndicate
- Least flexibility in structuring the bonds for underwriter, since the issuer determines most of the terms of the offering (Simonsen & Robbins, 1996)

With a *negotiated sale* in which the district works directly with an underwriter who buys all the district's bonds and resells them at a profit, the underwriter selection is done without public bidding. Negotiated sale is a variable method of issuing bonds that should be tested in greater detail. Advantages and disadvantages of this method of sale are as follows:

Advantages of a Negotiated Sale

- Enables an issuer greater influence over the selection of the underwriter
- Enables an issuer greater influence on the distribution of the bonds
- Allows greater flexibility in the timing and structuring of the issue
- Issuers can more easily respond to changes in the market
- Underwriter can conduct greater pre-sale marketing, and by reducing its potential inventory risk, may be able to reduce cost

Disadvantages of a Negotiated Sale

- Lack of competition

- Underwriter may structure the offering to maximize its own profits
- Underwriters may be chosen based on favoritism
- Issuers must stand ready to defend the qualitative and quantitative factors used in its selection of the underwriter and resulting negotiated sale
- Exclusive relationship between the underwriter and issuer may cost the district more than if it used a competitive bond sale
- Issuers may receive services that are unneeded, and priced accordingly
- Requires issuer to apply additional scrutiny to the total costs of the underwriting, which they may not have access to or fully understand (Mysak, 2005)

There are several factors that should be considered when determining which method of sale is most appropriate for a given issue. These factors relate to the type of issuer and the type of issue. When looking at the issuer, it is important to consider (1) the issuer's market understanding as well as (2) its creditworthiness and (3) the issuer's financial goals. As for the bond issue itself, it is important to consider (1) the type of security being offered, (2) the market conditions, and (3) the size and complexity of the issue. Many government finance officers use a list of criteria when selecting either a competitive sale or a negotiated sale. Although each bond sale should be viewed on a case-by-case basis, the following factors would favor a competitive sale:

Factors Favoring the Use of a Competitive Sale

- The rating of the bonds is investment-grade (Moodys – Bbb3 or S&P – BBB- or higher) either with or without credit enhancement.

- The bonds are general obligation bonds or full faith and credit obligations of the issuer, or revenue bonds that are secured by a strong, known, and long-standing revenue stream.
- The bonds being offered are structured without innovative or new financing features that require an extensive explanation to the bond market.
- The issuer raises capital often and is well-known in the market.
- The municipal bond market has relatively stable market conditions.

"As the number of bids increase, so do the estimated savings associated with competitive sale" (Simonsen & Robbins, 1996).

The following factors would favor a negotiated sale:

Factors Favoring the Use of a Negotiated Sale

- The rating of the bonds is not investment-grade (Moodys – Bb1 or S&P – BB+ or lower) either with or without credit enhancement.
- Bond insurance or other credit enhancement is unavailable, or not cost-effective.
- The issuer is new to the market or has limited public borrowing experience.
- The structure of the bonds has innovative or new financing features that require extensive explanation to the bond market.
- The issuer, after consulting with its municipal advisor, believes the use of a negotiated sale process will be advantageous
- The amount of the debt being issued is very large or very small (Simonsen & Robbins, 1996).

In general, if the issuer is a smaller municipality that is relatively unknown to the market, and/or has a low level of credit strength, a negotiated sale may be more

appropriate. This would enable the underwriter to conduct pre-sale marketing to inform the market of the issue and determine optimal pricing. In addition, issuers who wish to involve smaller firms would typically choose negotiated sales, as these provide the issuer with greater control of the distribution of the bonds. Smaller municipalities should be cautious when considering a negotiated sale as it has been found that the size of the municipality using a negotiated sale can increase borrowing rates (Simonsen, Robbins, & Helgerson, 2001).

Two recent examples of the value of a negotiated sale are related to the ability to time a market and extended pre-sale marketing. The first example of the need for timing a market is evident with the Madison School District 321 who had a refunding bond issue that was just short of their interest savings requirement. The district's ability to sale the bonds when the market was known to be favorable was accomplished using a negotiated sale.

The second example of extended pre-sale efforts is evident with the Dietrich School District 314, who had some negative media related to the abuse and bullying of a student that made national press. The underwriter's ability to explain these "story bonds" to investors, or that these events were not related to the credit of the bonds, enabled the bonds to be sold at reasonable yields.

Traditional debt instruments such as general obligation bonds offered by large, well known issuers are typically better off using a competitive sale. Smaller issues or ones that incorporate non-traditional features such as variable interest rates, put options,

or swaps[5] may be more suited to a negotiated sale by an underwriter who is experienced in structuring and marketing such offerings. Negotiated sales are also advisable when dealing with a so-called *story bond*[6], which requires considerable marketing to explain features of the bonds that may otherwise be difficult for investors to understand.

Market timing is also an important factor in deciding between bond sale types. Given a stable interest rate environment, a competitive sale may be preferred. However, in volatile markets[7], the flexibility of a negotiated sale may be the better choice.

g. GFOA Recommendations for Choosing a Method of Sale

Established in 1906, the Government Finance Officers Association (GFOA) is the national trade organization for Idaho municipal government finance officers and is made up of public officials in the United States and Canada. The goal of the GFOA is to promote positive change in public finance administration. The 18-member executive board and several standing committees produce a host of best practices and advisories to assist public administrators on finance-related topics. These best practices are carefully formulated using the collective wisdom of more than 50 people with extensive and diverse experience in finance administration (GFOA, 2014).

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[5] A variable interest rate is an interest rate on a loan or security that fluctuates over time, because it is based on an underlying benchmark interest rate or index that changes periodically. A put option is an option contract giving the owner the right, but not the obligation, to sell a specified amount of an underlying security at a specified price within a specified time frame. A swap is a derivative contract through which two parties exchange financial instruments. These instruments can be almost anything, but most swaps involve cash flows based on a notional principal amount that both parties agree to. Each cash flow comprises one leg of the swap. One cash flow is generally fixed while the other is variable, which is based on a benchmark interest rate, floating currency exchange rate, or index price (Investopedia, 2018).

[6] A bond so unusual or having such complicated features that salespeople are frequently called on to explain its intricacies to customers. Story bonds sometimes offer slightly higher yields than ordinary bonds as a way of convincing investors that they are worth holding (Investopedia, 2018).

[7] Volatile markets are usually characterized by wide price fluctuations and heavy trading. They often result from an imbalance of trade orders (Investopedia, 2018). Volatility in the municipal bond market may be caused by geopolitical events, Federal Reserve actions, legislative and regulatory actions, municipal news coverage, and credit rating actions to name a few.

On the topic of bond financing, the GFOA states that the number one goal of any financing is to "achieve the lowest cost of borrowing" (GFOA, Method of Sale, 2007). With that overarching goal in mind, the GFOA also cites two areas of concern with achieving this goal. First, they state:

> There is a lack of understanding among many debt issuers about the appropriate roles of underwriters and financial advisors. The relationship between issuer and financial advisor is one of 'trust and confidence' which is in the 'nature of a fiduciary relationship.' This is in contrast to the relationship between the issuer and underwriter where the relationship is one of some common purposes but also some competing objectives, especially at the time of bond pricing (GFOA, Method of Sale, 2007).

The second concern is:

> A lack of a competitive Request for Proposals (RFP) process in the selection of underwriters in a negotiated sale and the possibility of higher borrowing costs when underwriters are appointed based on factors other than merit. As a result, issuers have been forced to defend their selection of underwriters for negotiated sales in the absence of a documented, open selection process (GFOA, Underwriter, 2014).

The GFOA provides two recommendations to address these concerns. First, they recommend administrators hire a municipal advisor to assist with the bond issuance process and represent the interests of the government in a fiduciary capacity (GFOA, Method of Sale, 2007). Second, they recommend a transparent competitive sale in the following cases: if the bonds have a rating of A or higher, if the bonds are general obligation bonds, and if the structure of the bonds does not require extensive explanation to investors (GFOA, Method of Sale, 2007). It is noteworthy that all known Idaho school district bonds considered in this study meet the criteria for competitive bond sale.

In summary, the public finance literature and GFOA suggest that the use of a competitive bond sale and a municipal advisor will result in lower financing costs.

III. Conclusion

Idaho school districts have many facilities needs with a limited number of funding methods to address them. School District administrators typically and practically turn to the bond market to fund them. Issuing bonds can be a complex process and administrators turn to financial professionals for assistance in accessing the bond market. The financial professionals' advice on which methods of sale to use, competitive or negotiated, has evolved over time because of legislative constraints as well as other factors that are sought to be understood in more depth in this dissertation.

Based on this background and context a thorough review of the literature is necessary in order to give this research a firm basis on which to understand and contribute to the literature. The next chapter focuses on the theoretical foundations of the public administration literature and provides a framework by which the research questions of this dissertation can be explored.

CHAPTER 2: A THEORETICAL FRAMEWORK FOR PUBLIC ADMINISTRATION, PUBLIC FINANCE, AND ADMINISTRATOR CHOICE

I. Literature Review

This literature review begins with Maslow's (1943) psychological lens and Fay's (1996) philosophical lens to set a framework for understanding the individual decisions of Idaho school district administrators. This base is broadened with the historical and bedrock theories of public administration to provide further context, refinement, and bounding of the study. This logically funnels the discussion to Simon (1976) and is further refined by Downs (1967) and their work with the individual administrator and administrator rationale for decision-making. Frederickson's and a host of others refinement of decision theory is also used to further define the theoretical framework. Principal agent theory and information asymmetry literature is also used to bound the idea of administrator choice and factors that shape those choices. Finally, the literature review concludes with a testing model using related contemporary works in the municipal finance literature to accomplish the research agenda. A visual of this review is provided below:

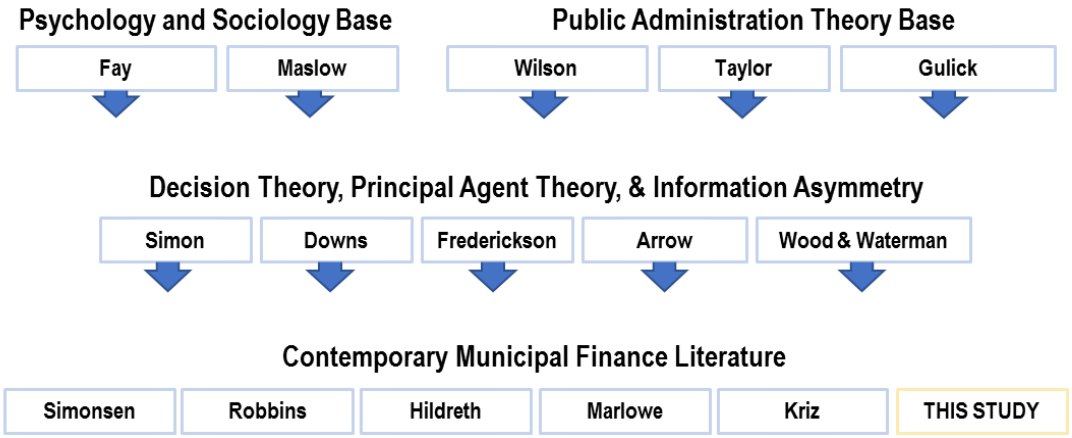

Figure 2.1: Literature Review Diagram

a. Philosophical and Psychological Framework

Maslow's hierarchy provides foundational insight into the decision-making of Idaho school district administrators. Briefly, Maslow's seminal work on the psychological motivations of individuals begins with the basic physiological needs of individuals needing to be met to proceed to the highest level of self-actualization (Maslow, 1943).

When applied to Idaho school district administrators it is worth studying at what level on the hierarchy of needs administrators are making their financial decisions.

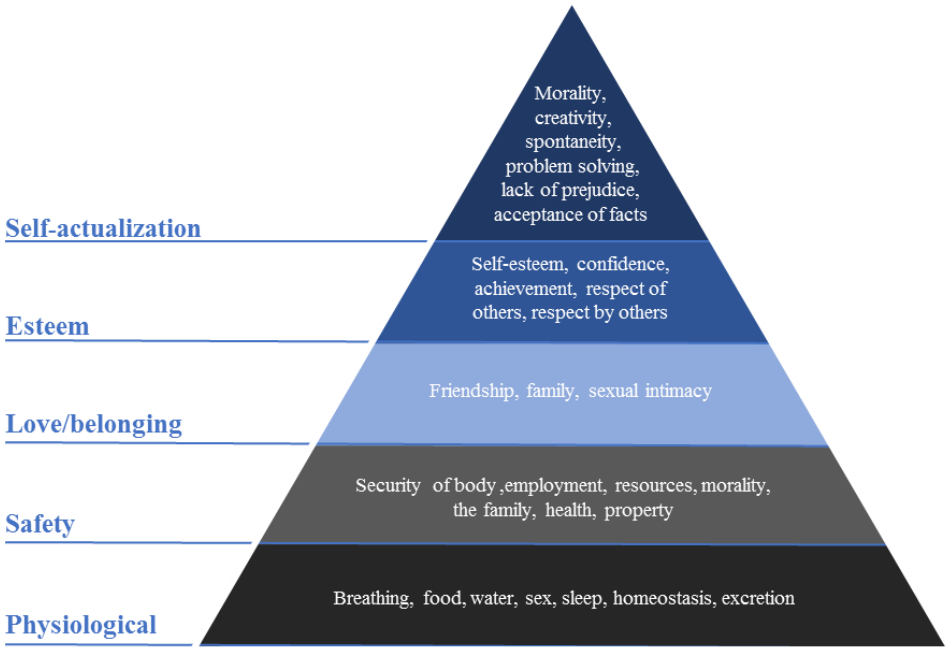

Figure 2.2: Maslow's Hierarchy of Human Needs

Source: Maslow, 1970

Fay's (1996) philosophical and social science lens coupled with Maslow's (1943) hierarchy of needs provide an excellent framework with which to analyze Idaho school district administrators' decision-making processes. Fay provides an analysis of knowing at the individual level and a theory on how the self interacts with other levels, such as groups, society, and a global perspective. From the beginning of this discussion it is important to insert Fay's (1996) assertion that an individual's self is "essentially permeable." He continues, "Indeed, so permeable is it that not only are you not separate from others but rather others are part of you" (p.39-40). Fay also describes the self as "essentially social" (p. 39-40). This transference of self to the external world and back assumes that administrators simultaneously influence and are influenced by themselves, their peers, society, and global perspectives, or what Fay describes as a "multi-cultural perspective" (p. 40). This key concept of the permeability of the self and how it is shaped

and influenced by internal and external factors is useful as it relates to administrator finance decisions and is discussed in greater detail in the Frederickson decision theory discussion, particularly when referring to information asymmetries and irrational choice.

The Idaho Association of School Administrators (IASA) is the peer group for individual school district administrators. Within the IASA is the Idaho School Superintendents Association (ISSA) and the Idaho Association of School Business Officers (IASBO), which also serves as the Idaho chapter of the GFOA. This peer group provides training and education, social enculturation, and peer support for Idaho's school district administrators. Municipal advisors and underwriters are often sponsoring these association's events and are invited to present finance related trainings (IASA). The influence of this peer group on individual administrators is undeniable.

Figure 2.3 shows Fay's general approach to knowledge, how the individual gains knowledge, how they are influenced and how they interact with external inputs:

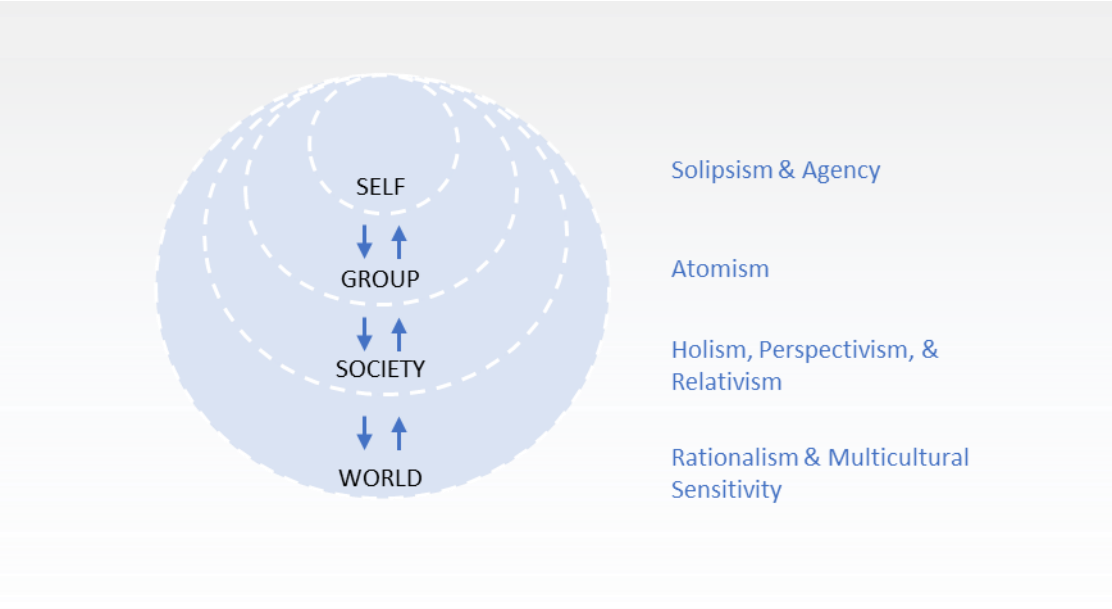

Figure 2.3: Fay's Circles of Knowing

Source: Fay, 1998

With Maslow and Fay serving as the psychological philosophical basis of the decision-making process of administrators, we now turn to the public administration literature to provide bureaucratic and further structure to the theory of this dissertation.

b. Foundations of Public Administration Theory

Woodrow Wilson (1887) is the intellectual starting point for the Study of Public Administration. Wilson endeavored to promote efficiency and to encourage public administrators not to engage in the enterprise of politics. This separation of politics and administration is known as the politics/administration dichotomy, which continues to be refined and debated today in the field of public administration (Riccucci, 2010, p. 6-7). Wilson also purposely placed the field of public administration in an applied context and established the individual administrator as the unit of analysis (Wilson, 1887).

One of the original theories taken from private industry used in the fledgling field of public administration was Frederick Taylor's *scientific management*, which aimed at the practical "one best way" of performing a job to ensure optimal efficiency (Taylor, 1914). Gulick & Urwick (1937) were instrumental in integrating this approach of scientific management into the field of public administration with the intent of making government agencies more efficient. Their work led to others seeking to understand the application of these foundational business principles in the public administration sphere.

c. Simon and Administrative Behavior

In 1947, Simon originated a critique of Wilson's politics/administration dichotomy using a fact/value dichotomy. Simon's positivist approach argued that the

study of public administration should be fact-based: “empirically derived, measured, and verified...Values, [Simon] claimed, had no place in the study” (Riccucci, 2010, p. 9).

Waldo, shortly after Simon’s first call for empiricism in the field, responded that “there is much in scientific method which is nonempirical and nonexperimental” and that the “treatment in the mode of natural science…administration is generally suffused with questions of value” (Riccucci, 2010, p. 11).[8]

Broadly referred to as decision theory, rational choice theory as applied here can be picked up from Simon’s 1976 positivist approach as outlined in *Administrative Behavior*, where Simon states, “it is impossible for the behavior of a single, isolated individual to reach any high degree of rationality” (p. 79). Simon provides three reasons actual behavior falls short of pure rationality. First, complete information is impossible to obtain. It is impossible for school district administrators to acquire all of the necessary information when making bond financing decisions. Second, consequences lie in the future. Therefore, administrators must make decisions regarding financial professionals and methods of sale in advance, often years, before the results of those decisions are manifested. Third, it is impossible to know all of the possible alternatives to a given choice (p. 79-81). These limitations or gaps in knowledge are widely defined as information asymmetries.

These three limitations on the rational decision-making of Idaho school district administrators are evident in administrator behavior. Administrators have limited

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[8] It is understood that Waldo’s (1948, 1984) contrary views are valid, have an extensive intellectual offspring, and “continue to be central to public administration theory and practice” (Harmon, 1989, p. 435), but this study focuses on Simon’s theoretical branch of the public administration literature.

information regarding their bonding options because the bond financing process is infrequent and complex; thus, the costs of an administrator's choices are obscure. In other words, it is difficult for administrators to know the costs and benefits associated with their decisions. Therefore, they will employ various strategies to limit risk to obtain a satisfactory outcome.

d. Simon's Satisficing and Administrator Choice

Often administrators cannot accomplish all their goals with a single policy decision; therefore, they may implement satisficing strategies or "find a 'satisfactory' solution for one or more subproblems" (Simon, 1976, p. 272). Simon's bureaucratic decision-making strategy "satisficing" could also be used to explain why administrators use the same financial professionals and methods of selling bonds they have in the past. Administrators are not paid more for a more efficient process, but where there is such a high stakes game being played where the bond issue they are undertaking is likely the largest single transaction they will undertake, it is good enough to engage the professionals and use the process that will get it done at a satisfactory level, even if that satisfactory level is suboptimal.

Finally, since purely rational decisions require knowledge of all the possible alternatives, by choosing a negotiated sale, administrators cannot, by definition, be making a rational choice. They are choosing to limit alternatives to one underwriter, which does not maximize their utility (Robbins & Simonsen, 2008).

e. Decision Theory and Behavioral Economics

Frederickson et al. (2012) describe the purpose of decision theory as "to determine the most efficient, or rational, decisions to achieve preferred objectives" (p.

165). Decision theory seeks to clarify and prioritize organizational values and objectives, consider alternatives that might achieve those objectives, and analyze these options in order to determine which one or group of alternatives will most likely achieve the desired objectives (Frederickson et al., 2012).

Tversky and Kahneman (1974) provide useful research into how humans are perversely and consistently irrational. They empirically identify three predictable biases that support this theory of irrationality. The first bias is that of *anchoring,* or when "past decisions disproportionately affect future decisions."[9] The second bias is that of *availability,* or "assess(ing) the pros of any decision on the basis of the most readily available information." The third bias they identify is that of *representativeness,* or the "tendency to draw on existing stereotypes when attempting to discern patterns in others' behavior" (Tversky & Kahneman, 1974, Italics added).

In situations involving uncertainty, individuals will take fewer risks if the gains from the decision are perceived as being less than a potential loss. And, vice versa, the potential gains from any decision must be more than offset (often at least double) the potential loss; in short, the ration of gains to losses is not a 1:1 relationship as would be predicted by a model of pure rationality. Kahneman and his colleagues have labeled these tendencies "anomalies," that is, persistent and predictable deviations from rational decision-making (Tversky & Kahneman, 1974).

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[9] Recent work by Dougal et. al. (2015) provides evidence that anchoring in financial markets contributes to outcomes in credit spreads on corporate bonds. Additional work by Dr. Justin Marlowe at the University of Washington has brought anchoring research to municipal bonds.

The irrationality framework emerging from Tversky and Kahneman's research suggests that even with complete information, "decisions follow a predictable, irrational pattern" (Fredrickson et. al., 2012, p. 174).

Ariely's emerging work on the concept of "predictable irrationality", a new branch of decision theory further pushes this understanding. Ariely evaluates the sources of illogical decisions and explores the reasons why irrational thought often overcomes level-headed practices. Ariely further offers insight into the structural patterns that cause people to make the same mistakes repeatedly. In many ways Ariely's work refutes the common assumption that humans behave in fundamentally rational ways (Ariely, 2009).

To this end, Fredrickson (2012) states, "In spite of their best efforts to be rational, decision makers, individually and especially collectively, are constrained by limited cognitive capacity, incomplete information, and unclear linkages between decisions and outcomes" (et al., p. 166).

This suggests administrators would need to realize benefits from a municipal advisor and competitive sale more than what they receive with an underwriter and negotiated sale in order to change their current practice. This also suggests administrators use anchoring strategies when making method of sale decisions. Anchoring is discussed in great detail later in this chapter. As briefly described in Chapter 1, administrator principals with limited information and expertise, seek an underwriter and/or municipal advisor agent to assist with the issuance of bonds. This principal-agent model is further defined and then utilized to frame the theory of this dissertation.

f. Principal-Agent Theory in the Public Sector and Administrator Choice

Rationality is a basic idea on which principal-agent theory is founded. It is also important to remember principal-agent theory simply describes contractual agreements between two or more individuals or organizations. These relationships may occur internally to an organization, or externally between individuals, firms or organizations (Dees, 1992).

The principal wishes to acquire goods, expertise or services from the agent who has the desired goods, expertise or services readily available. The agent who is acting on behalf of the principal, provides the good or service under agreed upon terms set by the market or by negotiation. The agent is paid by the principal according to the terms of the agreement. Terms can vary according to the mutually defined agreement (Dees, 1992). In the case of underwriters and municipal advisor agents, a municipal advisor has essential duties of care, obedience, and loyalty to the principal when providing the goods, expertise or services (SEC, 2014). Underwriters have no such obligation under the rule.

Dee (1992) suggests that the agent is obligated to act in the best interest of the principal. Benefits that result from the agent's efforts on behalf of the principal must be revealed to the principal. If the agent deviates from performing in the principal's exclusive interest, with due care, obedience and loyalty, then a "principal-agent problem" exists (Dees, 1992).

Because of this, two important assumptions result; first, it is assumed principal's sole purpose is utility maximization.[10] This can be defined as the maximization of utility

[10] Downs' approach to bureaucratic decision-making in the public administration classic Inside Bureaucracy is one of the most cited works in public administration research. Downs (1967), citing prominent works of economic and rational choice theorists (including Simon), describes administrators as

of the good or service provided by the agent minus the principal's associated control costs. Second, the agent is assumed to have a negative utility for effort and a positive utility for compensation. Therefore, the agent is assumed to be capable of self-seeking or outright opportunistic behavior, to the detriment of the principal's interests. Thus, the main goal for both the principal and the agent becomes how to create an agreement with appropriate and affordable controls and incentives. Both the principal and the agent have control costs that are unavoidable in mutual contractual agreements (Simonsen & Hill, 1998).

Frequently seen controls may include: effective organization of effort, rewards-for-performance, monitoring of outcomes, control over budgets, audits, specific oversight bodies, or enforcement of professional and ethical standards, social norms or applicable laws. Public organizations have additional control devices available, including limiting enabling ordinances and statutes, formally adopted rules and policies, contributions and expenditures reporting requirements, whistleblowing and "sunshine" laws, elections, and general public and media scrutiny (Simonsen & Hill, 1998).

According to the theory, the principal's primary problem is to create a compensation strategy that attracts a competent agent, and a control strategy to ensure that the agent performs efficiently, solely with the best interest of the principal in mind. An agent will agree to a compensation and control scheme if it equals or exceeds the agent's reservation utility, as determined by the agent's best-known alternative. It is important to note that the agent's costs must include those associated with compliance

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“utility maximizers”, or those who seek to accomplish their self-interested goals “in the most efficient manner possible, given their limited capacities and the cost of information” (p. 2).

with control arrangements, and the principal's ultimate utility from the good or service will be diminished by both the principal's costs of implementing control measures and the agent's cost of compliance which must be covered in the compensation agreement (Arrow, 1985).

The creation of reasonable compensation and control agreements can be compromised if any of the following conditions exist: goal incongruity, uncertainty, information asymmetry, agent risk aversion, and interdependence of effort. 1. Goal incongruity speaks to the possibility that the principal and agent do not have matching goal preferences. This encompasses conflicts of interest, goal ambiguity and differing time horizons, among other incongruities. Policy differences are important incongruities in the public sector. 2. Uncertainty describes the fact that the observable outcome of the agent's work, does not necessarily describe the level of investment made by the agent; factors beyond the agent's control may occur. 3. Information asymmetry describes the fact that the agent may have far more information about their actual skills and abilities, levels of effort and overall investment than the principal does. Also, policy may change frequently in the public sector, increasing the possibility of information asymmetry. 4. Risk aversion refers to the agent's preference to avoid compensation variance, as may be the case if compensation is linked to observable outcomes which may be affected by uncertainty. If the agent's risk is low, moral hazard[11] may be the result. That is, if the

[11] Moral hazard is the risk that a party to a transaction has not entered into the contract in good faith, has provided misleading information about its assets, liabilities or credit capacity. In addition, moral hazard may also mean a party has an incentive to take unusual risks in a desperate attempt to earn a profit before the contract settles. Moral hazards can be present any time two parties come into agreement with one another. Each party in a contract may have the opportunity to gain from acting contrary to the principles laid out by the agreement (Investopedia, 2018).

agent is to be compensated regardless of their effort, then their effort is more likely to be reduced. 5. Interdependence among several agents makes it difficult for principals to allocate awards and sanctions selectively depending on individual contributions. This is particularly true in the public sector, where networks are found both within and between organizations (Arrow, 1985; Dees, 1992 and Bendor, 1990).

A few researchers have researched the application of principal-agent theory in the public sector. Knott (1993) has written on the similarities of private and public hierarchical organizations in their concern for the problems of interdependence, information asymmetry, conflict of interest and the uncertainty of external constraints. Addressing the question of control methods useful for both public and private sectors, he states:

> If the nature of the task is more interdependent and the knowledge necessary to carry out the task is inadequate, a comprehensive system of bureaucratic rules is not appropriate. Organizations with these kinds of tasks must rely instead on professional training and norms of behavior, socialization into the organization's culture, motivation for employees, informal means of coordination, and incentives for outcome performance (Knott, 1993).

Bendor (1990) notes that use of the theory in the public sector is in its infancy. He predicts the theory's use will increase and offers four cautions regarding limitations of the use of the formal principal-agency theory. First, Bendor notes that a formal principal-agent model assigns a value to the level of utility obtained by the parties, but in the public sector other variables, such as achievement or subversion of policy, have importance. Second, the principal in the public sector may not be able to commit to a necessary incentive and control scheme over a period of time, as required by the formal theory, due to budget limitations and short political time horizons. Third, there may be multiple principals in the public setting rather than only one principal. Fourth, formal principal-

agent theory is based on classic rationality assumptions leading each party to be hypersensitive to changes in terms of a relationship. This can lead to very complex fee functions with poor detailed predictive value (Bendor, 1990).

Wood and Waterman (1994) define the principal-agent model as the hierarchical relationship that exists between administrators (principals) and underwriters (agents). The administrator-principals desire a service that the underwriter-agent can provide, so they enter into an agreement with each other in order to obtain it. Information asymmetry exists between the two. Typically, the agent possesses more information about the service, such as its true cost or the best way to proceed. Consequently, this often leads to two common concerns known as moral hazard and adverse selection[12] (p. 24).

Because agents are rational, they benefit from their pursuit of their own self-interest. This often comes at the expense of principals resulting in moral hazard scenarios. This can lead to perverse incentives such as increased expense, substandard work product, or other acts that are not in the interest of the principal. Principals can also make decisions without complete information, sometimes withheld by the agent when knowledge of that information may produce a different, undesirable response for the agent. These scenarios are a result of adverse selection.

Moral hazard and adverse selection are limiting factors of the principal-agent theory and can be used to explore administrator and financial professional relationships.

Waterman and Meier (1998) explore the model that perverse incentives exist in principal-agent relationships and that information asymmetry exists in favor of the agent.

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[12] Adverse selection refers generally to a situation where sellers have information that buyers do not have, or vice versa, about some aspect of product quality (Investopedia, 2018).

An important point they emphasize is that bureaucratic principal-agent relationships are not dyadic, involving only two actors, but rather multifarious. They caution, however, that, "the principal-agent model is not a generalizable explanation for the myriad relationships that actually exist between principals and agents" (p. 197). Fortunately, in the case of administrator-principals and underwriter-agents, this core principal-agent relationship is near to a dyadic relationship. This reality makes the theory that much more applicable.

At the heart of administrator choice in the context of principal-agent theory is the question of information asymmetry. Underwriters that are employed by administrators have a reasonable idea of the administrator's policy preferences, ideology, and rational self-interest. In most bond issuance scenarios, the administrator does not have the industry knowledge and experience the underwriter has. Because the underwriter has that information, it gives them the advantage in any principal-agent exchange.

To better understand the potential impacts of these real information asymmetries in the administrator-principal and underwriter-agent relationship, it is necessary to review the principal-agent model coupled with the public finance literature. By so doing, gaps in the literature can be identified and clarity of the research model begins to take shape.

g. Principal-Agent Theory, Administrator Choice and Municipal Bonds

Principal-agent relationships exist across the economy. They can be seen in almost all transactions. Principal-agent theory markedly addresses various conflicts of interest between various actors in all types of transactions. It is a useful model to address these conflicts in all organizations, including public ones. Principal-agent theory concepts are employed and have been developed in various other fields, such as business

administration, law, economics, accounting and insurance. However, less research of the principal-agent model in the public sector has been conducted. Even less applications of the model have been done regarding public finance.

The municipal bond sale process can have numerous actors, both private and public depending on the complexity of the transaction. These actors take on the principal role, the agent role, or sometimes both. Simonsen and Hill (1998) provide a clear description of the various principal and agent relationships that can exist in municipal finance transactions. They describe the issuer, or the public/citizens of the government, selling the bonds; and the investors who buy the bonds, as purely principals in the bond sale process. As a result, these two principals logically have some conflicting interests. Most importantly, the public would like the lowest interest rates in order to limit their tax impacts. The investor would prefer, of course, the highest interest rates possible to maximize their return on investment, all else equal. Elected officials are the most direct agent of the public/citizens. In most cases, the agents that manage the sale of the bonds are the public administrators, in this case the superintendent and finance officer. Therefore, the administrators act as agents to the elected officials (principals). In this way the elected officials are both agents of the public and principals to the administrators. The municipal advisors act as an agent for the issuer (they are paid by the issuers). So, while the administrators are agents for the elected officials (and ultimately the public), the administrators are also a principal to the many private sector consultants typically involved in a bond sale.

Various other private sector firms and individuals that assist with specific aspects of the bond sale may include: bond insurance companies, rating agencies, and bond counsels. These actors are exclusively acting as agent to the administrator principle.

Simonsen and Hill (1998) further argue that the underwriter is an agent for both the issuer and the investor. The underwriter makes its money based on the difference between the buying price and the selling price of the bonds. The underwriter is motivated to ensure that the sale happens, but within this context, the underwriter's incentive is for higher rather than lower interest rates. This is because with higher interest rates, all else equal, the underwriter will have an easier time reselling the bonds to investors and therefore, have less risk of needing to hold some of the bonds themselves. They describe this interwoven web of actors as follows.

> This complex network of interacting principal-agent relationships offers many opportunities for conflicting goals and other problems described by principal-agent theory. Like many governmental services, municipal bond sales are characterized by both a fuzzy process and outcomes (interest rates) where the quality is difficult to judge. These are preconditions that could lead to principal-agent problems (Simonsen & Hill, 1998).

Figure 2.4 is their illustration of the various actors in the bonding process, is a simplified yet thorough description, and will be used for purposes of this study. The citizens of the municipality are the sole principals in the bonding scenario. Inside the government, Elected Officials are the citizens' representative agents. They are also play the principal role in regards to relationships with the financial professionals they hire to assist in the bonding process. This duel role of principal and agent is also true of public administrators. Underwriters, municipal advisors, and other consultants are strictly agents in the process. Municipal bond investors are solely principals.

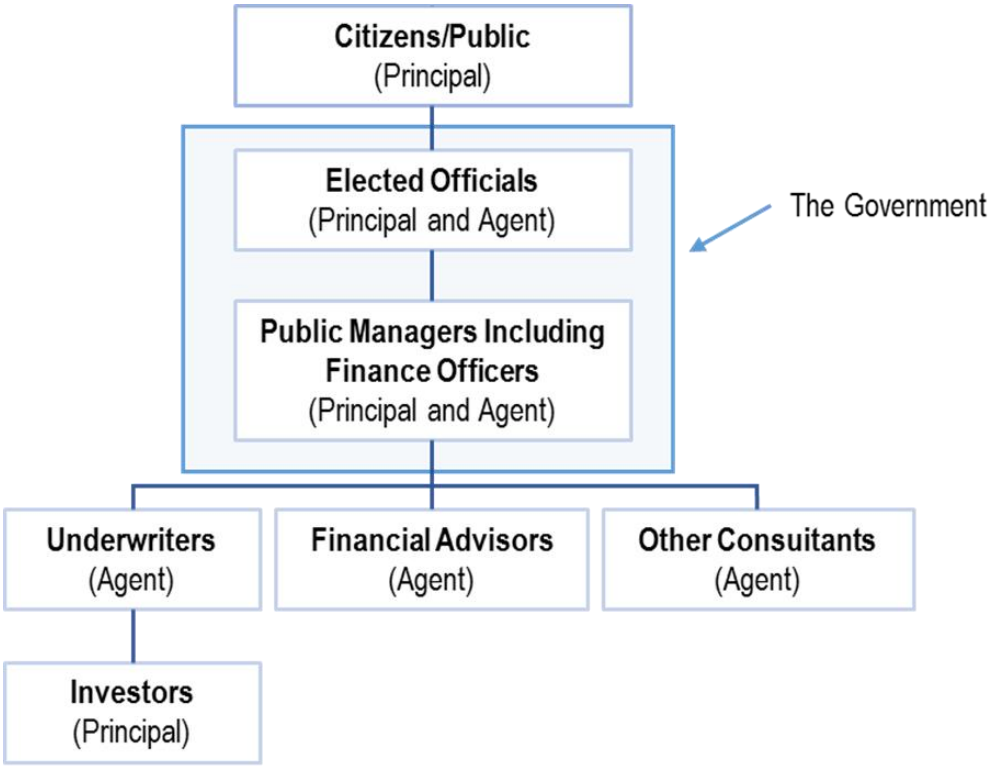

Figure 2.4 Principal-Agent Relationships in Municipal Finance

Source: Simonsen & Hill, 1998

h. Information Asymmetry and Municipal Bonds

One of these major principal-agent problems related to this study that needs further attention is the theoretical notion of information asymmetries. Information asymmetry exists when administrators are confronted with choices. In addition to Simon's (1976, p. 79-81) reasons for information asymmetries, Fredrickson et al. (2012) identifies four additional reasons. First, an administrator's "capacity to summarize, comprehend, and use information is limited." Second, "individual and institutional memories are often faulty, compartmentalized, difficult to retrieve, and hard to connect to the problems at hand." Third, "attention, in both time and capabilities, is limited." Fourth, "communication problems arise from compartmentalization, professional subculture, language, and information overload" (Fredrickson et al., 2012, p. 174-175).

Administrators' method of coping with information asymmetries is an example of Simon's bounded rationality and satisficing (Simon, 1976).

Given these real information asymmetries that result from the complexity of bond financings, administrators may feel overwhelmed when they consider all the other responsibilities they have within their districts. It is logical administrators would rely on the expertise of others to assist them. It is also understandable that a for-profit underwriter, who does not have a fiduciary responsibility to look out for a school district's best interest, will seek to maximize its own self-interest. An administrator may also be new to their position and may not be able to find the information needed to accomplish the district's finance needs in a timely manner. Thus, in an effort to reduce the information asymmetric gap an administrator may turn to an underwriter previously used by the district or referred to them by a fellow administrator. These satisficing efforts may in fact not be in the best interest of the administrators that employ them. This point is observable in the complex and opaque municipal bond market.

Peng and Brucato (2004) argue that issuers of municipal bonds and the administrators they employ can each suffer from various degrees of information asymmetry. Information asymmetry exists in the capital market when investors and issuers of financial securities do not share the same amount of information about the value of the securities. There are several reasons why information asymmetry happens in the primary municipal bond market. Many of the municipal bonds are sold by first-time and small issuers, who are usually not well known among the investment community.

Peng and Brucato (2004) go on to describe information asymmetry as a concern

> …since doing credit analysis of a debt security is a more demanding task for individual investors than for financial institutions. The

> most critical consequence of the information asymmetry problem is that issuers pay a higher borrowing cost than they should since investors will demand a higher risk premium to compensate them for the informational disadvantage. To alleviate such information asymmetry between the issuers and investors as well as the resulting higher capital cost for the issuers in the municipal bond market, several market and institutional mechanisms have been set in place over the past several decades. These certification mechanisms include, among others, method of sale (competitive versus negotiated), underwriter certification, and underlying credit rating for insured bonds (Peng & Brucato, 2004).

Peng and Brucato (2004) further describe bond issues as being characterized on a continuum from no information asymmetry to acute information asymmetry. Those issues that suffer from acute information asymmetry would benefit from the certification of underwriters through the underwriter's due diligence before underwriting the bonds. Additional certification occurs because the underwriter is involved directly with the origination of a negotiated issue, leading to a more intimate relationship with the issuer and consequently a better understanding of that issuer than would be the case for a competitive sale. The notion is that this certification provides comfort to the investor. Therefore, assuming issuers rationally choose the sale type based on interest rate expectations, those issuers with the most information asymmetry will choose a negotiated sale to obtain the underwriter certification. This introduces a selection bias because the worse the information asymmetry, the riskier the bond, and increased riskiness is associated with higher interest rates.

Peng and Brucato (2004) further argue that as information asymmetry is not directly observable, certain characteristics can be used as proxies, including (1) type of security, (2) credit rating, (3) issue purpose, (4) issue frequency, and (5) issue size. These same criteria are used in Chapter 4 to determine the meaningful bond characteristics and then are tested to examine their impact on administrator choice of sale methods.

A third study finds that governmental and demographic factors are important in the choice of sale type. Since factors other than those expected to determine sale type were important, including such characteristics as education, training, and form of government, an agency problem could exist. This research also is the only other found that uses a survey to test their hypothesis (Simonsen & Kittredge, 1998). Some of this structure is used in Chapter 5 to frame the administrator choice survey and analysis.

As Idaho school district administrators consider method of sale decisions, several adverse conditions can arise from the impact of information asymmetries. Decision-makers tend to make decisions shaped by cognitive biases, the behavior of others, and by incremental adjustments. Furthermore, an administrator feels an obligation to past decisions and professionals with whom he/she has relationships (Fredrickson et. al., 2012, p. 175-176). For example, a school district administrator may continue using the same underwriter because their peers use that underwriter or the administrator feels an obligation to a relationship he/she has developed over several years.

Based on this literature review and using Fay's Circles of Knowing as a model, below is a visual illustrating Idaho school district administrators' theoretical decision-making process.

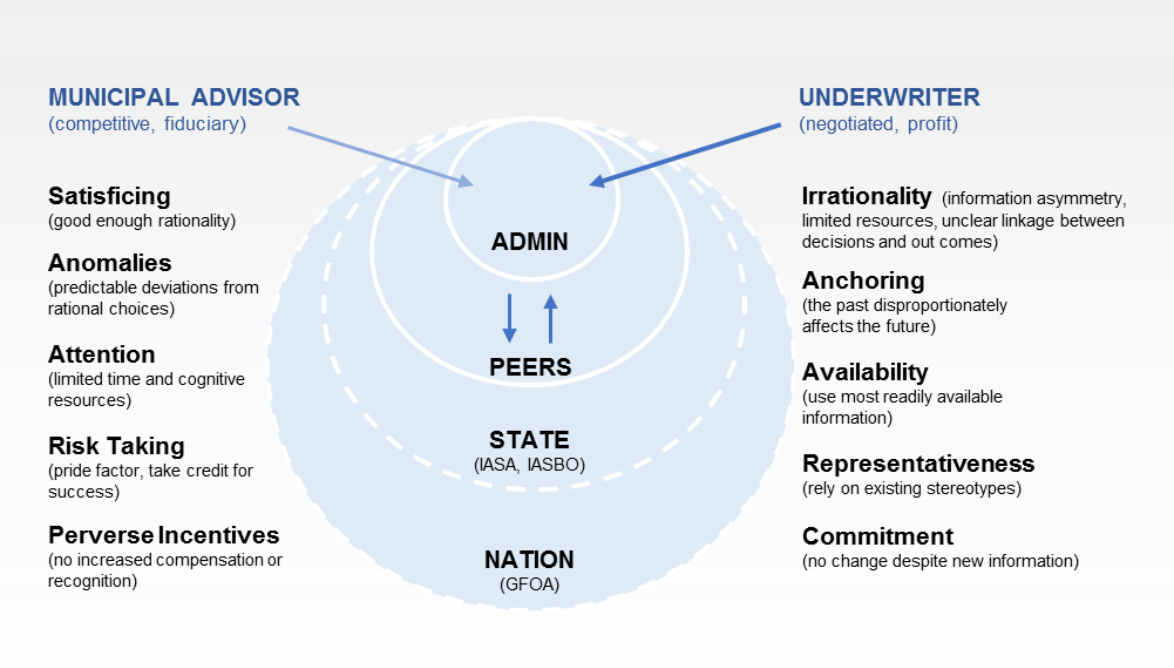

Figure 2.5: Administrator Theoretical Decision-Making Process

i. Contemporary Debt Management and Municipal Finance Literature

The literature relating to debt management and municipal finance methods is revealing. Of the literature identified, seven out of nine found that competitive sales result in lower interest costs than negotiated sales. The two studies that did not conclude this argued that there is no difference between these methods of sale (Simonsen, Robbins, & Kittredge, 2001; Miller, 1993; Robbins & Simonsen, 2008; Forbes & Peterson, 1979; Leigland & Lamb, 1986; Hildreth, 1993; Kioko, Marlowe, Matkin, Moody, Smith, & Zhao, 2011; Marlowe, 2009; Simonsen & Kittredge, 1998; Guzman & Moldogaziev, 2012). Peng & Brucato, 2004). These studies used varying methods, both qualitative and quantitative, to reach their conclusions.

Since the late 1970s, debt management scholarship has demonstrated that some government administrators consistently make irrational decisions when selecting professionals and processes to issue their bonds. As a result, governments are likely to

pay more than is necessary, thus adversely impacting taxpayers (Miller, 1993; Robbins & Simonsen, 2008; Forbes & Peterson, 1979; Leigland & Lamb, 1986). This study will investigate whether these findings hold true with Idaho school district bond issuances.

Idaho school district administrators rely heavily on financial professionals to assist them in the complex bond issuance process. Knowingly or unknowingly, administrators are influenced by federal and state statutory frameworks, federal regulatory requirements, and national, state and regional peer groups when making method of sale decisions. The policy processes that create these various policymaking sideboards have not been sufficiently explored. To this end, further research into the link between debt management scholarship and policy process theory will produce helpful hypotheses development and research design. This will provide insight into why Idaho school district administrators make the method of sale policy choices they do and the impacts these choices have on taxpayers. This study will investigate whether these findings hold true in Idaho.

II. Policy Process Theories

a. Introduction

Idaho school district method of sale policy has seen two significant punctuating events in the last 13 years and is in the midst of a third. These three events originate from independent policy processes. The first, in 2001, was a state legislative process driven largely by a single underwriting firm. The second, in 2006, was an individual district process that has interesting innovative and diffusionary impacts. The third, which went into effect July 1, 2014, is a federal regulatory process that will largely define the future of debt management in the United States. All three are unique processes and provide

compelling insight into the decision-making of individual Idaho school district administrators. These three policy processes and the resulting impacts on the method of sale policy decisions of Idaho school district administrators are the focus of this section of the literature review.

The purpose of this section is to examine these policy processes using Baumgartner and Jones' punctuated equilibrium theory (2010), innovation and diffusion theory as described by Berry and Berry (2014), and Kingdon's multiple streams theory (2011) to answer the following question: What impact do these punctuating events have on Idaho school district administrators' choice of method of sale policies and professionals?

The section is laid out in five subsections. The first section establishes a context for Idaho school district financing practices coupled with definitions of key debt management terms and major theoretical concepts. Second, the policy process theories are described and serve as the foundation for the third section, which is an analysis of these three policy processes as they relate to Idaho school district administrators' method of sale decisions. The fourth section analyzes data from 2001 to 2016 regarding the method of sale policies of Idaho public administrators. The section ends with a conclusion and hypotheses development. This leads to the research design section.

The process by which governments adopt policies is essential to understanding the policymaking process. In the case of Idaho school district administrators, by understanding the policymaking process one can also understand why administrators make the method of sale decisions they do. Below is a brief discussion on the core

policymaking theories that will be used to describe the history of Idaho school district method of sale policymaking.

b. Punctuated Equilibrium Theory

Punctuated equilibrium theory is used to define the time frames that this study identifies. Baumgartner and Jones describe the policy process as "disjointed and episodic where there are long periods of stability that are interrupted by bursts of frenetic policy activity" (p. xvii, 2010).

Baumgartner and Jones state that models of policymaking are generally based on the twin principles of incrementalism and negative feedback. Incrementalism can be the result of a deliberate decision style as decisionmakers make limited, reversible changes within the status quo because of bounds on their abilities to predict the impact of their decisions (p. 9, 2010).

This describes the historical treads of Idaho school district method of sale policy particularly well as shown in Figure 2 below.

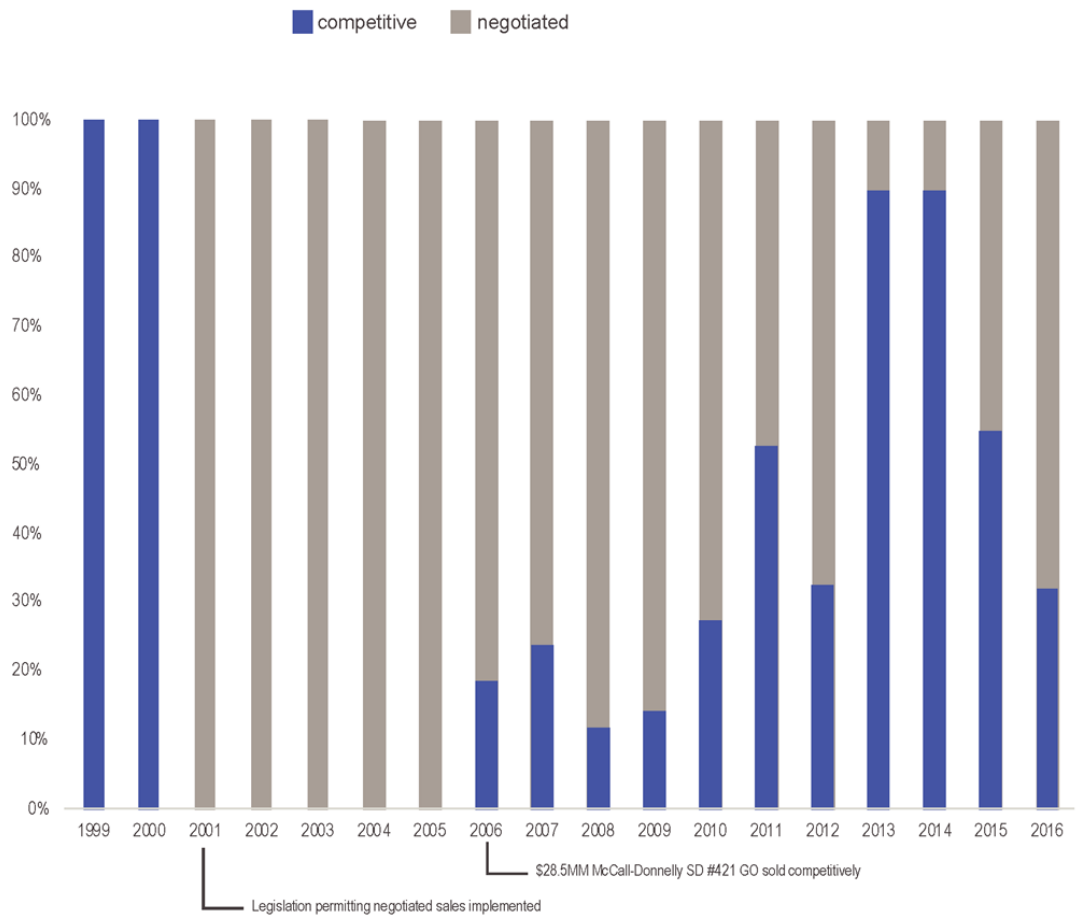

Figure 2.6: Idaho Method of Sale Frequency from 1999 to 2016

Source: Bloomberg

As Figure 2.6 indicates, there have been two significant punctuating events in Idaho school district method of sale policy from 1999 to 2016 and it is predicted that a third event is under way since the Securities and Exchange Commission's (SEC) municipal advisor rules took effect on July 1, 2014. The policy making process surrounding these punctuating events are described in greater detail later.

c. Innovation and Diffusion Theory

After a policy is initially innovated in one government it is frequently diffused and implemented by other governments. Policy innovation is somewhat rare, but

diffusion at the state and local government level is common and observable[13]. Policy diffusion, as described below by Berry and Berry and others, is used later to describe the policymaking processes of Idaho school district administrators after the punctuating event of McCall-Donnelly School District that occurred in 2006.

Although Berry and Berry (2014) use individual states as their unit of analysis, innovation and diffusion can also be observed at the regional, local, and possibly even the individual administrator level. They also describe a regional diffusion model where states interact with neighboring states more frequently than states in other regions of the country. In this model, policy adoption will be positively related to the number of neighboring states that have adopted a similar policy (p. 229). The regional model also can be applied to separate fixed-regions of the country, which may include some states that are not technically neighbors but share some sort of common characteristic (p. 229). Within the regional model, states often look at the other states in their region for policy cues, especially with regards to economic policy where the failure to adopt a certain policy may have negative economic consequences.

The regional model is easily translated to the local government level where some school districts in the same region may look to certain districts for expertise and advice related to policy best practices. Because there is little research on policy diffusion at the

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[13] Berry and Berry (2014) describe policy invention as the introduction of policy that is completely new and that has never been implemented previously. They suggest policy process scholars are interested in examining policy innovation or the process through which original policy ideas are conceived and diffused, and less concerned with policy invention. Diffusion is the dissemination of public policy across time and geographic jurisdiction (p. 223). Policy invention is different from policy innovation, is extremely rare, and deals more with the process by which original ideas are put together to form public policy. The study of policy diffusion differs in that it is the study of how and why policies that are initially implemented by one government are adopted by other governments. Rogers (2010) defines diffusion as "the process by which an innovation is communicated through certain channels over time among the members of a social system" (p. 5).

local and individual levels, this study will add to the body of knowledge and provide a basis for understanding policy diffusion theory at the Idaho school district and possibly even the individual administrator levels.

Berry and Berry provide a model that is shaped like an S-curve for describing the diffusionary process across governments. The adoption of the policy is slow, rapidly increases, and then levels off. The y-axis represents the cumulative proportion of states that have adopted the specific policy. The x-axis represents the observed measures of time. According to this model, in Idaho at the school district level a policy is adopted in a few districts initially. As more districts observe the benefits of the policy, there is a rapid diffusion of the policy by other districts over a short period of time. Finally, as the remaining districts eventually catch on, another slow diffusionary period occurs (p. 227, 2014). Depending on the policy and circumstances, the time period could be a few years or several decades.

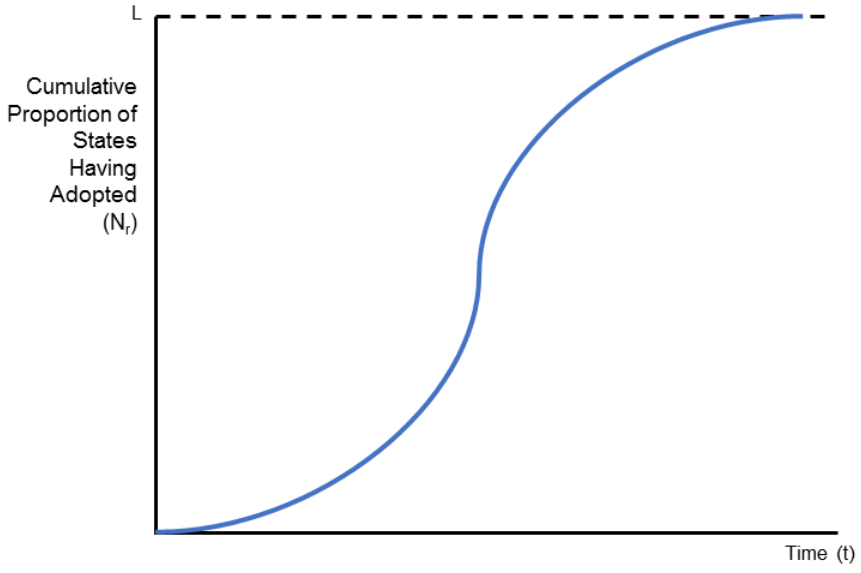

Figure 2.7: Policy Diffusion Model

Source: Berry and Berry, p. 227, 2007

The authors assume that a communication network among governments exists relating to policy innovation (Berry and Berry, p. 226, 2014). The reference groups like the National Conference of State Legislatures (NCSL), the Council of State Governments (CSG), and the National Governors Association (NGA) are the communication networks that provide a venue for state officials to exchange ideas and learn from each other on a national scale.

For purposes of this study, the Idaho local government equivalent of this network is the Idaho Association of School Administrators (IASA), the state-wide peer group for local school district administrators. Within the IASA there is the Idaho School Superintendents Association (ISSA) and the Idaho Association of School Business Officers (IASBO) that also serve as the Idaho chapter of the GFOA. This network provides training, education, social enculturation, and peer support for Idaho's school district administrators. Municipal advisors and underwriters often sponsor these events and are invited to present finance related trainings (IASA). Because these events may be all the formal training administrators receive in a year, the influence of this peer group on individual administrators is measurable.

Another common model of diffusion that Berry and Berry outline is the leader-laggard model, where certain states are "pioneers in the adoption of a policy, and the other states emulate these leaders" (p. 230). In this model, emulating states learn from other states more willing to take the initial risk on implementing policy. Laggard states often take a "wait and observe" approach to policy innovation, waiting to see how new policies fair in other states before making the decision to implement the policy within

their own state. Again, this model can easily be translated to the local school district -- and possibly the individual administrator level -- where one district's administrators lead out in policy innovation and other administrators wait to make sure the policy is effective before implementing it.

Shipan and Volden (2008) further elaborate on policy diffusion theory by articulating the major mechanisms by which policies are adopted by states. These mechanisms are learning, competition, imitation and coercion. These mechanisms provide a description for the reasons of why and how policies are adopted or diffused. Their research is particularly insightful to this study as they analyze the diffusionary interactions of local governments (p. 841-843).

Shipan and Volden (2008) identify learning as the identification of a policy successfully implemented and the implementation of that policy within another jurisdiction. Therefore, the policy must be previously implemented somewhere else for learning to take place (Shipan and Volden, p. 842, 2008). Policy learning is most effective when several governments successfully implemented a policy. This allows a government considering adopting a similar policy the opportunity to analyze the results of the policy from multiple data points. This process of policy learning and completion is observable in Idaho school district administrators and their bond issuance decisions.

Learning and completion are the most common processes for policy diffusion. Economic completion is typically confined to a geographic region, as states within close geographic proximity are those most in economic competition. Where economic spillovers are a possibility of policy diffusion, states will often weigh whether

implementing a policy their neighbor has implemented or considering implementing will produce a positive or negative spillover (Shipan and Volden, p. 842, 2008).

The third mechanism of diffusion is imitation, also known as emulation, where states essentially copy the actions of other states in order to appear like the origination state of those policies (Shipan and Volden, p. 842, 2008). States are motivated to emulate these other states because they are perceived to be adopting effective policies that in turn will benefit them. The major distinction in this policy from Berry and Berry's leader-laggards model is that governments which engage in imitation are more concerned with looking like a certain state as opposed to implementing a specific policy. Policy diffusion becomes more about the actor and less about the policy (p. 230, 2007).

Coercion is the last mechanism of diffusion and can be observed within the federalism structure of the United States when higher levels of government, like the federal government, mandates lower levels of government to enact certain polices. This is technically true of the SEC's municipal advisor laws, which strongly encouraged states and local governments comply with SEC rules (Shipan and Volden, p. 842, 2008). Though Shipan and Volden's work was not focuses on the municipal level of government, it is applicable to local municipalities and in the case of this research Idaho school districts.

d. Multiple Streams Theory

Punctuated equilibrium theory utilizes John Kingdon's multiple streams theory as well (Baumgartner and Jones, p. xxv & 5, 2009). Kingdon's theory (2011) describes how issues enter the policy agenda through a process called "coupling." This process has three distinct streams: the problem stream, the policy stream, and the politics stream. The

problem stream represents various issues that groups want addressed by government. The policy stream is a "primeval soup" of ideas that represents potential solutions to policy problems. The politics stream represents the political elements that define the national mood, interest group initiatives, and elections.

Kindgon describes a "policy entrepreneur" as an individual (or group) that acts to broker the three streams at opportune times. These times are known as "policy windows" and present opportunities for a particular policy to make its way to the policy agenda (p. 165-195, 2011).

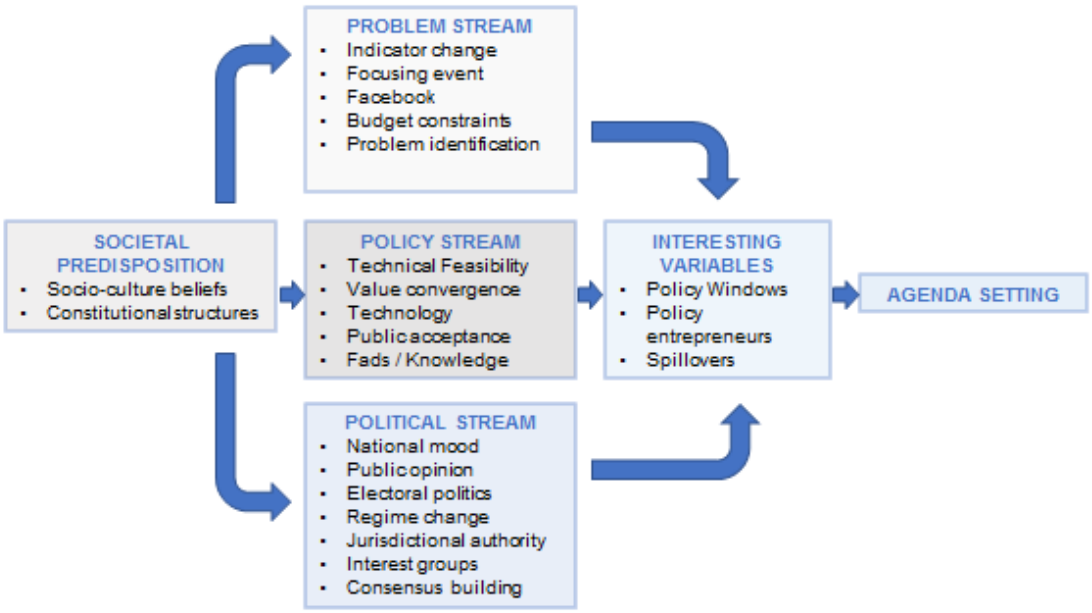

Figure 2.8: Kingdon's Multiple Streams Framework

Source: Kingdon, 2011

Now that the main theoretical tenants of the policymaking process have been provided, a discussion of the history of Idaho method of sale policy as it relates to these theories is provided below.

III. Policy Process and ISDA Method of Sale History

a. Punctuating Event 1: Negotiation Becomes Permissible

Prior to 2001, all Idaho school district bonds were statutorily required to be issued through a competitive sale; the only method of sale issuance method administrators could choose was a competitive sale. Therefore, Idaho school district bonds enjoyed an active and competitive market when selling bonds.

In 2001, the Idaho legislature made it "permissible" to issue bonds through a competitive *or* negotiated sale. From 2001 to 2006, there was a complete paradigm change where *no* Idaho school district bonds were issued through a competitive sale, but all were done through negotiation (Kuhn, 2012, p. 168).

The legislative process that enacted the policy change from mandated competitive sales to allowing negotiated sales is described in Chapter 1. That said, there is little known about the policy making motivations and process that formulated this change other than a single underwriting firm initiated and strongly supported the legislation's passage. Through the punctuated equilibrium framework, the effects of this policy are easily observed and described. Referring to Figure 2, we see that all school district bonds were sold using a competitive sale, but once the legislation was passed, there was a major tapering and eventual elimination of competitive sales until the McCall Donnelly School District #421 sold their bonds through a competitive sale in 2006.

b. Punctuating Event 2: McCall SD Hires a MA and Uses a Competitive Sale

In 2006, the McCall-Donnelly School District #421 was the first school district in four years to use a municipal advisor and competitive sale. Then Superintendent Terrell Donnick was very active in the National School Boards Association (NSBA). Through

this interaction at the national level, Terrell learned about the benefits of having a municipal advisor and using a competitive bond sale from some of his peers from other states. Terrell decided to apply some of these debt management policies within his own district. On July 11, 2006, Bloomberg captured the significance of this innovative approach to Idaho method of sale policy:

> An Idaho school district will take bids from investment banks today for $28.5 million of bonds, seeking to lower debt costs by bringing competition back to the way (Idaho) borrows. In Idaho, all new school bonds had to be sold through competitive bidding until the legislature changed the law in 2001 to allow negotiation. Since then, all 73 school bond issues, worth $832 million, have been sold by negotiating exclusive agreements with underwriters. (Preston, 2006)

Since McCall-Donnelly's 2006 competitive sale, eighty-two school districts have issued bonds. Twenty-six, or 32 percent, were assisted by a municipal advisor. All these bond issues used a competitive sale. The remaining fifty-two issues, or 68 percent, used an underwriter without a municipal advisor and sold bonds through a negotiated sale.

Bloomberg News called this pivotal point in Idaho's method of sale history a "complete revival" (Preston, 2006). According to Kuhn (2012), "if a paradigm is ever to triumph it must gain some first supporters" (p. 157). Since 2006, those twenty-six school districts who have seen the benefit of having a municipal advisor and who have experienced the value of a competitive bond sale are becoming vocal about following the GFOA and using this best practice. Although this represents a possible paradigm shift, the question remains: Why are a majority of school districts still not hiring municipal advisors and continuing to sell their bonds through negotiation?

This section of Idaho school district method of sale policy process is best described using the innovation and diffusion model. From Superintendent Donnick's learning from others through the NSBA, to the District's decision to hire a municipal

advisor and use a competitive bond sale, this is an ideal example of the innovation and diffusion model of the policy making process. As illustrated in Figure 2, since Superintendent Donnick's innovation in 2006, there has been a steady increase of Idaho school district administrators hiring municipal advisors and using competitive sales. It is predicted that on July 1, 2014, when the SEC's municipal advisor rules take effect, that there will be a rapid increase in the number of Idaho school districts that hire a municipal advisor and use a competitive sale to issue their bonds. The SEC rules are described in greater detail below.

c. Punctuating Event 3: Municipal Advisors Regulatory Rules

The Dodd-Frank Wall Street Reform and Consumer Protection Act of 2010 (Dodd-Frank) authorized the SEC and the Municipal Securities Rule-Making Board (MSRB) to adopt rules governing municipal advisors. This policy process resembles Shipan and Volden's (2008) description of coercion in the diffusion model, where the federal government mandates lower levels of government to enact certain polices (p. 842). It also follows Kingdon's multiple streams model, as the three streams aligned, a policy window opened, and policy entrepreneurs, specifically municipal advisors, provided the policy to address the problem of debt management abuse and costs.

On September 18, 2013, the SEC, which regulates the municipal securities industry, approved final rules that define a municipal advisor and establish registration rules for municipal advisors.

These rules prohibit underwriters from providing advice on investment strategies and municipal derivatives, the method of selling the bonds, assistance with competitive sales, and advice regarding selection of underwriters and other professionals.

Underwriters also cannot give advice specific to a particular issuance on which the underwriter is serving, financial feasibility analyses, budget planning, and overall rating strategies that are not related to a particular issuance of municipal securities (Chapman & Cutler, 2013). In essence, these rules legitimize through regulation the recommendations of the GFOA and the emerging paradigm in Idaho school district method of sale policy of using a municipal advisor.

According to the proposed rules, a municipal advisor is defined as any person who provides "advice" to a municipal entity regarding a municipal financial product or an issuance of municipal securities, or who undertakes a solicitation to do so. Advice is defined as a recommendation that is specific or tailored to a particular client with respect to the structure, timing, terms, or similar matters related to a municipal debt issue (Chapman & Cutler, 2013).

Underwriters are prohibited from serving as both municipal advisor and as underwriter on the same issue. This is illegal under MSRB Rule G-23. Underwriters are prohibited from providing a municipality with "advice" unless under certain exemptions. Underwriters are also prohibited from being the underwriter if they give "advice" outside of the exemptions. An underwriter may give an issuer advice if an issuer states to them, in writing, that they have retained a municipal advisor and that they are relying on that municipal advisor to assist them (Chapman & Cutler, 2013).

The exemptions under which an underwriter may provide a municipal entity advice are as follows:

1. In response to a legitimate RFP solicitation for underwriting services.

2. After hired as underwriter, but that advice must be limited to "traditional underwriting activities."

"Traditional underwriting activities" *do not* include:

1. Advice on the method of bond sale.
2. Preparing and/or evaluating any RFP (bond counsel, underwriter, municipal advisor, trustee).
3. Advice or assistance with bond elections.
4. Advice or assistance with budget planning, overall financing options, and debt capacity.
5. Advice regarding whether an event notice needs to be filed for continuing disclosure purposes.
6. How an issuer should invest bond proceeds.
7. Advice on the use of swaps.
8. How escrow funds should be structured and invested.
9. Advice regarding debt or financial policies or procedures.
10. How the current transaction may be coordinated with other debt issues.
11. Mode changes for variable rate debt.

For the above types of advice, government issuers are required by SEC rule for Municipal Advisors 2013 to hire a municipal advisor. The GFOA (2014) provides the following reason for this.

> A municipal advisor represents the issuer in the sale of bonds, and unlike other professionals involved in a bond sale, has an explicit fiduciary duty to the issuer per the Dodd-Frank Wall Street Reform and Consumer Protection Act (Selecting and Managing the Engagement of Municipal Advisors).

The GFOA continues to say: “The appropriate duties, roles and responsibilities of municipal advisors and underwriters are often not well understood. Municipal advisors are the only parties with a federal fiduciary duty to state and local government issuers.” (GFOA, 2014).

The GFOA further recommends that issuers hire a municipal advisor prior to the undertaking of a debt financing unless the issuer has sufficient in-house expertise and access to current bond market information. The GFOA also recommends that if an issuer is contemplating the possibility of selling bonds through a negotiated sale, the municipal advisor should be retained prior to selecting the underwriter(s). This allows the issuer to have professional services available to advise on the appropriate method of sale, and if a negotiated sale is selected, to prepare the underwriter RFP and assist in the evaluation of the underwriter responses. (GFOA, 2014).

One of the main reasons for hiring a municipal advisor is that municipal advisors have a fiduciary duty to the issuer in the sale of bonds. The underwriter earns its fee by buying the bonds and reselling them to investors at an increased price. This difference from the purchase price to the resale price is called the underwriter’s discount or spread. As the underwriter seeks to resell the bonds to potential investors, these investors want the highest yield possible for their investment. The underwriter therefore has a difficult time reselling the bonds at lower yields and will increase yields as necessary in order to sell the bonds. Both this monetary and market incentive to increase yields is not aligned with the issuer’s interest, which is in obtaining the lowest yields possible. Due to the incentive of high returns from an increased spread and motivation to maintain good relationships with their investors, underwriters have a potential conflict of interest.

Mysak (2005) describes the underwriter's potential conflict of interest by stating: "The big idea here is that a financial adviser is supposed to act in the client's best interests. An underwriter acts in its own best interests…Underwriters will price bonds to sell the easiest and fastest way possible."

Again, the GFOA recommends that issuers keep in mind that the roles of the underwriter and the municipal advisor are separate, adversarial roles and cannot be provided by the same party. They also recommend the use of an RFP process when selecting underwriters in order to promote fairness, objectivity, and transparency (GFOA, 2014).

Mysak (2007) said: "The real scandal…is that many unsophisticated issuers don't use financial advisers at all. They instead rely on their underwriters to help them put together their transactions. The underwriters, many of them, consider municipal advisors a waste of time and money. They also dislike having people looking over their shoulders."

IV. Conclusion

In summary, the sale of municipal bonds is a complex process that requires extensive involvement of private sector organizations. There is an outstanding public interest in efficiency and cost-effectiveness in the issuance of public debt. The focus of this study is to explore whether principal-agent theory applied to the municipal bond sale process helps our understanding of that process.

Idaho school district administrators who operate from a position of information asymmetry, rely solely on the advice of underwriters, and issue bonds through negotiation are increasingly required to defend their bond financing decision-making.

Given the GFOA recommended best practices, SEC regulatory environment, and the evident cost benefits of both hiring a municipal advisor and using a competitive bond sale, the field of public finance research contains numerous opportunities for further research. In the following chapters are a number of suggested testable hypotheses and research opportunities.

The psychological base of Maslow and philosophical lens of Fay coupled with the public administration foundational works leads to the rationality works of Simon, Downs, and others that leads to the thorough examination of behavioral economics and decision theory, which provide a strong theoretical framework to apply the contemporary works of the current municipal finance and debt management field. This review generates a rich research agenda of testable hypotheses.

It is observable that as local governments do not following best practices, the federal government is taking action to force them to comply with best practices. This is enforced via the Dodd-Frank Act and the subsequent SEC and MSRB municipal advisor rules that took effect July 1, 2014.

Further study is required to analyze the perceived negative impacts of the 2000 Idaho legislative change, which allows the use of a negotiated sale, the positive impacts of the 2006 local innovative and diffusionary method of sale policies of individual administrators at the McCall-Donnelly School District, and the predicted positive impacts of the SEC and MSRB municipal advisor rules on method of sale decisions throughout the country.

The connection to these events is clear between Idaho school district administrators' method of sale policy decisions and the 2000 state legislative policy

process making negotiated sales permissible, the influence of the 2006 McCall-Donnelly School District policy innovation of hiring a municipal advisor and using a competitive bond sale and the resulting diffusion to other school district administrators throughout Idaho, and the federal legislative impact of the Dodd-Frank Act and the following SEC and MSRB rule-making processes.

When viewed together, the public administration and debt management literatures suggest that under normal circumstances Idaho school district administrators would select professionals and methods of selling bonds that would produce the lowest costs. To what extent remains unclear. With negotiated sales, administrators may wish for various reasons to pay more for their bond sales, but that could be the very information that administrators do not have or that confirms the existence of information asymmetries. When these findings are applied to the complexity of bond sales and the relationship that exists between administrator-principals and underwriter-agents, the potential impact increases. The public administration literature suggests that the most likely effects of a shift in policy would be felt in the form of satisficing strategies by administrators and profit maximization by financial professionals. At the same time, the debt management literature suggests that effects could be disproportionately felt by administrators, due to the nature of their relationship with underwriters. This overlap provides an intriguing area of study—the satisficing mentality effects felt by administrators-principals in their efforts to accomplish a complex process, bond sales, compounded by the information gaps filled by self-interested underwriter-agents.

Understanding and analyzing why administrators can make decisions contrary to best practice and a robust debt management literature; especially, considering the cost

implications, is an area of study that warrants further research. To do so in Idaho, one must look first to identify if in fact competitive sales are less expensive than negotiated sales as the debt management literature suggests. Second, if that is in fact the case, a deep dive into the decision-making process of school district administrators should lead to productive insights and possible policy changes that can assist Idaho school districts in making cost saving decisions. It is to this task that this dissertation now turns, first by identifying and analyzing the empirical impact of the policy shift in Idaho that allowed negotiated sales, and then by exploring the views of school district administrators themselves.

CHAPTER 3: METHODS OF ANALYZING THE IMPACT OF COMPETITIVE VS. NEGOIATED SALES IN IDAHO SCHOOL DISTRICT BONDS

I. Bond Yield Compared to MMD Introduction

This study seeks first to understand if Idaho school district bond sales follow similar studies where competitive sales are found to result in lower interest rates compared to negotiated sales. This is accomplished by sampling 194 Idaho school district bonds sales from 2001 to 2016. Second, this study then, based on the findings of the first analysis, seeks to understand why numerous Idaho school district administrators, as principals in their district's method of sale policies, select agents and methods of selling their district's bonds contrary to GFOA's recommended best practices and the public finance literature that has generally found that competitive sales are less expensive than negotiated sales and that the presence of a municipal advisor results in less expensive more transparent bond financings. This leads to the following core testable hypothesis:

H_1: *Idaho school district competitive bond sales achieve lower interest rates and are therefore, less expensive than negotiated bond sales.*

H_2: *When administrators use best practices bond sales are less expensive.*

To begin, I will look at a broad set of the financial research already conducted in the study of competitive and negotiated sales and apply those methods to a comprehensive data set of 194 Idaho bond sales from 2001 to 2016. This will be done in an effort to test whether or not this research is applicable to Idaho school district bond

sales; if in fact competitive sales achieve lower interest rates compared to negotiated sales.

If this is in fact the case, that competitive sales achieve lower interest rates than negotiated sales, I then seek to understand why a majority of Idaho school districts choose negotiated sales (156 negotiated sales and 38 competitive sales). This is accomplished by use of a comprehensive survey of Idaho school district finance administrators that tests demographic data as well as reasoning data to better understand the decision-making process of these administrators in choosing the financial professionals and methods they do.

II. Bond Yield Compared to MMD Methodology

Primary data on Idaho school district bond sales provides the most direct method of evaluating bond sale methodologies following the implementation of S. 1158 in 2001 that allowed for Idaho school district's bonds to be sold through negotiated sales as well as competitive sales. This is a necessary first step to properly understand the effect of the shift in policy and if it had the intended effects, which was to provide flexibility in the timing of bond sales in order to save "100 basis points or more." In addition to statewide trends observed from bond sales from 2001 to 2016, I will also examine individual-level bond data and administrator demographics to better understand the characteristics of Idaho school district bond issues and the administrators who initiate them. Towards that end, we first look at the individual bond data from the test sample.

a. Unit of Analysis

Every known Idaho school district bond issue from 2001 to 2016 found on the www.msrb.emma website was retrieved and analyzed.[14] Then each bond year and its corresponding interest rates[15] were cataloged. This data was compared with a market benchmark, the Municipal Market Data AAA Curve (MMD), and the variance was calculated. Then each bond year variance from the MMD was analyzed using a Statistical Package for Social Sciences (SPSS) independent samples T-Test to determine if bonds sold competitively resulted in lower interest rates, and consequently if negotiated sales resulted in higher interest rates. This allows for a comprehensive analysis of every individual Idaho school district bond either sold through competitive or negotiated sale to be compared to the MMD benchmark.

It is important to remember that not all bonds are created equal. They are issued for different dollar amounts, on different dates, with different credit ratings and bank qualification[16] status. These unique characteristics make them very different in the eyes

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[14] Four notes were removed from the analysis. This is because they are short term securities and are rated using a different rating methodology - Municipal Investment Grade (MIG). A few bonds were removed due to their stand-alone credit rating not being Aaa or Aa1, they were unrate, uninsured, and/or they were not guaranteed through the State Treasurer's School Bond Guarantee and Credit Enhancement programs. See footnote 18. There were also a number of taxable and federally subsidized bonds such as Build America Bonds (BABs), Qualified School Construction Bonds (QSCBs) and Qualified Zone Academy Bonds (QZABs) that were excluded from the analysis. The intent of their removal from the sample was to identify a pool of homogeneous bonds that adhere to the general premise of a uniform credit rated in the Aaa or Aa1 categories. This was done in an effort to address endogeneity questions.

[15] Interest rate refers to each yield rate on each individual bond year of bonds. This is identified via the unique Committee on Uniform Securities Identification Procedures (CUSIP) number associates with each bond. A CUSIP number is a unique identification number assigned to all registered bonds in the United States and Canada, and is used to create a concrete distinction between securities that are traded on public markets (Investopedia, 2018).

[16] With the passage of the Tax Reform Act of 1986 and section 265(b) of the Internal Revenue Code of 1986, banks may not deduct the carrying cost of tax-exempt municipal bonds. For banks, this provision has the effect of eliminating the tax-exempt benefit of municipal bonds. An exception is included in the Code that allows banks to deduct 80% of the carrying cost of a "qualified tax-exempt obligation." In order to be "bank qualified" the bonds must be (i) issued by a "qualified small issuer," (ii) issued for public purposes, and (iii) designated as qualified tax-exempt obligations. A "qualified small issuer" is an issuer

of the market. In order to create a comparative sample where the method of sale is the only distinguishing factor between bonds, bonds included in this analysis are a pool of homogeneous Idaho school district General Obligation (GO) bonds[17] that adhere to the general premise of a uniform credit rated in the Aaa or Aa1 categories.[18] This means the bonds carry an underlying credit rating of Aaa or Aa1, are enhanced by the state of Idaho State Treasurer's School Bond Guarantee and/or Credit Enhancement Programs[19], or are secured by Aaa rated bond insurance. I acknowledge that there are several factors that make bonds unique. But it is important to note that all the bonds included in this research share the same approximate credit rating and it is reasonable to compare them.

b. Comparing Bonds to a Market Benchmark

It is also noteworthy that because the bonds are issued on different dates, they are issued in truly different markets and under different market conditions. For that reason, instead of comparing one entire bond issue directly to another bond issue, each individual

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that issues no more than $10 million of tax-exempt bonds during the calendar year (Muni Bond Advisor, 2018).

[17] A general obligation bond (GO) is a municipal bond backed by the credit and taxing power of the issuing jurisdiction rather than the revenue from a given project. General obligation bonds are issued with the belief that a municipality will be able to repay its debt obligation through taxation or revenue from projects. No assets are used as collateral (Investopedia, 2018).

[18] Though very similar in actual ratings, Aaa bonds have been known to have a "haloed" or "gold-plated" effect in the market. In other words, portfolio managers who purchase bonds for customers or funds can quickly make bond quality and credit decisions based on the Aaa rating. Note there were only two Aa1 bonds included in the sample, both from the West Ada SD 2. These bonds were both sizable and both achieved very close results to the MMD benchmark.

[19] The Idaho School Bond Guaranty (ISBG) Act was created for the purpose of establishing a default avoidance program for voter-approved school bonds issued by Idaho public school districts. In 2009 the Idaho legislature modified the program to allow two tiers of enhancement which include (1) enhancement by the State, and (2) enhancement by the State and Endowment Fund Investment Board (EFIB). Each option provides a different credit enhanced rating to the issuer of the bonds. The State enhancement may enable school district's to receive a Aa1 Moody's rating and/or AA S&P rating, while the additional enhancement by the EFIB may enable school district's to receive a Aaa Moody's rating and/or AAA S&P rating. The enhancement provided by the EFIB has been capped at $40 million per district (ISBG, 2018). A number of bonds in the sample were issued in multiple series due to exceeding this cap resulting in one series being enhanced by both programs and the other being enhanced by just the ISBG.

bond year of bonds is compared to a market standard benchmark, in this case the MMD. This allows each bond issue to be what it will be in all of its unique glory, but compare the entire data set of individual bonds to a recognized market industry standard benchmark. This allows us to compare all the bonds to the standard and keeps us from comparing apples and oranges.

c. The History of the MMD

Munifacts was the original creator of the MMD. It was a private newswire communication service for municipal bonds which provided information on new municipal bond issues in the primary market and secondary market. It was renamed Thomson Municipal News in 1996, then later folded into The Municipal Market Monitor (TM3), a subscription service available from Thomson Reuters (Investopedia, 2018).

Though Munifacts no longer exists, its replacement service TM3 continues to be of keen interest to municipal bond traders. This reporting service allows traders to analyze bond issues, including the terms included in the bond's indenture and financial information used to assess the quality of an issue. This information source continues to be viewed as the standard for the municipal finance industry (Investopedia, 2018).

Thomson Municipal News, The Bond Buyer top stories, useful tools including an analyst directory and glossary, guide on bond identification procedures, search functions and a bond calculator can be found on the site. A dashboard showing the Top 5 Competitive Issues, Top 5 Negotiated issues, and 5 Most Active Trades at Volume provides a quick snapshot of the municipal bond market on any given day. Other services available from the dashboard are links to MuniStatements, the Securities Industry and

Financial Markets Association, Swap Index, and Exchange Traded Funds Index (Investopedia, 2018).

The main features of The Municipal Market Monitor are:

- News
- Municipal market data (MMD)
- Primary & secondary markets
- Muni/data analysis
- Variable Rate Demand Notice network

Tables on the dashboard include MIG1 and MMD Scales. MIG is a Moody's rating scale to measure municipal bond risk and issuer creditworthiness. The Moody's ratings are one through four, with a one (MIG 1) representing the highest quality and a four (MIG 4) representing the lowest quality (Investopedia, 2018). MIG ratings, though important for short-term note issues, are not used in this analysis as all of the issues in the data set are bonds and longer-term in nature.

MMD is a proprietary yield curve. The MMD AAA Curve provides the offer-side of AAA-rated general obligation bonds. The MMD analyst team determines the inclusion of bonds. The MMD AAA Curve represents the MMD analyst team's opinion of AAA valuation, based on an institutional block size of $2 million-plus market activity in both the primary and secondary municipal bond market. The AAA scale is published by Municipal Market Data every day at 3:00 p.m. Eastern Standard Time with earlier indications of market movement provided throughout the trading day. In the interest of transparency, MMD publishes extensive yield curve assumptions relating to various

structural criteria, which are used in filtering market information for the purpose of benchmark yield curve creation (Investopedia, 2018).

d. Individual Bonds and a Higher Degree of Accuracy

When each bond year of bonds is compared to its corresponding MMD benchmark for that same day, it is reasonable to compare that bond to the benchmark and the difference between the two. This allows us to understand the variance away from the benchmark and how each individual bond's interest rate compares to the MMD benchmark. Individual bonds can be both positive (over) or negative (through) the MMD. Through the MMD indicates that the interest rate on an individual bond is less than the MMD benchmark or is cheaper than the benchmark. This indicates that there was higher demand for this particular bond and therefore, investors were willing to accept a lower interest rate for them. Bonds that are priced over the MMD benchmark were less in demand and therefore investors were able to get higher interest rates for them. This makes them more expensive for the school district issuing them.

e. Dependent Variable

The dependent variables (DVs) are the two types of bond sales, negotiated bond sale (DV_0) and competitive bond sale (DV_1).

f. Structural Independent Variables

The independent variables (IVs) include the differences of the bond yield compared to the MMD benchmark yield on the date of sale. The number of individual bond years (IV_1) is 2197. The operationalization of each variable is as follows:

Table 3.1: Bond Yield Variables, Measures, and Sources of Data

Variables	Measures
Method of sale	Dichotomous indicator. If a negotiated sale is used, 0 is assigned. If a competitive sale is used, 1.
Difference of bond yields compared to the MMD AAA benchmark yield	Continuous indicator. The difference between the individual bond yields of all 194 bond issues compared to the MMD AAA benchmark yield on the dated date of the bond sale, n = 2197.

Source: EMMA, 2018

The dependent variable is shown first, followed by the independent variables.

g. Levels of Measurement

The levels of measurement of each variable are as follows: $DV_{1\text{-}2}$ = nominal; IV_1 = interval.

h. Research Hypotheses

The following hypothesis gets at the heart of H_1 restated below:

H_1: *Idaho school district competitive bond sales achieve lower interest rates and are therefore, less expensive than negotiated bond sales.*

Though not a perfect analysis comparing exactly similar bonds issued on the same dates into the same market, comparing each individual bond's yield to its corresponding MMD yield is a reasonable representation of how bonds compare to a recognized and well accepted market standard benchmark. From this we are able to determine how bonds sold competitively compare with bonds sold through negotiation. This directly tests H_1.

i. Structural Hypothesis H_1

X1a → Y1: Individual bond yields sold competitively achieve lower interest rates compared to the MMD AAA Curve than individual bond yields sold through negotiation compared to the MMD AAA Curve.

j. Data Collection and Security

The primary sources of data are the 194 Idaho school district bonds issued from 2001 to 2016. These data were found in the bond official statements located on the Electronic Municipal Market Access website (EMMA, 2014). EMMA is an ideal data source because it houses all of the disclosure documents for every publicly marketed bond issuance. It is managed by the MSRB, which is enforced by the SEC. Similar to publicly traded stocks, where companies are required to report certain information to market investors, governments who have issued bonds must report certain information to their investors (EMMA, 2014). The data is public information and accessible on the Internet. My analysis and calculations will be managed via SPSS on my person computer, stored using a GoogleDrive and backed-up as well on my personal computer.

k. Research Design and Methods

A quantitative cross-section comparison of the bond issuances will be analyzed (Weiss, 1998, p. 82-84). This design shows Idaho finance policy trends without interfering with them (Field, 2013, p. 13). Also, because Idaho school districts do not issue bonds collectively at once, but issue individually over time as needed, there is no opportunity for pre-test or post-test experimentation. Since actual bond results are used and the 194 official statements have many variables and data points to consider, this direct source of data is optimal. The follow-up of the finance policy survey will enhance the empirical research of the past bond sales by providing current thought processes and demographics to the analysis. This design works well because each district has its own finance policy and is in its own phase of the finance process.

l. Statistical Procedures

The primary statistical model will use cross tabs with chi-square to compare the difference between competitively sold bond yields and the MMD benchmark with the difference between bond yields sold through negotiation and the MMD benchmark. A one sample t-test is used to determine statistical significance. SPSS is the statistic software that will be used and will also produce frequency tables and descriptive statistics.

The DVs are dichotomous variable where the outcome can only be a competitive sale (1) or a negotiated sale (0). This is an observable model based on the data that confirms whether or not competitive sales are less expensive than negotiated sales. The methods described later in this chapter take the next step and seek to understand why administrators make the method of sale decisions that they do.

This research design conforms with the main assumptions of science because it (1) adheres to the determinism school of thought that school administrators make decisions for specific reasons, 2) the design can be tested empirically using real-world results and administrators' demographics and opinions, (3) the design is generally objective, and (4) the design can be replicated by other researchers.

Disadvantages of this research design are two-fold: (1) the potential for sample error, and (2) the difficulty of constructing objective measures to evaluate different bonds sold on different days sold into different markets.

m. Potential Threats to Validity and Reliability

Because the evaluation is being conducted after the bonds have been sold, it is difficult to address threats to internal validity. That said, given there is no limitation on

which financings were analyzed, and all 194 bond issues were considered, there is no threat of selection bias, attrition, outside effects, or maturation. Testing and instrumentation are also limited to the quality of this analysis (Weiss 1998, p. 183-184).

With the MMD AAA Curve as our market benchmark, we can understand the difference between each bond's yield in relation to the MMD benchmark. Once the difference between each bond's yield and the benchmark is determined we can then look at those same differences comparing competitively sold bonds and bonds sold through negotiation.

III. Bond Characteristics Introduction

From the previous analysis of Idaho school district competitive versus negotiated bond sales from 2001 to 2016, hypothesis H_1 is the focus seeking to understand whether competitive sales achieve lower interest rates compared to MMD benchmark than do negotiated sales interest rates compared to the MMD benchmark. For the bond characteristics analysis, we turn to exploring hypothesis H_2 that reads again as follows:

H_2: *When administrators use best practices bond sales are less expensive.*

This analysis seeks to explore H_2 by the use of a detailed analysis of various structural characteristics of the 194 bonds issued from when S. 1158 was enacted in 2001 to 2016. Through various statistical means, this analysis considers the identified bond characteristics to understand their impact on the bond sale methods and ultimately the results of those bond sales. This analysis follows similar studies using known bond characteristics (Robbins & Simonsen, 2007; Simonsen & Hill, 1998).

IV. Bond Characteristics Methodology

The 194 Idaho school district bonds from 2001 to 2016 serve as the primary data set and provide the most exact means of evaluating bond sale characteristics. Later in this chapter I will analyze administrator demographics and administrator preferences by means of an administrator survey. Towards that end, this chapter will look at the effect that various bond characteristics have on the selection of a method of sale.

a. Unit of Analysis

The unit of analysis for this is the 194 Idaho school district bond issues from 2001 to 2016[20]. As with the bond yield analysis, all bond issues were found on the www.msrb.emma website. Identified bond characteristics were then mined from each bond issue and cataloged to form the data set.

b. Dependent Variable

The dependent variables (DVs) are the two types of bond sales, negotiated bond sale (DV_0) and competitive bond sale (DV_1).

c. Structural Independent Variables

The six bond independent variables (IVs) include financial data categories derived from the actual official statement documents from the various school district's bond issues. These characteristics include: presence of a municipal advisor (IV_1), underwriter

[20] Notes, taxable and federally subsidized bonds were excluded from the analysis. The intent of this was to identify a pool of homogeneous bonds that adhere to the general premise of a uniform credit rated in the Aaa or Aa1 categories. This was done to address endogeneity questions. See footnote 2 and 18.

frequency[21] (IV_2), bank qualification (IV_3), underlying rating[22] (IV_4), enrollment[23] (IV_5), and bond size (IV_6). The operationalization of each variable is as follows:

[21] See Figure 5: Underwriter Frequency from 2001 to 2016.

[22] All bonds in the sample were Aa1 or higher. See footnote 18. All ratings were converted to the Moody's rating scale for analysis purposes. This conversion was only necessary for three bonds as Moody's was the overwhelmingly used rating scale.

[23] Enrollment is the total district enrollment for the year in which the bonds were issued.

Table 3.2: Bond Characteristics Variables, Measures, and Sources of Data

Variables	Measures
Method of sale	Dichotomous indicator. If a negotiated sale is used, 0 is assigned. If a competitive sale is used, 1.
Presence of Municipal Advisor	Dichotomous indicator. If no municipal advisor is present, 0 is assigned. If a municipal advisor is present, 1.
Underwriter frequency	Continuous indicator. The underwriter is assigned a number based on the number of bonds it has underwritten from 0-19.
Bank qualified	Dichotomous indicator. If the bond is non-bank qualified, 0 is assigned. If the bond is bank qualified, 1.
Underlying rating	Dichotomous indicator. If the bond is rated Baa1/BBB+ or lower, 0 is assigned; if A3/A- or higher, 1.
District enrollment	Dichotomous indicator. If student enrollment at the time of bond issue is 4,999 or less, 0 is assigned; if 5,000 or more, 1.
Bond size	Dichotomous indicator. If par amount ($) of bond issue is $9,999,999 or less, 0 is assigned; if $10,000,000, 1.

Source: EMMA, 2018

The dependent variable is shown first, followed by the independent variables.

d. Levels of Measurement

The levels of measurement of each variable are as follows: $DV_{0\text{-}1}$ = dichotomous; IV_1 = dichotomous; IV_2 = ordinal; $IV_{3,\,4,\,5}$ = interval. $IV_{3,4,5}$ were then transformed into dichotomous nominal variables for hypothesis testing purposes.

e. Research Hypotheses

The following hypotheses are specific to each bond issue, are structural in nature, and refer to identifying elements of the bond issue itself. Individual hypotheses are explored more in the administrator survey section of this chapter and refer to the demographics, influences, and decision-making processes of each individual administrator who participated in the administrator survey.

f. Structural Hypotheses H_2

X1a → Y1: The presence of a municipal advisor ($IV_{1,1}$) increases the likelihood the school administrator will choose a competitive sale ($DV_{1,1}$).

→ Y2: The presence of a less frequent used underwriter ($IV_{2,1}$) increases the likelihood the school administrator will choose a competitive sale ($DV_{1,1}$).

→ Y3: The presence of a bank-qualified bond ($IV_{3,1}$) increases the likelihood the school administrator will choose a competitive sale ($DV_{1,1}$).

→ Y4: The presence of an underlying rating of A3/A- or higher ($IV_{4,1}$) increases the likelihood the school administrator will choose a competitive sale ($DV_{1,1}$).

→ Y5: Student enrollment of 5,000 or more ($IV_{5,1}$) increases the likelihood the school administrator will choose a competitive sale ($DV_{1,1}$).

→ Y6: Bond size of $10,000,000 or more ($IV_{6,1}$) increases the likelihood the school administrator will choose a competitive sale ($DV_{1,1}$).

g. Data Collection and Security

Like with the bond yield dataset previously described, the primary sources of data for the bond characteristics dataset are the 194 Idaho school district bonds issued from 2001 to 2016. These data were also found in the bond official statements located on the Electronic Municipal Market Access website as previously described (EMMA, 2014). This analysis will also be managed via SPSS on my person computer, stored using a GoogleDrive and backed-up as well on my personal computer.

h. Research Design and Methods

The bond characteristics variables will also be analyzed using a quantitative cross-section comparison of the bond issuances (Weiss, 1998, p. 82-84). This is because Idaho school districts do not issue bonds collectively at once, but issue individually over time as needed, there is no opportunity for pre-test or post-test experimentation. Since actual bond results are used and the 194 official statements have many variables and data points to consider, this direct source of data is optimal. The follow-up of the administrator survey will enhance the exploration of the question why administrators choose the method of sale they do to issue their bonds.

i. Statistical Procedures

The primary statistical model will use cross tabs with chi-square and LOGIT regression. SPSS will be used to run the cross tabs with chi-square analysis and to produce frequency tables and descriptive statistics. The DVs continue to be the dichotomous variables of competitive sale (1) and a negotiated sale (0). The $IV_{1\text{-}6}$ fit a LOGIT probability model well. It provides insight into conditions that may cause Idaho school district administrators to choose the method of sale they do and describe potential correlations between the DV and IV variables.

This research design also conforms to the main assumptions of science mentioned earlier.

Disadvantages of this research design are two-fold: (1) the potential for sample error, and (2) the difficulty of constructing objective measures to evaluate all the conditions that could impact administrator choice of method of sale.

j. Potential Threats to Validity and Reliability

Like the bond yield model, because the evaluation is being conducted after the policy has been implemented (the bonds have been sold), it is difficult to address threats to internal validity. That said, given there is no limitation on which financings were analyzed, and all 194 bond issues were considered, there is no threat of selection bias, attrition, outside effects, or maturation. Testing and instrumentation are also limited to the quality of this analysis (Weiss 1998, p. 183-184). Because the entire population *is* the sample, threats to external and internal validity and reliability will be limited.

V. Administrator Survey Introduction

Now that the bond yield and bond characteristics methods have been described, this leads us to going directly to Idaho school district administrators and asking them why they choose the method of sale they and a battery of other related questions, in order to more fully understand their individual decision-making processes. This final analysis of this dissertation also explores and tests the various theories described in Chapter 2.

VI. Administrator Survey Methodology

This analysis uses a complete sample of Idaho school district administrators as defined as superintendents and business officers, hereafter referred to as the "administrator survey." The contact lists used for this survey were derived using two sources. The first is the current IASA online directory, which lists all Idaho school district superintendents by their name, agency, office location city, phone number, fax number, and email address. This list was sent to me by IASA Executive Director Rob Winslow. The second is the current IASBO directory that was sent to me by IASBO Executive Director Tom Taggart. It lists all Idaho school district business officers by their

name, agency, office location city, phone number, fax number, and email address. Using these lists (as of December 1st, 2015), a single consolidated directory was. Note also that the survey size is representative of the entire population of Idaho school district finance administrators.[24]

This administrator survey was then cross-referenced with individual administrator information found on each school district's websites. The region of the state that each of the districts resides was then recorded using the ISBA listing. This regional element was also used to further identify the region of the state each administrator was from.

In instances where the information was incomplete, inaccurate, missing or could not be identified, the administrator was dropped from the dataset. This resulted in dropping 8 individuals from the sample, leaving 334 individuals in the administrator survey. Of these, 117 (35.03%) were superintendents and 217 (64.97%) were business officers or their equivalents. It bears noting that it is not uncommon for districts to have multiple business officers that are trained in finance and/or are members of the IASBO, especially in larger districts. This would explain the higher number of business officers than the number of school districts.

The timespan for the administrator survey was limited to 2015. The reason for this is this was the current body of school district administrators at the time the study for this dissertation began. Certainly, there is more current information available on the body of Idaho school district administrators, but I believe that the survey studied for this

[24]Finance administrators are those school district administrators who have decision-making authority over method of sale. It is possible that these lists are not perfectly comprehensive and accurate, but they do represent a reasonable approximation of the total population of Idaho school district finance administrators.

dissertation was representative of the administrative body at the time of the study and therefore, is accurate and valid for purposes of this study.

a. Unit of Analysis

The unit of analysis for this research is Idaho's 334 school district finance administrators as of December 1st, 2015, which is comprised of 117 (35.03%) superintendents and 217 business officers or their equivalents (64.97%). Note also that the sample size is representative of the entire population of Idaho school district finance administrators. The total number of respondents was 141 (n = 141).

b. Dependent Variable

The dependent variables (DVs) are the two types of bond sales, competitive bond sale (DV_1) and negotiated bond sale (DV_2).

c. Individual Independent Variables

The 16 individual administrator independent variables (IVs) include individual administrator response data categories derived from the administrator survey such as: administrative role – superintendent or business officer ($IV1_1$), region of the state 1-6 (IV_2), finance knowledge and preferences (IV_3), municipal finance training (IV_4), municipal finance competency (IV_5), regulatory knowledge (IV_6), cost motivation (IV_7), underwriter use and selection process (IV_8), municipal advisor use, selection process, influence of GFOA best practice, influence of academic studies (IV_9), negotiated sale use and selection process (IV_{10}), competitive sale use, selection process, influence of GFOA best practice, influence of academic studies (IV_{11}), influence of the lowering of the supermajority voter approval threshold for school district bonds (IV_{12}), gender (IV_{13}),

year of school district experience (IV_{14}) number of school bonds administered (IV_{15}) educational attainment (IV_{16}). The operationalization of each variable is as follows:

Table 3.3: Administrator Survey Variables, Measures, and Sources of Data

Variables	Measures
Method of sale	Dichotomous indicator. If a negotiated sale is used, 0 is assigned. If a competitive sale is used, 1.
Administrator	Dichotomous screening indicator. If a superintendent, 0 is assigned. If a business officer, 1. S1
Region	Continuous screening indicator. If the administrator is from Region 1, 1 is assigned, if Region 2, 2; if Region 3, 3; if Region 4, 4; if Region 5, 5; if Region 6, 6. S2
Finance Knowledge and Preferences	Dichotomous and continuous indicator. Battery of questions gaging the basic finance knowledge and preferences of the administrator. Q1-3.
Municipal Finance Training	Dichotomous and continuous indicator. Battery of questions gaging the impact of municipal financial training on administrator decision-making. Q4-10.
Municipal Finance Competency	Continuous indicator. Battery of questions gaging the impact of competency in municipal finance on administrator decision-making. Q11-12.
Regulatory Knowledge	Continuous indicator. Question gaging the impact of the administrator's regulatory knowledge on their decision-making. Q13.
Cost Motivation	Continuous indicator. A question gaging the impact of cost motivation on administrator decision-making. Q14.
Underwriter	Dichotomous indicators. Battery of questions gaging the use and selection process of an underwriter. Q15-16.
Municipal Advisor	Dichotomous indicators. Battery of questions gaging the use, selection process, influence of best practice and academic studies on administrator decision-making of a municipal advisor. Q17-20.
Negotiated Sale	Continuous indicator. Battery of questions gaging the use and selection process of a negotiated sale. Q21-22.
Competitive Sale	Continuous indicator. Battery of questions gaging the use, selection process, influence of best practice and academic studies on administrator decision-making of a competitive sale. Q23-26.
Supermajority	Continuous indicator. Question gaging the impact of the supermajority threshold on administrator decision-making. Q27.
Gender	Dichotomous demographic indicator. Question asking the gender of the administrator. D1.
# Years in School Admin	Continuous demographic indicator. Question asking the number of years in school district administration of the administrator. D2.
# of Bond Issues	Continuous demographic indicator. Question asking the number of bond issues the administrator has administered. D3.
Educational Attainment	Categorical demographic indicator. Question gaging the educational attainment of the administrator. D4.

Source: Administrator survey responses

The dependent variable is shown first, followed by the independent variables. IVs are derived from the administrator survey that was sent to each member of the superintendent and business officer list. These IVs included two screening variables: superintendent/business officer and region of state. The IVs also include a battery of detailed variables including: financial knowledge and preferences, training, competency, regulatory knowledge, cost motivation, underwriter usage and selection process, municipal advisor usage/selection process/influence of best practice/influence of academic research, negotiated sale usage and selection process, and competitive sale usage/selection process/influence of best practice/influence of academic research. The IVs conclude with demographic variables including: gender, number of years in public administration, number of bonds experienced, and educational attainment level. Detailed questions designed to ascertain the individual finance administrator's financial knowledge, experience, preferences and decision-making process for choosing a specific method of sale will include: who the administrator relies on for financial advice, do they participate in their respective state-wide/national trade associations, what is their preferred method of selling bonds, do they use a municipal advisor, and if they are familiar with current regulatory changes, GFOA public finance best practices, and academic research related to public finance.

A knowledge index score was developed in order to rank an administrator's municipal finance knowledge for testing purposes. The purpose of the knowledge index score is to measure the administrator's overall understanding of municipal finance, municipal finance preferences, training, competency, regulatory knowledge, and number of school bonds administered. The knowledge index score is generated from the sum

scores of survey questions 1-13, and demographic question 3. A score of 29 or lower indicates a low municipal finance knowledge index score. A score of 30 or greater indicates a high municipal finance knowledge index score. Table 3.4 below shows the questions that were used to create this index.

Table 3.4: Knowledge Index

Q1) How would you rate your knowledge of bonds and levies?
Q2) Where do you rank bonds and levies of all your work responsibilities?
Q3) How often do you seek outside assistance with finance related needs?
Q4) Have you ever been formally trained in school bonds and levies?
Q5) If yes, how long ago did you receive the training?
Q6) If yes, how often do you receive training?
Q7) If yes, from whom did you receive the training?
Q8) Does your District allocate funds for financial training?
Q9) Do you agree that Idaho school districts are able to adequately fund their facility needs.
Q10) Do you agree that your district is financially well managed.
Q11) What degree of competency when it comes to school finance.
Q12) What degree of competency when it comes to the bond issuance process?
Q13) How aware are you of the Securities and Exchange Commission's (SEC) and Municipal Securities Rulemaking Board's (MSRB) new municipal advisor rules?
D3) How many bond financings have you participated in?

A best practice index score was developed in order to rank an administrator's knowledge, preference and use of a municipal advisor and competitive sale. The purpose of the best practice index score is to measure the administrator's overall understanding of GFOA best practice and academic research related to the use of a municipal advisor and competitive sale. The best practice index score is generated from the sum scores of survey questions 17-20 (municipal advisor questions) and questions 23-26 (competitive sale questions). A score of 11 or lower indicates a low municipal finance knowledge index score. A score of 12 or greater indicates a high municipal finance knowledge index score. Table 3.5 below shows the questions that were used to create this index.

Table 3.5: Best Practice Index

Q17) Does your district use the services of a municipal advisor when issuing its bonds?
Q18) If yes, has your district ever used a competitive RFP process to select your municipal advisor?
Q19) If you knew that the Government Finance Officers Association (GFOA) recommended the use of an independent municipal advisor, how likely are you to use a municipal advisor for your next bond issue?
Q20) If you knew that academic studies have found that the use of a municipal advisor are likely to reduce the cost of your bonds substantially, how likely are you to use a municipal advisor for your next bond issue?
Q23) Does your district use a competitive bond sale to issue its bonds?
Q24) If yes, what decision-making process is used to select a competitive bond sale?
Q25) If you knew that the Government Finance Officers Association (GFOA) recommended the use of a competitive sale, how likely would you be to use a competitive bond sale for your next bond issue?
Q26) If you knew that academic studies have found that the use of a competitive bond sale are likely to reduce the cost of your bonds substantially, how likely are you to use a competitive bond sale for your next bond issue?

d. Levels of Measurement

The levels of measurement of the DV is nominal; $DV_{1\text{-}2}$ = nominal. The IVs contain nominal, ordinal, interval, and ratio level data. IVs were then transformed into dichotomous nominal variables for hypothesis testing purposes.

e. Research Hypotheses

The following hypotheses are the Individual level hypotheses mentioned in Chapter 3. Individual hypotheses refer to the individual administrator responses to the administrator survey and seek to understand the demographics, influences, and thought processes of the individual administrator and how those variables impact their selection of agents and method of sale.

f. Individual Hypotheses H_2

X1a → Y1: A superintendent administrator (IV_1) increases the likelihood the school administrator will choose a competitive sale (DV_1).

→ Y2: An administrator with a high knowledge index score (Sum of Q1-13, D3 resulting in a score > or = 30) ($IV_{3\text{-}6\ \&\ 15,\ 1}$) increases the likelihood the school administrator will choose a competitive sale (DV_1).

→ Y3: An administrator with a high best practice index score (Sum of municipal advisor questions Q17-20 and competitive sale Q23-26 resulting in a score of) ($IV_{9\ \&11,\ 1}$) increases the likelihood the school administrator will choose a competitive sale (DV_1).

g. Data Collection and Security

The primary sources of data were collected from the 141 superintendent and business officer responses to the administrator survey.

h. Administrator Survey

Using membership lists from the Idaho Association of School Administrators (IASA) and the Idaho Association of School Business Officers (IASBO), I have been able to identify the entire population of Idaho school district superintendents and business officers. The executive directors of these two organizations have endorsed the survey and provided letters recommending their memberships participate in the survey.

The survey consists of three sections. The first section has two screening questions to determine whether the participant is a superintendent or business officer and which of the 6 geographic regions of the state the participant is from. The screening questions separate the participants into superintendent and business officer categories and

into geographical areas. This is to insure the proper participants are taking the survey, and to better identify the population for later use in the cross-tabulation analysis. Second, twenty-seven questions are used to probe the decision-making process of the participants regarding their motivations and understanding of bond financing. Third, four demographic questions are used to determine gender, years of school district administration experience, number of bond transactions participated in, and educational attainment. The entire Idaho School District Administrator Financial Choice Survey is included in Appendix B. The frequency tables and illustrative graphs are included in Appendix C.

The survey was emailed to the entire population of 334 Idaho superintendents and business officers using the survey software Qualtrics. Qualtrics was also used to collect the surveys and to do some basic analysis. The results were completely anonymous and stored on the Boise State University Qualtrics website, which is password secured and requires principal investigator login. A sample of the letter that was emailed with the link to the survey is included in Appendix A.

i. Research Design and Methods

This analysis also uses a quantitative cross-section comparison of method of sale and a battery of responses from individual school administrators (Weiss, 1998, p. 82-84). This design shows Idaho administrator method of sale preferences without interfering with them (Field, 2013, p. 13). The administrator survey enhanced the empirical research of the past bond sale yield research and bond characteristics analyses by layering on current decision-making processes and demographic data to the analysis.

j. Statistical Procedures

The primary statistical model will use cross tabs with chi-square and LOGIT regression. SPSS will be used to run the LOGIT, cross tabs with chi-square analysis, and to produce frequency tables and descriptive statistics. The DVs continue to be the dichotomous variables of competitive sale (1) or a negotiated sale (0). The $IV_{1\text{-}16}$ fit a LOGIT probability model well. It provides insight into conditions that may cause Idaho school district administrators to choose the method of sale they do and describe potential correlations between the DV and IV variables.

This research design also conforms to the main assumptions of science mentioned earlier.

Disadvantages of this research design are two-fold: (1) the potential for sample error, and (2) the difficulty of constructing objective measures to evaluate the administrator survey.

k. Potential Threats to Validity and Reliability

Because the evaluation is being conducted after the survey was administered, it is difficult to address threats to internal validity. Testing and instrumentation are also limited to the quality of this analysis (Weiss 1998, p. 183-184). To assure an adequate sample size or response rate ($n > 30$), multiple surveys were sent with increasing urgency verbiage. Because the entire population *is* the sample, threats to external and internal validity and reliability will be limited.

CHAPTER 4: BOND YIELD COMPARED TO MMD, BOND CHARACTERISTICS, AND ADMINISTRATOR SURVERY RESULTS

I. Introduction

The sale of municipal bonds is a complex process that requires extensive involvement of private sector organizations. There is an outstanding public interest in efficiency and cost-effectiveness in the issuance of public debt. Much of the public discourse and political rhetoric centers on whether debt is a good or not. This study assumes that public debt is necessary for the proper functioning of a community and is a basic function of government. The focus of this study is to understand how best to issue that debt at the least cost possible. It also explores whether principal-agent theory applied to the municipal bond sale process helps our understanding of that process.

As described in Chapter 2, because Idaho school district administrators operate from a position of information asymmetry (Arrow, 1985; Dees, 1992 and Bendor, 1990), they often rely solely on the advice of underwriters, and issue bonds through negotiation; they are increasingly required to defend their bond process decision-making. Given the GFOA recommended best practices, SEC regulatory environment, and the evident costs and benefits of both hiring a municipal advisor and using a competitive bond sale are abundant and somewhat self-evident; the field of public finance research contains numerous opportunities for further research. This Chapter focuses on the outcomes of this research and seeks to provide insight into what is happening at the individual

administrator level. The described literature review in Chapter 2 provides the theoretical basis for testing of these hypotheses.

Evidence presented earlier in this dissertation would suggest that many Idaho school districts are not following best practices. This study provides context to the impacts of the 2000 Idaho legislative change and McCall-Donnelly School District hiring of a MA through a RFP process and use of a competitive sale. It also provides insight on the impacts of the SEC and MSRB municipal advisor rules on method of sale decisions. Further, it also provides insight into the cost implications of using a competitive sale or negotiated sale. This, in a sense, tests the arguments made by the proponents of S. 1158 in 2000, whether negotiated sales save 100 basis points (1.00%). It also tests the satisficing mentality, anchoring, and principal-agent effects found in the bonding process.

Now with context, theory, and methods squarely in place, an analysis of Idaho-specific data follows. This chapter includes the bond yield compared to the MMD analysis results, bond characteristics results, as well as the administrator survey results.

a. High-Level Observations of Structural Variables and Bond Data

We begin with high-level observations from the bond yield and bond characteristic dataset that provides useful context into what is happening with Idaho school district bond finance generally. We also consider descriptive statistics and frequencies from the administrator survey that begin to explore the decision-making processes of the individual administrators. From the bond yield and bond characteristics dataset we can observe many insightful points that follow our theoretical framework as well as the policy analysis from Chapter 2.

As Figure 4.1 below indicates, there were 194 distinct Idaho school district GO bond issuances from 2001 to 2016. Nampa School District 131 issued the most bonds with 9, Boise School District 1 and West Ada School District 2 both had 8 issuances. It is also noteworthy that the 6 top issuers of bonds all used negotiated sales. There were 38 districts that issued one bond during the test period. Figure 11 also shows which districts used a competitive sale, negotiated sale, or a combination of the two. It is noteworthy that no district during the test period started with competitive sales and then switched to negotiated sale. All were either negotiated only, competitive only, or moved from negotiated to competitive. This is evidence of the diffusionary effects observed in Chapter 2 from the McCall-Donnelly competitive sale and SEC municipal advisor rules.

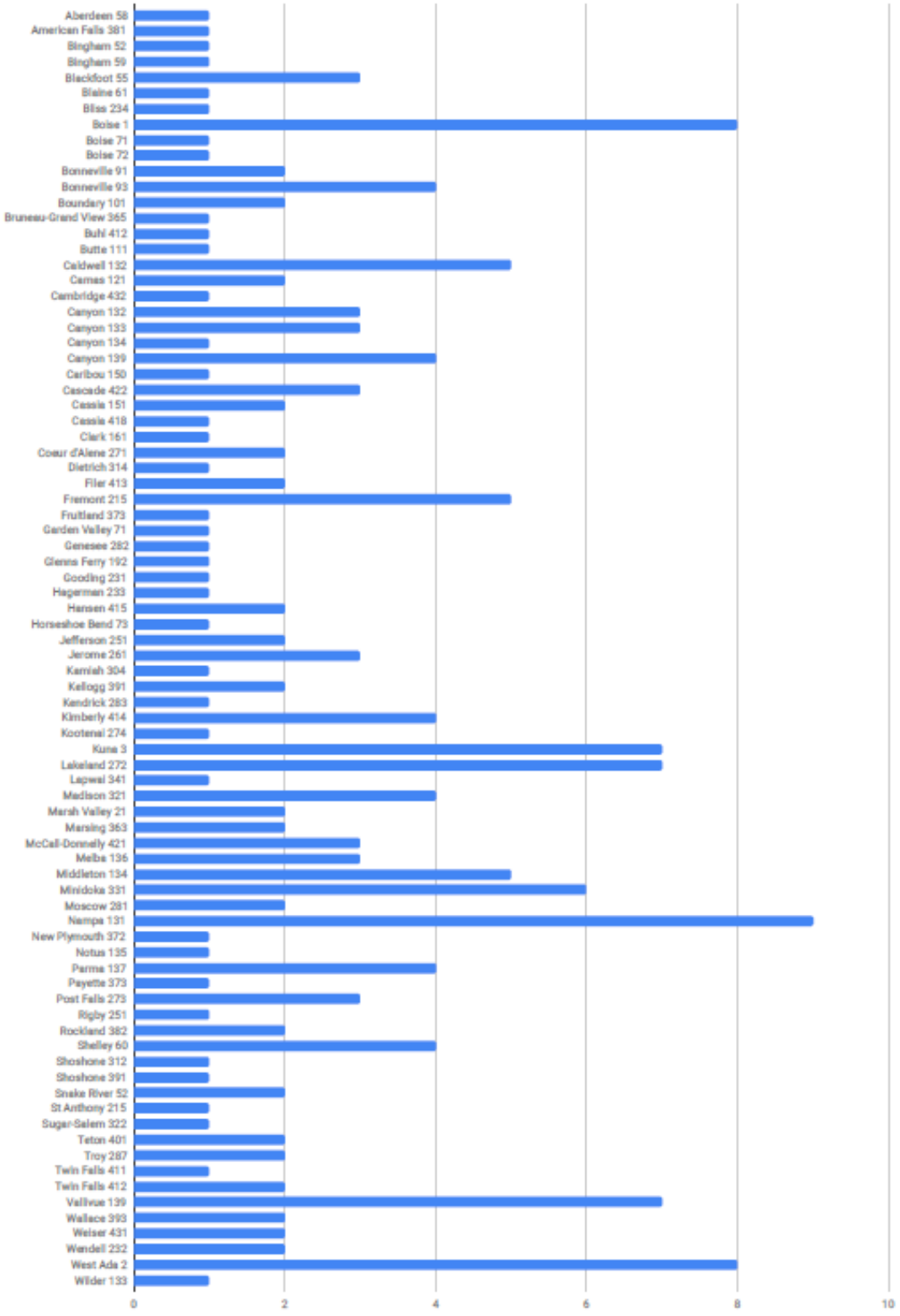

Figure 4.1: Idaho School District Issuance Frequency from 2001 to 2016

Source: EMMA, 2018

Figure 4.2 below shows the percentages of Idaho issuers who used a competitive sale and a negotiated sale from 2001 to 2016. There were 38 competitive sales or (19.6%) and 156 negotiated sales or (80.6%).

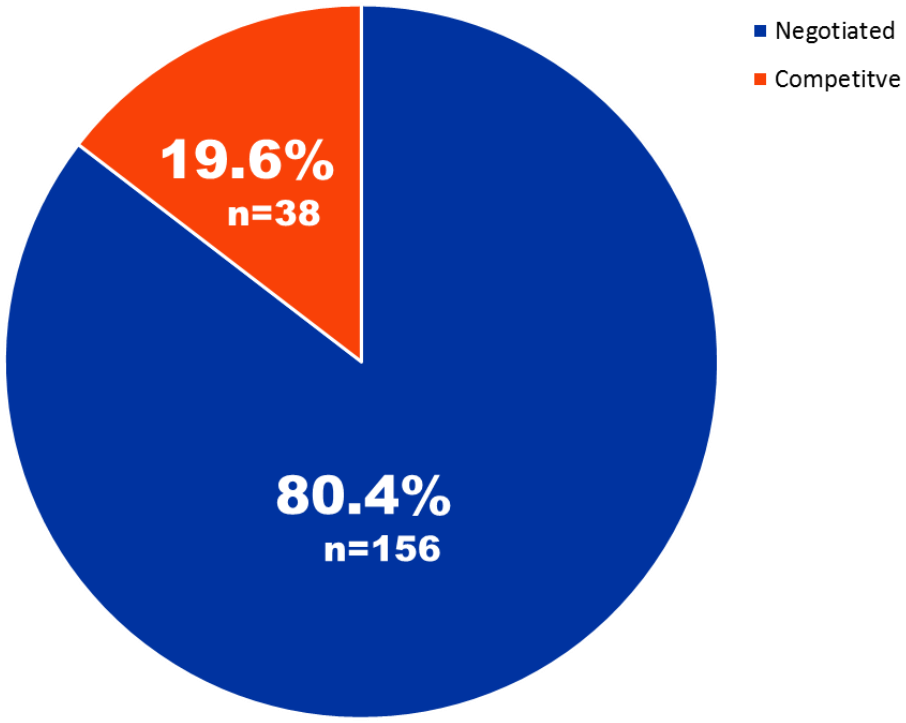

Figure 4.2: Competitive & Negotiated Sale Frequency from 2001 to 2016

Source: Thomson Reuters, Bloomberg

As was noted previously, all bonds sold into the market need an underwriter. Of the 194 bonds in the data set we learn that Seattle Northwest[25], the firm that lobbied for the passage of S. 1158 in 2000 was underwriter on 109 of the 194 (56.2%) Idaho school district bonds issued from 2001 to 2016. This is indicative of punctuated equilibrium

[25] Seattle Northwest merged with Piper Jaffray in 2013. Piper Jaffray–SNW is a combined firm for purposes of this analysis.

theory (Baumgartner and Jones, p. xxv & 5, 2009) where competitive sales shifted in 2001 after the legislative change to all negotiated sales until 2006. Kingdon's multiple streams theory (2011) is also observable where Seattle Northwest could be viewed as a "policy entrepreneur" who benefited from identifying and taking advantage of the policy change. Figure 4.3 shows this graphically and includes all of the underwriting firms that were used by Idaho school districts during the test period.

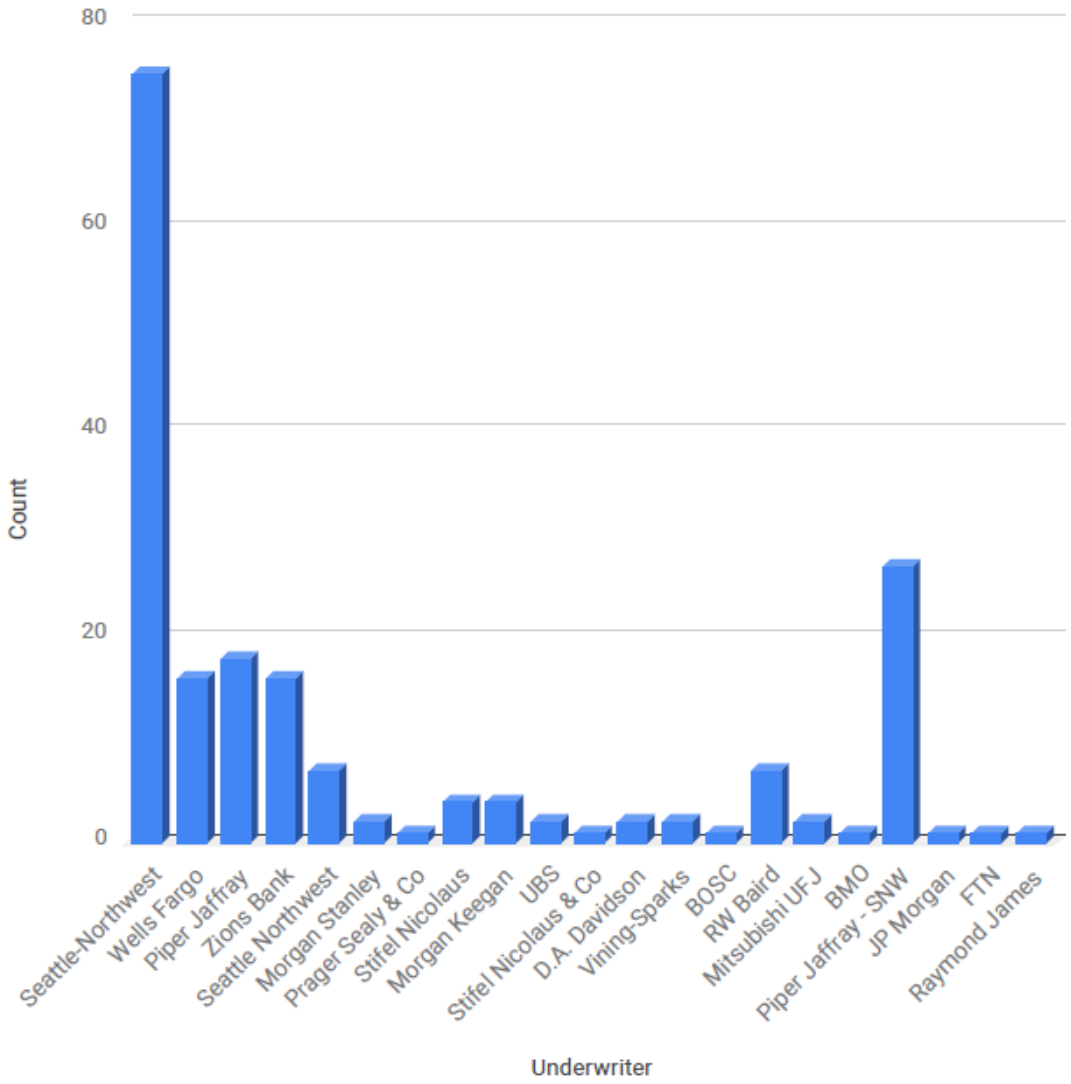

Figure 4.3: Underwriter Frequency from 2001 to 2016

Source: Thomson Reuters

Figure 4.4 below shows the firms that are acting as municipal advisor and the number of issues they advise on per year from 2001 to 2016. It was observed that only 50 of the 194 bonds (25.8%) had a municipal advisor.

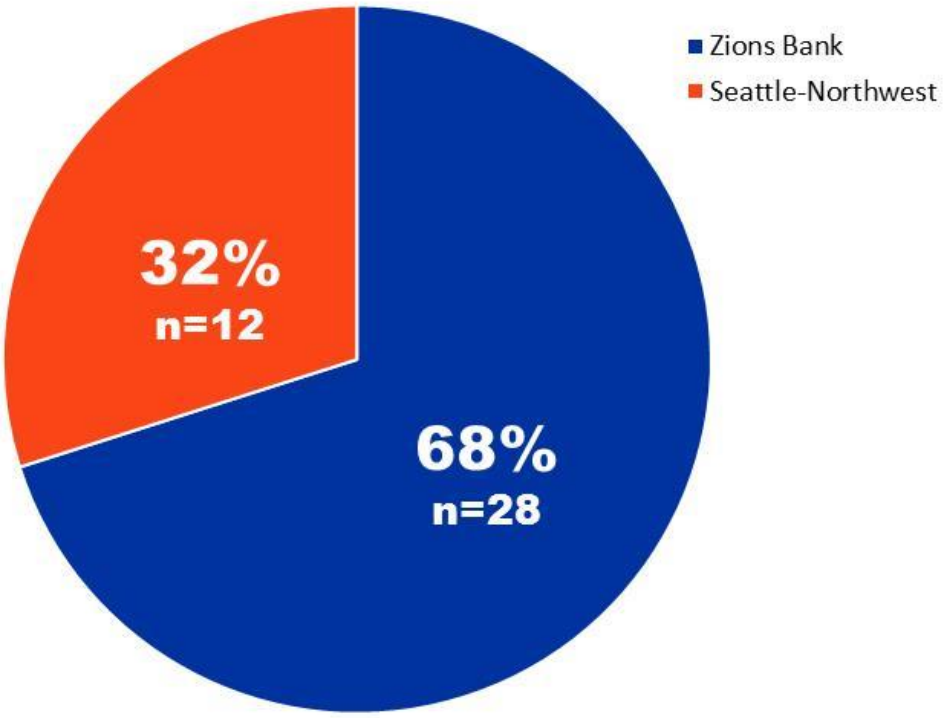

Figure 4.4: Municipal Advisor Frequency from 2001 to 2016

Source: Thomson Reuters

Figure 4.5 below shows the percentages of Idaho issuers who had a municipal advisor and used a negotiated sale from 2001 to 2016. Use of a municipal advisor is trending upward which is indicative of Berry and Berry's (2014) policy diffusion theory.

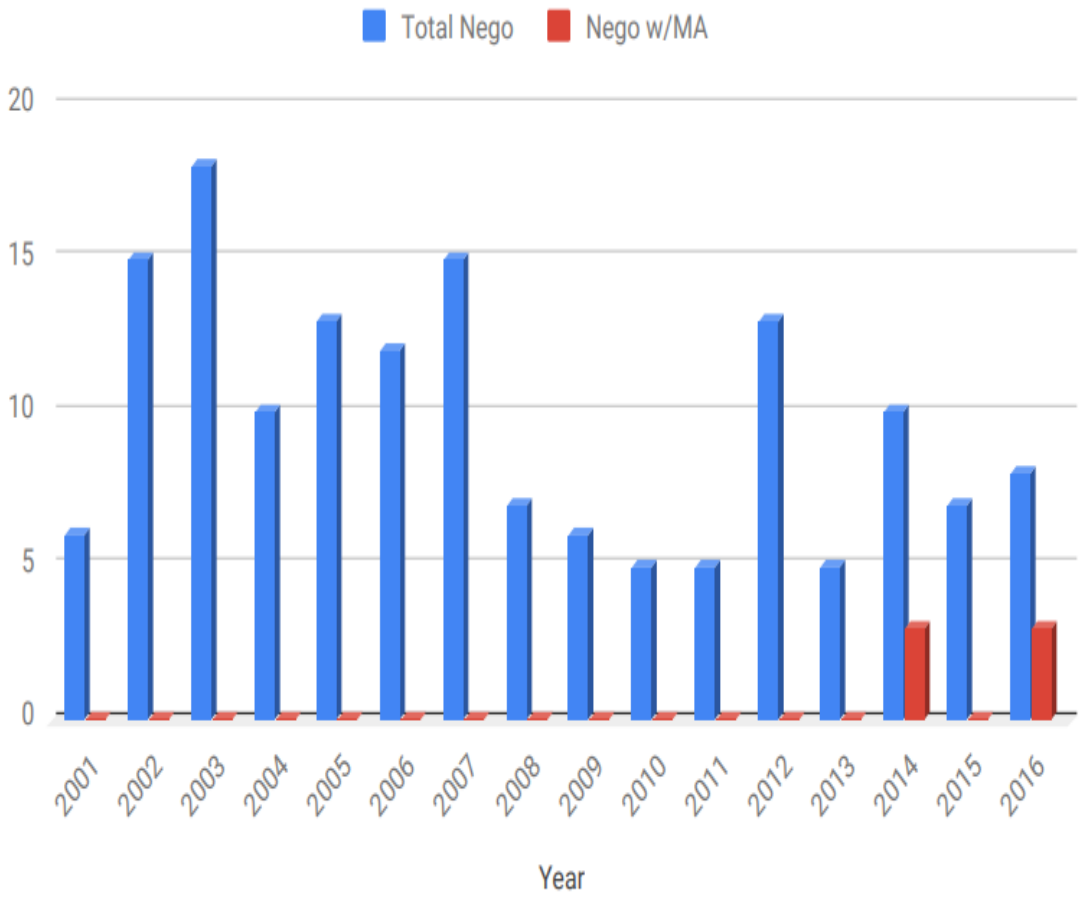

Figure 4.5: Use of Municipal advisor and Negotiated Sale from 2001 to 2016

Source: Thomson Reuters, Bloomberg

Figure 4.6 below shows the percentages of Idaho issuers who had a municipal advisor and used a competitive sale from 2001 to 2016.

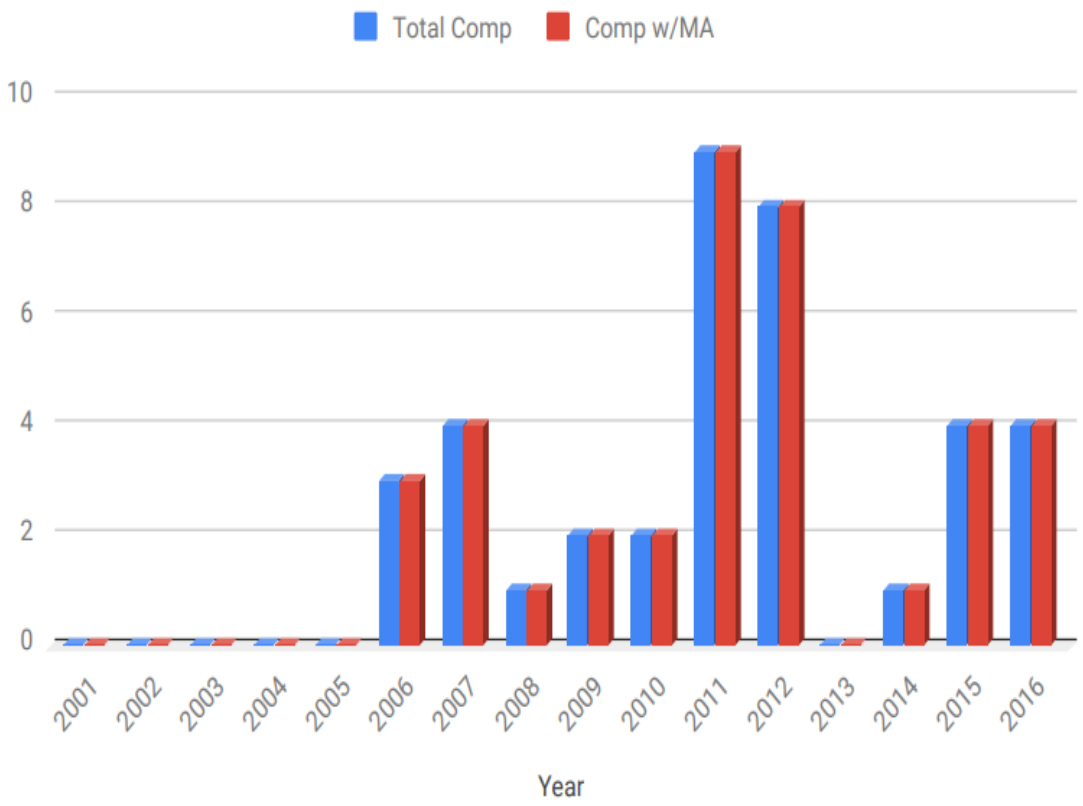

Figure 4.6: Use of Municipal advisor and Competitive Sale from 2001 to 2016

Source: Thomson Reuters, Bloomberg

It is noteworthy that few negotiated sales also have a municipal advisor present. Contrast this with competitive sales, where 100% of competitive sales also had a municipal advisor present.

The analysis of the Idaho issuances from 2001 to 2016 indicates that only 6 or 3.8% of negotiated sales also had a municipal advisor. 155 or 96.2% of Idaho issues during this time had no municipal advisor. Therefore, 96.2% of Idaho administrators who chose to use a negotiated sale had no municipal advisor, were not following GFOA best practice, and would have been in violation of the SEC municipal advisor rules if they issued bonds after July 1, 2014. It is also important to mention that 100% of Idaho

administrators who chose to use a competitive sale also used a municipal advisor, were following GFOA best practice, and would have followed the SEC municipal advisor rules if they issued bonds after July 1, 2014.

b. High-Level Observations of Administrator Survey

The administrator survey revealed several powerful insights into the decision-making process of individual administrators.[26] There were 52 responses that just answered the Screener Questions (SQ). Because these responses were not substantially complete, they were removed from the dataset. It is noteworthy, that there are a number of IASBO members who are book keepers, clerks, etc. who are not business officers or superintendents. The elimination of these responses shows that the inclusion of the SQ made for a more focused dataset of just superintendents and business officers, the target audience.

Beyond this, all other partial responses were kept. There are four sets of questions that have yes/no questions that lead to "If Yes" questions. If the participants responded "No" they would not have continued through the following "If Yes" questions, leaving gaps in the participants responses. This was known and expected and was the main reason for these types of partial responses. This left 141 total participants (N = 141). This is a good number of participants given there are 115 school districts in Idaho and is the total composition of the response group.

[26] Dr. Hill and Dr. Witt pre-tested the survey to make sure it read well and was working properly before it was distributed to the sample. Their responses were deleted from dataset.

c. Screening Questions (S1 & S2)

From S1 we learn that 82 respondents were superintendents and 59 were business officers. The superintendents are overrepresented and I am unsure why. It may be that they consider the research value of this survey higher than do the business officers, but it is hard to say.

For S2, the survey was structured around the 6 regions of the state. It was not created to identify participants individually or by districts, but to see if there was any geographic insight that could be gained from the responses. Region 6, which is the northeast corner of Idaho, may have been over represented with 30 responses compared to Region 3, which is the southwest corner of Idaho and is the most populous region of the state, with 41 responses. Otherwise, there was a normal distribution of responses between regions based on population.

d. Assessment Questions (Q1, Q2, Q3)

For Q1, there is a normal expected bell curve distribution of 16 participants that rated themselves as having excellent knowledge of bonds and levies, 59 good, 54 Fair, 12 poor. A cross tabulation with S2 revealed that 18 respondents in Region 6 identified as having good knowledge of bonds and levies. From a cross tabulation of Q1 and D1 we learn that males rank their knowledge of bonds and levies higher than females.

		Please indicate your gender?			
		Male	Female	Prefer not to answer	Total
How would you rate your knowledge of bonds and levies?	Excellent	14	2	0	16
	Good	42	13	3	58
	Fair	25	26	2	53
	Poor	5	6	1	12

Total	86	47	6	139

From Q2, there is a normal expected bell curve distribution of 20 very high, 54 high, 38 moderate, 20 low, 7 very low of participants who ranked bonds and levies of all their work responsibilities. From a cross tabulation with S1 we learn that superintendents rank bonds and levies as a higher responsibility than do business officers.

		Are you a superintendent or a business officer?		Total
		Superintendent	Business Officer	
Where do you rank bonds and levies of all of your work responsibilities?	Very High	15	5	20
	High	36	18	54
	Moderate	21	17	38
	Low	8	12	20
	Very Low	2	5	7
Total		82	57	139

For Q3, there is a normal expected bell curve distribution of 10 never, 80 less than 1 a month, 25 once a month, 19 2-3 times a month, 2 once a week, 2 2-3 times a week, 1 daily of participants who sought outside assistance with finance related needs. A cross tabulation with S1 reveals that business officers are less likely to seek assistance compared to superintendents.

		Are you a superintendent or a business officer?		Total
		Superintendent	Business Officer	
How often do you seek outside assistance with finance related needs?	Never	0	10	10
	< Once a Month	47	33	80
	Once a Month	16	9	25
	2-3 Times a Month	14	5	19
	Once a Week	2	0	2
	2-3 Times a Week	2	0	2
	Daily	0	1	1
Total		81	58	139

e. Training Question Q4, Q5, Q6, Q7, Q8

From Q4, it is interesting that 88 of the participants identified themselves as having not been formally trained in school bonds and levies, where only 50 responded that they had been formally trained. It is noteworthy that training on bonds and levies seems to be a basic component that may be lacking in school district administrator's skills that could be fairly easy to address. A cross tabulation with S1 reveals that this was particularly true of business officers as 43 of the 57 business officer participants (75.4%) said they have received no formal training in bonds and levies. 45 of 81 superintendents (55.6%) said they have never received formal training as well. It could be a helpful focus to train business officers and superintendents on bonds and levies and the issuance

process. A cross tabulation with S2 reveals that Region 2 received the lowest formal training with 12 of 14 (85.7%). Region 6 was second lowest with 19 of 30 (63.3%). Region 3 was third lowest with 25 of 41 (61.0%).

		What region of Idaho are you in?						Total
		Region 1	Region 2	Region 3	Region 4	Region 5	Region 6	
Have you ever been formally trained in school bonds and levies?	Yes	6	2	16	7	7	11	49
	No	9	12	25	12	10	19	87
Total		15	14	41	19	17	30	136

A cross tabulation with D1 reveals that 43 of 84 male participants (51.2%) compared to 37 of 46 female participants (80.4%) have never been formally trained in bonds and levies. It could be a helpful to understand why 80.4% of female administrators have received no formal training on bonds and levies.

		Please indicate your gender?			Total
		Male	Female	Prefer not to answer	
Have you ever been formally trained in school bonds and levies?	Yes	41	9	0	50
	No	43	37	6	86
Total		84	46	6	136

A cross tabulation with D2 reveals that the more years an administrator has been working in school district administration the more likely they are to receive formal training on bonds and levies. That said, it is unexpected that even those in the expert

level[27] of experience 48 of 80 expert participants (60.0)%) still received no formal training on bonds and levies.

		How many years have you been working in school district administration?				Total
		New	Novice	Intermediate	Expert	
Have you ever been formally trained in school bonds and levies?	Yes	4	6	8	32	50
	No	5	13	21	48	87
Total		9	19	29	80	137

A cross tabulation with D3 was as expected with administrators who have participated in fewer bonds receiving less formal training. It is interesting that 68 of 93 new participants (73.1%) have never been trained in bonds and levies. This seems to be the most vulnerable population that also stands to benefit the most from formal training. It would be interesting if a training program could be developed to assist first time bond participants.

		How many bond financings have you participated in?				Total
		New	Novice	Intermediate	Expert	
Have you ever been formally trained in school bonds and levies?	Yes	25	17	7	1	50
	No	68	13	3	2	86
Total		93	30	10	3	136

[27] The categories of years of service are as follows: New (0-1 years), Novice (2-4 years), Intermediate (5-9 years), and Expert (10 and above).

A cross tabulation with D4 reveals that 12 of 12 participants that only have a high school education (100%) have received no formal training in bonds and levies. The other education levels are also low.

		What is the highest level of education you have completed?					Total
		High school graduate	Associate	Bachelor's	Graduate	Prefer not to answer	
Have you ever been formally trained in school bonds and levies?	Yes	0	2	8	40	0	50
	No	12	8	19	44	4	87
Total		12	10	27	84	4	137

For Q5, there are a total of 71 participants that responded “Yes”. This is 52.2% of the total that respond to Q4. This drop in response is interesting and worth exploring more.

A cross tabulation with S1 reveals there is a normal expected distribution of both superintendents and business officers. However, it is interesting that 17 of the 48 superintendents (35.4%) and 12 of the 23 business officers (52.1%) responded “Other”. This is somewhat surprising and would lead me to think that they received their training longer than 5 years ago, especially business officers. Not only a lack of training, but a lack of current training seems to be an issue.

		Are you a superintendent or a business officer?		Total
		Superintendent	Business Officer	
If yes, how long ago did you receive the training?	This year	8	2	10
	1 year ago	7	4	11
	2 years ago	3	1	4
	3 years ago	4	1	5
	4 years ago	2	1	3
	5 years ago	7	2	9
	Other	17	12	29
Total		48	23	71

A cross tabulation with D3 reveals that the overwhelming distribution is concentrated in the in the New (43) and Novice (17) categories (84.5%) with only 10 Intermediate and 1 Expert respondents. This would indicate that as administrators participate in more bonds, they are less likely to receive training and even less likely to receive current training. This would indicate that some of Idaho's most experienced administrators in bonds and levies are without current training and may be missing market and regulatory updates that could benefit their districts.

		How many bond financings have you participated in?				Total
		New	Novice	Intermediate	Expert	
If yes, how long ago did you receive the training?	This year	5	3	1	1	10
	1 year ago	6	3	2	0	11
	2 years ago	2	1	1	0	4
	3 years ago	2	2	1	0	5
	4 years ago	3	0	0	0	3
	5 years ago	5	3	1	0	9
	Other	20	5	4	0	29
Total		43	17	10	1	71

A cross tabulation with D4 reveals that the overwhelming distribution is concentrated in the Bachelor's degree (16) and Graduate or professional degree (51) categories. This is 67 of the 71 respondents (94.3%) who have received the most current training. This lends to the idea that if an administrator values education; they will continue to seek out training and continuing education opportunities.

		What is the highest level of education you have completed?				Total
		High school	Associate	Bachelor's	Graduate	
If yes, how long ago did you receive the training?	This year	0	0	1	9	10
	1 year ago	0	0	3	8	11
	2 years ago	0	0	1	3	4
	3 years ago	0	1	0	4	5
	4 years ago	0	0	0	3	3
	5 years ago	0	0	2	7	9
	Other	2	1	9	17	29
Total		2	2	16	51	71

For Q6, there are a total of 45 participants that responded “Yes”. This is 32.8% of the total that respond to Q4 and is a further drop in response from Q5.

A cross tabulation with D2 indicates a normal expected distribution with more training increasing in tandem with the length of time an administrator has been working in school district administration. However, it is interesting that 15 of 30 respondents identifying themselves as “Expert” said that they receive training Twice a Year (2) or Once a Year (13). This seems disproportionately high and is counter to the findings of previous questions.

		How many years have you been working in school district administration?				Total
		New	Novice	Intermediate	Expert	
If yes, how often do you receive training?	Twice a year	1	0	1	2	4
	Once a year	2	4	3	13	22
	Every 2 years	0	0	1	5	6
	Every 3 years	0	0	0	2	2
	Every 4 years	1	0	0	1	2
	Every 5 years	0	0	2	7	9
Total		4	4	7	30	45

A cross tabulation with D3 reveals that the overwhelming distribution is concentrated in the in the New (22) and Novice (15) categories (82.2%) with only 7 Intermediate and 1 Expert respondents. This would indicate that as administrators participate in more bonds, they are less likely to receive more frequent training. These are similar findings to Q5. This would indicate that some of Idaho's most experienced administrators in bonds and levies are without current training and may be missing market and regulatory updates that could benefit their districts.

		How many years have you been working in school district administration?				Total
		New	Novice	Intermediate	Expert	
If yes, how often do you receive training?	Twice a year	1	1	1	1	4
	Once a year	14	7	1	0	22
	Every 2 years	0	3	3	0	6
	Every 3 years	0	1	1	0	2
	Every 4 years	1	1	0	0	2
	Every 5 years	6	2	1	0	9
Total		22	15	7	1	45

It is also noteworthy that 18 or 28.6% of respondents turn to their bond counsel for training. Another 16 or 25.4% rely on their peers for bond related advice. This is concerning as this would be in direct violation of the SEC Municipal Advisor rules and gives further evidence of principal-agent dilemmas identified in the literature review.

For Q6, there are a total of 45 participants that responded “Yes”. This is 32.8% of the total that respond to Q4 and is a further drop in response from Q5.

A cross tabulation with D2 indicates a normal expected distribution with more training increasing in tandem with the length of time an administrator has been working in school district administration. However, it is interesting that 15 of 30 respondents identifying themselves as “Expert” said that they receive training Twice a Year (2) or Once a Year (13). This seems disproportionately high and is counter to the findings of previous questions.

		How many years have you been working in school district administration?				Total
		New	Novice	Intermediate	Expert	
If yes, how often do you receive training?	Twice a year	1	0	1	2	4
	Once a year	2	4	3	13	22
	Every 2 years	0	0	1	5	6
	Every 3 years	0	0	0	2	2
	Every 4 years	1	0	0	1	2
	Every 5 years	0	0	2	7	9
Total		4	4	7	30	45

A cross tabulation with D3 reveals that the overwhelming distribution is concentrated in the in the New (22) and Novice (15) categories (82.2%) with only 7 Intermediate and 1 Expert respondents. This would indicate that as administrators participate in more bonds, they are less likely to receive more frequent training. These are similar findings to Q5. This would indicate that some of Idaho's most experienced administrators in bonds and levies are without current training and may be missing market and regulatory updates that could benefit their districts.

		How many years have you been working in school district administration?				Total
		New	Novice	Intermediate	Expert	
If yes, how often do you receive training?	Twice a year	1	1	1	1	4
	Once a year	14	7	1	0	22
	Every 2 years	0	3	3	0	6
	Every 3 years	0	1	1	0	2
	Every 4 years	1	1	0	0	2
	Every 5 years	6	2	1	0	9
Total		22	15	7	1	45

It is also noteworthy that 18 or 28.6% of respondents turn to their bond counsel for training. Another 16 or 25.4% rely on their peers for bond related advice. This is concerning as this would be in direct violation of the SEC Municipal Advisor rules and gives further evidence of principal-agent dilemmas identified in the literature review.

f. Competency Questions (Q11, Q12):

For Q11, there is a normal expected bell curve distribution of participants that rated their degree of competency of school finance (20-VH, 77-H, 40-M, 2-L, 2-VL).

For Q12, there is a normal expected bell curve distribution of participants that rated their degree of competency of the bond issuance process (2-VH, 23-H, 63-M, 35-L, 17-VL, 1-DK). It is noteworthy that participants ranked this lower in terms of finance in general with most in the M, L, and VL categories.

g. SEC Municipal Advisor Rule Question (Q13):

For Q13, there is a normal expected ascending distribution of participants that rated their awareness of the SEC's and MSRB's municipal advisor rule, concentrated in the somewhat unaware and very unaware categories (4-VA, 26-SA, 19-A, 28-SU, 59-VU, 5-DK). This would be interesting to track this overtime as it would be anticipated that this would increase with more exposure to the rule, the bonding process, etc.

h. Lowest Cost of Borrowing Question (Q14):

For Q14 there is a normal expected ascending distribution of participants that rated achieving the lowest cost possible for their district's bonds, concentrated in the 8, 9, and 10 ranges. (0-3, 1-0, 2-2, 3-1, 4-1, 5-6, 6-3, 7-7, 8-16, 9-23, 10-76, 3-M).

i. Underwriter Questions (Q15, Q16):

For Q15, there are approximately half of the participants that said they used just an underwriter when issuing bonds (45-Y, 49-N; 47-M). This is somewhat surprising given that when looking at the actual bond data approximately ¾ of districts just use an underwriter when issuing bonds. Because there are 47 missing responses it may be that the question was unclear or that participants still did not understand what an UW is or

their role. Also, it may be that some participants had never issued bonds and therefore have never used the services of an UW, MA or anyone for that matter.

For Q16, only 19 participants answered "Yes" that they had used an RFP to hire their UW and 40 said they had not used an RFP and 82 did not respond. Because this is an "if yes" question, it is not surprising that there was less response to this question with 82 missing responses. Regardless, it is concerning that only 19 participants had used a RFP process to select their UW. This would indicate that no process or some other process is used to select their UW.

j. Municipal Advisor Questions (Q17, Q18, Q19, Q20):

For Q17, 65 participants indicated that they use a MA and 37 indicated that they did not, with 39 missing responses. This is interesting given this is the inverse of the actual bond results, where approximately ¾ of the bonds were issued without the services of a MA. This would indicate some misunderstanding of the role of a MA. This again would indicate the need for additional education and training in this regard. This also gives some evidence of information asymmetries as described in the literature review. Because there are 39 missing responses it may be that the question was unclear or that participants still did not understand the role of an MA. Also, it may be that some participants have never issued bonds and therefore have never used the services of an MA.

For Q18, 17 or 33.3% of participants answered "Yes" that they had used an RFP to hire their MA and 51 or 76.7% said they had not used an RFP. 73 did not respond. Because this was an "if yes" question, it is not surprising that there was less response to

this question with 73 missing responses. Regardless, it is concerning that only 17 of the participants use a RFP process to select their MA.

For Q19, there is a normal expected descending distribution of participants that rated their awareness of the GFOA MA recommendations, concentrated in the very likely, likely, and undecided categories (46-VL, 52-L, 26-U, 1-UL, 1-VU, 11-DK). It would be interesting to track this overtime and create a longitudinal time series dataset. I would anticipate these responses would increase with more exposure to the rule, the bonding process, and related municipal finance training.

For Q20, there is a normal expected descending distribution of participants that rated their awareness of the academic research regarding MA use reducing costs, concentrated in the very likely, likely, and undecided categories (66-VL, 47-L, 15-U, 1-UL, 0-VU, 7-DK). This would be interesting to track overtime as well and I would anticipate this would increase with more exposure to the rule, the bonding process, and related municipal finance training. Also, when compared to GFOA MA recommendations, academic research seems to have a larger influence on participant's interest in using a MA. This indicates somewhat the importance of this research and a trust factor that education administrators have with academic research.

k. Negotiated Sale Questions (Q21, Q22)

For Q21, 38 participants indicated they use a NS and 42 indicated that they did not, with 61 missing responses. This is interesting given that this is the inverse from the actual bond results, where approximately ¾ of the bonds were issued with the use of a NS. This would indicate some misunderstanding of what a NS is and further evidence of the information asymmetries discussed in the literature review. Because there are 61

missing responses it may be that the question was unclear or that participants still did not understand what a NS is. Also, it may be that some participants have never issued bonds. This again would indicate the need for additional education in this regard.

For Q22, this was a surprising result given most participants indicated they would rely on the recommendation of financial professionals, which previous questions would indicate it is their UW and not an independent MA (32-RFP, 9-USP, 1-RP, 4-FBP, 3-O, 92-M). It is also noteworthy that 9 participants indicated that they would simply use the same process they used in the past, indicating a satisficing technique is at play. This is also evidence of the anchoring theory discussed in the literature review.

l. Competitive Sale Questions (Q23, Q24, Q25, Q26)

For Q23, 42 participants indicated they use a CS and 39 indicated that they did not, with 60 missing responses. This is interesting given that this is the inverse from the actual bond results, where approximately 1/4 of the bonds were issued with the use of a CS. This would indicate some misunderstanding of what a CS is and/or the issuance process in general. Because there are 60 missing responses, it may be that this question was unclear or that participants still did not understand what a CS is. Also, it may be that some participants have never issued bonds. All of this supports the theoretical basis for this dissertation and provides further evidence that information asymmetries exist. This again would indicate the need for additional education and training in this regard.

For Q24, this was a surprising result given that most participants indicated that they would rely on the recommendation of financial professionals (32-RFP, 9-USP, 1-RP, 3-FBP, 2-O, 94-M). Who those professionals are, as Q6c indicates, is the real question.

For Q25, there is a normal expected descending distribution of participants that rated their awareness of the GFOA CS recommendations, concentrated in the very likely, likely, and undecided categories (47-VL, 50-L, 23-U, 1-UL, 0-VU, 20-M). This would be interesting to track this overtime as it would be anticipated that this would increase with more exposure to the rule, the bonding process, etc.

For Q26, there is a normal expected descending distribution of participants that rated their awareness of the academic research regarding CS use reducing costs, concentrated in the very likely, likely, and undecided categories (55-VL, 51-L, 16-U, 1-UL, 0-VU, 18-M). This would be interesting to track this overtime as it would be anticipated that this would increase with more exposure to the rule, the bonding process, etc. Also, when compared to GFOA CS recommendations, academic studies seem to have a larger influence on participant's interest in using a CS. This indicates somewhat the importance of this research.

m. Super Majority Question (27)

For Q27, there is a normal expected descending distribution of participants that rated their agreement that the supermajority voter threshold should be reduced in Idaho with most responses concentrated in the strongly agree, agree, and undecided categories (78-SA, 35-A, 11-U, 5-DA, 6-SD, 6-M). This indicates strong support from participants to reduce the threshold (80% in agreement). This may be useful for policy makers to consider as Idaho and Kentucky are the only two states in the union that still require a supermajority to pass GO bonds.

n. Demographic Questions (D1, D2, D3, D4)

For D1, there are 86 male respondents, 47 female, 6 preferring not to answer, and 2 missing. This is interesting given that 61% of participants are male.

For D2, as this was a question where participants could respond with any number of years, I grouped the responses into 4 categories, New (0-1 years), Novice (2-4 years), Intermediate (5-9 years), and Expert (10 and above). This produced an anticipated distribution of 9 New, 20 Novice, 29 Intermediate, and 82 Expert with 1 missing.

For D3, this was a question where participants could respond with any number of bond they participated in, I grouped the responses into 4 categories, New (0-1 bonds), Novice (2-4 bonds), Intermediate (5-9 bonds), and Expert (10 and above). This produced an anticipated distribution of 95 New, 31 Novice, 10 Intermediate, 3 Expert, and 2 missing. It is interesting that 126 of the 141 participants have done 4 bond issues or less (0-54; 1-41; 2-17; 3-9; 4-5). This was discovered through cross-tabulation.

Also via cross tabulation of D2 & D3, a clear inverse relationship is observable. In other words, you would think that if you had more years of administrative experience, you would also have participated in more bond issues. This is not the case. In fact, the more administrative experience an administrator has, the more likely they are to have participated in no bond sales at all. Also, regardless of years of administrative experience, participant responses were concentrated in the lower numbers of bonds participated in.

		How many bond financings have you participated in?				Total
		New	Novice	Intermediate	Expert	
How many years have you been working in school district?	New	8	1	0	0	9
	Novice	19	1	0	0	20
	Inter	22	7	0	0	29
	Expert	46	22	10	3	81
Total		95	31	10	3	139

For D4, it is interesting given that 113 of the 141 participants have a bachelor's degree (28) or higher (85).

o. Method of Sale Questions (MS)

The method of sale distribution of 35 participants identifying as using a competitive sale and 71 participants identifying as using a negotiated sale somewhat matches the actual bond sale results. The noteworthy observation here is that 35 of the participants did not respond to the method of sale question. In fairness, it may be that they may not know what method of sale they use or they have never issued bonds. This would further support the information asymmetry discussion found in the literature review.

II. Bond Yield Compared to MMD Results

The high level descriptive statistics and cross tabulations provided additional context that can now be built upon with further statistical analyses. Idaho had 194 bonds issued from 2001 to 2016 totaling $2,073,225,000 in total bonds. That is a lot of money!

a. Idaho Competitive Bond Yields

Of the 194 bond sales 38 were issued using a competitive bond sale. In those competitive bond sales there were 422 individual bond years of bonds with varying

interest rates totaling $360,755,000 of total bond proceeds. This represents 19.3% of the total number of bonds issued.

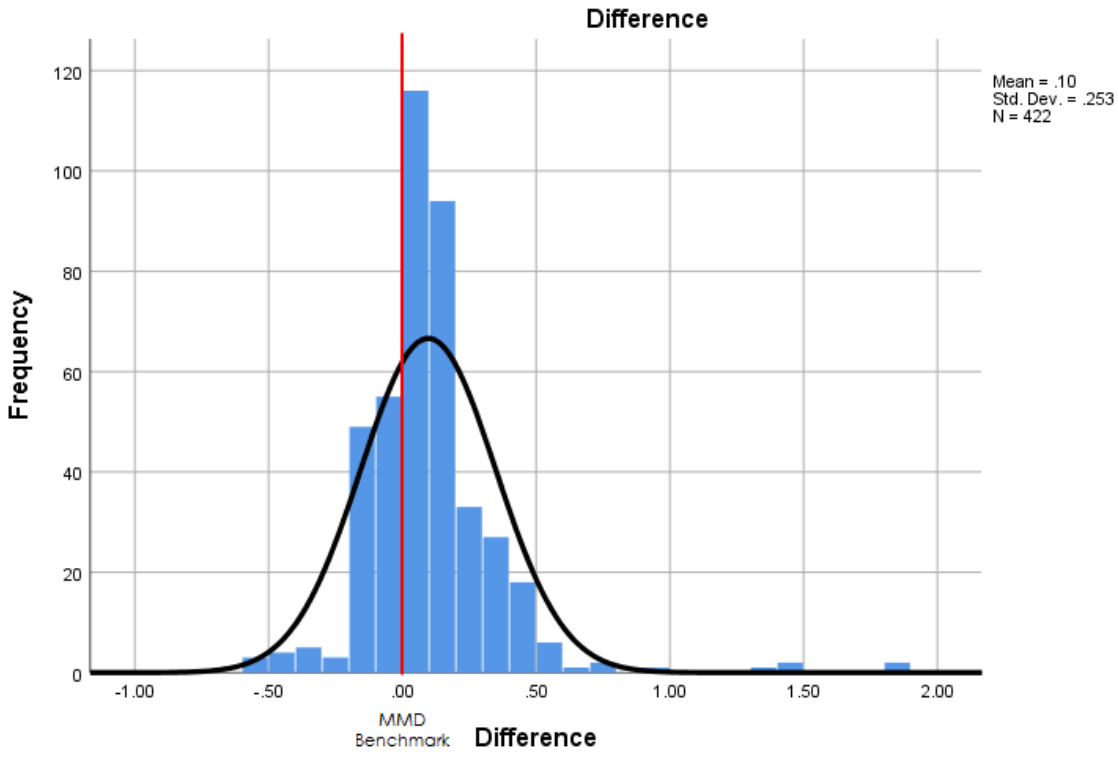

Figure 5.1: Competitive Bond Concentration Compared to the Benchmark

As Figure 5.1 shows, the independent samples t-test results indicate that the mean of these individual bond years is .10 and the standard deviation is .253. The visual indicates that the concentration of individual bonds cluster closely around the mid-point. This would indicate that bonds sold competitively are generally sold at interest rates[28] that are 10 basis points or .10% more than the MMD on any given day. Also, that when

[28] Interest rates indicate the True Interest Cost (TIC) or the yields that each individual bond year bares compared to the daily AAA MMD scale on which the bonds were sold. This compares the actual yields on the bonds compared to the market benchmark on the day in which they are sold.

compared to the benchmark these bonds are .253 standard deviations away from the benchmark.

b. Idaho Negotiated Bond Yields

Idaho had 156 of negotiated bond sales from 2001 to 2016. In those bond sales there were 1770 individual bond years with varying interest rates totaling $1,712,470,000 of total bond proceeds. This is approximately 4.2x the number of competitively sold individual bonds. This represents approximately 80.7% of the total number of bonds issued from 2001 to 2016.

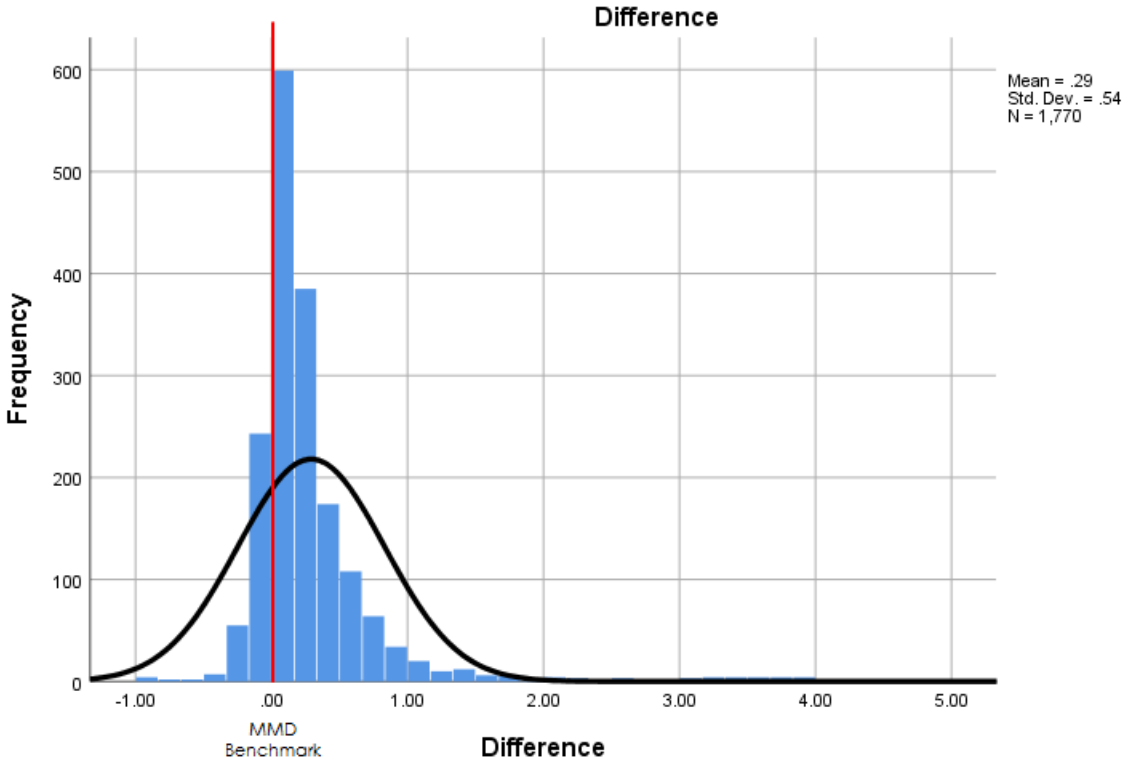

Figure 5.2: Negotiated Bond Concentration Compared to the Benchmark

As Figure 5.2 shows, the independent samples t-test results indicate that the mean of these individual bond years is .29 and the standard deviation is .54. The visual above shows that the concentration of individual negotiated bonds is a broader distribution from

the mid-point or MMD benchmark when compared to the individual competitive bonds. Granted, most of the bonds are concentrated around the mid-point, but in some instances, the bonds are 200+ basis points greater than the mean. This would indicate that bonds sold through negotiation are generally sold at interest rates[29] that are 29 basis points or .29% more than the MMD benchmark. Also, that when compared to the benchmark these bonds are .54 standard deviations away from the MMD benchmark.

c. Comparing Idaho Competitive Bonds to Negotiated Bonds

As Table 4.1 below indicates when comparing competitively sold bonds to bonds sold through negotiation there is a higher concentration of competitive bonds around the MMD benchmark when compared to the wider and positive concentration of negotiated bonds away from the MMD benchmark. From this, it is observable that Idaho school district bonds sold competitively are more likely to result in interest rates that more closely match the daily MMD benchmark or have lower interest rates when compared to Idaho school district bonds sold through negotiation that result in interest rates that are further away from the daily MMD benchmark and therefore have higher interest rates compared to the MMD benchmark.

[29] Same comment as in footnote 12. Interest rates indicate the True Interest Cost (TIC) or the yields that each individual bond year bares compared to the daily AAA MMD scale the day on which the bonds were sold. This compares the actual yields on the bonds compared to the market benchmark on the day in which they are sold.

Table 4.1: One-sample t-test of Competitive yields compared to the MMD vs negotiated yields compared to the MMD

		Levene's Test for Equality of		t-test for Equality of Means						
									95% Confidence Interval of the	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
Difference	Equal variances assumed	42.242	0.000	7.230	2190	0.000	0.19482	0.02695	0.14198	0.24767
	Equal variances not assumed			10.965	1432.142	0.000	0.19482	0.01777	0.15997	0.22968

These results directly address H_1 restated below as it shows that in fact there is a statistically significant difference that competitive sales result in lower interest rates compared to the MMD benchmark than negotiated sales interest rates when compared to the MMD benchmark.

H_1: *Idaho school district competitive bond sales achieve lower interest rates and are therefore, less expensive than negotiated bond sales.*

To illustrate the impact of this 19 basis points (.19%) difference between bonds sold competitively compared to the MMD benchmark and the difference between bonds sold through negotiated compared to the MMD benchmark, I have compared a hypothetical average $15,000,000 30 year Aaa rated Idaho school district GO bond that has an average 3.80% yield, compared to that same bond with a 3.99% yield. The 3.8% bond produces a total debt service of approximately $25,550,000. The 3.99% bond produces a total debt service of $26,350,000. The additional 19 basis points (.19%) equates to $800,000 in an additional cost. On $2BB worth of bonds that Idaho school districts issued from 2001 to 2016 that is approximately $160,000,000 in additional expense.[30]

[30] For illustrative purposes only. Not actual results. Determining exact costs is difficult at best.

III. Bond Characteristics Results

From the bond yield analysis we gain specific insight that the competitive bonds compared to the MMD benchmark have lower interest rates than do negotiated bonds compared to the MMD benchmark. This difference has substantial cost implications and leads us to exploring why administrators choose the methods of sale they do. This portion of the analysis begins with an analysis of the structural bond characteristic variables in the bond dataset. This analysis follows similar studies using known bond characteristics (Robbins & Simonsen, 2007; Simonsen & Hill, 1998).

a. Observations of Bond Characteristics Results

To provide foundational context, the analysis begins with high-level observations of the data. It is noteworthy that 134 of the 194 bonds issued during the study period or 69% have a student population of 4,999 or less. The smallest district has 144 students enrollment and the largest district had 36,111 students enrollment.

This is also true of the Idaho district's frequency of issuance as 38 of the 194 bonds or 18.5% of districts only issued one bond during the study period.

The average bond size was $12,291,546. The smallest bond issued was $450,000 and the largest bond issued was $84,830,000.

Of the 194 issues, 63 were non-bank qualified (Non BQ) and the remaining 131 were all bank qualified (BQ).

Only 50 of the bonds had a MA. Zions Bank was MA to 34 issuances or 68% and Seattle Northwest was MA on 16 issuances or 32%.

Of course, every issue had an UW. Seattle Northwest[31] was UW on 109 issues, Wellso Fargo and Piper Jaffray both issued 18, and Zions Bank underwrote 17 issues. The remaining UWs are largely a smattering of on-off UWs who underwrote 2 or fewer bonds.

As for the underlying ratings on the bonds, 96 were in the A range (A1 = 37, A2 = 35, A3 = 24) and 61 were not rated. Only 4 on their own were rated Aa1 and there are no Aaa rated bonds in the dataset. This means that 190 were enhanced by the State's IBGP or Aaa bond insurance.

b. LOGIT Regression Results of Structural Bond Characteristics H_2

The results of the logistic regression indicate that only two predictors have a statistically significant effect on the probability on an administrator's choice of method of sale: "presence of a municipal advisor" and "the underwriter that a district selects sales less bonds" variables. The remaining variables (bank qualification, underlying rating, enrollment, and bond size) were not statistically significant and cannot be interpreted, as I cannot be confident that these results were not arrived at due to chance.

The odds ratio of a variable allows us to calculate the percent change in the probability of a bureaucrat affiliating with a political party over not affiliating.[32]

It was discovered that when the "municipal advisor is present" predictor increases by 1, the odds that an administrator selects a competitive sale also increases 33.6 times. Said another way, when a municipal advisor is present there is a high probability that an administrator will select a competitive sale to issue its district's bonds. *This provides*

[31] Seattle Northwest merged with Piper Jaffray in 2013. Piper Jaffray–SNW is a combined firm for purposes of this analysis and issuances are not double counted.

[32] Percent change = (Odds Ratio – 1) * 100

strong support for H2 and indicates that the presence of a municipal advisor is a strong indicator that an administrator will choose a competitive sale.

This was also true of the "underwriter that a district selects sales less bonds" predictor, where this predictor increases by 1, the odds an administrator selects a competitive sale increases by 1.24 times. Said another way, when the underwriter the administrator selects to issue its district's bonds has sold fewer bonds there is a higher probability that an administrator has selected a competitive sale. This is somewhat intuitive as Seattle Northwest sold the most bonds at 109 and the 103 of them were through negotiation. The smatterings of one-off underwriters were largely selected via competitive sale. This also provides strong support for H2 and indicates that the selection of a less prominent underwriter is a strong indicator that an administrator will choose a competitive sale.

Table 4.2: Summary of Logistic Regression Analysis for Structural Bond Characteristic Variables Predicting Administrator Choice of Method of Sale

Predictor	*B*	*S.E.*	*Sig.*	*Exp(B)*
Bank Qualified	.672	1.693	.691	1.959
Municipal Advisor	3.515	.525	.000	33.605
Underwriter	.213	.103	.039	1.237
Underlying Rating	.203	.230	.378	1.225
District Enrollment	.000	.000	.272	1.000
Bond Size	.000	.000	.943	1.000
Constant	-.752	2.692	.780	.471
N		194		
X^2		19.94		
df		7		
Pseudo-R²		.492		
Percent Correct		84%		

One-tailed test, *p < .05, **p < .01, *** p< .001
D.V. = Method of Sale, 0=Negotiated, 1=Competitive

IV. Administrator Survey Results

Now that there has been a review of the structural variables and predictors that may impact an administrator's choice of method of sale, this analysis turns to the actual results of the administrator survey to explore this questions. This analysis looks to test the various theories and dilemmas as outlined in the literature review, namely: decision-theory, information asymmetry, anchoring, and principal agent dilemmas.

a. LOGIT Regression Results of Individual Administrative Survey H_2

The results of the logistic regression indicate that only three predictors have a statistically significant effect on the probability on an administrator's choice of method of sale: knowledge of bonds (Q1), seek assistance with bonds (Q3), and number of bond financings (D3). The remaining variables (priority of bonds, formal training, training freshness, training frequency, training source, district funding for training, state funding adequacy, district financial management, school financial competency, and municipal advisor rule awareness) were not statistically significant and cannot be interpreted, as I cannot be confident that these results were not arrived at due to chance.

The analysis suggests that when the "knowledge about bonds and levies" of an administrator increases by 1, the odds an administrator selects a competitive sale increases by 101.4 times. Said another way, when the knowledge of bonds and levies increases the probability that an administrator will select a competitive sale increases by 101.4 times. This provides strong support for H_2 and indicates that an administrator that has a self-proclaimed knowledge of bonds and levies is a very strong indicator that an administrator will choose a competitive sale. This also tracks with the information

asymmetry literature as the more information an administrator has the less of an asymmetry exists.

This was also true of the "frequency that an administrator seeks financial assistance" predictor, where if this predictor increases by 1, the odds an administrator selects a competitive sale increases by 1.2 times. In other words, the more often an administrator seeks financial assistance, the probability that an administrator selects a competitive sale goes up 1.2 times. This provides additional support for H_2 as well and indicates that an administrator that seeks financial assistance more frequently is an indicator that an administrator will choose a competitive sale.

This was also true when the "number of bonds an administrator has participated in" increases by 1, the odds an administrator selects a competitive sale increases by 6.9 times. This provides additional support for H_2 and indicates that an administrator that has experiences progressively more bond financings is a strong indicator that an administrator will choose a competitive sale. This is somewhat intuitive because the more bonds an administrator participates in, the more likely they will learn about the process in general. This is also somewhat contrary to the anchoring literature that suggests the more frequently an administrator uses a certain process the more likely they would be to use it again.

Table 4.3: Summary of Logistic Regression Analysis for Individual Knowledge Variables Predicting Administrator Choice of Method of Sale

Predictor	*B*	*S.E.*	*Sig.*	*Exp(B)*
Knowledge of bonds (Q1)	4.620	2.291	.044	101.451
Priority of bonds (Q2)	-.933	.925	.314	33.605
Seek assistance with bonds (Q3)	.498	1.125	.039	1.237
Formal training (Q4)	4.562	4.658	.327	95.733
Training freshness (Q5)	-.521	.567	.358	.594
Training frequency (Q6)	.387	.777	.618	1.473
Training source (Q7)	.181	.414	.663	1.198
District funding for training (Q8)	-2.860	2.019	.157	.057
State funding adequecy (Q9)	-1.475	1.410	.296	.229
District financial management (Q10)	1.416	1.540	.358	4.122
School finance competency (Q11)	.642	1.551	.679	1.900
Municipal Advisor Rule awareness (Q13)	.0113	.746	.880	1.120
Number of bond financings (D3)	1.940	.945	.040	6.962
Constant	-13.875	9.726	.154	.000
N		141		
X^2		28.282		
df		1		
Pseudo-R^2		.675		
Percent Correct		84.1%		

One-tailed test, *p < .05, **p < .01, *** p< .001
D.V. = Method of Sale, 0=Negotiated, 1=Competitive

Table 4.4: Summary of Logistic Regression Analysis for Individual Best Practice Variables Predicting Administrator Choice of Method of Sale

Predictor	*B*	*S.E.*	*Sig.*	*Exp(B)*
Municipal advisor usage (Q17)	-.481	1.478	.745	.618
Municipal advisor RFP (Q18)	-2.351	1.291	.069	.095
GFOA MA best practice (Q19)	.920	1.132	.416	2.510
Knowledge of MA academic studies (Q20)	-1.937	1.967	.325	.144
Competitive sale use (Q23)	3.155	1.781	.076	23.454
Competitive sale selection decision-making (Q24	-.191	.381	.616	.826
GFOA competitive sale best practice (Q25)	-19.930	27816.200	.999	.000
Knowledge of CS academic studies (Q26)	20.084	27816.200	.999	527639042
Constant	.682	2.142	.750	1.977
N	141			
X^2	28.282			
df	1			
Pseudo-R²	.675			
Percent Correct	84.1%			

One-tailed test, *p < .05, **p < .01, *** p< .001
D.V. = Method of Sale, 0=Negotiated, 1=Competitive

While none of the variables for the Best Practices model were significant at the .05 level, the "municipal advisor RFP" (Q18) and the "competitive sale use" (Q23) variables were both significant at the .10 level. The competitive sale use variable suggests that those who have used it in the past are much more likely to use it in the future, while The MA RFP variable suggests a small positive impact as well. Again, both of these relationships were significant and in the predicted direction, but the relationship was not as strong as hypothesized. The rest of the variables were not statistically significant. These include: municipal advisor usage (Q17), GFOA MA best practice (Q19), knowledge of MA academic studies (Q20), competitive sale selection decision-making (Q24), GFOA competitive sale best practices (Q25), knowledge of competitive sale academic studies (Q26).

V. Discussion

As a whole, the results of the t-test of bond yield compared to the MMD benchmark provided, indeed, evidence that competitive sales compared to the MMD benchmark have lower interest rates when compared to negotiated sales compared to the MMD benchmark (H_1). Also, logistic regressions result of the structural bond characteristic predictors, and the individual administrator predictors of knowledge and best practice provided additional insight into 5 predictors that support reasons why administrators would choose a competitive sale. Those include: municipal advisor is present, underwriter that a district selects sales less bonds, knowledge of bonds (Q1), seek assistance with bonds (Q3), and number of bond financings (D3). While the end results do provide some insights into why administrators choose the methods of sale they do, the results do not capture all the reasons why. That said, results also indicate that the presence of a municipal advisor and knowledge of bonds and levies are very strong predictors of an administrator selecting a competitive sale.

In the end, there is support for both H_1 and H_2 overall, even though there were numerous theoretical indicators that did not end up being statistically significant. This research does establish a foundation for further study by providing a basis for competitive versus negotiated sales and its financial impacts on bond rates and the "why" behind administrator choice of method of sale. With this holistic approach to what is happening within school district bond finance the true effects can be discovered. In this way this research will prove valuable both the administrators themselves, their associations, but also academia at large as it starts to look at an age old problem in a new and directly correlated way and then seeks to get at the heart of why it is happening in the first place.

CHAPTER 5: CONCLUSION

I. Introduction

It is an Idaho constitutional mandate for Idaho school districts to provide educational opportunities to Idaho's children. Each district therefore must adequately fund needed facilities in order to accomplish this mandate. Each district is unique in its demographic make-up, decision-making processes, and methods they employ to fund their needed facilities. Each district and the administrators they employ to carry-out the district's bonding needs are free to choose the agents and methods that will best meet the needs of their districts.

That said, the methods administrators use always include an underwriter, sometimes a municipal advisor is present, and ultimately result in either a competitive sale or negotiated sale. When just an underwriter was present, 100% of the time a negotiated sale was used. Almost exclusively, when a municipal advisor is present, a competitive sale is used.[33] Much research has been focused on the effect of method of sale and the resulting costs. Overwhelmingly, the body of research has found that competitive sales do in fact result in lower bond yields (Forbes & Peterson, 1979; Guzman & Moldogaziev, 2012; Justice & Miller, 2011; Leigland & Lamb, 1986; Liu, 2018; Luby & Moldogaziev, 2013; Miller, 1993; Marlowe, 2009; Robbins & Simonsen, 2007; Robbins & Simonsen, 2008; Simonsen, Robbins & Helgerson, 2001; Vijayakumar

[33] During the test period, there were 6 bond issues that were sold through a negotiate sale and also had a municipal advisor.

& Daniels, 2006). A few researchers find that this is not necessarily the case, though they conclude there was no significant difference between negotiated and competitive sales (Johnson & Kriz, 2005; Kriz, 2003; Leonard, 1996). Others correlate the use of a municipal advisor to similar results. Thus, I proposed the following hypothesis:

H_1: *Idaho school district competitive bond sales achieve lower interest rates and are therefore, less expensive than negotiated bond sales.*

While the effects of method of sale and the use of third party agents have been the focus of some academic research, little attention has been given to the actual decision-making process of the individual administrators and why they make the finance decisions they do. That said, the beginning of this dissertation in Chapter 1 I sought to provide the context of school district bond finance choice in Idaho by exploring the legislative history of Idaho state finance policy from a policy analysis perspective and then to identify subsequent impacts of that policy on individual school districts bond issues. This led to the fundamental question of H_1. I argued that there were sound theoretical reasons to expect the answer to be "yes," competitive sales result in lower interest rates in Chapter 2 and I believe the analysis in Chapters 3 and 4 has borne this out.

In addition to this, Chapter 2 built a robust and comprehensive historical and theoretical framework by which to explore the logical and progressive question of "Why do administrators choose the agents and methods they do?

Principal-agent literature suggests that administrators will be more likely to listen to agents they know agree with them ideologically, while they will be more likely to ignore those they disagree with (Downs, 1967; Wood & Waterman, 1994). That said, administrators possess few proxies they can use to discern whether their selected agent's

advice is in their best interest, making their decision-making purely subjective. The selection of a method of sale that is decided upon by the use of a third party municipal advisor that has a fiduciary duty to the district and administrators they serve and is hired directly by them is a more objective measure that has the potential to alter the relationship between administrators and underwriters substantially and ultimately the chosen method of issuing their district's bonds. Administrator principals are now able to use the advice and information of their municipal advisor to reduce information asymmetry and adjust not only how much credence to give to an underwriter's advice, but how much discretion administrators should afford them when selecting a method of sale. With the aid of a municipal advisor, administrators are now armed with a counter balance that is just as informed in the bond issuance process as their underwriter.

A thorough policy analysis was also conducted using Baumgartner and Jones' punctuated equilibrium theory (2009), innovation and diffusion theory as described by Berry and Berry (2014), and Kingdon's multiple streams theory (2011) to provide additional context and framework.

With this historical and theoretical context in place, it led me to the following hypothesis concerning school district administrator choice in the context of what was happening historically in Idaho:

H_2: *When administrators use best practices bond sales are less expensive.*

In order to properly test H_2, it became necessary to define what exactly choices could be made, the decision to use a municipal advisor or not and whether to use a competitive sale or negotiated sale. Once defined, this led to the exploration of the variables that would potentially impact the administrator's decision making. By this, I

refer to the structural characteristics of the bonds issued such as: presence of a municipal advisor (IV1), underwriter frequency (IV2), bank qualification (IV3), underlying rating (IV4), enrollment (IV5), and bond size (IV6). Then in order to truly understand the decision-making of each administrator the administrator survey was used to gather individual administrator level data on their bond issuance preferences, knowledge, and experience. More specifically, these variables included: administrative role – superintendent or business officer (IV1), region of the state 1-6 (IV2), finance knowledge and preferences (IV3), municipal finance training (IV4), municipal finance competency (IV5), regulatory knowledge (IV6), cost motivation (IV7), underwriter use and selection process (IV8), municipal advisor use, selection process, influence of GFOA best practice, influence of academic studies (IV9), negotiated sale use and selection process (IV10), competitive sale use, selection process, influence of GFOA best practice, influence of academic studies (IV11), influence of the lowering of the supermajority voter approval threshold for school district bonds (IV12), gender (IV13), year of school district experience (IV14) number of school bonds administered (IV15) educational attainment (IV16).

Using Idaho's 2001 Senate bill S. 1158 as a test case where competitive sales were statutorily mandated prior, then after the bill's passage school districts were granted the ability to use both a competitive and negotiated sale. At the time it was argued by the proponents of the bill that this would save Idaho school districts "100 basis points or more" (1.00%) on their bond interest rates. This dissertation sought to more closely examine this period of policy change to note what effect, if any, this shift has brought about. The preceding hypotheses were tested using unique and original data: (1) bond

yield data from 194 school district bond issues during the time period, (2) individual bond characteristic from the same 194 bond issues, and (3) a unique survey of Idaho's school district administrators, specifically superintendents and business officers. These sources were used to identify the effect that Idaho's shift to adding negotiated sales as a permissible method of issuing school bonds has had on actual bond rates. I then seek to understand why administrators choose the agents and methods they do.

II. Findings

a. Bond Yields Compared to Benchmark Findings

In Chapter 3, I noted Idaho school district bonds sold competitively are more likely to result in interest rates that more closely match the daily MMD benchmark than bonds sold through negotiation whose interest rates were further away from the daily MMD benchmark. I also noted that competitively sold bonds on average had bond yields 10 basis points (.10%) above the daily MMD benchmark compared to bonds sold through negotiated sales that had on average yields 29 basis points (.29%) above the daily MMD benchmark. This 19 basis point (.19%) difference was found to be statistically significant at the .001 confidence interval.

This gives evidence that is contrary to the 100 basis point advantage negotiated sales were purported to bring as indicated by the supporters of S.1158 back in 2000 when negotiated sales were introduced into Idaho.

In order to illustrate the practical impact of this 19 basis points (.19%) difference between bonds sold competitively compared to the MMD benchmark and the difference between bonds sold through negotiated compared to the MMD benchmark, I compared two hypothetical average $15,000,000 30 year Aaa rated Idaho school district GO bonds;

one with an average 3.80% yield and the other with an average yield of 3.99%. The 19 basis points (.19%) difference between the two bonds equated to $800,000 in an additional cost. When this illustrative analysis was considered on the approximate $2BB worth of bonds that Idaho school districts issued from 2001 to 2016 it equates to $160,000,000 in additional expense.

b. Bond Characteristic Findings

The results of the logistic regression indicate that only two predictors have a statistically significant effect on the probability on an administrator's choice of method of sale: presence of a municipal advisor and the underwriter that a district selects sales less bonds. The remaining variables (bank qualification, underlying rating, enrollment, and bond size) were not statistically significant.

The analysis suggests that when the "municipal advisor is present" variable increases by 1, the odds that an administrator selects a competitive sale also increase 33.6 times. Said another way, when a municipal advisor is present there is a high probability that an administrator will select a competitive sale to issue its district's bonds. This provides strong support for H_2 and indicates that the presence of a municipal advisor is a strong indicator that an administrator will choose a competitive sale.

This was also true of the "underwriter that a district selects sales less bonds" variable, where this variable increases by 1, the odds an administrator selects a competitive sale increases by 1.24 times. Said another way, when the underwriter the administrator selects to issue its district's bonds has sold less bonds there is a higher probability that an administrator has selected a competitive sale. This is somewhat intuitive as Seattle Northwest sold the most bonds at 109 and the 103 of them were

through negotiation. The smatterings of one-off underwriters were largely selected via competitive sale. This also provides strong support for H_2 and indicates that the selection of a less prominent underwriter is a strong indicator that an administrator will choose a competitive sale.

c. Administrator Survey Findings

The results of the logistic regression indicate that only three predictors have a statistically significant effect on the probability on an administrator's choice of method of sale: knowledge of bonds (Q1), seek assistance with bonds (Q3), and number of bond financings (D3). The remaining variables (priority of bonds, formal training, training freshness, training frequency, training source, district funding for training, state funding adequacy, district financial management, school financial competency, and municipal advisor rule awareness) were not statistically significant.

It was discovered that when the "knowledge about bonds and levies" of an administrator increases by 1, the odds an administrator selects a competitive sale increases by 101.4 times. Said another way, when the knowledge of bonds and levies increases the probability that an administrator will select a competitive sale increases by 101.4 times. This provides strong support for H_2 and indicates that an administrator that has a self-proclaimed knowledge of bonds and levies is a very strong indicator that an administrator will choose a competitive sale. This also tracks with the information asymmetry literature as the more information an administrator has the less of an asymmetry exists.

This was also true of the "frequency that an administrator seeks financial assistance" predictor, where if this predictor increases by 1, the odds an administrator

selects a competitive sale increases by 1.2 times. Said another way, the more often an administrator seeks financial assistance, the probability that an administrator selects a competitive sale goes up 1.2 times. This provides additional support for H_2 as well and indicates that an administrator that seeks financial assistance more frequently is an indicator that an administrator will choose a competitive sale.

This was also true when the "number of bonds an administrator has participated in" increases by 1, the odds an administrator selects a competitive sale increases by 6.9 times. This provides additional support for H_2 and indicates that an administrator that has experiences progressively more bond financings is a strong indicator that an administrator will choose a competitive sale. This is somewhat intuitive because the more bonds an administrator participates in, the more likely they will learn about the process in general. This is also somewhat contrary to the anchoring literature that suggests the more frequently an administrator uses a certain process the more likely they would be to use it again.

The results of the logistic regression indicate that none of the best practice predictors have a statistically significant effect at the .05 level on the probability on an administrator's choice of method of sale. These include: municipal advisor usage, municipal advisor RFP, GFOA MA best practice, knowledge of MA academic studies, competitive sale use, competitive sale selection decision-making, GFOA competitive sale best practices, knowledge of competitive sale academic studies. That said, both municipal advisor RFP and competitive sale use variables were significant at the .10 level, suggesting a significant, but somewhat weak relationship. It was surprising that variables such as "municipal advisor usage" did not show statistical significance. This may have

been because there was confusion around what best practices were and the implications thereof.

III. Future Research

From the outset, this dissertation has attempted to bridge psychology, sociology, public administration, and municipal finance literatures to expand the study of administrator choice to include the effect on administrators and their relationship with markets and third party agents. The preceding chapters constitute the first step of that endeavor, providing a foundation from which future research can build. The question remains, however, what that future research should entail. Obviously, gathering additional data with each subsequent bond issues will be critical. As repeatedly noted, I currently lack enough post-treatment data points to properly assess causal relationships between administrator choice and bond outcomes. Updating this data with annual administrator survey updates and adding the additional bond issues for the year will be important.

The analysis in Chapter 3 serves as an ideal starting point. It tested the fundamental question of whether competitive sales result in lower bond yield by using the MMD scale as a way to compare similarly rated bonds. This unique comparison to a benchmark approach could easily be replicated for other issuer types in other states to broaden the research. From this analysis, there is evidence in the data that the concern is real and does have a statistically significant effect on bond interest rates and overall costs. This method of comparing similarly rated bonds to the MMD benchmark could be easily applied to other issuer and bond types and broaden the historical and current method of

inquiry, which is largely based on multi-variate regression testing. This would be an excited development in the contemporary field of research.

This method could also be applied to punctuating equilibrium theory testing in the bond market. For example, in the case of this study, bonds issued prior to the S. 1158 legislative change could be compared to bonds issued post the legislative change in order to determine the impacts of the policy change. This pre and post test method of comparing punctuation points could be applied to regulatory changes, like the SEC MA rules, and significant geopolitical events like Brexit and their impact on bond yields.

From Chapter 4, the structural bond characteristics of the presence of a MA and the frequency at which an underwriter sales bonds are important confirmations and reasons why administrators choose a competitive sale. These findings should be tested further in additional context to see if they continue to hold true.

As for the administrator survey findings in Chapter 4, found that knowledge predictors had a statistically significant and probability multiplier on whether an administrator chose a competitive sale. These findings, though helpful and foundational to the study, are less-than-ideal and indicate that a better model is needed. Specifying that model is a good place to start, as it would provide the opportunity to control for additional factors like socioeconomic status, education level, and other demographic factors to better isolate the effect of administrator choice factors influencing the method of sale and municipal advisor selection decisions. It bears mentioning that two of the significant effects were found in training and education on the bonding process and municipal finance best practices. This low hanging fruit seems to be a logical and straight forward way to improve administrator decision-making.

A mixed methods approach to the survey could bring additional clarity to the "why" question of administrator choice of method of sale and financial professionals. A qualitative question could be asked that simply says, "why do you select the method of sale you do to issue your district's bonds?" and "Why do you select the financial professionals you do to aide you in the bonding process?"

It was also noted that some of the administrators with the highest-ranking knowledge and best practices index scores, chose negotiated sales without the use of a municipal advisor. This was also true of some of the most frequent issuing districts as well as some of the most urban districts. This seemingly ironic observation is worth further exploration. There seems to be a gap in the quality of education and knowledge and the actual choices administrators make.

It was also noted that administrators lean on their bond council and peers for municipal finance advice, where best practice would suggest that this advice is best coming from a municipal advisor. There was also some indication that many use their underwriter for method of sale advice. This is most concerning as 100% of the time this occurred; the district's bonds were issued using a negotiated sale.

While this dissertation has focused exclusively on Idaho school district bonds and the administrators whose responsibility it is to issue them, expanding research to other levels of government could be illuminating. In Idaho, cities, counties, universities, other local special districts, state agencies, and the State of Idaho itself could benefit from further exploration of these methods and research. As a result, the same theoretical concerns identified here could be applied to these governments.

With the consistent and rapid innovations that are happening with technology, the impacts of these innovations on the bond market is worth consideration. One of those areas is technology's impact on investor relations and the ability to market bonds much more broadly and easily. This would lend credence to competitive sale arguments that increased competition and wider distribution increases demand for bonds; and therefore, lower bond yields.

Another interesting research question related to this would be to explore whether there is an equity and inclusion dilemma at play. In other words, do competitive sales increase equity and inclusion of bond investors by virtue of broader distribution and marketing compared to negotiated sales that may be marketed more narrowly and locally.

Somewhat contrary to this line of research, this idea of distribution and marketing could also lead to research into the economic benefit of marketing bonds locally. Said another way, economic impact analyses could give support for negotiated sale arguments that there is a benefit for marketing bonds to local investors.

In an ethics vain, this research provided evidence of information asymmetries and some evidence of potential conflicts of interest. Some consideration of principal agent dilemmas and ethics could add another interesting element to the research agenda.

A core component of the theoretical argument for why administrators would choose methods and financial professionals contrary to best practice and academic research is the concept of administrator discretion and the host of concerns surrounding it, particularly information asymmetry and the moral hazards present in principal-agent relationships. Necessarily, this matter concerns two sets of actors: administrators and financial professionals. This dissertation has approached the matter from the

administrative perspective, but it is also incumbent upon us to look at it from the financial professional's view. Their motivations are only hinted at here and are left primarily to free-market capitalism arguments and not given much consideration. This invites the study of more tangible measures of bureaucratic discretion as well as agent motivation.

IV. Conclusion

This dissertation contributes to the literature of public administration and finance in numerous ways. Along more traditional lines of inquiry, its examination of bond sales in Idaho following its shift to exclusively negotiated bond sales from 2001 to 2006 and mixed sales thereafter, adds an additional test of the claims in the literature that competitive sales result in lower interest cost. While this can help address come of the contradictions found in the literature, it comes with an important caveat, there is mixed and some contrary literature that argues there is no significant difference between competitive and negotiated sales.

More uniquely, this dissertation demonstrates that changing the current paradigm of method of sales and use of municipal advisor would benefit school districts and the tax payers they serve. In fact, the implementation and utilization of these recommendations has the potential to directly save Idaho school districts substantial funds, though the exact amount is difficult to determine empirically. By establishing that these effects are real, this dissertation has begun to provide a deeper understanding of administrator choice and its impact on bond issuance outcomes.

Examination of original data in this dissertation establishes that a statistically significant difference exists between competitive and negotiated sales. Perhaps more importantly, it reaches deeper to explore "why" administrators often choose methods and

professionals contrary to best practice and the academic research. All this serves as a solid foundation to begin examining the effects of administrator choice more fully, which should help guide future research.

A critical contribution of this dissertation is that method of sale matters—competitive sale results are different from negotiated sales. That is simply a starting point, however, and it invites exploration into whether this is true across municipality types and across different markets other than Idaho.

In Chapter 1, I noted that one of the goals of this dissertation was to expand research on why administrators choose the methods and professionals they do into areas heretofore unstudied. The effect that municipal advisors have on the method of sale selection and the resulting outcomes is one such area. It is only by exploring the full breadth of the effect of this that we can truly assess the strengths and weaknesses of it. More importantly, it is only then administrators can make a truly informed decision about which methods are best for their districts. I believe this dissertation substantially contributes to that understanding.

a. Recommendations

1. Conduct this survey annually and create a longitudinal data set that could be tested over time.
2. School district Association's train their superintendent and finance officers on a more frequent basis.
3. School districts fund membership in their state associations as well as national associations.

4. School districts hire a municipal advisor when considering bond financing for their facility needs. This is because 100% of comparative sales also had a municipal advisor involved.
5. The State Treasurer's Office require the use of a competitive sale when using the state's School Bond Guarantee and Credit Enhancement programs.
6. School district finance officers have at least a bachelor's degree or higher education.
7. It is not recommended that school districts do a negotiated sell without the aid of a municipal advisor.
8. School districts use a competitive RFP process to select their municipal advisor.
9. If an Idaho school district wishes to use a negotiated sale, they use a competitive RFP process to select their underwriter. This is best done with the aid of a municipal advisor.
10. Idaho school districts look outside their very narrow Idaho market of municipal advisors and underwriters for bond issuance assistance and advice. The use of a nationally distributed RFP for these services is recommended. This is because only 2 municipal advisors were used during the test period and only 19 underwriters with 1 predominately brokering the issues through negotiated sales.
11. Idaho school districts use a competitive bond sale when issuing their bonds. This will have the results of reducing cost, increase transparency, and provide increased accountability to their citizenry. A noteworthy secondary benefit is more underwriters will pay attention to the Idaho market. This increase in competition will only further compound the benefits of a competitive cell.

12. The true cost of bonding is currently difficult to determine. Not only is it difficult to compare bonds as they have differing credit quality and are sold on different days into different markets, municipal advisor, underwriter and other costs of issuance are opaque and not listed in bond documents. This study provides methods to analyze credit and differing markets, but does not explore methods of determining other related costs. It is recommended that the SEC and MSRB mandate a clear detailing of costs associated to bond transactions so that a true all inclusive cost of issuance can be determine.

In principle agent dilemmas, validation strategies are critical to reducing information asymmetry. In the case of school district administrator principles and underwriter agents, municipal advisors can play a critical role in validating the transaction and ensuring that information asymmetries do not lead to suboptimal outcomes.

Where the stakes are high and outcomes matter, superintendents and business officers would do well to acknowledge these information asymmetries and actively seek advice from agnostic third-parties such as municipal advisers. It is somewhat obvious that in order for this to be adequately addressed, reoccurring training opportunities from statewide and national associations be required and frequent.

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APPENDIX A

Administration Survey Recruitment

Administrator Survey Recruitment Letter

Hello Idaho School District Administrator -

Thank you for taking this brief Boise State University survey in partnership with the IASA regarding Idaho school district finance practices. This survey will assist a Ph.D. candidate with their dissertation and potentially impact Idaho finance policy. If you are interested in the results, they will be shared through the IASA upon request. The survey takes 3-5 minutes to complete. Please click the link below to begin and thank you in advance for your participation.

Follow this link to the Survey:
Take the survey

Or copy and paste the URL below into your internet browser:
https://boisestate.az1.qualtrics.com/SE?Q_DL=6KWscHcPvX3hfaR_ehTb5RyzI9erI1f_MLRP_6otaeRTAxC6fB1H&Q_CHL=email

Follow the link to opt out of future emails:
Click here to unsubscribe

Thanks again,

Cameron Arial
BSU Ph.D. Candidate

Rob Windslow
IASA Executive Director

APPENDIX B

Administrator Survey Questionnaire

Administrator Survey Questionnaire

Screening questions:

S1) Are you a superintendent or a business officer?

- Superintendent
- Business Officer

S2) What region of Idaho are you in?

- Region 1
- Region 2
- Region 3
- Region 4
- Region 5
- Region 6

Survey Questions:

Q1) How would you rate your knowledge of bonds and levies?

- Excellent
- Good
- Fair
- Poor
- Don’t know

Q2) Where do you rank bonds and levies of all your work responsibilities?

- Very High
- High
- Moderate
- Low
- Very Low
- Don’t know

Q3) How often do you seek outside assistance with finance related needs?

- Never
- Less Than Once a Month
- Once a Month
- 2-3 Times a Month
- Once a Week
- 2-3 Times a Week

- Daily
- Don’t know

Q4) Have you ever been formally trained in school bonds and levies?

- Yes
- No
- Don’t Know

Q5) If yes, how long ago did you receive the training?

- This year
- 1 year ago
- 2 year ago
- 3 year ago
- 4 year ago
- 5 year ago
- Other
- Don’t Know

Q6) If yes, how often do you receive training?

- Twice a year
- Once a year
- Every 2 years
- Every 3 years
- Every 4 years
- Every 5 years
- Don’t Know

Q7) If yes, from whom did you receive the training?

- Peer
- Trade Association
- Municipal Advisor
- Underwriter
- Department of Education
- Bond Counsel
- Auditors
- Online sources
- Don’t Know

Q8) Does your District allocate funds for financial training?

- Yes

- No
- Don’t Know

Q9) Do you agree that Idaho school districts are able to adequately fund their facility needs.

- Strongly Agree
- Agree
- Neither Agree nor Disagree
- Disagree
- Strongly Disagree
- Don’t Know

Q10) Do you agree that your district is financially well managed.

- Strongly Agree
- Agree
- Neither Agree nor Disagree
- Disagree
- Strongly Disagree
- Don’t Know

Q11) What degree of competency when it comes to school finance.

- Very High
- High
- Moderate
- Low
- Very Low
- Don’t Know

Q12) What degree of competency when it comes to the bond issuance process?

- Very High
- High
- Moderate
- Low
- Very Low
- Don’t Know

Q13) How aware are you of the Securities and Exchange Commission's (SEC) and Municipal Securities Rulemaking Board's (MSRB) new municipal advisor rules?

- Very Aware
- Somewhat Aware

- Aware
- Somewhat Unaware
- Very Unaware
- Don’t Know

Q14) On a scale from 0 - 10 with 0 being extremely unimportant and 10 being extremely important, how important is it to you to achieve the lowest cost possible for your district's bonds?

Extremely Unimportant										Extremely Important
0	1	2	3	4	5	6	7	8	9	10

DEFINITION: Underwriter - "A municipal securities firm that purchases all of the bonds and resales them to investors at a profit."

Q15) To assist with the bond election and issuance process, does your district use the services of only an underwriter when issuing its bonds?

- Yes
- No
- Don’t know

Q16) If yes, has your district ever used a competitive request for proposal (RFP) process to select your underwriter?

- Yes
- No
- Don’t know

DEFINITION: Municipal Advisor (i.e. financial advisor) - "A person that (i) provides advice to or on behalf of a municipal entity, including advice with respect to the structure, timing, terms, and other similar matters concerning such financial products or issues, or (ii) undertakes a solicitation of a municipal entity."

Q17) Does your district use the services of a municipal advisor when issuing its bonds?

- Yes
- No
- Don’t know

Q18) If yes, has your district ever used a competitive RFP process to select your municipal advisor?

- Yes
- No

- Don’t know

Q19) If you knew that the Government Finance Officers Association (GFOA) recommended the use of an independent municipal advisor, how likely are you to use a municipal advisor for your next bond issue?

- Very Likely
- Likely
- Undecided
- Unlikely
- Very unlikely
- Don’t Know

Q20) If you knew that academic studies have found that the use of a municipal advisor are likely to reduce the cost of your bonds substantially, how likely are you to use a municipal advisor for your next bond issue?

- Very Likely
- Likely
- Undecided
- Unlikely
- Very Unlikely
- Don’t Know

DEFINITION: Negotiated bond sale - "A bond sale in which the underwriter is selected upfront allowing them to take advantage of market conditions as well as develop a structure that suits market conditions. Complicated and/or lower rated bonds are typically sold through a negotiated sale."

Q21) Does your district use a negotiated bond sale to issue its bonds?

- Yes
- No
- Don’t know

Q22) If yes, what decision-making process is used to select a negotiated bond sale??

- Recommendation of Financial Professionals
- Use the Same Process the District Used in the Past
- Recommendation of Peers
- Recommendation of Trade Association
- Follow Best Practice
- Other
- Don’t Know

DEFINITION: Competitive bond sale - "A bond sale in which the underwriter is selected through a competitive bidding process. Less complicated and/or higher rated bonds, particularly GO bonds, are typically sold through a competitive sale."

Q23) Does your district use a competitive bond sale to issue its bonds?

- Yes
- No
- Don't know

Q24) If yes, what decision-making process is used to select a competitive bond sale?

- Recommendation of Financial Professionals
- Use the Same Process the District Used in the Past
- Recommendation of Peers
- Recommendation of Trade Association
- Follow Best Practice
- Other
- Don't Know

Q25) If you knew that the Government Finance Officers Association (GFOA) recommended the use of a competitive sale, how likely would you be to use a competitive bond sale for your next bond issue?

- Very Likely
- Likely
- Undecided
- Unlikely
- Very Unlikely

Q26) If you knew that academic studies have found that the use of a competitive bond sale are likely to reduce the cost of your bonds substantially, how likely are you to use a competitive bond sale for your next bond issue?

- Very Likely
- Likely
- Undecided
- Unlikely
- Very Unlikely
- Don't Know

Q27) Do you agree that the supermajority (66.6%) voter threshold should be reduced in Idaho?

- Strongly Agree
- Agree
- Undecided
- Disagree
- Strongly Disagree
- Don’t Know

Demographic Questions:

D1) Please indicate your gender?

- Male
- Female
- Prefer not to answer

D2) How many years have you been working in school district administration?

D3) How many bond financings have you participated in?

D4) What is the highest level of education you have completed?

- Less than high school
- High school graduate (includes equivalency)
- Associate or Technical degree
- Bachelor’s degree
- Graduate or professional degree
- Prefer not to answer

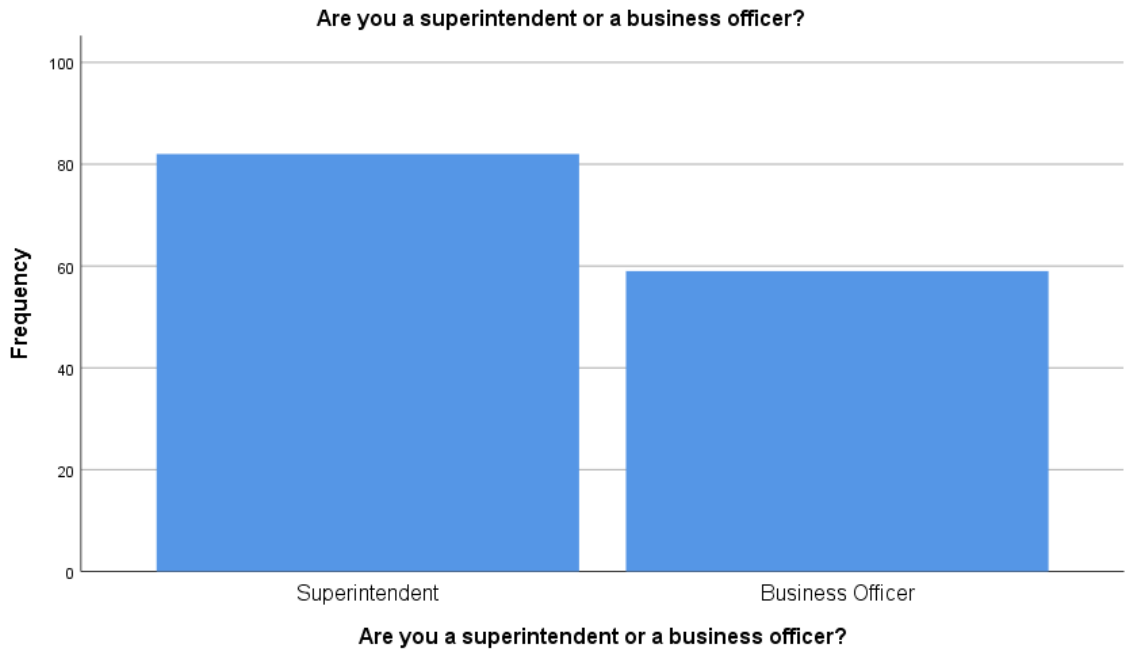
APPENDIX C

Administrator Survey Results

Administrator Survey Results Frequency Table

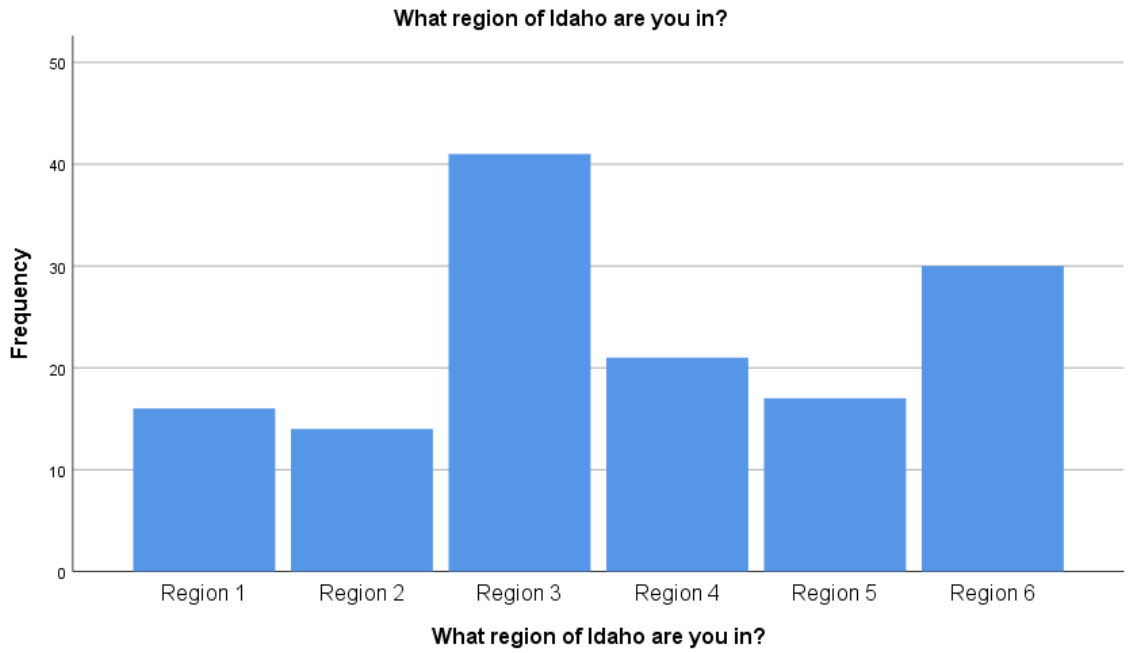
S1- Are you a superintendent or a business officer?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Superintendent	82	58.2	58.2	58.2
	Business Officer	59	41.8	41.8	100.0
	Total	141	100.0	100.0	



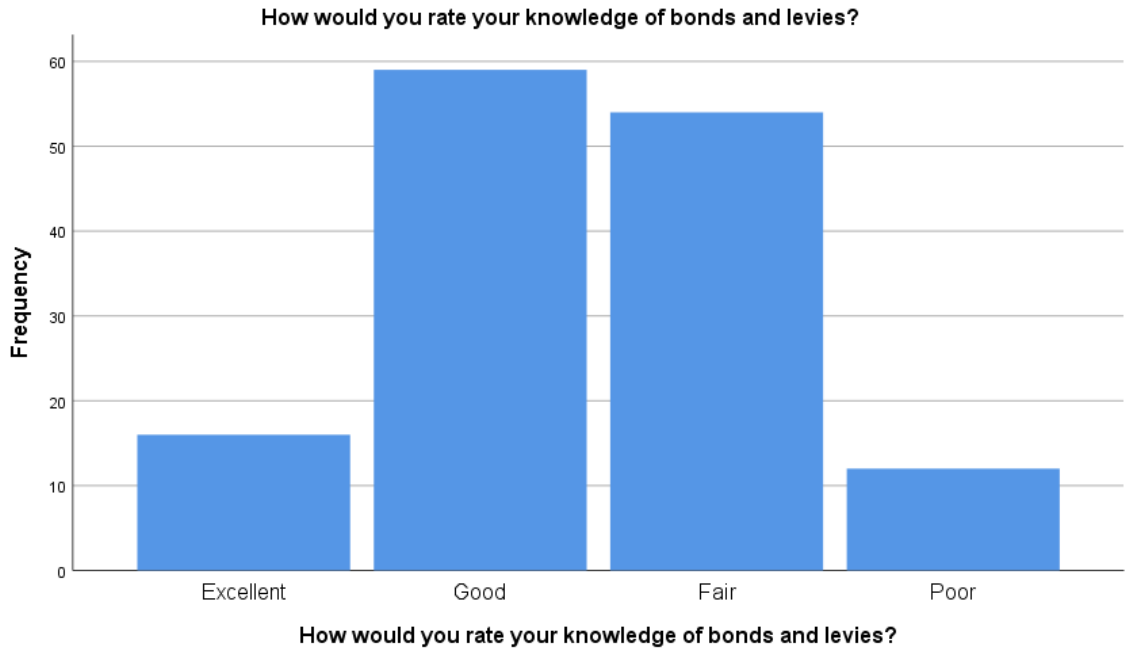
S2- What region of Idaho are you in?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Region 1	16	11.3	11.5	11.5
	Region 2	14	9.9	10.1	21.6
	Region 3	41	29.1	29.5	51.1
	Region 4	21	14.9	15.1	66.2
	Region 5	17	12.1	12.2	78.4
	Region 6	30	21.3	21.6	100.0
	Total	139	98.6	100.0	
Missing	System	2	1.4		
Total		141	100.0		



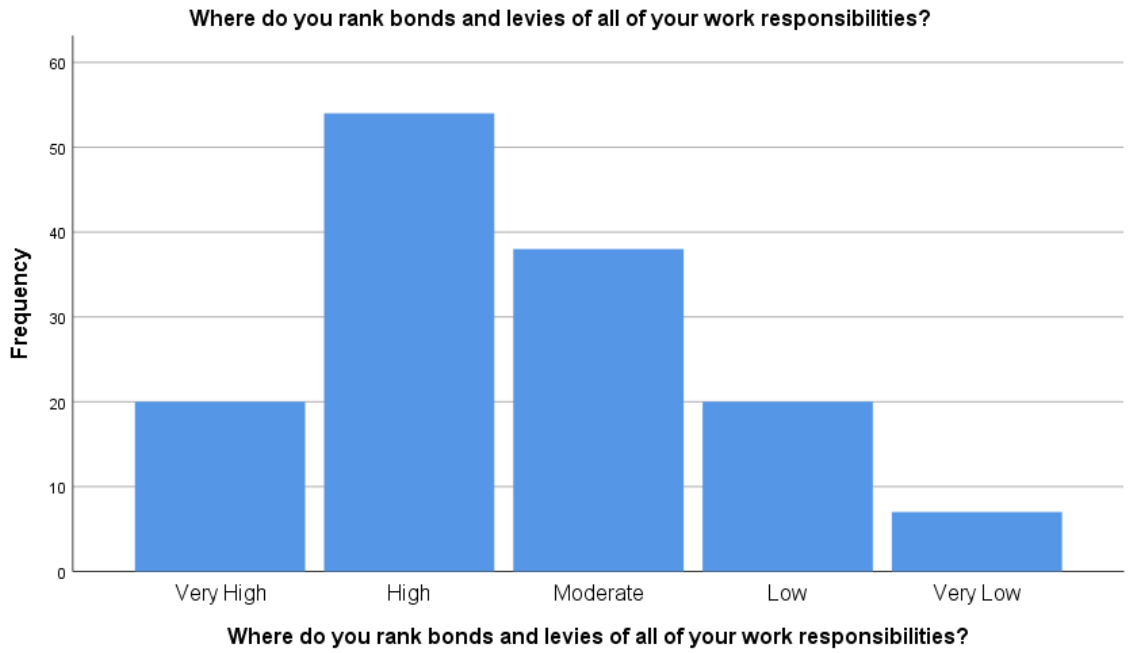
Q1- How would you rate your knowledge of bonds and levies?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Excellent	16	11.3	11.3	11.3
	Good	59	41.8	41.8	53.2
	Fair	54	38.3	38.3	91.5
	Poor	12	8.5	8.5	100.0
	Total	141	100.0	100.0	



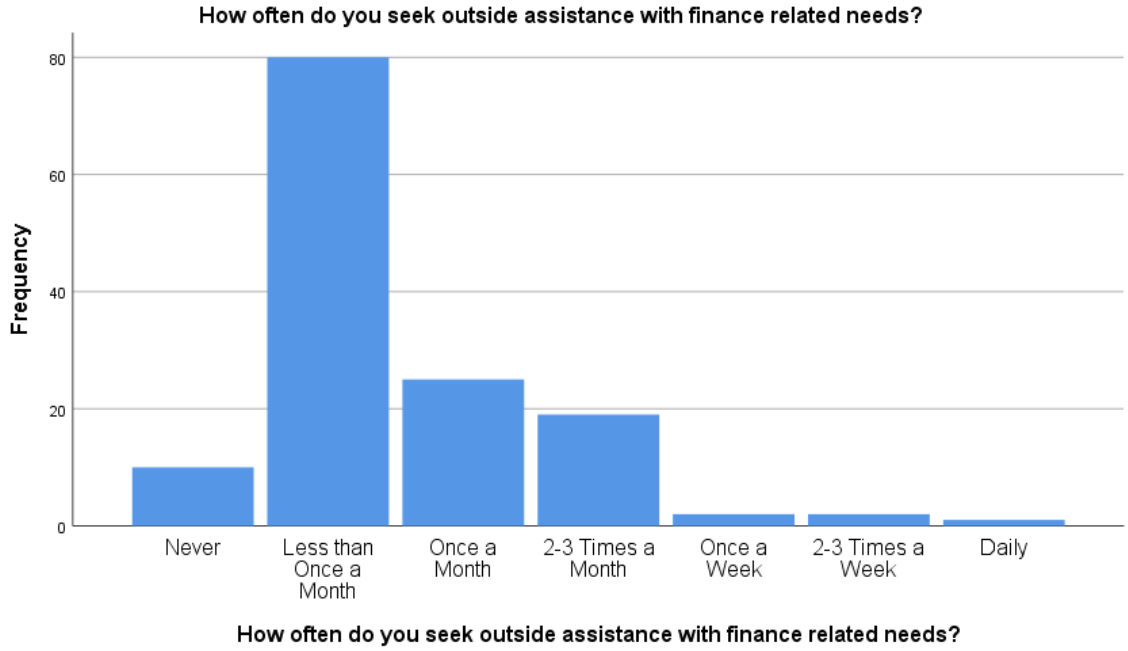
Q2- Where do you rank bonds and levies of all of your work responsibilities?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Very High	20	14.2	14.4	14.4
	High	54	38.3	38.8	53.2
	Moderate	38	27.0	27.3	80.6
	Low	20	14.2	14.4	95.0
	Very Low	7	5.0	5.0	100.0
	Total	139	98.6	100.0	
Missing	System	2	1.4		
Total		141	100.0		



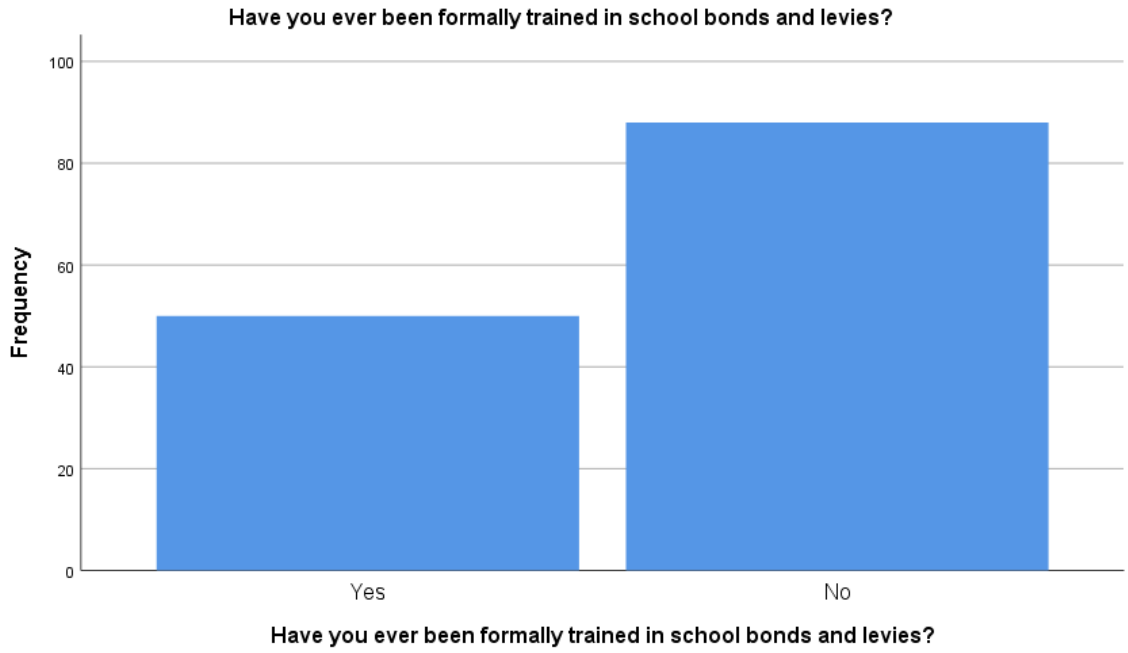
Q3- How often do you seek outside assistance with finance related needs?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Never	10	7.1	7.2	7.2
	Less than Once a Month	80	56.7	57.6	64.7
	Once a Month	25	17.7	18.0	82.7
	2-3 Times a Month	19	13.5	13.7	96.4
	Once a Week	2	1.4	1.4	97.8
	2-3 Times a Week	2	1.4	1.4	99.3
	Daily	1	.7	.7	100.0
	Total	139	98.6	100.0	
Missing	System	2	1.4		
Total		141	100.0		



Q4- Have you ever been formally trained in school bonds and levies?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	50	35.5	36.2	36.2
	No	88	62.4	63.8	100.0
	Total	138	97.9	100.0	
Missing	System	3	2.1		
Total		141	100.0		



Q5- If yes, how long ago did you receive the training?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	This year	10	7.1	14.1	14.1
	1 year ago	11	7.8	15.5	29.6
	2 years ago	4	2.8	5.6	35.2
	3 years ago	5	3.5	7.0	42.3
	4 years ago	3	2.1	4.2	46.5
	5 years ago	9	6.4	12.7	59.2
	Other	29	20.6	40.8	100.0
	Total	71	50.4	100.0	
Missing	System	70	49.6		
Total		141	100.0		

Q6- If yes, how often do you receive training?

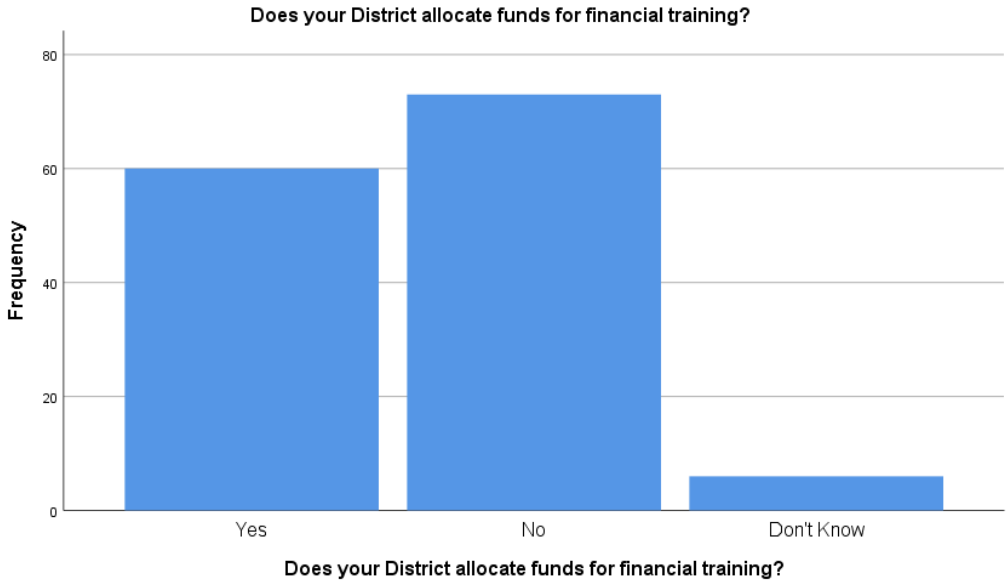
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Twice a year	4	2.8	8.9	8.9
	Once a year	22	15.6	48.9	57.8
	Every 2 years	6	4.3	13.3	71.1
	Every 3 years	2	1.4	4.4	75.6
	Every 4 years	2	1.4	4.4	80.0
	Every 5 years	9	6.4	20.0	100.0
	Total	45	31.9	100.0	
Missing	System	96	68.1		
Total		141	100.0		

Q7- If yes, from whom did you receive the training?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Peer	16	11.3	25.4	25.4
	Trade Association	7	5.0	11.1	36.5
	Municipal Advisor	6	4.3	9.5	46.0
	Underwriter	6	4.3	9.5	55.6
	Department of Education	4	2.8	6.3	61.9
	Bond Counsel	18	12.8	28.6	90.5
	Auditor	5	3.5	7.9	98.4
	Online Sources	1	.7	1.6	100.0
	Total	63	44.7	100.0	
Missing	System	78	55.3		
Total		141	100.0		

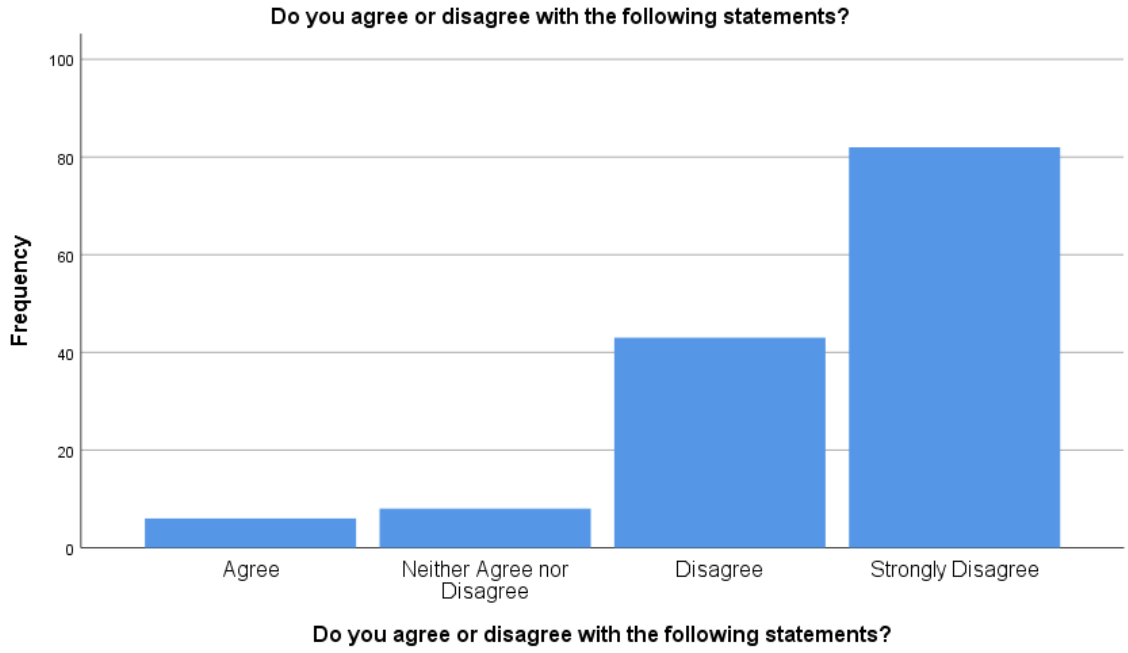
Q8- Does your District allocate funds for financial training?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	60	42.6	43.2	43.2
	No	73	51.8	52.5	95.7
	Don't Know	6	4.3	4.3	100.0
	Total	139	98.6	100.0	
Missing	System	2	1.4		
Total		141	100.0		



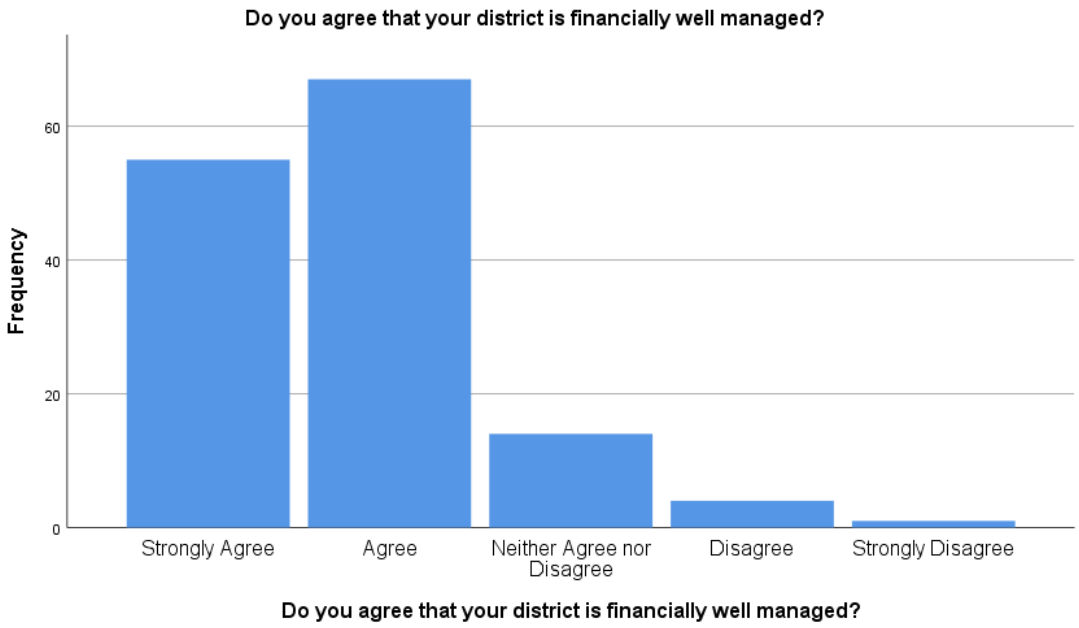
Q9 Do you agree that Idaho school districts are able to adequately fund their facility needs?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Agree	6	4.3	4.3	4.3
	Neither Agree nor Disagree	8	5.7	5.8	10.1
	Disagree	43	30.5	30.9	41.0
	Strongly Disagree	82	58.2	59.0	100.0
	Total	139	98.6	100.0	
Missing	System	2	1.4		
Total		141	100.0		



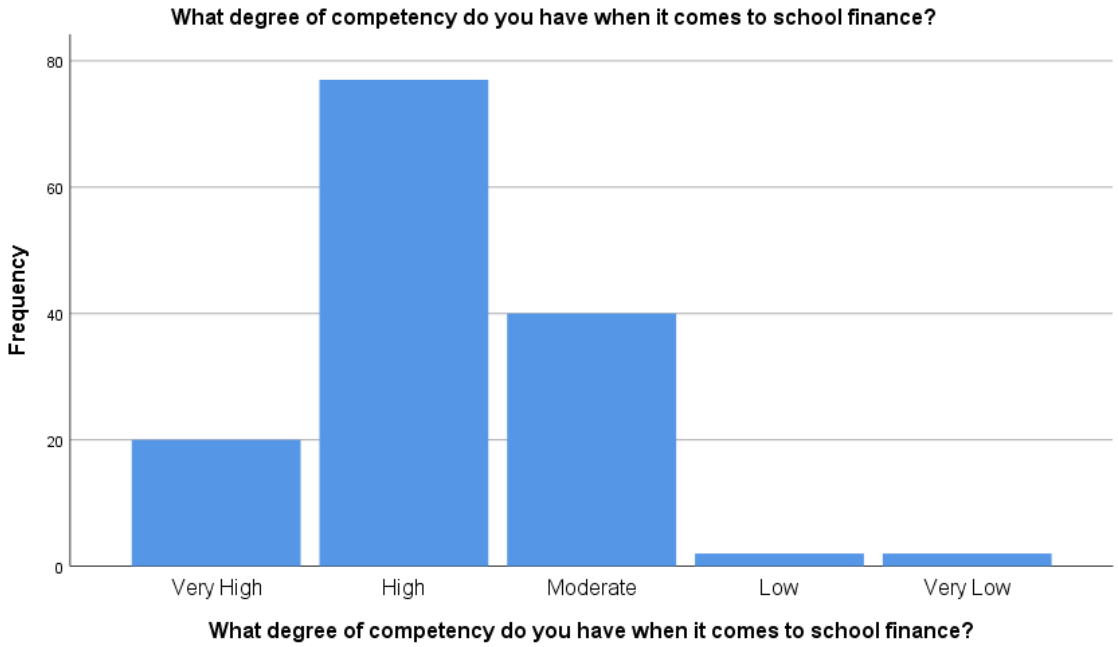
Q10- Do you agree that your district is financially well managed?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Agree	55	39.0	39.0	39.0
	Agree	67	47.5	47.5	86.5
	Neither Agree nor Disagree	14	9.9	9.9	96.5
	Disagree	4	2.8	2.8	99.3
	Strongly Disagree	1	.7	.7	100.0
	Total	141	100.0	100.0	



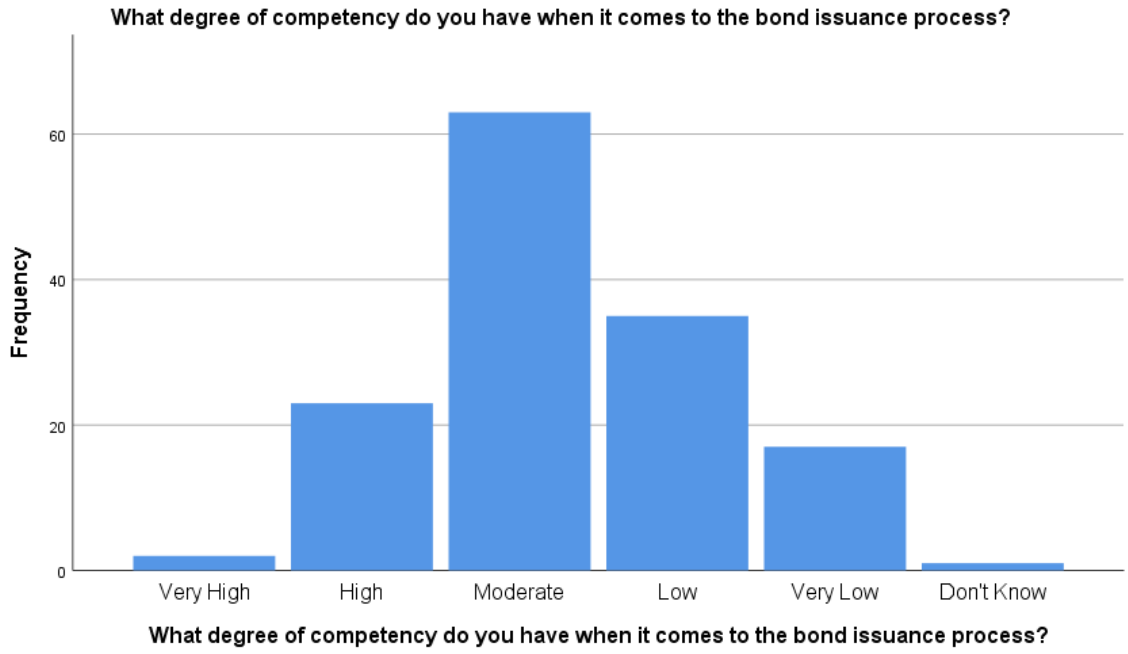
Q11- What degree of competency do you have when it comes to school finance?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Very High	20	14.2	14.2	14.2
	High	77	54.6	54.6	68.8
	Moderate	40	28.4	28.4	97.2
	Low	2	1.4	1.4	98.6
	Very Low	2	1.4	1.4	100.0
	Total	141	100.0	100.0	



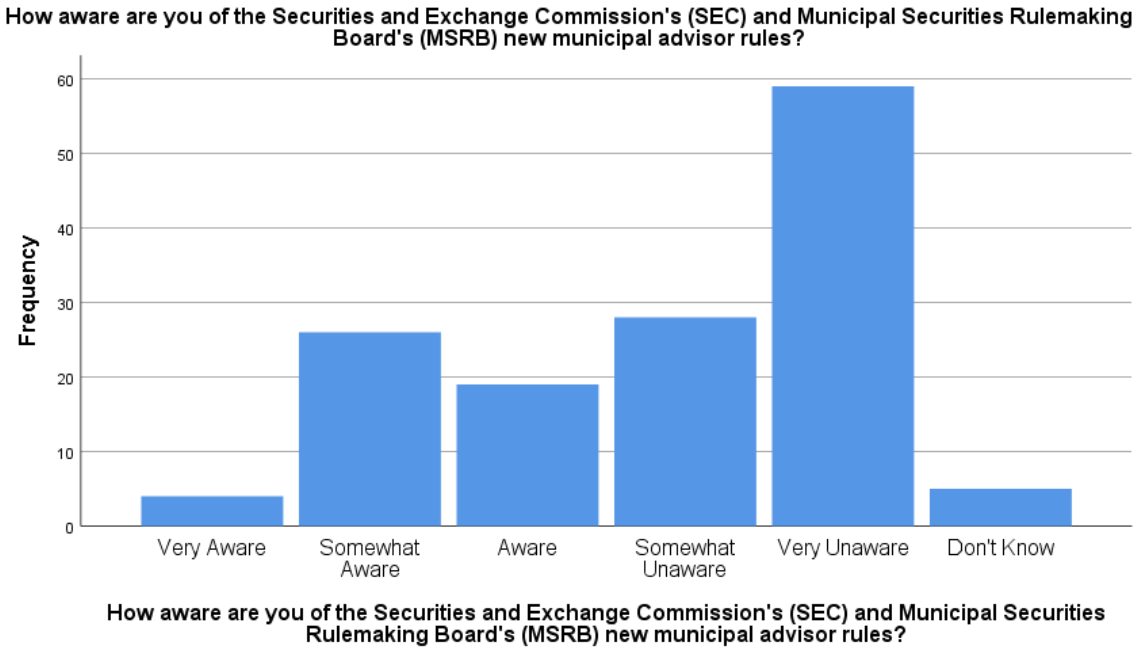
Q12- What degree of competency do you have when it comes to the bond issuance process?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Very High	2	1.4	1.4	1.4
	High	23	16.3	16.3	17.7
	Moderate	63	44.7	44.7	62.4
	Low	35	24.8	24.8	87.2
	Very Low	17	12.1	12.1	99.3
	Don't Know	1	.7	.7	100.0
	Total	141	100.0	100.0	



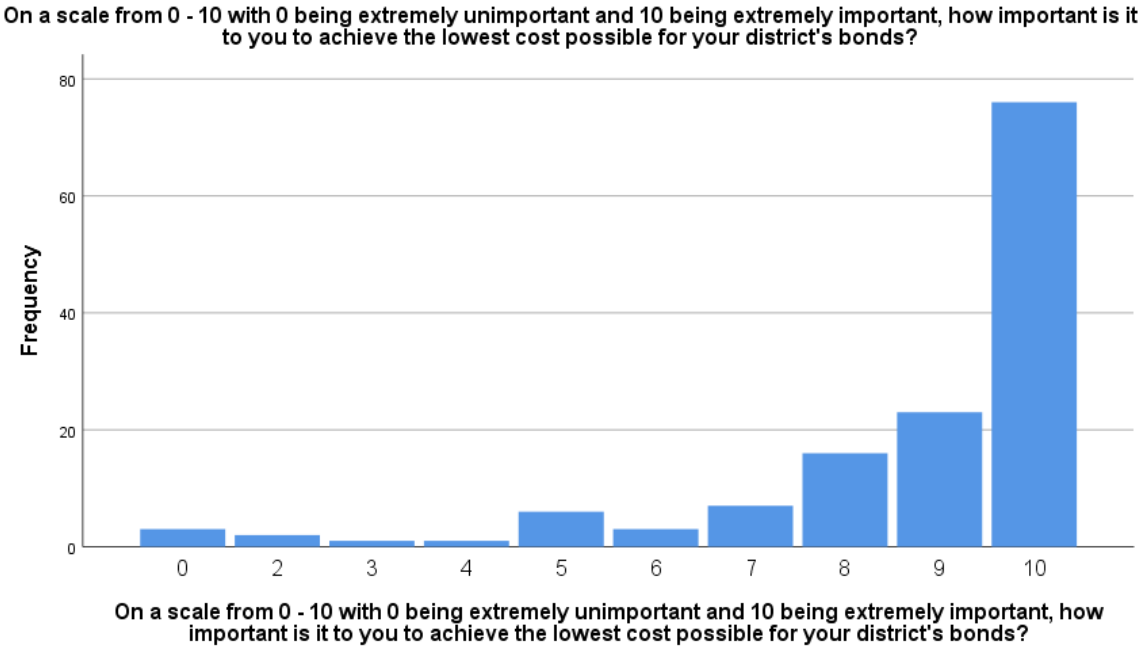
Q13- How aware are you of the Securities and Exchange Commission's (SEC) and Municipal Securities Rulemaking Board's (MSRB) new municipal advisor rules?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Very Aware	4	2.8	2.8	2.8
	Somewhat Aware	26	18.4	18.4	21.3
	Aware	19	13.5	13.5	34.8
	Somewhat Unaware	28	19.9	19.9	54.6
	Very Unaware	59	41.8	41.8	96.5
	Don't Know	5	3.5	3.5	100.0
	Total	141	100.0	100.0	



Q14- On a scale from 0 - 10 with 0 being extremely unimportant and 10 being extremely important, how important is it to you to achieve the lowest cost possible for your district's bonds?

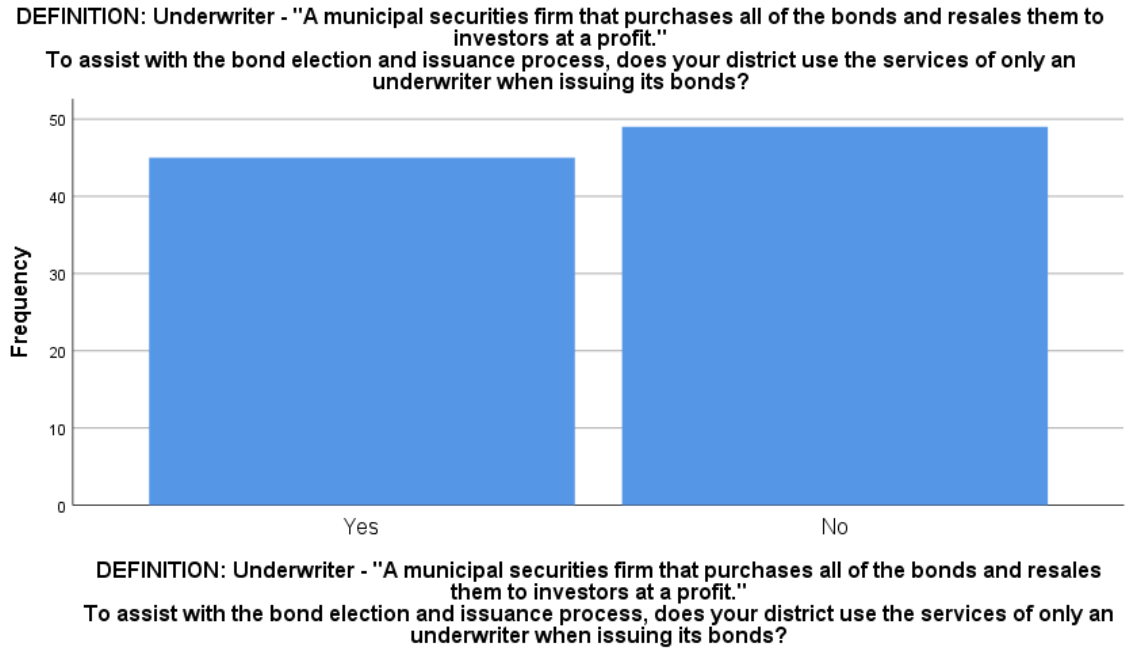
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	0	3	2.1	2.2	2.2
	2	2	1.4	1.4	3.6
	3	1	.7	.7	4.3
	4	1	.7	.7	5.1
	5	6	4.3	4.3	9.4
	6	3	2.1	2.2	11.6
	7	7	5.0	5.1	16.7
	8	16	11.3	11.6	28.3
	9	23	16.3	16.7	44.9
	10	76	53.9	55.1	100.0
	Total	138	97.9	100.0	
Missing	System	3	2.1		
Total		141	100.0		



DEFINITION: Underwriter - "A municipal securities firm that purchases all of the bonds and resales them to investors at a profit."

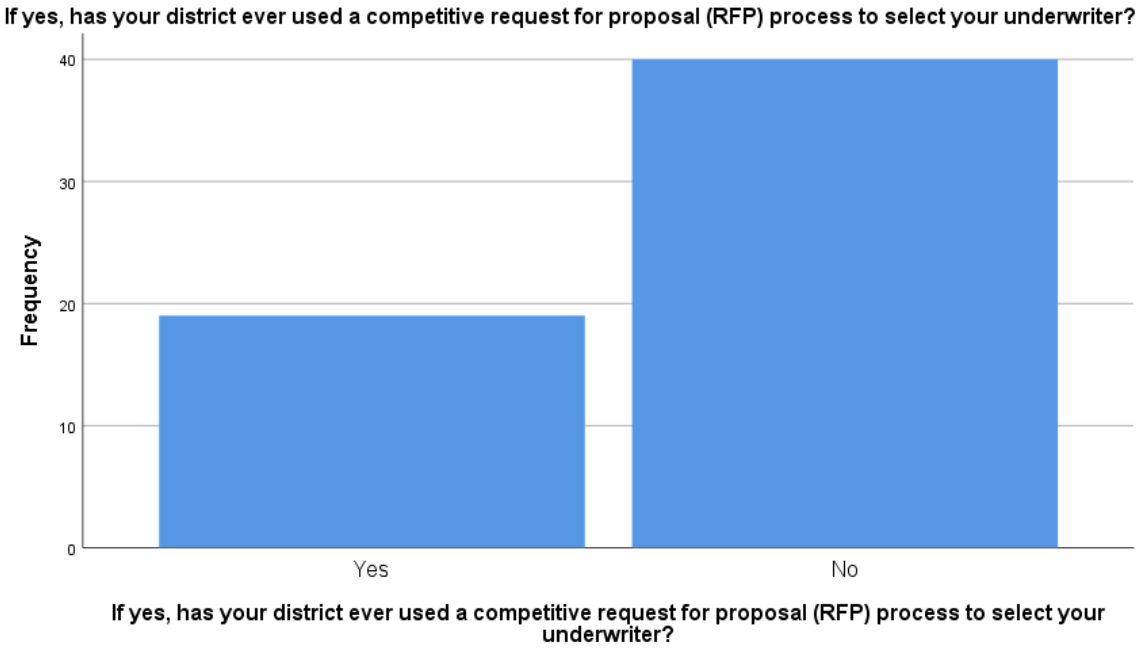
Q15- To assist with the bond election and issuance process, does your district use the services of only an underwriter when issuing its bonds?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	45	31.9	47.9	47.9
	No	49	34.8	52.1	100.0
	Total	94	66.7	100.0	
Missing	System	47	33.3		
Total		141	100.0		



Q16- If yes, has your district ever used a competitive request for proposal (RFP) process to select your underwriter?

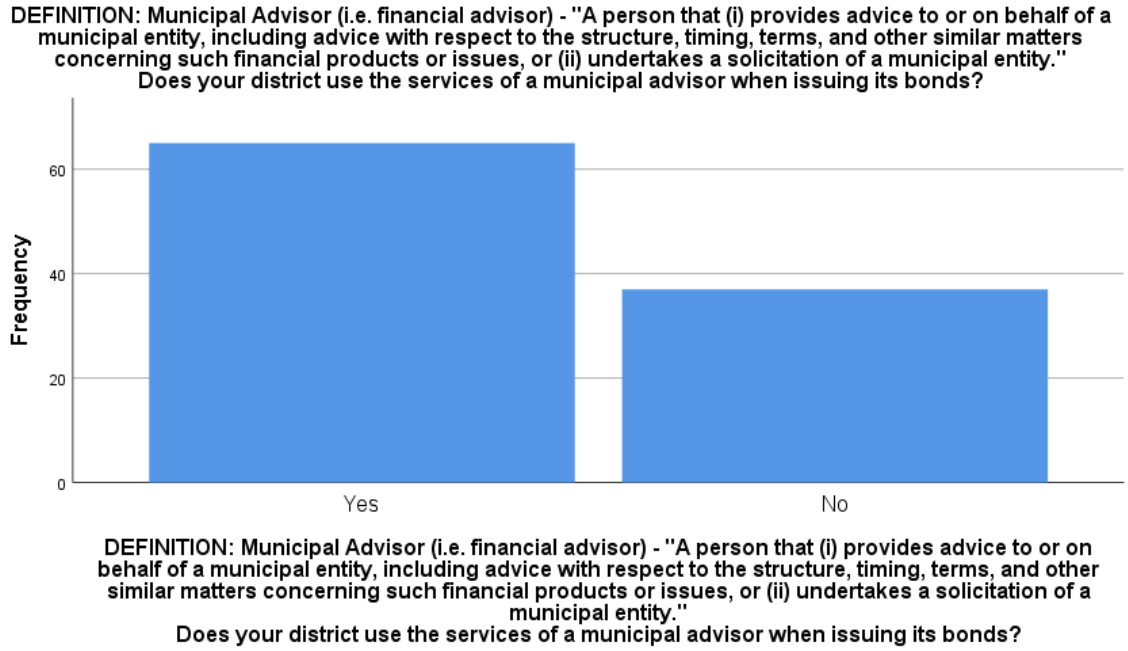
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	19	13.5	32.2	32.2
	No	40	28.4	67.8	100.0
	Total	59	41.8	100.0	
Missing	System	82	58.2		
Total		141	100.0		



DEFINITION: Municipal Advisor (i.e. financial advisor) - "A person that (i) provides advice to or on behalf of a municipal entity, including advice with respect to the structure, timing, terms, and other similar matters concerning such financial products or issues, or (ii) undertakes a solicitation of a municipal entity."

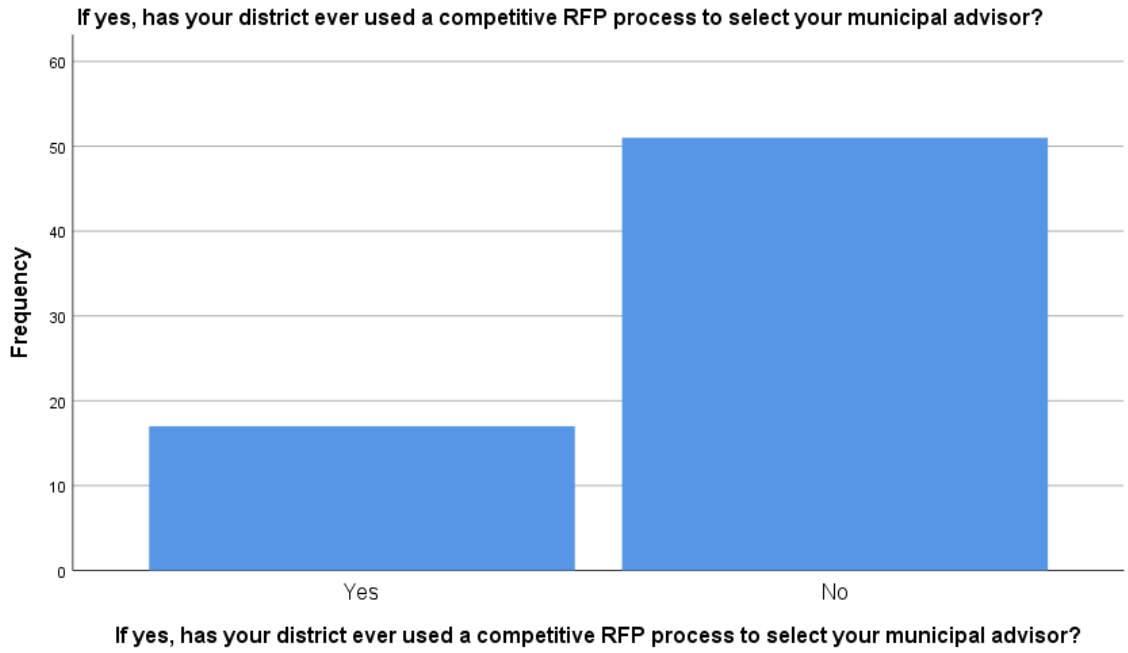
Q17- Does your district use the services of a municipal advisor when issuing its bonds?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	65	46.1	63.7	63.7
	No	37	26.2	36.3	100.0
	Total	102	72.3	100.0	
Missing	System	39	27.7		
Total		141	100.0		



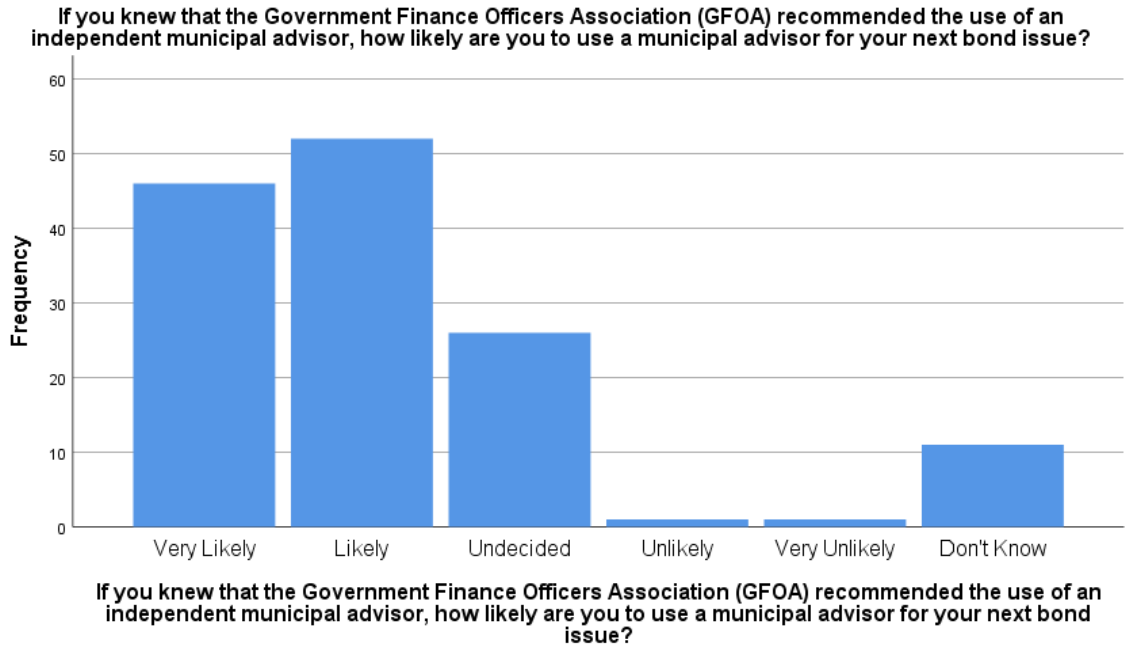
Q18- If yes, has your district ever used a competitive RFP process to select your municipal advisor?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	17	12.1	25.0	25.0
	No	51	36.2	75.0	100.0
	Total	68	48.2	100.0	
Missing	System	73	51.8		
Total		141	100.0		



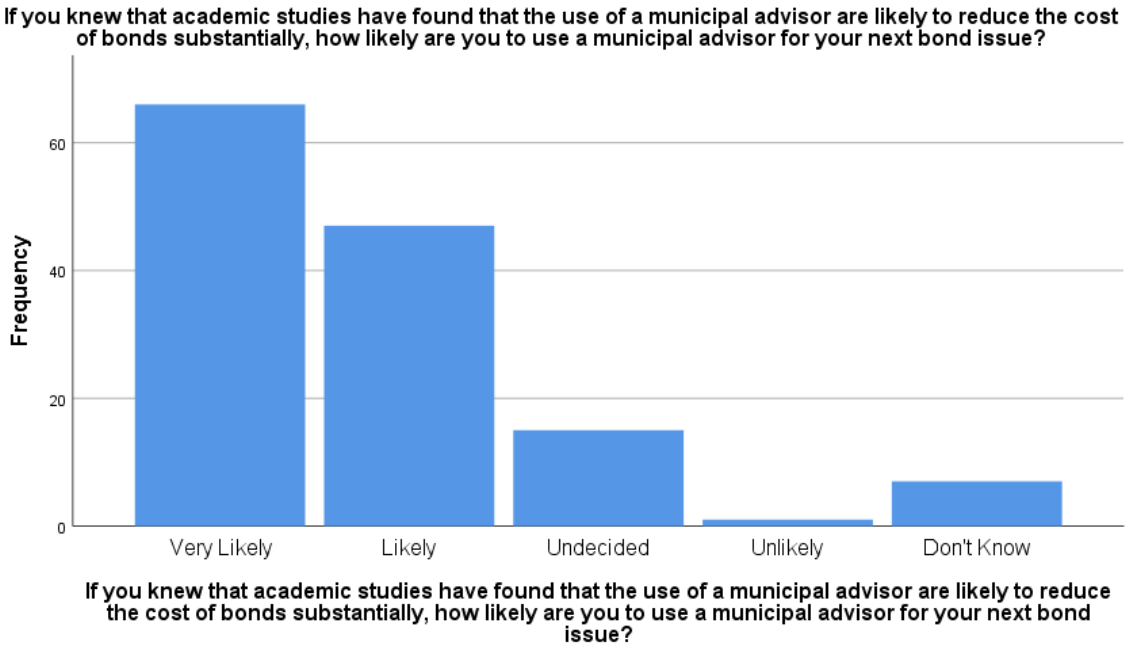
Q19- If you knew that the Government Finance Officers Association (GFOA) recommended the use of an independent municipal advisor, how likely are you to use a municipal advisor for your next bond issue?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Very Likely	46	32.6	33.6	33.6
	Likely	52	36.9	38.0	71.5
	Undecided	26	18.4	19.0	90.5
	Unlikely	1	.7	.7	91.2
	Very Unlikely	1	.7	.7	92.0
	Don't Know	11	7.8	8.0	100.0
	Total	137	97.2	100.0	
Missing	System	4	2.8		
Total		141	100.0		



Q20- If you knew that academic studies have found that the use of a municipal advisor are likely to reduce the cost of bonds substantially, how likely are you to use a municipal advisor for your next bond issue?

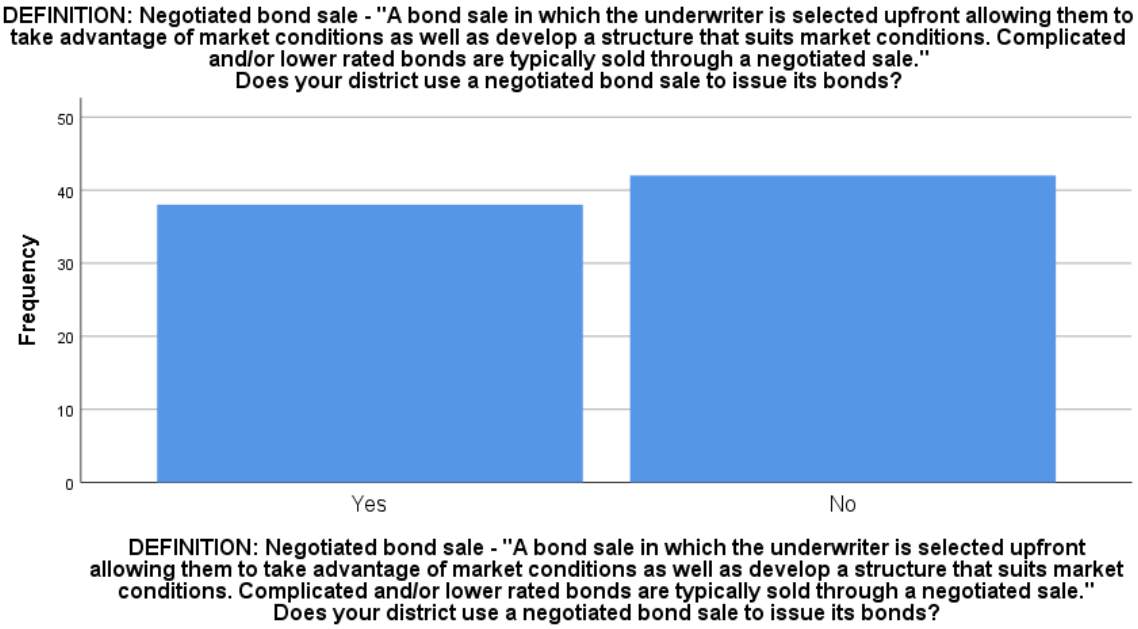
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Very Likely	66	46.8	48.5	48.5
	Likely	47	33.3	34.6	83.1
	Undecided	15	10.6	11.0	94.1
	Unlikely	1	.7	.7	94.9
	Don't Know	7	5.0	5.1	100.0
	Total	136	96.5	100.0	
Missing	System	5	3.5		
Total		141	100.0		



DEFINITION: Negotiated bond sale - "A bond sale in which the underwriter is selected upfront allowing them to take advantage of market conditions as well as develop a structure that suits market conditions. Complicated and/or lower rated bonds are typically sold through a negotiated sale."

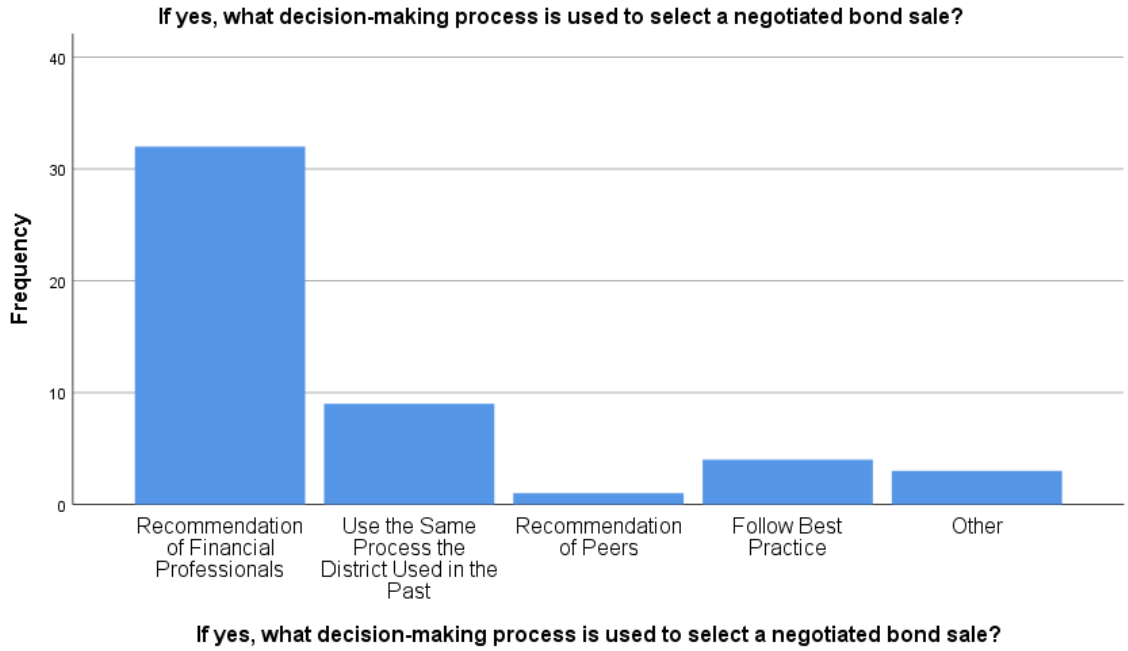
Q21- Does your district use a negotiated bond sale to issue its bonds?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	38	27.0	47.5	47.5
	No	42	29.8	52.5	100.0
	Total	80	56.7	100.0	
Missing	System	61	43.3		
Total		141	100.0		



Q22- If yes, what decision-making process is used to select a negotiated bond sale?

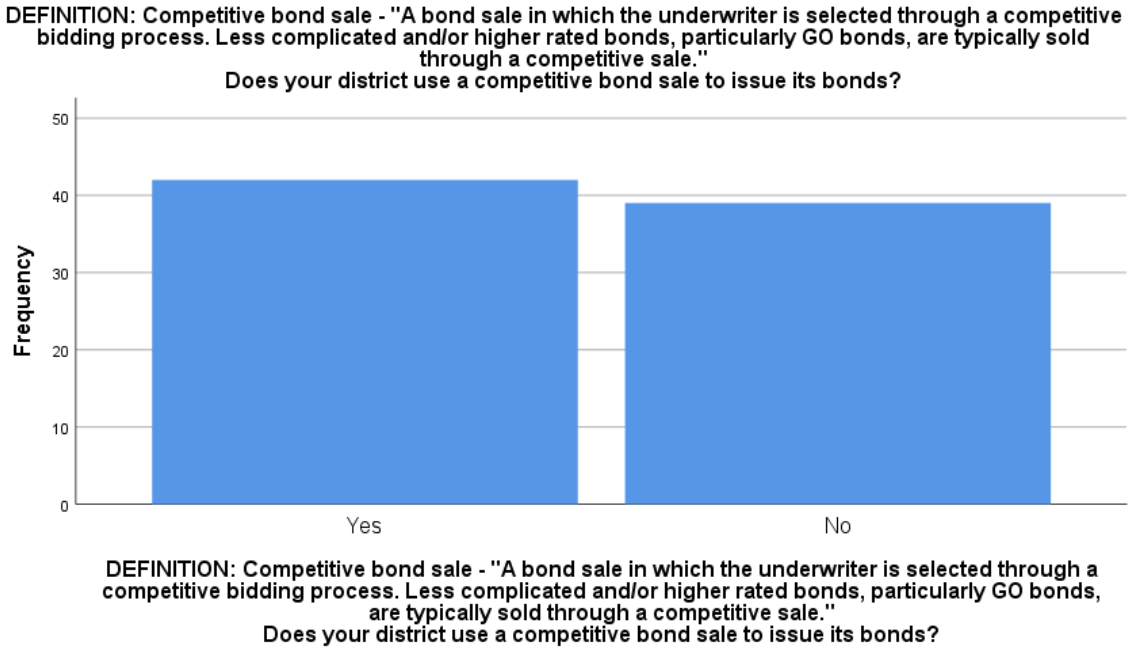
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Recommendation of Financial Professionals	32	22.7	65.3	65.3
	Use the Same Process the District Used in the Past	9	6.4	18.4	83.7
	Recommendation of Peers	1	.7	2.0	85.7
	Follow Best Practice	4	2.8	8.2	93.9
	Other	3	2.1	6.1	100.0
	Total	49	34.8	100.0	
Missing	System	92	65.2		
Total		141	100.0		



DEFINITION: Competitive bond sale - "A bond sale in which the underwriter is selected through a competitive bidding process. Less complicated and/or higher rated bonds, particularly GO bonds, are typically sold through a competitive sale."

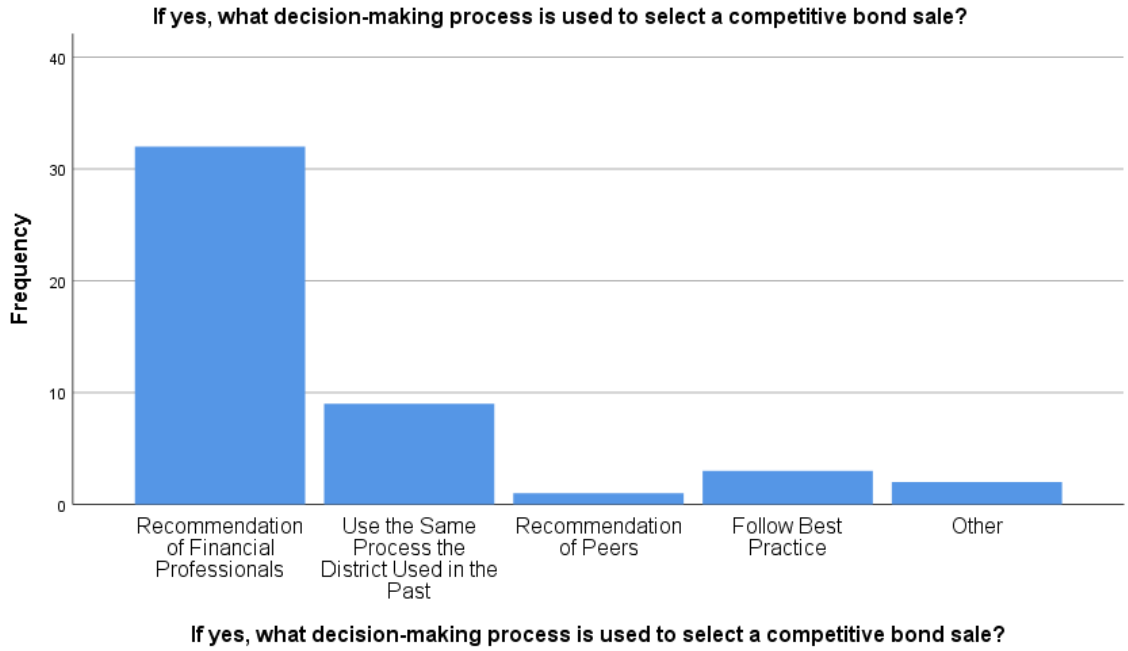
Q23- Does your district use a competitive bond sale to issue its bonds?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	42	29.8	51.9	51.9
	No	39	27.7	48.1	100.0
	Total	81	57.4	100.0	
Missing	System	60	42.6		
Total		141	100.0		



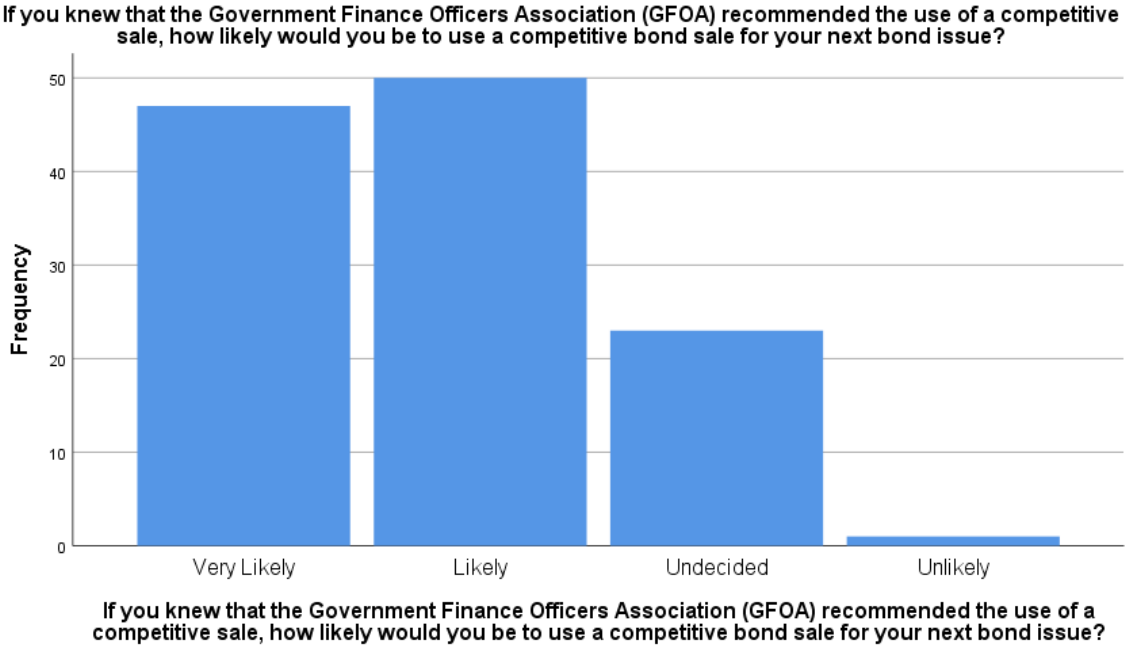
Q24- If yes, what decision-making process is used to select a competitive bond sale?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Recommendation of Financial Professionals	32	22.7	68.1	68.1
	Use the Same Process the District Used in the Past	9	6.4	19.1	87.2
	Recommendation of Peers	1	.7	2.1	89.4
	Follow Best Practice	3	2.1	6.4	95.7
	Other	2	1.4	4.3	100.0
	Total	47	33.3	100.0	
Missing	System	94	66.7		
Total		141	100.0		



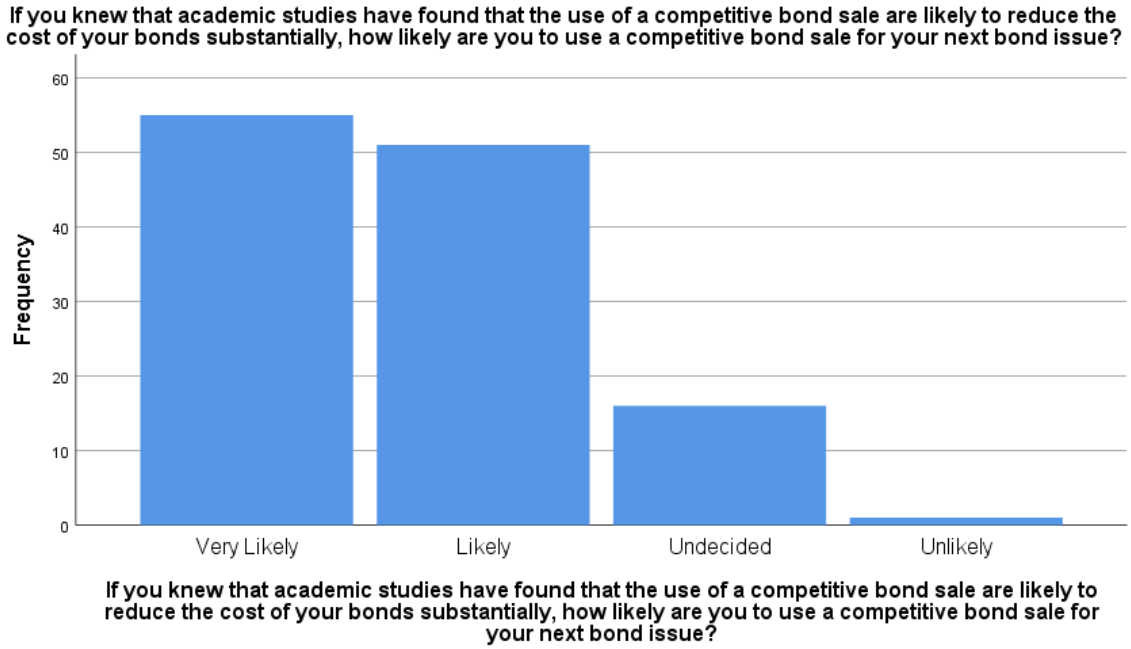
Q25- If you knew that the Government Finance Officers Association (GFOA) recommended the use of a competitive sale, how likely would you be to use a competitive bond sale for your next bond issue?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Very Likely	47	33.3	38.8	38.8
	Likely	50	35.5	41.3	80.2
	Undecided	23	16.3	19.0	99.2
	Unlikely	1	.7	.8	100.0
	Total	121	85.8	100.0	
Missing	System	20	14.2		
Total		141	100.0		



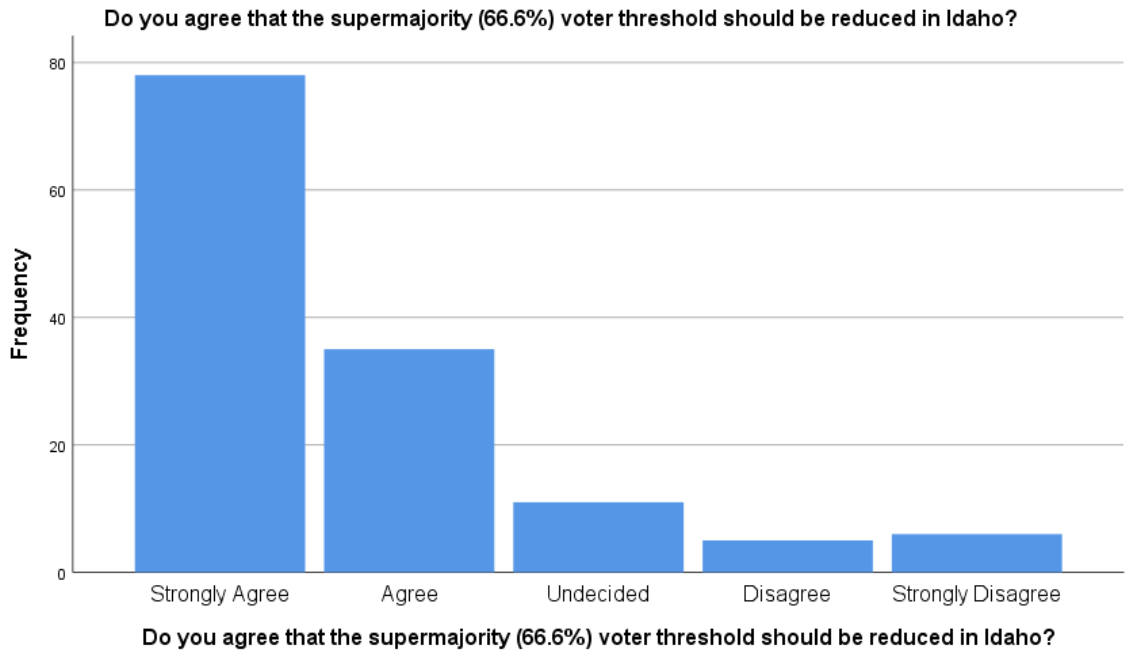
Q26- If you knew that academic studies have found that the use of a competitive bond sale are likely to reduce the cost of your bonds substantially, how likely are you to use a competitive bond sale for your next bond issue?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Very Likely	55	39.0	44.7	44.7
	Likely	51	36.2	41.5	86.2
	Undecided	16	11.3	13.0	99.2
	Unlikely	1	.7	.8	100.0
	Total	123	87.2	100.0	
Missing	System	18	12.8		
Total		141	100.0		



Q27- Do you agree that the supermajority (66.6%) voter threshold should be reduced in Idaho?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Agree	78	55.3	57.8	57.8
	Agree	35	24.8	25.9	83.7
	Undecided	11	7.8	8.1	91.9
	Disagree	5	3.5	3.7	95.6
	Strongly Disagree	6	4.3	4.4	100.0
	Total	135	95.7	100.0	
Missing	System	6	4.3		
Total		141	100.0		

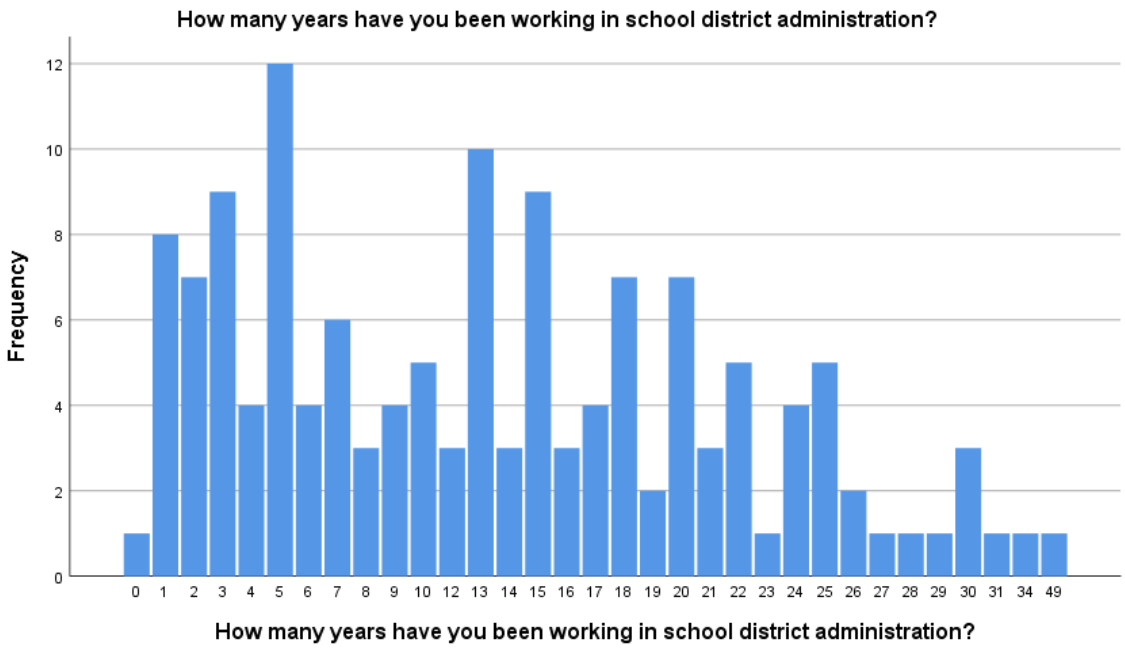


D1- Please indicate your gender?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Male	86	61.0	61.9	61.9
	Female	47	33.3	33.8	95.7
	Prefer not to answer	6	4.3	4.3	100.0
	Total	139	98.6	100.0	
Missing	System	2	1.4		
Total		141	100.0		

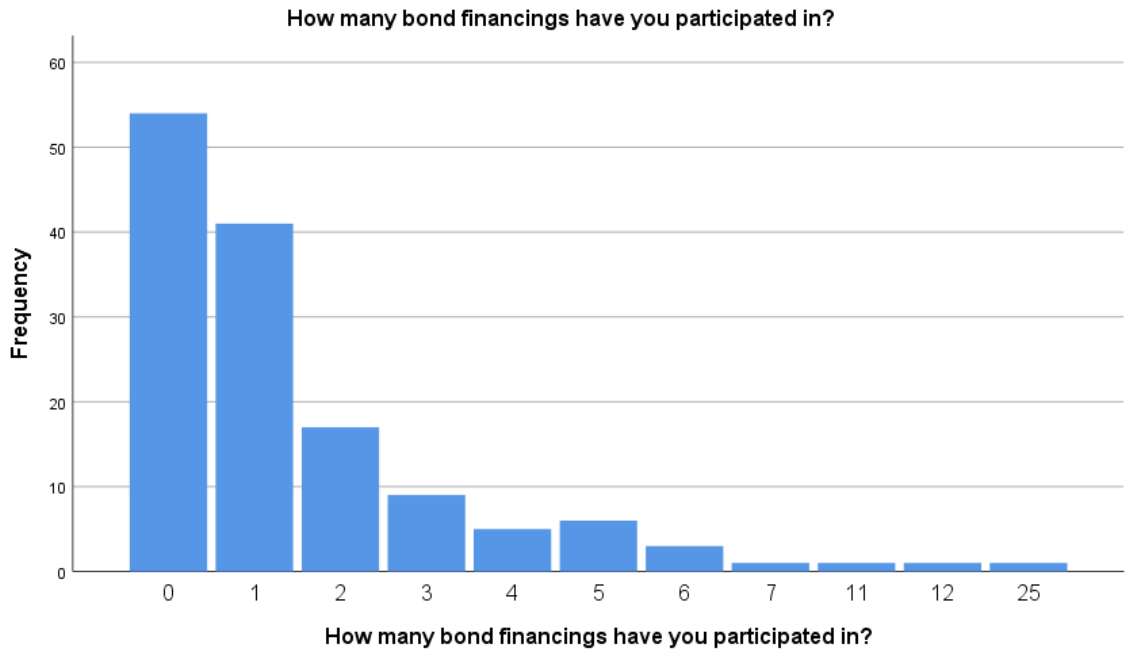
D2- How many years have you been working in school district administration?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	0	1	.7	.7	.7
	1	8	5.7	5.7	6.4
	2	7	5.0	5.0	11.4
	3	9	6.4	6.4	17.9
	4	4	2.8	2.9	20.7
	5	12	8.5	8.6	29.3
	6	4	2.8	2.9	32.1
	7	6	4.3	4.3	36.4
	8	3	2.1	2.1	38.6
	9	4	2.8	2.9	41.4
	10	5	3.5	3.6	45.0
	12	3	2.1	2.1	47.1
	13	10	7.1	7.1	54.3
	14	3	2.1	2.1	56.4
	15	9	6.4	6.4	62.9
	16	3	2.1	2.1	65.0
	17	4	2.8	2.9	67.9
	18	7	5.0	5.0	72.9
	19	2	1.4	1.4	74.3
	20	7	5.0	5.0	79.3
	21	3	2.1	2.1	81.4
	22	5	3.5	3.6	85.0
	23	1	.7	.7	85.7
	24	4	2.8	2.9	88.6
	25	5	3.5	3.6	92.1
	26	2	1.4	1.4	93.6
	27	1	.7	.7	94.3
	28	1	.7	.7	95.0
	29	1	.7	.7	95.7
	30	3	2.1	2.1	97.9
	31	1	.7	.7	98.6
	34	1	.7	.7	99.3
	49	1	.7	.7	100.0
	Total	140	99.3	100.0	
Missing	System	1	.7		
Total		141	100.0		


How many years have you been working in school district administration?
Frequency
12
10
8
6
4
2
0
0 1 2 3 4 5 6 7 8 9 10 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 34 49
How many years have you been working in school district administration?

D3- How many bond financings have you participated in?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	0	54	38.3	38.8	38.8
	1	41	29.1	29.5	68.3
	2	17	12.1	12.2	80.6
	3	9	6.4	6.5	87.1
	4	5	3.5	3.6	90.6
	5	6	4.3	4.3	95.0
	6	3	2.1	2.2	97.1
	7	1	.7	.7	97.8
	11	1	.7	.7	98.6
	12	1	.7	.7	99.3
	25	1	.7	.7	100.0
	Total	139	98.6	100.0	
Missing	System	2	1.4		
Total		141	100.0		



D4- What is the highest level of education you have completed?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	High school graduate (includes equivalency)	12	8.5	8.6	8.6
	Associate or Technical degree	11	7.8	7.9	16.4
	Bachelor's degree	28	19.9	20.0	36.4
	Graduate or professional degree	85	60.3	60.7	97.1
	Prefer not to answer	4	2.8	2.9	100.0
	Total	140	99.3	100.0	
Missing	System	1	.7		
Total		141	100.0