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Memorandum

To: The Sunrise Project

Date: January 12, 2023

RE: ESG Boycott Legislation in States: Municipal Bond Market Impact

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EXECUTIVE SUMMARY

In more than a dozen states across the country, state legislatures have either passed or have pending bills based on a piece of model legislation developed by the American Legislative Exchange Council known as the "Energy Discrimination Elimination Act." These bills would essentially pull state funds from investment managers if they are deemed by government officials to be adverse to the oil and gas and coal industries in their investment strategies. Some of the same states–in addition to many others–are considering bills that would similarly punish or blacklist financial firms for including having strong Environmental, Social, and Governance (ESG) standards in their investment strategies.

The legislation has been accompanied by actions at other levels of government, including state executive actions by treasurers and governors, legal action by state attorneys general, and even the threat of federal action in the next Congress. At the tip of the spear of the state efforts to pressure financial institutions away from assessing and acting upon the financial risks of such issues as climate change, gun violence, and workers' rights is the threat of pulling state funds from their asset managers.

Among many key unknowns associated with these legislative and executive actions are impacts to the residents and taxpayers of the states where they become law. Setting aside the implications of politics interfering in financial decisions, there is the question of how removing major, proven financial companies from the marketplace will affect competition. Restrictions on financial market participants, (and in this analysis we look at large investment banks), alter the outcomes of municipal bond market transactions and modify contractual engagements with state governments. It is therefore of tremendous importance that policymakers, business leaders, and the public have the tools to estimate and anticipate these impacts.

Fortunately, a study already exists that points the way toward developing one such tool. *Gas, Guns, and Governments: Financial Costs of Anti-ESG Policies*, a study authored by Wharton Business School professor Daniel Garrett and Federal Reserve economist Ivan Ivanov, estimated the increased cost to Texas entities following anti-ESG legislation that limited competition in the bond market by blacklisting certain firms that consider sustainability risks and opportunities. Garrett and Ivanov found that the Texas law raised costs to the public by as much as $532 million in its first eight months. Accordingly, The Sunrise Project, on behalf of As You Sow and Ceres Accelerator for Sustainable Capital Markets, engaged ESI to use this econometric analysis of Texas and its findings to provide estimates of the potential impacts on state and local municipal bond markets of certain state legislative initiatives restricting consideration of climate-related and other sustainability risks and opportunities on state and local municipal bond markets in other states. As with *Gas, Guns, and Governments: Financial Costs of Anti-ESG Policies*, our analysis focuses on the municipal bond market impacts of ESG boycotts actions, applied to six states: Florida, Kentucky, Louisiana, Missouri, Oklahoma, and West Virginia.

Our investigation asked a simple question: **If State X implemented similar legislation that generated the same bond market restrictions (i.e., the same investment banks were banned), the costs of borrowing to State X taxpayers would have been $X more than their completed bond deals actually did cost. The result is an estimated range of $264-708 million in additional costs for all six states combined, with Florida alone standing to bear $97-361 million.**

We found the aggregate increase in interest costs for the bonds issued in the analyzed states in the last 12 months are as follows:

State	Additional Cost Estimate Range (in millions)
Kentucky	$26-$70
Florida	$97-$361
Louisiana	$51-$131
Oklahoma	$49-$49*
West Virginia	$9-$29
Missouri	$32-$68

** Because the average maturity of Oklahoma's bonds was less than the time to Texas's first call, the lower bound is the same as the upper bound*

As elected and appointed public officials in many states consider these bills and similar executive actions, the importance of analyses that shine a light on the costs and benefits will be absolutely critical. The actions represent encroachments into the marketplace by political actors that will have adverse effects on long-term public investments, including public program and state pensions.

1 Introduction and Overview

With some states adopting legislation that restricts financial companies that include sustainability risks and opportunities in decision-making from participating in state financial or fiscal activities, scrutiny is growing around how these restrictions are impacting financial markets.

Texas has implemented such limitations and identified firms that are or will be restricted and is the only state where the initial municipal bond market impacts – in particular the additional cost of borrowing -- have been analyzed via econometric analysis. <u>The additional borrowing costs are essentially the result of reduced competition for the state's government bond issues, resulting in higher interest costs for taxpayers for both competitive and negotiated issues</u>. This June 2022 study by the Wharton School estimated the cost of the Texas restrictions, and their analysis provides an opportunity to estimate the potential impacts in other states. The Sunrise Project, on behalf of As You Sow and the Ceres Accelerator for Capital Markets, engaged ESI to use this Texas econometric analysis and its findings to provide estimates of the potential impacts on state and local municipal bonds of certain state legislative initiatives that restrict consideration of climate-related and other sustainability risks and opportunities. We assessed the Wharton study and its findings, noting its assumptions and market characterization, examined different important assumptions, and developed a method for applying their findings, under certain assumptions, to other states that have enacted or are contemplating similar legislation. Since there is essentially no existing data available to analyze other states, our estimates are conditional to the Texas experience, and we estimate the following: **"If State X implemented similar legislation that generated the same bond market restrictions (i.e., the same investment banks were banned), the costs of borrowing to State X taxpayers would have been $X more than their completed bond deals actually did cost."**

We have noted that the potential impacts of such legislation on state and local finances can be found in four basic areas: (1) State and local Treasury functions, (2) Pension investment performance, (3) Government banking functions, and (4) the municipal bond markets. This analysis focuses only on the municipal bond market impacts.

These efforts represent a recent change in the state and local government financial services marketplace. At first, the industry didn't know what to do, and reacted cautiously. There is a real concern about satisfying one set of requirements only to have that mean they no longer qualify in states with opposite restrictions. That is, financial institutions that conform their policies to comply with ESG-related conditions in some states, may face restrictions in other states that have conflicting requirements. We understand that some in the financial services industry are now regarding these state ESG restrictions and blacklists as a growing threat to their overall business activity, even if fees from investment banking services in the municipal bond market tend to be small contributors to overall company profits.

2 Review of Texas Analysis and Mechanism/Process for Applying the Results to Forecast Cost-Impact Estimates for Other States

2.1 Cost Impacts of Texas ESG Boycott Legislation

In 2021, the Texas legislature enacted Texas Senate Bills 13 and 19 which bar banks or other institutions with particular ESG policies focused on fossil fuels and fire arms from acting as underwriters for bonds issued by "state governmental entities" including municipalities, school districts, and other entities.[1] To understand the impacts of the legislation, Wharton School professor by Daniel G. Garrett and Chicago Fed Economist Ivan T. Ivanov examined the impact of those laws on borrowing costs and other aspects of the Texas municipal bond market using data on the municipal bond market before and after the enactment of the legislation. Using data on municipal bond transactions from across the nation from January 2017 through April 2022, the authors were able to identify changes in the Texas bond market that occurred during the last 12 months of the period which corresponded to the implementation of the new laws.

Using the Mergent Municipal Bond Securities Database, data from *The Bond* Buyer, and the Electronic Municipal Market Access (EMMA) database, Garrett and Ivanov assembled data covering virtually all municipal bond issues in the country for the period. From January 2017 to April 2022, there were a total of 76,866 municipal bond issues throughout the United States; 9,506 of those were issued in Texas. Overall, the data show that the distribution of bond size in Texas is highly similar to other states, as are bond yields and distributions of negotiated and competitive bond sales. These data allow the examination of the municipal bond market in Texas prior to the enactment of the anti-ESG legislation while controlling for overall national trends in municipal bond markets.

The statistical models developed by Daniel G. Garrett and Ivan T. Ivanov isolate and quantify impacts to bond pricing and composition from legislation passed in Texas that bans municipalities from doing business with firms that take into climate and other sustainability risks and opportunities into consideration in decision-making.[2] Their findings show overwhelmingly that Texas SB 13 and 19 resulted in a decrease in competition among underwriters, and an increase in borrowing costs for state governmental entities.

Following the guidance and interpretation of Texas SB 13 and 19, the authors identified the banks targeted by the legislation and removed them from the municipal bond market. Five major banks are identified as targeted by Texas' legislation: Citigroup, JP Morgan Chase, Goldman Sachs, Bank of America, and Fidelity Capital Markets. Empirically, this is observable in the data via the complete

[1] https://capitol.texas.gov/billlookup/text.aspx?LegSess=87R&Bill=SB13
https://capitol.texas.gov/BillLookup/History.aspx?LegSess=87R&Bill=SB19

[2] Gas, Guns, and Governments: Financial Costs of Anti-ESG Policies. Garrett & Ivanov

reduction of activity among these banks following the September 2021 implementation of the laws. Issuers were assessed with respect to their degree of reliance on the targeted banks before implementation of legislation restricting ESG considerations and blacklisting banks, as measured by the percent of bond dollar volume underwritten by the targeted banks by each issuer. Bond issues before and after September 2021 were considered for each issuer. Multiple regression models were specified using this measure of reliance on the targeted banks to measure outcomes resulting from Texas ESG boycott legislation.

Results from these regression models show that overall bond issuance costs following the implementation of the ESG boycott law increased as a function of issuer reliance on targeted banks. Specifically, for each standard deviation increase in an issuers' reliance on targeted banks (relative to the mean level of reliance among all Texas issuers), bond yield increases by 9.7 basis points. Applying these results to the 12 months of bonds issued since the anti-ESG law implementation through April 2022, the additional cost to Texas bond issues ranges between $303 million and $532 million in additional interest cost over the maturity of those bonds. Additional testing for robustness using both Texas and national data show clearly that this result is credibly attributable to the enacted legislation, and not a result of either exogenous Texas-specific factors, or nationwide impacts to the bond market.

2.2 Using Texas Findings to Estimate Impacts on Other States

Based on the robustness of the Texas findings and the relative homogeneity of bond issuances in Texas and other states, the Texas findings provide the best guidance for understanding the potential impacts of similar ESG legislation that other states have enacted or may enact in the future. ESI's focus is particularly on the estimated impacts on municipal debt costs resulting from the reduction in competition, disruption of banking relationships, and shifts away from competitive issuance that was identified in the Texas analysis.

To evaluate the impacts of ESG legislation in states other than Texas, ESI assembled data on each states' municipal bond market, identified the nature of the state's ESG restrictions, and applied the estimation results from the Texas study to the state specific condition prevailing in the subject state. <u>The most important factors contributing to the magnitude of the costs of the ESG restrictions and blacklists are not simply related to the scale of the market compared to Texas, but other key differences such as the market share of banks, which banks are potentially excluded by the ESG boycott legislation, and the number of banks that might be excluded.</u>

We have described the basic way these restrictions play out in the state's municipal-bond market(s). The extent to which proposed restrictions reduce supply of investment banks bidding and determine whether the impacts are likely to be stronger, weaker, or similar to the Texas impacts, depending on the nature of the restrictions imposed.

The Texas study reported a low and high estimates for the cost impact of the ESG legislation. The low estimate was based on a maturity length for the first call of a bond, where the high estimate was based on holding the bond to maturity. In our estimates we calculated the lower bound based on the average number of years to Texas's bonds to first call.

Note: Texas is a big state with a huge bond market. The restrictions were implemented without much lead time, so there was no time for the supply side of the market to adjust. The Wharton study took note of this important qualifier. We assessed how the market supply side (structure/roles/adjustments) reacted (and continues to react). It is not valid to assume no market supply change mitigating some of the cost impacts, especially after the big Texas experience, but any such changes have not yet yielded sufficient data to enable a valid statistical analysis.

3 State Potential Impact Estimates: Overview

We examined (via various media and municipal bond market information sources) the many states enacting or proposing ESG restricting legislation, based on the most current information, some of which was compiled by Morgan Lewis law firm.[3]

Nearly half the states in the country have some type of ESG restriction or blacklist action on their legislative agenda. As of October, nine states had already enacted some form of ESG legislation, and legislation has been introduced and is going through their legislative process in 16 more. Activity banning the consideration of sustainability risks and opportunities also take the form of state officials (Governors/Attorneys General/Treasurers/Finance Secretaries) issuing policies, imposing regulations or taking other actions designed to restrict engagement supportive of ESG.

There are two basic forms of ESG legislation: (1) boycott-related (typically associated with the Firearm or fossil fuel energy industries), and (2) "No ESG investment" as it applies to state or pension fund investments.

Morgan Lewis defines them as follows:

Boycott Bills

Boycott Bills target "financial institutions" that the bills' authors say "boycott" or "discriminate against" companies in certain industries and prohibits the state from doing business with such institutions and/or from investing the state's assets (including pension plan assets) through such institutions. Boycott Bills most commonly target "discrimination against" fossil fuel–related energy companies, but some states have also targeted companies that the bills' authors say "boycott" mining, production agriculture, or production lumber.

No ESG Investment Bills

No ESG Investment Bills prohibit the use of state funds for the purpose of ESG or social investment. Under this type of ESG restricting bill, the state would be specifically prohibited from investing in strategies that consider ESG factors for any purpose other than maximized investment returns.

Source: https://www.morganlewis.com/blogs/mlbenebits/2022/08/the-state-of-anti-esg-state-legislation

During our examination, we have looked at:

- Role of state regulations and substate jurisdictions in borrowing; and roles of specific state officials: Treasurers, Comptrollers, Attorneys General
- Who compiles a restriction list, and based on what criteria?
  - Are some states more aggressive in requirements?
  - What is the process for negotiating off a restriction list?

[3] https://www.morganlewis.com/-/media/files/document/2022/anti-esg-legislation-standalone-state-chart.pdf

- We understand that these lists are fluid, each firm must provide some information that is examined by the state to confirm compliance; we understand that a lot of negotiating is underway, and firms have been taken off lists.

The municipal bond restrictions in Texas Senate Bills 13 and 19 imposed on September 1, 2021 caused several firms to be banned from the state bond market for non-compliance with firearm industry regulations: JP Morgan Chase, Citigroup, Goldman Sachs, Bank of America, and Fidelity Capital Markets. In August of 2022, the State Treasurer released a list of financial companies that boycott energy companies and would be prohibited from doing business with governmental entities.

However, firms have been publicly attempting to reenter the market, and by early November, companies had already been taken off the list.

Legislation in these states include four types of municipal (state and local) finance/fiscal activities associated with various kinds of "anti-ESG" state legislative initiatives, i.e., states adopting some type of restrictions on municipal finance vendor/provider eligibility in these areas:

- Municipal Bond market impacts (our focus here)
- Municipal Treasury function and investment impacts
- State and local pension fund investment impacts
- State and local financial operations impacts (the public bank issue arena)

To date, the states where the legislation aims at restricting or limiting certain firms from providing investment banking services (specifically bidding or negotiating tax exempt bonds by issuers in the state) are few, and mostly not yet enacted, implemented or in force. None of these already implemented appear to be as restrictive as Texas, with regard to investment banking participation in municipal bonds markets.

However, it is important to note that there is no single metric for "restrictiveness", and the key to determining the cost impact of these state ESG actions is the extent to which specific financial institutions are not allowed to participate in various government financial transactions (here we specifically focus on municipal bond markets).

We discussed which states to study with the Sunrise team, and we identified six states that have had relatively greater public debate about legislation and executive administrative action restricting the consideration of climate and other sustainability risks and opportunities in decision-making. We selected the states that have enacted or proposed, or where leading officials have publicly voiced support for, ESG boycott and blacklist legislation that will have an impact on public debt issuance. In some cases, we selected states that have not yet proposed specific ESG legislation, but whose public officials have indicated a desire to pass such legislation. The states included in this analysis do not represent the full list of states that are considering ESG legislation, but are among those that have shown, either through legislative action or public statements, strong interest in these measures.

We then were able to develop municipal bond market impact estimates for them:

- Kentucky
- Florida
- Louisiana
- Oklahoma
- West Virginia
- Missouri

Our individual state impact estimates are presented in the following section, with state-by-state detail included in Section 5.

4 Individual State Impacts Estimates

Following our examination of the Texas methodology and findings, we applied the model results to the size and composition of the bond markets in the selected individual states that have been particularly active with legislation and regulations that restrict consideration of climate and other sustainability risks and opportunities. We used data on bond issuances from Bloomberg to understand the size and composition of the individual state's bond market, including the relationship between issuers and underwriters in the state.

After identifying the same five banks targeted by Texas legislation (Citigroup, JP Morgan Chase, Goldman Sachs, Bank of America, and Fidelity Capital Markets) as banks of interest, we measure historical reliance on targeted banks[4] for each issuer in each state.[5] Data used for this analysis was total bond activity originating from municipal issuers from January 2020 through November 2022. After establishing the historical reliance for each issuer, we apply the results of the Texas methodology: for each standard deviation increase in an issuers' reliance on targeted banks (relative to the mean level of reliance among all issuers in each state), bond yield increases by 9.7 basis points. Results of this analysis were applied to the past 12 months of bond issuance in each state.

Using the volume of bonds issued in those 12 months we estimate a range of additional cost that issuers in each state would take on if ESG legislation had been enacted. The upper-bound of this range was calculated by applying the increase in interest costs calculated here to the final maturity of the bonds issues in the past 12 months in each state, and the lower-bound was calculated using the average time to first call as reported in the Texas study.

[4] Historical reliance in this analysis is measured as the percent of bond dollar volume from each issuer underwritten by the targeted banks.

[5] Because West Virginia is the only other state that has an identified list of targeted banks, the analysis for West Virginia uses their specific list of banks instead of the list of banks identified in Texas.

We estimate that if each of these states had enacted legislation similar to that in Texas restricting considerations of climate and other sustainability risks and opportunities similar to that in Texas, and the investment bank restrictions matched the Texas case, the aggregate increase in interest costs for the bonds issued in these states in the last 12 months are shown in the following table:

State	Estimated Additional Cost Ceiling (Millions)	Estimated Additional Cost Floor (Millions)
Kentucky	$70	$26
Florida	$361	$97
Louisiana	$131	$51
Oklahoma	$49	$49*
West Virginia	$29	$9
Missouri	$68	$32

** Because the average maturity of Oklahoma's bonds was less than the time to Texas's first call, the lower bound is the same as the upper bound.*

5 Individual State Impact Estimate Background Detail

5.1 Commonwealth of Kentucky

Summary

The Commonwealth of Kentucky has taken steps on two pieces of restrictive-ESG legislation related to what the legislators say are firms that are energy and firearms boycotters. **Our analysis shows that if Kentucky had enacted ESG legislation similar to that in Texas, the total increase in interest costs for bonds issued in Kentucky in the last 12 months would range from $26 million to $70 million**.

Status of Related Legislation

Legislative initiatives	Status	Type
S.B. 205[6]	Enacted, April 2022 Not fully implemented	Boycott Bill – Fossil Fuel Energy
H.B. 123 [7]	Introduced, January 2022	Boycott Bill - Firearms

Qualitative Analysis of Impact Relative to Texas

In 2022, the Commonwealth of Kentucky took steps on two pieces of restrictive ESG legislation. In April of 2022, Kentucky enacted, but has not fully implemented, S.B. 205, which would restrict firms determined to be what legislators say are energy boycotters from doing business with the Commonwealth. Kentucky also introduced H.B. 123 which would restrict firms that the legislators say boycott firearms.

The following is a discussion of how the two pieces of legislation compare that the Texas laws that resulted in underwriting firms exiting the Texas municipal bond market.

Enacted S.B. 205 Energy Boycott Bill

The anti-ESG energy boycott laws in Kentucky and Texas states have very similar definitions of what they call firms that they say are energy boycotting firms and similar restrictions and exceptions to entering into contracts with such firms both in terms the characteristics of the companies and the nature of the services they provide.

S.B. 205 prohibits a "governmental entity" from entering into a contract with a company for goods and services unless the contract contains a written verification from the company that it:

- Does not engage in what the bill's authors say are energy company boycotts; and

[6] bill.pdf (ky.gov)
[7] orig_bill.pdf (ky.gov)

- Will not engage in what the bill's authors call energy company boycotts during the term of the contract

Per S.B. 205, a "governmental entity" means any state board, bureau, cabinet, commission, department, authority, officer, or other entity in the executive branch of state government. The impacted governmental entities under this legislation are narrower than the Texas legislation.

Monitoring and enforcement responsibilities are similar in both states. In Texas, the comptroller is responsible for determining the list of energy boycott companies and must prepare, maintain and provide that list to each state governmental entity. Not later than the 30th day after the list of financial companies that boycott energy companies is first provided or updated, the comptroller must file the list with the presiding officer of each house of the legislature and the attorney general.

In Kentucky, the State Treasurer has comparable duties. The State Treasurer must maintain this list and file it with the Legislative Research Commission and attorney general. In both states, the attorney general may bring any action necessary to enforce the legislation. The Kentucky legislation provides this authority to the treasurer, too.

Also in Kentucky, the Controller plays a role in public debt issuance, overseeing the Office of Financial Management[8]. This office has central responsibility for issuance, management, review, and approval of all debt issued by the Commonwealth and its agencies. Even though the Controller has a central role in public debt issuance in Kentucky, the position is not referenced directly in S.B 205 and it is not clear if the legislation would impact their responsibilities.

Proposed H.B. 123 Firearms Bill

The firearms-related laws in Kentucky and Texas both require contracts with financial companies to include written verification that it does not discriminate against a firearm entity or firearm trade associations. The firearms-related laws in Kentucky and Texas have almost identical definitions of pertinent terms such as "firearms," "firearm entities," and "firearm trade association," among others. The laws also have similar restrictions and exceptions regarding contracting with firms that cannot and will not provide the written verification required under the legislation. In Texas, the comptroller may determine if an exception is warranted.

Kentucky H.B. 123 applies to "governmental bodies" and "political subdivisions," which encompasses a broad range of governmental units, similar to the Texas firearms legislation.

Kentucky Potential Impact Estimates

Though the firearms legislation is comparable in both states, it is not clear how the firms will react to the legislation and what firms will decide to exit the Kentucky market. It is possible that a firm that decides to remain in the Texas market will exit the Kentucky market, and vice versa.

[8] Debt Management - Finance and Administration Cabinet (ky.gov)

Similarly, though the definitions of firms legislators say are energy boycotters are comparable in both states, there is still subjectivity regarding how the firms will be determined and what banks will be prohibited from doing business in Kentucky. As of this writing, Kentucky has not determined its list of energy boycotting companies.

For the purposes of this analysis, we assume that the same firms that exited the Texas market as a result of the legislation that said that the firms were boycotting firearms and energy companies, will also exit Kentucky. We also assume that the impact of exceptions outlined in the Texas legislation will be comparable in Kentucky. These are reasonable assumptions given the close similarities of the legislation in both states. Our analysis estimates the cost implications of the reduced supply of underwriters and, thus, lower competition for issuers impacted by the legislation, which includes state entities and political subdivisions.

Following this, we apply the Texas model results to the size and composition of the bond market in Kentucky. We use data on bond issuances from Bloomberg to understand the size and composition of the Kentucky bond market, including the relationship between issuers and underwriters in Kentucky. We identify the same five banks targeted by Texas legislation as the banks of interest for Kentucky and measure the level of reliance of each Kentucky issuer on those banks using data from January 2020 through November 2022. To maintain consistency of results with the Texas model, we apply cost estimates to the volume of bond issuance using the most recent 12 months of data.

Total Municipal bonds (Billions)	Average Maturity	Reliance on Targeted banks – Average Standard Deviation
$3.21	19 years	1.18

This analysis shows that if Kentucky had enacted legislation similar to that in Texas, restricting consideration of climate and other sustainability risks and opportunities, total increase in interest costs for bonds issued in Kentucky in the last 12 months would range from $26 million to $70 million.

Bond Market Overview

State General Obligation Bond Rating

Moody's Investors Service	S&P Global Ratings	Fitch Ratings
Aa3	A	AA-

Population/Economic Trends

	2010	2021	CAGR
Population	4,339,367	4,509,394	0.35%

Source: U.S. Census

Bond Issuance Summary Statistics

Kentucky Public Issuance by Sector

Issuance Amount and Number of Issues
January 1, 2021 through September 30, 2022

	Dec 31, 2021		Sept 30, 2022		Total	
Industry	Amount ($MM)	No.	Amount ($MM)	No.	Amount ($MM)	No.
General[2]	474	15	603	41	1,077	56
Education	649	83	425	45	1,074	128
Power	361	7	511	2	872	9
Water	159	9	374	5	534	14
General Obligation	192	26	315	8	507	34
Transportation	342	5	47	1	389	6
Development	9	1	370	3	379	4
Student Loan	194	3	-	-	194	3
Single Family Hsg	-	-	68	2	68	2
Facilities	59	5	-	-	59	5
Utilities	12	1	6	2	17	3
PILOT	-	-	12	2	12	2
Grand Total	**$2,450**	**155**	**$2,739**	**112**	**5,190**	**267**

Source: Bloomberg L.P.

[2] Includes Revenue Bonds issued for purposes such as public projects for government agencies, buildings or industrial buildings, construction for public purposes, the cost of utility projects, or the cost of public property.

Kentucky Public Issuance by Type

Competitive or Negotiated
January 1, 2021 through September 30, 2022
Issuance Amount ($MM)

	Dec 31, 2021	Sept 30, 2022	Grand Total
Competitive	1,294	1,392	2,687
Negotiated	1,156	1,347	2,503
Grand Total	**2,450**	**2,739**	**5,190**

Source: Bloomberg L.P.

Number of Issues

	Dec 31, 2021	Sept 30, 2022	Grand Total
Competitive	136	96	232
Negotiated	19	16	35
Grand Total	**155**	**112**	**267**

Source: Bloomberg L.P.

Kentucky Public Issuance by Senior Manager

Issuance Amount and Number of Issues
January 1, 2021 through September 30, 2022

	Dec 31, 2021		Sept 30, 2022		Total	
Senior Manager	**Amount ($MM)**	**No.**	**Amount ($MM)**	**No.**	**Amount ($MM)**	**No.**
Bank of America Merrill	415	9	545	4	960	13
Morgan Stanley and Co LLC	331	5	511	2	842	7
Citigroup Global Mkts Inc	395	5	321	3	716	8
Robert W Baird & Co Inc	380	47	221	28	601	75
JP Morgan Securities LLC	156	3	441	4	597	7
FHN Fin Capital Markets	180	7	44	4	223	11
Huntington Securities Inc	87	4	129	6	215	10
Keybanc Capital Markets	133	7	31	5	164	12
Stonex Financial Inc	99	9	18	2	117	11
Stifel Nicolaus & Co Inc	70	13	45	9	116	22
PNC Capital Markets LLC	39	7	74	3	113	10
Wells Fargo Bank NA	-	-	104	1	104	1
CINCAP Investment Group	58	19	41	25	99	44
Jeffries LLC	-	-	74	1	74	1
Other	107	20	141	15	248	35
Grand Total	**$2,450**	**155**	**$2,739**	**112**	**$5,190**	**267**

Source: Bloomberg L.P.

5.2 State of Florida

Summary

The State of Florida has not enacted any ESG restriction or blacklisting legislation that would impact public bond issuance; however, elected leaders have expressed interest in pursuing such legislation. The analysis included in this report assumes that Florida enacts and implements ESG legislation with the same impacts to public bond issuance as the ESG legislation, S.B 13 and S.B. 19, adopted in Texas in September 2021.

Total Municipal bonds (Billions)	Average Maturity	Reliance on Targeted banks – Average Standard Deviation
$11.15	26 years	1.26

This analysis shows that if Florida had enacted legislation similar to that in Texas restricting consideration of climate and other sustainability risks and opportunities, total increase in interest costs for bonds issued in Florida in the last 12 months would range from $97 million to $361 million.

Bond Market Overview

State General Obligation Bond Rating

Moody's Investors Service	S&P Global Ratings	Fitch Ratings
Aaa	AAA	AAA

Population/Economic Trends

	2010	2021	CAGR
Population	18,801,310	21,781,128	1.35%

Source: U.S. Census

Bond Issuance Summary Statistics

Florida Public Issuance by Sector
Issuance Amount and Number of Issues
January 1, 2021 through September 30, 2022

Industry	Dec 31, 2021 Amount ($MM)	No.	Sept 30, 2022 Amount ($MM)	No.	Total Amount ($MM)	No.
General	2,192	37	2,318	26	4,510	63
Transportation	3,078	12	661	4	3,739	16
Water	2,210	26	796	8	3,006	34
Development	1,376	138	1,419	93	2,794	231
General Obligation	1,456	14	593	7	2,049	21
Airport	513	3	1,052	9	1,565	12
School District	375	2	534	2	909	4
Single Family Hsg	292	4	410	3	702	7
Utilities	410	5	191	3	600	8
Education	512	9	81	1	593	10
Power	354	7	-	-	354	7
Multifamily Hsg	52	2	-	-	52	2
Grand Total	**$12,820**	**259**	**$8,053**	**156**	**$20,873**	**415**

Source: Bloomberg L.P.

Florida Public Issuance by Type
Competitive or Negotiated
January 1, 2021 through September 30, 2022
Issuance Amount ($MM)

	Dec 31, 2021	Sept 30, 2022	Grand Total
Competitive	4,015	2,198	6,213
Negotiated	8,805	5,855	14,660
Grand Total	**$12,820**	**$8,053**	**$20,873**

Source: Bloomberg L.P.

Number of Issues

	Dec 31, 2021	Sept 30, 2022	Grand Total
Competitive	43	16	59
Negotiated	216	140	356
Grand Total	**259**	**156**	**415**

Source: Bloomberg L.P.

Florida Public Issuance by Senior Manager
Issuance Amount and Number of Issues
January 1, 2021 through September 30, 2022

	Dec 31, 2021		Sept 30, 2022		Total	
Senior Manager	Amount ($MM)	No.	Amount ($MM)	No.	Amount ($MM)	No.
Bank of America Merrill	2,107	15	2,647	17	4,754	32
Wells Fargo Bank NA	2,604	16	506	6	3,110	22
Citigroup Global Markets Inc	1,223	11	886	5	2,109	16
Morgan Stanley & Co LLC	1,341	8	728	6	2,069	14
FMS Bonds INC	792	90	659	60	1,452	150
RBC Capital Markets LLC	741	11	578	6	1,319	17
Jefferies LLC	552	9	464	5	1,017	14
JP Morgan Securities LLC	823	9	186	2	1,009	11
Raymond James & Assocs	524	11	307	8	831	19
MBS Capital Markets LLC	473	47	287	30	760	77
Goldman Sachs & Company	137	2	492	1	629	3
Robert W Baird & Co Inc	303	7	-	-	303	7
Other	1,200	23	312	10	1,512	33
Grand Total	**$12,820**	**259**	**$8,053**	**156**	**$20,873**	**415**

Source: Bloomberg L.P.

5.3 State of Louisiana

Summary

The State of Louisiana has taken steps towards passing firearms-related legislation. The state has not passed or formally proposed an ESG energy-related law that is relevant to bond issuance in the state. However, similar to Florida, elected leaders have expressed interest in pursuing such legislation and have formed an anti-ESG task force.

This analysis shows that if Louisiana had enacted legislation similar to that in Texas restricting consideration of climate and other sustainability risks and opportunities, total increase in interest costs for bonds issued in the state in the last 12 months would range from $51 million to $131 million.

Status of Related Legislation

Legislative Initiatives	Status	Type
H.B. 978 [9]	Passed State House	Boycott Bill – Firearms

Qualitative Analysis of Impact Relative to Texas

The State of Louisiana has not yet enacted any ESG legislation that would impact the state's public bond issuance; however, the legislature has taken steps towards passing H.B 978 that would restrict financial companies that the legislation says boycotts firearms from doing business with the state and local entities.

The firearms-related law in Texas and the proposed Louisiana legislation both require contracts with financial companies to include written verification that it does not discriminate against a firearm or firearm trade associations.

The firearms-related laws in Louisiana and Texas have almost identical definitions of pertinent terms such as "firearms," "firearm entities," and "firearm trade association," among others. Both pieces of legislation place similar requirements on firms in regard to providing written verification of their firearms-related practices and policies. The laws also have similar restrictions and exceptions regarding contracting with firms that cannot and will not provide the written verifications required under the legislation.

The proposed Louisiana legislation would apply to "public entities," which, per the proposed legislation, means:

- any department, office division, commission, council, board, bureau, committee, institution, agency, government corporation, or other establishment or official of the executive branch of state government.

[9] ViewDocument.aspx (la.gov)

- Any parish, city, town, governmental body, and any other subdivision of the state or public agency thereof, public authority, public educational, health, or other institution, and any other entity which expends public funds for the acquisition or leasing of supplies, services, major repairs, and construction, and any nonprofit corporation operating a charitable hospital.

This broad definition is similar to the Texas legislation impacting "governmental entities."

The proposed legislation does not define specific roles for any governmental official; however, the State Treasurer is the Chairman of the State Bond Commission, which receives applications from parishes, municipalities, special taxing districts, and other political subdivisions of the state requesting to incur debt or levy taxes[10]. The commission reviews the applications for compliance with Constitutional and statutory requirements and feasibility, including the ability to repay debt.

Louisiana Potential Impact Estimates

Though the firearms legislation is comparable in both states, it is not clear how the firms will react to the legislation and what firms will decide to exit the Louisiana market. It is possible that a firm that decides to remain in the Texas market will exit the Louisiana market, and vice versa.

Louisiana has not passed or formally proposed a law boycotting climate-related considerations that is relevant to bond issuance in the state. However, similar to Florida, elected leaders have expressed interest in pursuing such legislation and have formed an anti-ESG task force. The analysis included in this report assumes that Louisiana enacts and implements anti-ESG legislation with the same impacts to public bond issuance as the anti-ESG legislation, S.B 13 and S.B. 19, adopted in Texas in September 2021.

Total Municipal bonds (Billions)	Average Maturity	Reliance on Targeted banks – Average Standard Deviation
$6.27	18 years	1.19

This analysis shows that if Louisiana had enacted legislation similar to that in Texas restricting consideration of climate and other sustainability risks and opportunities, total increase in interest costs for bonds issued in the state in the last 12 months would range from $51 million to $131 million.

Bond Market Overview

State General Obligation Bond Rating

Moody's Investors Service	S&P Global Ratings	Fitch Ratings
Aa2	AA-	AA-

Population/Economic Trends

[10] State Bond Commission | Louisiana State Treasurer | Louisiana (la.gov)

	2010	2021	CAGR
Population	4,533,372	4,624,047	0.18%

Source: U.S. Census

Bond Issuance Summary Statistics

Public Entity – Public Issuance by Sector
Issuance Amount and Number of Issues
January 1, 2021 through September 30, 2022

Industry	Dec 31, 2021 Amount ($MM)	Dec 31, 2021 No.	Sept 30, 2022 Amount ($MM)	Sept 30, 2022 No.	Total Amount ($MM)	Total No.
Power	361	5	3,194	1	3,555	6
Water	775	20	300	5	1,074	25
General	1,257	31	343	10	1,600	41
Transportation	202	1	643	2	845	3
School District	371	24	189	9	560	33
Development	355	4	72	3	427	7
Single Family Hsg	120	5	72	2	192	7
Utilities	89	4	-	-	89	4
Education	2	2	17	1	46	3
Multifamily Hsg	6	1	-	-	6	1
Grand Total	**$3,564**	**97**	**$4,828**	**33**	**$8,392**	**130**

Source: Bloomberg L.P.

Public Entity – Public Issuance by Type
Competitive or Negotiated
January 1, 2021 through September 30, 2022
Issuance Amount ($MM)

	Dec 31, 2021	Sept 30, 2022	Grand Total
Competitive	614	263	877
Negotiated	2,950	4,565	7,515
Grand Total	**$3,564**	**$4,828**	**$8,392**

Source: Bloomberg L.P.

Number of Issues

	Dec 31, 2021	Sept 30, 2022	Grand Total
Competitive	6	4	10
Negotiated	91	29	120
Grand Total	**97**	**33**	**130**

Source: Bloomberg L.P.

Public Entity – Public Issuance by Senior Manager

Issuance Amount and Number of Issues

January 1, 2021 through September 30, 2022

	Dec 31, 2021		Sept 30, 2022		Total	
Senior Manager	Amount ($MM)	No.	Amount ($MM)	No.	Amount ($MM)	No.
JP Morgan Securities LLC	750	6	3,284	3	4,033	9
Stifel Nicolaus & Co Inc	680	29	448	15	1,128	44
Wells Fargo Bank NA	108	4	860	4	968	8
Raymond James & Assocs	394	18	10	1	403	19
Jefferies LLC	285	1	60	1	345	2
Citigroup Global Mkts Inc	324	1	-	-	324	1
UBS Financial Svcs	272	2	-	-	272	2
Morgan Stanley & Co LLC	244	3	-	-	244	3
Crews & Associates Inc	154	17	45	2	198	19
TD Securities LLC	131	2	-	-	131	2
Loop Capital Markets LLC	121	1	-	-	121	1
DA Davidson & CO	34	4	40	1	74	5
Other	67	9	82	6	149	15
Grand Total	**$3,564**	**97**	**$4,828**	**33**	**$8,392**	**130**

Source: Bloomberg L.P.

5.4 State of Oklahoma

Summary

The State of Oklahoma has taken action on two pieces of legislation that would restrict financial companies determined to be energy and firearms boycotters from doing business in the state. **Our analysis shows that if the state had enacted legislation similar to that in Texas restricting the consideration of climate-related and other sustainability risks and opportunities, total increase in interest costs for bonds issued in the last 12 months would be approximately $49 million.**

Status of Related Legislation

Legislative Initiatives	Status	Type
H.B. 2034 [11]	Enacted (not implemented)	Boycott Bill – Energy
H.B. 3144 [12]	Passed House	Boycott Bill - Firearms

Qualitative Analysis of Impact Relative to Texas

The State of Oklahoma has taken action on two pieces of ESG banning or blacklisting legislation. The state has enacted but not yet implemented H.B 2034 which would restrict financial companies determined to be energy boycotters from doing business with the state. The state legislature has also introduced, but not enacted, H.B. 123 which would prohibit firms that boycott the firearms industry.

The following is a discussion of how the two pieces of legislation compare to the Texas laws that resulted in underwriting firms exiting the Texas municipal bond market.

H.B. 2034 Energy Boycott Bill

The energy boycott laws in Oklahoma and Texas have very similar definitions of energy boycotting firms and similar restrictions and exceptions to entering into contracts with such firms both in terms the characteristics of the companies and the nature of the services they provide.

Under Oklahoma H.B. 2034, "governmental entities" (defined as a state agency or political subdivision of Oklahoma)[13] are prohibited from entering into a contract for goods and services unless the contract contains a written verification from the company that it:

- does not boycott energy companies, and
- will not boycott energy companies during the term of the contract.

A governmental entity is also prohibited from entering into a contract for goods and services with a listed financial company with the following exceptions:

[11] HB2034 ENR.PDF (state.ok.us)
[12] HB3144 CCS.PDF (state.ok.us)
[13] HB2034 ENR.PDF (state.ok.us)

- Government entity determines the requirements of the law are inconsistent with the governmental entity's constitutional or statutory duties related to the issuance, incurrence, or management of debt obligations or the deposit, custody, management, borrowing, or investment of funds, and
- A contract for which a governmental body determines the supplies or services to be provided are not otherwise reasonably available from a company that is not a listed financial company.

Monitoring and enforcement responsibilities are similar in both states. In Texas, the comptroller is responsible for determining the list of energy boycott companies and must prepare, maintain and provide that list to each state governmental entity. Not later than the 30th day after the list of financial companies that boycott energy companies is first provided or updated, the comptroller must file the list with the presiding officer of each house of the legislature and the attorney general.

In Oklahoma, the State Treasurer has comparable duties. The State Treasurer must maintain this list and file it with the presiding officer of each house of the legislature and the attorney general. In both states, the attorney general may bring any action necessary to enforce the legislation. The Oklahoma legislation establishes provisions for Treasurer action pursuant to the act, as well.

The State Treasurer and his office play a key role in public debt issuance in Oklahoma[14]. The state's Debt Management Division, led by the Deputy Treasurer for Policy and Debt Management, oversees debt issuance by state governmental entities and advises the Governor and Legislature on matters relating to capital planning and various financing options. The Division provides staff and administration for the Council of Bond Oversight, which reviews and approves state issuer requests for debt issuance, and the Oklahoma Capitol Improvement Authority, which serves as the primary issuer of tax-supported debt for the state. Local government entities are required to file a notice regarding the sale or issuance of obligations with the Deputy Treasurer for Debt Management within 10 days of the date upon which funds become available.

As of this writing, Oklahoma has not determined its list of energy boycotting companies.

Like the Texas law, Oklahoma H.B. 2034 includes provisions related to investment of public funds, which is not related to the analysis on bond issuance.

H.B. 3144 Firearms Bill

The firearms-related laws in Oklahoma and Texas both require contracts with financial companies to include written verification that it does not discriminate against a firearm entity or firearm trade associations. The legislation in both states have almost identical definitions of pertinent terms such as "firearms," "firearm entities," and "firearm trade association," among others. Both pieces of legislation place similar requirements on firms in regard to providing written verification of their firearms-related practices and policies. The laws also have similar restrictions and exceptions regarding contracting with firms that cannot and will not provide the written verification. required under the legislation. In Texas,

[14] Deputy Treasurer for Debt Management and Council of Bond Oversight (740) (oklahoma.gov)

the comptroller may determine if an exception is warranted. In Oklahoma, the Central Purchasing Division of the Office of Management and Enterprise Services shall have the authority and responsibility of reviewing state governmental contracts to confirm that the requirements for an exception have been satisfied.

The restrictions under Oklahoma H.B 3144 apply to "governmental entities". "Governmental entity" means any branch, department, agency, or instrumentality of state government, or any official or other person acting under color of state law, or any political subdivision of Oklahoma. This broad applicability is comparable to the Texas law.

Oklahoma Impact Estimates

Though the ESG legislation banning sustainability considerations in decision-making is comparable in both states, it is not clear how the firms will react to the legislation and what firms will decide to exit the Oklahoma market. It is possible that a firm that decides to remain in the Texas market will exit the Oklahoma market, and vice versa. Moreover, even though there are similar definitions of "energy boycotter" in both pieces of legislation, there is still subjectivity regarding how firms that the legislation says are boycotting energy companies, will be determined. One state may identify a different set of firms that it says are energy boycotters than another state, which has already been the case in Texas[15] and West Virginia[16]. However, for the purposes of this analysis, we assume that the same firms that exited the Texas market will also exit Oklahoma and their impact on Oklahoma bond issuance will be proportional.

For the purposes of this analysis, we assume that the same firms that exited the Texas market as a result of the firearms and energy boycotter legislation, will also exit Oklahoma. We also assume that the impact of exceptions outlined in the Texas legislation will be comparable in Oklahoma. These are reasonable assumptions given the close similarities of the legislation in both states. Our analysis estimates the cost implications of the reduced supply of underwriters and, thus, lower competition for issuers impacted by the legislation, which includes any branch, department, agency, or instrumentality of state government, or any official or other person acting under color of state law, or any political subdivision of Oklahoma.

As noted previously, the Texas study reported low and high estimates for the cost impact of the ESG legislation. The low estimate was based on a maturity length for the first call of a bond, where the high estimate was based on hold the bond to maturity. In our estimates we calculated the lower bound based on the average number of years to Texas's bonds to first call. Because the average maturity of Oklahoma's bonds was less than the time to Texas's first call, the lower bound is the same as the upper bound.

[15] Divestment Statute Lists (texas.gov)

[16] Restricted-Financial-Institutions-List.pdf (wvtreasury.com)

Total Municipal bonds (Billions)	Average Maturity	Reliance on Targeted banks – Average Standard Deviation
$5.60	7 years	1.30

Applying the Texas model results to Oklahoma and its set of affected governmental entities, the **analysis shows that if the state had enacted legislation similar to that in Texas restricting consideration of climate and other sustainability risks and opportunities, total increase in interest costs for bonds issued in the last 12 months would be approximately $49 million.**

Bond Market Overview

State General Obligation Bond Rating

Moody's Investors Service	S&P Global Ratings	Fitch Ratings
Aa2	AA	AA

Population/Economic Trends

	2010	2021	CAGR
Population	3,751,351	3,986,639	0.55%

Source: U.S. Census

Bond Issuance Summary Statistics

Oklahoma Governmental Entities – Public Issuance by Sector
Issuance Amount and Number of Issues
January 1, 2021 through September 30, 2022

	Dec 31, 2021		Sept 30, 2022		Total	
Industry	Amount ($MM)	No.	Amount ($MM)	No.	Amount ($MM)	No.
General	941	44	818	42	1,758	86
Power	286	2	1,459	5	1,745	7
School District	748	207	797	207	1,545	414
Utilities	22	2	1,432	3	1,454	5
Water	278	5	319	4	597	9
Education	260	9	-	-	260	9
Airport	58	2	-	-	58	2
Single Family Hsg	-	-	40	1	40	1
Pollution	20	1	-	-	20	1
Grand Total	**$2,613**	**272**	**$4,865**	**262**	**$7,477**	**534**

Source: Bloomberg L.P.

Oklahoma Governmental Entities – Public Issuance by Type
Competitive or Negotiated
January 1, 2021 through September 30, 2022
Issuance Amount ($MM)

	Dec 31, 2021	Sept 30, 2022	Grand Total
Competitive	1,120	1,152	2,272
Negotiated	1,493	3,712	5,205
Grand Total	**$2,613**	**$4,865**	**$7,477**

Source: Bloomberg L.P.

Number of Issues

	Dec 31, 2021	Sept 30, 2022	Grand Total
Competitive	223	224	447
Negotiated	49	38	87
Grand Total	**$272**	**$262**	**$534**

Source: Bloomberg L.P.

Oklahoma Governmental Entities – Public Issuance by Senior Manager
Issuance Amount and Number of Issues
January 1, 2021 through September 30, 2022

Senior Manager	Dec 31, 2021 Amount ($MM)	No.	Sept 30, 2022 Amount ($MM)	No.	Total Amount ($MM)	No.
JP Morgan Securities LLC	380	5	1,731	6	2,111	11
RBC Capital Markets LLC	58	2	1,496	6	1,554	8
DA Davidson & Co	432	21	307	19	738	40
Bank of America Merrill	516	4	218	4	734	8
BOK Financial Securities	299	70	399	78	698	148
The Baker Group LP	112	71	112	39	224	110
Robert W Baird & Co	103	11	116	5	219	16
Huntington Securities Inc	129	5	87	4	216	9
Country Club Bank	85	31	100	44	184	75
Piper Sandler & Co	98	5	61	5	159	10
BNY Mellon Capital Markets	109	8	-	-	109	8
Mesirow Financial Inc	102	1	-	-	103	1
First Bankers Banc Secs	44	18	40	23	84	41
UMB Bank NA	19	7	62	13	81	20
Wells Fargo Bank NA	32	1	47	1	78	2
Other	95	12	89	15	184	27
Grand Total	**$2,613**	**272**	**$4,865**	**262**	**$7,477**	**534**

Source: Bloomberg L.P.

5.5 State of West Virginia

Summary

The State of West Virginia has enacted S.B. 262, which is legislation targeted at firms the legislation says are energy boycotters. Unlike the Texas laws, this legislation would only impact state issuance and not apply to municipalities, counties, or non-state issuers. **Our analysis shows that if S.B. 262 had similar implications as the Texas legislation, but it only impacted the narrower subset of communities targeted by S.B. 262, the total increase in interest costs for bonds issued in West Virginia in the last 12 months would range from $9 million to $29 million.**

Status of Related Legislation

Legislative initiatives	Status	Type
S.B. 262 [17]	Enacted, March 2022	Boycott Bill - Energy

Qualitative Analysis of Impact Relative to Texas

In March 2022, the State of West Virginia enacted S.B 262, which restricts financial institutions that the legislation says are determined to be energy boycotters from entering into a State "banking contract," as the term is defined in West Virginia Code 12 1C 1(a)(1), based on its restricted financial institutions status. On July 28, 2022, the State Treasurer of West Virginia published the restricted financial institutions list, which includes the following[18]:

- BlackRock, Inc.
- Goldman Sachs Group, Inc.
- JP Morgan Chase & Co.
- Morgan Stanley
- Wells Fargo & Co.

A "banking contract," as defined in West Virginia Code 12 1C 1(a)(1), means a contract entered into by the Treasurer and a financial institution pursuant to this chapter of the code, to provide banking goods or services to a "spending unit." Per the West Virginia code, a "spending unit" means any department, agency, board, commission, officer, authority subdivision, or institution of the state government for or to which an appropriation has been made by the legislature[19]. Spending unit does not mean any county, city, township, public service district or other political subdivision of the state[20]. This "banking contract" would not impact cities and towns.

[17] SB 262 Text (wvlegislature.gov)
[18] Restricted-Financial-Institutions-List.pdf (wvtreasury.com)
[19] West Virginia Code | §12-1C-1 (wvlegislature.gov)
[20] West Virginia Code | §1 (wvlegislature.gov)

Monitoring and enforcement responsibilities are similar in both states. In Texas, the comptroller is responsible for determining the list of energy boycott companies and must prepare, maintain and provide that list to each state governmental entity. Not later than the 30th day after the list of financial companies that boycott energy companies is first provided or updated, the comptroller must file the list with the presiding officer of each house of the legislature and the attorney general.

In West Virginia, the State Treasurer is authorized to execute comparable duties, which include the following:

- Maintain this list and submit a copy of the list to the Governor, President of the Senate, and the Speaker of the House of Delegates. D
- Disqualify restricted financial institutions from the competitive bidding process or from any other official selection process.
- Refuse to enter into a banking contract with a restricted financial institution based on its restricted financial institution status.
- Require, as a term of any bank contract, an agreement by the financial institution not to engage in a boycott of energy companies for the duration of the contract.

The Office of the State Treasurer is central to public debt issuance in the state, overseeing the Debt Management Division, which serves as a central information source concerning the incurrence, recording and reporting of debt issued by the state, its agencies, boards, commissions and authorities[21].

West Virginia Impact Estimates

The enclosed analysis and bond market summary included below reflects public bond issuance of the State of West Virginia and state entities. It does not include bond issuance for municipalities, counties, or other non-state entities. We apply the Texas model results to the size and composition of the bond market in West Virginia. We use data on bond issuances from Bloomberg to understand the size and composition of the West Virginia bond market, including the relationship between issuers and underwriters in West Virginia. We measure the level of reliance of each West Virginia issuer on the banks included on the state's published list of energy boycotter using data from January 2020 through November 2022. To maintain consistency of results with the Texas model, we apply cost estimates to the volume of bond issuance using the most recent 12 months of data.

Total Municipal bonds (Billions)	Average Maturity	Reliance on Targeted banks – Average Standard Deviation
$.70	22 years	1.99

[21] West Virginia State Treasurer's Office > Banking Services > Debt Management (wvtreasury.com)

This analysis shows that if S.B. 262 had similar implications as the Texas legislation, but it only impacted the narrower subset of communities targeted by S.B. 262, the total increase in interest costs for bonds issued in West Virginia in the last 12 months would range from $9 million to $29 million.

Bond Market Overview

State General Obligation Bond Rating

Moody's Investors Service	S&P Global Ratings	Fitch Ratings
Aa2	AA-	AA

Population/Economic Trends

	2010	2021	CAGR
Population	1,852,994	1,782,959	-0.35%

Source: U.S. Census

Bond Issuance Summary Statistics

State of West Virginia - Public Issuance by Sector
Issuance Amount and Number of Issues
January 1, 2021 through September 30, 2022

	Dec 31, 2021		Sept 30, 2022		Total	
Industry	Amount ($MM)	No.	Amount ($MM)	No.	Amount ($MM)	No.
Transportation	334	1	-	-	334	1
General Obligation	214	2	54	2	268	4
Single Family Hsg	30	1	70	2	100	3
Grand Total	**$578**	**4**	**$124**	**4**	**$702**	**8**

Source: Bloomberg L.P.

State of West Virginia – Public Issuance by Type
Competitive or Negotiated
January 1, 2021 through September 30, 2022
Issuance Amount ($MM) and Number of Issues

	Dec 31, 2021	No.	Sept 30, 2022	No.	Grand Total	No.
Competitive	214	2	-	-	214	2
Negotiated	364	2	124	4	488	6
Grand Total	**$578**	**4**	**$124**	**4**	**$702**	**8**

Source: Bloomberg L.P.

State of West Virginia - Public Issuance by Senior Manager

Issuance Amount and Number of Issues

January 1, 2021 through September 30, 2022

Senior Manager	Dec 31, 2021 Amount ($MM)	Dec 31, 2021 No.	Sept 30, 2022 Amount ($MM)	Sept 30, 2022 No.	Total Amount ($MM)	Total No.
Wells Fargo Bank NA	334	1	-	-	334	1
Bank of America Merrill	200	1	-	-	200	1
Raymond James and Assoc.	30	1	70	2	100	3
JP Morgan Securities LLC	-	-	54	2	54	2
Morgan Stanley & Co LLC	14	1	-	-	14	1
Grand Total	**$578**	**4**	**$124**	**4**	**$702**	**8**

Source: Bloomberg L.P.

1435 Walnut Street, 4th Floor | Philadelphia, PA 19102
215-717-2777 | econsultsolutions.com

Summary of State of West Virginia Bond Issues

January 1 2021 through September 30, 2022

Issuer	Sale Date	Final Maturity	Issue Amount ($MM)	Purpose	Underwriter	Type
State of West Virginia	6/3/2021	6/1/2046	$200	Highway Impr.	Bank of America Merrill	Competitive
State of West Virginia	6/3/2021	6/1/2023	$14	Current Refunding	Morgan Stanley & Co LLC	Competitive
WV St Housing Development Fund	6/8/2021	11/1/2051	$30	Housing	Raymond James & Assoc.	Negotiated
WV St Parkways Authority	6/23/2021	6/1/2051	$334	Highway Impr.	Wells Fargo Bank NA	Negotiated
WV St Housing Development Fund	5/12/2022	11/1/2052	$30	Housing	Raymond James & Assoc.	Negotiated
WV St School Building Authority	7/1/2022	7/1/2030	$27	Current Refunding	JP Morgan Securities LLC	Negotiated
WV St School Building Authority	7/1/2022	7/1/2042	$27	School Improvements	JP Morgan Securities LLC	Negotiated
WV St Housing Development Fund	8/10/2022	11/1/2052	$40	Housing	Raymond James & Assoc.	Negotiated

Source: Bloomberg L.P.

5.6 State of Missouri

Summary

Missouri has introduced firearms-related legislation that is comparable to that which has been enacted in Texas. One such bill has already passed out of committee in the MO state senate[22]. **This analysis shows that if Missouri had enacted legislation similar to that in Texas restricting consideration of climate and other sustainability risks and opportunities, the total increase in interest costs for bonds issued in Missouri in the last 12 months would range from $32 million to $68 million.**

Status of Related Legislation

Legislative initiatives	Status	Type
S.B. 1048 [23]	Introduced, April 2022	Boycott Bill - Firearms

Qualitative Analysis of Impact Relative to Texas

Missouri's proposed S.B 1048 and Texas's enacted S.B 19 both require contracts with financial companies to include written verification that it does not discriminate against a firearm entity or firearm trade associations. The firearms-related laws in both states have almost identical definitions of pertinent terms such as "firearms," "firearm entities," and "firearm trade association," among others. The laws also have similar restrictions and exceptions regarding contracting with firms that cannot and will not provide the written verification required under the legislation.

In Texas, the comptroller may determine if an exception is warranted. The Missouri legislation gives these responsibilities to the director of revenue or the county treasurer.

While not cited directly for new responsibilities in the proposed legislation, the state's Office of Administration plays a key role in state debt issuance. The Office's Board of Fund Commissioners issues, redeems, and cancels state general obligation bonds and performs other administrative activities related to state general obligation debt as assigned by law. The Board is comprised of the governor, lieutenant governor, attorney general, state treasurer and the commissioner of administration. The governor is president of the board, and the state treasurer is secretary[24]. Prior to entering into a financing transaction, all state departments, agencies, and state entities must obtain Office of Administration (Division of Accounting) approval[25].

Missouri S.B. 1048 applies to "public entities" which means the state of Missouri or any political subdivision thereof, including all boards, commissions, agencies, institutions, authorities, and bodies

[22] Navigating State Regulation of ESG | Ropes & Gray LLP (ropesgray.com)
[23] SB1048.pdf (mo.gov)
[24] Board of Fund Commissioners | Office of Administration (mo.gov)
[25] SP-17 - Statewide Policy on Debt Issuance and Post Issuance Compliance (mo.gov)

politic and corporate of the state created by or in accordance with state law regulations[26]. This definition encompasses a broad range of governmental units, similar to the Texas firearms legislation.

Missouri Impact Estimates

Missouri has not enacted any ESG legislation that would impact public bond issuance. However, the state has introduced firearms-related legislation that is comparable to that which has been enacted in Texas. Missouri has not yet introduced energy-related legislation that would bar the consideration of climate-related risks and opportunities.

However, on October 18, 2022, the state treasurer issued a press release announcing that the Missouri State Employees' Retirement System had sold public equities managed by BlackRock, Inc., citing Blackrock's position on ESG-related initiatives[27].

The analysis included in this report examines the cost implications assuming Missouri enacts and implements ESG legislation with the same impacts to public bond issuance as the anti-ESG legislation, S.B 13 and S.B. 19, adopted in Texas in September 2021.

Total Municipal bonds (Billions)	Average Maturity	Reliance on Targeted banks – Average Standard Deviation
$3.91	15 years	1.21

This analysis shows that if Missouri had enacted legislation similar to that in Texas restricting consideration of climate and other sustainability risks and opportunities, total increase in interest costs for bonds issued in Missouri in the last 12 months would range from $32 million to $68 million.

Bond Market Overview

State General Obligation Bond Rating

Moody's Investors Service	S&P Global Ratings	Fitch Ratings
Aaa	AAA	AAA

[26] Missouri Revisor of Statutes - Revised Statutes of Missouri, RSMo Section 34.600
[27] Missouri State Treasurer's Office - News and Events: Press Release (mo.gov)

Population/Economic Trends

	2010	2021	CAGR
Population	5,988,927	6,168,187	0.27%

Source: U.S. Census

Bond Issuance Summary Statistics

Missouri Public Issuance by Sector

Issuance Amount and Number of Issues
January 1, 2021 through September 30, 2022

	Dec 31, 2021		Sept 30, 2022		Total	
Industry	Amount ($MM)	No.	Amount ($MM)	No.	Amount ($MM)	No.
General[28]	1,418	132	1,183	93	2,601	225
School District	1,451	107	837	88	2,288	195
Water	350	26	111	4	462	30
Single Family Hsg	215	3	230	3	445	6
Student Loan	275	3	-	-	275	3
Education	133	30	21	2	155	32
Utilities	129	1	-	-	129	1
Transportation	89	1	-	-	89	1
Development	15	3	23	1	38	4
Housing	21	1	-	-	21	1
Airport	-	-	14	1	14	1
Multifamily Hsg	12	1	-	-	12	1
Grand Total	**$4,108**	**308**	**$2,420**	**192**	**$6,527.83**	**500**

Source: Bloomberg L.P.

[28] Includes General Obligation and Revenue Bonds issued for purposes such as public projects for government agencies, buildings or industrial buildings, construction for public purposes, the cost of utility projects, or the cost of public property.

Missouri Public Issuance by Type

Competitive or Negotiated
January 1, 2021 through September 30, 2022
Issuance Amount ($MM)

	Dec 31, 2021	Sept 30, 2022	Grand Total
Competitive	1,228	379	1,606
Negotiated	2,880	2,041	4,921
Grand Total	**$4,108**	**$2,420**	**$6,528**

Source: Bloomberg L.P.

Number of Issues

	Dec 31, 2021	Sept 30, 2022	Grand Total
Competitive	65	23	88
Negotiated	243	169	412
Grand Total	**308**	**192**	**500**

Source: Bloomberg L.P.

Missouri Public Issuance by Senior Manager

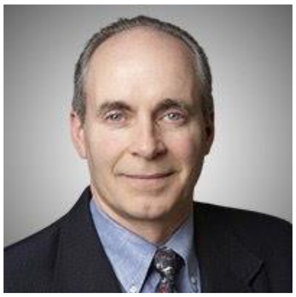
Issuance Amount and Number of Issues
January 1, 2021 through September 30, 2022

Senior Manager	Dec 31, 2021 Amount ($MM)	Dec 31, 2021 No.	Sept 30, 2022 Amount ($MM)	Sept 30, 2022 No.	Total Amount ($MM)	Total No.
Stifel Nicolaus & Co Inc.	1,365	91	1,221	66	2,586	157
L.J. Hart & Company	370	87	264	76	634	163
Bank of America Merrill	331	4	241	2	573	6
Morgan Stanley & Co LLC	329	7	73	1	401	8
Robert W. Baird Co. Inc	249	16	124	11	373	27
Citigroup Global Mkts Inc	342	6	-	-	342	6
JP Morgan Securities LLC	185	3	12	1	198	4
Wells Fargo Bank NA	61	1	124	1	184	2
Raymond James & Assoc	84	2	92	3	176	5
Siebert Williams Shank Co	171	2	-	-	171	2
Piper Sandler & Co	87	12	58	4	145	16
Hilltop Securities Inc	84	6	-	-	84	6
DA Davidson & Co	54	11	25	5	79	16
Commerce Bank	31	6	33	4	64	10
Country Club Bank	62	13	-	-	62	13
Other	302	41	154	18	455	59
	$4,108	**308**	**$2,420**	**192**	**$6,528**	**500**

Source: Bloomberg L.P.

6 Bios

Stephen P. Mullin
Principal & Board Chairman



Areas of Expertise

Public Finance, Tax, and Policy Analysis

Economic Development

Real Estate Development

Energy Policy

Urban Economics

Business / Government Strategies

Education

M.A., Economics,
University of Pennsylvania
1982

A.B., Economics, Magna Cum Laude,
Harvard University
1977

Philips Exeter Academy, Cum Laude Graduate
1973

Contact
Mullin@econsultsolutions.com

As Principal of Econsult Solutions Inc., (ESI) Stephen Mullin provides expertise to clients in the fields of economic development, public finance and incentives, state and local policy analysis, real estate, energy, and business and government strategies. Mr. Mullin served as president since the firm's inception until 2020, and continues to work with his ESI colleagues to guide ESI's strategic planning and direction.

Mr. Mullin's consulting practice dates back to 2000, starting as a senior vice president of Econsult Corporation, and having served a client base ranging from state and local governments and agencies, private businesses, real estate developers, and not-for-profit institutions.

Experience
During the 1980s-90s, Mr. Mullin served in cabinet positions in St. Louis and Philadelphia city governments. He was directly involved with decision-making around many urban government issues including tax and expenditure policy, workforce development, capital infrastructure, pension funds, economic development, urban growth and planning. He served on, and chaired, many public sector and other quasi-governmental boards and commissions.

- City of Philadelphia Director of Commerce, 1993-2000
- City of Philadelphia Director of Finance, 1992-1993
- St. Louis Development Corporation, Deputy Director, 1990-1992
- Laclede Gas Company, Director of Corporate Development, 1988-1990
- City of St. Louis Budget Director, 1982-1988

Professional, Corporate, Civic Leadership
Mr. Mullin has long been active as a director on corporate, public sector civic, cultural, and advisory boards, having served on over 75 in his career. Currently, he serves on the following Boards:

- Optimum Fund Trust Mutual Fund, Presbyterian Foundation / New Courtland Elder Care, The Arden Real Estate Funds, and Framewrk Inc.
- North Broad Renaissance, Spring Garden Civic Association, and the Independence Visitor Center

- Lambda Alpha Philadelphia, Preservation Alliance Advocacy Committee, Philadelphia World Trade Center Advisory Council

He previously served as director for many entities, including NASDAQ Futures, Inc. (2008-2018), Haverford Trust Advisory Board, Community College of Philadelphia Foundation (2006-2015), Fairmount Park Conservancy (2006-2010), Library Company of Philadelphia, Pennsylvania Ballet, The Philadelphia Orchestra, and Treasurer for the Historical Society of Pennsylvania (Trustee 1996-2007). He chaired the Philadelphia Municipal Pension Board and the Philadelphia Commercial Development Corporation, and served on the boards of Philadelphia's City Planning Commission, Historic Commission, Airport Advisory Board, Convention and Visitor's Bureau and Convention Center Authority, PIDC, Penn's Landing Corporation, Community College of Philadelphia Foundation, University City Science Center, Port of Philadelphia and Camden, Union League of Philadelphia, Philadelphia Sports Congress, Philadelphia Real Estate Council, Coro Foundation St. Louis Chapter, and the PA Charter School Resource Center.

Additional Experience

Mr. Mullin has taught graduate level economics, public policy, and public finance at many Philadelphia and St. Louis area universities for over 40 years. Among his nearly 10,000 former students are experts and leaders throughout the private and public sectors. He writes for publications, has delivered speeches, provides expert opinion to the media, and is a frequent presenter on panels and symposia. In 2007, he was voted one of Philadelphia's 101 most connected people.

Richard P. Voith, Ph.D.
Principal & Board Chairman

Richard Voith Ph.D. is a founding principal of Econsult Solutions Inc. and research fellow of the University of Pennsylvania Institute for Urban Research (Penn IUR). Dr. Voith is a widely published expert in real estate economics, transportation, and applied microeconomics. He oversees a wide variety of projects in the realm of housing, labor markets, transportation, and economic development. Just as importantly, he is involved in setting the strategic direction of organizations both large and small. Dr. Voith served on the board of directors of SEPTA for eight years and was vice chair for three years. He regularly provides analysis and testimony in support of litigation in real estate and transportation matters.

Experience

Prior to establishing Econsult Solutions, Dr. Voith was a senior vice president at ESI's predecessor firm, Econsult Corporation. Dr. Voith also held the position of economic advisor at the Federal Reserve Bank of Philadelphia. Over the last fifteen years, he has served on several National Academy of Science Foundation Advisory Panels addressing topics such as the interrelationships between transit investments, and the relationships between land use and public health. He has been a guest speaker at numerous forums, including those sponsored by the Lincoln Land Institute, the Brookings Institution, Urban Land Institute, and the Department of Housing and Urban Development.

Professional, Corporate, Civic Leadership

Dr. Voith is a founding board member of Philadelphia Youth Basketball, an organization dedicated to educational, social, and athletic success of Philadelphia youth. In addition, he is a founding board member of Pentrans, and organization dedicated to balanced, multimodal transportation and mobility alternatives in Pennsylvania.

Additional Experience

Dr. Voith has been an adjunct professor for many years at the Wharton School of the University of Pennsylvania where he taught *Cost Benefit Analysis* in the Business and Public Policy Department, and *Urban Real Estate Economics* and *Real Estate Investments* through Wharton's Real Estate Department. He has been a guest speaker at numerous forums, including those sponsored by the Lincoln Land Institute, the Brookings Institution, Urban Land Institute, and the U.S. Department of Housing and

Areas of Expertise

Real Estate

Housing

Labor Markets

Economic Development

Transportation

Applied Microeconomics

Funding for Transit Systems

Energy

Metropolitan Development

Education

Ph.D., Economics,
University of Pennsylvania
1986

M.S., Energy Management and Policy,
University of Pennsylvania
1980

B.A., Economics,
Haverford College
1977

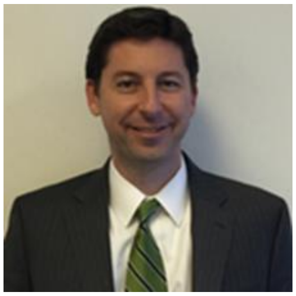
Contact

Voith@econsultsolutions.com

Urban Development. Until 2007, Dr. Voith served on the editorial board of *Real Estate Economics.*

Dan Connelly

Senior Advisor



Areas of Expertise

Municipal Finance

Tax Exempt Debt Issuance

Financial Planning and Modeling

Strategic Planning

Education

BA in Finance, University of Notre Dame

MPA, University of Pennsylvania

Contact
dconnelly@mara-cap.com

Mr. Connelly has 20 years of financial consulting and advisory experience to governmental and 501(c)3 organizations. He has advised on over 40 debt financings, hedging, and bond proceed/escrow investment transactions totaling over $2.5 billion in par/notional amount. Mr. Connelly provides transaction management, credit analysis, financial planning, refunding analysis, credit enhancement strategy, and swap advisory services to governmental and non-profit entities.

Experience

In addition to his role at ESI, Mr. Connelly is also a Senior Advisor with Marathon Capital Strategies, an independent municipal advisory firm headquartered in Glassboro, New Jersey. Since joining Marathon in 2018, Mr. Connelly has advised on over $800 million in par amount consisting of a mix of fixed and variable rate and public and private issuance.

Prior to joining Marathon, Mr. Connelly worked for Fairmount Capital Advisors, where he also provided financial advisory services to governments and non-profit organizations. In addition to his debt advisory experience, Mr. Connelly also headed Fairmount's government consulting practice. He has led engagements such as five-year financial planning and budgeting, financial feasibility studies, and strategic planning, among others. Mr. Connelly has developed and overseen the implementation of multi-year financial plans for Pennsylvania municipalities under the Commonwealth of Pennsylvania's Strategic Management Planning and Act 47 Distressed Municipalities programs.

Additional Experience

Mr. Connelly has a Bachelor of Business Administration (Finance) from the University of Notre Dame and a Master of Public Administration with a certificate in public finance from the University of Pennsylvania's Fels Institute of Government.

Ian D. Bowen
Associate Director

Areas of Expertise

Economic Analysis Strategies

Input-Output Modeling

Fiscal Impact Analysis

Financial Analysis

Policy Analysis

Education

B.A., Economics,
Drexel University
2012

Contact

Bowen@econsultsolutions.com

Ian D. Bowen is an associate director at Econsult Solutions, Inc. (ESI). Mr. Bowen joined Econsult Corporation in June 2011 for its Summer Research Assistant Program, and has been with Econsult ever since. Mr. Bowen is experienced in econometric analysis and forecasting, input-output modeling, fiscal impact analysis, pro forma financial analysis, index construction, technical report writing, and various tools and services for analysis and research including Esri Business Analyst Online, EMSI, RSMeans, CostWorks, and Bloomberg Professional.

Mr. Bowen's work with Econsult Corporation has involved economic and fiscal impact studies, tax and tax policy analysis and recommendation, public and affordable housing policy, nonprofit business planning and organization, market and market potential analysis, real estate, project financing, transit-oriented development, international travel and tourism, labor market analysis, and many other subjects.

Experience

Prior to ESI, Mr. Bowen worked as a research assistant to Dr. Maria Olivero and Dr. Yoto V. Yotov through Drexel's co-op program. While working with Dr. Olivero and Dr. Yotov, Mr. Bowen conducted extensive research on Taylor Rule composition and specification, and various topics in globalization and international trade, including the Gravity Equation and other distance-effect models.

Mr. Bowen has assisted with projects involving the analysis and integration of public opinion, real estate development trends, and public policy to develop reasonable and defensible goals for operations. Mr. Bowen has also been involved in analysis of Medicaid and proposed Medicaid expansion within the State of Pennsylvania. This effort involved understanding and modeling current and future costs and benefits in the healthcare industry, as well as analyzing what implications healthcare and Medicaid have on the rest of Pennsylvania's economy.

Additional Experience

Along with receiving his bachelor's degree in Economics from Drexel University, Mr. Bowen also received minors in Accounting, Business Administration, Finance, and Philosophy. In his free time, he enjoys singing in various choirs with the Pennsylvania Academy of Performing Arts.

Sarah Melling

Analyst

Sarah Melling is an analyst at Econsult Solutions, Inc. (ESI).

Experience

She received her Bachelor of Science in Mathematics and Economics from Oregon State University. Prior to joining the firm, Sarah was an Americorp member for City Year Philadelphia where she helped mentor and tutor 4th grade students at an under privileged school. Sarah has also worked as a research assistant for Oregon State University's Economic Department studying educational economics.

Sarah has a passion for the economics of education and economic development.

Areas of Expertise

STATA

Python

Matlab

Economics

Education

B.S., Math and Economics,
Oregon State University
2020

Contact

Melling@econsultsolutions.com

Xinyi Qiu, M.C.P.
Senior Analyst

Xinyi Qiu is a senior analyst at Econsult Solutions, Inc. (ESI). Ms. Qiu received her master's degree at the University of Pennsylvania where she majored in Sustainable Transporation and Infrastructure Planning. Ms. Qiu has a robust background in transportation planning and statistical and spatial analysis. She is well versed in ArcGIS, R, JavaScript, Python, and SQL.

Experience

Prior to joining ESI, Ms. Qiu interned at Savills in Guangzhou, China. She spearheaded the creation of the strategic redevelopment plan for the industrial layout of the Guangzhou Eastern Riverside Development Belt and analyzed the transportation conditions in the area to effectively link the area with Hong Kong as well as Macao. She also interned at Cushman & Wakefield in Guangzhou, China. Ms. Qiu utilized the Market Comparison Approach and estimated property values, issuing about 600 evaluations reports. She also analyzed commercial land economic development and commercial real estate markets utilizing ArcGIS and research skills.

Additional Experience

Ms. Qiu has worked on and completed several academic projects while at the University of Pennsylvania, including SEPTA Transit Accessibility Assessment before and during COVID-19, Exploring the Economic Impact on San Francisco's Transit-Oriented Developments, and Philadelphia 311 Call Data Analysis and Policy Recommendation.

Areas of Expertise

Data Visualization

Software Design

Spatial and Statistical Analysis

Transportation Planning

Education

M.C.P.,
University of Pennsylvania
2021

B.S., Human Geography and Urban Planning,
Sun Yat-Sen University (SYSU)
2019

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