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Bond Market Development and Infrastructure Investment Gap: Lessons for the African Continent

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Abstract:
This paper, seeks to draw lessons for the African continent based on the experiences of three pioneer countries in bonds issuance for infrastructure financing.
Theoretical foundation: The preferred habitat theory served as the study's lenses.it focuses on the bond market participants' choices for bonds as a financing option.
Methodology: The authors conducted a systematic review of the literature using the SALSA framework, which is a search, appraisal, synthesis, and analysis framework.
Findings; There is a pressing demand for bond market development in Africa. Developed and developing economies widely utilize bonds to bridge worldwide infrastructure investment gaps. Whereas some African nations have embraced them, there is still a lot to be done. Amongst others, is the need to familiarize with the various bonds available as a financing tool for infrastructure, the contribution of bond markets globally, the motivation for various bond market participants not disregarding the bond market processes and enablers.
Practicability: This study solely employed a secondary literature analysis; other researchers can do the same investigation using different methods like the qualitative techniques that entail interviews or quantitative approaches. It also highlighted the bond processes and enablers based on the experiences of three countries that pioneered bond issuance. Further research can look at more or different countries for drawing lessons.
Originality; This is the first article to present an overview of bonds, bond market participants, processes and enablers. As well as, the first paper to draw lessons for African countries based on the first-time experiences of Senegal, South Africa and United states of America.

Keywords: Infrastructure, infrastructure investment gaps, infrastructure financing options,

Paper type; literature review.

Introduction and motivation

Globally, infrastructure development is regarded as a critical key to economic and social development (Alexandro & Basrowi, 2024). Infrastructure, like soft infrastructure involves empowering individuals through human capital development (Fioravanti et al., 2019). Empowered individuals can reduce poverty and hunger which addresses sustainable development goals(SDG)1 and 2(Hassan & Umar, 2023). Whereas physical infrastructure involves tangible infrastructure like the roads, water bodies, waste water treatment plants, energy generation plants, and information and computer technology plants (Harun et al., 2020; Mayer & Wargo, 2023). All the above promote the social and economic development in line with the United Nations (UN) 2030 agenda for sustainable development. This envisions a world improved access to clean water and sanitation, affordable and renewable energy, partnerships for the goals, as well as advancements in industry, innovation, and infrastructure (Bagenda 2023: Mugarura 2019).

In keeping with the SDGs of the United Nations 2030 Agenda and Africa's Financing Agenda, 2063, there is a global infrastructure gap (Minstat, Markely, and Saint Martin, 2021). This is mainly attributed to the financing inadequacies (Mayer and Wargo 2023). African governments often rely on conventional financing techniques, such as internally generated revenues, official development Assistance and concessional means, to finance their infrastructure (Gorelick, 2019b; Jose & Katigbak, 2018; White & Wahba, 2019). The infrastructure investment gap has not been adequately closed by the combination of all available resources (Ndandiko 2006; Mugarura, Ndevu, and Turyakira 2020; Runde, Metzger, and Abdullah 2020).

Consequently, Governments are encouraged to look into more creative financing options due to the ongoing infrastructure investment gaps, exuberated by the demand for better services from expanding populations and a greater awareness of transformative infrastructure (Discussion, 2021; Johnson, 2019; Lam & Yang, 2020). These alternative financing options include crowdfunding, public and publicly guaranteed bonds, private non-guaranteed bonds, portfolio investment bonds, and Environmental, Social and governance (ESG) bonds (Ekirapa-Kiracho et al. 2022; Shikulo and Nampweya 2022; Singla, Shumberger, and Swindell 2021).

The current infrastructure investment deficit has caused increased environmental degradation, through the irresponsible consumption of things like wood fuel which greatly affects the environment(Kato et al., 2020). The desired economic growth is curtailed by the Inadequate transportation given the limited access to good quality tarmac roads (Bagenda 2023:Mugarura, 2019).The contaminated water bodies utilization affects the quality of general good health and well-being of the citizens (Bagenda, 2023). Inadequate access to electricity, and information and communications technology increases the inequality gaps and the digital divide gap hindering the social development (Kodongo et al., 2023).

In order to close the infrastructure investment gap, financing options like bonds play a critical role in both developed and developing economies(Glasser, 2020). This is because traditional financing mechanisms such as fiscal space, Grants and assistance from development partners are not adequate for infrastructure financing needs (Chen, 2017; Mayer & Wargo, 2023). Estimates suggest that by 2025, Africa's yearly infrastructure investment deficit might amount to between USD 68 and USD 108 billion, necessitating the use of about 15% of the continent's GDP to close the infrastructure investment gap (Bagenda 2023).

The enormity of infrastructure investments necessitates exploring diverse financing options (Singla, Shumberger, and Swindell 2021). However, the importance of this study is emphasized by the ongoing gaps in infrastructure investment and the restricted ability to adopt new financing options. Furthermore, these financing options necessitate the development of the bond market. For a number of reasons, bonds are a desirable choice for investors and issuers alike. Bonds provide issuers with a crucial source of funding by enabling them to obtain large amounts of affordable capital from a wide range of investors. They also give them flexibility by allowing them to customize the terms to best suit their needs financially (Ahwireng-Obeng, 2022). Through credit rating exercises, the bond issuing process enhances the issuer's overall creditworthiness by improving several issuer systems (Espinosa & Martell, 2015).

Bonds are also used by issuers as a risk management tool. By locking in rates for the duration of the bond, issuers can manage interest rate risk and ensure predictability in future financing costs(Grafe, 2020). Issuers of bonds can use the proceeds to control a range of risks, such as credit, operational, and liquidity concerns (Oji, 2015:Reynaerts & Vanpée, 2020). Bonds are attractive to investors because they are reasonably safe, offer set interest payments, predictable returns, controllable risk exposure, and tax exemption advantages (Mishra et al., 2020). Various bond types correspond to particular infrastructure projects: development impact bonds support technology advancement, energy production, and mineral extraction; while the blue and green bonds support water-related and environmentally friendly projects, and the social impact bonds finance the education and health sectors(Lindner & Chung, 2023:Oji, 2015).

The type of bond, the bond participants and the bond market enablers can be traced to the preferred habitat theory. It guides about the behavior of bond buyers and sellers, suggesting that they have preferred operating environments based on factors like the project and sector to be financed, the time horizon to maturity, the expected returns, governance quality, or desired project impact (Rattiner, 2009). This theory posits that investors generally prefer shorter-term bonds, while issuers prefer long-term bonds causing a mismatch of interests. This has incited an academic debate about what interests the various bond participants in its adoption for infrastructure financing. Scholars like Gorelick (2019) considered the regulatory framework as a major obstacle. Kodongo et al (2023) highlighted the need for meeting a bond market development threshold for a significant relationship between the infrastructure gap and the bond market development in Africa. Other studies have considered what motivates investors in the municipality of Stip and India (Gogova Samonikov et al., 2017: Regency et al., 2020). However, to the researcher's knowledge, none used the first-time bond issuance experiences of South Africa, Senegal and USA to draw lessons for the African continent which motivates this study.

The main research question guiding this study is: How can the first-time experiences of Senegal, South Africa and United states of America be used to tap into bond market utilization in closing the infrastructure investment gaps in Africa? The main purpose is to draw lessons for the African continent. the Specific objectives include: To provide an overview of bonds, bond market participants, bond enablers, and the bond issuance process for the African continent based on the first-time bond issuance experiences of three countries; Senegal, South Africa, and the United States of America.

The subsequent sections of the manuscript will cover the overview of bonds, bond market participants, bond enablers, the bond issuance process, research methodology, and the first-time experiences of Senegal, South Africa and the United States of America in bond issuance (municipal bonds). This will be followed by the discussion of the results and findings and the conclusion.

Bond market participants: The bond market participants encompass entities or individuals collaborating to issue bonds(Maltais & Nykvist, 2021). The bond market participants include bond investors, bond issuers, policymakers, bond brokers, bond counsel, insurance firms, bond financial advisors, technical advisors, and underwriters(Oji, 2015). They play different roles. Bond investors, whether institutional or individuals, engage in purchasing bonds as an investment option (Adewale & Zubaedy, 2019; Inderst, 2020).

Bond issuers, on the other hand, are organizations that sell or offer securities to the general public in order to raise money (Bordo & Duca, 2021). These organizations can be divided into groups according to a number of criteria. The grouping criteria involves ownership composition, industry, and legal status. Examples of bond issuers include corporations, non-profits organizations, governments at all levels and supranational organizations. Sometimes, special purpose vehicles are created for particular purposes like managing funds for projects financed or supervising operations for the successful completion of the intended project (Gillette et al., 2020; Wang et al., 2019).

In addition, public and private corporations are common issuers of bonds, with public companies issuing securities to the public and private companies issuing securities to a smaller group of investors (Chan et al., 2020). Issuers frequently seek assistance from underwriters, financial intermediaries that facilitate bringing securities to the market. Underwriters act as intermediaries between issuers and investors. They help to set terms, price the securities, distribute them to investors, and provide due diligence on the issuer. Using their knowledge of fair values to establish the issuer's creditworthiness, underwriters play a critical role in informing the market. Their engagement decreases the issuer's risk by guaranteeing the sale of securities based on market conditions and investor demand (Abakah, 2019; Y. Li et al., 2020). Furthermore, regulatory bodies contribute to the regulatory environment through establishing frameworks that might be either favorable or unfavorable, for the bond market (Gorelick, 2019a).

Beyond the market participants, is the bond issuance process. Planning and preparation are the first steps in the bond issuance process. During this phase, the issuer establishes the infrastructure financing gaps, assesses other financing options, determines creditworthiness, more to that, technical consultants are identified like the underwriters who help to market and sell bonds to investors and the bond counsels for legal guidance (Gillette et al., 2020). This is followed by the authorization, in which the issuer secures the legal right to issue bonds; this frequently entails getting the consent of the governing board or voters. After which the Issuer registers bonds with the regulatory authorities like the Securities and Exchange Commission (SEC) and state agencies(Chowdhury & Salema, 2023).

The underwriters and the issuers construct the bond offering by which the bond structure is determined, and the announcements are made after deciding on the method of sale.They commit to take the responsibility of repaying the principal and interest. This is commonly made possible by the sinking fund account(Gorelick, 2019). It is through the sinking fund account that all proceeds from bonds are kept. Underwriters take on the role of investment banks or primary dealers. Based on the method of sale, bonds are put up for sale to investors. This is usually either through a public offering or private placement(Liu, 2018; Tumanggor, 2020). The bond issuance process ends successfully when the issuer makes prompt repayments of the borrowed amount and the interest after financing the desired project (Annisa et al., 2019).

Methodology: Systematic review of literature was conducted using the Search, Appraisal, Synthesis, and Analysis (SALSA) framework(Luft et al., 2022). Using a number of databases, related studies from books, conference proceedings, and peer-reviewed journals, 53 articles were selected, critically reviewed, synthesized and analyzed. Through the SALSA technique, it was made simpler to assess, validate, and analyze the body of research on bonds as an infrastructure financing option. The main concerns were identified and addressed as well as Areas that need further research were identified and recommendations made accordingly. Refer to Table A for details.

TABLE A

	SALSA approach and steps	Steps and details in this paper
STEP 1.0	Search	
	Identify keywords based on the finalized research topic	The key words identified included Bonds, Bond market participants, bond issuance processes, bond market development, bond enablers, infrastructure, Infrastructure investment gaps and infrastructure financing options.
Step 1.1	Literature searches and reference management	Preliminary and full literature review searches were done with the key word of "Bonds", this would bring the different types of bonds including those that are not in financing. It was refined to "Bonds for financing infrastructure", this gave me the relevant papers, the search continued to "Infrastructure", followed by "Infrastructure financing options", thereafter it was a combination of the key words. and full literature review searches were done through google scholar. Followed by use of my loft to access all the 2022 to 2023 articles in Taylor and Francis websites, EBSCOhost database, and the ProQuest database. All the selected articles were uploaded to the external hard disk and later transferred to Mendeley 2.9.8 for referencing purposes and better management of the collected data.
Step 1.2	Selection of articles	Further scrutiny and selection were done based on the title, the abstract, the findings and the conclusions' reviews. The selected articles were summarized to form the literature review framework. The major themes and interrelations of variables were identified and written to form part of the scholarly work.
1.3	Obtain articles	The articles that were deemed key to the study were utilized in the production of this paper.
2.0	Appraisal	
	Quality assessment	Critically Reviewed literature and screened articles further.
		Searched for additional articles that were referenced by the papers relevant to the study.
		Critically reviewed the selected papers, reading full text more than twice.
		Compiled a finalized literature review framework for the study under review.
Step 3	Synthesis	

	Integrating previous studies	Classified papers based on objectives, themes and the section of the paper being addressed like those for introduction, literature review and methodology respectively.
		Identified scholarly papers that had connections, contradictions, further studies and identified the research gaps for this study.
Step 4	Analysis	
		Analysis was done using a thematic approach.
	Conclusion	Lessons have been drawn for Africa based on first- time municipal bonds issued by Senegal, South Africa and United states of America.

4.0 Discussion and Conclusions

Based on the first-time experiences of municipal bond issuances by Senegal, south Africa and United states of America. Lessons were drawn for the African Continent. Experiences with bonds can differ depending on a lot of things, such as the state of the market, the issuer's trustworthiness, the bond's terms, the political and economic climates, and the different risks involved. In both emerging and developed economies, a number of governments and nations have utilized bonds to finance infrastructure (Malhotra et al., 2020; Singla et al., 2021). This is because of the significant benefits they have made as a financing option elsewhere (Zedan et al., 2020). The benefits include; direct access to private finance, which is one of the many benefits of bonds (Leigland & Thomas, 1999; Padovani et al., 2018). Development of domestic bond markets (Takwa, Babila, Teno, et al., 2020). It is deemed a cheaper source of capital (Kapoor & Pati, 2017; White & Wahba, 2019), it avails investors an option to invest expecting economic rewards (White & Wahba, 2019; Zedan et al., 2020). Yet Issuers can define their own terms for borrowing through bonds.

Nonetheless, a number of scholars contend that the issue of bonds is not without its difficulties, as it entails a number of procedures requiring a variety of technical specialists, including bond counsels, financial advisors, insurers, brokers, the supervision team, and regulatory compliance, making it expensive and complicated. It is also impossible to overstate the detrimental effects that a default may have on the federal government (Butkus & Seputiene, 2018; Medda & Cocconcelli, 2018). In addition to the restrictions on borrowing; Voters must approve general obligation bonds; some states just permit council authorization, but greater borrowing amounts need voter approval. According to Glasser (2020), Washington State permits municipal councils to approve general obligation debt up to 1.5% of the assessed valuation of the municipality's properties. Voters must approve additional debt up to a total of 5% of assessed valuation, but 5% more may be authorized if the debt is approved by the voters and must be used specifically for water, lights, and sewers when the municipality owns and controls those facilities(Ansah, 2015).

Method of sale; United States municipal bonds are sold “over the counter” there are no listing requirements (Brancaccio et al., 2020). There is Commitment to infrastructure financing with 15% of US per capita GDP, set aside for long-term subnational infrastructure projects. Additionally, oversight organizations that can be private, special purpose vehicles or public entities, they ensure the coordination between the issuers and the investors (Gorelick, 2018).

The first-time issue of municipal bonds in South Africa

An effort to diversify the city's finance sources beyond an almost exclusive reliance on commercial and development banks was the primary driver behind the early consideration of bond issue. Johannesburg issued its first bond in 2004. The City of Johannesburg was compelled to issue at least one municipal bond in order to raise additional funds for capital investment since banks were overexposed to Johannesburg and had reached their credit limitations with almost all of them (Mc Gaffin et al., 2020;Glasser, 2021). Although the city had good credit and was up to date on all its bills at the time, it was very difficult for it to get fresh loans. The annual revenue of the city for the fiscal year, restrictions on the amount of money that can be borrowed (municipal debts cannot be indexed to any foreign currency; they must be denominated in South African Rands). Albeit the need for a resolution signed by the mayor of the municipality to authorize municipal bonds issuance in South Africa (Glasser, 2020; Gorelick, 2018).

Method of sale

Municipal bonds were listed on the Bond Exchange of South Africa (BESA) until 2009, when BESA was combined with the Johannesburg Stock Exchange (JSE). Municipal bonds are not listed on any exchange, and issuers are not subject to federal regulation in South Africa. The JSE currently lists corporate, municipal, State-Owned Enterprise (SOE), and sovereign bonds (Gorelick, 2019c). Restrictions on the amount of money that can be borrowed (municipal debts cannot be indexed to any foreign currency; they must be denominated in South African Rands). Procedure-wise, a resolution signed by the mayor of the municipality authorizes the issuance of municipal bonds in South Africa (Glasser, 2020; Gorelick, 2018).

Commitment to infrastructure.

Since long-term debt can only be raised to support capital expenditures and not current expenses, the 2004 Municipal support Management Act (MFMA) ensures that borrowed capital is only used for infrastructure development. Long-term debt provisions are more lenient, permitting debt for "re-financing existing long-term debt" or "capital expenditure on property, plant, or equipment to be used for the purpose of achieving the objects of local government." The City had successfully introduced several municipal bonds prior to 1990, but this was within the framework of prescribed asset requirements, which required insurance companies and other institutional investors to retain 54% of their assets in domestic government securities and other municipal securities (Chen et al., 2020; Of et al., 2003).

A six-year, one-billion-rand (about US$ 159 million) deal denominated locally was completed. Of the proceeds from the first two bonds, only 40% were utilized to fund the city's capital spending program. The remaining amount was utilized to refinance more costly debt that Johannesburg had accumulated during its financial crisis in the late 1990s. Over the course of the six years from bond issuance to maturity (2004–2010), the city is expected to have saved approximately US$ 325 million (or about 20 million rand, based on average annual amounts and fluctuating interest rates) in interest payments due to the refinancing of the burdensome debt arrangements through the bonds (Gorelick, 2018, 2019c; Gorelick & Walmsley, 2020).

Senegal

Initiation, After the central government's initial issuance left them disappointed, the first bond was issued in 2015. Restrictions fostering a climate of regulation, although the regulations were in theory helpful, the initial lack of cooperation from the central government irritated and delayed the planned 2014 launch.

Method of sale: The study was unable to locate the recorded technique of sale that Senegal employed when issuing its bonds. However, Senegalese city of Dakar established its creditworthiness by taking out loans from bilateral development organizations and making on-time payments. They were able to borrow additional money through financial markets as a result (Gorelick, 2018). Furthermore, the presence of motivated Institutional Issuer, Mayor Khalif, who is driven to see his city flourish, was essential to the organizing and planning of the inaugural municipal bond issue (Ansah, 2015; Gorelick, 2019). He hired legal advisors to examine all relevant regulatory and legal documents in order to determine the legal framework surrounding borrowing. He further successfully recruited institutional investors, who were prepared to make the bond purchase. In addition he sought support from the Belinda Gates and Foundations for financial assistance, who offered a sinking fund account as a guarantee (Gorelick, 2018; Takwa et al., 2020)

Lessons drawn for Africa

Overall, the bond market plays a significant role in funding public infrastructure projects and can give investors a reasonably safe and steady source of income while creating a considered cheaper supply of cash to the issuers (Mourao et al., 2020; Painter, 2020; Smoke, 2019).

Municipal bonds were introduced during periods of national financial hardship in both the United States of America and South Africa. The South African bond was utilized to refinance the burdensome loans that were already in place. The initial bond offering in South Africa raised so much capital that 40% of the funds raised were used to finance the planned infrastructure, settle an outstanding large loan, and saved a sizable sum of money that would have been used to pay the loan interest.

In addition, the process of issuing bonds and other workable alternative financing choices depends on the presence of an entrepreneurial, motivated institutional issuer. It took Alexander Hamilton for its beginning in the United States of America, Mayor Khalifa in Senegal and Corporate synergy in South Africa to issue the first bond municipal bond. The development of the bond market depends heavily on each entity's creditworthiness. It makes it easier to borrow money and pay off debt. This will be achieved through better infrastructure financing plans, regular credit rating evaluations, borrowing money and paying it back quickly, tying the proceeds of bonds to transformative projects, enhancing financial management procedures, and enhancing own-source revenue performance while keeping costs under control.

Furthermore, the growth of the bond market depends on the presence of risk-sharing bearers. Initiatives to build the bond market are supported by risk takers such as insurance companies, government support funds, donors to escrow accounts or the seeking fund, and others in every region. Bond market development and infrastructure investment gaps financing also require the presence of a variety of actors, including intermediaries such as underwriters, development financiers, oversight bodies, and local governments or public authorities that are close to the community and are thought to foster greater citizen trust. In summary, there is a need for institutional governance procedures, motivated issuers and investors, central government backing, legal and regulatory assistance, and the borrowing institution's financial stability for the bond’s successful initiation.

In Conclusion, it is impossible to overstate the importance of market participants, the issuance process, and financing choices like bonds in the financing of infrastructure projects. In order to fund capital developments that would not have been possible without innovative financing options like bonds, African governments ought to pledge to continuously improve their systems so that the political, regulatory, economic, and operational environments are favorable for the issuance of bonds and other innovative financing options. In agreement with the Schumpeterian theory of economic development, there is need for a driven entrepreneur, that is willing to assess the perceived risks and be willing to bear them and defend the adoption of other untapped into funding options (Nikoloski, 2016; Tomusange et al., 2021).

All enablers considered, the bond market is crucial to funding infrastructure investments and can provide investors with a relatively safe and stable source of income while creating a deemed cheaper and flexible source of capital to the issuers (Mourao et al., 2020; Painter, 2020; Smoke, 2019).

Recommendations

The African continent should draw lessons from the three pioneers in bond issuance, to set up successful first-time bond issuances and finance infrastructure that can pay off itself.

The African continent could interest itself in ascertaining what motivates the different bond market participants to participate in the bond market issuances for infrastructure financing.

Special attention to the social, economic, regulatory and a political environment is required to tap into different bonds to finance the African infrastructure investment gap reduction.

The African continent should base on the hard financial times, to seek out the use of bonds in reducing the infrastructure investment gaps as it was with South Africa.

Further studies: This study solely employed a secondary literature review analysis; other researchers can do the same investigation using a variety of qualitative techniques that entail interviews. It also only looked at three countries; more research can look at more countries that were utilized as case studies and different bonds.

References

1. Alexandro, R., & Basrowi. (2024). The influence of macroeconomic infrastructure on supply chain smoothness and national competitiveness and its implications on a country's economic growth: evidence from BRICS countries. Uncertain Supply Chain Management, 12(1), 167–180. https://doi.org/10.5267/j.uscm.2023.10.007
2. Ansah, N. O. (2015). Constraints to the Development of A Fully-Fledged Municipal Bond Market in Ghana. SSRN Electronic Journal. https://doi.org/10.2139/ssrn.2647391
3. Brancaccio, G., Li, D., & Schürhoff, N. (2020). Learning by Trading: The Case of the U.S. Market for Municipal Bonds. Working Paper, 65.
4. Chen, Z., He, Z., & Liu, C. (2020). The financing of local government in China: Stimulus loan wanes and shadow banking waxes. Journal of Financial Economics, 137(1), 42–71. https://doi.org/10.1016/j.jfineco.2019.07.009
5. Chowdhury, T. S., & Salema, S. M. K. (2023). Factors influencing the individual investors of Bangladesh to opt for investment in ṣukūk . Islamic Economic Studies, 31(1/2), 88–107. https://doi.org/10.1108/ies-01-2023-0002
6. DEVELOPMENT OF A RISK MANAGEMENT MODEL FOR PUBLIC- PRIVATE PARTNERSHIPS IN UGANDA . by Bonny Bagenda Student Number : 24105953 Dissertation presented in fulfilment of the requirements for the degree of Doctor of Philosophy in Public and Development Manage. (2023). March.
7. Edition, S., Chan, K. Y., Uy, M. A., Ho, M. ho R., Sam, Y. L., Chernyshenko, O. S., Yu, K. Y. T., Cuny, C., Even-Tov, O., Watts, E., Gonis, E., Paul, S., Wilson, N., Rhodes, W. C., Silva, M., Cerqueira, A., Brandão, E., Stanić, B., Mohsin, … Advance, R. (2020). No Titleبررسی فلور و پراکنش جغرافیایی گیاهان در ارتباط با اقلیم در مراتع منطقه ایرانشهر استان. SSRN Electronic Journal, 10(1), 148–162. https://doi.org/10.1108/CR-02-2020-0024
8. Fioravanti, R., Lembo, C., & Deep, A. (2019). Filling the infrastructure investment gap . The role of Project Preparation Facilities : an overview of MDBs and the Inter-American Development Bank approach V ice Pre s idency for Countrie s.
9. Gillette, J. R., Samuels, D., & Zhou, F. S. (2020). The Effect of Credit Ratings on Disclosure: Evidence from the Recalibration of Moody's Municipal Ratings. Journal of Accounting Research, 58(3), 693–

739. https://doi.org/10.1111/1475-679X.12307
10. Glasser, M. (2020). Municipal Bonds in Three Countries: India, South Africa and the United States United States Recommended Citation Glasser. Journal of Comparative Urban Law and Policy, 4(1), 96–132. https://readingroom.law.gsu.edu/jculpAvailableat:https://readingroom.law.gsu.edu/jculp/vol4/iss1/15
11. Glasser, M. D. (2020). Financing the New Urban Agenda. Law and the New Urban Agenda, November, 15–33. https://doi.org/10.4324/9780367188764-3
12. GOGOVA SAMONIKOV, M., VESELINOVA, E., GRUEVSKI, I., FOTOV, R., & BINOVSKI, R. (2017). Municipal Bonds in Developing Countries. Case Study: Municipality of Stip, Republic of Macedonia. Management Dynamics in the Knowledge Economy, 5(2), 155–174. https://doi.org/10.25019/mdke/5.2.01
13. Gorelick, J. (2018). Supporting the future of municipal bonds in sub-Saharan Africa: the centrality of enabling environments and regulatory frameworks. Environment and Urbanization, 30(1), 103–122. https://doi.org/10.1177/0956247817741853
14. Gorelick, J. (2019). Municipal Bonds in sub-Saharan Africa: The Checkered Past of Debt Instruments in an Era of Incomplete Decentralization. https://open.uct.ac.za/bitstream/handle/11427/31529/thesis_sci_2019_gorelick_jeremy.pdf?sequence=1&isAllowed=y
15. Grafe, F. J. (2020). Finance, water infrastructure, and the city: comparing impacts of financialization in London and Mumbai. Regional Studies, Regional Science, 7(1), 214–231. https://doi.org/10.1080/21681376.2020.1778515
16. Harun, M., Hooi, T. D., & Abdullah, H. (2020). Introducing Municipal Bond Markets in Malaysia : An Assessment of Present Market Characteristics. Malaysian Management Journal, 7(2), 25–37. https://doi.org/10.32890/mmj.7.2.2003.8610
17. Hassan, S. J., & Umar, O. M. (2023). Actualizing the Sustainable Development Goals 2030: the Role of Environmental Education in Poverty Eradication and Tackling insecurity in Nigeria. Educational Review Letters, 8(7). www.scholarj.com
18. Ismael Kato, Samali V. Mlay, Zuhra Nantege, Albert Miwanda, & Ruqqaiya Naluwooza. (2020). Mobile Technologies, Digital Financing and Access to Solar Energy in Uganda. International Journal of Technology and Management, 5(II), 1–23. https://utamu.ac.ug/ijotm/index.php/ijotm/article/view/66/68
19. Lindner, P., & Chung, K. (2023). Sovereign ESG Bond Issuance.
20. Liu, G. (2018). The Effect of Sale Methods on the Interest Rate of Municipal Bonds: A Heterogeneous Endogenous Treatment Estimation. Public Budgeting and Finance, 38(2), 81–110. https://doi.org/10.1111/pbaf.12174
21. Luft, J. A., Jeong, S., Idsardi, R., & Gardner, G. (2022). Literature Reviews, Theoretical Frameworks, and Conceptual Frameworks: An Introduction for New Biology Education Researchers. CBE Life Sciences Education, 21(3), rm33. https://doi.org/10.1187/cbe.21-05-0134
22. Maltais, A., & Nykvist, B. (2021). Understanding the role of green bonds in advancing sustainability. Journal of Sustainable Finance and Investment, 11(3), 233–252. https://doi.org/10.1080/20430795.2020.1724864
23. Mayer, M., & Wargo, L. (2023). Book Review: Innovative Infrastructure Finance: A Guide for State and Local Governments. In Public Works Management & Policy (Vol. 28, Issue 2).

https://doi.org/10.1177/1087724x221145095

24. Monk, A., & Perkins, R. (2020). What explains the emergence and diffusion of green bonds? Energy Policy, 145(July), 111641. https://doi.org/10.1016/j.enpol.2020.111641
25. Mourao, P. R., Bronić, M., & Stanić, B. (2020). Discussing the determinants of online budget transparency based on a spatial regression analysis of Croatian cities and municipalities: Do good neighbours make you better? International Area Studies Review, 23(3), 268–287. https://doi.org/10.1177/2233865919895854
26. Mugarura, J. T. (2019). Public private partnership governance for developing road infrastructure in Uganda : a public sector perspective. April. https://scholar.sun.ac.za:443/handle/10019.1/105729
27. Of, R., Africa, S., & Suid-afrika, R. V. A. N. (2003). Republic of South Africa Local Government : Municipal Finance Management Act Wet Op Plaaslike Regering : Munisipale. 56.
28. Oji, C. K. (2015). Bonds: A Viable Alternative for Financing Africa's Development. Occasional Paper 211 - Economic Diplomacy Programme, March, 1–24.
29. Painter, M. (2020). An inconvenient cost: The effects of climate change on municipal bonds. Journal of Financial Economics, 135(2), 468–482. https://doi.org/10.1016/j.jfineco.2019.06.006
30. Regency, H., Charles, P., Hotel, D. E. G., & Science, M. (2020). ECONOMY OF CHINA: DEBT LOAD AND PACES OF ECONOMIC GROWTH Siri-orn Champatong. 18–20.
31. Smoke, P. (2019). Improving Subnational Government Development Finance in Emerging and Developing Economies: Toward a Strategic Approach. In SSRN Electronic Journal (Issue 921). https://doi.org/10.2139/ssrn.3358007
32. Takwa, C. A., Babila, F. B., Teno, M. N., Ali, I., Banerji, S., Gangopadhyay, K., Thampy, A., Wong, Z., White, R., Lead, G., Management, C., Bank, T. W., von Mettenheim, K., Criterion, C., Is, C., Iii, N. D. P., ح. و. س. ع. ن. س. ,بارانی., Scholars, J. W., Xiong, Z., … Leigland, J. (2020). Supporting the future of municipal bonds in sub-Saharan Africa: the centrality of enabling environments and regulatory frameworks. Environment and Urbanization, 17(2), 103–122. https://doi.org/10.1177/0956247817741853
33. Tumanggor, M. S. (2020). Issuance of Municipal Bonds through Capital Markets as Financial Revenue for Regional Development. International Journal of Economics and Business Administration, VIII(Issue 3), 326–334. https://doi.org/10.35808/ijeba/519