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PAPER SESSION 5: CURRENT ISSUES IN THE MUNICIPAL BOND MARKET

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WESSEL: Appreciate it, we'd like to stay on schedule. Gotbaum. Gotbaum. If I can get everybody to come in and sit down so we can resume. And I really appreciate Yaffa is coming to be the moderator in the next session and I'm counting on her to do the same job that Steve did and keeping the speakers to the allotted time.

RATTNER: Thank you. Good morning, everybody. My name is Yaffa Rattner. I am a senior managing director at Hilltop Securities and also their head of credit. I have a confession to make to everybody in the room. This is my first time here. So I was taking active, copious notes, watching Steve moderate the panels and keep everybody on track. I hope to be able to be similarly successful. To me is the first time here. It's really amazing to watch the intersection of academia and what we're seeing in the muni markets on a day to day basis. So I'm super excited to really think through and with each of our three panelists and discussants today. So first on our agenda is Marc Joffe from the Cato Institute. He's going to be discussing his paper on financial reporting standards for U.S., state and local governments. Marc.

JOFFE: Well, I have good news for you. For those of you who are practitioners and don't like equations, my license to STATA from graduate school expired, so I was not able to do any regressions as part of this paper. So. So I want to talk to you about the need for better financial data standards in the municipal bond market. I wanted to paint for you a picture of what I think the ideal outcome should be, not only for researchers, but anyone who is in an oversight capacity, be it in a state, be it a federal grant or and of course, if you are in the municipal bond market as an investor, what what kind of data and how it should be presented should we expect and I think what I outline here is really a minimum realistic expectation. I don't think it would be very expensive to implement given all the modern technology that exists today. And I think it's more a matter of how we should get here as opposed to whether. So the first box at the top gives you sort of the idea of a of an ACFR database. So you'd imagine one row per entity per year, it would have columns for different kinds of assets, current fixed liabilities, especially other post-employment benefits, which we learned yesterday are very difficult to collect. And I can, I can attest to that fact taxes, user fees under revenues and then obviously expenditures by category. So you can imagine a spreadsheet with maybe 30000 to 40000 issuers, those who produce audited financial statements, one row per year, perhaps 3 to 500 columns of information. You know, this is something that is well within our capacity as an advanced economy to produce. And it's sort of really baffling as to why we haven't been able to get the to get here yet. I think it's also important to note that we can get some of this data, but it's on a often very delayed basis. So the idea here should be it should all be audited information and it should be information that's available shortly after the fiscal year end for each entity. And then I have a second table coming out, and then this is for official statement information. So things like the coupon rate, the maturity date, what kind of callability provisions are issuance costs and other terms and conditions? So for for those in the institutional market, I know you got this, but you might be paying a vendor, you know, 30, 40, $50,000 a year to get it. This really is a public good and everybody should know about it. So this further evidence that this is that this is not impossible comes from many states. So if we look at the bottom that's already served up in Texas by the Texas Bond Review Board, so you can go to the Texas Bond review Boards website and download this kind of data set for free. And it's updated on a fairly regular basis. The the act for a portion Washington state New York less competently. Unfortunately my state of California, Ohio, Utah, there are a number of states that again have already accomplished this at the state level and there are many states that haven't. So the idea is with things like the Financial Data Transparency Act that hopefully we can nationalize this and achieve this for a while for all states. So what are some barriers to, you know, getting this kind of information, you know, on a regular, predictable and comprehensive basis? I'm listed them all here. I'm going to just take you through them one at a time. So a real thing that holds back our market. CUSIPs. Okay. The global use of services actively and aggressively enforces intellectual property and monopoly control over CUSIP identifiers. And that really damages the redistribute, redistribute ability of information. So, for example, if I go to MSRB's EMMA website, I can’t copy and paste a security identifier because it's been protected. I can't download a large amount of information. In fact, I can’t even download their list, their collection of annual comprehensive financial reports because I is a think tank researcher, do not have a CUSIP license. So, you know, you think about the equity market. There are like a three or four position identifier for stocks and it's public. It's in the public domain. Everyone uses it, it's freely exchangeable. I can go to 12 different websites, type in the you know, the AAPL And see all the information I want about Apple. Why shouldn't I be able to do that about, say, the city of Cleveland, for example? Right. Where my discussant mentioned that a recent SEC meeting, that when he goes to EMMA to look for the city of Cleveland, there's about ten city of Cleveland's there because there's a lack of a unique identifier. So, you know, CUSIP should either be reformed or replaced. So one opportunity for reform is the current litigation by Dinosaur Financial Group and holding. Those are two separate cases that have been merged. There was a recent court order relating to that case. Some of the aspects of the complaint have been dropped. Other others are retained are being retained. One finding is that neither side's contested. The fact that CUSIP, individual CUSIP numbers are not copyrighted. So I think that does severe damage to the claim that this is intellectual property. Now, our global use of services is part of facts that is insisting that it's the collection of all of the CUSIP numbers and the reference information that represents the their their intellectual property. But again, that's really trivial information and and you know, should be freely redistributable. So barring an improvement to CUSIPs, you know, we can look at replacing them. And one thing that's contemplated in the Financial Data Transparency Act is extending the system of legal entity identifiers is now common in the private markets to, you know, to government bond issuers. Also, you know, we can look at replacing the CUSIP as a security identifier with the financial instrument global identifiers or figures. So that is basically a big portion of Bloomberg's reference dataset that's been made public and is available at Open TheGrio.com. So you can see, you know, hundreds of thousands or over over a million, I believe, municipal securities there. And if that was integrated into EMMA instead of CUSIP or in addition to CUSIP, perhaps we could have a more, you know, free flow of data, a serious problem that we have in terms of reaching the vision of a full and timely information is is late filing. So in the municipal market we normally allow 6 to 9 months for for financial statements to be reported, which contrasts pretty severely with the corporate market where it's 60 to 90 days for public companies. But even that 6 to 9 month timeframe, a lot of issuers or a lot of government entities because I don't want to differentiate necessarily just between securities issuers and those that have to file financial statements because they're they fall under the federal single audit or because they have a state filing requirement. So many governments can't even make this 60 to 90 day sorry, 6 to 9 month limitation. And some of those are very important. So if you look at the last two cities that have filed for bankruptcy, you know, since the year 2020, Fairfield, Alabama, and Chester, Pennsylvania, both of those were over two years late with their offers. Right. The commonwealth of Puerto Rico, another, you know, huge case of bankruptcy, was at least three years behind on their offers at one point. Now, an entity that I don't think really has any credit worries at the moment, the state of California still hasn't been able to get a get it together for the last five consecutive fiscal years. And in the last fiscal year, where they reported 2021, they were a full year late. So California's offer for was provided 21 months after the end of the fiscal year. Compton, California missed some years entirely. There is no 2015, 2016 or 2017 Compton ACFR, Mt. Vernon, New York. The last time I looked and I apologize, I haven't updated myself just before this meeting is at least five years behind. I think the last one I saw was 2016. So, yeah, this is not something that that taxpayers, municipal bond investors, regulators should really accept. And I think there are there are a couple of, you know, solutions for this. And the key solution really is to make the timely filing of your financial of your audited financial statements a prerequisite for getting further federal funds. And that would really, you know, concentrate people's attention to to delivering, you know, these filings. I can tell you that in North Carolina in the last month, passed the law. That has now made sales tax distributions to local governments contingent on filing an ACFR within a year, which I think is pretty relaxed. And then Utah has had a long term policy of conditioning distribution of funds to to a six month filing timeframe. Heterogeneous accounting standards. So we you know, the private markets we have GASB in government world, we have GASB. And for many people, that's where it all ends. But the fact is that there really is no national requirement to use GASB standards. And in several states, including the ones I've listed, it's pretty unusual for local governments to file GASB compliant on financial statements. A lot of times these are cash based or modified cash based. You don't really find any information about long term liabilities such as pensions and other post-employment benefits. Then you have some governments, including a couple in California, several in Illinois, a few in Michigan that follow like a modified version of GASB. So they have not implemented GASB 34, which is the standard for financial statement filing that includes the full accrual balance sheet and income statement, which we call in our market the statement of activities. So there's a wide array of compliance and noncompliance and that undermines that. The idea of that spreadsheet that I showed you earlier, because we would be looking at numbers from a, you know, an accrual based entity and trying to compare them to an nonaccrual based entity. So we're really looking at apples to oranges. One thing that could be done here, and this is quite a stretch, I have to admit, but it is you know, it is a policy idea that I'd like to float is that the OMB, which oversees the single audit process, could require GASB adherence. I mean, right now what happens is if I look at a New Jersey local government financial statement, I'll see an audit point saying, well, this does not meet General accounting, generally accepted accounting principles. Why don't we go further to say, well, we are we as the federal government are not going to accept and what it is financial statement that does not meet gap standards? A harder one still is the lack of a standard classification method for, you know, revenues, expenditures, assets and liabilities. States have standards. So for example, Florida has fairly granular, you know, set of accounts that are based on GASB then, but then go much, much further into detail. We've seen charts of accounts in other states. Some of them are required more generally, they're they're voluntary. The the Census Bureau imposes some level of discipline because when the census sends out their annual survey of state and local government finance, there are categories for revenues and expenditures that fairly high level, but maybe they would be functional. So perhaps the way that this can be dealt with, I don't think this can be dealt with in a in a mandatory sort of way, I think has to be really handled voluntarily. But perhaps the census could get together with various states and and come up with maybe a somewhat more granular level of the of the already used census standard, which has really been enforced for four decades now and perhaps, you know, have a have something where maybe smaller entities could just produce the actual census categories, which they're already required to do every five years or more. You know, more advanced entities could have a more granular, you know, set of, you know, set of categories that they could report. This is, you know, this one is really amazing. And I've worked on this for for quite some time personally. And I think there's several people in the room I've hit up for funding for this particular project. So the idea is that while we continue to be in the world of PDF based ACFR, could you just go to one website and be able to find all the ACFR that are out there and then just download them for free and without, you know, without going through the you know, and, you know, I'm sorry to say, because I know people from MSRB are in the room, but the fairly complex navigation that you have to go through with with EMMA. So is there a way to simply, you know, just I want to see, you know, Compton, California's ACFR for the last ten years. I know I can't, but if I could, I'd like to be able to just go to a website and be able to just type in Compton, California, and see all that. So there's some hope. You know, the Federal Water Clearinghouse starting in 2016 produced all of the single audits online. And I have used up my time, so I guess I'll take more, more information, more comments, where I will respond to more things during the Q&A. Thanks.

RATTNER: I'd like to call up our discussant, Ahmed Abonamah.

ABONAMAH: Great. Thank you. Good morning, everyone. It is a pleasure to be here. Long time attendee, first time speaker And I'm really happy to share some thoughts on Marc's paper, as I'm sure a lot of you know, this is a topic that Marc has been vocal on over the years with respect to disclosure in the municipal market. And, you know, it's a topic that in my career as a bond lawyer, as staff at the SEC and now as the finance director of the city of Cleveland, I've kind of seen from a variety of different angles and have what I hope is a unique perspective on on the discussion and some thoughts that can help move the dialogue forward in a way that can be productive for the for the future. So first, I think at the most basic level, absolutely a believer in any discussion that is about improving the availability and quality of disclosure in the market. It's it's essential for the efficient functioning of the market. It's something that when I was at the commission, we worked really hard at accomplishing through in both the primary market and the secondary market with respect to additional event notices under Rule 1332 12 to make kind of private debt obligations more transparent to the investing public, but also in the secondary trading market with respect to market disclosures, to give investors a greater sense of what it actually costs them when they're transacting in municipal securities, something that, per investor surveys, most investors had no clue that a trade even cost them a penny, let alone many, many multiples of pennies each time they executed a trade. So the extent to which Mark and this paper really adds to that dialog, I absolutely applaud the effort and I think it does enhance the discussion in a meaningful way. And so as Marc just walked through, he raises six shortcomings with respect to municipal disclosure. He discusses potential solutions and some recommendations and some possible objections to those. What I'll do is I'll address kind of each of those six shortcomings in turn offer some some thoughts on the discussion of those topics in the paper and then offer some broader thoughts in the aggregate of the presentation. And I'd also note I take some pride in being the only one without a PowerPoint today. Might be able to tell that I'm a lawyer. So first shortcoming the lack of these effective and freely redistributable standard identifiers. I really think that there are two issues embedded in this one. One, the absence of a single issue or security identification convention. And then also a convention that is freely and readily distributable without having to pay for licensing fees, etc.. This is a topic that I see some former FCC colleagues in the room we dealt with frequently in our in our time together. And I would just say a couple of things. One, I have no objection to a system that is more comprehensive and uniform where we don't have multiple CUSIP sixes for the same issuer and a system that is freely distributable and easy to access. I think the devil, of course, is in the details. Even the author points to the UI identifiers that the federal government has set up. And that's no panacea. The city of Cleveland has five us. So it's not it's not clear what the actual solution is there that could create a really clean single identifier at the issuer level and then security level identifiers. And then what I expect would be needed is for, you know, issuers that have different credits within the umbrella of the larger issuer like the city. We have a water credit, we have a pollution control airport, another identifier that can segregate those separate credits from our general obligation, tax supported credits. And so the only real advice on this that I would would offer a caution is we should avoid baking into any future regulations, a specific service or a specific provider. And if the regulators were to take this up, really encourage them to set standards so that we're not saying, okay, Bloomberg's tool is what we're going to use now, what happens ten or 15 years from now if Bloomberg decides to not be so generous with its freely accessible identifier? I'd also note that this is really a market convention, and it's up to, to a certain degree, the market participants who are using this this CUSIP convention to determine that they want to use something else, that at a certain level, this is wholly within the market's control. I would also note just the cost in the burden of some kind of a change like this, which on the upfront for the issuance portion would be relatively easy and simple. However, the MSR, because Emma system is built, the infrastructure is built based on the use of identifying convention and to pivot from CUSIP to something else would come with tremendous expense burden and disruption to the functioning of. So I would just encourage the author to think about that issue and how we could work through that as a as a market. So, second, with late filings, I mean, look, they happened we had NCDC. We know that sometimes they never happen at all. They happen for myriad reasons. And I don't think that anything is going to change that. You know, the probably the best way to address late filings would be through some really significant and major and incredibly controversial changes to the regulatory framework of the municipal market, which I don't think we're here to discuss. And I did not bring the right protective gear to have that conversation. And so this is this is a tough one where the deadlines are clear, The regulations are not vague. You know, you have ten business days to file and admit to a material event. Notice you have a filing deadline in your continuing disclosure undertaking to file your annual consolidated financial report. I think the issue is a complete lack of market discipline in the context of knowing that there is. Almost always an imbalance between supply and demand. And so that market discipline is really hard to impose on the broker dealer side. But without that kind of discipline, without the market and the folks with the capital who are investing, conveying to issuers who are not fulfilling their disclosure obligations that there is a penalty for that failure, the late filings, the issuers that say that, you know, we're fine, we were late a year, but we still got great pricing on our last offering. There's no market communication that's conveying to them that this is a real problem other than folks like us in a room sort of acknowledging that theoretically that this is a problem. So third, I'll address the combination of the Heterogenous Accounting standards classification methods and the PDF based reporting, because I feel that these kind of fit together conceptually, and I do believe this is where the the paper really could use some more thorough discussion of how we could get this done and why we should get it done and what the costs and burdens would be on individual market participants and then the market more broadly when we're thinking about any structural changes with how the market collects information, etc.. And you know, a couple of questions for for the author, you know, is how much is homogeneity the objective here? If it is, how do we get there? Would we be trading one version of heterogeneity? Heterogeneity, you know, that is kind of jurisdictional based with another version that is dependent on the kind of issuer we're talking about. Is it really conceivable to have a single set of standards for a market that is as diverse as this? You know, I think there's a there's a note in the paper about the number of municipal issuers really being at about the 36,000 mark. That's a lot. It's compared to the public company number, which is, I believe, under 4000 now. And so, you know, there's a sense of scale here that we have to wrestle with and a sense of complexity. Given that you're a governmental entity and you're a governmental issuer, no matter how big you are, if you enter the capital markets, whereas you know, you can, it's pretty easy to choose not to be a public company these days. I'm running short on time, as always. So, you know, I will. I'll jump ahead. And I was really interested in the tower amendment discussion and how it related to some discussion in the recommendations and some of Marc's comments when he was on the stage. You know, reading the discussion about the tower amendment, it came across to me that this is really a securities law discussion that we were looking at the securities laws to be the tool to get this kind of disclosure out into the world. But then when we get to the recommendations portion and we listen to the remarks, we're talking about the Federal Audit Clearinghouse and OMB, and and I think acknowledging that distinction between the source of authority and who is able to request what and require what of municipal issuers is really important. The 10th Amendment, the tower amendment is a distinctly securities law question and I think has really interesting possibilities if that that the paper could explore in terms of the true scope of the federal government's authority. The real words in the tower amendment and what that could mean for future regulation. So my time is up. And with that, thank you.

RATTNER: Mark, do you want to respond to Ahmed's comments?

JOFFE: I do, if I can figure out how to turn it on. All right. There we go. I need the technical support. Thanks very much, Ahmed, for taking the time to read it and comment. With respect to, you know, Bloomberg's involvement. Bloomberg has given up ownership of the FIGIs. So that really now exists in the in the in the public domain. I take your point about disruption to AMR. I think that's definitely something that needs to be needs to be considered with respect to the, you know, varying types of of issuers requiring different kinds of reporting. I mean, they we didn't I didn't I ran out of time. I didn't really get into discussion of XBRL. But, you know, XBRL Taxonomy can include really an unlimited number of revenue expenditure, asset and liability concepts. So there's no reason that one taxonomy couldn't handle a lot of different types of issuers. However, it's also possible to have multiple taxonomy. So if we decided, for example, that there needed to be a special taxonomy for transit agencies versus general purpose governments, that's also possible in terms of implementing FTT. And I did I think I made correctly points out that I do a lot of conflating of different regulatory regimes. So let me just be clear that, you know, any entity that receives an expense $750,000 of federal funds has a filing responsibility with the federal government, you know, as part as part of what used to be called well, I think it's now called two CFR 200 needs to be called circular, a 133, which is promulgated by OMB. And that is a way to to regulate. And I and there is an act called the Great Act, which was passed in 2019, which mandates the use of machine readable disclosure for the for those single audits. But we have not yet seen that being implemented. Thanks.

RATTNER: Awesome. You know, the goal is certainly laudable. Who wouldn't want more timely and easy to read financial reports in the market? But before passing it on to the audience, I just need to raise one question. You know, you do mention that there's about a half a dozen states that don't conform to GASB, and I can't help but think about the unintended consequences if there was some sort of federal mandate out there that all of a sudden, you know, New Jersey and miscellaneous other states need to now conform their documentation. Who's going to do that? So we have local units of government with very limited human capital equipment. They'll be the net loser here because they're going to have to pay for the change. And then on top of it, the net winners theoretically become the financial advisors, municipal advisors, auditing firms and technology firms that get to capitalize on the need to completely change a financial model that I'm not saying it's great or not great. I have a completely empathetic on it. My point simply is, is that there's a huge tax burden here and huge financial costs, unintended consequences as we move toward this goal of more efficient disclosure. That's my comment. I'd like the audience now to respond as well. Go ahead.

AUDIENCE MEMBER: So I just want to add one thing to the late filing topic, which kind of came up yesterday as well. There is there was a an S&P action a couple of months ago where they put 149 municipalities on negative watch because they hadn't submitted timely first. One of the reasons they cited is that there's a vast shortage of CPAs in this country. And I did a little bit of a dive on that, and it is extending to the corporate world as well. And if you look across some of the discussions we've had in the last couple of days, the shortage of construction workers, their shortage of teachers, their shortages of daycare workers, etc., etc., we have a pretty major crisis in this country. And this extends into the municipal market and its ability to get timely information out.

ABONAMAH: If I can just add, yes, it's a real it's it's it's a real challenge. You know, in Ohio, we were a little bit buffeted by that because the auditor of state is the auditor of record unless it relinquishes the audit. And we've had the good fortune of being audited by the auditor of State the last two years. But even that comes with timing challenges as well. We've really had to negotiate quite vigorously to get them to hit our deadline of posting our act for. And they initially balked and it took nearly a year call the governor's office to to get that to happen.

JOFFE: Can I just start on that? So in North Carolina, that argument came up when they passed their their enforcement requirement. So there were there are 600 governments in North Carolina that have to file with the state. And there were 25 or so that are more than one year delinquent. So somehow, despite the shortage of government accountants, 575 governments in North Carolina were able to figure out how to how to comply with this requirement. One one reason why we specifically are going to face a greater shortage of government accountants is is that the industry is not is not keeping up to date with technology. Right. So you are you know, your ability to to use your skills elsewhere gets less and less as you as you fall further and further behind what's going on in the corporate accounting world.

RATTNER: I think that comment, though, goes right back to the earlier comment of the earlier panel that Steve moderated. It's just not politically expedient to necessarily spend your cash and limited resources on improving financial disclosure or financial reporting models within a particular municipality, as opposed to paying for that extra police officer, that extra teacher. And. And therein is that conundrum that continues to perpetuate in these markets. Next question.

AUDIENCE MEMBER: [Inaudible] from from Bloomberg Open Symbology. And I want to echo what Mark had noted, that Bloomberg does not own the intellectual property or the copyright of FIGI. It rests with the standards body who have adopted FIGI. Within, the standard itself is written under the MIT Open Source license, which guarantees its perpetual open source. Bloomberg cannot charge Bloomberg cannot generate revenue from open FIGI. It is Bloomberg Security Master Identifier. It is our primary key within our data sets, but we do not own the intellectual property of FIGI for that. With respect to the impact on the EMMA website, we had a very nice conversation a number of years ago when EMMA was going under its facelift for its website. We had made all the appropriations for a mapping service exclusively for the EMMA website. The impact to the MSRB and the mapping of CUSIP to FIGI is minimal. We actually provided on the website to an open source APIm freely available. And in terms of the FDTA impact, if the specific section where actually calls out the identifier section, it does not name FIGI, but it describes what this what the identifier should be. One, it needs to be a standard of a recognized standard body. Two, it needs to be open sourced and unlicensed. Three, it needs to be machine readable and four, it needs to be freely redistributable. You have to use it. And you have FIGI. Only one of those identifiers meets the standards of the criteria of the FDTA. It's -

what FIGI has done to CUSIP is what LAI has done to Dunns and that type of comparison I think hits home here in D.C. It is basic reference data, nonproprietary and open sourced. So I just wanted to touch on those three things.

RATTNER: Next question.

AUDIENCE MEMBER: Hi, Matt. From [inaudible] again. Well, I'd echo Marc to your point about the muni market falling behind in technology. The FDTA actually states artificial intelligence, if you read the summary. So my question is, generally speaking, if you think about the aggregation analysis of PDF documents, how do we all envision these emerging technologies playing a factor in the years to come?

JOFFE: Well, I think there are some people in this room of forgotten more than I know about artificial intelligence. But you know, my understanding of how things like, you know, charts work is they work on a corpus of data. And so if we don't have clean data going into our models, we don't have useful outputs because garbage and is associated with garbage out. So cleaning up our data, especially at source, is the way we get better data and better governance over the municipal market.

RATTNER: We have time for 26 seconds worth of a question. Anybody taking that? Go ahead.

AUDIENCE MEMBER: Well, 26 seconds, I've got to formulate a question really quick. So Emily Brock with the Government Finance Officers Association, thank you so much for the information. Been deeply involved in this conversation. At GFOA fundamentally we practice we we we we focus generally on creating best practices. That is when good things are done, good things happen as a result, a carrot instead of a stick. And, Yaffa, to your point, if things are kind of pushed upon us and imposed upon us as opposed to sort of a natural underpinning of how might we be able to learn this technology, formulate this technology and create a municipal market that's a $4 trillion market that underpins our economy across our country. We're heading in that direction. I think it's probably out of the scope of reality to think about it implementing in four years, but certainly I think it's worth a mention that there are really good things happening in technology at local government levels, especially in financial reporting as we move forward. So that wasn't really a question. That was a point, that was a statement. But hopefully any comments.

JOFFE: I'd like to I would just like to, you know, associate myself with the position that I took in 2009 when it said and its best practice for web presentation that local governments should adopt XBRL when it became feasible to do so. And so I think that was great. I think it was also great that until 2017, GFA provided the Financial Indicators database, which aggregated about 70 data points on 4000 governments. And so I think GFI has done some great things in the past and I look forward to working with GFI to do some great things in the future to implement FTTH. Thanks.

RATTNER: Awesome. Thank you so much. Yeah, I know if I don't keep everybody on track, I'll never be invited back and this is way too much fun. So next we have Lisa Knauer and she will be discussing "Private Activity Bonds as Investment Subsidy: Evidence from the 1986 Cap on Bond Volumes."

KNAUER: Okay, So thanks a lot for having me. I'm super excited to present my paper on private activity bonds as an investment subsidy in which I'll derive evidence from the 1986 cap on bond volumes here today. So as you can infer from the title, the main focus of this paper will be qualified productivity bonds. Those are tax exempt bonds issued by US state and local governments on behalf of private sector firms, with the ultimate goal to foster local investment and employment. The U.S., state and local governments, they only act as the conduit issuer not taking any liability of those bonds due to the tax exemption. Those bonds are substantially cheaper than standard corporate bonds. And to give you an upper bound of this of this cost advantage in the eighties that I'll study in this paper, the relative difference between top rated local government bonds and corporate bonds was about two percentage points, which gives their relative cost advantage of about 20%. So that's quite. This is an upper bound, but this is quite substantial and making it a very cost attractive tool of financing for corporations. The overall size of this private activity bond issuance market is quite large. In 2019, it constituted for about 25% of all issuance and it was way larger in the eighties. Grade constitute for more about 50% of of all issuance in this muni market. From a political point of view, those private activity bonds are often controversially debated, mainly due to federal tax revenue losses there. They're associated with Fed so that this tax exemption for private activity bonds was often very close to being terminated, but still exists today despite the political attention. And also like the overall size of this muni, out of this productivity bond market, relatively little is actually known about those productivity bonds from the beneficiaries side. So from the corporations that are the ultimate recipients of those proceeds. Therefore, in this paper, I'm trying to provide evidence or insights on the corporate reaction to this type of financing. And I'm basically trying to answer two questions. The first being is how does this supply of productivity bond financing actually affect firm investment in the first place? And the second question, given that those productivity bonds, subsidized capital relative to labor as an input factor, how does private activity bond financing actually impact employment in a second step? And so there might be either some substitution effect going on or some scale effect relative to how this is going to be used within the firms when trying to estimate the impact of productivity, bond financing on firm outcomes. I'm going to face multiple ID challenges and I'm going to give you a broad overview of those challenges and the way I'm going to address them now. So most straightforward, obviously productivity bond issuance isn't random, so it might simply reflect differences in local investment opportunities that are existent out there, even within the same set of local investment opportunities. Not all firms will demand private activity, bond financing. So there like additional endogenous factors why firms will request this type of financing. And it's very difficult to control for this universe of motivators that drive firms to request this financing in the first place. And finally, a second step of a selection issue, meaning that states also have discretion in the allocation of private activity, bond financing, and might presume different agendas and how they want to distribute this subsidy. To give you an overview of how I'm going to address this, So my main analysis will be based on a bordering county sample. So which allows me to kind of keep investment opportunities constant and I'm going to exploit differences in a per cap, perhaps apply shock at those state borders to address the differences in in the selection into private activity, bond issuance of those firms. And your of my analysis will be based on productivity bonds, eligible firms. So those that would qualify this of this type of financing but are not necessarily the ones that will request it in the end. So a huge share of those estimates will be rather an intention to treat effect relative to a direct effect that I will be tackling on. And finally, to address state selection or distribution mechanisms of this productivity bond financing, I will explain exploit a lottery based allocation approach for one state in my sample, which will be Texas, which will give us like a random variation in how those private activity bonds will be distributed. Okay, so let's jump into the main shock that I was. In this paper, which is around the 1986 Tax Reform

Act. Well before that, this 1986 tax reform and productivity bond issuance was booming very crazily. So the 1986 Tax Reform Act kind of constituted the biggest shock to this productivity bond financing market ever with this Tax Reform Act. State level volume caps of total issuance of private activity bonds were implemented, and in particular those this this allocation schedule that was implemented at the time. Do you know that that for states with a population of less than 3 million total issuance in this states can only be read as a floor value, a baseline by volume of 150 million in total. And for states with a population above 3 million inhabitants, those states can distribute 50 U.S. dollars times the state population. When we use this allocation schedule and think about this on a per cap private activity level, this results then in the distribution that you'll see on the bottom that people that have states with those more than 3 million inhabitants or a population of about 3 million, which have been basically bound by this 50 U.S. dollars per cap threshold and can only distribute 50 U.S. dollars per person in private activity bonds, various less populous states or the smaller ones can distribute 150 million U.S. dollars divided by the respective state population, which then leads to higher private activity. Bond cap limits in the in the less populous states. To give you an concrete example, for instance, West Virginia at that time had a population of about 1.8 million inhabitants. That translates into a per capita supply limit of about 80 U.S. dollars. So this would be a state on the left hand side of the 3 million threshold, whereas, for instance, Virginia had a population of 6 million inhabitants, 6 million making it bound by this 50 U.S. dollar per person threshold. And those states are basically bordering. So we have West Virginia, which has like can distribute higher amounts of productivity bonds per person where he is. Virginia could not do so and was bound by this limit. I am going to explode this variation in per cap, perhaps supply limits. Then in a difference in difference design. That state court is where I would basically look at real effects on the county level and on the firm level. And this thus would be a request on this per cap supply measure that I just introduced interacted with this post period. Most importantly, I can control in the state board a setting for common economic trends at the state border by using and like this state board, their proposed fixed effects. And so this will kind of at least give me some bound on under local investment and opportunities that are existent there. And the main outcome variables of interest at the county level will be changes in actual property activity, bond issuance and for the firm level, I will look into firm investment in firm employment as the main variables of interest in the setting. I will have a sample period from 1983 to 1990 and I restrict my sample to not compare the universe of counties against each other to like a map issuing a county sample to any counties that issued any productivity bonds in the ten years prior to the reform and productivity bond eligible firms will come from come to start, and they're mainly manufacturing, transportation and utilities firms. The rest is rather not so relevant for this and to identify the actual private activity bond beneficiaries. I will make use of data from STC platinum and this would be hadn't matched to come to stand in the end. So let's walk you through the different results. So in the first place, I want to pat paddlers that this state level per caps supply shock actually translates in differences in private activity, bond issuance on the county level within those states. So I'm using this state border regression framework that I just introduced, and I'm going to compare private activity, bond issuance on the county level. And for this variation of per capita pub supply measures, I'm going to show you the coefficient plot here. So the outcome variable is private activity, bond issuance on the county level. And we see that for these different levels or for this variation in per capita cap supply, we do not see any differences in their issuance trends prior to the 1986 tax reform. And after like this, new caps on private activity bonds have been implemented. We see a relative increase in private activity, bond issuance. And when counties are in states with a higher per capita supply limit and this effect kind of space or increases slightly until 1989, before it kind of. Resolves a bit over all the magnitude of this effect. Do note that about a $1 increase in the per cap supplies measure, which translates into about 1.737% increase in productivity bond issuance on the county level after the 1986 tax reform. Have you shown that this perhaps supply limit actually translates into the differences in issuance? I'm now jumping into the from level results and I'm first looking at how this differences in per cap climates limits effect from investment as defined as the logarithm of CapEx over assets in that setting. This is like a similar coefficient plot over the time. Again, we do not see any differences in investment trends prior to the 1986 tax reform either or prior to the implementation of those new caps. After the reform, we see an increase and an upward trending increase in firm investment for firms which are located in states relatively higher compared to lower per cap pep supply limits. I am talking about the magnitude of the fact they are rather large so that a one standard deviation increase in per caps supply limits leads to an increase in capital to assets ratio for those firms. This other results for the private activity on eligible firms. I can also use this regressions on the actual beneficiaries of those bonds. Given the smaller sample size I cannot control for the state for the setting there. But I also find that across the different specification for the beneficiaries, if it's either beneficiaries after the reform or firms that received a productivity bond before and after the reform in column three and four, that across those specifications, they also find a positive impact on firm investment for being located in a state with higher per cap supply. Now, moving to how this increased investment for those firms translates into differences in employment. I'm applying the similar setting as before, as I'm looking at LOC employment as the outcome variable and showing how differences in the per caps perhaps supply impact employment over this event period. Again, we see non-significant trends prior to the reform and after the 1986 tax reform, we see a direct increase in employment for being located in states with higher per caps apply limit and this kind of stays rather constant in the post period, and the magnitudes correspond to about a 5% increase in employment for one standard deviation in per cap supply. This is more consistent with that. There are more scale effects related to this private activity bond financing, whereas this does not provide any evidence for any substitution effect going on in the final part of this paper, as already pointed out, I will then turn to the actual selection mechanism at this state and address concerns that actually select states might select the best project within the states and that this might drive that results. Therefore, I'm making use of data from the state of Texas, the state of Texas relative to the state of Texas as one of the states which has always been oversubscribed in private activity bond requests since the existence of this private activity prone program. And it's also one of the biggest or the second biggest private activity bond recipients in total, making it a good laboratory to study private activity, bond allocation. The state established a lottery based system so that firms apply for priority activity bond issuance before a certain deadline and within subsidy length and in January. Then the state runs a lottery system and basically assigns a lot number. And depending on that number, you'll either receive private activity, bond financing, yes or no. So by this, I can basically then compare lottery winning firms to lottery losing firms for firms, which all applied for this lottery in the first place. I can only use a very limited time sample because I need to observe both lottery winners and losers in the same year. And I'm also trying to come up with the cleanest estimation of the sample so that I only consider lottery winners and the first year that I observe them in the sample and the control group and only consists of firms which never received any private activity bond issuance in that time. The regression framework then in a delta based regression. But I'm estimating the change in from investment on the lock on the allocated bond volume over the time controlling for lottery year fixed effects, looking at the results. So my preferred specification is in column four or five and six where I'm including lottery year fixed effects, basically comparing lottery applicants in the same year for this reform. And I'll show the differences over the time horizon for one, two and three years of this reform. We see that, and in year one, we do not see any direct effect of receiving any private activity, bona fide the lottery. The effect seems to kick in in year two and slightly increased in year three, meaning that this random allocation of bond volumes by the lottery is associated with a relative increase in in firm investment over that time. That being said, I'm hoping to shed some light on the corporate reaction to this type of findings in providing evidence for like more a stimulative effect of firm investment and showing that employment is more living up to a scale effect in that setting and trying to provide insights on how actually firms react to this type of financing. Thank you.

RATTNER: I'd like to invite Igor Cunha from the University of Kentucky as our discussant.

CUNHA: I'd like to thank the organizers for inviting me to discuss this paper. It's a pleasure to be here. So I do. Although Liz did an amazing job presenting the paper, let me just like highlight some of like, summarize the paper just to highlight some features that are going to be important here for my discussion. Right. So this paper is trying to answer a basic question What's what's the effect of productivity bonds on firms, investments in employment decisions? Right. So the basic idea here is to try to test the following hypotheses, right? That either there would be a the scale effect in which like by lowering the cost of one of your input factors, you decrease the total cost of production, making the firm produce more and invest more in all inputs or a similar situation effect in which by lowering the cost of one inputs, the firm would substitute away from one input to the other. So like moving away from employment, investing more in capital, right? So then basically that's the, the main hypothesis the paper is trying to do. And of course there's a lot of like ification challenges associated with trying to answer this question, right. So one that you can think of is like this the spams are not randomly given away, Right? So are there's a selection in who receives these bonds and like so there could be an immediate variable that is explaining both the allocation of the pairs and the decisions of the firms should both invest in employ more or less. Right. So what the paper is doing to try to to solve this problem is explore these gaps that were established in the 1986 tax reform that basically limited the maximum amount of private activity bonds that were allowed to be issued in a given state. And it was a simple rule. If the if the state had less than a population of less than 3 million people, then the state could issue up to $150 million in pipes. And if it was more than 3 million people, then it was basically $50 per people. Right? So so this generated a lot of like distortions in like the amount of available pair. Right. So basically for for example, in Vermont, it was like a $210 per capita in Massachusetts, 50, right. So $50 per capita. Right. So the way that I like to think about these is not on a per capita basis, it's on a per firm basis. Right. So there are fewer farms in Vermont than there are in Massachusetts. So the likelihood of Vermont firm receiving this funding is greater than in Massachusetts at Massachusetts firm. So basically what the paper is going to do here is compare firms in Vermont, in in a bordering county in Vermont with another firm in Massachusetts, and see how they did around the 1986 tax reform. Okay. So that's basically the basic idea. And I can just summarize the entire paper in three graphs, you can see that the parallel trends prior to 1986 are pretty solid, right? I mean, there's nothing going on before 1986 and. Right. 1986, you see a big jump there in the availability of fat funds to to places where there was more of a greater availability to the regulation. These firms in these places invested more and they employ more as well. Okay. So that's a very important question. So I have basically three suggestions that I would like to make to the author here. Right? So one is regarding the research question and the contribution of the paper, then I also would like to discuss and I think this is going to be like my biggest point here, the economic magnitudes and the need for more details on the allocation of these private activity bonds. And also, of course, this is an empirical paper, so I need to talk about intensification. Otherwise I would just like lose my job, Right. So that's why I'm here. So I think that I guess so the big research question, the overarching question that we're trying to answer here is whether or not governments should be providing subsidized credit to companies. Okay. That's the question that we want to have a good answer to here, right in there. I mean, arguments in favor, right? So it can stimulate the economy. It can address market failures like maybe like these companies were not going to be able to get this credit through normal channels. And also that kind of supplying the world with a lot of like supply chain problems you can promote is strategic industries. Right. So those are the points in favor. But you can also have you also have a bunch of points against subsidized credit. Right. So I think that the main one is that maybe the government is not the best entity to decide where the money should be going. Right. So you can generate distortions. In this case, there may be like some cronyism, so or some moral hazards like we've been discussing here a lot in the conference. And there's also crowding out of private investments. Right. So so I think that right now what the paper is doing is just looking at investments, which is kind of the very direct effect of having these subsidized credit in any employment. Right. I think that it already provides a pretty compelling evidence that, well, this this is a pretty useful in they can have a good benefit. But what I would like to invite the author to do here is to look at more outcomes so we can have a. Better picture and a better answer to this question of whether or not we should be having a subsidize credit or not. Right. So I here have a laundry list of things that she can do that maybe could help her answer this question. But just to mention a couple of I would like to see, for example, the political economy of this these private activity bonds. Russell, like, for example, are a better connected, politically connected firms more likely to receive these funds or firms that do like more campaign contributions are the more likely to do that. Is this money going into really strategic industries or is it just like the good old champion, the local champion that is just receiving this money? Right. So I think that by looking at these details would really see is this money going into a useful and in good use or are we just like having cronyism? And there's a lot of distortions there. I think this could really improve the total impact in the contribution of this paper. I think that like the biggest comment that I have here is regarding the economic magnitudes, right? So the baseline result of the paper is that a once in a deviation in the paper availability is associated with a 10% increase in investment and a 5% increase in employment rate. So I think that there are two things that I would like to mention here to put this into perspective. Right? So the first one is that we're talking about companies that firms, right? So those are publicly listed firms where like the medium amount of assets is around $800 million. And Babs, as I told you, like did the cap for Vermont, for example, was $115 million, but not 100% of the funds go into industrial development. Right. So a lot of like these the states prioritize housing, for example, for the use of their private activity bonds. So then if you think of like, let's say the like half of the Vermont bonds were used for industrial development, we're talking about $75 million going into into this fabs, into a $800 million firm generating a 10% increase in investment. So it's kind of like hard to reconcile like the size of these things and how how much this is moving this this market for like these very large publicly listed firms. Right. So so basically, question and again, I want to think that is very important here is that this is not government expenditure, right? This is just subsidized credits, which is you're basically just subsidizing the interest rate of that loan. And this is having a big impact. Right? So so then if like, I think that the conclusion here is that if just a simple intervention can generate such big investments, we should be doing way more private activity bonds. So I think that that could be the conclusion. But I'd like to take some caution here. And and before jump to the conclusion, I'd like to ask the author to dig a little bit deeper into this and try to explain to us why these results are so big, what's happening here that is causing like this, like these large, large numbers. So do we have such a large financial constraint, Like there are so many projects just waiting for that small decrease in cost of capital to be funded. Right. So that's that's something that I would like to understand or even more. I would like to know like who is receiving that, Right. So what are the the the projects that are receiving this type of money? And why didn't the just the conventional financial markets weren't able to actually fund this project? So I think that understanding more of who's receiving and why they're not receiving from the capital markets would really help us try to understand why you're finding such big numbers. Right? So I think that answers everything. Of course, as I said, there is a identification result. I'm not going to spend so much time here, but I'm not a huge fan of the neighboring county. And I told this to this earlier. I'm not a huge fan of the neighboring county ID strategy for this. And I think the the neighboring county district situation is really good when you have a shock at the county level here. What she has is a shock at the state level. So the money like the variation is at the state level and the money has to move from the state to the county, from the county to the firm. And then the firm has to decide to invest or employ more. Right. So I think that there are many steps here where things can go wrong in where she can have measurement error here. So I would encourage her maybe that's like my opinion, but encourage her to move away from the neighboring county ID strategy and focus more on her firm level results, which I think are really good and more specifically speaking, the lottery results. So she has a bunch of lottery results that are very good because now you know that you almost have an experiment there that like the allocation of the funds were randomly assigned by a lottery result. So I think the like she can bring these results up to the front of the paper and then discuss more based on these baseline results here I saw. I am running out of time. And just like time flies when you're having fun. Right. So I just wanted to say that this is a very important question why so many governments all over the world would like to know the answer to this question. So I applaud the Ottawa for that. And I just would like her to push more a little bit on these three topics that I mentioned. Thank you very much.

RATTNER: Lisa, would you to like to respond?

KNAUER: Yeah. So. Okay. Yeah. So thanks a lot to you are also ahead of the conferences for providing all this insights that has been very helpful already in addressing some of the current issues in the paper. I really like your idea of putting the identification further to the firm level so that we can actually really learn more about the beneficiaries themselves. I'm currently already trying to to pursue some avenues there to shed some insights. More on this regarding the economic magnitudes. Totally fair that one needs to kind of related to this effect sizes. My current take on this and this is something that would need to be explored more detailed as there might be a lot of things going on, but there could be some signaling or enhancement of fact that kind of this kind of right, this getting this private activity bond financing space over to addition to conventional financing. And but this would be something that would need to be explored more in detail. I'm hoping to shed some more light on and the underlying mechanisms that actually drive those results. I mean, we can more think about that. You would kind of ramp up an additional production facility in this context. And so this this might be relevant there. And regarding the contribution in a different mechanisms, I would say that a lot of the points that you mentioned are kind of some of them are addressed in the latter results, which is why I presume like the more so I'll try to to pursue some of them in that respect. And I'm looking forward to addressing all your comments in the upcoming version.

RATTNER: Awesome. Thank you. Lisa. There's one thing that I can't help but mention, since it resonates so, so loudly with me, there is a key distinction between PAB allocation and PAB execution. So by that I mean just because Company X got a PAB allocation to issue, I'm making this up $20 million. It doesn't mean that they'll ultimately be successful in issuing those bonds at the mutual funds or any potential investor will ultimately approve the credit. And that that credit ultimately clears in the market. And in fact, what we're seeing, even, you know, in 2022 and

2023, that deals are not getting done, particularly those with private activity, bond allocation. And so the states are now going to, you know, are wait list of entities that want PAB allocation and now giving them have allocation that was unused in a particular calendar year. So my question for you before turning this over to the audience is when you look at theoretically what happens in Texas where there's a lottery approach, were you able to strip that back and say, was that those deals that cleared that ultimately are being assessed, meaning that they did, you know, investors believed in them and then they had impact or was it based off of any PAB allocation? Because I think if you strip it back and you say these are the deals that cleared, but they were really it was really deal ten and 15 that cleared and knocked deals one through ten. I think ultimately you're going to see a you might see a significant distinction between your lottery approach or actually your distinction between your lottery approach and your non lottery approach will be completely muted.

KNAUER: Now, that's a very good point. I had. Thanks a lot for pointing that out. I need to say I don't have any insights on that yet. Regarding the Texas results, the only thing I can say is that so I have the data until today for this lottery, but I cannot even use it after 2001 because I cannot observe like this lottery losing firms. Right. So that kind of adds to what you have been saying. And if the project's being in line, I'll definitely have a closer look at this and hope I can shed some light.

RATTNER: Yeah, I encourage you really to do that. I don't want to take any more of our 6 minutes, so please, Kent.

HITESHEW: [off-mic] Just following up Yaffa's excellent question. I'm sorry. Following up on Yaffa's excellent question about the gap between allocation and potentially issuance, I wonder, it seems like you're treating the PRB market monolithically and there it comprises a vast range of different types of bonds. And you use the word firm or corporation. Probably the majority of buyers don't involve a firm or a corporation, you know that it's mortgage revenue bonds, private universities, colleges, not for profit hospitals. And then there are a whole range of cats and dogs, corporations. So I just wonder if you were to distinguish those broad. Categories, perhaps student loans. Back in the period when you were doing the research was also a large and there's no corporation for student loans. So I'm just wondering what the impacts would be if you disaggregated it and looked at categories of PABs.

KNAUER: Mm hmm. That's a that's a very good point. So I didn't go into that into detail about that. Different types of bonds and different subsidies were in the states that those activity bonds go to. And today, actually the largest share of bonds goes to that, to the housing sector, to social housing, which is actually not captured by those analysis which focus on composite firms. So those are more the bonds in the category for exempt facilities and the small issuances. I cannot observe any effects on on the different categories that you say so on the firm level, because I don't have any data on the hospitals and all of those bonds also fall under those those threshold, right? For instance, 501 and three K bonds are not even capped so that there is no limit on this. I agree that it would be more interesting to see how the different development and also to shed some light on how the allocation changed over the years and within the States in the eighties. I need to say that the corporate sector received a larger share than it did today. For instance, in Texas, we see that there was a huge jump between 1996 and 1998 and where before almost 50% was allocated to like extent facilities and afterwards only like about 30%, which was a huge chunk. And today, a lot of states could already fill all their limit with housing bond applications. Yeah. So this is something that would need to be executed or looked into more detail, but it might also call for this presumably a relative increase if that beneficiaries on the corporate side, which actually realize interesting projects which are basically currently driven out of this market because of this differences in that in the scheme. But yeah, very fair point and I will definitely provide some more insights in the paper on how this changed over the time.

RATTNER: Next question.

AUDIENCE MEMBER: I have an institutional background question. Is there any requirement on maturity?

KNAUER: Ah, yeah the ESSA maturity level? I think you can only issue 120% of the project's lifetime, but that's, I think, the cap on the maturity level.

RATTNER: Next question in the back.

AZARMSA: Thank you. I'm Ehsan. And regarding the point that information about the efficiency of this investment, I am wondering if you look at the default rate that these bonds are different compared to other regular type of muni bonds, which could basically speak to the local Alvarez killing of these companies?

KNAUER: I think that's a very good point, and I haven't looked into this project there in more detail, but I know that the default rate is higher than in conventional municipal bonds. So those practices are simply more riskier given that they are secured by private sector projects. And this is also by like this year's gap is only an upper bound that I pointed out. And the true, true gap is smaller given the risk here in this of this project. Now.

RATTNER: Next question. Okay. Thank you very much.

RATTNER: It's. Do we need to turn that TV on? Oh, he's not going to listen. I gotcha. Beautiful. Okay. Thank you, everybody. We're now on our third paper for this session. We are be discussing the double benefit myth disallowed interest, expense and inefficiency in the municipal bond market. And I would like to call Adam Looney from University of Utah.

LOONEY: Awesome. Okay. Thank you very much for the opportunity to be here today. So my paper is about the Internal Revenue Code, Section 265. That's a that's a provision in the tax code that prohibits or denies tax deductions for costs associated with producing tax exempt exempt income. And I going to talk about how Section 265 affects the municipal bond market. This is an obscure but consequential element of tax code because it's formulaic. Disallowance of interest expense of banks in particular has mostly banished banks from participating in the market for municipal bonds. These rules were imposed in the mid 1980s, and in that period the fraction of municipal bonds that were held by banks went from 40% in the late seventies to less than 10% in 1990, and made the market a retail market. With all of the challenges that we learned about earlier in today's conversation. So it was a consequential change. Banks are pretty good at making loans, especially in complicated circumstances. They have deep pools of risk taking capital. They have expertise in underwriting in their local markets, certainly more so than I do retail investors. And so I think that their absence surely contributes to the higher than necessary spreads that are paid on municipal bonds. And what's more, I think that the law that this law changed was based on a misguided theory that banks were earning a double benefit, you know, excessive profits because they were both receiving taxes and income and because they were deducting the interest expense associated with that. I think that that theory is just wrong. It makes no sense in theory. It has been known to be false, I think, in financial circles for academic circles for decades, including by people who are who are in this room. And empirically, it just doesn't seem to be accurate. And so what I wanted to do in writing this paper was to raise this as an issue, to emphasize its consequences, evangelize about some policy solutions, and to encourage more discussion of this issue. So to that end, I'm just an outline. I'm going to tell you what the Internal Revenue Code Section 265 says and does. I'm going to show you how it forced banks out of the market for municipal bonds. I'm going to talk about the motivation for it. The rule, this idea that there was a double benefit. I am going to use the tools of Algebra two to expose this myth and give you some numerical examples. And that's going to illustrate that, that only when banks are allowed to deduct their interest is there a level playing field between taxable and tax exempt bonds. And in the absence of that deduction, there's a penalty on banks that that invest in municipal debt. And so when they're denied that functions as penalty, that makes them not want to invest in that debt and to hold it. And that's why they got into the business. I'm going to I'm going to describe some consequences of that for the market and describe some options. So there's a lot to Internal Revenue Code, Section 265. I'm not going to go through all of the details, but the key part is that it says that in the case of a financial institution, no tax deduction shall be denied for that portion of the taxpayer's interest expense that is applicable to tax exempt interest. The elements of this have been in the tax code since the tax, since we have had an income tax. It was codified in 265 and the Tax Reform Act of 1954. It's a very old set of provisions. I'll circle back to the motivation in a second. But it was intended to prohibit certain forms of tax arbitrage, and prior to the 1980s, banks were basically able to circumvent these rules by saying that their interest expense wasn't applicable to taxing the taxes and bonds that they did hold. And then in the eighties, Congress changed the law, and in 82 it imposed a haircut formula that said you're going to lose 15% of your interest expense that's allocated in Tier 86. It imposed a 100% disallowance. So basically what the rule says is that if a bank invests 10% of its assets in tax exempt bonds, then it loses 10% of its interest expense. And that's a big deal. So, you know, the it caused banks to stop. Investing in municipal bonds. So here's the long term fraction of all municipal bonds that are held by banks. You know, in the immediate immediately before the 1980s, our banks held more than half. Or, you know, in the 1970s, they spell they they held half of municipal bonds. It was in the high forties just you know, at the in 1980. It had never been below 25% of municipal bonds at any time prior to the 1980s. And then after these changes, it's never been above 50%. And typically it was below 9%. And so there's a lot of ups and downs that are about cyclical cyclicality of bank profits, differences in municipal and marginal tax rates, the invention of the municipal, the mutual funds that invest in taxes, in bonds. But this is a big change. And even today, banks are are only minimal players. And to the extent that they participate in the market, it's often taxable municipal bonds. Or I'll describe briefly later bank qualified municipal bonds. And now I'll circle back to this later. But, you know, it's now a retail market and there's an absence of these large, sophisticated financial intermediaries in the market. And I'm going to argue later that that was a bad that was a bad decision, a bad development. Before that, I wanted to just, you know, think about the premise of why we have this rule and to describe why I think it doesn't make any sense. So so the the then called, I think General Accountability Office or General Accounting Office issued a report in 1988 that described the changes that were imposed in 1986 and kind of describe why they were necessary. And so the concern is that a taxpayer could accrue double benefit by deducting interest paid on money borrowed to invest in tax exempt securities. And I think that like I use this quote because I think it's representative of what people think about this market. So when I would go around the Treasury Department or I talk to my colleagues at the Joint Committee on Taxation and and I was like, well, why is this rule exist? And they say there is a double benefit. And I was like, well, what is the double benefit? And then they would say, Bank receives tax exempt interest income, and the bank gets a deduction for deducting the expense. That's two as if, like I had made it through life, not being able to add to two. And like, so there was like not a deep theory of you know, tax incidence at work here underlying the hypothesis and quantifying it. So but fortunately, Joe gives an example which I highlight here, and the numerical example shows that, you know, an example, the taxpayer borrows $100,000 at 5% invested in mutual bonds, which also pay exactly 5%, and thus get $5,000 of interest tax free and a tax deduction of $5,000 that gets some tax benefit. And I think the basic problem here is that this is not an example of a financial market equilibrium. The basic reason is that, you know, arbitrage encourages investors to purchase securities up to the point where they they earn the same after tax return on taxable and tax exempt bonds. That means either that the yields on tax exempt bonds are below the yields on taxable bonds, or that the price paid for a tax and bond is, you know, equivalent higher than the $100,000 paid for the taxable bond. So this is like a financially impossible example. In fact, what it means is that if the after-tax returns aren't taxable in tax exempt bonds are the same, then not only is there not a double benefit, there's not a single benefit. You get the same, you get the same right. And so again, I'm going to use algebra two to describe this. So, you know, let's say that arbitrage requires that the return on taxable bonds is the same after taxes, that return on taxes in bonds is the yield on taxable bonds. Raise the taxes in bonds. T here is the tax rate. You know that the equation above says that the after tax returns have to be the same. Well, if our bank borrows at a deposit rate of RD, you know, that's the amount that they pay on a on deposit. Then in order for the bank to earn the same amount, investing in a taxable bond as it does, if it invests its deposits in a tax exempt bond, then it has to be able to deduct that its interest. So at that final term, in the right corner is this deduction for. The interest its paid on its deposits. And if it is denied that deduction, then those penalty it. The return on taxable bonds is always greater than that return on tax exempt bonds. And so a bank is never going to want to hold a tax a tax exempt bond. And so that's algebra. I'll give you some examples. So I've just pulled some numbers for for municipal bonds, corporate bonds, deposit rates. I have to say that in the spirit of this market being totally inscrutable, it was very hard to find useful numbers to provide this example. So I've used a moody's index of seasoned triple-A bonds that recent yield on these taxable bonds was 4.77%. Möbius uses Emma data to have an index of investment grade bonds. Those paid last week 3.14% on similar maturity bonds, the deposit rate, the five year CD rate paid according to bank rate and published in the Wall Street Journal. I don't know if that's a good source, but I think it's a good source says that banks are paying 2.86 on a ten year deposit after a five year deposit. And so if we go through the math, you know, focusing on the first column, if the corporate bond yield is 4.77%, you can think of investing $100 in that bond that earned $4.77. They paid $2.86 on the deposit. They earn a pretax spread of a dollar $0.91. They pay tax at 21% marginal tax rate for a C corporate bank, $0.40. They earn an after tax return of a dollar 51. Well, let's come to is let's say that they instead invest in a tax exempt bond but they're allowed to deduct the interest. They only on $3.14 on the on the bond they pay the depositors. Their pretax income is only $0.28. But they get a benefit, a tax benefit, of being able to deduct the interest that partially compensates them for the fact that the yield is so much lower on the tax exempt bond. That means that their after tax income is $0.88. And I guess the first thing to note is that the reason that they earn less on the tax exempt bond is in this example is because their marginal tax rate is 21% and the equilibrium in the market is determined by the the individual investor that has a tax rate in the thirties. And so they're never going to be quite equal given that the C corporate bank rate is lower. But if you go to the math in the right hand column, they're in way less on the tax exempt bond if they're denied the interest expense. And so I can give you, you know, this is a general result that there's this tax penalty. I can give you some sense, some sensitivity, analyzes, you know, if the investment yield is higher, they earn more. But there's still a tax penalty. If the interest expense cost is a percentage point lower, you know, they earn more on the taxable bond and earn more on the tax in bond if they get a deduction. But they are still, you know, penalized. In effect, that return is lower on the taxes and bond if the spread between taxable and tax in bonds is narrower than the, you know, column one and column to the return is more similar. But there's still a tax penalty if their interest expense is denied. And then the last thing I just wanted to show you in this is that is that if C corporate tax faced a 34% marginal tax rate instead of a 21% marginal tax rate, no more similar to the marginal investor and in the retail market, in mutual municipal bonds, then then they are in the same on a taxable bond, in a tax exempt bond, but only if they can deduct the interest on the deposits that were used to invest in that bond. If not, then they they're, you know, it's an unattractive return. So why is this a problem? Well, I think the exodus of banks has meant that today's market is a retail market. It's characterized by high tax adjusted spreads, high transaction costs. You know, there is a large literature that has examined, you know, what's going wrong in the market for municipal bonds. And I would give a couple examples. You know, there's the adding at all strand of research from a decade ago that says it's illiquidity that, you know, bonds really trade when they do it's it's over the counter - am I out of time?

RATTNER: You've got about 15 seconds.

LOONEY: 15 seconds. Okay. So one theory is it's illiquidity. One is is. That it's, you know, high credit spreads. I would say I don't I don't really care. I think it either theory, the fact that banks aren't in the market suggests that the market's worse off. They're they they bring they reduce credit spreads because they're good underwriters. They they bring pools of risk taking care of capital. I think they're better traders. I think even more directly, there is substantial evidence about the involvement of of banks in this market that suggests that the participation of banks improves outcomes. And I'll give a couple examples. One is Alan Krueger. It's Krueger's paper about Build America Bonds, which suggests that the tabs were issued at spreads that were more favorable than municipal bonds. And I like this example because we basically created a new financial product to appeal to banks to solve the problem that we made bank investments in traditional municipal bonds unattractive. And then more, more recently, including a paper that was presented at the last conference, I think in 2019, D'Agostino's paper suggested that bank qualified bonds, bonds issued by small issuers that banks are allowed to hold because of an exception. They trade at lower yields in their they're issued at in kind of higher volumes than otherwise would be because they can be issued by banks. So so I think that this suggests that we should have more bank participation. I wouldn't want to close to say, couple of ways to do this. One is we can just throw away the old 1980s rule. I think that's what we should do. I think that that would bring back banks to some extent back in the market, not to the extent that they were in in the seventies, just because the tax rates on banks now are so much lower than they used to be. But there are incremental reforms. You know, no one's ever raised the small issuer threshold from $10 million in 1986. There's been a lot of inflation since then. And so you can imagine having that that threshold be higher in in the American Recovery and Reinvestment Act. They had a rule that said if you invest 2%, less than 2% of your assets in municipal bonds, then you can ignore section 26. And so that can encourage some larger banks to invest in nonqualified assets. And so I think that those would be good changes in the market. Thank you.

RATTNER: Thank you. Our discussion is Bradley Wendt from Charles River Associates, is with us on the monitor to our right. Go ahead, Bradley.

WENDT: You can hear me. Okay.

RATNER: Perfect.

WENDT: Great. Thank you very much. When I received the papers from the advisory committee this year to review, this was the one to raised my hand very quickly for just because, as Adam just said, it's an issue that's been out there and I certainly think it really deserves a reexamination. And anything that can bring efficiency or increased efficiency to the missile market certainly warrants a great deal of attention. Adam and I, in my conversations with them, we both spent time at Treasury. I was there in the last administration for two years to senior advisor. And I certainly had seen both personally and with colleagues my share of policy proposals, so I thought the best way to approach this is if we wanted to take this to the next level instead of just talking about it. I think Adam would admit we're probably halfway through the journey in terms of having a great marker on the table. But now we have to talk about, you know, other issues in the paper and what else needs to be focused on. First off, I really I have four, four issues to discuss. The first one is there is the cost of filing this deduction of interest expense to a broker, dealers and financial institutions. So one thing which we have to examine is the cost of that, the Treasury versus the increased efficiency of the overall $4 trillion marketplace. And, you know, that is going be question number one, because at least to my experience, nothing is going to go forward at Treasury unless it's revenue neutral. The second thing is - and Adam certainly addressed this - but the market now is 70% retail banks, as his slide would show, really probably represents 15%. You know, the retail is obviously individuals and mutual funds that own munis indirectly. So at 15%, I think if you ask yourself, even if this were implemented, how much of an impact can you have relative to what is purely a retail marketplace? So that's something else we have to address. You know, could we actually add more, more efficiency here by the very commendable objective of getting banks back into the marketplace? The third thing is, I think a great deal of analysis has to be done when you have two disparate tax rates. We all know that the muni curve is upward sloping, obviously long and trades at a lower ratio than the short end. Marginal rates are 34%. So in theory, bonds should trade at 65% across the curve. But that's simply not the case. As we look at ratios. So the question is how much efficiency can you create when the top quintile of taxpayers are buying the vast majority of the bonds, Their marginal rates are probably on average last decade, you know, 30, 31% versus another four or 5% for state taxes versus trying to bootstrap up a 21% financial institution using Adams numbers. So I don't know if that disparity in interest rates between these two parties is going to allow greater efficiency, But that's something I think would need to be addressed. The next is, since it is a retail market, everyone in this room probably remembers or are very well aware of taxable equivalent yield in terms of their discussions with brokers or just discussions in general. And all that taxable equivalent yield is what the financial community uses a simple metric to decide. If you as an individual, 70% of the marketplace is buying something that has the value to you by typically one minus the tax rate and apply it to the muni rate as a divided by the muni rate and then compare the taxable rate. And if you end up in the larger number, meetings are a good deal for you based on your marginal rate in the current year. So, you know, that is how munis are being purchased right now. And then, you know, my question is this analysis is really set up as sort of a cash and carry trade, which is the assumption is people are buying or borrowing money to invest in munis. We're going to certainly have to do some work. On both the short, intermediate and long term yield curve so that we have some consistency in the maturities in terms of the capital cost. But I think we just have to really examine the paradigm. Is this a marketplace generally where people borrow money to to invest in beauty, to realize that this borrowing is solely focused on the financial institutions who in theory would be holding these bonds in the inventory and what the impact that would have. But once again, that would be a change to the marketplace, which would have to override the taxable equivalent yield metric, which is used uniformly across the board. So I think just in summary, I think I think there's those four issues to be dealt with. And if you were to point to an easy to implement policy, call it a test case, I agree with that and fully that bringing back the 2% de minimis rule would be something that you could do to what impact that That has on the overall marketplace. And that concludes my comments.

RATTNER: Gladly. I invite Adam back to the panel. Adam, would you like to respond?

LOONEY: Got it. Awesome. Yeah. So those are great comments. Thank you very much. I mean, a couple a couple just to respond to those sequentially. One is the cost to the Treasury. So Treasury included some of these types of proposals in its Green Book in 2016. Uh, I don't know who did that, obviously. And so they had a cost. And I have to say that I was well, there were disagreement about how much it should cost. And so, you know, to the point, how much revenue would this proposal lose? I would say that it's unclear. In some sense, it is a reallocation of bonds that were being held in the retail market to the bonds being held in the in the in the by banks. And if they if they face the same tax rates, then basically there should not be a loss in revenue. I think at the time in 2016 when that when the top rate for banks was 35% and the average marginal rate apparently on investors in municipal bonds was like 28%, there was a revenue loss. I think today it is probably different and so I think the cost is likely smaller. Another element. You know, it's a it's a retail market today. How much impact would it have? And I guess I have you know, my strongest piece of evidence is to point at the research that has suggested that for small issuers it seems to matter and that they they issue those securities add at more favorable yields to the issuer. So, you know, at the margin in that area, it seems to be a beneficial. And so imagine increasing the number of bank qualified issuers would expand those benefits more widely. I also suspect that, you know, just even marginal participation of more sophisticated financial traders, dealers, you know, people are able to deduct the cost of carrying their inventory would be helpful in providing liquidity in the secondary market and an arbitrage buying, you know, spreads across other similar yields. That is very hard to do today. You know, there are not hedge funds or, you know, sophisticated entities that really can arbitrage by, you know, borrowing in one market and investing in another in the municipal bond market. So I think even marginal participation could, in theory, have a result. On the on the point about different tax clientele. I mean, totally right. And I do think that there are probably a lot of different tax coin tell in this marketplace. I did not mention it in my presentation or really in the paper, but there are also not not just corporate banks, but there is corporate banks. And as corporate banks face the individual marginal tax rate, so they are much more similar to retail investors in their tax rates that they face. And so their participation would be, you know, clearly they would be excited to participate at at yields that individual investors invest in today. And I guess just the last thing is, you know, that, you know, between the wholesale repeal of these elements of 265 and and the more incremental changes, you know, there are a lot of places to start the 2%, two minute rule. And, you know, as Brad said, is is a reasonable place. I would say also that the small issuer rules are another place where you could imagine helping a lot of relatively small government entities that are relatively small and have to participate in a, you know, just a sheer number of government entities that are small relative to the amount of bonds that that they issue, which is quite small. And you could, I think, capture a lot of the complexity and idiosyncratic idiosyncrasy in the market just by expanding who gets to be bank qualified.

RATTNER: Thank you. I have an observation that I wanted to share when I was reading your your work and there was a lot of focus and concentration on absolute percentages of being participation relative to the amount of muni debt outstanding. And I do think that ultimately to me, what I did when I was looking and reading what you had produced is I went back to SIFMA's handbook and they do an amazing job with respect to presenting data back from 1980. And I just want to share with you some some facts that I picked up from there. In 1980, there was just under 400 billion of muni debt outstanding and banks held 154 billion of that. But if you fast forward till today where there's 40 million of muni debt outstanding, banks actually hold 600 billion or four x of their original 1980 holdings today. And I thought that it was insightful that perhaps you might want to consider sharing the absolute dollar amounts because from that perspective, banks are not a decreasing participant in the municipal space, but actually a significant provider in the municipal space. So I just point that out to you. The other thing I would also suggest perhaps you think about is, yes, you know, with respect to bank qualified bonds, sure, there's a little bit of a basis point differential, certainly helps some of our smaller issuers out there. But also a feedback that we get, you know, on on the sell side is that there is a mismatch oftentimes between duration rate, what what the banks want to invest in in terms of their duration and the optimal structuring of muni financings for local issuers, you know, 30 years and higher to drive down their cost of capital on an annual basis. So those are just two things that I would encourage you perhaps to consider as you think about your work.

LOONEY: Thank you, that's great. I mean, yeah, I will look at the I, I wish I had known about the SIFMA handbook because I feel like that would help me understand a lot of things, but I would definitely look at the absolute levels to I mean, know, bank banks and bank holdings have become much larger and the level of assets have become much larger as well. So I guess I'm not surprised that the at the growth and absolute levels. But I look at that. I mean, I think the other point is something where I'm totally, I would say out of my element in understanding of the actual, you know, interaction between the, you know, how how small issuers would interact with the local financial intermediary that that is making them alone. Like I know that in the corporate sector, for example the vast majority of where a corporate in or I would say in the business sector, in corporate non-corporate business sector, you know, most entities raise their money by going to their bank and asking their loan officer for a loan. And it's and so I guess I but you tell me what happens. But I mean, I would have thought if you're a small issuer, there is the opportunity for something that is more like that than it is than going to an underwriter and issuing securities. And so I don't know what the the differences are between that process, but but I guess I observe that for bank loans, it's like a pretty standardized and effective way of raising money for investments.

RATTNER: Questions from the audience or comments from the audience. Back.

AZARMSA: Oh, I have a question about oh, it was a composition that you mentioned that I was wondering if you want in why to one type of invest there to the market to increase the efficiency, whether it's better to have banks that are than there. So whether it's better to have, for example, pension funds or banks because so as far as the aforementioned so so definitely we want to have investors that they have long term purpose in their investment. If I'm for that maybe patient want if we do something and if we can change the tax policies in a way to NY pension funds that could actually improve the efficiency more than doing something with the taxes that brings the banks into the system.

LOONEY: Yes. So I mean, I guess the issues I, I talk about here are in some ways like, well, directly irrelevant pension funds because pension funds as as tax-exempt entities, they they don't benefit from the the exemption. And so in contrast to like Build America Bonds which are tax credit bonds, you know they they get the the pretax yield basically. And so that encouraged them and foreign investors and others to invest that otherwise. And so I think the direct answer is that that this doesn't solve that problem, which is an important problem. And they would, you know, pension funds and life insurance companies, you know, have very long, long term liabilities, which would be natural investors in this market. And so I don't I don't think that solves that. I think that there is a case that, you know, if you took the limits of arbitrage to two extremes, that you could have banks established to produce taxable debt on taxable to issue taxable debt and use that debt to issue to invest in tax exempt securities. And you can imagine kind of backing into a scenario where there was the long term, you know, pension fund bank that backs that pension funds invested in and produced then. But I mean, that's kind of like a more speculative thing.

WESSEL: I want to keep us on schedule. So I'm interrupting you on no more questions. And I want to thank Yaffa Ratner from Hilltop for agreeing to moderate this panel. And I hope that everybody will agree she did a terrific job, and should definitely do this again. I wanna thank the presenters and the discussants. We're going to take a ten minute break, get back here around 12:30 for our final panel, which is on the effect of COVID on downtowns and municipal finance. So please be back here shortly after 1230. Thank you.