TRANSCRIPT

Considerations for municipal bond investing

Paul Maguire: Good morning to everyone today. It's good to be with you. Let me begin by just showing you some of the topics that I intend to cover today here on slide two. We're going to begin with just a very brief overview of what are municipal bonds. Then we're going to talk about why an investor might want to invest in municipal bonds. We'll move onto the risks of municipal bond investing. Then we'll talk about some of the practical considerations that go into beginning a municipal bond investment program. And finally, we'll conclude with high-level information on market technicals, which is to say, the supply-demand characteristics of the muni bond market today, and also, the market environment in which we find ourselves.

So, turning to the first section, what are municipal bonds? And I'm told the audience is very expert in municipal bonds, so I won't spend a lot of time on this, but municipal bonds are typically thought of as the debt obligations of state and local governments, and governmental authorities operating in the United States and its territories. But it's actually a more eclectic universe than that. It actually also includes certain nonprofit organizations such as hospitals and healthcare facilities, as well as colleges and universities operating in the United States, provided that the proceeds of the bond issues from these

nonprofit organizations are used for a public purpose. It can also include actually for-profit corporations too, that might issue municipal bonds to what's known as a governmental conduit. But the point that I'm trying to make is, it's a very eclectic universe, and actually one of the reasons the municipal bond market is so appealing.

Municipal bonds may be either taxable or tax-exempt, and by that, I mean the taxable bonds are bonds on which interest income generated by the bond is taxable at the federal, state, and local level. Taxable muni bond market is quite small, it's about a $300 billion market. Typically, when people think about municipal bonds, they think about the tax-exempt municipal bond market, which is a $3.8 trillion market. The tax-exempt muni bond market is one in which the interest income generated by the bonds is tax-exempt at the federal level, and possibly tax-exempt at the state and local level. There are two types of municipal bonds that we show here on slide five. There's the general obligation bonds, which are issued by states and counties, cities and towns. These are bonds which are backed by the taxing authority of these governmental entities. There are also revenue bonds, which are issued by hospitals, transportation authorities, airports, public utilities, colleges and universities. These bonds are secured by particular and specified revenue

streams. But in most cases, the bonds are, whether it's a general obligation bond or a revenue bond, the bonds are secured very well.

But nevertheless, they are considered to be credit sensitive, much like corporate bonds. And for that reason, muni bonds and corporate bonds are often compared to one another from an investor standpoint. And we can see that here on slide seven. We can sort of compare and contrast municipal bonds versus corporate bonds. As I mentioned, municipal bond market is a $3.8 trillion market, but it's considerably smaller than the corporate bond market, which is around 9.2 trillion.

One of the distinguishing characteristics in municipal bonds too is the number of securities in the market, it's estimated that there are a million different CUSIPs in this market, as opposed to 30,000 CUSIPs in the corporate bond market. So, it's a much larger market in terms of number of issues. It's also much larger in terms of number of issuers. It's estimated that the number issuers in the municipal bond market are 50,000 to maybe as much as 100,000, versus only about 10,000 in the corporate bond market. New issuance volume is considerably smaller in municipal bonds versus corporate bonds, it's about 400 billion in muni bonds, about 1.4 trillion actually, in the corporate bond

market. And then daily trading volume in the municipal bond market is considerably smaller than in the corporate bond market.

So basically, the impression you should have of the muni bond market is it's smaller than corporate bonds, but many more issuers, many more smaller issuers, and so it's a very fragmented market. And it doesn't trade with nearly the same level of liquidity as corporate bonds do. The primary attraction of municipal bonds, of course, is the tax exemption feature. This is tax exempt municipal bonds. And just so we're clear on this, the tax exemption applies only to interest income. So nearly all tax-exempt municipal bonds are exempt from federal income tax. Those bonds that are issued in the same state in which you live are also typically exempt from state and local income tax. So, if you're a resident of Massachusetts, and you buy a Massachusetts general obligation bond, those bonds are sort of triple tax-free. You're not going to pay a federal tax, or a state tax, or a local tax on those bonds. Whereas of course, on a corporate bond, you'd pay all three of those taxes, because the corporate bond is taxable.

I do point out too on this slide, too, that any capital gains you generate on municipal bonds is taxed in the same way as you would pay a capital gains tax on a corporate bond, or on a stock, or on almost any other asset.

With that however, I think I'll skip ahead, and talk about why people invest in these municipal bonds, why they find it so appealing. We've kind of alluded already to one of the rationales for investing in municipal bonds, and that's the potential to earn attractive amounts of after-tax income. And here on slide 21, what I show you is the income return generated by the Bloomberg Barclay's Municipal Bond Index over the last 20 years. And what I've done here is I've taken the total return of the index, and I've stripped out the price return component to just show you the income return component. And indeed, as you can see here, the income return component is very attractive. You know, you have a very steady kind of 4 percent to 5 percent income return over this long period of time. You might be surprised that the income return has remained so stable, but this again reflects the fact that these bonds tend to be very long dated, much like corporate bonds.

So, while interest rates have come down over this period of time, the coupon income generated by municipal bonds has remained, or at least the coupon generated by this muni bond index, has remained pretty stable. The blue bar on the far right-hand side shows the actual compound average annual return earned over this 20-year period in municipal bonds, and it's 4.72 percent.

Now if we add back in the price return coupon, we see that the total returns earned by municipal bonds are also quite attractive over this 20-year period. Here we see that, for example, in terms of the blue bar, that over this 20-year timeframe, the Bloomberg Barclay's Municipal Bond Index generated a compound average annual return of 5.04 percent. Over this entire timeframe, there were only two down years, 2008, the year of the great financial crisis, and 2013, which was the year of the taper tantrum, when the Federal Reserve signaled that it was getting ready to end its quantitative easing program. Those were the only two down years. We had some middling years, for example, 2016, 2018, but generally, the returns generated by this asset class have been very attractive over the time period in question.

Another thing that investors really like about municipal bonds is their credit quality characteristics. So here again, we're looking at municipal bonds in comparison to corporate bonds. Municipal bonds are shown in terms of these blue bars, corporate bonds in terms of the red bars. And what I've found is, we'd stratified the municipal bond index by credit rating. And we show the percentage of those municipal bond market and corporate bond market represented by each of these credit ratings. And as you can see, the municipal bond market is very heavily skewed to higher credit rating -- to bonds of higher credit quality. So, 15 percent of the muni bond index is actually AAA rated.

Fifty-two percent is AA rated. And only about 33 percent is rated single A or below. This is just the investment grade universe, of course.

In contrast, the corporate bond market, only 10 percent of the corporate bond market is rated AA or above, 91 percent is actually rated single A or below, and a fully 50 percent of the universe is rated BBB. So just doing the compare contrast exercise that we went through earlier, you can see that municipal bonds skew very heavily to high-quality. It's one of the things investors really like about them.

Another factor, and it's not surprising, given the high credit quality of the universe, the default rate within this universe has been very low over time. So, Moody's, the credit rating agency, has done an exhaustive study of default rates within the muni bond market and the corporate bond market, over rolling 10-year periods. So basically, what they'll do is they'll look at all of the say BBB rated municipal bonds at the beginning of a 10-year period, they'll roll forward 10 years and see what fraction of those BBB rated bonds actually defaulted in the subsequent 10 years. And then they take an average across all of those rolling 10-year periods. And what they concluded is that in terms of the BBB rating category, for example, only about 1.13 percent of BBB rated

municipal bonds actually default over a 10-year period. You can compare that to corporate bonds where the default rate is 3.7 percent.

But what's really impressive, and I circled it with the two blue circles, across all rating categories in the municipal bond market, the default rate is only 0.16 percent. So that's taking into account the investment-grade universe, which is BBB and above, and also the non-investment-grade universe, which is BB and below. So very low default rate across the entire universe of muni bonds. You will see though, in terms of the non-investment grade part of the universe, that the default rates for BB and single B, CCC and below, are considerably higher in municipal bonds. But actually, much lower than you see in the corporate bond universe. Long story short though, low default rates in the muni bond market, and very reliable source of income as a result of that.

Another nice feature of municipal bonds is their diversification benefits. And here, we see on slide 25, the correlation of return statistics between municipal bonds and other asset classes over the August 1, 2009 through July 31, 2019 period. So, if you're not familiar with this statistic, this is a statistic that can take on a value of minus one to positive one, and the basic rule of thumb is the lower the statistic, the better a pair of asset classes are in terms of diversifying one another. So, for example, you see, on the far right-hand side of the slide,

investment-grade municipal bonds are, have a correlation statistic of one. In other words, there's no diversification benefit of mixing investment grade municipal bonds with another portfolio of municipal bonds. But if you mix them with U.S. high-yield corporate bonds, you see that the correlation statistic is only 0.13. That means that muni bonds are a great diversifier for a U.S. high-yield corporate bond portfolio.

Even more impressive, as you move to the far left-hand side of the screen, you see that the correlation of return statistic is actually negative for the S&P 500, the Russell 2000, and the MSCI IFA. This is very unusual to see actually a negative correlation of return statistics, and it just suggests the fact that muni bonds, and by the way, this gets back to what I said earlier, muni bonds being a very large, eclectic universe of bonds, with a lot of small issuers, and it's also a universe that's very much driven by the idiosyncratic risk associated with those small issuers, it should be no surprise that it actually is a very good diversifier for an equity portfolio, or for other asset classes such as, for example, U.S. high-yield corporate bonds.

Finally, another factor to consider when you're looking at the various benefits of investable muni bonds, is they're kind of a -- there's a kind of psychological benefit or payoff to investing in the muni bond market. The reason is, when

you buy a municipal bond as I show in this gray box, you are in effect lending money to an entity, whether it's a state government, or local government, maybe a nonprofit institution, whose mission is really to make life better, you know, for the average person. And so, a lot of people, you know, take -- will, you know, take kind of great satisfaction knowing that their investment program, whatever it might be, is tied to a set of positive, or a set of ethical principles that promote, in some way, the public good, or a positive social change. This is often referred to as socially responsible investing, or sustainable investing, or mission investing. Strictly speaking, municipal bonds don't fall into those categories. You don't see people in the investment management industry placing it in those categories. But there is an element to municipal bond investing that can set aside that same sort of psychological appeal.

So, with that, let me move on, I wouldn't be doing my job if I didn't point out to you some of the risks of municipal bond investing. And we begin here on slide 28 by listing some key risk factors associated with municipal bond investing. But frankly, these risk factors that I list here are all the risk factors that you could associate with say corporate bond investing. So of course, the primary risk, or the two primary risks, are interest rate risk and credit risk. Credit risk, which can sometimes manifest itself in the form of default risk,

we've covered that topic in the case of muni bonds that defaults are low, but nevertheless, defaults do occur, as I'm sure you're aware. Commonwealth of Puerto Rico is probably the most famous, most recent default in the muni bond space. But we've also seen the city of Detroit declare bankruptcy, the city of Stockton, California. There are many examples, doesn't happen often, but it does happen. And when defaults occur, the workouts can be very complex, and the recovery times long.

Another factor, or three factors to consider -- risk factors in evaluating municipal bonds, are call risk, liquidity risk, and inflation risk. So, most municipal bonds are actually callable. I think it's something like 85 percent of the universe of -- municipal bond universe consists of callable bonds. And the upshot of the call bonds, callable bonds, is that in an interest rate rally, bonds that are offering a very attractive yield can get called away from you if they have passed beyond their call date. So, it's much like mortgage-backed securities investing, it basically manifests itself in the form that when rates fall, the price of municipal bonds don't go up as much as say a noncallable bond, like a Treasury or a noncallable bond like a corporate bond.

Muni bonds are also not particularly liquid. I don't think of them as liquid as say, the corporate bond market. Certainly not as liquid as Treasuries, or

agencies, or mortgage-backed securities. So that's another factor that you must consider that, while there is, you know, an ongoing market made in the municipal bond market, liquidity is, can be challenged at times, and that liquidity risk can manifest itself in high transactions costs if you're not careful.

And then finally, you have inflation risk is always a concern whenever you're a bond investor. Anyone who lived through the 1970s, which was a hyperinflationary decade, remembers the misery of what it was like to own bonds during that decade. And so, if we were ever to experience another hyperinflationary period, municipal bonds would certainly underperform.

On this next slide, I'd like to point out that, and I've mentioned it already, that muni bonds tend to be long dated. And by that, I mean they're kind of skewed to longer term maturities. The reason for that is that municipal bonds are used frequently to finance infrastructure projects that have a long lifetime associated with them. So, they're associated with the construction of bridges, like the Golden Gate Bridge, or subway systems, or toll roads, or airports and what have you. So, they kind of skew to long-dated bonds, even more so than corporate bonds. So, you know, on this slide, we show the municipal bond market and corporate bond markets stratified by maturity bucket. And you can see that the muni bonds, which are highlighted in blue bars, are consistently

smaller in terms of percentage weight in the short-term maturities, and in the intermediate term maturities, relative to corporates. And it's only when we get out to the 10-year and longer maturity bucket that corporate bonds are, you know, greatly -- that there's a much higher percentage of municipal bonds in the 10-plus year bucket, then in the corporate bond bucket. So that's another thing to keep in mind about muni bonds, they just skew -- something to keep in mind if you're buying a pooled product, for example, the product is going to skew toward longer maturity and longer duration, and thus higher interest rate sensitivity.

A couple of other factors to consider when you're evaluating the risks of municipal bonds. And these are unique to the muni bond market. The first one in the column on the left-hand side is the potential for change in the municipal bonds tax exemption. So, as I say here, once in a great while, investors become concerned that the federal government might seek to eliminate the tax exemption associated with municipal bonds. The most recent example of this was right after Donald Trump was elected in November 2016, the muni bond market sold off by about 4 percent. It was this fear that the new Trump administration might actually eliminate the tax exemption for municipal bonds. That turned out to be, you know, a false rumor, or a false assumption. But the idea that it could happen is not completely crazy,

because there's nothing in the United State Constitution that would prevent the U.S. Congress from taxing the interest income on municipal bonds. And you know, it's something worth considering now that the federal government is running, you know, trillion-dollar deficits on an annual basis. There will come a time when the federal government tries to put its house in order, and I'm sure this issue will come up, come to the fore again.

That said, I think it's highly unlikely that the tax exemption would ever go away. It would represent a clear break from a historical precedent, and one that would undermine the ability of state and local governments, for example, to finance infrastructure projects. And as you well know, the United States, I mean you know, I think it's well known, would like to improve and build out, and modernize its infrastructure in the decades to come. Municipal bonds are surely going to be a key tool, a key financing tool to achieving that goal.

The other risk factors I'd list here are essentially what I would call, you know, public policy risk factors, changes in marginal tax rates, or changes in other public policies that could affect the demand or the supply of municipal bonds going forward. And anything that can upset the supply/demand imbalance in municipal bonds can in turn upset the pricing of municipal bonds, and the returns that investors experience in the municipal bond market. We'll talk

more about that here in a moment. But basically, this is a fairly, you know, it's a fairly small market relative to corporates at $3.8 trillion. And supply/demand, the ebb and flow of supply and demand, has a big effect on how municipal bonds get priced.

So, with that, let's see. I'm going to move on to getting started in municipal bonds, and I understand that a lot of you are already expert or have an ongoing program already in place for municipal bonds. But here on slide 32, I just highlight some, you know, key considerations that would go into starting a municipal bond program. So, we began, I'll just go through them one by one. The first is know when not to invest in municipal bonds. And the idea here is you don't want to waste the tax exemption feature of municipal bonds by investing in municipal bonds in an account that's already tax advantaged, like an IRA, or a 401(k) plan, and the like. So, invest in municipal bonds only in accounts which are already taxable. You guys probably know that already.

Second consideration is to know your investment objective. So traditionally, fixed income as an asset class has played a defensive role in an individual or an institution's portfolio. I list some of the roles that qualify as suitable for fixed income as an asset class. Fixed income can be a source of liquidity in a portfolio, it can be a source of current income, it can be a diversifier for equity

risk, it can be a hedge against catastrophic deflation, such as we experienced in 2008 during the great financial crisis. Or it can be a tool for asset liability management, and cashflow matching. I would argue that municipal bonds are well suited for only three of these roles. The current income role, the diversifier of equity risk role, and the tool for asset liability management role. It actually serves those three roles very well. And as I mentioned, it's -- municipal bonds are liquid, but they're not that -- they're not as liquid as even say, corporate bonds. So, you -- it wouldn't be the first choice to sell municipal bonds if you really needed liquidity. And by the same token, municipal bonds are not a great hedge against catastrophic deflation, as we saw in -- when we were looking at the total returns slide, 2008 was one of the few years where the total return on muni bonds was negative.

Another factor to consider is to know your time horizon when building a municipal bond program. And you know, when I say know your time horizon, another way of saying the same thing is by asking the question, when will you need the money back? And it's a key question to consider, as I've alluded to, since the muni bond universe tends to skew lower. So you don't want to get caught in a situation where you've set up a municipal bond program and you own municipal bonds that are very long-dated, have long durations associated with them, a lot of interest rate sensitivity, and then lo and behold, you enter a

market environment where interest rates rise and suddenly, you have an unrealized mark to market loss in your municipal bond program. You don't have to worry about that if you match the duration of the bonds that you purchase to your time horizon.

And one of the things I point out here on the table, on the far right-hand side, taxable bond funds versus tax-exempt bond funds, is just to be mindful of this, when you go to evaluate say, a pool of products in the muni bond space. So, I show here, in the far right-hand column, basically our national tax-exempt Fidelity bond lineup, which is the Fidelity Muni Income Fund, the Intermediate Muni Fund, and the Limited Term Muni Fund. And I show in parenthesis the duration associated with those three products. The analogous funds to those three muni funds on the taxable side are our Fidelity Investment Grade Bond Fund, our Intermediate Bond Fund, and our Short-Term Bond Fund. And you'll just notice that in each case, the analogous fund is a considerably shorter duration than its corresponding fund in the muni bond column. Again, it's a reflection of the fact that the muni bond universe skews long. And you need to be mindful of that when you go to build your muni bond program.

One thing you can do, as I note in the final bullet on this slide, is that if the durations of a pooled product are too long for you, you can always combine

that pooled product with a tax-exempt money market fund. So, the money market duration would probably be something on the order of 0.25 years, you could combine that, for example, with say, the Fidelity Muni Income Fund on a 50/50 basis, and create a blended portfolio that has a duration of 3.25 years. So that's something to keep in mind too, as you build your muni bond program.

Another factor to consider is vehicles that one can use to purchase municipal bonds. Now of course you can buy individual bonds if you like, through a self-directed account, is also another popular option among investors today, is to create a professionally managed individual account, known as an SMA, or a separately managed account. We offer these here at Fidelity, for example. The account minimums on those SMAs tend to be quite high, but nevertheless, the professional manager can customize a municipal bond portfolio to meet your risk and return preferences, and your liquidity preferences, and so forth.

The more popular vehicles for most investors are either the open-end mutual fund, or the closed end mutual fund, or the exchange traded fund. And I think all of these vehicles are well worth your consideration, there is many factors that you need to consider in evaluating these products. One thing I'd point

out to you about closed end funds, just be on guard about, is that closed end funds often employ some degree of leverage. So, they use margin borrowing as a way of increasing the returns of the yields in the funds. You want to be very careful of that in any kind of product, because leverage can, it can really, you know, work well -- it can create tremendous, you know, return payoffs, or it can create a real headache in terms of losses if you're not careful. And you have to be particularly careful with municipal bonds, again, because these are not the most liquid instruments in the world, and it's never a good idea to leverage an asset class that have, can be challenged in terms of its liquidity.

Now turning to the next subject, which is whether to invest in investment-grade bonds only, or should you combine investment-grade bonds with high-yield bonds? Or should you just invest in high-yield bonds by themselves? I haven't talked very much about the high-yield bond muni market up to now. But I go through the same exercise in these next two slides, I show you the income return generated by high-yield bonds over the last 20 years, it's compound average annual return, 6.46 percent, about 174 basis points more than investment-grade bonds, so very appealing. They also show the total returns generated within this universe over the last 20 years. The return profile here is, you can see in the blue bar, it's -- the compound average annual return is 6.01 percent. Again, it's outperformed investment-grade bonds over the

entire timeframe, but you can see, in contrast to the investment-grade market, you had some pretty serious drawdowns along the way. So, you had a drawdown 2008 of 27 percent, that was the great financial crisis. You had the drawdown in 2013, that taper tantrum. And then you had a drawdown in 2007 of only 2.3 percent, but almost a harbinger of what was to come in 2008. And this is one of the drawbacks of high-yield bonds. The potential for loss in times of economic recession or economic calamity, and also just the sheer volatility of the return profile versus say the investment-grade universe.

But having said that, I try to go through, in a rational way, here on slide 39, to get into the pros and cons of the investment-grade bonds versus high-yield bonds. And my bottom line is that I think most investors would be well served by investing only in investment-grade municipal bond market. And I understand the appeal, why some people might want to step outside of that realm, and you know, benefit from the higher returns of high-yield bonds. What I would argue, what I would suggest, in that case, is if you do delve into the high-yield bond market, you do it on a kind of limited basis, and basically you would employ kind of a core satellite approach to your muni bond portfolio, in which most of your holdings, say 90 percent, is invested in investment-grade bonds, and maybe only 10 percent in high-yield bonds.

Recognizing that high-yield bonds have the potential for considerable loss in periods, in I'd say of recession, or economic calamity.

Another factor to consider in building a muni bond program is whether you should invest in, in terms of pooled products, national funds, or state-specific funds, or both? So, you know, my bottom line here is, it doesn't have to be an either/or question, I think it makes sense actually to do both, it might be nice to have core holdings in a national fund, which gives you broad diversification, and then more -- so you maybe put 60 percent of your portfolio in the national fund, and then maybe 40 percent in the state-specific fund that you can benefit from the double tax exemption that you would enjoy by investing in municipal bonds that are issued within your state.

The problem with the state-specific funds, of course, is that the funds themselves tend to be pretty small in terms of their market capitalization. I show here on the table the Fidelity Muni Income Fund, which is a national fund, versus the Fidelity Maryland Municipal Income Fund. I mean the Muni Income Fund is a $5 billion fund, Maryland is a $225 million fund. As a result, the number of securities in the portfolio is quite different, you have nearly 1,500 in the national fund, only 125 in the state-specific fund. There's more concentration in terms of sector, higher degree of concentration in the state-

specific fund. Again, less diversification versus the national fund. And the expense ratio in the state-specific funds tends to be higher, only because these funds are so small that they have to charge a higher fee in order to make the entire enterprise of offering the fund, you know, economic to the investment manager. So, there's a tradeoff between the two, but I would suggest, you know, you consider both in building programs.

Final consideration we'll go through is the active versus passive question. You could actually build probably a whole presentation deck around this entire issue, it's quite an interesting issue. But we all know the case for passive management, passive index funds hold a potential of providing you with, at the very least, benchmark-like performance, so they give you broad representation to an asset class with returns similar to the returns of that asset class as a whole. You, by keeping your fees low, you also give yourself an opportunity to avoid greatly underperforming the returns of the asset class as a whole. Unlike say an active manager who might, through, you know, specific bets in his or her portfolio, end up underperforming the benchmark index by a high degree.

But so, the case for passive management is well known and actually quite compelling. But I would argue that active management is very much deserving

of your consideration. One reason is that the muni bond market lends itself particularly well to active management, I've already alluded to the fact it's a market that consists of many, many small issues that, as I say here, often trade by appointment. A lot of these issues are driven by idiosyncratic risk, which is to say the risks that are specific to the credit fundamentals of the issuer. So, it's really an area where credit research can pay off, if you're willing to roll up your sleeves and do your homework. The fees, of course, in active management, are higher. But then again, as I alluded to earlier, they have to be. Because the task in which you're engaged is a much more labor-intensive task. I can just tell you our municipal bond team here at Fidelity, we have 28 full-time investment professionals working on the team, it's a very large investment team, and just the, you know, in order to make that task, that undertaking economic, the fees have to be higher.

There's also another consideration is that when you're investing passively, you're not really investing in the index itself, you're investing in an index fund. And the challenge of indexing a municipal bond fund is actually quite daunting. It's over, there's about 55,000 issues in the Bloomberg Barclay's Municipal Bond Index, as compared say to the Bloomberg Barclay's U.S. Aggregate Bond Index, which has only about 10,000 issues. The most challenging part of the U.S. Aggregate Bond Index to index is the corporate

bond sector, which consists of about 6,000 issues. But I've already mentioned to you that muni bonds are a lot like corporate bonds, so just think about the task of trying to index an entire portfolio through that -- an entire portfolio that's benchmarked against an index that consists of 55,000 corporate bond-like municipal bond issues. As I say, it can be a very daunting task, and as a result, the passive manager can often underperform the benchmark index to a greater degree than you might appreciate.

The final thing I'd mention, maybe just about the active/passive question, is the whole commonwealth of Puerto Rico default, which underscores the risks of the passive approach. Puerto Rico represented about 4 percent of the Bloomberg Barclay's Municipal Bond Index. All of the bonds that were issued by Puerto Rico are in default right now, so if you were just, you know, sort of blindly investing in a passive municipal bond fund, which in turn was weighting Puerto Rico about 4 percent in a passive bond fund, because that was its weight in the index, without any consideration about the underlying credit fundamentals of the issuer, you could have ended up, you know, experiencing, you know, a 4 percent loss in your portfolio. Not a 4 percent loss, but let's say something on the order of like a 2, 2.5 percent loss as a result.

So again, word to the wise, I think the bottom line is, it makes sense to use both passive approaches and active approaches in constructing a muni bond program. And again, you can take kind of a core satellite approach, where maybe you invest about 60 percent of your portfolio in a passive fund, and then 40 percent in actively managed funds. That's a, you know, an approach that makes a great deal of sense.

I will skip over the next slide, because I understand that you folks are interested in what's going on in the market right now, so we'll talk a little bit now about market technicals and about valuation and spreads in the markets.

So, market technicals is kind of a term that investment professionals use when they refer to the supply and demand characteristics of a market. And it's particularly important, market technicals in the muni bond market, as I mentioned earlier, because this is, it's actually a fairly small market at $3.8 trillion, and supply and demand ebbs and flows can actually have material impacts on how these bonds get priced, and in turn, how that pricing translates into portfolio returns for investors like yourselves. So, to really understand what's going on in the muni bond market right now, you have to go back to December 2017 with the passage of the 2017 Tax Cuts and jobs Act. Almost everything we're experiencing in terms of market technicals right

now can be traced back to the Tax Cuts and Jobs Act. And there were two provisions in particular in that act that are driving supply/demand phenomena in the market today.

The first -- well both of them are highlighted in green here, by the way. So, the first provision is, you know, elimination, what's known as advance refunding bonds. Advance refunding bonds was a type of municipal bond that state and local governments would use to essentially refinance callable bonds before their call date. I won't go into the technical features of advance refunding bonds, but it was a very popular tool among state and local governments. It used to make up about 20 to 25 percent of the new issue calendar every year in the muni bond market. But under the Tax Cuts and Jobs Act of 2017, advance refunding bonds, these tax-exempt advance refunding bonds, was eliminated. That put a big hole in the new issue calendar. Which meant that the supply curve, if you will, for municipal bonds, shifted to the left, it was a sudden, dramatic tightening in terms of supply in the market.

The other provision in the tax reform legislation that I'd like to point out to you is highlighted in green, was the $10,000 cap on state and local tax deduction that was enacted as part of tax reform legislation. So, as you recall, this legislation actually reduced individual tax rates slightly by 1 to 4 percent, and it

reduced the corporate tax rate quite dramatically, from 35 to 21 percent. That should have dampened the investor enthusiasm for muni bonds, because when your marginal tax rate goes down, the value of the tax exemption in muni bonds becomes less appealing. But in fact, Congress also put a $10,000 cap on deductions. And the reason that's significant is that your marginal tax rate is applied, or I should say, your effective tax rate is applied to your total taxable income. Total taxable income is your gross income minus adjustments, minus deductions. So, by capping all of your deductions at $10,000, Congress in effect raised the taxable income on many investors, in particular affluent investors who lived in so-called high tax states, who were used to deducting their state income tax and their property tax on their federal income tax return.

And the investors I'm referring to are affluent investors in states such as California, New York, New Jersey, Illinois, Connecticut, Massachusetts, where I live. Investors who sat down in January of 2019 and began filling out their tax return for the first time with the advent of this tax were shocked, in many cases, to see just how much their tax bill had gone up. So, the upshot of this, we can see this on slide 46, is that the supply of municipal bonds was diminished greatly starting in 2018, by the passage of the 2017 Tax Cuts and Jobs Act. You can see the downward shift in the value of tax-exempt

municipal bonds issued on this slide. On the next slide, what we see here is net investor flows into mutual funds on a year by year basis, going back really to 1992. So, the Lipper organization keeps track of how much money flows into a municipal bond mutual fund, really on a weekly basis.

And what you see here is in 2019, we had record inflows into the municipal bond mutual fund complex. The inflows were positive every week of the 52 weeks in 2019, and the total inflow was $105 billion, that was a record going back to 1992. And it was generated solely by the fact that investors were really shocked in January of 2019 when they saw just how big an impact the $10,000 cap in state and local tax deduction would have on their tax bill.

So basically, we've had the supply curve for municipal bonds shifting to the left, the demand curve for municipal bonds shifting to the right, and the intersection of those two curves moving up dramatically, so that the market is clearing, if you will, at a much higher price, and as a result of that, investors have really had a tailwind when it comes to municipal bond investing, since 2018, the tailwind was driven by supply in 2018, last year it was driven by demand. But it basically, and by the way, the flows into muni bond mutual funds this year continue to be strong. So, we have, you know, bottom line,

kind of the strongest technicals in the history of the muni bond market right now.

In terms of market environment, and I'll go through this very quickly, but I can summarize it this way. Yields are low, the slope of the yield curve is very flat, yield spreads are complex -- compressed. Municipal bond, Treasury bond, yield ratios, are trending toward their lowest levels ever. And market volatility is exceedingly high. So, we can just see, you know, those three points illustrated, four points illustrated here in the next couple of charts. Here you see the AAA muni yield curve shifting down. Since January 31, yields are down about 10 basis points at the short end, 15 to 20 basis points in the intermediate portion of the curve, and about 25 to 30 basis points at the long end. So, yields are very low.

Here we look at the slope of the muni yield curve, this is the difference, the green line is the difference between a 2-year AAA muni, and a 10-year AAA muni. The blue is the difference between the 2-year and 30-year AAA muni. You can see that they're trending down to their, among their lowest levels ever. So, it's a very flat yield curve. You can see spreads here, very compressed, they're really, you know, back to kind of 2005, 2006 levels. Muni yield and U.S. Treasury yield ratios also trading very rich right now. Again, this

is a reflection of those very strong inflows into the muni bond space that I alluded to earlier. Here's volatility. Volatility was actually very well behaved in 2019, it was only the outbreak of the coronavirus that has us now back at levels that we haven't seen since 2011. That can be important in the muni bond space, volatility, these are credit sensitive instruments. Ideally, what you're like to see is volatility from sort of the 12 percent, or even the 10 percent, say 15 percent range, that is the range where the incremental yield offered by a credit sensitive instrument will tend to drop to the bottom line in the form of excess return. It's a little bit more problematic though when volatility is running this high, because volatility leads to spread widening, and spread widening leads to negative price return, and negative total return.

But to leave you on a little bit of a hopeful note, I'll wrap up here in a moment, you've heard the expression that, well people will say it's not a stock market, it's a market of stocks, the same expression applies to the muni bond market. It's not a muni bond market, it's a market of individual muni bonds.

What I show here on the next couple of slides is how, what the market looks like when you stratify it, first by credit quality. So here we're looking at the option adjusted spread over AAA munis offered by municipal bonds of different credit quality. So, you can see that if you're willing to go down to the

single A, the BBB level, you can generate or earn very attractive spreads, very attractive for this environment, anyway, of 25 to 44 incremental basis points over AAA munis. You can also stratify the market by type of issuer. So here we rank order the type of issuer from pre-refunded bonds at our left-hand of the screen, to housing and healthcare-related bonds at the far right-hand side. So, you can see how the healthcare corporate-backed bonds, transportation bonds, all offer, you know, fairly attractive incremental yields over the standard AAA muni yield. And again, that's an opportunity for investors like yourself.

Finally, we can stratify the universe by state, or by geography. So, we can look at the domicile of the issuer of the bonds that make up the municipal bond market. We can look at the average option-adjusted spread by state, and here again you can see, there's a wide range of dispersion, from California where spreads are actually negative by about minus nine basis points, all the way out to say Illinois and North Dakota. Illinois is a positive 44 basis points. And the reason I bring this up is that this is exactly what active managers do in the municipal bond space. They tend to gravitate, this is one reason why active management makes sense in muni bonds, active managers will gravitate to those parts of the market that offer the widest option-adjusted spreads, and they'll avoid the sectors that have low option-adjusted spreads. And this is precisely what we do in our muni bond funds. So, our funds are all down in

quality, in terms of we're underweight say AAA and AA, oftentimes overweight single A and BBB. We're often overweight, healthcare is probably our biggest overweight in a lot of our funds right now. We're usually underweight the pre-refunded sector, because these spreads are negative there.

And similarly, with... by state, our biggest overweight and underweight right now, our biggest overweight is Illinois, our biggest underweight is California. Again, because the spreads dictate where you should go in terms of finding opportunity. But you can't be naïve about it as well, you still at the end of the day have to buy individual bonds, which means that you have to do your credit research and understand what it is you're buying, bottom up basis. So, because whenever a bond has a wide option-adjusted spread, it's usually indicative that there's more risk associated with it. So, our approach is always to try to find the bonds that have stable to improving credit fundamentals.

So, with that, I think I will conclude my prepared remarks. I have a final thoughts slide for you with an inspirational quote from President Kennedy that the Chinese use two brushstrokes to write the word crisis, one stroke stands for danger, and the other for opportunity, and I just thought that was a particularly apropos quote, given the volatile times in which we live.

END OF AUDIO FILE

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