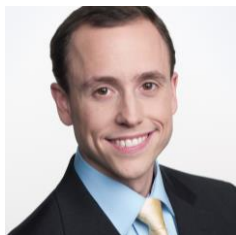


## Investment Insights

# Tobacco bonds: An unfiltered look at a unique municipal asset class



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Tobacco bonds are a predominantly high yield US municipal asset class. For many years following the great financial crisis, the municipal market was faced with an historically low interest rate environment during which time tobacco bonds were a key contributor to the performance observed within many of Invesco's high yield municipal bond portfolios. Additionally, due to the variety of structures that tobacco bonds offer across the credit-risk spectrum, the sector offers diversification benefits to investors over time and throughout changing market conditions. In this respect, the selection of specific tobacco bonds can be used to pursue a variety of investment objectives for the portfolios that Invesco manages. As further described in this report, we discuss the various benefits and risks to tobacco bonds while providing a general overview of the sector.

### What are tobacco bonds and why are they part of the US municipal market?

Municipal tobacco bonds were issued shortly after 52 US states and territories (Settling States) entered into a Master Settlement Agreement (MSA) with tobacco manufacturing companies in November 1998.<sup>1</sup> Under the MSA, the Settling States agreed to give up all future legal claims against the tobacco manufacturing companies for the recovery of tobacco-related healthcare costs. In return, the Participating Manufacturers (PMs) agreed to make annual payments in perpetuity to the Settling States, with each state receiving a fixed percentage of the total annual payments. The amount of the annual payment is dependent on a variety of factors, most importantly inflation and national tobacco consumption.

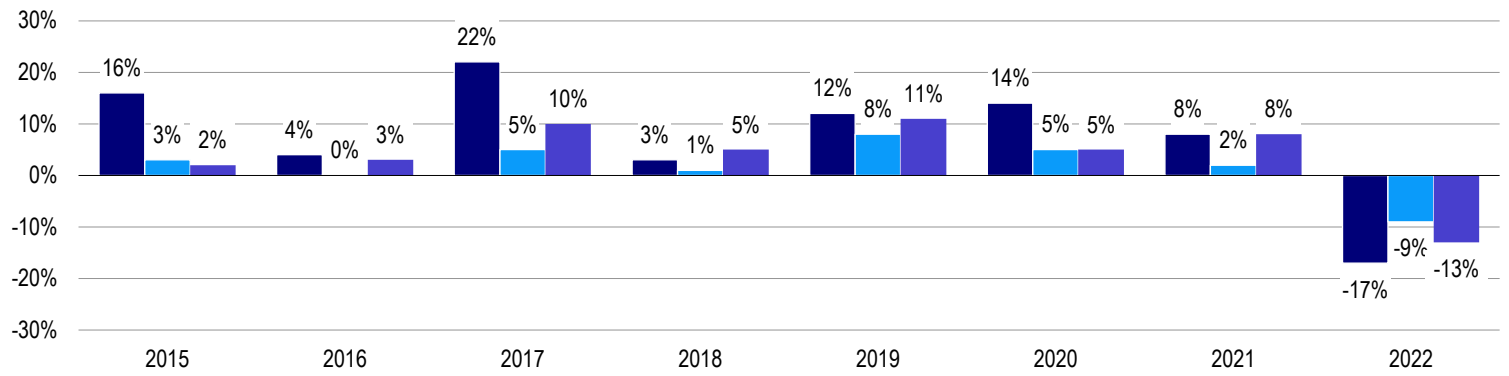
Several of the Settling States decided to securitize these payment streams, creating special purpose entities (SPE) to issue debt backed by their share of this revenue stream. In return for an upfront payment, some Settling States sold and/or transferred their rights, titles and interest related to these annual payments to the SPE. As a result, tobacco bonds can be issued as either tax-exempt or taxable in the US, depending on the intended use of the proceeds as defined by the US Internal Revenue Service. So far, 21 states and territories have securitized this payment stream, with local governments in California and New York also having issued tobacco bonds.<sup>2</sup>

Municipal tobacco bonds are solely secured by payments made by the PMs. With a few exceptions, the Settling State does not put its credit rating at risk. A few Settling States have issued tobacco bonds enhanced with a state annual appropriation pledge. However, these bonds are rated based on the state's appropriation pledge rather than debt service coverage. The tobacco bonds referenced in this report do not cover these types of credits.

### Potential benefits of tobacco bonds

- **Potential return enhancement:** Tobacco bonds are structured similarly to securitized bonds with various tranches that provide different return and risk profiles. Under this structure, a risk averse investor might consider purchasing a senior tranche that provides a lower risk and return profile, where as a risk-seeking investor could consider purchasing a subordinated zero-coupon bond that has amplified risk and potential for greater return (see Figure 1).

**Figure 1: Total Returns 2015 - 2022**



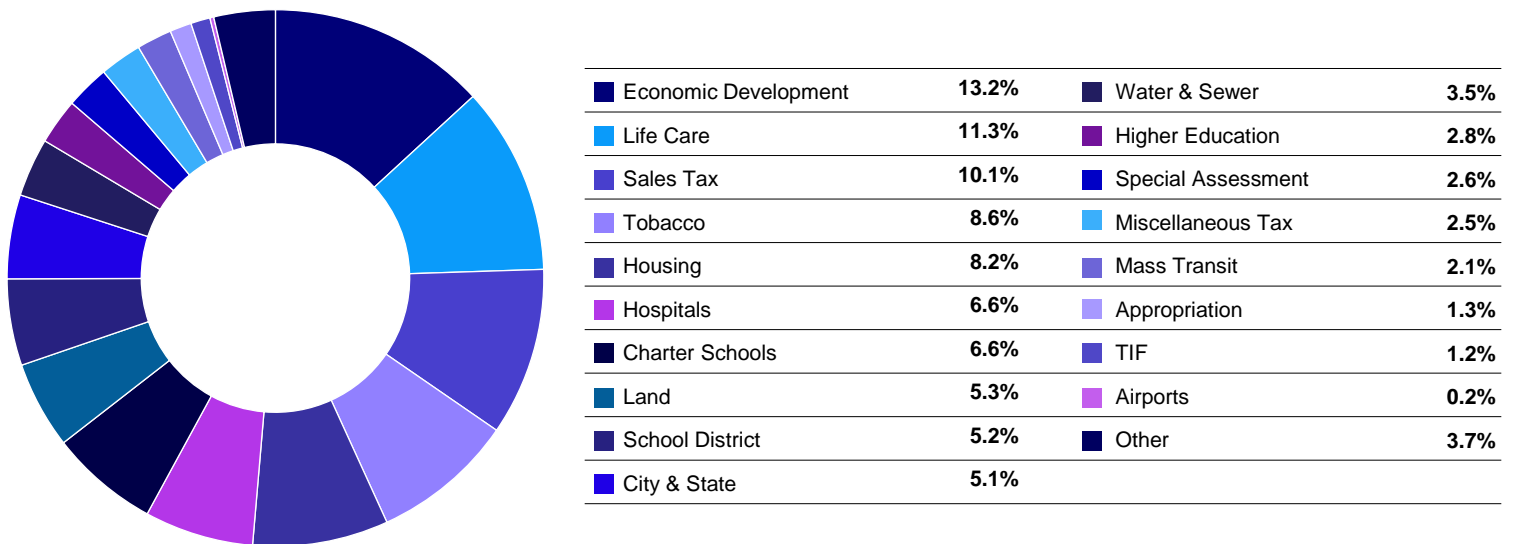
	2015	2016	2017	2018	2019	2020	2021	2022
■ Tobacco Bonds	16%	4%	22%	3%	12%	14%	8%	-17%
■ Investment Grade Munis	3%	0%	5%	1%	8%	5%	2%	-9%
■ High Yield Munis	2%	3%	10%	5%	11%	5%	8%	-13%

Source: Bloomberg L.P. as of December 31, 2022. Tobacco bonds represented by the Bloomberg High Yield Tobacco Muni Total Return Index. Investment Grade Munis represented by the Bloomberg Municipal Bond Total Return Index. High Yield Munis represented by the Bloomberg Muni High Yield Total Return Index. **Past performance does not guarantee future results.** An investment cannot be made into an index.

- Liquidity:** Tobacco bonds account for 8.6% of the high yield municipal bond universe in the US, the fourth largest sector of that market (see Figure 2). Given the significant weighting of tobacco bonds within the index of high yield municipal bonds, there is demand throughout a credit cycle for tobacco bonds from both US mutual funds and hedge funds. Since tobacco bonds are structured similarly to securitized bonds, key factors such as structure, cigarette consumption, and MSA payments can be modeled and stressed, helping investors to determine credit quality.

**Figure 2: High Yield Municipal Debt Outstanding**

Sectors by weight



Source: Bloomberg L.P. as of 12/14/2022. High yield municipal market is represented by the Bloomberg Municipal High Yield Total Return Index. Total may not equal 100 due to rounding.

- **Inflation adjustment:** Yearly MSA payments are subject to an annual inflation adjustment, with a floor of 3%. However, it is important to note that tobacco bonds are issued in a variety of structures, some of which have very long durations and, thus, can be highly sensitive to changing interest rates.
- **Payments extend into perpetuity:** Annual payments from the PMs are made in perpetuity. In the event a tobacco bond is not paid in full by its maturity date, this would constitute an event of default. However, bondholders have the right to continue to receive these payments from the PMs until all outstanding debt has been repaid. Given the perpetual revenue stream, relative value analysis also incorporates internal rate of return projections.

### How does the Master Settlement Agreement work?

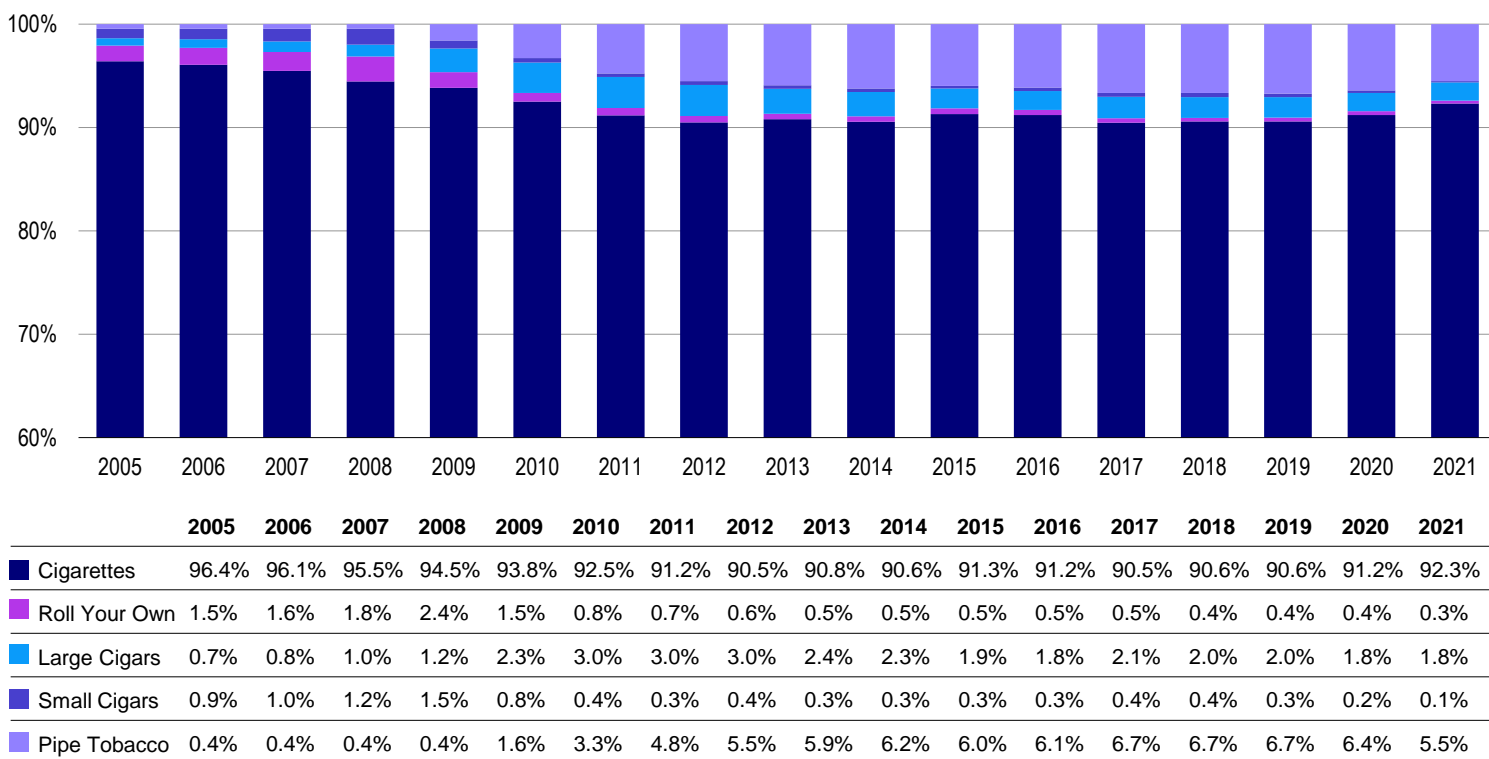
Since the 1998 MSA, several additional tobacco manufacturing companies have signed onto the MSA and, collectively, the PMs have a market share of about 90% as per sales year 2021.<sup>3</sup> As previously discussed, the Settling States agreed to give up any future legal claims against the PMs in return for annual payments to be made in perpetuity. The PMs also agreed to various advertising and marketing restrictions and to fund anti-smoking initiatives in the US.

There are also tobacco manufacturing companies that have not joined the MSA, known as the nonparticipating manufacturers (NPMs). While the NPMs are not required to make annual payments, the Settling States are required to levy a tax on the NPMs to offset any potential cost advantage they may derive as a result of the PMs' MSA obligations. As described in more detail later in this report, if a Settling State were to fail to levy or enforce the collection of such tax, it could lose a significant portion of its annual payment (see NPM Adjustment).

### What products are covered under the Master Settlement Agreement?

The MSA's coverage is limited to cigarettes, which are strictly defined as any product that (a) contains nicotine and (b) is intended to be burned or heated under ordinary conditions of use. Also included is roll-your-own (RYO) tobacco. The MSA does not overlap with the US Food and Drug Administration's (FDA) definition of tobacco products under the US Family Smoking Prevention and Tobacco Control Act and excludes products such as cigars, smokeless tobacco, and e-cigarettes. As a result, these products are generally cheaper than cigarettes and RYO tobacco, which is one of the reasons we have seen an increase in the market share of "alternative" smokeable tobacco products, although this shift appears to have leveled off in recent years (see Figure 3).

**Figure 3: Market Share of Smokeable Tobacco Products**

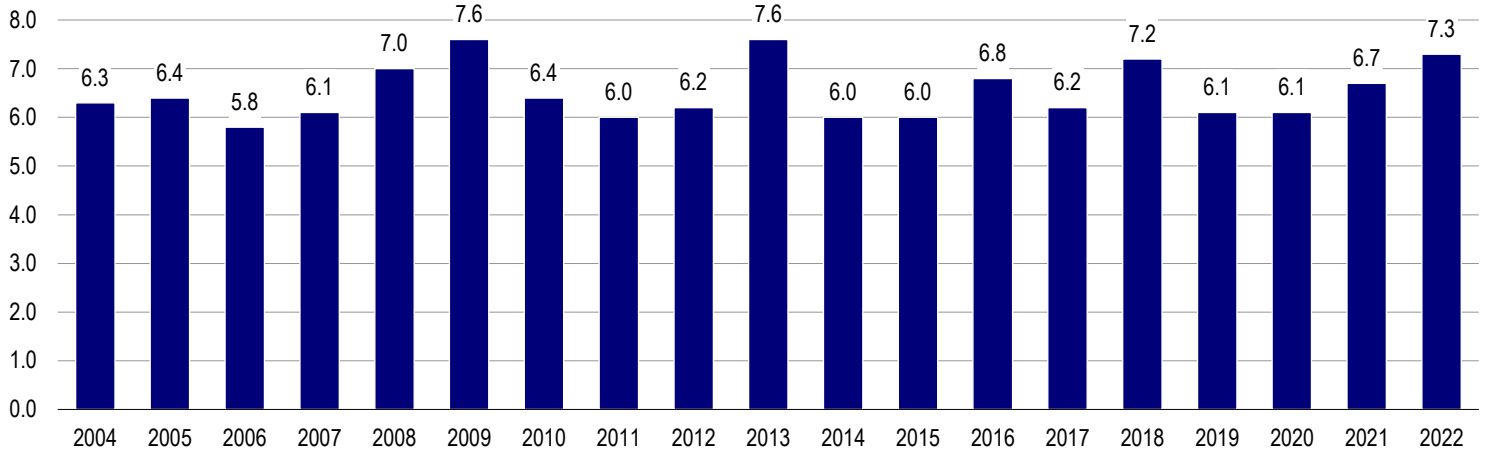


Source: US Department of the Treasury, Alcohol and Tobacco Tax and Trade Bureau, as of December 31, 2021. Latest data available.

## How are MSA payments determined?

The MSA established an annual base payment amount of \$9 billion in perpetuity beginning in sales year 2007. This base payment amount is adjusted annually by various factors, most notably US inflation and national cigarette consumption.<sup>4</sup> Payments are made once a year on April 15.

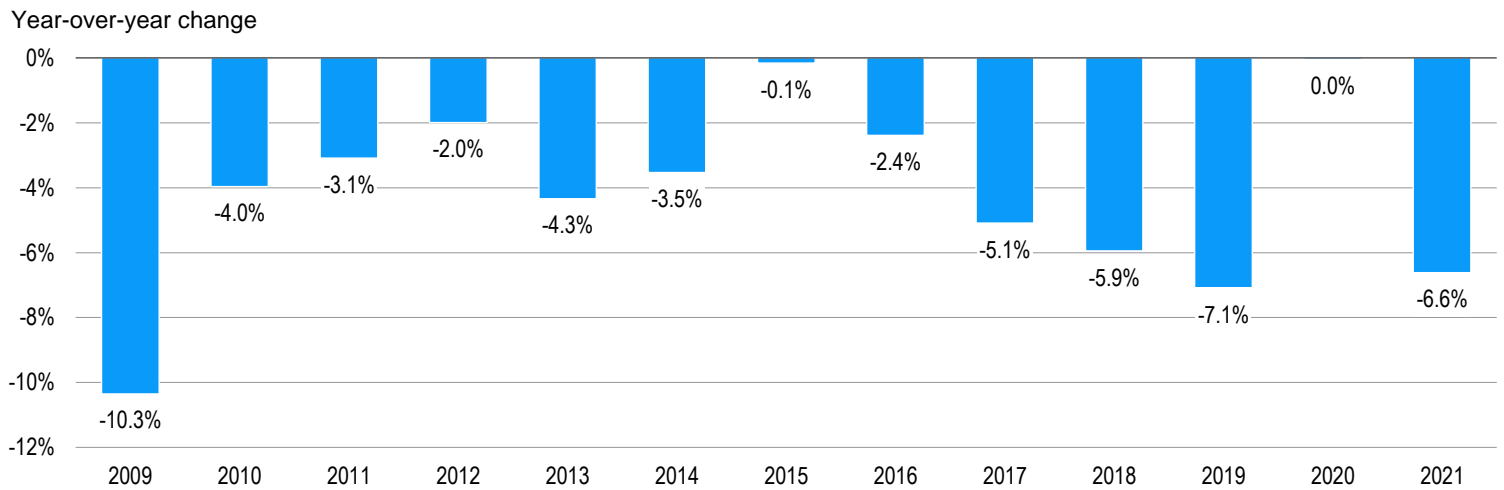
**Figure 4: Total MSA Payments to States (in \$billions)**



Source: National Association of Attorneys General, as of April 30, 2022.

The inflation adjustment is based on the percentage change in the Consumer Price Index for All Urban Consumers, as published by the US Bureau of Labor Statistics. It has a floor of 3% and thus has an additive annual effect to the base payment amount.<sup>5</sup> The base amount is also adjusted based on the number of cigarettes (the “actual volume”) shipped within the US by the Original Participating Manufacturers (OPM). The volume adjustment compares the actual volume of cigarettes to a base volume of 475.7 billion cigarettes.<sup>5</sup> With consumption declining annually since the adoption of the MSA, the volume adjustment has reduced the base payment amount. From sales year 2009 to 2021, OPM shipments fell by an average of 4.2%, and we expect shipments to continue to decline going forward.<sup>3</sup>

**Figure 5: US Original Participating Manager (OPM) Cigarette Shipments**



Source: National Association of Attorneys General as of December 31, 2021. Latest data available.

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## The NPM Adjustment

Total MSA payments are further reduced by the NPM adjustment. The NPM adjustment was created to ensure that the Settling States enforced provisions that were designed to level the playing field between Participating and Nonparticipating Manufacturers. Under the MSA, states were required to (a) establish statutes whereby a tax is levied and collected on NPMs on a per-unit of cigarettes sold basis and deposited into an escrow account (the “Qualifying Statutes”) and to (b) “diligently enforce” said statutes. Additionally, PMs had the right to withhold a certain percentage of the total MSA payment if they suffered a market share loss due to the adoption of the MSA. A formula determines the maximum amount PMs can withhold for NPM adjustments and, since sales year 2003, this amount has averaged 13.9% of total MSA payments.<sup>3</sup> Thus, this can have a material impact on annual cash flow and return projections of tobacco bonds. Such payments are deposited into a disputed payments account and remain there until either a settlement is reached, or the dispute is resolved by an arbitration panel.

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## Securitization

Since 1999, twenty-one states and territories have securitized their MSA payments by selling and/or transferring their rights, title, and interest to the MSA payments to a Special Purpose Entity, without recourse, in exchange for an upfront payment.<sup>2</sup> The SPE is a conduit entity created by the sponsoring government, which issues debt and uses those proceeds to “purchase” the MSA payments from the underlying government. While the structure is designed to be bankruptcy-remote from the sponsoring government, there is a lack of legal precedence in the US. Additionally, each tobacco securitization structure is different, making a careful analysis of the SPE and sale agreement critical.

Pursuant to the Master Settlement Agreement, the PMs’ annual payments are made directly to an MSA escrow agent, who forwards the proceeds to a bond trustee to administer debt servicing. MSA bonds can be structured in several different ways, with the most common structures consisting of serial bonds, term bonds, and capital appreciation bonds (CABs) with “turbo redemption provisions.”<sup>5</sup> The turbo redemption feature requires any excess cash to be used to redeem bonds having that feature in order of maturity, which could shorten the bond’s weighted average life.

Two states, California and New York, allocate a percentage of their MSA payments to underlying government entities, several of which have securitized this revenue stream. While there are slight differences in the structures of the entities’ MSA bonds, the most notable are bonds issued by California counties. The amount of MSA payments each county receives is based on the percentage of the state’s population that resides within that county, as determined by the US Decennial Census.<sup>6</sup> This adds an additional risk factor not present in other structures.

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## What typically drives US cigarette consumption?

One of the key drivers that affects the total amount of annual payments made by the PMs is consumption. There are several factors that affect consumption, including:

- **Taxes:** The federal government, along with state and local governments, levies excise taxes on cigarettes. The impact of a federal tax increase tends to be greater than a state specific tax increase on PMs’ annual payments, mainly because such payments are based on national cigarette consumption. Additionally, smokers may have the ability to purchase cigarettes from lower tax neighboring states. The federal government last increased the federal tax rate on cigarettes in 2009, from \$0.39 to \$1.01,<sup>7</sup> which we believe to be one of the main reasons for the 10.3% decline in consumption that year.<sup>3</sup> This decline in consumption was the largest decrease observed since the MSA was initiated in 1998.<sup>3</sup> With regard to state taxation, more recently Illinois and Colorado increased their state-specific tax rates by 51% and 131% in 2019 and 2021, respectively. California, the most populous state, previously enacted a 230% tax increase on cigarettes in 2017 (from \$0.87 to \$2.87 per pack).<sup>8</sup>
- **Regulations:** Federal and state regulation can take many forms, including minimum age requirements for sale of cigarettes and restrictions on marketing. However, like taxation, the most impactful regulations have occurred at the federal level. While changes to existing federal regulation on tobacco have been somewhat muted in recent years, the FDA recently announced a new comprehensive plan to further regulate the tobacco industry, including limiting the amount of nicotine levels in cigarettes. While we do not anticipate material changes in current regulations for reasons we discuss in the next section, additional regulation at the federal level could have a significant impact on consumption.
- **Alternative products:** As covered products in the MSA are limited to cigarettes, manufacturers have intentionally rebranded various tobacco products so that they would not fall within the scope of the MSA. Little cigars and pipe tobacco are products that look very similar to cigarettes or roll-your-own tobacco, but they are not subject to the MSA. Additionally, these manufacturing companies have started to develop alternative and potentially less risky products such as e-cigarettes, commonly referred to as vaping, and Philip Morris International’s more recent heat-not-burn product, titled iQOS. E-cigarettes, both of which are not included in the MSA and therefore, have the potential to accelerate the decline in traditional cigarette consumption in the coming years as consumers have additional products to choose from.

- **Health studies and warnings:** Generally, most health studies and warnings are tied to regulations with the goal of reducing cigarette consumption. Reputable tobacco studies are usually performed by the Center for Disease Control, National Institutes of Health, academic institutions, or other third-party independent research firms in the US. Combined with increased government regulation, these studies could lead to additional consumption declines.
- **Disposable income:** Research has shown that tobacco consumption is highly correlated with disposable income, which tends to result in increased consumption during periods of economic growth and decreased consumption during downturns. For example, when gasoline prices fall leaving consumers with more disposable income, the decline of tobacco consumption slows. This was one of the reasons cited as a cause for the relatively benign cigarette consumption decline of 0.1% in 2015.<sup>3</sup> Most recently, it has been observed that work-from-home policies throughout 2020 combined with the onset of government stimulus programs providing additional disposable income to individuals has led to a temporary annual reprieve in cigarette shipment declines, resulting in tobacco consumption effectively coming in flat year-over-year. The price elasticity of cigarettes is generally accepted to be given by the following relationship: a 1% increase in price tends to lead to a 0.3%-0.5% decline in demand.<sup>9</sup>

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## Potential impact of recent developments within the tobacco sector

### US Food and Drug Administration announcement

In July 2017, the FDA announced a comprehensive plan to potentially modernize tobacco and nicotine regulations, which could lead to greater declines in cigarette consumption. However, the announcement's primary objective was not to take immediate action on regulations, but to begin a dialogue intended to generate additional research to further support the Family Smoking Prevention and Tobacco Control Act (the "Tobacco Control Act").

The FDA has three primary objectives it would like to achieve over the next several years. First, begin a dialogue on reducing nicotine levels in combustible cigarettes to non-addictive levels, which would likely result in reduced cigarette consumption. The FDA cannot outright ban nicotine or tobacco, but through the Tobacco Control Act, it can limit what and how much goes into a combustible cigarette. We understand there is currently minimal scientific support to suggest that reducing nicotine levels would significantly reduce cigarette consumption. As such, it will likely take several years for the FDA to perform scientific studies, evaluate findings, and pass legislation.

Second, the FDA wants to further study the impact of flavoring, such as menthol, on youth addiction. The FDA has performed numerous scientific studies in the past on flavoring, which would allow the agency to move more quickly if it wanted to eliminate menthol than it could in reducing nicotine levels. As such, in April 2022 the FDA formally proposed rules that would prohibit the manufacturing and retail distribution of menthol cigarettes and flavored cigars.<sup>10</sup> The ban, however, is unlikely to take effect until 2025 at the earliest, to allow for a public comment and formal review period. Consensus also indicates that the potential negative impact on cigarette consumption is likely to be tempered as a large percentage of smokers would simply switch to non-menthol cigarettes. This trend has been observed in Canada and Europe where menthol bans are already in place.<sup>11</sup>

The FDA's third objective is to encourage the usage of "less risky" next generation products, such as iQOS and other forms of e-cigarettes. The agency wants to streamline guidelines to make the review process more efficient, predictable, and transparent for manufacturers. We believe these actions could lower regulatory hurdles, making it easier for tobacco companies to bring alternative options to the market. If these alternative options fall outside the scope of the MSA, this could be negative for cigarette consumption.

The FDA has not set a timeline for these initiatives, and all conclusions must be based on strong scientific facts. Tobacco lobbyists will likely be out in full force to litigate scientific findings and delay any additional regulations implemented by the FDA. Thus, impactful regulatory changes will likely not take place in the near-to-medium term.

### Advances in heat-not-burn technologies

Philip Morris International's iQOS product and British American Tobacco's similar product, marketed as Glo, are likely to be the type of next generation products the FDA will consider as less risky alternatives for tobacco consumers. While these heated tobacco products are marketed to be reduced-risk given the lack of smoke and other chemical byproducts associated with burning tobacco leaf, these so called "heat-sticks" still contain nicotine and remain highly addictive. As a credit positive for the MSA, however, Philip Morris' iQOS product in November 2021 was removed from the US market due to an order issued in a patent infringement case filed by R. J. Reynolds. The order imposed an importation ban on all iQOS products into the United States and a cease-and-desist order on the marketing and sale of product already imported to the country.<sup>12</sup> Until further notice, this ban should help to temper consumption declines of traditional cigarettes at least in the near-term.

It is unclear at this time if iQOS or Glo tobacco "heat sticks" will ever be included in the MSA and how they would be accounted for in MSA's payment formula. The rollout of these products would also likely be selective and done in concert with regulatory approval from the FDA. We believe the immediate impact will be neutral for the tobacco bond market as consumers gradually become familiar with the new products. However, if tobacco "heat sticks" are included in the MSA, the long-term impact would likely be positive for the tobacco bond market.

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## How does Invesco Fixed Income analyze tobacco bonds?

We consider two main factors in analyzing tobacco bonds: underlying credit fundamentals and relative value. When assessing underlying credit fundamentals, the primary credit driver is the breakeven rate, which is the percentage change in consumption that a particular bond can withstand before defaulting. Proprietary models are used to determine this maximum rate of consumption decline along with other factors, such as the weighted average life of bonds that have the potential to be paid down early or extend beyond final maturity. The models are based on several assumptions, including a 3% inflation rate adjustment (the floor). To assess relative value, we look at a bond's yield spread and dollar price, and, specific to CABs, its dollar price relative to accreted value. This is important because there are several different tobacco bond structures, and these calculations help to capture this heterogeneity.

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## Risks to investing in tobacco bonds

The following are some major risks to investing in tobacco bonds:

- Greater than expected consumption declines could result in lower potential investment returns. Key drivers behind potential decreased consumption include:
    - Increased federal and state excise taxes
    - More stringent regulation
    - Increased popularity of alternative products not included in the MSA
    - Economic downturn resulting in decreased disposable incomes
  - Failure of the Settling States to enforce Qualifying Statutes, resulting in a higher NPM adjustment
  - Bankruptcy of a major tobacco manufacturing company
  - Extension or prepayment risks
    - If cigarette consumption declines more than projected, bond maturities would potentially extend
    - If cigarette consumption declines less than projected, turbo bonds would potentially be subject to prepayment risk
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## The takeaway

Tobacco bonds provide the potential for returns above typical investment grade and high yield municipal bonds. Given the differences in terms and provisions between various tobacco bonds, we believe active management is a crucial step in unlocking value. Proprietary credit research and risk management are the foundations of our investment process, supported by a deep and experienced team of investment professionals with expertise that spans the entire municipal investment universe. We maintain an integrated, team-based investment process that combines the strength of our fundamental credit research analysts with the market knowledge and investment experience of our portfolio managers.

1. The MSA was originally entered into with four tobacco manufacturing companies (Phillip Morris, Reynolds American, Lorillard, and Brown & Williamson). However, subsequent to the signing of the MSA, additional cigarette manufacturing companies joined the MSA. These tobacco manufacturing companies are collectively referred to as Participating Manufacturers, or PMs.
2. Citi, U.S. Tobacco Settlement Backed Bonds, August 2017.
3. National Association of Attorney Generals (NAAG), Apr. 13, 2022.
4. Prior to the 2017 sales year, base payments were split between Annual Payments (AP) and Strategic Contribution Payments (SCP). There were slight differences in how these payments were calculated as well as the percentage of each payment states received. However, beginning with the 2017 sales year, all of the base payments are considered Annual Payments.
5. 1998 Master Settlement Agreement.
6. Inland Empire Tobacco Securitization Authority, Tobacco Settlement Asset-Backed Bonds Official Statement, Series 2007.
7. US Department of the Treasury, Alcohol and Tobacco Tax and Trade Bureau, as of December 31, 2022.
8. Federation of Tax Administrators, as of December 31, 2022.
9. TSASC Tobacco Settlement Bonds Official Statement, dated January 11, 2017.
10. US Food and Drug Administration news release, dated April 28, 2022.
11. Citi Global Tobacco Viewpoint Report, dated April 29, 2022.
12. Philip Morris USA, Inc., as of December 31, 2022.

## Definitions

Internal rate of return is a metric used to estimate the profitability of potential investments

Consumer Price Index is a measure of the average change over time in the prices paid by urban consumers for a market basket of consumer goods and services

Serial bonds are bonds of a single issue that mature on different dates

Term bonds are bonds of a single issue that mature on a single date

Capital appreciation bonds (CABs) are typically sold at a discount to par with interest accruing and compounding until maturity, when the full amount of principal and all accrued interest are repaid to the investor as a single lump sum

Weighted average life is the average length of time that each dollar of unpaid principal on a loan, a mortgage, or an amortizing bond remains outstanding

Yield spread is the difference between yields on differing bonds of varying maturities, credit ratings, issuer, or risk level, calculated by deducting the yield of one instrument from the other

## About risk

Municipal securities are subject to the risk that legislative or economic conditions could affect an issuer's ability to make payments of principal and/or interest.

Junk bonds involve greater risk of default or price changes due to changes in the issuer's credit quality.

The value of investments and any income will fluctuate (this may partly be the result of exchange rate fluctuations) and investors may not get back the full amount invested. The values of junk bonds fluctuate more than those of high quality bonds and can decline significantly over short time periods.

All fixed income securities are subject to two types of risk: credit risk and interest rate risk. Credit risk refers to the possibility that the issuer of a security will be unable to make interest payments and/ or repay the principal on its debt. Interest rate risk refers to the risk that bond prices generally fall as interest rates rise and vice versa.

Municipal bonds are issued by state and local government agencies to finance public projects and services. They typically pay interest that is a tax in their state of issuance. Because of their tax benefits, municipal bonds usually offer lower pre-tax yields than similar taxable bonds.

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All data provided by Invesco unless otherwise noted.

A basis point is a unit that is equal to one one-hundredth of a percent.

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