Build America Bonds

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Build America Bonds Genesis

Global Financial Crisis

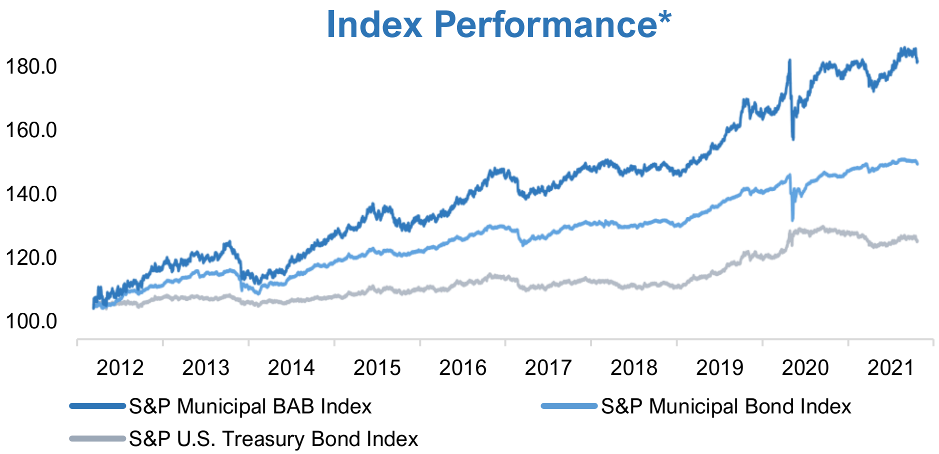
- Credit markets were severely impaired in the 2008 global financial crisis and hence, trust towards banks, bankers, brokers and the stock market collapsed to unprecedented levels. This eventually led to lack of safe financing options for investors.
- Corporate bonds and mortgage-backed securities (MBS) had a high perceived default risk immediately following the crisis.
- Liquidity crunch led to a sharp fall of 68% in monthly municipal bond issuances and cost of borrowings more than doubled.
- Without access to financing, the state and central governments were forced to put infrastructure and capital projects on hold. Moreover, with risk off sentiment, investors were comfortable investing in bonds issued by a government body.

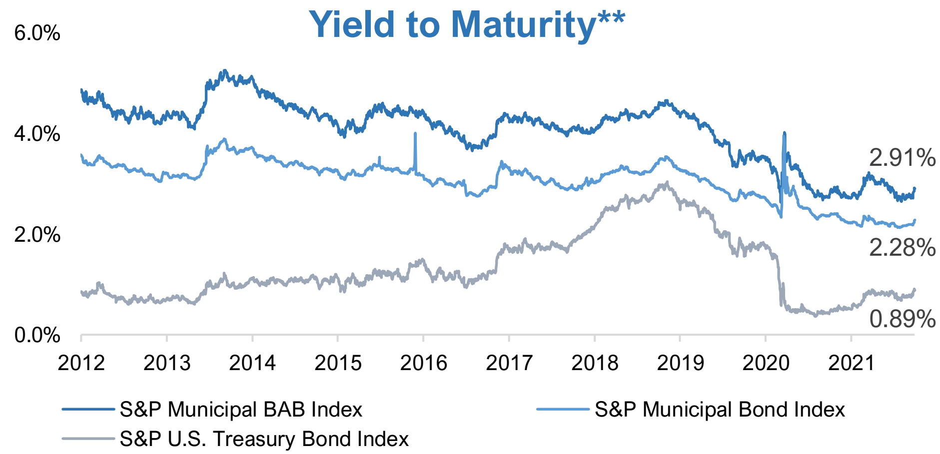
Build America Bonds

- Build America Bonds (BABs) were introduced under the American Recovery and Reinvestment Act of 2009 (ARRA) promulgated by President Obama on 17 February 2009.
- BABs were taxable municipal bonds that provided subsidies or federal tax credits to bondholders or local and state government bond issuers.
- The ARRA allowed state and local authorities to issue BABs in 2009 and 2010 with the first BAB being issued in April 2009.
- To offset for the advantage associated with the tax-exemption, the federal government offered two options to BAB issuers to reduce their interest costs, namely, direct payment BABs and tax credit BABs.
- State and local governments borrowed USD 181.4 bn through the issuance of 2,275 separate issues of Build America Bonds.
- Despite the success of the programme, Congress failed to extend it in 2011 and it expired on 31 December, 2010.

Source: *U.S Department of Treasury, SIFMA*

BABs 2.0 allowing infrastructure financing at low cost





- Due to the Fed's asset purchases as part of quantitative easing and the US Treasury's financial support for the economy in response to the pandemic, the market is confronted with a surfeit of cash in the banking system.
- Despite the pandemic-induced economic instability, the current situation is substantially different from the last time BABs were issued. This time, market liquidity remains benign. Furthermore, due to the crisis in 2008, investors were highly averse to risk, which is not the case now.
- Gauging from the historical performance chart above, BABs have outperformed Muni Bonds and the US Treasury Index in the past.
- The yields have fallen in inverse proportion to the rising performance and are now at 2.9% for BABs and 2.1% for Muni Bonds.
- BABs will have longer maturity given the infrastructure projects are capital-intensive and have longer life spans. Non-taxable investors such as pension funds would be keen to invest in BABs as it provides higher interest rates. Moreover, these long-dated bonds will entice pension funds to invest in these taxable bonds as it avoids asset liability mismatch.
- While the municipal bond market is not under duress like during the Great Recession, state and local governments still face difficult fiscal and economic challenges. Given the current need for infrastructure spending, we anticipate the issuance of these bonds to be well received by the market.

Source: *S&P Global, *Both charts have been rebased to 100*
***Weighted Average Maturity Municipal BAB Index 17.02 Yrs, Municpal Bond Index 12.09 Yrs, U.S Treasury Bond 7.27 Yrs*

Types of Build America Bonds

01

- **Direct Payment BABs are** the most common, in which the issuer (i.e., state or local government) receives a payment of 35% of the interest cost from the U.S. Treasury.

Assuming $1,000 bond with interest rate of 10%

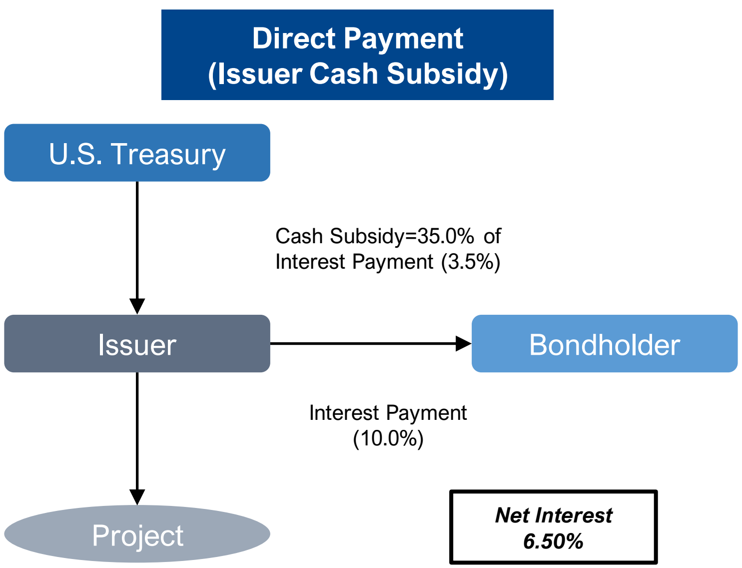
- The issuer would pay 100% of the taxable rate interest cost to the investor ($100) and apply for a refundable tax credit itself from the U.S. Treasury in an amount equal to 35% of the gross interest paid by the issuer ($35). For the issuer, the effective interest rate is 6.5%.

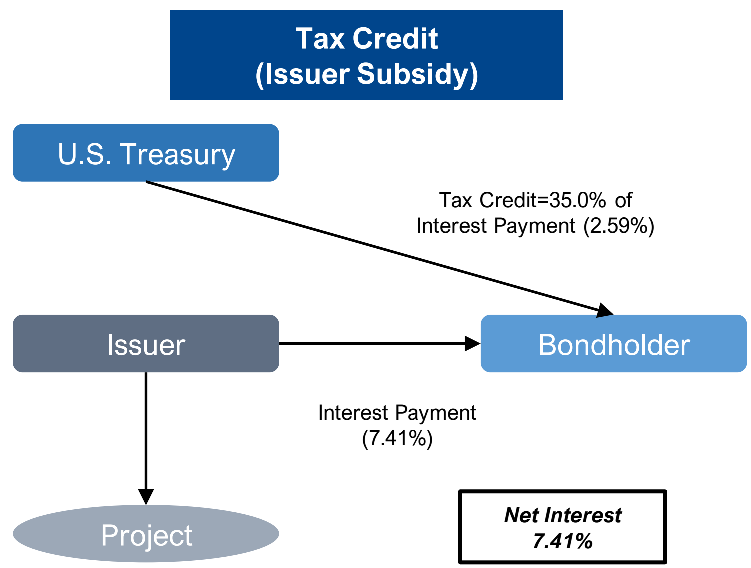
02

- **Tax Credit BABs** are bonds in which the bondholder receives a tax credit equal to 35% of the coupon interest.

Assuming $1,000 bond with interest rate of 10%

- The issuer would pay $74.07 in interest, and the investor would receive supplemental credit equal to 35% of the interest the issuer paid or $25.93 to provide the total desired annual return of $100. Thus, the effective interest rate for the issuer is reduced by 26%. The investor can apply the tax credits against regular income tax liability and alternative minimum tax, and unused tax credits may be carried forward to the next year.





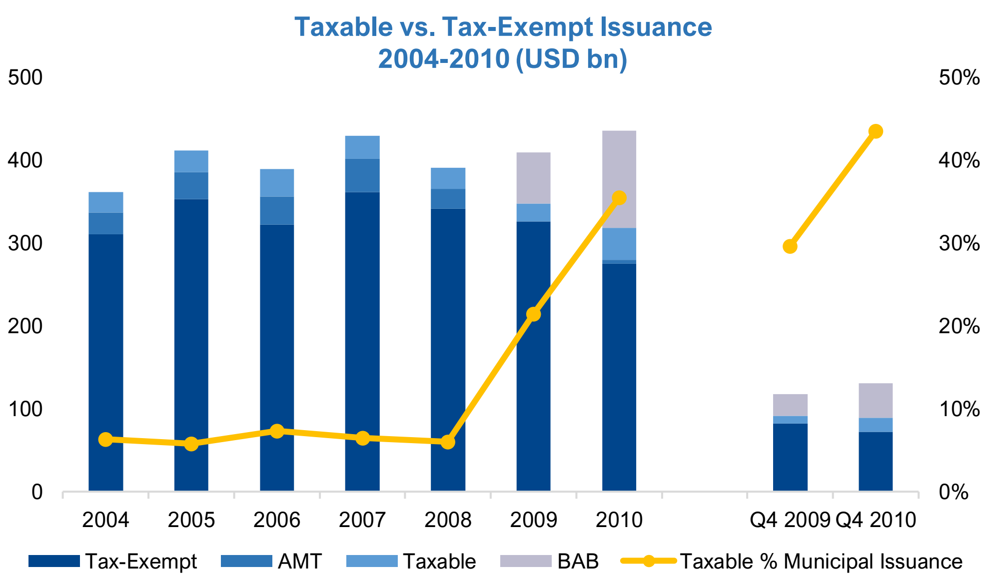
Source: *US Federal Highway Administration report on Build America Bonds*

Advantages of Build America Bonds

01

- **Restored credit market confidence**: BABs restored access to credit markets in 2009 as the municipal bond market was reeling under the aftershocks of the credit crisis.
- **Supported infrastructure projects**: The programme supported capital projects such as construction of roads, public utilities, energy projects and other public infrastructure projects.
- **Lowered borrowings cost**: Unique structure of BABs and reduced borrowing cost of state and local governments increased transparency in infrastructure projects.
- **Broadening of market helped state and local governments finance their spending:** Since BABs were taxable, the bonds provided incentive for a much broader group of investors to participate in the programme, including pension funds and foreign investors, who do not generally pay federal income taxes. Furthermore, bonds were equally attractive to middle class taxpayers, which helps diversify the base of retail investors.

02



Source: *U.S Department of Treasury, SIFMA*

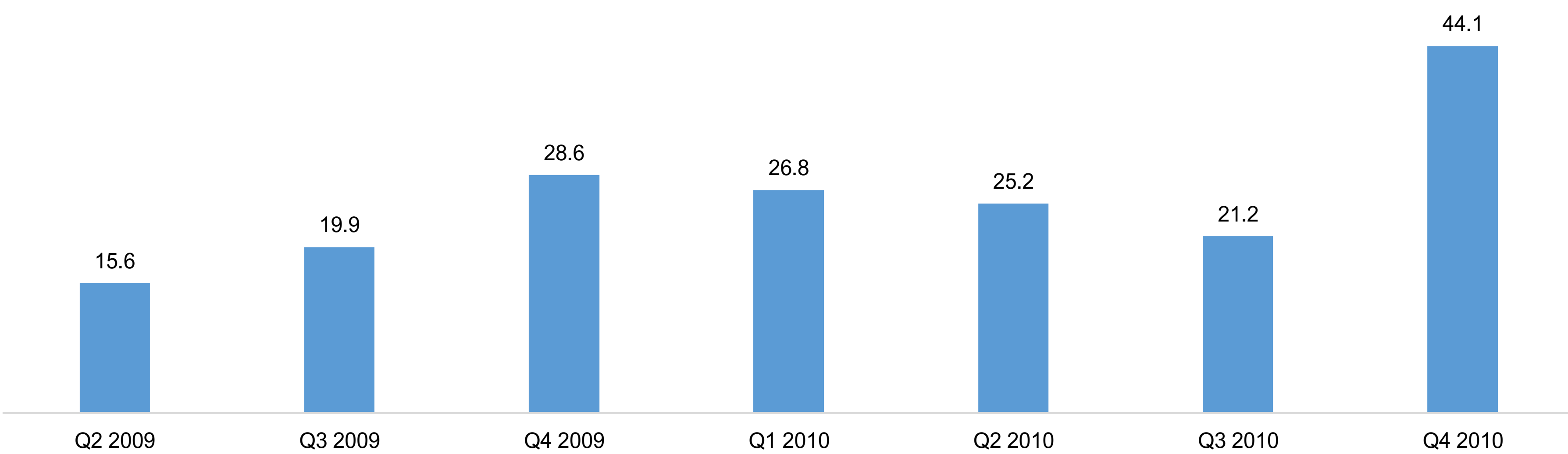
- BABs accounted for 21.7% of the total debt issued in municipal bonds from April 2009 through December 2010.
- The success of the BABs programme dampened tax-exempt supply with total issuance of USD 273.1 bn in 2010, the lowest since 2004.
- Long-term municipal issuance (including taxable and tax-exempt) jumped to a record high in 2010, with USD 430.1 bn sold, up from USD 406.8 bn issued in 2009.

BABs issuances

BAB issuances surged 82.8% YoY to USD 117.3 bn in 2010

- Since the inception of the BABs programme, issuance averaged USD 5.9 bn per month from April 2009 to September 2009.
- By the end of 2009, investors developed familiarity with BABs and the monthly average resultantly increased to USD 8.5 bn from October 2009 to September 2010.
- Municipalities accelerated BAB issuance to USD 44.1 bn in Q4 2010, representing 24.3% of all BABs issued in 2009 and 2010, after Congress failed to reach an agreement to extend the programme.
- BAB issuance totaled 117.3 bn in 2010, an increase of 82.9% from the USD 64.1 bn issuance in 2009.

BABs quarterly issuance (USD bn)

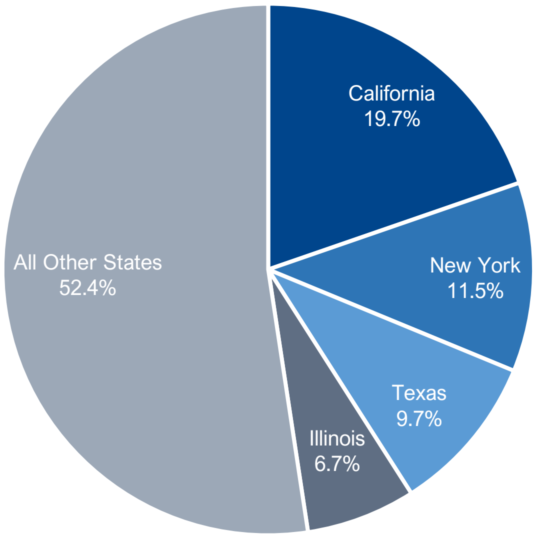


Source: *SIFMA*

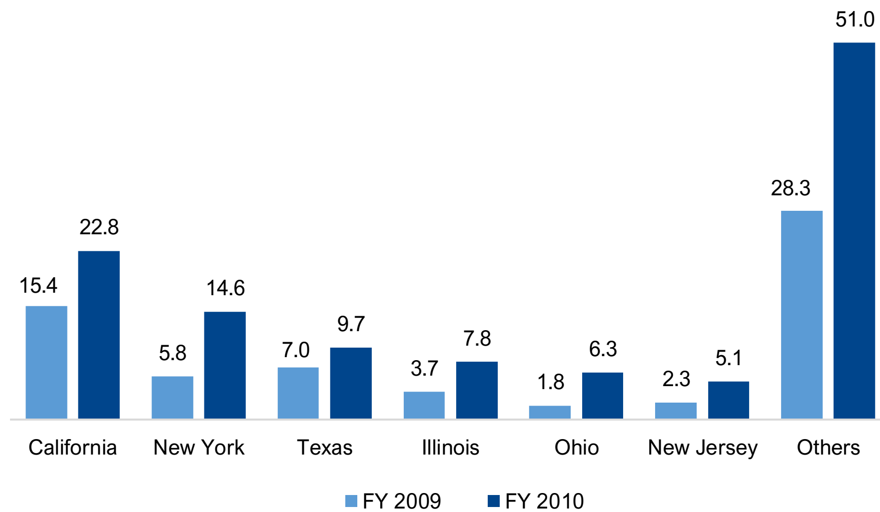
State-wise BABs issuances

Four states issued nearly half of Build America Bonds

Overall Contribution of States



Issuance in terms of Financial Value (USD bn)



- BABs were not distributed equally throughout states; rather, they were distributed depending on the level of demand for new projects and interest in them.
- According to data from the US Treasury, nearly half of all BABs issuances (47.6%) were for projects in the country's top 100 metropolitan areas, 8% were in metros not among the top 100 and 5% were entirely outside of metropolitan US. The remaining 40% was distributed among the states.
- The states with the largest economies, such as California, Illinois, New York and Texas, had the most issuances in terms of dollars. Kansas, Kentucky, South Dakota and Wisconsin were the four largest issuers as a proportion of gross state product.
- Because of its inherent market and yield advantages, even states with smaller traditional tax-exempt debt markets largely favoured BABs.

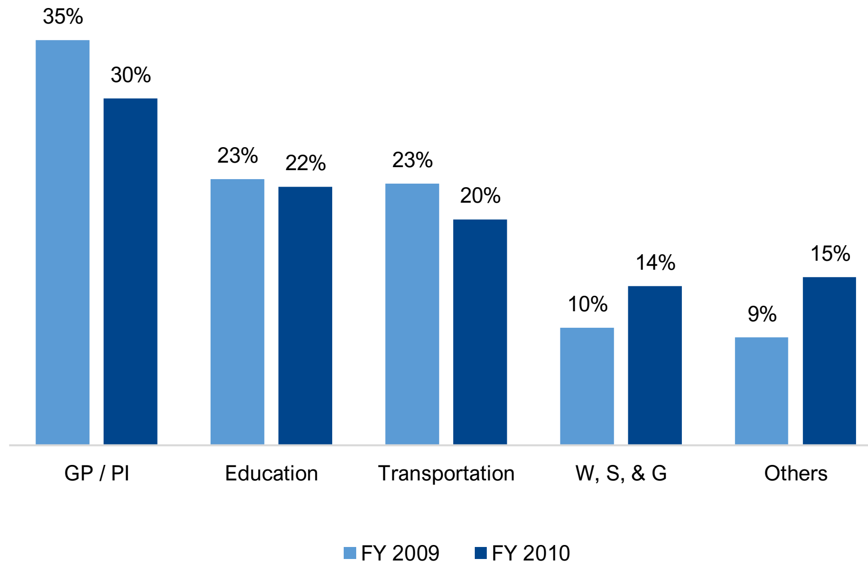
Source: *SIFMA, U.S. Department of Treasury*

Use of proceeds

General purpose/public improvement sectors accounted for 30.0% of total BAB issuances in FY2010

Use of Proceeds (USD mn)	FY 2009	FY 2010
General Purpose/Public Improvement	22,445	35,107
Education	14,758	26,180
Transportation	14,488	22,878
Water, Sewer & Gas Facilities	6,503	16,103
Electric & Public Power	3,089	11,196
Health Care	1,700	1,787
Combined Utilities	233	1,474
Airports	718	1,355
Others	225	1,197
Total	**64,158**	**117,278**

Sector composition



GP / PI: General Purpose / Public Improvement

W, S, & G: Water, Sewer & Gas Facilities

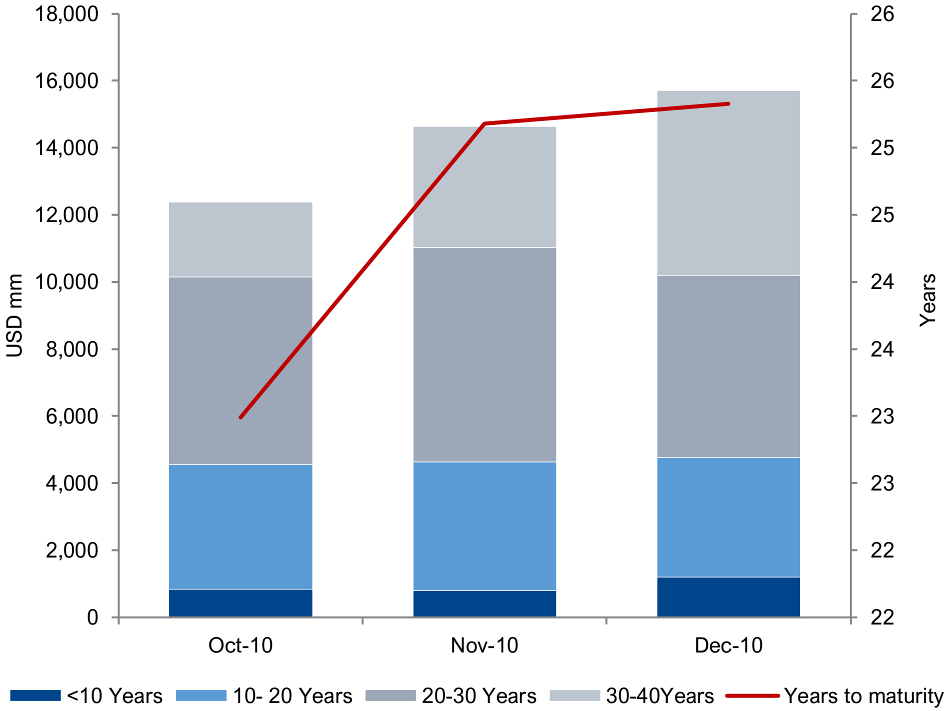
- BABs issued for general purpose and public improvement sectors accounted for around 30% of the total BABs issued in 2010.
- This was followed by education at 22%; transportation at 20%; and water, sewer and gas facilities at 14%.
- In 2010, issuances were mainly led by a 56.4% or USD 12.7 bn YoY increase in proceeds for general purpose and public improvement sectors, followed by 77.4% or USD 11.4 bn YoY increase in proceeds for the education sector.

Source: *SIFMA*

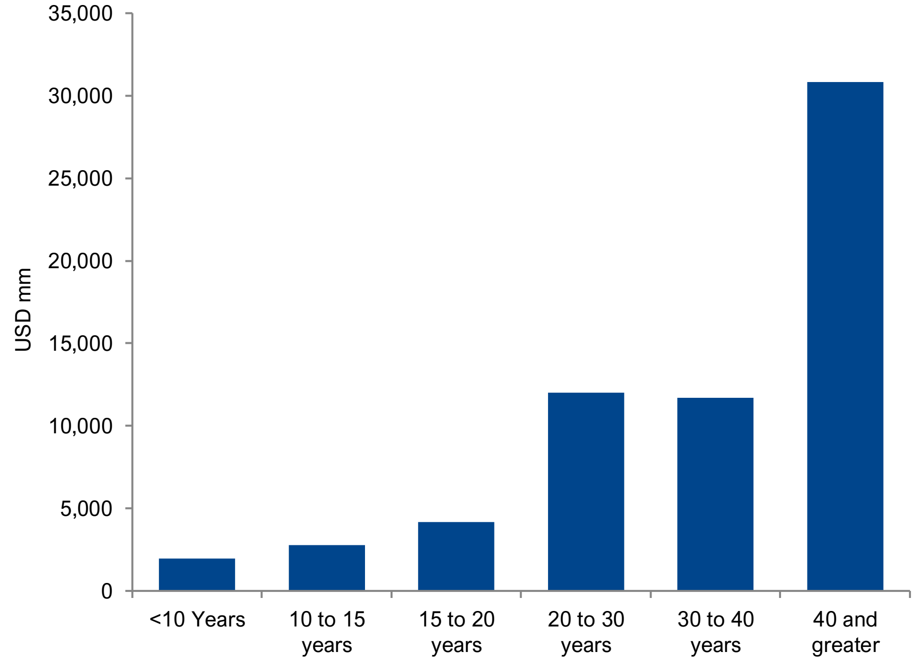
BAB Issuances, Years to Maturity

BABs issued in 4Q 2010 had average maturity of 25 years

4Q 2010



4Q 2009



- BABs issued in 4Q 2009 had average maturity of around 30 years. BABs worth around USD 30 bn, which accounted for 48% of the total BABs issued in the respective quarter, had maturity of greater than 40 years.
- BABs issued in 4Q 2010 had average maturity of 25 years. BABs worth around USD 17 bn, which accounted for 40% of the total BABs issued in the respective quarter, had average maturity of 20 to 30 years.

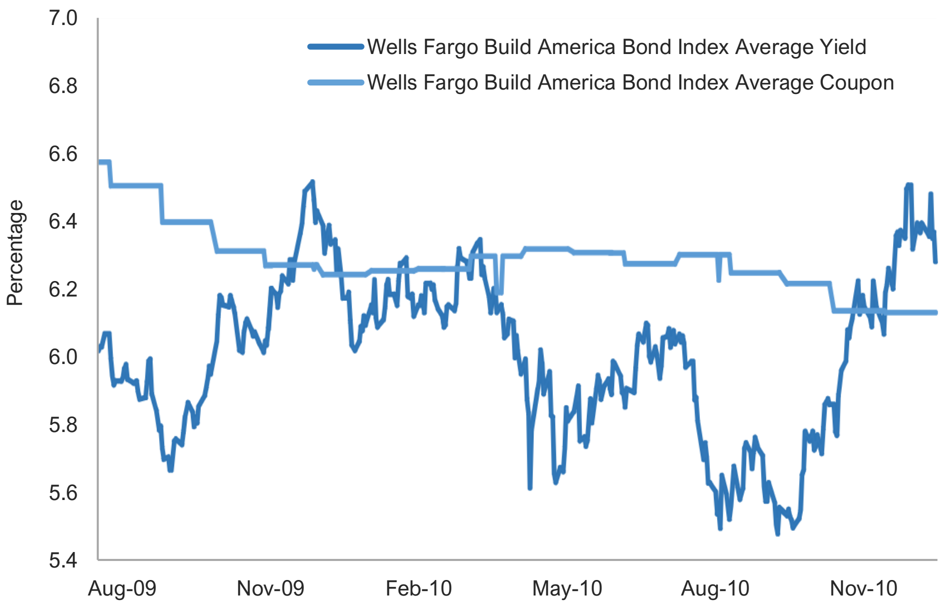
Source: *SIFMA*

BABs Average Yield and Spreads

BABs had average yield of 6.3% as at the end of December 2010

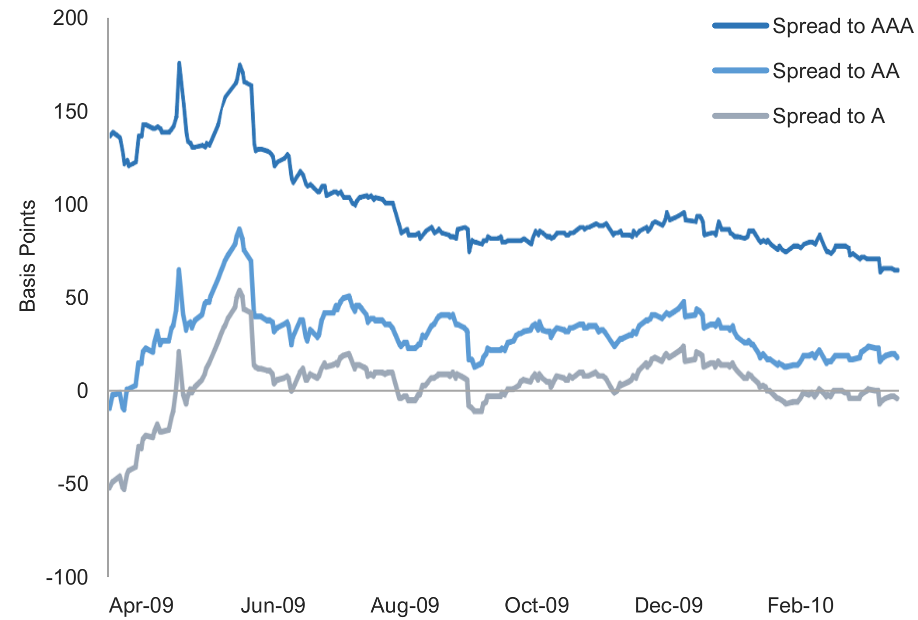
BABs Average Yield and Coupon

Aug 2009–Dec 2010



BAB Spreads to 15+ Year Corporate bonds

Apr 2009–Feb 2010



- BABs had average credit rating of ‘A’ as it had average spread of 0 bps from A-rated corporate bonds. BABs had a spread of around 25 bps from AA-rated corporate bonds and around 75 bps from AAA-rated corporate bonds.
- BABs had average coupon of 6.2% and average yield of 6.3% as at the end of December 2010.

Source: *SIFMA*

Biden Infrastructure Plan

BABs may return completely or in part as part of Biden's new infrastructure plan

Federal subsidised BABs could be reintroduced as part of President Biden's USD 2.3 tn infrastructure plan.

- Following the COVID-19 downturn, President Joe Biden's USD2.3 tn infrastructure plan might keep this year's expected economic boom from slowing severely in 2022 while improving growth and productivity in the long run.
- The current low-interest environment provides a great opportunity for local and state authorities to finance projects at a low cost using BABs, which helped receive additional subsidies from the government.

BABs being taxable will attract investors

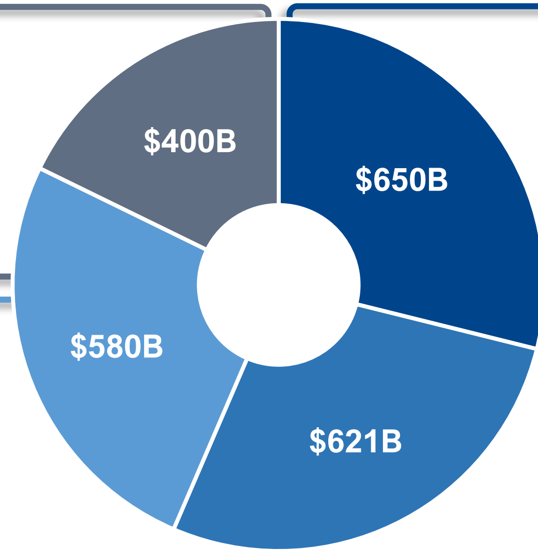
- Research by the Department of Treasury in 2010 revealed that BABs saved issuers around USD 20 bn compared with raising money through traditional tax-exempt municipal debt.
- BABs lowered costs even for local and state governments that only raised financing through tax-exempt bonds.
- Due to their taxable nature, BABs would offer higher yields, a factor that attracts investors for whom tax-free municipal bonds is less desirable.

Research and Development, Manufacturing

- Focus on clean energy and reducing emission
- Invest in more Inclusive science/technology workforce

Care Economy

- Invest in home and community-based care for seniors and people with disabilities
- Improve benefits, working conditions for caretakers



'At-Home' Infrastructure

- Build and renovate affordable housing for low and middle-income buyers
- Ramp up broadband access

Infrastructure

- Modernise transit systems and airport terminals
- Revamp highways, roads and bridges

Source: *Pittsburgh Post Gazette*

Biden Infrastructure Plan

Push to revive the subsidised BABs programme to support state and local investments

Committee proposal

- The House Ways and Means Committee proposed to revive BABs in October 2021.
- Issuers will sell BABs 2.0 starting 2022 to ramp up infrastructure projects and receive direct federal payment to cover part of their interest costs.
- BABs shall offer a direct-payment subsidy of 35% from 2022 to 2024 and decrease it to 28% by 2027.
- According to estimates from the Joint Committee on Taxation, BABs would cost the government USD 22.5 bn between fiscal years 2022 and 2031.

American Infrastructure Bonds Act of 2021

- In April 2021, 'American Infrastructure Bonds Act of 2021' was introduced to authorise what they dubbed an 'improved form of BABs', known as American Infrastructure Bonds.
- These bonds, like Direct Payment BABs, would include a federal subsidy to reimburse issuers for 28% of the interest cost and may be used to fund infrastructure projects.
- Unlike the BAB programme, however, the subsidy payments would be free from sequestration, thus increasing bondholder and bond issuer trust in the bonds.

Qualified School Infrastructure Bonds (QSIBs)

- President Biden recommended reviving the BAB programme in May 2021 but exclusively to fund school construction.
- QSIBs would be taxable like the BABs and contain either a tax credit for bondholders or direct federal subsidy payments to the issuer.
- The total value of these bonds would be capped nationally at USD 50 bn in 2022, and their scope would be limited to education infrastructure only. The government would also force states that issue QSIBs in 2022 to first spend the proceeds to securely reopen schools.

Source: *Brookings, Bloomberg*

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