Capital Markets Special Report

The **NAIC's Capital Markets Bureau** monitors developments in the capital markets globally and analyzes their potential impact on the investment portfolios of US insurance companies. A list of archived Capital Markets Bureau Special Reports is available via the **index**

U.S. Insurer Municipal Bond Update

On Aug. 17, 2017, the NAIC Capital Markets Bureau held a special session for state insurance regulators to discuss recent news headlines related to state and local budget issues, and their impact on the municipal bond market. Invited as guest speakers were representatives from Build America Mutual Assurance Company and Standards & Poor's (S&P) Global Ratings. While municipal bonds have had historically low default rates, some U.S. states and territories have been experiencing financial challenges, with "battered budgets" and revenue shortfalls.

In 2013, the city of Detroit, MI, filed for Chapter 9 bankruptcy protection as it struggled to pay about $18.5 billion in debt; at the time, it was the largest such filing in U.S. history. In December 2014, Detroit emerged from bankruptcy protection. In May 2016, the NAIC Capital Markets Bureau published a *Hot Spot* regarding Puerto Rico's failure to repay almost $400 million in government bonds—the largest missed principal payment by the island at that point in time. Earlier that year, Puerto Rico had defaulted on $37 million in municipal bonds. Eventually, Puerto Rico filed for a form of bankruptcy protection on May 3, 2017 (under Title III of a 2016 Puerto Rico law known as PROMESA), as it struggled to pay more than $70 billion in public-sector debt. These instances of filing for bankruptcy protection, however, are atypical to the municipal bond market.

In 2017, several U.S. states cited budget difficulties, some resulting in brief government shutdowns, such as in Maine and New Jersey. In addition, Illinois was without a budget for three years and has a deep budget deficit; its long-term debt rating (now rated BBB- by S&P Global Ratings) was placed on negative watch by S&P Global Ratings in July 2017, citing risks over the implementation of a recent pension reform law. In all, about 33 U.S. states have projected revenue shortfalls in 2017, according to the National Association of State Budget Officers, more than any year since 2010. States' revenues have been negatively impacted by decreasing energy prices (reducing energy taxes) and depressed sales tax collections (due to an increase in online shopping). Consequently, the states have had to tighten spending. Federal tax cuts are expected to amplify the effect, placing a greater strain on already inflicted state budgets.

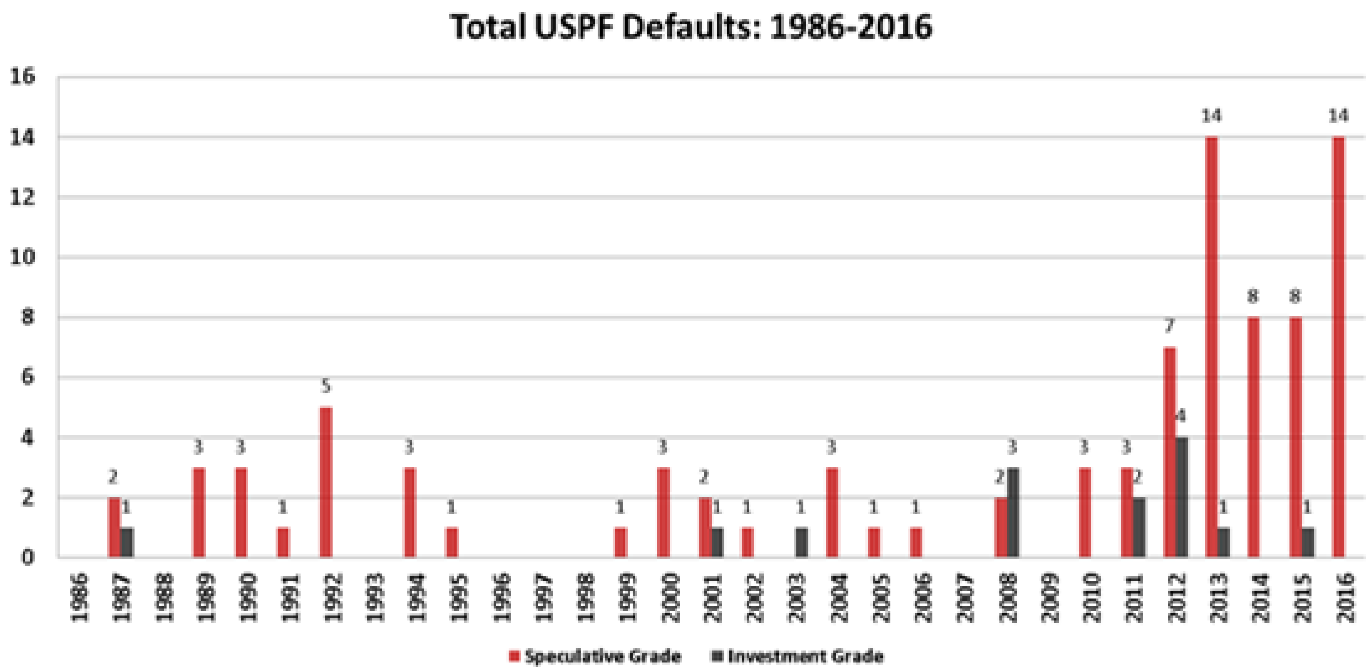
S&P Global Ratings: Municipal Bond Update

According to S&P Global Ratings, the municipal bond market is differentiated and diversified by various types of issuers, including airports, toll roads and schools to name a few—in addition to state and local government general obligations. S&P Global Ratings publishes default and transition studies for municipal debt, as with other sectors. The studies include an analysis of multiple economic cycles, and are used to help refine and recalibrate ratings criteria.

With regard to the municipal bond market (also known as the U.S. public finance market), for the 1986 to 2016 time period, there have been 103 defaults, with a 0.03% average default rate (based on the

number of defaults), as shown in Graph 1. The spikes in 2013 and 2016 were due to Detroit and Puerto Rico, respectively. Municipalities are considered "perpetual entities" (unlike corporate entities), in that they generally do not terminate operations, and they have the ability to levy taxes to generate revenue, which is important for state and local government credit quality. The states' median average credit rating is AA+ by S&P Global Ratings, which, in some cases, is stronger than the rating of local governments. While the states periodically experience financial strains, in early 2015, increased credit pressure resulted in volatility among municipal bond ratings and consequential downgrades. According to S&P Global Ratings, the states are struggling with budget balances due, in part, to structural changes in the economy. In recent years, U.S. gross domestic product (GDP) has increased at approximately 2% per year, down from historic average annual growth rates of 3% to 4% per year. This has translated into slow revenue growth, resulting in lean fiscal margins across the state sector.

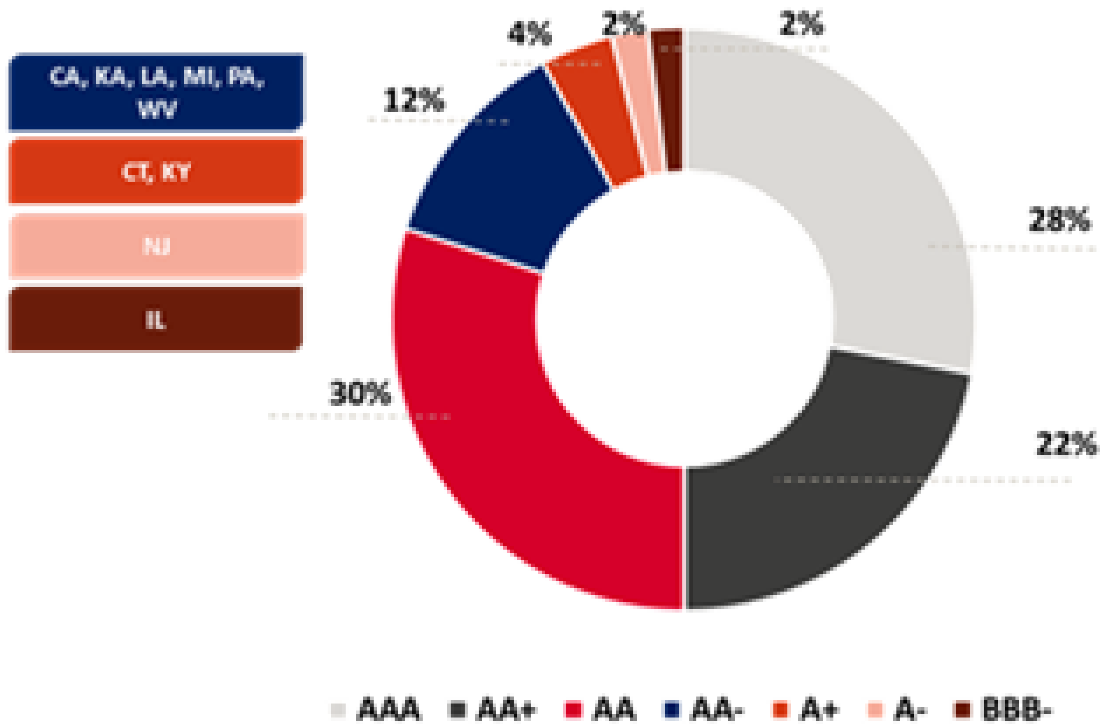
Graph 1:



Source: Default, Transition, and Recovery: 2016 Annual U.S. Public Finance Default Study and Rating Transitions, March 15, 2017, S&P Global Fixed Income Research.

As Graph 2 shows, the vast majority of states are highly rated by S&P Global Ratings, with 94% rated AA- or better. Downgrades on state general obligation ratings have occurred over the past few years because of "...diminished financial flexibility, limited revenue growth, and growing expenditure pressures...." For some states, that also include pension-funding related issues.

Graph 2: U.S. States Ratings Distribution



Source: S&P Global Ratings U.S. State Ratings and Outlooks: Current List.

In terms of local governments, in prior years, the states were able to interject financial aid when needed, but that is not always the case. Therefore, there are "pockets of distress" at the local government level. S&P Global Ratings analyzes various factors when assessing local government credit ratings, including the institutional framework, economy, management and financial measures (liquidity, budgetary performance and flexibility), as well as outstanding debt and contingent liabilities.

Build America Mutual Assurance Company: A Bond Insurer's View

Build America is a New York-domiciled, AA-rated mutual company that has provided irrevocable bond insurance (i.e., financial guaranty provided by a bond insurance company, or a monoline) for municipal bonds (only) since entering the market in 2012. It guarantees the timely payment of principal and interest on bonds or notes if the primary obligor (debt issuer) does not pay. For Build America, the average policy life is 13 years; however, bond insurance policies cover payment for the life of the bonds, which typically have a final maturity of 30 to 35 years.

In 2007, there were seven AAA/Aaa-rated bond insurers that insured municipal bonds as well as asset-backed securities. Due to large losses in non-municipal sectors stemming from the financial crisis, especially in the housing sector, the number of insurers actively writing new bond insurance has diminished, and the market now consists of two main sources for bond insurance for U.S. municipalities, although other financial guaranty insurers remain licensed and are generally in a runoff or dormant status. Build America was formed after the financial crisis and is one of the insurers active in today's market. The percentage of transactions that are insured has decreased significantly since 2007. Financial difficulties among the bond insurers led to significant turmoil and uncertainty in the market. In addition, low interest rates, a flat yield curve and tight credit spreads, including thin differentials between credit qualities, significantly reduced the benefit of having bond insurance for issuers. Bond insurance premiums are calculated based on a percentage of the interest rate on the bonds they are insuring. Bonds insured by a monoline receive the same rating as the bond insurer (both insurers currently writing business are rated AA), which lowers borrowing costs and improves the trading value of the bonds. In the current environment, it is not always economical to purchase bond insurance. However, as interest rates normalize, the demand for bond insurance should increase.

As a bond insurer, Build America conducts fundamental credit analysis when underwriting municipal bond financial guarantee policies to a "zero-loss" standard (i.e., with confidence, all claims can be recovered if a default or loss were to occur). Factors analyzed include the issuer's ability and willingness to pay.

Build America cited some emerging risks in the municipal bond industry that could impact its claims paying frequency. One is pension and other post-employment benefits (OPEB). As state and local revenues have been lower in recent years, funding pension and OPEB has been challenging. Many public pension systems are not adequately funded, and if these challenges persist, which are also exacerbated by low investment yields, the level of underfunding will likely worsen. A reduction in federal funding for municipalities could negatively impact certain municipal projects, particularly transportation. Advances in technology, such as a shift to online purchasing, as well as fuel changes from gas to electric, could also result in a decrease in sales taxes and gasoline taxes, respectively. Budget difficulties at the state level—such as in Connecticut, Illinois, New Jersey and Pennsylvania—could lead to downgrades of issuers or defaults either at the state or local government level.

To mitigate these risks in its insured bond portfolio, Build America, like other bond insurers, considers the potential impact as it underwrites insurance policies, identifying any correlations. For example, it has established limits for state, county, sector and rating category concentrations, as well as catastrophe (such as natural disaster) risk exposure. A portfolio surveillance team monitors particular portfolio metrics, recommending adjustments as deemed necessary to mitigate risks.

According to Build America, even given the uncertainty surrounding issues such as pension funding, tax reform and infrastructure needs, municipal bonds continue to be quite conservative investments from a credit perspective, and the insurance industry continues to maintain a relatively large allocation of its invested assets in this sector. Certain readily available metrics related to U.S. insurer portfolios can be reviewed to identify potential risks that municipal bond investments may bring to the financial solvency of insurers. These include how much an insurer's municipal bond exposure is as a percentage of total capital and surplus or as a percentage of total cash and invested assets. In addition, the distribution of NAIC designations across an insurer's municipal bond investments can quickly ascertain the creditworthiness of that portion of an insurer's portfolio. Having a general, high-level understanding of current economic events and issues that may impact municipalities also helps assess the quality of insurers' municipal bond portfolios.

U.S. Insurance Industry Exposure

At year-end 2016, the U.S. insurance industry held approximately $560 billion in municipal bonds, which represented 14% of the industry's total bond exposure. Property/casualty (P/C) companies accounted for the largest municipal bond investments at $344.3 billion, followed by life companies at $183.5 billion. P/C companies are attracted to municipal bond investments because of their tax-exempt status; in recent years, life companies increased their municipal bond exposure with the Build America program that provided federal subsidies for issuance of taxable municipal bonds. Table 1 shows the trend in U.S. insurer investments in municipal bonds since the financial crisis. P/C companies have accounted for the majority of industrywide exposure in each year.

Table 1: U.S. Insurer Investments in Municipal Bonds by Insurer Type ($mil BACV)

	P/C	Life	Health	Fraternal	Title	Total
2008	350.0	36.3	11.3	0.7	1.1	**399.4**
2009	370.1	67.2	12.9	2.0	1.5	**453.7**
2010	354.8	107.7	14.4	4.5	1.6	**483.0**
2011	333.2	117.2	15.8	5.4	1.6	**473.2**
2012	329.2	125.0	16.2	6.3	1.5	**478.2**
2013	346.0	162.4	21.3	6.4	1.5	**537.6**
2014	339.8	167.9	22.6	8.7	1.4	**540.4**
2015	345.2	177.6	22.7	8.5	1.3	**555.3**
2016	344.3	183.5	24.6	8.2	1.4	**562.0**

In terms of bond insurer exposure, as of year-end 2016, there were 17 legal entities providing financial guarantees, totaling almost $652 billion (Table 2), as reported by U.S. insurers per disclosure requirements in the annual financial statement instructions. The amounts disclosed represent the potential aggregate exposure of both principal and interest. The majority, $433.3 billion (66.5% of the total), represented bond insurance for general obligation bonds, followed by $202.5 billion (31.1% of the total) for revenue bonds. Type I, Type II and Type III represent industrial development bonds (IDBs) that have been issued by or on behalf of a governmental unit to finance a project serving a private industrial, commercial or manufacturing purpose. Type I are all investment grade IDBs that are collateralized or have a term of less than seven years; Type II are all other investment grade IDBs; and Type III are all non-investment grade IDBs. [Note that "governmental unit" is defined in the *NAIC Annual Statement Instructions* as "a state, territory, or possession of the United States of America, the District of Columbia, a province of Canada, a municipality, or a political subdivision of any of the foregoing, or any public agency or instrumentality thereof."]

Table 2: Financial Guarantor Exposure by Municipal Debt Type, Year-End 2016

Municipal Debt Type	Total $BACV		% of total
Municipal Obligations	$	433,366,260,685	66.5%
Special Revenue	$	202,490,319,930	31.1%
Type I	$	5,366,668,899	0.8%
Type II	$	9,276,095,401	1.4%
Type III	$	1,395,414,862	0.2%
Total	$	**651,894,759,777**	100.0%

Summary

U.S. states are increasingly facing budget shortfalls, due mostly to a decrease in tax and other revenues. According to S&P Global Ratings, there are "pockets of distress" in the municipal bond market despite economic recovery (which is slow but steady); however, defaults have been minimal, averaging 0.03% from 1986 through 2016, and 0.07% in 2016 (based on the number of defaults). For a fee that is deducted from the interest payment to investors, Build America and other financial guarantors provide timely payment of principal and interest when due, if the bond issuer cannot. The bonds, in turn, receive a credit rating that matches the rating of the financial guarantor. U.S. insurers had

approximately $560 billion in municipal bond debt as of year-end 2016, most of which was with P/C companies (61% of total municipal bonds). In addition, about $433 billion of municipal debt held by insurers at year-end 2016 had the benefit of financial guarantees with bond insurers such as Build America. Insurers can mitigate municipal bond credit risk by careful monitoring of how current events and potential policy changes at the federal level might impact state revenues, and, in turn, their ability to make timely payments on outstanding obligations.

The NAIC Capital Markets Bureau will continue to monitor U.S. insurers' exposure to municipal bonds and report as deemed appropriate.

Note: The 'pockets of distress' that were referenced in this report may come from natural disaster events. The following link highlights S&P Global's views on credits in the vicinity of Hurricanes Harvey and Irma. ***S&P:Eye of the Storm****.*

September 8, 2017 Major Insurer Share Prices			Change %			Prior		
		Close	Week	QTD	YTD	Week	Quarter	Year
Life	Aflac	$81.18	(2.3)	4.5	16.6	$83.05	$77.68	$69.60
	Ameriprise	132.77	(5.2)	4.3	19.7	139.99	127.29	110.94
	Genworth	3.45	(1.0)	(8.5)	(9.4)	3.49	3.77	3.81
	Lincoln	65.80	(4.8)	(2.6)	(0.7)	69.11	67.58	66.27
	MetLife	47.14	(1.6)	(14.2)	(12.5)	47.90	54.94	53.89
	Principal	60.67	(4.4)	(5.3)	4.9	63.44	64.07	57.86
	Prudential	98.91	(4.3)	(8.5)	(4.9)	103.39	108.14	104.06
	UNUM	47.11	(3.2)	1.0	7.2	48.68	46.63	43.93
PC	Axis Capital	55.11	(8.8)	(14.8)	(15.6)	60.40	64.66	65.27
	Allstate	89.61	(0.6)	1.3	20.9	90.19	88.44	74.12
	Arch Capital	94.32	(3.4)	1.1	9.3	97.61	93.29	86.29
	Cincinnati	75.77	(1.6)	4.6	0.0	77.01	72.45	75.75
	Chubb	140.85	(0.1)	(3.1)	6.6	141.03	145.38	132.12
	Everest Re	222.48	(10.6)	(12.6)	2.8	248.99	254.59	216.40
	Progressive	45.41	(1.7)	3.0	27.9	46.20	44.09	35.50
	Travelers	119.76	(0.5)	(5.4)	(2.2)	120.37	126.53	122.42
	WR Berkley	64.49	(2.5)	(6.8)	(3.0)	66.15	69.17	66.51
	XL	38.61	(5.2)	(11.8)	3.6	40.73	43.80	37.26
Other	AON	$142.64	2.5	7.3	27.9	$139.14	$132.95	$111.53
	AIG	59.78	(1.7)	(4.4)	(8.5)	60.83	62.52	65.31
	Assurant	90.77	(4.1)	(12.5)	(2.3)	94.61	103.69	92.86
	Fidelity National	47.03	(2.4)	4.9	38.5	48.18	44.83	33.96
	Hartford	53.17	(1.7)	1.1	11.6	54.09	52.57	47.65
	Marsh	81.95	5.1	5.1	21.2	77.94	77.96	67.59
Health	Aetna	$162.83	2.9	7.2	31.3	$158.22	$151.83	$124.01
	Cigna	184.56	0.9	10.3	38.4	182.99	167.39	133.39
	Humana	256.56	(0.8)	6.6	25.7	258.50	240.62	204.03
	United	197.75	(0.9)	6.6	23.6	199.54	185.42	160.04
Monoline	Assured	$40.72	(4.3)	(2.4)	7.8	$42.56	$41.74	$37.77
	MBIA	10.06	(0.4)	6.7	(6.0)	10.10	9.43	10.70
	MGIC	11.13	(2.7)	(0.6)	9.2	11.44	11.20	10.19
	Radian	16.37	(6.4)	0.1	(9.0)	17.49	16.35	17.98
	XL Capital	38.61	(5.2)	(11.8)	3.6	40.73	43.80	37.26

September 8, 2017 Major Market Variables	Close	Change % Week	Change % QTD	Change % YTD	Prior Week	Prior Quarter	Prior Year
Dow Jones Ind	21,797.79	(1.0)	2.1	10.3	22,011.57	21,349.63	19,762.60
S&P 500	2,461.43	(0.7)	1.6	9.9	2,478.50	2,423.41	2,238.83
S&P Financial	398.58	(3.1)	(2.7)	3.1	411.29	409.59	386.53
S&P Insurance	375.43	(1.1)	(1.6)	6.3	379.44	381.48	353.26
US Dollar $		Change %			Prior		
/ Euro	$1.20	1.4	5.4	14.4	$1.19	$1.14	$1.05
/ Crude Oil bbl	47.56	0.8	2.9	(11.6)	47.16	46.22	53.81
/ Gold oz	1,347.60	1.6	8.5	17.1	1,325.90	1,241.80	1,150.90
Treasury Ylds %	%	Change bp			%	%	%
1 Year	1.21	(0.02)	(0.02)	0.39	1.23	1.23	0.82
10 Year	2.05	(0.10)	(0.25)	(0.39)	2.16	2.30	2.45
30 Year	2.67	(0.09)	(0.16)	(0.39)	2.77	2.83	3.07
Corp Credit Spreads -bp		Change %			Prior		
CDX IG	60.27	5.5	(0.4)	(10.8)	57.14	60.52	67.59

September 8, 2017 Major Insurer Bond Yields					Weekly Change					YTD
					Price			Spread over UST		Spread
	Company		Coupon	Maturity	Current	Change	Yield	B.P.	Change	Change
Life	Ameriprise	AMP	3.700%	10/15/2024	$106.17	$0.38	2.74%	82	3	(22)
	Lincoln National	LNC	3.350%	3/9/2025	$102.08	$0.41	3.04%	109	2	(3)
	MassMutual	MASSMU	3.600%	4/9/2024	$106.18	$0.61	2.57%	72	1	(21)
	MetLife	MET	4.050%	3/1/2045	$102.71	$1.06	3.89%	128	3	1
	New York Life	NYL	2.350%	7/14/2026	$97.63	$0.43	2.65%	64	4	(10)
	Pacific Life	PACLIF	5.125%	1/30/2043	$113.47	$1.17	4.25%	169	2	(21)
	Principal	PFG	6.050%	10/15/2036	$129.87	$1.05	3.83%	144	3	(25)
	Prudential	PRU	4.600%	5/15/2044	$111.36	$0.80	3.91%	131	3	(2)
	Allstate	ALL	4.500%	6/15/2043	$112.32	$1.48	3.75%	115	(1)	(5)
	Berkshire Hathaway	BRK	4.300%	5/15/2043	$110.03	$0.89	3.69%	111	3	1
	Travelers	TRV	4.600%	8/1/2043	$112.85	($0.35)	3.81%	126	13	21
	XL Group	XL	6.250%	5/15/2027	$119.24	($1.46)	3.85%	178	30	9
Other	AON	AON	4.250%	12/12/2042	$100.86	$0.36	4.19%	163	8	(11)
	AIG	AIG	6.820%	11/15/2037	$131.67	$1.66	4.43%	202	0	(9)
	Hartford	HIG	4.300%	4/15/2043	$104.55	($0.38)	4.01%	145	13	(39)
	Nationwide	NATMUT	5.300%	11/18/2044	$116.77	$0.23	4.25%	161	6	(38)
Health	Aetna	AET	6.750%	12/15/2037	$140.68	$0.54	3.84%	144	6	(19)
	CIGNA	CI	6.150%	11/15/2036	$132.64	$4.18	3.75%	136	(16)	(71)
	United Healthcare	UNH	4.750%	7/15/2045	$116.86	$0.80	3.77%	115	5	2

Questions and comments are always welcome. Please contact the Capital Markets Bureau at **CapitalMarkets@naic.org**.

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