

What is the Size of the US Bond Market?

As regular participants in the US bond market, we are focused on selecting the best US treasury securities, agencies and municipal bonds for portfolios without necessarily considering the size of the US bond market. This Pro Shop illustrates the current size of the market, how it has changed over time and possible implications for the future.

At the end of 2020, the US bond market totaled \$50.9 trillion. Table 1 below shows the total amount outstanding in the US bond market each year since 2000. The market is 3 times larger today than it was back in 2000, growing by \$34.7 trillion from \$16.1T in 2000 to \$50.9T at the end of 2020. A little over half of this growth can be attributed directly to the growth in the US Treasury market, which grew \$18T from \$2.9T back in 2000 to \$20.9T today. The treasury market currently makes up 41% of the US bond market. Back in 2000, the treasury market represented 18% of the total outstanding. Two recessions over the last 20 years (2008 and 2020) and the government's reaction to them certainly contributed to this large increase in US Treasury Debt. Look at the YoY change in outstanding treasury securities from 2008 to 2010 and again in 2020 (Table 2). The amount of outstanding treasury securities increased over 20% in each of these years.

Table 1 - Outstanding US Bond Market (\$Billions)

Year	Municipal	Treasury	Mortgage-Related	Corporate Debt	Federal Agency Securities	Asset-Backed	Money Markets	Total
2000	1,481	2,952	4,119	3,441	1,854	702	1,614	16,162
2001	1,603	2,968	4,711	3,862	2,157	812	1,474	17,588
2002	1,763	3,205	5,289	4,050	2,378	905	1,375	18,965
2003	1,900	3,575	5,714	4,358	2,626	995	1,293	20,462
2004	2,876	3,944	6,302	4,574	2,701	1,100	1,399	22,895
2005	3,099	4,166	7,218	4,646	2,616	1,281	1,644	24,670
2006	3,285	4,323	8,390	4,890	2,632	1,657	1,958	27,134
2007	3,550	4,517	9,386	5,329	2,906	1,964	1,789	29,440
2008	3,666	5,774	9,467	5,515	3,208	1,830	1,600	31,061
2009	3,851	7,261	9,352	6,099	2,726	1,712	1,138	32,140
2010	3,968	8,853	9,258	6,738	2,538	1,508	1,058	33,921
2011	3,931	9,928	9,075	6,850	2,327	1,359	969	34,440
2012	3,933	11,046	8,838	7,286	2,096	1,280	952	35,432
2013	3,868	11,854	8,743	7,688	2,058	1,286	952	36,449
2014	3,826	12,505	8,842	8,049	2,029	1,349	930	37,530
2015	3,843	13,192	8,895	8,279	1,995	1,377	941	38,521
2016	3,890	13,908	9,023	8,685	1,972	1,392	885	39,754
2017	3,904	14,469	9,305	9,009	1,935	1,458	966	41,045
2018	3,846	15,608	9,732	9,238	1,842	1,616	996	42,878
2019	3,866	16,673	10,228	9,581	1,726	1,663	1,045	44,783
2020	3,950	20,973	11,214	10,560	1,694	1,536	987	50,914

Source: SIFMA.org

Table 2 - Outstanding Y/Y Change

Year	Municipal	Treasury	Mortgage-Related	Corporate Debt	Federal Agency Securities	Asset-Backed	Money Markets	Total
2000	1.6%	-9.6%	7.5%	8.6%	14.4%	20.3%	15.1%	5.4%
2001	8.3%	0.5%	14.4%	12.3%	16.4%	15.7%	-8.7%	8.8%
2002	9.9%	8.0%	12.3%	4.9%	10.2%	11.4%	-6.7%	7.8%
2003	7.8%	11.5%	8.0%	7.6%	10.5%	10.0%	-6.0%	7.9%
2004	51.3%	10.3%	10.3%	4.9%	2.8%	10.5%	8.2%	11.9%
2005	7.7%	5.6%	14.5%	1.6%	-3.1%	16.5%	17.5%	7.8%
2006	6.0%	3.8%	16.2%	5.2%	0.6%	29.3%	19.1%	10.0%
2007	8.1%	4.5%	11.9%	9.0%	10.4%	18.5%	-8.7%	8.5%
2008	3.3%	27.8%	0.9%	3.5%	10.4%	-6.8%	-10.6%	5.5%
2009	5.0%	25.7%	-1.2%	10.6%	-15.0%	-6.4%	-28.9%	3.5%
2010	3.0%	21.9%	-1.0%	10.5%	-6.9%	-11.9%	-7.1%	5.5%
2011	-0.9%	12.1%	-2.0%	1.7%	-8.3%	-9.9%	-8.3%	1.5%
2012	0.1%	11.3%	-2.6%	6.4%	-9.9%	-5.8%	-1.7%	2.9%
2013	-1.6%	7.3%	-1.1%	5.5%	-1.8%	0.4%	-0.1%	2.9%
2014	-1.1%	5.5%	1.1%	4.7%	-1.4%	5.0%	-2.2%	3.0%
2015	0.4%	5.5%	0.6%	2.9%	-1.6%	2.0%	1.2%	2.6%
2016	1.2%	5.4%	1.4%	4.9%	-1.2%	1.1%	-6.0%	3.2%
2017	0.4%	4.0%	3.1%	3.7%	-1.9%	4.8%	9.2%	3.2%
2018	-1.5%	7.9%	4.6%	2.5%	-4.8%	10.8%	3.1%	4.5%
2019	0.5%	6.8%	5.1%	3.7%	-6.3%	2.9%	4.9%	4.4%
2020	2.2%	25.8%	9.6%	10.2%	-1.9%	-7.7%	-5.6%	13.7%

Source: SIFMA.org

Looking at the actual issuance for each year in Tables 3 and 4 further highlights some of the large changes in the various sectors of the markets over the last 20 years. For example, treasury issuance increased over 100% in 2009 vs. 2008 and increased 32.7% in 2020 after issuance surpassed \$3T for the first time and came very close to eclipsing \$4T (\$3.896T). In response to the large drop in treasury rates, mortgage market issuance increased 96% in 2020 as borrowers refinanced their mortgages and corporate debt issuance increased 60% as corporations moved to lock in all-time lows in cost of funds. Also of note is the 43% decrease in mortgage market issuance during the 2008 financial crisis combined with a 73% decrease in asset-backed (includes all the subprime home equity). This resulted in an overall decrease in issuance of 27% for 2008, the largest percentage decrease in issuance in the last 20 years.

Table 3 - Issuance US Bond Market (\$Billions)

Year	Municipal	Treasury	Mortgage-Related	Corporate Debt	Federal Agency Securities	Asset-Backed	Total
2000	198	313	780	626	447	240	2,603
2001	286	381	1,817	857	941	261	4,543
2002	357	572	2,515	669	1,042	269	5,423
2003	380	745	3,537	855	1,219	288	7,025
2004	358	853	2,428	812	878	331	5,660
2005	407	746	2,764	783	635	474	5,809
2006	388	789	2,691	1,126	692	658	6,344

2007	429	752	2,434	1,223	831	796	6,465
2008	389	1,029	1,394	758	925	215	4,710
2009	410	2,197	2,172	980	1,244	178	7,181
2010	433	2,320	2,013	1,088	1,362	126	7,341
2011	295	2,103	1,725	1,046	1,025	151	6,345
2012	383	2,305	2,195	1,398	926	259	7,464
2013	335	2,140	2,120	1,428	653	304	6,981
2014	339	2,215	1,440	1,486	559	393	6,432
2015	405	2,122	1,801	1,515	645	333	6,822
2016	452	2,169	2,044	1,555	928	325	7,474
2017	449	2,224	1,935	1,680	731	550	7,570
2018	347	2,685	1,875	1,381	654	517	7,457
2019	426	2,935	2,037	1,423	989	435	8,246
2020	485	3,896	3,996	2,282	1,251	304	12,214

Source: SIFMA.org

Table 4 - Issuance Y/Y Change

Year	Municipal	Treasury	Mortgage-Related	Corporate Debt	Federal Agency Securities	Asset-Backed	Total
2000	-11.8%	-24.9%	-30.5%	-0.4%	-18.5%	22.4%	-17.0%
2001	44.5%	21.8%	132.9%	36.9%	110.7%	8.8%	74.5%
2002	24.5%	50.3%	38.4%	-21.9%	10.7%	2.7%	19.4%
2003	6.6%	30.2%	40.6%	27.8%	17.1%	7.1%	29.5%
2004	-5.8%	14.5%	-31.3%	-5.1%	-28.0%	15.0%	-19.4%
2005	13.7%	-12.6%	13.8%	-3.6%	-27.7%	43.3%	2.6%
2006	-4.7%	5.7%	-2.6%	43.9%	8.9%	38.9%	9.2%
2007	10.7%	-4.6%	-9.5%	8.6%	20.2%	20.9%	1.9%
2008	-9.3%	36.9%	-42.7%	-38.0%	11.2%	-73.0%	-27.1%
2009	5.2%	113.4%	55.8%	29.3%	34.6%	-17.3%	52.5%
2010	5.8%	5.6%	-7.3%	11.1%	9.5%	-29.2%	2.2%
2011	-31.9%	-9.3%	-14.3%	-3.8%	-24.7%	19.9%	-13.6%
2012	29.7%	9.6%	27.3%	33.6%	-9.7%	71.6%	17.6%
2013	-12.3%	-7.1%	-3.4%	2.2%	-29.5%	17.4%	-6.5%
2014	1.1%	3.5%	-32.1%	4.1%	-14.4%	29.3%	-7.9%
2015	19.5%	-4.2%	25.1%	2.0%	15.5%	-15.2%	6.1%
2016	11.6%	2.2%	13.5%	2.6%	43.7%	-2.4%	9.5%
2017	-0.6%	2.5%	-5.4%	8.1%	-21.2%	69.1%	1.3%
2018	-22.8%	20.7%	-3.1%	-17.8%	-10.6%	-6.1%	-1.5%
2019	22.9%	9.3%	8.7%	3.1%	51.4%	-15.9%	10.6%
2020	13.6%	32.7%	96.2%	60.4%	26.5%	-30.0%	48.1%

Source: SIFMA.org

Probably the thing that jumps out the most from these charts is the large growth in the US treasury market. Total US debt is often compared to total US GDP (Table 5) and the questions always asked are how much debt is too much, how will it ever be paid back and what are the ramifications of debt at these levels. While other countries such as Japan at 257%, Sudan at 212% and Greece at 210% have even higher debt to GDP ratios, the US is now over 100% and the trend is going higher. In fact, there are now 32

countries around the world with debt to GDP ratios over 100%. All of these numbers have jumped higher over the last year and a half and a lot of that increase can be attributed to government's response to the pandemic. Some believe that excessive borrowing could lead to higher interest costs over time, which could lessen economic growth as more federal spending goes to debt service. However, interest costs on US debt actually decreased slightly in 2020 due to the low levels of current interest rates combined with higher coupon bonds maturing and being replaced by cheaper issues (Source: howmuch.net; visualcapitalist.com). With debt levels of this magnitude, some also suggest that this is a motivating factor for the FED to attempt to keep interest rates at lower levels. Remember that out of the combined \$32T of treasury and mortgage debt outstanding, the FED owns over \$8T (25% of outstanding) on their own balance sheet and for now, until they begin to taper purchases, the FED continues to buy \$120B a month, \$80B of which is treasuries (almost \$1T per year). The answer to the question of how much debt is too much may ultimately be answered by the market participants that buy U.S. debt as they determine the acceptable return as investors on \$3T+ annually of US TSY debt.

Table 5 - GDP vs Total National Debt (\$Billions)

Year	US GDP	Intragover		Total National Debt	Debt/GDP
		Treasury Debt	nmental Debt (1)		
2000	10,251	2,952	2,722	5,674	55%
2001	10,582	2,968	2,840	5,807	55%
2002	10,929	3,205	3,023	6,228	57%
2003	11,456	3,575	3,208	6,783	59%
2004	12,217	3,944	3,435	7,379	60%
2005	13,039	4,166	3,767	7,933	61%
2006	13,816	4,323	4,184	8,507	62%
2007	14,474	4,517	4,491	9,008	62%
2008	14,770	5,774	4,251	10,025	68%
2009	14,478	7,261	4,649	11,910	82%
2010	15,049	8,853	4,709	13,562	90%
2011	15,600	9,928	4,862	14,790	95%
2012	16,254	11,046	5,020	16,066	99%
2013	16,843	11,854	4,884	16,738	99%
2014	17,551	12,505	5,319	17,824	102%
2015	18,206	13,192	4,958	18,150	100%
2016	18,695	13,908	5,665	19,573	105%
2017	19,480	14,469	5,776	20,245	104%
2018	20,527	15,608	5,908	21,516	105%
2019	21,373	16,673	6,027	22,700	106%
2020	20,894	20,973	5,977	26,950	129%

Source: SIFMA.org; fred.stlouisfed.org; thestreet.com

(1) Intragovernmental debt is mostly made up of the Government Account Series (GAS) held by government trust funds, revolving funds and special funds. Source: treasurydirect.gov

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