

TYCHOS SECTOR RISK REPORT

		2019	2020	2021	2022	2023 Q2
Total Private Debt	Debt to GDP	156%	168%	164%	159%	153%
	5 year % change	3%	11%	6%	2%	0%
	\$ in billions	\$33,469	\$35,797	\$38,593	\$40,867	\$41,436
Business Debt	Debt to GDP	80%	90%	86%	83%	81%
	5 year % change	11%	20%	13%	6%	3%
	\$ in billions	\$17,312	\$19,095	\$20,268	\$21,475	\$21,795
	Bond Default Rate	1.0%	1.9%	0.3%	0.2%	0.5%
Household Debt	Debt to GDP	75%	78%	78%	75%	73%
	5 year % change	-5%	1%	0%	-2%	-3%
	\$ in billions	\$16,157	\$16,702	\$18,325	\$19,393	\$19,641
	*Delinquency Rate	3.2%	2.3%	1.9%	1.4%	1.5%

* Business and Private Debt totals include private placement securities.

* 90+ Day delinquency rate

Areas of Concern

Corporate Sectors		2019	2020	2021	2022	2023 Q2
Multi-Family Residential Mortgages	Debt to GDP	7.5%	8.2%	8.1%	8.1%	7.9%
	5 year % change	32%	35%	23%	16%	15%
	\$ in billions	\$1,622	\$1,755	\$1,912	\$2,078	\$2,139
Consumer Discretionary	Debt to GDP	7.4%	8.1%	7.3%	6.8%	6.4%
	5 year % change	32%	46%	22%	11%	9%
	\$ in billions	\$1,590	\$1,723	\$1,714	\$1,741	\$1,725
	Default Rate	0.7%	1.2%	0.0%	0.3%	0.4%
Information Technology	Debt to GDP	5.4%	5.8%	5.3%	4.3%	4.0%
	5 year % change	62%	50%	13%	-6%	-4%
	\$ in billions	\$1,165	\$1,236	\$1,259	\$1,110	\$1,075
	Default Rate	0.0%	0.2%	1.1%	0.6%	0.6%

Private Placements		2019	2020	2021	2022	2023 Q2
Private Placement Securities	to GDP	5.1%	6.3%	6.2%	5.7%	5.4%
	5 year % change	58%	69%	56%	28%	23%
	\$ in billions	\$1,101	\$1,342	\$1,467	\$1,464	\$1,457
	Default Rate	n/a	3.2%	3.4%	2.5%	2.7%

Household Sectors		2019	2020	2021	2022	2023 Q2
Margin Debt	Debt to GDP	2.7%	3.7%	3.9%	2.4%	2.5%
	5 year % change	-4%	33%	37%	-28%	-20%
	\$ in billions	\$579	\$778	\$910	\$607	\$681

▲ High Concern ▲ Concern ▲ Low Concern ▲ Current or recent crisis + No Current Concern

HY: High-Yield (BB or Lower)

n/a: Data Not Available

Areas of Concern Continued

Private Debt Lenders		2019	2020	2021	2022	2023 Q2
Federal Government (Student & other loans)	Debt to GDP	7.0%	8.2%	8.1%	8.0%	7.5%
	5 year % change	21%	35%	27%	20%	14%
	\$ in billions	\$1,497	\$1,748	\$1,920	\$2,061	\$2,027
Credit Unions	Debt to GDP	4.9%	5.2%	5.1%	5.1%	5.0%
	5 year % change	29%	26%	14%	8%	6%
	\$ in billions	\$1,063	\$1,115	\$1,200	\$1,307	\$1,349
Rest of World (Foreign Loans to US Businesses)	Debt to GDP	3.9%	4.2%	4.4%	4.2%	4.0%
	5 year % change	298%	274%	302%	117%	21%
	\$ in billions	\$831	\$904	\$1,026	\$1,071	\$1,082
Margin Accounts	Debt to GDP	2.7%	3.7%	3.9%	2.4%	2.5%
	5 year % change	-4%	33%	37%	-28%	-20%
	\$ in billions	\$579	\$778	\$910	\$607	\$681

Securities Market		2019	2020	2021	2022	2023 Q2
Marketable Treasury Securities	Debt to GDP	78.0%	99.6%	96.9%	94.0%	92.8%
	5 year % change	9%	37%	30%	27%	22%
	\$ in billions	\$16,673	\$20,973	\$22,584	\$23,934	\$24,881

Notional Amount Derivatives by Type		2019	2020	2021	2022	2023 Q2
End User (Non-Trading)	Debt to GDP	14.3%	17.7%	19.3%	18.9%	25.1%
	5 year % change	-36%	16%	19%	33%	89%
	\$ in billions	\$3,077	\$3,768	\$4,562	\$4,861	\$6,796
Derivative Activity by Contract Type		2019	2020	2021	2022	2023 Q2
Equities	Debt to GDP	17.6%	17.7%	18.0%	17.2%	20.2%
	5 year % change	21%	35%	37%	9%	22%
	\$ in billions	\$3,796	\$3,775	\$4,256	\$4,424	\$5,471

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Corporate Debt Summary

Debt by Industry		2019	2020	2021	2022	2023 Q2	
CRE (Included in All Sectors)	Debt to GDP	22.6%	24.1%	23.4%	23.3%	22.7%	
	5 year % change	12%	16%	9%	6%	5%	
	\$ in billions	\$4,854	\$5,137	\$5,531	\$5,989	\$6,133	+
	Default Rate	0.0%	0.2%	0.0%	0.0%	0.0%	
	HY Debt to GDP	0.36%	0.42%	0.36%	0.35%	0.44%	
Utilities	Debt to GDP	7.9%	8.4%	8.3%	8.0%	7.4%	
	5 year % change	-5%	2%	10%	3%	3%	
	\$ in billions	\$1,701	\$1,797	\$1,948	\$2,056	\$1,990	+
	Default Rate	0.4%	0.3%	0.0%	0.0%	0.0%	
	HY Debt to GDP	0.31%	0.68%	0.48%	0.44%	0.44%	
Communication Services	Debt to GDP	7.5%	7.6%	7.0%	6.2%	6.2%	
	5 year % change	24%	21%	4%	-15%	-7%	
	\$ in billions	\$1,607	\$1,624	\$1,658	\$1,594	\$1,681	+
	Default Rate	0.1%	5.2%	2.0%	0.0%	1.7%	
	HY Debt to GDP	0.93%	0.89%	0.92%	0.68%	0.81%	
Industrials	Debt to GDP	9.5%	10.2%	8.2%	8.9%	7.0%	
	5 year % change	4%	15%	-5%	-4%	-9%	
	\$ in billions	\$2,038	\$2,180	\$1,943	\$2,292	\$1,892	+
	Default Rate	0.1%	2.7%	0.0%	0.0%	0.0%	
	HY Debt to GDP	1.10%	1.27%	1.25%	1.13%	1.13%	
Consumer Discretionary	Debt to GDP	7.4%	8.1%	7.3%	6.8%	6.4%	
	5 year % change	32%	46%	22%	11%	9%	
	\$ in billions	\$1,590	\$1,723	\$1,714	\$1,741	\$1,725	!
	Default Rate	0.7%	1.2%	0.0%	0.3%	0.4%	
	HY Debt to GDP	1.44%	2.05%	1.89%	1.77%	1.83%	
Healthcare	Debt to GDP	7.0%	7.1%	6.3%	5.7%	5.5%	
	5 year % change	37%	13%	-3%	-10%	-13%	
	\$ in billions	\$1,516	\$1,513	\$1,484	\$1,457	\$1,476	+
	Default Rate	2.2%	2.3%	0.0%	0.0%	2.0%	
	HY Debt to GDP	0.58%	0.55%	0.45%	0.32%	0.31%	
Information-Technology	Debt to GDP	5.4%	5.8%	5.3%	4.3%	4.0%	
	5 year % change	62%	50%	13%	-6%	-4%	
	\$ in billions	\$1,165	\$1,236	\$1,259	\$1,110	\$1,075	!
	Default Rate	0.0%	0.2%	1.1%	0.6%	0.6%	
	HY Debt to GDP	0.66%	0.62%	0.35%	0.32%	1.17%	
Energy	Debt to GDP	6.3%	6.2%	4.9%	4.4%	4.1%	
	5 year % change	-11%	-14%	-30%	-32%	-36%	
	\$ in billions	\$1,357	\$1,317	\$1,156	\$1,141	\$1,108	+
	Default Rate	3.0%	3.6%	1.1%	0.0%	0.0%	
	HY Debt to GDP	0.80%	1.00%	0.90%	0.77%	0.53%	
Real Estate	Debt to GDP	3.8%	4.1%	3.9%	3.9%	3.7%	
	5 year % change	9%	13%	11%	10%	8%	
	\$ in billions	\$808	\$863	\$921	\$1,003	\$1,013	+
	Default Rate	0.0%	1.0%	0.9%	0.0%	0.0%	
	HY Debt to GDP	0.36%	0.41%	0.36%	0.35%	0.44%	
Consumer Staples	Debt to GDP	3.9%	4.0%	3.5%	3.3%	3.2%	
	5 year % change	15%	15%	-13%	-13%	-13%	
	\$ in billions	\$844	\$853	\$822	\$854	\$856	+
	Default Rate	2.5%	1.7%	0.0%	1.7%	0.0%	
	HY Debt to GDP	0.30%	0.46%	0.24%	0.20%	0.21%	
Materials	Debt to GDP	2.5%	2.4%	2.0%	1.9%	1.9%	
	5 year % change	-4%	-10%	-21%	-25%	-30%	
	\$ in billions	\$535	\$510	\$479	\$498	\$503	+
	Default Rate	0.1%	0.2%	0.0%	0.0%	0.0%	
	HY Debt to GDP	0.47%	0.46%	0.23%	0.34%	0.31%	
Memo: Automotive	Debt to GDP	2.5%	2.6%	2.1%	1.8%	1.7%	
	5 year % change	28%	33%	-3%	-24%	-26%	
	\$ in billions	\$529	\$554	\$490	\$466	\$472	+
	Default Rate	0.0%	0.0%	0.0%	0.0%	0.5%	
	HY Debt to GDP	0.16%	0.70%	0.63%	0.58%	0.52%	
Memo: Agriculture	Debt to GDP	2.0%	2.1%	2.0%	1.8%	2.0%	
	5 year % change	-0%	6%	1%	-11%	1%	
	\$ in billions	\$420	\$441	\$474	\$454	\$535	+
	*Delinquency Rate	1.8%	1.9%	1.1%	1.1%	1.1%	
	HY Debt to GDP	n/a	n/a	n/a	n/a	n/a	
Memo: Corporate Sector High-Yield Debt	Debt to GDP	7.8%	9.5%	8.0%	6.5%	6.3%	
	5 year % change	-1%	28%	0%	-19%	-19%	+
	\$ in billions	\$1,657	\$1,995	\$1,872	\$1,662	\$1,668	

• Corporate sector refers to non-financial corporations and does not include financial institutions

* Delinquent Commercial Bank loans (30+ Days) as a percentage of total outstanding loans

! High Concern ! Concern ! Low Concern ! Current or recent crisis + No Current Concern

HY: High-Yield (BB or Lower) n/a: Data Not Available

Other Non-Financial Corporate Liabilities

Private Placements		2019	2020	2021	2022	2023 Q2
Private Placement Securities	to GDP	5.1%	6.3%	6.2%	5.7%	5.4%
	5 year % change	58%	69%	56%	28%	23%
	\$ in billions	\$1,101	\$1,342	\$1,467	\$1,464	\$1,457
	Default Rate	n/a	3.2%	3.4%	2.5%	2.7%

- A Private Placement is a sale of stock shares or bonds to pre-selected investors and institutions rather than on the open market.

Commercial Real Estate Debt Summary

CRE Debt		2019	2020	2021	2022	2023 Q2
Multi-Family Residential Mortgages	Debt to GDP	7.2%	7.5%	8.2%	8.1%	8.1%
	5 year % change	29%	32%	35%	23%	16%
	\$ in billions	\$1,488	\$1,622	\$1,755	\$1,912	\$2,078
Commercial Mortgages	Debt to GDP	13.7%	13.8%	14.5%	14.0%	13.8%
	5 year % change	2%	3%	7%	1%	-0%
	\$ in billions	\$2,832	\$2,964	\$3,093	\$3,295	\$3,562
Farm Mortgages	Debt to GDP	1.2%	1.2%	1.4%	1.4%	1.4%
	5 year % change	8%	11%	19%	14%	13%
	\$ in billions	\$246	\$268	\$289	\$324	\$349
Total CRE Debt	Debt to GDP	22.1%	22.6%	24.1%	23.4%	23.3%
	5 year % change	10%	12%	16%	9%	6%
	\$ in billions	\$4,566	\$4,854	\$5,137	\$5,531	\$5,989
Memo: Construction and Land Development Loans	Debt to GDP	1.7%	1.8%	1.7%	1.8%	1.8%
	5 year % change	24%	20%	2%	5%	7%
	\$ in billions	\$362	\$386	\$402	\$468	\$489
Commercial Real Estate Bank Loans	Charge-Off Rates	0.0%	0.0%	0.2%	0.0%	0.1%
	Delinquency Rates	0.7%	0.7%	1.1%	0.6%	0.8%

- Multi-Family Residential Mortgages are loans secured by housing units in structures with five or more units.
- Commercial Mortgages are loans secured by non-farm non-residential properties, such as office buildings, retail stores, and industrial facilities, as well as construction and land development loans associated with commercial properties.
- Farm mortgages are loans secured by farm properties. In terms of residential real estate, a farm is on a property that generates at least \$1,000 in income from agricultural products. Farm mortgage debt is considered a liability of the non-financial corporate and non-financial non-corporate business sectors.
- Construction and Land Development - Represents loans secured by real estate with maturities of 60 months or less made to finance land development or the on-site construction of industrial, commercial, residential or farm buildings. Includes new construction, additions or alterations to existing structures and razing existing structures to make way for new structures.

Household Debt Summary

Household debt by type		2019	2020	2021	2022	2023 Q2
Mortgage Debt	Debt to GDP	48.7%	50.9%	50.6%	49.4%	47.6%
	5 year % change	-9%	-2%	-1%	-3%	-3%
	\$ in billions	\$10,476	\$10,862	\$11,942	\$12,705	\$12,879
	*Delinquency Rate	1.1%	0.6%	0.5%	0.4%	0.4%
	**CB Delinquency Rate	2.8%	2.4%	2.8%	1.8%	1.7%
Student Loans	Debt to GDP	7.6%	7.9%	7.4%	6.9%	6.5%
	5 year % change	8%	10%	-2%	-10%	-12%
	\$ in billions	\$1,638	\$1,694	\$1,733	\$1,764	\$1,765
	*Delinquency Rate	11.1%	6.5%	5.0%	0.9%	0.7%
	***Alt Delinquency Rate	28.1%	28.1%	n/a	n/a	n/a
Auto Loans	Debt to GDP	6.2%	6.4%	6.2%	6.0%	5.9%
	5 year % change	14%	11%	0%	-3%	-3%
	\$ in billions	\$1,331	\$1,374	\$1,458	\$1,552	\$1,582
	*Delinquency Rate	4.9%	4.8%	4.0%	3.7%	3.9%
Credit Cards	Debt to GDP	4.3%	3.8%	3.6%	3.8%	3.8%
	5 year % change	8%	-4%	-12%	-10%	-5%
	\$ in billions	\$927	\$819	\$856	\$986	\$1,031
	*Delinquency Rate	8.4%	9.4%	8.3%	7.7%	8.2%
Margin Debt	Debt to GDP	2.7%	3.7%	3.9%	2.4%	2.5%
	5 year % change	-4%	33%	37%	-28%	-20%
	\$ in billions	\$579	\$778	\$910	\$607	\$681

* Delinquent loans (90+ Days) as a percentage of total outstanding loans

** Commercial Bank residential real estate loans secured by one-to-four family properties (30+ days delinquent) as a percentage of total outstanding loans

*** Delinquent loans (90+ Days) as a percentage of outstanding loans in repayment status

▲ High Concern
 ▲ Concern
 ▲ Low Concern
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 + No Current Concern
 HY: High-Yield (BB or Lower)
 n/a: Data Not Available

Student Loan Summary

Total Student Loans		2019	2020	2021	2022	2023 Q2
Student Loans	Debt to GDP	7.6%	7.9%	7.4%	6.9%	6.5%
	5 year % change	8%	10%	-2%	-10%	-12%
	\$ in billions	\$1,638	\$1,694	\$1,733	\$1,764	\$1,765
	*Delinquency Rate	11.1%	6.5%	5.0%	0.9%	0.7%
	***Alt Delinquency Rate	28.1%	28.1%	n/a	n/a	n/a
Repayment Status	Debt to GDP	4.0%	4.1%	n/a	n/a	n/a
	\$ in billions	\$784	\$848	n/a	n/a	n/a

Private Student Loans		2017	2018	2019	2020	2021 Q3
Private Student Loans	Debt/GDP	0.6%	0.6%	0.6%	0.6%	0.6%
	5 Year % Change	n/a	n/a	n/a	15%	4%
	\$ in Billions	\$122	\$131	\$136	\$132	\$131
	Delinquent Loans Bil \$	\$1	\$1	\$1	\$1	\$1
	**Delinquency Rate	1.56%	1.67%	1.32%	0.87%	0.94%
Repayment Status	Debt to GDP	0.2%	0.2%	0.2%	0.2%	0.2%
	\$ in billions	\$48	\$50	\$49	\$43	\$41
Deferment Status	Debt to GDP	0.1%	0.1%	0.1%	0.1%	0.0%
	\$ in billions	\$12	\$12	\$12	\$10	\$10
Grace Status	Debt to GDP	0.0%	0.0%	0.0%	0.0%	0.0%
	\$ in billions	\$2	\$2	\$2	\$1	\$3
Forbearance Status	Debt to GDP	0.0%	0.0%	0.0%	0.0%	0.0%
	\$ in billions	\$2	\$2	\$2	\$2	\$1

Federally Managed Student Loan Portfolio		2019	2020	2021	2022	2023 Q2
Federal Student Loans	Debt/GDP	7.1%	7.4%	6.9%	6.4%	6.1%
	5 Year % Change	10%	12%	-0%	-9%	-11%
	\$ in Billions	\$1,510	\$1,566	\$1,611	\$1,635	\$1,645
	Delinquent Loans Bil \$	\$198	\$215	n/a	n/a	n/a
	**Delinquency Rate	30.1%	29.9%	n/a	n/a	n/a
In-School Status	Debt to GDP	0.6%	0.6%	0.5%	0.5%	0.4%
	\$ in billions	\$132	\$125	\$118	\$116	\$114
Repayment Status	Debt to GDP	3.2%	0.1%	0.1%	0.1%	0.0%
	\$ in billions	\$686	\$15	\$16	\$12	\$10
Deferment Status	Debt to GDP	0.6%	0.5%	0.5%	0.4%	0.4%
	\$ in billions	\$128	\$114	\$113	\$110	\$114
Grace Status	Debt to GDP	0.2%	0.2%	0.2%	0.1%	0.1%
	\$ in billions	\$45	\$44	\$41	\$34	\$18
Forbearance Status	Debt to GDP	0.6%	4.2%	4.2%	4.1%	4.0%
	\$ in billions	\$123	\$887	\$968	\$1,040	\$1,082
Other Status	Debt to GDP	0.0%	0.0%	0.0%	0.0%	0.0%
	\$ in billions	\$9	\$8	\$8	\$7	\$7

- Federally managed student loan portfolio Includes outstanding principal and interest balance of Direct Loans and ED-held FFEL Program Loans; Total Federal Loans include Direct Loans, FFEL and Perkins Loans.

* Delinquent loans (90+ Days) as a percentage of total outstanding loans

** Delinquent loans (90+ Days) as a percentage of outstanding loans in repayment status

• Delinquency Demographics for Federal Loans have been delayed until March 31, 2022, the first quarter for which borrowers can be delinquent

• Private Student Loans by Status represents a breakdown of Measure One Private Student Loan Report Contributors balances.

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Fixed Income

Securities Market		2019	2020	2021	2022	2023 Q2	
Total Securities	Debt to GDP	206.2%	238.3%	227.1%	n/a	n/a	
	5 year % change	-2%	14%	9%	n/a	n/a	+
	\$ in billions	\$44,096	\$50,192	\$52,946	n/a	n/a	
Municipal Securities	Debt to GDP	18.1%	18.7%	17.3%	15.6%	14.9%	
	5 year % change	-17%	-12%	-17%	-22%	-21%	+
	\$ in billions	\$3,899	\$3,984	\$4,069	\$4,016	\$4,043	
Marketable Treasury Securities	Debt to GDP	77.5%	98.4%	95.7%	93.0%	91.9%	
	5 year % change	9%	36%	29%	26%	22%	!
	\$ in billions	\$16,673	\$20,973	\$22,584	\$23,934	\$24,881	
Mortgage Related Securities	Debt to GDP	47.8%	53.3%	52.3%	n/a	n/a	
	5 year % change	-5%	9%	8%	n/a	n/a	+
	\$ in billions	\$10,229	\$11,214	\$12,202	n/a	n/a	
Memo: Mortgage Related Securities: Agency MBS	Debt to GDP	36.1%	40.1%	39.9%	n/a	n/a	
	5 year % change	5%	17%	14%	n/a	n/a	!
	\$ in billions	\$7,711	\$8,439	\$9,301	n/a	n/a	
Memo: Mortgage Related Securities: Agency CMO	Debt to GDP	5.2%	6.6%	5.9%	n/a	n/a	
	5 year % change	-24%	5%	0%	n/a	n/a	+
	\$ in billions	\$1,117	\$1,395	\$1,388	n/a	n/a	
Memo: Mortgage Related Securities: Non-Agency CMBS	Debt to GDP	2.8%	2.8%	2.9%	n/a	n/a	
	5 year % change	-22%	-15%	2%	n/a	n/a	+
	\$ in billions	\$596	\$596	\$673	n/a	n/a	
Memo: Mortgage Related Securities: Non-Agency RMBS	Debt to GDP	3.8%	3.7%	3.6%	n/a	n/a	
	5 year % change	-34%	-27%	-21%	n/a	n/a	+
	\$ in billions	\$805	\$784	\$840	n/a	n/a	
Corporate Debt Securities	Debt to GDP	41.2%	46.0%	42.6%	39.7%	39.2%	
	5 year % change	-3%	9%	1%	-6%	-5%	+
	\$ in billions	\$8,859	\$9,810	\$10,058	\$10,224	\$10,609	
Federal Agency Securities	Debt to GDP	8.0%	7.9%	6.1%	7.5%	7.8%	
	5 year % change	-30%	-27%	-42%	-24%	-12%	+
	\$ in billions	\$1,726	\$1,689	\$1,433	\$1,936	\$2,118	
Money Market Securities (Commercial Paper)	Debt to GDP	4.9%	4.6%	4.3%	4.5%	4.2%	
	5 year % change	-8%	-10%	-9%	-8%	-13%	+
	\$ in billions	\$1,045	\$987	\$1,014	\$1,166	\$1,130	
Asset-Backed Securities	Debt to GDP	7.8%	7.3%	6.8%	n/a	n/a	
	5 year % change	1%	-4%	-9%	n/a	n/a	+
	\$ in billions	\$1,663	\$1,535	\$1,585	n/a	n/a	
Memo: Asset-Backed Securities: Automobile*	Debt to GDP	1.1%	1.0%	1.0%	n/a	n/a	
	5 year % change	9%	-6%	-9%	n/a	n/a	+
	\$ in billions	\$236	\$206	\$221	n/a	n/a	
Memo: Asset-Backed Securities: Credit Card	Debt to GDP	0.5%	0.3%	0.2%	n/a	n/a	
	5 year % change	-39%	-55%	-67%	n/a	n/a	+
	\$ in billions	\$101	\$67	\$54	n/a	n/a	
Memo: Asset-Backed Securities: Equipment*	Debt to GDP	0.4%	0.3%	0.3%	n/a	n/a	
	5 year % change	17%	12%	25%	n/a	n/a	!
	\$ in billions	\$76	\$68	\$80	n/a	n/a	
Memo: Asset-Backed Securities: Other*	Debt to GDP	1.1%	1.1%	1.1%	n/a	n/a	
	5 year % change	45%	33%	35%	n/a	n/a	!
	\$ in billions	\$232	\$221	\$265	n/a	n/a	
Memo: Asset-Backed Securities: Student Loans	Debt to GDP	0.7%	0.7%	0.6%	n/a	n/a	
	5 year % change	-40%	-38%	-38%	n/a	n/a	+
	\$ in billions	\$159	\$144	\$146	n/a	n/a	
Memo: Asset-Backed Securities: CLO	Debt to GDP	3.2%	3.1%	2.7%	n/a	n/a	
	5 year % change	45%	28%	7%	n/a	n/a	!
	\$ in billions	\$686	\$662	\$636	n/a	n/a	
Memo: Asset-Backed Securities: CDO/SF/Other*	Debt to GDP	0.8%	0.8%	0.8%	n/a	n/a	
	5 year % change	-42%	-32%	-24%	n/a	n/a	+
	\$ in billions	\$173	\$166	\$183	n/a	n/a	

- MBS - Mortgage Backed Securities
- CMO - Collateralized Mortgage Obligation
- CMBS - Collateralized Mortgage Backed Securities
- RMBS - Residential Mortgage Backed Securities
- CDO - Collateralized Debt Obligation
- CLO - Collateralized Loan Obligation
- SF - Structured Finance

Fixed Income Data Series for 2022 is undergoing maintenance

! High Concern ! Concern ! Low Concern ! Current or recent crisis + No Current Concern

HY: High-Yield (BB or Lower)

n/a: Data Not Available

Private Debt by Lender/Holder

Private Debt Lenders		2019	2020	2021	2022	2023 Q2	
US Chartered Depository Institutions	Debt to GDP	44.3%	45.7%	42.2%	43.4%	41.7%	+
	5 year % change	3%	4%	-6%	-3%	-4%	
	\$ in billions	\$9,526	\$9,753	\$9,964	\$11,176	\$11,289	
Non-Financial Corporations, Debt Securities	Debt to GDP	35.9%	40.4%	38.0%	35.0%	33.9%	+
	5 year % change	10%	18%	8%	-3%	11%	
	\$ in billions	\$7,724	\$8,622	\$8,965	\$9,017	\$9,177	
Government Sponsored Enterprises	Debt to GDP	25.6%	28.8%	29.3%	28.4%	27.1%	+
	5 year % change	-8%	7%	9%	7%	6%	
	\$ in billions	\$5,507	\$6,133	\$6,906	\$7,309	\$7,340	
Agency/GSE backed Mortgage Pools	Debt to GDP	11.2%	11.4%	10.6%	10.4%	10.2%	+
	5 year % change	19%	17%	3%	-4%	-4%	
	\$ in billions	\$2,405	\$2,427	\$2,501	\$2,687	\$2,763	
Federal Government (Student & other loans)	Debt to GDP	7.0%	8.2%	8.1%	8.0%	7.5%	!
	5 year % change	21%	35%	27%	20%	14%	
	\$ in billions	\$1,497	\$1,748	\$1,920	\$2,061	\$2,027	
Credit Unions	Debt to GDP	4.9%	5.2%	5.1%	5.1%	5.0%	!
	5 year % change	29%	26%	14%	8%	6%	
	\$ in billions	\$1,063	\$1,115	\$1,200	\$1,307	\$1,349	
Issuers of Asset-Backed Securities	Debt to GDP	3.7%	3.7%	3.5%	3.3%	3.2%	+
	5 year % change	-36%	-30%	-22%	-20%	-21%	
	\$ in billions	\$803	\$782	\$832	\$846	\$852	
Finance Companies	Debt to GDP	4.3%	4.3%	5.2%	4.9%	4.9%	+
	5 year % change	-31%	-18%	4%	4%	9%	
	\$ in billions	\$924	\$922	\$1,219	\$1,267	\$1,318	
Rest of World (Foreign Loans to US Businesses)	Debt to GDP	3.9%	4.2%	4.4%	4.2%	4.0%	!
	5 year % change	298%	274%	302%	117%	21%	
	\$ in billions	\$831	\$904	\$1,026	\$1,071	\$1,082	
Margin Accounts	Debt to GDP	2.7%	3.7%	3.9%	2.4%	2.5%	!
	5 year % change	-4%	33%	37%	-28%	-20%	
	\$ in billions	\$579	\$778	\$910	\$607	\$681	

• Non-Financial Corporations, Debt Securities include private placement securities.

Financial Sector Debt

Financial Sector		2019	2020	2021	2022	2023 Q2	
Domestic Financial Sector	Debt to GDP	74.8%	80.2%	78.1%	78.1%	75.2%	+
	5 year % change	-11%	-1%	-3%	-1%	-0%	
	\$ in billions	\$16,095	\$17,096	\$18,438	\$20,101	\$20,350	
Debt Securities	Debt to GDP	65.2%	70.2%	68.0%	67.3%	65.2%	+
	5 year % change	-10%	1%	-1%	-1%	0%	
	\$ in billions	\$14,027	\$14,974	\$16,036	\$17,331	\$17,635	
Memo: Bond Default Rate		0.2%	0.2%	0.2%	0.2%	0.2%	
Memo: Debt Securities: Open Market Paper	Debt to GDP	2.6%	2.7%	2.1%	2.7%	2.5%	+
	5 year % change	-16%	-11%	-25%	4%	-1%	
	\$ in billions	\$553	\$576	\$492	\$698	\$662	
Memo: Debt Securities: Agency Securities	Debt to GDP	43.7%	47.2%	45.3%	45.3%	44.2%	+
	5 year % change	-3%	6%	0%	0%	2%	
	\$ in billions	\$9,408	\$10,066	\$10,679	\$11,659	\$11,954	
Memo: Debt Securities: Corporate and Foreign Bonds	Debt to GDP	18.9%	20.3%	20.6%	19.3%	18.6%	+
	5 year % change	-23%	-8%	-1%	-3%	-2%	
	\$ in billions	\$4,066	\$4,332	\$4,865	\$4,974	\$5,019	
Loans	Debt to GDP	9.6%	10.0%	10.2%	10.8%	10.1%	+
	5 year % change	-16%	-12%	-11%	-2%	-3%	
	\$ in billions	\$2,068	\$2,122	\$2,401	\$2,770	\$2,731	
Memo: Loans: Depository Institution Loans	Debt to GDP	1.4%	1.8%	2.3%	1.9%	1.7%	!
	5 year % change	-6%	13%	44%	22%	14%	
	\$ in billions	\$305	\$381	\$530	\$481	\$453	
Memo: Loans: Other Loans and Advances	Debt to GDP	7.1%	7.1%	6.9%	7.9%	7.4%	+
	5 year % change	-17%	-15%	-20%	-4%	-4%	
	\$ in billions	\$1,539	\$1,515	\$1,624	\$2,025	\$2,017	
Memo: Loans: Equity REIT Mortgages	Debt to GDP	1.0%	1.1%	1.1%	1.0%	1.0%	+
	5 year % change	-21%	-18%	-17%	-17%	-16%	
	\$ in billions	\$224	\$226	\$248	\$264	\$260	

• REIT: Real Estate Investment Trust

! High Concern ! Concern ! Low Concern ! Current or recent crisis + No Current Concern

HY: High-Yield (BB or Lower) n/a: Data Not Available

Repurchase Agreements (Primary Dealer) By Security Type

Repurchase Agreements		2019	2020	2021	2022	2023 Q2	
Total	Debt to GDP	11.8%	12.2%	10.4%	9.7%	10.8%	
	5 year % change	-13%	2%	-10%	-14%	2%	+
	\$ in billions	\$2,548	\$2,607	\$2,460	\$2,505	\$2,927	
Asset Backed Securities	Debt to GDP	0.1%	0.1%	0.0%	0.0%	0.1%	
	5 year % change	n/a	n/a	-67%	-57%	-43%	+
	\$ in billions	\$18	\$14	\$10	\$11	\$14	
Corporate Bonds	Debt to GDP	0.3%	0.3%	0.3%	0.3%	0.3%	
	5 year % change	-32%	-16%	-4%	-13%	-7%	+
	\$ in billions	\$62	\$69	\$74	\$79	\$82	
Equities	Debt to GDP	0.2%	0.3%	0.4%	0.3%	0.3%	
	5 year % change	-45%	-42%	91%	16%	-13%	⚠
	\$ in billions	\$52	\$53	\$95	\$75	\$70	
Federal Agency	Debt to GDP	0.1%	0.1%	0.1%	0.1%	0.1%	
	5 year % change	-76%	-66%	-57%	-50%	-50%	+
	\$ in billions	\$25	\$24	\$20	\$20	\$19	
Mortgage Backed Securities	Debt to GDP	2.2%	2.3%	1.6%	1.4%	1.9%	
	5 year % change	-24%	7%	-15%	-28%	1%	+
	\$ in billions	\$464	\$499	\$385	\$358	\$524	
Other	Debt to GDP	0.2%	0.2%	0.1%	0.1%	0.2%	
	5 year % change	-65%	-61%	-64%	-41%	-22%	+
	\$ in billions	\$43	\$38	\$31	\$37	\$43	
Treasury Securities	Debt to GDP	8.0%	8.2%	7.1%	6.8%	7.4%	
	5 year % change	1%	14%	-8%	-9%	6%	+
	\$ in billions	\$1,729	\$1,748	\$1,665	\$1,742	\$1,994	
Treasury Inflation-Protected Securities	Debt to GDP	0.7%	0.8%	0.8%	0.7%	0.7%	
	5 year % change	-24%	-12%	-9%	-13%	-1%	+
	\$ in billions	\$156	\$164	\$179	\$184	\$182	
Reverse Repurchase Agreements		2019	2020	2021	2022	2023 Q2	
Total	Debt to GDP	9.1%	9.1%	7.8%	7.8%	8.4%	
	5 year % change	-13%	-5%	-19%	-13%	3%	+
	\$ in billions	\$1,955	\$1,946	\$1,845	\$2,002	\$2,277	
Asset Backed Securities	Debt to GDP	0.0%	0.0%	0.0%	0.0%	0.0%	
	5 year % change	n/a	n/a	-77%	-63%	-45%	+
	\$ in billions	\$9	\$7	\$5	\$6	\$7	
Corporate Bonds	Debt to GDP	0.1%	0.1%	0.1%	0.1%	0.1%	
	5 year % change	-48%	-44%	-24%	-6%	25%	+
	\$ in billions	\$14	\$15	\$17	\$19	\$25	
Equities	Debt to GDP	0.0%	0.0%	0.0%	0.0%	0.0%	
	5 year % change	-90%	-92%	n/a	n/a	n/a	+
	\$ in billions	\$0	\$0	\$0	\$0	\$0	
Federal Agency	Debt to GDP	0.0%	0.0%	0.0%	0.0%	0.0%	
	5 year % change	-83%	-78%	-72%	-51%	-64%	+
	\$ in billions	\$9	\$7	\$6	\$6	\$4	
Mortgage Backed Securities	Debt to GDP	1.1%	1.1%	0.7%	0.6%	0.8%	
	5 year % change	-43%	-31%	-38%	-41%	-25%	+
	\$ in billions	\$242	\$227	\$176	\$164	\$214	
Other	Debt to GDP	0.1%	0.1%	0.1%	0.1%	0.1%	
	5 year % change	-66%	-68%	-75%	-47%	-28%	+
	\$ in billions	\$24	\$20	\$14	\$19	\$21	
Treasury Securities	Debt to GDP	7.0%	7.1%	6.2%	6.2%	6.8%	
	5 year % change	0%	8%	-13%	-7%	10%	+
	\$ in billions	\$1,498	\$1,507	\$1,451	\$1,603	\$1,832	
Treasury Inflation-Protected Securities	Debt to GDP	0.7%	0.8%	0.8%	0.7%	0.6%	
	5 year % change	-11%	-9%	-14%	-17%	-10%	+
	\$ in billions	\$160	\$163	\$177	\$185	\$173	

• Amounts are average daily outstanding balances

⚠ High Concern Concern ⚠ Low Concern ⚠ Current or recent crisis + No Current Concern

HY: High-Yield (BB or Lower) n/a: Data Not Available

Portfolio Loans & Investment (Total Economy) - U.S. into Foreign Countries

Long Term Debt Security Investment		2019	2020	2021	2022	2023 Q2	
United States Holdings of Long Term Foreign Debt Securities	to GDP	15.0%	16.0%	16.0%	13.0%	12.0%	
	5 year % change	3%	23%	21%	-12%	-11%	⚠️
	\$ in billions	\$3,144	\$3,344	\$3,690	\$3,275	\$3,337	
Cayman Islands	to GDP	2.0%	2.0%	3.0%	3.0%	3.0%	
	5 year % change	51%	53%	67%	38%	28%	⚠️
	\$ in billions	\$502	\$529	\$710	\$722	\$714	
Canada	to GDP	2.0%	2.0%	2.0%	2.0%	2.0%	
	5 year % change	-16%	8%	7%	-18%	-14%	+
	\$ in billions	\$387	\$405	\$447	\$400	\$412	
United Kingdom	to GDP	2.0%	2.0%	2.0%	1.0%	1.0%	
	5 year % change	11%	27%	27%	-11%	-20%	⚠️
	\$ in billions	\$412	\$439	\$453	\$383	\$378	
Long Term Equity Investment		2019	2020	2021	2022	2023 Q2	
United States Holdings of Long Term Corporate Stocks	to GDP	44.0%	49.0%	51.0%	39.0%	40.0%	
	5 year % change	15%	34%	35%	-15%	-6%	⚠️
	\$ in billions	\$9,436	\$10,537	\$11,946	\$10,140	\$10,899	
Cayman Islands	to GDP	7.0%	9.0%	9.0%	7.0%	7.0%	
	5 year % change	42%	85%	69%	8%	2%	⚠️
	\$ in billions	\$1,443	\$1,968	\$2,032	\$1,842	\$1,817	
United Kingdom	to GDP	5.0%	4.0%	5.0%	4.0%	4.0%	
	5 year % change	-9%	-12%	-1%	-32%	-28%	+
	\$ in billions	\$1,013	\$919	\$1,085	\$967	\$1,019	
Japan	to GDP	4.0%	5.0%	4.0%	3.0%	3.0%	
	5 year % change	29%	26%	18%	-29%	-17%	⚠️
	\$ in billions	\$931	\$1,015	\$1,030	\$839	\$945	
Loans		2019	2020	2021	2022	2023 Q2	
United States Holdings of Foreign Loans	to GDP	3.2%	3.6%	3.4%	3.6%	3.6%	
	5 year % change	36%	37%	26%	30%	32%	⚠️
	\$ in billions	\$690	\$755	\$802	\$924	\$964	
United States Holdings of Foreign Loans: Bank Loans	to GDP	3.0%	3.3%	3.2%	3.4%	3.4%	
	5 year % change	36%	37%	26%	35%	37%	⚠️
	\$ in billions	\$633	\$699	\$748	\$861	\$907	
United States Holdings of Foreign Loans: Other Loans	to GDP	0.3%	0.3%	0.2%	0.3%	0.2%	
	5 year % change	27%	29%	21%	-14%	-15%	⚠️
	\$ in billions	\$58	\$56	\$54	\$63	\$57	

- Total Economy includes Financial, Non-Financial and General Government sectors
- Loans include short term and long term

⚠️ High Concern ⚠️ Concern ⚠️ Low Concern ⚠️ Current or recent crisis + No Current Concern

HY: High-Yield (BB or Lower) n/a: Data Not Available

Portfolio Investment (Total Economy) - Foreign Countries into the U.S.

Long Term Treasury Bond Investment		2019	2020	2021	2022	2023 Q2	
Foreign Holdings of United State's Long Term Treasury Securities Bonds	to GDP	28.0%	28.0%	29.0%	25.0%	25.0%	+
	5 year % change	-9%	-4%	1%	-12%	-8%	+
	\$ in billions	\$6,128	\$6,043	\$6,753	\$6,341	\$6,642	
Japan	to GDP	5.0%	6.0%	5.0%	4.0%	4.0%	+
	5 year % change	-23%	-4%	-6%	-24%	-19%	+
	\$ in billions	\$1,093	\$1,185	\$1,214	\$996	\$1,038	
China	to GDP	5.0%	5.0%	4.0%	3.0%	3.0%	+
	5 year % change	-30%	-29%	-22%	-44%	-47%	+
	\$ in billions	\$1,067	\$1,033	\$1,036	\$862	\$831	
United Kingdom	to GDP	2.0%	2.0%	2.0%	2.0%	2.0%	!
	5 year % change	81%	82%	143%	96%	92%	!
	\$ in billions	\$334	\$372	\$556	\$541	\$582	
Long Term Agency Bond Investment		2019	2020	2021	2022	2023 Q2	
Foreign Holdings of United State's Long Term Agency Bonds	to GDP	5.5%	5.6%	5.3%	4.8%	4.7%	+
	5 year % change	13%	16%	3%	-5%	-6%	+
	\$ in billions	\$1,185	\$1,184	\$1,245	\$1,243	\$1,266	
China	to GDP	1.1%	1.0%	0.9%	1.0%	1.0%	
	5 year % change	-9%	-7%	-12%	12%	14%	
	\$ in billions	\$232	\$212	\$203	\$252	\$270	
Japan	to GDP	1.4%	1.4%	1.3%	1.1%	0.9%	+
	5 year % change	57%	68%	9%	-12%	-25%	+
	\$ in billions	\$305	\$308	\$302	\$278	\$253	
Taiwan	to GDP	1.0%	1.0%	1.0%	1.0%	1.0%	+
	5 year % change	21%	14%	-5%	-32%	-37%	+
	\$ in billions	\$262	\$262	\$244	\$210	\$208	
Long Term Corporate & Other Bond Investment		2019	2020	2021	2022	2023 Q2	
Foreign Holdings of United State's Long Term Corporate & Other Bonds	to GDP	19.3%	21.6%	19.7%	15.2%	15.3%	+
	5 year % change	11%	23%	3%	-26%	-18%	+
	\$ in billions	\$4,161	\$4,608	\$4,636	\$3,908	\$4,130	
Luxembourg	to GDP	3.3%	3.7%	3.1%	2.3%	2.3%	+
	5 year % change	14%	32%	5%	-29%	-22%	+
	\$ in billions	\$699	\$784	\$729	\$590	\$618	
Belgium	to GDP	2.8%	2.9%	2.7%	2.2%	2.2%	+
	5 year % change	40%	42%	11%	-28%	-17%	+
	\$ in billions	\$598	\$624	\$629	\$565	\$599	
Cayman Islands	to GDP	2.5%	2.8%	2.4%	1.8%	1.8%	+
	5 year % change	24%	37%	2%	-27%	-24%	+
	\$ in billions	\$537	\$600	\$572	\$460	\$483	
Long Term Equity Investment		2019	2020	2021	2022	2023 Q2	
Foreign Holdings of United State's Long Term Corporate Stocks	to GDP	41.9%	54.0%	64.3%	46.6%	50.5%	!
	5 year % change	11%	59%	84%	15%	27%	!
	\$ in billions	\$9,026	\$11,519	\$15,166	\$11,983	\$13,655	
Cayman Islands	to GDP	4.9%	6.2%	6.7%	5.5%	5.7%	!
	5 year % change	-1%	31%	49%	5%	13%	!
	\$ in billions	\$1,045	\$1,325	\$1,581	\$1,405	\$1,550	
Canada	to GDP	4.8%	5.9%	7.4%	5.0%	5.4%	!
	5 year % change	5%	56%	91%	8%	19%	!
	\$ in billions	\$1,028	\$1,255	\$1,741	\$1,294	\$1,453	
United Kingdom	to GDP	4.7%	5.8%	7.2%	4.9%	5.4%	!
	5 year % change	1%	42%	70%	-0%	19%	!
	\$ in billions	\$1,019	\$1,245	\$1,691	\$1,253	\$1,447	

• Total Economy includes Financial, Non-Financial and General Government sectors

! High Concern ! Concern ! Low Concern ! Current or recent crisis + No Current Concern

HY: High-Yield (BB or Lower)

n/a: Data Not Available

Derivative Activity

Notional Amounts by Type		2019	2020	2021	2022	2023 Q2
Dealer (Trading)	Debt to GDP	764.1%	736.3%	717.8%	706.5%	778.3%
	5 year % change	-35%	-21%	-14%	-16%	-20%
	\$ in billions	\$164,441	\$156,997	\$169,361	\$181,875	\$210,642
End User (Non-Trading)	Debt to GDP	14.3%	17.7%	19.3%	18.9%	25.1%
	5 year % change	-36%	16%	19%	33%	89%
	\$ in billions	\$3,077	\$3,768	\$4,562	\$4,861	\$6,796
Credit Derivatives	Debt to GDP	18.3%	14.2%	15.0%	16.5%	16.5%
	5 year % change	-66%	-63%	-47%	-23%	-19%
	\$ in billions	\$3,945	\$3,034	\$3,540	\$4,241	\$4,474
Total Notional	Debt to GDP	796.7%	768.2%	752.2%	741.8%	820.0%
	5 year % change	-37%	-22%	-14%	-15%	-19%
	\$ in billions	\$171,462	\$163,799	\$177,484	\$190,977	\$221,912
Derivative Activity by Contract Type		2019	2020	2021	2022	2023 Q2
Interest Rate	Debt to GDP	581.1%	544.0%	535.0%	542.9%	606.3%
	5 year % change	-41%	-28%	-19%	-18%	-21%
	\$ in billions	\$125,056	\$116,000	\$126,236	\$139,755	\$164,071
Foreign Exchange	Debt to GDP	172.7%	185.7%	177.4%	159.7%	171.4%
	5 year % change	-8%	6%	5%	-5%	-13%
	\$ in billions	\$37,170	\$39,596	\$41,847	\$41,124	\$46,376
Equities	Debt to GDP	17.6%	17.7%	18.0%	17.2%	20.2%
	5 year % change	21%	35%	37%	9%	22%
	\$ in billions	\$3,796	\$3,775	\$4,256	\$4,424	\$5,471
Commodities	Debt to GDP	7.0%	6.5%	6.7%	5.6%	5.6%
	5 year % change	1%	8%	0%	-20%	-24%
	\$ in billions	\$1,495	\$1,395	\$1,584	\$1,433	\$1,520
Credit Derivatives	Debt to GDP	18.3%	14.2%	15.0%	16.5%	16.5%
	5 year % change	-66%	-63%	-47%	-23%	-19%
	\$ in billions	\$3,945	\$3,034	\$3,540	\$4,241	\$4,474
Total Notional	Debt to GDP	796.7%	768.2%	752.2%	741.8%	820.0%
	5 year % change	-37%	-22%	-14%	-15%	-19%
	\$ in billions	\$171,462	\$163,799	\$177,484	\$190,977	\$221,912
Derivative Activity by Product		2019	2020	2021	2022	2023 Q2
Futures & Forwards	Debt to GDP	161.6%	151.7%	132.1%	111.7%	123.1%
	5 year % change	-34%	-22%	-27%	-36%	-45%
	\$ in billions	\$34,787	\$32,350	\$31,180	\$28,749	\$33,317
Total Options	Debt to GDP	167.8%	150.0%	141.8%	153.0%	151.0%
	5 year % change	-9%	-11%	-9%	-23%	-37%
	\$ in billions	\$36,117	\$31,991	\$33,453	\$39,389	\$40,860
Total Swaps	Debt to GDP	448.9%	452.2%	463.2%	460.7%	529.3%
	5 year % change	-42%	-23%	-10%	-4%	1%
	\$ in billions	\$96,614	\$96,423	\$109,290	\$118,598	\$143,242
Credit Derivatives	Debt to GDP	18.3%	14.2%	15.0%	16.5%	16.5%
	5 year % change	-66%	-63%	-47%	-23%	-19%
	\$ in billions	\$3,945	\$3,034	\$3,540	\$4,241	\$4,474
Total Notional	Debt to GDP	796.7%	768.2%	752.2%	741.8%	820.0%
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	\$ in billions	\$171,462	\$163,799	\$177,484	\$190,977	\$221,912

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Derivative Net Credit Risk

Credit Risk by Contract Type		2019	2020	2021	2022	2023 Q2
Total Gross Positive Fair Values (GPFV)	to GDP	9.0%	12.7%	8.6%	9.8%	8.7%
	\$ in billions	\$1,925	\$2,654	\$1,977	\$2,501	\$2,353
Interest Rate - GPFV	to GDP	6.1%	8.6%	5.3%	6.1%	5.5%
	\$ in billions	\$1,296	\$1,792	\$1,218	\$1,545	\$1,482
Foreign Exchange - GPFV	to GDP	2.0%	2.9%	2.1%	2.8%	2.4%
	\$ in billions	\$423	\$601	\$492	\$721	\$637
Equity - GPFV	to GDP	0.6%	0.9%	0.7%	0.5%	0.5%
	\$ in billions	\$120	\$185	\$156	\$129	\$147
Commodities - GPFV	to GDP	0.2%	0.2%	0.3%	0.3%	0.2%
	\$ in billions	\$38	\$47	\$71	\$70	\$49
Credit - GPFV	to GDP	0.2%	0.2%	0.2%	0.1%	0.1%
	\$ in billions	\$47	\$31	\$40	\$35	\$39
Credit Risk by Contract Type		2019	2020	2021	2022	2023 Q2
Total Gross Negative Fair Values (GNFV)	to GDP	8.8%	12.5%	8.4%	9.5%	8.5%
	\$ in billions	\$1,887	\$2,607	\$1,932	\$2,429	\$2,297
Interest Rate - GNFV	to GDP	5.8%	8.2%	5.1%	5.8%	5.3%
	\$ in billions	\$1,246	\$1,721	\$1,163	\$1,472	\$1,428
Foreign Exchange - GNFV	to GDP	2.0%	2.9%	2.2%	2.9%	2.3%
	\$ in billions	\$431	\$612	\$496	\$736	\$627
Equity - GNFV	to GDP	0.6%	0.9%	0.7%	0.5%	0.6%
	\$ in billions	\$121	\$192	\$165	\$125	\$154
Commodities - GNFV	to GDP	0.2%	0.2%	0.3%	0.2%	0.2%
	\$ in billions	\$39	\$47	\$64	\$61	\$47
Credit - GNFV	to GDP	0.2%	0.2%	0.2%	0.1%	0.2%
	\$ in billions	\$48	\$34	\$44	\$34	\$41
Credit Risk - All Derivatives		2019	2020	2021	2022	2023 Q2
Total Netting Benefit	to GDP	6.8%	7.3%	7.0%	8.7%	8.5%
	\$ in billions	\$1,397	\$1,558	\$1,621	\$2,222	\$2,297
Net Current Credit Exposure (NCCE)	Debt to GDP	1.7%	2.4%	1.5%	1.1%	1.0%
	5 year % change	-32%	12%	-28%	-37%	-43%
	\$ in billions	\$368	\$507	\$356	\$279	\$273
Net Current Credit Exposure by Counterparty		2019	2020	2021	2022	2023 Q2
Banks & Securities Firms	to GDP	0.8%	1.0%	0.6%	0.4%	0.4%
	\$ in billions	\$163	\$202	\$135	\$96	\$100
Hedge Funds	to GDP	0.0%	0.1%	0.0%	0.0%	0.0%
	\$ in billions	\$9	\$11	\$7	\$6	\$5
Sovereign Governments	to GDP	0.2%	0.2%	0.1%	0.0%	0.0%
	\$ in billions	\$34	\$42	\$26	\$11	\$11
Corporate and All Other Counterparties	to GDP	0.8%	1.2%	0.8%	0.7%	0.6%
	\$ in billions	\$162	\$253	\$187	\$165	\$157

+

- The credit risk in a derivative contract is a function of a number of variables, such as whether counterparties exchange notional principal, the volatility of the underlying market factors (interest rate, currency, commodity, equity, or corporate reference entity), the maturity and liquidity of the contract, and the creditworthiness of the counterparty.
- Gross Positive Fair Value - The total of all contracts with positive value to the bank. GPFV is the initial measurement of credit exposure of banks and savings institutions.
- Gross Negative Fair Value - The total of all contracts with negative value to the bank. GNFV represents the level of exposure the banks pose to their counterparties.
- Net Current Credit Exposure = GPFV less the dollar amount of netting benefits with a specific counterparty.

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Largest Individual Lenders

Lending Institutions		2019	2020	2021	2022	2023 Q2	
JP Morgan	Loans to GDP	4.8%	4.9%	4.8%	4.6%	4.9%	+
	5 year % change	12%	8%	1%	-6%	5%	
	\$ in billions	\$1,024	\$1,053	\$1,129	\$1,181	\$1,337	
	Charge-off Rate	0.6%	0.5%	0.3%	0.5%	0.5%	
	Criticized Assets (% of Total Loans)	1.5%	4.0%	3.4%	2.7%	n/a	
Citigroup	Loans to GDP	3.3%	3.2%	2.8%	2.6%	2.4%	+
	5 year % change	-11%	-6%	-15%	-25%	-25%	
	\$ in billions	\$700	\$677	\$669	\$658	\$661	
	Charge-off Rate	1.1%	1.1%	0.7%	0.8%	1.0%	
	Criticized Assets (% of Total Loans)	4.4%	10.4%	6.0%	4.5%	n/a	
Wells Fargo	Loans to GDP	4.5%	4.2%	3.8%	3.7%	3.5%	+
	5 year % change	-9%	-17%	-26%	-24%	-24%	
	\$ in billions	\$965	\$890	\$897	\$958	\$948	
	Charge-off Rate	0.3%	0.3%	0.2%	0.3%	0.4%	
	Criticized Assets (% of Total Loans)	2.1%	3.7%	1.5%	1.2%	n/a	
Bank of America	Loans to GDP	4.6%	4.4%	4.2%	4.1%	3.9%	+
	5 year % change	-8%	-11%	-14%	-15%	-15%	
	\$ in billions	\$983	\$928	\$979	\$1,046	\$1,051	
	Charge-off Rate	0.4%	0.4%	0.2%	0.3%	0.4%	
	Criticized Assets (% of Total Loans)	1.2%	3.9%	2.3%	1.7%	n/a	
Fannie Mae	Loans to GDP	15.5%	17.2%	16.8%	16.0%	15.2%	+
	5 year % change	-10%	4%	3%	-1%	-2%	
	\$ in billions	\$3,334	\$3,659	\$3,972	\$4,114	\$4,124	
	Charge-off Rate	n/a	n/a	n/a	n/a	n/a	
Freddie Mac	Loans to GDP	9.2%	11.0%	12.0%	11.7%	11.2%	⚠
	5 year % change	-4%	17%	26%	25%	24%	
	\$ in billions	\$1,987	\$2,350	\$2,828	\$3,022	\$3,042	
	Charge-off Rate	n/a	n/a	n/a	n/a	n/a	

• Criticized Assets are assets rated special mention, substandard, doubtful, or loss as defined by the agencies' uniform loan classification standards. Includes performing and non-performing criticized assets

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Real Estate

Total Debt		2019	2020	2021	2022	2023 Q2
Total Residential Mortgage Debt (1-4 Family)	Debt to GDP	52.3%	55.3%	54.8%	53.4%	50.9%
	5 Year % Change	-8%	-0%	-0%	-2%	-2%
	\$ in billions	\$11,180	\$11,651	\$12,786	\$13,610	\$13,767
	Delinquency Rate	1.1%	0.6%	0.5%	0.4%	0.5%
	Forbearance Share	n/a	5.5%	3.0%	0.8%	0.8%
Memo: Household Residential Mortgage Debt (1-4 Family)	Debt to GDP	49.0%	51.6%	51.2%	49.9%	47.5%
	5 Year % Change	-8%	-1%	-1%	-2%	-3%
	\$ in billions	\$10,476	\$10,862	\$11,942	\$12,705	\$12,850
Memo: Non Financial Corporate Business Residential Mortgage Debt (1-4 Family)	Debt to GDP	0.1%	0.1%	0.1%	0.1%	0.1%
	5 Year % Change	23%	8%	-1%	5%	-1%
	\$ in billions	\$17	\$17	\$19	\$22	\$22
Memo: Non Financial Non Corporate Business Residential Mortgage Debt (1-4 Family)	Debt to GDP	3.2%	3.7%	3.5%	3.5%	3.3%
	5 Year % Change	5%	17%	9%	4%	3%
	\$ in billions	\$687	\$772	\$826	\$884	\$895
Home Equity Loans Outstanding	Debt to GDP	2.3%	2.1%	1.9%	1.9%	1.8%
	5 Year % Change	-39%	-41%	-40%	-36%	-32%
	\$ in billions	\$501	\$442	\$446	\$478	\$491
Total Commercial Real Estate Debt	Debt to GDP	22.6%	24.1%	23.4%	23.3%	22.7%
	5 Year % Change	12%	16%	9%	6%	5%
	\$ in billions	\$4,854	\$5,137	\$5,531	\$5,989	\$6,133

• Forbearance share is equal to loans outstanding in forbearance divided by total outstanding loans

Monthly Residential Housing Summary		Jan-2023	Feb-2023	Mar-2023	Apr-2023	May-2023	Jun-2023
New Home Sales	Volume	649,000	625,000	640,000	679,000	710,000	683,000
	Annual Change	-19.9%	-19.2%	-9.5%	11.1%	11.6%	21.3%
Existing Home Sales	Volume	4,000,000	4,550,000	4,430,000	4,290,000	4,300,000	4,160,000
	Annual Change	n/a	n/a	n/a	n/a	n/a	n/a
Housing Starts	Volume	1,340,000	1,436,000	1,380,000	1,348,000	1,583,000	1,418,000
	Annual Change	-19.7%	-18.9%	-19.4%	-25.2%	2.6%	-9.2%
Home Price Index (Case-Shiller 20 City Composite)	Index (2000=100)	301.87	301.84	302.77	305.06	308.14	310.90
	Annual Change	2.8%	0.6%	-1.0%	-1.7%	-1.8%	-1.2%

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Additional Data

Public Debt		2019	2020	2021	2022	2023 Q2
Federal Government Debt	Debt to GDP	107.8%	130.1%	125.5%	122.1%	119.5%
	5 year % change	5%	26%	18%	17%	16%
	\$ in billions	\$23,201	\$27,748	\$29,617	\$31,420	\$32,332
Memo: Federal Debt: Held by Public	Debt to GDP	79.8%	101.4%	98.1%	95.2%	94.1%
	5 year % change	8%	36%	28%	26%	25%
	\$ in billions	\$17,170	\$21,632	\$23,144	\$24,518	\$25,462
Memo: Federal Debt: Intragovernmental Holdings	Debt to GDP	28.0%	28.7%	27.4%	26.8%	25.4%
	5 year % change	-4%	-0%	-7%	-7%	-9%
	\$ in billions	\$6,031	\$6,115	\$6,473	\$6,902	\$6,870
State and Local Government Debt	Debt to GDP	14.5%	15.1%	13.9%	12.5%	12.0%
	5 year % change	-18%	-12%	-17%	-22%	-21%
	\$ in billions	\$3,119	\$3,210	\$3,280	\$3,227	\$3,259



Supplementary Data		2019	2020	2021	2022	2023 Q2
Nominal GDP	\$ in billions	\$21,521	\$21,323	\$23,594	\$25,744	\$27,063
	Annual % Change	4.2%	-0.9%	10.7%	9.1%	4.1%
Real GDP	Chained 2017 \$ in Billions	\$20,692	\$20,234	\$21,408	\$21,822	\$22,225
	Annual % Change	2.5%	-2.2%	5.8%	1.9%	2.4%
Consumer Price Index (Inflation)	CPI (2010=100)	117.24	118.69	124.27	134.21	137.44
	Inflation Rate	1.8%	1.2%	4.7%	8.0%	6.3%
Unemployment	Person (Thousands)	5,503	10,404	5,964	5,352	6,351
	Unemployment Rate	3.4%	6.5%	3.7%	3.3%	3.8%
Current Account Balance	\$ in billions	(\$442)	(\$597)	(\$831)	(\$972)	(\$867)
	to GDP	-2.1%	-2.8%	-3.6%	-3.8%	-3.2%
Net Exports	\$ in billions	(\$579)	(\$626)	(\$858)	(\$971)	(\$806)
	to GDP	-2.7%	-3.0%	-3.7%	-3.8%	-3.0%

Supplementary Monthly Data		Jun. 2023	Jul. 2023	Aug. 2023	Sep. 2023	Oct. 2023
Consumer Price Index S.A. (Inflation)	CPI (1982-1984 = 100)	303.84	304.35	306.27	307.48	307.62
	Inflation Rate	3.1%	3.3%	3.7%	3.7%	3.2%
Unemployment	Person (Thousands)	6,351	6,372	6,623	6,049	6,098
	Unemployment Rate	3.8%	3.8%	3.9%	3.6%	3.6%
Federal Funds Rate	Effective Policy Rate	5.08%	5.33%	5.33%	5.33%	5.33%
Treasury Rates	3-Month Treasury Bill	5.17%	5.28%	5.32%	5.32%	5.33%
	1-Year Treasury Bill	5.24%	5.37%	5.37%	5.44%	5.42%
	10-Year Treasury Note	3.75%	3.90%	4.17%	4.38%	4.80%
	30-Year Treasury Bond	3.87%	3.96%	4.28%	4.47%	4.95%
Henry Hub Natural Gas Spot Price	Dollars per Million Btu	\$2.18	\$2.55	\$2.58	\$2.64	\$2.98
	Annual Change	-71.69%	-64.97%	-70.72%	-66.50%	-47.35%
Crude Oil Price: WTI Cushing, OK	Dollars per Barrel	\$70.25	\$76.07	\$81.39	\$89.43	\$85.64
	Annual Change	-38.83%	-25.14%	-13.11%	6.13%	-2.19%

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 Concern
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n/a: Data Not Available

Explanatory Notes

Color Code	Total Private Debt Cell Description
	5 Year % Change > 20%
	5 Year % Change > 13% < 20%
	Residual Risk Period

* Due to the size of total private debt, five-year percentage growth constitutes greater concern as compared to the individual sector data

Color Code	Sector Data Cell Description
	5 Year % Change > 40%
	5 Year % Change > 40%
	Debt to GDP < 1.5% (immaterial)
	5 Year % Change > 20% < 40%
	5 Year % Change > 20% < 40%
	Debt to GDP < 1.5% (immaterial)
	5 Year % Change > 13% < 20%
	5 Year % Change > 13% < 20%
	Residual Risk Period

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