# TYCHOS SECTOR RISK REPORT

		2019	2020	2021	2022	2023 Q3
	Debt to GDP	157%	177%	164%	150%	143%
Total Private Debt	5 year % change	-2%	11%	0%	-9%	-10%
	Billion Pounds	£3,511	£3,720	£3,748	£3,754	£3,815
	Debt to GDP	71%	84%	76%	67%	64%
<b>Business Debt</b>	5 year % change	-2%	18%	0%	-13%	-12%
	Billion Pounds	£1,596	£1,766	£1,739	£1,670	£1,695
	Debt to GDP	86%	93%	88%	83%	79%
Household Debt	5 year % change	-3%	5%	0%	-5%	-8%
	Billion Pounds	£1,915	£1,954	£2,010	£2,083	£2,120

## Areas of Concern

Business Sectors		2019	2020	2021	2022	2023 Q3
Utilities	Debt to GDP	1.0%	1.2%	1.4%	1.4%	1.3%
	5 year % change	39%	57%	88%	59%	50%
	Billion Pounds	£23	£24	£33	£34	£36

Household Debt, by Type		2019	2020	2021	2022	2023 Q3
	Debt to GDP	6.3%	7.6%	8.0%	8.2%	8.7%
Student Loans	5 year % change	80%	92%	77%	64%	75%
	Billion Pounds	£140	£161	£182	£206	\$233

<sup>\*</sup> Student Loan data reflects a fiscal year ending in March, and is displayed in the column of the calendar year immediately preceding it.

## **Business Debt**

Bank Loans by Inc	dustry	2019	2020	2021	2022	2023 Q3	
	Loans to GDP	10.4%	11.7%	10.8%	10.1%	9.6%	
Commercial Real Estate	5 year % change	-11%	7%	-2%	-4%	-9%	
	Billion Pounds	£232	£247	£246	£253	£256	
	Loans to GDP	9.0%	9.9%	9.1%	8.7%	8.3%	
Memo: Real Estate	5 year % change	-3%	7%	-2%	-2%	-7%	4
	Billion Pounds	£201	£209	£209	£218	£222	
	Loans to GDP	1.4%	1.8%	1.6%	1.4%	1.3%	
Memo: Construction	5 year % change	-42%	6%	-2%	-14%	-18%	
Michio. Construction	Billion Pounds	£32	£38	£37	£34	£34	
	Loans to GDP	2.1%	2.2%	1.9%	1.9%	1.7%	
Manufacturing	5 year % change	11%	22%	0%	-6%	-21%	
Manufacturing	Billion Pounds	£47	£47	£43	£49	£46	
	Loans to GDP	1.2%	1.6%	1.3%	1.1%	1.0%	
Accommodation and Food	5 year % change	-1%	32%	10%	-11%	-16%	
Services	Billion Pounds	£27	£33	£31	£28	£28	
	Loans to GDP	0.9%	1.2%	1.2%	1.0%	0.9%	
<b>5</b>	5 year % change	-9%	37%	30%	5%	-11%	
Retail (excluding auto)	Billion Pounds	£21	£25	£28	£26	£24	4
	Loans to GDP	1.0%	1.2%	1.4%	1.4%	1.3%	
			57%				
Utilities	5 year % change Billion Pounds	39% £23	£24	88% £33	59% £34	50% £36	
							•
	Loans to GDP	0.9%	1.1%	0.9%	0.9%	0.8%	
Wholesale (excluding auto)	5 year % change	16%	41%	17%	-2%	-8%	
	Billion Pounds	£20	£22	£22	£22	£22	
	Loans to GDP	0.9%	1.0%	0.9%	0.8%	0.7%	
Health Care	5 year % change	-16%	-3%	-11%	-18%	-22%	
	Billion Pounds	£20	£21	£20	£20	£20	•
	Loans to GDP	0.7%	1.0%	0.9%	0.7%	0.6%	
Transportation	5 year % change	-15%	30%	19%	1%	-14%	
	Billion Pounds	£16	£21	£20	£19	£16	
	Loans to GDP	0.8%	0.9%	0.8%	0.7%	0.7%	
Agriculture	5 year % change	-2%	-1%	-8%	-18%	-26%	
-	Billion Pounds	£19	£19	£19	£18	£18	,
	Loans to GDP	0.6%	0.8%	0.8%	0.9%	0.9%	
nformation and Communication	5 year % change	-7%	11%	8%	35%	47%	
	Billion Pounds	£14	£17	£17	£23	£24	
	Loans to GDP	0.4%	0.6%	0.5%	0.4%	0.3%	
Recreation	5 year % change	-21%	19%	0%	-18%	-16%	•
	Billion Pounds	£8	£12	£11	£10	£9	
Automobile Retail and	Loans to GDP	0.5%	0.5%	0.4%	0.4%	0.3%	
Wholesale	5 year % change	-17%	-20%	-39%	-36%	-41%	
Wilolesale	Billion Pounds	£10	£11	£8	£10	£9	•
Public Administration and	Loans to GDP	0.6%	0.5%	0.5%	0.4%	0.4%	
Defense	5 year % change	9%	-5%	6%	-20%	-23%	
Detelise	Billion Pounds	£14	£10	£12	£11	£11	
	Loans to GDP	0.4%	0.5%	0.4%	0.3%	0.3%	
Education	5 year % change	-27%	-15%	-24%	-34%	-37%	
	Billion Pounds	£10	£10	£9	£8	£8	`
	Loans to GDP	0.4%	0.4%	0.3%	0.4%	0.3%	
Mining	5 year % change	13%	25%	-38%	-1%	-17%	
	Billion Pounds	£8	£9	£7	£9	£8	

<sup>\*</sup> Commercial Real Estate industry includes Real Estate and Construction loans

# Corporate Debt

Debt to Earnings by G	ICS Sector	2018	2019	2020	2021	2022
	Debt/EBITDA	1.9	2.1	4.3	2.5	1.1
Energy	Debt (billions)	£130	£154	£158	£137	£134
	EBITDA (billions)	£70	£74	£37	£56	£118
	Debt/EBITDA	1.4	1.2	1.2	0.8	1.1
Materials	Debt (billions)	£41	£43	£47	£44	£53
	EBITDA (billions)	£28	£35	£38	£56	£47
	Debt/EBITDA	3.0	3.5	7.6	5.4	3.9
Industrials	Debt (billions)	£80	£98	£119	£111	£124
	EBITDA (billions)	£27	£28	£16	£21	£32
	Debt/EBITDA	2.0	2.5	5.7	4.5	3.4
Consumer Discretionary	Debt (billions)	£38	£48	£73	£66	£71
	EBITDA (billions)	£19	£19	£13	£15	£21
	Debt/EBITDA	3.0	3.2	3.3	3.4	3.3
Consumer Staples	Debt (billions)	£130	£146	£156	£150	£165
	EBITDA (billions)	£43	£46	£47	£45	£50
	Debt/EBITDA	3.2	3.1	3.4	3.5	2.5
Health Care	Debt (billions)	£48	£52	£52	£56	£56
	EBITDA (billions)	£15	£17	£15	£16	£22
	Debt/EBITDA	1.3	1.4	1.8	1.2	1.6
Information Technology	Debt (billions)	£3	£3	£3	£3	£4
	EBITDA (billions)	£2	£2	£2	£2	£2
	Debt/EBITDA	3.6	4.2	5.8	4.4	4.5
Communication Services	Debt (billions)	£107	£116	£138	£116	£117
	EBITDA (billions)	£30	£28	£24	£27	£26
	Debt/EBITDA	4.3	5.3	6.4	7.4	4.0
Utilities	Debt (billions)	£67	£71	£77	£75	£89
	EBITDA (billions)	£16	£13	£12	£10	£22
	Debt/EBITDA	8.9	8.7	11.6	9.7	9.8
Real Estate	Debt (billions)	£29	£33	£38	£36	£40
	EBITDA (billions)	£3	£4	£3	£4	£4
	Debt/EBITDA	2.7	2.9	4.2	3.2	2.5
All Sectors	Debt (billions)	£671	£763	£861	£794	£852
	EBITDA (billions)	£253	£266	£208	£251	£344

## Household Debt

Household Debt	Household Debt, by Type		2020	2021	2022	2023 Q3
	Debt to GDP	65%	71%	68%	65%	61%
Mortgage Debt	5 year % change	-6%	3%	0%	-4%	-8%
	Billion Pounds	£1,453	£1,500	£1,562	£1,620	£1,619
	Debt to GDP	10.1%	9.6%	8.7%	8.3%	8.2%
Consumer Credit	5 year % change	10%	3%	-11%	-18%	-20%
	Billion Pounds	£225	£203	£199	£207	£219
	Debt to GDP	6.3%	7.6%	8.0%	8.2%	8.7%
Memo: Student Loans	5 year % change	80%	92%	77%	64%	75%
	Billion Pounds	£140	£161	£182	£206	\$233

<sup>\*</sup> Student Loan data reflects a fiscal year ending in March, and is displayed in the column of the calendar year immediately preceding it.









# Private Debt by Lender/Holder

Private Debt Lenders		2019	2020	2021	2022	2023 Q3	
	Loans to GDP	85.3%	93.3%	88.5%	83.7%	78.8%	
Commercial Banks	5 year % change	-2%	8%	2%	-3%	-8%	
	Billion Pounds	£1,905	£1,964	£2,021	£2,096	£2,103	
	Debt to GDP	18.7%	22.5%	19.3%	13.9%	13.1%	
<b>Debt Securities</b>	5 year % change	-3%	25%	-2%	-29%	-30%	
	Billion Pounds	£417	£474	£441	£348	£350	
	Loans to GDP	8.0%	7.8%	7.2%	8.1%	7.6%	
Foreign Loans	5 year % change	48%	33%	-14%	3%	-10%	
	Billion Pounds	£178	£164	£164	£203	£203	







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

Debt Security Inve	estment	2018	2019	2020	2021	2022 Q2
	to GDP	46.0%	51.0%	60.0%	51.0%	44.0%
United Kingdom Holdings of Foreign Debt Securities	5 year % change	-49%	-28%	-17%	-26%	-14%
Foreign Debt Securities	Billion Pounds	£1,002	£1,133	£1,263	£1,166	£1,043
	to GDP	16.0%	17.0%	20.0%	19.0%	15.0%
United States	5 year % change	-14%	29%	41%	3%	-8%
	Billion Pounds	€346	€388	€422	€430	€348
	to GDP	3.0%	4.0%	5.0%	4.0%	3.0%
France	5 year % change	-57%	-45%	-37%	-26%	-23%
	Billion Pounds	£73	£88	£101	£83	£70
	to GDP	3.0%	3.0%	4.0%	3.0%	2.0%
Germany	5 year % change	-61%	-57%	-46%	-45%	-47%
	Billion Pounds	£66	£78	£86	£62	£54
Equity and Investment	Fund Shares	2018	2019	2020	2021	2022 Q2
United Kingdom Holdings of	to GDP	62.0%	78.0%	85.0%	82.0%	70.0%
Foreign Equity and Investment	5 year % change	12%	37%	50%	32%	-12%
Fund Shares	Billion Pounds	£1,344	£1,742	£1,794	£1,872	£1,682
United States	to GDP	20.0%	23.0%	26.0%	27.0%	23.0%
	5 year % change	22%	29%	38%	28%	-14%
	Billion Pounds	£431	£526	£547	£620	£553
	to GDP	6.0%	13.0%	15.0%	14.0%	13.0%
Ireland	5 year % change	36%	137%	220%	159%	86%
	Billion Pounds	£139	£288	£321	£322	£304
	to GDP	3.0%	5.0%	6.0%	6.0%	5.0%
Luxembourg	5 year % change	78%	206%	243%	144%	78%
-	Billion Pounds	£69	£120	£127	£132	£126
Loans		2018	2019	2020	2021	2022 Q2
	to GDP	94.0%	86.0%	100.0%	99.0%	98.0%
United Kingdom Holdings of	5 year % change	3%	-3%	21%	4%	9%
Foreign Loans	Billion Pounds	£2,030	£1,921	£2,106	£2,243	£2,342
	to GDP	58.0%	53.0%	60.0%	58.0%	61.0%
United Kingdom Holdings of Foreign Loans: Short Term	5 year % change	16%	7%	24%	5%	13%
. S. S.gii Edulloi Gilore Tollii	Billion Pounds	£1,261	£1,193	£1,257	£1,306	£1,449
	to GDP	36.0%	32.0%	40.0%	41.0%	37.0%
United Kingdom Holdings of Foreign Loans: Long Term	5 year % change	-14%	-14%	17%	2%	2%

<sup>\*</sup> Total Economy includes Financial, Non-Financial and General Government sectors





# Portfolio Loans & Investment (Total Economy) - Foreign into the U.K.

Debt Security Inve	estment	2018	2019	2020	2021	2022 Q2
Faraian Haldinaa of Huitad	to GDP	83.0%	90.0%	105.0%	89.0%	68.0%
Foreign Holdings of United	5 year % change	21%	42%	61%	22%	-16%
Kingdom's Debt Securities	Billion Pounds	£1,786	£2,022	£2,218	£2,012	£1,620
	to GDP	18.0%	21.0%	26.0%	24.0%	18.0%
Ireland	5 year % change	101%	109%	129%	72%	3%
	Billion Pounds	£378	£472	£540	£546	£428
	to GDP	15.0%	18.0%	19.0%	17.0%	14.0%
United States	5 year % change	14%	43%	62%	44%	5%
	Billion Pounds	£324	£394	£399	£383	£339
Luxembourg	to GDP	8.0%	9.0%	11.0%	10.0%	8.0%
	5 year % change	63%	74%	88%	49%	-2%
	Billion Pounds	£180	£211	£238	£228	£186
Equity and Investment	Fund Shares	2018	2019	2020	2021	2022 Q2
Foreign Holdings of United	to GDP	70.0%	77.0%	78.0%	78.0%	62.0%
Kingdom's Equity and	5 year % change	-7%	21%	19%	15%	-17%
Investment Fund Shares	Billion Pounds	£1,506	£1,716	£1,655	£1,767	£1,485
	to GDP	32.0%	35.0%	34.0%	35.0%	29.0%
United States	5 year % change	-8%	18%	10%	7%	-21%
	Billion Pounds	£694	£794	£708	£791	£706
	to GDP	5.0%	6.0%	7.0%	7.0%	5.0%
Ireland	5 year % change	7%	41%	51%	42%	2%
	Billion Pounds	£114	£138	£146	£149	£126
	to GDP	4.0%	5.0%	5.0%	6.0%	5.0%
Luxemboura						
Luxembourg	5 year % change	-5%	20%	12%	34%	-3%

<sup>\*</sup> Total Economy includes Financial, Non-Financial and General Government sectors

# **Derivative Activity**

OTC Derivative Activity b	y Contract Type	2019	2020	2021	2022	2023 Q3
	to GDP	n/a	n/a	n/a	n/a	n/a
Interest Rate	5 Year % Change	n/a	n/a	n/a	n/a	n/a
	Billion Pounds	n/a	n/a	n/a	n/a	n/a
	to GDP	n/a	n/a	n/a	n/a	n/a
Foreign Exchange	5 Year % Change	n/a	n/a	n/a	n/a	n/a
	Billion Pounds	n/a	n/a	n/a	n/a	n/a
Credit Derivatives	to GDP	n/a	n/a	n/a	n/a	n/a
	5 Year % Change	n/a	n/a	n/a	n/a	n/a
	Billion Pounds	n/a	n/a	n/a	n/a	n/a
	to GDP	n/a	n/a	n/a	n/a	n/a
Index and Stock-related	5 Year % Change	n/a	n/a	n/a	n/a	n/a
	Billion Pounds	n/a	n/a	n/a	n/a	n/a
	to GDP	n/a	n/a	n/a	n/a	n/a
Commodity contracts	5 Year % Change	n/a	n/a	n/a	n/a	n/a
	Billion Pounds	n/a	n/a	n/a	n/a	n/a
	to GDP	n/a	n/a	n/a	n/a	n/a
<b>Total Notional</b>	5 Year % Change	n/a	n/a	n/a	n/a	n/a
	Billion Pounds	n/a	n/a	n/a	n/a	n/a





# Largest Individual Lenders

Individual Lend	ders	2019	2020	2021	2022	2023 Q3
	Loans to GDP	35.3%	36.6%	34.2%	31.0%	28.8%
	5 year % change	4%	11%	-3%	-9%	-14%
HSBC	Billion Pounds	£789	£771	£781	£777	767
	NPL Rate	1.3%	1.8%	1.8%	2.0%	1.8%
	Loans to GDP	22.7%	24.4%	20.1%	18.8%	17.5%
	5 year % change	-18%	-4%	-18%	-21%	-26%
Lloyds Bank	Billion Pounds	£507	£513	£460	£470	£466
	Charge-off Rate	1.4%	1.6%	1.7%	1.7%	1.7%
	Loans to GDP	15.2%	16.3%	15.8%	15.9%	15.1%
	5 year % change	-35%	-22%	-20%	-9%	-14%
Barclays	Billion Pounds	£339	£343	£361	£399	€404
	Charge-off Rate	2.0%	1.8%	2.0%	1.9%	1.9%
	Loans to GDP	9.3%	10.0%	9.8%	10.5%	n/a
	5 year % change	-8%	8%	-8%	1%	n/a
Standard Chartered	Billion Pounds	£207	£211	£225	£262	n/a
	Charge-off Rate	2.6%	2.5%	2.3%	2.6%	2.6%
	Loans to GDP	8.9%	9.6%	8.8%	8.3%	7.9%
	5 year % change	-1%	7%	-2%	-8%	-12%
Nationwide Building Society	Billion Pounds	£199	£201	£202	£208	£211
1	Charge-off Rate	0.9%	0.8%	0.7%	0.7%	0.7%



## Real Estate

Total Debt		2019	2020	2021	2022	2023 Q3
	Debt to GDP	65%	71%	68%	65%	61%
Mortgage Debt	5 year % change	-6%	3%	0%	-4%	-8%
	Billion Pounds	£1,453	£1,500	£1,562	£1,620	£1,619



Quarterly Residential Housing Summary		Jun-2022	Sep-2022	Dec-2022	Mar-2023	Jun-2023	Sep-2023
Home Construction Volume	Index (2019=100)	99.2	96.0	100.1	81.5	84.4	85.1
Index	Annual Change	-15%	-12%	-6%	-21%	-15%	-11%
Total Housing Units Construction Started	Volume	50,680	43,050	39,200	38,620	66,680	21,300
	Annual Change	14%	-2%	-9%	-9%	32%	-51%
Residential Property Price Index	Index (2019=100)	541.8	543.1	522.8	512.9	523.1	514.3
	Annual Change	10.7%	9.5%	2.8%	-3.1%	-3.5%	-5.3%









## Additional Data

Public Debt		2019	2020	2021	2022	2023 Q2
Total General Government Debt	Debt to GDP	86%	106%	105%	100%	101%
	5 Year % Change	-2%	20%	20%	16%	18%
	Billion Pounds	£1,914	£2,227	£2,404	£2,516	2,637
Total Central Government Debt	Debt to GDP	85%	105%	104%	100%	100%
	5 Year % Change	-2%	21%	20%	16%	18%
	Billion Pounds	£1,892	£2,207	£2,385	£2,500	2,621
Total State and Local Government Debt	Debt to GDP	5%	5%	5%	5%	5%
	5 Year % Change	5%	17%	13%	6%	2%
	Billion Pounds	£110	£114	£119	£122	124

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Supplementary	Data	2019	2020	2021	2022	2023 Q3
	Billion Pounds	£2,234	£2,104	£2,284	£2,506	£2,667
Nominal GDP	Annual % Change	3.8%	-5.8%	8.5%	9.7%	8.5%
Real GDP	Billion 2019 Pounds	£2,234	£2,002	£2,176	£2,271	£2,276
	Annual % Change	1.6%	-10.4%	8.7%	4.3%	0.4%
	CPI (2015=100)	108.5	109.2	115.1	127.2	132
Consumer Price Index (Inflation)	Inflation Rate	1.3%	0.6%	5.4%	10.5%	6.7%
Unemployment	Unemployment Rate	3.8%	5.1%	3.9%	3.7%	0.0%
Current Account Balance	Billion Pounds	(£60)	(£60)	(£11)	(£77)	(£53)
	to GDP	-2.7%	-2.9%	-0.5%	-3.1%	-2.0%
	Billion Pounds	(£31)	£13	(£4)	(£67)	(£18)
Trade Balance	to GDP	-1.4%	0.6%	-0.2%	-2.9%	-0.8%













# **Explanatory Notes**

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

<sup>\*</sup> 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%
	Debt to GDP < 1.5% (immaterial)
	Residual Risk Period



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