

## TYCHOS SECTOR RISK REPORT

		2017	2018	2019	2020	2021 Q1
<b>Total Private Debt</b>	Debt to GDP	118%	120%	122%	132%	133%
	5 year % change	-1%	0%	3%	12%	13%
	Billion Euro	€3,840	€4,024	€4,208	€4,394	€4,434
<b>Business Debt</b>	Debt to GDP	65%	66%	68%	73%	74%
	5 year % change	3%	3%	6%	15%	15%
	Billion Euro	€2,111	€2,231	€2,332	€2,437	€2,459
<b>Household Debt</b>	Debt to GDP	53%	53%	54%	59%	59%
	5 year % change	-6%	-4%	0%	10%	11%
	Billion Euro	€1,729	€1,793	€1,876	€1,958	€1,975

## Areas of Concern

<b>Business Sectors</b>		2017	2018	2019	2020	2021 Q1
<b>Commercial Real Estate</b>	Debt to GDP	14.4%	15.1%	15.5%	17.2%	17.5%
	5 year % change	-7%	0%	8%	21%	23%
	Billion Euro	€469	€506	€536	€573	€583
<b>Memo: Real Estate</b>	Debt to GDP	12.3%	12.9%	13.3%	14.7%	15.0%
	5 year % change	-7%	-1%	7%	20%	23%
	Billion Euro	€401	€434	€458	€491	€498
<b>Memo: Construction</b>	Loans to GDP	2.1%	2.1%	2.2%	2.5%	2.5%
	5 year % change	-5%	2%	9%	24%	25%
	Billion Euro	€67	€72	€77	€83	€85
<b>Information Technology</b>	Loans to GDP	3.3%	3.4%	3.7%	4.1%	4.3%
	5 year % change	1%	4%	14%	27%	32%
	Billion Euro	€107	€113	€127	€136	€143

<b>Private Debt Lenders</b>		2017	2018	2019	2020	2021 Q1
<b>Foreign Loans</b>	Debt to GDP	19.9%	21.6%	22.3%	24.0%	23.8%
	5 year % change	8%	14%	20%	25%	23%
	Billion Euro	€649	€725	€770	€799	€791
<b>Other Financial Institutions</b>	Debt to GDP	6.0%	6.7%	6.8%	7.6%	7.9%
	5 year % change	-5%	0%	15%	33%	25%
	Billion Euro	€195	€224	€237	€253	€262
<b>Corporate Bonds</b>	Debt to GDP	6.0%	5.0%	6.0%	7.0%	8.0%
	5 year % change	35%	9%	15%	44%	33%
	Billion Euro	€211	€181	€205	€249	€251

<b>Individual Lenders</b>		2017	2018	2019	2020	2021 Q1
<b>DZ Bank</b>	Loans to GDP	5.9%	5.7%	5.9%	6.3%	n/a
	5 year % change	22%	16%	23%	31%	n/a
	Billion Euro	€192	€192	€204	€209	n/a
	Charge-off Rate	n/a	n/a	n/a	n/a	n/a

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

n/a: Data Not Available

## Business Debt

Bank Loans by Industry		2017	2018	2019	2020	2021 Q1	
Commercial Real Estate	Debt to GDP	14.4%	15.1%	15.5%	17.2%	17.5%	⚠
	5 year % change	-7%	0%	8%	21%	23%	⚠
	Billion Euro	€469	€506	€536	€573	€583	⚠
Memo: Real Estate	Debt to GDP	12.3%	12.9%	13.3%	14.7%	15.0%	⚠
	5 year % change	-7%	-1%	7%	20%	23%	⚠
	Billion Euro	€401	€434	€458	€491	€498	⚠
Memo: Construction	Loans to GDP	2.1%	2.1%	2.2%	2.5%	2.5%	⚠
	5 year % change	-5%	2%	9%	24%	25%	⚠
	Billion Euro	€67	€72	€77	€83	€85	⚠
Manufacturing	Loans to GDP	4.0%	4.1%	4.2%	4.4%	4.5%	+
	5 year % change	-16%	-9%	1%	5%	3%	+
	Billion Euro	€131	€139	€147	€147	€149	+
Information Technology	Loans to GDP	3.3%	3.4%	3.7%	4.1%	4.3%	⚠
	5 year % change	1%	4%	14%	27%	32%	⚠
	Billion Euro	€107	€113	€127	€136	€143	⚠
Wholesale and Retail	Loans to GDP	4.1%	4.1%	4.1%	4.1%	4.2%	+
	5 year % change	-11%	-6%	-3%	-2%	1%	+
	Billion Euro	€133	€139	€142	€136	€139	+
Utilities	Loans to GDP	3.5%	3.5%	3.4%	3.7%	3.7%	+
	5 year % change	2%	0%	1%	11%	11%	+
	Billion Euro	€113	€117	€119	€123	€123	+
Health Care	Loans to GDP	2.5%	2.4%	2.4%	2.6%	2.6%	+
	5 year % change	-15%	-14%	-8%	1%	2%	+
	Billion Euro	€81	€82	€85	€86	€87	+
Agriculture	Loans to GDP	1.5%	1.6%	1.6%	1.7%	1.7%	+
	5 year % change	-5%	-3%	-4%	1%	2%	+
	Billion Euro	€50	€53	€54	€55	€55	+
Transportation and Communication	Loans to GDP	1.6%	1.5%	1.5%	1.8%	1.8%	+
	5 year % change	-43%	-39%	-38%	-17%	-12%	+
	Billion Euro	€52	€51	€50	€60	€60	+
Hotels and Restaurants	Loans to GDP	0.7%	0.7%	0.8%	0.9%	0.9%	⚠
	5 year % change	-7%	-3%	3%	19%	18%	⚠
	Billion Euro	€24	€25	€26	€29	€29	⚠
Other Services	Loans to GDP	1.7%	1.6%	1.6%	1.4%	1.4%	+
	5 year % change	-22%	-19%	-13%	-21%	-18%	+
	Billion Euro	€55	€55	€56	€48	€48	+

\* Commercial Real Estate industry includes Real Estate and Construction loans

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

n/a: Data Not Available

## Business Debt

Corporate Debt by Industry		2017	2018	2019	2020	2021 Q1	
Consumer Discretionary	Debt to GDP	12.9%	14.2%	15.3%	15.7%	16.0%	
	5 year % change	13%	30%	33%	23%	22%	
	Billion euro	€419	€479	€530	€521	€530	⚠
	Default Rate	n/a	n/a	n/a	n/a	n/a	
Communication Services	Debt to GDP	2.8%	2.8%	3.3%	5.1%	5.3%	
	5 year % change	15%	8%	17%	66%	73%	⚠
	Billion euro	€91	€94	€114	€171	€175	
	Default Rate	n/a	n/a	n/a	n/a	n/a	
Industrials	Debt to GDP	3.3%	3.6%	4.1%	4.8%	4.9%	
	5 year % change	13%	36%	48%	64%	49%	⚠
	Billion euro	€107	€122	€141	€160	€164	
	Default Rate	n/a	n/a	n/a	n/a	n/a	
Health Care	Debt to GDP	2.0%	2.5%	2.7%	3.0%	3.0%	
	5 year % change	53%	96%	55%	35%	49%	⚠
	Billion euro	€65	€84	€94	€99	€101	
	Default Rate	n/a	n/a	n/a	n/a	n/a	
Utilities	Debt to GDP	2.3%	1.7%	2.3%	2.6%	2.7%	
	5 year % change	-12%	-50%	-26%	-19%	12%	+
	Billion euro	€75	€57	€80	€85	€91	
	Default Rate	n/a	n/a	n/a	n/a	n/a	
Materials	Debt to GDP	1.7%	1.7%	1.9%	1.9%	1.8%	
	5 year % change	-8%	-10%	8%	19%	1%	⚠
	Billion euro	€56	€56	€64	€62	€60	
	Default Rate	n/a	n/a	n/a	n/a	n/a	
Consumer Staples	Debt to GDP	0.6%	0.7%	1.0%	1.0%	1.1%	
	5 year % change	-4%	43%	52%	66%	80%	⚠
	Billion euro	€21	€25	€36	€34	€36	
	Default Rate	n/a	n/a	n/a	n/a	n/a	
Information Technology	Debt to GDP	0.4%	0.6%	0.7%	0.9%	0.9%	
	5 year % change	24%	91%	36%	91%	117%	⚠
	Billion euro	€13	€19	€23	€29	€31	
	Default Rate	n/a	n/a	n/a	n/a	n/a	
Energy	Debt to GDP	0.2%	0.2%	0.4%	0.4%	0.4%	
	5 year % change	42%	68%	185%	58%	66%	⚠
	Billion euro	€7	€8	€13	€12	12	
	Default Rate	n/a	n/a	n/a	n/a	n/a	
Memo: Automobiles and Components	Debt to GDP	12.4%	13.7%	14.7%	14.7%	15.0%	
	5 year % change	17%	33%	34%	22%	20%	⚠
	Billion euro	€406	€460	€507	€490	498	
	Default Rate	n/a	n/a	n/a	n/a	n/a	

\* Sector aggregates are based on limited data availability

## Household Debt

Household Debt, by Type		2017	2018	2019	2020	2021 Q1	
Mortgage Debt	Debt to GDP	36.0%	37.0%	38.0%	42.0%	42.0%	
	5 year % change	-1%	1%	5%	16%	15%	⚠
	Billion Euro	€1,175	€1,231	€1,301	€1,387	€1,406	
Consumer Credit	Debt to GDP	6.0%	6.0%	6.0%	6.0%	6.0%	
	5 year % change	-11%	-7%	-1%	2%	-3%	+
	Billion Euro	€192	€196	€202	€198	€195	
Other	Debt to GDP	11.0%	11.0%	11.0%	11.0%	11.0%	
	5 year % change	-18%	-17%	-13%	-6%	8%	+
	Billion Euro	€362	€366	€373	€373	€374	

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

n/a: Data Not Available

## Private Debt by Lender/Holder

Private Debt Lenders		2017	2018	2019	2020	2021 Q1	
Commercial and Savings Banks	Debt to GDP	46.3%	48.1%	49.2%	53.1%	53.8%	
	5 year % change	-3%	5%	9%	17%	18%	⚠
	Billion Euro	€1,512	€1,617	€1,700	€1,767	€1,787	
Mortgage and Land Banks	Debt to GDP	13.4%	12.4%	12.5%	13.4%	13.8%	
	5 year % change	-29%	-26%	-20%	-10%	-5%	+
	Billion Euro	€436	€416	€433	€445	€459	
Credit Institutions	Debt to GDP	16.7%	17.2%	17.7%	19.5%	19.8%	
	5 year % change	0%	2%	5%	14%	15%	⚠
	Billion Euro	€546	€577	€611	€649	€658	
Foreign Loans	Debt to GDP	19.9%	21.6%	22.3%	24.0%	23.8%	
	5 year % change	8%	14%	20%	25%	23%	⚠
	Billion Euro	€649	€725	€770	€799	€791	
Other Financial Institutions	Debt to GDP	6.0%	6.7%	6.8%	7.6%	7.9%	
	5 year % change	-5%	0%	15%	33%	25%	⚠
	Billion Euro	€195	€224	€237	€253	€262	
Corporate Bonds	Debt to GDP	6.0%	5.0%	6.0%	7.0%	8.0%	
	5 year % change	35%	9%	15%	44%	33%	⚠
	Billion Euro	€211	€181	€205	€249	€251	

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

n/a: Data Not Available

## Portfolio Loans &amp; Investment (Total Economy) - Germany into Foreign Countries

Debt Security Investment		2016	2017	2018	2019	2020 Q2	
Germany Holdings of Foreign Debt Securities	to GDP	57.0%	61.0%	54.0%	60.0%	63.0%	
	5 year % change	23%	6%	-6%	9%	14%	⚠
	Billion Euro	€1,778	€1,975	€1,823	€2,066	€2,101	
France	to GDP	8.0%	8.7%	7.9%	8.9%	9.8%	
	5 year % change	18%	-3%	-10%	6%	19%	⚠
	Billion Euro	€252	€284	€266	€307	€325	
United States	to GDP	6.8%	7.1%	6.0%	6.9%	7.4%	
	5 year % change	79%	72%	40%	51%	35%	⚠
	Billion Euro	€213	€232	€202	€238	€245	
Netherlands	to GDP	5.9%	6.2%	6.0%	6.6%	7.1%	
	5 year % change	1%	-11%	-12%	11%	22%	⚠
	Billion Euro	€185	€204	€202	€230	€237	
Equity and Investment Fund Shares		2016	2017	2018	2019	2020 Q2	
Germany Holdings of Foreign Equity and Investment Fund Shares	to GDP	29.0%	35.0%	29.0%	37.0%	36.0%	
	5 year % change	69%	65%	17%	55%	32%	⚠
	Billion Euro	€912	€1,139	€970	€1,288	€1,199	
Luxembourg	to GDP	13.0%	16.0%	13.0%	16.0%	15.0%	
	5 year % change	47%	46%	12%	39%	20%	⚠
	Billion Euro	€415	€510	€433	€538	€497	
United States	to GDP	4.0%	4.0%	4.0%	5.0%	6.0%	
	5 year % change	130%	104%	38%	76%	75%	⚠
	Billion Euro	€116	€138	€126	€181	€188	
Ireland	to GDP	2.0%	3.0%	3.0%	4.0%	4.0%	
	5 year % change	211%	176%	100%	161%	123%	⚠
	Billion Euro	€72	€97	€94	€143	€135	
Loans		2016	2017	2018	2019	2020 Q2	
Germany Holding of Foreign Loans	to GDP	31.2%	30.7%	31.3%	32.1%	34.5%	
	5 year % change	-5%	-9%	0%	4%	8%	+
	Billion Euro	€976	€1,003	€1,051	€1,109	€1,148	
Germany Holding of Foreign Loans: Short Term	to GDP	11.4%	11.4%	11.4%	12.5%	14.3%	
	5 year % change	-5%	-4%	-1%	6%	13%	⚠
	Billion Euro	€356	€373	€383	€432	€476	
Germany Holding of Foreign Loans: Long Term	to GDP	19.8%	19.3%	19.9%	19.6%	20.2%	
	5 year % change	-6%	-12%	1%	2%	4%	+
	Billion Euro	€620	€629	€668	€677	€672	

\* Total Economy includes Financial, Non-Financial and General Government sectors

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

n/a: Data Not Available

## Portfolio Loans &amp; Investment (Total Economy) - Foreign Countries into Germany

Debt Security Investment		2016	2017	2018	2019	2020 Q2	
Foreign Holdings of Germany's Debt Securities	to GDP	54%	53%	47%	49%	50%	+
	5 year % change	-8%	-20%	-21%	-10%	-8%	+
	Billion Euro	€1,703	€1,728	€1,580	€1,688	€1,665	
Netherlands	to GDP	5.6%	5.7%	5.1%	5.2%	5.5%	+
	5 year % change	0%	-17%	-18%	-15%	-9%	+
	Billion Euro	€176	€186	€171	€180	€182	
Luxembourg	to GDP	4.2%	4.6%	4.4%	5.0%	5.3%	!
	5 year % change	-27%	-24%	-19%	10%	15%	!
	Billion Euro	€131	€149	€147	€171	€178	
France	to GDP	3.6%	3.1%	2.7%	3.2%	3.8%	+
	5 year % change	-33%	-36%	-30%	-18%	-11%	+
	Billion Euro	€112	€101	€92	€111	€127	
Equity and Investment Fund Shares		2016	2017	2018	2019	2020 Q2	
Foreign Holdings of Germany's Equity and Investment Fund Shares	to GDP	28%	34%	25%	30%	26%	!
	5 year % change	79%	58%	-2%	31%	5%	!
	Billion Euro	€882	€1,099	€845	€1,037	€880	
United States	to GDP	8.5%	10.9%	7.7%	9.8%	9.5%	!
	5 year % change	82%	68%	-5%	40%	14%	!
	Billion Euro	€265	€354	€259	€340	€317	
Luxembourg	to GDP	4.6%	5.4%	4.5%	5.0%	4.7%	!
	5 year % change	53%	56%	15%	44%	13%	!
	Billion Euro	€143	€176	€151	€174	€157	
France	to GDP	2.6%	2.9%	2.0%	2.3%	2.0%	+
	5 year % change	44%	20%	-24%	0%	-23%	+
	Billion Euro	€80	€95	€66	€79	€67	

\* Total Economy includes Financial, Non-Financial and General Government sectors

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

n/a: Data Not Available

## Derivative Activity

OTC Derivative Activity by Contract Type		2016	2017	2018	2019	2020 Q2	
Interest Rate	to GDP	965%	1155%	987%	960%	1070%	
	5 Year % Change	-47%	-26%	-34%	-26%	-1%	+
	Billion Euro	€30,198	€37,683	€33,160	€33,167	€36,167	
Foreign Exchange	to GDP	141%	138%	134%	133%	130%	
	5 Year % Change	-30%	-27%	-20%	-26%	-23%	+
	Billion Euro	€4,419	€4,496	€4,496	€4,607	€4,384	
Credit Derivatives	to GDP	44%	48%	22%	19%	26%	
	5 Year % Change	-55%	-28%	-64%	-61%	-43%	+
	Billion Euro	€1,362	€1,577	€735	€642	€893	
Index and Stock-related	to GDP	16%	14%	11%	5%	4%	
	5 Year % Change	-28%	-34%	-35%	-70%	-82%	+
	Billion Euro	€506	€450	€386	€186	€129	
Commodity contracts	to GDP	1%	1%	1%	1%	1%	
	5 Year % Change	-89%	-88%	-83%	-49%	-39%	+
	Billion Euro	€29	€19	€22	€26	€23	
Total Notional	to GDP	1167%	1355%	1154%	1118%	1231%	
	5 Year % Change	-46%	-26%	-34%	-27%	-6%	+
	Billion Euro	€36,514	€44,225	€38,799	€38,628	€41,596	

▲ High Concern  
 ▲ Concern  
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n/a: Data Not Available

## Largest Individual Lenders

Individual Lenders		2017	2018	2019	2020	2021 Q1	
Deutsche Bank	Loans to GDP	12.4%	12%	12.6%	13.0%	n/a	
	5 year % change	-15%	-11%	-10%	-9%	n/a	+
	Billion Euro	€406	€405	€434	€432	n/a	
	Charge-off Rate	n/a	n/a	n/a	n/a	n/a	
KfW (State-Owned)	Loans to GDP	3.9%	3.8%	3.7%	4.2%	n/a	
	5 year % change	-9%	-8%	-8%	-5%	n/a	+
	Billion Euro	€128	€127	€129	€141	n/a	
	Charge-off Rate	n/a	n/a	n/a	n/a	n/a	
DZ Bank	Loans to GDP	5.9%	5.7%	5.9%	6.3%	n/a	
	5 year % change	22%	16%	23%	31%	n/a	!
	Billion Euro	€192	€192	€204	€209	n/a	
	Charge-off Rate	n/a	n/a	n/a	n/a	n/a	
Commerzbank	Loans to GDP	8.1%	7.4%	7.6%	7.8%	n/a	
	5 year % change	-22%	-18%	-7%	6%	n/a	+
	Billion Euro	€265	€249	€261	€259	n/a	
	Charge-off Rate	n/a	n/a	n/a	n/a	n/a	

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

n/a: Data Not Available



## Real Estate

Total Debt		2017	2018	2019	2020	2021 Q1
Mortgage Debt	Debt to GDP	36.0%	37.0%	38.0%	42.0%	42.0%
	5 year % change	-1%	1%	5%	16%	15%
	Billion Euro	€1,175	€1,231	€1,301	€1,387	€1,406



Quarterly Residential Housing Summary		Dec-2019	Mar-2020	Jun-2020	Sep-2020	Dec-2020	Mar-2021
Total Housing Units Approved for Construction	Volume	34,331	33,632	38,872	40,758	40,677	45,769
	Annual Change	5.5%	-8.9%	1.3%	18.7%	20.9%	17.7%
Total Housing Units Construction Started	Volume	5,037	5,060	5,210	5,197	5,757	6,397
	Annual Change	10.3%	4.5%	4.2%	3.2%	13.8%	22.8%
Residential Property Price Index	Index (2015=100)	132.7	133.8	136.2	140.3	144.3	146.4
	Annual Change	6.5%	7.4%	6.6%	8.3%	8.7%	9.4%

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 ▲ Concern  
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n/a: Data Not Available

## Additional Data




Public Debt		2017	2018	2019	2020	2021 Q1
Total General Government Debt	Debt to GDP	65%	62%	60%	70%	71%
	5 Year % Change	-20%	-22%	-21%	-4%	-1%
	Billion Euro	€2,123	€2,074	€2,058	€2,325	€2,367
Total Federal Government Debt	Debt to GDP	41%	39%	38%	45%	46%
	5 Year % Change	-18%	-20%	-21%	0%	2%
	Billion Euro	€1,350	€1,323	€1,300	€1,513	€1,539
Total State and Local Government Debt	Debt to GDP	24%	23%	22%	25%	25%
	5 Year % Change	-22%	-23%	-21%	-10%	-7%
	Billion Euro	€789	€767	€774	€826	€842

Supplementary Data		2017	2018	2019	2020	2021 Q1
Nominal GDP	Billion Euro	€3,263	€3,361	€3,455	€3,329	€3,322
	Annual % Change	4.3%	3.0%	2.8%	-3.6%	-3.9%
Real GDP	Billion 2015 Euros	€3,177	€3,219	€3,238	€3,071	€3,047
	Annual % Change	2.9%	1.3%	0.6%	-5.1%	-5.4%
Consumer Price Index (Inflation)	CPI (2015=100)	102.4	104.5	105.8	105.5	107.0
	Inflation Rate	1.4%	2.0%	1.2%	-0.3%	1.4%
Unemployment	Person (Thousands)	2,442	2,265	2,287	2,784	2,743
	Unemployment Rate	5.5%	5.0%	5.0%	6.1%	6.0%
Current Account Balance	Billion Euros	€254	€268	€265	€229	€238
	to GDP	7.8%	8.0%	7.7%	6.9%	7.2%











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

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%
	Debt to GDP < 1.5% (immaterial)
	Residual Risk Period

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

n/a: Data Not Available

## Sources

## Page One

- Bank for International Settlement (BIS). "Credit to the Non-Financial Sector." <https://www.bis.org/statistics/totcredit.htm>.
- Deutsche Bundesbank. "Table DE.KB003: Loans: Monetary Financial Institutions: by Sectors." Retrieved from CEIC Data.
- Deutsche Bundesbank. "Table DE.KB015: Loans: Foreign Banks: by Sectors." Retrieved from CEIC Data.

## Page Two

- Deutsche Bundesbank. "Table DE.KB003: Loans: Monetary Financial Institutions: by Sectors." Retrieved from CEIC Data.

## Page Three

- Deutsche Bundesbank. "Table DE.KB003: Loans: Monetary Financial Institutions: by Sectors." Retrieved from CEIC Data.
- S&P Capital IQ. "Market Intelligence." <https://www.capitaliq.com/>.

## Page Four

- Eurostat. "QSA - Quarterly Sector Accounts (MUFA and NFA Eurostat ESA2010 TP, Table 801." [https://sdw.ecb.europa.eu/browseExplanation.do?org.apache.struts.taglib.html.TOKEN=da88e531941eadeceb85d1bf70f24a1a&df=true&ec=&dc=&oc=&pb=&rc=&DATASET=0&removeItem=&removedItemList=&mergeFilter=&activeTab=QSA&showHide=&MAX\\_DOWNLOAD\\_SERIES=500&SERIES\\_MAX\\_NUM=50&node=bbn6091&legendPub=published](https://sdw.ecb.europa.eu/browseExplanation.do?org.apache.struts.taglib.html.TOKEN=da88e531941eadeceb85d1bf70f24a1a&df=true&ec=&dc=&oc=&pb=&rc=&DATASET=0&removeItem=&removedItemList=&mergeFilter=&activeTab=QSA&showHide=&MAX_DOWNLOAD_SERIES=500&SERIES_MAX_NUM=50&node=bbn6091&legendPub=published).
- Deutsche Bundesbank. "Table DE.KB004: Loans: Commercial Banks: by Sectors." Retrieved from CEIC Data.
- Deutsche Bundesbank. "Table DE.KB009: Loans: Savings Banks: by Sectors." Retrieved from CEIC Data.
- Deutsche Bundesbank. "Table DE.KB008: Loans: Land Banks: by Sectors." Retrieved from CEIC Data.
- Deutsche Bundesbank. "Table DE.KB012: Loans: Mortgage Banks: by Sectors." Retrieved from CEIC Data.
- Deutsche Bundesbank. "Table DE.KB013: Loans: Building and Loan Associations: by Sectors." Retrieved from CEIC Data.

## Page Five

- International Monetary Fund (IMF). "Table 1: Reported Portfolio Investment Assets by Economy of Nonresident Issuer." <https://data.imf.org/?sk=B981B4E3-4E58-467E-9B90-9DE0C3367363&sld=1424963554286>.
- Deutsche Bundesbank. "Table DE.AB019: ESA 2010: Funds by Sector: Rest of the World: Stock." Retrieved from CEIC Data.

## Page Six

- International Monetary Fund (IMF). "Table 8" Derived Portfolio Investment Liabilities (All Economies) by Economy of Nonresident Holder: (Derived from Creditor Data)." <https://data.imf.org/?sk=B981B4E3-4E58-467E-9B90-9DE0C3367363&sld=1424963554286>.

## Page Seven

- Deutsche Bundesbank. "OTC Derivatives: Nominal and Market Values of Contracts Outstanding with Leading Banks: of which: Contracts Reported by German Banks." [https://www.bundesbank.de/dynamic/action/en/statistics/time-series-databases/time-series-databases/759784/759784?listId=www\\_s120\\_bh5\\_2n](https://www.bundesbank.de/dynamic/action/en/statistics/time-series-databases/time-series-databases/759784/759784?listId=www_s120_bh5_2n).

## Page Eight

- S&P Capital IQ. "Market Intelligence." <https://www.capitaliq.com/>.

## Page Nine

- Deutsche Bundesbank. "Table DE.KB003: Loans: Monetary Financial Institutions: by Sectors." Retrieved from CEIC Data.
- Federal Statistics Office Germany. "Table DE.EB001: House Price Index: 2015=100." Retrieved from CEIC Data.
- Federal Statistics Office Germany. "Table DE.EA001: Building Permits Granted." Retrieved from CEIC Data.
- Federal Statistics Office Germany. "Table DE.EA041: Construction Started: New Building." Retrieved from CEIC Data.

## Page Ten

- OECD. "Organization for Economic Co-operation and Development, Consumer Price Index of All Items in Germany [DEUCPIALLQINMEI], retrieved from FRED, Federal Reserve Bank of St. Louis; <https://fred.stlouisfed.org/series/DEUCPIALLQINMEI>."
- Deutsche Bundesbank. "Table DE.F001: Government Debt: Maastricht Treaty: ESA 2010." Retrieved from CEIC Data.
- Federal Labor Agency. "Table DE.G017: Registered Unemployment: Seasonally Adjusted." Retrieved from CEIC Data.
- Federal Labor Agency. "Table DE.G021: Registered Unemployment Rate: Seasonally Adjusted." Retrieved from CEIC Data.
- Deutsche Bundesbank. "Table DE.JB002: BPM6 Balance of Payments: Current Account." Retrieved from CEIC Data.