Fair Value of Cash Instruments by Level

The table below presents cash instrument assets and liabilities at fair value by level within the fair value hierarchy.

$ in millions	Level 1	Level 2	Level 3	Total
As of March 2019				
Assets				
Money market instruments	**$ 1,111**	**$ 1,648**	**$ –**	**$ 2,759**
Government and agency obligations:				
U.S.	**77,043**	**30,152**	**25**	**107,220**
Non-U.S.	**37,421**	**14,326**	**16**	**51,763**
Loans and securities backed by:				
Commercial real estate	**–**	**2,662**	**1,011**	**3,673**
Residential real estate	**–**	**12,476**	**554**	**13,030**
Corporate debt instruments	**1,044**	**26,552**	**4,252**	**31,848**
State and municipal obligations	**–**	**775**	**37**	**812**
Other debt obligations	**–**	**1,025**	**614**	**1,639**
Equity securities	**79,076**	**10,664**	**11,426**	**101,166**
Commodities	**–**	**3,462**	**–**	**3,462**
Subtotal	**$195,695**	**$103,742**	**$17,935**	**$317,372**
Investments in funds at NAV				**4,036**
Total cash instrument assets				**$321,408**
Liabilities				
Government and agency obligations:				
U.S.	**$ (9,160)**	**$ (9)**	**$ –**	**$ (9,169)**
Non-U.S.	**(17,315)**	**(1,947)**	**–**	**(19,262)**
Loans and securities backed by:				
Commercial real estate	**–**	**(1)**	**–**	**(1)**
Residential real estate	**–**	**(1)**	**–**	**(1)**
Corporate debt instruments	**(1)**	**(7,630)**	**(136)**	**(7,767)**
Other debt obligations	**–**	**(2)**	**–**	**(2)**
Equity securities	**(24,040)**	**(350)**	**(23)**	**(24,413)**
Total cash instrument liabilities	**$ (50,516)**	**$ (9,940)**	**$ (159)**	**$ (60,615)**
As of December 2018				
Assets				
Money market instruments	$ 1,489	$ 1,146	$ –	$ 2,635
Government and agency obligations:				
U.S.	82,264	28,327	25	110,616
Non-U.S.	33,231	10,366	10	43,607
Loans and securities backed by:				
Commercial real estate	–	2,350	1,019	3,369
Residential real estate	–	12,286	663	12,949
Corporate debt instruments	468	26,515	4,224	31,207
State and municipal obligations	–	1,210	23	1,233
Other debt obligations	–	1,326	538	1,864
Equity securities	52,989	12,456	10,725	76,170
Commodities	–	3,729	–	3,729
Subtotal	$170,441	$ 99,711	$17,227	$287,379
Investments in funds at NAV				3,936
Total cash instrument assets				$291,315
Liabilities				
Government and agency obligations:				
U.S.	$ (5,067)	$ (13)	$ –	$ (5,080)
Non-U.S.	(23,872)	(1,475)	–	(25,347)
Loans and securities backed by residential real estate	–	(1)	–	(1)
Corporate debt instruments	(4)	(10,376)	(31)	(10,411)
Other debt obligations	–	(1)	–	(1)
Equity securities	(25,147)	(298)	(18)	(25,463)
Total cash instrument liabilities	$ (54,090)	$ (12,164)	$ (49)	$ (66,303)

In the table above:

- Cash instrument assets are included in financial instruments owned and cash instrument liabilities are included in financial instruments sold, but not yet purchased.
- Cash instrument assets are shown as positive amounts and cash instrument liabilities are shown as negative amounts.
- Money market instruments includes commercial paper, certificates of deposit and time deposits, substantially all of which have a maturity of less than one year.
- Corporate debt instruments includes corporate loans and debt securities.
- Equity securities includes public and private equities, exchange-traded funds and convertible debentures.
- As of both March 2019 and December 2018, substantially all level 3 equity securities consisted of private equity securities.

Significant Unobservable Inputs

The table below presents the amount of level 3 assets, and ranges and weighted averages of significant unobservable inputs used to value level 3 cash instruments.

	Level 3 Assets and Range of Significant Unobservable Inputs (Weighted Average) as of	
$ in millions	**March 2019**	December 2018
Loans and securities backed by commercial real estate		
Level 3 assets	**$1,011**	$1,019
Yield	**4.0% to 22.0% (11.6%)**	6.9% to 22.5% (12.4%)
Recovery rate	**7.4% to 77.2% (44.3%)**	9.7% to 78.4% (42.9%)
Duration (years)	**0.7 to 5.5 (3.5)**	0.4 to 7.1 (3.7)
Loans and securities backed by residential real estate		
Level 3 assets	**$554**	$663
Yield	**0.8% to 20.0% (8.8%)**	2.6% to 19.3% (9.2%)
Cumulative loss rate	**2.1% to 34.2% (17.6%)**	8.3% to 37.7% (19.2%)
Duration (years)	**1.2 to 16.4 (6.8)**	1.4 to 14.0 (6.7)
Corporate debt instruments		
Level 3 assets	**$4,252**	$4,224
Yield	**1.5% to 24.1% (12.2%)**	0.7% to 32.3% (11.9%)
Recovery rate	**0.0% to 73.0% (55.5%)**	0.0% to 78.0% (57.8%)
Duration (years)	**0.3 to 6.3 (3.0)**	0.4 to 13.5 (3.4)
Equity securities		
Level 3 assets	**$11,426**	$10,725
Multiples	**0.8x to 26.0x (6.6x)**	1.0x to 23.6x (8.1x)
Discount rate/yield	**6.0% to 22.1% (14.5%)**	6.5% to 22.1% (14.3%)
Capitalization rate	**3.7% to 12.6% (5.9%)**	3.5% to 12.3% (6.1%)
Other cash instruments		
Level 3 assets	**$692**	$596
Yield	**2.5% to 12.7% (9.2%)**	4.1% to 11.5% (9.2%)
Duration (years)	**2.0 to 5.7 (3.2)**	2.2 to 4.8 (2.8)

The tables below present the gross fair value and the notional amounts of derivative contracts by major product type, the amounts of counterparty and cash collateral netting in the consolidated statements of financial condition, as well as cash and securities collateral posted and received under enforceable credit support agreements that do not meet the criteria for netting under U.S. GAAP.

	As of March 2019		As of December 2018	
$ in millions	**Derivative Assets**	**Derivative Liabilities**	Derivative Assets	Derivative Liabilities
Not accounted for as hedges				
Exchange-traded	**$ 601**	**$ 1,255**	$ 760	$ 1,553
OTC-cleared	**7,219**	**5,973**	5,040	3,552
Bilateral OTC	**247,629**	**229,113**	227,274	211,091
Total interest rates	**255,449**	**236,341**	233,074	216,196
OTC-cleared	**5,703**	**5,215**	4,778	4,517
Bilateral OTC	**14,338**	**14,324**	14,658	13,784
Total credit	**20,041**	**19,539**	19,436	18,301
Exchange-traded	**11**	**14**	11	16
OTC-cleared	**698**	**602**	656	800
Bilateral OTC	**79,011**	**77,888**	85,772	87,953
Total currencies	**79,720**	**78,504**	86,439	88,769
Exchange-traded	**2,729**	**2,546**	4,445	4,093
OTC-cleared	**305**	**317**	433	439
Bilateral OTC	**7,951**	**10,548**	12,746	15,595
Total commodities	**10,985**	**13,411**	17,624	20,127
Exchange-traded	**11,061**	**11,029**	13,431	11,765
Bilateral OTC	**33,821**	**41,397**	34,687	40,668
Total equities	**44,882**	**52,426**	48,118	52,433
Subtotal	**411,077**	**400,221**	404,691	395,826
Accounted for as hedges				
OTC-cleared	**–**	**–**	2	–
Bilateral OTC	**3,208**	**4**	3,024	7
Total interest rates	**3,208**	**4**	3,026	7
OTC-cleared	**53**	**36**	25	53
Bilateral OTC	**84**	**17**	54	61
Total currencies	**137**	**53**	79	114
Subtotal	**3,345**	**57**	3,105	121
Total gross fair value	**$ 414,422**	**$ 400,278**	$ 407,796	$ 395,947
Offset in consolidated statements of financial condition				
Exchange-traded	**$ (11,820)**	**$ (11,820)**	$ (14,377)	$ (14,377)
OTC-cleared	**(11,928)**	**(11,928)**	(8,888)	(8,888)
Bilateral OTC	**(297,392)**	**(297,392)**	(290,961)	(290,961)
Counterparty netting	**(321,140)**	**(321,140)**	(314,226)	(314,226)
OTC-cleared	**(1,605)**	**(7)**	(1,389)	(164)
Bilateral OTC	**(49,810)**	**(38,799)**	(47,335)	(38,963)
Cash collateral netting	**(51,415)**	**(38,806)**	(48,724)	(39,127)
Total amounts offset	**$(372,555)**	**$(359,946)**	$(362,950)	$(353,353)
Included in consolidated statements of financial condition				
Exchange-traded	**$ 2,582**	**$ 3,024**	$ 4,270	$ 3,050
OTC-cleared	**445**	**208**	657	309
Bilateral OTC	**38,840**	**37,100**	39,919	39,235
Total	**$ 41,867**	**$ 40,332**	$ 44,846	$ 42,594
Not offset in consolidated statements of financial condition				
Cash collateral	**$ (599)**	**$ (1,391)**	$ (614)	$ (1,328)
Securities collateral	**(12,777)**	**(8,995)**	(12,740)	(8,414)
Total	**$ 28,491**	**$ 29,946**	$ 31,492	$ 32,852

	Notional Amounts as of	
$ in millions	**March 2019**	December 2018
Not accounted for as hedges		
Exchange-traded	**$ 5,814,243**	$ 5,139,159
OTC-cleared	**19,542,492**	14,290,327
Bilateral OTC	**14,860,761**	12,858,248
Total interest rates	**40,217,496**	32,287,734
OTC-cleared	**386,010**	394,494
Bilateral OTC	**741,127**	762,653
Total credit	**1,127,137**	1,157,147
Exchange-traded	**7,396**	5,599
OTC-cleared	**112,778**	113,360
Bilateral OTC	**7,208,580**	6,596,741
Total currencies	**7,328,754**	6,715,700
Exchange-traded	**261,210**	259,287
OTC-cleared	**1,425**	1,516
Bilateral OTC	**237,984**	244,958
Total commodities	**500,619**	505,761
Exchange-traded	**712,848**	635,988
Bilateral OTC	**1,104,537**	1,070,211
Total equities	**1,817,385**	1,706,199
Subtotal	**50,991,391**	42,372,541
Accounted for as hedges		
OTC-cleared	**90,907**	85,681
Bilateral OTC	**11,946**	12,022
Total interest rates	**102,853**	97,703
OTC-cleared	**3,397**	2,911
Bilateral OTC	**7,231**	8,089
Total currencies	**10,628**	11,000
Subtotal	**113,481**	108,703
Total notional amounts	**$51,104,872**	$42,481,244

In the tables above:

- Gross fair values exclude the effects of both counterparty netting and collateral, and therefore are not representative of the firm's exposure.
- Where the firm has received or posted collateral under credit support agreements, but has not yet determined such agreements are enforceable, the related collateral has not been netted.
- Notional amounts, which represent the sum of gross long and short derivative contracts, provide an indication of the volume of the firm's derivative activity and do not represent anticipated losses.
- Total gross fair value of derivatives included derivative assets of \$9.27 billion as of March 2019 and \$10.68 billion as of December 2018, and derivative liabilities of \$15.77 billion as of March 2019 and \$14.58 billion as of December 2018, which are not subject to an enforceable netting agreement or are subject to a netting agreement that the firm has not yet determined to be enforceable.

Loans and Lending Commitments

The table below presents the difference between the aggregate fair value and the aggregate contractual principal amount for loans and long-term receivables for which the fair value option was elected.

	As of	
$ in millions	**March 2019**	December 2018
Performing loans and long-term receivables		
Aggregate contractual principal in excess of fair value	**$ 824**	$1,837
Loans on nonaccrual status and/or more than 90 days past due		
Aggregate contractual principal in excess of fair value	**$7,220**	$5,260
Aggregate fair value of loans on nonaccrual status and/or more than 90 days past due	**$2,381**	$2,010

In the table above, the aggregate contractual principal amount of loans on nonaccrual status and/or more than 90 days past due (which excludes loans carried at zero fair value and considered uncollectible) exceeds the related fair value primarily because the firm regularly purchases loans, such as distressed loans, at values significantly below the contractual principal amounts.

The fair value of unfunded lending commitments for which the fair value option was elected was a liability of $38 million as of March 2019 and $45 million as of December 2018, and the related total contractual amount of these lending commitments was $7.27 billion as of March 2019 and $7.72 billion as of December 2018. See Note 18 for further information about lending commitments.

Long-Term Debt Instruments

The difference between the aggregate contractual principal amount and the related fair value of long-term other secured financings for which the fair value option was elected was not material as of both March 2019 and December 2018. The aggregate contractual principal amount of unsecured long-term borrowings for which the fair value option was elected exceeded the related fair value by $1.96 billion as of March 2019 and $3.47 billion as of December 2018. The amounts above include both principal-protected and non-principal-protected long-term borrowings.

Impact of Credit Spreads on Loans and Lending Commitments

The estimated net gain attributable to changes in instrument-specific credit spreads on loans and lending commitments for which the fair value option was elected was $77 million for the three months ended March 2019 and $108 million for the three months ended March 2018. The firm generally calculates the fair value of loans and lending commitments for which the fair value option is elected by discounting future cash flows at a rate which incorporates the instrument-specific credit spreads. For floating-rate loans and lending commitments, substantially all changes in fair value are attributable to changes in instrument-specific credit spreads, whereas for fixed-rate loans and lending commitments, changes in fair value are also attributable to changes in interest rates.

Debt Valuation Adjustment

The firm calculates the fair value of financial liabilities for which the fair value option is elected by discounting future cash flows at a rate which incorporates the firm's credit spreads.

The table below presents information about the net DVA gains/(losses) on financial liabilities for which the fair value option was elected.

	Three Months Ended March	
$ in millions	**2019**	2018
DVA (pre-tax)	**$(1,889)**	$359
DVA (net of tax)	**$(1,417)**	$270

In the table above:

- DVA (net of tax) is included in debt valuation adjustment in the consolidated statements of comprehensive income.
- The gains/(losses) reclassified to earnings from accumulated other comprehensive income/(loss) upon extinguishment of such financial liabilities were not material for both the three months ended March 2019 and March 2018.

Direct equity investments and equity investments in leveraged investment funds are risk weighted in accordance with the SRWA in accordance with the table below.

Risk Weight	Investment Category
20%	An equity exposure to a Public Sector Entity (PSE), Federal Home Loan Bank (FHLB) or Farmer Mac
100%	Community development equity exposures Non-significant equity exposures to the extent that the aggregate adjusted carrying value of the exposures does not exceed 10% of our Tier 1 capital plus Tier 2 capital
250%	Significant common stock investments in financial institutions which are not deducted from capital
300%	A publicly traded equity exposure (other than an equity exposure that receives a 600% risk weight)
400%	A private equity exposure (other than an equity exposure that receives a 600% risk weight)
600%	An equity exposure to an investment firm that (i) would meet the definition of a traditional securitization but for the fact that the investment firm can exercise control over the size and composition of their assets, liabilities, and off-balance-sheet exposures, and (ii) has greater than immaterial leverage

Risk weights are applied to the "adjusted carrying value" of the equity exposure. For on-balance-sheet positions, the adjusted carrying value is the same as the balance sheet carrying value. For our unfunded equity investment commitments, the adjusted carrying value is a percentage of the notional amount, based on the estimated funding of the commitment during economic downturn conditions.

Although the SRWA assigns specific risk weights to different types of equity exposures as set out above, the regulations allow for "non-significant equity exposures" to be risk weighted at 100% to the extent they do not exceed in the aggregate 10% of our Tier 1 plus Tier 2 capital, with the remaining portion then risk weighted as appropriate in accordance with the SRWA. Generally, those equity exposures that would attract the lowest risk weights under SRWA are required to be treated as non-significant equity exposures, before inclusion of any equity exposures that would otherwise attract higher risk weights under SRWA.

The table below presents the adjusted carrying values and RWAs for our equity exposures in the banking book.

Table 7: Equity Exposures in the Banking Book

$ in millions		As of September 2019	
	Adjusted Carrying Value[1, 3]	**Risk Weight %**	**RWAs**
Simple Risk Weight Approach (SRWA)			
Equity exposures to a PSE, FHLB or Farmer Mac	**$ 51**	**20%**	**$ 10**
Community development equity exposures	**2,028**	**100%**	**2,028**
Non-significant equity exposures	**9,997**	**100%**	**9,997**
Significant investments in the common stock of nonconsolidated financial institutions	**5,046**	**250%**	**12,615**
Publicly traded equity exposures[2]	**-**	**300%**	**-**
Private equity exposures[2]	**6,373**	**400%**	**25,492**
Equity exposures in leveraged investment funds	**357**	**600%**	**2,142**
Total SRWA	**$ 23,852**		**$ 52,284**
Simple Modified Look-Through Approach (SMLTA)			
Equity Exposures to Investment Funds	**1,335**		**1,588**
Total SMLTA	**$ 1,335**		**$ 1,588**
Total	**$ 25,187**		**$ 53,872**

1. The adjusted carrying value of the equity exposures includes $1.32 billion representing a percentage of our unfunded commitment exposure.
2. Our publicly traded and a portion of our private equity exposures are risk weighted as non-significant equity exposures.
3. Adjusted carrying value consists of $1.95 billion of publicly traded and $23.23 billion of private equity exposures.

The table below presents the exposure amount and related RWAs of our banking book securitizations, including on-balance-sheet (retained or purchased) and off-balance-sheet exposures, broken out between traditional and synthetic securitizations, by underlying exposure type.

Exposure amounts below represent the associated EAD as calculated and defined by the regulatory rules, and are not comparable to securitization measures reported in "Note 11. Securitization Activities" in Part I, Item 1 "Financial Statements" in our Quarterly Report on Form 10-Q.

Table 8: Securitization Exposures and Related RWAs by Exposure Type

$ in millions	As of September 2019				
	Exposure Amount (EAD)				
	On-balance-sheet EAD	Off-balance-sheet EAD			
	Traditional EAD	Traditional EAD	Synthetic EAD	Total EAD	RWAs
Residential mortgages	$ 2,010	$ -	$ -	$ 2,010	$ 1,731
Commercial mortgages	5,367	482	-	5,849	1,794
Corporates	1,952	1,860	4,443	8,255	2,275
Asset-backed and other	2,830	3,103	-	5,933	1,562
OTC Derivatives facing SSPEs[1]	-	-	53	53	114
Total	$ 12,159	$ 5,445	$ 4,496	$ 22,100	$ 7,476

1. Represents counterparty credit risk charges on trading book OTC derivative transactions that face securitization SPEs. See "Market Risk – Specific Risk – Securitization Positions" for further information on our trading book exposures.

The table below presents the aggregate amount of our banking book securitization exposures further categorized by risk-based capital approach and risk-weight bands.

Exposure amounts below represent the associated EAD, as calculated and defined by the regulatory rules.

Table 9: Securitization Exposures and Related RWAs by Regulatory Capital Approach

$ in millions	As of September 2019							
	SFA		SSFA		1,250 percent risk weight		Total	
	EAD	RWAs	EAD	RWAs	EAD	RWAs	EAD	RWAs
0% - 25%	$ 5,309	$ 1,062	$ 13,073	$ 2,639	$ -	$ -	$ 18,382	$ 3,701
26% - 100%	413	249	1,816	718	-	-	2,229	967
101% - 250%	167	261	1,185	1,860	-	-	1,352	2,121
251% - 650%	39	119	68	203	-	-	107	322
651% - 1,250%	30	361	-	4	-	-	30	365
Total	$ 5,958	$ 2,052	$ 16,142	$ 5,424	$ -	$ -	$ 22,100	$ 7,476

Index of References

Category	Description	Pillar 3 Report page reference	September 2019 Form 10-Q page reference
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Investing & Lending

Investing & Lending includes direct investments made by the company, which are typically longer-term in nature, and net revenues associated with providing investing services to other GS Group entities.

Three Months Ended August 2019 versus September 2018. Net revenues in Investing & Lending were $75 million for the three months ended August 2019, 19% higher than the three months ended September 2018.

Nine Months Ended August 2019 versus September 2018. Net revenues in Investing & Lending were $287 million for the nine months ended August 2019, 20% lower than the nine months ended September 2018, primarily due to significantly lower net gains from investments in debt instruments.

Investment Management

Investment Management provides investment management and wealth advisory services, including portfolio management and financial counselling, and brokerage and other transaction services to high-net-worth individuals and families. Investment Management also includes net revenues associated with providing investing services to funds managed by GS Group.

Three Months Ended August 2019 versus September 2018. Net revenues in Investment Management were $133 million for the three months ended August 2019, 29% lower than the three months ended September 2018, primarily due to significantly lower incentive fees from providing investing services to funds managed by GS Group.

Nine Months Ended August 2019 versus September 2018. Net revenues in Investment Management were $410 million for the nine months ended August 2019, 37% lower than the nine months ended September 2018, primarily due to significantly lower incentive fees from providing investing services to funds managed by GS Group.

Administrative Expenses

Administrative expenses are primarily influenced by compensation (including the impact of the Group Inc. share price on share-based compensation), headcount and levels of business activity. Direct costs of employment include salaries, allowances, estimated year-end discretionary compensation, amortisation and mark-to-market of share-based compensation and other items such as benefits. Discretionary compensation is significantly impacted by, among other factors, the level of net revenues, overall financial performance, prevailing labour markets, business mix, the structure of share-based compensation programmes and the external environment.

The table below presents the company's administrative expenses and headcount.

	Three Months Ended		Nine Months Ended	
$ in millions	**August 2019**	September 2018	**August 2019**	September 2018
Direct costs of employment	**$ 668**	$ 495	**$1,921**	$1,985
Management charges from/to group undertakings relating to staff costs	**58**	59	**150**	166
Brokerage, clearing, exchange and distribution fees	**240**	192	**670**	630
Market development	**19**	19	**68**	63
Communications and technology	**29**	30	**91**	89
Depreciation and amortisation	**32**	18	**85**	48
Occupancy	**43**	48	**159**	131
Professional fees	**36**	54	**134**	167
Management charges from/to group undertakings relating to other services	**93**	47	**234**	170
Other expenses	**178**	179	**618**	544
Total administrative expenses	**$1,396**	$1,141	**$4,130**	$3,993
Headcount at period-end	**4,225**	4,162		

In the table above:

- Direct costs of employment included a charge of $92 million for the three months ended August 2019, a charge of $20 million for the three months ended September 2018, a charge of $93 million for the nine months ended August 2019 and a credit of $43 million for the nine months ended September 2018 relating to the mark-to-market of share-based compensation.
- Headcount consists of the company's employees, and excludes consultants and temporary staff previously reported as part of total staff. As a result, the company has reclassified $15 million of consultant and temporary staff expenses from direct costs of employment to professional fees for the three months ended September 2018 and $53 million for the nine months ended September 2018 to conform to the current presentation.

The table below presents charges from and to group undertakings for both management charges relating to staff costs and management charges relating to other services.

	Three Months Ended		Nine Months Ended	
$ in millions	**August 2019**	September 2018	**August 2019**	September 2018
Charges from group undertakings	**$107**	$124	**$ 344**	$ 374
Charges to group undertakings	**(49)**	(65)	**(194)**	(208)
Management charges relating to staff costs	**58**	59	**150**	166
Charges from group undertakings	**109**	81	**299**	279
Charges to group undertakings	**(16)**	(34)	**(65)**	(109)
Management charges relating to other services	**93**	47	**234**	170
Total	**$151**	$106	**$ 384**	$ 336

Debtors. The company is exposed to credit risk from its debtors through its amounts due from broker/dealers and customers; and amounts due from parent and group undertakings. These primarily consist of receivables related to cash collateral paid to counterparties and clearing organisations in respect of derivative financial instrument liabilities. Debtors also includes collateralised receivables related to customer securities transactions, which generally have minimal credit risk due to both the value of the collateral received and the short-term nature of these receivables.

Cash at Bank and in Hand. Cash at bank and in hand include both interest-bearing and non-interest-bearing deposits. To mitigate the risk of credit loss, the company places substantially all of its deposits with highly-rated banks and central banks.

The tables below present the company's gross credit exposure to financial assets and net credit exposure after taking account of assets captured by market risk in the company's risk management process, counterparty netting (i.e., the netting of financial assets and financial liabilities for a given counterparty when a legal right of set-off exists under an enforceable netting agreement), and cash and security collateral received and cash collateral posted under credit support agreements, which management considers when determining credit risk.

The table below presents a summary of the company's gross credit exposure and net credit exposure by financial asset class.

$ in millions	Financial instruments owned	Collateralised agreements	Debtors	Cash at bank and in hand	Total
As of August 2019					
Gross credit exposure	**$ 908,665**	**$151,595**	**$ 78,988**	**$31,592**	**$1,170,840**
Assets captured by market risk	**(102,977)**	**–**	**–**	**–**	**(102,977)**
Counterparty netting	**(717,590)**	**(61,775)**	**(4,421)**	**–**	**(783,786)**
Cash collateral	**(49,689)**	**–**	**(46,492)**	**–**	**(96,181)**
Security collateral received	**(16,736)**	**(86,972)**	**(8,556)**	**–**	**(112,264)**
Net credit exposure	**$ 21,673**	**$ 2,848**	**$ 19,519**	**$31,592**	**$ 75,632**
As of November 2018					
Gross credit exposure	$ 594,129	$ 203,334	$ 64,487	$24,396	$ 886,346
Assets captured by market risk	(76,093)	–	–	–	(76,093)
Counterparty netting	(449,860)	(83,336)	(5,450)	–	(538,646)
Cash collateral	(35,148)	–	(32,439)	–	(67,587)
Security collateral received	(14,459)	(116,837)	(7,415)	–	(138,711)
Net credit exposure	$ 18,569	$ 3,161	$ 19,183	$24,396	$ 65,309

The tables below presents the company's gross credit exposure and net credit exposure by the company's internally determined public rating agency equivalents.

$ in millions	Investment-Grade	Non-Investment-Grade / Unrated	Total
As of August 2019			
Gross credit exposure	**$1,009,690**	**$ 161,150**	**$1,170,840**
Assets captured by market risk	**–**	**(102,977)**	**(102,977)**
Counterparty netting	**(764,149)**	**(19,637)**	**(783,786)**
Cash collateral	**(86,218)**	**(9,963)**	**(96,181)**
Security collateral received	**(92,611)**	**(19,653)**	**(112,264)**
Net credit exposure	**$ 66,712**	**$ 8,920**	**$ 75,632**
As of November 2018			
Gross credit exposure	$ 762,094	$ 124,252	$ 886,346
Assets captured by market risk	–	(76,093)	(76,093)
Counterparty netting	(522,194)	(16,452)	(538,646)
Cash collateral	(59,579)	(8,008)	(67,587)
Security collateral received	(122,421)	(16,290)	(138,711)
Net credit exposure	$ 57,900	$ 7,409	$ 65,309

	Investment-Grade				
$ in millions	AAA	AA	A	BBB	Total
As of August 2019					
Gross credit exposure	**$ 38,473**	**$ 95,921**	**$ 773,844**	**$101,452**	**$1,009,690**
Counterparty netting	**(3,822)**	**(48,022)**	**(659,115)**	**(53,190)**	**(764,149)**
Cash collateral	**(11,958)**	**(15,377)**	**(40,056)**	**(18,827)**	**(86,218)**
Security collateral received	**(890)**	**(17,576)**	**(56,741)**	**(17,404)**	**(92,611)**
Net credit exposure	**$ 21,803**	**$ 14,946**	**$ 17,932**	**$ 12,031**	**$ 66,712**
As of November 2018					
Gross credit exposure	$ 28,353	$ 78,956	$ 561,437	$ 93,348	$ 762,094
Counterparty netting	(2,630)	(33,438)	(439,612)	(46,514)	(522,194)
Cash collateral	(6,305)	(10,846)	(25,695)	(16,733)	(59,579)
Security collateral received	(746)	(22,588)	(78,793)	(20,294)	(122,421)
Net credit exposure	$ 18,672	$ 12,084	$ 17,337	$ 9,807	$ 57,900

	Non-Investment-Grade / Unrated		
$ in millions	BB or lower	Unrated	Total
As of August 2019			
Gross credit exposure	**$ 56,716**	**$ 104,434**	**$ 161,150**
Assets captured by market risk	**–**	**(102,977)**	**(102,977)**
Counterparty netting	**(19,614)**	**(23)**	**(19,637)**
Cash collateral	**(9,889)**	**(74)**	**(9,963)**
Security collateral received	**(19,541)**	**(112)**	**(19,653)**
Net credit exposure	**$ 7,672**	**$ 1,248**	**$ 8,920**
As of November 2018			
Gross credit exposure	$ 46,412	$ 77,840	$ 124,252
Assets captured by market risk	–	(76,093)	(76,093)
Counterparty netting	(16,423)	(29)	(16,452)
Cash collateral	(7,993)	(15)	(8,008)
Security collateral received	(16,158)	(132)	(16,290)
Net credit exposure	$ 5,838	$ 1,571	$ 7,409

In the table above, the unrated net credit exposure of $1.25 billion as of August 2019 and $1.57 billion as of November 2018 related to financial assets for which the company has not assigned an internally determined public rating agency equivalent.

Fair Value of Financial Assets and Financial Liabilities by Level

The table below presents, by level within the fair value hierarchy, financial assets and financial liabilities measured at fair value on a recurring basis.

$ in millions	Level 1	Level 2	Level 3	Total
As of August 2019				
Financial Assets				
Cash instruments	**$79,307**	**$ 27,412**	**$ 984**	**$ 107,703**
Derivative instruments	**12**	**796,601**	**4,349**	**800,962**
Financial instruments owned	**79,319**	**824,013**	**5,333**	**908,665**
Collateralised agreements	**–**	**98,180**	**–**	**98,180**
Debtors	**–**	**148**	**–**	**148**
Total financial assets	**$79,319**	**$922,341**	**$ 5,333**	**$1,006,993**
Financial Liabilities				
Amounts falling due within one year				
Cash instruments	**$35,916**	**$ 5,040**	**$ 177**	**$ 41,133**
Derivative instruments	**20**	**787,758**	**2,490**	**790,268**
Financial instruments sold, but not yet purchased	**35,936**	**792,798**	**2,667**	**831,401**
Collateralised financings	**–**	**77,270**	**985**	**78,255**
Other creditors	**–**	**6,568**	**2,868**	**9,436**
Total	**35,936**	**876,636**	**6,520**	**919,092**
Amounts falling due after more than one year				
Collateralised financings	**–**	**7,673**	**–**	**7,673**
Other creditors	**–**	**31,644**	**5,867**	**37,511**
Total	**–**	**39,317**	**5,867**	**45,184**
Total financial liabilities	**$35,936**	**$915,953**	**$12,387**	**$ 964,276**
Net derivative instruments	**$ (8)**	**$ 8,843**	**$ 1,859**	**$ 10,694**
As of November 2018				
Financial Assets				
Cash instruments	$53,205	$ 27,278	$ 1,083	$ 81,566
Derivative instruments	17	508,315	4,231	512,563
Financial instruments owned	53,222	535,593	5,314	594,129
Collateralised agreements	–	146,767	–	146,767
Debtors	–	790	–	790
Total financial assets	$53,222	$683,150	$ 5,314	$ 741,686
Financial Liabilities				
Amounts falling due within one year				
Cash instruments	$42,951	$ 4,637	$ 12	$ 47,600
Derivative instruments	21	495,993	2,373	498,387
Financial instruments sold, but not yet purchased	42,972	500,630	2,385	545,987
Collateralised financings	–	96,948	917	97,865
Other creditors	–	6,272	2,422	8,694
Total	42,972	603,850	5,724	652,546
Amounts falling due after more than one year				
Collateralised financings	–	10,286	19	10,305
Other creditors	–	35,105	7,131	42,236
Total	–	45,391	7,150	52,541
Total financial liabilities	$42,972	$649,241	$12,874	$ 705,087
Net derivative instruments	$ (4)	$ 12,322	$ 1,858	$ 14,176

Significant Unobservable Inputs Used in Level 3 Fair Value Measurements

Cash Instruments. The company had level 3 cash instrument assets of $984 million as of August 2019 and $1.08 billion as of November 2018. Level 3 cash instrument liabilities were not material.

The table below presents the amount of level 3 cash instrument assets, and ranges and weighted averages of significant unobservable inputs used to value level 3 cash instrument assets.

	Level 3 Cash Instruments Assets and Range of Significant Unobservable Inputs (Weighted Average) as of	
$ in millions	**August 2019**	November 2018
Mortgages and other asset-backed loans and securities		
Level 3 assets	**$147**	$171
Yield	**1.3% to 18.7% (6.0%)**	2.4% to 16.5% (6.5%)
Recovery rate	**48.3% to 75.0% (61.7%)**	19.0% to 75.0% (50.0%)
Duration (years)	**0.5 to 10.8 (4.7)**	0.5 to 13.4 (5.1)
Corporate debt instruments and government and agency obligations		
Level 3 assets	**$765**	$841
Yield	**1.2% to 10.5% (4.1%)**	0.7% to 10.5% (5.2%)
Recovery rate	**0.0% to 65.0% (31.6%)**	0.0% to 78.0% (51.8%)
Duration (years)	**2.6 to 18.3 (5.7)**	0.5 to 13.2 (2.6)
Equity securities		
Level 3 assets	**$72**	$71
Multiples	**4.1x to 11.0x (5.4x)**	4.1x to 11.0x (5.4x)

In the table above:

- Ranges represent the significant unobservable inputs that were used in the valuation of each type of cash instrument.
- Weighted averages are calculated by weighting each input by the relative fair value of the cash instruments.
- The ranges and weighted averages of these inputs are not representative of the appropriate inputs to use when calculating the fair value of any one cash instrument. For example, the highest yield for mortgages and other asset-backed loans and securities is appropriate for valuing a specific mortgage but may not be appropriate for valuing any other mortgages. Accordingly, the ranges of inputs do not represent uncertainty in, or possible ranges of, fair value measurements of level 3 cash instruments.
- Increases in yield or duration used in the valuation of level 3 cash instruments would have resulted in a lower fair value measurement, while increases in recovery rate or multiples would have resulted in a higher fair value measurement as of both August 2019 and November 2018. Due to the distinctive nature of each level 3 cash instrument, the interrelationship of inputs is not necessarily uniform within each product type.

The table below presents the amounts not recognised in the profit and loss account relating to the difference between the fair value of financial assets and financial liabilities at fair value through profit or loss at initial recognition (the transaction price) and the amounts determined at initial recognition using the valuation techniques (day 1 P&L).

	Nine Months Ended	
	August	September
$ in millions	**2019**	2018
Beginning balance	**$146**	$161
New transactions	**95**	76
Amounts recognised in the profit and loss account during the period	**(61)**	(83)
Ending balance	**$180**	$154

Level 3 Rollforward

The table below presents a summary of the changes in fair value for all level 3 financial assets and financial liabilities measured at fair value on a recurring basis.

	Nine Months Ended	
	August	September
$ in millions	**2019**	2018
Total financial assets		
Beginning balance	**$ 5,314**	$ 4,044
Gains/(losses)	**692**	507
Purchases	**484**	573
Sales	**(178)**	(149)
Settlements	**(812)**	(469)
Transfers into level 3	**429**	611
Transfers out of level 3	**(596)**	(203)
Ending balance	**$ 5,333**	$ 4,914
Total financial liabilities		
Beginning balance	**$(12,874)**	$(10,807)
Gains/(losses)	**(766)**	99
Purchases	**7**	4
Sales	**(377)**	(272)
Issuances	**(5,457)**	(6,877)
Settlements	**6,834**	4,955
Transfers into level 3	**(653)**	(412)
Transfers out of level 3	**899**	621
Ending balance	**$(12,387)**	$(12,689)

In the table above:

- Financial assets relate to financial instruments owned.
- If a financial asset or financial liability was transferred to level 3 during a reporting period, its entire gain or loss for the period is classified in level 3. For level 3 financial assets, increases are shown as positive amounts, while decreases are shown as negative amounts. For level 3 financial liabilities, increases are shown as negative amounts, while decreases are shown as positive amounts.
- Transfers between levels of the fair value hierarchy are recognised at the beginning of the reporting period in which they occur. Accordingly, the tables do not include gains or losses for level 3 financial assets and financial liabilities that were transferred out of level 3 prior to the end of the period.
- Level 3 financial assets and financial liabilities are frequently economically hedged with level 1 and level 2 financial assets and financial liabilities. Accordingly, level 3 gains or losses that are reported for a particular class of financial asset or financial liability can be partially offset by gains or losses attributable to level 1 or level 2 in the same class of financial asset or financial liability or gains or losses attributable to level 1, level 2 or level 3 in a different class of financial asset or financial liability. As a result, gains or losses included in the level 3 rollforward do not necessarily represent the overall impact on the company's results of operations, liquidity or capital resources.
- The net gains on level 3 financial assets for the nine months ended August 2019 and the nine months ended September 2018 are reported in "Net revenues" in the profit and loss account.
- The net losses on level 3 financial liabilities of $766 million for the nine months ended August 2019 included losses of $736 million reported in "Net revenues" in the profit and loss account and losses of $30 million reported in "Debt valuation adjustment" in the statements of comprehensive income. The net gains on level 3 financial liabilities of $99 million for the nine months ended September 2018 included gains of $69 million reported in "Net revenues" in the profit and loss account and gains of $30 million reported in "Debt valuation adjustment" in the statements of comprehensive income.

The table below disaggregates, by the balance sheet line items, the information for financial liabilities included in the summary table above.

	Nine Months Ended	
	August	September
$ in millions	**2019**	2018
Financial instruments sold, but not yet purchased		
Beginning balance	**$(2,385)**	$(2,281)
Gains/(losses)	**(300)**	(289)
Purchases	**7**	4
Sales	**(377)**	(272)
Settlements	**382**	605
Transfers into level 3	**(300)**	(224)
Transfers out of level 3	**306**	216
Ending balance	**$(2,667)**	$(2,241)
Collateralised financings		
Beginning balance	**$ (936)**	$ (642)
Gains/(losses)	**94**	67
Issuances	**(168)**	(419)
Settlements	**6**	15
Transfers out of level 3	**19**	–
Ending balance	**$ (985)**	$ (979)
Other creditors		
Beginning balance	**$(9,553)**	$(7,884)
Gains/(losses)	**(560)**	321
Issuances	**(5,289)**	(6,458)
Settlements	**6,446**	4,335
Transfers into level 3	**(353)**	(188)
Transfers out of level 3	**574**	405
Ending balance	**$(8,735)**	$(9,469)