

**Taiwan Semiconductor Manufacturing  
Company Limited and Subsidiaries**

**Consolidated Financial Statements for the  
Nine Months Ended September 30, 2019 and 2018 and  
Independent Auditors' Review Report**

## INDEPENDENT AUDITORS' REVIEW REPORT

The Board of Directors and Shareholders  
Taiwan Semiconductor Manufacturing Company Limited

### Introduction

We have reviewed the accompanying consolidated balance sheets of Taiwan Semiconductor Manufacturing Company Limited and its subsidiaries (collectively, the “Company”) as of September 30, 2019 and 2018, the related consolidated statements of comprehensive income for the three months ended September 30, 2019 and 2018 and for the nine months ended September 30, 2019 and 2018, the consolidated statements of changes in equity and cash flows for the nine months then ended, and the related notes to the consolidated financial statements, including a summary of significant accounting policies (collectively referred to as the “consolidated financial statements”). Management is responsible for the preparation and fair presentation of the consolidated financial statements in accordance with the Regulations Governing the Preparation of Financial Reports by Securities Issuers and International Accounting Standard 34 “Interim Financial Reporting” endorsed and issued into effect by the Financial Supervisory Commission of the Republic of China. Our responsibility is to express a conclusion on the consolidated financial statements based on our reviews.

### Scope of Review

We conducted our reviews in accordance with Statement of Auditing Standards No. 65 “Review of Financial Information Performed by the Independent Auditor of the Entity”. A review of consolidated financial statements consists of making inquiries, primarily of persons responsible for financial and accounting matters, and applying analytical and other review procedures. A review is substantially less in scope than an audit and consequently does not enable us to obtain assurance that we would become aware of all significant matters that might be identified in an audit. Accordingly, we do not express an audit opinion.

### Conclusion

Based on our reviews, nothing has come to our attention that caused us to believe that the accompanying consolidated financial statements do not present fairly, in all material respects the consolidated financial position of the Company as of September 30, 2019 and 2018, its consolidated financial performance for the three months ended September 30, 2019 and 2018, and its consolidated financial performance and its consolidated cash flows for the nine months ended September 30, 2019 and 2018 in accordance with the Regulations Governing the Preparation of Financial Reports by Securities Issuers and International Accounting Standard 34 “Interim Financial Reporting” endorsed and issued into effect by the Financial Supervisory Commission of the Republic of China.

The engagement partners on the reviews resulting in this independent auditors' review report are Mei Yen Chiang and Yu Feng Huang.



Deloitte & Touche  
Taipei, Taiwan  
Republic of China



November 12, 2019

Notice to Readers

*The accompanying consolidated financial statements are intended only to present the consolidated financial position, financial performance and cash flows in accordance with accounting principles and practices generally accepted in the Republic of China and not those of any other jurisdictions. The standards, procedures and practices to review such consolidated financial statements are those generally applied in the Republic of China.*

*For the convenience of readers, the independent auditors' review report and the accompanying consolidated financial statements have been translated into English from the original Chinese version prepared and used in the Republic of China. If there is any conflict between the English version and the original Chinese version or any difference in the interpretation of the two versions, the Chinese-language independent auditors' review report and consolidated financial statements shall prevail.*

# Taiwan Semiconductor Manufacturing Company Limited and Subsidiaries

## CONSOLIDATED BALANCE SHEETS (In Thousands of New Taiwan Dollars)

ASSETS	September 30, 2019 (Reviewed)		December 31, 2018 (Audited)		September 30, 2018 (Reviewed)	
	Amount	%	Amount	%	Amount	%
<b>CURRENT ASSETS</b>						
Cash and cash equivalents (Note 6)	\$ 452,430,300	21	\$ 577,814,601	28	\$ 488,732,121	25
Financial assets at fair value through profit or loss (Note 7)	322,089	-	3,504,590	-	4,057,240	-
Financial assets at fair value through other comprehensive income (Note 8)	132,133,452	6	99,561,740	5	99,214,066	5
Financial assets at amortized cost (Note 9)	-	-	14,277,615	1	11,891,845	1
Hedging financial assets (Note 10)	37,003	-	23,497	-	124,242	-
Notes and accounts receivable, net (Note 11)	144,240,857	7	128,613,391	6	127,782,905	7
Receivables from related parties (Note 30)	1,180,780	-	584,412	-	1,757,073	-
Other receivables from related parties (Note 30)	56,581	-	65,028	-	64,385	-
Inventories (Note 12)	96,685,730	5	103,230,976	5	105,336,576	5
Other financial assets (Note 31)	17,714,646	1	18,597,448	1	15,178,774	1
Other current assets	4,625,998	-	5,406,423	-	5,084,478	-
Total current assets	849,427,436	40	951,679,721	46	859,223,705	44
<b>NONCURRENT ASSETS</b>						
Financial assets at fair value through other comprehensive income (Note 8)	4,026,516	-	3,910,681	-	5,701,354	-
Financial assets at amortized cost (Note 9)	7,914,087	-	7,528,277	-	7,470,742	-
Investments accounted for using equity method (Note 13)	18,193,969	1	17,865,838	1	16,630,670	1
Property, plant and equipment (Note 14)	1,197,955,298	56	1,072,050,279	51	1,048,516,835	53
Right-of-use assets (Notes 4 and 15)	17,506,826	1	-	-	-	-
Intangible assets (Note 16)	18,093,573	1	17,002,137	1	13,989,184	1
Deferred income tax assets (Note 4)	17,179,511	1	16,806,387	1	14,697,325	1
Refundable deposits	2,256,399	-	1,700,071	-	1,968,751	-
Other noncurrent assets	1,680,835	-	1,584,647	-	1,690,222	-
Total noncurrent assets	1,284,807,014	60	1,138,448,317	54	1,110,665,083	56
<b>TOTAL</b>	<b>\$ 2,134,234,450</b>	<b>100</b>	<b>\$ 2,090,128,038</b>	<b>100</b>	<b>\$ 1,969,888,788</b>	<b>100</b>
<b>LIABILITIES AND EQUITY</b>						
<b>CURRENT LIABILITIES</b>						
Short-term loans (Notes 17 and 28)	\$ 85,573,710	4	\$ 88,754,640	4	\$ 73,974,625	4
Financial liabilities at fair value through profit or loss (Note 7)	497,911	-	40,825	-	240,620	-
Hedging financial liabilities (Note 10)	23,852	-	155,832	-	3,750	-
Accounts payable	35,320,208	2	32,980,933	2	28,733,773	1
Payables to related parties (Note 30)	1,638,009	-	1,376,499	-	1,571,303	-
Salary and bonus payable	13,573,620	1	14,471,372	1	11,937,583	1
Accrued profit sharing bonus to employees and compensation to directors and supervisors (Note 27)	16,271,091	1	23,981,154	1	17,789,768	1
Payables to contractors and equipment suppliers	93,441,774	4	43,133,659	2	58,590,057	3
Cash dividends payable (Note 20)	116,686,712	5	-	-	-	-
Income tax payable (Note 4)	33,205,431	2	38,987,053	2	39,157,673	2
Long-term liabilities - current portion (Notes 18 and 28)	31,800,000	1	34,900,000	2	34,900,000	2
Accrued expenses and other current liabilities (Notes 15, 19, 21 and 28)	66,748,807	3	61,760,619	3	54,731,050	3
Total current liabilities	494,781,125	23	340,542,586	17	321,630,202	17
<b>NONCURRENT LIABILITIES</b>						
Bonds payable (Notes 18 and 28)	25,100,000	1	56,900,000	3	56,900,000	3
Deferred income tax liabilities (Note 4)	115,856	-	233,284	-	254,887	-
Lease liabilities (Notes 4, 15 and 28)	15,031,539	1	-	-	-	-
Net defined benefit liability (Note 4)	9,417,475	1	9,651,405	-	8,788,142	-
Guarantee deposits (Notes 19 and 28)	210,198	-	3,353,378	-	4,445,580	-
Others	2,081,256	-	1,950,989	-	2,039,976	-
Total noncurrent liabilities	51,956,324	3	72,089,056	3	72,428,585	3
Total liabilities	546,737,449	26	412,631,642	20	394,058,787	20
<b>EQUITY ATTRIBUTABLE TO SHAREHOLDERS OF THE PARENT</b>						
Capital stock (Note 20)	259,303,805	12	259,303,805	12	259,303,805	13
Capital surplus (Note 20)	56,320,929	3	56,315,932	3	56,311,659	3
Retained earnings (Note 20)						
Appropriated as legal capital reserve	311,146,899	15	276,033,811	13	276,033,811	14
Appropriated as special capital reserve	7,385,940	-	26,907,527	1	26,907,527	1
Unappropriated earnings	963,373,599	45	1,073,706,503	52	974,796,321	50
	1,281,906,438	60	1,376,647,841	66	1,277,737,659	65
Others (Note 20)	(10,675,106)	(1)	(15,449,913)	(1)	(18,181,209)	(1)
Equity attributable to shareholders of the parent	1,586,856,066	74	1,676,817,665	80	1,575,171,914	80
<b>NON - CONTROLLING INTERESTS</b>	<b>640,935</b>	<b>-</b>	<b>678,731</b>	<b>-</b>	<b>658,087</b>	<b>-</b>
Total equity	1,587,497,001	74	1,677,496,396	80	1,575,830,001	80
<b>TOTAL</b>	<b>\$ 2,134,234,450</b>	<b>100</b>	<b>\$ 2,090,128,038</b>	<b>100</b>	<b>\$ 1,969,888,788</b>	<b>100</b>

The accompanying notes are an integral part of the consolidated financial statements.

## Taiwan Semiconductor Manufacturing Company Limited and Subsidiaries

CONSOLIDATED STATEMENTS OF COMPREHENSIVE INCOME  
(In Thousands of New Taiwan Dollars, Except Earnings Per Share)  
(Reviewed, Not Audited)

	For the Three Months Ended September 30				For the Nine Months Ended September 30			
	2019		2018		2019		2018	
	Amount	%	Amount	%	Amount	%	Amount	%
NET REVENUE (Notes 21, 30 and 36)	\$ 293,045,439	100	\$ 260,347,882	100	\$ 752,748,383	100	\$ 741,703,364	100
COST OF REVENUE (Notes 12, 27, 30 and 34)	<u>153,613,278</u>	<u>52</u>	<u>136,967,039</u>	<u>53</u>	<u>419,290,867</u>	<u>56</u>	<u>381,759,723</u>	<u>51</u>
GROSS PROFIT BEFORE REALIZED (UNREALIZED) GROSS PROFIT ON SALES TO ASSOCIATES	139,432,161	48	123,380,843	47	333,457,516	44	359,943,641	49
REALIZED (UNREALIZED) GROSS PROFIT ON SALES TO ASSOCIATES	<u>(19,727)</u>	<u>-</u>	<u>(14,203)</u>	<u>-</u>	<u>42,535</u>	<u>-</u>	<u>(188,528)</u>	<u>-</u>
GROSS PROFIT	<u>139,412,434</u>	<u>48</u>	<u>123,366,640</u>	<u>47</u>	<u>333,500,051</u>	<u>44</u>	<u>359,755,113</u>	<u>49</u>
OPERATING EXPENSES (Notes 27 and 30)								
Research and development	23,972,076	8	21,886,199	8	65,783,115	9	62,206,346	8
General and administrative	5,810,048	2	4,656,730	2	14,239,040	2	14,579,032	2
Marketing	<u>1,596,829</u>	<u>1</u>	<u>1,585,523</u>	<u>-</u>	<u>4,539,806</u>	<u>-</u>	<u>4,511,592</u>	<u>1</u>
Total operating expenses	<u>31,378,953</u>	<u>11</u>	<u>28,128,452</u>	<u>10</u>	<u>84,561,961</u>	<u>11</u>	<u>81,296,970</u>	<u>11</u>
OTHER OPERATING INCOME AND EXPENSES, NET (Notes 14, 15 and 27)	<u>(146,189)</u>	<u>-</u>	<u>6,993</u>	<u>-</u>	<u>(480,722)</u>	<u>-</u>	<u>(1,957,870)</u>	<u>(1)</u>
INCOME FROM OPERATIONS (Note 36)	<u>107,887,292</u>	<u>37</u>	<u>95,245,181</u>	<u>37</u>	<u>248,457,368</u>	<u>33</u>	<u>276,500,273</u>	<u>37</u>
NON-OPERATING INCOME AND EXPENSES								
Share of profits of associates	915,714	-	997,827	-	1,977,740	-	1,946,111	-
Other income (Note 22)	3,918,123	1	3,817,473	1	13,118,246	2	10,701,950	2
Foreign exchange gain, net (Note 33)	1,038,425	-	444,202	-	530,496	-	2,097,838	-
Finance costs (Note 23)	<u>(843,434)</u>	<u>-</u>	<u>(739,068)</u>	<u>-</u>	<u>(2,607,250)</u>	<u>-</u>	<u>(2,175,318)</u>	<u>-</u>
Other gains and losses, net (Note 24)	<u>(579,849)</u>	<u>-</u>	<u>(868,673)</u>	<u>-</u>	<u>(413,237)</u>	<u>-</u>	<u>(2,642,683)</u>	<u>-</u>
Total non-operating income and expenses	<u>4,448,979</u>	<u>1</u>	<u>3,651,761</u>	<u>1</u>	<u>12,605,995</u>	<u>2</u>	<u>9,927,898</u>	<u>2</u>
INCOME BEFORE INCOME TAX	112,336,271	38	98,896,942	38	261,063,363	35	286,428,171	39
INCOME TAX EXPENSE (Notes 4 and 25)	<u>11,233,817</u>	<u>3</u>	<u>9,798,870</u>	<u>4</u>	<u>31,797,748</u>	<u>5</u>	<u>35,249,150</u>	<u>5</u>
NET INCOME	<u>101,102,454</u>	<u>35</u>	<u>89,098,072</u>	<u>34</u>	<u>229,265,615</u>	<u>30</u>	<u>251,179,021</u>	<u>34</u>
OTHER COMPREHENSIVE INCOME (LOSS) (Notes 20 and 25)								
Items that will not be reclassified subsequently to profit or loss:								
Unrealized gain/(loss) on investments in equity instruments at fair value through other comprehensive income	(9,015)	-	(418,111)	-	219,784	-	(1,306,987)	-
Gain (loss) on hedging instruments	(87,427)	-	8,544	-	(75,421)	-	23,887	-
Share of other comprehensive loss of associates	(3,333)	-	(9,719)	-	(14,219)	-	(4,106)	-
Income tax benefit related to items that will not be reclassified subsequently	<u>15,080</u>	<u>-</u>	<u>30,458</u>	<u>-</u>	<u>9,586</u>	<u>-</u>	<u>66,843</u>	<u>-</u>
Total	<u>(84,695)</u>	<u>-</u>	<u>(388,828)</u>	<u>-</u>	<u>139,730</u>	<u>-</u>	<u>(1,220,363)</u>	<u>-</u>
Items that may be reclassified subsequently to profit or loss:								
Exchange differences arising on translation of foreign operations	(3,286,794)	(2)	(3,457,786)	(1)	2,221,268	-	10,375,886	1
Unrealized gain/(loss) on investments in debt instruments at fair value through other comprehensive income	192,177	-	(30,572)	-	2,576,461	1	(1,040,342)	-
Share of other comprehensive income (loss) of associates	<u>(45,563)</u>	<u>-</u>	<u>(3,820)</u>	<u>-</u>	<u>(20,328)</u>	<u>-</u>	<u>73,283</u>	<u>-</u>
Total	<u>(3,140,180)</u>	<u>(2)</u>	<u>(3,492,178)</u>	<u>(1)</u>	<u>4,777,401</u>	<u>1</u>	<u>9,408,827</u>	<u>1</u>
Other comprehensive income (loss) for the period, net of income tax	<u>(3,224,875)</u>	<u>(2)</u>	<u>(3,881,006)</u>	<u>(1)</u>	<u>4,917,131</u>	<u>1</u>	<u>8,188,464</u>	<u>1</u>
TOTAL COMPREHENSIVE INCOME FOR THE PERIOD	<u>\$ 97,877,579</u>	<u>33</u>	<u>\$ 85,217,066</u>	<u>33</u>	<u>\$ 234,182,746</u>	<u>31</u>	<u>\$ 259,367,485</u>	<u>35</u>
NET INCOME ATTRIBUTABLE TO:								
Shareholders of the parent	\$ 101,069,886	34	\$ 89,071,628	34	\$ 229,228,587	30	\$ 251,146,789	34
Non-controlling interests	<u>32,568</u>	<u>1</u>	<u>26,444</u>	<u>-</u>	<u>37,028</u>	<u>-</u>	<u>32,232</u>	<u>-</u>
	<u>\$ 101,102,454</u>	<u>35</u>	<u>\$ 89,098,072</u>	<u>34</u>	<u>\$ 229,265,615</u>	<u>30</u>	<u>\$ 251,179,021</u>	<u>34</u>
TOTAL COMPREHENSIVE INCOME ATTRIBUTABLE TO:								
Shareholders of the parent	\$ 97,844,981	33	\$ 85,190,350	33	\$ 234,145,635	31	\$ 259,332,283	35
Non-controlling interests	<u>32,598</u>	<u>-</u>	<u>26,716</u>	<u>-</u>	<u>37,111</u>	<u>-</u>	<u>35,202</u>	<u>-</u>
	<u>\$ 97,877,579</u>	<u>33</u>	<u>\$ 85,217,066</u>	<u>33</u>	<u>\$ 234,182,746</u>	<u>31</u>	<u>\$ 259,367,485</u>	<u>35</u>

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## Taiwan Semiconductor Manufacturing Company Limited and Subsidiaries

### CONSOLIDATED STATEMENTS OF COMPREHENSIVE INCOME

(In Thousands of New Taiwan Dollars, Except Earnings Per Share)

(Reviewed, Not Audited)

	For the Three Months Ended September 30		For the Nine Months Ended September 30	
	2019	2018	2019	2018
	Income Attributable to Shareholders of the Parent	Income Attributable to Shareholders of the Parent	Income Attributable to Shareholders of the Parent	Income Attributable to Shareholders of the Parent
EARNINGS PER SHARE (NT\$, Note 26)				
Basic earnings per share	\$ 3.90	\$ 3.44	\$ 8.84	\$ 9.69
Diluted earnings per share	\$ 3.90	\$ 3.44	\$ 8.84	\$ 9.69

The accompanying notes are an integral part of the consolidated financial statements.

(Concluded)

**Taiwan Semiconductor Manufacturing Company Limited and Subsidiaries**

CONSOLIDATED STATEMENTS OF CHANGES IN EQUITY  
(In Thousands of New Taiwan Dollars)  
(Reviewed, Not Audited)

	Equity Attributable to Shareholders of the Parent							Others				Non-controlling Interests	Total Equity		
	Capital Stock - Common Stock		Capital Surplus	Retained Earnings			Foreign Currency Translation Reserve	Unrealized Gain (Loss) on Financial Assets at Fair Value Through Other Comprehensive Income	Gain (Loss) on Hedging Instruments	Unearned Stock-Based Employee Compensation	Total			Total	
	Shares (In Thousands)	Amount		Legal Capital Reserve	Special Capital Reserve	Unappropriated Earnings									Total
BALANCE, JANUARY 1, 2019	25,930,380	\$ 259,303,805	\$ 56,315,932	\$ 276,033,811	\$ 26,907,527	\$ 1,073,706,503	\$ 1,376,647,841	\$ (12,042,347)	\$ (3,429,324)	\$ 23,601	\$ (1,843)	\$ (15,449,913)	\$ 1,676,817,665	\$ 678,731	\$ 1,677,496,396
Appropriations of earnings															
Legal capital reserve	-	-	-	35,113,088	-	(35,113,088)	-	-	-	-	-	-	-	-	-
Special capital reserve	-	-	-	-	(19,521,587)	19,521,587	-	-	-	-	-	-	-	-	-
Cash dividends to shareholders	-	-	-	-	-	(324,129,756)	(324,129,756)	-	-	-	-	-	(324,129,756)	-	(324,129,756)
Total	-	-	-	35,113,088	(19,521,587)	(339,721,257)	(324,129,756)	-	-	-	-	-	(324,129,756)	-	(324,129,756)
Net income for the nine months ended September 30, 2019	-	-	-	-	-	229,228,587	229,228,587	-	-	-	-	-	229,228,587	37,028	229,265,615
Other comprehensive income (loss) for the nine months ended September 30, 2019, net of income tax	-	-	-	-	-	-	-	2,200,994	2,791,580	(75,526)	-	4,917,048	4,917,048	83	4,917,131
Total comprehensive income (loss) for the nine months ended September 30, 2019	-	-	-	-	-	229,228,587	229,228,587	2,200,994	2,791,580	(75,526)	-	4,917,048	234,145,635	37,111	234,182,746
Disposal of investments in equity instruments at fair value through other comprehensive income	-	-	-	-	-	159,766	159,766	-	(159,766)	-	-	(159,766)	-	-	-
Basis adjustment for gain on hedging instruments	-	-	-	-	-	-	-	-	-	15,682	-	15,682	15,682	-	15,682
Adjustments to share of changes in equities of associates	-	-	4,627	-	-	-	-	-	-	-	1,843	1,843	6,470	110	6,580
From share of changes in equities of subsidiaries	-	-	370	-	-	-	-	-	-	-	-	-	370	(370)	-
Decrease in non-controlling interests	-	-	-	-	-	-	-	-	-	-	-	-	-	(74,647)	(74,647)
BALANCE, SEPTEMBER 30, 2019	25,930,380	\$ 259,303,805	\$ 56,320,929	\$ 311,146,899	\$ 7,385,940	\$ 963,373,599	\$ 1,281,906,438	\$ (9,841,353)	\$ (797,510)	\$ (36,243)	\$ -	\$ (10,675,106)	\$ 1,586,856,066	\$ 640,935	\$ 1,587,497,001
BALANCE, JANUARY 1, 2018	25,930,380	\$ 259,303,805	\$ 56,309,536	\$ 241,722,663	\$ -	\$ 993,195,668	\$ 1,234,918,331	\$ (26,697,680)	\$ (524,915)	\$ 4,226	\$ (10,290)	\$ (27,228,659)	\$ 1,523,303,013	\$ 702,452	\$ 1,524,005,465
Appropriations of earnings															
Legal capital reserve	-	-	-	34,311,148	-	(34,311,148)	-	-	-	-	-	-	-	-	-
Special capital reserve	-	-	-	-	26,907,527	(26,907,527)	-	-	-	-	-	-	-	-	-
Cash dividends to shareholders	-	-	-	-	-	(207,443,044)	(207,443,044)	-	-	-	-	-	(207,443,044)	-	(207,443,044)
Total	-	-	-	34,311,148	26,907,527	(268,661,719)	(207,443,044)	-	-	-	-	-	(207,443,044)	-	(207,443,044)
Net income for the nine months ended September 30, 2018	-	-	-	-	-	251,146,789	251,146,789	-	-	-	-	-	251,146,789	32,232	251,179,021
Other comprehensive income (loss) for the nine months ended September 30, 2018, net of income tax	-	-	-	-	-	-	-	10,448,911	(2,287,670)	24,253	-	8,185,494	8,185,494	2,970	8,188,464
Total comprehensive income (loss) for the nine months ended September 30, 2018	-	-	-	-	-	251,146,789	251,146,789	10,448,911	(2,287,670)	24,253	-	8,185,494	259,332,283	35,202	259,367,485
Disposal of investments in equity instruments at fair value through other comprehensive income	-	-	-	-	-	(884,417)	(884,417)	-	884,417	-	-	884,417	-	-	-
Basis adjustment for loss on hedging instruments	-	-	-	-	-	-	-	-	-	(26,936)	-	(26,936)	(26,936)	-	(26,936)
Adjustments to share of changes in equities of associates	-	-	(288)	-	-	-	-	-	-	-	4,475	4,475	4,187	-	4,187
From share of changes in equities of subsidiaries	-	-	2,371	-	-	-	-	-	-	-	-	-	2,371	(2,371)	-
Donation from shareholders	-	-	40	-	-	-	-	-	-	-	-	-	40	6	46
Decrease in non-controlling interests	-	-	-	-	-	-	-	-	-	-	-	-	-	(77,202)	(77,202)
BALANCE, SEPTEMBER 30, 2018	25,930,380	\$ 259,303,805	\$ 56,311,659	\$ 276,033,811	\$ 26,907,527	\$ 974,796,321	\$ 1,277,737,659	\$ (16,248,769)	\$ (1,928,168)	\$ 1,543	\$ (5,815)	\$ (18,181,209)	\$ 1,575,171,914	\$ 658,087	\$ 1,575,830,001

The accompanying notes are an integral part of the consolidated financial statements.

# Taiwan Semiconductor Manufacturing Company Limited and Subsidiaries

## CONSOLIDATED STATEMENTS OF CASH FLOWS

(In Thousands of New Taiwan Dollars)

(Reviewed, Not Audited)

	<u>Nine Months Ended September 30</u>	
	2019	2018
<b>CASH FLOWS FROM OPERATING ACTIVITIES</b>		
Income before income tax	\$ 261,063,363	\$ 286,428,171
Adjustments for:		
Depreciation expense	215,274,524	213,318,950
Amortization expense	4,077,932	3,197,428
Expected credit losses recognized (reversal) on investments in debt instruments	2,651	(2,279)
Finance costs	2,607,250	2,175,318
Share of profits of associates	(1,977,740)	(1,946,111)
Interest income	(12,871,791)	(10,543,592)
Share-based compensation	1,406	-
Loss on disposal or retirement of property, plant and equipment, net	866,235	789,005
Loss (gain) on disposal of intangible assets, net	2,377	(436)
Impairment loss (reversal of impairment loss) on property, plant and equipment	(301,384)	488,336
Loss on financial instruments at fair value through profit or loss, net	958,084	244,799
Loss (gain) on disposal of investments in debt instruments at fair value through other comprehensive income, net	(499,147)	774,784
Loss from disposal of subsidiaries	4,598	-
Unrealized (realized) gross profit on sales to associates	(42,535)	188,528
Loss on foreign exchange, net	737,001	1,863,969
Dividend income	(246,455)	(158,358)
Loss (gain) arising from fair value hedges, net	(12,976)	2,494
Loss on lease modification	344	-
Changes in operating assets and liabilities:		
Financial instruments at fair value through profit or loss	386,157	639,804
Notes and accounts receivable, net	(21,531,168)	(10,902,779)
Receivables from related parties	(596,368)	(572,949)
Other receivables from related parties	8,447	106,673
Inventories	6,545,246	(31,475,575)
Other financial assets	627,837	(5,641,723)
Other current assets	570,899	(247,466)
Other noncurrent assets	-	139,107
Accounts payable	1,603,615	341,340
Payables to related parties	261,510	(85,053)
Salary and bonus payable	(897,752)	(2,317,288)
Accrued profit sharing bonus to employees and compensation to directors and supervisors	(7,710,063)	(5,629,367)
Accrued expenses and other current liabilities	1,476,118	(24,443,396)
Net defined benefit liability	(233,930)	(62,562)
Cash generated from operations	450,154,285	416,669,772
Income taxes paid	(37,969,958)	(32,088,012)
Net cash generated by operating activities	<u>412,184,327</u>	<u>384,581,760</u>

(Continued)



# Taiwan Semiconductor Manufacturing Company Limited and Subsidiaries

## CONSOLIDATED STATEMENTS OF CASH FLOWS

(In Thousands of New Taiwan Dollars)

(Reviewed, Not Audited)

	<b>Nine Months Ended September 30</b>	
	<b>2019</b>	<b>2018</b>
<b>CASH FLOWS FROM INVESTING ACTIVITIES</b>		
Acquisitions of:		
Financial instruments at fair value through profit or loss	\$ (124,748)	\$ (306,309)
Financial assets at fair value through other comprehensive income	(200,490,462)	(72,383,276)
Financial assets at amortized cost	(313,958)	-
Property, plant and equipment	(290,412,611)	(201,476,971)
Intangible assets	(4,424,453)	(2,940,549)
Proceeds from disposal or redemption of:		
Financial instruments at fair value through profit or loss - debt instruments	2,418,153	286,248
Financial assets at fair value through other comprehensive income	173,955,646	63,929,332
Financial assets at amortized cost	14,349,190	2,032,442
Property, plant and equipment	218,362	135,507
Intangible assets	-	492
Proceeds from return of capital of investments in equity instruments at fair value through other comprehensive income	-	127,878
Derecognition of hedging financial instruments	(452,455)	199,730
Interest received	13,254,770	10,612,192
Proceeds from government grants - property, plant and equipment	2,565,338	-
Proceeds from government grants - land use right and others	850,623	-
Other dividends received	246,455	158,358
Dividends received from investments accounted for using equity method	1,718,954	3,262,910
Refundable deposits paid	(1,337,227)	(2,227,335)
Refundable deposits refunded	<u>781,882</u>	<u>1,581,399</u>
Net cash used in investing activities	<u>(287,196,541)</u>	<u>(197,007,952)</u>
<b>CASH FLOWS FROM FINANCING ACTIVITIES</b>		
Increase (decrease) in short-term loans	(3,872,065)	9,626,705
Repayment of bonds	(34,900,000)	(58,024,900)
Repayment of the principal portion of lease liabilities	(2,457,970)	-
Interest paid	(3,058,107)	(2,796,082)
Guarantee deposits received	52,151	1,253,537
Guarantee deposits refunded	(700,302)	(1,947,272)
Cash dividends	(207,443,044)	(207,443,044)
Donation from shareholders	-	46
Decrease in non-controlling interests	<u>(76,053)</u>	<u>(77,202)</u>
Net cash used in financing activities	<u>(252,455,390)</u>	<u>(259,408,212)</u>

(Continued)

# Taiwan Semiconductor Manufacturing Company Limited and Subsidiaries

## CONSOLIDATED STATEMENTS OF CASH FLOWS

(In Thousands of New Taiwan Dollars)

(Reviewed, Not Audited)

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	<u>Nine Months Ended September 30</u>	
	<u>2019</u>	<u>2018</u>
EFFECT OF EXCHANGE RATE CHANGES ON CASH AND CASH EQUIVALENTS	\$ <u>2,083,303</u>	\$ <u>7,174,829</u>
NET DECREASE IN CASH AND CASH EQUIVALENTS	(125,384,301)	(64,659,575)
CASH AND CASH EQUIVALENTS, BEGINNING OF PERIOD	<u>577,814,601</u>	<u>553,391,696</u>
CASH AND CASH EQUIVALENTS, END OF PERIOD	\$ <u>452,430,300</u>	\$ <u>488,732,121</u>

The accompanying notes are an integral part of the consolidated financial statements.

(Concluded)

# Taiwan Semiconductor Manufacturing Company Limited and Subsidiaries

## NOTES TO CONSOLIDATED FINANCIAL STATEMENTS FOR THE NINE MONTHS ENDED SEPTEMBER 30, 2019 and 2018 (Amounts in Thousands of New Taiwan Dollars, Unless Specified Otherwise) (Reviewed, Not Audited)

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### 1. GENERAL

Taiwan Semiconductor Manufacturing Company Limited (TSMC), a Republic of China (R.O.C.) corporation, was incorporated on February 21, 1987. TSMC is a dedicated foundry in the semiconductor industry which engages mainly in the manufacturing, selling, packaging, testing and computer-aided design of integrated circuits and other semiconductor devices and the manufacturing of masks.

On September 5, 1994, TSMC's shares were listed on the Taiwan Stock Exchange (TWSE). On October 8, 1997, TSMC listed some of its shares of stock on the New York Stock Exchange (NYSE) in the form of American Depositary Shares (ADSs).

The address of its registered office and principal place of business is No. 8, Li-Hsin Rd. 6, Hsinchu Science Park, Taiwan. The principal operating activities of TSMC's subsidiaries are described in Note 4.

### 2. THE AUTHORIZATION OF FINANCIAL STATEMENTS

The accompanying consolidated financial statements were reported to the Board of Directors and issued on November 12, 2019.

### 3. APPLICATION OF NEW AND REVISED INTERNATIONAL FINANCIAL REPORTING STANDARDS

- a. Initial application of the amendments to the Regulations Governing the Preparation of Financial Reports by Securities Issuers and the International Financial Reporting Standards (IFRS), International Accounting Standards (IAS), IFRIC Interpretations (IFRIC), and SIC Interpretations (SIC) (collectively, "IFRSs") endorsed and issued into effect by the Financial Supervisory Commission (FSC)

Except for the following, the initial application of the amendments to the Regulations Governing the Preparation of Financial Reports by Securities Issuers and the IFRSs endorsed and issued into effect by the FSC did not have a significant effect on TSMC and its subsidiaries' (collectively as the "Company") accounting policies:

- 1) IFRS 16 "Leases"

IFRS 16 sets out the accounting standards for leases that supersedes IAS 17 "Leases", IFRIC 4 "Determining whether an Arrangement contains a Lease", and a number of related interpretations. Refer to Note 4 for information relating to the relevant accounting policies.

Definition of a lease

The Company applies the guidance of IFRS 16 in determining whether contracts are, or contain, a lease only to contracts entered into (or changed) on or after January 1, 2019. Contracts identified as containing a lease under IAS 17 and IFRIC 4 are not reassessed and are accounted for in accordance with the transitional provisions under IFRS 16.

### The Company as lessee

Except for payments for short-term leases which are recognized as expenses on a straight-line basis, the Company recognizes right-of-use assets and lease liabilities for all leases on the consolidated balance sheets. On the consolidated statements of comprehensive income, the Company presents the depreciation expense charged on right-of-use assets separately from the interest expense accrued on lease liabilities and computed using the effective interest method. On the consolidated statements of cash flows, cash payments for both the principal portion and the interest portion of lease liabilities are classified within financing activities.

The Company applies IFRS 16 retrospectively with the cumulative effect of the initial application recognized at the date of initial application but does not restate comparative information.

Leases agreements classified as operating leases under IAS 17, except for short-term leases, are measured at the present value of the remaining lease payments, discounted using the lessee's incremental borrowing rate on January 1, 2019. Right-of-use assets are measured at an amount equal to the lease liabilities, adjusted by the amount of any prepaid or accrued lease payments. Right-of-use assets are subject to impairment testing under IAS 36.

The Company applies the following practical expedients to measure right-of-use assets and lease liabilities on January 1, 2019:

- a) The Company applies a single discount rate to a portfolio of leases with reasonably similar characteristics to measure lease liabilities.
- b) The Company accounts for those leases for which the lease term ends on or before December 31, 2019 as short-term leases.
- c) Except for lease payments, the Company excludes incremental costs of obtaining the lease from right-of-use assets on January 1, 2019.
- d) The Company determines lease terms (e.g. lease periods) based on the projected status on January 1, 2019, to measure lease liabilities.

The weighted average lessee's incremental borrowing rate used by the Company to calculate lease liabilities recognized on January 1, 2019 is 1.46%. The reconciliation between the lease liabilities recognized and the future minimum lease payments of non-cancellable operating lease on December 31, 2018 is presented as follows:

The future minimum lease payments of non-cancellable operating lease on December 31, 2018	\$ 20,849,585
Less: Recognition exemption for short-term leases	<u>(3,189,821)</u>
Undiscounted gross amounts on January 1, 2019	<u>\$ 17,659,764</u>
Discounted using the incremental borrowing rate on January 1, 2019	\$ 16,465,599
Add: Adjustments as a result of a different treatment of extension and purchase options	<u>3,438,016</u>
Lease liabilities recognized on January 1, 2019	<u>\$ 19,903,615</u>

### The Company as lessor

Except for sublease transactions, the Company does not make any adjustments for leases in which it is a lessor, and accounts for those leases under IFRS 16 starting from January 1, 2019. On the basis

of the remaining contractual terms and conditions on January 1, 2019, all of the Company's subleases are classified as operating leases.

Impact on assets, liabilities and equity on January 1, 2019

	<b>Carrying Amount as of December 31, 2018</b>	<b>Adjustments Arising from Initial Application</b>	<b>Adjusted Carrying Amount as of January 1, 2019</b>
Other current assets	\$ 5,406,423	\$ (118,242)	\$ 5,288,181
Right-of-use assets	-	20,082,875	20,082,875
Other noncurrent assets	1,584,647	<u>(77,171)</u>	1,507,476
Total effect on assets		<u>\$ 19,887,462</u>	
Accrued expenses and other current liabilities	61,760,619	\$ 2,627,334	64,387,953
Lease liabilities - noncurrent	-	17,269,317	17,269,317
Other noncurrent liabilities	1,950,989	<u>(9,189)</u>	1,941,800
Total effect on liabilities		<u>\$ 19,887,462</u>	
Total effect on equity		<u>\$ -</u>	

- b. The IFRSs issued by International Accounting Standards Board (IASB) and endorsed by FSC with effective date starting 2020

<u>New, Revised or Amended Standards and Interpretations</u>	<u>Effective Date Issued by IASB</u>
Amendments to IFRS 3 "Definition of a Business"	January 1, 2020 (Note 1)
Amendments to IAS 1 and IAS 8 "Definition of Material"	January 1, 2020 (Note 2)

Note 1: The Company shall apply these amendments to business combinations for which the acquisition date is on or after the beginning of the first annual reporting period beginning on or after January 1, 2020 and to asset acquisitions that occur on or after the beginning of that period.

Note 2: The Company shall apply these amendments prospectively for annual reporting periods beginning on or after January 1, 2020.

- c. The IFRSs issued by IASB but not yet endorsed and issued into effect by FSC

<u>New, Revised or Amended Standards and Interpretations</u>	<u>Effective Date Issued by IASB</u>
Amendments to IFRS 10 and IAS 28 "Sale or Contribution of Assets between an Investor and its Associate or Joint Venture"	To be determined by IASB

As of the date the accompanying consolidated financial statements were issued, the Company continues in evaluating the impact on its financial position and financial performance as a result of the initial adoption of the aforementioned standards or interpretations. The related impact will be disclosed when the Company completes the evaluation.

#### 4. SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES

Except for the following, the accounting policies applied in these consolidated financial statements are consistent with those applied in the consolidated financial statements for the year ended December 31, 2018.

For the convenience of readers, the accompanying consolidated financial statements have been translated into English from the original Chinese version prepared and used in the R.O.C. If there is any conflict between the English version and the original Chinese version or any difference in the interpretation of the two versions, the Chinese-language consolidated financial statements shall prevail.

##### Statement of Compliance

The accompanying consolidated financial statements have been prepared in conformity with the Regulations Governing the Preparation of Financial Reports by Securities Issuers and IAS 34, “Interim Financial Reporting,” endorsed and issued into effect by the FSC. The consolidated financial statements do not present all the disclosures required for a complete set of annual consolidated financial statements prepared under the IFRSs endorsed and issued into effect by the FSC (collectively, “Taiwan-IFRSs”).

##### Basis of Consolidation

###### The basis of preparation and the basis for the consolidated financial statements

The basis of preparation and the basis for the consolidated financial statements applied in these consolidated financial statements are consistent with those applied in the consolidated financial statements for the year ended December 31, 2018.

###### The subsidiaries in the consolidated financial statements

The detail information of the subsidiaries at the end of reporting period was as follows:

Name of Investor	Name of Investee	Main Businesses and Products	Establishment and Operating Location	Percentage of Ownership			Note
				September 30, 2019	December 31, 2018	September 30, 2018	
TSMC	TSMC North America	Selling and marketing of integrated circuits and other semiconductor devices	San Jose, California, U.S.A.	100%	100%	100%	-
	TSMC Europe B.V. (TSMC Europe)	Customer service and supporting activities	Amsterdam, the Netherlands	100%	100%	100%	a)
	TSMC Japan Limited (TSMC Japan)	Customer service and supporting activities	Yokohama, Japan	100%	100%	100%	a)
	TSMC Korea Limited (TSMC Korea)	Customer service and supporting activities	Seoul, Korea	100%	100%	100%	a)
	TSMC Partners, Ltd. (TSMC Partners)	Investing in companies involved in the design, manufacture, and other related business in the semiconductor industry and other investment activities	Tortola, British Virgin Islands	100%	100%	100%	a)
	TSMC Global, Ltd. (TSMC Global)	Investment activities	Tortola, British Virgin Islands	100%	100%	100%	-
	TSMC China Company Limited (TSMC China)	Manufacturing, selling, testing and computer-aided design of integrated circuits and other semiconductor devices	Shanghai, China	100%	100%	100%	-
	TSMC Nanjing Company Limited (TSMC Nanjing)	Manufacturing, selling, testing and computer-aided design of integrated circuits and other semiconductor devices	Nanjing, China	100%	100%	100%	b)
	VisEra Technologies Company Ltd. (VisEra Tech)	Engaged in manufacturing electronic spare parts and in researching, developing, designing, manufacturing, selling, packaging and testing of color filter	Hsin-Chu, Taiwan	87%	87%	87%	-
	VentureTech Alliance Fund II, L.P. (VTAF II)	Investing in new start-up technology companies	Cayman Islands	98%	98%	98%	a)
	VentureTech Alliance Fund III, L.P. (VTAF III)	Investing in new start-up technology companies	Cayman Islands	98%	98%	98%	a)
	TSMC Solar Europe GmbH	Selling of solar related products and providing customer service	Hamburg, Germany	-	100%	100%	a), c)

(Continued)

Name of Investor	Name of Investee	Main Businesses and Products	Establishment and Operating Location	Percentage of Ownership			Note
				September 30, 2019	December 31, 2018	September 30, 2018	
TSMC Partners	TSMC Development, Inc. (TSMC Development)	Investing in companies involved in the manufacturing related business in the semiconductor industry	Delaware, U.S.A.	100%	100%	100%	-
	TSMC Technology, Inc. (TSMC Technology)	Engineering support activities	Delaware, U.S.A.	100%	100%	100%	a)
	TSMC Design Technology Canada Inc. (TSMC Canada)	Engineering support activities	Ontario, Canada	100%	100%	100%	a)
	InveStar Semiconductor Development Fund, Inc. (ISDF)	Investing in new start-up technology companies	Cayman Islands	97%	97%	97%	a), d)
	InveStar Semiconductor Development Fund, Inc. (II) LDC. (ISDF II)	Investing in new start-up technology companies	Cayman Islands	97%	97%	97%	a), d)
TSMC Development	WaferTech, LLC (WaferTech)	Manufacturing, selling and testing of integrated circuits and other semiconductor devices	Washington, U.S.A.	100%	100%	100%	-
VTAF III	Growth Fund Limited (Growth Fund)	Investing in new start-up technology companies	Cayman Islands	100%	100%	100%	a)

(Concluded)

Note a: This is an immaterial subsidiary for which the consolidated financial statements are not reviewed by the Company's independent auditors.

Note b: Under the investment agreement entered into with the municipal government of Nanjing, China, the Company will make an investment in Nanjing in the amount of approximately US\$3 billion to establish a subsidiary operating a 300mm wafer fab with the capacity of 20,000 12-inch wafers per month, and a design service center.

Note c: TSMC Solar Europe GmbH has completed the liquidation procedures in March 2019.

Note d: The subsidiary is under liquidation procedures.

## Leases

### 2019

For a contract that contains a lease component and non-lease component, the Company may elect to account for the lease and non-lease components as a single lease component.

#### The Company as lessor

Rental income from operating lease is recognized on a straight-line basis over the term of the lease.

#### The Company as lessee

Except for payments for low-value asset leases and short-term leases (leases of machinery and equipment and others) which are recognized as expenses on a straight-line basis, the Company recognizes right-of-use assets and lease liabilities for all leases at the commencement date of the lease.

Right-of-use assets are measured at cost. The cost of right-of-use assets comprises the initial measurement of lease liabilities adjusted for lease payments made at or before the commencement date, plus an estimate of costs needed to restore the underlying assets. Subsequent measurement is calculated as cost less accumulated depreciation and accumulated impairment loss and adjusted for changes in lease liabilities as a result of lease term modifications or other related factors. Right-of-use assets are presented separately in the consolidated balance sheets.

Right-of-use assets are depreciated using the straight-line method from the commencement dates to the earlier of the end of the useful lives of the right-of-use assets or the end of the lease terms. If the lease transfers ownership of the underlying assets to the Company by the end of the lease terms or if the cost of right-of-use assets reflects that the Company will exercise a purchase option, the Company depreciates the right-of-use assets from the commencement dates to the end of the useful lives of the underlying assets.

Lease liabilities are measured at the present value of the lease payments. Lease payments comprise fixed payments, variable lease payments which depend on an index or a rate and the exercise price of a purchase option if the Company is reasonably certain to exercise that option. The lease payments are discounted using the lessee's incremental borrowing rates.

Subsequently, lease liabilities are measured at amortized cost using the effective interest method, with interest expense recognized over the lease terms. When there is a change in a lease term, a change in future lease payments resulting from a change in an index or a rate used to determine those payments, or a change in the assessment of an option to purchase an underlying asset, the Company remeasures the lease liabilities with a corresponding adjustment to the right-of-use assets. Lease liabilities are presented on a separate line in the consolidated balance sheets.

Variable lease payments that do not depend on an index or a rate are recognized as expenses in the periods in which they are incurred.

## 2018

Leases are classified as finance lease whenever the terms of the lease transfer substantially all the risks and rewards of ownership to the lessee. All other leases are classified as operating leases.

### The Company as lessor

Rental income from operating leases is recognized on a straight-line basis over the term of the lease.

### The Company as lessee

Operating lease payments are recognized as an expense on a straight-line basis over the lease term.

### **Retirement Benefits**

Pension cost for an interim period is calculated on a year-to-date basis by using the actuarially determined pension cost rate at the end of the prior financial year.

### **Taxation**

Income tax expense represents the sum of the tax currently payable and deferred tax. The interim period income tax expense is accrued using the tax rate that would be applicable to expected total annual earnings, that is, the estimated average annual effective income tax rate applied to the pre-tax income of the interim period. When tax rate changes during the interim period, the effect of the change in tax rate relating to transactions recognized outside scope of profit or loss is recognized in full in the period in which the change in tax rate occurs. The effect of the change in tax rate relating to transactions recognized in profit or loss is incorporated into estimation of the average annual income tax rate, with corresponding effect recognized throughout the interim periods.

## **5. CRITICAL ACCOUNTING JUDGMENTS AND KEY SOURCES OF ESTIMATION AND UNCERTAINTY**

Except for the following paragraphs, the same critical accounting judgments and key sources of estimates and uncertainty have been followed in these consolidated financial statements as were applied in the preparation of the Company's consolidated financial statements for the year ended December 31, 2018.



## Recognition of Right-of-Use Assets and Lease Liabilities

Lease terms and lessee's incremental borrowing rates used in discounting lease payments are main factors considered in recognizing right-of-use assets and lease liabilities.

In determining a lease term, the Company considers all facts and circumstances that create an economic incentive to exercise or not to exercise an option, including any expected changes in facts and circumstances from the commencement date until the exercise date of the option. Main factors considered include contractual terms and conditions for the optional periods, the importance of the underlying asset to the lessee's operations, etc. The lease term is reassessed if a significant change in circumstances that are within the control of the Company occurs.

In determining a lessee's incremental borrowing rate used in discounting lease payments, the Company mainly takes into account the market risk-free rates, the estimated lessee's credit spreads and secured status in a similar economic environment.

## 6. CASH AND CASH EQUIVALENTS

	September 30, 2019	December 31, 2018	September 30, 2018
Cash and deposits in banks	\$ 446,819,726	\$ 575,825,502	\$ 486,951,934
Government bonds	2,418,554	-	-
Commercial paper	1,596,138	759,499	243,287
Repurchase agreements collateralized by corporate bonds	<u>1,595,882</u>	<u>1,229,600</u>	<u>1,536,900</u>
	<u>\$ 452,430,300</u>	<u>\$ 577,814,601</u>	<u>\$ 488,732,121</u>

Deposits in banks consisted of highly liquid time deposits that were readily convertible to known amounts of cash and were subject to an insignificant risk of changes in value.

## 7. FINANCIAL ASSETS AND LIABILITIES AT FAIR VALUE THROUGH PROFIT OR LOSS

	September 30, 2019	December 31, 2018	September 30, 2018
<u>Financial assets</u>			
Mandatorily measured at FVTPL			
Forward exchange contracts	\$ 152,332	\$ 85,303	\$ 129,540
Convertible bonds	124,108	-	-
Agency mortgage-backed securities	<u>45,649</u>	<u>3,419,287</u>	<u>3,927,700</u>
	<u>\$ 322,089</u>	<u>\$ 3,504,590</u>	<u>\$ 4,057,240</u>
<u>Financial liabilities</u>			
Held for trading			
Forward exchange contracts	<u>\$ 497,911</u>	<u>\$ 40,825</u>	<u>\$ 240,620</u>

The Company entered into derivative contracts to manage exposures due to fluctuations of foreign exchange rates. These derivative contracts did not meet the criteria for hedge accounting. Therefore, the Company did not apply hedge accounting treatment for these derivative contracts.

Outstanding forward exchange contracts consisted of the following:

	<b>Maturity Date</b>	<b>Contract Amount (In Thousands)</b>
<u>September 30, 2019</u>		
Sell NT\$/Buy EUR	October 2019 to March 2020	NT\$39,276,744/EUR1,147,000
Sell NT\$/Buy JPY	October 2019	NT\$13,251,310/JPY45,600,000
Sell US\$/Buy EUR	October 2019	US\$563/EUR512
Sell US\$/Buy JPY	October 2019	US\$9,450/JPY1,015,000
Sell US\$/Buy RMB	October 2019	US\$385,000/RMB2,742,331
Sell US\$/Buy NT\$	October 2019 to December 2019	US\$21,500/NT\$668,136
Sell JPY/Buy US\$	October 2019 to November 2019	JPY48,640,406/US\$454,677
<u>December 31, 2018</u>		
Sell NT\$/Buy EUR	January 2019 to March 2019	NT\$18,545,854/EUR527,000
Sell NT\$/Buy JPY	January 2019 to March 2019	NT\$4,757,858/JPY17,200,000
Sell US\$/Buy EUR	January 2019	US\$495/EUR434
Sell US\$/Buy JPY	January 2019	US\$175,591/JPY19,389,014
Sell US\$/Buy RMB	January 2019	US\$318,000/RMB2,188,747
Sell US\$/Buy NT\$	January 2019 to February 2019	US\$127,000/NT\$3,908,635
Sell RMB/Buy US\$	January 2019	RMB667,539/US\$97,000
<u>September 30, 2018</u>		
Sell NT\$/Buy EUR	October 2018 to November 2018	NT\$11,839,127/EUR331,000
Sell NT\$/Buy JPY	October 2018 to November 2018	NT\$7,030,043/JPY25,504,229
Sell US\$/Buy NT\$	October 2018 to November 2018	US\$555,500/NT\$17,039,496
Sell US\$/Buy EUR	October 2018	US\$233,273/EUR198,632
Sell US\$/Buy JPY	October 2018	US\$114,008/JPY12,869,738
Sell US\$/Buy RMB	October 2018	US\$345,000/RMB2,369,777
Sell RMB/Buy US\$	October 2018	RMB714,250/ US\$104,000

## 8. FINANCIAL ASSETS AT FAIR VALUE THROUGH OTHER COMPREHENSIVE INCOME

	<b>September 30, 2019</b>	<b>December 31, 2018</b>	<b>September 30, 2018</b>
Investments in debt instruments at FVTOCI			
Corporate bonds	\$ 54,113,016	\$ 40,753,582	\$ 40,587,299
Agency bonds/Agency mortgage-backed securities	52,743,788	31,288,762	31,663,708
Government bonds	15,260,645	11,151,359	10,815,035
Asset-backed securities	9,923,553	15,670,295	15,028,991
Commercial paper	92,450	107,590	258,345
	<u>132,133,452</u>	<u>98,971,588</u>	<u>98,353,378</u>
			(Continued)

	September 30, 2019	December 31, 2018	September 30, 2018
Investments in equity instruments at FVTOCI			
Non-publicly traded equity investments	\$ 4,026,516	\$ 3,910,681	\$ 5,701,354
Publicly traded stocks	<u>-</u>	<u>590,152</u>	<u>860,688</u>
	<u>4,026,516</u>	<u>4,500,833</u>	<u>6,562,042</u>
	<u>\$ 136,159,968</u>	<u>\$ 103,472,421</u>	<u>\$ 104,915,420</u>
Current	\$ 132,133,452	\$ 99,561,740	\$ 99,214,066
Noncurrent	<u>4,026,516</u>	<u>3,910,681</u>	<u>5,701,354</u>
	<u>\$ 136,159,968</u>	<u>\$ 103,472,421</u>	<u>\$ 104,915,420</u> (Concluded)

These investments in equity instruments are held for medium to long-term purposes and therefore are accounted for as FVTOCI.

For the nine months ended September 30, 2019 and 2018, as the Company adjusted its investment portfolio or the non-publicly traded investee was merged, equity investments designated at FVTOCI were divested for NT\$873,470 thousand and NT\$730,399 thousand, respectively. The related other equity-unrealized gain/loss on financial assets at FVTOCI of NT\$159,766 thousand and NT\$884,417 thousand were transferred to increase and decrease retained earnings, respectively.

For dividends from equity investments designated as at FVTOCI recognized, please refer to Note 22. All the dividends are from investments held at the end of the reporting period.

As of September 30, 2019 and 2018, the cumulative loss allowance for expected credit loss of NT\$37,781 thousand and NT\$29,598 thousand are recognized under investments in debt instruments at FVTOCI, respectively. Refer to Note 29 for information relating to their credit risk management and expected credit loss.

## 9. FINANCIAL ASSETS AT AMORTIZED COST

	September 30, 2019	December 31, 2018	September 30, 2018
Corporate bonds	\$ 7,917,118	\$ 19,519,941	\$ 19,370,671
Commercial paper	-	2,294,098	-
Less: Allowance for impairment loss	<u>(3,031)</u>	<u>(8,147)</u>	<u>(8,084)</u>
	<u>\$ 7,914,087</u>	<u>\$ 21,805,892</u>	<u>\$ 19,362,587</u>
Current	\$ -	\$ 14,277,615	\$ 11,891,845
Noncurrent	<u>7,914,087</u>	<u>7,528,277</u>	<u>7,470,742</u>
	<u>\$ 7,914,087</u>	<u>\$ 21,805,892</u>	<u>\$ 19,362,587</u>

Refer to Note 29 for information relating to credit risk management and expected credit loss for financial assets at amortized cost.

## 10. HEDGING FINANCIAL INSTRUMENTS

	September 30, 2019	December 31, 2018	September 30, 2018
<u>Financial assets - current</u>			
Fair value hedges			
Interest rate futures contracts	\$ 30,291	\$ -	\$ 120,417
Cash flow hedges			
Forward exchange contracts	<u>6,712</u>	<u>23,497</u>	<u>3,825</u>
	<u>\$ 37,003</u>	<u>\$ 23,497</u>	<u>\$ 124,242</u>
<u>Financial liabilities - current</u>			
Fair value hedges			
Interest rate futures contracts	\$ 653	\$ 153,891	\$ -
Cash flow hedges			
Forward exchange contracts	<u>23,199</u>	<u>1,941</u>	<u>3,750</u>
	<u>\$ 23,852</u>	<u>\$ 155,832</u>	<u>\$ 3,750</u>

### Fair value hedge

The Company entered into interest rate futures contracts, which are used to partially hedge against the price risk caused by changes in interest rates in the Company's investments in fixed income securities. The hedge ratio is adjusted in response to the changes in the financial market and capped at 100%.

On the basis of economic relationships, the Company expects that the value of the interest rate futures contracts and the value of the hedged financial assets will change in opposite directions in response to movements in interest rates.

The main source of hedge ineffectiveness in these hedging relationships is the credit risk of the hedged financial assets, which is not reflected in the fair value of the interest rate futures contracts. No other sources of ineffectiveness emerged from these hedging relationships. Amount of hedge ineffectiveness recognized in profit or loss is classified under other gains and losses.

The following tables summarize the information relating to the hedges of interest rate risk.

### September 30, 2019

Hedging Instruments	Contract Amount (US\$ in Thousands)	Maturity
US treasury bonds interest rate futures contracts	US\$ 171,500	December 2019
Hedged Items	Asset Carrying Amount	Asset Accumulated Amount of Fair Value Hedge Adjustments
Financial assets at FVTOCI	\$ 9,846,834	\$ 107,564

December 31, 2018

<b>Hedging Instruments</b>	<b>Contract Amount (US\$ in Thousands)</b>	<b>Maturity</b>
US treasury bonds interest rate futures contracts	US\$ 330,300	March 2019
<b>Hedged Items</b>	<b>Asset Carrying Amount</b>	<b>Asset Accumulated Amount of Fair Value Hedge Adjustments</b>
Financial assets at FVTOCI	\$ 23,229,530	\$ (13,508)

September 30, 2018

<b>Hedging Instruments</b>	<b>Contract Amount (US\$ in Thousands)</b>	<b>Maturity</b>
US treasury bonds interest rate futures contracts	US\$ 301,400	December 2018
<b>Hedged Items</b>	<b>Asset Carrying Amount</b>	<b>Asset Accumulated Amount of Fair Value Hedge Adjustments</b>
Financial assets at FVTOCI	\$ 15,557,309	\$ (626,274)

The effect on comprehensive income for the nine months ended September 30, 2019 and 2018 are detailed below:

<b>Hedging Instruments/Hedged Items</b>	<b>Increase (Decrease) in Value Used for Calculating Hedge Ineffectiveness Nine Months Ended September 30</b>	
	<b>2019</b>	<b>2018</b>
Hedging Instruments		
US treasury bonds interest rate futures contracts	\$ (216,208)	\$ 242,632
Hedged Items		
Financial assets at FVTOCI	<u>229,184</u>	<u>(245,126)</u>
	<u>\$ 12,976</u>	<u>\$ (2,494)</u>

### Cash flow hedge

The Company entered into forward exchange contracts and foreign currency deposits to partially hedge foreign exchange rate risks associated with certain highly probable forecast transactions (capital expenditures). The hedge ratio is adjusted in response to the changes in the financial market and capped at 100%. The forward exchange contracts have maturities of 12 months or less.

On the basis of economic relationships, the Company expects that the value of forward exchange contracts and foreign currency deposits and the value of hedged transactions will change in opposite directions in response to movements in foreign exchange rates.

The main source of hedge ineffectiveness in these hedging relationships is driven by the effect of the counterparty's own credit risk on the fair value of forward exchange contracts and foreign currency deposits. No other sources of ineffectiveness emerged from these hedging relationships. For the nine months ended September 30, 2019 and 2018, refer to Note 20(d) for gain or loss arising from changes in the fair value of hedging instruments and the amount transferred to initial carrying amount of hedged items.

The following tables summarize the information relating to the hedges for foreign currency risk.

#### September 30, 2019

<b>Hedging Instruments</b>	<b>Contract Amount (In Thousands)</b>	<b>Maturity</b>	<b>Balance in Other Equity (Continuing Hedges)</b>
Forward exchange contracts	NT\$ 3,147,690 /EUR 92,000	October 2019 to November 2019	\$ (36,243)

#### December 31, 2018

<b>Hedging Instruments</b>	<b>Contract Amount (In Thousands)</b>	<b>Maturity</b>	<b>Balance in Other Equity (Continuing Hedges)</b>
Forward exchange contracts	NT\$ 3,917,657 /EUR 112,000	February 2019 to April 2019	\$ 23,601

#### September 30, 2018

<b>Hedging Instruments</b>	<b>Contract Amount (In Thousands)</b>	<b>Maturity</b>	<b>Balance in Other Equity (Continuing Hedges)</b>
Forward exchange contracts	NT\$1,140,456 /EUR 32,000	November 2018 to December 2018	\$ 1,543

The effect on comprehensive income for the nine months ended September 30, 2019 and 2018 are detailed below:

Hedging Instruments/Hedged Items	Increase (Decrease) in Value Used for Calculating Hedge Ineffectiveness	
	Nine Months Ended September 30	
	2019	2018
Hedging Instruments		
Forward exchange contracts	\$ (75,421)	\$ 17,475
Foreign currency deposits	<u>-</u>	<u>6,412</u>
	<u>\$ (75,421)</u>	<u>\$ 23,887</u>
Hedged Items		
Forecast transaction (capital expenditures)	<u>\$ 75,421</u>	<u>\$ (23,887)</u>

#### 11. NOTES AND ACCOUNTS RECEIVABLE, NET

	September 30, 2019	December 31, 2018	September 30, 2018
At amortized cost			
Notes and accounts receivable	\$ 140,818,053	\$ 125,025,575	\$ 124,750,986
Less: Loss allowance	<u>(29,847)</u>	<u>(7,253)</u>	<u>(88,320)</u>
	140,788,206	125,018,322	124,662,666
At FVTOCI	<u>3,452,651</u>	<u>3,595,069</u>	<u>3,120,239</u>
	<u>\$ 144,240,857</u>	<u>\$ 128,613,391</u>	<u>\$ 127,782,905</u>

The Company signed a contract with the bank to sell certain accounts receivable without recourse and transaction cost required. These accounts receivable are classified as at FVTOCI because they are held within a business model whose objective is achieved by both collecting contractual cash flows and selling financial assets.

In principle, the payment term granted to customers is due 30 days from the invoice date or 30 days from the end of the month when the invoice is issued. Aside from recognizing impairment loss for credit-impaired accounts receivable, the Company recognizes loss allowance based on the expected credit loss ratio of customers by different risk levels with consideration of factors of historical loss ratios and customers' financial conditions, competitiveness and business outlook. For accounts receivable past due over 90 days without collaterals or guarantees, the Company recognizes loss allowance at full amount.

Aging analysis of notes and accounts receivable, net

	<b>September 30, 2019</b>	<b>December 31, 2018</b>	<b>September 30, 2018</b>
Not past due	\$ 133,409,238	\$ 113,126,484	\$ 118,124,577
Past due			
Past due within 30 days	10,705,928	15,006,461	9,281,088
Past due 31-60 days	116,283	472,833	190,769
Past due 61-120 days	9,408	4,654	165,805
Past due over 121 days	<u>-</u>	<u>2,959</u>	<u>20,666</u>
	<u>\$ 144,240,857</u>	<u>\$ 128,613,391</u>	<u>\$ 127,782,905</u>

Movements of the loss allowance for accounts receivable

	<u>Nine Months Ended September 30</u>	
	<u>2019</u>	<u>2018</u>
Balance, beginning of period	\$ 7,253	\$ 226,968
Provision (Reversal)	22,722	(138,644)
Effect of exchange rate changes	<u>(128)</u>	<u>(4)</u>
Balance, end of period	<u>\$ 29,847</u>	<u>\$ 88,320</u>

For the nine months ended September 30, 2019 and 2018, the changes in loss allowance were mainly due to the variations from accounts receivable balance of different risk levels.

**12. INVENTORIES**

	<b>September 30, 2019</b>	<b>December 31, 2018</b>	<b>September 30, 2018</b>
Finished goods	\$ 10,095,240	\$ 11,329,802	\$ 11,043,539
Work in process	65,154,158	72,071,861	77,500,661
Raw materials	16,388,402	15,233,877	12,346,579
Supplies and spare parts	<u>5,047,930</u>	<u>4,595,436</u>	<u>4,445,797</u>
	<u>\$ 96,685,730</u>	<u>\$ 103,230,976</u>	<u>\$ 105,336,576</u>

Write-down of inventories to net realizable value was included in the cost of revenue, as illustrated below:

	<u>Three Months Ended September 30</u>		<u>Nine Months Ended September 30</u>	
	<u>2019</u>	<u>2018</u>	<u>2019</u>	<u>2018</u>
Inventory losses	<u>\$ 323,620</u>	<u>\$ 405,743</u>	<u>\$ 46,885</u>	<u>\$ 1,471,757</u>

The aforementioned inventory losses exclude wafer contamination losses and computer virus outbreak losses. Please refer to related losses in Note 34.



### 13. INVESTMENTS ACCOUNTED FOR USING EQUITY METHOD

Associates consisted of the following:

Name of Associate	Principal Activities	Place of Incorporation and Operation	Carrying Amount			% of Ownership and Voting Rights Held by the Company		
			September 30, 2019	December 31, 2018	September 30, 2018	September 30, 2019	December 31, 2018	September 30, 2018
Vanguard International Semiconductor Corporation (VIS)	Manufacturing, selling, packaging, testing and computer-aided design of integrated circuits and other semiconductor devices and the manufacturing and design service of masks	Hsinchu, Taiwan	\$ 8,717,119	\$ 9,006,126	\$ 8,450,652	28%	28%	28%
Systems on Silicon Manufacturing Company Pte Ltd. (SSMC)	Manufacturing and selling of integrated circuits and other semiconductor devices	Singapore	6,446,678	5,772,815	5,317,308	39%	39%	39%
Xintec Inc. (Xintec)	Wafer level chip size packaging and wafer level post passivation interconnection service	Taoyuan, Taiwan	1,762,753	1,764,607	1,715,711	41%	41%	41%
Global Unichip Corporation (GUC)	Researching, developing, manufacturing, testing and marketing of integrated circuits	Hsinchu, Taiwan	1,232,543	1,299,423	1,125,928	35%	35%	35%
Mutual-Pak	Manufacturing of electronic parts, wholesaling and retailing of electronic materials, and researching, developing and testing of RFID	New Taipei, Taiwan	34,876	22,867	21,071	30%	39%	39%
			<u>\$18,193,969</u>	<u>\$17,865,838</u>	<u>\$16,630,670</u>			

The market prices of the investments accounted for using the equity method in publicly traded stocks calculated by the closing price at the end of the reporting period are summarized as follows. The closing price represents the quoted price in active markets, the level 1 fair value measurement.

Name of Associate	September 30, 2019	December 31, 2018	September 30, 2018
VIS	<u>\$ 29,106,813</u>	<u>\$ 27,621,298</u>	<u>\$ 31,567,198</u>
GUC	<u>\$ 11,671,965</u>	<u>\$ 9,617,699</u>	<u>\$ 12,652,410</u>
Xintec	<u>\$ 5,319,276</u>	<u>\$ 3,783,585</u>	<u>\$ 4,952,046</u>

### 14. PROPERTY, PLANT AND EQUIPMENT

2019

	September 30, 2019
Assets used by the Company	\$1,197,885,739
Assets subject to operating leases	<u>69,559</u>
	<u>\$1,197,955,298</u>

a. Assets used by the Company

	Land and Land Improvements	Buildings	Machinery and Equipment	Office Equipment	Equipment under Installation and Construction in Progress	Total
<u>Cost</u>						
Balance at January 1, 2019	\$ 4,011,353	\$ 418,151,675	\$ 2,728,760,127	\$ 48,382,279	\$ 172,910,989	\$ 3,372,216,423
Additions	-	17,620,955	137,136,089	5,714,221	183,221,480	343,692,745
Disposals or retirements	-	(59,375)	(12,767,594)	(454,190)	-	(13,281,159)
Transfers from right-of-use assets	-	-	619,779	-	-	619,779
Effect of disposal of subsidiary	-	-	-	(508)	-	(508)
Effect of exchange rate changes	7,463	(764,180)	(2,486,790)	(46,703)	(209,042)	(3,499,252)
Balance at September 30, 2019	<u>\$ 4,018,816</u>	<u>\$ 434,949,075</u>	<u>\$ 2,851,261,611</u>	<u>\$ 53,595,099</u>	<u>\$ 355,923,427</u>	<u>\$ 3,699,748,028</u>
<u>Accumulated depreciation and impairment</u>						
Balance at January 1, 2019	\$ 550,575	\$ 217,899,243	\$ 2,049,278,908	\$ 32,525,129	\$ -	\$ 2,300,253,855
Additions	1,230	19,517,434	189,276,534	4,498,925	-	213,294,123
Disposals or retirements	-	(59,331)	(8,406,415)	(452,988)	-	(8,918,734)
Transfers from right-of-use assets	-	-	20,659	-	-	20,659
Reversal of impairment	-	-	(301,384)	-	-	(301,384)
Effect of disposal of subsidiary	-	-	-	(508)	-	(508)
Effect of exchange rate changes	5,140	(317,164)	(2,162,387)	(11,311)	-	(2,485,722)
Balance at September 30, 2019	<u>\$ 556,945</u>	<u>\$ 237,040,182</u>	<u>\$ 2,227,705,915</u>	<u>\$ 36,559,247</u>	<u>\$ -</u>	<u>\$ 2,501,862,289</u>
Carrying amounts at January 1, 2019	<u>\$ 3,460,778</u>	<u>\$ 200,252,432</u>	<u>\$ 679,481,219</u>	<u>\$ 15,857,150</u>	<u>\$ 172,910,989</u>	<u>\$ 1,071,962,568</u>
Carrying amounts at September 30, 2019	<u>\$ 3,461,871</u>	<u>\$ 197,908,893</u>	<u>\$ 623,555,696</u>	<u>\$ 17,035,852</u>	<u>\$ 355,923,427</u>	<u>\$ 1,197,885,739</u>

The significant part of the Company's buildings includes main plants, mechanical and electrical power equipment and clean rooms, and the related depreciation is calculated using the estimated useful lives of 20 years, 10 years and 10 years, respectively.

In the first quarter of 2019, the Company recognized a reversal of impairment loss of NT\$301,384 thousand due to redeployment of certain idle machinery and equipment. Such reversal of impairment loss was recognized in other operating income and expenses.

b. Assets subject to operating leases

	Buildings
<u>Cost</u>	
Balance at January 1, 2019	<u>\$ 562,610</u>
Balance at September 30, 2019	<u>\$ 562,610</u>
<u>Accumulated depreciation</u>	
Balance at January 1, 2019	\$ 474,899
Additions	<u>18,152</u>
Balance at September 30, 2019	<u>\$ 493,051</u>
Carrying amounts at January 1, 2019	<u>\$ 87,711</u>
Carrying amounts at September 30, 2019	<u>\$ 69,559</u>

Operating leases relate to leases of buildings with lease terms between 1 to 5 years. The lessees do not have purchase options to acquire the assets at the expiry of the lease periods.

The maturity analysis of operating lease payments receivable for the buildings is as follows:

	<b>September 30, 2019</b>
Year 1	\$ 26,352
Year 2	16,992
Year 3	16,992
Year 4	<u>4,248</u>
	<u>\$ 64,584</u>

The buildings subject to operating leases are depreciated using the estimated useful lives of 20 years.

## 2018

	<b>Land and Land Improvements</b>	<b>Buildings</b>	<b>Machinery and Equipment</b>	<b>Office Equipment</b>	<b>Equipment under Installation and Construction in Progress</b>	<b>Total</b>
<u>Cost</u>						
Balance at January 1, 2018	\$ 3,983,243	\$ 379,134,613	\$ 2,487,752,265	\$ 42,391,516	\$ 167,353,490	\$ 3,080,615,127
Additions (Deductions)	-	26,506,546	214,486,883	5,585,725	(44,641,617)	201,937,537
Disposals or retirements	-	(18,624)	(3,353,136)	(352,951)	-	(3,724,711)
Effect of exchange rate changes	<u>21,999</u>	<u>(743,953)</u>	<u>(1,342,261)</u>	<u>(21,818)</u>	<u>(291,513)</u>	<u>(2,377,546)</u>
Balance at September 30, 2018	<u>\$ 4,005,242</u>	<u>\$ 404,878,582</u>	<u>\$ 2,697,543,751</u>	<u>\$ 47,602,472</u>	<u>\$ 122,420,360</u>	<u>\$ 3,276,450,407</u>
<u>Accumulated depreciation and impairment</u>						
Balance at January 1, 2018	\$ 510,498	\$ 194,446,521	\$ 1,795,448,842	\$ 27,666,944	\$ -	\$ 2,018,072,805
Additions	20,458	18,149,233	190,993,719	4,155,540	-	213,318,950
Disposals or retirements	-	(6,764)	(2,421,656)	(352,324)	-	(2,780,744)
Impairment	-	-	488,336	-	-	488,336
Effect of exchange rate changes	<u>14,973</u>	<u>(139,812)</u>	<u>(1,060,793)</u>	<u>19,857</u>	<u>-</u>	<u>(1,165,775)</u>
Balance at September 30, 2018	<u>\$ 545,929</u>	<u>\$ 212,449,178</u>	<u>\$ 1,983,448,448</u>	<u>\$ 31,490,017</u>	<u>\$ -</u>	<u>\$ 2,227,933,572</u>
Carrying amounts at January 1, 2018	<u>\$ 3,472,745</u>	<u>\$ 184,688,092</u>	<u>\$ 692,303,423</u>	<u>\$ 14,724,572</u>	<u>\$ 167,353,490</u>	<u>\$ 1,062,542,322</u>
Carrying amounts at September 30, 2018	<u>\$ 3,459,313</u>	<u>\$ 192,429,404</u>	<u>\$ 714,095,303</u>	<u>\$ 16,112,455</u>	<u>\$ 122,420,360</u>	<u>\$ 1,048,516,835</u>

The significant part of the Company's buildings includes main plants, mechanical and electrical power equipment and clean rooms, and the related depreciation is calculated using the estimated useful lives of 20 years, 10 years and 10 years, respectively.

In the second quarter of 2018, the Company recognized an impairment loss of NT\$488,336 thousand for certain machinery and equipment that was assessed to have no future use, and the recoverable amount of certain machinery and equipment was nil. Such impairment loss was recognized in other operating income and expenses.

## 15. LEASE ARRANGEMENTS

2019

a. Right-of-use assets

	<b>September 30, 2019</b>	
<u>Carrying amounts</u>		
Land		\$ 14,028,317
Buildings		2,370,423
Machinery and equipment		1,066,738
Office equipment		<u>41,348</u>
		<u>\$ 17,506,826</u>
		<b>Nine Months Ended September 30, 2019</b>
Additions to right-of-use assets		<u>\$ 474,003</u>
	<b>Three Months Ended September 30, 2019</b>	<b>Nine Months Ended September 30, 2019</b>
Depreciation of right-of-use assets		
Land	\$ 238,027	\$ 719,588
Buildings	115,132	332,575
Machinery and equipment	290,929	893,445
Office equipment	<u>5,602</u>	<u>16,641</u>
	<u>\$ 649,690</u>	<u>\$ 1,962,249</u>
Income from subleasing right-of-use assets (classified under other operating income and expenses, net)	<u>\$ 14,001</u>	<u>\$ 40,899</u>

b. Lease liabilities

	<b>September 30, 2019</b>	
<u>Carrying amounts</u>		
Current portion (classified under accrued expenses and other current liabilities)		\$ 2,580,646
Noncurrent portion		<u>15,031,539</u>
		<u>\$ 17,612,185</u>

Ranges of discount rates for lease liabilities are as follows:

	<b>September 30, 2019</b>
Land	0.70%-2.14%
Buildings	0.69%-3.88%
Machinery and equipment	3.24%
Office equipment	0.64%-3.88%

c. Material terms of right-of-use assets

The Company leases land and buildings mainly for the use of plants and offices with lease terms of 1 to 36 years. The lease contracts for land located in R.O.C. specify that lease payments will be adjusted every 2 years on the basis of changes in announced land value prices. The Company does not have purchase options to acquire the leasehold land and buildings at the end of the lease terms.

The Company leases machinery and equipment for operation use with lease terms of 2 years. The Company has purchase options to acquire leasehold machine and equipment at the end of the lease terms.

d. Subleases of right-of-use assets

The Company subleases its right-of-use assets for buildings under operating leases with lease terms of 1 to 5 years.

The maturity analysis of lease payments receivable under operating subleases is as follows:

	<b>September 30, 2019</b>
Year 1	\$ 54,160
Year 2	<u>4,086</u>
	<u>\$ 58,246</u>

e. Other lease information

	<b>Three Months Ended September 30, 2019</b>	<b>Nine Months Ended September 30, 2019</b>
Expenses relating to short-term leases	<u>\$ 1,137,710</u>	<u>\$ 3,931,487</u>
Expenses relating to low-value asset leases	<u>\$ 132</u>	<u>\$ 386</u>
Expenses relating to variable lease payments not included in the measurement of lease liabilities	<u>\$ 56,489</u>	<u>\$ 154,132</u>
		<b>Nine Months Ended September 30, 2019</b>
Total cash outflow for leases		<u>\$ 6,031,057</u>

## 2018

Future minimum lease payments under non-cancellable operating leases are as follows:

	December 31, 2018	September 30, 2018
Not later than 1 year	\$ 5,824,119	\$ 5,962,586
Later than 1 year and not later than 5 years	5,834,884	5,926,589
Later than 5 years	<u>9,190,582</u>	<u>9,307,594</u>
	<u>\$ 20,849,585</u>	<u>\$ 21,196,769</u>

## 16. INTANGIBLE ASSETS

	Goodwill	Technology License Fees	Software and System Design Costs	Patent and Others	Total
<u>Cost</u>					
Balance at January 1, 2019	\$ 5,795,488	\$ 10,974,458	\$ 29,594,483	\$ 7,656,524	\$ 54,020,953
Additions	-	1,768,377	3,076,909	294,096	5,139,382
Disposals or retirements	-	-	(251,659)	-	(251,659)
Effect of exchange rate changes	<u>38,971</u>	<u>1,886</u>	<u>(13,641)</u>	<u>(794)</u>	<u>26,422</u>
Balance at September 30, 2019	<u>\$ 5,834,459</u>	<u>\$ 12,744,721</u>	<u>\$ 32,406,092</u>	<u>\$ 7,949,826</u>	<u>\$ 58,935,098</u>
<u>Accumulated amortization and impairment</u>					
Balance at January 1, 2019	\$ -	\$ 8,756,005	\$ 23,023,498	\$ 5,239,313	\$ 37,018,816
Additions	-	779,997	2,806,987	490,948	4,077,932
Disposals or retirements	-	-	(249,282)	-	(249,282)
Effect of exchange rate changes	<u>-</u>	<u>1,886</u>	<u>(7,072)</u>	<u>(755)</u>	<u>(5,941)</u>
Balance at September 30, 2019	<u>\$ -</u>	<u>\$ 9,537,888</u>	<u>\$ 25,574,131</u>	<u>\$ 5,729,506</u>	<u>\$ 40,841,525</u>
Carrying amounts at January 1, 2019	<u>\$ 5,795,488</u>	<u>\$ 2,218,453</u>	<u>\$ 6,570,985</u>	<u>\$ 2,417,211</u>	<u>\$ 17,002,137</u>
Carrying amounts at September 30, 2019	<u>\$ 5,834,459</u>	<u>\$ 3,206,833</u>	<u>\$ 6,831,961</u>	<u>\$ 2,220,320</u>	<u>\$ 18,093,573</u>
<u>Cost</u>					
Balance at January 1, 2018	\$ 5,648,702	\$ 10,443,257	\$ 25,186,218	\$ 5,716,146	\$ 46,994,323
Additions	-	483,117	2,037,709	382,211	2,903,037
Disposals or retirements	-	-	(125,430)	(31,183)	(156,613)
Effect of exchange rate changes	<u>114,876</u>	<u>(466)</u>	<u>(11,117)</u>	<u>1,653</u>	<u>104,946</u>
Balance at September 30, 2018	<u>\$ 5,763,578</u>	<u>\$ 10,925,908</u>	<u>\$ 27,087,380</u>	<u>\$ 6,068,827</u>	<u>\$ 49,845,693</u>
<u>Accumulated amortization and impairment</u>					
Balance at January 1, 2018	\$ -	\$ 7,694,857	\$ 20,376,693	\$ 4,747,633	\$ 32,819,183
Additions	-	796,974	2,011,154	389,300	3,197,428
Disposals or retirements	-	-	(125,374)	(31,183)	(156,557)
Effect of exchange rate changes	<u>-</u>	<u>(466)</u>	<u>(3,208)</u>	<u>129</u>	<u>(3,545)</u>
Balance at September 30, 2018	<u>\$ -</u>	<u>\$ 8,491,365</u>	<u>\$ 22,259,265</u>	<u>\$ 5,105,879</u>	<u>\$ 35,856,509</u>
Carrying amounts at January 1, 2018	<u>\$ 5,648,702</u>	<u>\$ 2,748,400</u>	<u>\$ 4,809,525</u>	<u>\$ 968,513</u>	<u>\$ 14,175,140</u>
Carrying amounts at September 30, 2018	<u>\$ 5,763,578</u>	<u>\$ 2,434,543</u>	<u>\$ 4,828,115</u>	<u>\$ 962,948</u>	<u>\$ 13,989,184</u>

The Company's goodwill has been tested for impairment at the end of the annual reporting period and the recoverable amount is determined based on the value in use. The value in use was calculated based on the cash flow forecast from the financial budgets covering the future five-year period, and the Company used annual discount rate of 9.0% in its test of impairment as of December 31, 2018 to reflect the relevant specific risk in the cash-generating unit.

## 17. SHORT-TERM LOANS

	September 30, 2019	December 31, 2018	September 30, 2018
Unsecured loans			
Amount	<u>\$ 85,573,710</u>	<u>\$ 88,754,640</u>	<u>\$ 73,974,625</u>
Original loan content			
US\$ (in thousands)	\$ 2,440,000	\$ 2,610,000	\$ 2,425,000
EUR (in thousands)	290,000	242,000	-
Annual interest rate	0.01%-2.43%	0.01%-3.22%	2.42%-2.67%
Maturity date	Due by February 2020	Due by January 2019	Due by October 2018

## 18. BONDS PAYABLE

	September 30, 2019	December 31, 2018	September 30, 2018
Domestic unsecured bonds	\$ 56,900,000	\$ 91,800,000	\$ 91,800,000
Less: Current portion	<u>(31,800,000)</u>	<u>(34,900,000)</u>	<u>(34,900,000)</u>
	<u>\$ 25,100,000</u>	<u>\$ 56,900,000</u>	<u>\$ 56,900,000</u>

The major terms of overseas unsecured bonds are as follows:

Issuance Period	Total Amount (US\$ in Thousands)	Coupon Rate	Repayment and Interest Payment
April 2013 to April 2018	US\$1,150,000	1.625%	Bullet repayment; interest payable semi-annually

## 19. GUARANTEE DEPOSITS

	September 30, 2019	December 31, 2018	September 30, 2018
Capacity guarantee	\$ 3,481,230	\$ 9,289,628	\$ 10,371,700
Receivables guarantee	-	653,686	647,218
Others	<u>255,634</u>	<u>245,731</u>	<u>208,525</u>
	<u>\$ 3,736,864</u>	<u>\$ 10,189,045</u>	<u>\$ 11,227,443</u>

(Continued)

	September 30, 2019	December 31, 2018	September 30, 2018
Current portion (classified under accrued expenses and other current liabilities)	\$ 3,526,666	\$ 6,835,667	\$ 6,781,863
Noncurrent portion	<u>210,198</u>	<u>3,353,378</u>	<u>4,445,580</u>
	<u>\$ 3,736,864</u>	<u>\$ 10,189,045</u>	<u>\$ 11,227,443</u> (Concluded)

Some of guarantee deposits were refunded to customers by offsetting related accounts receivable.

## 20. EQUITY

### a. Capital stock

	September 30, 2019	December 31, 2018	September 30, 2018
Authorized shares (in thousands)	<u>28,050,000</u>	<u>28,050,000</u>	<u>28,050,000</u>
Authorized capital	<u>\$ 280,500,000</u>	<u>\$ 280,500,000</u>	<u>\$ 280,500,000</u>
Issued and paid shares (in thousands)	<u>25,930,380</u>	<u>25,930,380</u>	<u>25,930,380</u>
Issued capital	<u>\$ 259,303,805</u>	<u>\$ 259,303,805</u>	<u>\$ 259,303,805</u>

A holder of issued common shares with par value of NT\$10 per share is entitled to vote and to receive dividends.

The authorized shares include 500,000 thousand shares allocated for the exercise of employee stock options.

As of September 30, 2019, 1,065,122 thousand ADSs of TSMC were traded on the NYSE. The number of common shares represented by the ADSs was 5,325,610 thousand shares (one ADS represents five common shares).

### b. Capital surplus

	September 30, 2019	December 31, 2018	September 30, 2018
Additional paid-in capital	\$ 24,184,939	\$ 24,184,939	\$ 24,184,939
From merger	22,804,510	22,804,510	22,804,510
From convertible bonds	8,892,847	8,892,847	8,892,847
From share of changes in equities of subsidiaries	121,843	121,473	121,163
From share of changes in equities of associates	287,447	282,820	288,952
Donations	<u>29,343</u>	<u>29,343</u>	<u>19,248</u>
	<u>\$ 56,320,929</u>	<u>\$ 56,315,932</u>	<u>\$ 56,311,659</u>



Under the relevant laws, the capital surplus generated from donations and the excess of the issuance price over the par value of capital stock (including the stock issued for new capital, mergers and convertible bonds) may be used to offset a deficit; in addition, when the Company has no deficit, such capital surplus may be distributed as cash dividends or stock dividends up to a certain percentage of TSMC's paid-in capital. The capital surplus from share of changes in equities of subsidiaries and associates and dividend of a claim extinguished by a prescription may be used to offset a deficit; however, when generated from issuance of restricted shares for employees, such capital surplus may not be used for any purpose.

c. Retained earnings and dividend policy

The amendments to TSMC's Articles of Incorporation had been approved by TSMC's shareholders in its meeting held on June 5, 2019, which stipulate that earnings distribution may be made on a quarterly basis after the close of each quarter. Distribution of earnings by way of cash dividends should be approved by TSMC's Board of Directors and reported to TSMC's shareholders in its meeting.

TSMC's amended Articles of Incorporation provide that, when allocating earnings, TSMC shall first estimate and reserve the taxes to be paid, offset its losses, set aside a legal capital reserve at 10% of the remaining earnings (until the accumulated legal capital reserve equals TSMC's paid-in capital), then set aside a special capital reserve in accordance with relevant laws or regulations or as requested by the authorities in charge. Any balance left over shall be allocated according to relevant laws and the TSMC's Articles of Incorporation.

TSMC's Articles of Incorporation also provide that profits of TSMC may be distributed by way of cash dividend and/or stock dividend. However, distribution of earnings shall be made preferably by way of cash dividend. Distribution of earnings may also be made by way of stock dividend, provided that the ratio for stock dividend shall not exceed 50% of the total distribution.

The reserve may be used to offset a deficit, or be distributed as dividends in cash or stocks for the portion in excess of 25% of the paid-in capital if the Company incurs no loss.

Pursuant to existing regulations, the Company is required to set aside additional special capital reserve equivalent to the net debit balance of the other components of stockholders' equity, such as the accumulated balance of foreign currency translation reserve, unrealized valuation gain or loss from fair value through other comprehensive income financial assets, unrealized valuation gain or loss from available-for-sale financial assets, gain or loss from changes in fair value of hedging instruments in cash flow hedges, etc. For the subsequent decrease in the deduction amount to stockholders' equity, any special reserve appropriated may be reversed to the extent that the net debit balance reverses.

The appropriations of 2018 and 2017 earnings have been approved by TSMC's shareholders in its meetings held on June 5, 2019 and June 5, 2018, respectively. The appropriations and cash dividends per share were as follows:

	<b>Appropriation of Earnings</b>		<b>Cash Dividends Per Share (NT\$)</b>	
	<b>For Fiscal Year 2018</b>	<b>For Fiscal Year 2017</b>	<b>For Fiscal Year 2018</b>	<b>For Fiscal Year 2017</b>
Legal capital reserve	<u>\$ 35,113,088</u>	<u>\$ 34,311,148</u>		
Special capital reserve	<u>\$ (11,459,458)</u>	<u>\$ 26,907,527</u>		
Cash dividends to shareholders	<u>\$207,443,044</u>	<u>\$207,443,044</u>	\$8.0	\$8.0

The appropriations of 2019 earnings for each quarter have been approved by TSMC's Board of Directors in its meeting. The appropriations and cash dividends per share were as follows:

	<b>Third Quarter of 2019</b>	<b>Second Quarter of 2019</b>	<b>First Quarter of 2019</b>
	<b>November 12, 2019</b>	<b>August 13, 2019</b>	<b>June 5, 2019</b>
Resolution date of TSMC's Board of Directors in its meeting			
Special capital reserve	<u>\$ 3,289,166</u>	<u>\$ (3,338,190)</u>	<u>\$ (4,723,939)</u>
Cash dividends to shareholders	<u>\$ 64,825,951</u>	<u>\$ 64,825,951</u>	<u>\$ 51,860,761</u>
Cash Dividends Per Share (NT\$)	<u>\$ 2.5</u>	<u>\$ 2.5</u>	<u>\$ 2.0</u>

d. Others

Changes in others were as follows:

	<b>Nine Months Ended September 30, 2019</b>				
	<b>Foreign Currency Translation Reserve</b>	<b>Unrealized Gain (Loss) on Financial Assets at FVTOCI</b>	<b>Gain (Loss) on Hedging Instruments</b>	<b>Unearned Stock-Based Employee Compensation</b>	<b>Total</b>
Balance, beginning of period	\$ (12,042,347)	\$ (3,429,324)	\$ 23,601	\$ (1,843)	\$ (15,449,913)
Exchange differences arising on translation of foreign operations	2,216,619	-	-	-	2,216,619
Unrealized gain (loss) on financial assets at FVTOCI					
Equity instruments	-	219,752	-	-	219,752
Debt instruments	-	3,067,792	-	-	3,067,792
Cumulative unrealized gain (loss) of equity instruments transferred to retained earnings due to disposal	-	(159,766)	-	-	(159,766)
Cumulative unrealized gain (loss) of debt instruments transferred to profit or loss due to disposal	-	(499,147)	-	-	(499,147)
Loss allowance adjustments from debt instruments	-	7,816	-	-	7,816
Other comprehensive income transferred to profit or loss due to disposal of subsidiary	4,598	-	-	-	4,598
Gain (loss) arising on changes in the fair value of hedging instruments	-	-	(75,421)	-	(75,421)
Transferred to initial carrying amount of hedged items	-	-	15,682	-	15,682
Share of other comprehensive income (loss) of associates	(20,223)	(14,219)	(105)	-	(34,547)
Share of unearned stock-based employee compensation of associates	-	-	-	1,843	1,843
Income tax effect	-	9,586	-	-	9,586
Balance, end of period	<u>\$ (9,841,353)</u>	<u>\$ (797,510)</u>	<u>\$ (36,243)</u>	<u>\$ -</u>	<u>\$ (10,675,106)</u>

	Nine Months Ended September 30, 2018				
	Foreign Currency Translation Reserve	Unrealized Gain (Loss) on Financial Assets at FVTOCI	Gain (Loss) on Hedging Instruments	Unearned Stock-Based Employee Compensation	Total
Balance, beginning of period	\$ (26,697,680)	\$ (524,915)	\$ 4,226	\$ (10,290)	\$ (27,228,659)
Exchange differences arising on translation of foreign operations	10,375,628	-	-	-	10,375,628
Unrealized gain (loss) on financial assets at FVTOCI					
Equity instruments	-	(1,309,697)	-	-	(1,309,697)
Debt instruments	-	(1,813,242)	-	-	(1,813,242)
Cumulative unrealized gain (loss) of equity instruments transferred to retained earnings due to disposal	-	884,417	-	-	884,417
Cumulative unrealized gain (loss) of debt instruments transferred to profit or loss due to disposal	-	774,784	-	-	774,784
Loss allowance adjustments from debt instruments	-	(1,886)	-	-	(1,886)
Gain (loss) arising on changes in the fair value of hedging instruments	-	-	23,887	-	23,887
Transferred to initial carrying amount of hedged items	-	-	(26,936)	-	(26,936)
Share of other comprehensive income (loss) of associates	73,283	(4,106)	-	-	69,177
Share of unearned stock-based employee compensation of associates	-	-	-	4,475	4,475
Income tax effect	-	66,477	366	-	66,843
Balance, end of period	<u>\$ (16,248,769)</u>	<u>\$ (1,928,168)</u>	<u>\$ 1,543</u>	<u>\$ (5,815)</u>	<u>\$ (18,181,209)</u>

The aforementioned other equity includes the changes in other equities of TSMC and TSMC's share of its subsidiaries and associates.

## 21. NET REVENUE

### a. Disaggregation of revenue from contracts with customers

Product	Three Months Ended September 30		Nine Months Ended September 30	
	2019	2018	2019	2018
Wafer	\$ 253,858,860	\$ 229,063,242	\$ 654,788,772	\$ 660,068,704
Others	<u>39,186,579</u>	<u>31,284,640</u>	<u>97,959,611</u>	<u>81,634,660</u>
	<u>\$ 293,045,439</u>	<u>\$ 260,347,882</u>	<u>\$ 752,748,383</u>	<u>\$ 741,703,364</u>
Geography	Three Months Ended September 30		Nine Months Ended September 30	
	2019	2018	2019	2018
Taiwan	\$ 23,868,865	\$ 21,359,694	\$ 61,412,025	\$ 59,818,521
United States	174,062,231	161,222,535	449,162,468	435,348,718
China	57,798,771	40,025,587	138,796,906	137,777,196
Europe, the Middle East and Africa	17,318,481	17,523,998	48,761,176	53,198,826
Japan	15,442,881	15,343,476	42,042,159	43,956,875
Others	<u>4,554,210</u>	<u>4,872,592</u>	<u>12,573,649</u>	<u>11,603,228</u>
	<u>\$ 293,045,439</u>	<u>\$ 260,347,882</u>	<u>\$ 752,748,383</u>	<u>\$ 741,703,364</u>

The Company categorized the net revenue mainly based on the countries where the customers are headquartered.

Platform	Three Months Ended September 30		Nine Months Ended September 30	
	2019	2018	2019	2018
Smartphone	\$ 144,301,200	\$ 117,666,462	\$ 356,372,335	\$ 313,687,622
High Performance Computing	85,300,705	84,945,146	225,502,641	257,022,844
Internet of Things	25,790,650	17,015,261	61,659,122	48,142,079
Automotive	13,143,575	13,288,092	34,730,096	39,481,854
Digital Consumer Electronics	14,078,762	14,829,678	42,890,216	46,065,364
Others	<u>10,430,547</u>	<u>12,603,243</u>	<u>31,593,973</u>	<u>37,303,601</u>
	<u>\$ 293,045,439</u>	<u>\$ 260,347,882</u>	<u>\$ 752,748,383</u>	<u>\$ 741,703,364</u>

  

Resolution	Three Months Ended September 30		Nine Months Ended September 30	
	2019	2018	2019	2018
7-nanometer	\$ 68,541,892	\$ 25,363,156	\$ 154,603,230	\$ 26,271,343
10-nanometer	5,077,177	13,490,249	19,015,770	80,971,921
16-nanometer	54,833,514	53,286,968	132,952,431	137,839,613
20-nanometer	2,030,871	5,067,881	7,535,495	20,760,561
28-nanometer	39,855,841	43,784,814	114,525,923	135,481,592
40/45-nanometer	24,624,309	27,063,061	70,680,818	76,438,110
65-nanometer	18,785,556	17,851,864	51,058,823	56,431,514
90-nanometer	6,346,472	8,642,409	18,338,881	29,289,657
0.11/0.13 micron	6,346,471	5,860,805	15,400,815	15,065,883
0.15/0.18 micron	21,831,862	21,742,880	55,425,170	60,461,999
0.25 micron and above	<u>5,584,895</u>	<u>6,909,155</u>	<u>15,251,416</u>	<u>21,056,511</u>
Wafer revenue	<u>\$ 253,858,860</u>	<u>\$ 229,063,242</u>	<u>\$ 654,788,772</u>	<u>\$ 660,068,704</u>

Starting the first quarter of 2019, the Company reported its net revenue breakdown by platform, instead of by application. The Company believes this change will better represent the Company's results.

Commencing in the fourth quarter of 2018, the Company began to break down the net revenue by product, by geography and by resolution based on a new method which associates most estimated sales returns and allowances with individual sales transactions, as opposed to the previous method which allocated sales returns and allowances based on the aforementioned gross revenue. The Company believes the new method provides a more relevant breakdown than the previous one. On a comparable basis, the classifications of three months and nine months ended September 30, 2018 have been revised accordingly.

b. Contract balances

	<b>September 30, 2019</b>	<b>December 31, 2018</b>	<b>September 30, 2018</b>	<b>January 1, 2018</b>
Contract liabilities (classified under accrued expenses and other current liabilities)	<u>\$ 12,885,005</u>	<u>\$ 4,684,024</u>	<u>\$ 5,975,108</u>	<u>\$ 32,434,829</u>

The changes in the contract liability balances primarily result from the timing difference between the satisfaction of performance obligation and the customer's payment.

The Company recognized revenue from the beginning balance of contract liability, which amounted to NT\$313,171 thousand and NT\$128,863 thousand for the three months ended September 30, 2019 and 2018, respectively; and NT\$3,787,995 thousand and NT\$31,641,659 thousand for the nine months ended September 30, 2019 and 2018, respectively.

**22. OTHER INCOME**

	<b>Three Months Ended September 30</b>		<b>Nine Months Ended September 30</b>	
	<b>2019</b>	<b>2018</b>	<b>2019</b>	<b>2018</b>
Interest income				
Bank deposits	\$ 2,747,173	\$ 2,676,602	\$ 9,271,535	\$ 7,341,903
Financial assets at FVTPL	15,075	137,328	339,157	190,261
Financial assets at FVTOCI	936,908	773,191	2,524,254	2,327,001
Financial assets at amortized cost	<u>216,942</u>	<u>230,352</u>	<u>736,845</u>	<u>684,427</u>
	3,916,098	3,817,473	12,871,791	10,543,592
Dividend income	<u>2,025</u>	<u>-</u>	<u>246,455</u>	<u>158,358</u>
	<u>\$ 3,918,123</u>	<u>\$ 3,817,473</u>	<u>\$ 13,118,246</u>	<u>\$ 10,701,950</u>

**23. FINANCE COSTS**

	<b>Three Months Ended September 30</b>		<b>Nine Months Ended September 30</b>	
	<b>2019</b>	<b>2018</b>	<b>2019</b>	<b>2018</b>
Interest expense				
Bank loans	\$ 509,047	\$ 361,150	\$ 1,502,559	\$ 889,414
Corporate bonds	276,357	377,854	918,184	1,285,754
Lease liabilities	57,862	-	186,026	-
Others	<u>168</u>	<u>64</u>	<u>481</u>	<u>150</u>
	<u>\$ 843,434</u>	<u>\$ 739,068</u>	<u>\$ 2,607,250</u>	<u>\$ 2,175,318</u>

## 24. OTHER GAINS AND LOSSES, NET

	Three Months Ended September 30		Nine Months Ended September 30	
	2019	2018	2019	2018
Gain (loss) on disposal of financial assets, net				
Investments in debt instruments at FVTOCI	\$ 326,682	\$ (262,517)	\$ 499,147	\$ (774,784)
Loss on disposal of subsidiaries	-	-	(4,598)	-
Loss on financial instruments at FVTPL, net				
Mandatorily measured at FVTPL	(932,889)	(642,780)	(1,289,813)	(1,927,698)
Gain (loss) arising from fair value hedges, net	(4,850)	(10,219)	12,976	(2,494)
The reversal (accrual) of expected credit loss of financial assets				
Investments in debt instruments at FVTOCI	(3,638)	185	(7,816)	1,886
Financial assets at amortized cost	-	641	5,165	393
Other gains, net	<u>34,846</u>	<u>46,017</u>	<u>371,702</u>	<u>60,014</u>
	<u>\$ (579,849)</u>	<u>\$ (868,673)</u>	<u>\$ (413,237)</u>	<u>\$ (2,642,683)</u>

## 25. INCOME TAX

### a. Income tax expense recognized in profit or loss

Income tax expense consisted of the following:

	Three Months Ended September 30		Nine Months Ended September 30	
	2019	2018	2019	2018
Current income tax expense				
Current tax expense recognized in the current period	\$ 11,340,957	\$ 10,826,220	\$ 32,348,302	\$ 38,684,790
Income tax adjustments on prior years	(4,562)	(26,628)	(49,217)	(989,984)
Other income tax adjustments	<u>(17,116)</u>	<u>36,336</u>	<u>(19,692)</u>	<u>110,882</u>
	<u>11,319,279</u>	<u>10,835,928</u>	<u>32,279,393</u>	<u>37,805,688</u>
Deferred income tax benefit				
Effect of tax rate changes	-	(346,383)	-	(1,062,480)
The origination and reversal of temporary differences	<u>(85,462)</u>	<u>(690,675)</u>	<u>(481,645)</u>	<u>(1,494,058)</u>
	<u>(85,462)</u>	<u>(1,037,058)</u>	<u>(481,645)</u>	<u>(2,556,538)</u>
Income tax expense recognized in profit or loss	<u>\$ 11,233,817</u>	<u>\$ 9,798,870</u>	<u>\$ 31,797,748</u>	<u>\$ 35,249,150</u>

In 2018, the Income Tax Law in the R.O.C. was amended and, starting from 2018, the corporate income tax rate was adjusted from 17% to 20%. For the year ended December 31, 2018, the effect of the change

in tax rate on deferred tax income to be recognized in profit or loss was NT\$1,474,808 thousand, of which NT\$412,328 thousand had not been recognized as of September 30, 2018, with corresponding effect recognized throughout the interim periods of 2018. In addition, the tax rate for 2018 unappropriated earnings was reduced from 10% to 5%.

For other jurisdictions, taxes are calculated using the applicable tax rate for each individual jurisdiction.

b. Income tax expense recognized in other comprehensive income

	Three Months Ended September 30		Nine Months Ended September 30	
	2019	2018	2019	2018
Deferred income tax benefit				
Related to unrealized gain/loss on investments in equity instruments at FVTOCI	\$ 15,080	\$ 28,564	\$ 9,586	\$ 66,477
Related to gain/loss on cash flow hedges	<u>          -</u>	<u>      1,894</u>	<u>          -</u>	<u>      366</u>
	<u>\$ 15,080</u>	<u>\$ 30,458</u>	<u>\$ 9,586</u>	<u>\$ 66,843</u>

c. Income tax examination

The tax authorities have examined income tax returns of TSMC through 2016. All investment tax credit adjustments assessed by the tax authorities have been recognized accordingly.

**26. EARNINGS PER SHARE**

	Three Months Ended September 30		Nine Months Ended September 30	
	2019	2018	2019	2018
Basic EPS	<u>\$ 3.90</u>	<u>\$ 3.44</u>	<u>\$ 8.84</u>	<u>\$ 9.69</u>
Diluted EPS	<u>\$ 3.90</u>	<u>\$ 3.44</u>	<u>\$ 8.84</u>	<u>\$ 9.69</u>

EPS is computed as follows:

	Amounts (Numerator)	Number of Shares (Denominator) (In Thousands)	EPS (NT\$)
<u>Three months ended September 30, 2019</u>			
Basic/Diluted EPS			
Net income available to common shareholders of the parent	<u>\$ 101,069,886</u>	<u>25,930,380</u>	<u>\$3.90</u>
<u>Three months ended September 30, 2018</u>			
Basic/Diluted EPS			
Net income available to common shareholders of the parent	<u>\$ 89,071,628</u>	<u>25,930,380</u>	<u>\$3.44</u>

(Continued)

	Amounts (Numerator)	Number of Shares (Denominator) (In Thousands)	EPS (NT\$)
<u>Nine months ended September 30, 2019</u>			
Basic/Diluted EPS			
Net income available to common shareholders of the parent	\$ <u>229,228,587</u>	<u>25,930,380</u>	<u>\$8.84</u>
<u>Nine months ended September 30, 2018</u>			
Basic/Diluted EPS			
Net income available to common shareholders of the parent	\$ <u>251,146,789</u>	<u>25,930,380</u>	<u>\$9.69</u> (Concluded)

## 27. ADDITIONAL INFORMATION OF EXPENSES BY NATURE

	<u>Three Months Ended September 30</u>		<u>Nine Months Ended September 30</u>	
	2019	2018	2019	2018
a. Depreciation of property, plant and equipment and right-of- use assets				
Recognized in cost of revenue	\$ 59,338,430	\$ 66,715,027	\$ 196,529,678	\$ 196,072,392
Recognized in operating expenses	6,033,031	5,784,173	18,726,694	17,223,489
Recognized in other operating income and expenses	<u>6,015</u>	<u>5,994</u>	<u>18,152</u>	<u>23,069</u>
	<u>\$ 65,377,476</u>	<u>\$ 72,505,194</u>	<u>\$ 215,274,524</u>	<u>\$ 213,318,950</u>
b. Amortization of intangible assets				
Recognized in cost of revenue	\$ 786,959	\$ 492,247	\$ 2,229,578	\$ 1,470,473
Recognized in operating expenses	<u>591,867</u>	<u>612,376</u>	<u>1,848,354</u>	<u>1,726,955</u>
	<u>\$ 1,378,826</u>	<u>\$ 1,104,623</u>	<u>\$ 4,077,932</u>	<u>\$ 3,197,428</u>
c. Research and development costs expensed as incurred	<u>\$ 23,972,076</u>	<u>\$ 21,886,199</u>	<u>\$ 65,783,115</u>	<u>\$ 62,206,346</u>



	<b>Three Months Ended</b>		<b>Nine Months Ended</b>	
	<b>September 30</b>		<b>September 30</b>	
	<b>2019</b>	<b>2018</b>	<b>2019</b>	<b>2018</b>
d. Employee benefits expenses				
Post-employment benefits				
Defined contribution plans	\$ 652,508	\$ 626,912	\$ 1,959,637	\$ 1,937,915
Defined benefit plans	<u>64,880</u>	<u>70,437</u>	<u>194,659</u>	<u>211,339</u>
	717,388	697,349	2,154,296	2,149,254
Other employee benefits	<u>28,920,482</u>	<u>26,731,464</u>	<u>75,751,192</u>	<u>77,438,960</u>
	<u>\$ 29,637,870</u>	<u>\$ 27,428,813</u>	<u>\$ 77,905,488</u>	<u>\$ 79,588,214</u>
Employee benefits expense summarized by function				
Recognized in cost of revenue	\$ 17,354,798	\$ 16,052,801	\$ 45,929,943	\$ 46,749,063
Recognized in operating expenses	<u>12,283,072</u>	<u>11,376,012</u>	<u>31,975,545</u>	<u>32,839,151</u>
	<u>\$ 29,637,870</u>	<u>\$ 27,428,813</u>	<u>\$ 77,905,488</u>	<u>\$ 79,588,214</u>

According to TSMC's Articles of Incorporation, TSMC shall allocate compensation to directors and profit sharing bonus to employees of TSMC not more than 0.3% and not less than 1% of annual profits during the period, respectively.

TSMC accrued profit sharing bonus to employees based on a percentage of net income before income tax, profit sharing bonus to employees and compensation to directors during the period, which amounted to NT\$6,784,104 thousand and NT\$5,978,557 thousand for the three months ended September 30, 2019 and 2018, respectively; and NT\$15,385,033 thousand and NT\$16,850,949 thousand for the nine months ended September 30, 2019 and 2018, respectively; compensation to directors was expensed based on estimated amount payable. If there is a change in the proposed amounts after the annual consolidated financial statements are authorized for issue, the differences are recorded as a change in accounting estimate.

TSMC's profit sharing bonus to employees and compensation to directors in the amounts of NT\$23,570,040 thousand and NT\$349,272 thousand in cash for 2018, respectively, and profit sharing bonus to employees and compensation to directors in the amounts of NT\$23,019,082 thousand and NT\$368,919 thousand in cash for 2017, respectively, had been approved by the Board of Directors of TSMC held on February 19, 2019 and February 13, 2018, respectively. There is no significant difference between the aforementioned approved amounts and the amounts charged against earnings of 2018 and 2017, respectively.

The information about the appropriations of TSMC's profit sharing bonus to employees and compensation to directors is available at the Market Observation Post System website.

## 28. CASH FLOW INFORMATION

### Reconciliation of liabilities arising from financing activities

	Balance as of January 1, 2019	Financing Cash Flow	Non-cash changes			Balance as of September 30, 2019
			Foreign Exchange Movement	Leases Modifications	Other Changes (Note)	
Short-term loans	\$ 88,754,640	\$ (3,872,065)	\$ 691,135	\$ -	\$ -	\$ 85,573,710
Guarantee deposits	10,189,045	(648,151)	99,800	-	(5,903,830)	3,736,864
Lease liabilities	19,903,615	(2,477,012)	17,074	(17,518)	186,026	17,612,185
Bonds payable	<u>91,800,000</u>	<u>(34,900,000)</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>56,900,000</u>
Total	<u>\$ 210,647,300</u>	<u>\$ (41,897,228)</u>	<u>\$ 808,009</u>	<u>\$ (17,518)</u>	<u>\$ (5,717,804)</u>	<u>\$ 163,822,759</u>

	Balance as of January 1, 2018	Financing Cash Flow	Non-cash changes		Balance as of September 30, 2018
			Foreign Exchange Movement	Other Changes (Note)	
Short-term loans	\$ 63,766,850	\$ 9,626,705	\$ 581,070	\$ -	\$ 73,974,625
Guarantee deposits	16,080,619	(693,735)	338,458	(4,497,899)	11,227,443
Bonds payable	<u>150,201,122</u>	<u>(58,024,900)</u>	<u>(382,878)</u>	<u>6,656</u>	<u>91,800,000</u>
Total	<u>\$ 230,048,591</u>	<u>\$ (49,091,930)</u>	<u>\$ 536,650</u>	<u>\$ (4,491,243)</u>	<u>\$ 177,002,068</u>

Note: Other changes include guarantee deposits refunded to customers by offsetting related accounts receivable, financial cost of lease liabilities and amortization of bonds payable.

## 29. FINANCIAL INSTRUMENTS

### a. Categories of financial instruments

	September 30, 2019	December 31, 2018	September 30, 2018
Financial assets			
FVTPL (Note 1)	\$ 322,089	\$ 3,504,590	\$ 4,057,240
FVTOCI (Note 2)	139,612,619	107,067,490	108,035,659
Hedging financial assets	37,003	23,497	124,242
Amortized cost (Note 3)	<u>622,340,999</u>	<u>745,585,774</u>	<u>651,726,357</u>
	<u>\$ 762,312,710</u>	<u>\$ 856,181,351</u>	<u>\$ 763,943,498</u>
Financial liabilities			
FVTPL (Note 4)	\$ 497,911	\$ 40,825	\$ 240,620
Hedging financial liabilities	23,852	155,832	3,750
Amortized cost (Note 5)	<u>441,053,768</u>	<u>318,475,704</u>	<u>307,871,280</u>
	<u>\$ 441,575,531</u>	<u>\$ 318,672,361</u>	<u>\$ 308,115,650</u>

Note 1: Financial assets mandatorily measured at FVTPL.

Note 2: Including notes and accounts receivable (net), equity and debt investments.

Note 3: Including cash and cash equivalents, financial assets at amortized cost, notes and accounts receivable (including related parties), other receivables and refundable deposits.

Note 4: Held for trading.

Note 5: Including short-term loans, accounts payable (including related parties), payables to contractors and equipment suppliers, cash dividends payable, accrued expenses and other current liabilities, bonds payable and guarantee deposits.

b. Financial risk management objectives

The Company seeks to ensure that sufficient cost-efficient funding is readily available when needed. The Company manages its exposure to foreign currency risk, interest rate risk, equity price risk, credit risk and liquidity risk with the objective to reduce the potentially adverse effects the market uncertainties may have on its financial performance.

The plans for material treasury activities are reviewed by Audit Committees and/or Board of Directors in accordance with procedures required by relevant regulations or internal controls. During the implementation of such plans, the corporate treasury function must comply with certain treasury procedures that provide guiding principles for overall financial risk management and segregation of duties.

c. Market risk

The Company is exposed to the financial market risks, primarily changes in foreign currency exchange rates, interest rates and equity investment prices. A portion of these risks is hedged.

Foreign currency risk

The majority of the Company's revenue is denominated in U.S. dollar and over one-half of its capital expenditures are denominated in currencies other than NT dollar, primarily in U.S. dollar, Japanese yen and Euro. As a result, any significant fluctuations to its disadvantage in exchanges rate of NT dollar against such currencies, in particular a weakening of U.S. dollar against NT dollar, would have an adverse impact on the revenue and operating profit as expressed in NT dollar. The Company uses foreign currency derivative contracts, such as currency forwards or currency swaps, to protect against currency exchange rate risks associated with non-NT dollar-denominated assets and liabilities and certain forecasted transactions. The Company utilizes U.S. dollar denominated debt to partially offset currency risk arising from U.S. dollar denominated receivables for balance sheet hedges. These hedges reduce, but do not entirely eliminate, the financial impact on the Company caused by the effect of foreign currency exchange rate movements on the assets and liabilities.

Based on a sensitivity analysis performed on the Company's total monetary assets and liabilities for the nine months ended September 30, 2019 and 2018, a hypothetical adverse foreign currency exchange rate change of 10% would have decreased its net income by NT\$769,310 thousand and NT\$585,920 thousand, respectively, and decreased its other comprehensive income by NT\$250,439 thousand and NT\$91,341 thousand, respectively, after taking into account hedges and offsetting positions.

Interest rate risk

The Company is exposed to interest rate risk primarily related to its investments in fixed income securities and the Company's debts.

Financial assets at amortized costs are measured at amortized cost, and therefore changes in interest rates would not affect the fair value. On the other hand, financial assets at FVTPL and financial assets at FVTOCI are exposed to fair value fluctuations caused by changes in interest rates. The Company entered into interest rate futures to partially hedge the interest rate risk on its financial assets at FVTPL and financial assets at FVTOCI. These hedges can offset only a small portion of the financial impact from movements in interest rates.

Based on a sensitivity analysis performed on fixed income investments at the end of the reporting period, an interest rate increase of 100 basis points (1.00%) across all maturities would have decreased the fair value by NT\$3,239,317 thousand and NT\$2,830,260 thousand for the nine months ended September 30, 2019 and 2018, respectively. The decreases were composed of NT\$3,238,349 thousand decrease and NT\$2,680,417 thousand decrease in other comprehensive income, and NT\$968 thousand decrease and NT\$149,843 thousand decrease in net income for the nine months ended September 30, 2019 and 2018, respectively.

All of the Company's debts are fixed-rate, NT dollar denominated bonds and measured at amortized cost. As such, changes in interest rates would not affect the future cash flows and fair value.

#### Other price risk

The Company is exposed to equity price risk arising from financial assets at FVTOCI.

Assuming a hypothetical decrease of 10% in prices of the equity investments at the end of the reporting period for the nine months ended September 30, 2019 and 2018, the other comprehensive income would have decreased by NT\$392,735 thousand and NT\$628,363 thousand, respectively.

#### d. Credit risk management

Credit risk refers to the risk that a counterparty will default on its contractual obligations resulting in financial losses to the Company. The Company is exposed to credit risks from operating activities, primarily trade receivables, and from investing activities, primarily deposits, fixed-income investments and other financial instruments with banks. Credit risk is managed separately for business related and financial related exposures. As of the end of the reporting period, the Company's maximum credit risk exposure is equal to the carrying amount of financial assets.

#### Business related credit risk

The Company's trade receivables are from its customers worldwide. The majority of the Company's outstanding trade receivables are not covered by collaterals or guarantees. While the Company has procedures to monitor and manage credit risk exposure on trade receivables, there is no assurance such procedures will effectively eliminate losses resulting from its credit risk. This risk is heightened during periods when economic conditions worsen.

As of September 30, 2019, December 31, 2018 and September 30, 2018, the Company's ten largest customers accounted for 77%, 79% and 76% of accounts receivable, respectively. The Company considers the concentration of credit risk for the remaining accounts receivable not material.

#### Financial credit risk

The Company mitigates its financial credit risk by selecting counterparties with investment-grade credit ratings and by limiting the exposure to any individual counterparty. The Company regularly monitors and reviews the limit applied to counterparties and adjusts the limit according to market conditions and the credit standing of the counterparties.

The risk management of expected credit loss for financial assets at amortized cost and investments in debt instruments at FVTOCI is as follows:

The Company only invests in debt instruments that are rated as investment grade or higher. The credit rating information is supplied by external rating agencies. The Company assesses whether there has been a significant increase in credit risk since initial recognition by reviewing changes in external credit ratings, financial market conditions and material information of the bond issuers.

The Company assesses the 12-month expected credit loss and lifetime expected credit loss based on the probability of default and loss given default provided by external credit rating agencies. The current credit risk assessment policies are as follows:

Category	Description	Basis for Recognizing Expected Credit Loss	Expected Credit Loss Ratio
Performing	Credit rating on trade date and valuation date: (1) Within investment grade (2) Between BB+ and BB-	12 months expected credit loss	0-0.1%
Doubtful	Credit rating on trade date and valuation date: (1) From investment grade to non-investment grade (2) From BB+~BB- to B+~CCC-	Lifetime expected credit loss-not credit impaired	-
In default	Credit rating CC or below	Lifetime expected credit loss-credit impaired	-
Write-off	There is evidence indicating that the debtor is in severe financial difficulty and the Company has no realistic prospect of recovery	Amount is written off	-

For the nine months ended September 30, 2019 and 2018, the expected credit loss increases NT\$2,942 thousand and decreases NT\$1,228 thousand, respectively. The changes are mainly due to investment portfolio adjustment.

e. Liquidity risk management

The objective of liquidity risk management is to ensure the Company has sufficient liquidity to fund its business operations over the next 12 months. The Company manages its liquidity risk by maintaining adequate cash and cash equivalent, debt investment at FVTPL, financial assets at FVTOCI-current, and financial assets amortized at cost-current.

The table below summarizes the maturity profile of the Company's financial liabilities based on contractual undiscounted payments, including principal and interest.

	Less Than 1 Year	2-3 Years	4-5 Years	5+ Years	Total
<u>September 30, 2019</u>					
<u>Non-derivative financial liabilities</u>					
Short-term loans	\$ 85,604,168	\$ -	\$ -	\$ -	\$ 85,604,168
Accounts payable (including related parties)	36,958,217	-	-	-	36,958,217
Payables to contractors and equipment suppliers	93,441,774	-	-	-	93,441,774
Accrued expenses and other current liabilities	47,756,491	-	-	-	47,756,491
Bonds payable	32,450,774	3,404,812	22,686,332	-	58,541,918
Lease liabilities (including those classified under accrued expenses and other current liabilities)	2,594,300	2,834,940	2,469,297	11,019,173	18,917,710
Guarantee deposits (including those classified under accrued expenses and other current liabilities)	3,526,666	122,702	87,496	-	3,736,864
	<u>302,332,390</u>	<u>6,362,454</u>	<u>25,243,125</u>	<u>11,019,173</u>	<u>344,957,142</u>

(Continued)

	<b>Less Than 1 Year</b>	<b>2-3 Years</b>	<b>4-5 Years</b>	<b>5+ Years</b>	<b>Total</b>
<u>Derivative financial instruments</u>					
Forward exchange contracts					
Outflows	\$ 82,587,889	\$ -	\$ -	\$ -	\$ 82,587,889
Inflows	<u>(82,309,825)</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>(82,309,825)</u>
	278,064	-	-	-	278,064
	<u>\$ 302,610,454</u>	<u>\$ 6,362,454</u>	<u>\$ 25,243,125</u>	<u>\$ 11,019,173</u>	<u>\$ 345,235,206</u>
					<b>(Concluded)</b>

Additional information about the maturity analysis for lease liabilities:

	<b>Less than 5 Years</b>	<b>6-10 Years</b>	<b>11-15 Years</b>	<b>16-20 Years</b>	<b>20+ Years</b>
Lease liabilities	\$ 7,898,537	\$ 5,590,628	\$ 3,681,126	\$ 1,635,848	\$ 111,571

	<b>Less Than 1 Year</b>	<b>2-3 Years</b>	<b>4-5 Years</b>	<b>5+ Years</b>	<b>Total</b>
<u>December 31, 2018</u>					
<u>Non-derivative financial liabilities</u>					
Short-term loans	\$ 88,810,737	\$ -	\$ -	\$ -	\$ 88,810,737
Accounts payable (including related parties)	34,357,432	-	-	-	34,357,432
Payables to contractors and equipment suppliers	43,133,659	-	-	-	43,133,659
Accrued expenses and other current liabilities	50,240,928	-	-	-	50,240,928
Bonds payable	36,039,935	35,340,742	22,979,426	-	94,360,103
Guarantee deposits (including those classified under accrued expenses and other current liabilities)	<u>6,835,667</u>	<u>2,891,663</u>	<u>461,715</u>	<u>-</u>	<u>10,189,045</u>
	<u>259,418,358</u>	<u>38,232,405</u>	<u>23,441,141</u>	<u>-</u>	<u>321,091,904</u>
<u>Derivative financial instruments</u>					
Forward exchange contracts					
Outflows	49,302,325	-	-	-	49,302,325
Inflows	<u>(49,393,679)</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>(49,393,679)</u>
	<u>(91,354)</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>(91,354)</u>
	<u>\$ 259,327,004</u>	<u>\$ 38,232,405</u>	<u>\$ 23,441,141</u>	<u>\$ -</u>	<u>\$ 321,000,550</u>

September 30, 2018

<u>Non-derivative financial liabilities</u>					
Short-term loans	\$ 74,021,637	\$ -	\$ -	\$ -	\$ 74,021,637
Accounts payable (including related parties)	30,305,076	-	-	-	30,305,076
Payables to contractors and equipment suppliers	58,590,057	-	-	-	58,590,057
Accrued expenses and other current liabilities	41,974,079	-	-	-	41,974,079
Bonds payable	36,166,206	35,464,787	23,077,131	-	94,708,124
Guarantee deposits (including those classified under accrued expenses and other current liabilities)	<u>6,781,863</u>	<u>4,359,556</u>	<u>86,024</u>	<u>-</u>	<u>11,227,443</u>
	<u>247,838,918</u>	<u>39,824,343</u>	<u>23,163,155</u>	<u>-</u>	<u>310,826,416</u>
<u>Derivative financial instruments</u>					
Forward exchange contracts					
Outflows	60,704,314	-	-	-	60,704,314
Inflows	<u>(60,581,572)</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>(60,581,572)</u>
	<u>122,742</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>122,742</u>
	<u>\$ 247,961,660</u>	<u>\$ 39,824,343</u>	<u>\$ 23,163,155</u>	<u>\$ -</u>	<u>\$ 310,949,158</u>

f. Fair value of financial instruments

1) Fair value measurements recognized in the consolidated balance sheets

Fair value measurements are grouped into Levels 1 to 3 based on the degree to which the fair value is observable:

- Level 1 fair value measurements are those derived from quoted prices (unadjusted) in active markets for identical assets or liabilities;
- Level 2 fair value measurements are those derived from inputs other than quoted prices included within Level 1 that are observable for the asset or liability, either directly (i.e. as prices) or indirectly (i.e. derived from prices); and
- Level 3 fair value measurements are those derived from valuation techniques that include inputs for the asset or liability that are not based on observable market data (unobservable inputs).

The timing of transfers between levels within the fair value hierarchy is at the end of reporting period.

2) Fair value of financial instruments that are measured at fair value on a recurring basis

Fair value hierarchy

The following table presents the Company's financial assets and liabilities measured at fair value on a recurring basis:

	<u>September 30, 2019</u>			
	<u>Level 1</u>	<u>Level 2</u>	<u>Level 3</u>	<u>Total</u>
<u>Financial assets at FVTPL</u>				
Mandatorily measured at FVTPL				
Forward exchange contracts	\$ -	\$ 152,332	\$ -	\$ 152,332
Convertible bonds	-	-	124,108	124,108
Agency mortgage-backed securities	-	45,649	-	45,649
	<u>\$ -</u>	<u>\$ 197,981</u>	<u>\$ 124,108</u>	<u>\$ 322,089</u>
<u>Financial assets at FVTOCI</u>				
Investments in debt instruments				
Corporate bonds	\$ -	\$ 54,113,016	\$ -	\$ 54,113,016
Agency bonds/Agency mortgage-backed securities	-	52,743,788	-	52,743,788
Government bonds	15,109,451	151,194	-	15,260,645
Asset-backed securities	-	9,923,553	-	9,923,553
Commercial paper	-	92,450	-	92,450
Investments in equity instruments				
Non-publicly traded equity investments	-	43,610	3,982,906	4,026,516
Notes and accounts receivable, net	-	3,452,651	-	3,452,651
	<u>\$ 15,109,451</u>	<u>\$ 120,520,262</u>	<u>\$ 3,982,906</u>	<u>\$ 139,612,619</u>
<u>Hedging financial assets</u>				
Fair value hedges				
Interest rate futures contracts	\$ 30,291	\$ -	\$ -	\$ 30,291
Cash flow hedges				
Forward exchange contracts	-	6,712	-	6,712
	<u>\$ 30,291</u>	<u>\$ 6,712</u>	<u>\$ -</u>	<u>\$ 37,003</u>

(Continued)

	<b>September 30, 2019</b>			
	<b>Level 1</b>	<b>Level 2</b>	<b>Level 3</b>	<b>Total</b>
<u>Financial liabilities at FVTPL</u>				
Held for trading				
Forward exchange contracts	\$ -	\$ 497,911	\$ -	\$ 497,911
<u>Hedging financial liabilities</u>				
Fair value hedges				
Interest rate futures contracts	\$ 653	\$ -	\$ -	\$ 653
Cash flow hedges				
Forward exchange contracts	-	23,199	-	23,199
	<u>\$ 653</u>	<u>\$ 23,199</u>	<u>\$ -</u>	<u>\$ 23,852</u>
				(Concluded)

	<b>December 31, 2018</b>			
	<b>Level 1</b>	<b>Level 2</b>	<b>Level 3</b>	<b>Total</b>
<u>Financial assets at FVTPL</u>				
Mandatorily measured at FVTPL				
Agency mortgage-backed securities	\$ -	\$ 3,419,287	\$ -	\$ 3,419,287
Forward exchange contracts	-	85,303	-	85,303
	<u>\$ -</u>	<u>\$ 3,504,590</u>	<u>\$ -</u>	<u>\$ 3,504,590</u>
<u>Financial assets at FVTOCI</u>				
Investments in debt instruments				
Corporate bonds	\$ -	\$ 40,753,582	\$ -	\$ 40,753,582
Agency bonds/Agency mortgage-backed securities	-	31,288,762	-	31,288,762
Asset-backed securities	-	15,670,295	-	15,670,295
Government bonds	11,006,167	145,192	-	11,151,359
Commercial paper	-	107,590	-	107,590
Investments in equity instruments				
Non-publicly traded equity investments	-	-	3,910,681	3,910,681
Publicly traded stocks	590,152	-	-	590,152
Notes and accounts receivable, net	-	3,595,069	-	3,595,069
	<u>\$ 11,596,319</u>	<u>\$ 91,560,490</u>	<u>\$ 3,910,681</u>	<u>\$ 107,067,490</u>
<u>Hedging financial assets</u>				
Cash flow hedges				
Forward exchange contracts	\$ -	\$ 23,497	\$ -	\$ 23,497
<u>Financial liabilities at FVTPL</u>				
Held for trading				
Forward exchange contracts	\$ -	\$ 40,825	\$ -	\$ 40,825
<u>Hedging financial liabilities</u>				
Fair value hedges				
Interest rate futures contracts	\$ 153,891	\$ -	\$ -	\$ 153,891
Cash flow hedges				
Forward exchange contracts	-	1,941	-	1,941
	<u>\$ 153,891</u>	<u>\$ 1,941</u>	<u>\$ -</u>	<u>\$ 155,832</u>



	<b>September 30, 2018</b>			
	<b>Level 1</b>	<b>Level 2</b>	<b>Level 3</b>	<b>Total</b>
<u>Financial assets at FVTPL</u>				
Mandatorily measured at FVTPL				
Agency mortgage-backed securities	\$ -	\$ 3,927,700	\$ -	\$ 3,927,700
Forward exchange contracts	-	129,540	-	129,540
	<u>\$ -</u>	<u>\$ 4,057,240</u>	<u>\$ -</u>	<u>\$ 4,057,240</u>
<u>Financial assets at FVTOCI</u>				
Investments in debt instruments				
Corporate bonds	\$ -	\$ 40,587,299	\$ -	\$ 40,587,299
Agency bonds/Agency mortgage-backed securities	-	31,663,708	-	31,663,708
Asset-backed securities	-	15,028,991	-	15,028,991
Government bonds	10,671,468	143,567	-	10,815,035
Commercial paper	-	258,345	-	258,345
Investments in equity instruments				
Non-publicly traded equity investments	-	-	5,701,354	5,701,354
Publicly traded stocks	860,688	-	-	860,688
Notes and accounts receivable, net	-	3,120,239	-	3,120,239
	<u>\$ 11,532,156</u>	<u>\$ 90,802,149</u>	<u>\$ 5,701,354</u>	<u>\$ 108,035,659</u>
<u>Hedging financial assets</u>				
Fair value hedges				
Interest rate futures contracts	\$ 120,417	\$ -	\$ -	\$ 120,417
Cash flow hedges				
Forward exchange contracts	-	3,825	-	3,825
	<u>\$ 120,417</u>	<u>\$ 3,825</u>	<u>\$ -</u>	<u>\$ 124,242</u>
<u>Financial liabilities at FVTPL</u>				
Held for trading				
Forward exchange contracts	\$ -	\$ 240,620	\$ -	\$ 240,620
<u>Hedging financial liabilities</u>				
Cash flow hedges				
Forward exchange contracts	\$ -	\$ 3,750	\$ -	\$ 3,750

Reconciliation of Level 3 fair value measurements of financial assets

The financial assets measured at Level 3 fair value were financial assets at FVTPL and equity investments classified as financial assets at FVTOCI. Reconciliations for the nine months ended September 30, 2019 and 2018 were as follows:

	<b>Nine Months Ended September 30</b>	
	<b>2019</b>	<b>2018</b>
Balance, beginning of period	\$ 3,910,681	\$ 5,841,384
Additions	277,985	200,463
Recognized in other comprehensive income	11,950	(299,938)
Disposals and proceeds from return of capital of investments	(75,425)	(173,088)
Transfers out of level 3 (Note)	(43,610)	-
Effect of exchange rate changes	25,433	132,533
Balance, end of period	<u>\$ 4,107,014</u>	<u>\$ 5,701,354</u>

Note: The transfer from level 3 to level 2 is because observable market data became available for the equity investments.

#### Valuation techniques and assumptions used in Level 2 fair value measurement

The fair values of financial assets and financial liabilities are determined as follows:

- The fair values of corporate bonds, agency bonds, agency mortgage-backed securities, asset-backed securities, government bonds, commercial papers and non-publicly traded equity investments are determined by quoted market prices provided by third party pricing services.
- Forward exchange contracts are measured using forward exchange rates and the discounted curves that are derived from quoted market prices.
- The fair value of accounts receivables classified as at FVTOCI are determined by the present value of future cash flows based on the discount rate that reflects the credit risk of counterparties.

#### Valuation techniques and assumptions used in Level 3 fair value measurement

The fair values of non-publicly traded equity investments are mainly determined by using the asset approach, income approach and market approach.

The asset approach takes into account the net asset value measured at the fair value by independent parties. On September 30, 2019, December 31, 2018 and September 30, 2018, the Company uses unobservable inputs derived from discount for lack of marketability by 10%. When other inputs remain equal, the fair value will decrease by NT\$34,249 thousand, NT\$31,420 thousand and NT\$31,736 thousand if discounts for lack of marketability increase by 1%.

The income approach utilizes discounted cash flows to determine the present value of the expected future economic benefits that will be derived from the investment. On September 30, 2019, December 31, 2018 and September 30, 2018, the Company uses significant unobservable inputs, which include expected returns, discount rate of 10%, discount for lack of marketability of 10%, and discounts for lack of control of 10%. On September 30, 2018, when other inputs remain equal, if discount rate increases by 1%, the fair value will decrease by NT\$72,717 thousand; if discount for lack of marketability increases by 1%, the fair value will decrease by NT\$19,000 thousand; if discount for lack of control increases by 1%, the fair value will decrease by NT\$19,000 thousand.

For the remaining few investments, the market approach is used to arrive at their fair values, for which the recent financing activities of investees, the market transaction prices of the similar companies and market conditions are considered.

In addition, the fair values of convertible bonds are determined by the present value of future cash flow based on a discount rate reflecting issuer's credit spread and market conditions, combined with the fair value of conversion option estimated by the option pricing model considering recent financing activities of the investee and market transaction prices of the similar companies.

### 3) Fair value of financial instruments that are not measured at fair value

Except as detailed in the following table, the Company considers that the carrying amounts of financial instruments in the consolidated financial statements that are not measured at fair value approximate their fair values.

### Fair value hierarchy

The table below sets out the fair value hierarchy for the Company's assets and liabilities which are not required to measure at fair value:

	<b>September 30, 2019</b>	
	<b>Carrying Amount</b>	<b>Level 2 Fair Value</b>
<u>Financial assets</u>		
Financial assets at amortized costs		
Corporate bonds	\$ <u>7,914,087</u>	\$ <u>7,998,094</u>
<u>Financial liabilities</u>		
Financial liabilities at amortized costs		
Bonds payable	\$ <u>56,900,000</u>	\$ <u>57,860,225</u>
	<b>December 31, 2018</b>	
	<b>Carrying Amount</b>	<b>Level 2 Fair Value</b>
<u>Financial assets</u>		
Financial assets at amortized costs		
Corporate bonds	\$ 19,511,794	\$ 19,554,553
Commercial paper	<u>2,294,098</u>	<u>2,296,188</u>
	\$ <u>21,805,892</u>	\$ <u>21,850,741</u>
<u>Financial liabilities</u>		
Financial liabilities at amortized costs		
Bonds payable	\$ <u>91,800,000</u>	\$ <u>93,171,255</u>
	<b>September 30, 2018</b>	
	<b>Carrying Amount</b>	<b>Level 2 Fair Value</b>
<u>Financial assets</u>		
Financial assets at amortized costs		
Corporate bonds	\$ <u>19,362,587</u>	\$ <u>19,516,024</u>
<u>Financial liabilities</u>		
Financial liabilities at amortized costs		
Bonds payable	\$ <u>91,800,000</u>	\$ <u>93,343,309</u>

Valuation techniques and assumptions used in Level 2 fair value measurement

The fair value of corporate bonds is determined by quoted market prices provided by third party pricing services.

The fair value of commercial paper is determined by the present value of future cash flows based on the discounted curves that are derived from the quoted market prices.

The fair value of the Company's bonds payable is determined by quoted market prices provided by third party pricing services.

**30. RELATED PARTY TRANSACTIONS**

Intercompany balances and transactions between TSMC and its subsidiaries, which are related parties of TSMC, have been eliminated upon consolidation; therefore those items are not disclosed in this note. The following is a summary of significant transactions between the Company and other related parties:

a. Related party name and categories

<u>Related Party Name</u>	<u>Related Party Categories</u>
GUC	Associates
VIS	Associates
SSMC	Associates
Xintec	Associates
TSMC Education and Culture Foundation	Other related parties
TSMC Charity Foundation	Other related parties

b. Net revenue

<u>Item</u>	<u>Related Party Categories</u>	<u>Three Months Ended</u>		<u>Nine Months Ended</u>	
		<u>September 30</u>	<u>September 30</u>	<u>September 30</u>	<u>September 30</u>
		<u>2019</u>	<u>2018</u>	<u>2019</u>	<u>2018</u>
Net revenue from sale of goods	Associates	\$ 1,623,191	\$ 2,878,283	\$ 4,195,498	\$ 7,174,347
	Other related parties	<u>-</u>	<u>-</u>	<u>-</u>	<u>330</u>
		<u>\$ 1,623,191</u>	<u>\$ 2,878,283</u>	<u>\$ 4,195,498</u>	<u>\$ 7,174,677</u>
Net revenue from royalties	Associates	<u>\$ 56,288</u>	<u>\$ 51,691</u>	<u>\$ 136,994</u>	<u>\$ 312,005</u>

c. Purchases

	<u>Three Months Ended</u>		<u>Nine Months Ended</u>	
	<u>September 30</u>	<u>September 30</u>	<u>September 30</u>	<u>September 30</u>
	<u>2019</u>	<u>2018</u>	<u>2019</u>	<u>2018</u>
<u>Related Party Categories</u>				
Associates	<u>\$ 1,762,797</u>	<u>\$ 2,295,579</u>	<u>\$ 4,545,355</u>	<u>\$ 6,693,633</u>

d. Receivables from related parties

		September 30, 2019	December 31, 2018	September 30, 2018
<u>Item</u>	<u>Related Party Name/Categories</u>			
Receivables from related parties	GUC	\$ 897,889	\$ 481,934	\$ 1,546,977
	Xintec	<u>282,891</u>	<u>102,478</u>	<u>210,096</u>
		<u>\$ 1,180,780</u>	<u>\$ 584,412</u>	<u>\$ 1,757,073</u>
Other receivables from related parties	SSMC	\$ 52,517	\$ 53,780	\$ 56,181
	VIS	3,435	10,423	7,241
	Other associates	<u>629</u>	<u>825</u>	<u>963</u>
		<u>\$ 56,581</u>	<u>\$ 65,028</u>	<u>\$ 64,385</u>

e. Payables to related parties

		September 30, 2019	December 31, 2018	September 30, 2018
<u>Item</u>	<u>Related Party Name/Categories</u>			
Payables to related parties	Xintec	\$ 904,076	\$ 649,812	\$ 728,756
	SSMC	511,252	362,564	367,328
	VIS	212,513	357,080	467,874
	Other associates	<u>10,168</u>	<u>7,043</u>	<u>7,345</u>
		<u>\$ 1,638,009</u>	<u>\$ 1,376,499</u>	<u>\$ 1,571,303</u>

f. Others

		<u>Three Months Ended September 30</u>		<u>Nine Months Ended September 30</u>	
		2019	2018	2019	2018
<u>Item</u>	<u>Related Party Categories</u>				
Manufacturing expenses	Associates	<u>\$ 1,180,641</u>	<u>\$ 890,630</u>	<u>\$ 1,778,150</u>	<u>\$ 1,889,816</u>
General and administrative expenses	Other related parties	<u>\$ 30,000</u>	<u>\$ 25,227</u>	<u>\$ 90,000</u>	<u>\$ 95,528</u>

The sales prices and payment terms to related parties were not significantly different from those of sales to third parties. For other related party transactions, price and terms were determined in accordance with mutual agreements.

The Company leased factory and office from associates. The lease terms and prices were both determined in accordance with mutual agreements. The rental expenses were paid to associates monthly; the related expenses were both classified under manufacturing expenses.

g. Compensation of key management personnel

The compensation to directors and other key management personnel for the three months and nine months ended September 30, 2019 and 2018 were as follows:

	Three Months Ended September 30		Nine Months Ended September 30	
	2019	2018	2019	2018
Short-term employee benefits	\$ 512,791	\$ 471,505	\$ 1,247,680	\$ 1,492,033
Post-employment benefits	<u>585</u>	<u>699</u>	<u>2,100</u>	<u>2,636</u>
	<u>\$ 513,376</u>	<u>\$ 472,204</u>	<u>\$ 1,249,780</u>	<u>\$ 1,494,669</u>

The compensation to directors and other key management personnel were determined by the Compensation Committee of TSMC in accordance with the individual performance and the market trends.

### 31. PLEDGED ASSETS

The Company provided certificate of deposits recorded in other financial assets as collateral mainly for building lease agreements. As of September 30, 2019, December 31, 2018 and September 30, 2018, the aforementioned other financial assets amounted to NT\$117,405 thousand, NT\$124,244 thousand and NT\$123,520 thousand, respectively.

### 32. SIGNIFICANT CONTINGENT LIABILITIES AND UNRECOGNIZED COMMITMENTS

Significant contingent liabilities and unrecognized commitments of the Company as of the end of the reporting period, excluding those disclosed in other notes, were as follows:

- a. Under a technical cooperation agreement with Industrial Technology Research Institute, the R.O.C. Government or its designee approved by TSMC can use up to 35% of TSMC's capacity provided TSMC's outstanding commitments to its customers are not prejudiced. The term of this agreement is for five years beginning from January 1, 1987 and is automatically renewed for successive periods of five years unless otherwise terminated by either party with one year prior notice. As of September 30, 2019, the R.O.C. Government did not invoke such right.
- b. Under a Shareholders Agreement entered into with Philips and EDB Investments Pte Ltd. on March 30, 1999, the parties formed a joint venture company, SSMC, which is an integrated circuit foundry in Singapore. TSMC's equity interest in SSMC was 32%. Nevertheless, in September 2006, Philips spun-off its semiconductor subsidiary which was renamed as NXP B.V. Further, TSMC and NXP B.V. purchased all the SSMC shares owned by EDB Investments Pte Ltd. pro rata according to the Shareholders Agreement on November 15, 2006. After the purchase, TSMC and NXP B.V. currently own approximately 39% and 61% of the SSMC shares, respectively. TSMC and NXP B.V. are required, in the aggregate, to purchase at least 70% of SSMC's capacity, but TSMC alone is not required to purchase more than 28% of the capacity. If any party defaults on the commitment and the capacity utilization of SSMC falls below a specific percentage of its capacity, the defaulting party is required to compensate SSMC for all related unavoidable costs. There was no default from the aforementioned commitment as of September 30, 2019.
- c. In February 2019, Innovative Foundry Technologies LLC ("IFT") filed a complaint in the U.S. District Court for the District of Delaware alleging that TSMC and TSMC Technology Inc. infringe five U.S. patents. IFT also filed a complaint in the U.S. International Trade Commission (the "ITC") alleging that TSMC, TSMC North America, TSMC Technology Inc., and other companies infringe the same patents. The ITC instituted an investigation in March 2019. Both parties agreed to end the dispute and the ITC

terminated the investigation in October 2019. The pending litigation in the U.S. District Court for the District of Delaware was dismissed at the same time.

- d. On September 28, 2017, TSMC was contacted by the European Commission (the “Commission”), which has asked us for information and documents concerning alleged anti-competitive practices in relation to semiconductor sales. We are cooperating with the Commission to provide the requested information and documents. In light of the fact that this proceeding is still in its preliminary stage, it is premature to predict how the case will proceed, the outcome of the proceeding or its impact.
- e. TSMC entered into long-term purchase agreements of material with multiple suppliers. The relative minimum purchase quantity and price are specified in the agreements.
- f. TSMC entered into a long-term purchase agreement of equipment. The relative purchase quantity and price are specified in the agreement.
- g. TSMC entered into long-term energy purchase agreements with multiple suppliers. The relative purchase period, quantity and price are specified in the agreements.
- h. Amounts available under unused letters of credit as of September 30, 2019, December 31, 2018 and September 30, 2018 were NT\$62,054 thousand, NT\$70,702 thousand and NT\$70,162 thousand, respectively.

### 33. EXCHANGE RATE INFORMATION OF FOREIGN-CURRENCY FINANCIAL ASSETS AND LIABILITIES

The following information was summarized according to the foreign currencies other than the functional currency of the Company. The exchange rates disclosed were used to translate the foreign currencies into the functional currency. The significant financial assets and liabilities denominated in foreign currencies were as follows:

	<b>Foreign Currencies (In Thousands)</b>	<b>Exchange Rate (Note 1)</b>	<b>Carrying Amount (In Thousands)</b>
<u>September 30, 2019</u>			
<u>Financial assets</u>			
Monetary items			
USD	\$ 4,741,787	31.027	\$ 147,123,438
USD	397,707	7.120(Note 2)	12,339,660
EUR	2,976	34.027	101,264
JPY	53,721,544	0.2876	15,450,316
<u>Financial liabilities</u>			
Monetary items			
USD	\$ 5,384,075	31.027	\$ 167,051,684
EUR	1,121,555	34.027	38,163,156
JPY	59,107,992	0.2876	16,999,458

(Continued)

	<b>Foreign Currencies (In Thousands)</b>	<b>Exchange Rate (Note 1)</b>	<b>Carrying Amount (In Thousands)</b>
<u>December 31, 2018</u>			
<u>Financial assets</u>			
Monetary items			
USD	4,618,566	30.740	141,974,734
USD	343,132	6.866 (Note 2)	10,547,875
EUR	7,561	35.22	266,307
JPY	490,635	0.2783	136,544
Non-monetary items			
HKD	144,567	3.93	568,150
<u>Financial liabilities</u>			
Monetary items			
USD	4,323,763	30.740	132,912,486
EUR	477,776	35.22	16,827,260
JPY	35,084,436	0.2783	9,763,999
<u>September 30, 2018</u>			
<u>Financial assets</u>			
Monetary items			
USD	4,815,815	30.505	146,906,437
USD	365,757	6.881 (Note 2)	11,157,426
EUR	5,861	35.68	209,127
JPY	2,160,510	0.2699	583,122
Non-monetary items			
HKD	178,124	3.90	694,683
<u>Financial liabilities</u>			
Monetary items			
USD	4,251,255	30.505	129,684,537
EUR	516,393	35.68	18,424,920
JPY	38,344,359	0.2699	10,349,142
			(Concluded)

Note 1: Except as otherwise noted, exchange rate represents the number of NT dollar for which one foreign currency could be exchanged.

Note 2: The exchange rate represents the number of RMB for which one U.S. dollar could be exchanged.

Please refer to the consolidated statements of comprehensive income for the total of realized and unrealized foreign exchange gain and loss for the three months and the nine months ended September 30, 2019 and 2018, respectively. Since there were varieties of foreign currency transactions and functional currencies within the subsidiaries of the Company, the Company was unable to disclose foreign exchange gain (loss) towards each foreign currency with significant impact.



### 34. SIGNIFICANT OPERATION LOSSES

On January 19, 2019, the Company discovered a wafer contamination issue in a fab in Taiwan caused by a batch of unqualified photoresist materials. After investigation, the Company immediately stopped using the unqualified materials. An estimated loss of NT\$3,400,000 thousand related to this event was recognized in cost of revenue for the three months ended March 31, 2019.

The Company experienced a computer virus outbreak on August 3, 2018, which affected a number of computer systems and fab tools, and consequently impacted wafer production in Taiwan. All the impacted tools have been recovered by August 6, 2018. The Company recognized a loss of NT\$2,596,046 thousand related to this incident for the three months ended September 30, 2018, which was included in cost of revenue.

### 35. ADDITIONAL DISCLOSURES

Following are the additional disclosures required by the Securities and Futures Bureau for TSMC:

- a. Financings provided: Please see Table 1 attached;
- b. Endorsement/guarantee provided: Please see Table 2 attached;
- c. Marketable securities held (excluding investments in subsidiaries and associates): Please see Table 3 attached;
- d. Marketable securities acquired and disposed of at costs or prices of at least NT\$300 million or 20% of the paid-in capital: Please see Table 4 attached;
- e. Acquisition of individual real estate properties at costs of at least NT\$300 million or 20% of the paid-in capital: Please see Table 5 attached;
- f. Disposal of individual real estate properties at prices of at least NT\$300 million or 20% of the paid-in capital: None;
- g. Total purchases from or sales to related parties of at least NT\$100 million or 20% of the paid-in capital: Please see Table 6 attached;
- h. Receivables from related parties amounting to at least NT\$100 million or 20% of the paid-in capital: Please see Table 7 attached;
- i. Information about the derivative financial instruments transaction: Please see Notes 7 and 10;
- j. Others: The business relationship between the parent and the subsidiaries and significant transactions between them: Please see Table 8 attached;
- k. Names, locations, and related information of investees over which TSMC exercises significant influence (excluding information on investment in mainland China): Please see Table 9 attached;

1. Information on investment in mainland China

- 1) The name of the investee in mainland China, the main businesses and products, its issued capital, method of investment, information on inflow or outflow of capital, percentage of ownership, income (losses) of the investee, share of profits/losses of investee, ending balance, amount received as dividends from the investee, and the limitation on investee: Please see Table 10 attached.
- 2) Significant direct or indirect transactions with the investee, its prices and terms of payment, unrealized gain or loss, and other related information which is helpful to understand the impact of investment in mainland China on financial reports: Please see Table 8 attached.

**36. OPERATING SEGMENTS INFORMATION**

The Company has only one operating segment, the foundry segment. The foundry segment engages mainly in the manufacturing, selling, packaging, testing and computer-aided design of integrated circuits and other semiconductor devices and the manufacturing of masks.

The Company uses the income from operations as the measurement for the basis of performance assessment. The basis for such measurement is the same as that for the preparation of financial statements. Please refer to the consolidated statements of comprehensive income for the related segment revenue and operating results.

## Taiwan Semiconductor Manufacturing Company Limited and Subsidiaries

FINANCINGS PROVIDED  
FOR THE NINE MONTHS ENDED SEPTEMBER 30, 2019  
(Amounts in Thousands of New Taiwan Dollars, Unless Specified Otherwise)

No.	Financing Company	Counter-party	Financial Statement Account	Related Party	Maximum Balance for the Period (Foreign Currencies in Thousands) (Note 3)	Ending Balance (Foreign Currencies in Thousands) (Note 3)	Amount Actually Drawn (Foreign Currencies in Thousands)	Interest Rate	Nature for Financing (Note 4)	Transaction Amounts	Reason for Financing (Note 4)	Allowance for Bad Debt	Collateral		Financing Limits for Each Borrowing Company (Notes 1 and 2)	Financing Company's Total Financing Amount Limits (Notes 1 and 2)
													Item	Value		
1	TSMC China	TSMC Nanjing	Other receivables from related parties	Yes	\$ 45,367,933 (RMB 7,000,000)& (US\$ 479,000)	\$ 39,675,772 (RMB 6,000,000)& (US\$ 436,000)	\$ 24,458,322 (RMB 5,000,000)& (US\$ 86,000)	1.50%-1.96%	The need for long-term financing	\$ -	Operating capital	\$ -	-	\$ -	\$ 56,600,438	\$ 56,600,438
2	TSMC Global	TSMC	Other receivables from related parties	Yes	46,540,500 (US\$ 1,500,000)	31,027,000 (US\$ 1,000,000)	31,027,000 (US\$ 1,000,000)	-	The need for short-term financing	-	Operating capital	-	-	-	408,871,808	408,871,808

Note 1: The total amount available for lending purpose shall not exceed the net worth of TSMC China. The total amount for lending to a company for funding for a short-term period shall not exceed ten percent (10%) of the net worth of TSMC China. In addition, the total amount lendable to any one borrower shall be no more than thirty percent (30%) of the borrower's net worth. The above restriction does not apply to the subsidiaries whose voting shares are 100% owned, directly or indirectly, by TSMC. However, the total amount lendable to any such subsidiary of TSMC shall not exceed forty percent (40%) of the net worth of TSMC China. When there is a lending for funding needs by TSMC China to TSMC, or to the subsidiaries whose voting shares are 100% owned, directly or indirectly, by TSMC, which are not located in Taiwan, the lending will not be subject to the restriction set forth in the above paragraph of this Article. Notwithstanding the foregoing, the aggregate amount available for lending to such borrowers and the total amount lendable to each of such borrowers still shall not exceed the net worth of TSMC China.

Note 2: The total amount available for lending purpose shall not exceed the net worth of TSMC Global. The total amount for lending to a company for funding for a short-term period shall not exceed ten percent (10%) of the net worth of TSMC Global. In addition, the total amount lendable to any one borrower shall be no more than thirty percent (30%) of the borrower's net worth. While TSMC, or foreign subsidiaries whose voting shares are 100% owned, directly or indirectly, by TSMC will not be subject to this restriction, their total borrowing amount still shall not exceed the net worth of TSMC Global. Notwithstanding the foregoing, the aggregate amount for lending to Taiwan companies other than TSMC shall not exceed forty percent (40%) of the net worth of TSMC Global.

Note 3: The maximum balance for the period and ending balance represent the amounts approved by the Board of Directors.

Note 4: The restriction of the term of each loan for funding not exceeding one year shall not apply to inter-company loans for funding between offshore subsidiaries in which the Company holds, directly or indirectly, 100% of the voting shares.

## Taiwan Semiconductor Manufacturing Company Limited and Subsidiaries

## ENDORSEMENTS/GUARANTEES PROVIDED

FOR THE NINE MONTHS ENDED SEPTEMBER 30, 2019

(Amounts in Thousands of New Taiwan Dollars, Unless Specified Otherwise)

No.	Endorsement/ Guarantee Provider	Guaranteed Party		Limits on Endorsement/ Guarantee Amount Provided to Each Guaranteed Party (Notes 1 and 2)	Maximum Balance for the Period (US\$ in Thousands) (Note 3)	Ending Balance (US\$ in Thousands) (Note 3)	Amount Actually Drawn (US\$ in Thousands)	Amount of Endorsement/ Guarantee Collateralized by Properties	Ratio of Accumulated Endorsement/ Guarantee to Net Equity per Latest Financial Statements	Maximum Endorsement/ Guarantee Amount Allowable (Note 2)	Guarantee Provided by Parent Company	Guarantee Provided by A Subsidiary	Guarantee Provided to Subsidiaries in Mainland China
		Name	Nature of Relationship										
0	TSMC	TSMC North America	Subsidiary	\$ 396,714,017	\$ 2,581,859 (US\$ 83,213)	\$ 2,581,859 (US\$ 83,213)	\$ 2,581,859 (US\$ 83,213)	\$ -	0.16%	\$ 396,714,017	Yes	No	No

Note 1: The total amount of the guarantee provided by TSMC to any individual entity shall not exceed ten percent (10%) of TSMC's net worth, or the net worth of such entity. However, subsidiaries whose voting shares are 100% owned, directly or indirectly, by TSMC are not subject to the above restrictions after the approval of the Board of Directors.

Note 2: The total amount of guarantee shall not exceed twenty-five percent (25%) of TSMC's net worth.

Note 3: The maximum balance for the period and ending balance represent the amounts approved by the Board of Directors.

## Taiwan Semiconductor Manufacturing Company Limited and Subsidiaries

## MARKETABLE SECURITIES HELD

SEPTEMBER 30, 2019

(Amounts in Thousands of New Taiwan Dollars, Unless Specified Otherwise)

Held Company Name	Marketable Securities Type and Name	Relationship with the Company	Financial Statement Account	September 30, 2019				Note
				Shares/Units (In Thousands)	Carrying Value (Foreign Currencies in Thousands)	Percentage of Ownership (%)	Fair Value (Foreign Currencies in Thousands)	
TSMC	<u>Non-publicly traded equity investments</u> United Industrial Gases Co., Ltd.	-	Financial assets at fair value through other comprehensive income	21,230	\$ 425,627	10	\$ 425,627	
	Shin-Etsu Handotai Taiwan Co., Ltd.	-	"	10,500	305,088	7	305,088	
	Global Investment Holding Inc.	-	"	11,124	83,613	6	83,613	
	W.K. Technology Fund IV	-	"	806	4,942	2	4,942	
	Horizon Ventures Fund	-	"	-	2,153	12	2,153	
	Crimson Asia Capital	-	"	-	2,124	1	2,124	
TSMC Partners	<u>Convertible bonds</u> Inpria Corporation	-	Financial assets at fair value through Profit or Loss	-	US\$ 4,000	N/A	US\$ 4,000	
	<u>Non-publicly traded equity investments</u> China Walden Venture Investments II, L.P.	-	Financial assets at fair value through other comprehensive income	-	US\$ 8,959	9	US\$ 8,959	
	Shanghai Walden Venture Capital Enterprise	-	"	-	US\$ 7,305	6	US\$ 7,305	
	China Walden Venture Investments III, L.P.	-	"	-	US\$ 3,184	4	US\$ 3,184	
	Tela Innovations	-	"	10,440	-	25	-	
	Mcube Inc.	-	"	6,333	-	12	-	
TSMC Global	<u>Corporate bond</u> Bank of America Corp	-	Financial assets at fair value through other comprehensive income	-	US\$ 51,997	N/A	US\$ 51,997	
	Morgan Stanley	-	"	-	US\$ 47,160	N/A	US\$ 47,160	
	Goldman Sachs Group Inc/The	-	"	-	US\$ 46,103	N/A	US\$ 46,103	
	Citigroup Inc	-	"	-	US\$ 42,725	N/A	US\$ 42,725	
	JPMorgan Chase & Co	-	"	-	US\$ 40,747	N/A	US\$ 40,747	
	CVS Health Corp	-	"	-	US\$ 26,439	N/A	US\$ 26,439	
	AT&T Inc	-	"	-	US\$ 26,215	N/A	US\$ 26,215	
	Mitsubishi UFJ Financial Group Inc	-	"	-	US\$ 21,807	N/A	US\$ 21,807	
	Sumitomo Mitsui Financial Group Inc	-	"	-	US\$ 20,642	N/A	US\$ 20,642	
	HSBC Holdings PLC	-	"	-	US\$ 20,507	N/A	US\$ 20,507	
	Apple Inc	-	"	-	US\$ 19,078	N/A	US\$ 19,078	
	Wells Fargo & Co	-	"	-	US\$ 18,870	N/A	US\$ 18,870	
	Verizon Communications Inc	-	"	-	US\$ 16,701	N/A	US\$ 16,701	
	Toronto-Dominion Bank/The	-	"	-	US\$ 15,826	N/A	US\$ 15,826	
	Bristol-Myers Squibb Co	-	"	-	US\$ 14,490	N/A	US\$ 14,490	
	Banco Santander SA	-	"	-	US\$ 14,436	N/A	US\$ 14,436	
	Hewlett Packard Enterprise Co	-	"	-	US\$ 14,303	N/A	US\$ 14,303	
Fiserv Inc	-	"	-	US\$ 13,303	N/A	US\$ 13,303		
BAT Capital Corp	-	"	-	US\$ 13,254	N/A	US\$ 13,254		
UBS Group Funding Switzerland AG	-	"	-	US\$ 12,906	N/A	US\$ 12,906		
United Technologies Corp	-	"	-	US\$ 12,808	N/A	US\$ 12,808		

(Continued)

Held Company Name	Marketable Securities Type and Name	Relationship with the Company	Financial Statement Account	September 30, 2019				Note
				Shares/Units (In Thousands)	Carrying Value (Foreign Currencies in Thousands)	Percentage of Ownership (%)	Fair Value (Foreign Currencies in Thousands)	
TSMC Global	NextEra Energy Capital Holdings Inc	-	Financial assets at fair value through other comprehensive income	-	US\$ 12,503	N/A	US\$ 12,503	
	American International Group Inc	-	"	-	US\$ 12,089	N/A	US\$ 12,089	
	Ryder System Inc	-	"	-	US\$ 11,996	N/A	US\$ 11,996	
	Mizuho Financial Group Inc	-	"	-	US\$ 11,286	N/A	US\$ 11,286	
	ERAC USA Finance LLC	-	"	-	US\$ 11,177	N/A	US\$ 11,177	
	BNP Paribas SA	-	"	-	US\$ 10,868	N/A	US\$ 10,868	
	International Business Machines Corp	-	"	-	US\$ 10,410	N/A	US\$ 10,410	
	Macquarie Group Ltd	-	"	-	US\$ 10,409	N/A	US\$ 10,409	
	Comcast Corp	-	"	-	US\$ 10,356	N/A	US\$ 10,356	
	DTE Energy Co	-	"	-	US\$ 10,284	N/A	US\$ 10,284	
	Penske Truck Leasing Co Lp/PTL Finance Corp	-	"	-	US\$ 10,241	N/A	US\$ 10,241	
	AbbVie Inc	-	"	-	US\$ 10,219	N/A	US\$ 10,219	
	SMBC Aviation Capital Finance DAC	-	"	-	US\$ 10,194	N/A	US\$ 10,194	
	Nordea Bank Abp	-	"	-	US\$ 10,014	N/A	US\$ 10,014	
	Capital One NA	-	"	-	US\$ 9,963	N/A	US\$ 9,963	
	Wells Fargo Bank NA	-	"	-	US\$ 9,947	N/A	US\$ 9,947	
	American Express Co	-	"	-	US\$ 9,873	N/A	US\$ 9,873	
	Daimler Finance North America LLC	-	"	-	US\$ 9,855	N/A	US\$ 9,855	
	Air Lease Corp	-	"	-	US\$ 9,755	N/A	US\$ 9,755	
	Tyson Foods Inc	-	"	-	US\$ 9,665	N/A	US\$ 9,665	
	BPCE SA	-	"	-	US\$ 9,494	N/A	US\$ 9,494	
	Cox Communications Inc	-	"	-	US\$ 9,361	N/A	US\$ 9,361	
	Celgene Corp	-	"	-	US\$ 9,200	N/A	US\$ 9,200	
	Bank of Montreal	-	"	-	US\$ 9,181	N/A	US\$ 9,181	
	Hyundai Capital America	-	"	-	US\$ 9,141	N/A	US\$ 9,141	
	Lloyds Banking Group PLC	-	"	-	US\$ 9,021	N/A	US\$ 9,021	
	New York Life Global Funding	-	"	-	US\$ 8,935	N/A	US\$ 8,935	
	Suncorp-Metway Ltd	-	"	-	US\$ 8,917	N/A	US\$ 8,917	
	ANZ New Zealand Int'l Ltd/London	-	"	-	US\$ 8,848	N/A	US\$ 8,848	
	Reliance Standard Life Global Funding II	-	"	-	US\$ 8,830	N/A	US\$ 8,830	
	Midwest Connector Capital Co LLC	-	"	-	US\$ 8,427	N/A	US\$ 8,427	
	Royal Bank of Canada	-	"	-	US\$ 8,396	N/A	US\$ 8,396	
	Santander UK PLC	-	"	-	US\$ 8,234	N/A	US\$ 8,234	
	Metropolitan Life Global Funding I	-	"	-	US\$ 8,207	N/A	US\$ 8,207	
	Cooperatieve Rabobank UA/NY	-	"	-	US\$ 7,998	N/A	US\$ 7,998	
	Athene Global Funding	-	"	-	US\$ 7,983	N/A	US\$ 7,983	
	Tencent Holdings Ltd	-	"	-	US\$ 7,635	N/A	US\$ 7,635	
	Anthem Inc	-	"	-	US\$ 7,628	N/A	US\$ 7,628	
	QUALCOMM Inc	-	"	-	US\$ 7,575	N/A	US\$ 7,575	
	BP Capital Markets America Inc	-	"	-	US\$ 7,487	N/A	US\$ 7,487	
	Microsoft Corp	-	"	-	US\$ 7,468	N/A	US\$ 7,468	
	NatWest Markets PLC	-	"	-	US\$ 7,460	N/A	US\$ 7,460	
	Altria Group Inc	-	"	-	US\$ 7,451	N/A	US\$ 7,451	
	Prudential Funding LLC	-	"	-	US\$ 7,383	N/A	US\$ 7,383	
	Jackson National Life Global Funding	-	"	-	US\$ 7,186	N/A	US\$ 7,186	
	BMW US Capital LLC	-	"	-	US\$ 7,155	N/A	US\$ 7,155	
	Scentre Group Trust 1/Scentre Group Trust 2	-	"	-	US\$ 7,076	N/A	US\$ 7,076	
	Kinder Morgan Energy Partners LP	-	"	-	US\$ 7,036	N/A	US\$ 7,036	
	Fox Corp	-	"	-	US\$ 6,934	N/A	US\$ 6,934	
	Huntington Bancshares Inc/OH	-	"	-	US\$ 6,737	N/A	US\$ 6,737	

(Continued)

Held Company Name	Marketable Securities Type and Name	Relationship with the Company	Financial Statement Account	September 30, 2019				Note
				Shares/Units (In Thousands)	Carrying Value (Foreign Currencies in Thousands)	Percentage of Ownership (%)	Fair Value (Foreign Currencies in Thousands)	
TSMC Global	Anheuser-Busch InBev Worldwide Inc	-	Financial assets at fair value through other comprehensive income	-	US\$ 6,699	N/A	US\$ 6,699	
	SunTrust Bank/Atlanta GA	-	"	-	US\$ 6,678	N/A	US\$ 6,678	
	ING Groep NV	-	"	-	US\$ 6,656	N/A	US\$ 6,656	
	PNC Bank NA	-	"	-	US\$ 6,598	N/A	US\$ 6,598	
	Dominion Energy Gas Holdings LLC	-	"	-	US\$ 6,403	N/A	US\$ 6,403	
	General Dynamics Corp	-	"	-	US\$ 6,297	N/A	US\$ 6,297	
	AIG Global Funding	-	"	-	US\$ 6,182	N/A	US\$ 6,182	
	Western Union Co/The	-	"	-	US\$ 6,162	N/A	US\$ 6,162	
	Panasonic Corp	-	"	-	US\$ 6,086	N/A	US\$ 6,086	
	Bayer US Finance II LLC	-	"	-	US\$ 6,069	N/A	US\$ 6,069	
	ABN AMRO Bank NV	-	"	-	US\$ 6,069	N/A	US\$ 6,069	
	Analog Devices Inc	-	"	-	US\$ 5,961	N/A	US\$ 5,961	
	Regions Financial Corp	-	"	-	US\$ 5,946	N/A	US\$ 5,946	
	WPP Finance 2010	-	"	-	US\$ 5,851	N/A	US\$ 5,851	
	Reckitt Benckiser Treasury Services PLC	-	"	-	US\$ 5,771	N/A	US\$ 5,771	
	Anheuser-Busch InBev Finance Inc	-	"	-	US\$ 5,728	N/A	US\$ 5,728	
	Capital One Financial Corp	-	"	-	US\$ 5,662	N/A	US\$ 5,662	
	CNA Financial Corp	-	"	-	US\$ 5,367	N/A	US\$ 5,367	
	Barclays Bank PLC	-	"	-	US\$ 5,337	N/A	US\$ 5,337	
	Skandinaviska Enskilda Banken AB	-	"	-	US\$ 5,310	N/A	US\$ 5,310	
	Enel Finance International NV	-	"	-	US\$ 5,295	N/A	US\$ 5,295	
	Sompo International Holdings Ltd	-	"	-	US\$ 5,274	N/A	US\$ 5,274	
	Takeda Pharmaceutical Co Ltd	-	"	-	US\$ 5,262	N/A	US\$ 5,262	
	Credit Suisse Group Funding Guernsey Ltd	-	"	-	US\$ 5,207	N/A	US\$ 5,207	
	Lloyds Bank PLC	-	"	-	US\$ 5,177	N/A	US\$ 5,177	
	Exelon Generation Co LLC	-	"	-	US\$ 5,103	N/A	US\$ 5,103	
	Keurig Dr Pepper Inc	-	"	-	US\$ 5,097	N/A	US\$ 5,097	
	Alabama Power Co	-	"	-	US\$ 5,091	N/A	US\$ 5,091	
	Welltower Inc	-	"	-	US\$ 5,069	N/A	US\$ 5,069	
	Saudi Arabian Oil Co	-	"	-	US\$ 5,059	N/A	US\$ 5,059	
	Thermo Fisher Scientific Inc	-	"	-	US\$ 5,037	N/A	US\$ 5,037	
	BB&T Corp	-	"	-	US\$ 5,037	N/A	US\$ 5,037	
	BG Energy Capital PLC	-	"	-	US\$ 5,027	N/A	US\$ 5,027	
	Fortive Corp	-	"	-	US\$ 5,004	N/A	US\$ 5,004	
	Roper Technologies Inc	-	"	-	US\$ 4,910	N/A	US\$ 4,910	
	Bank of Nova Scotia/The	-	"	-	US\$ 4,909	N/A	US\$ 4,909	
	Shire Acquisitions Investments Ireland DAC	-	"	-	US\$ 4,906	N/A	US\$ 4,906	
	Eversource Energy	-	"	-	US\$ 4,890	N/A	US\$ 4,890	
	HCP Inc	-	"	-	US\$ 4,888	N/A	US\$ 4,888	
	Five Corners Funding Trust	-	"	-	US\$ 4,865	N/A	US\$ 4,865	
	NiSource Inc	-	"	-	US\$ 4,804	N/A	US\$ 4,804	
	CenterPoint Energy Inc	-	"	-	US\$ 4,795	N/A	US\$ 4,795	
	Societe Generale SA	-	"	-	US\$ 4,793	N/A	US\$ 4,793	
	Quest Diagnostics Inc	-	"	-	US\$ 4,748	N/A	US\$ 4,748	
	Credit Agricole SA/London	-	"	-	US\$ 4,728	N/A	US\$ 4,728	
	Standard Chartered PLC	-	"	-	US\$ 4,707	N/A	US\$ 4,707	
	Credit Suisse Group AG	-	"	-	US\$ 4,694	N/A	US\$ 4,694	
	American Express Credit Corp	-	"	-	US\$ 4,679	N/A	US\$ 4,679	
	Simon Property Group LP	-	"	-	US\$ 4,631	N/A	US\$ 4,631	
	Cooperatieve Rabobank UA	-	"	-	US\$ 4,624	N/A	US\$ 4,624	

(Continued)

Held Company Name	Marketable Securities Type and Name	Relationship with the Company	Financial Statement Account	September 30, 2019				Note
				Shares/Units (In Thousands)	Carrying Value (Foreign Currencies in Thousands)	Percentage of Ownership (%)	Fair Value (Foreign Currencies in Thousands)	
TSMC Global	Svenska Handelsbanken AB	-	Financial assets at fair value through other comprehensive income	-	US\$ 4,529	N/A	US\$ 4,529	
	Southern Co/The	-	"	-	US\$ 4,450	N/A	US\$ 4,450	
	Volkswagen Group of America Finance LLC	-	"	-	US\$ 4,403	N/A	US\$ 4,403	
	Credit Suisse AG/New York NY	-	"	-	US\$ 4,360	N/A	US\$ 4,360	
	McKesson Corp	-	"	-	US\$ 4,262	N/A	US\$ 4,262	
	African Development Bank	-	"	-	US\$ 4,213	N/A	US\$ 4,213	
	Verisk Analytics Inc	-	"	-	US\$ 4,200	N/A	US\$ 4,200	
	Vodafone Group PLC	-	"	-	US\$ 4,163	N/A	US\$ 4,163	
	Enterprise Products Operating LLC	-	"	-	US\$ 4,091	N/A	US\$ 4,091	
	John Deere Capital Corp	-	"	-	US\$ 4,082	N/A	US\$ 4,082	
	Walt Disney Co/The	-	"	-	US\$ 4,078	N/A	US\$ 4,078	
	Exelon Corp	-	"	-	US\$ 4,075	N/A	US\$ 4,075	
	Intercontinental Exchange Inc	-	"	-	US\$ 4,030	N/A	US\$ 4,030	
	Exxon Mobil Corp	-	"	-	US\$ 4,026	N/A	US\$ 4,026	
	European Bank for Reconstruction & Development	-	"	-	US\$ 3,995	N/A	US\$ 3,995	
	Duke Realty LP	-	"	-	US\$ 3,987	N/A	US\$ 3,987	
	3M Co	-	"	-	US\$ 3,977	N/A	US\$ 3,977	
	GE Capital International Funding Co Unlimited Co	-	"	-	US\$ 3,937	N/A	US\$ 3,937	
	Citizens Bank NA/Providence RI	-	"	-	US\$ 3,912	N/A	US\$ 3,912	
	Dow Chemical Co/The	-	"	-	US\$ 3,884	N/A	US\$ 3,884	
	Duke Energy Corp	-	"	-	US\$ 3,857	N/A	US\$ 3,857	
	DuPont de Nemours Inc	-	"	-	US\$ 3,855	N/A	US\$ 3,855	
	Barclays PLC	-	"	-	US\$ 3,842	N/A	US\$ 3,842	
	Nationwide Building Society	-	"	-	US\$ 3,798	N/A	US\$ 3,798	
	Danske Bank A/S	-	"	-	US\$ 3,758	N/A	US\$ 3,758	
	Mondelez International Holdings Netherlands BV	-	"	-	US\$ 3,746	N/A	US\$ 3,746	
	Monongahela Power Co	-	"	-	US\$ 3,719	N/A	US\$ 3,719	
	Asian Development Bank	-	"	-	US\$ 3,631	N/A	US\$ 3,631	
	Reynolds American Inc	-	"	-	US\$ 3,627	N/A	US\$ 3,627	
	Amgen Inc	-	"	-	US\$ 3,546	N/A	US\$ 3,546	
	Stryker Corp	-	"	-	US\$ 3,525	N/A	US\$ 3,525	
	Charles Schwab Corp/The	-	"	-	US\$ 3,507	N/A	US\$ 3,507	
	MPLX LP	-	"	-	US\$ 3,470	N/A	US\$ 3,470	
	Marriott International Inc/MD	-	"	-	US\$ 3,435	N/A	US\$ 3,435	
	Canadian Imperial Bank of Commerce	-	"	-	US\$ 3,429	N/A	US\$ 3,429	
	Kroger Co/The	-	"	-	US\$ 3,424	N/A	US\$ 3,424	
	Aviation Capital Group LLC	-	"	-	US\$ 3,389	N/A	US\$ 3,389	
	KeyBank NA/Cleveland OH	-	"	-	US\$ 3,313	N/A	US\$ 3,313	
	WEC Energy Group Inc	-	"	-	US\$ 3,297	N/A	US\$ 3,297	
	ONE Gas Inc	-	"	-	US\$ 3,228	N/A	US\$ 3,228	
	Cardinal Health Inc	-	"	-	US\$ 3,194	N/A	US\$ 3,194	
	Xylem Inc/NY	-	"	-	US\$ 3,178	N/A	US\$ 3,178	
	Inter-American Development Bank	-	"	-	US\$ 3,170	N/A	US\$ 3,170	
	Unum Group	-	"	-	US\$ 3,128	N/A	US\$ 3,128	
	People's United Financial Inc	-	"	-	US\$ 3,093	N/A	US\$ 3,093	
	Oncor Electric Delivery Co LLC	-	"	-	US\$ 3,081	N/A	US\$ 3,081	
	Banque Federative du Credit Mutuel SA	-	"	-	US\$ 3,068	N/A	US\$ 3,068	
	BOC Aviation Ltd	-	"	-	US\$ 3,066	N/A	US\$ 3,066	
	Zions Bancorp NA	-	"	-	US\$ 3,064	N/A	US\$ 3,064	
	Rockwell Collins Inc	-	"	-	US\$ 3,034	N/A	US\$ 3,034	

(Continued)



Held Company Name	Marketable Securities Type and Name	Relationship with the Company	Financial Statement Account	September 30, 2019				Note
				Shares/Units (In Thousands)	Carrying Value (Foreign Currencies in Thousands)	Percentage of Ownership (%)	Fair Value (Foreign Currencies in Thousands)	
TSMC Global	Cigna Holding Co	-	Financial assets at fair value through other comprehensive income	-	US\$ 3,027	N/A	US\$ 3,027	
	Macquarie Bank Ltd	-	"	-	US\$ 3,021	N/A	US\$ 3,021	
	Alimentation Couche-Tard Inc	-	"	-	US\$ 2,980	N/A	US\$ 2,980	
	Nutrien Ltd	-	"	-	US\$ 2,934	N/A	US\$ 2,934	
	Canadian Natural Resources Ltd	-	"	-	US\$ 2,909	N/A	US\$ 2,909	
	Barrick Gold Corp	-	"	-	US\$ 2,852	N/A	US\$ 2,852	
	RELX Capital Inc	-	"	-	US\$ 2,847	N/A	US\$ 2,847	
	Westpac Banking Corp	-	"	-	US\$ 2,825	N/A	US\$ 2,825	
	Express Scripts Holding Co	-	"	-	US\$ 2,809	N/A	US\$ 2,809	
	Textron Inc	-	"	-	US\$ 2,800	N/A	US\$ 2,800	
	Shell International Finance BV	-	"	-	US\$ 2,799	N/A	US\$ 2,799	
	Ameren Corp	-	"	-	US\$ 2,796	N/A	US\$ 2,796	
	Fifth Third Bancorp	-	"	-	US\$ 2,792	N/A	US\$ 2,792	
	Compass Bank	-	"	-	US\$ 2,791	N/A	US\$ 2,791	
	Ventas Realty LP	-	"	-	US\$ 2,772	N/A	US\$ 2,772	
	Dominion Energy Inc	-	"	-	US\$ 2,771	N/A	US\$ 2,771	
	McCormick & Co Inc/MD	-	"	-	US\$ 2,769	N/A	US\$ 2,769	
	Eastman Chemical Co	-	"	-	US\$ 2,740	N/A	US\$ 2,740	
	National Oilwell Varco Inc	-	"	-	US\$ 2,727	N/A	US\$ 2,727	
	Northrop Grumman Corp	-	"	-	US\$ 2,694	N/A	US\$ 2,694	
	Newcrest Finance Pty Ltd	-	"	-	US\$ 2,670	N/A	US\$ 2,670	
	Huntington National Bank/The	-	"	-	US\$ 2,666	N/A	US\$ 2,666	
	Xcel Energy Inc	-	"	-	US\$ 2,609	N/A	US\$ 2,609	
	General Electric Co	-	"	-	US\$ 2,598	N/A	US\$ 2,598	
	Husky Energy Inc	-	"	-	US\$ 2,574	N/A	US\$ 2,574	
	AvalonBay Communities Inc	-	"	-	US\$ 2,565	N/A	US\$ 2,565	
	LyondellBasell Industries NV	-	"	-	US\$ 2,559	N/A	US\$ 2,559	
	GlaxoSmithKline Capital PLC	-	"	-	US\$ 2,554	N/A	US\$ 2,554	
	Delta Air Lines 2007-1 Class A Pass Through Trust	-	"	-	US\$ 2,549	N/A	US\$ 2,549	
	Entergy Corp	-	"	-	US\$ 2,526	N/A	US\$ 2,526	
	Intesa Sanpaolo SpA	-	"	-	US\$ 2,453	N/A	US\$ 2,453	
	AutoZone Inc	-	"	-	US\$ 2,437	N/A	US\$ 2,437	
	Berkshire Hathaway Energy Co	-	"	-	US\$ 2,427	N/A	US\$ 2,427	
	Realty Income Corp	-	"	-	US\$ 2,385	N/A	US\$ 2,385	
	Berkshire Hathaway Inc	-	"	-	US\$ 2,374	N/A	US\$ 2,374	
	Public Service Enterprise Group Inc	-	"	-	US\$ 2,331	N/A	US\$ 2,331	
	UBS AG/London	-	"	-	US\$ 2,331	N/A	US\$ 2,331	
	NBCUniversal Media LLC	-	"	-	US\$ 2,278	N/A	US\$ 2,278	
	Cintas Corp No 2	-	"	-	US\$ 2,248	N/A	US\$ 2,248	
	PSEG Power LLC	-	"	-	US\$ 2,200	N/A	US\$ 2,200	
	American Airlines 2013-2 Class A Pass Through Trust	-	"	-	US\$ 2,170	N/A	US\$ 2,170	
	Brookfield Finance Inc	-	"	-	US\$ 2,168	N/A	US\$ 2,168	
	WP Carey Inc	-	"	-	US\$ 2,136	N/A	US\$ 2,136	
	ASB Bank Ltd	-	"	-	US\$ 2,127	N/A	US\$ 2,127	
	Roche Holdings Inc	-	"	-	US\$ 2,123	N/A	US\$ 2,123	
	Legg Mason Inc	-	"	-	US\$ 2,117	N/A	US\$ 2,117	
	Suncor Energy Inc	-	"	-	US\$ 2,110	N/A	US\$ 2,110	
	Ventas Realty LP/Ventas Capital Corp	-	"	-	US\$ 2,104	N/A	US\$ 2,104	
	San Diego Gas & Electric Co	-	"	-	US\$ 2,099	N/A	US\$ 2,099	
	Woolworths Group Ltd	-	"	-	US\$ 2,077	N/A	US\$ 2,077	

(Continued)

Held Company Name	Marketable Securities Type and Name	Relationship with the Company	Financial Statement Account	September 30, 2019				Note
				Shares/Units (In Thousands)	Carrying Value (Foreign Currencies in Thousands)	Percentage of Ownership (%)	Fair Value (Foreign Currencies in Thousands)	
TSMC Global	WR Berkley Corp	-	Financial assets at fair value through other comprehensive income	-	US\$ 2,058	N/A	US\$ 2,058	
	Baidu Inc	-	"	-	US\$ 2,046	N/A	US\$ 2,046	
	AstraZeneca PLC	-	"	-	US\$ 2,037	N/A	US\$ 2,037	
	US Bancorp	-	"	-	US\$ 2,025	N/A	US\$ 2,025	
	Sempra Energy	-	"	-	US\$ 2,025	N/A	US\$ 2,025	
	Pricoa Global Funding I	-	"	-	US\$ 2,018	N/A	US\$ 2,018	
	Deutsche Telekom International Finance BV	-	"	-	US\$ 2,006	N/A	US\$ 2,006	
	Oracle Corp	-	"	-	US\$ 1,999	N/A	US\$ 1,999	
	CK Hutchison International 16 Ltd	-	"	-	US\$ 1,979	N/A	US\$ 1,979	
	Avangrid Inc	-	"	-	US\$ 1,959	N/A	US\$ 1,959	
	Kinder Morgan Inc/DE	-	"	-	US\$ 1,953	N/A	US\$ 1,953	
	CenterPoint Energy Resources Corp	-	"	-	US\$ 1,924	N/A	US\$ 1,924	
	UnitedHealth Group Inc	-	"	-	US\$ 1,902	N/A	US\$ 1,902	
	BP Capital Markets PLC	-	"	-	US\$ 1,902	N/A	US\$ 1,902	
	Aetna Inc	-	"	-	US\$ 1,820	N/A	US\$ 1,820	
	Ameriprise Financial Inc	-	"	-	US\$ 1,816	N/A	US\$ 1,816	
	Principal Life Global Funding II	-	"	-	US\$ 1,810	N/A	US\$ 1,810	
	ORIX Corp	-	"	-	US\$ 1,802	N/A	US\$ 1,802	
	WestRock RKT LLC	-	"	-	US\$ 1,800	N/A	US\$ 1,800	
	DXC Technology Co	-	"	-	US\$ 1,766	N/A	US\$ 1,766	
	General Mills Inc	-	"	-	US\$ 1,742	N/A	US\$ 1,742	
	Public Service Co of Oklahoma	-	"	-	US\$ 1,742	N/A	US\$ 1,742	
	Marathon Petroleum Corp	-	"	-	US\$ 1,725	N/A	US\$ 1,725	
	Wisconsin Public Service Corp	-	"	-	US\$ 1,711	N/A	US\$ 1,711	
	Siemens Financieringsmaatschappij NV	-	"	-	US\$ 1,669	N/A	US\$ 1,669	
	ITC Holdings Corp	-	"	-	US\$ 1,666	N/A	US\$ 1,666	
	Digital Realty Trust LP	-	"	-	US\$ 1,666	N/A	US\$ 1,666	
	Spectra Energy Partners LP	-	"	-	US\$ 1,663	N/A	US\$ 1,663	
	Toyota Industries Corp	-	"	-	US\$ 1,655	N/A	US\$ 1,655	
	Walgreens Boots Alliance Inc	-	"	-	US\$ 1,637	N/A	US\$ 1,637	
	Voya Financial Inc	-	"	-	US\$ 1,578	N/A	US\$ 1,578	
	Equifax Inc	-	"	-	US\$ 1,570	N/A	US\$ 1,570	
	AXA Equitable Holdings Inc	-	"	-	US\$ 1,566	N/A	US\$ 1,566	
	Nestle Holdings Inc	-	"	-	US\$ 1,557	N/A	US\$ 1,557	
	CK Hutchison International 19 Ltd	-	"	-	US\$ 1,544	N/A	US\$ 1,544	
	Public Service Electric & Gas Co	-	"	-	US\$ 1,522	N/A	US\$ 1,522	
	NTT Finance Corp	-	"	-	US\$ 1,521	N/A	US\$ 1,521	
	Lincoln National Corp	-	"	-	US\$ 1,517	N/A	US\$ 1,517	
	Sinopec Group Overseas Development 2015 Ltd	-	"	-	US\$ 1,502	N/A	US\$ 1,502	
	Guardian Life Global Funding	-	"	-	US\$ 1,499	N/A	US\$ 1,499	
	Trust F/1401	-	"	-	US\$ 1,489	N/A	US\$ 1,489	
	CBS Corp	-	"	-	US\$ 1,488	N/A	US\$ 1,488	
	Georgia Power Co	-	"	-	US\$ 1,484	N/A	US\$ 1,484	
	Interpublic Group of Cos Inc/The	-	"	-	US\$ 1,480	N/A	US\$ 1,480	
	Protective Life Global Funding	-	"	-	US\$ 1,461	N/A	US\$ 1,461	
	Philip Morris International Inc	-	"	-	US\$ 1,459	N/A	US\$ 1,459	
	Prudential Financial Inc	-	"	-	US\$ 1,457	N/A	US\$ 1,457	
	HSBC Bank PLC	-	"	-	US\$ 1,445	N/A	US\$ 1,445	
	Westlake Chemical Corp	-	"	-	US\$ 1,428	N/A	US\$ 1,428	
	Texas Eastern Transmission LP	-	"	-	US\$ 1,415	N/A	US\$ 1,415	

(Continued)

Held Company Name	Marketable Securities Type and Name	Relationship with the Company	Financial Statement Account	September 30, 2019				Note
				Shares/Units (In Thousands)	Carrying Value (Foreign Currencies in Thousands)	Percentage of Ownership (%)	Fair Value (Foreign Currencies in Thousands)	
TSMC Global	Daiwa Securities Group Inc	-	Financial assets at fair value through other comprehensive income	-	US\$ 1,407	N/A	US\$ 1,407	
	Baker Hughes a GE Co LLC	-	"	-	US\$ 1,396	N/A	US\$ 1,396	
	CNOOC Curtis Funding No 1 Pty Ltd	-	"	-	US\$ 1,396	N/A	US\$ 1,396	
	Liberty Property LP	-	"	-	US\$ 1,372	N/A	US\$ 1,372	
	Sprint Spectrum Co LLC/Sprint Spectrum Co II LLC/Sprint Spectrum Co III LLC	-	"	-	US\$ 1,355	N/A	US\$ 1,355	
	Essex Portfolio LP	-	"	-	US\$ 1,342	N/A	US\$ 1,342	
	Bank of New York Mellon Corp/The	-	"	-	US\$ 1,335	N/A	US\$ 1,335	
	Ontario Teachers' Cadillac Fairview Properties Trust	-	"	-	US\$ 1,330	N/A	US\$ 1,330	
	Entergy Arkansas LLC	-	"	-	US\$ 1,311	N/A	US\$ 1,311	
	Aflac Inc	-	"	-	US\$ 1,277	N/A	US\$ 1,277	
	American Electric Power Co Inc	-	"	-	US\$ 1,272	N/A	US\$ 1,272	
	Discover Bank	-	"	-	US\$ 1,238	N/A	US\$ 1,238	
	Consolidated Edison Inc	-	"	-	US\$ 1,219	N/A	US\$ 1,219	
	Santander UK Group Holdings PLC	-	"	-	US\$ 1,217	N/A	US\$ 1,217	
	KeyCorp	-	"	-	US\$ 1,209	N/A	US\$ 1,209	
	UDR Inc	-	"	-	US\$ 1,187	N/A	US\$ 1,187	
	Regions Bank/Birmingham AL	-	"	-	US\$ 1,177	N/A	US\$ 1,177	
	Magellan Midstream Partners LP	-	"	-	US\$ 1,163	N/A	US\$ 1,163	
	Cleveland Electric Illuminating Co/The	-	"	-	US\$ 1,145	N/A	US\$ 1,145	
	TransCanada PipeLines Ltd	-	"	-	US\$ 1,143	N/A	US\$ 1,143	
	APT Pipelines Ltd	-	"	-	US\$ 1,139	N/A	US\$ 1,139	
	National Australia Bank Ltd/New York	-	"	-	US\$ 1,136	N/A	US\$ 1,136	
	Manulife Financial Corp	-	"	-	US\$ 1,129	N/A	US\$ 1,129	
	Citizens Financial Group Inc	-	"	-	US\$ 1,082	N/A	US\$ 1,082	
	Southern California Edison Co	-	"	-	US\$ 1,058	N/A	US\$ 1,058	
	Royal Bank of Scotland Group PLC	-	"	-	US\$ 1,048	N/A	US\$ 1,048	
	Alexandria Real Estate Equities Inc	-	"	-	US\$ 1,047	N/A	US\$ 1,047	
	Glencore Finance Canada Ltd	-	"	-	US\$ 1,046	N/A	US\$ 1,046	
	Reinsurance Group of America Inc	-	"	-	US\$ 1,045	N/A	US\$ 1,045	
	Baltimore Gas & Electric Co	-	"	-	US\$ 1,044	N/A	US\$ 1,044	
	Commonwealth Bank of Australia	-	"	-	US\$ 1,042	N/A	US\$ 1,042	
	O'Reilly Automotive Inc	-	"	-	US\$ 1,038	N/A	US\$ 1,038	
	Halliburton Co	-	"	-	US\$ 1,038	N/A	US\$ 1,038	
	DNB Bank ASA	-	"	-	US\$ 1,036	N/A	US\$ 1,036	
	AIA Group Ltd	-	"	-	US\$ 1,032	N/A	US\$ 1,032	
	Weyerhaeuser Co	-	"	-	US\$ 1,027	N/A	US\$ 1,027	
	EOG Resources Inc	-	"	-	US\$ 1,027	N/A	US\$ 1,027	
	Entergy Mississippi LLC	-	"	-	US\$ 1,026	N/A	US\$ 1,026	
	Toyota Motor Credit Corp	-	"	-	US\$ 1,023	N/A	US\$ 1,023	
	Seven & i Holdings Co Ltd	-	"	-	US\$ 1,021	N/A	US\$ 1,021	
	Amazon.com Inc	-	"	-	US\$ 1,017	N/A	US\$ 1,017	
	Grupo Bimbo SAB de CV	-	"	-	US\$ 1,015	N/A	US\$ 1,015	
	Loews Corp	-	"	-	US\$ 1,015	N/A	US\$ 1,015	
	Corp Nacional del Cobre de Chile	-	"	-	US\$ 1,013	N/A	US\$ 1,013	
	British Airways 2013-1 Class A Pass Through Trust	-	"	-	US\$ 1,011	N/A	US\$ 1,011	
	Commonwealth Edison Co	-	"	-	US\$ 1,011	N/A	US\$ 1,011	
	Toyota Motor Finance Netherlands BV	-	"	-	US\$ 1,010	N/A	US\$ 1,010	
	Equinor ASA	-	"	-	US\$ 1,010	N/A	US\$ 1,010	
	Bunge Ltd Finance Corp	-	"	-	US\$ 1,009	N/A	US\$ 1,009	

(Continued)

Held Company Name	Marketable Securities Type and Name	Relationship with the Company	Financial Statement Account	September 30, 2019				Note
				Shares/Units (In Thousands)	Carrying Value (Foreign Currencies in Thousands)	Percentage of Ownership (%)	Fair Value (Foreign Currencies in Thousands)	
TSMC Global	Kimco Realty Corp	-	Financial assets at fair value through other comprehensive income	-	US\$ 1,006	N/A	US\$ 1,006	
	Boeing Co/The	-	"	-	US\$ 1,004	N/A	US\$ 1,004	
	American Honda Finance Corp	-	"	-	US\$ 1,004	N/A	US\$ 1,004	
	Sysco Corp	-	"	-	US\$ 1,004	N/A	US\$ 1,004	
	Lam Research Corp	-	"	-	US\$ 1,002	N/A	US\$ 1,002	
	UBS AG/Stamford CT	-	"	-	US\$ 1,001	N/A	US\$ 1,001	
	Entergy Texas Inc	-	"	-	US\$ 998	N/A	US\$ 998	
	BBVA USA	-	"	-	US\$ 994	N/A	US\$ 994	
	State Grid Overseas Investment 2016 Ltd	-	"	-	US\$ 994	N/A	US\$ 994	
	Republic Services Inc	-	"	-	US\$ 975	N/A	US\$ 975	
	Holcim US Finance Sarl & Cie SCS	-	"	-	US\$ 958	N/A	US\$ 958	
	Georgia-Pacific LLC	-	"	-	US\$ 931	N/A	US\$ 931	
	Lockheed Martin Corp	-	"	-	US\$ 904	N/A	US\$ 904	
	CA Inc	-	"	-	US\$ 901	N/A	US\$ 901	
	MassMutual Global Funding II	-	"	-	US\$ 901	N/A	US\$ 901	
	Coca-Cola Femsa SAB de CV	-	"	-	US\$ 883	N/A	US\$ 883	
	Baker Hughes a GE Co LLC/Baker Hughes Co-Obligor Inc	-	"	-	US\$ 874	N/A	US\$ 874	
	CNOOC Finance 2011 Ltd	-	"	-	US\$ 869	N/A	US\$ 869	
	Johnson Controls International plc	-	"	-	US\$ 864	N/A	US\$ 864	
	Viterra Inc	-	"	-	US\$ 848	N/A	US\$ 848	
	Branch Banking & Trust Co	-	"	-	US\$ 826	N/A	US\$ 826	
	ONEOK Partners LP	-	"	-	US\$ 820	N/A	US\$ 820	
	Sinopec Capital 2013 Ltd	-	"	-	US\$ 817	N/A	US\$ 817	
	Church & Dwight Co Inc	-	"	-	US\$ 809	N/A	US\$ 809	
	Activision Blizzard Inc	-	"	-	US\$ 808	N/A	US\$ 808	
	Columbia Pipeline Group Inc	-	"	-	US\$ 804	N/A	US\$ 804	
	Gilead Sciences Inc	-	"	-	US\$ 785	N/A	US\$ 785	
	Nationwide Financial Services Inc	-	"	-	US\$ 777	N/A	US\$ 777	
	AXIS Specialty Finance LLC	-	"	-	US\$ 768	N/A	US\$ 768	
	Continental Airlines 2012-1 Class A Pass Through Trust	-	"	-	US\$ 762	N/A	US\$ 762	
	Comerica Bank	-	"	-	US\$ 758	N/A	US\$ 758	
	Incitec Pivot Finance LLC	-	"	-	US\$ 755	N/A	US\$ 755	
	PayPal Holdings Inc	-	"	-	US\$ 752	N/A	US\$ 752	
	Pinnacle West Capital Corp	-	"	-	US\$ 749	N/A	US\$ 749	
	BNZ International Funding Ltd/London	-	"	-	US\$ 723	N/A	US\$ 723	
	Merck & Co Inc	-	"	-	US\$ 712	N/A	US\$ 712	
	Phillips 66	-	"	-	US\$ 705	N/A	US\$ 705	
	BAE Systems Holdings Inc	-	"	-	US\$ 703	N/A	US\$ 703	
	Three Gorges Finance I Cayman Islands Ltd	-	"	-	US\$ 696	N/A	US\$ 696	
	Marsh & McLennan Cos Inc	-	"	-	US\$ 660	N/A	US\$ 660	
	Ohio Power Co	-	"	-	US\$ 637	N/A	US\$ 637	
	Fifth Third Bank/Cincinnati OH	-	"	-	US\$ 634	N/A	US\$ 634	
	Norfolk Southern Railway Co	-	"	-	US\$ 632	N/A	US\$ 632	
	RBC USA Holdco Corp	-	"	-	US\$ 618	N/A	US\$ 618	
	OneBeacon US Holdings Inc	-	"	-	US\$ 616	N/A	US\$ 616	
	Toledo Edison Co/The	-	"	-	US\$ 615	N/A	US\$ 615	
	Aptiv Corp	-	"	-	US\$ 610	N/A	US\$ 610	
	BAT International Finance PLC	-	"	-	US\$ 602	N/A	US\$ 602	
	Nissan Motor Acceptance Corp	-	"	-	US\$ 600	N/A	US\$ 600	
	Continental Airlines 2007-1 Class A Pass Through Trust	-	"	-	US\$ 590	N/A	US\$ 590	

(Continued)

Held Company Name	Marketable Securities Type and Name	Relationship with the Company	Financial Statement Account	September 30, 2019				Note
				Shares/Units (In Thousands)	Carrying Value (Foreign Currencies in Thousands)	Percentage of Ownership (%)	Fair Value (Foreign Currencies in Thousands)	
TSMC Global	Host Hotels & Resorts LP	-	Financial assets at fair value through other comprehensive income	-	US\$ 583	N/A	US\$ 583	
	Life Technologies Corp	-	"	-	US\$ 579	N/A	US\$ 579	
	Duke Energy Progress LLC	-	"	-	US\$ 577	N/A	US\$ 577	
	Swedbank AB	-	"	-	US\$ 575	N/A	US\$ 575	
	MUFG Union Bank NA	-	"	-	US\$ 564	N/A	US\$ 564	
	ABC Inc	-	"	-	US\$ 561	N/A	US\$ 561	
	Ingersoll-Rand Global Holding Co Ltd	-	"	-	US\$ 530	N/A	US\$ 530	
	Fulton Financial Corp	-	"	-	US\$ 524	N/A	US\$ 524	
	salesforce.com Inc	-	"	-	US\$ 522	N/A	US\$ 522	
	Regency Centers Corp	-	"	-	US\$ 521	N/A	US\$ 521	
	Nomura Holdings Inc	-	"	-	US\$ 509	N/A	US\$ 509	
	Highwoods Realty LP	-	"	-	US\$ 506	N/A	US\$ 506	
	Mitsubishi UFJ Lease & Finance Co Ltd	-	"	-	US\$ 501	N/A	US\$ 501	
	Hanwha Energy USA Holdings Corp	-	"	-	US\$ 501	N/A	US\$ 501	
	International Paper Co	-	"	-	US\$ 484	N/A	US\$ 484	
	Diageo Capital PLC	-	"	-	US\$ 478	N/A	US\$ 478	
	Duke Energy Carolinas LLC	-	"	-	US\$ 465	N/A	US\$ 465	
	United Overseas Bank Ltd	-	"	-	US\$ 462	N/A	US\$ 462	
	Union Pacific Corp	-	"	-	US\$ 458	N/A	US\$ 458	
	Narragansett Electric Co/The	-	"	-	US\$ 454	N/A	US\$ 454	
	Eaton Electric Holdings LLC	-	"	-	US\$ 406	N/A	US\$ 406	
	Canadian Pacific Railway Co	-	"	-	US\$ 404	N/A	US\$ 404	
	Southern Power Co	-	"	-	US\$ 401	N/A	US\$ 401	
	MetLife Inc	-	"	-	US\$ 397	N/A	US\$ 397	
	StanCorp Financial Group Inc	-	"	-	US\$ 389	N/A	US\$ 389	
	Aon Corp	-	"	-	US\$ 376	N/A	US\$ 376	
	Principal Financial Group Inc	-	"	-	US\$ 361	N/A	US\$ 361	
	First Niagara Financial Group Inc	-	"	-	US\$ 358	N/A	US\$ 358	
	Continental Airlines 2000-1 Class A-1 Pass Through Trust	-	"	-	US\$ 317	N/A	US\$ 317	
	Chubb INA Holdings Inc	-	"	-	US\$ 308	N/A	US\$ 308	
	CommonSpirit Health	-	"	-	US\$ 304	N/A	US\$ 304	
	Eli Lilly & Co	-	"	-	US\$ 300	N/A	US\$ 300	
	Schlumberger Finance Canada Ltd	-	"	-	US\$ 300	N/A	US\$ 300	
	Manufacturers & Traders Trust Co	-	"	-	US\$ 300	N/A	US\$ 300	
	Home Depot Inc/The	-	"	-	US\$ 285	N/A	US\$ 285	
	Archer-Daniels-Midland Co	-	"	-	US\$ 258	N/A	US\$ 258	
	Bank of America NA	-	"	-	US\$ 257	N/A	US\$ 257	
	Aon PLC	-	"	-	US\$ 247	N/A	US\$ 247	
	US Airways 2013-1 Class A Pass Through Trust	-	"	-	US\$ 221	N/A	US\$ 221	
	Protective Life Corp	-	"	-	US\$ 210	N/A	US\$ 210	
	WestRock MWV LLC	-	"	-	US\$ 204	N/A	US\$ 204	
	Glencore Funding LLC	-	"	-	US\$ 201	N/A	US\$ 201	
	Schneider Electric SE	-	"	-	US\$ 164	N/A	US\$ 164	
	Wells Fargo & Co	-	Financial assets at amortized cost	-	US\$ 160,107	N/A	US\$ 161,706	
	JPMorgan Chase & Co.	-	"	-	US\$ 84,967	N/A	US\$ 86,054	
	Industrial and Commercial Bank of China	-	"	-	US\$ 9,996	N/A	US\$ 10,019	
	<u>Government bond</u>							
	United States Treasury Note/Bond	-	Financial assets at fair value through other comprehensive income	-	US\$ 486,977	N/A	US\$ 486,977	
	Abu Dhabi Government International Bond	-	"	-	US\$ 3,498	N/A	US\$ 3,498	
	Qatar Government International Bond	-	"	-	US\$ 1,375	N/A	US\$ 1,375	

(Continued)

Held Company Name	Marketable Securities Type and Name	Relationship with the Company	Financial Statement Account	September 30, 2019				Note
				Shares/Units (In Thousands)	Carrying Value (Foreign Currencies in Thousands)	Percentage of Ownership (%)	Fair Value (Foreign Currencies in Thousands)	
TSMC Global	<u>Agency mortgage-backed securities</u> Freddie Mac Multifamily Structured Pass Through Certificates	-	Financial assets at fair value through Profit or Loss	-	US\$ 1,471	N/A	US\$ 1,471	
	<u>Agency bonds/Agency mortgage-backed securities</u> Fannie Mae Pool	-	Financial assets at fair value through other comprehensive income	-	US\$ 720,888	N/A	US\$ 720,888	
	Fannie Mae REMICS	-	"	-	US\$ 186,907	N/A	US\$ 186,907	
	Freddie Mac Gold Pool	-	"	-	US\$ 174,065	N/A	US\$ 174,065	
	Ginnie Mae II Pool	-	"	-	US\$ 157,158	N/A	US\$ 157,158	
	Freddie Mac REMICS	-	"	-	US\$ 155,669	N/A	US\$ 155,669	
	Freddie Mac Pool	-	"	-	US\$ 129,104	N/A	US\$ 129,104	
	Fannie Mae or Freddie Mac	-	"	-	US\$ 64,472	N/A	US\$ 64,472	
	Government National Mortgage Association	-	"	-	US\$ 52,963	N/A	US\$ 52,963	
	Ginnie Mae	-	"	-	US\$ 28,005	N/A	US\$ 28,005	
	Fannie Mae-Aces	-	"	-	US\$ 18,124	N/A	US\$ 18,124	
	Freddie Mac Strips	-	"	-	US\$ 3,231	N/A	US\$ 3,231	
	Freddie Mac Multifamily Structured Pass Through Certificates	-	"	-	US\$ 2,335	N/A	US\$ 2,335	
	Korea Hydro & Nuclear Power Co Ltd	-	"	-	US\$ 1,980	N/A	US\$ 1,980	
	Ginnie Mae I Pool	-	"	-	US\$ 1,139	N/A	US\$ 1,139	
	FHLMC-GNMA	-	"	-	US\$ 1,105	N/A	US\$ 1,105	
	NCUA Guaranteed Notes Trust 2010-R2	-	"	-	US\$ 731	N/A	US\$ 731	
	FRESB 2019-SB61 Mortgage Trust	-	"	-	US\$ 677	N/A	US\$ 677	
	Freddie Mac Non Gold Pool	-	"	-	US\$ 588	N/A	US\$ 588	
	FRESB 2019-SB60 Mortgage Trust	-	"	-	US\$ 423	N/A	US\$ 423	
	NCUA Guaranteed Notes Trust 2010-R1	-	"	-	US\$ 248	N/A	US\$ 248	
	Fannie Mae Benchmark REMIC	-	"	-	US\$ 120	N/A	US\$ 120	
	<u>Asset-backed securities</u> Citibank Credit Card Issuance Trust	-	Financial assets at fair value through other comprehensive income	-	US\$ 10,619	N/A	US\$ 10,619	
	CGDBB Commercial Mortgage Trust 2017-BIOC	-	"	-	US\$ 7,500	N/A	US\$ 7,500	
	Citigroup Commercial Mortgage Trust 2014-GC21	-	"	-	US\$ 7,469	N/A	US\$ 7,469	
	Benchmark 2019-B11 Mortgage Trust	-	"	-	US\$ 6,299	N/A	US\$ 6,299	
	UBS-Barclays Commercial Mortgage Trust 2012-C2	-	"	-	US\$ 6,179	N/A	US\$ 6,179	
	Wells Fargo Commercial Mortgage Trust 2016-C35	-	"	-	US\$ 6,122	N/A	US\$ 6,122	
	Ford Credit Auto Owner Trust 2016-REV1	-	"	-	US\$ 6,017	N/A	US\$ 6,017	
	CD 2019-CD8 Mortgage Trust	-	"	-	US\$ 5,990	N/A	US\$ 5,990	
	Hyundai Auto Receivables Trust 2017-A	-	"	-	US\$ 5,527	N/A	US\$ 5,527	
	BX Commercial Mortgage Trust 2018-IND	-	"	-	US\$ 5,497	N/A	US\$ 5,497	
	BBCMS 2018-TALL Mortgage Trust	-	"	-	US\$ 5,486	N/A	US\$ 5,486	
	American Express Credit Account Master Trust	-	"	-	US\$ 5,461	N/A	US\$ 5,461	
	COMM 2015-CCRE24 Mortgage Trust	-	"	-	US\$ 5,280	N/A	US\$ 5,280	
	Morgan Stanley Bank of America Merrill Lynch Trust 2013-C7	-	"	-	US\$ 5,194	N/A	US\$ 5,194	
	Morgan Stanley Bank of America Merrill Lynch Trust 2016-C30	-	"	-	US\$ 5,074	N/A	US\$ 5,074	
	Morgan Stanley Bank of America Merrill Lynch Trust 2013-C10	-	"	-	US\$ 5,052	N/A	US\$ 5,052	
	Ford Credit Auto Owner Trust 2015-REV1	-	"	-	US\$ 4,920	N/A	US\$ 4,920	
	WFRBS Commercial Mortgage Trust 2013-C13	-	"	-	US\$ 4,726	N/A	US\$ 4,726	
	JPMCC Commercial Mortgage Securities Trust 2017-JP7	-	"	-	US\$ 4,205	N/A	US\$ 4,205	
	Hyundai Auto Receivables Trust 2016-A	-	"	-	US\$ 4,184	N/A	US\$ 4,184	
	UBS Commercial Mortgage Trust 2018-C10	-	"	-	US\$ 4,181	N/A	US\$ 4,181	
	Morgan Stanley Bank of America Merrill Lynch Trust 2016-C29	-	"	-	US\$ 4,171	N/A	US\$ 4,171	
	BANK 2017-BNK6	-	"	-	US\$ 4,143	N/A	US\$ 4,143	

(Continued)

Held Company Name	Marketable Securities Type and Name	Relationship with the Company	Financial Statement Account	September 30, 2019				Note
				Shares/Units (In Thousands)	Carrying Value (Foreign Currencies in Thousands)	Percentage of Ownership (%)	Fair Value (Foreign Currencies in Thousands)	
TSMC Global	BANK 2019-BNK17	-	Financial assets at fair value through other comprehensive income	-	US\$ 4,136	N/A	US\$ 4,136	
	BANK 2017-BNK5	-	"	-	US\$ 4,131	N/A	US\$ 4,131	
	Ford Credit Auto Owner Trust 2017-A	-	"	-	US\$ 4,005	N/A	US\$ 4,005	
	Enterprise Fleet Financing 2019-2 LLC	-	"	-	US\$ 3,770	N/A	US\$ 3,770	
	Morgan Stanley Bank of America Merrill Lynch Trust 2012-C6	-	"	-	US\$ 3,442	N/A	US\$ 3,442	
	Ford Credit Auto Lease Trust 2019-B	-	"	-	US\$ 3,121	N/A	US\$ 3,121	
	Toyota Auto Receivables 2018-D Owner Trust	-	"	-	US\$ 3,085	N/A	US\$ 3,085	
	Nissan Auto Lease Trust 2017-B	-	"	-	US\$ 3,071	N/A	US\$ 3,071	
	UBS-Barclays Commercial Mortgage Trust 2012-C3	-	"	-	US\$ 3,065	N/A	US\$ 3,065	
	J.P. Morgan Chase Commercial Mortgage Securities Trust 2016-WIKI	-	"	-	US\$ 3,030	N/A	US\$ 3,030	
	COMM 2015-CCRE25 Mortgage Trust	-	"	-	US\$ 3,016	N/A	US\$ 3,016	
	GS Mortgage Securities Corp Trust 2018-RIVR	-	"	-	US\$ 3,004	N/A	US\$ 3,004	
	GM Financial Consumer Automobile Receivables Trust 2017-2	-	"	-	US\$ 2,995	N/A	US\$ 2,995	
	Nissan Auto Lease Trust 2019-B	-	"	-	US\$ 2,889	N/A	US\$ 2,889	
	GS Mortgage Securities Trust 2013-GCJ12	-	"	-	US\$ 2,676	N/A	US\$ 2,676	
	GS Mortgage Securities Trust 2011-GC3	-	"	-	US\$ 2,664	N/A	US\$ 2,664	
	Morgan Stanley Capital I Trust 2018-H3	-	"	-	US\$ 2,663	N/A	US\$ 2,663	
	Chesapeake Funding II LLC	-	"	-	US\$ 2,557	N/A	US\$ 2,557	
	ARI Fleet Lease Trust 2019-A	-	"	-	US\$ 2,415	N/A	US\$ 2,415	
	Navient Student Loan Trust 2017-5	-	"	-	US\$ 2,211	N/A	US\$ 2,211	
	UBS Commercial Mortgage Trust 2018-C11	-	"	-	US\$ 2,203	N/A	US\$ 2,203	
	BENCHMARK 2018-B4	-	"	-	US\$ 2,145	N/A	US\$ 2,145	
	COMM 2013-CCRE12 Mortgage Trust	-	"	-	US\$ 2,132	N/A	US\$ 2,132	
	COMM 2014-CCRE17 Mortgage Trust	-	"	-	US\$ 2,123	N/A	US\$ 2,123	
	JP Morgan Chase Commercial Mortgage Securities Trust 2012-LC9	-	"	-	US\$ 2,107	N/A	US\$ 2,107	
	Citigroup Commercial Mortgage Trust 2017-P8	-	"	-	US\$ 2,081	N/A	US\$ 2,081	
	GS Mortgage Securities Trust 2014-GC22	-	"	-	US\$ 2,075	N/A	US\$ 2,075	
	JPMDB Commercial Mortgage Securities Trust 2017-C7	-	"	-	US\$ 2,061	N/A	US\$ 2,061	
	JPMBB Commercial Mortgage Securities Trust 2014-C19	-	"	-	US\$ 2,044	N/A	US\$ 2,044	
	UBS-Barclays Commercial Mortgage Trust 2013-C6	-	"	-	US\$ 2,042	N/A	US\$ 2,042	
	Morgan Stanley Bank of America Merrill Lynch Trust 2016-C31	-	"	-	US\$ 2,035	N/A	US\$ 2,035	
	GM Financial Consumer Automobile 2017-1	-	"	-	US\$ 2,000	N/A	US\$ 2,000	
	Navient Student Loan Trust 2016-5	-	"	-	US\$ 1,999	N/A	US\$ 1,999	
	Mercedes-Benz Auto Lease Trust 2018-B	-	"	-	US\$ 1,963	N/A	US\$ 1,963	
	Wells Fargo Commercial Mortgage Trust 2015-LC20	-	"	-	US\$ 1,921	N/A	US\$ 1,921	
	Morgan Stanley Bank of America Merrill Lynch Trust 2013-C8	-	"	-	US\$ 1,837	N/A	US\$ 1,837	
	Ford Credit Auto Lease Trust	-	"	-	US\$ 1,817	N/A	US\$ 1,817	
	Citigroup Commercial Mortgage Trust 2015-GC35	-	"	-	US\$ 1,796	N/A	US\$ 1,796	
	WFRBS Commercial Mortgage Trust 2013-C17	-	"	-	US\$ 1,730	N/A	US\$ 1,730	
	UBS-Barclays Commercial Mortgage Trust 2013-C5	-	"	-	US\$ 1,703	N/A	US\$ 1,703	
	Hertz Fleet Lease Funding LP	-	"	-	US\$ 1,677	N/A	US\$ 1,677	
	Wells Fargo Commercial Mortgage Trust 2015-NXS1	-	"	-	US\$ 1,654	N/A	US\$ 1,654	
	Morgan Stanley Capital I Trust 2017-H1	-	"	-	US\$ 1,556	N/A	US\$ 1,556	
	JPMBB Commercial Mortgage Securities Trust 2013-C12	-	"	-	US\$ 1,555	N/A	US\$ 1,555	
	Nelnet Student Loan Trust 2018-3	-	"	-	US\$ 1,545	N/A	US\$ 1,545	
	JPMDB Commercial Mortgage Securities Trust 2016-C2	-	"	-	US\$ 1,543	N/A	US\$ 1,543	
	GS Mortgage Securities Trust 2014-GC24	-	"	-	US\$ 1,532	N/A	US\$ 1,532	
	Ford Credit Auto Owner Trust 2019-A	-	"	-	US\$ 1,520	N/A	US\$ 1,520	

(Continued)

Held Company Name	Marketable Securities Type and Name	Relationship with the Company	Financial Statement Account	September 30, 2019				Note
				Shares/Units (In Thousands)	Carrying Value (Foreign Currencies in Thousands)	Percentage of Ownership (%)	Fair Value (Foreign Currencies in Thousands)	
TSMC Global	Morgan Stanley Bank of America Merrill Lynch Trust 2015-C24	-	Financial assets at fair value through other comprehensive income	-	US\$ 1,506	N/A	US\$ 1,506	
	Ford Credit Auto Lease Trust 2018-A	-	"	-	US\$ 1,506	N/A	US\$ 1,506	
	Nelnet Student Loan Trust 2015-2	-	"	-	US\$ 1,471	N/A	US\$ 1,471	
	Citigroup Commercial Mortgage Trust 2015-GC27	-	"	-	US\$ 1,463	N/A	US\$ 1,463	
	Educational Funding of the South Inc	-	"	-	US\$ 1,460	N/A	US\$ 1,460	
	GS Mortgage Securities Corp II	-	"	-	US\$ 1,420	N/A	US\$ 1,420	
	Wells Fargo Commercial Mortgage Trust 2016-C36	-	"	-	US\$ 1,408	N/A	US\$ 1,408	
	COMM 2013-CCRE6 Mortgage Trust	-	"	-	US\$ 1,407	N/A	US\$ 1,407	
	SLM Student Loan Trust 2005-4	-	"	-	US\$ 1,407	N/A	US\$ 1,407	
	Ford Credit Auto Owner Trust 2014-REV2	-	"	-	US\$ 1,400	N/A	US\$ 1,400	
	Toyota Auto Receivables 2016-B Owner Trust	-	"	-	US\$ 1,336	N/A	US\$ 1,336	
	Morgan Stanley Capital I Trust 2016-UB11	-	"	-	US\$ 1,307	N/A	US\$ 1,307	
	JPMBB Commercial Mortgage Securities Trust 2016-C1	-	"	-	US\$ 1,298	N/A	US\$ 1,298	
	ECMC Group Student Loan Trust 2018-2	-	"	-	US\$ 1,294	N/A	US\$ 1,294	
	SLM Student Loan Trust 2013-6	-	"	-	US\$ 1,280	N/A	US\$ 1,280	
	ECMC Group Student Loan Trust	-	"	-	US\$ 1,266	N/A	US\$ 1,266	
	Hyundai Auto Lease Securitization Trust 2018-A	-	"	-	US\$ 1,254	N/A	US\$ 1,254	
	GS Mortgage Securities Trust 2015-GC32	-	"	-	US\$ 1,253	N/A	US\$ 1,253	
	COMM 2015-PC1 Mortgage Trust	-	"	-	US\$ 1,252	N/A	US\$ 1,252	
	Nelnet Student Loan Trust 2012-1	-	"	-	US\$ 1,250	N/A	US\$ 1,250	
	Nissan Auto Lease Trust 2019-A	-	"	-	US\$ 1,244	N/A	US\$ 1,244	
	Edsouth Indenture No 10 LLC	-	"	-	US\$ 1,237	N/A	US\$ 1,237	
	North Carolina State Education Assistance Authority	-	"	-	US\$ 1,229	N/A	US\$ 1,229	
	GS Mortgage Securities Trust 2019-GC39	-	"	-	US\$ 1,192	N/A	US\$ 1,192	
	Northstar Education Finance Inc	-	"	-	US\$ 1,191	N/A	US\$ 1,191	
	KnowledgeWorks Foundation	-	"	-	US\$ 1,186	N/A	US\$ 1,186	
	JPMCC Commercial Mortgage Securities Trust 2017-JP5	-	"	-	US\$ 1,173	N/A	US\$ 1,173	
	COMM 2014-LC17 Mortgage Trust	-	"	-	US\$ 1,162	N/A	US\$ 1,162	
	JPMBB Commercial Mortgage Securities Trust 2014-C21	-	"	-	US\$ 1,100	N/A	US\$ 1,100	
	BENCHMARK 2018-B6 Mortgage Trust	-	"	-	US\$ 1,072	N/A	US\$ 1,072	
	Ford Credit Auto Owner Trust 2017-C	-	"	-	US\$ 1,047	N/A	US\$ 1,047	
	GM Financial Consumer Automobile Receivables Trust 2018-4	-	"	-	US\$ 1,038	N/A	US\$ 1,038	
	COMM 2015-DC1 Mortgage Trust	-	"	-	US\$ 1,036	N/A	US\$ 1,036	
	WFRBS Commercial Mortgage Trust 2011-C4	-	"	-	US\$ 1,033	N/A	US\$ 1,033	
	Morgan Stanley Bank of America Merrill Lynch Trust 2014 C19	-	"	-	US\$ 1,030	N/A	US\$ 1,030	
	COMM 2014-CCRE20 Mortgage Trust	-	"	-	US\$ 1,030	N/A	US\$ 1,030	
	Toyota Auto Receivables 2018-C Owner Trust	-	"	-	US\$ 1,028	N/A	US\$ 1,028	
	Ford Credit Auto Owner Trust 2017-REV1	-	"	-	US\$ 1,013	N/A	US\$ 1,013	
	Citigroup Commercial Mortgage Trust 2013-GC11	-	"	-	US\$ 1,009	N/A	US\$ 1,009	
	Capital One Multi-Asset Execution Trust	-	"	-	US\$ 1,006	N/A	US\$ 1,006	
	BBCMS MORTGAGE TRUST 2017-C1	-	"	-	US\$ 1,002	N/A	US\$ 1,002	
	Discover Card Execution Note Trust	-	"	-	US\$ 1,000	N/A	US\$ 1,000	
	Navient Student Loan Trust 2017-1	-	"	-	US\$ 958	N/A	US\$ 958	
	Pheaa Student Loan Trust 2018-1	-	"	-	US\$ 877	N/A	US\$ 877	
	280 Park Avenue 2017-280P Mortgage Trust	-	"	-	US\$ 830	N/A	US\$ 830	
	Navient Student Loan Trust 2019-1	-	"	-	US\$ 826	N/A	US\$ 826	
	Morgan Stanley Bank of America Merrill Lynch Trust 2015-C20	-	"	-	US\$ 826	N/A	US\$ 826	
	GM Financial Automobile Leasing Trust 2019-2	-	"	-	US\$ 825	N/A	US\$ 825	
	Ford Credit Auto Owner Trust 2015-REV2	-	"	-	US\$ 812	N/A	US\$ 812	
	Honda Auto Receivables 2018-3 Owner Trust	-	"	-	US\$ 807	N/A	US\$ 807	
	GM Financial Automobile Leasing Trust 2018-1	-	"	-	US\$ 760	N/A	US\$ 760	

(Continued)



Held Company Name	Marketable Securities Type and Name	Relationship with the Company	Financial Statement Account	September 30, 2019				Note
				Shares/Units (In Thousands)	Carrying Value (Foreign Currencies in Thousands)	Percentage of Ownership (%)	Fair Value (Foreign Currencies in Thousands)	
TSMC Global	Navient Student Loan Trust 2018-1	-	Financial assets at fair value through other comprehensive income	-	US\$ 760	N/A	US\$ 760	
	CFCRE Commercial Mortgage Trust 2011-C1	-	"	-	US\$ 757	N/A	US\$ 757	
	SLM Student Loan Trust 2012-3	-	"	-	US\$ 728	N/A	US\$ 728	
	Wells Fargo Commercial Mortgage Trust 2015-C28	-	"	-	US\$ 712	N/A	US\$ 712	
	SLM Student Loan Trust 2013-1	-	"	-	US\$ 695	N/A	US\$ 695	
	Mercedes-Benz Auto Lease Trust 2018-A	-	"	-	US\$ 680	N/A	US\$ 680	
	ECMC Group Student Loan Trust 2016-1	-	"	-	US\$ 631	N/A	US\$ 631	
	Mercedes-Benz Auto Lease Trust 2019-A	-	"	-	US\$ 622	N/A	US\$ 622	
	Hyundai Auto Receivables Trust 2018-B	-	"	-	US\$ 619	N/A	US\$ 619	
	SLM Student Loan Trust 2013-4	-	"	-	US\$ 609	N/A	US\$ 609	
	JP Morgan Chase Commercial Mortgage Securities Trust 2012-WLDN	-	"	-	US\$ 609	N/A	US\$ 609	
	GM Financial Automobile Leasing Trust 2018-3	-	"	-	US\$ 593	N/A	US\$ 593	
	DBGS 2018-BIOD Mortgage Trust	-	"	-	US\$ 593	N/A	US\$ 593	
	Hyundai Auto Receivables Trust 2015-C	-	"	-	US\$ 550	N/A	US\$ 550	
	DBUBS 2011-LC2 Mortgage Trust	-	"	-	US\$ 513	N/A	US\$ 513	
	CD 2016-CD2 Mortgage Trust	-	"	-	US\$ 508	N/A	US\$ 508	
	JPMBB Commercial Mortgage Securities Trust 2015-C31	-	"	-	US\$ 487	N/A	US\$ 487	
	Toyota Auto Receivables 2018-B Owner Trust	-	"	-	US\$ 461	N/A	US\$ 461	
	Honda Auto Receivables 2019-1 Owner Trust	-	"	-	US\$ 449	N/A	US\$ 449	
	Wheels SPV 2 LLC	-	"	-	US\$ 445	N/A	US\$ 445	
	COMM 2015-CCRE26 Mortgage Trust	-	"	-	US\$ 418	N/A	US\$ 418	
	WFRBS Commercial Mortgage Trust 2014-C25	-	"	-	US\$ 410	N/A	US\$ 410	
	Hyundai Auto Lease Securitization Trust 2017-C	-	"	-	US\$ 410	N/A	US\$ 410	
	GM Financial Automobile Leasing Trust 2018-2	-	"	-	US\$ 393	N/A	US\$ 393	
	Ford Credit Auto Lease Trust 2017-B	-	"	-	US\$ 385	N/A	US\$ 385	
	Morgan Stanley Capital I Trust 2019-H6	-	"	-	US\$ 377	N/A	US\$ 377	
	Morgan Stanley Bank of America Merrill Lynch Trust 2012-C5	-	"	-	US\$ 375	N/A	US\$ 375	
	BANK 2018-BNK14	-	"	-	US\$ 325	N/A	US\$ 325	
	BMW Vehicle Lease Trust 2018-1	-	"	-	US\$ 321	N/A	US\$ 321	
	Navient Student Loan Trust 2017-3	-	"	-	US\$ 308	N/A	US\$ 308	
	Toyota Auto Receivables 2019-A Owner Trust	-	"	-	US\$ 279	N/A	US\$ 279	
	Nissan Auto Receivables 2016-B Owner Trust	-	"	-	US\$ 252	N/A	US\$ 252	
	Wells Fargo Commercial Mortgage Trust 2015-SG1	-	"	-	US\$ 215	N/A	US\$ 215	
	Ford Credit Auto Owner Trust 2016-A	-	"	-	US\$ 203	N/A	US\$ 203	
	BMW Vehicle Lease Trust 2017-2	-	"	-	US\$ 189	N/A	US\$ 189	
	Nelnet Student Loan Trust 2006-2	-	"	-	US\$ 172	N/A	US\$ 172	
	Wells Fargo Commercial Mortgage Trust 2016-LC24	-	"	-	US\$ 85	N/A	US\$ 85	
	WFRBS Commercial Mortgage Trust 2011-C5	-	"	-	US\$ 66	N/A	US\$ 66	
	COMM 2014-CCRE15 Mortgage Trust	-	"	-	US\$ 46	N/A	US\$ 46	
	Hyundai Auto Lease Securitization Trust 2017-A	-	"	-	US\$ 46	N/A	US\$ 46	
	GS Mortgage Securities Trust 2010-C1	-	"	-	US\$ 43	N/A	US\$ 43	
	GS Mortgage Securities Trust 2010-C2	-	"	-	US\$ 27	N/A	US\$ 27	
	Morgan Stanley Bank of America Merrill Lynch Trust 2014-C18	-	"	-	US\$ 21	N/A	US\$ 21	
	<u>Commercial paper</u> Swedbank AB	-	Financial assets at fair value through other comprehensive income	-	US\$ 2,980	N/A	US\$ 2,980	
	<u>Non-publicly traded equity investments</u> Primavera Capital Fund II L.P.	-	Financial assets at fair value through other comprehensive income	-	US\$ 76,906	4	US\$ 76,906	

(Continued)

Held Company Name	Marketable Securities Type and Name	Relationship with the Company	Financial Statement Account	September 30, 2019				Note
				Shares/Units (In Thousands)	Carrying Value (Foreign Currencies in Thousands)	Percentage of Ownership (%)	Fair Value (Foreign Currencies in Thousands)	
VTAF II	<u>Non-publicly traded equity investments</u> Sentelic	-	Financial assets at fair value through other comprehensive income	1,019	US\$ 1,406	4	US\$ 1,406	
	Aether Systems, Inc.	-	"	1,085	US\$ 350	20	US\$ 350	
	5V Technologies, Inc.	-	"	364	US\$ 311	2	US\$ 311	
VTAF III	<u>Non-publicly traded equity investments</u> LiquidLeds Lighting Corp.	-	Financial assets at fair value through other comprehensive income	1,952	US\$ 800	14	US\$ 800	
	Neoconix, Inc.	-	"	4,147	US\$ 174	-	US\$ 174	
Growth Fund	<u>Non-publicly traded equity investments</u> Innovium, Inc.	-	Financial assets at fair value through other comprehensive income	230	US\$ 1,560	-	US\$ 1,560	
	Innovium, Inc.	-	"	221	US\$ 1,501	-	US\$ 1,501	
	CNEX Labs, Inc.	-	"	237	US\$ 775	-	US\$ 775	

(Concluded)

## Taiwan Semiconductor Manufacturing Company Limited and Subsidiaries

MARKETABLE SECURITIES ACQUIRED AND DISPOSED OF AT COSTS OR PRICES OF AT LEAST NT\$300 MILLION OR 20% OF THE PAID-IN CAPITAL  
FOR THE NINE MONTHS ENDED SEPTEMBER 30, 2019  
(Amounts in Thousands of New Taiwan Dollars, Unless Specified Otherwise)

Company Name	Marketable Securities Type and Name	Financial Statement Account	Counter-party	Nature of Relationship	Beginning Balance		Acquisition		Disposal				Ending Balance (Note)	
					Shares/Units (In Thousands)	Amount	Shares/Units (In Thousands)	Amount	Shares/Units (In Thousands)	Amount	Carrying Value	Gain/Loss on Disposal	Shares/Units (In Thousands)	Amount
TSMC	<u>Commercial paper</u> Taiwan Power Company	Financial assets at amortized cost	-	-	180	\$ 1,795,261	-	\$ -	180	\$ 1,800,000	\$ 1,800,000	\$ -	-	\$ -
	CPC Corporation, Taiwan	"	-	-	50	498,837	-	-	50	500,000	500,000	-	-	-
	<u>Publicly traded stocks</u> Semiconductor Manufacturing International Corporation	Financial assets at fair value through other comprehensive income	-	-	21,105	568,150	-	-	21,105	775,282	522,975	252,307	-	-
TSMC Global	<u>Corporate bond</u> Bank of America Corp	Financial assets at fair value through other comprehensive income	-	-	-	US\$ 44,755	-	US\$ 17,860	-	US\$ 12,184	US\$ 12,194	US\$ (10)	-	US\$ 51,997
	Citigroup Inc	"	-	-	-	US\$ 28,602	-	US\$ 24,743	-	US\$ 11,648	US\$ 11,644	US\$ 4	-	US\$ 42,725
	Morgan Stanley	"	-	-	-	US\$ 19,581	-	US\$ 16,617	-	US\$ 6,545	US\$ 6,501	US\$ 44	-	US\$ 30,269
	CVS Health Corp	"	-	-	-	US\$ 27,238	-	US\$ 22,248	-	US\$ 24,155	US\$ 23,964	US\$ 191	-	US\$ 26,439
	Goldman Sachs Group Inc/The AT&T Inc	"	-	-	-	US\$ 17,619	-	US\$ 12,137	-	US\$ 4,192	US\$ 4,194	US\$ (2)	-	US\$ 26,425
	Mitsubishi UFJ Financial Group Inc	"	-	-	-	US\$ 23,123	-	US\$ 12,022	-	US\$ 9,816	US\$ 9,721	US\$ 95	-	US\$ 26,215
	Sumitomo Mitsui Financial Group Inc	"	-	-	-	US\$ 9,547	-	US\$ 12,482	-	US\$ 652	US\$ 635	US\$ 17	-	US\$ 21,807
	JPMorgan Chase & Co	"	-	-	-	US\$ 10,008	-	US\$ 16,456	-	US\$ 6,295	US\$ 6,261	US\$ 34	-	US\$ 20,642
	Apple Inc	"	-	-	-	US\$ 16,577	-	US\$ 13,423	-	US\$ 10,973	US\$ 10,974	US\$ (1)	-	US\$ 19,693
	JPMorgan Chase & Co	"	-	-	-	US\$ 12,585	-	US\$ 9,984	-	US\$ 3,939	US\$ 3,997	US\$ (58)	-	US\$ 19,078
	Verizon Communications Inc	"	-	-	-	US\$ 25,423	-	US\$ 5,496	-	US\$ 12,233	US\$ 12,211	US\$ 22	-	US\$ 19,052
	Bristol-Myers Squibb Co	"	-	-	-	US\$ 15,927	-	US\$ 9,920	-	US\$ 9,802	US\$ 9,795	US\$ 7	-	US\$ 16,701
	Fiserv Inc	"	-	-	-	US\$ -	-	US\$ 16,399	-	US\$ 2,323	US\$ 2,309	US\$ 14	-	US\$ 14,490
	Toronto-Dominion Bank/The NextEra Energy Capital Holdings Inc	"	-	-	-	US\$ 1,455	-	US\$ 11,828	-	US\$ 277	US\$ 275	US\$ 2	-	US\$ 13,303
	Ryder System Inc	"	-	-	-	US\$ 5,000	-	US\$ 12,877	-	US\$ 5,347	US\$ 5,256	US\$ 91	-	US\$ 12,828
	International Business Machines Corp	"	-	-	-	US\$ 4,706	-	US\$ 14,840	-	US\$ 7,259	US\$ 7,244	US\$ 15	-	US\$ 12,503
	Comcast Corp	"	-	-	-	US\$ 4,778	-	US\$ 11,957	-	US\$ 5,102	US\$ 5,033	US\$ 69	-	US\$ 11,996
	American Express Co	"	-	-	-	-	-	US\$ 13,545	-	US\$ 3,265	US\$ 3,266	US\$ (1)	-	US\$ 10,410
	Anheuser-Busch InBev Worldwide Inc	"	-	-	-	US\$ 18,894	-	US\$ 2,746	-	US\$ 12,061	US\$ 11,603	US\$ 458	-	US\$ 10,356
	AXA Equitable Holdings Inc	"	-	-	-	US\$ 4,547	-	US\$ 10,414	-	US\$ 5,384	US\$ 5,337	US\$ 47	-	US\$ 9,873
	Ford Motor Credit Co LLC	"	-	-	-	-	-	US\$ 11,039	-	US\$ 6,093	US\$ 5,824	US\$ 269	-	US\$ 5,701
	European Investment Bank	"	-	-	-	US\$ 5,662	-	US\$ 6,524	-	US\$ 10,961	US\$ 10,737	US\$ 224	-	US\$ 1,566
	Wells Fargo & Co	Financial assets at amortized cost	-	-	-	US\$ 10,153	-	US\$ -	-	US\$ 10,252	US\$ 10,454	US\$ (202)	-	-
	JPMorgan Chase & Co.	"	-	-	-	US\$ 3,903	-	US\$ 7,177	-	US\$ 11,181	US\$ 11,123	US\$ 58	-	-
	Bank of Nova Scotia	"	-	-	-	US\$ 149,941	-	US\$ 10,187	-	-	-	-	-	US\$ 160,107
	National Australia Bank	"	-	-	-	US\$ 124,948	-	-	-	US\$ 40,000	US\$ 40,000	-	-	US\$ 84,967
		"	-	-	-	US\$ 49,976	-	-	-	US\$ 50,000	US\$ 50,000	-	-	-
		"	-	-	-	US\$ 49,994	-	-	-	US\$ 50,000	US\$ 50,000	-	-	-

(Continued)

Company Name	Marketable Securities Type and Name	Financial Statement Account	Counter-party	Nature of Relationship	Beginning Balance		Acquisition		Disposal			Ending Balance (Note)		
					Shares/Units (In Thousands)	Amount	Shares/Units (In Thousands)	Amount	Shares/Units (In Thousands)	Amount	Carrying Value	Gain/Loss on Disposal	Shares/Units (In Thousands)	Amount
TSMC Global	Goldman Sachs Group, Inc.	Financial assets at amortized cost	-	-	-	US\$ 99,900	-	\$ -	-	US\$ 100,000	US\$ 100,000	\$ -	-	\$ -
	Commonwealth Bank of Australia	"	-	-	-	US\$ 49,994	-	-	-	US\$ 50,000	US\$ 50,000	-	-	-
	Westpac Banking Corp.	"	-	-	-	US\$ 99,987	-	-	-	US\$ 100,000	US\$ 100,000	-	-	-
	<u>Government bond</u>													
	United States Treasury Note/Bond	Financial assets at fair value through other comprehensive income	-	-	-	US\$ 283,314	-	US\$1,109,428	-	US\$ 917,879	US\$ 913,232	US\$ 4,647	-	US\$ 484,953
	United States Treasury Floating Rate Note	"	-	-	-	US\$ 68,164	-	-	-	US\$ 68,186	US\$ 68,239	US\$ (53)	-	-
	United States Cash Management Bill	"	-	-	-	-	-	US\$ 50,193	-	US\$ 50,290	US\$ 50,290	-	-	-
	United States Treasury Bill	"	-	-	-	US\$ 2,248	-	US\$ 30,581	-	US\$ 29,859	US\$ 29,851	US\$ 8	-	-
	<u>Agency bonds/Agency mortgage-backed securities</u>													
	Fannie Mae Pool	Financial assets at fair value through other comprehensive income	-	-	-	-	-	US\$ 34,175	-	US\$ 69	US\$ 72	US\$ (3)	-	US\$ 34,044
	Fannie Mae Pool	"	-	-	-	-	-	US\$ 30,438	-	US\$ 13	US\$ 13	-	-	US\$ 30,536
	Fannie Mae Pool	"	-	-	-	-	-	US\$ 29,941	-	-	-	-	-	US\$ 29,954
	Fannie Mae Pool	"	-	-	-	-	-	US\$ 28,050	-	-	-	-	-	US\$ 28,069
	GNMA II Pool MA6155	"	-	-	-	-	-	US\$ 27,922	-	-	-	-	-	US\$ 27,950
	Fannie Mae Pool	"	-	-	-	-	-	US\$ 24,616	-	US\$ 592	US\$ 624	US\$ (32)	-	US\$ 24,017
	FNMA TBA 30 Yr 3.5	"	-	-	-	-	-	US\$ 481,224	-	US\$ 457,997	US\$ 457,434	US\$ 563	-	US\$ 23,760
	Fannie Mae Pool	"	-	-	-	-	-	US\$ 23,956	-	US\$ 595	US\$ 621	US\$ (26)	-	US\$ 23,507
	Fannie Mae Pool	"	-	-	-	-	-	US\$ 22,063	-	US\$ 598	US\$ 617	US\$ (19)	-	US\$ 21,617
	Fannie Mae Pool	"	-	-	-	-	-	US\$ 21,757	-	US\$ 1,128	US\$ 1,144	US\$ (16)	-	US\$ 21,033
	Freddie Mac Gold Pool	"	-	-	-	-	-	US\$ 20,910	-	US\$ 670	US\$ 697	US\$ (27)	-	US\$ 20,326
	GNMA II TBA 30 Yr 3	"	-	-	-	-	-	US\$ 124,220	-	US\$ 104,290	US\$ 104,091	US\$ 199	-	US\$ 20,170
	Freddie Mac Gold Pool	"	-	-	-	-	-	US\$ 19,929	-	US\$ 712	US\$ 743	US\$ (31)	-	US\$ 19,250
	Fannie Mae Pool	"	-	-	-	-	-	US\$ 18,859	-	US\$ 420	US\$ 450	US\$ (30)	-	US\$ 18,575
	FNMA TBA 30 Yr 4	"	-	-	-	-	-	US\$ 165,275	-	US\$ 146,925	US\$ 146,916	US\$ 9	-	US\$ 18,369
	Fannie Mae Pool	"	-	-	-	-	-	US\$ 19,605	-	US\$ 1,353	US\$ 1,403	US\$ (50)	-	US\$ 18,262
	GNMA II Pool MA6090	"	-	-	-	-	-	US\$ 17,117	-	-	-	-	-	US\$ 17,074
	Fannie Mae Pool	"	-	-	-	-	-	US\$ 16,982	-	US\$ 162	US\$ 172	US\$ (10)	-	US\$ 16,898
	Freddie Mac Gold Pool	"	-	-	-	-	-	US\$ 17,665	-	US\$ 850	US\$ 891	US\$ (41)	-	US\$ 16,842
	Freddie Mac Gold Pool	"	-	-	-	-	-	US\$ 15,995	-	US\$ 477	US\$ 488	US\$ (11)	-	US\$ 15,632
	GNMA II Pool MA5264	"	-	-	-	-	-	US\$ 16,635	-	US\$ 1,752	US\$ 1,821	US\$ (69)	-	US\$ 14,811
	Freddie Mac Gold Pool	"	-	-	-	-	-	US\$ 14,044	-	US\$ 549	US\$ 562	US\$ (13)	-	US\$ 13,606
	Freddie Mac Gold Pool	"	-	-	-	-	-	US\$ 13,778	-	US\$ 802	US\$ 813	US\$ (11)	-	US\$ 13,233
	Fannie Mae Pool	"	-	-	-	-	-	US\$ 14,112	-	US\$ 848	US\$ 891	US\$ (43)	-	US\$ 13,223
	Fannie Mae Pool	"	-	-	-	-	-	US\$ 12,515	-	US\$ 677	US\$ 689	US\$ (12)	-	US\$ 12,007
	FNMA TBA 30 Yr 4.5	"	-	-	-	-	-	US\$ 388,963	-	US\$ 377,528	US\$ 377,218	US\$ 310	-	US\$ 11,766
	Fannie Mae	"	-	-	-	US\$ 1,889	-	US\$ 10,203	-	US\$ 881	US\$ 861	US\$ 20	-	US\$ 11,349
	Fannie Mae Pool	"	-	-	-	-	-	US\$ 11,094	-	US\$ 650	US\$ 677	US\$ (27)	-	US\$ 10,493
	Fannie Mae Pool	"	-	-	-	-	-	US\$ 10,205	-	US\$ 113	US\$ 116	US\$ (3)	-	US\$ 10,072
	Freddie Mac Gold Pool	"	-	-	-	-	-	US\$ 10,296	-	US\$ 294	US\$ 309	US\$ (15)	-	US\$ 9,968
	Fannie Mae Pool	"	-	-	-	-	-	US\$ 10,212	-	US\$ 503	US\$ 511	US\$ (8)	-	US\$ 9,873
	Fannie Mae Pool	"	-	-	-	-	-	US\$ 10,064	-	US\$ 155	US\$ 157	US\$ (2)	-	US\$ 9,834
	GNMA II TBA 30 Yr 3.5	"	-	-	-	US\$ 1,157	-	US\$ 205,008	-	US\$ 199,162	US\$ 198,926	US\$ 236	-	US\$ 7,241
	Fannie Mae-Aces	"	-	-	-	-	-	US\$ 11,110	-	US\$ 4,174	US\$ 4,054	US\$ 120	-	US\$ 7,225
	Fannie Mae	"	-	-	-	US\$ 11,146	-	US\$ 6,657	-	US\$ 11,650	US\$ 11,622	US\$ 28	-	US\$ 6,484

(Continued)

Company Name	Marketable Securities Type and Name	Financial Statement Account	Counter-party	Nature of Relationship	Beginning Balance		Acquisition		Disposal			Ending Balance (Note)		
					Shares/Units (In Thousands)	Amount	Shares/Units (In Thousands)	Amount	Shares/Units (In Thousands)	Amount	Carrying Value	Gain/Loss on Disposal	Shares/Units (In Thousands)	Amount
TSMC Global	Freddie Mac Gold Pool	Financial assets at fair value through other comprehensive income	-	-	-	\$ -	-	US\$ 21,042	-	US\$ 16,156	US\$ 16,073	US\$ 83	-	US\$ 5,008
	Fannie Mae Pool	"	-	-	-	-	-	US\$ 12,893	-	US\$ 9,113	US\$ 8,898	US\$ 215	-	US\$ 4,091
	FNMA TBA 30 Yr 5	"	-	-	-	US\$ 24,761	-	US\$ 90,915	-	US\$ 112,265	US\$ 112,122	US\$ 143	-	US\$ 3,611
	FNMA TBA 15 Yr 3	"	-	-	-	-	-	US\$ 102,896	-	US\$ 99,399	US\$ 99,326	US\$ 73	-	US\$ 3,576
	Fannie Mae or Freddie Mac	"	-	-	-	-	-	US\$ 61,708	-	US\$ 58,764	US\$ 58,670	US\$ 94	-	US\$ 3,024
	Freddie Mac Gold Pool	"	-	-	-	-	-	US\$ 23,067	-	US\$ 20,369	US\$ 20,148	US\$ 221	-	US\$ 2,976
	Fannie Mae-Aces	"	-	-	-	-	-	US\$ 19,910	-	US\$ 18,513	US\$ 17,849	US\$ 664	-	US\$ 2,226
	FNMA Pool BM4493	"	-	-	-	US\$ 16,915	-	US\$ 1,795	-	US\$ 17,312	US\$ 17,177	US\$ 135	-	US\$ 1,679
	Freddie Mac Multifamily Structured Pass Through Certificates	"	-	-	-	-	-	US\$ 33,864	-	US\$ 33,705	US\$ 32,603	US\$ 1,102	-	US\$ 1,362
	Government National Mortgage Association	"	-	-	-	US\$ 15,253	-	-	-	US\$ 15,034	US\$ 14,777	US\$ 257	-	US\$ 894
	Government National Mortgage Association	"	-	-	-	US\$ 16,485	-	US\$ 860	-	US\$ 17,175	US\$ 16,908	US\$ 267	-	US\$ 798
	GNMA II TBA 30 Yr 4.5	"	-	-	-	US\$ 587	-	US\$ 14,690	-	US\$ 14,691	US\$ 14,683	US\$ 8	-	US\$ 594
	Freddie Mac Multifamily Structured Pass Through Certificates	"	-	-	-	-	-	US\$ 9,824	-	US\$ 10,426	US\$ 9,819	US\$ 607	-	-
	Government National Mortgage Association	"	-	-	-	US\$ 10,590	-	-	-	US\$ 10,618	US\$ 10,692	US\$ (74)	-	-
	FED HM LN PC Pool G61553	"	-	-	-	US\$ 15,045	-	-	-	US\$ 15,177	US\$ 15,109	US\$ 68	-	-
	FNMA Pool CA2169	"	-	-	-	US\$ 13,859	-	-	-	US\$ 13,966	US\$ 13,892	US\$ 74	-	-
	FED HM LN PC Pool G61592	"	-	-	-	US\$ 21,507	-	-	-	US\$ 21,673	US\$ 21,448	US\$ 225	-	-
	Fannie Mae Pool	"	-	-	-	-	-	US\$ 23,009	-	US\$ 23,035	US\$ 23,003	US\$ 32	-	-
	Fannie Mae Pool	"	-	-	-	US\$ 9,743	-	-	-	US\$ 9,881	US\$ 10,148	US\$ (267)	-	-
	Government National Mortgage Association	"	-	-	-	US\$ 12,897	-	-	-	US\$ 13,248	US\$ 13,269	US\$ (21)	-	-
	Fannie Mae-Aces	"	-	-	-	-	-	US\$ 10,575	-	US\$ 11,022	US\$ 10,560	US\$ 462	-	-
	FED HM LN PC Pool G61654	"	-	-	-	US\$ 18,555	-	-	-	US\$ 18,883	US\$ 18,606	US\$ 277	-	-
	FED HM LN PC Pool G61603	"	-	-	-	US\$ 25,515	-	-	-	US\$ 25,966	US\$ 25,627	US\$ 339	-	-
	Freddie Mac Gold Pool	"	-	-	-	-	-	US\$ 19,788	-	US\$ 19,817	US\$ 19,783	US\$ 34	-	-
	GNMA II Pool MA5468	"	-	-	-	US\$ 17,490	-	-	-	US\$ 17,460	US\$ 17,591	US\$ (131)	-	-
	Freddie Mac Gold Pool	"	-	-	-	-	-	US\$ 31,117	-	US\$ 30,925	US\$ 31,115	US\$ (190)	-	-
	FNMA Pool CA2352	"	-	-	-	US\$ 25,130	-	-	-	US\$ 25,161	US\$ 25,104	US\$ 57	-	-
	Freddie Mac Gold Pool	"	-	-	-	-	-	US\$ 14,988	-	US\$ 15,037	US\$ 14,987	US\$ 50	-	-
	Freddie Mac Gold Pool	"	-	-	-	-	-	US\$ 19,999	-	US\$ 20,332	US\$ 19,982	US\$ 350	-	-
	Freddie Mac Gold Pool	"	-	-	-	-	-	US\$ 19,951	-	US\$ 20,336	US\$ 19,929	US\$ 407	-	-
	Freddie Mac Pool	"	-	-	-	-	-	US\$ 19,993	-	US\$ 20,102	US\$ 19,993	US\$ 109	-	-
	GNMA II TBA 30 Yr 4	"	-	-	-	US\$ 2,129	-	US\$ 61,671	-	US\$ 63,840	US\$ 63,791	US\$ 49	-	-
	Freddie Mac Gold Pool	"	-	-	-	-	-	US\$ 14,610	-	US\$ 14,728	US\$ 14,594	US\$ 134	-	-
	Freddie Mac Gold Pool	"	-	-	-	-	-	US\$ 15,441	-	US\$ 15,631	US\$ 15,460	US\$ 171	-	-
	Freddie Mac Gold Pool	"	-	-	-	-	-	US\$ 16,687	-	US\$ 16,832	US\$ 16,668	US\$ 164	-	-
	FNMA TBA 30 Yr 3	"	-	-	-	-	-	US\$ 196,491	-	US\$ 196,822	US\$ 196,491	US\$ 331	-	-
	Fannie Mae Pool	"	-	-	-	-	-	US\$ 15,430	-	US\$ 15,615	US\$ 15,461	US\$ 154	-	-
	FHLMC TBA 30 Yr 3	"	-	-	-	US\$ 15	-	US\$ 51,813	-	US\$ 52,028	US\$ 51,828	US\$ 200	-	-
	Fannie Mae Pool	"	-	-	-	-	-	US\$ 61,366	-	US\$ 61,131	US\$ 61,332	US\$ (201)	-	-
	GNMA II TBA 30 Yr 5	"	-	-	-	US\$ 12,209	-	US\$ 38,655	-	US\$ 50,926	US\$ 50,878	US\$ 48	-	-
	Fannie Mae Pool	"	-	-	-	-	-	US\$ 24,951	-	US\$ 25,391	US\$ 24,902	US\$ 489	-	-
	Freddie Mac Multifamily Structured Pass Through Certificates	"	-	-	-	US\$ 513	-	US\$ 10,877	-	US\$ 11,560	US\$ 11,380	US\$ 180	-	-
	FNMA Pool BM4495	"	-	-	-	US\$ 27,324	-	-	-	US\$ 28,065	US\$ 27,635	US\$ 430	-	-

(Continued)

Company Name	Marketable Securities Type and Name	Financial Statement Account	Counter-party	Nature of Relationship	Beginning Balance		Acquisition		Disposal			Ending Balance (Note)		
					Shares/Units (In Thousands)	Amount	Shares/Units (In Thousands)	Amount	Shares/Units (In Thousands)	Amount	Carrying Value	Gain/Loss on Disposal	Shares/Units (In Thousands)	Amount
TSMC Global	FNMA Pool BM4681	Financial assets at fair value through other comprehensive income	-	-	-	US\$ 31,784	-	\$ -	-	US\$ 32,259	US\$ 31,819	US\$ 440	-	\$ -
	Fannie Mae Pool	"	-	-	-	-	-	US\$ 26,015	-	US\$ 26,560	US\$ 26,015	US\$ 545	-	-
	Fannie Mae Pool	"	-	-	-	-	-	US\$ 11,390	-	US\$ 11,544	US\$ 11,369	US\$ 175	-	-
	Fannie Mae Pool	"	-	-	-	US\$ 40,059	-	-	-	US\$ 41,005	US\$ 41,421	US\$ (416)	-	-
	FNMA Pool BM1948	"	-	-	-	US\$ 26,046	-	-	-	US\$ 26,835	US\$ 26,938	US\$ (103)	-	-
	Fannie Mae Pool	"	-	-	-	-	-	US\$ 21,932	-	US\$ 22,196	US\$ 21,977	US\$ 219	-	-
	FNMA TBA 15 Yr 3.5	"	-	-	-	US\$ 2,020	-	US\$ 40,004	-	US\$ 42,091	US\$ 42,014	US\$ 77	-	-
	<u>Asset-backed securities</u>													
	Citibank Credit Card Issuance Trust	Financial assets at fair value through other comprehensive income	-	-	-	US\$ 68,487	-	US\$ 2,693	-	US\$ 60,899	US\$ 60,848	US\$ 51	-	US\$ 10,619
	American Express Credit Account Master Trust	"	-	-	-	US\$ 27,285	-	US\$ 1,300	-	US\$ 26,097	US\$ 26,128	US\$ (31)	-	US\$ 2,624
	Discover Card Execution Note Trust	"	-	-	-	US\$ 37,495	-	US\$ 868	-	US\$ 37,509	US\$ 37,528	US\$ (19)	-	US\$ 1,000
	Ford Credit Floorplan Master Owner Trust A	"	-	-	-	US\$ 26,702	-	-	-	US\$ 26,696	US\$ 26,748	US\$ (52)	-	-
	Chase Issuance Trust	"	-	-	-	US\$ 43,604	-	-	-	US\$ 43,763	US\$ 43,697	US\$ 66	-	-

Note: The ending balance includes the amortization of premium/discount on bonds investments, share of profits/losses of investees and other related adjustment.

(Concluded)

**Taiwan Semiconductor Manufacturing Company Limited and Subsidiaries**

**ACQUISITION OF INDIVIDUAL REAL ESTATE PROPERTIES AT COSTS OF AT LEAST NT\$300 MILLION OR 20% OF THE PAID-IN CAPITAL FOR THE NINE MONTHS ENDED SEPTEMBER 30, 2019**

**(Amounts in Thousands of New Taiwan Dollars, Unless Specified Otherwise)**

Company Name	Types of Property	Transaction Date	Transaction Amount (Foreign Currencies in Thousands)	Payment Term	Counter-party	Nature of Relationships	Prior Transaction of Related Counter-party				Price Reference	Purpose of Acquisition	Other Terms
							Owner	Relationships	Transfer Date	Amount			
TSMC	Fab	September 11, 2018 to August 12, 2019	\$ 1,008,210	Monthly settlement by the construction progress and acceptance	KEDGE Construction Co., Ltd.	-	N/A	N/A	N/A	N/A	Price comparison and price negotiation	Manufacturing purpose	None
	Fab	March 25, 2019	888,800	Monthly settlement by the construction progress and acceptance	PAN ASIA Corp.	-	N/A	N/A	N/A	N/A	Price comparison and price negotiation	Manufacturing purpose	None

## Taiwan Semiconductor Manufacturing Company Limited and Subsidiaries

TOTAL PURCHASES FROM OR SALES TO RELATED PARTIES OF AT LEAST NT\$100 MILLION OR 20% OF THE PAID-IN CAPITAL FOR THE NINE MONTHS ENDED SEPTEMBER 30, 2019

(Amounts in Thousands of New Taiwan Dollars, Unless Specified Otherwise)

Company Name	Related Party	Nature of Relationships	Transaction Details				Abnormal Transaction		Notes/Accounts Payable or Receivable		Note
			Purchases/Sales	Amount (Foreign Currencies in Thousands)	% to Total	Payment Terms	Unit Price	Payment Terms	Ending Balance (Foreign Currencies in Thousands)	% to Total	
TSMC	TSMC North America GUC	Subsidiary Associate	Sales	\$ 450,970,303	58	Net 30 days from invoice date (Note)	-	(Note)	\$ 83,416,197	61	
			Sales	2,720,276	-	Net 30 days from the end of the month of when invoice is issued	-	-	684,173	-	
	TSMC Nanjing	Subsidiary	Purchases	12,037,976	18	Net 30 days from the end of the month of when invoice is issued	-	-	(1,460,517)	4	
	TSMC China	Subsidiary	Purchases	11,789,936	17	Net 30 days from the end of the month of when invoice is issued	-	-	(1,553,384)	4	
	WaferTech	Indirect subsidiary	Purchases	4,990,242	7	Net 30 days from the end of the month of when invoice is issued	-	-	(1,082,070)	3	
	VIS	Associate	Purchases	2,416,794	4	Net 30 days from the end of the month of when invoice is issued	-	-	(212,513)	1	
	SSMC	Associate	Purchases	2,128,561	3	Net 30 days from the end of the month of when invoice is issued	-	-	(511,252)	1	
TSMC North America	GUC	Associate of TSMC	Sales	1,077,699 (US\$ 34,759)	-	Net 30 days from invoice date	-	-	213,716 (US\$ 6,888)	-	
VisEra Tech	Xintec	Associate of TSMC	Sales	375,526	17	Net 30 days from the end of the month of when invoice is issued	-	-	282,891	39	

Note: The tenor is 30 days from TSMC's invoice date or determined by the payment terms granted to its clients by TSMC North America.



Taiwan Semiconductor Manufacturing Company Limited and Subsidiaries

RECEIVABLES FROM RELATED PARTIES AMOUNTING TO AT LEAST NTS100 MILLION OR 20% OF THE PAID-IN CAPITAL

SEPTEMBER 30, 2019

(Amounts in Thousands of New Taiwan Dollars, Unless Specified Otherwise)

Company Name	Related Party	Nature of Relationships	Ending Balance (Foreign Currencies in Thousands)	Turnover Days (Note 1)	Overdue		Amounts Received in Subsequent Period	Allowance for Bad Debts
					Amount	Action Taken		
TSMC	TSMC North America GUC	Subsidiary Associate	\$ 84,267,299 684,316	51 53	\$ 4,101,187	- -	\$ 39,870,487 -	\$ - -
TSMC China	TSMC Nanjing	The same parent company	24,590,546 (RMB 5,642,622)	Note 2	-	-	-	-
	TSMC	Parent company	1,553,384 (RMB 356,442)	34	-	-	-	-
TSMC Nanjing	TSMC	Parent company	1,466,986 (RMB 336,617)	22	-	-	-	-
WaferTech	TSMC	The ultimate parent of the Company	1,082,070 (US\$ 34,875)	60	598,563 (US\$ 19,292)	-	598,563 (US\$ 19,292)	-
	TSMC Development	Parent company	207,414 (US\$ 6,685)	Note 2	-	-	-	-
VisEra Tech	Xintec	Associate of TSMC	282,891	47	90,749	-	90,749	-
TSMC Technology	TSMC	The ultimate parent of the Company	264,093 (US\$ 8,512)	Note 2	-	-	-	-
TSMC North America	GUC	Associate of TSMC	214,202 (US\$ 6,904)	41	14,017 (US\$ 452)	-	49,368 (US\$ 1,591)	-
	TSMC	Parent company	117,596 (US\$ 3,790)	Note 2	-	-	-	-
TSMC Japan	TSMC	Parent company	105,073 (JPY 365,346)	Note 2	-	-	-	-

Note 1: The calculation of turnover days excludes other receivables from related parties.

Note 2: The ending balance is primarily consisted of other receivables, which is not applicable for the calculation of turnover days.

## Taiwan Semiconductor Manufacturing Company Limited and Subsidiaries

INTERCOMPANY RELATIONSHIPS AND SIGNIFICANT INTERCOMPANY TRANSACTIONS  
FOR THE NINE MONTHS ENDED SEPTEMBER 30, 2019

(Amounts in Thousands of New Taiwan Dollars)

No.	Company Name	Counter Party	Nature of Relationship (Note 1)	Intercompany Transactions				
				Financial Statements Item	Amount	Terms (Note 2)	Percentage of Consolidated Net Revenue or Total Assets	
0	TSMC	TSMC North America	1	Net revenue from sale of goods	\$ 450,970,303	-	60%	
				Receivables from related parties	83,416,197	-	4%	
				Other receivables from related parties	851,102	-	-	
				Payables to related parties	117,596	-	-	
			TSMC Japan	1	Marketing expenses - commission	169,798	-	-
			TSMC Europe	1	Payables to related parties	105,073	-	-
		Marketing expenses - commission			331,636	-	-	
			TSMC China	1	Purchases	11,789,936	-	2%
		Marketing expenses - commission			121,540	-	-	
		Payables to related parties			1,553,384	-	-	
			TSMC Nanjing	1	Purchases	12,037,976	-	2%
		Proceeds from disposal of property, plant and equipment			983,925	-	-	
		Payables to related parties			1,460,517	-	-	
	TSMC Canada	1	Research and development expenses	234,121	-	-		
	TSMC Technology	1	Research and development expenses	1,866,660	-	-		
			Payables to related parties	264,093	-	-		
	WaferTech	1	Purchases	4,990,242	-	1%		
			Payables to related parties	1,082,070	-	-		
1	TSMC China	TSMC Nanjing	3	Other receivables from related parties	24,590,546	-	1%	
2	TSMC Development	WaferTech	3	Other payables to related parties	207,414	-	-	

Note 1: No. 1 represents the transactions from parent company to subsidiary.  
No. 3 represents the transactions between subsidiaries.

Note 2: The sales prices and payment terms of intercompany sales are not significantly different from those to third parties. For other intercompany transactions, prices and terms are determined in accordance with mutual agreements.

## Taiwan Semiconductor Manufacturing Company Limited and Subsidiaries

NAMES, LOCATIONS, AND RELATED INFORMATION OF INVESTEEES OVER WHICH THE COMPANY EXERCISES SIGNIFICANT INFLUENCE (EXCLUDING INFORMATION ON INVESTMENT IN MAINLAND CHINA)  
 FOR THE NINE MONTHS ENDED SEPTEMBER 30, 2019  
 (Amounts in Thousands of New Taiwan Dollars, Unless Specified Otherwise)

Investor Company	Investee Company	Location	Main Businesses and Products	Original Investment Amount		Balance as of September 30, 2019			Net Income (Losses) of the Investee (Foreign Currencies in Thousands)	Share of Profits/Losses of Investee (Note 1) (Foreign Currencies in Thousands)	Note
				September 30, 2019 (Foreign Currencies in Thousands)	December 31, 2018 (Foreign Currencies in Thousands)	Shares (In Thousands)	Percentage of Ownership	Carrying Value (Foreign Currencies in Thousands)			
TSMC	TSMC Global	Tortola, British Virgin Islands	Investment activities	\$ 355,162,309 (Note 3)	\$ 355,162,309	11	100	\$ 408,871,808	\$ 8,953,014	\$ 8,953,014	Subsidiary
	TSMC Partners	Tortola, British Virgin Islands	Investing in companies involved in the design, manufacture, and other related business in the semiconductor industry and other investment activities	31,456,130	31,456,130	988,268	100	54,501,106	1,581,494	1,581,494	Subsidiary
	VIS	Hsin-Chu, Taiwan	Manufacturing, selling, packaging, testing and computer-aided design of integrated circuits and other semiconductor devices and the manufacturing and design service of masks	10,180,677	10,180,677	464,223	28	8,717,119	4,363,167	1,231,979	Associate
	SSMC	Singapore	Manufacturing and selling of integrated circuits and other semiconductor devices	5,120,028	5,120,028	314	39	6,446,678	1,596,816	619,405	Associate
	TSMC North America	San Jose, California, U.S.A	Selling and marketing of integrated circuits and other semiconductor devices	333,718	333,718	11,000	100	4,601,081	291,367	291,367	Subsidiary
	VisEra Tech	Hsin-Chu, Taiwan	Engaged in manufacturing electronic spare parts and in researching, developing, designing, manufacturing, selling, packaging and testing of color filter	5,005,171	5,005,171	253,120	87	4,271,967	283,293	246,278	Subsidiary
	Xintec	Taoyuan, Taiwan	Wafer level chip size packaging and wafer level post passivation interconnection service	1,988,317	1,988,317	111,282	41	1,762,753	(14,242)	(5,321)	Associate
	GUC	Hsin-Chu, Taiwan	Researching, developing, manufacturing, testing and marketing of integrated circuits	386,568	386,568	46,688	35	1,232,543	358,208	124,800	Associate
	TSMC Europe	Amsterdam, the Netherlands	Customer service and supporting activities	15,749	15,749	-	100	458,645	28,700	28,700	Subsidiary
	VTAF III	Cayman Islands	Investing in new start-up technology companies	1,309,772	1,308,244	-	98	225,817	2,900	2,842	Subsidiary
	TSMC Japan	Yokohama, Japan	Customer service and supporting activities	83,760	83,760	6	100	150,673	4,790	4,790	Subsidiary
	VTAF II	Cayman Islands	Investing in new start-up technology companies	260,300	278,800	-	98	90,660	(2,292)	(2,246)	Subsidiary
	TSMC Korea	Seoul, Korea	Customer service and supporting activities	13,656	13,656	80	100	40,532	2,157	2,157	Subsidiary
	TSMC Solar Europe GmbH	Hamburg, Germany	Selling of solar related products and providing customer service	-	25,266	-	-	-	-	-	Subsidiary
TSMC Partners	TSMC Development	Delaware, U.S.A	Investing in companies involved in the manufacturing related business in the semiconductor industry	18,210,950 (US\$ 586,939)	18,210,950 (US\$ 586,939)	-	100	30,426,559 (US\$ 980,648)	913,834 (US\$ 29,419)	Note 2	Subsidiary
	TSMC Technology	Delaware, U.S.A	Engineering support activities	443,128 (US\$ 14,282)	443,128 (US\$ 14,282)	-	100	662,013 (US\$ 21,337)	69,423 (US\$ 2,241)	Note 2	Subsidiary
	TSMC Canada	Ontario, Canada	Engineering support activities	71,362 (US\$ 2,300)	71,362 (US\$ 2,300)	2,300	100	234,653 (US\$ 7,563)	21,845 (US\$ 704)	Note 2	Subsidiary
	ISDF	Cayman Islands	Investing in new start-up technology companies	-	14,744 (US\$ 475)	583	97	-	10 (US\$ -)	Note 2	Subsidiary
	ISDF II	Cayman Islands	Investing in new start-up technology companies	-	-	9,299	97	-	-	Note 2	Subsidiary
VTAF III	Growth Fund	Cayman Islands	Investing in new start-up technology companies	68,376 (US\$ 2,204)	66,825 (US\$ 2,154)	-	100	120,049 (US\$ 3,869)	(966) (US\$ (31))	Note 2	Subsidiary
	Mutual-Pak	New Taipei, Taiwan	Manufacturing of electronic parts, wholesaling and retailing of electronic materials, and researching, developing and testing of RFID	49,437 (US\$ 1,593)	49,437 (US\$ 1,593)	4,693	30	34,876 (US\$ 1,124)	22,792 (US\$ 732)	Note 2	Associate

(Continued)

Investor Company	Investee Company	Location	Main Businesses and Products	Original Investment Amount		Balance as of September 30, 2019			Net Income (Losses) of the Investee (Foreign Currencies in Thousands)	Share of Profits/Losses of Investee (Note 1) (Foreign Currencies in Thousands)	Note
				September 30, 2019 (Foreign Currencies in Thousands)	December 31, 2018 (Foreign Currencies in Thousands)	Shares (In Thousands)	Percentage of Ownership	Carrying Value (Foreign Currencies in Thousands)			
TSMC Development	WaferTech	Washington, U.S.A	Manufacturing, selling and testing of integrated circuits and other semiconductor devices	\$ -	\$ -	293,637	100	\$ 5,163,693 (US\$ 166,426)	\$ 526,448 (US\$ 16,938)	Note 2	Subsidiary

Note 1: The share of profits/losses of investee includes the effect of unrealized gross profit on intercompany transactions.

Note 2: The share of profits/losses of the investee company is not reflected herein as such amount is already included in the share of profits/losses of the investor company.

Note 3: To lower the hedging cost, in August 2018, the Board of Directors of TSMC approved to inject US\$2,000,000 thousand of capital into TSMC Global. This project was approved by the Investment Commission, Ministry of Economic Affairs, R.O.C. (MOEA). The prepayment for investment was US\$100,000 thousand as of September 30, 2019.

(Concluded)

## Taiwan Semiconductor Manufacturing Company Limited and Subsidiaries

INFORMATION ON INVESTMENT IN MAINLAND CHINA  
FOR NINE MONTHS ENDED SEPTEMBER 30, 2019

(Amounts in Thousands of New Taiwan Dollars, Unless Specified Otherwise)

Investee Company	Main Businesses and Products	Total Amount of Paid-in Capital (RMB in Thousands)	Method of Investment	Accumulated Outflow of Investment from Taiwan as of January 1, 2019 (US\$ in Thousands)	Investment Flows		Accumulated Outflow of Investment from Taiwan as of September 30, 2019 (US\$ in Thousands)	Net Income (Losses) of the Investee Company	Percentage of Ownership	Share of Profits/Losses	Carrying Amount as of September 30, 2019	Accumulated Inward Remittance of Earnings as of September 30, 2019
					Outflow (US\$ in Thousands)	Inflow						
TSMC China	Manufacturing, selling, testing and computer-aided design of integrated circuits and other semiconductor devices	\$ 18,939,667 (RMB 4,502,080)	Note 1	\$ 18,939,667 (US\$ 596,000)	\$ -	\$ -	\$ 18,939,667 (US\$ 596,000)	\$ 2,579,455	100%	\$ 2,615,362 (Note 2)	\$ 56,525,540	\$ -
TSMC Nanjing	Manufacturing, selling, testing and computer-aided design of integrated circuits and other semiconductor devices	30,521,412 (RMB 6,650,119)	Note 1	30,521,412 (US\$ 1,000,000)	-	-	30,521,412 (US\$ 1,000,000)	(1,408,396)	100%	(1,426,430) (Note 2)	18,964,618	-

Accumulated Investment in Mainland China as of September 30, 2019 (US\$ in Thousands)	Investment Amounts Authorized by Investment Commission, MOEA (US\$ in Thousands)	Upper Limit on Investment
\$ 49,461,079 (US\$ 1,596,000)	\$ 119,412,667 (US\$ 3,596,000)	952,498,201 (Note 3)

Note 1: TSMC directly invested US\$596,000 thousand in TSMC China and US\$1,000,000 thousands in TSMC Nanjing.

Note 2: Amount was recognized based on the reviewed financial statements.

Note 3: The upper limit on investment in mainland China is determined by sixty percent (60%) of the Company's consolidated net worth.