

**Taiwan Semiconductor Manufacturing
Company Limited and Subsidiaries**

**Consolidated Financial Statements for the
Six Months Ended June 30, 2020 and 2019 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 June 30, 2020 and 2019, the related consolidated statements of comprehensive income for the three months ended June 30, 2020 and 2019 and for the six months ended June 30, 2020 and 2019, the consolidated statements of changes in equity and cash flows for the six 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.

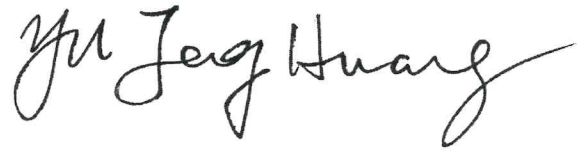
Conclusion

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 June 30, 2020 and 2019, its consolidated financial performance for the three months ended June 30, 2020 and 2019, and its consolidated financial performance and its consolidated cash flows for the six months ended June 30, 2020 and 2019 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



August 11, 2020

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)

	June 30, 2020 (Reviewed)		December 31, 2019 (Audited)		June 30, 2019 (Reviewed)	
	Amount	%	Amount	%	Amount	%
ASSETS						
CURRENT ASSETS						
Cash and cash equivalents (Note 6)	\$ 467,613,443	19	\$ 455,399,336	20	\$ 649,697,262	29
Financial assets at fair value through profit or loss (Note 7)	788,526	-	326,839	-	1,322,756	-
Financial assets at fair value through other comprehensive income (Note 8)	129,403,588	5	127,396,577	6	113,594,232	5
Financial assets at amortized cost (Note 9)	7,210,148	-	299,884	-	-	-
Hedging financial assets (Note 10)	-	-	25,884	-	576	-
Notes and accounts receivable, net (Note 11)	148,708,055	6	138,908,589	6	115,725,802	5
Receivables from related parties (Note 31)	891,691	-	862,070	-	404,906	-
Other receivables from related parties (Note 31)	2,581,070	-	51,653	-	1,541,754	-
Inventories (Note 12)	85,788,094	4	82,981,196	4	108,231,879	5
Other financial assets (Note 32)	10,436,627	1	11,041,091	-	14,934,531	1
Other current assets	6,610,338	-	5,320,795	-	4,725,640	-
Total current assets	860,031,580	35	822,613,914	36	1,010,179,338	45
NONCURRENT ASSETS						
Financial assets at fair value through other comprehensive income (Note 8)	4,300,519	-	4,124,337	-	4,040,800	-
Financial assets at amortized cost (Note 9)	1,640,558	-	7,348,914	-	7,921,781	-
Investments accounted for using equity method (Note 13)	16,975,748	1	18,698,788	1	17,352,733	1
Property, plant and equipment (Note 14)	1,493,560,950	61	1,352,377,405	60	1,142,871,184	51
Right-of-use assets (Note 15)	21,036,894	1	17,232,402	1	18,042,308	1
Intangible assets (Note 16)	27,395,600	1	20,653,028	1	17,500,830	1
Deferred income tax assets (Note 4)	20,493,373	1	17,928,358	1	17,123,994	1
Refundable deposits	1,502,926	-	2,084,968	-	2,570,491	-
Other noncurrent assets	1,726,374	-	1,742,918	-	1,740,212	-
Total noncurrent assets	1,588,632,942	65	1,442,191,118	64	1,229,164,333	55
TOTAL	\$ 2,448,664,522	100	\$ 2,264,805,032	100	\$ 2,239,343,671	100
LIABILITIES AND EQUITY						
CURRENT LIABILITIES						
Short-term loans (Notes 17 and 29)	\$ 169,546,950	7	\$ 118,522,290	5	\$ 78,261,120	4
Short-term bills payable (Notes 18 and 29)	6,493,398	-	-	-	-	-
Financial liabilities at fair value through profit or loss (Note 7)	1,543,265	-	982,349	-	30,767	-
Hedging financial liabilities (Note 10)	14,839	-	1,798	-	34,542	-
Accounts payable	38,100,739	2	38,771,066	2	31,802,685	1
Payables to related parties (Note 31)	1,433,005	-	1,434,900	-	767,451	-
Salary and bonus payable	14,747,716	1	16,272,353	1	10,130,299	-
Accrued profit sharing bonus to employees and compensation to directors and supervisors (Note 28)	40,028,506	2	23,648,903	1	32,638,050	2
Payables to contractors and equipment suppliers	97,739,201	4	140,810,703	6	71,028,923	3
Cash dividends payable (Note 21)	129,651,902	5	129,651,902	6	259,379,871	12
Income tax payable (Note 4)	33,020,177	1	32,466,156	1	22,068,494	1
Long-term liabilities - current portion (Notes 19 and 29)	12,800,000	1	31,800,000	1	48,100,000	2
Accrued expenses and other current liabilities (Notes 15, 20, 22 and 29)	69,676,030	3	56,373,281	3	68,014,176	3
Total current liabilities	614,795,728	26	590,735,701	26	622,256,378	28
NONCURRENT LIABILITIES						
Bonds payable (Notes 19 and 29)	82,439,681	3	25,100,000	1	35,300,000	2
Deferred income tax liabilities (Note 4)	354,306	-	344,393	-	147,176	-
Lease liabilities (Notes 15 and 29)	19,164,873	1	15,041,833	1	15,405,489	1
Net defined benefit liability (Note 4)	8,381,192	-	9,182,496	-	9,400,580	-
Guarantee deposits (Notes 20 and 29)	171,622	-	176,904	-	210,970	-
Others	2,143,738	-	2,128,279	-	2,201,551	-
Total noncurrent liabilities	112,655,412	4	51,973,905	2	62,665,766	3
Total liabilities	727,451,140	30	642,709,606	28	684,922,144	31
EQUITY ATTRIBUTABLE TO SHAREHOLDERS OF THE PARENT						
Capital stock (Note 21)	259,303,805	11	259,303,805	11	259,303,805	12
Capital surplus (Note 21)	56,339,981	2	56,339,709	3	56,320,929	2
Retained earnings (Note 21)						
Appropriated as legal capital reserve	311,146,899	13	311,146,899	14	311,146,899	14
Appropriated as special capital reserve	24,873,338	1	10,675,106	-	10,724,130	-
Unappropriated earnings	1,105,471,753	45	1,011,512,974	45	923,704,756	41
Others (Note 21)	1,441,491,990	59	1,333,334,979	59	1,245,575,785	55
	(36,757,795)	(2)	(27,568,369)	(1)	(7,385,940)	-
Equity attributable to shareholders of the parent	1,720,377,981	70	1,621,410,124	72	1,553,814,579	69
NON - CONTROLLING INTERESTS						
Total equity	1,721,213,382	70	1,622,095,426	72	1,554,421,527	69
TOTAL	\$ 2,448,664,522	100	\$ 2,264,805,032	100	\$ 2,239,343,671	100

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 June 30				For the Six Months Ended June 30			
	2020		2019		2020		2019	
	Amount	%	Amount	%	Amount	%	Amount	%
NET REVENUE (Notes 22, 31 and 37)	\$ 310,698,367	100	\$ 240,998,475	100	\$ 621,295,550	100	\$ 459,702,944	100
COST OF REVENUE (Notes 12, 28, 31 and 35)	<u>146,005,542</u>	<u>47</u>	<u>137,325,245</u>	<u>57</u>	<u>295,818,544</u>	<u>48</u>	<u>265,677,589</u>	<u>58</u>
GROSS PROFIT BEFORE REALIZED (UNREALIZED) GROSS PROFIT ON SALES TO ASSOCIATES	164,692,825	53	103,673,230	43	325,477,006	52	194,025,355	42
REALIZED (UNREALIZED) GROSS PROFIT ON SALES TO ASSOCIATES	<u>(69,034)</u>	<u>-</u>	<u>56,830</u>	<u>-</u>	<u>(76,707)</u>	<u>-</u>	<u>62,262</u>	<u>-</u>
GROSS PROFIT	<u>164,623,791</u>	<u>53</u>	<u>103,730,060</u>	<u>43</u>	<u>325,400,299</u>	<u>52</u>	<u>194,087,617</u>	<u>42</u>
OPERATING EXPENSES (Notes 28 and 31)								
Research and development	24,893,043	8	21,393,728	9	49,861,926	8	41,811,039	9
General and administrative	6,894,405	2	4,288,263	2	12,797,466	2	8,428,992	2
Marketing	<u>1,733,261</u>	<u>1</u>	<u>1,483,004</u>	<u>-</u>	<u>3,184,363</u>	<u>-</u>	<u>2,942,977</u>	<u>-</u>
Total operating expenses	<u>33,520,709</u>	<u>11</u>	<u>27,164,995</u>	<u>11</u>	<u>65,843,755</u>	<u>10</u>	<u>53,183,008</u>	<u>11</u>
OTHER OPERATING INCOME AND EXPENSES, NET (Notes 14, 15 and 28)	<u>(8,544)</u>	<u>-</u>	<u>(261,012)</u>	<u>-</u>	<u>59,631</u>	<u>-</u>	<u>(334,533)</u>	<u>-</u>
INCOME FROM OPERATIONS (Note 37)	<u>131,094,538</u>	<u>42</u>	<u>76,304,053</u>	<u>32</u>	<u>259,616,175</u>	<u>42</u>	<u>140,570,076</u>	<u>31</u>
NON-OPERATING INCOME AND EXPENSES								
Share of profits of associates	678,757	-	628,535	-	1,404,725	-	1,062,026	-
Interest income (Note 23)	2,478,362	1	4,546,917	2	5,467,431	1	8,955,693	2
Other income	233,415	-	244,430	-	343,924	-	244,430	-
Foreign exchange gain (loss), net (Note 34)	2,779,312	1	(738,611)	-	3,155,103	-	(507,929)	-
Finance costs (Note 24)	(409,145)	-	(864,751)	(1)	(939,709)	-	(1,763,816)	(1)
Other gains and losses, net (Note 25)	<u>(456,601)</u>	<u>-</u>	<u>424,867</u>	<u>-</u>	<u>(501,833)</u>	<u>-</u>	<u>166,612</u>	<u>-</u>
Total non-operating income and expenses	<u>5,304,100</u>	<u>2</u>	<u>4,241,387</u>	<u>1</u>	<u>8,929,641</u>	<u>1</u>	<u>8,157,016</u>	<u>1</u>
INCOME BEFORE INCOME TAX	136,398,638	44	80,545,440	33	268,545,816	43	148,727,092	32
INCOME TAX EXPENSE (Notes 4 and 26)	<u>15,506,124</u>	<u>5</u>	<u>13,769,589</u>	<u>5</u>	<u>30,590,409</u>	<u>5</u>	<u>20,563,931</u>	<u>4</u>
NET INCOME	<u>120,892,514</u>	<u>39</u>	<u>66,775,851</u>	<u>28</u>	<u>237,955,407</u>	<u>38</u>	<u>128,163,161</u>	<u>28</u>
OTHER COMPREHENSIVE INCOME (LOSS) (Notes 21 and 26)								
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	22,337	-	175,258	-	(21,710)	-	228,799	-
Gain (loss) on hedging instruments	-	-	106,554	-	(42,749)	-	12,006	-
Share of other comprehensive loss of associates	(152)	-	(11,134)	-	(3,469)	-	(10,886)	-
Income tax benefit (expense) related to items that will not be reclassified subsequently	<u>352</u>	<u>-</u>	<u>12,557</u>	<u>-</u>	<u>466</u>	<u>-</u>	<u>(5,494)</u>	<u>-</u>
Total	<u>22,537</u>	<u>-</u>	<u>283,235</u>	<u>-</u>	<u>(67,462)</u>	<u>-</u>	<u>224,425</u>	<u>-</u>
Items that may be reclassified subsequently to profit or loss:								
Exchange differences arising on translation of foreign operations	(14,725,220)	(5)	2,289,984	1	(11,690,196)	(2)	5,508,062	1
Unrealized gain on investments in debt instruments at fair value through other comprehensive income	2,909,147	1	935,894	-	2,698,399	1	2,384,284	1
Share of other comprehensive income (loss) of associates	<u>(89,950)</u>	<u>-</u>	<u>16,907</u>	<u>-</u>	<u>(176,309)</u>	<u>-</u>	<u>25,235</u>	<u>-</u>
Total	<u>(11,906,023)</u>	<u>(4)</u>	<u>3,242,785</u>	<u>1</u>	<u>(9,168,106)</u>	<u>(1)</u>	<u>7,917,581</u>	<u>2</u>
Other comprehensive income (loss) for the period, net of income tax	<u>(11,883,486)</u>	<u>(4)</u>	<u>3,526,020</u>	<u>1</u>	<u>(9,235,568)</u>	<u>(1)</u>	<u>8,142,006</u>	<u>2</u>
TOTAL COMPREHENSIVE INCOME FOR THE PERIOD	<u>\$ 109,009,028</u>	<u>35</u>	<u>\$ 70,301,871</u>	<u>29</u>	<u>\$ 228,719,839</u>	<u>37</u>	<u>\$ 136,305,167</u>	<u>30</u>
NET INCOME ATTRIBUTABLE TO:								
Shareholders of the parent	\$ 120,822,193	39	\$ 66,764,850	28	\$ 237,808,913	38	\$ 128,158,701	28
Non-controlling interests	<u>70,321</u>	<u>-</u>	<u>11,001</u>	<u>-</u>	<u>146,494</u>	<u>-</u>	<u>4,460</u>	<u>-</u>
Total	<u>\$ 120,892,514</u>	<u>39</u>	<u>\$ 66,775,851</u>	<u>28</u>	<u>\$ 237,955,407</u>	<u>38</u>	<u>\$ 128,163,161</u>	<u>28</u>
TOTAL COMPREHENSIVE INCOME ATTRIBUTABLE TO:								
Shareholders of the parent	\$ 108,937,736	35	\$ 70,290,835	29	\$ 228,572,728	37	\$ 136,300,654	30
Non-controlling interests	<u>71,292</u>	<u>-</u>	<u>11,036</u>	<u>-</u>	<u>147,111</u>	<u>-</u>	<u>4,513</u>	<u>-</u>
Total	<u>\$ 109,009,028</u>	<u>35</u>	<u>\$ 70,301,871</u>	<u>29</u>	<u>\$ 228,719,839</u>	<u>37</u>	<u>\$ 136,305,167</u>	<u>30</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 June 30		For the Six Months Ended June 30	
	2020	2019	2020	2019
	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 27)				
Basic earnings per share	<u>\$ 4.66</u>	<u>\$ 2.57</u>	<u>\$ 9.17</u>	<u>\$ 4.94</u>
Diluted earnings per share	<u>\$ 4.66</u>	<u>\$ 2.57</u>	<u>\$ 9.17</u>	<u>\$ 4.94</u>

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, 2020	25,930,380	\$ 259,303,805	\$ 56,339,709	\$ 311,146,899	\$ 10,675,106	\$ 1,011,512,974	\$ 1,333,334,979	\$ (26,871,400)	\$ (692,959)	\$ (3,820)	\$ (190)	\$ (27,568,369)	\$ 1,621,410,124	\$ 685,302	\$ 1,622,095,426	
Appropriations of earnings																
Special capital reserve	-	-	-	-	14,198,232	(14,198,232)	-	-	-	-	-	-	-	-	-	
Cash dividends to shareholders	-	-	-	-	-	(129,651,902)	(129,651,902)	-	-	-	-	-	(129,651,902)	-	(129,651,902)	
Total	-	-	-	-	14,198,232	(143,850,134)	(129,651,902)	-	-	-	-	-	(129,651,902)	-	(129,651,902)	
Net income for the six months ended June 30, 2020	-	-	-	-	-	237,808,913	237,808,913	-	-	-	-	-	237,808,913	146,494	237,955,407	
Other comprehensive income (loss) for the six months ended June 30, 2020, net of income tax	-	-	-	-	-	-	-	(11,866,395)	2,672,959	(42,749)	-	(9,236,185)	(9,236,185)	617	(9,235,568)	
Total comprehensive income (loss) for the six months ended June 30, 2020	-	-	-	-	-	237,808,913	237,808,913	(11,866,395)	2,672,959	(42,749)	-	(9,236,185)	228,572,728	147,111	228,719,839	
Basis adjustment for gain on hedging instruments	-	-	-	-	-	-	-	-	-	46,569	-	46,569	46,569	-	46,569	
Adjustments to share of changes in equities of associates	-	-	272	-	-	-	-	-	-	-	190	190	462	-	462	
Increase in non-controlling interests	-	-	-	-	-	-	-	-	-	-	-	-	-	2,988	2,988	
BALANCE, JUNE 30, 2020	25,930,380	\$ 259,303,805	\$ 56,339,981	\$ 311,146,899	\$ 24,873,338	\$ 1,105,471,753	\$ 1,441,491,990	\$ (38,737,795)	\$ 1,980,000	\$ -	\$ -	\$ (36,757,795)	\$ 1,720,377,981	\$ 835,401	\$ 1,721,213,382	
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 prior year's earnings																
Legal capital reserve	-	-	-	35,113,088	-	(35,113,088)	-	-	-	-	-	-	-	-	-	
Special capital reserve	-	-	-	-	(16,183,397)	16,183,397	-	-	-	-	-	-	-	-	-	
Cash dividends to shareholders	-	-	-	-	-	(259,303,805)	(259,303,805)	-	-	-	-	-	(259,303,805)	-	(259,303,805)	
Total	-	-	-	35,113,088	(16,183,397)	(278,233,496)	(259,303,805)	-	-	-	-	-	(259,303,805)	-	(259,303,805)	
Net income for the six months ended June 30, 2019	-	-	-	-	-	128,158,701	128,158,701	-	-	-	-	-	128,158,701	4,460	128,163,161	
Other comprehensive income for the six months ended June 30, 2019, net of income tax	-	-	-	-	-	-	-	5,533,346	2,596,706	11,901	-	8,141,953	8,141,953	53	8,142,006	
Total comprehensive income for the six months ended June 30, 2019	-	-	-	-	-	128,158,701	128,158,701	5,533,346	2,596,706	11,901	-	8,141,953	136,300,654	4,513	136,305,167	
Disposal of investments in equity instruments at fair value through other comprehensive income	-	-	-	-	-	73,048	73,048	-	(73,048)	-	-	(73,048)	-	-	-	
Basis adjustment for loss on hedging instruments	-	-	-	-	-	-	-	-	-	(6,775)	-	(6,775)	(6,775)	-	(6,775)	
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	-	-	-	-	-	-	-	-	-	-	-	-	-	(76,036)	(76,036)	
BALANCE, JUNE 30, 2019	25,930,380	\$ 259,303,805	\$ 56,320,929	\$ 311,146,899	\$ 10,724,130	\$ 923,704,756	\$ 1,245,575,785	\$ (6,509,001)	\$ (905,666)	\$ 28,727	\$ -	\$ (7,385,940)	\$ 1,553,814,579	\$ 606,948	\$ 1,554,421,527	

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)

	Six Months Ended June 30	
	2020	2019
CASH FLOWS FROM OPERATING ACTIVITIES		
Income before income tax	\$ 268,545,816	\$ 148,727,092
Adjustments for:		
Depreciation expense	136,065,309	149,897,048
Amortization expense	3,364,420	2,699,106
Expected credit losses recognized (reversal) on investments in debt instruments	188	(987)
Finance costs	939,709	1,763,816
Share of profits of associates	(1,404,725)	(1,062,026)
Interest income	(5,467,431)	(8,955,693)
Share-based compensation	2,988	-
Loss (gain) on disposal or retirement of property, plant and equipment, net	(6,290)	700,386
Loss on disposal of intangible assets, net	-	2,377
Reversal of impairment loss on property, plant and equipment	-	(301,384)
Loss on financial instruments at fair value through profit or loss, net	3,434	890,206
Gain on disposal of investments in debt instruments at fair value through other comprehensive income, net	(926,919)	(172,465)
Loss from disposal of subsidiaries	-	4,598
Unrealized (realized) gross profit on sales to associates	76,707	(62,262)
Loss (gain) on foreign exchange, net	(2,916,873)	1,722,527
Dividend income	(341,797)	(244,430)
Gain arising from fair value hedges, net	-	(17,826)
Loss (gain) on lease modification	(3)	196
Changes in operating assets and liabilities:		
Financial instruments at fair value through profit or loss	(53,699)	(80,241)
Notes and accounts receivable, net	(11,310,413)	9,178,788
Receivables from related parties	(29,621)	179,506
Other receivables from related parties	(10,813)	8,789
Inventories	(2,806,898)	(5,000,903)
Other financial assets	1,618,067	4,363,408
Other current assets	(1,363,358)	511,681
Accounts payable	(478,898)	(1,669,615)
Payables to related parties	(1,895)	(609,048)
Salary and bonus payable	(1,524,637)	(4,341,073)
Accrued profit sharing bonus to employees and compensation to directors and supervisors	16,379,603	8,656,896
Accrued expenses and other current liabilities	8,356,817	1,721,475
Net defined benefit liability	(801,304)	(250,825)
Cash generated from operations	405,907,484	308,259,117
Income taxes paid	(32,543,083)	(37,827,811)
Net cash generated by operating activities	373,364,401	270,431,306

(Continued)

Taiwan Semiconductor Manufacturing Company Limited and Subsidiaries

CONSOLIDATED STATEMENTS OF CASH FLOWS

(In Thousands of New Taiwan Dollars)

(Reviewed, Not Audited)

	<u>Six Months Ended June 30</u>	
	2020	2019
CASH FLOWS FROM INVESTING ACTIVITIES		
Acquisitions of:		
Financial assets at fair value through other comprehensive income	\$(123,362,626)	\$ (98,468,264)
Financial assets at amortized cost	(1,366,370)	(313,958)
Property, plant and equipment	(319,258,103)	(192,294,786)
Intangible assets	(8,487,562)	(2,682,181)
Proceeds from disposal or redemption of:		
Financial instruments at fair value through profit or loss - debt instruments	-	1,387,817
Financial assets at fair value through other comprehensive income	126,227,986	86,851,335
Financial assets at amortized cost	-	14,349,190
Property, plant and equipment	182,002	155,320
Derecognition of hedging financial instruments	(339,255)	(294,290)
Interest received	5,959,214	9,396,746
Proceeds from government grants - property, plant and equipment	475,703	2,565,338
Proceeds from government grants - land use right and others	20,077	850,623
Other dividends received	406,277	218,705
Dividends received from investments accounted for using equity method	233,439	233,439
Refundable deposits paid	(120,582)	(1,336,839)
Refundable deposits refunded	<u>686,368</u>	<u>475,381</u>
Net cash used in investing activities	<u>(318,743,432)</u>	<u>(178,906,424)</u>
CASH FLOWS FROM FINANCING ACTIVITIES		
Increase (decrease) in short-term loans	52,578,588	(11,198,385)
Proceeds from short-term bills payable	7,485,303	-
Repayments of short-term bills payable	(1,000,000)	-
Proceeds from issuance of bonds	60,000,000	-
Repayment of bonds	(21,600,000)	(8,400,000)
Payments for transaction costs attributable to the issuance of bonds	(62,063)	-
Repayment of the principal portion of lease liabilities	(1,412,758)	(1,814,471)
Interest paid	(1,196,001)	(1,625,029)
Guarantee deposits received	21,177	42,659
Guarantee deposits refunded	(7,702)	(347,951)
Cash dividends	(129,651,902)	-
Increase in non-controlling interests	<u>-</u>	<u>30</u>
Net cash used in financing activities	<u>(34,845,358)</u>	<u>(23,343,147)</u>

(Continued)

Taiwan Semiconductor Manufacturing Company Limited and Subsidiaries

CONSOLIDATED STATEMENTS OF CASH FLOWS

(In Thousands of New Taiwan Dollars)

(Reviewed, Not Audited)

	<u>Six Months Ended June 30</u>	
	<u>2020</u>	<u>2019</u>
EFFECT OF EXCHANGE RATE CHANGES ON CASH AND CASH EQUIVALENTS	\$ <u>(7,561,504)</u>	\$ <u>3,700,926</u>
NET INCREASE IN CASH AND CASH EQUIVALENTS	12,214,107	71,882,661
CASH AND CASH EQUIVALENTS, BEGINNING OF PERIOD	<u>455,399,336</u>	<u>577,814,601</u>
CASH AND CASH EQUIVALENTS, END OF PERIOD	<u>\$ 467,613,443</u>	<u>\$ 649,697,262</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 SIX MONTHS ENDED JUNE 30, 2020 AND 2019

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

(Reviewed, Not Audited)

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 August 11, 2020.

3. APPLICATION OF NEW AND REVISED INTERNATIONAL FINANCIAL REPORTING STANDARDS

- a. Initial application of the amendments to 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)

The initial application of the amendments to 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.

- b. The IFRSs issued by International Accounting Standards Board (IASB) but not yet endorsed and issued into effect by the FSC

<u>New, Revised or Amended Standards and Interpretations</u>	<u>Effective Date Issued by IASB</u>
Annual Improvements to IFRS Standards 2018–2020	January 1, 2022
Amendments to IFRS 3 "Reference to the Conceptual Framework"	January 1, 2022
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
Amendments to IAS 1 "Classification of Liabilities as Current or Non- current"	January 1, 2023

(Continued)

<u>New, Revised or Amended Standards and Interpretations</u>	<u>Effective Date Issued by IASB</u>
Amendments to IAS 16 “Property, Plant and Equipment - Proceeds before Intended Use”	January 1, 2022
Amendments to IAS 37 “Onerous Contracts–Cost of Fulfilling a Contract”	January 1, 2022

(Concluded)

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 and related applicable period. 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, 2019.

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, 2019.

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
				June 30, 2020	December 31, 2019	June 30, 2019	
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 Design Technology Japan, Inc. (TSMC JDC)	Engineering support activities	Yokohama, Japan	100%	-	-	a), b)
	TSMC Korea Limited (TSMC Korea)	Customer service and supporting activities	Seoul, Korea	100%	100%	100%	a)

(Continued)

Name of Investor	Name of Investee	Main Businesses and Products	Establishment and Operating Location	Percentage of Ownership			Note
				June 30, 2020	December 31, 2019	June 30, 2019	
TSMC	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%	c)
	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 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: The Company established a subsidiary in Japan in January 2020 to expand the design service center for providing engineering support services to customers.

Note c: 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 d: The subsidiary is under liquidation procedures.

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.

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

The Company has considered the economic implications of COVID-19 on critical accounting estimates and will continue evaluating the impact on its financial position and financial performance as a result of the pandemic. In addition, 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, 2019.

6. CASH AND CASH EQUIVALENTS

	June 30, 2020	December 31, 2019	June 30, 2019
Cash and deposits in banks	\$ 461,491,815	\$ 452,734,378	\$ 645,551,180
Government bonds	2,545,192	2,188,149	2,226,627
Commercial paper	1,911,432	476,809	1,301,817
Repurchase agreements collateralized by corporate bonds	891,021	-	-
Repurchase agreements collateralized by bonds	773,983	-	-
Agency bonds	-	-	617,638
	<u>\$ 467,613,443</u>	<u>\$ 455,399,336</u>	<u>\$ 649,697,262</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

	June 30, 2020	December 31, 2019	June 30, 2019
<u>Financial assets</u>			
Mandatorily measured at FVTPL			
Forward exchange contracts	\$ 754,789	\$ 162,155	\$ 178,619
Agency mortgage-backed securities	33,737	40,925	1,144,137
Convertible bonds	-	123,759	-
	<u>\$ 788,526</u>	<u>\$ 326,839</u>	<u>\$ 1,322,756</u>

Financial liabilities

Held for trading			
Forward exchange contracts	\$ 1,543,265	\$ 982,349	\$ 30,767

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

Outstanding forward exchange contracts consisted of the following:

	Maturity Date	Contract Amount (In Thousands)
<u>June 30, 2020</u>		
Sell NT\$	July 2020 to December 2020	NT\$205,770,311
Sell US\$	July 2020 to September 2020	US\$574,977

(Continued)

	Maturity Date	Contract Amount (In Thousands)
<u>December 31, 2019</u>		
Sell NT\$	January 2020 to June 2020	NT\$108,428,027
Sell JPY	January 2020 to February 2020	JPY57,471,581
Sell US\$	January 2020 to March 2020	US\$529,209
<u>June 30, 2019</u>		
Sell NT\$	July 2019 to August 2019	NT\$21,958,067
Sell US\$	July 2019 to August 2019	US\$670,759
Sell RMB	July 2019	RMB462,079

8. FINANCIAL ASSETS AT FAIR VALUE THROUGH OTHER COMPREHENSIVE INCOME

	June 30, 2020	December 31, 2019	June 30, 2019
Investments in debt instruments at FVTOCI			
Corporate bonds	\$ 59,747,143	\$ 51,790,045	\$ 48,978,969
Agency bonds/Agency mortgage-backed securities	48,777,759	51,966,460	43,422,635
Asset-backed securities	10,824,156	10,815,849	10,009,050
Government bonds	<u>10,054,530</u>	<u>12,824,223</u>	<u>10,920,257</u>
	<u>129,403,588</u>	<u>127,396,577</u>	<u>113,330,911</u>
Investments in equity instruments at FVTOCI			
Non-publicly traded equity investments	4,300,519	4,124,337	4,040,800
Publicly traded stocks	<u>-</u>	<u>-</u>	<u>263,321</u>
	<u>4,300,519</u>	<u>4,124,337</u>	<u>4,304,121</u>
	<u>\$ 133,704,107</u>	<u>\$ 131,520,914</u>	<u>\$ 117,635,032</u>
Current	\$ 129,403,588	\$ 127,396,577	\$ 113,594,232
Noncurrent	<u>4,300,519</u>	<u>4,124,337</u>	<u>4,040,800</u>
	<u>\$ 133,704,107</u>	<u>\$ 131,520,914</u>	<u>\$ 117,635,032</u>

These investments in equity instruments are held for medium to long-term purposes and therefore are accounted for as FVTOCI. For dividends recognized from these investments, please refer to consolidated statements of cash flows. All the dividends are from investments held at the end of the reporting period.

For the six months ended June 30, 2020, the Company did not divest any equity investments designated at FVTOCI. For the six months ended June 30, 2019, as the Company adjusted its investment portfolio, equity investments designated at FVTOCI were divested for NT\$598,308 thousand. The related other equity-unrealized gain/loss on financial assets at FVTOCI of NT\$70,052 thousand were transferred to increase retained earnings.

As of June 30, 2020 and 2019, the cumulative loss allowance for expected credit loss of NT\$34,670 thousand and NT\$34,194 thousand was recognized under investments in debt instruments at FVTOCI, respectively. Refer to Note 30 for information relating to the credit risk management and expected credit loss.

9. FINANCIAL ASSETS AT AMORTIZED COST

	June 30, 2020	December 31, 2019	June 30, 2019
Corporate bonds	\$ 8,854,016	\$ 7,651,727	\$ 7,924,814
Less: Allowance for impairment loss	<u>(3,310)</u>	<u>(2,929)</u>	<u>(3,033)</u>
	<u>\$ 8,850,706</u>	<u>\$ 7,648,798</u>	<u>\$ 7,921,781</u>
Current	\$ 7,210,148	\$ 299,884	\$ -
Noncurrent	<u>1,640,558</u>	<u>7,348,914</u>	<u>7,921,781</u>
	<u>\$ 8,850,706</u>	<u>\$ 7,648,798</u>	<u>\$ 7,921,781</u>

Refer to Note 30 for information relating to credit risk management and expected credit loss for financial assets at amortized cost.

10. HEDGING FINANCIAL INSTRUMENTS

	June 30, 2020	December 31, 2019	June 30, 2019
<u>Financial assets - current</u>			
Fair value hedges			
Interest rate futures contracts	\$ -	\$ 22,380	\$ -
Cash flow hedges			
Forward exchange contracts	<u>-</u>	<u>3,504</u>	<u>576</u>
	<u>\$ -</u>	<u>\$ 25,884</u>	<u>\$ 576</u>
<u>Financial liabilities - current</u>			
Fair value hedges			
Interest rate futures contracts	\$ 14,839	\$ -	\$ 32,873
Cash flow hedges			
Forward exchange contracts	<u>-</u>	<u>1,798</u>	<u>1,669</u>
	<u>\$ 14,839</u>	<u>\$ 1,798</u>	<u>\$ 34,542</u>

Fair value hedge

The Company entered into interest rate futures contracts, which are used to partially hedge against the fair value changes caused by interest rate fluctuation in the Company's fixed income investments. 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 during the hedging period. 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.

June 30, 2020

Hedging Instruments	Contract Amount (US\$ in Thousands)	Maturity
US treasury bonds interest rate futures contracts	US\$ 123,900	September 2020
		Accumulated Amount of Fair Value Hedge Adjustments
Hedged Items	Asset Carrying Amount	
Financial assets at FVTOCI	\$ 8,786,706	\$ 14,839

December 31, 2019

Hedging Instruments	Contract Amount (US\$ in Thousands)	Maturity
US treasury bonds interest rate futures contracts	US\$ 122,200	March 2020
		Accumulated Amount of Fair Value Hedge Adjustments
Hedged Items	Asset Carrying Amount	
Financial assets at FVTOCI	\$ 7,364,727	\$ (22,380)

June 30, 2019

Hedging Instruments	Contract Amount (US\$ in Thousands)	Maturity
US treasury bonds interest rate futures contracts	US\$ 106,100	September 2019
		Accumulated Amount of Fair Value Hedge Adjustments
Hedged Items	Asset Carrying Amount	
Financial assets at FVTOCI	\$ 4,965,269	\$ 106,483

The effect for the six months ended June 30, 2020 and 2019 is detailed below:

Hedging Instruments/Hedged Items	Increase (Decrease) in Value Used for Calculating Hedge Ineffectiveness Six Months Ended June 30	
	2020	2019
Hedging Instruments		
US treasury bonds interest rate futures contracts	\$ (365,368)	\$ (165,721)
Hedged Items		
Financial assets at FVTOCI	<u>365,368</u>	<u>183,547</u>
	<u>\$ -</u>	<u>\$ 17,826</u>

Cash flow hedge

The Company entered into forward exchange contracts 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 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. No other sources of ineffectiveness emerged from these hedging relationships. For the six months ended June 30, 2020 and 2019, refer to Note 21(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.

December 31, 2019

Hedging Instruments	Contract Amount (In Thousands)	Maturity	Balance in Other Equity (Continuing Hedges)
Forward exchange contracts	Sell NT\$ 1,342,392	January 2020	\$ (3,820)

June 30, 2019

Hedging Instruments	Contract Amount (In Thousands)	Maturity	Balance in Other Equity (Continuing Hedges)
Forward exchange contracts	Sell NT\$ 1,983,719	July 2019	\$ 28,727

The effect for the six months ended June 30, 2020 and 2019 is detailed below:

Hedging Instruments/Hedged Items	Increase (Decrease) in Value Used for Calculating Hedge Ineffectiveness	
	Six Months Ended June 30	
	2020	2019
Hedging Instruments		
Forward exchange contracts	\$ (42,749)	\$ 12,006
Hedged Items		
Forecast transaction (capital expenditures)	\$ 42,749	\$ (12,006)

11. NOTES AND ACCOUNTS RECEIVABLE, NET

	June 30, 2020	December 31, 2019	June 30, 2019
At amortized cost			
Notes and accounts receivable	\$ 145,152,748	\$ 135,978,049	\$ 112,213,697
Less: Loss allowance	<u>(340,179)</u>	<u>(325,325)</u>	<u>(9,358)</u>
	144,812,569	135,652,724	112,204,339
At FVTOCI	<u>3,895,486</u>	<u>3,255,865</u>	<u>3,521,463</u>
	<u>\$ 148,708,055</u>	<u>\$ 138,908,589</u>	<u>\$ 115,725,802</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

	June 30, 2020	December 31, 2019	June 30, 2019
Not past due	\$ 141,251,503	\$ 126,134,762	\$ 105,228,390
Past due			
Past due within 30 days	7,765,468	13,082,080	7,836,494
Past due 31-60 days	27,860	12,794	2,642,764
Past due 61-120 days	1,767	1,033	25,275
Past due over 121 days	1,636	3,245	2,237
Less: Loss allowance	<u>(340,179)</u>	<u>(325,325)</u>	<u>(9,358)</u>
	<u>\$ 148,708,055</u>	<u>\$ 138,908,589</u>	<u>\$ 115,725,802</u>

All of the Company's accounts receivable classified as at FVTOCI were not past due.

Movements of the loss allowance for accounts receivable

	Six Months Ended June 30	
	2020	2019
Balance, beginning of period	\$ 325,325	\$ 7,253
Provision	15,157	2,104
Effect of exchange rate changes	<u>(303)</u>	<u>1</u>
Balance, end of period	<u>\$ 340,179</u>	<u>\$ 9,358</u>

For the six months ended June 30, 2020 and 2019, the changes in loss allowance were mainly due to the variations in the balance of accounts receivable of different risk levels.

12. INVENTORIES

	June 30, 2020	December 31, 2019	June 30, 2019
Finished goods	\$ 6,765,349	\$ 8,924,541	\$ 9,680,034
Work in process	56,598,373	51,969,105	77,670,698
Raw materials	15,050,270	16,552,275	15,913,150
Supplies and spare parts	<u>7,374,102</u>	<u>5,535,275</u>	<u>4,967,997</u>
	<u>\$ 85,788,094</u>	<u>\$ 82,981,196</u>	<u>\$ 108,231,879</u>

Write-down of inventories to net realizable value and reversal of write-down of inventories resulting from the increase in net realizable value were included in the cost of revenue, as illustrated below:

	Three Months Ended June 30		Six Months Ended June 30	
	2020	2019	2020	2019
Inventory losses (reversal of write-down of inventories)	<u>\$ 457,684</u>	<u>\$ 243,133</u>	<u>\$ 273,683</u>	<u>\$ (276,735)</u>

The aforementioned inventory losses (reversal of write-down of inventories) exclude wafer contamination losses. Please refer to related losses in Note 35.

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		
			June 30, 2020	December 31, 2019	June 30, 2019	June 30, 2020	December 31, 2019	June 30, 2019
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	\$ 8,200,184	\$ 9,027,572	\$ 8,341,406	28%	28%	28%

(Continued)

Name of Associate	Principal Activities	Place of Incorporation and Operation	Carrying Amount			% of Ownership and Voting Rights Held by the Company		
			June 30, 2020	December 31, 2019	June 30, 2019	June 30, 2020	December 31, 2019	June 30, 2019
Systems on Silicon Manufacturing Company Pte Ltd. (SSMC)	Manufacturing and selling of integrated circuits and other semiconductor devices	Singapore	5,759,008	6,502,174	6,141,048	39%	39%	39%
Xintec Inc. (Xintec)	Wafer level chip size packaging and wafer level post passivation interconnection service	Taoyuan, Taiwan	1,968,939	1,846,145	1,618,487	41%	41%	41%
Global Unichip Corporation (GUC)	Researching, developing, manufacturing, testing and marketing of integrated circuits	Hsinchu, Taiwan	1,018,510	1,284,377	1,219,064	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	29,107	38,520	32,728	28%	28%	30%
			<u>\$16,975,748</u>	<u>\$18,698,788</u>	<u>\$17,352,733</u>			

(Concluded)

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	June 30, 2020	December 31, 2019	June 30, 2019
VIS	<u>\$ 36,116,588</u>	<u>\$ 36,812,923</u>	<u>\$ 30,267,372</u>
Xintec	<u>\$ 12,463,576</u>	<u>\$ 8,958,195</u>	<u>\$ 3,822,534</u>
GUC	<u>\$ 11,788,684</u>	<u>\$ 11,251,774</u>	<u>\$ 10,574,800</u>

14. PROPERTY, PLANT AND EQUIPMENT

	June 30, 2020	December 31, 2019	June 30, 2019
Assets used by the Company	\$1,493,522,951	\$1,352,313,861	\$1,142,795,610
Assets subject to operating leases	<u>37,999</u>	<u>63,544</u>	<u>75,574</u>
	<u>\$1,493,560,950</u>	<u>\$1,352,377,405</u>	<u>\$1,142,871,184</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, 2020	\$ 3,991,798	\$ 438,075,063	\$ 2,886,622,968	\$ 54,611,364	\$ 528,295,086	\$ 3,911,596,279
Additions (deductions)	-	66,843,789	575,722,091	9,268,143	(374,596,112)	277,237,911
Disposals or retirements	-	(19,785)	(3,060,141)	(114,216)	-	(3,194,142)
Transfers from assets subject to operating leases	-	22,323	-	-	-	22,323
Effect of exchange rate changes	(14,536)	(1,126,851)	(3,760,480)	(125,392)	(140,092)	(5,167,351)
Balance at June 30, 2020	<u>\$ 3,977,262</u>	<u>\$ 503,794,539</u>	<u>\$ 3,455,524,438</u>	<u>\$ 63,639,899</u>	<u>\$ 153,558,882</u>	<u>\$ 4,180,495,020</u>

(Continued)

	Land and Land Improvements	Buildings	Machinery and Equipment	Office Equipment	Equipment under Installation and Construction in Progress	Total
<u>Accumulated depreciation and impairment</u>						
Balance at January 1, 2020	\$ 538,690	\$ 243,059,390	\$ 2,278,265,943	\$ 37,418,395	\$ -	\$ 2,559,282,418
Additions	791	13,167,675	118,235,125	3,172,208	-	134,575,799
Disposals or retirements	-	(15,805)	(2,891,975)	(113,295)	-	(3,021,075)
Transfers from assets subject to operating leases	-	8,196	-	-	-	8,196
Effect of exchange rate changes	(10,057)	(612,952)	(3,175,406)	(74,854)	-	(3,873,269)
Balance at June 30, 2020	<u>\$ 529,424</u>	<u>\$ 255,606,504</u>	<u>\$ 2,390,433,687</u>	<u>\$ 40,402,454</u>	<u>\$ -</u>	<u>\$ 2,686,972,069</u>
Carrying amounts at January 1, 2020	<u>\$ 3,453,108</u>	<u>\$ 195,015,673</u>	<u>\$ 608,357,025</u>	<u>\$ 17,192,969</u>	<u>\$ 528,295,086</u>	<u>\$ 1,352,313,861</u>
Carrying amounts at June 30, 2020	<u>\$ 3,447,838</u>	<u>\$ 248,188,035</u>	<u>\$ 1,065,090,751</u>	<u>\$ 23,237,445</u>	<u>\$ 153,558,882</u>	<u>\$ 1,493,522,951</u>
<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	-	14,237,637	84,910,236	3,704,926	119,296,516	222,149,315
Disposals or retirements	-	(19,898)	(10,253,703)	(350,645)	-	(10,624,246)
Transfers from right-of-use assets	-	-	619,779	-	-	619,779
Effect of disposal of subsidiary	-	-	-	(508)	-	(508)
Effect of exchange rate changes	8,217	353,301	1,511,090	45,669	(122,291)	1,795,986
Balance at June 30, 2019	<u>\$ 4,019,570</u>	<u>\$ 432,722,715</u>	<u>\$ 2,805,547,529</u>	<u>\$ 51,781,721</u>	<u>\$ 292,085,214</u>	<u>\$ 3,586,156,749</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	819	12,969,115	132,558,851	3,043,567	-	148,572,352
Disposals or retirements	-	(19,854)	(6,136,626)	(349,457)	-	(6,505,937)
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	5,662	186,060	1,104,630	25,750	-	1,322,102
Balance at June 30, 2019	<u>\$ 557,056</u>	<u>\$ 231,034,564</u>	<u>\$ 2,176,525,038</u>	<u>\$ 35,244,481</u>	<u>\$ -</u>	<u>\$ 2,443,361,139</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 June 30, 2019	<u>\$ 3,462,514</u>	<u>\$ 201,688,151</u>	<u>\$ 629,022,491</u>	<u>\$ 16,537,240</u>	<u>\$ 292,085,214</u>	<u>\$ 1,142,795,610</u>

(Concluded)

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, 2020	\$ 562,610
Transfers to assets used by the Company	<u>(22,323)</u>
Balance at June 30, 2020	<u>\$ 540,287</u>
<u>Accumulated depreciation</u>	
Balance at January 1, 2020	\$ 499,066
Additions	11,418
Transfers to assets used by the Company	<u>(8,196)</u>
Balance at June 30, 2020	<u>\$ 502,288</u>
Carrying amounts at January 1, 2020	<u>\$ 63,544</u>
Carrying amounts at June 30, 2020	<u>\$ 37,999</u>
<u>Cost</u>	
Balance at January 1, 2019	<u>\$ 562,610</u>
Balance at June 30, 2019	<u>\$ 562,610</u>
<u>Accumulated depreciation</u>	
Balance at January 1, 2019	\$ 474,899
Additions	<u>12,137</u>
Balance at June 30, 2019	<u>\$ 487,036</u>
Carrying amounts at January 1, 2019	<u>\$ 87,711</u>
Carrying amounts at June 30, 2019	<u>\$ 75,574</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:

	June 30, 2020	December 31, 2019	June 30, 2019
Year 1	\$ 17,612	\$ 18,450	\$ 27,060
Year 2	16,992	16,992	16,992
Year 3	8,496	16,992	16,992
Year 4	<u>-</u>	<u>-</u>	<u>8,496</u>
	<u>\$ 43,100</u>	<u>\$ 52,434</u>	<u>\$ 69,540</u>

15. LEASE ARRANGEMENTS

a. Right-of-use assets

	June 30, 2020	December 31, 2019	June 30, 2019
<u>Carrying amounts</u>			
Land	\$ 18,459,364	\$ 14,064,036	\$ 14,162,766
Buildings	2,346,438	2,351,809	2,476,634
Machinery and equipment	193,952	775,809	1,357,667
Office equipment	<u>37,140</u>	<u>40,748</u>	<u>45,241</u>
	<u>\$ 21,036,894</u>	<u>\$ 17,232,402</u>	<u>\$ 18,042,308</u>
		Six Months Ended June 30	
		2020	2019
Additions to right-of-use assets		<u>\$ 5,510,956</u>	<u>\$ 335,976</u>
	Three Months Ended June 30	Six Months Ended June 30	
	2020	2019	2020
	2019	2020	2019
Depreciation of right-of-use assets			
Land	\$ 313,083	\$ 238,916	\$ 605,839
Buildings	142,335	111,335	278,167
Machinery and equipment	290,928	290,929	581,857
Office equipment	<u>5,980</u>	<u>5,512</u>	<u>12,229</u>
	<u>\$ 752,326</u>	<u>\$ 646,692</u>	<u>\$ 1,478,092</u>
Income from subleasing right-of-use assets (classified under other operating income and expenses, net)	<u>\$ 19,011</u>	<u>\$ 13,426</u>	<u>\$ 37,923</u>
	<u>\$ 19,011</u>	<u>\$ 13,426</u>	<u>\$ 26,898</u>

b. Lease liabilities

	June 30, 2020	December 31, 2019	June 30, 2019
<u>Carrying amounts</u>			
Current portion (classified under accrued expenses and other current liabilities)	\$ 1,984,818	\$ 2,275,084	\$ 2,685,318
Noncurrent portion	<u>19,164,873</u>	<u>15,041,833</u>	<u>15,405,489</u>
	<u>\$ 21,149,691</u>	<u>\$ 17,316,917</u>	<u>\$ 18,090,807</u>

Ranges of discount rates for lease liabilities are as follows:

	June 30, 2020	December 31, 2019	June 30, 2019
Land	0.48% - 2.14%	0.67% - 2.14%	0.70% - 2.14%
Buildings	0.54% - 3.88%	0.67% - 3.88%	0.69% - 3.88%
Machinery and equipment	3.24%	3.24%	3.24%
Office equipment	0.43% - 3.88%	0.64% - 3.88%	0.69% - 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 the 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 use in operation with lease terms of 2 years. The Company has purchase options to acquire leasehold machinery 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 6 years.

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

	June 30, 2020	December 31, 2019	June 30, 2019
Year 1	\$ 52,211	\$ 58,569	\$ 50,511
Year 2	<u> -</u>	<u> 1,885</u>	<u> 27</u>
	<u>\$ 52,211</u>	<u>\$ 60,454</u>	<u>\$ 50,538</u>

e. Other lease information

	Three Months Ended June 30		Six Months Ended June 30	
	2020	2019	2020	2019
Expenses relating to short-term leases	<u>\$ 786,725</u>	<u>\$ 1,346,204</u>	<u>\$ 1,754,838</u>	<u>\$ 2,793,777</u>
Expenses relating to low-value asset leases	<u>\$ -</u>	<u>\$ 50</u>	<u>\$ 86</u>	<u>\$ 254</u>
Expenses relating to variable lease payments not included in the measurement of lease liabilities	<u>\$ 49,309</u>	<u>\$ 46,985</u>	<u>\$ 97,154</u>	<u>\$ 97,643</u>
			Six Months Ended June 30	
			2020	2019
Total cash outflow for leases			<u>\$ 3,568,815</u>	<u>\$ 4,219,404</u>

16. INTANGIBLE ASSETS

	Goodwill	Technology License Fees	Software and System Design Costs	Patent and Others	Total
<u>Cost</u>					
Balance at January 1, 2020	\$ 5,693,376	\$ 15,854,951	\$ 33,024,010	\$ 8,302,996	\$ 62,875,333
Additions	-	6,035,171	1,292,039	2,863,032	10,190,242
Disposals or retirements	-	-	(48,828)	-	(48,828)
Effect of exchange rate changes	(75,905)	(3,352)	(17,300)	(1,334)	(97,891)
Balance at June 30, 2020	<u>\$ 5,617,471</u>	<u>\$ 21,886,770</u>	<u>\$ 34,249,921</u>	<u>\$ 11,164,694</u>	<u>\$ 72,918,856</u>
<u>Accumulated amortization and impairment</u>					
Balance at January 1, 2020	\$ -	\$ 9,823,770	\$ 26,502,067	\$ 5,896,468	\$ 42,222,305
Additions	-	1,021,932	1,856,243	486,245	3,364,420
Disposals or retirements	-	-	(48,828)	-	(48,828)
Effect of exchange rate changes	-	(3,352)	(10,321)	(968)	(14,641)
Balance at June 30, 2020	<u>\$ -</u>	<u>\$ 10,842,350</u>	<u>\$ 28,299,161</u>	<u>\$ 6,381,745</u>	<u>\$ 45,523,256</u>
Carrying amounts at January 1, 2020	<u>\$ 5,693,376</u>	<u>\$ 6,031,181</u>	<u>\$ 6,521,943</u>	<u>\$ 2,406,528</u>	<u>\$ 20,653,028</u>
Carrying amounts at June 30, 2020	<u>\$ 5,617,471</u>	<u>\$ 11,044,420</u>	<u>\$ 5,950,760</u>	<u>\$ 4,782,949</u>	<u>\$ 27,395,600</u>
<u>Cost</u>					
Balance at January 1, 2019	\$ 5,795,488	\$ 10,974,458	\$ 29,594,483	\$ 7,656,524	\$ 54,020,953
Additions	-	976,675	2,164,701	11,919	3,153,295
Disposals or retirements	-	-	(53,406)	-	(53,406)
Effect of exchange rate changes	42,909	2,654	4,389	711	50,663
Balance at June 30, 2019	<u>\$ 5,838,397</u>	<u>\$ 11,953,787</u>	<u>\$ 31,710,167</u>	<u>\$ 7,669,154</u>	<u>\$ 57,171,505</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	-	509,744	1,857,978	331,384	2,699,106
Disposals or retirements	-	-	(51,029)	-	(51,029)
Effect of exchange rate changes	-	2,654	936	192	3,782
Balance at June 30, 2019	<u>\$ -</u>	<u>\$ 9,268,403</u>	<u>\$ 24,831,383</u>	<u>\$ 5,570,889</u>	<u>\$ 39,670,675</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 June 30, 2019	<u>\$ 5,838,397</u>	<u>\$ 2,685,384</u>	<u>\$ 6,878,784</u>	<u>\$ 2,098,265</u>	<u>\$ 17,500,830</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 8.0% in its test of impairment as of December 31, 2019 to reflect the relevant specific risk in the cash-generating unit.

17. SHORT-TERM LOANS

	June 30, 2020	December 31, 2019	June 30, 2019
Unsecured loans			
Amount	<u>\$ 169,546,950</u>	<u>\$ 118,522,290</u>	<u>\$ 78,261,120</u>

(Continued)

	June 30, 2020	December 31, 2019	June 30, 2019
Original loan content			
US\$ (in thousands)	\$ 1,642,000	\$ 2,370,000	\$ 2,520,000
EUR (in thousands)	3,579,000	1,410,000	-
JPY (in thousands)	10,000,000	-	-
Annual interest rate	-0.15% - 0.83%	0.01% - 2.22%	2.70% - 2.86%
Maturity date	Due by September 2020	Due by May 2020	Due by July 2019 (Concluded)

18. SHORT-TERM BILLS PAYABLE

	June 30, 2020
Commercial paper	\$ 6,500,000
Less: Discounts on commercial paper	<u>(6,602)</u>
	<u>\$ 6,493,398</u>
Annual interest rate	0.45% - 0.52%

19. BONDS PAYABLE

	June 30, 2020	December 31, 2019	June 30, 2019
Domestic unsecured bonds	\$ 95,300,000	\$ 56,900,000	\$ 83,400,000
Less: Discounts on bonds payable	(60,319)	-	-
Less: Current portion	<u>(12,800,000)</u>	<u>(31,800,000)</u>	<u>(48,100,000)</u>
	<u>\$ 82,439,681</u>	<u>\$ 25,100,000</u>	<u>\$ 35,300,000</u>

The Company issued domestic unsecured bonds for the six months ended June 30, 2020, which amounted to NT\$60,000,000 thousand. The major terms are as follows:

Issuance	Tranche	Issuance Period	Total Amount	Coupon Rate	Repayment and Interest Payment
109-1	A	March 2020 to March 2025	\$ 3,000,000	0.58%	Bullet repayment; interest payable annually
	B	March 2020 to March 2027	10,500,000	0.62%	The same as above
	C	March 2020 to March 2030	10,500,000	0.64%	The same as above
109-2	A	April 2020 to April 2025	5,900,000	0.52%	The same as above
	B	April 2020 to April 2027	10,400,000	0.58%	The same as above

(Continued)

Issuance	Tranche	Issuance Period	Total Amount	Coupon Rate	Repayment and Interest Payment
109-2	C	April 2020 to April 2030	\$ 5,300,000	0.60%	Bullet repayment; interest payable annually
109-3	A	May 2020 to May 2025	4,500,000	0.55%	The same as above
	B	May 2020 to May 2027	7,500,000	0.60%	The same as above
	C	May 2020 to May 2030	2,400,000	0.64%	The same as above

(Concluded)

20. GUARANTEE DEPOSITS

	June 30, 2020	December 31, 2019	June 30, 2019
Capacity guarantee	\$ -	\$ 1,499,400	\$ 5,658,403
Receivables guarantee	-	-	330,077
Others	<u>240,255</u>	<u>230,481</u>	<u>275,058</u>
	<u>\$ 240,255</u>	<u>\$ 1,729,881</u>	<u>\$ 6,263,538</u>
Current portion (classified under accrued expenses and other current liabilities)	\$ 68,633	\$ 1,552,977	\$ 6,052,568
Noncurrent portion	<u>171,622</u>	<u>176,904</u>	<u>210,970</u>
	<u>\$ 240,255</u>	<u>\$ 1,729,881</u>	<u>\$ 6,263,538</u>

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

21. EQUITY

a. Capital stock

	June 30, 2020	December 31, 2019	June 30, 2019
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 June 30, 2020, 1,065,026 thousand ADSs of TSMC were traded on the NYSE. The number of common shares represented by the ADSs was 5,325,129 thousand shares (one ADS represents five

- common shares).
b. Capital surplus

	June 30, 2020	December 31, 2019	June 30, 2019
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	121,843	121,843
From share of changes in equities of associates	302,506	302,234	287,447
Donations	<u>33,336</u>	<u>33,336</u>	<u>29,343</u>
	<u>\$ 56,339,981</u>	<u>\$ 56,339,709</u>	<u>\$ 56,320,929</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, 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 2020 and 2019 quarterly earnings have been approved by TSMC's Board of Directors in its meeting, respectively. The appropriations and cash dividends per share were as follows:

	<u>Second Quarter of 2020</u>	<u>First Quarter of 2020</u>
Resolution Date of TSMC's Board of Directors in its meeting	August 11, 2020	May 12, 2020
Special capital reserve	<u>\$ 11,884,457</u>	<u>\$ (2,694,841)</u>
Cash dividends to shareholders	<u>\$ 64,825,951</u>	<u>\$ 64,825,951</u>
Cash dividends per share (NT\$)	<u>\$ 2.5</u>	<u>\$ 2.5</u>

Resolution Date of TSMC's Board of Directors in its meeting	<u>Fourth Quarter of 2019</u>	<u>Third Quarter of 2019</u>	<u>Second Quarter of 2019</u>	<u>First Quarter of 2019</u>
	February 11, 2020	November 12, 2019	August 13, 2019	June 5, 2019
Special capital reserve	<u>\$ 16,893,073</u>	<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>\$ 64,825,951</u>	<u>\$ 51,860,761</u>
Cash dividends per share (NT\$)	<u>\$ 2.5</u>	<u>\$ 2.5</u>	<u>\$ 2.5</u>	<u>\$ 2.0</u>

The appropriation of 2018 earnings has been approved by TSMC's shareholders in its meeting held on June 5, 2019. The appropriation and cash dividends per share were as follows:

	Appropriation of Earnings	Cash Dividends Per Share (NT\$)
Legal capital reserve	<u>\$ 35,113,088</u>	
Special capital reserve	<u>\$ (11,459,458)</u>	
Cash dividends to shareholders	<u>\$ 207,443,044</u>	\$ 8.0

d. Others

Changes in others were as follows:

	<u>Six Months Ended June 30, 2020</u>				
	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	\$ (26,871,400)	\$ (692,959)	\$ (3,820)	\$ (190)	\$ (27,568,369)
Exchange differences arising on translation of foreign operations	(11,690,086)	-	-	-	(11,690,086)
Unrealized gain (loss) on financial assets at FVTOCI					
Equity instruments	-	(22,437)	-	-	(22,437)
Debt instruments	-	3,625,573	-	-	3,625,573
Cumulative unrealized gain (loss) of debt instruments transferred to profit or loss due to disposal	-	(926,919)	-	-	(926,919)
Loss allowance adjustments from debt instruments	-	(255)	-	-	(255)
Gain (loss) arising on changes in the fair value of hedging instruments	-	-	(42,749)	-	(42,749)
					(Continued)

	Six Months Ended June 30, 2020				
	Foreign Currency Translation Reserve	Unrealized Gain (Loss) on Financial Assets at FVTOCI	Gain (Loss) on Hedging Instruments	Unearned Stock-Based Employee Compensation	Total
Transferred to initial carrying amount of hedged items	\$ -	\$ -	\$ 46,569	\$ -	\$ 46,569
Share of other comprehensive income (loss) of associates	(176,309)	(3,469)	-	-	(179,778)
Share of unearned stock-based employee compensation of associates	-	-	-	190	190
Income tax effect	-	466	-	-	466
Balance, end of period	<u>\$ (38,737,795)</u>	<u>\$ 1,980,000</u>	<u>\$ -</u>	<u>\$ -</u>	<u>\$ (36,757,795)</u> (Concluded)

	Six Months Ended June 30, 2019				
	Foreign Currency Translation Reserve	Unrealized Gain (Loss) on Financial Assets at FVTOCI	Gain (Loss) on Hedging Instruments	Unearned Stock-Based Compensation	Total
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	5,503,408	-	-	-	5,503,408
Unrealized gain (loss) on financial assets at FVTOCI					
Equity instruments	-	228,802	-	-	228,802
Debt instruments	-	2,552,571	-	-	2,552,571
Cumulative unrealized gain (loss) of equity instruments transferred to retained earnings due to disposal	-	(73,048)	-	-	(73,048)
Cumulative unrealized gain (loss) of debt instruments transferred to profit or loss due to disposal	-	(172,465)	-	-	(172,465)
Loss allowance adjustments from debt instruments	-	4,178	-	-	4,178
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	-	-	12,006	-	12,006
Transferred to initial carrying amount of hedged items	-	-	(6,775)	-	(6,775)
Share of other comprehensive income (loss) of associates	25,340	(10,886)	(105)	-	14,349
Share of unearned stock-based employee compensation of associates	-	-	-	1,843	1,843
Income tax effect	-	(5,494)	-	-	(5,494)
Balance, end of period	<u>\$ (6,509,001)</u>	<u>\$ (905,666)</u>	<u>\$ 28,727</u>	<u>\$ -</u>	<u>\$ (7,385,940)</u>

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

22. NET REVENUE

a. Disaggregation of revenue from contracts with customers

Product	Three Months Ended June 30		Six Months Ended June 30	
	2020	2019	2020	2019
Wafer	\$ 275,306,030	\$ 210,829,901	\$ 546,955,842	\$ 400,929,912
Others	<u>35,392,337</u>	<u>30,168,574</u>	<u>74,339,708</u>	<u>58,773,032</u>
	<u>\$ 310,698,367</u>	<u>\$ 240,998,475</u>	<u>\$ 621,295,550</u>	<u>\$ 459,702,944</u>

Geography	Three Months Ended June 30		Six Months Ended June 30	
	2020	2019	2020	2019
Taiwan	\$ 27,697,800	\$ 20,184,598	\$ 57,932,878	\$ 37,543,160
United States	178,101,996	146,076,898	349,676,085	275,100,237
China	65,066,251	41,446,276	133,559,658	80,998,135
Europe, the Middle East and Africa	17,213,445	15,163,142	34,532,690	31,442,695
Japan	16,702,803	13,411,353	33,966,408	26,599,278
Others	<u>5,916,072</u>	<u>4,716,208</u>	<u>11,627,831</u>	<u>8,019,439</u>
	<u>\$ 310,698,367</u>	<u>\$ 240,998,475</u>	<u>\$ 621,295,550</u>	<u>\$ 459,702,944</u>

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

Platform	Three Months Ended June 30		Six Months Ended June 30	
	2020	2019	2020	2019
Smartphone	\$ 145,843,876	\$ 108,860,866	\$ 297,775,153	\$ 212,071,135
High Performance Computing	104,115,544	77,376,963	197,109,154	140,201,936
Internet of Things	25,265,823	19,150,847	51,861,636	35,868,472
Automotive	11,392,379	10,960,006	24,454,106	21,586,521
Digital Consumer Electronics	14,213,141	14,183,705	29,790,979	28,811,454
Others	<u>9,867,604</u>	<u>10,466,088</u>	<u>20,304,522</u>	<u>21,163,426</u>
	<u>\$ 310,698,367</u>	<u>\$ 240,998,475</u>	<u>\$ 621,295,550</u>	<u>\$ 459,702,944</u>

Resolution	Three Months Ended June 30		Six Months Ended June 30	
	2020	2019	2020	2019
7-nanometer	\$ 100,229,077	\$ 43,852,620	\$ 195,936,641	\$ 86,061,338
10-nanometer	724,040	6,957,387	2,003,537	13,938,593
16-nanometer	48,709,060	48,069,217	100,128,339	78,118,917
20-nanometer	2,243,613	2,740,789	4,096,381	5,504,624
28-nanometer	38,479,201	37,527,722	76,479,155	74,670,082
40/45-nanometer	26,050,830	22,769,629	52,145,084	46,056,509
65-nanometer	15,576,755	16,444,732	31,560,957	32,273,267
90-nanometer	7,628,781	5,692,407	15,300,250	11,992,409
0.11/0.13 micron	7,575,474	4,005,768	14,597,903	9,054,344
0.15/0.18 micron	21,626,179	17,920,542	43,279,180	33,593,308
0.25 micron and above	<u>6,463,020</u>	<u>4,849,088</u>	<u>11,428,415</u>	<u>9,666,521</u>
Wafer revenue	<u>\$ 275,306,030</u>	<u>\$ 210,829,901</u>	<u>\$ 546,955,842</u>	<u>\$ 400,929,912</u>

b. Contract balances

	June 30, 2020	December 31, 2019	June 30, 2019	January 1, 2019
Contract liabilities (classified under accrued expenses and other current liabilities)	<u>\$ 9,652,577</u>	<u>\$ 6,784,323</u>	<u>\$ 9,689,982</u>	<u>\$ 4,684,024</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\$539,843 thousand and NT\$906,798 thousand for the three months ended June 30, 2020 and 2019, respectively; and NT\$4,009,761 thousand and NT\$3,474,824 thousand for the six months ended June 30, 2020 and 2019, respectively.

23. INTEREST INCOME

	<u>Three Months Ended June 30</u>		<u>Six Months Ended June 30</u>	
	<u>2020</u>	<u>2019</u>	<u>2020</u>	<u>2019</u>
Interest income				
Bank deposits	\$ 1,459,001	\$ 3,374,090	\$ 3,372,072	\$ 6,524,362
Financial assets at FVTPL	1,182	137,765	1,768	324,082
Financial assets at FVTOCI	820,923	802,130	1,704,899	1,587,346
Financial assets at amortized cost	<u>197,256</u>	<u>232,932</u>	<u>388,692</u>	<u>519,903</u>
	<u>\$ 2,478,362</u>	<u>\$ 4,546,917</u>	<u>\$ 5,467,431</u>	<u>\$ 8,955,693</u>

24. FINANCE COSTS

	<u>Three Months Ended June 30</u>		<u>Six Months Ended June 30</u>	
	<u>2020</u>	<u>2019</u>	<u>2020</u>	<u>2019</u>
Interest expense				
Bank loans	\$ 121,131	\$ 486,931	\$ 414,197	\$ 993,512
Corporate bonds	220,213	316,825	388,655	641,827
Lease liabilities	60,160	60,839	128,375	128,164
Others	<u>7,641</u>	<u>156</u>	<u>8,482</u>	<u>313</u>
	<u>\$ 409,145</u>	<u>\$ 864,751</u>	<u>\$ 939,709</u>	<u>\$ 1,763,816</u>

25. OTHER GAINS AND LOSSES, NET

	<u>Three Months Ended June 30</u>		<u>Six Months Ended June 30</u>	
	<u>2020</u>	<u>2019</u>	<u>2020</u>	<u>2019</u>
Gain on disposal of financial assets, net				
Investments in debt instruments at FVTOCI	\$ 747,507	\$ 225,570	\$ 926,919	\$ 172,465
Loss on disposal of subsidiaries	-	-	-	(4,598)
Gain (loss) on financial instruments at FVTPL, net				
Mandatorily measured at FVTPL	(1,416,828)	139,839	(1,507,791)	(356,924)
Gain arising from fair value hedges, net	-	6,068	-	17,826
				(Continued)

	<u>Three Months Ended June 30</u>		<u>Six Months Ended June 30</u>	
	<u>2020</u>	<u>2019</u>	<u>2020</u>	<u>2019</u>
The reversal (accrual) of expected credit loss of financial assets				
Investments in debt instruments at FVTOCI	\$ 1,881	\$ (4,689)	\$ 255	\$ (4,178)
Financial assets at amortized cost	(443)	791	(443)	5,165
Other gains, net	<u>211,282</u>	<u>57,288</u>	<u>79,227</u>	<u>336,856</u>
	<u>\$ (456,601)</u>	<u>\$ 424,867</u>	<u>\$ (501,833)</u>	<u>\$ 166,612</u>

(Concluded)

26. INCOME TAX

a. Income tax expense recognized in profit or loss

Income tax expense consisted of the following:

	<u>Three Months Ended June 30</u>		<u>Six Months Ended June 30</u>	
	<u>2020</u>	<u>2019</u>	<u>2020</u>	<u>2019</u>
Current income tax expense				
Current tax expense recognized in the current period	\$ 16,787,405	\$ 14,021,282	\$ 33,174,751	\$ 21,007,345
Income tax adjustments on prior years	47,228	(42,989)	75,630	(44,655)
Other income tax adjustments	<u>(112,723)</u>	<u>(833)</u>	<u>(79,462)</u>	<u>(2,576)</u>
	<u>16,721,910</u>	<u>13,977,460</u>	<u>33,170,919</u>	<u>20,960,114</u>
Deferred income tax benefit				
The origination and reversal of temporary differences	<u>(1,215,786)</u>	<u>(207,871)</u>	<u>(2,580,510)</u>	<u>(396,183)</u>
Income tax expense recognized in profit or loss	<u>\$ 15,506,124</u>	<u>\$ 13,769,589</u>	<u>\$ 30,590,409</u>	<u>\$ 20,563,931</u>

Under the amendment to the R.O.C Statute of Industrial Innovation in 2019, the amounts of unappropriated earnings in 2018 and thereafter used for building or purchasing specific assets or technologies can qualify for deduction when computing the income tax on unappropriated earnings.

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

b. Income tax expense recognized in other comprehensive income

	<u>Three Months Ended June 30</u>		<u>Six Months Ended June 30</u>	
	<u>2020</u>	<u>2019</u>	<u>2020</u>	<u>2019</u>
Deferred income tax benefit (expense)				
Related to unrealized gain/loss on investments in equity instruments at FVTOCI	<u>\$ 352</u>	<u>\$ 12,557</u>	<u>\$ 466</u>	<u>\$ (5,494)</u>

c. Income tax examination

The tax authorities have examined income tax returns of TSMC through 2018. All investment tax credit adjustments assessed by the tax authorities have been recognized accordingly.

27. EARNINGS PER SHARE

	<u>Three Months Ended June 30</u>		<u>Six Months Ended June 30</u>	
	<u>2020</u>	<u>2019</u>	<u>2020</u>	<u>2019</u>
Basic EPS	<u>\$ 4.66</u>	<u>\$ 2.57</u>	<u>\$ 9.17</u>	<u>\$ 4.94</u>
Diluted EPS	<u>\$ 4.66</u>	<u>\$ 2.57</u>	<u>\$ 9.17</u>	<u>\$ 4.94</u>

EPS is computed as follows:

	Amounts (Numerator)	Number of Shares (Denominator) (In Thousands)	EPS (NT\$)
<u>Three months ended June 30, 2020</u>			
Basic/Diluted EPS			
Net income available to common shareholders of the parent	<u>\$ 120,822,193</u>	<u>25,930,380</u>	<u>\$ 4.66</u>
<u>Three months ended June 30, 2019</u>			
Basic/Diluted EPS			
Net income available to common shareholders of the parent	<u>\$ 66,764,850</u>	<u>25,930,380</u>	<u>\$ 2.57</u>
<u>Six months ended June 30, 2020</u>			
Basic/Diluted EPS			
Net income available to common shareholders of the parent	<u>\$ 237,808,913</u>	<u>25,930,380</u>	<u>\$ 9.17</u>
<u>Six months ended June 30, 2019</u>			
Basic/Diluted EPS			
Net income available to common shareholders of the parent	<u>\$ 128,158,701</u>	<u>25,930,380</u>	<u>\$ 4.94</u>

28. ADDITIONAL INFORMATION OF EXPENSES BY NATURE

	Three Months Ended June 30		Six Months Ended June 30	
	2020	2019	2020	2019
a. Depreciation of property, plant and equipment and right-of-use assets				
Recognized in cost of revenue	\$ 62,604,362	\$ 67,257,072	\$ 123,444,346	\$ 137,191,248
Recognized in operating expenses	6,371,650	6,441,494	12,609,545	12,693,663
Recognized in other operating income and expenses	<u>5,556</u>	<u>6,014</u>	<u>11,418</u>	<u>12,137</u>
	<u>\$ 68,981,568</u>	<u>\$ 73,704,580</u>	<u>\$ 136,065,309</u>	<u>\$ 149,897,048</u>
b. Amortization of intangible assets				
Recognized in cost of revenue	\$ 1,279,576	\$ 729,526	\$ 2,174,974	\$ 1,442,619
Recognized in operating expenses	<u>614,108</u>	<u>614,244</u>	<u>1,189,446</u>	<u>1,256,487</u>
	<u>\$ 1,893,684</u>	<u>\$ 1,343,770</u>	<u>\$ 3,364,420</u>	<u>\$ 2,699,106</u>
c. Employee benefits expenses				
Post-employment benefits				
Defined contribution plans	\$ 658,511	\$ 653,810	\$ 1,339,335	\$ 1,307,129
Defined benefit plans	<u>51,227</u>	<u>64,899</u>	<u>102,442</u>	<u>129,779</u>
	709,738	718,709	1,441,777	1,436,908
Other employee benefits	<u>33,212,840</u>	<u>23,877,246</u>	<u>65,000,511</u>	<u>46,830,710</u>
	<u>\$ 33,922,578</u>	<u>\$ 24,595,955</u>	<u>\$ 66,442,288</u>	<u>\$ 48,267,618</u>
Employee benefits expense summarized by function				
Recognized in cost of revenue	\$ 20,037,035	\$ 14,500,165	\$ 39,481,535	\$ 28,575,145
Recognized in operating expenses	<u>13,885,543</u>	<u>10,095,790</u>	<u>26,960,753</u>	<u>19,692,473</u>
	<u>\$ 33,922,578</u>	<u>\$ 24,595,955</u>	<u>\$ 66,442,288</u>	<u>\$ 48,267,618</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; 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. Accrued profit sharing bonus to employees is illustrated below:

	<u>Three Months Ended June 30</u>		<u>Six Months Ended June 30</u>	
	<u>2020</u>	<u>2019</u>	<u>2020</u>	<u>2019</u>
Profit sharing bonus to employees	<u>\$ 8,109,389</u>	<u>\$4,481,248</u>	<u>\$ 15,963,305</u>	<u>\$8,600,929</u>

TSMC's profit sharing bonus to employees and compensation to directors for 2019 and 2018 had been approved by the Board of Directors of TSMC, as illustrated below:

	<u>Years Ended December 31</u>	
	<u>2019</u>	<u>2018</u>
	<u>February 11, 2020</u>	<u>February 19, 2019</u>
Resolution Date of TSMC's Board of Directors in its meeting		
Profit sharing bonus to employees	<u>\$ 23,165,745</u>	<u>\$ 23,570,040</u>
Compensation to directors	<u>\$ 360,404</u>	<u>\$ 349,272</u>

There is no significant difference between the aforementioned approved amounts and the amounts charged against earnings of 2019 and 2018, 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.

29. CASH FLOW INFORMATION

a. Non-cash transactions

	<u>Six Months Ended June 30</u>	
	<u>2020</u>	<u>2019</u>
Additions of property, plant and equipment	\$ 277,237,911	\$ 222,149,315
Changes in other financial assets	461,899	373,950
Exchange of assets	-	(3,287,138)
Changes in payables to contractors and equipment suppliers	41,604,862	(26,948,116)
Transferred to initial carrying amount of hedged items	<u>(46,569)</u>	<u>6,775</u>
Payments for acquisition of property, plant and equipment	<u>\$ 319,258,103</u>	<u>\$ 192,294,786</u>
Additions of intangible assets	\$ 10,190,242	\$ 3,153,295
Changes in other financial assets	5,635	20,253
Changes in account payable	191,429	(491,367)
Changes in accrued expenses and other current liabilities	<u>(1,899,744)</u>	<u>-</u>
Payments for acquisition of intangible assets	<u>\$ 8,487,562</u>	<u>\$ 2,682,181</u>

(Continued)

	Six Months Ended June 30	
	2020	2019
Additions of financial assets at FVTOCI	\$ 128,557,706	\$ 101,073,716
Conversion of convertible bonds into equity securities	(120,548)	-
Changes in accrued expenses and other current liabilities	<u>(5,074,532)</u>	<u>(2,605,452)</u>
Payments for acquisition of financial assets at FVTOCI	<u>\$ 123,362,626</u>	<u>\$ 98,468,264</u>
Disposal of financial assets at FVTOCI	\$ 127,700,730	\$ 90,686,166
Changes in other financial assets	<u>(1,472,744)</u>	<u>(3,834,831)</u>
Proceeds from disposal of financial assets at FVTOCI	<u>\$ 126,227,986</u>	<u>\$ 86,851,335</u>

(Concluded)

b. Reconciliation of liabilities arising from financing activities

	Balance as of January 1, 2020	Financing Cash Flow	Non-cash changes			Balance as of June 30, 2020
			Foreign Exchange Movement	Leases Modifications	Other Changes (Note)	
Short-term loans	\$ 118,522,290	\$ 52,578,588	\$ (1,553,928)	\$ -	\$ -	\$ 169,546,950
Short-term bills payable	-	6,485,303	-	-	8,095	6,493,398
Guarantee deposits	1,729,881	13,475	8,149	-	(1,511,250)	240,255
Lease liabilities	17,316,917	(1,573,933)	(29,490)	5,307,822	128,375	21,149,691
Bonds payable	<u>56,900,000</u>	<u>38,337,937</u>	<u>-</u>	<u>-</u>	<u>1,744</u>	<u>95,239,681</u>
Total	<u>\$ 194,469,088</u>	<u>\$ 95,841,370</u>	<u>\$ (1,575,269)</u>	<u>\$ 5,307,822</u>	<u>\$ (1,373,036)</u>	<u>\$ 292,669,975</u>

	Balance as of January 1, 2019	Financing Cash Flow	Non-cash changes			Balance as of June 30, 2019
			Foreign Exchange Movement	Leases Modifications	Other Changes (Note)	
Short-term loans	\$ 88,754,640	\$ (11,198,385)	\$ 704,865	\$ -	\$ -	\$ 78,261,120
Guarantee deposits	10,189,045	(305,292)	88,585	-	(3,708,800)	6,263,538
Lease liabilities	19,903,615	(1,825,488)	37,717	(153,201)	128,164	18,090,807
Bonds payable	<u>91,800,000</u>	<u>(8,400,000)</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>83,400,000</u>
Total	<u>\$ 210,647,300</u>	<u>\$ (21,729,165)</u>	<u>\$ 831,167</u>	<u>\$ (153,201)</u>	<u>\$ (3,580,636)</u>	<u>\$ 186,015,465</u>

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

30. FINANCIAL INSTRUMENTS

a. Categories of financial instruments

	June 30, 2020	December 31, 2019	June 30, 2019
Financial assets			
FVTPL (Note 1)	\$ 788,526	\$ 326,839	\$ 1,322,756
FVTOCI (Note 2)	137,599,593	134,776,779	121,156,495
Hedging financial assets	-	25,884	576
Amortized cost (Note 3)	<u>636,689,032</u>	<u>612,740,640</u>	<u>789,275,064</u>

\$ 775,077,151 \$ 747,870,142 \$ 911,754,891

(Continued)

	June 30, 2020	December 31, 2019	June 30, 2019
Financial liabilities			
FVTPL (Note 4)	\$ 1,543,265	\$ 982,349	\$ 30,767
Hedging financial liabilities	14,839	1,798	34,542
Amortized cost (Note 5)	<u>596,415,133</u>	<u>533,581,640</u>	<u>580,489,897</u>
	<u>\$ 597,973,237</u>	<u>\$ 534,565,787</u>	<u>\$ 580,555,206</u> (Concluded)

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, short-term bills payable, 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 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. These hedges reduce, but do not entirely eliminate, 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 six months ended June 30, 2020 and 2019, a hypothetical adverse foreign currency exchange rate change

of 10% would have decreased its net income by NT\$1,066,845 thousand and NT\$849,695 thousand for the six months ended June 30, 2020 and 2019, respectively, and decreased its other comprehensive income by NT\$158,511 thousand for the six months ended June 30, 2019, after taking into account hedges and offsetting positions.

Interest rate risk

The Company is exposed to interest rate risks primarily related to its investment portfolio and outstanding debt. Changes in interest rates affect the interest earned on the Company's cash and cash equivalents and fixed income securities, the fair value of those securities, as well as the interest paid on its short-term loans.

The Company's cash and cash equivalents as well as fixed income investments in both fixed- and floating-rate securities carry a degree of interest rate risk. The majority of the Company's fixed income investments are fixed-rate securities and classified as financial assets at FVTOCI, and may have their fair value adversely affected due to a rise in interest rates, while cash and cash equivalents as well as floating-rate securities may generate less interest income than predicted if interest rates fall. The Company has entered, and may enter in the future, into interest rate futures to partially hedge the interest rate risk on its fixed income investments. However, these hedges can offset only a small portion of the financial impact from movement in interest rates.

Based on a sensitivity analysis performed on the Company's fixed income investments at the end of the reporting period, interest rates increase of 100 basis points (1.00%) across all maturities would have decreased the fair value by NT\$3,153,596 thousand and NT\$2,693,155 thousand for the six months ended June 30, 2020 and 2019, respectively. The decreases were composed of NT\$3,152,977 thousand decrease and NT\$3,036,106 thousand decrease in other comprehensive income, and NT\$619 thousand decrease and NT\$342,951 thousand increase in net income for the six months ended June 30, 2020 and 2019, respectively.

Majority of the Company's short-term debts are floating-rate; hence, a rise in interest rates may incur higher interest expense than predicted. All of the Company's long-term debts are fixed-rate and measured at amortized cost; as such, changes in interest rates would not affect the future cash flows and the carrying amount.

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 six months ended June 30, 2020 and 2019, the other comprehensive income would have decreased by NT\$419,261 thousand and NT\$414,268 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 accounts receivable, 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 accounts receivable are from its customers worldwide. The majority of the Company's outstanding accounts receivable are not covered by collaterals or guarantees. While the Company has procedures to monitor and manage credit risk exposure on accounts receivable, 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 June 30, 2020, December 31, 2019 and June 30, 2019, the Company's ten largest customers accounted for 78%, 79% and 72% 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 objective of the Company's investment policy is to achieve a return that will allow the Company to preserve principal and support liquidity requirements. The policy generally requires securities to be investment grade and limits the amount of credit exposure to any one issuer. The Company assesses whether there has been a significant increase in credit risk in the securities since initial recognition by reviewing changes in external credit ratings, financial market conditions and material information of the issuers. The credit rating information is supplied by external rating agencies.

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 is investment grade on valuation date	12 months expected credit loss	0-0.1%
Doubtful	Credit rating is non-investment grade on valuation date	Lifetime expected credit loss-not credit impaired	-
In default	Credit rating is CC or below on valuation date	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 six months ended June 30, 2020 and 2019, the expected credit loss decreases NT\$545 thousand and NT\$643 thousand, respectively. The changes are mainly due to investment portfolio adjustment and fluctuations in exchange rate.

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 equivalents, fixed income investments at FVTPL, financial assets at FVTOCI-current, financial assets at amortized cost-current and sufficient cost-efficient funding.

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	1-3 Years	3-5 Years	More Than 5 Years	Total
<u>June 30, 2020</u>					
<u>Non-derivative financial liabilities</u>					
Short-term loans	\$ 169,558,535	\$ -	\$ -	\$ -	\$ 169,558,535
Short-term bills payable	6,500,000	-	-	-	6,500,000
Accounts payable (including related parties)	39,533,744	-	-	-	39,533,744
Payables to contractors and equipment suppliers	97,739,201	-	-	-	97,739,201
Accrued expenses and other current liabilities	57,970,002	-	-	-	57,970,002
Bonds payable	13,589,809	17,774,765	20,217,199	47,452,174	99,033,947
Lease liabilities (including those classified under accrued expenses and other current liabilities)	2,201,266	3,403,416	3,110,103	14,029,185	22,743,970
Guarantee deposits (including those classified under accrued expenses and other current liabilities)	68,633	116,807	54,466	349	240,255
	<u>387,161,190</u>	<u>21,294,988</u>	<u>23,381,768</u>	<u>61,481,708</u>	<u>493,319,654</u>
<u>Derivative financial instruments</u>					
Forward exchange contracts					
Outflows	222,691,323	-	-	-	222,691,323
Inflows	(223,703,226)	-	-	-	(223,703,226)
	<u>(1,011,903)</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>(1,011,903)</u>
	<u>\$ 386,149,287</u>	<u>\$ 21,294,988</u>	<u>\$ 23,381,768</u>	<u>\$ 61,481,708</u>	<u>\$ 492,307,751</u>
<u>December 31, 2019</u>					
<u>Non-derivative financial liabilities</u>					
Short-term loans	\$ 118,562,641	\$ -	\$ -	\$ -	\$ 118,562,641
Accounts payable (including related parties)	40,205,966	-	-	-	40,205,966
Payables to contractors and equipment suppliers	140,810,703	-	-	-	140,810,703
Accrued expenses and other current liabilities	45,760,898	-	-	-	45,760,898
Bonds payable	32,338,853	7,777,715	18,203,601	-	58,320,169
Lease liabilities (including those classified under accrued expenses and other current liabilities)	2,475,177	2,782,860	2,484,478	10,947,730	18,690,245
Guarantee deposits (including those classified under accrued expenses and other current liabilities)	1,552,977	121,047	55,501	356	1,729,881
	<u>381,707,215</u>	<u>10,681,622</u>	<u>20,743,580</u>	<u>10,948,086</u>	<u>424,080,503</u>

(Continued)

	Less Than 1 Year	1-3 Years	3-5 Years	More Than 5 Years	Total
<u>Derivative financial instruments</u>					
Forward exchange contracts					
Outflows	\$ 141,450,762	\$ -	\$ -	\$ -	\$ 141,450,762
Inflows	<u>(141,128,914)</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>(141,128,914)</u>
	<u>321,848</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>321,848</u>
	<u>\$ 382,029,063</u>	<u>\$ 10,681,622</u>	<u>\$ 20,743,580</u>	<u>\$ 10,948,086</u>	<u>\$ 424,402,351</u>

June 30, 2019

Non-derivative financial liabilities

Short-term loans	\$ 78,320,203	\$ -	\$ -	\$ -	\$ 78,320,203
Accounts payable (including related parties)	32,570,136	-	-	-	32,570,136
Payables to contractors and equipment suppliers	71,028,923	-	-	-	71,028,923
Accrued expenses and other current liabilities	49,586,309	-	-	-	49,586,309
Bonds payable	48,911,241	13,623,019	22,784,016	-	85,318,276
Lease liabilities (including those classified under accrued expenses and other current liabilities)	2,689,917	3,061,122	2,466,732	11,282,057	19,499,828
Guarantee deposits (including those classified under accrued expenses and other current liabilities)	<u>6,052,568</u>	<u>123,392</u>	<u>87,578</u>	<u>-</u>	<u>6,263,538</u>
	<u>289,159,297</u>	<u>16,807,533</u>	<u>25,338,326</u>	<u>11,282,057</u>	<u>342,587,213</u>

Derivative financial instruments

Forward exchange contracts					
Outflows	46,862,226	-	-	-	46,862,226
Inflows	<u>(46,995,933)</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>(46,995,933)</u>
	<u>(133,707)</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>(133,707)</u>
	<u>\$ 289,025,590</u>	<u>\$ 16,807,533</u>	<u>\$ 25,338,326</u>	<u>\$ 11,282,057</u>	<u>\$ 342,453,506</u>

(Concluded)

Information about the maturity analysis for lease liabilities more than 5 years:

	5-10 Years	10-15 Years	15-20 Years	More Than 20 Years
<u>June 30, 2020</u>				
Lease liabilities	<u>\$ 6,919,805</u>	<u>\$ 4,969,639</u>	<u>\$ 2,135,897</u>	<u>\$ 3,844</u>
	5-10 Years	10-15 Years	15-20 Years	More Than 20 Years
<u>December 31, 2019</u>				
Lease liabilities	<u>\$ 5,581,116</u>	<u>\$ 3,691,272</u>	<u>\$ 1,600,962</u>	<u>\$ 74,380</u>
	5-10 Years	10-15 Years	15-20 Years	More Than 20 Years
<u>June 30, 2019</u>				
Lease liabilities	<u>\$ 5,623,174</u>	<u>\$ 3,770,399</u>	<u>\$ 1,736,135</u>	<u>\$ 152,349</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).

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:

	June 30, 2020			
	Level 1	Level 2	Level 3	Total
<u>Financial assets at FVTPL</u>				
Mandatorily measured at FVTPL				
Forward exchange contracts	\$ -	\$ 754,789	\$ -	\$ 754,789
Agency mortgage-backed securities	-	33,737	-	33,737
	<u>\$ -</u>	<u>\$ 788,526</u>	<u>\$ -</u>	<u>\$ 788,526</u>
<u>Financial assets at FVTOCI</u>				
Investments in debt instruments				
Corporate bonds	\$ -	\$ 59,747,143	\$ -	\$ 59,747,143
Agency bonds/Agency mortgage-backed securities	-	48,777,759	-	48,777,759
Asset-backed securities	-	10,824,156	-	10,824,156
Government bonds	9,909,343	145,187	-	10,054,530
Investments in equity instruments				
Non-publicly traded equity investments	-	65,364	4,235,155	4,300,519
Notes and accounts receivable, net	-	3,895,486	-	3,895,486
	<u>\$ 9,909,343</u>	<u>\$ 123,455,095</u>	<u>\$ 4,235,155</u>	<u>\$ 137,599,593</u>
<u>Financial liabilities at FVTPL</u>				
Held for trading				
Forward exchange contracts	\$ -	\$ 1,543,265	\$ -	\$ 1,543,265
<u>Hedging financial liabilities</u>				
Fair value hedges				
Interest rate futures contracts	\$ 14,839	-	-	\$ 14,839

	December 31, 2019			
	Level 1	Level 2	Level 3	Total
<u>Financial assets at FVTPL</u>				
Mandatorily measured at FVTPL				
Forward exchange contracts	\$ -	\$ 162,155	\$ -	\$ 162,155
Convertible bonds	-	-	123,759	123,759
Agency mortgage-backed securities	-	40,925	-	40,925
	<u>-\$</u>	<u>\$ 203,080</u>	<u>\$ 123,759</u>	<u>\$ 326,839</u>
<u>Financial assets at FVTOCI</u>				
Investments in debt instruments				
Agency bonds/Agency mortgage-backed securities	\$ -	\$ 51,966,460	\$ -	\$ 51,966,460
Corporate bonds	-	51,790,045	-	51,790,045
Government bonds	12,678,086	146,137	-	12,824,223
Asset-backed securities	-	10,815,849	-	10,815,849
Investments in equity instruments				
Non-publicly traded equity investments	-	39,196	4,085,141	4,124,337
Notes and accounts receivable, net	-	3,255,865	-	3,255,865
	<u>\$ 12,678,086</u>	<u>\$ 118,013,552</u>	<u>\$ 4,085,141</u>	<u>\$ 134,776,779</u>
<u>Hedging financial assets</u>				
Fair value hedges				
Interest rate futures contracts	\$ 22,380	\$ -	\$ -	\$ 22,380
Cash flow hedges				
Forward exchange contracts	-	3,504	-	3,504
	<u>\$ 22,380</u>	<u>\$ 3,504</u>	<u>\$ -</u>	<u>\$ 25,884</u>
<u>Financial liabilities at FVTPL</u>				
Held for trading				
Forward exchange contracts	\$ -	\$ 982,349	\$ -	\$ 982,349
<u>Hedging financial liabilities</u>				
Cash flow hedges				
Forward exchange contracts	\$ -	\$ 1,798	\$ -	\$ 1,798

	June 30, 2019			
	Level 1	Level 2	Level 3	Total
<u>Financial assets at FVTPL</u>				
Mandatorily measured at FVTPL				
Agency mortgage-backed securities	\$ -	\$ 1,144,137	\$ -	\$ 1,144,137
Forward exchange contracts	-	178,619	-	178,619
	<u>\$ -</u>	<u>\$ 1,322,756</u>	<u>\$ -</u>	<u>\$ 1,322,756</u>

(Continued)

	June 30, 2019			
	Level 1	Level 2	Level 3	Total
<u>Financial assets at FVTOCI</u>				
Investments in debt instruments				
Corporate bonds	\$ -	\$ 48,978,969	\$ -	\$ 48,978,969
Agency bonds/Agency mortgage-backed securities	-	43,422,635	-	43,422,635
Government bonds	10,769,515	150,742	-	10,920,257
Asset-backed securities	-	10,009,050	-	10,009,050
Investments in equity instruments				
Non-publicly traded equity investments	-	-	4,040,800	4,040,800
Publicly traded stocks	263,321	-	-	263,321
Notes and accounts receivable, net	-	3,521,463	-	3,521,463
	<u>\$ 11,032,836</u>	<u>\$ 106,082,859</u>	<u>\$ 4,040,800</u>	<u>\$ 121,156,495</u>
<u>Hedging financial assets</u>				
Cash flow hedges				
Forward exchange contracts	\$ -	\$ 576	\$ -	\$ 576
<u>Financial liabilities at FVTPL</u>				
Held for trading				
Forward exchange contracts	\$ -	\$ 30,767	\$ -	\$ 30,767
<u>Hedging financial liabilities</u>				
Fair value hedges				
Interest rate futures contracts	\$ 32,873	\$ -	\$ -	\$ 32,873
Cash flow hedges				
Forward exchange contracts	-	1,669	-	1,669
	<u>\$ 32,873</u>	<u>\$ 1,669</u>	<u>\$ -</u>	<u>\$ 34,542</u>

(Concluded)

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 six months ended June 30, 2020 and 2019 were as follows:

	Six Months Ended June 30	
	2020	2019
Balance, beginning of period	\$ 4,208,900	\$ 3,910,681
Additions	141,974	143,382
Recognized in profit or loss	(3,821)	-
Recognized in other comprehensive income	(48,976)	32,806
Disposals and proceeds from return of capital of investments	-	(75,425)
Effect of exchange rate changes	<u>(62,922)</u>	<u>29,356</u>
Balance, end of period	<u>\$ 4,235,155</u>	<u>\$ 4,040,800</u>

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 and non-publicly traded equity investments - equity investments trading on the Emerging Stock Board are determined by quoted market prices provided by third party pricing services.
- Forward exchange contracts are measured using forward exchange rates and discount rates derived from quoted market prices.
- The fair value of accounts receivable classified as at FVTOCI is 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 (excluding those trading on the Emerging Stock Board) are mainly determined by using the asset approach and market approach.

The asset approach takes into account the net asset value measured at the fair value by independent parties. On June 30, 2020, December 31, 2019 and June 30, 2019, 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\$35,044 thousand, NT\$34,843 thousand and NT\$33,528 thousand if discounts for lack of marketability increase by 1%.

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:

	June 30, 2020	
	Carrying Amount	Level 2 Fair Value
<u>Financial assets</u>		
Financial assets at amortized costs		
Corporate bonds	<u>\$ 8,850,706</u>	<u>\$ 8,919,878</u>

(Continued)

	<u>June 30, 2020</u>	
	Carrying Amount	Level 2 Fair Value
<u>Financial liabilities</u>		
Financial liabilities at amortized costs		
Bonds payable	\$ 95,239,681	\$ 96,053,314
Short-term bills payable	<u>6,493,398</u>	<u>6,491,858</u>
	<u>\$ 101,733,079</u>	<u>\$ 102,545,172</u> (Concluded)

	<u>December 31, 2019</u>	
	Carrying Amount	Level 2 Fair Value
<u>Financial assets</u>		
Financial assets at amortized costs		
Corporate bonds	<u>\$ 7,648,798</u>	<u>\$ 7,718,731</u>

<u>Financial liabilities</u>		
Financial liabilities at amortized costs		
Bonds payable	<u>\$ 56,900,000</u>	<u>\$ 57,739,115</u>

	<u>June 30, 2019</u>	
	Carrying Amount	Level 2 Fair Value
<u>Financial assets</u>		
Financial assets at amortized costs		
Corporate bonds	<u>\$ 7,921,781</u>	<u>\$ 8,025,818</u>

<u>Financial liabilities</u>		
Financial liabilities at amortized costs		
Bonds payable	<u>\$ 83,400,000</u>	<u>\$ 84,512,133</u>

Valuation techniques and assumptions used in Level 2 fair value measurement

The fair values of corporate bonds and the Company's bonds payable are determined by quoted market prices provided by third party pricing services.

The fair value of the Company's short-term bills payable is determined by the present value of future cash flows based on the discount rates that are derived from the quoted market prices.

31. 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 June 30</u>		<u>Six Months Ended June 30</u>	
		2020	2019	2020	2019
Net revenue from sale of goods	Associates	\$ 1,864,528	\$ 1,102,709	\$ 3,681,927	\$ 2,572,307
Net revenue from royalties	Associates	\$ 51,822	\$ 36,787	\$ 103,369	\$ 80,706

c. Purchases

<u>Related Party Categories</u>	<u>Three Months Ended June 30</u>		<u>Six Months Ended June 30</u>	
	2020	2019	2020	2019
Associates	\$ 2,018,917	\$ 1,232,156	\$ 3,733,250	\$ 2,782,558

d. Receivables from related parties

<u>Item</u>	<u>Related Party Name/Categories</u>	<u>June 30,</u>	<u>December 31,</u>	<u>June 30,</u>
		<u>2020</u>	<u>2019</u>	<u>2019</u>
Receivables from related parties	GUC	\$ 792,557	\$ 741,898	\$ 327,375
	Xintec	99,134	120,172	77,531
		<u>\$ 891,691</u>	<u>\$ 862,070</u>	<u>\$ 404,906</u>
Other receivables from related parties	VIS	\$ 1,505,369	\$ 3,920	\$ 1,498,109
	SSMC	1,075,495	46,506	43,255
	Other associates	206	1,227	390
		<u>\$ 2,581,070</u>	<u>\$ 51,653</u>	<u>\$ 1,541,754</u>

e. Payables to related parties

		June 30, 2020	December 31, 2019	June 30, 2019
<u>Item</u>	<u>Related Party Name/Categories</u>			
Payables to related parties	Xintec	\$ 534,092	\$ 736,860	\$ 340,936
	SSMC	514,797	487,944	282,611
	VIS	307,524	153,977	123,504
	Other associates	<u>76,592</u>	<u>56,119</u>	<u>20,400</u>
		<u>\$ 1,433,005</u>	<u>\$ 1,434,900</u>	<u>\$ 767,451</u>

f. Others

<u>Item</u>	<u>Related Party Categories</u>	<u>Three Months Ended June 30</u>		<u>Six Months Ended June 30</u>	
		<u>2020</u>	<u>2019</u>	<u>2020</u>	<u>2019</u>
Manufacturing expenses	Associates	<u>\$ 864,671</u>	<u>\$ 400,823</u>	<u>\$ 1,821,957</u>	<u>\$ 597,509</u>
Research and development expenses	Associates	<u>\$ 65,667</u>	<u>\$ 25,167</u>	<u>\$ 87,269</u>	<u>\$ 45,996</u>
General and administrative expenses	Other related parties	<u>\$ 30,000</u>	<u>\$ 30,000</u>	<u>\$ 60,000</u>	<u>\$ 60,000</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 were as follows:

	<u>Three Months Ended June 30</u>		<u>Six Months Ended June 30</u>	
	<u>2020</u>	<u>2019</u>	<u>2020</u>	<u>2019</u>
Short-term employee benefits	\$ 649,062	\$ 400,691	\$ 1,207,363	\$ 734,889
Post-employment benefits	<u>655</u>	<u>754</u>	<u>1,307</u>	<u>1,515</u>
	<u>\$ 649,717</u>	<u>\$ 401,445</u>	<u>\$ 1,208,670</u>	<u>\$ 736,404</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.

32. PLEDGED ASSETS

The Company provided certificate of deposits recorded in other financial assets as collateral mainly for building lease agreements. As of June 30, 2020, December 31, 2019 and June 30, 2019, the aforementioned other financial assets amounted to NT\$116,961 thousand, NT\$114,467 thousand and NT\$118,568 thousand, respectively.

33. 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 June 30, 2020, 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 June 30, 2020.
- c. On September 28, 2017, TSMC was contacted by the European Commission (the "Commission"), which asked us for information and documents concerning alleged anti-competitive practices in relation to semiconductor sales. We cooperated continuously with the Commission to provide the requested information and documents. The Commission subsequently decided to close the investigation in May 2020.
- d. TSMC entered into long-term purchase agreements of material with multiple suppliers. The relative minimum purchase quantity and price are specified in the agreements.
- e. TSMC entered into a long-term purchase agreement of equipment. The relative purchase quantity and price are specified in the agreement.
- f. TSMC entered into long-term energy purchase agreements with multiple suppliers. The relative purchase period, quantity and price are specified in the agreements.
- g. Amounts available under unused letters of credit as of June 30, 2020, December 31, 2019 and June 30, 2019 were NT\$58,858 thousand, NT\$59,976 thousand and NT\$62,112 thousand, respectively.

34. 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:

	Foreign Currencies (In Thousands)	Exchange Rate (Note 1)	Carrying Amount (In Thousands)
<u>June 30, 2020</u>			
<u>Financial assets</u>			
Monetary items			
USD	\$ 5,174,665	29.429	\$ 152,285,206
USD	496,369	7.074(Note 2)	14,607,645
EUR	25,644	33.108	849,010
JPY	80,184,719	0.2731	21,898,447
<u>Financial liabilities</u>			
Monetary items			
USD	7,010,449	29.429	206,310,512
EUR	4,092,463	33.108	135,493,271
JPY	90,678,234	0.2731	24,764,226
<u>December 31, 2019</u>			
<u>Financial assets</u>			
Monetary items			
USD	4,725,056	29.988	141,694,967
USD	455,984	6.966 (Note 2)	13,674,047
EUR	3,638	33.653	122,418
JPY	72,369,239	0.2751	19,908,778
<u>Financial liabilities</u>			
Monetary items			
USD	6,018,287	29.988	180,476,401
EUR	2,551,824	33.653	85,876,547
JPY	101,455,514	0.2751	27,910,412

(Continued)

	Foreign Currencies (In Thousands)	Exchange Rate (Note 1)	Carrying Amount (In Thousands)
<u>June 30, 2019</u>			
<u>Financial assets</u>			
Monetary items			
USD	\$ 4,287,768	31.056	\$ 133,160,925
USD	364,032	6.868 (Note 2)	11,305,378
EUR	175,203	35.382	6,199,023
JPY	22,523,883	0.2888	6,504,898
<u>Financial liabilities</u>			
Monetary items			
USD	4,206,952	31.056	130,651,116
EUR	735,517	35.382	26,024,073
JPY	41,319,019	0.2888	11,932,933 (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 six months ended June 30, 2020 and 2019, 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.

35. 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.

36. ADDITIONAL DISCLOSURES

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

- a. Financings provided: See Table 1 attached;
- b. Endorsement/guarantee provided: See Table 2 attached;
- c. Marketable securities held (excluding investments in subsidiaries and associates): 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: 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: 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: See Table 6 attached;
- h. Receivables from related parties amounting to at least NT\$100 million or 20% of the paid-in capital: See Table 7 attached;
- i. Information about the derivative financial instruments transaction: See Notes 7 and 10;
- j. Others: The business relationship between the parent and the subsidiaries and significant transactions between them: 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): See Table 9 attached;
- l. 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: 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: See Table 8 attached.
- m. Information of major shareholder

List of all shareholders with ownership of 5 percent or greater showing the names and the number of shares and percentage of ownership held by each shareholder: See Table 11 attached.

37. OPERATING SEGMENTS INFORMATION

TSMC's chief operating decision makers periodically review operating results, focusing on operating income generated by foundry segment. Operating results are used for resource allocation and/or performance assessment. As a result, 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 basis for the measurement of income from operations 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 SIX MONTHS ENDED JUNE 30, 2020
(Amounts in Thousands of New Taiwan Dollars, Unless Specified Otherwise)

No.	Financing Company	Counterparty	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	\$ 37,791,644 (RMB 6,000,000)& (US\$ 436,000)	\$ 36,959,624 (RMB 5,800,000)& (US\$ 436,000)	\$ 22,499,374 (RMB 4,800,000)& (US\$ 86,000)	1.50-1.96%	The need for long-term financing	\$ -	Operating capital	\$ -	-	\$ -	\$ 58,728,383	\$ 58,728,383
2	TSMC Global	TSMC	Other receivables from related parties	Yes	91,229,900 (US\$ 3,100,000)	91,229,900 (US\$ 3,100,000)	91,229,900 (US\$ 3,100,000)	0.00%	The need for short-term financing	-	Operating capital	-	-	-	397,677,377	397,677,377

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 SIX MONTHS ENDED JUNE 30, 2020

(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 (Foreign Currencies in Thousands) (Note 3)	Ending Balance (Foreign Currencies 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 1 and 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	\$ 430,094,495	\$ 2,448,884 (US\$ 83,213)	\$ 2,448,884 (US\$ 83,213)	\$ 2,448,884 (US\$ 83,213)	\$ -	0.14%	\$ 430,094,495	Yes	No	No
1	TSMC Japan	TSMC JDC	The same parent company	172,037,798	360,492 (JPY 1,320,000)	360,492 (JPY 1,320,000)	360,492 (JPY 1,320,000)	-	0.02%	172,037,798	No	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. The total amount of guarantee shall not exceed twenty-five percent (25%) of TSMC's net worth.

Note 2: The total amount of the guarantee provided by TSMC Japan to any individual entity shall not exceed ten percent (10%) of TSMC's net worth. The total amount of guarantee shall not exceed ten percent (10%) 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

JUNE 30, 2020

(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	June 30, 2020				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	\$ 483,034	10	\$ 483,034	
	Shin-Etsu Handotai Taiwan Co., Ltd.	-	"	10,500	323,652	7	323,652	
	Global Investment Holding Inc.	-	"	11,124	84,570	6	84,570	
	W.K. Technology Fund IV	-	"	806	5,671	2	5,671	
	Crimson Asia Capital	-	"	-	892	1	892	
	Horizon Ventures Fund	-	"	-	496	12	496	
TSMC Partners	<u>Non-publicly traded equity investments</u>							
	China Walden Venture Investments II, L.P.	-	Financial assets at fair value through other comprehensive income	-	US\$ 10,891	9	US\$ 10,891	
	Shanghai Walden Venture Capital Enterprise	-	"	-	US\$ 9,617	6	US\$ 9,617	
	China Walden Venture Investments III, L.P.	-	"	-	US\$ 4,138	4	US\$ 4,138	
	Inpria Corporation	-	"	1,778	US\$ 3,600	4	US\$ 3,600	
	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\$ 55,175	N/A	US\$ 55,175	
	Morgan Stanley	-	"	-	US\$ 46,752	N/A	US\$ 46,752	
	Citigroup Inc	-	"	-	US\$ 45,569	N/A	US\$ 45,569	
	JPMorgan Chase & Co	-	"	-	US\$ 40,703	N/A	US\$ 40,703	
	Wells Fargo & Co	-	"	-	US\$ 36,422	N/A	US\$ 36,422	
	Goldman Sachs Group Inc/The	-	"	-	US\$ 35,753	N/A	US\$ 35,753	
	AT&T Inc	-	"	-	US\$ 33,525	N/A	US\$ 33,525	
	AbbVie Inc	-	"	-	US\$ 33,120	N/A	US\$ 33,120	
	Bristol-Myers Squibb Co	-	"	-	US\$ 24,009	N/A	US\$ 24,009	
	Sumitomo Mitsui Financial Group Inc	-	"	-	US\$ 23,402	N/A	US\$ 23,402	
	Metropolitan Life Global Funding I	-	"	-	US\$ 21,572	N/A	US\$ 21,572	
	Mitsubishi UFJ Financial Group Inc	-	"	-	US\$ 21,352	N/A	US\$ 21,352	
	Royal Bank of Canada	-	"	-	US\$ 21,147	N/A	US\$ 21,147	
	Toyota Motor Credit Corp	-	"	-	US\$ 20,347	N/A	US\$ 20,347	
	Apple Inc	-	"	-	US\$ 18,975	N/A	US\$ 18,975	
	Lloyds Banking Group PLC	-	"	-	US\$ 18,741	N/A	US\$ 18,741	
CVS Health Corp	-	"	-	US\$ 18,688	N/A	US\$ 18,688		
Credit Suisse AG/New York NY	-	"	-	US\$ 18,623	N/A	US\$ 18,623		
HSBC Holdings PLC	-	"	-	US\$ 18,194	N/A	US\$ 18,194		
Santander UK PLC	-	"	-	US\$ 16,251	N/A	US\$ 16,251		

(Continued)

Held Company Name	Marketable Securities Type and Name	Relationship with the Company	Financial Statement Account	June 30, 2020				Note
				Shares/Units (In Thousands)	Carrying Value (Foreign Currencies in Thousands)	Percentage of Ownership (%)	Fair Value (Foreign Currencies in Thousands)	
TSMC Global	NatWest Markets PLC	-	Financial assets at fair value through other comprehensive income	-	US\$ 15,834	N/A	US\$ 15,834	
	Macquarie Bank Ltd	-	"	-	US\$ 15,795	N/A	US\$ 15,795	
	Comcast Corp	-	"	-	US\$ 15,687	N/A	US\$ 15,687	
	BP Capital Markets America Inc	-	"	-	US\$ 15,665	N/A	US\$ 15,665	
	BNP Paribas SA	-	"	-	US\$ 15,658	N/A	US\$ 15,658	
	Toronto-Dominion Bank/The	-	"	-	US\$ 15,125	N/A	US\$ 15,125	
	Hewlett Packard Enterprise Co	-	"	-	US\$ 13,876	N/A	US\$ 13,876	
	Bank of Nova Scotia/The	-	"	-	US\$ 13,095	N/A	US\$ 13,095	
	Equifax Inc	-	"	-	US\$ 13,058	N/A	US\$ 13,058	
	Nordea Bank Abp	-	"	-	US\$ 12,868	N/A	US\$ 12,868	
	Principal Life Global Funding II	-	"	-	US\$ 12,630	N/A	US\$ 12,630	
	Chevron Corp	-	"	-	US\$ 12,630	N/A	US\$ 12,630	
	Fiserv Inc	-	"	-	US\$ 12,219	N/A	US\$ 12,219	
	BPCE SA	-	"	-	US\$ 12,163	N/A	US\$ 12,163	
	UBS Group Funding Switzerland AG	-	"	-	US\$ 12,028	N/A	US\$ 12,028	
	American International Group Inc	-	"	-	US\$ 11,847	N/A	US\$ 11,847	
	Athene Global Funding	-	"	-	US\$ 11,686	N/A	US\$ 11,686	
	Shire Acquisitions Investments Ireland DAC	-	"	-	US\$ 11,619	N/A	US\$ 11,619	
	US Bancorp	-	"	-	US\$ 11,597	N/A	US\$ 11,597	
	Canadian Imperial Bank of Commerce	-	"	-	US\$ 11,594	N/A	US\$ 11,594	
	Banco Santander SA	-	"	-	US\$ 11,290	N/A	US\$ 11,290	
	Equinor ASA	-	"	-	US\$ 11,239	N/A	US\$ 11,239	
	National Securities Clearing Corp	-	"	-	US\$ 11,055	N/A	US\$ 11,055	
	DTE Energy Co	-	"	-	US\$ 10,981	N/A	US\$ 10,981	
	Mizuho Financial Group Inc	-	"	-	US\$ 10,816	N/A	US\$ 10,816	
	TJX Cos Inc/The	-	"	-	US\$ 10,509	N/A	US\$ 10,509	
	Jackson National Life Global Funding	-	"	-	US\$ 10,416	N/A	US\$ 10,416	
	New York Life Global Funding	-	"	-	US\$ 10,410	N/A	US\$ 10,410	
	Nationwide Building Society	-	"	-	US\$ 10,261	N/A	US\$ 10,261	
	Banque Federative du Credit Mutuel SA	-	"	-	US\$ 10,259	N/A	US\$ 10,259	
	BMW US Capital LLC	-	"	-	US\$ 10,146	N/A	US\$ 10,146	
	General Dynamics Corp	-	"	-	US\$ 10,037	N/A	US\$ 10,037	
	Amazon.com Inc	-	"	-	US\$ 9,978	N/A	US\$ 9,978	
	NextEra Energy Capital Holdings Inc	-	"	-	US\$ 9,789	N/A	US\$ 9,789	
	Verizon Communications Inc	-	"	-	US\$ 9,776	N/A	US\$ 9,776	
	Skandinaviska Enskilda Banken AB	-	"	-	US\$ 9,506	N/A	US\$ 9,506	
	DuPont de Nemours Inc	-	"	-	US\$ 9,476	N/A	US\$ 9,476	
	Svenska Handelsbanken AB	-	"	-	US\$ 9,472	N/A	US\$ 9,472	
	Cox Communications Inc	-	"	-	US\$ 9,459	N/A	US\$ 9,459	
	Altria Group Inc	-	"	-	US\$ 9,379	N/A	US\$ 9,379	
	Societe Generale SA	-	"	-	US\$ 9,377	N/A	US\$ 9,377	
	NIKE Inc	-	"	-	US\$ 9,227	N/A	US\$ 9,227	
	Credit Agricole SA/London	-	"	-	US\$ 9,169	N/A	US\$ 9,169	
	Bank of Montreal	-	"	-	US\$ 8,971	N/A	US\$ 8,971	
	Truist Bank	-	"	-	US\$ 8,698	N/A	US\$ 8,698	
	BAT Capital Corp	-	"	-	US\$ 8,422	N/A	US\$ 8,422	
	Inter-American Development Bank	-	"	-	US\$ 8,241	N/A	US\$ 8,241	
	Intuit Inc	-	"	-	US\$ 8,167	N/A	US\$ 8,167	
	ING Groep NV	-	"	-	US\$ 7,978	N/A	US\$ 7,978	
	Suncorp-Metway Ltd	-	"	-	US\$ 7,896	N/A	US\$ 7,896	

(Continued)

Held Company Name	Marketable Securities Type and Name	Relationship with the Company	Financial Statement Account	June 30, 2020				Note
				Shares/Units (In Thousands)	Carrying Value (Foreign Currencies in Thousands)	Percentage of Ownership (%)	Fair Value (Foreign Currencies in Thousands)	
TSMC Global	Oracle Corp	-	Financial assets at fair value through other comprehensive income	-	US\$ 7,831	N/A	US\$ 7,831	
	Tencent Holdings Ltd	-	"	-	US\$ 7,786	N/A	US\$ 7,786	
	Exxon Mobil Corp	-	"	-	US\$ 7,572	N/A	US\$ 7,572	
	Pfizer Inc	-	"	-	US\$ 7,475	N/A	US\$ 7,475	
	Prudential Funding LLC	-	"	-	US\$ 7,464	N/A	US\$ 7,464	
	Huntington Bancshares Inc/OH	-	"	-	US\$ 7,437	N/A	US\$ 7,437	
	Thermo Fisher Scientific Inc	-	"	-	US\$ 7,368	N/A	US\$ 7,368	
	BG Energy Capital PLC	-	"	-	US\$ 7,334	N/A	US\$ 7,334	
	ANZ New Zealand Int'l Ltd/London	-	"	-	US\$ 7,325	N/A	US\$ 7,325	
	Credit Suisse Group AG	-	"	-	US\$ 7,237	N/A	US\$ 7,237	
	Analog Devices Inc	-	"	-	US\$ 7,233	N/A	US\$ 7,233	
	Scentre Group Trust 1 / Scentre Group Trust 2	-	"	-	US\$ 6,804	N/A	US\$ 6,804	
	Volkswagen Group of America Finance LLC	-	"	-	US\$ 6,766	N/A	US\$ 6,766	
	Fox Corp	-	"	-	US\$ 6,760	N/A	US\$ 6,760	
	Daimler Finance North America LLC	-	"	-	US\$ 6,728	N/A	US\$ 6,728	
	PNC Bank NA	-	"	-	US\$ 6,683	N/A	US\$ 6,683	
	John Deere Capital Corp	-	"	-	US\$ 6,579	N/A	US\$ 6,579	
	Moody's Corp	-	"	-	US\$ 6,564	N/A	US\$ 6,564	
	Protective Life Global Funding	-	"	-	US\$ 6,529	N/A	US\$ 6,529	
	Capital One Financial Corp	-	"	-	US\$ 6,475	N/A	US\$ 6,475	
	NetApp Inc	-	"	-	US\$ 6,443	N/A	US\$ 6,443	
	DNB Bank ASA	-	"	-	US\$ 6,420	N/A	US\$ 6,420	
	American Express Co	-	"	-	US\$ 6,410	N/A	US\$ 6,410	
	AIG Global Funding	-	"	-	US\$ 6,284	N/A	US\$ 6,284	
	Panasonic Corp	-	"	-	US\$ 6,282	N/A	US\$ 6,282	
	Bank of New York Mellon Corp/The	-	"	-	US\$ 6,251	N/A	US\$ 6,251	
	Macquarie Group Ltd	-	"	-	US\$ 6,217	N/A	US\$ 6,217	
	BB&T Corp	-	"	-	US\$ 6,200	N/A	US\$ 6,200	
	UnitedHealth Group Inc	-	"	-	US\$ 6,192	N/A	US\$ 6,192	
	Reckitt Benckiser Treasury Services PLC	-	"	-	US\$ 6,161	N/A	US\$ 6,161	
	Cargill Inc	-	"	-	US\$ 6,130	N/A	US\$ 6,130	
	WPP Finance 2010	-	"	-	US\$ 6,061	N/A	US\$ 6,061	
	Target Corp	-	"	-	US\$ 6,044	N/A	US\$ 6,044	
	Dominion Energy Gas Holdings LLC	-	"	-	US\$ 5,999	N/A	US\$ 5,999	
	Roper Technologies Inc	-	"	-	US\$ 5,972	N/A	US\$ 5,972	
	Vodafone Group PLC	-	"	-	US\$ 5,971	N/A	US\$ 5,971	
	Capital One NA	-	"	-	US\$ 5,915	N/A	US\$ 5,915	
	Alabama Power Co	-	"	-	US\$ 5,909	N/A	US\$ 5,909	
	Shell International Finance BV	-	"	-	US\$ 5,787	N/A	US\$ 5,787	
	General Electric Co	-	"	-	US\$ 5,774	N/A	US\$ 5,774	
	Cigna Corp	-	"	-	US\$ 5,610	N/A	US\$ 5,610	
	Intel Corp	-	"	-	US\$ 5,606	N/A	US\$ 5,606	
	Bayer US Finance II LLC	-	"	-	US\$ 5,562	N/A	US\$ 5,562	
	Microsoft Corp	-	"	-	US\$ 5,519	N/A	US\$ 5,519	
	Danske Bank A/S	-	"	-	US\$ 5,495	N/A	US\$ 5,495	
	Barclays Bank PLC	-	"	-	US\$ 5,494	N/A	US\$ 5,494	
	Fifth Third Bancorp	-	"	-	US\$ 5,391	N/A	US\$ 5,391	
	Cooperatieve Rabobank UA	-	"	-	US\$ 5,360	N/A	US\$ 5,360	
	Wells Fargo Bank NA	-	"	-	US\$ 5,331	N/A	US\$ 5,331	
	Sompo International Holdings Ltd	-	"	-	US\$ 5,295	N/A	US\$ 5,295	

(Continued)

Held Company Name	Marketable Securities Type and Name	Relationship with the Company	Financial Statement Account	June 30, 2020				Note
				Shares/Units (In Thousands)	Carrying Value (Foreign Currencies in Thousands)	Percentage of Ownership (%)	Fair Value (Foreign Currencies in Thousands)	
TSMC Global	Deere & Co	-	Financial assets at fair value through other comprehensive income	-	US\$ 5,294	N/A	US\$ 5,294	
	SMBC Aviation Capital Finance DAC	-	"	-	US\$ 5,274	N/A	US\$ 5,274	
	Merck & Co Inc	-	"	-	US\$ 5,230	N/A	US\$ 5,230	
	CNA Financial Corp	-	"	-	US\$ 5,221	N/A	US\$ 5,221	
	National Bank of Canada	-	"	-	US\$ 5,190	N/A	US\$ 5,190	
	Pricoa Global Funding I	-	"	-	US\$ 5,177	N/A	US\$ 5,177	
	Barclays PLC	-	"	-	US\$ 5,172	N/A	US\$ 5,172	
	Tyson Foods Inc	-	"	-	US\$ 5,068	N/A	US\$ 5,068	
	Five Corners Funding Trust	-	"	-	US\$ 5,019	N/A	US\$ 5,019	
	Walt Disney Co/The	-	"	-	US\$ 5,015	N/A	US\$ 5,015	
	Enel Finance International NV	-	"	-	US\$ 4,995	N/A	US\$ 4,995	
	International Business Machines Corp	-	"	-	US\$ 4,880	N/A	US\$ 4,880	
	MassMutual Global Funding II	-	"	-	US\$ 4,863	N/A	US\$ 4,863	
	Keurig Dr Pepper Inc	-	"	-	US\$ 4,814	N/A	US\$ 4,814	
	Berkshire Hathaway Energy Co	-	"	-	US\$ 4,784	N/A	US\$ 4,784	
	American Express Credit Corp	-	"	-	US\$ 4,758	N/A	US\$ 4,758	
	Citizens Bank NA/Providence RI	-	"	-	US\$ 4,703	N/A	US\$ 4,703	
	Eversource Energy	-	"	-	US\$ 4,653	N/A	US\$ 4,653	
	Florida Power & Light Co	-	"	-	US\$ 4,604	N/A	US\$ 4,604	
	Sempra Energy	-	"	-	US\$ 4,569	N/A	US\$ 4,569	
	Pacific Life Global Funding II	-	"	-	US\$ 4,525	N/A	US\$ 4,525	
	Welltower Inc	-	"	-	US\$ 4,517	N/A	US\$ 4,517	
	ERAC USA Finance LLC	-	"	-	US\$ 4,451	N/A	US\$ 4,451	
	Ameriprise Financial Inc	-	"	-	US\$ 4,412	N/A	US\$ 4,412	
	Compass Bank	-	"	-	US\$ 4,387	N/A	US\$ 4,387	
	Ameren Corp	-	"	-	US\$ 4,278	N/A	US\$ 4,278	
	Exelon Corp	-	"	-	US\$ 4,264	N/A	US\$ 4,264	
	Reliance Standard Life Global Funding II	-	"	-	US\$ 4,239	N/A	US\$ 4,239	
	National Australia Bank Ltd/New York	-	"	-	US\$ 4,238	N/A	US\$ 4,238	
	European Bank for Reconstruction & Development	-	"	-	US\$ 4,198	N/A	US\$ 4,198	
	Exelon Generation Co LLC	-	"	-	US\$ 4,157	N/A	US\$ 4,157	
	Intercontinental Exchange Inc	-	"	-	US\$ 4,153	N/A	US\$ 4,153	
	Procter & Gamble Co/The	-	"	-	US\$ 4,151	N/A	US\$ 4,151	
	Husky Energy Inc	-	"	-	US\$ 4,079	N/A	US\$ 4,079	
	Standard Chartered PLC	-	"	-	US\$ 4,063	N/A	US\$ 4,063	
	Alimentation Couche-Tard Inc	-	"	-	US\$ 4,053	N/A	US\$ 4,053	
	Aetna Inc	-	"	-	US\$ 4,021	N/A	US\$ 4,021	
	Hyundai Capital America	-	"	-	US\$ 3,997	N/A	US\$ 3,997	
	Caterpillar Financial Services Corp	-	"	-	US\$ 3,945	N/A	US\$ 3,945	
	BOC Aviation Ltd	-	"	-	US\$ 3,906	N/A	US\$ 3,906	
	MPLX LP	-	"	-	US\$ 3,898	N/A	US\$ 3,898	
	KeyBank NA/Cleveland OH	-	"	-	US\$ 3,879	N/A	US\$ 3,879	
	Monongahela Power Co	-	"	-	US\$ 3,842	N/A	US\$ 3,842	
	Guardian Life Global Funding	-	"	-	US\$ 3,703	N/A	US\$ 3,703	
	Verisk Analytics Inc	-	"	-	US\$ 3,698	N/A	US\$ 3,698	
	Philip Morris International Inc	-	"	-	US\$ 3,673	N/A	US\$ 3,673	
	Diageo Capital PLC	-	"	-	US\$ 3,646	N/A	US\$ 3,646	
	Ralph Lauren Corp	-	"	-	US\$ 3,617	N/A	US\$ 3,617	
	UBS AG/London	-	"	-	US\$ 3,592	N/A	US\$ 3,592	
	Dominion Energy Inc	-	"	-	US\$ 3,557	N/A	US\$ 3,557	

(Continued)

Held Company Name	Marketable Securities Type and Name	Relationship with the Company	Financial Statement Account	June 30, 2020				Note
				Shares/Units (In Thousands)	Carrying Value (Foreign Currencies in Thousands)	Percentage of Ownership (%)	Fair Value (Foreign Currencies in Thousands)	
TSMC Global	Laboratory Corp of America Holdings	-	Financial assets at fair value through other comprehensive income	-	US\$ 3,538	N/A	US\$ 3,538	
	Westpac Banking Corp	-	"	-	US\$ 3,521	N/A	US\$ 3,521	
	Commonwealth Bank of Australia	-	"	-	US\$ 3,518	N/A	US\$ 3,518	
	Regions Financial Corp	-	"	-	US\$ 3,514	N/A	US\$ 3,514	
	AutoZone Inc	-	"	-	US\$ 3,451	N/A	US\$ 3,451	
	HSBC Bank Canada	-	"	-	US\$ 3,428	N/A	US\$ 3,428	
	Unilever Capital Corp	-	"	-	US\$ 3,425	N/A	US\$ 3,425	
	Credit Suisse Group Funding Guernsey Ltd	-	"	-	US\$ 3,388	N/A	US\$ 3,388	
	ONE Gas Inc	-	"	-	US\$ 3,355	N/A	US\$ 3,355	
	WEC Energy Group Inc	-	"	-	US\$ 3,350	N/A	US\$ 3,350	
	NiSource Inc	-	"	-	US\$ 3,332	N/A	US\$ 3,332	
	Charles Schwab Corp/The	-	"	-	US\$ 3,266	N/A	US\$ 3,266	
	Texas Instruments Inc	-	"	-	US\$ 3,260	N/A	US\$ 3,260	
	Oncor Electric Delivery Co LLC	-	"	-	US\$ 3,244	N/A	US\$ 3,244	
	Avangrid Inc	-	"	-	US\$ 3,235	N/A	US\$ 3,235	
	Royal Bank of Scotland Group PLC	-	"	-	US\$ 3,193	N/A	US\$ 3,193	
	Novartis Capital Corp	-	"	-	US\$ 3,167	N/A	US\$ 3,167	
	Xcel Energy Inc	-	"	-	US\$ 3,160	N/A	US\$ 3,160	
	Baxter International Inc	-	"	-	US\$ 3,146	N/A	US\$ 3,146	
	Raytheon Technologies Corp	-	"	-	US\$ 3,120	N/A	US\$ 3,120	
	People's United Financial Inc	-	"	-	US\$ 3,115	N/A	US\$ 3,115	
	Federation des Caisses Desjardins du Quebec	-	"	-	US\$ 3,089	N/A	US\$ 3,089	
	Zions Bancorp NA	-	"	-	US\$ 3,063	N/A	US\$ 3,063	
	Honeywell International Inc	-	"	-	US\$ 3,053	N/A	US\$ 3,053	
	AvalonBay Communities Inc	-	"	-	US\$ 2,984	N/A	US\$ 2,984	
	Reynolds American Inc	-	"	-	US\$ 2,983	N/A	US\$ 2,983	
	MUFG Union Bank NA	-	"	-	US\$ 2,970	N/A	US\$ 2,970	
	HP Inc	-	"	-	US\$ 2,932	N/A	US\$ 2,932	
	HCP Inc	-	"	-	US\$ 2,901	N/A	US\$ 2,901	
	Air Products and Chemicals Inc	-	"	-	US\$ 2,879	N/A	US\$ 2,879	
	Public Service Enterprise Group Inc	-	"	-	US\$ 2,844	N/A	US\$ 2,844	
	Nuveen Finance LLC	-	"	-	US\$ 2,821	N/A	US\$ 2,821	
	Quest Diagnostics Inc	-	"	-	US\$ 2,793	N/A	US\$ 2,793	
	Duke Energy Corp	-	"	-	US\$ 2,792	N/A	US\$ 2,792	
	Ryder System Inc	-	"	-	US\$ 2,761	N/A	US\$ 2,761	
	Ventas Realty LP	-	"	-	US\$ 2,759	N/A	US\$ 2,759	
	PNC Financial Services Group Inc/The	-	"	-	US\$ 2,692	N/A	US\$ 2,692	
	Roche Holdings Inc	-	"	-	US\$ 2,689	N/A	US\$ 2,689	
	Nutrien Ltd	-	"	-	US\$ 2,677	N/A	US\$ 2,677	
	Pinnacle West Capital Corp	-	"	-	US\$ 2,664	N/A	US\$ 2,664	
	Enterprise Products Operating LLC	-	"	-	US\$ 2,659	N/A	US\$ 2,659	
	Swedbank AB	-	"	-	US\$ 2,640	N/A	US\$ 2,640	
	CenterPoint Energy Inc	-	"	-	US\$ 2,638	N/A	US\$ 2,638	
	McKesson Corp	-	"	-	US\$ 2,617	N/A	US\$ 2,617	
	Magellan Midstream Partners LP	-	"	-	US\$ 2,591	N/A	US\$ 2,591	
	UBS Group AG	-	"	-	US\$ 2,589	N/A	US\$ 2,589	
	McDonald's Corp	-	"	-	US\$ 2,564	N/A	US\$ 2,564	
	Berkshire Hathaway Inc	-	"	-	US\$ 2,514	N/A	US\$ 2,514	
	Northrop Grumman Corp	-	"	-	US\$ 2,505	N/A	US\$ 2,505	
	SunTrust Bank/Atlanta GA	-	"	-	US\$ 2,503	N/A	US\$ 2,503	

(Continued)

Held Company Name	Marketable Securities Type and Name	Relationship with the Company	Financial Statement Account	June 30, 2020				Note
				Shares/Units (In Thousands)	Carrying Value (Foreign Currencies in Thousands)	Percentage of Ownership (%)	Fair Value (Foreign Currencies in Thousands)	
TSMC Global	Rogers Communications Inc	-	Financial assets at fair value through other comprehensive income	-	US\$ 2,492	N/A	US\$ 2,492	
	State Street Corp	-	"	-	US\$ 2,478	N/A	US\$ 2,478	
	Baidu Inc	-	"	-	US\$ 2,408	N/A	US\$ 2,408	
	Union Pacific Corp	-	"	-	US\$ 2,402	N/A	US\$ 2,402	
	Suncor Energy Inc	-	"	-	US\$ 2,368	N/A	US\$ 2,368	
	Stryker Corp	-	"	-	US\$ 2,277	N/A	US\$ 2,277	
	ITC Holdings Corp	-	"	-	US\$ 2,266	N/A	US\$ 2,266	
	American Honda Finance Corp	-	"	-	US\$ 2,261	N/A	US\$ 2,261	
	QUALCOMM Inc	-	"	-	US\$ 2,251	N/A	US\$ 2,251	
	PSEG Power LLC	-	"	-	US\$ 2,238	N/A	US\$ 2,238	
	East Ohio Gas Co/The	-	"	-	US\$ 2,235	N/A	US\$ 2,235	
	Southern California Edison Co	-	"	-	US\$ 2,226	N/A	US\$ 2,226	
	Ingersoll-Rand Luxembourg Finance SA	-	"	-	US\$ 2,204	N/A	US\$ 2,204	
	Bank of New Zealand	-	"	-	US\$ 2,192	N/A	US\$ 2,192	
	ASB Bank Ltd	-	"	-	US\$ 2,187	N/A	US\$ 2,187	
	Amphenol Corp	-	"	-	US\$ 2,157	N/A	US\$ 2,157	
	San Diego Gas & Electric Co	-	"	-	US\$ 2,157	N/A	US\$ 2,157	
	Otis Worldwide Corp	-	"	-	US\$ 2,120	N/A	US\$ 2,120	
	Georgia Power Co	-	"	-	US\$ 2,069	N/A	US\$ 2,069	
	Woolworths Group Ltd	-	"	-	US\$ 2,064	N/A	US\$ 2,064	
	WR Berkley Corp	-	"	-	US\$ 2,017	N/A	US\$ 2,017	
	CK Hutchison International 16 Ltd	-	"	-	US\$ 2,011	N/A	US\$ 2,011	
	Anthem Inc	-	"	-	US\$ 2,008	N/A	US\$ 2,008	
	GE Capital Funding LLC	-	"	-	US\$ 1,978	N/A	US\$ 1,978	
	Burlington Northern Santa Fe LLC	-	"	-	US\$ 1,961	N/A	US\$ 1,961	
	Trans-Allegheny Interstate Line Co	-	"	-	US\$ 1,960	N/A	US\$ 1,960	
	ABN AMRO Bank NV	-	"	-	US\$ 1,925	N/A	US\$ 1,925	
	Evergy Kansas Central Inc	-	"	-	US\$ 1,897	N/A	US\$ 1,897	
	Sydney Airport Finance Co Pty Ltd	-	"	-	US\$ 1,884	N/A	US\$ 1,884	
	Discover Bank	-	"	-	US\$ 1,873	N/A	US\$ 1,873	
	Marathon Petroleum Corp	-	"	-	US\$ 1,848	N/A	US\$ 1,848	
	McCormick & Co Inc/MD	-	"	-	US\$ 1,836	N/A	US\$ 1,836	
	PPL Capital Funding Inc	-	"	-	US\$ 1,832	N/A	US\$ 1,832	
	Georgia-Pacific LLC	-	"	-	US\$ 1,811	N/A	US\$ 1,811	
	Air Lease Corp	-	"	-	US\$ 1,801	N/A	US\$ 1,801	
	General Mills Inc	-	"	-	US\$ 1,754	N/A	US\$ 1,754	
	Public Service Co of Oklahoma	-	"	-	US\$ 1,742	N/A	US\$ 1,742	
	Wisconsin Public Service Corp	-	"	-	US\$ 1,732	N/A	US\$ 1,732	
	MetLife Inc	-	"	-	US\$ 1,696	N/A	US\$ 1,696	
	Toyota Industries Corp	-	"	-	US\$ 1,672	N/A	US\$ 1,672	
	Walgreens Boots Alliance Inc	-	"	-	US\$ 1,649	N/A	US\$ 1,649	
	Equitable Financial Life Global Funding	-	"	-	US\$ 1,642	N/A	US\$ 1,642	
	Suntory Holdings Ltd	-	"	-	US\$ 1,633	N/A	US\$ 1,633	
	Brookfield Finance Inc	-	"	-	US\$ 1,622	N/A	US\$ 1,622	
	CenterPoint Energy Resources Corp	-	"	-	US\$ 1,608	N/A	US\$ 1,608	
	CK Hutchison International 19 Ltd	-	"	-	US\$ 1,591	N/A	US\$ 1,591	
	Mastercard Inc	-	"	-	US\$ 1,587	N/A	US\$ 1,587	
	Xylem Inc/NY	-	"	-	US\$ 1,576	N/A	US\$ 1,576	
	Public Service Electric & Gas Co	-	"	-	US\$ 1,571	N/A	US\$ 1,571	
	Australia & New Zealand Banking Group Ltd/New York NY	-	"	-	US\$ 1,555	N/A	US\$ 1,555	

(Continued)

Held Company Name	Marketable Securities Type and Name	Relationship with the Company	Financial Statement Account	June 30, 2020				Note
				Shares/Units (In Thousands)	Carrying Value (Foreign Currencies in Thousands)	Percentage of Ownership (%)	Fair Value (Foreign Currencies in Thousands)	
TSMC Global	NTT Finance Corp	-	Financial assets at fair value through other comprehensive income	-	US\$ 1,547	N/A	US\$ 1,547	
	AIA Group Ltd	-	"	-	US\$ 1,537	N/A	US\$ 1,537	
	Virginia Electric & Power Co	-	"	-	US\$ 1,499	N/A	US\$ 1,499	
	KEB Hana Bank	-	"	-	US\$ 1,494	N/A	US\$ 1,494	
	First Republic Bank/CA	-	"	-	US\$ 1,486	N/A	US\$ 1,486	
	Trust F/1401	-	"	-	US\$ 1,472	N/A	US\$ 1,472	
	Anheuser-Busch InBev Worldwide Inc	-	"	-	US\$ 1,438	N/A	US\$ 1,438	
	Nomura Holdings Inc	-	"	-	US\$ 1,435	N/A	US\$ 1,435	
	Daiwa Securities Group Inc	-	"	-	US\$ 1,428	N/A	US\$ 1,428	
	Infor Inc	-	"	-	US\$ 1,427	N/A	US\$ 1,427	
	CNOOC Curtis Funding No 1 Pty Ltd	-	"	-	US\$ 1,426	N/A	US\$ 1,426	
	Citizens Financial Group Inc	-	"	-	US\$ 1,422	N/A	US\$ 1,422	
	Penske Truck Leasing Co Lp / PTL Finance Corp	-	"	-	US\$ 1,416	N/A	US\$ 1,416	
	FedEx Corp	-	"	-	US\$ 1,405	N/A	US\$ 1,405	
	Essex Portfolio LP	-	"	-	US\$ 1,378	N/A	US\$ 1,378	
	Pernod Ricard SA	-	"	-	US\$ 1,370	N/A	US\$ 1,370	
	Ventas Realty LP / Ventas Capital Corp	-	"	-	US\$ 1,367	N/A	US\$ 1,367	
	Entergy Arkansas LLC	-	"	-	US\$ 1,357	N/A	US\$ 1,357	
	Ontario Teachers' Cadillac Fairview Properties Trust	-	"	-	US\$ 1,330	N/A	US\$ 1,330	
	Interpublic Group of Cos Inc/The	-	"	-	US\$ 1,284	N/A	US\$ 1,284	
	Entergy Corp	-	"	-	US\$ 1,274	N/A	US\$ 1,274	
	Phillips 66	-	"	-	US\$ 1,261	N/A	US\$ 1,261	
	Santander UK Group Holdings PLC	-	"	-	US\$ 1,245	N/A	US\$ 1,245	
	Lincoln National Corp	-	"	-	US\$ 1,235	N/A	US\$ 1,235	
	UDR Inc	-	"	-	US\$ 1,216	N/A	US\$ 1,216	
	PayPal Holdings Inc	-	"	-	US\$ 1,211	N/A	US\$ 1,211	
	Cleveland Electric Illuminating Co/The	-	"	-	US\$ 1,179	N/A	US\$ 1,179	
	APT Pipelines Ltd	-	"	-	US\$ 1,147	N/A	US\$ 1,147	
	Nestle Holdings Inc	-	"	-	US\$ 1,134	N/A	US\$ 1,134	
	TransCanada PipeLines Ltd	-	"	-	US\$ 1,134	N/A	US\$ 1,134	
	eBay Inc	-	"	-	US\$ 1,134	N/A	US\$ 1,134	
	Alexandria Real Estate Equities Inc	-	"	-	US\$ 1,115	N/A	US\$ 1,115	
	Cooperatieve Rabobank UA/NY	-	"	-	US\$ 1,112	N/A	US\$ 1,112	
	Manulife Financial Corp	-	"	-	US\$ 1,110	N/A	US\$ 1,110	
	Lowe's Cos Inc	-	"	-	US\$ 1,099	N/A	US\$ 1,099	
	CMS Energy Corp	-	"	-	US\$ 1,074	N/A	US\$ 1,074	
	Baltimore Gas & Electric Co	-	"	-	US\$ 1,069	N/A	US\$ 1,069	
	Anheuser-Busch InBev Finance Inc	-	"	-	US\$ 1,064	N/A	US\$ 1,064	
	WP Carey Inc	-	"	-	US\$ 1,061	N/A	US\$ 1,061	
	DH Europe Finance II Sarl	-	"	-	US\$ 1,058	N/A	US\$ 1,058	
	Entergy Mississippi LLC	-	"	-	US\$ 1,057	N/A	US\$ 1,057	
	Loews Corp	-	"	-	US\$ 1,057	N/A	US\$ 1,057	
	Kaiser Foundation Hospitals	-	"	-	US\$ 1,049	N/A	US\$ 1,049	
	Midwest Connector Capital Co LLC	-	"	-	US\$ 1,049	N/A	US\$ 1,049	
	USAA Capital Corp	-	"	-	US\$ 1,047	N/A	US\$ 1,047	
	Kinder Morgan Inc/DE	-	"	-	US\$ 1,044	N/A	US\$ 1,044	
	Republic Services Inc	-	"	-	US\$ 1,038	N/A	US\$ 1,038	
	Mondelez International Holdings Netherlands BV	-	"	-	US\$ 1,027	N/A	US\$ 1,027	
	Texas Eastern Transmission LP	-	"	-	US\$ 1,018	N/A	US\$ 1,018	
	BBVA USA	-	"	-	US\$ 1,015	N/A	US\$ 1,015	

(Continued)

Held Company Name	Marketable Securities Type and Name	Relationship with the Company	Financial Statement Account	June 30, 2020				Note
				Shares/Units (In Thousands)	Carrying Value (Foreign Currencies in Thousands)	Percentage of Ownership (%)	Fair Value (Foreign Currencies in Thousands)	
TSMC Global	Fortive Corp	-	Financial assets at fair value through other comprehensive income	-	US\$ 1,012	N/A	US\$ 1,012	
	Toyota Motor Finance Netherlands BV	-	"	-	US\$ 1,011	N/A	US\$ 1,011	
	Corp Nacional del Cobre de Chile	-	"	-	US\$ 1,007	N/A	US\$ 1,007	
	Commonwealth Edison Co	-	"	-	US\$ 1,003	N/A	US\$ 1,003	
	Marsh & McLennan Cos Inc	-	"	-	US\$ 998	N/A	US\$ 998	
	Prudential Financial Inc	-	"	-	US\$ 949	N/A	US\$ 949	
	QNB Finance Ltd	-	"	-	US\$ 929	N/A	US\$ 929	
	Mitsubishi UFJ Lease & Finance Co Ltd	-	"	-	US\$ 923	N/A	US\$ 923	
	Dow Chemical Co/The	-	"	-	US\$ 914	N/A	US\$ 914	
	Huntington National Bank/The	-	"	-	US\$ 882	N/A	US\$ 882	
	CNOOC Finance 2011 Ltd	-	"	-	US\$ 863	N/A	US\$ 863	
	Sprint Spectrum Co LLC / Sprint Spectrum Co II LLC / Sprint Spectrum Co III LLC	-	"	-	US\$ 854	N/A	US\$ 854	
	Niagara Mohawk Power Corp	-	"	-	US\$ 851	N/A	US\$ 851	
	Sinopec Capital 2013 Ltd	-	"	-	US\$ 835	N/A	US\$ 835	
	Visa Inc	-	"	-	US\$ 829	N/A	US\$ 829	
	Viterra Inc	-	"	-	US\$ 828	N/A	US\$ 828	
	ONEOK Partners LP	-	"	-	US\$ 824	N/A	US\$ 824	
	Amgen Inc	-	"	-	US\$ 795	N/A	US\$ 795	
	PACCAR Financial Corp	-	"	-	US\$ 786	N/A	US\$ 786	
	Sky Ltd	-	"	-	US\$ 780	N/A	US\$ 780	
	Nationwide Financial Services Inc	-	"	-	US\$ 771	N/A	US\$ 771	
	VF Corp	-	"	-	US\$ 762	N/A	US\$ 762	
	Kroger Co/The	-	"	-	US\$ 760	N/A	US\$ 760	
	Health Care Service Corp A Mutual Legal Reserve Co	-	"	-	US\$ 759	N/A	US\$ 759	
	Southern California Gas Co	-	"	-	US\$ 757	N/A	US\$ 757	
	American Electric Power Co Inc	-	"	-	US\$ 756	N/A	US\$ 756	
	Warner Media LLC	-	"	-	US\$ 749	N/A	US\$ 749	
	Gilead Sciences Inc	-	"	-	US\$ 748	N/A	US\$ 748	
	BNZ International Funding Ltd/London	-	"	-	US\$ 746	N/A	US\$ 746	
	Canadian Natural Resources Ltd	-	"	-	US\$ 735	N/A	US\$ 735	
	Activision Blizzard Inc	-	"	-	US\$ 722	N/A	US\$ 722	
	Abbott Laboratories	-	"	-	US\$ 707	N/A	US\$ 707	
	BAE Systems Holdings Inc	-	"	-	US\$ 705	N/A	US\$ 705	
	Digital Realty Trust LP	-	"	-	US\$ 681	N/A	US\$ 681	
	Aon Corp	-	"	-	US\$ 671	N/A	US\$ 671	
	American Water Capital Corp	-	"	-	US\$ 639	N/A	US\$ 639	
	Ohio Power Co	-	"	-	US\$ 636	N/A	US\$ 636	
	Western Union Co/The	-	"	-	US\$ 625	N/A	US\$ 625	
	OneBeacon US Holdings Inc	-	"	-	US\$ 618	N/A	US\$ 618	
	Archer-Daniels-Midland Co	-	"	-	US\$ 614	N/A	US\$ 614	
	RBC USA Holdco Corp	-	"	-	US\$ 606	N/A	US\$ 606	
	ViacomCBS Inc	-	"	-	US\$ 595	N/A	US\$ 595	
	Duke Energy Progress LLC	-	"	-	US\$ 592	N/A	US\$ 592	
	Evergy Inc	-	"	-	US\$ 590	N/A	US\$ 590	
	United Parcel Service Inc	-	"	-	US\$ 567	N/A	US\$ 567	
	Fifth Third Bank/Cincinnati OH	-	"	-	US\$ 564	N/A	US\$ 564	
	Aflac Inc	-	"	-	US\$ 560	N/A	US\$ 560	
	Juniper Networks Inc	-	"	-	US\$ 554	N/A	US\$ 554	
	ABC Inc	-	"	-	US\$ 543	N/A	US\$ 543	

(Continued)

Held Company Name	Marketable Securities Type and Name	Relationship with the Company	Financial Statement Account	June 30, 2020				Note
				Shares/Units (In Thousands)	Carrying Value (Foreign Currencies in Thousands)	Percentage of Ownership (%)	Fair Value (Foreign Currencies in Thousands)	
TSMC Global	salesforce.com Inc	-	Financial assets at fair value through other comprehensive income	-	US\$ 537	N/A	US\$ 537	
	Federal Realty Investment Trust	-	"	-	US\$ 532	N/A	US\$ 532	
	Realty Income Corp	-	"	-	US\$ 524	N/A	US\$ 524	
	Baker Hughes a GE Co LLC / Baker Hughes Co-Obligor Inc	-	"	-	US\$ 521	N/A	US\$ 521	
	TTX Co	-	"	-	US\$ 519	N/A	US\$ 519	
	Hanwha Energy USA Holdings Corp	-	"	-	US\$ 514	N/A	US\$ 514	
	Danone SA	-	"	-	US\$ 508	N/A	US\$ 508	
	Simon Property Group LP	-	"	-	US\$ 505	N/A	US\$ 505	
	Duke Energy Carolinas LLC	-	"	-	US\$ 473	N/A	US\$ 473	
	BAT International Finance PLC	-	"	-	US\$ 470	N/A	US\$ 470	
	United Overseas Bank Ltd	-	"	-	US\$ 463	N/A	US\$ 463	
	Valero Energy Corp	-	"	-	US\$ 444	N/A	US\$ 444	
	Boston Properties LP	-	"	-	US\$ 423	N/A	US\$ 423	
	Comerica Bank	-	"	-	US\$ 420	N/A	US\$ 420	
	Fidelity National Information Services Inc	-	"	-	US\$ 413	N/A	US\$ 413	
	CBS Corp	-	"	-	US\$ 412	N/A	US\$ 412	
	Banco del Estado de Chile	-	"	-	US\$ 411	N/A	US\$ 411	
	Southern Power Co	-	"	-	US\$ 410	N/A	US\$ 410	
	Newmont Goldcorp Corp	-	"	-	US\$ 408	N/A	US\$ 408	
	Truist Financial Corp	-	"	-	US\$ 405	N/A	US\$ 405	
	Eaton Electric Holdings LLC	-	"	-	US\$ 403	N/A	US\$ 403	
	AXA Equitable Holdings Inc	-	"	-	US\$ 401	N/A	US\$ 401	
	PepsiCo Inc	-	"	-	US\$ 401	N/A	US\$ 401	
	Lloyds Bank PLC	-	"	-	US\$ 401	N/A	US\$ 401	
	Metropolitan Edison Co	-	"	-	US\$ 396	N/A	US\$ 396	
	Canadian Pacific Railway Co	-	"	-	US\$ 392	N/A	US\$ 392	
	StanCorp Financial Group Inc	-	"	-	US\$ 386	N/A	US\$ 386	
	Enbridge Inc	-	"	-	US\$ 379	N/A	US\$ 379	
	Principal Financial Group Inc	-	"	-	US\$ 371	N/A	US\$ 371	
	Total Capital International SA	-	"	-	US\$ 318	N/A	US\$ 318	
	Southern Co/The	-	"	-	US\$ 317	N/A	US\$ 317	
	Chubb INA Holdings Inc	-	"	-	US\$ 316	N/A	US\$ 316	
	America Movil SAB de CV	-	"	-	US\$ 310	N/A	US\$ 310	
	Alibaba Group Holding Ltd	-	"	-	US\$ 309	N/A	US\$ 309	
	CommonSpirit Health	-	"	-	US\$ 307	N/A	US\$ 307	
	Starbucks Corp	-	"	-	US\$ 299	N/A	US\$ 299	
	Johnson Controls International plc	-	"	-	US\$ 294	N/A	US\$ 294	
	Southern Natural Gas Co LLC / Southern Natural Issuing Corp	-	"	-	US\$ 281	N/A	US\$ 281	
	Mondelez International Inc	-	"	-	US\$ 281	N/A	US\$ 281	
	Coca-Cola Co/The	-	"	-	US\$ 275	N/A	US\$ 275	
	Bank of America NA	-	"	-	US\$ 261	N/A	US\$ 261	
	EI du Pont de Nemours and Co	-	"	-	US\$ 253	N/A	US\$ 253	
	Capital One Bank USA NA	-	"	-	US\$ 253	N/A	US\$ 253	
	Aon PLC	-	"	-	US\$ 250	N/A	US\$ 250	
	Grupo Bimbo SAB de CV	-	"	-	US\$ 249	N/A	US\$ 249	
	Telstra Corp Ltd	-	"	-	US\$ 210	N/A	US\$ 210	
	Glencore Funding LLC	-	"	-	US\$ 206	N/A	US\$ 206	
	Nucor Corp	-	"	-	US\$ 190	N/A	US\$ 190	
	United Technologies Corp	-	"	-	US\$ 66	N/A	US\$ 66	
	Wells Fargo & Company	-	Financial assets at amortized cost	-	US\$ 180,757	N/A	US\$ 182,326	

(Continued)

Held Company Name	Marketable Securities Type and Name	Relationship with the Company	Financial Statement Account	June 30, 2020				Note
				Shares/Units (In Thousands)	Carrying Value (Foreign Currencies in Thousands)	Percentage of Ownership (%)	Fair Value (Foreign Currencies in Thousands)	
TSMC Global	JPMorgan Chase & Co.	-	Financial assets at amortized cost	-	US\$ 95,077	N/A	US\$ 95,842	
	Goldman Sachs Group Inc/The	-	"	-	US\$ 14,917	N/A	US\$ 14,926	
	Industrial and Commercial Bank of China	-	"	-	US\$ 9,997	N/A	US\$ 10,005	
	<u>Government bond</u>							
	United States Treasury Note/Bond	-	Financial assets at fair value through other comprehensive income	-	US\$ 336,720	N/A	US\$ 336,720	
	Abu Dhabi Government International Bond	-	"	-	US\$ 3,539	N/A	US\$ 3,539	
	Qatar Government International Bond	-	"	-	US\$ 1,394	N/A	US\$ 1,394	
	<u>Agency bonds/Agency mortgage-backed securities</u>							
	Freddie Mac Multifamily Structured Pass Through Certificates	-	Financial assets at fair value through profit or loss	-	US\$ 1,146	N/A	US\$ 1,146	
	Fannie Mae Pool	-	Financial assets at fair value through other comprehensive income	-	US\$ 680,782	N/A	US\$ 680,782	
	Fannie Mae REMICS	-	"	-	US\$ 162,433	N/A	US\$ 162,433	
	Freddie Mac REMICS	-	"	-	US\$ 152,083	N/A	US\$ 152,083	
	Freddie Mac Pool	-	"	-	US\$ 148,179	N/A	US\$ 148,179	
	Ginnie Mae II Pool	-	"	-	US\$ 146,610	N/A	US\$ 146,610	
	Fannie Mae or Freddie Mac	-	"	-	US\$ 144,655	N/A	US\$ 144,655	
	Freddie Mac Gold Pool	-	"	-	US\$ 99,053	N/A	US\$ 99,053	
	Government National Mortgage Association	-	"	-	US\$ 44,693	N/A	US\$ 44,693	
	Ginnie Mae	-	"	-	US\$ 43,994	N/A	US\$ 43,994	
	Fannie Mae-Aces	-	"	-	US\$ 21,885	N/A	US\$ 21,885	
	Freddie Mac Multifamily Structured Pass Through Certificates	-	"	-	US\$ 2,154	N/A	US\$ 2,154	
	Korea Hydro & Nuclear Power Co Ltd	-	"	-	US\$ 1,975	N/A	US\$ 1,975	
	Ginnie Mae I Pool	-	"	-	US\$ 1,385	N/A	US\$ 1,385	
	Federal National Mortgage Association	-	"	-	US\$ 1,159	N/A	US\$ 1,159	
	Freddie Mac Strips	-	"	-	US\$ 1,052	N/A	US\$ 1,052	
	Denver City & County Housing Authority	-	"	-	US\$ 1,041	N/A	US\$ 1,041	
	Oregon Health & Science University	-	"	-	US\$ 802	N/A	US\$ 802	
	FHLMC-GNMA	-	"	-	US\$ 697	N/A	US\$ 697	
	FRESB 2019-SB61 Mortgage Trust	-	"	-	US\$ 654	N/A	US\$ 654	
	State of Wisconsin	-	"	-	US\$ 517	N/A	US\$ 517	
	Brazos Higher Education Authority Inc	-	"	-	US\$ 465	N/A	US\$ 465	
	FRESB 2019-SB60 Mortgage Trust	-	"	-	US\$ 428	N/A	US\$ 428	
	Freddie Mac Non Gold Pool	-	"	-	US\$ 415	N/A	US\$ 415	
	Sales Tax Securitization Corp	-	"	-	US\$ 251	N/A	US\$ 251	
	Fannie Mae Benchmark REMIC	-	"	-	US\$ 109	N/A	US\$ 109	
	<u>Asset-backed securities</u>							
	Hyundai Auto Receivables Trust 2017-A	-	Financial assets at fair value through other comprehensive income	-	US\$ 10,002	N/A	US\$ 10,002	
	Ford Credit Auto Owner Trust 2017-A	-	"	-	US\$ 7,463	N/A	US\$ 7,463	
	Citibank Credit Card Issuance Trust	-	"	-	US\$ 7,338	N/A	US\$ 7,338	
	BANK 2020-BNK26	-	"	-	US\$ 7,293	N/A	US\$ 7,293	
	Citigroup Commercial Mortgage Trust 2014-GC21	-	"	-	US\$ 6,955	N/A	US\$ 6,955	
	CGDBB Commercial Mortgage Trust 2017-BIOC	-	"	-	US\$ 6,800	N/A	US\$ 6,800	
	Benchmark 2019-B11 Mortgage Trust	-	"	-	US\$ 6,579	N/A	US\$ 6,579	
	CD 2019-CD8 Mortgage Trust	-	"	-	US\$ 6,336	N/A	US\$ 6,336	
Wells Fargo Commercial Mortgage Trust 2016-C35	-	"	-	US\$ 6,335	N/A	US\$ 6,335		

(Continued)

Held Company Name	Marketable Securities Type and Name	Relationship with the Company	Financial Statement Account	June 30, 2020				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 2016-C29	-	Financial assets at fair value through other comprehensive income	-	US\$ 6,205	N/A	US\$ 6,205	
	Wells Fargo Commercial Mortgage Trust 2019-C53	-	"	-	US\$ 6,108	N/A	US\$ 6,108	
	UBS-Barclays Commercial Mortgage Trust 2012-C2	-	"	-	US\$ 5,939	N/A	US\$ 5,939	
	Wells Fargo Commercial Mortgage Trust 2020-C55	-	"	-	US\$ 5,853	N/A	US\$ 5,853	
	WFRBS Commercial Mortgage Trust 2013-C13	-	"	-	US\$ 5,654	N/A	US\$ 5,654	
	Morgan Stanley Bank of America Merrill Lynch Trust 2016-C30	-	"	-	US\$ 5,261	N/A	US\$ 5,261	
	COMM 2015-CCRE24 Mortgage Trust	-	"	-	US\$ 5,256	N/A	US\$ 5,256	
	BBCMS 2018-TALL Mortgage Trust	-	"	-	US\$ 5,229	N/A	US\$ 5,229	
	Morgan Stanley Bank of America Merrill Lynch Trust 2013-C10	-	"	-	US\$ 5,080	N/A	US\$ 5,080	
	MRCO 2019-MARK Mortgage Trust	-	"	-	US\$ 4,743	N/A	US\$ 4,743	
	BANK 2019-BNK22	-	"	-	US\$ 4,673	N/A	US\$ 4,673	
	Hyundai Auto Receivables Trust 2016-B	-	"	-	US\$ 4,539	N/A	US\$ 4,539	
	Hyundai Auto Lease Securitization Trust 2018-A	-	"	-	US\$ 4,356	N/A	US\$ 4,356	
	Mercedes-Benz Auto Lease Trust 2019-B	-	"	-	US\$ 4,341	N/A	US\$ 4,341	
	JPMCC Commercial Mortgage Securities Trust 2017-JP7	-	"	-	US\$ 4,292	N/A	US\$ 4,292	
	BANK 2017-BNK6	-	"	-	US\$ 4,254	N/A	US\$ 4,254	
	BANK 2017-BNK5	-	"	-	US\$ 4,244	N/A	US\$ 4,244	
	UBS Commercial Mortgage Trust 2018-C10	-	"	-	US\$ 4,240	N/A	US\$ 4,240	
	BANK 2019-BNK17	-	"	-	US\$ 4,216	N/A	US\$ 4,216	
	Enterprise Fleet Financing 2020-1 LLC	-	"	-	US\$ 4,045	N/A	US\$ 4,045	
	Morgan Stanley Bank of America Merrill Lynch Trust 2013-C7	-	"	-	US\$ 4,026	N/A	US\$ 4,026	
	JP Morgan Chase Commercial Mortgage Securities Trust 2012-LC9	-	"	-	US\$ 4,005	N/A	US\$ 4,005	
	Barclays Commercial Mortgage Trust 2019-C5	-	"	-	US\$ 3,995	N/A	US\$ 3,995	
	Citigroup Commercial Mortgage Trust 2019-C7	-	"	-	US\$ 3,973	N/A	US\$ 3,973	
	JPMBB Commercial Mortgage Securities Trust 2015-C28	-	"	-	US\$ 3,956	N/A	US\$ 3,956	
	BANK 2019-BNK23	-	"	-	US\$ 3,808	N/A	US\$ 3,808	
	Hyundai Auto Receivables Trust 2016-A	-	"	-	US\$ 3,807	N/A	US\$ 3,807	
	BX Commercial Mortgage Trust 2018-IND	-	"	-	US\$ 3,707	N/A	US\$ 3,707	
	Enterprise Fleet Financing 2019-2 LLC	-	"	-	US\$ 3,610	N/A	US\$ 3,610	
	Benchmark 2018-B2 Mortgage Trust	-	"	-	US\$ 3,461	N/A	US\$ 3,461	
	CSAIL 2016-C6 Commercial Mortgage Trust	-	"	-	US\$ 3,446	N/A	US\$ 3,446	
	UBS-Barclays Commercial Mortgage Trust 2013-C6	-	"	-	US\$ 3,354	N/A	US\$ 3,354	
	GS Mortgage Securities Trust 2012-GC6	-	"	-	US\$ 3,204	N/A	US\$ 3,204	
	Ford Credit Auto Lease Trust 2019-B	-	"	-	US\$ 3,158	N/A	US\$ 3,158	
	Wells Fargo Commercial Mortgage Trust 2017-C40	-	"	-	US\$ 3,062	N/A	US\$ 3,062	
	UBS-Barclays Commercial Mortgage Trust 2012-C3	-	"	-	US\$ 3,045	N/A	US\$ 3,045	
	Morgan Stanley Capital I Trust 2017-H1	-	"	-	US\$ 3,026	N/A	US\$ 3,026	
	GM Financial Consumer Automobile Receivables Trust 2017-2	-	"	-	US\$ 3,021	N/A	US\$ 3,021	
	Citigroup Commercial Mortgage Trust 2016-P5	-	"	-	US\$ 3,009	N/A	US\$ 3,009	
	BANK 2020-BNK25	-	"	-	US\$ 2,988	N/A	US\$ 2,988	
	Hyundai Auto Receivables Trust 2018-A	-	"	-	US\$ 2,965	N/A	US\$ 2,965	
	Nissan Auto Lease Trust 2019-B	-	"	-	US\$ 2,917	N/A	US\$ 2,917	
	GS Mortgage Securities Corp Trust 2018-RIVR	-	"	-	US\$ 2,885	N/A	US\$ 2,885	
	BANK 2019-BNK24	-	"	-	US\$ 2,815	N/A	US\$ 2,815	
	Citigroup Commercial Mortgage Trust 2016-C3	-	"	-	US\$ 2,771	N/A	US\$ 2,771	
	GS Mortgage Securities Trust 2013-GCJ12	-	"	-	US\$ 2,695	N/A	US\$ 2,695	
	GM Financial Consumer Automobile Receivables Trust 2018-1	-	"	-	US\$ 2,574	N/A	US\$ 2,574	
	American Express Credit Account Master Trust	-	"	-	US\$ 2,545	N/A	US\$ 2,545	
	Ford Credit Auto Owner Trust 2020-REV1	-	"	-	US\$ 2,541	N/A	US\$ 2,541	

(Continued)

Held Company Name	Marketable Securities Type and Name	Relationship with the Company	Financial Statement Account	June 30, 2020				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 2012-C6	-	Financial assets at fair value through other comprehensive income	-	US\$ 2,515	N/A	US\$ 2,515	
	Toyota Auto Receivables 2017-A Owner Trust	-	"	-	US\$ 2,432	N/A	US\$ 2,432	
	GS Mortgage Securities Trust 2020-GC45	-	"	-	US\$ 2,302	N/A	US\$ 2,302	
	UBS Commercial Mortgage Trust 2018-C11	-	"	-	US\$ 2,230	N/A	US\$ 2,230	
	Morgan Stanley Capital I Trust 2018-H3	-	"	-	US\$ 2,217	N/A	US\$ 2,217	
	BENCHMARK 2018-B4	-	"	-	US\$ 2,210	N/A	US\$ 2,210	
	CSAIL 2015-C3 Commercial Mortgage Trust	-	"	-	US\$ 2,154	N/A	US\$ 2,154	
	COMM 2013-CCRE12 Mortgage Trust	-	"	-	US\$ 2,146	N/A	US\$ 2,146	
	ARI Fleet Lease Trust 2019-A	-	"	-	US\$ 2,126	N/A	US\$ 2,126	
	Ford Credit Auto Owner Trust 2019-A	-	"	-	US\$ 2,124	N/A	US\$ 2,124	
	JPMDDB Commercial Mortgage Securities Trust 2017-C7	-	"	-	US\$ 2,121	N/A	US\$ 2,121	
	Citigroup Commercial Mortgage Trust 2017-P8	-	"	-	US\$ 2,083	N/A	US\$ 2,083	
	Morgan Stanley Bank of America Merrill Lynch Trust 2016-C31	-	"	-	US\$ 2,072	N/A	US\$ 2,072	
	JPMBB Commercial Mortgage Securities Trust 2014-C19	-	"	-	US\$ 2,031	N/A	US\$ 2,031	
	Wells Fargo Commercial Mortgage Trust 2012-LC5	-	"	-	US\$ 1,970	N/A	US\$ 1,970	
	Toyota Auto Receivables 2018-D Owner Trust	-	"	-	US\$ 1,957	N/A	US\$ 1,957	
	Morgan Stanley Bank of America Merrill Lynch Trust 2013-C8	-	"	-	US\$ 1,849	N/A	US\$ 1,849	
	WFRBS Commercial Mortgage Trust 2013-C17	-	"	-	US\$ 1,820	N/A	US\$ 1,820	
	COMM 2014-CCRE17 Mortgage Trust	-	"	-	US\$ 1,794	N/A	US\$ 1,794	
	Citigroup Commercial Mortgage Trust 2015-GC35	-	"	-	US\$ 1,792	N/A	US\$ 1,792	
	GS Mortgage Securities Trust 2014-GC22	-	"	-	US\$ 1,764	N/A	US\$ 1,764	
	Morgan Stanley Capital I Trust 2019-H6	-	"	-	US\$ 1,704	N/A	US\$ 1,704	
	Wells Fargo Commercial Mortgage Trust 2015-C28	-	"	-	US\$ 1,666	N/A	US\$ 1,666	
	GM Financial Automobile Leasing Trust 2019-1	-	"	-	US\$ 1,649	N/A	US\$ 1,649	
	Mercedes-Benz Auto Lease Trust 2018-B	-	"	-	US\$ 1,582	N/A	US\$ 1,582	
	Morgan Stanley Bank of America Merrill Lynch Trust 2015-C24	-	"	-	US\$ 1,538	N/A	US\$ 1,538	
	JPMBB Commercial Mortgage Securities Trust 2013-C12	-	"	-	US\$ 1,534	N/A	US\$ 1,534	
	COMM 2020-CBM Mortgage Trust	-	"	-	US\$ 1,511	N/A	US\$ 1,511	
	GS Mortgage Securities Trust 2011-GC3	-	"	-	US\$ 1,507	N/A	US\$ 1,507	
	WFRBS Commercial Mortgage Trust 2013-C14	-	"	-	US\$ 1,479	N/A	US\$ 1,479	
	Citigroup Commercial Mortgage Trust 2015-GC27	-	"	-	US\$ 1,471	N/A	US\$ 1,471	
	Honda Auto Receivables 2017-3 Owner Trust	-	"	-	US\$ 1,440	N/A	US\$ 1,440	
	Wells Fargo Commercial Mortgage Trust 2016-C36	-	"	-	US\$ 1,414	N/A	US\$ 1,414	
	Hyundai Auto Lease Securitization Trust 2019-A	-	"	-	US\$ 1,382	N/A	US\$ 1,382	
	GS Mortgage Securities Trust 2014-GC24	-	"	-	US\$ 1,310	N/A	US\$ 1,310	
	Hyundai Auto Receivables Trust 2019-B	-	"	-	US\$ 1,293	N/A	US\$ 1,293	
	Benchmark 2019-B14 Mortgage Trust	-	"	-	US\$ 1,289	N/A	US\$ 1,289	
	DBGS 2018-BIOD Mortgage Trust	-	"	-	US\$ 1,273	N/A	US\$ 1,273	
	Nissan Auto Lease Trust 2019-A	-	"	-	US\$ 1,253	N/A	US\$ 1,253	
	Morgan Stanley Bank of America Merrill Lynch Trust 2013-C12	-	"	-	US\$ 1,237	N/A	US\$ 1,237	
	Chase Issuance Trust	-	"	-	US\$ 1,235	N/A	US\$ 1,235	
	GM Financial Automobile Leasing Trust 2019-4	-	"	-	US\$ 1,224	N/A	US\$ 1,224	
	GS Mortgage Securities Trust 2019-GSA1	-	"	-	US\$ 1,170	N/A	US\$ 1,170	
	Chesapeake Funding II LLC	-	"	-	US\$ 1,118	N/A	US\$ 1,118	
	Benchmark 2019-B9 Mortgage Trust	-	"	-	US\$ 1,071	N/A	US\$ 1,071	
	GS Mortgage Securities Trust 2015-GC34	-	"	-	US\$ 1,030	N/A	US\$ 1,030	
	Ford Credit Auto Owner Trust 2017-REV1	-	"	-	US\$ 1,028	N/A	US\$ 1,028	
	Ford Credit Auto Lease Trust 2019-A	-	"	-	US\$ 1,023	N/A	US\$ 1,023	
	WFRBS Commercial Mortgage Trust 2011-C4	-	"	-	US\$ 1,016	N/A	US\$ 1,016	
	GM Financial Consumer Automobile 2017-1	-	"	-	US\$ 1,007	N/A	US\$ 1,007	

(Continued)

Held Company Name	Marketable Securities Type and Name	Relationship with the Company	Financial Statement Account	June 30, 2020				Note
				Shares/Units (In Thousands)	Carrying Value (Foreign Currencies in Thousands)	Percentage of Ownership (%)	Fair Value (Foreign Currencies in Thousands)	
TSMC Global	BBCMS MORTGAGE TRUST 2017-C1	-	Financial assets at fair value through other comprehensive income	-	US\$ 1,005	N/A	US\$ 1,005	
	COMM 2013-LC6 Mortgage Trust	-	"	-	US\$ 1,003	N/A	US\$ 1,003	
	Citigroup Commercial Mortgage Trust 2013-GC11	-	"	-	US\$ 973	N/A	US\$ 973	
	Morgan Stanley Bank of America Merrill Lynch Trust 2013-C13	-	"	-	US\$ 959	N/A	US\$ 959	
	Toyota Auto Receivables 2020-A Owner Trust	-	"	-	US\$ 928	N/A	US\$ 928	
	Benchmark 2019-B15 Mortgage Trust	-	"	-	US\$ 926	N/A	US\$ 926	
	Wells Fargo Commercial Mortgage Trust 2015-LC20	-	"	-	US\$ 924	N/A	US\$ 924	
	COMM 2012-CCRE5 Mortgage Trust	-	"	-	US\$ 921	N/A	US\$ 921	
	Citigroup Commercial Mortgage Trust 2014-GC23	-	"	-	US\$ 867	N/A	US\$ 867	
	Cantor Commercial Real Estate Lending 2019-CF1	-	"	-	US\$ 865	N/A	US\$ 865	
	COMM 2015-PC1 Mortgage Trust	-	"	-	US\$ 836	N/A	US\$ 836	
	GM Financial Automobile Leasing Trust 2019-2	-	"	-	US\$ 833	N/A	US\$ 833	
	280 Park Avenue 2017-280P Mortgage Trust	-	"	-	US\$ 822	N/A	US\$ 822	
	BANK 2017-BNK7	-	"	-	US\$ 805	N/A	US\$ 805	
	Ford Credit Auto Lease Trust	-	"	-	US\$ 801	N/A	US\$ 801	
	Morgan Stanley Capital I Trust 2019-H7	-	"	-	US\$ 794	N/A	US\$ 794	
	Morgan Stanley Bank of America Merrill Lynch Trust 2015-C20	-	"	-	US\$ 729	N/A	US\$ 729	
	COMM 2013-CCRE8 Mortgage Trust	-	"	-	US\$ 714	N/A	US\$ 714	
	Wells Fargo Commercial Mortgage Trust 2015-NXS3	-	"	-	US\$ 714	N/A	US\$ 714	
	Morgan Stanley Capital I Trust 2016-UB11	-	"	-	US\$ 702	N/A	US\$ 702	
	COMM 2015-CCRE22 Mortgage Trust	-	"	-	US\$ 697	N/A	US\$ 697	
	CFCRE Commercial Mortgage Trust 2011-C1	-	"	-	US\$ 679	N/A	US\$ 679	
	GM Financial Automobile Leasing Trust 2019-3	-	"	-	US\$ 659	N/A	US\$ 659	
	GM Financial Automobile Leasing Trust 2018-1	-	"	-	US\$ 631	N/A	US\$ 631	
	Mercedes-Benz Auto Lease Trust 2019-A	-	"	-	US\$ 624	N/A	US\$ 624	
	UBS-Barclays Commercial Mortgage Trust 2013-C5	-	"	-	US\$ 618	N/A	US\$ 618	
	GS Mortgage Securities Corp Trust 2020-UPTN	-	"	-	US\$ 589	N/A	US\$ 589	
	JPMDB Commercial Mortgage Securities Trust 2019-COR6	-	"	-	US\$ 555	N/A	US\$ 555	
	CD 2016-CD2 Mortgage Trust	-	"	-	US\$ 509	N/A	US\$ 509	
	DBUBS 2011-LC2 Mortgage Trust	-	"	-	US\$ 507	N/A	US\$ 507	
	JP Morgan Chase Commercial Mortgage Securities Trust 2015-JP1	-	"	-	US\$ 498	N/A	US\$ 498	
	Citigroup Commercial Mortgage Trust 2014-GC19	-	"	-	US\$ 496	N/A	US\$ 496	
	JPMDB Commercial Mortgage Securities Trust 2016-C2	-	"	-	US\$ 485	N/A	US\$ 485	
	GM Financial Consumer Automobile Receivables Trust 2019-3	-	"	-	US\$ 451	N/A	US\$ 451	
	GS Mortgage Securities Trust 2014-GC26	-	"	-	US\$ 426	N/A	US\$ 426	
	WFRBS Commercial Mortgage Trust 2014-C25	-	"	-	US\$ 390	N/A	US\$ 390	
	GM Financial Automobile Leasing Trust 2018-3	-	"	-	US\$ 339	N/A	US\$ 339	
	Morgan Stanley Bank of America Merrill Lynch Trust 2012-C5	-	"	-	US\$ 246	N/A	US\$ 246	
	Toyota Auto Receivables 2018-B Owner Trust	-	"	-	US\$ 240	N/A	US\$ 240	
	Honda Auto Receivables 2020-2 Owner Trust	-	"	-	US\$ 186	N/A	US\$ 186	
	COMM 2015-DC1 Mortgage Trust	-	"	-	US\$ 178	N/A	US\$ 178	
	BBCMS Mortgage Trust 2020-C7	-	"	-	US\$ 118	N/A	US\$ 118	
	GM Financial Automobile Leasing Trust 2018-2	-	"	-	US\$ 107	N/A	US\$ 107	
	Mercedes-Benz Auto Lease Trust 2018-A	-	"	-	US\$ 105	N/A	US\$ 105	
	COMM 2015-CCRE26 Mortgage Trust	-	"	-	US\$ 47	N/A	US\$ 47	
	Wells Fargo Commercial Mortgage Trust 2015-NXS1	-	"	-	US\$ 47	N/A	US\$ 47	
	COMM 2014-CCRE15 Mortgage Trust	-	"	-	US\$ 46	N/A	US\$ 46	
	JPMCC Commercial Mortgage Securities Trust 2017-JP5	-	"	-	US\$ 22	N/A	US\$ 22	
	Morgan Stanley Bank of America Merrill Lynch Trust 2014-C18	-	"	-	US\$ 20	N/A	US\$ 20	

(Continued)

Held Company Name	Marketable Securities Type and Name	Relationship with the Company	Financial Statement Account	June 30, 2020				Note
				Shares/Units (In Thousands)	Carrying Value (Foreign Currencies in Thousands)	Percentage of Ownership (%)	Fair Value (Foreign Currencies in Thousands)	
TSMC Global	GS Mortgage Securities Trust 2010-C2	-	Financial assets at fair value through other comprehensive income	-	US\$ 8	N/A	US\$ 8	
	<u>Non-publicly traded equity investments</u> Primavera Capital Fund II L.P.	-	Financial assets at fair value through other comprehensive income	-	US\$ 79,413	4	US\$ 79,413	
VTAF II	<u>Non-publicly traded equity investments</u> Sentelic	-	Financial assets at fair value through other comprehensive income	1,019	US\$ 2,221	4	US\$ 2,221	
	Aether Systems, Inc.	-	"	1,085	US\$ 369	20	US\$ 369	
	5V Technologies, Inc.	-	"	4	-	-	-	
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\$ 1,863	-	US\$ 1,863	
	Innovium, Inc.	-	"	221	US\$ 1,793	-	US\$ 1,793	
	CNEX Labs, Inc.	-	"	237	US\$ 479	-	US\$ 479	
	Astera Labs, Inc.	-	"	127	US\$ 250	-	US\$ 250	

(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 SIX MONTHS ENDED JUNE 30, 2020
(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 Global	<u>Corporate bond</u>													
	AT&T Inc	Financial assets at fair value through other comprehensive income	-	-	-	US\$ 26,140	-	US\$ 11,841	-	US\$ 5,475	US\$ 5,379	US\$ 96	-	US\$ 33,525
	Wells Fargo & Co	"	-	-	-	US\$ 11,864	-	US\$ 13,765	-	US\$ -	US\$ -	US\$ -	-	US\$ 26,410
	Metropolitan Life Global Funding I	"	-	-	-	US\$ 8,222	-	US\$ 18,903	-	US\$ 6,147	US\$ 5,921	US\$ 226	-	US\$ 21,572
	Toyota Motor Credit Corp	"	-	-	-	US\$ -	-	US\$ 18,775	-	US\$ -	US\$ -	US\$ -	-	US\$ 19,300
	Royal Bank of Canada	"	-	-	-	US\$ 1,004	-	US\$ 15,844	-	US\$ -	US\$ -	US\$ -	-	US\$ 17,142
	BP Capital Markets America Inc	"	-	-	-	US\$ 7,280	-	US\$ 10,333	-	US\$ 2,628	US\$ 2,499	US\$ 129	-	US\$ 15,665
	Chevron Corp	"	-	-	-	US\$ -	-	US\$ 13,770	-	US\$ 1,574	US\$ 1,530	US\$ 44	-	US\$ 12,630
	US Bancorp	"	-	-	-	US\$ 2,028	-	US\$ 11,094	-	US\$ 2,000	US\$ 1,953	US\$ 47	-	US\$ 11,597
	National Securities Clearing Corp	"	-	-	-	US\$ -	-	US\$ 10,815	-	US\$ -	US\$ -	US\$ -	-	US\$ 11,055
	TJX Cos Inc/The	"	-	-	-	US\$ -	-	US\$ 12,500	-	US\$ 3,429	US\$ 3,150	US\$ 279	-	US\$ 10,509
	Equinor ASA	"	-	-	-	US\$ -	-	US\$ 11,811	-	US\$ 3,052	US\$ 2,889	US\$ 163	-	US\$ 9,488
	NIKE Inc	"	-	-	-	US\$ -	-	US\$ 10,393	-	US\$ 1,933	US\$ 1,830	US\$ 103	-	US\$ 9,227
	Exxon Mobil Corp	"	-	-	-	US\$ -	-	US\$ 17,331	-	US\$ 10,272	US\$ 10,025	US\$ 247	-	US\$ 7,572
	Walt Disney Co/The	"	-	-	-	US\$ 3,246	-	US\$ 23,391	-	US\$ 23,016	US\$ 21,723	US\$ 1,293	-	US\$ 5,015
	United Technologies Corp	"	-	-	-	US\$ 12,108	-	US\$ -	-	US\$ 10,034	US\$ 10,070	US\$ (36)	-	US\$ -
	Wells Fargo & Co	Financial assets at amortized cost	-	-	-	US\$ 160,098	-	US\$ 20,630	-	US\$ -	US\$ -	US\$ -	-	US\$ 180,757
	JPMorgan Chase & Co.	"	-	-	-	US\$ 84,967	-	US\$ 10,111	-	US\$ -	US\$ -	US\$ -	-	US\$ 95,077
	Goldman Sachs Group Inc/The	"	-	-	-	US\$ -	-	US\$ 14,930	-	US\$ -	US\$ -	US\$ -	-	US\$ 14,917
	<u>Government bond</u>													
	United States Treasury Note/Bond	Financial assets at fair value through other comprehensive income	-	-	-	US\$ 419,942	-	US\$ 531,775	-	US\$ 638,401	US\$ 621,705	US\$ 16,696	-	US\$ 334,320
	<u>Agency bonds/Agency mortgage-backed securities</u>													
	Fannie Mae or Freddie Mac	Financial assets at fair value through other comprehensive income	-	-	-	US\$ -	-	US\$ 325,412	-	US\$ 266,566	US\$ 265,777	US\$ 789	-	US\$ 59,898
	Fannie Mae Pool	"	-	-	-	US\$ -	-	US\$ 40,590	-	US\$ -	US\$ -	US\$ -	-	US\$ 40,801
	Fannie Mae Pool	"	-	-	-	US\$ -	-	US\$ 35,024	-	US\$ 11	US\$ 11	US\$ -	-	US\$ 35,155
	Fannie Mae Pool	"	-	-	-	US\$ -	-	US\$ 25,431	-	US\$ 650	US\$ 667	US\$ (17)	-	US\$ 25,419
	GNMA II TBA 30 Yr 3	"	-	-	-	US\$ 15,095	-	US\$ 312,830	-	US\$ 306,046	US\$ 305,280	US\$ 766	-	US\$ 22,650
	FNMA TBA 30 Yr 4.5	"	-	-	-	US\$ 20,165	-	US\$ 180,792	-	US\$ 180,522	US\$ 180,137	US\$ 385	-	US\$ 20,689
	Fannie Mae Pool	"	-	-	-	US\$ -	-	US\$ 19,517	-	US\$ -	US\$ -	US\$ -	-	US\$ 19,589

(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 TBA 30 Yr 4	Financial assets at fair value through other comprehensive income	-	-	-	US\$ 17,372	-	US\$ 232,001	-	US\$ 230,572	US\$ 230,242	US\$ 330	-	US\$ 19,009
	Freddie Mac Pool	"	-	-	-	US\$ -	-	US\$ 19,031	-	US\$ 508	US\$ 521	US\$ (13)	-	US\$ 18,995
	Ginnie Mae II Pool	"	-	-	-	US\$ -	-	US\$ 19,016	-	US\$ 51	US\$ 55	US\$ (4)	-	US\$ 18,984
	Fannie Mae Pool	"	-	-	-	US\$ -	-	US\$ 18,793	-	US\$ 658	US\$ 701	US\$ (43)	-	US\$ 18,491
	Fannie Mae Pool	"	-	-	-	US\$ -	-	US\$ 26,299	-	US\$ 8,906	US\$ 8,687	US\$ 219	-	US\$ 18,163
	FNMA TBA 30 Yr 3	"	-	-	-	US\$ 2,028	-	US\$ 452,577	-	US\$ 437,596	US\$ 436,912	US\$ 684	-	US\$ 17,671
	Ginnie Mae II Pool	"	-	-	-	US\$ 5,285	-	US\$ 16,418	-	US\$ 5,293	US\$ 5,284	US\$ 9	-	US\$ 16,347
	Freddie Mac	"	-	-	-	US\$ 696	-	US\$ 15,872	-	US\$ 766	US\$ 817	US\$ (51)	-	US\$ 15,981
	Fannie Mae or Freddie Mac	"	-	-	-	US\$ -	-	US\$ 41,218	-	US\$ 27,474	US\$ 27,498	US\$ (24)	-	US\$ 13,808
	Fannie Mae Pool	"	-	-	-	US\$ -	-	US\$ 12,751	-	US\$ -	US\$ -	US\$ -	-	US\$ 12,752
	Freddie Mac Gold Pool	"	-	-	-	US\$ -	-	US\$ 12,610	-	US\$ 730	US\$ 766	US\$ (36)	-	US\$ 11,989
	GNMA II TBA 30 Yr 3.5	"	-	-	-	US\$ 10,517	-	US\$ 193,171	-	US\$ 192,618	US\$ 192,248	US\$ 370	-	US\$ 11,421
	Freddie Mac Pool	"	-	-	-	US\$ -	-	US\$ 11,321	-	US\$ -	US\$ -	US\$ -	-	US\$ 11,384
	Freddie Mac Pool	"	-	-	-	US\$ -	-	US\$ 10,137	-	US\$ 10	US\$ 11	US\$ (1)	-	US\$ 10,169
	FNMA TBA 30 Yr 3.5	"	-	-	-	US\$ 9,259	-	US\$ 205,106	-	US\$ 207,140	US\$ 206,865	US\$ 275	-	US\$ 7,464
	Fannie Mae Pool	"	-	-	-	US\$ -	-	US\$ 27,694	-	US\$ 21,154	US\$ 21,233	US\$ (79)	-	US\$ 6,431
	FNMA TBA 30 Yr 5	"	-	-	-	US\$ 3,603	-	US\$ 40,076	-	US\$ 40,075	US\$ 39,997	US\$ 78	-	US\$ 3,683
	Fannie Mae or Freddie Mac	"	-	-	-	US\$ 987	-	US\$ 24,427	-	US\$ 23,450	US\$ 23,356	US\$ 94	-	US\$ 2,060
	GNMA II TBA 30 Yr 4	"	-	-	-	US\$ -	-	US\$ 24,345	-	US\$ 23,397	US\$ 23,280	US\$ 117	-	US\$ 1,060
	Freddie Mac Pool	"	-	-	-	US\$ -	-	US\$ 13,065	-	US\$ 13,073	US\$ 13,044	US\$ 29	-	US\$ -
	Freddie Mac Gold Pool	"	-	-	-	US\$ 12,480	-	US\$ -	-	US\$ 12,551	US\$ 12,132	US\$ 419	-	US\$ -
	Fannie Mae Pool	"	-	-	-	US\$ 19,901	-	US\$ -	-	US\$ 20,081	US\$ 19,418	US\$ 663	-	US\$ -
	Fannie Mae Pool	"	-	-	-	US\$ 11,248	-	US\$ -	-	US\$ 11,350	US\$ 11,003	US\$ 347	-	US\$ -
	Fannie Mae Pool	"	-	-	-	US\$ 13,261	-	US\$ -	-	US\$ 12,741	US\$ 12,622	US\$ 119	-	US\$ -
	Fannie Mae Pool	"	-	-	-	US\$ -	-	US\$ 10,112	-	US\$ 10,402	US\$ 10,103	US\$ 299	-	US\$ -
	Fannie Mae Pool	"	-	-	-	US\$ 40,438	-	US\$ -	-	US\$ 40,787	US\$ 40,399	US\$ 388	-	US\$ -
	Freddie Mac Gold Pool	"	-	-	-	US\$ 19,392	-	US\$ -	-	US\$ 19,712	US\$ 19,136	US\$ 576	-	US\$ -
	Fannie Mae Pool	"	-	-	-	US\$ -	-	US\$ 12,810	-	US\$ 12,807	US\$ 12,809	US\$ (2)	-	US\$ -
	Freddie Mac Pool	"	-	-	-	US\$ -	-	US\$ 12,107	-	US\$ 12,146	US\$ 12,080	US\$ 66	-	US\$ -
	Freddie Mac Pool	"	-	-	-	US\$ 12,628	-	US\$ -	-	US\$ 12,111	US\$ 11,994	US\$ 117	-	US\$ -
	Fannie Mae Pool	"	-	-	-	US\$ 43,455	-	US\$ -	-	US\$ 43,789	US\$ 43,333	US\$ 456	-	US\$ -
	Fannie Mae Pool	"	-	-	-	US\$ 11,962	-	US\$ -	-	US\$ 12,079	US\$ 11,900	US\$ 179	-	US\$ -
	Fannie Mae Pool	"	-	-	-	US\$ 16,230	-	US\$ -	-	US\$ 16,413	US\$ 16,148	US\$ 265	-	US\$ -
	Fannie Mae Pool	"	-	-	-	US\$ 16,122	-	US\$ -	-	US\$ 16,194	US\$ 16,095	US\$ 99	-	US\$ -
	Fannie Mae Pool	"	-	-	-	US\$ -	-	US\$ 18,742	-	US\$ 18,650	US\$ 18,742	US\$ (92)	-	US\$ -
	GNMA II Pool MA6090	"	-	-	-	US\$ 16,840	-	US\$ -	-	US\$ 17,140	US\$ 16,943	US\$ 197	-	US\$ -
	Ginnie Mae II Pool	"	-	-	-	US\$ 513	-	US\$ 13,356	-	US\$ 13,853	US\$ 13,849	US\$ 4	-	US\$ -
	GNMA II Pool MA6155	"	-	-	-	US\$ 23,932	-	US\$ -	-	US\$ 23,946	US\$ 24,029	US\$ (83)	-	US\$ -
	Ginnie Mae II Pool	"	-	-	-	US\$ -	-	US\$ 12,270	-	US\$ 12,345	US\$ 12,262	US\$ 83	-	US\$ -
	Fannie Mae Pool	"	-	-	-	US\$ 29,463	-	US\$ -	-	US\$ 29,873	US\$ 29,355	US\$ 518	-	US\$ -
	Fannie Mae or Freddie Mac	"	-	-	-	US\$ -	-	US\$ 24,658	-	US\$ 24,718	US\$ 24,658	US\$ 60	-	US\$ -
	Ginnie Mae	"	-	-	-	US\$ -	-	US\$ 17,223	-	US\$ 17,315	US\$ 17,223	US\$ 92	-	US\$ -
	FNMA TBA 15 Yr 3	"	-	-	-	US\$ 3,073	-	US\$ 9,656	-	US\$ 12,739	US\$ 12,724	US\$ 15	-	US\$ -
	GNMA II TBA 30 Yr 4.5	"	-	-	-	US\$ 7,496	-	US\$ 40,393	-	US\$ 47,952	US\$ 47,895	US\$ 57	-	US\$ -
	Fannie Mae Pool	"	-	-	-	US\$ 6,284	-	US\$ 7,821	-	US\$ 14,163	US\$ 14,070	US\$ 93	-	US\$ -

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 SIX MONTHS ENDED JUNE 30, 2020

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

Company Name	Types of Property	Transaction Date (Note)	Transaction Amount (Foreign Currencies in Thousands) (Note)	Payment Term	Counterparty (Note)	Nature of Relationships	Prior Transaction of Related Counter-party				Price Reference	Purpose of Acquisition	Other Terms
							Owner	Relationships	Transfer Date	Amount			
TSMC	Fab construction & installation of fab facilities	February 11, 2020	\$ 47,500,000	Based on the terms in the purchase order	80 counterparties, including: ABB Ltd. Accudevice Co., Ltd. Air Liquide Far Eastern Ltd. Allis Electric Co., Ltd. Am-Power Machine International Enterprise Co., Ltd. Atlas Copco Taiwan Ltd. Atlas Technology Corp. Capital Machinery Limited Chen Yuan International Co., Ltd. Chenfull International Co., Ltd. Cheng Deh Fire Protection Industrial Corp. China Steel Structure Co., Ltd. Chun Yuan Steel Industry Co., Ltd. Cica-Huntek Chemical Technology Taiwan Co., Ltd. Confederate Technology Co., Ltd. Da-Cin Construction Co., Ltd. Desiccant Technology Corporation EDS International Evergreen Steel Corporation Exyte Taiwan Co., Ltd. Fortune Electric Co., Ltd. Fu Tsu Construction Co., Ltd. Hantech Engineering Co., Ltd. Hsieh Kun Co., Ltd. Hueng Luei Process Industry Co., Ltd. Ingersoll-Rand Southeast Asia (Pte) Ltd. Taiwan Branch (Singapore) J.C. Yang Architect and Associates	-	N/A	N/A	N/A	N/A	Price comparison and price negotiation	Manufacturing purpose	None

(Continued)

Company Name	Types of Property	Transaction Date (Note)	Transaction Amount (Foreign Currencies in Thousands) (Note)	Payment Term	Counterparty (Note)	Nature of Relationships	Prior Transaction of Related Counter-party				Price Reference	Purpose of Acquisition	Other Terms
							Owner	Relationships	Transfer Date	Amount			
TSMC	Fab construction & installation of fab facilities				JG Environmental Technology Co., Ltd. JJmr-Clean-Air Solution Tech.Services Co., Ltd. Jusun Instruments Co., Ltd. Kedge Construction Co., Ltd. Kinetics Technology Corporation L&K Engineering Co., Ltd. Lead-Fu Industrials Corporation Mandartech Interiors Inc. Marketech International Corp. Mega Union Technology Incorporated Organo Technology Co., Ltd. Ovivo Taiwan Co., Ltd. Pan Asia (Engineers & Constructors) Corporation San Fu Chemical Co., Ltd. Schneider Electric Taiwan Co., Ltd. Shihlin Electric & Engineering Corporation Siemens Limited Solomon Technology Corporation Swift Engineering Co., Ltd. Taiwan Gleno Enterprise Co., Ltd. Taiwan Puritic Corp. TASA Construction Corporation Techgo Industrial Co., Ltd. Trusval Technology Co., Ltd. Tung Kang Steel Structure Corp. Uangyih-Tech Industrial Co., Ltd. Unelectra International Corp. United Integrated Services Co., Ltd. Versum Materials Taiwan Co., Ltd. Weltall Technology Corporation Wholtech System Hitech Limited Yang Lung-Shih Architect & Associates Yangtech Engineering Co., Ltd. Yankey Engineering Co., Ltd. Ying Pao Technology Inc. Zhao-Cheng Corp.								

(Continued)

Company Name	Types of Property	Transaction Date (Note)	Transaction Amount (Foreign Currencies in Thousands) (Note)	Payment Term	Counterparty (Note)	Nature of Relationships	Prior Transaction of Related Counter-party				Price Reference	Purpose of Acquisition	Other Terms
							Owner	Relationships	Transfer Date	Amount			
TSMC	Fab construction & installation of fab facilities	May 12, 2020	\$ 66,600,000	Based on the terms in the purchase order	84 counterparties, including : ABB Ltd. Accudevice Co., Ltd. Air Liquide Far Eastern Ltd. Allis Electric Co., Ltd. Am-Power Machine International Enterprise Co., Ltd. Atlas Copco Taiwan Ltd. Atlas Technology Corp. Capital Machinery Limited Chen Yuan International Co., Ltd. Chenfull International Co., Ltd. Cheng Deh Fire Protection Industrial Corp. Chien Kuo Construction Co., Ltd. China Steel Structure Co., Ltd. Chun Yuan Steel Industry Co., Ltd. Chung-Lin General Contractors, Ltd. Cica-Huntek Chemical Technology Taiwan Co., Ltd. Confederate Technology Co., Ltd. Da-Cin Construction Co., Ltd. Desiccant Technology Corporation Evergreen Steel Corporation Exyte Taiwan Co., Ltd. Fortune Electric Co., Ltd. Fu Tsu Construction Co., Ltd. Hantech Engineering Co., Ltd. Hsieh Kun Co., Ltd. Hueng Luei Process Industry Co., Ltd. Ingersoll-Rand Southeast Asia (Pte) Ltd. Taiwan Branch (Singapore) J.C. Yang Architect and Associates JG Environmental Technology Co., Ltd. JJmr-Clean-Air Solution Tech.Services Co., Ltd. Jusun Instruments Co., Ltd. Kedge Construction Co., Ltd. Kinetics Technology Corporation	-	N/A	N/A	N/A	N/A	Price comparison and price negotiation	Manufacturing purpose	None

(Continued)

Company Name	Types of Property	Transaction Date (Note)	Transaction Amount (Foreign Currencies in Thousands) (Note)	Payment Term	Counterparty (Note)	Nature of Relationships	Prior Transaction of Related Counter-party				Price Reference	Purpose of Acquisition	Other Terms
							Owner	Relationships	Transfer Date	Amount			
TSMC	Fab construction & installation of fab facilities				L&K Engineering Co., Ltd. Lead-Fu Industrials Corporation Lee Ming Construction Co., Ltd. Li Jin Engineering Co., Ltd. Mandartech Interiors Inc. Marketch International Corp. Mega Union Technology Incorporated Obayashi Coporation Organo Technology Co., Ltd. Ovivo Taiwan Co., Ltd. Pan Asia (Engineers & Constructors) Corporation San Fu Chemical Co., Ltd. San Min Construction Development Schneider Electric Taiwan Co., Ltd. Shihlin Electric & Engineering Corporation Siemens Limited Solomon Technology Corporation Swift Engineering Co., Ltd. Taiwan Gleno Enterprise Co., Ltd. Taiwan Puritic Corp. TASA Construction Corporation Techgo Industrial Co., Ltd. Trusval Technology Co., Ltd. Tung Kang Steel Structure Corp. Uangyih-Tech Industrial Co., Ltd. Unelectra International Corp. United Integrated Services Co., Ltd. Versum Materials Taiwan Co., Ltd. Weltall Technology Corporation Wholtech System Hitech Limited Yangtech Engineering Co., Ltd. Yankey Engineering Co., Ltd. Ying Pao Technology Inc. Zhao-Cheng Corp.								

Note: The disclosures are expected information based on the capital appropriation approved by the Board of Directors. The actual information shall be subject to the final purchase order of the Company.

(Concluded)

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 SIX MONTHS ENDED JUNE 30, 2020

(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	\$ 352,641,221	56	(Note)	-	(Note)	\$ 88,922,744	64	
			Sales	2,609,107	-	Net 30 days from the end of the month of when invoice is issued	-	-	702,987	1	
	TSMC China	Subsidiary	Purchases	9,834,582	19	Net 30 days from the end of the month of when invoice is issued	-	-	(1,677,367)	4	
			Purchases	5,853,437	12	Net 30 days from the end of the month of when invoice is issued	-	-	(892,192)	2	
	WaferTech	Indirect subsidiary	Purchases	4,023,346	8	Net 30 days from the end of the month of when invoice is issued	-	-	(1,332,612)	3	
	SSMC	Associate	Purchases	2,100,430	4	Net 30 days from the end of the month of when invoice is issued	-	-	(513,529)	1	
	VIS	Associate	Purchases	1,631,533	3	Net 30 days from the end of the month of when invoice is issued	-	-	(307,524)	1	
TSMC North America	GUC	Associate of TSMC	Sales	650,739 (US\$ 21,659)	-	Net 30 days from invoice date	-	-	89,439 (US\$ 3,039)	-	
VisEra Tech	Xintec	Associate of TSMC	Sales	388,205	11	Net 30 days from the end of the month of when invoice is issued	-	-	99,134	11	

Note: The tenor is 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 NT\$100 MILLION OR 20% OF THE PAID-IN CAPITAL

JUNE 30, 2020

(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	Subsidiary	\$ 89,884,550	44	\$ -	-	\$ -	\$ -
	TSMC Nanjing	Subsidiary	228,864	Note 2	-	-	-	-
	VIS	Associate	1,505,369	Note 2	-	-	-	-
	SSMC	Associate	1,075,495	Note 2	-	-	-	-
	GUC	Associate	702,987	41	-	-	-	-
TSMC China	TSMC Nanjing	The same parent company	22,702,052 (RMB 5,457,093)	Note 2	-	-	-	-
	TSMC	Parent company	1,677,367 (RMB 403,203)	30	-	-	-	-
TSMC Nanjing	TSMC	Parent company	893,211 (RMB 214,709)	34	-	-	-	-
TSMC Development	WaferTech	Subsidiary	106,520 (US\$ 3,620)	Note 2	-	-	-	-
TSMC Technology	TSMC	The ultimate parent of the Company	382,669 (US\$ 13,003)	Note 2	-	-	-	-
WaferTech	TSMC	The ultimate parent of the Company	1,332,612 (US\$ 45,282)	56	650,996 (US\$ 22,121)	-	-	650,996 (US\$ 22,121)

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 SIX MONTHS ENDED JUNE 30, 2020
(Amounts in Thousands of New Taiwan Dollars)

No.	Company Name	Counterparty	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	\$ 352,641,221	-	57%
				Receivables from related parties	88,922,744	-	4%
				Other receivables from related parties	961,806	-	-
		TSMC Japan	1	Marketing expenses - commission	115,133	-	-
		TSMC Europe	1	Marketing expenses - commission	475,502	-	-
		TSMC China	1	Purchases	9,834,582	-	2%
				Payables to related parties	1,677,367	-	-
		TSMC Nanjing	1	Net revenue from royalties	165,972	-	-
				Purchases	5,853,437	-	1%
				Proceeds from disposal of property, plant and equipment	429,109	-	-
Other receivables from related parties	228,864			-	-		
TSMC Canada	1	Research and development expenses	173,219	-	-		
TSMC Technology	1	Research and development expenses	1,430,624	-	-		
		Payables to related parties	382,669	-	-		
WaferTech	1	Purchases	4,023,346	-	1%		
		Payables to related parties	1,332,612	-	-		
1	TSMC China	TSMC Nanjing	3	Other receivables from related parties	22,702,052	-	1%
2	TSMC Development	WaferTech	3	Other receivables from related parties	106,520	-	-

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 SIX MONTHS ENDED JUNE 30, 2020
 (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 June 30, 2020			Net Income (Losses) of the Investee (Foreign Currencies in Thousands)	Share of Profits/Losses of Investee (Note 1) (Foreign Currencies in Thousands)	Note
				June 30, 2020 (Foreign Currencies in Thousands)	December 31, 2019 (Foreign Currencies in Thousands)	Shares (In Thousands)	Percentage of Ownership	Carrying Value (Foreign Currencies in Thousands)			
TSMC	TSMC Global TSMC Partners	Tortola, British Virgin Islands	Investment activities	\$ 355,162,309	\$ 355,162,309	11	100	\$ 397,677,377	\$ 4,885,397	\$ 4,885,397	Subsidiary
		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	53,594,437	1,212,338	1,212,338	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	8,200,184	2,957,562	835,135	Associate
	SSMC	Singapore	Manufacturing and selling of integrated circuits and other semiconductor devices	5,120,028	5,120,028	314	39	5,759,008	1,054,619	409,087	Associate
	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	5,520,307	1,123,460	976,736	Subsidiary
	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	4,517,620	32,361	32,361	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	1,968,939	298,106	122,603	Associate
	GUC	Hsin-Chu, Taiwan	Researching, developing, manufacturing, testing and marketing of integrated circuits	386,568	386,568	46,688	35	1,018,510	135,503	47,209	Associate
	TSMC Europe	Amsterdam, the Netherlands	Customer service and supporting activities	15,749	15,749	-	100	499,977	44,912	44,912	Subsidiary
	VTAF III	Cayman Islands	Investing in new start-up technology companies	1,318,846	1,318,846	-	98	225,966	(11,111)	(10,889)	Subsidiary
	TSMC Japan	Yokohama, Japan	Customer service and supporting activities	83,760	83,760	6	100	144,013	2,466	2,466	Subsidiary
	VTAF II	Cayman Islands	Investing in new start-up technology companies	260,300	260,300	-	98	100,029	(361)	(353)	Subsidiary
	TSMC JDC	Yokohama, Japan	Engineering support activities	82,080	-	3	100	71,757	(10,327)	(10,327)	Subsidiary
	TSMC Korea	Seoul, Korea	Customer service and supporting activities	13,656	13,656	80	100	39,480	959	959	Subsidiary
TSMC Partners	TSMC Development	Delaware, U.S.A	Investing in companies involved in the manufacturing related business in the semiconductor industry	17,273,022 (US\$ 586,939)	17,273,022 (US\$ 586,939)	-	100	30,079,193 (US\$1,022,094)	826,820 (US\$ 27,526)	Note 2	Subsidiary
	TSMC Technology	Delaware, U.S.A	Engineering support activities	420,306 (US\$ 14,282)	420,306 (US\$ 14,282)	-	100	721,607 (US\$ 24,520)	64,637 (US\$ 2,160)	Note 2	Subsidiary
	TSMC Canada	Ontario, Canada	Engineering support activities	67,687 (US\$ 2,300)	67,687 (US\$ 2,300)	2,300	100	241,064 (US\$ 8,191)	17,407 (US\$ 579)	Note 2	Subsidiary
	ISDF	Cayman Islands	Investing in new start-up technology companies	-	-	583	97	-	-	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	73,683 (US\$ 2,504)	73,683 (US\$ 2,504)	-	100	130,507 (US\$ 4,435)	(601) (US\$ (20))	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	46,891 (US\$ 1,593)	46,891 (US\$ 1,593)	4,693	28	29,107 (US\$ 989)	(33,202) (US\$ (1,095))	Note 2	Associate

(Continued)

Investor Company	Investee Company	Location	Main Businesses and Products	Original Investment Amount		Balance as of June 30, 2020			Net Income (Losses) of the Investee (Foreign Currencies in Thousands)	Share of Profits/Losses of Investee (Note 1) (Foreign Currencies in Thousands)	Note
				June 30, 2020 (Foreign Currencies in Thousands)	December 31, 2019 (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	\$ 5,011,738 (US\$ 170,299)	\$ 705,211 (US\$ 23,486)	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.

(Concluded)

Taiwan Semiconductor Manufacturing Company Limited and Subsidiaries

INFORMATION ON INVESTMENT IN MAINLAND CHINA
FOR SIX MONTHS ENDED JUNE 30, 2020

(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, 2020 (US\$ in Thousands)	Investment Flows		Accumulated Outflow of Investment from Taiwan as of June 30, 2020 (US\$ in Thousands)	Net Income (Losses) of the Investee Company	Percentage of Ownership	Share of Profits/Losses	Carrying Amount as of June 30, 2020	Accumulated Inward Remittance of Earnings as of June 30, 2020
					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)	\$ 3,384,599	100%	\$ 3,344,268 (Note 2)	\$ 58,631,733	\$ -
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)	5,783,476	100%	5,836,775 (Note 2)	26,325,054	-

Accumulated Investment in Mainland China as of June 30, 2020 (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)	\$1,032,728,029 (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.

Taiwan Semiconductor Manufacturing Company Limited

**INFORMATION ON MAJOR SHAREHOLDERS
JUNE 30, 2020**

Shareholders (Note)	Shares	
	Total Shares Owned	Ownership Percentage
ADR-Taiwan Semiconductor Manufacturing Company, Ltd.	5,325,129,093	20.53%
National Development Fund, Executive Yuan	1,653,709,980	6.37%

Note: Major shareholders are all shareholders with ownership of 5 percent or greater.