

3Q19

Quarterly Management Report
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Topics in This Report:

- Revenue Analysis
- Profit & Expense Analysis
- Financial Condition Review
- Cash Flow
- CapEx
- Recap of Recent Important Events & Announcements

Operating Results Review:**Summary:***(Amounts are on consolidated basis and are in NT\$ billions unless otherwise noted)*

	<u>3Q19</u>	<u>2Q19</u>	<u>3Q18</u>	<u>QoQ</u>	<u>YoY</u>
EPS (NT\$ per common share)	3.90	2.57	3.44	51.4%	13.5%
(US\$ per ADR unit)	0.62	0.41	0.56	51.4%	13.5%
Net Revenue (US\$ billions)	9.40	7.75	8.49	21.3%	10.7%
Net Revenue	293.05	241.00	260.35	21.6%	12.6%
Gross Profit	139.41	103.73	123.37	34.4%	13.0%
<i>Gross Margin</i>	<i>47.6%</i>	<i>43.0%</i>	<i>47.4%</i>		
Operating Expenses	(31.38)	(27.17)	(28.13)	15.5%	11.6%
Other Operating Income and Expenses	(0.14)	(0.26)	0.01		
Operating Income	107.89	76.30	95.25	41.4%	13.3%
<i>Operating Margin</i>	<i>36.8%</i>	<i>31.7%</i>	<i>36.6%</i>		
Non-Operating Items	4.45	4.25	3.65		
Net Income Attributable to Shareholders of the Parent Company	101.07	66.77	89.07	51.4%	13.5%
<i>Net Profit Margin</i>	<i>34.5%</i>	<i>27.7%</i>	<i>34.2%</i>		
Wafer Shipment (kpcs 12 inch-equiv.)	2,733	2,308	2,712	18.4%	0.8%

*Note: Diluted weighted average outstanding shares were 25,930mn units in 3Q19***Financial Highlights:****Third Quarter 2019**

- Net revenue was NT\$293.05 billion, representing a 21.6% increase from NT\$241.00 billion in 2Q19 and a 12.6% increase from NT\$260.35 billion in 3Q18.
- Gross margin was 47.6%, 4.6 percentage points higher than 2Q19 and 0.2 percentage point higher than 3Q18.
- Operating margin was 36.8%, up 5.1 percentage points from 2Q19 and up 0.2 percentage point from 3Q18.
- Non-operating items were a gain of NT\$4.45 billion, compared to a gain of NT\$4.25 billion in 2Q19 and a gain of NT\$3.65 billion in 3Q18.
- Net income attributable to shareholders of the parent company was NT\$101.07 billion, up 51.4% from 2Q19 and up 13.5% from 3Q18. Net profit margin was 34.5% and diluted EPS was NT\$3.90.

I. Revenue Analysis

Wafer Revenue by Technology	3Q19	2Q19	3Q18
7nm	27%	21%	11%
10nm	2%	3%	6%
16nm	22%	23%	23%
20nm	1%	1%	2%
28nm	16%	18%	19%
40/45nm	10%	11%	12%
65nm	7%	8%	8%
90nm	2%	3%	4%
0.11/0.13um	2%	2%	3%
0.15/0.18um	9%	8%	9%
0.25um and above	2%	2%	3%

Net Revenue by Platform	3Q19	2Q19	3Q18
Smartphone	49%	45%	45%
High Performance Computing	29%	32%	33%
Internet of Things	9%	8%	6%
Automotive	4%	5%	5%
Digital Consumer Electronics	5%	6%	6%
Others	4%	4%	5%

Net Revenue by Geography	3Q19	2Q19	3Q18
North America	60%	61%	62%
Asia Pacific	9%	10%	10%
China	20%	17%	15%
EMEA	6%	6%	7%
Japan	5%	6%	6%

Revenue Analysis:

In the third quarter, revenue increased 21.6% quarter-over-quarter, driven by new product launches both in premium smartphones and high performance computing applications using TSMC's industry-leading 7nm technology.

By technology, 7nm process technology contributed 27% of total wafer revenue in 3Q19. 10nm process technology contributed 2% while 16nm accounted for 22%. Advanced technologies (16nm and below) accounted for 51% of total wafer revenue.

By platform, revenue from Smartphone, HPC, IoT, and Automotive increased 33%, 10%, 35% and 20% respectively, while DCE decreased 1% and Others remained flat from the second quarter.

From a geographic perspective, revenue from customers based in North America accounted for 60% of total net revenue, while revenue from Asia Pacific, China, EMEA (Europe, Middle East, and Africa) and Japan accounted for 9%, 20%, 6%, and 5% of total net revenue respectively.

II. Profit & Expense Analysis

II - 1. Gross Profit Analysis			
(In NT\$ billions)	3Q19	2Q19	3Q18
Cost of Revenue	153.64	137.27	136.98
Gross Profit	139.41	103.73	123.37
Gross Margin	47.6%	43.0%	47.4%

Gross Profit Analysis:

Gross margin was 47.6% in 3Q19, 4.6 percentage points higher than 2Q19, mainly attributable to the higher level of capacity utilization.

II - 2. Operating Income Analysis

(In NT\$ billions)	<u>3Q19</u>	<u>2Q19</u>	<u>3Q18</u>
Total Operating Expenses	(31.38)	(27.17)	(28.13)
Research & Development	(23.97)	(21.40)	(21.89)
SG&A	(7.41)	(5.77)	(6.24)
Other Operating Income and Expenses	(0.14)	(0.26)	0.01
Operating Income	107.89	76.30	95.25
Operating Margin	36.8%	31.7%	36.6%
Total Operating Expenses as % of Net Revenue	10.7%	11.2%	10.8%

Operating Income Analysis:

Total operating expenses were 10.7% of net revenue in 3Q19, a decrease of 0.5 percentage point from 11.2% in 2Q19, due to better operating leverage. Operating margin improved 5.1 percentage points from 31.7% in 2Q19 to 36.8% in 3Q19.

II - 3. Non-Operating Items

(In NT\$ billions)	<u>3Q19</u>	<u>2Q19</u>	<u>3Q18</u>
L-T Investments	0.92	0.63	1.00
SSMC	0.31	0.19	0.39
Others	0.61	0.44	0.61
Net Interest Income (Expenses)	3.07	3.68	3.08
Other Gains and Losses	0.46	(0.06)	(0.43)
Total Non-Operating Items	4.45	4.25	3.65

Non-Operating Items:

Total non-operating items were a gain of NT\$4.45 billion in 3Q19, compared to a gain of NT\$4.25 billion in 2Q19.

II - 4. Net Profit and EPS

(In NT\$ billions)	<u>3Q19</u>	<u>2Q19</u>	<u>3Q18</u>
Income before Tax	112.34	80.55	98.90
Income Tax Expenses	(11.24)	(13.77)	(9.80)
Effective Tax Rate	10.1%	17.2%	10.0%
Net Income Attributable to the Parent Company	101.07	66.77	89.07
Net Profit Margin	34.5%	27.7%	34.2%
EPS (NT\$ per common share)	3.90	2.57	3.44

Net Profit and EPS:

Net income attributable to shareholders of the parent company was NT\$101.07 billion, up 51.4% from 2Q19 and up 13.5% from 3Q18. The quarter-over-quarter change was partially attributable to the lower effective tax rate in 3Q19.

III. Financial Condition Review

III - 1. Liquidity Analysis			
(Balance Sheet Items)			
(In NT\$ billions)	<u>3Q19</u>	<u>2Q19</u>	<u>3Q18</u>
Cash & Marketable Securities	584.92	764.62	604.02
Accounts Receivable	145.42	116.13	129.54
Inventories	96.69	108.23	105.34
Other Current Assets	22.40	21.20	20.32
Total Current Assets	849.43	1,010.18	859.22
Short-term Loans	85.57	78.26	73.98
Accounts Payable	130.40	103.60	88.89
Current Portion of Bonds Payable	31.80	48.10	34.90
Dividends Payable	116.69	259.38	0.00
Accrued Liabilities and Others	130.32	132.92	123.86
Total Current Liabilities	494.78	622.26	321.63
Current Ratio (x)	1.7	1.6	2.7
Net Working Capital	354.65	387.92	537.59

Liquidity Analysis:

At the end of 3Q19, cash and marketable securities decreased by NT\$179.70 billion to NT\$584.92 billion, largely attributable to the payment of TSMC's 2018 cash dividend of NT\$207.44 billion.

Total current liabilities decreased by NT\$127.48 billion, largely attributable to the payment of 2018 cash dividend and the accrual of dividend payable for the distribution of 2Q19 earnings. At the end of 3Q19, dividend payable was NT\$116.69 billion, which included cash dividends of NT\$51.86 billion for 1Q19 and NT\$64.83 billion for 2Q19.

Net working capital was NT\$354.65 billion and current ratio was 1.7x.

III - 2. Receivable/Inventory Days			
(In Number of Days)	<u>3Q19</u>	<u>2Q19</u>	<u>3Q18</u>
Days of Receivable	41	42	38
Days of Inventory	65	76	73

Receivable and Inventory Days:

Days of receivable decreased 1 day to 41 days in the third quarter.

Days of inventory decreased 11 days to 65 days, primarily attributable to higher wafer shipments during the quarter.

III - 3. Debt Service			
(In NT\$ billions)	<u>3Q19</u>	<u>2Q19</u>	<u>3Q18</u>
Cash & Marketable Securities	584.92	764.62	604.02
Interest-Bearing Debts	(142.47)	(161.66)	(165.78)
Net Cash Reserves	442.45	602.96	438.24

Debt Service:

Net cash reserves decreased NT\$160.51 billion to NT\$442.45 billion in 3Q19, mainly due to the payment of 2018 cash dividend and the repayment of corporate bonds of NT\$26.50 billion.

IV. Cash Flow

IV - 1. Quarterly Cash Flow Analysis			
(In NT\$ billions)	3Q19	2Q19	3Q18
Income before Tax	112.34	80.55	98.90
Depreciation & Amortization	66.76	75.05	73.61
Other Operating Sources/(Uses)	(37.35)	(37.84)	(78.43)
Net Operating Sources/(Uses)	141.75	117.76	94.08
Capital Expenditures	(98.12)	(116.35)	(69.95)
Marketable Financial Instruments	(14.01)	(3.35)	0.82
Other Investing Sources/(Uses)	3.84	4.98	5.66
Net Investing Sources/(Uses)	(108.29)	(114.72)	(63.47)
Increase (Decrease) in Short-term Loans	7.33	1.06	43.37
Cash Dividends	(207.44)	0.00	(207.44)
Other Financing Sources/(Uses)	(29.00)	(1.99)	(8.37)
Net Financing Sources/(Uses)	(229.11)	(0.93)	(172.44)
Exchange Rate Changes	(1.62)	1.92	(1.67)
Cash Position Net Changes	(197.27)	4.03	(143.50)
Ending Cash Balance	452.43	649.70	488.73

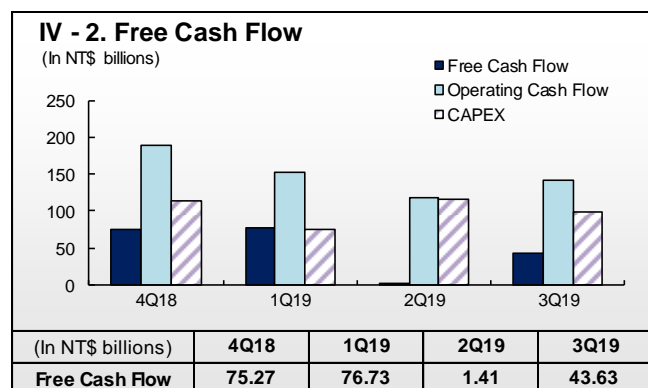
Summary of Cash Flow:

During the third quarter, cash generated from operating activities totaled NT\$141.75 billion, including (1) NT\$112.34 billion from income before tax, (2) NT\$66.76 billion from depreciation & amortization expenses, and (3) NT\$37.35 billion for other operating uses. The other operating uses included an increase in accounts receivable of NT\$29.29 billion, the payment of 2018 employee profit sharing of NT\$22.87 billion, and a decrease of NT\$11.55 billion in inventories.

Net cash used in investing activities was NT\$108.29 billion in 3Q19, primarily including capital expenditures of NT\$98.12 billion and the net purchases of fixed income securities of NT\$14.28 billion.

Net cash used in financing activities was NT\$229.11 billion, largely due to the payment of cash dividends and the repayment of corporate bonds, partially offset by the increase in short-term loans.

As a result, cash position decreased NT\$197.27 billion to NT\$452.43 billion at the end of 3Q19.



Operating and Free Cash Flow:

Free cash flow increased NT\$42.22 billion to NT\$43.63 billion in 3Q19, as a result of higher operating cash flow and lower capital expenditures during the quarter.

V. CapEx

V. Capital Expenditures				
(in US\$ billions)	3Q19	2Q19	1Q19	YTD
Capital Expenditures	3.14	3.75	2.46	9.35

Capital Expenditures:

Capital expenditures for TSMC on a consolidated basis totaled US\$3.14 billion in 3Q19.

VI. Recap of Recent Important Events & Announcements

- TSMC's N7+ Technology is First EUV Process Delivering Customer Products to Market in High Volume (2019/10/07)
- TSMC Files Complaints Against GlobalFoundries in U.S., Germany and Singapore for Infringement of 25 Patents to Affirm its Technology Leadership and to Protect Its Customers and Consumers Worldwide (2019/10/01)
- Arm and TSMC Demonstrate Industry's First 7nm Arm-based CoWoS[®] Chiplets for High-Performance Computing (2019/09/26)
- TSMC Will Vigorously Defend its Proprietary Technology in Response to GlobalFoundries Complaints (2019/08/27)
- TSMC Board of Directors Approves NT\$2.5 Cash Dividend for Second Quarter 2019 and Sets December 19 as Ex-Dividend Date, December 25 as the record date and January 16, 2020 as the distribution date (2019/08/13)
- TSMC to Boost Recruitment by More Than 3,000 New Hires (2019/07/26)