

1Q20

Quarterly Management Report
April 16, 2020**CONTACT**

Jeff Su
Investor Relations Division

TSMC
invest@tsmc.com

886-3-568-2089

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>1Q20</u> | <u>4Q19</u> | <u>1Q19</u> | <u>QoQ</u> | <u>YoY</u> |
|---|-------------|-------------|-------------|------------|------------|
| EPS (NT\$ per common share) | 4.51 | 4.47 | 2.37 | 0.8% | 90.6% |
| (US\$ per ADR unit) | 0.75 | 0.73 | 0.38 | 0.8% | 90.6% |
| Net Revenue (US\$ billions) | 10.31 | 10.39 | 7.10 | -0.8% | 45.2% |
| Net Revenue | 310.60 | 317.24 | 218.70 | -2.1% | 42.0% |
| Gross Profit | 160.78 | 159.20 | 90.36 | 1.0% | 77.9% |
| Gross Margin | 51.8% | 50.2% | 41.3% | | |
| Operating Expenses | (32.33) | (34.94) | (26.02) | -7.5% | 24.2% |
| Other Operating Income and Expenses | 0.07 | (0.02) | (0.07) | | |
| Operating Income | 128.52 | 124.24 | 64.27 | 3.4% | 100.0% |
| Operating Margin | 41.4% | 39.2% | 29.4% | | |
| Non-Operating Items | 3.63 | 4.54 | 3.91 | | |
| Net Income Attributable to Shareholders of the Parent Company | 116.99 | 116.04 | 61.39 | 0.8% | 90.6% |
| Net Profit Margin | 37.7% | 36.6% | 28.1% | | |
| Wafer Shipment (kpcs 12 inch-equiv.) | 2,925 | 2,823 | 2,205 | 3.6% | 32.7% |

Note: Diluted weighted average outstanding shares were 25,930mn units in 1Q20

Financial Highlights:**First Quarter 2020**

- Net revenue was NT\$310.60 billion, representing a 2.1% decrease from NT\$317.24 billion in 4Q19 and a 42.0% increase from NT\$218.70 billion in 1Q19.
- Gross margin was 51.8%, 1.6 percentage points higher than 4Q19 and 10.5 percentage points higher than 1Q19.
- Operating margin was 41.4%, up 2.2 percentage points from 4Q19 and up 12.0 percentage points from 1Q19.
- Non-operating items were a gain of NT\$3.63 billion, compared to a gain of NT\$4.54 billion in 4Q19 and a gain of NT\$3.91 billion in 1Q19.
- Net income attributable to shareholders of the parent company was NT\$116.99 billion, up 0.8% from 4Q19 and up 90.6% from 1Q19. Net profit margin was 37.7% and diluted EPS was NT\$4.51.

I. Revenue Analysis

| Wafer Revenue by Technology | 1Q20 | 4Q19 | 1Q19 |
|-----------------------------|------|------|------|
| 7nm | 35% | 35% | 22% |
| 10nm | 0.5% | 1% | 4% |
| 16nm | 19% | 20% | 16% |
| 20nm | 1% | 1% | 1% |
| 28nm | 14% | 13% | 20% |
| 40/45nm | 10% | 8% | 12% |
| 65nm | 6% | 7% | 8% |
| 90nm | 3% | 3% | 3% |
| 0.11/0.13um | 2% | 3% | 3% |
| 0.15/0.18um | 8% | 8% | 8% |
| 0.25um and above | 2% | 1% | 3% |

| Net Revenue by Platform | 1Q20 | 4Q19 | 1Q19 |
|------------------------------|------|------|------|
| Smartphone | 49% | 53% | 47% |
| High Performance Computing | 30% | 29% | 29% |
| Internet of Things | 9% | 8% | 7% |
| Automotive | 4% | 4% | 5% |
| Digital Consumer Electronics | 5% | 3% | 7% |
| Others | 3% | 3% | 5% |

| Net Revenue by Geography | 1Q20 | 4Q19 | 1Q19 |
|--------------------------|------|------|------|
| North America | 56% | 59% | 60% |
| China | 22% | 22% | 18% |
| Asia Pacific | 11% | 8% | 9% |
| EMEA | 6% | 6% | 7% |
| Japan | 5% | 5% | 6% |

Revenue Analysis:

First quarter revenue decreased 2.1% quarter-over-quarter, which was less than seasonality, due to the increase in HPC-related demand and the continued ramp of 5G smartphones.

By technology, 7nm process technology contributed 35% of total wafer revenue in 1Q20. 10nm process technology contributed 0.5% while 16nm accounted for 19%. Advanced technologies (16nm and below) accounted for 55% of total wafer revenue.

By platform, Smartphone represented 49% and HPC 30% of net revenue, while IoT, Automotive, DCE, and Others each represented 9%, 4%, 5%, and 3%.

Sequentially, revenue from Smartphone, Automotive and Others decreased 9%, 1% and 5% respectively from 4Q19, while HPC, IoT, and DCE increased 3%, 8% and 44% respectively.

From a geographic perspective, revenue from customers based in North America accounted for 56% of total net revenue, while revenue from China, Asia Pacific, EMEA (Europe, Middle East, and Africa) and Japan accounted for 22%, 11%, 6%, and 5% of total net revenue respectively.

II. Profit & Expense Analysis

| II - 1. Gross Profit Analysis | | | |
|-------------------------------|--------|--------|--------|
| (In NT\$ billions) | 1Q20 | 4Q19 | 1Q19 |
| Cost of Revenue | 149.82 | 158.04 | 128.34 |
| Gross Profit | 160.78 | 159.20 | 90.36 |
| Gross Margin | 51.8% | 50.2% | 41.3% |

Gross Profit Analysis:

Gross margin was 51.8% in 1Q20, 1.6 percentage points higher than 4Q19, mainly attributable to the higher level of capacity utilization, partially offset by an unfavorable foreign exchange rate.

II - 2. Operating Income Analysis

| (In NT\$ billions) | <u>1Q20</u> | <u>4Q19</u> | <u>1Q19</u> |
|---|----------------|----------------|----------------|
| Total Operating Expenses | (32.33) | (34.94) | (26.02) |
| Research & Development | (24.97) | (25.63) | (20.42) |
| SG&A | (7.36) | (9.31) | (5.60) |
| Other Operating Income and Expenses | 0.07 | (0.02) | (0.07) |
| Operating Income | 128.52 | 124.24 | 64.27 |
| Operating Margin | 41.4% | 39.2% | 29.4% |
| Total Operating Expenses as % of Net Revenue | 10.4% | 11.0% | 11.9% |

Operating Income Analysis:

Total operating expenses decreased NT\$2.61 billion from NT\$34.94 billion in 4Q19, mainly as 5nm technology moved from R&D stage to volume production.

II - 3. Non-Operating Items

| (In NT\$ billions) | <u>1Q20</u> | <u>4Q19</u> | <u>1Q19</u> |
|---------------------------------------|-------------|-------------|---------------|
| L-T Investments | 0.73 | 0.87 | 0.43 |
| SSMC | 0.23 | 0.27 | 0.12 |
| Others | 0.50 | 0.60 | 0.31 |
| Net Interest Income (Expenses) | 2.46 | 2.67 | 3.51 |
| Other Gains and Losses | 0.44 | 1.00 | (0.03) |
| Total Non-Operating Items | 3.63 | 4.54 | 3.91 |

Non-Operating Items:

Total non-operating items were a gain of NT\$3.63 billion in 1Q20, compared to a gain of NT\$4.54 billion in 4Q19.

II - 4. Net Profit and EPS

| (In NT\$ billions) | <u>1Q20</u> | <u>4Q19</u> | <u>1Q19</u> |
|--|----------------|----------------|---------------|
| Income before Tax | 132.15 | 128.78 | 68.18 |
| Income Tax Expenses | (15.09) | (12.70) | (6.79) |
| Effective Tax Rate | 11.5% | 9.9% | 10.0% |
| Net Income Attributable to the Parent Company | 116.99 | 116.04 | 61.39 |
| Net Profit Margin | 37.7% | 36.6% | 28.1% |
| EPS (NT\$ per common share) | 4.51 | 4.47 | 2.37 |

Net Profit and EPS:

Net income attributable to shareholders of the parent company was NT\$116.99 billion in 1Q20, up 0.8% from 4Q19 and up 90.6% from 1Q19.

Due to tax regulation changes, there will be no surtax on undistributed earnings for TSMC starting 2020. Tax rate is expected to be between 11% and 12% for the full year and all four quarters of the year.

III. Financial Condition Review

| III - 1. Liquidity Analysis | | | |
|------------------------------------|---------------|---------------|---------------|
| (Balance Sheet Items) | | | |
| (In NT\$ billions) | <u>1Q20</u> | <u>4Q19</u> | <u>1Q19</u> |
| Cash & Marketable Securities | 561.55 | 583.45 | 760.25 |
| Accounts Receivable | 146.42 | 139.77 | 106.74 |
| Inventories | 78.28 | 82.98 | 108.68 |
| Other Current Assets | 16.22 | 16.42 | 15.66 |
| Total Current Assets | 802.47 | 822.62 | 991.33 |
| Short-term Loans | 139.31 | 118.52 | 76.59 |
| Accounts Payable | 141.24 | 181.02 | 104.64 |
| Current Portion of Bonds Payable | 12.80 | 31.80 | 48.10 |
| Dividends Payable | 129.65 | 129.65 | 0.00 |
| Accrued Liabilities and Others | 166.47 | 129.75 | 148.94 |
| Total Current Liabilities | 589.47 | 590.74 | 378.27 |
| Current Ratio (x) | 1.4 | 1.4 | 2.6 |
| Net Working Capital | 213.00 | 231.88 | 613.06 |

Liquidity Analysis:

Cash and marketable securities decreased by NT\$21.90 billion from 4Q19 to NT\$561.55 billion in 1Q20.

Total current liabilities decreased slightly by NT\$1.27 billion, as a result of (1) the decrease of NT\$39.78 billion in payables to suppliers and (2) the repayment of NT\$21.60 billion in corporate bonds, offset by (3) the increase of NT\$20.79 billion in short-term loans mainly for hedging purpose and (4) the increase of NT\$36.72 billion in accrued liabilities, mainly for the accrual for income tax payable and for employee profit sharing/bonus.

Net working capital was NT\$213.00 billion and current ratio was 1.4x.

| III - 2. Receivable/Inventory Days | | | |
|---|-------------|-------------|-------------|
| (In Number of Days) | <u>1Q20</u> | <u>4Q19</u> | <u>1Q19</u> |
| Days of Receivable | 42 | 41 | 49 |
| Days of Inventory | 53 | 55 | 79 |

Receivable and Inventory Days:

Days of receivable was 42 days in 1Q20.

Days of inventory decreased 2 days to 53 days, primarily attributable to higher wafer shipments during the quarter.

| III - 3. Debt Service | | | |
|------------------------------|-----------------|-----------------|-----------------|
| (In NT\$ billions) | <u>1Q20</u> | <u>4Q19</u> | <u>1Q19</u> |
| Cash & Marketable Securities | 561.55 | 583.45 | 760.25 |
| Interest-Bearing Debts | (201.58) | (175.42) | (159.99) |
| Net Cash Reserves | 359.97 | 408.03 | 600.26 |

Debt Service:

Net cash reserves decreased NT\$48.06 billion to NT\$359.97 billion in 1Q20.

Interest-bearing debts increased NT\$26.16 billion, mainly reflecting the issuance of NT\$24.00 billion in corporate bonds and the increase in short-term loans, partially offset by the repayment of corporate bonds.

IV. Cash Flow

| IV - 1. Quarterly Cash Flow Analysis | | | |
|---|-----------------|-----------------|----------------|
| (In NT\$ billions) | 1Q20 | 4Q19 | 1Q19 |
| Income before Tax | 132.15 | 128.78 | 68.18 |
| Depreciation & Amortization | 68.55 | 67.53 | 77.55 |
| Other Operating Sources/(Uses) | 2.33 | 6.65 | 6.94 |
| Net Operating Sources/(Uses) | 203.03 | 202.96 | 152.67 |
| Capital Expenditures | (192.56) | (170.01) | (75.94) |
| Marketable Financial Instruments | 0.66 | (0.58) | 7.16 |
| Other Investing Sources/(Uses) | 2.91 | (1.02) | 4.59 |
| Net Investing Sources/(Uses) | (188.99) | (171.61) | (64.19) |
| Increase (Decrease) in Short-term Loans | 20.35 | 35.68 | (12.26) |
| Cash Dividends | (64.83) | (51.86) | 0.00 |
| Other Financing Sources/(Uses) | 3.72 | (1.00) | (10.15) |
| Net Financing Sources/(Uses) | (40.76) | (17.18) | (22.41) |
| Exchange Rate Changes | 2.10 | (11.20) | 1.79 |
| Cash Position Net Changes | (24.62) | 2.97 | 67.86 |
| Ending Cash Balance | 430.78 | 455.40 | 645.67 |

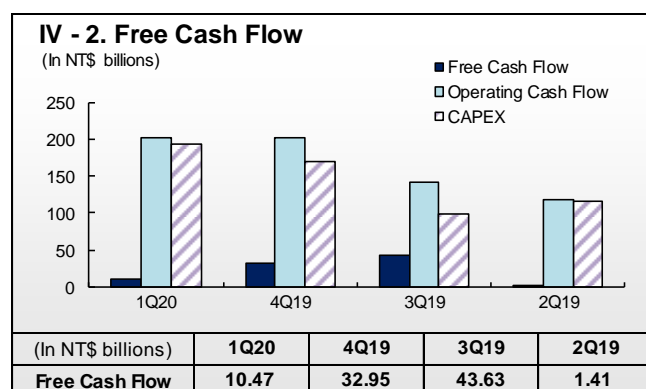
Summary of Cash Flow:

During the first quarter, cash generated from operating activities totaled NT\$203.03 billion, including (1) NT\$132.15 billion from income before tax, (2) NT\$68.55 billion from depreciation & amortization expenses, and (3) NT\$2.33 billion from other operating sources.

Net cash used in investing activities was NT\$188.99 billion in 1Q20, primarily reflecting capital expenditures of NT\$192.56 billion.

Net cash used in financing activities was NT\$40.76 billion, reflecting the payment of 2Q19 cash dividends and the net changes in short-term loans and corporate bonds.

As a result, cash position decreased NT\$24.62 billion to NT\$430.78 billion at the end of 1Q20.



Operating and Free Cash Flow:

Free cash flow decreased NT\$22.48 billion to NT\$10.47 billion in 1Q20, as the increase in capital expenditures outpaced the increase in operating cash flow during the quarter.

V. CapEx

| V. Capital Expenditures | | |
|--------------------------------|-------------|-------------|
| (in US\$ billions) | 1Q20 | 4Q19 |
| Capital Expenditures | 6.39 | 5.55 |

Capital Expenditures:

Capital expenditures for TSMC on a consolidated basis totaled US\$6.39 billion in 1Q20.

VI. Recap of Recent Important Events & Announcements

- TSMC and Broadcom Enhance the CoWoS Platform with World's First 2X Reticle Size Interposer (2020/03/03)
- STMicroelectronics and TSMC Collaborate to Accelerate Market Adoption of Gallium Nitride-Based Products (2020/02/20)
- TSMC Board of Directors Approves NT\$2.5 Cash Dividend for Fourth Quarter 2019 and Sets June 18 as Ex-Dividend Date, June 24 as the Record Date and July 16, 2020 as the distribution date (2020/02/11)
- TSMC Board of Directors Approved the Convening of the 2020 AGM on June 9, 2020, Approved the Nomination of Mr. Yancey Hai as a Candidate for Independent Director, and Approved the Appointment of Mr. Hai as a Member of the TSMC Compensation Committee (2020/02/11)
- TSMC Board of Directors Approved the Issuance of No More Than NT\$60 Billion (approximately US\$2.01 billion) in Unsecured Corporate Bonds (2020/02/11)