

TSMC

Expect a strong 20nm ramp and GM uptick; raise PT to NT\$140

With a 3% increase in our FY14 earnings estimate and a shift of our investment horizon to Dec-14, we raise our PT on TSMC to NT\$140 (15x FY15E earnings, the long-run average P/E) due to an earlier-than-expected inventory cycle, strong 20nm demand pickup in the next two quarters and a potential gross margin pickup in 2014 despite a rise in depreciation expense. We also model an increase in dividends in 2015 after eight years of flat payouts, now that capex intensity is declining. We expect the Street to raise estimates following TSMC's analyst meeting on April 17.

- **Gross margins likely the next area of upside:** With 1Q14 GMs already likely to beat guidance and strong ASP increases kicking in due to the 20nm ramp in 2H14, we expect TSMC's GM profile to improve in 2014 (we now model 48% GMs in 2014). A weakening TWD is also helpful to the lift in gross margins in 2014, in our view.
- **20nm tracking well, with QCOM also on board from 4Q14; 16nm FinFET plus sees good traction:** We expect 20nm demand to progress very strongly from 3Q14 on (primarily Apple) and follow through demand from QCOM (in 4Q14 and 1Q15) that is likely to sustain utilizations at high levels. Early traction for 16nm FinFET plus also appears quite good among fabless vendors, although the volume ramp is likely to be in 2Q15 (one quarter later). The recent weakness in China smartphone data is an incremental negative, but is offset by the rapid increase in low-end smartphone semiconductor content per device (MTK saw a 15% qoq increase in ASPs due to Octa-core).
- **Key questions for analyst meeting:** (1) Design traction on 16 FinFET plus vs. FinFET: Are most customers going for the "Plus" version, and what impact could it have on 16nm timing? (2) ASML indicated uncertainty in FinFET designs and better progress in EUV: Sounds opposite to the direction TSMC indicated in January? (3) What are the prospects of second-wave demand at future nodes like 20nm or 16nm FF? Will this substantially alter the foundry model and ROE (migrate most capacity to leading edge)?

Overweight

2330.TW, 2330 TT

Price: NT\$121.0

▲ **Price Target: NT\$140.0**
Previous: NT\$130.0

Taiwan

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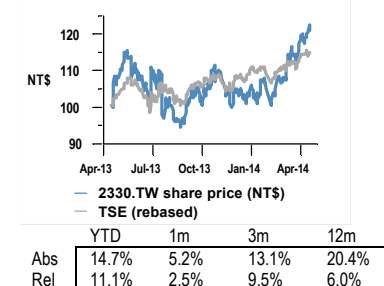
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Price Performance



Share Price: NT\$121.0, Date of Price: (16 Apr 14), Bloomberg 2330 TT, Reuters 2330.TW

| (Year-end Dec, NT\$ B) | FY12 | FY13 | FY14E | FY15E | | FY12 | FY13 | FY14E | FY15E | | |
|-------------------------|-------|-------|-------|-------|----------------------|------------|------|-------|-------|----------------------|------------------|
| Revenue | 506.2 | 597.0 | 706.4 | 790.8 | P/E (x) | 18.9 | 16.7 | 14.0 | 12.6 | 52-Week range | NT\$ 122.5-92.9 |
| Operating profit | 181.1 | 209.4 | 254.7 | 283.5 | P/B (x) | 4.3 | 3.7 | 3.1 | 2.7 | Share out'g | 25,929M |
| EBITDA | 312.4 | 365.6 | 462.7 | 521.4 | EV/EBITDA (x) | 9.9 | 8.5 | 6.8 | 5.7 | Avg daily volume | 41.8M |
| Pre-tax profit | 181.6 | 215.5 | 259.8 | 288.8 | FCF/Mkt cap (%) | 1.1 | 2.2 | 1.4 | 9.0 | Avg daily val (US\$) | 153.4M |
| Adjusted net profit | 166.2 | 188.1 | 224.5 | 248.3 | Price target | Local | | | | Free float | 86.6% |
| Profit growth (%) | 23.8 | 13.2 | 19.3 | 10.6 | PT (31-Dec-14) | NT\$ 140.0 | | | | Market cap (US\$) | 104.0B |
| EPS (NT\$)* | 6.41 | 7.26 | 8.66 | 9.57 | Diff from consensus | 6.0% | | | | Exchange rate | NT\$ 30.17/US\$1 |
| BVPS (NT\$, yr-end) | 27.90 | 32.69 | 39.09 | 45.17 | | | | | | Index (TWSE) | 8923.82 |
| Cash dividend yield (%) | 2.5 | 2.5 | 2.5 | 2.9 | Quarterly EPS (NT\$) | 1Q | 2Q | 3Q | 4Q | | |
| ROE (%) | 22.9 | 22.2 | 22.1 | 21.2 | FY13 | 1.53 | 2.00 | 2.00 | 1.73 | | |
| Net debt/equity (%) | -4.5 | -2.1 | 0.3 | -15.4 | FY14E | 1.83 | 1.83 | 2.61 | 2.38 | | |
| | | | | | FY15E | 2.35 | 2.36 | 2.59 | 2.27 | | |

Source: Company data, Bloomberg, J.P. Morgan estimates.

See page 9 for analyst certification and important disclosures, including non-US analyst disclosures.

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| | | |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Key catalyst(s) for the stock price: <ul style="list-style-type: none"> Inventory correction over 20nm wafer starts under way, with meaningful upside in 2Q14 QCOM on 20nm in 4Q14 28nm HKMG demand stays strong GM margin upside Good traction for 16nm FinFET plus | Upside risks to our view: <ul style="list-style-type: none"> Better-than-expected yield curve demand for 20nm node Limited competition headwinds at 28nm Better-than-expected global end demand | Downside risks to our view: <ul style="list-style-type: none"> Slowdown in mobile device growth Intel's abandoning ATOM and stepping headlong into ARM Foundry |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

| Key financial metrics (in NT\$ mn) | FY12A | FY13A | FY14E | FY15E |
|------------------------------------|---------|---------|---------|---------|
| Revenues | 506,249 | 597,024 | 706,390 | 790,814 |
| Revenue growth (%) | 19% | 18% | 18% | 12% |
| OP profit | 181,057 | 209,429 | 254,698 | 283,509 |
| OP margin (%) | 35.8% | 35.1% | 36.1% | 35.9% |
| Tax rate (%) | 9% | 13% | 14% | 14% |

| | | | | |
|------------|---------|---------|---------|---------|
| Net profit | 166,159 | 188,147 | 224,455 | 248,252 |
|------------|---------|---------|---------|---------|

| | | | | |
|-----------------------|---------|---------|---------|---------|
| EPS (NT\$) | 6.41 | 7.26 | 8.66 | 9.57 |
| EPS growth (%) | 24% | 13% | 19% | 11% |
| DPS (NT\$) | 3.0 | 3.0 | 3.0 | 3.5 |
| BVPS (NT\$) | 27.90 | 32.69 | 39.09 | 45.17 |
| Operating cash flow | 294,337 | 400,009 | 344,329 | 486,189 |
| Free cash flow | 35,833 | 68,691 | 44,113 | 281,618 |
| Interest cover (X) | 177.43 | 79.13 | 82.50 | 123.36 |
| Net margin (%) | 32.8% | 31.5% | 31.8% | 31.4% |
| Sales/assets (X) | 58.5% | 53.8% | 54.1% | 56.8% |
| Net debt/equity (%) | -4.5% | -2.1% | 0.3% | -15.4% |
| ROE (%) (single year) | 22.9% | 22.2% | 22.1% | 21.2% |

| Key model assumptions | FY12A | FY13P | FY14E | FY15E |
|--------------------------------|--------|--------|--------|--------|
| Capacity ('000 wafers, 8" equ) | 15,090 | 16,703 | 18,613 | 19,846 |
| Shipment ('000 wafers, 8" equ) | 14,045 | 15,666 | 17,393 | 18,867 |
| Shipment utilization (%) | 93 | 94 | 93 | 95 |
| Wafer ASP (US\$) | 1,204 | 1,284 | 1,360 | 1,406 |

Source: Bloomberg, Company and J.P. Morgan estimates.

| Sensitivity to | OP Impact | | EPS Impact | |
|---------------------------|-----------|-------|------------|-------|
| | FY14E | FY15E | FY14E | FY15E |
| 1% chg in shipment growth | 3% | | 3% | |
| 1% chg in ASP growth | 3% | | 3% | |
| 1% chg in FX | 3% | | 3% | |

FY14 JPMe assumptions – shipment growth 11%, ASP growth 6%, USD:TWD = 30.1

Source: Bloomberg, Company and J.P. Morgan estimates.

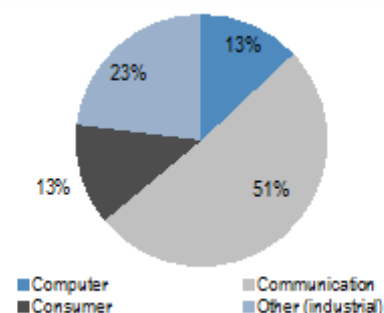
Valuation and price target basis

With a 3% increase in FY14E earnings and a shift of our investment horizon to Dec-14, we raise our PT on TSMC to NT\$140 (15x FY15E earnings, the long-run average P/E) due to an earlier-than-expected inventory cycle, strong 20nm demand pickup in the next two quarters and a potential gross margin pickup in 2014 despite a rise in depreciation expense.

Our Dec-14 PT of NT\$140 translates into a 3.1x FY15E P/B for a company generating 21% ROE, at the higher end of its historical price-to-book range.

Our previous Jun-14 PT of NT\$130 was also based on a 15x 12-month forward P/E.

Revenue by application (as of 4Q13)



Source: Bloomberg, Company and J.P. Morgan estimates.

JPMe vs. consensus, change in estimates

| EPS | FY14E | FY15E |
|-----------|-------|-------|
| JPMe old | 8.40 | 9.44 |
| JPMe new | 8.66 | 9.57 |
| % chg | 3% | 1% |
| Consensus | 8.36 | 9.23 |

Source: Bloomberg, Company and J.P. Morgan estimates.

Table 1: TSMC – 1Q14 preview

NT\$ in billions, EPS in NT\$, Year-end Dec

| | 1Q14 JPMe | 1Q14 consensus* | Variance | 4Q13 | Q/Q | 1Q13 | Y/Y |
|-------------------|--------------|-----------------|------------|--------------|-----------|--------------|------------|
| Revenues | 148.2 | 142.5 | 4% | 145.8 | 2% | 132.8 | 12% |
| Gross profit | 69.6 | 65.2 | 7% | 64.9 | 7% | 60.8 | 15% |
| Operating profit | 51.8 | 47.5 | 9% | 47.8 | 9% | 44.4 | 17% |
| Net profit | 47.5 | 42.4 | 12% | 44.8 | 6% | 39.6 | 20% |
| EPS (NT\$) | 1.83 | 1.67 | 10% | 1.73 | 6% | 1.53 | 20% |
| Gross margin | 47.0% | 45.8% | 120bps | 44.5% | 249bps | 45.8% | 0bps |
| OPM | 35.0% | 33.4% | 162bps | 32.8% | 223bps | 33.5% | -10bps |
| Net margin | 32.0% | 29.8% | 226bps | 30.7% | 132bps | 29.8% | -2bps |

Source: Company data, Bloomberg*, J.P. Morgan estimates.

Estimate revisions

Table 2: TSMC – Quarterly estimate revisions

NT\$ in billions, EPS in NT\$, Year-end Dec

| | Revised | | | Prior | | | Change (%) | | |
|--------------------------------|--------------|--------------|--------------|--------------|--------------|--------------|---------------|---------------|--------------|
| | 1Q14E | 2Q14E | 3Q14E | 1Q14E | 2Q14E | 3Q14E | 1Q14E | 2Q14E | 3Q14E |
| Revenues | 148.2 | 170.4 | 197.6 | 136.9 | 163.3 | 196.6 | 8% | 4% | 1% |
| Gross profit | 69.6 | 79.8 | 98.6 | 61.2 | 73.8 | 97.6 | 14% | 8% | 1% |
| Gross margins | 47.0% | 46.9% | 49.9% | 44.7% | 45.2% | 49.7% | 231bps | 166bps | 22bps |
| Operating profit | 51.8 | 59.4 | 75.1 | 44.5 | 54.2 | 74.2 | 17% | 10% | 1% |
| OPM | 35.0% | 34.9% | 38.0% | 32.5% | 33.2% | 37.8% | 251bps | 166bps | 22bps |
| EBITDA | 97.3 | 111.4 | 129.4 | 89.9 | 107.0 | 128.2 | 8% | 4% | 1% |
| Net profit | 47.5 | 47.5 | 67.6 | 40.8 | 41.4 | 67.0 | 16% | 15% | 1% |
| EPS (NT\$) | 1.83 | 1.83 | 2.61 | 1.58 | 1.60 | 2.58 | 16% | 15% | 1% |
| Operating assumptions | | | | | | | | | |
| Capacity ('000 wafers, 8" equ) | 4,367 | 4,569 | 4,765 | 4,367 | 4,569 | 4,765 | 0% | 0% | 0% |
| Shipment ('000 wafers, 8" equ) | 3,845 | 4,343 | 4,753 | 3,592 | 4,180 | 4,768 | 7% | 4% | 0% |
| Shipment utilization (%) | 88 | 95 | 100 | 82 | 91 | 100 | 580bps | 357bps | -32bps |
| Wafer ASP (US\$) | 1,280 | 1,316 | 1,395 | 1,279 | 1,311 | 1,384 | 0% | 0% | 1% |

Source: Company data, J.P. Morgan estimates.

Table 3: TSMC – Annual estimate revisions

NT\$ in billions, EPS in NT\$, Year-end Dec

| | Revised | | | Prior | | | Change (%) | | |
|--------------------------------|--------------|--------------|--------------|--------------|--------------|--------------|-------------|--------------|-------------|
| | FY13A | FY14E | FY15E | FY13E | FY14E | FY15E | FY13E | FY14E | FY15E |
| Revenues | 597.0 | 706.4 | 790.8 | 597.0 | 696.6 | 784.7 | 0% | 1% | 1% |
| Gross profit | 280.9 | 339.3 | 376.8 | 280.9 | 332.4 | 373.5 | 0% | 2% | 1% |
| Gross margins | 47.1% | 48.0% | 47.6% | 47.1% | 47.7% | 47.6% | 0bps | 32bps | 5bps |
| Operating profit | 209.4 | 254.7 | 283.5 | 209.4 | 248.7 | 280.7 | 0% | 2% | 1% |
| OPM | 35.1% | 36.1% | 35.9% | 35.1% | 35.7% | 35.8% | 0bps | 36bps | 7bps |
| EBITDA | 365.6 | 462.7 | 521.4 | 367.2 | 456.5 | 515.7 | 0% | 1% | 1% |
| Net profit | 188.1 | 224.5 | 248.3 | 188.1 | 217.7 | 244.7 | 0% | 3% | 1% |
| EPS (NT\$) | 7.26 | 8.66 | 9.57 | 7.26 | 8.40 | 9.44 | 0% | 3% | 1% |
| Operating assumptions | | | | | | | | | |
| Capacity ('000 wafers, 8" equ) | 16,703 | 18,613 | 19,846 | 16,703 | 18,613 | 19,902 | 0% | 0% | 0% |
| Shipment ('000 wafers, 8" equ) | 15,666 | 17,393 | 18,867 | 15,666 | 17,188 | 18,958 | 0% | 1% | 0% |
| Shipment utilization (%) | 94 | 93 | 95 | 94 | 92 | 95 | 0bps | 110bps | -19bps |
| Wafer ASP (US\$) | 1,284 | 1,360 | 1,406 | 1,284 | 1,360 | 1,389 | 0% | 0% | 1% |

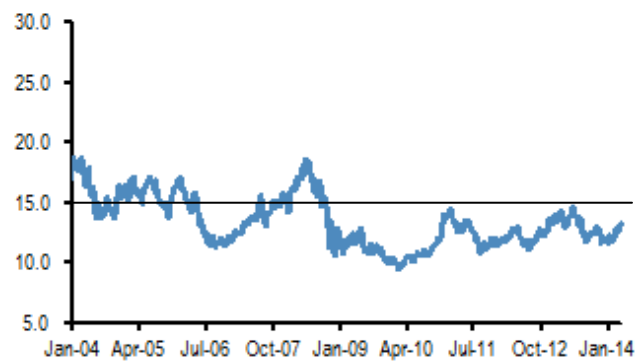
Source: Company data, J.P. Morgan estimates.

Figure 1: TSMC – 12-month forward P/B trend



Source: Company data, Bloomberg and J.P. Morgan calculations.

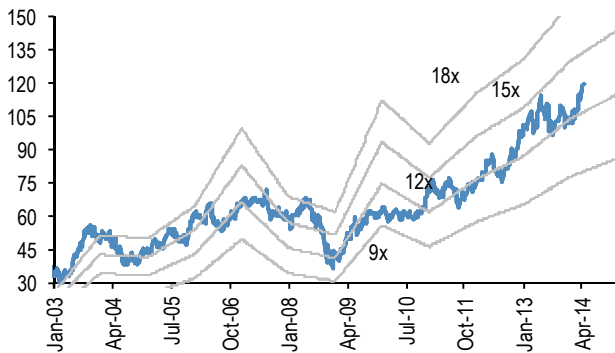
Figure 2: TSMC – 12-month forward P/E trend



Source: Company data, Bloomberg and J.P. Morgan calculations.

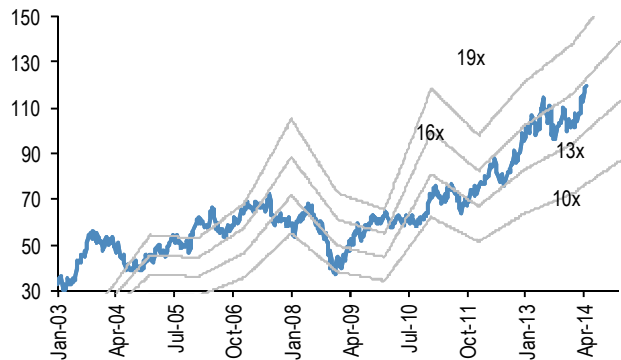
P/E and P/B band charts

Figure 3: TSMC – 12-month forward P/E bands



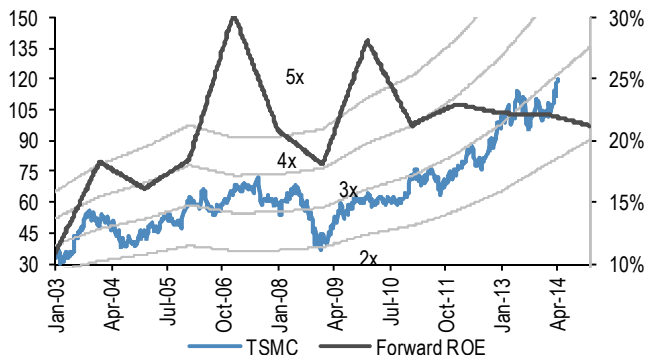
Source: Company data, Bloomberg and J.P. Morgan calculations.

Figure 4: TSMC – Trailing P/E bands



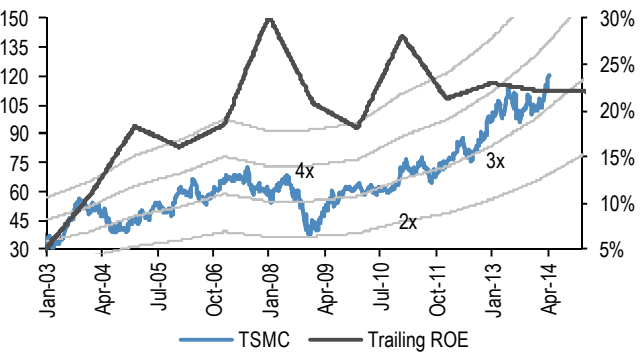
Source: Company data, Bloomberg and J.P. Morgan calculations.

Figure 5: TSMC – 12-month forward P/B bands



Source: Company data, Bloomberg and J.P. Morgan calculations.

Figure 6: TSMC – Trailing P/B bands



Source: Company data, Bloomberg and J.P. Morgan calculations.

TSMC – Earnings model

| | FY13 | | | | FY14E | | | | FY15E | | | | FY11 | FY12 | FY13 | FY14E | FY15E |
|-----------------------------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|
| NT\$ in billions. Year-end Dec | 1Q | 2Q | 3Q | 4Q | 1QE | 2QE | 3QE | 4QE | 1QE | 2QE | 3QE | 4QE | | | | | |
| Sales | 132.8 | 155.9 | 162.6 | 145.8 | 148.2 | 170.4 | 197.6 | 190.2 | 186.1 | 207.0 | 205.5 | 192.2 | 427.1 | 506.2 | 597.0 | 706.4 | 790.8 |
| COGS | -72.0 | -79.5 | -83.7 | -80.9 | -78.6 | -90.6 | -99.0 | -98.9 | -97.6 | -104.2 | -107.4 | -104.9 | -233.0 | -262.7 | -316.1 | -367.1 | -414.0 |
| Depreciation | -36.5 | -38.1 | -40.4 | -41.2 | -45.5 | -52.0 | -54.4 | -56.1 | -58.6 | -58.2 | -60.0 | -61.0 | -107.7 | -131.3 | -156.2 | -208.0 | -237.9 |
| Gross profit | 60.8 | 76.4 | 78.9 | 64.9 | 69.6 | 79.8 | 98.6 | 91.3 | 88.5 | 102.8 | 98.2 | 87.3 | 194.1 | 243.6 | 280.9 | 339.3 | 376.8 |
| Operating expense | -16.3 | -18.8 | -19.3 | -17.1 | -17.8 | -20.4 | -23.5 | -22.8 | -21.9 | -24.6 | -24.2 | -22.6 | -52.5 | -62.5 | -71.5 | -84.6 | -93.3 |
| SG&A | -5.7 | -6.9 | -5.9 | -4.9 | -5.9 | -6.8 | -7.7 | -7.6 | -7.4 | -8.2 | -8.1 | -7.6 | -18.7 | -22.1 | -23.4 | -28.1 | -31.4 |
| R&D | -10.7 | -11.9 | -13.4 | -12.2 | -11.9 | -13.6 | -15.8 | -15.2 | -14.5 | -16.4 | -16.0 | -15.0 | -33.8 | -40.4 | -48.1 | -56.5 | -61.9 |
| Operating (EBIT) | 44.4 | 57.6 | 59.6 | 47.8 | 51.8 | 59.4 | 75.1 | 68.4 | 66.6 | 78.3 | 74.0 | 64.7 | 141.6 | 181.1 | 209.4 | 254.7 | 283.5 |
| Net interest income (expense) | -0.1 | -0.1 | -0.3 | -0.2 | -0.2 | -0.3 | -0.2 | -0.2 | -0.2 | 0.1 | 0.3 | 0.3 | 0.9 | 0.6 | -0.8 | -0.9 | 0.5 |
| Net other income (expense) | 1.5 | 2.5 | 0.0 | 2.8 | 1.1 | 2.6 | 1.1 | 1.2 | 1.2 | 1.2 | 1.2 | 1.2 | 2.7 | -0.1 | 6.9 | 6.0 | 4.8 |
| Pre-tax profit | 45.7 | 60.0 | 59.3 | 50.4 | 52.8 | 61.7 | 76.0 | 69.4 | 67.6 | 79.6 | 75.5 | 66.2 | 145.1 | 181.6 | 215.5 | 259.8 | 288.8 |
| Tax credit (expense) | -6.2 | -8.3 | -7.4 | -5.6 | -5.3 | -14.2 | -8.4 | -7.6 | -6.8 | -18.3 | -8.3 | -7.3 | -10.7 | -15.6 | -27.5 | -35.5 | -40.6 |
| Net profit | 39.6 | 51.8 | 52.0 | 44.8 | 47.5 | 47.5 | 67.6 | 61.8 | 60.8 | 61.3 | 67.2 | 58.9 | 134.2 | 166.2 | 188.1 | 224.5 | 248.3 |
| Adjusted O/S (B) | 25.9 | 25.9 | 25.9 | 25.9 | 25.9 | 25.9 | 25.9 | 25.9 | 25.9 | 25.9 | 25.9 | 25.9 | 25.9 | 25.9 | 25.9 | 25.9 | 25.9 |
| New Taiwan GAAP EPS (NT\$) | 1.53 | 2.00 | 2.00 | 1.73 | 1.83 | 1.83 | 2.61 | 2.38 | 2.35 | 2.36 | 2.59 | 2.27 | 5.18 | 6.41 | 7.26 | 8.66 | 9.57 |
| Key assumption | | | | | | | | | | | | | | | | | |
| Capacity ('000 wafers, 8" equ.) | 3,944 | 4,067 | 4,320 | 4,372 | 4,367 | 4,569 | 4,765 | 4,912 | 4,894 | 4,958 | 4,983 | 5,011 | 13,221 | 15,090 | 16,703 | 18,613 | 19,846 |
| Shipment ('000 wafers, 8" equ.) | 3,570 | 4,034 | 4,194 | 3,868 | 3,845 | 4,343 | 4,753 | 4,451 | 4,377 | 4,919 | 4,981 | 4,591 | 12,549 | 14,045 | 15,666 | 17,393 | 18,867 |
| Shipment utilization (%) | 91 | 99 | 97 | 88 | 88 | 95 | 100 | 91 | 89 | 99 | 100 | 92 | 95 | 93 | 94 | 93 | 95 |
| Wafer ASP (US\$) | 1,253 | 1,289 | 1,305 | 1,285 | 1,280 | 1,316 | 1,395 | 1,434 | 1,426 | 1,412 | 1,384 | 1,405 | 1,135 | 1,204 | 1,284 | 1,360 | 1,406 |
| Margins (%) | | | | | | | | | | | | | | | | | |
| Gross | 45.8 | 49.0 | 48.5 | 44.5 | 47.0 | 46.9 | 49.9 | 48.0 | 47.6 | 49.7 | 47.8 | 45.4 | 45.4 | 48.1 | 47.1 | 48.0 | 47.6 |
| Operating | 33.5 | 37.0 | 36.7 | 32.8 | 35.0 | 34.9 | 38.0 | 36.0 | 35.8 | 37.8 | 36.0 | 33.7 | 33.1 | 35.8 | 35.1 | 36.1 | 35.9 |
| EBITDA | 61.0 | 61.4 | 61.5 | 61.0 | 65.7 | 65.4 | 65.5 | 65.5 | 67.3 | 65.9 | 65.2 | 65.4 | 58.4 | 61.7 | 61.2 | 65.5 | 65.9 |
| Net | 29.8 | 33.2 | 32.0 | 30.7 | 32.0 | 27.9 | 34.2 | 32.5 | 32.7 | 29.6 | 32.7 | 30.6 | 31.4 | 32.8 | 31.5 | 31.8 | 31.4 |
| Growth (% Q/Q) | | | | | | | | | | | | | | | | | |
| Shipment | 0 | 13 | 4 | -8 | -1 | 13 | 9 | -6 | -2 | 12 | 1 | -8 | | | | | |
| ASP | 1 | 3 | 1 | -2 | 0 | 3 | 6 | 3 | -1 | -1 | -2 | 1 | | | | | |
| Sales | 1 | 17 | 4 | -10 | 2 | 15 | 16 | -4 | -2 | 11 | -1 | -6 | | | | | |
| Gross profit | -2 | 26 | 3 | -18 | 7 | 15 | 23 | -7 | -3 | 16 | -5 | -11 | | | | | |
| EBIT | -4 | 30 | 3 | -20 | 9 | 15 | 26 | -9 | -3 | 18 | -5 | -13 | | | | | |
| Net profit | -5 | 31 | 0 | -14 | 6 | 0 | 42 | -9 | -2 | 1 | 10 | -12 | | | | | |
| EPS | -5 | 31 | 0 | -14 | 6 | 0 | 42 | -9 | -2 | 1 | 10 | -12 | | | | | |
| Growth (% Y/Y) | | | | | | | | | | | | | | | | | |
| Shipment | 22 | 9 | 9 | 9 | 8 | 8 | 13 | 15 | 14 | 13 | 5 | 3 | 6 | 12 | 12 | 11 | 8 |
| ASP | 4 | 12 | 7 | 3 | 2 | 2 | 7 | 12 | 11 | 7 | -1 | -2 | 4 | 6 | 7 | 6 | 3 |
| Sales | 26 | 22 | 15 | 11 | 12 | 9 | 22 | 30 | 26 | 22 | 4 | 1 | 2 | 19 | 18 | 18 | 12 |
| Gross profit | 21 | 23 | 14 | 5 | 15 | 4 | 25 | 41 | 27 | 29 | 0 | -4 | -6 | 26 | 15 | 21 | 11 |
| EBIT | 25 | 23 | 13 | 3 | 17 | 3 | 26 | 43 | 28 | 32 | -1 | -5 | -11 | 28 | 16 | 22 | 11 |
| Net profit | 18 | 24 | 5 | 8 | 20 | -8 | 30 | 38 | 28 | 29 | -1 | -5 | -17 | 24 | 13 | 19 | 11 |
| EPS | 18 | 24 | 5 | 8 | 20 | -8 | 30 | 38 | 28 | 29 | -1 | -5 | -17 | 24 | 13 | 19 | 11 |

Source: Company data and J.P. Morgan estimates.

Investment Thesis, Valuation and Risks

TSMC (*Overweight; Price Target: NT\$140.0*)

Investment Thesis

We expect TSMC's sales to grow 18% Y/Y in 2014, with strong growth in 20nm (20%+ of revenues exiting 2014) and 28nm (from the rapid conversion of customers from Poly SiON to High-K Metal gate). TSMC expects strong growth from the mobile market even in 2014, with 35% growth in its mobile revenues, and increased market share in mobile silicon (non-memory) to 47%, up 200 bps from 2013.

Even with a 30%+ hike in depreciation in 2014, TSMC expects structural gross margins to remain intact (~50%) due to a strong blended ASP increase and rigid cost control. With capital intensity coming down meaningfully from 2015, we believe that TSMC could increase cash dividend payouts, as well.

Valuation

With a 3% increase in our FY14 earnings estimate and a shift of our investment horizon to Dec-14, we raise our PT on TSMC to NT\$140 (15x FY15E earnings, the long-run average P/E) due to an earlier-than-expected inventory cycle, strong 20nm demand pickup in the next two quarters and a potential gross margin pickup in 2014 despite a rise in depreciation expense.

Our Dec-14 PT of NT\$140 translates into a 3.1x FY15E P/B for a company generating 21% ROE, at the higher end of its historical price-to-book range.

Our previous Jun-14 PT of NT\$130 was also based on a 15x 12-month forward P/E.

Risks to Rating and Price Target

Key downside risks to our rating and PT include: (1) a slowdown in mobile device growth; and (2) Intel's abandoning ATOM and stepping headlong into ARM Foundry.

TSMC: Summary of Financials

| Income Statement | | | | | Ratio Analysis | | | | |
|------------------------------------------|-------------|-------------|-------------|-------------|--------------------------------|-----------|-----------|-----------|-----------|
| NT\$ in millions, year end Dec | FY12 | FY13 | FY14E | FY15E | NT\$ in millions, year end Dec | FY12 | FY13 | FY14E | FY15E |
| Revenues | 506,249 | 597,024 | 706,390 | 790,814 | Gross margin | 48.1% | 47.1% | 48.0% | 47.6% |
| Cost of goods sold | (262,654) | (316,079) | (367,123) | (414,019) | Operating Margin | 35.8% | 35.1% | 36.1% | 35.9% |
| Gross Profit | 243,595 | 280,946 | 339,267 | 376,795 | EBITDA margin | 61.7% | 61.2% | 65.5% | 65.9% |
| R&D expenses | (40,402) | (48,118) | (56,511) | (61,891) | Net margin | 32.8% | 31.5% | 31.8% | 31.4% |
| SG&A expenses | (22,136) | (23,398) | (28,058) | (31,395) | R&D/sales | 8.0% | 8.1% | 8.0% | 7.8% |
| Operating profit (EBIT) | 181,057 | 209,429 | 254,698 | 283,509 | Sales growth | 18.5% | 17.9% | 18.3% | 12.0% |
| EBITDA | 312,406 | 365,611 | 462,692 | 521,399 | Operating profit growth | 27.9% | 15.7% | 21.6% | 11.3% |
| Interest income | 1,645 | 1,836 | 2,164 | 2,815 | Net profit growth | 23.8% | 13.2% | 19.3% | 10.6% |
| Interest expense | (1,020) | (2,647) | (3,087) | (2,298) | EPS (adjusted) growth | 23.8% | 13.2% | 19.3% | 10.6% |
| Investment income (loss) | 2,029 | 4,478 | 4,543 | 4,775 | Interest coverage (x) | 177.4 | 79.1 | 82.5 | 123.4 |
| Non-operating Income (expense) | (2,156) | 2,390 | 1,500 | 0 | Net debt to equity | (4.5%) | (2.1%) | 0.3% | (15.4%) |
| Earnings before tax | 181,554 | 215,487 | 259,818 | 288,801 | Days receivable | 33.7 | 38.0 | 42.9 | 43.6 |
| Income tax | (15,590) | (27,468) | (35,455) | (40,642) | Days inventory | 43.5 | 43.5 | 42.1 | 41.7 |
| Minority interest & extraordinaries | 195 | 128 | 92 | 92 | Days payable | 18.8 | 18.2 | 16.5 | 14.9 |
| Net income (reported) | 166,159 | 188,147 | 224,455 | 248,252 | Cash cycle | 58.4 | 63.3 | 68.5 | 70.3 |
| Net income (adjusted) | 166,159 | 188,147 | 224,455 | 248,252 | Asset turnover | 58.5% | 53.8% | 54.1% | 56.8% |
| EPS (adjusted) | 6.41 | 7.26 | 8.66 | 9.57 | ROE (single yr) | 22.9% | 22.2% | 22.1% | 21.2% |
| BVPS | 27.9 | 32.7 | 39.1 | 45.2 | | | | | |
| DPS (cash only) | 3.00 | 3.00 | 3.00 | 3.50 | | | | | |
| Adjusted O/S (M) | 25,921 | 25,927 | 25,929 | 25,929 | | | | | |
| Balance sheet | | | | | Cash flow statement | | | | |
| NT\$ in millions, year end Dec | FY12 | FY13 | FY14E | FY15E | NT\$ in millions, year end Dec | FY12 | FY13 | FY14E | FY15E |
| Cash and cash equivalents | 150,918 | 245,343 | 201,220 | 314,880 | Net income | 166,159 | 188,147 | 224,455 | 248,252 |
| Accounts receivable | 52,279 | 72,163 | 93,914 | 94,894 | Depr. & amortization | 131,349 | 156,182 | 207,994 | 237,890 |
| Inventories | 37,830 | 37,495 | 47,122 | 47,507 | Change in receivables | (11,209) | (19,884) | (21,751) | (980) |
| Other current assets | 11,261 | 3,486 | 4,291 | 4,321 | Change in inventory | (12,990) | 336 | (9,627) | (386) |
| Total current assets | 252,289 | 358,487 | 346,546 | 461,603 | Change in payables | 3,380 | 1,120 | 400 | 370 |
| | | | | | Other adjustments | 17,648 | 74,109 | (57,142) | 1,044 |
| Long term investments | 65,786 | 89,184 | 93,727 | 98,502 | Cash flow from operations | 294,337 | 400,009 | 344,329 | 486,189 |
| Gross PPE | 1,498,750 | 1,669,956 | 2,071,543 | 2,310,043 | Capex | (258,504) | (331,318) | (300,216) | (204,571) |
| Accumulated depreciation | (1,000,285) | (1,149,464) | (1,365,229) | (1,603,118) | Purchase (sale) of investments | (31,328) | (23,397) | (4,543) | (4,775) |
| Others | 19,430 | 22,719 | 22,719 | 22,719 | Other adjustments | 4,741 | (3,288) | 0 | 0 |
| Total Assets | 955,035 | 1,263,055 | 1,347,880 | 1,434,393 | Cash flow from investing | (285,091) | (358,004) | (304,759) | (209,346) |
| | | | | | Free cash flow | 35,833 | 68,691 | 44,113 | 281,618 |
| Short-term loans | 35,757 | 15,645 | 14,081 | 9,238 | Equity raised/(repaid) | 82 | 42 | 1 | 0 |
| Accounts payable | 15,239 | 16,359 | 16,758 | 17,129 | Debt raised/(repaid) | 63,571 | 109,311 | (22,723) | (70,330) |
| Accrued expenses & other CL | 91,440 | 157,774 | 101,437 | 102,511 | Dividends paid | (77,944) | (77,901) | (77,878) | (90,843) |
| Total current liabilities | 142,436 | 189,778 | 132,276 | 128,878 | Other adjustments | 5,535 | 21,096 | 17,001 | (1,918) |
| Long-term debt | 82,161 | 211,584 | 190,425 | 124,938 | Cash flow from financing | (8,756) | 52,548 | (83,600) | (163,090) |
| Total Liabilities | 229,281 | 415,280 | 334,038 | 263,050 | Net change in cash | 491 | 94,553 | (44,030) | 113,752 |
| Shareholder's equity | 725,754 | 847,775 | 1,013,842 | 1,171,343 | Beginning cash | 150,622 | 150,918 | 245,343 | 201,220 |
| Total Liabilities and Shareholder Equity | 955,035 | 1,263,055 | 1,347,880 | 1,434,393 | Ending cash | 151,113 | 245,470 | 201,312 | 314,972 |

Source: Company reports and J.P. Morgan estimates.

JPM Q-Profile

Taiwan Semiconductor Manufacturing Co., Ltd. (TAIWAN / Information Technology)

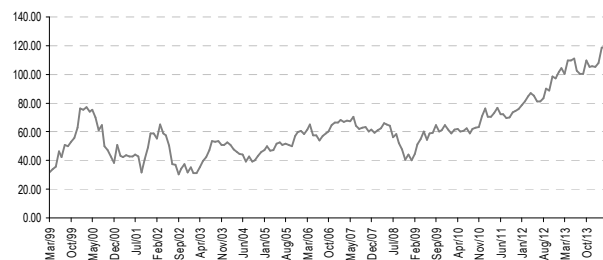
As Of: 11-Apr-2014

Global Equity Quantitative Analysis

Quant_Strategy@jpmorgan.com

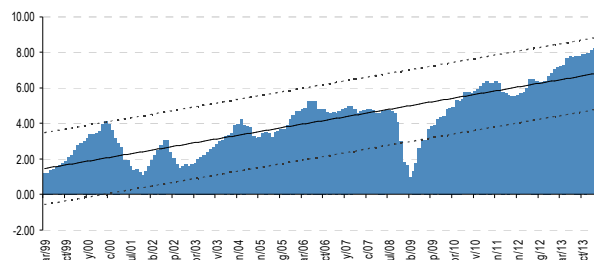
Local Share Price

Current: 119.00



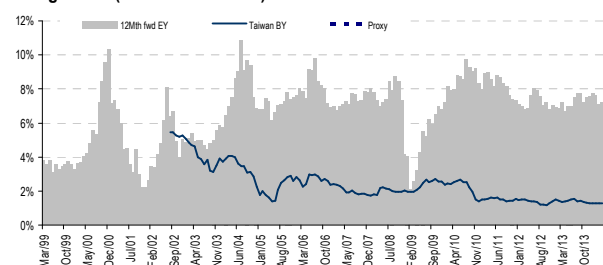
12 Mth Forward EPS

Current: 8.58



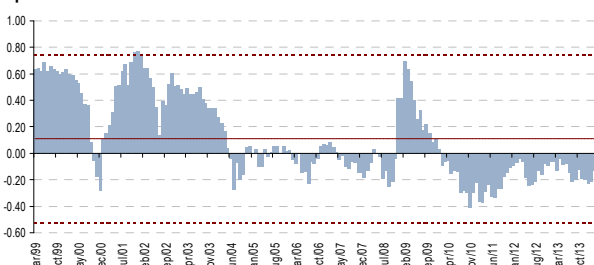
Earnings Yield (& local bond Yield)

Current: 7%



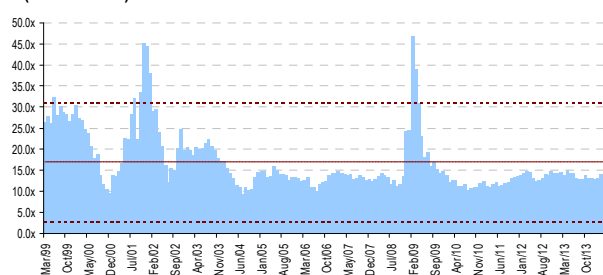
Implied Value Of Growth*

Current: -14.77%



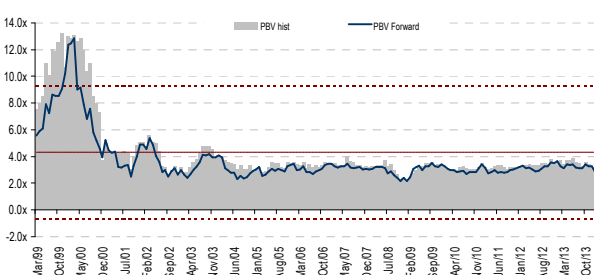
PE (1Yr Forward)

Current: 13.9x



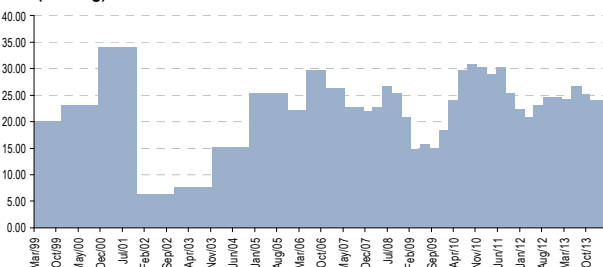
Price/Book Value

Current: 3.6x



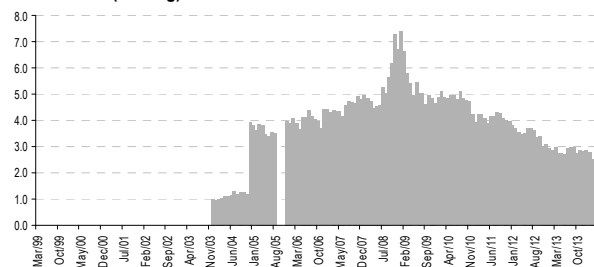
ROE (Trailing)

Current: 23.96



Dividend Yield (Trailing)

Current: 2.53



Summary

| Taiwan Semiconductor Manufacturing Co., Ltd. | | | | | As Of: 11-Apr-14 | | | |
|----------------------------------------------|--------|-------|-------|--------|---------------------|---------|----------|----------|
| TAIWAN | | | | | Local Price: 119.00 | | | |
| Information Technology | | | | | EPS: 8.58 | | | |
| | Latest | Min | Max | Median | Average | 2 S.D.+ | 2 S.D. - | |
| 12mth Forward PE | 13.88x | 9.24 | 46.92 | 14.14 | 16.99 | 31.08 | 2.89 | % to Min |
| P/BV (Trailing) | 3.64x | 2.16 | 13.20 | 3.40 | 4.31 | 9.32 | -0.69 | % to Max |
| Dividend Yield (Trailing) | 2.53 | 0.00 | 7.43 | 3.36 | 2.62 | 6.87 | -1.63 | % to Med |
| ROE (Trailing) | 23.96 | 6.39 | 34.04 | 22.97 | 21.74 | 36.70 | 6.79 | % to Avg |
| Implied Value of Growth | -14.8% | -0.41 | 0.77 | 0.00 | 0.11 | 0.74 | -0.52 | |

Source: Bloomberg, Reuters Global Fundamentals, IBES CONSENSUS, J.P. Morgan Calcs

* Implied Value Of Growth = (1 - EY/Cost of equity) where cost of equity = Bond Yield + 5.0% (ERP)

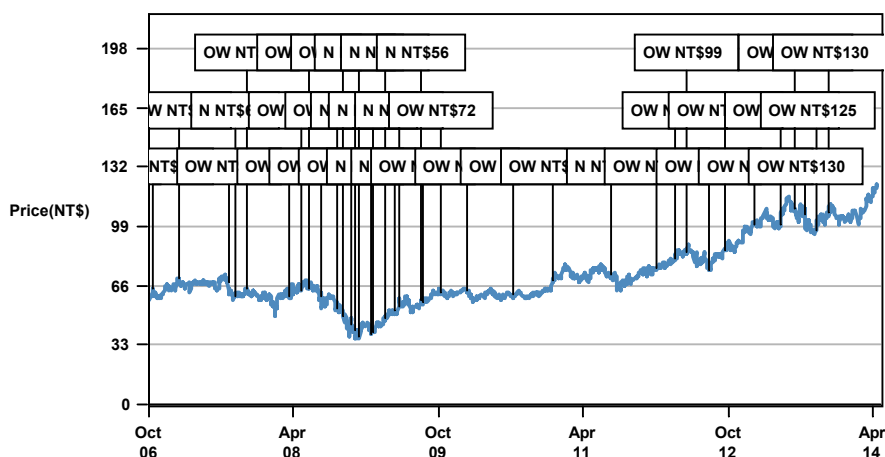
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TSMC (2330.TW, 2330 TT) Price Chart



Source: Bloomberg and J.P. Morgan; price data adjusted for stock splits and dividends.
Initiated coverage Oct 16, 2006.

| Date | Rating | Share Price (NT\$) | Price Target (NT\$) |
|-----------|--------|--------------------|---------------------|
| 16-Oct-06 | OW | 64.0 | 75.0 |
| 25-Jan-07 | OW | 69.9 | 89.0 |
| 26-Jul-07 | OW | 67.5 | 88.0 |
| 22-Aug-07 | N | 60.3 | 63.0 |
| 07-Oct-07 | OW | 64.4 | 80.0 |
| 16-Mar-08 | OW | 60.5 | 69.0 |
| 24-Apr-08 | OW | 64.0 | 73.0 |
| 27-May-08 | OW | 64.8 | 76.0 |
| 15-Jul-08 | OW | 60.0 | 72.0 |
| 11-Sep-08 | OW | 53.4 | 69.0 |
| 07-Oct-08 | OW | 49.5 | 56.0 |
| 31-Oct-08 | OW | 44.7 | 53.0 |
| 17-Nov-08 | N | 41.5 | 35.0 |
| 02-Dec-08 | N | 37.8 | 32.0 |
| 21-Jan-09 | N | 39.4 | 37.0 |
| 23-Jan-09 | N | 40.0 | 35.0 |
| 10-Mar-09 | N | 48.0 | 43.0 |
| 14-Apr-09 | N | 52.2 | 45.0 |
| 01-May-09 | N | 54.9 | 50.0 |
| 26-Jul-09 | N | 57.6 | 56.0 |
| 30-Jul-09 | OW | 56.5 | 65.0 |
| 07-Oct-09 | OW | 62.4 | 72.0 |
| 17-Jan-10 | OW | 62.9 | 75.0 |
| 05-Jul-10 | OW | 61.4 | 80.0 |
| 07-Dec-10 | OW | 68.5 | 88.0 |
| 13-Jul-11 | N | 72.2 | 77.0 |
| 04-Jan-12 | OW | 75.7 | 90.0 |

| | | | |
|-----------|----|-------|-------|
| 13-Mar-12 | OW | 81.3 | 96.0 |
| 26-Apr-12 | OW | 84.2 | 99.0 |
| 19-Jul-12 | OW | 74.8 | 96.0 |
| 18-Sep-12 | OW | 85.7 | 110.0 |
| 09-Jan-13 | OW | 100.0 | 120.0 |
| 18-Apr-13 | OW | 99.9 | 125.0 |
| 11-Jun-13 | OW | 108.5 | 135.0 |
| 19-Jul-13 | OW | 105.5 | 130.0 |
| 30-Aug-13 | OW | 96.8 | 125.0 |
| 17-Oct-13 | OW | 107.0 | 130.0 |

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|---------------------------------------------|---------------------|-------------------|-----------------------|
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| IB clients* | 58% | 49% | 40% |
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