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Zacks Small-Cap Research

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Tower Semiconductor (TSEM-NASDAQ)

TSEM: Weaker Near Term Demand as Pandemic Leaves its Mark on Global Spending

We believe that the stock could be worth $24.20 next year using a 17.8x PE on 2021 EPS of $1.36.

Current Price (05/12/20)	$20.12
Valuation	**$24.20**

OUTLOOK

Tower Semiconductor is a pure-play analog semiconductor wafer foundry that manufactures SiGe, MEMS, RF, embedded flash-based memory, analog/mixed-signal, and CMOS image-sensor devices in the US, Israel and Japan. It is serving high growth markets in mobile such as RF High Position analog, as well as in CMOS image sensors, and power management. In 2020 it is expanding capacity in Japan with a $100 million investment in its fab there to fulfill the high demand for 300mm technology.

SUMMARY DATA

52-Week High	**$25.68**
52-Week Low	**$13.56**
One-Year Return (%)	**1.9**
Beta	**1.4**
Average Daily Volume (sh)	**361,908**
Shares Outstanding (mil)	**107**
Market Capitalization ($mil)	**$2,149**
Short Interest Ratio (days)	**1.0**
Institutional Ownership (%)	**55**
Insider Ownership (%)	**1**
Annual Cash Dividend	**$0.00**
Dividend Yield (%)	**0.00**
5-Yr. Historical Growth Rates	
Sales (%)	**8.0**
Earnings Per Share (%)	**-16.7**
Dividend (%)	**N/A**
P/E using TTM EPS	**21.4**
P/E using 2020 Estimate	**21.9**
P/E using 2021 Estimate	**15.5**
Zacks Rank	**N/A**

Risk Level	**Low**
Type of Stock	**Mid-Value**
Industry	**Elec Comp-Semis**

ZACKS ESTIMATES

Revenue
(in millions of $)

	Q1 (Mar)	Q2 (Jun)	Q3 (Sep)	Q4 (Dec)	Year (Dec)
2018	313 A	345 A	323 A	334 A	1,304 A
2019	310 A	306 A	312 A	306 A	1,234 A
2020	300 A	310 E	322 E	335 E	1,267 E
2021					1,330 E

Earnings Per Share
(Adjusted non-GAAP Diluted)

	Q1 (Mar)	Q2 (Jun)	Q3 (Sep)	Q4 (Dec)	Year (Dec)
2018	$0.31 A	$0.42 A	$0.37 A	$0.41 A	$1.51 A
2019	$0.30 A	$0.24 A	$0.25 A	$0.22 A	$1.00 A
2020	$0.20 A	$0.23 E	$0.26 E	$0.32 E	$1.00 E
2021					$1.36 E

Zacks Projected EPS Growth Rate - Next 5 Years % **10**

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WHAT'S NEW

Revenue Growth Should Resume for Tower Semiconductor, But Expect Slower Sales Growth for Smartphones

Q1 2020 Results

Q1 revenues came at the midpoint of guidance at $300 million down 3.2% year over year. Q2 guidance for revenues was $310 million plus or minus 5%, and very slightly above street expectations. The company has weathered the pandemic well to date and had not missed a day of production or any meaningful disruption in the supply chain. It has taken the precaution of ordering extra inventory to insure a steady production flow.

Revenues from Panasonic and Maxim combined were down $29 million in the quarter compared to down $36 million in Q4. Revenues from everyone else (aka organic) grew 10%. This is the last quarter evidencing the renegotiated contract with Panasonic and from here on out, all growth will be organic.

With the reduction in sales gross margin declined from 20.4% to 17.5%, while gross margin dollars came down $11 million or 17%.

Operating expenses increased $296,000 year over year, and were up $171,000 sequentially. The operating margin declined to 5.5% from 8.8% year over year. On a dollar basis it was down 40%.

Other income was a net expense of $2.1 million compared to income of $725,000 a year ago. Interest rates continue to come down, lowering interest income on the company's substantial cash balance.

Pretax profit was $14.3 million versus $28.1 million a year ago.

The company had a reversal of taxes of $2.1 million in the quarter (from the US CARES ACT) versus paying the same amount last year. The tax rate for the full year of 2020 is still expected to be 4%.

GAAP net income was $17.0 million versus $26.2 million last year, while non-GAAP net income was $21.9 million versus $31.8 million.

Diluted GAAP EPS was $0.19 per share versus $0.25 last year. Adjusted non-GAAP EPS declined to $0.20 versus $0.30 a year ago. Average diluted shares for the quarter were 108.1 million, up from 107.0 million last year. EBITDA for the first quarter of 2020 was $72.8 million compared to $78.8 million a year ago and down sequentially from $74.6 million in Q4 2019.

Balance Sheet and Capacity

The company has **cash, short-term deposits, and marketable securities of $721 million** compared to $747 million last quarter while decreasing debt by $28.7 million to $283 million. Its quick ratio is high at 3.1xs and it has $781 million in working capital. The company has been stockpiling cash to pay for both capacity expansion, as well as acquiring companies that contribute complementary products or technology. This year's planned capacity expansion should be funded out of operating cash flow, leaving current balances the same. Operating cash flow this quarter was $69 million and free cash flow was $6 million.

The company is investing $100 million in capacity expansion in Japan, plus another $20 million for QT9 capacity (TSEM's new 200-millimeter RF SOI technology). This quarter it spent $63 million on investments in cap ex. Plans are to spend the typical $42-44 million per quarter, plus the extra $100 million spent entirely in the first three quarters, plus $20 million for QT9 (spent equally in Q3 and Q4.)

Thus total cap ex for the year should be approximately $290 million. Equipment being installed in the first half of 2020 and the capacity increase should be fully available by the end of the first half of Q2. The company estimates that at full utilization this capacity could provide $70 million in annual revenues and leave the company with a total revenue capacity of $1.65 billion.

2020

In 2020, only Q1 was affected by the contract renegotiation with Panasonic, making overall growth more attainable. The 2020 revenue forecast assumes flat Panasonic revenues after taking out $23 million for contract renegotiation in Q1, Maxim declines of $9 million (also by design in its contract), and growth of 12% for the rest of the business ("low double digits.") This adds to a total of $1.3 billion.

The company continues to grow in 2020 primarily due to increased market share and the growth of the end user markets. All of its product lines should grow expect for discretes where sales continue to decline. **Analog ICs** had very strong growth in Q1. They are benefiting from increasing market share, the ramp of 300mm due to a higher investment in equipment, and 5G handsets. However the mobile market has slowed and it is expected the market will grow more slowly than expected at the beginning of the year. **SiG** had resurgence in late Q4 from optical fiber infrastructure and orders are accelerating. Data centers orders are also rebounding and the company will benefit from higher margins from 400G, 800G and faster speeds. **Power ICs** remain good except for the automotive market and battery management (electric vehicles.) It should ramp in the bottom half of the year and the company expects to gain market share. **Sensors** have two main drivers—optical fingerprints on smartphones and under OLED and LCD, and time to flight for face recognition as well as cameras for gaming and augmented reality. One market not doing well is dental X-rays and dentists have been shut down during the pandemic.

Panasonic is Selling its Holding in TPSCo to Nuvoton as of June 1, 2020

As the result of the corporate-wide strategy of Panasonic Corp. to purge its unprofitable businesses, Panasonic is selling all its semiconductor operations to Nuvoton Technology Corporation (TSEC: 4919) for $250 million in cash. This sale includes Panasonic's interest in TPSCo, the joint venture with Tower Semiconductor. The sale set to happen on June 1, 2020 will keep the current Panasonic contract unchanged with TPSCo.

Utilization

The current fab capacity will allow the company to grow revenues and improve margins through capacity utilization. Tower is expanding capacity at its TPSCo Uozu 300 millimeter foundry in Japan by investing $100 million. The capacity utilization of the 8" TPSCo lines were 55%, but the Uozu 300-millimeter foundry is now at 80% up from 70% last quarter and expectations are for increased capacity and production there again next quarter.

The company targets 85% utilization at its fabs and believes that level gives the company the capacity to generate $1.65 billion in revenues. Its current fabs were at the following capacity utilization at quarter end:

	Q1 2018	Q2 2018	Q3 2018	Q4 2018	Q1 2019	Q2 2019	Q3 2019	Q4 2019	Q1 2020
Fab1 Migdal Haemek, Israel 6"	90%	95%	90%	90%	84%	76%	60%	70%	60%
Fab2 Migdal Haemek, Israel 8"	80%	85%	80%	76%	70%	80%	80%	70%	70%
Fab3 Newport Beach, CA 8"	80%	85%	85%	90%	80%	70%	50%	50%	55%
Three TPSCo factories	50%	50%	60%	55%	50%	50%	NA	NA	NA
8 inch	NA	NA	NA	NA	NA	NA	50%	55%	55%
12 inch	NA	NA	NA	NA	NA	NA	60%	70%	80%
San Antonio, 8"	55%	60%	50%	50%	50%	50%	50%	55%	65%

KEY POINTS

- Although the semiconductor market is typically considered cyclical, we believe that based on the end-user markets for which Tower Semiconductor's products used, it should be less so. The company is currently being impacted in slower sales of mobile handsets and discretes.
- As a foundry, the company has natural operating leverage given its high fixed costs. Every dollar in revenue tends to add over $0.50 to gross margin. When the company adds 12" revenues that blended percentage will trend higher as 12" can sell at 60+ gross margins. 300nm product also enjoys higher gross margins
- The company has a strong market position in high quality imaging and 3D, which is increasing being used for gesturing controls, machine vision, security anti-crash systems and self driving cars, as well as smartphones with high megapixel cameras.
- The company has considerable exposure to data center growth and 5G and should be a major beneficiary of these growing markets in 2020 and beyond.
- The company has no fabs in China and suffers less disruption to its business than its Chinese competitors due to the coronavirus or political supply chain directives.
- We believe the stock is currently undervalued on a PE basis versus peers. Our price target is $24.20 per share, and we expect continued sequential improvement in revenues, earnings, and margins going forward.

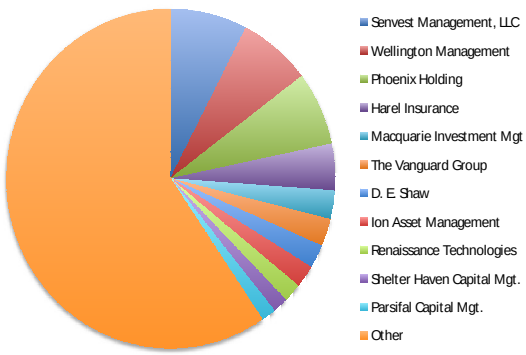
VALUATION

Our fully diluted non-GAAP EPS estimate for 2020 for TSEM is $1.00 and our 2021 EPS estimate is $1.36. We believe the stock deserves a PE of at least 17.8xs in line with its peers or a stock price of $24.20 per share by next year.

The biggest risks to the stock is that weakness in the industry in general caused by the pandemic and China in specific, continues, or somehow its ramp of 300 mm technology is impeded or constrained.

Foundry Companies	Ticker	EPS 20E	EPS 21E	Price	PE 2020E	PE 2021E	Growth Rate	2020E Sales	EV/Sales
Company									
Taiwan Semiconductor	TSM	2.70	3.14	50.92	18.9	16.2	16.3%	41.76	5.78
United Microelectronics	UMC	0.15	0.19	2.51	16.7	13.2	26.7%	5.38	1.01
Average					17.8	14.7			3.4

OWNERSHIP



Source: Zacks Investment Research

INCOME STATEMENT

	March Q1 19	June Q2 19	Sept Q3 19	Dec Q4 19	March Q1 20	June Q2 20E	Sept Q3 20E	Dec Q4 20E	2019	2020E	2021E
REVENUE	310.1	306.1	312.1	305.7	300.2	310.0	322.0	335.0	1,234.0	1,267.2	1,330.5
Yr-to-yr Gr.	-1%	-9%	-3%	-8%	-3%	1%	3%	10%	-5%	3%	5%
OPERATING EXPENSES											
Cost of goods sold	247.0	252.7	253.8	250.9	247.6	252.5	258.5	265.0	1,004.3	1,023.8	1,055.4
Gross Margin	63.2	53.4	58.3	54.8	52.5	57.5	63.5	70.0	229.7	243.4	275.1
% of Sales	20.4%	17.4%	18.7%	17.9%	17.5%	18.5%	19.7%	20.9%	18.6%	19.2%	20.7%
R&D	19.2	18.8	18.7	18.9	19.4	19.2	18.8	18.5	75.6	75.9	78.0
M, G&A	16.6	16.8	16.8	17.1	16.7	16.7	16.7	16.7	67.4	66.8	68.0
One-time charges	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Tot Operating Exp.	35.8	35.7	35.6	35.9	36.1	35.9	35.5	35.2	143.0	142.7	146.0
Operating Income	27.3	17.8	22.7	18.9	16.4	21.6	28.0	34.8	86.7	100.7	129.1
Operating Margin	9%	6%	7%	6%	5%	7%	9%	10%	7.0%	8%	10%
Yr-to-yr Gr.	-14%	-60%	-41%	-53%	-40%	21%	23%	84%	-44%	16%	28%
Interest & other non-cash financing	0.7	0.9	(0.4)	3.1	(2.1)	(2.0)	0.0	0.0	4.3	(4.1)	(1.0)
Other income	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Gain from acqusiition	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Profit before tax	28.1	18.7	22.3	22.0	14.3	19.6	28.0	34.8	91.0	96.6	128.1
Profit margin	9.1%	6.1%	7.1%	7.2%	4.8%	6.3%	8.7%	10.4%	7.4%	7.6%	9.6%
Taxes	(1.7)	1.0	0.1	(2.4)	1.7	(1.1)	(2.0)	(2.5)	(2.9)	(3.9)	(5.1)
Tax Rate	5.9%	5.4%	0.3%	10.7%	11.9%	5.6%	7.2%	7.2%	3.2%	4.0%	4.0%
Profit before non-controlling	26.4	19.7	22.4	19.6	16.0	18.5	26.0	32.3	88.1	92.7	123.0
Minority Income	(0.2)	1.2	(0.2)	1.1	1.0	0.0	(1.4)	(1.6)	2.0	(2.0)	8.0
GAAP Net income	26.2	20.9	22.2	20.7	17.0	18.5	24.6	30.7	90.0	90.7	131.0
Yr-to-yr Gr.	0%	-45%	-34%	-46%	-35%	-12%	11%	48%	-34%	1%	44%
Non-GAAP Net Income	31.7	25.3	26.5	24.2	21.9	22.4	28.6	34.9	107.68	107.68	146.87
GAAP primary EPS	$0.25	$0.20	$0.21	$0.19	$0.16	$0.17	$0.23	$0.29	$0.85	$0.85	$1.22
Fully diluted GAAP	$0.25	$0.20	$0.21	$0.19	$0.16	$0.17	$0.23	$0.28	$0.84	$0.84	$1.21
Adj Non-GAAP EPS-Fully dil.	**$0.30**	**$0.24**	**$0.25**	**$0.22**	**$0.20**	**$0.23**	**$0.26**	**$0.32**	**$1.00**	**$1.00**	**$1.36**
Yr-to-yr Gr.	-20%	-53%	-45%	-53%	-47%	-28%	-8%	26%	-34%	-1%	36%
Primary Share Out	105.3	106.3	106.6	106.7	106.8	106.9	107.0	107.1	106.3	106.7	107.1
Fully Diluted GAAP	107.0	107.2	107.6	108.0	108.1	108.1	108.1	108.1	107.4	108.0	108.1
All in shares	108.2	109.0	109.0	109.0	109.0	109.0	109.0	109.0	108.8	109.0	109.0
EBITDA	**78.8**	**70.1**	**75.3**	**74.6**	**72.8**	**77.7**	**84.2**	**91.2**	**298.9**	**325.8**	**345.0**
EBITDA Margin	25%	23%	24%	24%	24%	25%	26%	27%	24%	26%	26%
Yr-to-yr Gr.	-6%	-27%	-15%	-19%	-8%	11%	12%	22%	-17%	9%	6%

BALANCE SHEET

$ in thousands	Mar. 31, 2019	Dec. 31, 2019	Qtr-Qtr % Change	Mar. 31, 2019	Yr-Yr % Change
CURRENT ASSETS					
Cash and cash equivalents	**$251,348**	**$355,561**	-29.3%	**$408,098**	-38.4%
Short term deposits	**$277,857**	**$215,609**	28.9%	**$121,101**	129.4%
Marketable securities	**$191,434**	**176,070**	8.7%	**$144,023**	32.9%
Trade accounts receivable	115,194	126,966	-9.3%	134,223	-14.2%
Inventories	198,285	192,256	3.1%	173,782	14.1%
Other current assets	22,332	22,019	1.4%	22,084	1.1%
Total current assets	**1,056,450**	**1,088,481**	-2.9%	**1,003,311**	5.3%
LONG-TERM INVESTMENTS	39,562	40,085	-1.3%	36,117	9.5%
PROPERTY AND EQUIPMENT, NET	732,169	681,939	7.4%	698,447	4.8%
INTANGIBLE ASSETS, NET	9,963	10,281	-3.1%	11,759	-15.3%
GOODWILL	7,000	7,000	0.0%	7,000	0.0%
DEFERRED TAX & OTHER ASSETS, NET	93,032	105,047	-11.4%	89,357	4.1%
TOTAL ASSETS	1,938,176	1,932,833	0.3%	1,845,991	5.0%
CURRENT LIABILITIES					
Short term debt	**62,885**	**65,932**	-4.6%	**43,148**	45.7%
Trade accounts payable	148,671	119,199	24.7%	109,536	35.7%
Deferred revenue	10,191	10,322	-1.3%	9,213	10.6%
Other current liabilities	54,192	57,603	-5.9%	60,512	-10.4%
Total current liabilities	**275,939**	**253,056**	9.0%	**222,409**	24.1%
LONG-TERM DEBT	**220,216**	**245,821**	-10.4%	**265,397**	-17.0%
LONG-TERM CUSTOMERS' ADVANCES	27,755	28,196	-1.6%	28,939	-4.1%
EMPLOYEE RELATED LIABILITIES	12,730	13,285	-4.2%	14,092	-9.7%
DEFERRED TAX LIABILITY	40,941	45,752	-10.5%	47,968	-14.6%
Total liabilities	577,581	586,110	-1.5%	578,805	-0.2%
SHAREHOLDERS' EQUITY	1,360,595	1,236,205	10.1%	1,267,186	7.4%
TOTAL LIABILITIES AND SHAREHOLDERS' EQUITY	$1,938,176	$1,822,315	6.4%	$1,845,991	5.0%
Current Ratio	3.8	4.3	-11.0%	4.5	-15.1%
Quick Ratio	3.1	3.5	-12.2%	3.7	-16.6%
Working Capital	780,511	835,425	-6.6%	780,902	-0.1%
Debt Percent of Assets	15%	16%	-9.4%	17%	-12.6%
Debt to Equity	0.2	0.3	-17.5%	0.2	-14.5%
Cash and equivalents	720,639	747,240	-3.6%	673,222	7.0%
Cash and equivalents per share	$6.75	$7.03	-4.1%	$6.29	7.2%
Debt	283,101	311,753	-9.2%	308,545	-8.2%

CASH FLOW

	3-Mo 31-Mar-18	3-Mo 30-Jun-18	3-Mo 30-Sep-18	3-Mo 31-Dec-18	Year 2018	3-Mo 31-Mar-19	3-Mo 30-Jun-19	3-Mo 30-Sep-19	3-Mo 31-Dec-19	Year 2019	3-Mo 31-Mar-20
CASH FLOWS - OPERATING ACTIVITIES											
Net profit (loss)	$ 27,181	$ 36,009	$ 33,674	$ 36,515	$ 133,379	$ 26,400	$ 19,722	$ 22,354	$ 19,597	$ 88,073	$ 16,031
Income and non-cash expense items:											
Depreciation and amortization	53,977	53,493	52,764	54,157	214,391	52,014	52,853	53,203	56,404	214,474	56,796
Effect of fair value measurement on debt	(1,740)	(4,797)	788	(4,042)	(9,791)	4,001	2,204	3,095	994	10,294	(4,069)
Other expense (income), net	(22)	(1,578)	36	4,006	2,442	(17)	(428)	(266)	(3,582)	(4,293)	(14)
Changes in assets and liabilities:											
Trade accounts receivable	8,089	(18,351)	(3,767)	10,933	(3,096)	18,606	12,665	(496)	(3,458)	27,317	11,685
Other receivables and other current assets	3,370	5,713	(919)	3,096	11,260	(3,705)	(2,050)	(1,978)	3,133	(4,600)	7,355
Inventories	(2,692)	(6,713)	(7,237)	(9,702)	(26,344)	(3,395)	378	(13,276)	(4,728)	(21,021)	(6,171)
Trade accounts payable	(6,313)	10,222	(2,688)	(4,783)	(3,562)	(2,651)	(12,553)	12,110	2,755	(339)	(6,199)
Deferred revenue and customers' advances	(712)	(5,466)	35	8,768	2,625	(10,685)	(2,964)	4,178	(860)	(10,331)	(571)
Other current liabilities	(4,219)	13,355	(2,764)	(7,239)	(867)	(4,803)	2,957	(6,494)	(1,095)	(9,435)	(3,248)
Employee related liabilities	(387)	193	(240)	(361)	(795)	68	(29)	(32)	(317)	(310)	(31)
Deferred tax liability, net	(1,531)	(5,151)	(211)	148	(6,745)	(965)	(599)	337	2,718	1,491	(3,228)
Net cash provided by operating activities	**75,001**	**76,929**	**69,471**	**91,496**	**312,897**	**74,868**	**72,156**	**72,735**	**71,561**	**291,320**	**68,336**
CASH FLOWS - INVESTING ACTIVITIES											
Investments in property and equipment, net	**(40,047)**	**(40,148)**	**(40,892)**	**(48,654)**	**(169,741)**	**(41,718)**	**(43,727)**	**(43,017)**	**(43,704)**	**(172,166)**	**(62,907)**
Interest bearing deposits, including designated deposits	(14,963)	(15,488)	(4,899)	(123,126)	(158,476)	(6,726)	(27,099)	(11,573)	(87,530)	(132,928)	(85,356)
Net cash provided by (used in) investing activities	(55,010)	(55,636)	(45,791)	(171,780)	(328,217)	(48,444)	(70,826)	(54,590)	(131,234)	(305,094)	(148,263)
CASH FLOWS - FINANCING ACTIVITIES											
Exercise of warrants and options	658	26	21	9	714	397	0	43	1,402	1,842	87
Debt repayment	(6,656)	3,809	(43,078)	(2,924)	(48,849)	(3,074)	(7,475)	(5,606)	(3,247)	(19,402)	(24,197)
TPSCo dividend to Panasonic	0	0	0	0	0	0	0	0	0	0	0
Net cash used in financing activities	(5,998)	3,835	(43,057)	(2,915)	(48,135)	(2,677)	(7,475)	(5,563)	(1,845)	(17,560)	(24,110)
Effect of foreign exchange rate change	4,707	(2,909)	(3,057)	3,844	2,585	(740)	3,205	(104)	(557)	1,804	(176)
INCREASE (DECREASE) IN CASH AND CASH EQUIVALENTS	18,700	22,219	(22,434)	(79,355)	(60,870)	23,007	(2,940)	12,478	(62,075)	(29,530)	(104,213)
CASH AND CASH EQUIVALENTS - BEGINNING OF PERIOD	445,961	464,661	486,880	464,446	445,961	385,091	408,098	405,158	417,636	385,091	355,561
CASH AND CASH EQUIVALENTS - END OF PERIOD	464,661	486,880	464,446	385,091	385,091	408,098	405,158	417,636	355,561	355,561	251,348
Operating Cash Flow	$ 79,396	$ 83,127	$ 87,262	$ 90,636	$ 340,421	$ 82,398	$ 74,351	$ 78,386	$ 73,413	$ 308,548	$ 68,744
Free cash flow	$ 39,349	$ 42,979	$ 46,370	$ 41,982	$ 170,680	$ 40,680	$ 30,624	$ 35,369	$ 29,709	$ 136,382	$ 5,837

HISTORICAL STOCK PRICE



Source: Zacks Investment Research

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