Zacks Small-Cap Research

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TowerJazz

(TSEM-NASDAQ)

TSEM: OUTPERFORM Panasonic Joint Venture Kicks Up Growth

OUTLOOK

TowerJazz (formerly Tower Semiconductor) is a pure-play semiconductor wafer foundry that manufactures SiGe, MEMS, RF, embedded flash-based memory, analog/mixed-signal, and CMOS image-sensor devices. Its recent joint venture agreement with Panasonic should add $400m in new consolidated annual revenues. Additionally, with the closing of a fab, increased capacity utilization and lower costs should be a boom to earnings in 2015 and beyond.

Current Recommendation	**Outperform**
Prior Recommendation	Neutral
Date of Last Change	02/23/2012
Current Price (08/05/14)	$10.63
Target Price	**$17**

SUMMARY DATA

52-Week High	**$11.51**
52-Week Low	**$3.86**
One-Year Return (%)	**128.66**
Beta	**1.74**
Average Daily Volume (sh)	**769,179**
Shares Outstanding (mil)	**50**
Market Capitalization ($mil)	**$520**
Short Interest Ratio (days)	**1.57**
Institutional Ownership (%)	**14**
Insider Ownership (%)	**1**
Annual Cash Dividend	**$0.00**
Dividend Yield (%)	**0.00**
5-Yr. Historical Growth Rates	
Sales (%)	**15.6**
Earnings Per Share (%)	**N/A**
Dividend (%)	**N/A**
P/E using TTM EPS	**8.4**
P/E using 2014 Estimate	**7.2**
P/E using 2015 Estimate	**5.7**
Zacks Rank	**3**

Risk Level	**Above Average**
Type of Stock	**Small-Blend**
Industry	**Elect. Comp-Semi**

ZACKS ESTIMATES

Revenue
(in millions of $)

	Q1 (Mar)	Q2 (Jun)	Q3 (Sep)	Q4 (Dec)	Year (Dec)
2012	168 A	140 A	176 A	148 R	639 R
2013	113 A	125 A	133 A	135 A	505 A
2014	133 A	234 A	223 E	240 E	830 E
2015					970 E

Earnings per Share
(Non-GAAP Fully Diluted)

	Q1 (Mar)	Q2 (Jun)	Q3 (Sep)	Q4 (Dec)	Year (Dec)
2012	$0.68 A	$0.90 A	$0.90 A	$0.44 R	$2.65 A
2013	$0.15 A	$0.21 A	$0.25 A	$0.30 A	$0.97 A
2014	$0.30 A	$0.41 A	$0.38 E	$0.43 E	$1.48 E
2015					$1.88 E

Income Statement uses fully diluted shares outstanding

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WHATS NEW

Q2 2014 Beats with Higher than Expected Revenues

TowerJazz reported its first quarter with the Panasonic joint venture (TPS) included. It reported revenues of $234.1 million versus $125.2 million last year up 87% and versus $112.6 million in the first quarter of 2014, which had no joint venture revenues. This was $9 million higher than we expected. For the third quarter, ending September 30, 2014, the company guided to a range of $213-236 million in revenues with a mid-point of $225, which is $5 million higher than our previous estimate. This number is sequentially lower because of the drop off in Micron revenues that are expected to now be zero going forward from $31 million per quarter for the past six quarters. In Q3, the company expects 20% organic growth.

Fully diluted non-GAAP came in at $0.41 (up 68% year over year), four cents higher than our estimate of $0.37 primarily due to results at the joint venture. This number compares to $0.25 in Q2 2013 and $0.30 in Q1 2014. Versus our estimate, numbers varied mainly because of minority interest in the joint venture. Rather than breaking even, the joint venture had a loss of $13.7 million. When revenues and expenses were consolidated, 49% of the loss that Tower does not own was added back to profits. In this quarter this was a difference of $6.7 million, but the company had a number of start up expenses this quarter and loss should decline to $3-4 million per quarter or $1-2 million added back to TSEM. With increased volume and capacity utilization the JV should swing to profits in 2015.

Most importantly, the company reported better than expected business activities in tits first quarter working with the Panasonic joint venture, TPS. It signed strong contracts and entered business agreements with multiple third party image sensor companies and top-tier integrated device manufacturers. It expects this new business should reach well above $100 million in annual revenues at high margin. This is above and beyond the $360 to $420 million in revenues expected to be generated by Panasonic, and in line with our forecast for 2015.

Gross margin for the quarter was down significantly from gross margins that the company showed pre-joint venture. It went from 35.2% last year's quarter to 26.7% this quarter and 33.5% in Q1 2014. This is due to the blended margins of the legacy business, combined with very low margin Panasonic business in the joint venture. In the joint venture, the fab is below 50% capacity utilization and the price of revenues paid by Panasonic by contract is designed to cover the cost of the fab.

Operating expenses jumped significantly as the company reallocated costs from cost of goods, down to operating expenses from the joint venture accounting. R&D increased $6.5 million from Q1, while M, G&A increased to $15.6 from $9.9 in Q1. The company explained that although there were a few start up costs in the quarter, these numbers are not expected to be significantly lower going forward.

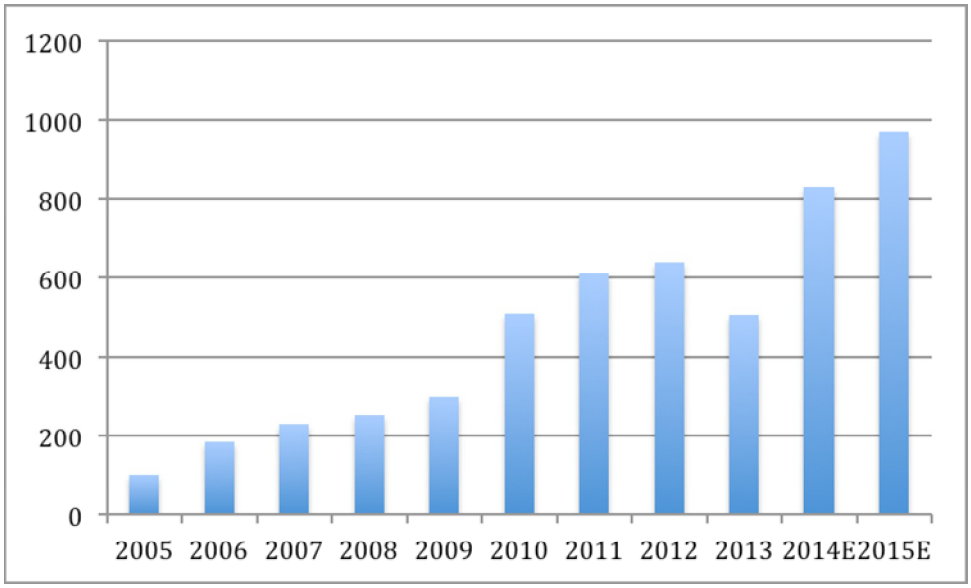
Due however to much higher operating expenses than expected in 2014, we are lowering fully diluted non-GAAP EPS expectations for this year, while raising revenues. EPS is reduced to $1.48 from $1.58 while revenues are increased to $830 million from $808 million previously forecast.

Forecast for 2015

We are forecasting **revenues to reach $970 million in 2015.** This forecasted is based on 20% internal growth in the TSEM legacy business (minus the lost Micron revenues) combined with the addition of $360-420 million in annualized revenue from Panasonic and an additional new business landed for the TPS joint venture. The big story for 2015 however, is the drastically increased margins as the result of the closing of the Nishiwaki plant which should take $130 million out of costs as all production is shifted and the plant shut down. Additionally we expect improved margins from capacity utilization and higher margin product mix. The company believes it will be free cash flow positive and should need to raise no

new capital. Any changes in capital structure are expected to be reworking the debt to extent maturity and lower interest costs. At this time we expect no changes that will increase shareholder dilution.

TSEM Annual Consolidated Revenues



Business Update by Product Line

The top five customers grew their business 50%, similar to the 48% in Q1 and the top ten exhibited 40% growth. Masks into the fab grew 242 up 80% from 130 in Q2 2013. One masks enter the fab, the process takes three to six quarters to reach peak volumes. Design wins reached a record in Q2. The time from a design win until a mask is produced ranges from six months to 1-1/2 years, (and from mask to peak revenues an additional three to six quarters). This portends strong revenues in 2015 and beyond.

Developments in CMOS Image Sensors (CIS) continue to be strong, and the company is even pursuing several new areas. Cinematography is now standardizing on super high definition Super HD which films in 4k resolution. IDC believes that 4K will be adopted faster than HD did and by the end of 2015, 4k will be a standard in high-end smartphones, and by 2016 there will be adoption in TVs and tablets. TowerJazz has been proving sensors to market leaders and is now in some high volume consumer cameras. A strong performer at Panasonic has been the G-Series CSC.



NEW Panasonic LUMIX GH-4 with 4K cinematic video for $3,299.00

Security cameras are also moving to higher definition. There is particular in China for surveillance as, HD and super HD perform much better in low light. China already has 100 million cameras installed market Research firm HIS believes the market could grow 15% annually in the five years. The government has already spent $16B on camera surveillance systems.

85% of the CIS market is for smartphone, which grows 5-7%. A fast growing part of this market is sensors that are used for front high-resolution cameras. TPS is one of a few possible vendors for these sensors.

RF High Precision Analog unit for Tower is comprised primarily of wireless market and network infrastructure. It builds front-end RF components to and from antennae that are switches, power amplifier, load noise amplifiers and tuning elements. The company is gaining market share as the industry shifts from GaAs to its technology. Network infrastructure is being driven by the migration to LTE worldwide.

The company also has opportunities in its power business and its mixed signal CMOS business. In particular the company sees opportunity in integrating the components in LED lighting in the future.

There may also be incremental opportunity to increase market share, specifically in the area of front end modules and specifically silicon germanium as IBM has signaled it may be exiting parts of its foundry business or become entirely fabless.

Update on Joint Venture with IBM in India

Investors have been concerned about recent rumors that IBM may want out of the foundry business and that this could threaten the proposed venture in India for TowerJazz. To date the company has had no indication that IBM is not interested in pursuing current plans and they proceed as expected. It seems that the newly installed government is even more interest than the previous one to encourage business investment and should pose no problem to efforts.

INVESTMENT THESIS

- The company is showing high growth due to its new joint venture with Panasonic, which should expand margins and multiples.
- The stock is undervalued on both a PE and enterprise value to revenues basis compared to its peers.
- The closing of the Nishiwaki fab should greatly improve profitability and boost margins considerably in 2015.
- The new fab capacity will allow the company to double revenues and improve margins through capacity utilization.
- Having Panasonic as a partner will give the company increased stature in the industry and attract new customers who have a favorable disposition to working with a trusted and known company and thus should increase sales.

VALUATION

We have valued TowerJazz versus other foundry companies using a multiple of enterprise value to sales. As shown on the chart below, the average company is trading at a valuation of 1.3 to 1.4 times 2014 estimated revenues and last twelve-month sales respectively. In order to compare apple-to-apple though, we have taken out the 49% of revenues afforded to the Panasonic joint venture that TowerJazz does not own. If we estimate that approximately half of next year's revenues will be in the JV that reduced the 2015 revenue number to $772 million.

Foundary Companies

Company	Ticker	Revenue 2014E	Revenue LTM	EBIDTA Margin	Enterprise Value / Sales 2014E	Enterprise Value / Sales LTM	Included in Average?
Advanced Semiconductor	ASX	$8,570	$7,800	21%	1.3x	1.4x	y
Semiconductor Manufacturing	SMI	$2,120	$2,020	33%	1.6x	1.6x	y
Taiwan Semiconductor	TSM	$24,740	$21,300	62%	0.4x	0.5x	n
United Microelectronics	UMC	$4,490	$4,390	34%	1.2x	1.2x	y
Average				**29%**	**1.3x**	**1.4x**	

	Revenue 2015E	Revenue LTM	EBITDA Margin	Enterprise Value / Sales 2015E	Enterprise Value / Sales LTM	Valuation Range Low	Valuation Range High
Tower Jazz	**$772**	**$633**	**17.50%**	**1.3x**	**1.4x**	**$894**	**$1,030**
YoY growth	23%						

Conclusion of Enterprise Value	**$962,015,907**
Market Value	**$717,671,907**
Shares Outstanding	50,100,000
Price per Share	**$14.32**

To calculate TSEM's enterprise value requires we subtract the cash on the balance sheet and add back the short and long-term debt. As of June 30, 2014, that would be $962 million - $192 in cash and equivalents + $339 million in debt. Since the company no longer separates the debentures from long-term debt, we are using primary shares since diluted shares would be double counting the converts.

Using a comparable valuation of 1.3 to 1.4 times sales, and looking at 2015 adjusted sales; we come up with a value of $14.32 per share that is 35% higher than today's price.

Valuation by PE Multiple versus Comparables

Another way to value TSEM is by looking at PE multiple versus other foundry companies. Using the same group of companies as above we see the average PE is 14.5 times. Were we to apply that multiple to TSEM's estimated 2014 non-GAAP EPS of $1.48, this would result in a valuation of $21.40.

Company	Ticker	EPS 14	Price	PE 2014
Advanced Semiconductor	ASX	$0.46	$6.06	13.2
Semiconductor Manufacturing	SMI	0.27	4.59	17.0
Taiwan Semiconductor	TSM	1.62	20.04	12.4
United Microelectronics	UMC	0.15	2.10	14
Average				14.5

Using a midpoint of the two methods results in a blended valuation of $17.86, which we believe is a reasonable target price for the stock.

6-Aug-15

	Dec Q4 12R	March Q1 13	June Q2 13	Sept Q3 13	Dec Q4 13	March Q1 14A	June Q2 14A	Sept Q3 14E	Dec Q4 14E	Non-GAAP 2012	Non-GAAP 2013	Non-GAAP 2014E	Non-GAAP 2015E
REVENUE													
Net Revenue	147.6	112.6	125.2	$132.6	134.6	132.7	234.1	223.0	240.3	638.8	505.0	830.0	970.0
Yr-to-yr Gr.	6%	-24%	11.0%	6.0%	-9%	18%	87%	68%	79%	5%	-21%	64%	17%
OPERATING EXPENSES													
Cost of goods sold	98.3	78.9	81.2	93.1	88.6	88.2	171.7	163.3	175.0	405.4	341.9	598.1	587.8
Gross Margin	49.3	33.7	44.0	39.5	45.9	44.5	62.4	59.7	65.3	233.4	163.2	231.9	382.2
% of Sales	33.4%	29.9%	35.2%	29.8%	34.1%	33.5%	26.7%	26.8%	27.2%	36.5%	32.3%	27.9%	39.4%
R&D	7.1	9.3	7.4	8.1	7.8	7.2	13.7	13.6	13.6	29.1	32.5	48.0	68.3
M, G&A	9.7	9.4	10.9	10.2	10.4	9.9	15.6	15.0	15.2	39.2	40.5	55.6	74.8
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	0.0	0.0
Tot Operating Exp.	16.9	18.8	18.3	18.4	18.2	17.0	29.3	28.6	28.8	68.2	73.0	103.6	143.1
												12.48%	14.75%
Operating Income	32.4	15.0	25.7	21.1	27.8	27.5	33.1	31.1	36.6	165.2	90.1	128.3	239.1
Operating Margin						21%	14%	14%	15%	26%	18%	15%	25%
Yr-to-yr Gr.					-14%	84%	29%	48%	32%			15%	24.7%
Net Interest	(8.6)	(8.0)	(8.3)	(8.4)	(8.2)	(8.1)	(8.8)	(5.0)	(5.2)	(31.8)	(33.0)	(27.1)	(28.0)
Other income	0.1	(0.3)	(8.0)	(0.5)	(0.4)	0.1	0.1	0.1	0.1	(1.0)	(0.9)	0.4	0.4
Minority Income						0.0	6.7	2.0	1.5	0.0	0.0	10.2	(59.8)
Pretax Income	23.9	6.7	9.4	12.2	19.2	19.5	31.1	28.2	33.0	132.3	56.3	111.7	151.7
		5.9%				14.7%	13.3%	12.7%	13.7%	20.7%	11.1%	13.5%	15.6%
Taxes	1.9	0.2	(1.4)	0.0	0.0	0.0	0.0	0.0	0.0	0.9	0.2	0.0	0.7
Tax Rate	8.1%	2.9%	-15.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.6%	0.3%	0.0%	0.5%
Net Income	21.9	6.5	10.8	12.2	19.2	19.5	31.1	28.2	33.0	131.5	56.1	111.7	151.0
Yr-to-yr Gr.					-13%	201%	188%	131%	72%				
Adj Non-GAAP EPS-Basic	$0.96	$0.28	$0.78	$0.26	$0.40	$0.41	$0.62	$0.55	$0.64	$5.94	$1.42	$2.23	$2.89
Adj Non-GAAP EPS-Fully dil.	**$0.36**	**$0.15**	**$0.25**	**$0.21**	**$0.30**	**$0.30**	**$0.41**	**$0.38**	**$0.43**	**$2.65**	**$0.97**	**$1.48**	**$1.88**
Yr-to-yr Gr.						95%	68%	77%	44%			53%	27%
Share Out	22.8	23.0	39.1	47.0	47.9	48.1	50.1	51.0	51.2	22.2	39.6	50.1	52.2
Fully diluted shares	72.7	72.1	62.3	78.8	79.6	81.2	89.1	90.0	90.2	49.6	76.1	89.6	92.0

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