

Technology

Maintain **POSITIVE**

Memory market continues to surge

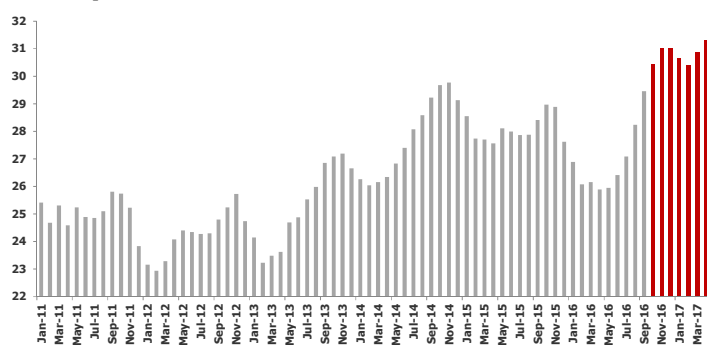
- April 2017 sales surged at a faster pace mainly due to strong demand for memory products
- Optimism in the global market led to upward revision in 2017 and 2018 sales forecasts
- Semiconductor equipment billing remains upbeat at USD2.2b in April 2017
- Maintain **POSITIVE** stance on the sector

A. STATE OF GLOBAL SEMICONDUCTOR INDUSTRY

i. Global Semiconductor Sales (April 2017)

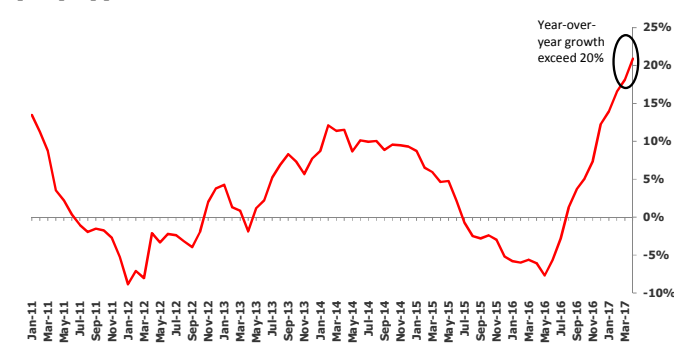
The optimism continues. April 2017 worldwide sales of semiconductors surged by +20.9%yoy to USD31.3b. This marks the global market's largest year-over-year growth since September 2010 when sales grew by +25.0%yoy. Inclusive of this, the monthly global semiconductor sales (GSS) has consistently stayed above the USD30b level for the past seven consecutive months since October 2016. All markets posted strong double digit growth on a year-over-year basis of between +12.0%yoy and +30.0%yoy. The growth was mainly driven by the immense sales growth in the memory market. Nonetheless, sales of non-memory products also grew by double digits in April 2017. On a year-to-date basis, GSS amounted to USD123.2b, an increase of +17.3%yoy. This accounts for approximately one-third of full year 2017 revised sales projection of USD337.8b.

Chart 1: Monthly global semiconductor sales (USD billion)



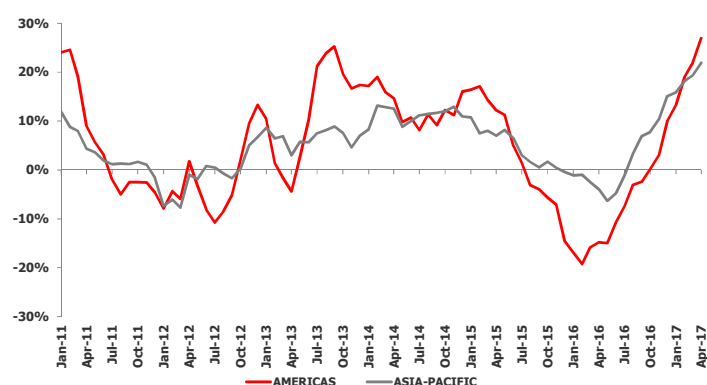
Sources: SIA, MIDFR

Chart 2: Monthly Global semiconductor sales (%yoy)



Sources: SIA, MIDFR

Chart 3: Americas and Asia Pacific* sales (%yoy)



Sources: SIA, MIDFR
*Includes China

Chart 4: Europe and Japan sales (%yoy)



Sources: SIA, MIDFR

ii. World Semiconductor Trade Statistics – Sales forecast

Upward revision in global sales forecast. In the latest World Semiconductor Trade Statistics' (WSTS) Spring 2017 sales forecast, annual sales for 2017 and 2018 have been revised higher by +9.2%yoy and +9.6%yoy to USD377.8b and USD387.9b respectively. Higher growth rates have been assumed for all major categories, with the largest growth stemming from the memory segment at +30.4%yoy. Based on the revised 2017 sales forecasts, the average monthly sales has increased to USD31.5b from USD28.8b previously. Nonetheless, 2018 annual sales growth rate has been maintained at +2.7%yoy, with sensors contributing to the highest growth. Geographically, the Europe region is expected to record the highest growth mainly due to the low base effect. Subsequently, WSTS is expecting the semiconductor market to slow down across all regions.

Table 1: 2017 to 2019 sales forecast

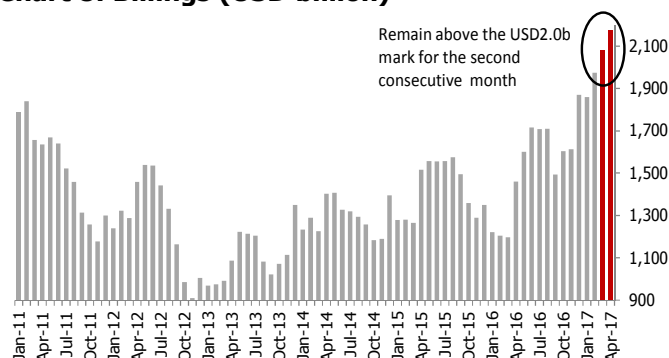
Spring 2017	Amounts (USD'b)				Year on year growth (%)			
	2016	2017F	2018F	2019F	2016	2017F	2018F	2019F
By Region								
Americas	65.5	73.3	75.3	75.5	-4.7	12.2	2.4	0.2
Europe	32.7	35.5	36.7	37.1	-4.5	8.7	3.2	1.2
Japan	32.3	34.5	35.1	35.2	3.8	6.6	1.9	0.4
Asia Pacific	208.4	234.3	240.9	239.4	3.6	12.4	2.8	-0.6
Total World	338.9	377.8	385.0	387.2	1.1	11.5	2.7	-0.2
By Products								
Discrete Semiconductors	19.4	20.4	20.9	21.5	4.3	5.0	2.6	2.6
Optoelectronics	32.0	33.5	34.7	35.5	-3.8	4.7	3.6	2.4
Sensors	10.8	12.3	13.1	13.9	22.7	13.9	6.5	5.8
Integrated Circuits	276.7	311.6	319.2	316.3	0.8	12.6	2.4	-0.9
<i>Analog</i>	47.8	51.4	53.9	55.8	5.8	7.5	4.9	3.4
<i>Micro</i>	60.6	62.6	64.6	66.4	-1.2	3.3	3.3	2.7
<i>Logic</i>	91.5	97.4	99.6	102.0	0.8	6.5	2.2	2.4
<i>Memory</i>	76.8	100.1	101.0	98.1	-0.6	30.4	0.9	-8.8
Total Products	338.9	377.8	388.0	387.2	1.1	11.5	2.7	-0.2

Source: WSTS, MIDFR

B. INDUSTRY UPDATE

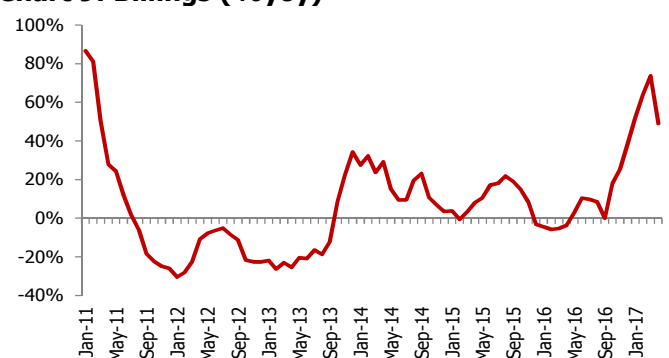
Billings remains above USD2.0b. The North America-based manufacturers of semiconductor equipment posted April 2017 billings of USD2.2b, which translates into a growth of +48.9%yoy. Inclusive of this, billings has been growing on a year-over-year for the past one year since May 2016, with the exception of September 2016 where a slight contraction of -0.1%yoy. We view that the slight contraction may be due to the timing of billings. The Semiconductor Equipment and Materials International (SEMI) commented that "solid market fundamentals, coupled with strong demand for memory for data storage and processors for smartphones, are fuelling significant investments."

Chart 8: Billings (USD billion)



Sources: SEMI, MIDFR

Chart 9: Billings (%yoy)



Sources: SEMI, MIDFR

Korea is currently the world's largest semiconductor equipment market. Korea has replaced Taiwan as the largest semiconductor equipment market in 1Q17. Equipment billings in Korea amounted to USD3.53b in 1Q17 as compared to Taiwan's equipment billing of USD3.48b for the same quarter. Nonetheless, China recorded the largest sequential growth among all the regions in 1Q17 at +74.0%yoy to USD2.01b. This led to China being the third largest semiconductor equipment market during the quarter.

Memory market. Taiwan Semiconductor Manufacturing Company (TSMC) is reported to be looking into the production of next generation memory chips in addition to the current mainstream logic chips. It is planning to develop and produce high speed and low-power chips for emerging internet of things (IoT), mobile device, high-speed computing and smart vehicle applications.

Maintain POSITIVE. In recent years, the China government has been supporting the Chinese domestic semiconductor industry with tremendous capital budgets. This has led to China gradually playing a pivotal role in upholding the demand of semiconductor products. At present, sales from China has accounted for one-third of global sales. It is also the main export destination of Malaysia semiconductor products.

Moving forward, we expect the sales growth momentum emanating from China to remain robust in the foreseeable term. This is in-tandem with the anticipated heavy investment in fab equipment in the upcoming years. In the immediate term, we expect the global semiconductor sales to continue to record positive sales growth on a year-over-year basis.

Apart from the smart devices segment, we also expect healthier demand from the automotive, storage and healthcare markets. The automotive market will driven by the continuous effort to increase the average semiconductor content per vehicle. Demand from this market is also less susceptible to seasonality factors, thus providing a steadier stream of revenue. Meanwhile, higher demand for the storage market would be supported by the cloud computing and data centre industries.

All factors considered, we maintain our **POSITIVE** stance for the Technology sector.



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STOCK RECOMMENDATIONS

BUY	Total return is expected to be >15% over the next 12 months.
TRADING BUY	Stock price is expected to <i>rise</i> by >15% within 3-months after a Trading Buy rating has been assigned due to positive newsflow.
NEUTRAL	Total return is expected to be between -15% and +15% over the next 12 months.
SELL	Total return is expected to be <-15% over the next 12 months.
TRADING SELL	Stock price is expected to <i>fall</i> by >15% within 3-months after a Trading Sell rating has been assigned due to negative newsflow.

SECTOR RECOMMENDATIONS

POSITIVE	The sector is expected to outperform the overall market over the next 12 months.
NEUTRAL	The sector is to perform in line with the overall market over the next 12 months.
NEGATIVE	The sector is expected to underperform the overall market over the next 12 months.