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Technology Sector Scorecard

Second calendar quarter of 2012

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Introduction

This quarterly global snapshot of activity in the technology sector highlights trends, business challenges and opportunities. In this edition we review the second calendar quarter of 2012.

As a maturing industry, technology is no longer immune to macroeconomic trends. In the second quarter, technology performed better than the global economy as a whole, but it posted mixed results across sectors.

Tech CEOs remain cautious, but expect near-term new product introductions to lead to a stronger second half.

Following Facebook's May IPO, the global IPO market stagnated for a period of about six weeks, but is now slowly re-emerging.

As always, I would like to acknowledge the efforts of Vaibhav Taneja, Deepak Agrawal, Dirk Tissera, Sameer Ladiwala, Maricel Apuli, Steve Mack, and Vikram Khosla who contributed greatly in pulling this report together. The observations are the individual views of the authors. Should you have questions or comments, please contact us.

We are pleased to announce the addition of more than 100 tech companies to the data explorer tool. Please visit the online tool for a richer interactive experience: pwc.com/techscorecard.

Raman Chitkara
Global Technology Leader

Contents

Q2 2012 Executive summary

Q2 2012 Executive summary

Technology industry posts mixed results
Generally low profitability in midst of economic turmoil

- The global technology industry, while performing better than the global economy as a whole, has matured to the degree that it is no longer immune to macroeconomic trends. Sales and profits of tech companies in the second quarter showed mixed results as a result of the European debt crisis and concerns over the slowing recovery in the US.
- The US economy expanded at 1.7% in the April-June quarter. This rate was slightly better than the general expectation, but was lower than the first quarter's 2.0% growth.
- With many upcoming high-profile product introductions, tech companies expect the second half of 2012 to be better, but remain cautious.
- From a sector perspective, Software & Internet posted the strongest Q2 results while the EMS and Cleantech segments struggled. Systems & PC Hardware, Semiconductors and Consumer Electronics saw mixed results, and Communications was flat, though down year over year.
- The global IPO market, which started 2012 with a strong showing of 30 technology IPOs in Q1, declined significantly to 20 IPOs in Q2 and stagnated significantly following Facebook's IPO. However, recent activity suggests a strengthening through year end.[1]

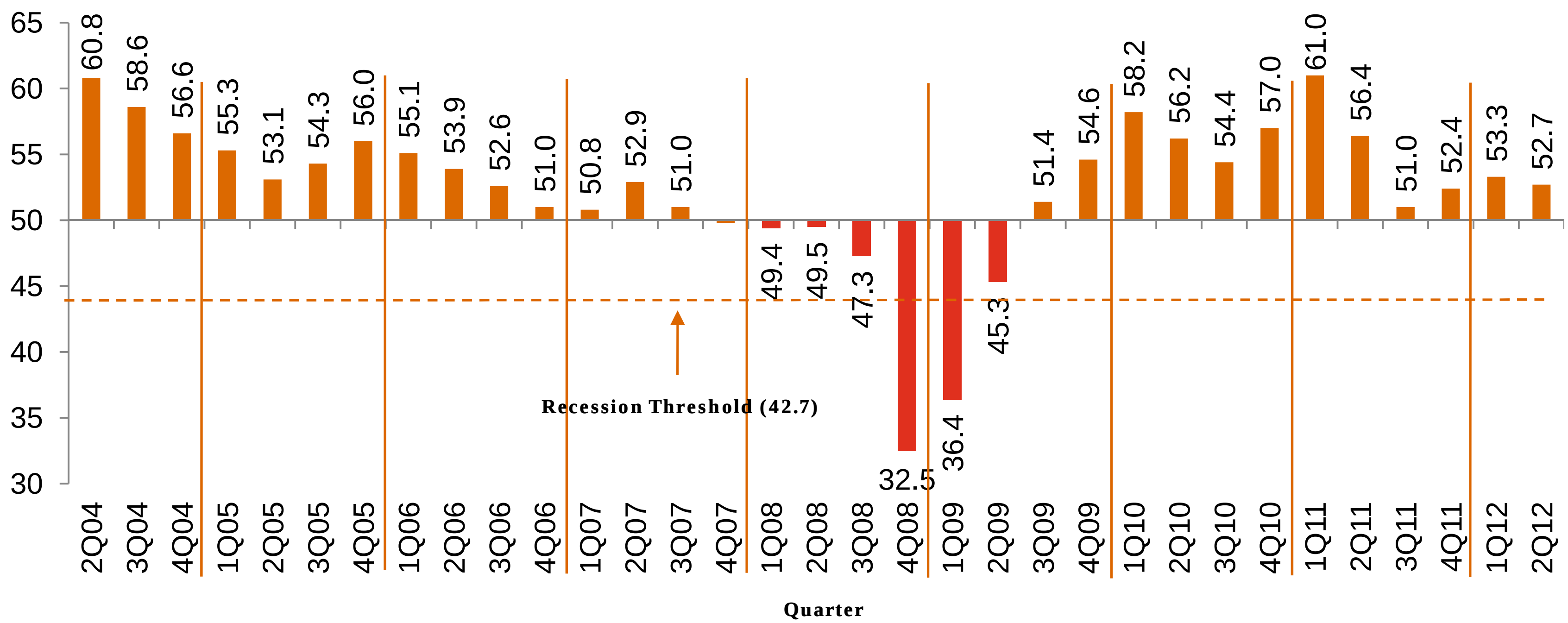
1. IPOs with issue size greater than US$40 million

Q2 2012 Executive summary continued

- Software as a Service (SaaS) revenue is accelerating with 17.9% growth predicted in 2012 and a four-year CAGR through 2015 of 16%.[1]
- Consumers are expected to spend $2.1 trillion worldwide on digital information and entertainment products and services in 2012. The spending will be on mobile phones, computing and entertainment, media and other smart devices, as well as the services that are required to connect these devices to the appropriate network, and the software and media content that are consumed via these devices.[2]
- Primarily due to the growing tablet market, the worldwide PC market is now expected to grow just 0.9% in 2012 as mid-year shipments slow. Decelerating growth in Asia/Pacific has reduced the impact of emerging market growth, while more mature regions like the United States have seen volume decline.[3]

1. Gartner press release, March 2012
2. Gartner press release, July 2012
3. IDC, August 2012

US Purchasing Manager's Index (PMI) trends (2004-2012)



The Purchasing Manager's Index dropped marginally in Q2 2012 compared to Q1 2012, but was significantly lower than the same period last year. The manufacturing sector contracted in June, recording a PMI index of 49.7 and remained flat in July as well at 49.8.

Source: ISM; IC Insights

Snapshot by subsector

Snapshot by subsector

Communications

Market analysis
Communications

- The worldwide mobile phone market declined by approximately 2.3% QoQ in the second quarter of 2012 but grew 1% YoY in Q2 2012 with worldwide shipments of 406mn units compared to 401.8mn units in Q2 2011.[1]
- Samsung, Nokia and Apple continue to be the leading mobile vendors by shipments in Q2 12. Samsung shipped 50.2 million units, which is almost double Apple's 26 million units. Samsung's Q2 2012 shipments were a record for the most smart phones shipped in a single quarter. Nokia came in the third place, with 10.2 million unit shipments and 6.6% market share, which was 38.9% lower than Q2 12. [1]
- Cisco completed the acquisition of privately held ClearAccess. ClearAccess provides TR-069 standards-based software to service providers for the provisioning and management of residential and mobile devices. Cisco's acquisition of ClearAccess will help service providers to better deliver, manage and monetize their services, while improving operational efficiencies and customer experiences.
- Nokia continued to expand the range of its Lumia Windows-based smart phones. Nokia shipped 4 million Lumia Smartphones in Q2 12, and plans to provide updates to current Lumia products over time, well beyond the launch of the Windows 8 phone. During the quarter, Nokia's feature phone business demonstrated stability. Nokia introduced its first full-touch feature phone device, the Asha.

1. IDC, Aug 2012

Market analysis continued

Communications

- In June 2012, Motorola Solutions Inc. acquired Psion Plc., a mobile computing solutions company, for approximately $200 million in cash to expand its mobile service business line.
- In January 2012, Motorola completed a series of transactions which resulted in it exiting the amateur, marine and airband radio businesses.
- The gross margin for LM Ericsson continues to be negatively impacted by the network modernization projects in Europe; however, that impact is expected to gradually decline towards end of 2012.

Q2 performance
Communications

Company	Q2 2012				
	Revenue ($ millions)	Gross margin (%)	Net income/(loss) ($ millions)	EPS ($)	Market cap ($ millions)
Cisco Systems Inc	11,690	60.61%	1,917	0.36	84,569
LM Ericsson*	7,971	32.01%	174	0.05	29,356
Motorola Solutions Inc	2,148	49.35%	182	0.61	13,774
Nokia Corp**	9,510	23.61%	(1,928)	(0.48)	7,682

* SEK to USD exchange rate used for Ericsson is 0.1441 USD/SEK

**EUR to USD exchange rate used for Nokia is 1.2847 USD/EUR.

Q1 performance
Communications

Company	Q1 2012				
	Revenue ($ millions)	Gross margin (%)	Net income/(loss) ($ millions)	EPS ($)	Market cap ($ millions)
Cisco Systems Inc	11,588	61.87%	2,165	0.40	113,567
LM Ericsson*	7,544	33.33%	1,325	0.41	33,125
Motorola Solutions Inc	1,956	49.74%	157	0.49	16,195
Nokia Corp**	9,678	27.66%	(2,069)	(0.33)	13,136

*SEK to USD exchange rate used for Ericsson is 0.148 USD/SEK

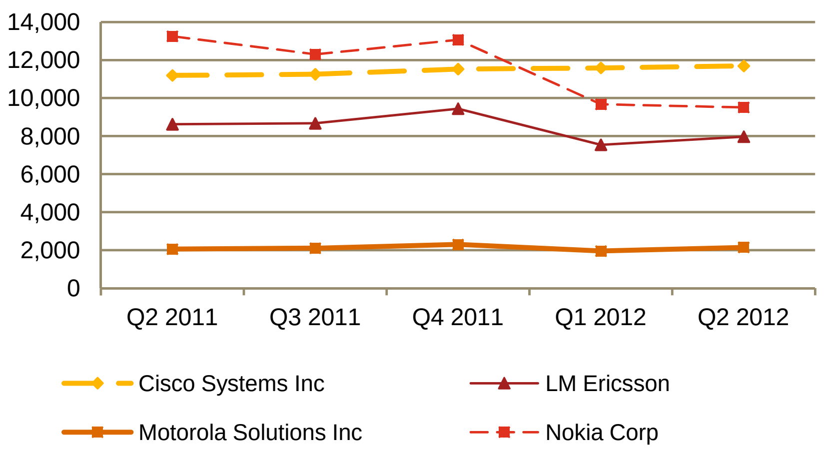
**EUR to USD exchange rate used for Nokia is 1.316 USD/EUR.

Quarterly results of operations analysis (Q2)

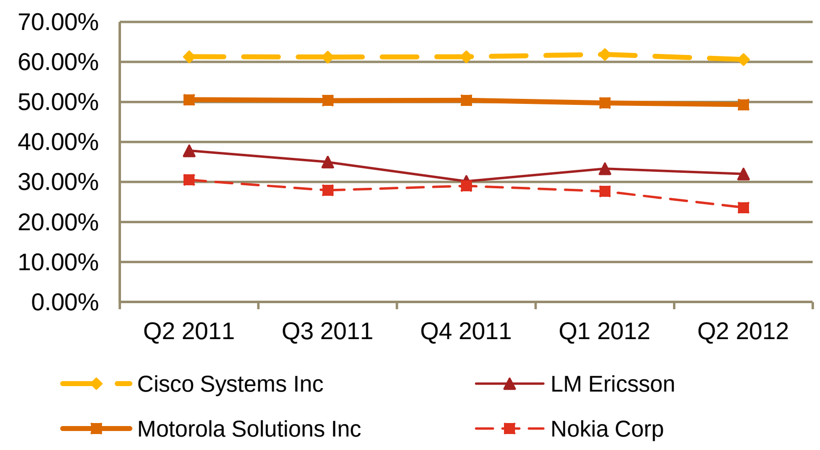
Communications

Revenue and gross margin trends were as follows:

Revenue (in $ millions) – Communications



Gross margin % – Communications



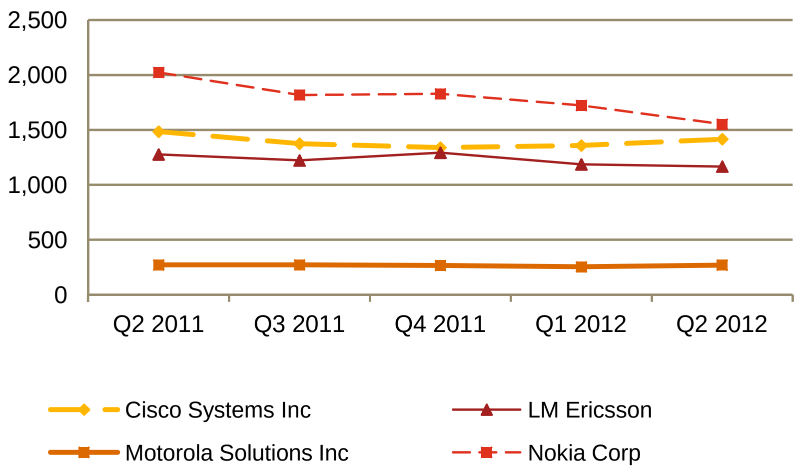
- Cisco's revenue for Q2 2012 increased 0.9% sequentially. On a YoY basis, it increased by 4.4% to $11.7 billion versus $11.2 billion in Q2 2011. Cisco's revenue in Q2 2012 benefitted from an increase in sales of intelligent networks and technology architectures built on integrated products, services and software platforms.
- Ericsson's Q2 2012 revenues were at $7.9 billion, which increased by 5.7% as compared to Q2 2011. The growth was due to a 1% increase in sales of mobile devices. The launch of RAZR Maxx and the entrance into new markets with their budget smart phone portfolio supported the revenue growth.
- Motorola's net sales increased by 4.5% YoY, driven by strong worldwide demand in its Government segment. Enterprise segment sales decreased by 2% YoY, driven by lower iDEN sales. Gross margins increased by 5.3% to $1,060 million from $1,007 million. The decrease in gross margin in Q2 2012 compared to the Q2 2011, reflects a 1.2% decrease in gross margin percentage from product sales and a 1.8% decrease in gross margin from services sales.
- Nokia's revenues in Q2 2012 increased by 1.7% QoQ and decreased by 28.2% YoY. On a YoY basis, the decline in its Smart Devices net sales was primarily due to lower Symbian volumes, partially offset by sales of Lumia devices. Additionally, Symbian ASPs decreased on a YoY basis. Gross margin decreased to 23.6% in Q2 2012 from 27.7% in Q1 2012.

Quarterly results of operations analysis (Q2) continued

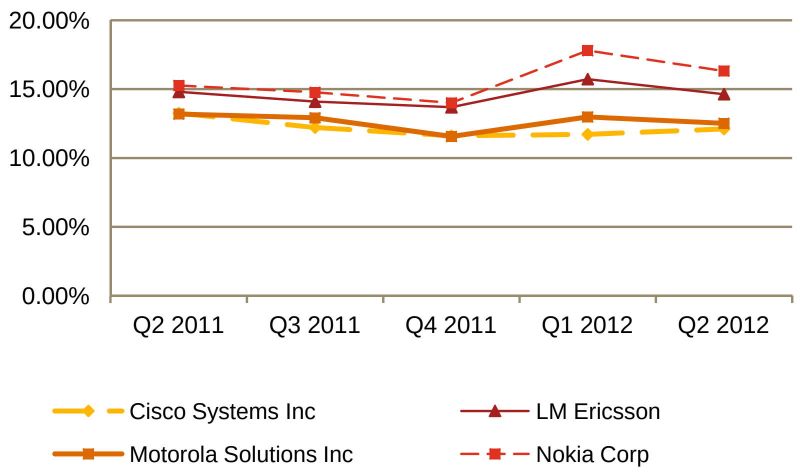
Communications

R&D expenditure trends were as follows:

R&D expenses (in $ millions) – Communications



R&D expenses (% of revenue) – Communications



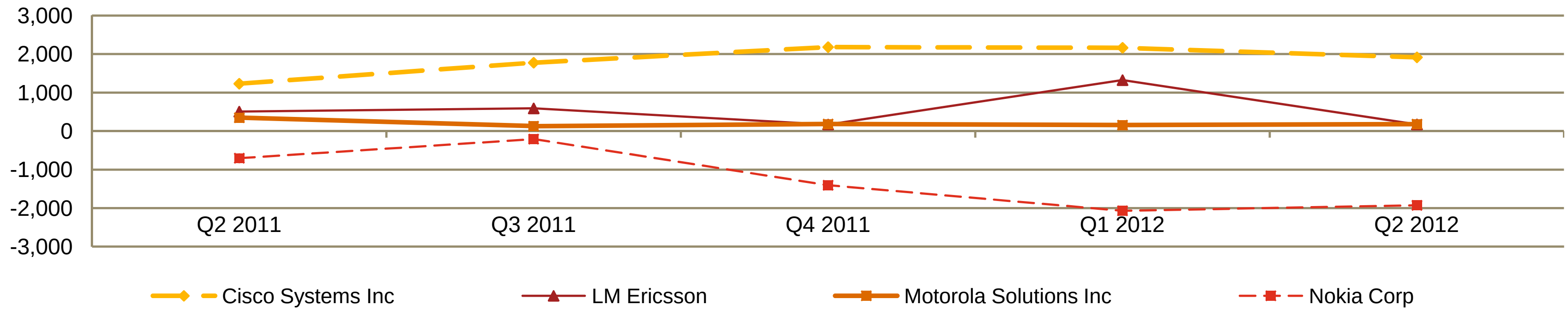
- Cisco's R&D expenses declined by 4.6% in Q2 2012 YoY. R&D expenditure as a percentage of revenue was relatively flat sequentially.
- R&D expenses for Ericsson decreased by 8.6% YoY to $1,166.7 million in Q2 2012. Its R&D expenditure as a percentage of revenues decreased to 14.6% in Q2 2012 from 15.7% in Q1 2012.
- Motorola Solutions' R&D expenses decreased by 0.74% YoY. However, R&D as a percentage of revenue increased to 12.52% in Q2 2012 from 11.32% in Q2 2011.
- Nokia reported a decrease of 23.3% YoY in R&D expenses in Q2 2012 over Q2 2011. R&D as a percentage of sales decreased to 16.3% in Q2 2012 from 17.8% in Q1 2012.

Quarterly results of operations analysis (Q2) continued

Communications

Net income trends were as follows:

Net income (in $ millions) – Communications



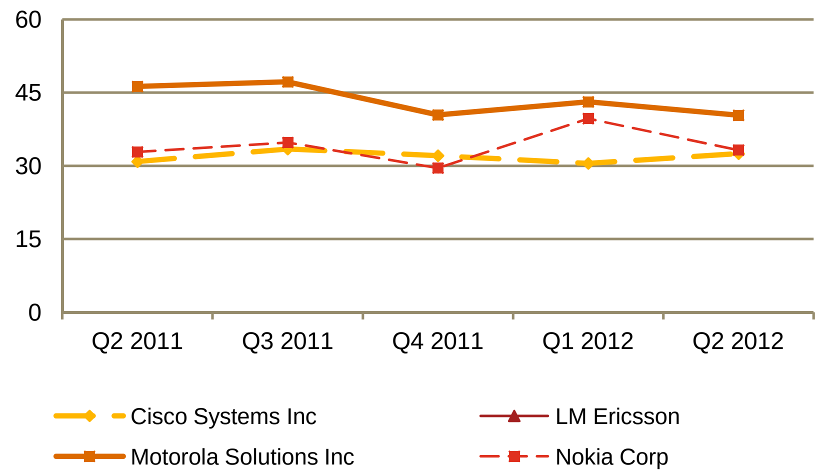
- Cisco reported an increase in net income of 55.6% to $1.9 billion in Q2 2012, YoY and a decrease in net income by 11.5% in Q2 2012 from Q1 2012. The YoY growth in net income reflected a continued positive effect of lower overall manufacturing costs, including benefits from value engineering.
- Ericsson reported a net profit of $173.6 million in Q2 2012, an 86.9% decrease from $1,325 million in Q1 2012, primarily due to the negative impact from increased losses in joint ventures and the loss from higher restructuring charges.
- Motorola Solutions' net income increased by 15.9% to $182 million in Q2 2012 from $157 million in Q1 2012. The increase in earnings were driven by an increase in sales in Q2 2012 over Q1 2012, improved operating leverage, a decrease of $89 million of other charges and a decrease of $60 million of total other expense.
- Nokia reported a net loss of $1.9 billion in Q2 2012. Net profit decreased by 174.2% in Q2 2012 over Q1 2012 as a result of the execution of certain restructuring programs which included disposition of certain non-core assets such as Vertu and closure of an Ulm, Germany based R&D site and a manufacturing factory in Salo, Finland.

Quarterly results of operations analysis (Q2) continued

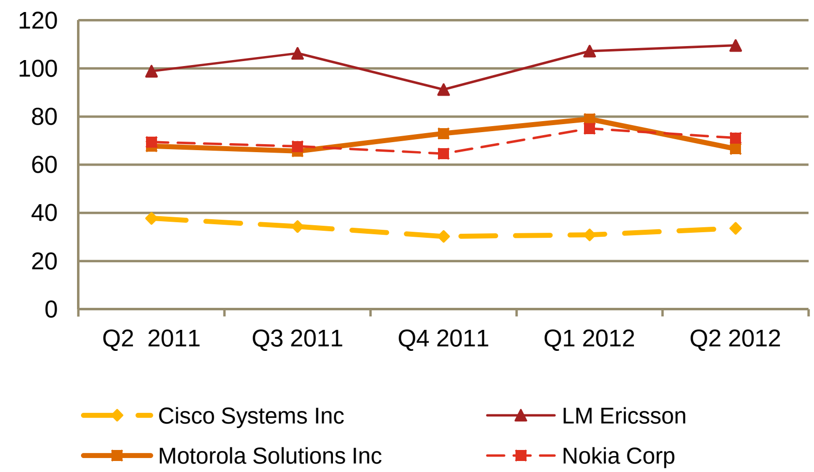
Communications

Inventory and receivables trends were as follows:

Days inventory on hand – Communications



Days sales in receivables – Communications



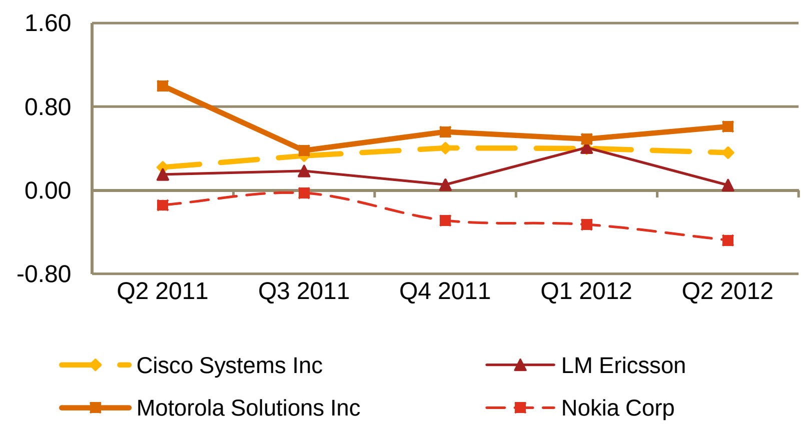
- Cisco's days inventory on hand increased to 32 days in Q2 2012 from 30 days in Q1 2012. This was due to changes in customer order patterns and customer mix. The cost of goods sold also increased sequentially by 4.0% in Q2 2012. Receivable days increased to 34 days from 31 days in Q1 2012, however total receivables decreased by 4%, but the revenue remained flat sequentially.
- Ericsson's inventory days decreased to 79 days in Q2 2012 versus 86 days in Q1 2012. Receivable days increased by 2 days QoQ to 109 days in Q2 2012.
- Motorola Solutions experienced a decrease in inventory days to 40 days in Q2 2012 from 43 days in Q1 2012 due to lower sales and inventory build-up. Days sales in receivable decreased by 13 days to 66 days in Q2 2012.
- Nokia's days inventory decreased by 6 days to 33 days in Q2 2012 as compared to Q1 2012. Days receivable also decreased by 4 days to 71 days QoQ.

Quarterly results of operations analysis (Q2) continued

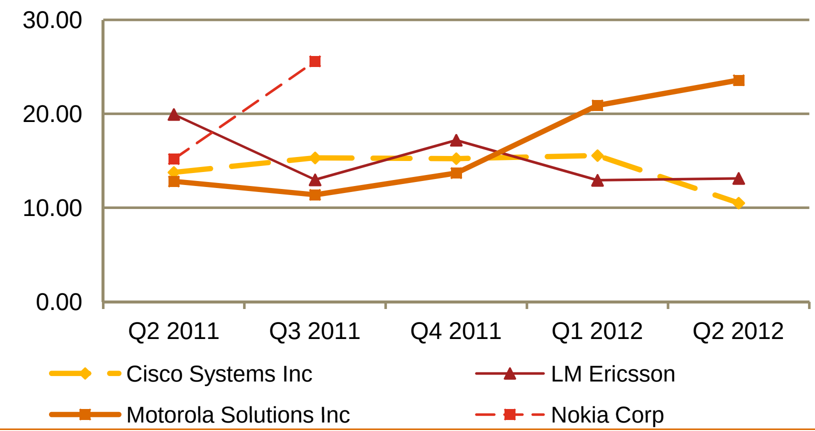
Communications

EPS (earnings per share) and P/E (price/earnings) trends were as follows:

EPS ($) – Communications



P/E – Communications



- Cisco's EPS increased from $0.22 in Q2 2011 to $0.36 in Q2 2012 due to a rise in net income of 56.0% YoY. Its price-earning (P/E) multiple decreased to 10.5x in Q2 2012 from 13.7x in Q1 2012.
- Ericsson had an EPS of $0.05 in Q2 2012, a 67.6% decline from Q2 2011.
- Motorola Solutions' EPS increased by 24% to $0.61 QoQ. This increase was due to rising net income of $182 million in Q2 2012 from $157 million in Q1 2012. The P/E multiple increased from 20.9x in Q1 2012 to 23.6x in Q2 2012.
- Nokia had a negative EPS of $(0.48), which deteriorated as compared to Q1 2012 owing to declining sales. There was an increase in costs associated with the tie-up with Microsoft for their smart phone platform, but the benefits of this alliance have yet to be fully realized by the company.

Snapshot by subsector

Consumer Electronics

Market analysis

Consumer Electronics

- The consumer electronics (CE) industry is expected to see stronger-than-anticipated growth in 2012. The overall CE industry will grow an estimated 5.9% in the US this year, two points higher than previously projected in January.[1]
- The US Consumer Electronics Sales and Forecasts (July 2012) projects that industry sales will surpass US$206bn this year, the first time yearly industry revenues in the US are expected to top the US$200bn mark. Sales growth is projected to continue into 2013, when industry revenues will likely grow 4.5%, reaching US$215.8bn.[1]
- Tablets are expected to reach US$29.1bn in shipment revenues this year, US$10.8bn more than what was originally forecasted in January, representing an 83% sales growth YoY. Unit sales are expected to reach 68.5mn.[1]
- Smartphone sales will also see continued growth this year and will remain the primary revenue driver for the industry. Shipment revenues for smartphones are expected to reach US$33.7bn in 2012, with more than 108 million units shipping to dealers, up 24% from 2011.[1]
- Apple Inc., as of June 30, 2012, had US$117.2bn in cash, cash equivalents and marketable securities, an increase of US$35.7bn from September 24, 2011. The principal component of this net increase was the US$41.7bn of cash generated by operating activities. This was partially offset by payments made for acquisition of property, plant and equipment and intangible assets of US$5.9bn, and payments made in connection with business acquisitions, net of cash acquired, of US$350mn.

1. Consumer Electronics Association, July 2012

Market analysis continued

Consumer Electronics

- Sony Corp. on April 1, 2012, under the direction of new President and CEO, Kazuo Hirai, implemented a reorganization—primarily of Sony's electronics businesses—recasting the responsibilities of Sony's executive officers and taking measures to revitalize the electronics businesses. Sony is implementing various measures to help the television business turn a profit in the fiscal year ending March 31, 2014. Management presented the Television Profitability Improvement Plan in November 2011 and has taken steps to operate the business with emphasis on profitability and continuous cost reduction. While both unit sales and revenue of televisions for the first quarter decreased YoY, operating loss was reduced to less than half of the loss in the same quarter of the previous fiscal year.
- Demand for Canon's office equipment products has been impacted by the severe global slowdown in Europe and slow recovery in US markets. The company has seen an increase in demand for color multifunctional devices and DSLRs, whereas the demand for printers has slowed.
- Philips' multi-year change and performance improvement program is in its second year and showing some results in the form of accelerated growth and improved bottom line. Incremental savings in the first half of 2012 amounted to €176mn, more than 50% of the total TV stranded (or sunk) cost. By year end, the total savings are expected to be around €400mn.
- Toshiba's shareholders' equity decreased by ¥72.2bn to ¥791.3bn due to impact of dividend payments and a decrease in accumulated and other comprehensive losses due to impacts from continued appreciation of the Yen and worldwide decrease in global stock prices.

Q2 and Q1 performance

Consumer Electronics

Company	Q2 2012				
	Revenue ($ millions)	Gross margin (%)	Net income/(loss) ($ millions)	EPS	Market cap ($ millions)
Apple Inc	35,023	42.81%	8,824	9.32	542,694
Canon Inc	11,382	48.92%	655	0.55	47,409
Philips*	7,571	38.20%	215	0.23	18,544
Sony Corp	19,180	33.58%	(312)	(0.31)	14,301
Toshiba Corporation	16,062	23.73%	(153)	(0.04)	15,881

*EUR to USD exchange rate used for Philips is 1.2850 USD/EUR.

Company	Q1 2012				
	Revenue ($ millions)	Gross margin (%)	Net income/(loss) ($ millions)	EPS	Market cap ($ millions)
Apple Inc	39,186	47.37%	11,622	12.30	560,568
Canon Inc	10,113	47.14%	750	0.63	56,573
Philips*	7,350	37.70%	326	0.35	18,639
Sony Corp	19,517	30.75%	(3,112)	(3.10)	20,844
Toshiba Corporation	21,297	25.54%	752	0.07	18,761

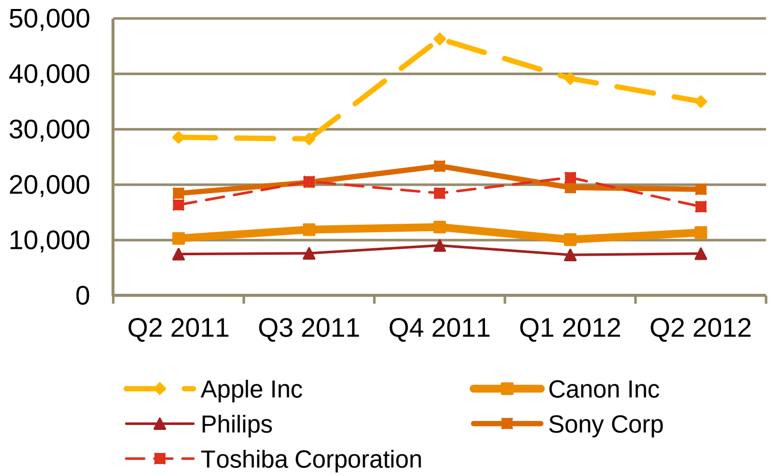
*EUR to USD exchange rate used for Philips is 1.3106 USD/EUR.

Quarterly results of operations analysis (Q2)

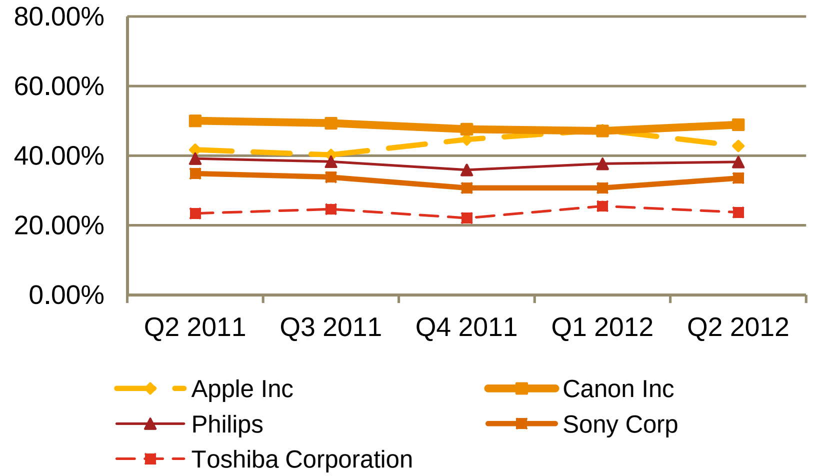
Consumer Electronics

Revenue and gross margin trends were as follows:

Revenues (in $ millions) – Consumer Electronics



Gross margin % – Consumer Electronics

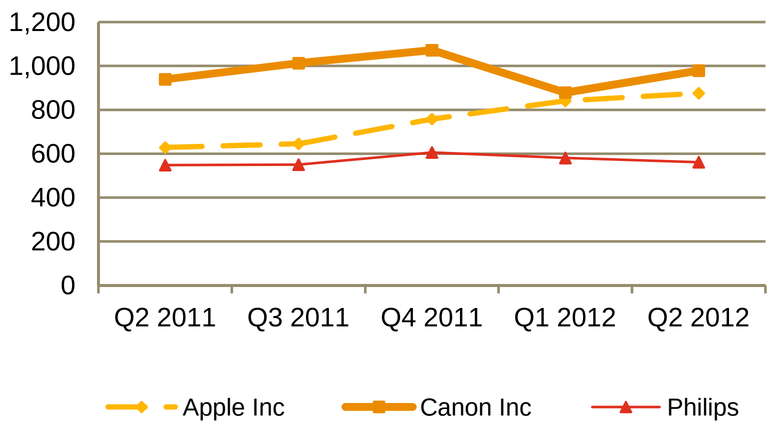


- Consumer Electronics companies had a disappointing quarter, with most companies having negative to flat revenues QoQ except for Canon, which grew by 12.6%. Apple 's revenues dropped by 10.6% QoQ, led by lower sales of Mac desktops and iPods. Revenues for Sony Corp and Philips were relatively flat at (1.7%) and 3.0% QoQ respectively. Toshiba's revenue dropped sharply by 24.6% QoQ led by lower sales in Digital Products, Electronic Devices and Home Appliances. Transfer of LCD business and Yen appreciation also accelerated the drop in revenue for Toshiba.
- Gross margins were down for Apple and Toshiba by (4.6%) and (1.8%) respectively. For Apple, this was largely driven by higher commodity and other product costs and also by a shift in sales mix towards products with lower gross margins, particularly the iPad. Canon, Sony and Philps' gross margins increased by 1.8%, 2.8% and 0.6% respectively. This was driven by implementation of various cost-reduction measures by Sony and Philips, which have started showing significant results. For Canon, the cost-cutting efforts were rather negated by the impact of the strong Yen and product mix.

Quarterly results of operations analysis (Q2) continued
Consumer Electronics

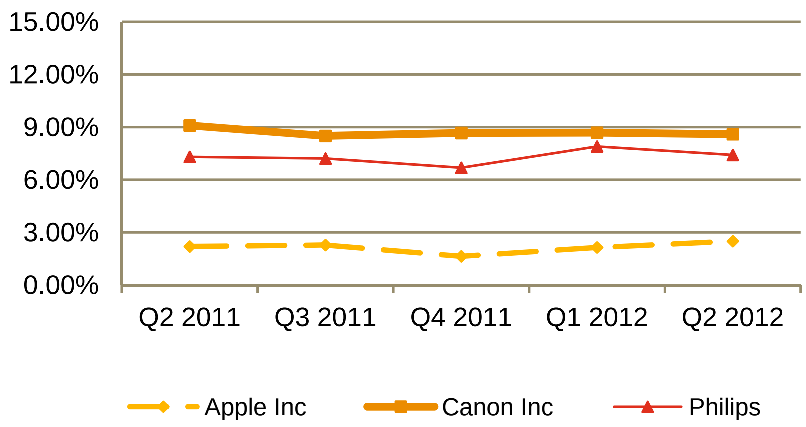
R&D expenditure trends were as follows:

R&D expenses (in $ millions) – Consumer Electronics*



*Sony and Toshiba do not report R&D expense separately in public filings.

R&D expenses (% of revenue) – Consumer Electronics*



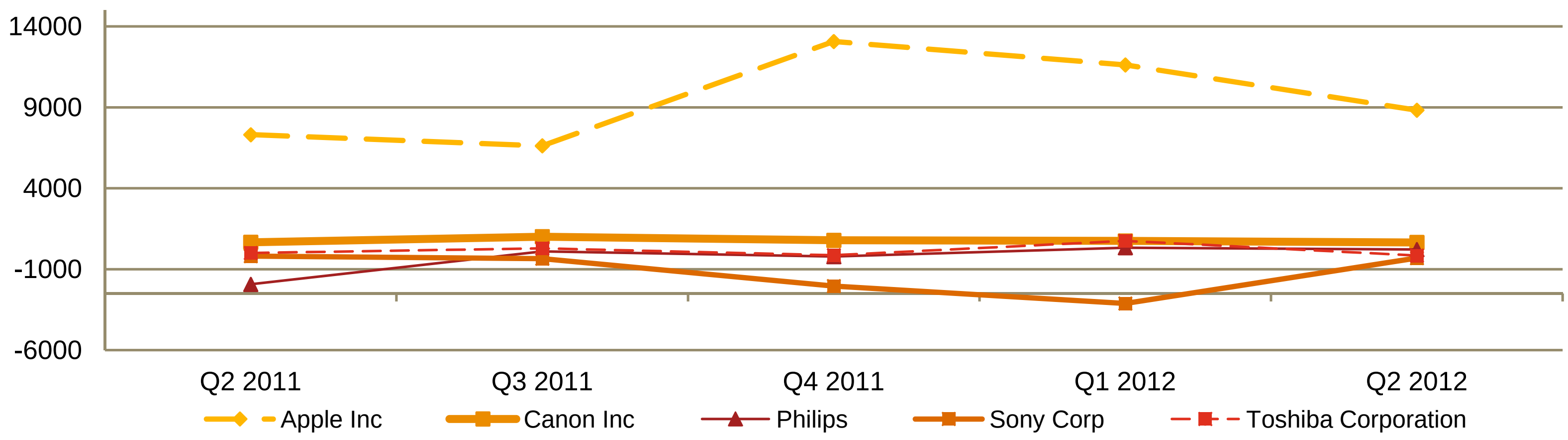
- R&D expenses for Apple and Canon increased by 4.2% and 11.4% respectively. Philips' R&D expenses decreased by 3.3%. Canon's R&D expenditure was driven up by higher spend in the Imaging System segment and Industrial and Others segments.
- R&D as a percentage of revenue was relatively flat for all three companies. The slight increase for Apple was due to lower sales for the quarter.

Quarterly results of operations analysis (Q2) continued

Consumer Electronics

Net income trends were as follows:

Net income (in $ millions) – Consumer Electronics



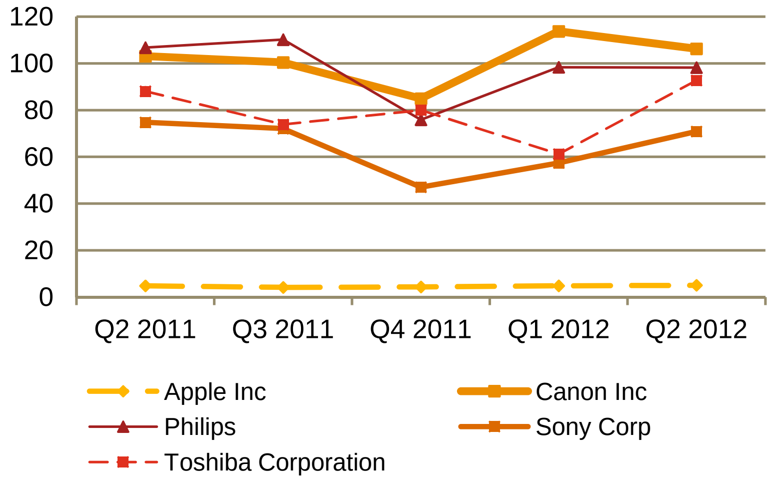
- Net income dropped sharply for all companies except Sony. Sony's net income grew from a loss of US$3.12bn to a loss of US$312mn. Toshiba reported a net loss of (US$153mn) this quarter vis-à-vis US$752mn last quarter.
- The net income for Apple dropped by 24.1% to US$8.8bn due to lower sales and higher input costs QoQ.
- Canon Inc.'s profits fell by 12.8% to US$655mn. This was due to lower sales of laser printers, in spite of a cut in prices and a sharply higher sales promotion cost.
- The net income for Philips was down by 34.2% QoQ to US$215mn. This was led by higher operating costs and losses on discontinued operations, as it announced the partial exit of the Consumer Electronics business in North America through a distribution deal with Funai.

Quarterly results of operations analysis (Q2) continued

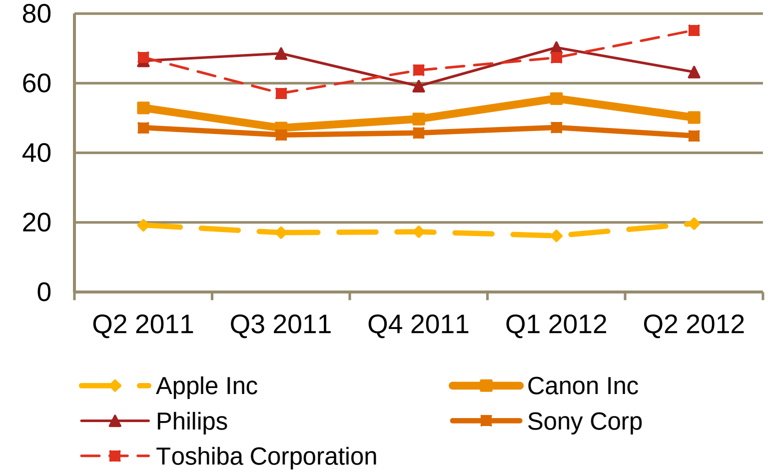
Consumer Electronics

Inventory and receivables trends were as follows:

Days inventory on hand – Consumer Electronics



Days sales in receivables – Consumer Electronics



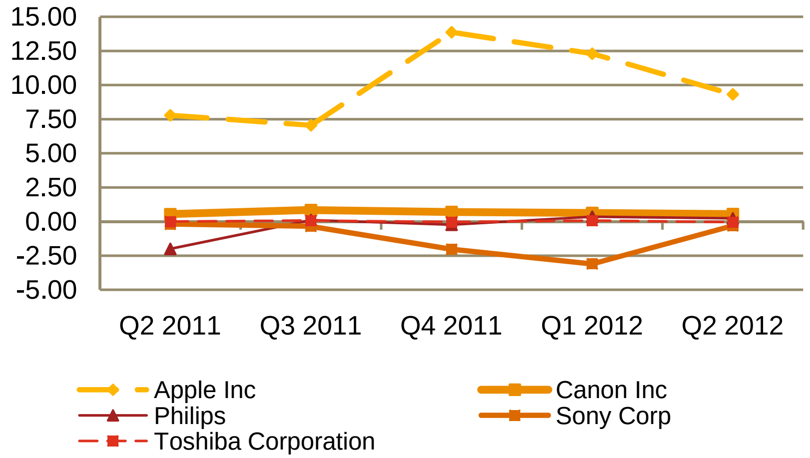
- Days of inventory on hand increased by 13 and 32 days QoQ for Sony and Toshiba respectively. This was due to lower demand for their products in both the US and Europe. Inventory days decreased QoQ for Canon by 7 days. This was the result of new cost control and inventory management strategies and implementation. Apple and Philips had relatively flat days of inventory on hand QoQ.
- Days of sales in receivables (DSO) decreased QoQ for Canon, Philips and Sony Corp. by 5, 7 and 2 days respectively. DSO increased by 4 and 7 days for Apple and Toshiba respectively. This was due to higher credit sales led by lower sales QoQ.

Quarterly results of operations analysis (Q2) continued

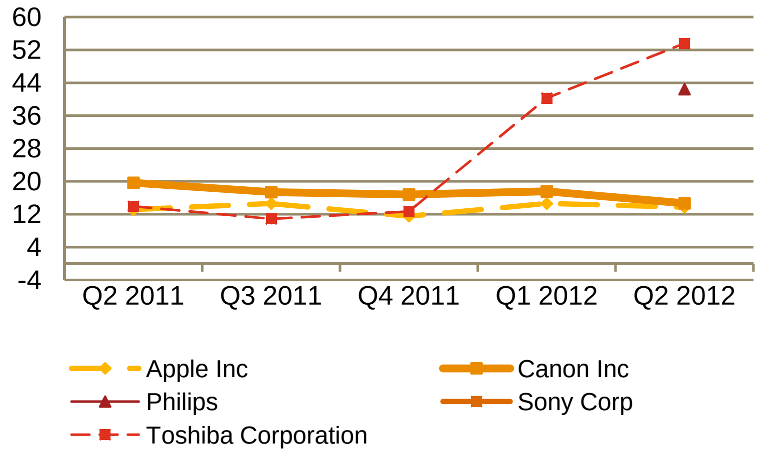
Consumer Electronics

EPS (earnings per share) and P/E (price/earnings) trends were as follows:

EPS($) – Consumer Electronics



P/E – Consumer Electronics



- All the companies recorded a lower EPS number QoQ except for Sony, which reported an EPS of (US$0.31) vis-à-vis (US$3.10) in the last quarter. Apple's EPS dropped by 24.2% QoQ. This was due to lower sales and also decreased margins led by product mix. Canon and Philips EPS decreased by 12.7% and 34.6% QoQ respectively. Canon tried to improve investor sentiments by declaring dividends and also buying back treasury stock.
- The P/E ratio for Apple dropped from 14.6x to 13.7x QoQ, because of lower reported sales and profits, which were much lower than investor expectation. Canon's P/E also came down sharply from 17.6x to 14.7x QoQ. This was due to the net loss reported by Canon. Overall, market sentiments are negative as the biggest market for consumer electronics is still the US and Europe, both of which are still struggling with very slow economic growth.

Snapshot by Subsector

EMS/Distributors

Market analysis
EMS/Distributors

- Global economic difficulties are leading to large price declines for a broad range of electronic parts, creating a near-term buying opportunity for purchasers. Pricing for widely used components, including capacitors, crystals, filters, magnetics, oscillators and printed circuit boards (PCBs) are all set to decline at above-average rates in Q3 2012 and Q4 2012. Electronic component pricing is typically stronger in the second half of the year as suppliers strategically boost prices to take advantage of strong demand during the back-to-school and holiday build seasons. However, prices are weak this year because of global economic issues, such as the crisis in Europe and the rapid slowdown of manufacturing in China. Although overall semiconductor revenue is expected to rise in the second half, pricing of many specific components is falling at a faster rate in reaction to poor economic news.[1]
- Arrow Electronics Inc's ECS (Enterprise Computing Solutions) performed very well in the US even when market growth has slowed. At a global level, it saw a solid double-digit YoY growth in services, storage and software, offset by declines in servers. Consistent with the group strategy to scale up in Europe, the company completed the acquisition of The Altimate Group, a value-added distributor of enterprise and mid-range computing products, services and solutions.
- Avnet Inc's fiscal 2012 results reflect the impact of both a components supply chain correction, which occurred in the earlier part of the year, followed by the slowing global economic growth during the latter part of the year. The market for electronic components was negatively impacted by the post-recovery inventory correction, while IT-spend growth contracted as global GDP growth rates slowed. As a result, Avnet initiated expense reductions in those parts of the portfolio most impacted by these developments. These initiatives helped offset the impact of the revenue decline.

1. IHS iSuppli, Aug 2012

Market analysis continued

EMS/Distributors

- During the three-month period ended June 29, 2012, Flextronics International Ltd completed the sale of certain assets from its Vista Point Technologies camera modules business, including intellectual property and the China-based manufacturing operations, to Tessera Technologies and DigitalOptics Corporation, a wholly owned subsidiary of Tessera Technologies. Total proceeds received from the sale of this business was US$16.5mn, and the company incurred a loss on sale of this business of US$4.7mn, which is included in the loss on sale of business and other expenses (income), net in the results from discontinued operations.

Q2 and Q1 performance

EMS/Distributors

Company	Q2 2012				
	Revenue ($ millions)	Gross margin (%)	Net income/(loss) ($ millions)	EPS($)	Market cap ($ millions)
Arrow Electronics Inc.	5,151	13.34%	114	1.02	3,569
Avnet Inc.	6,307	12.03%	133	0.91	4,477
Flextronics International Ltd.	5,990	5.98%	128	0.19	4,125

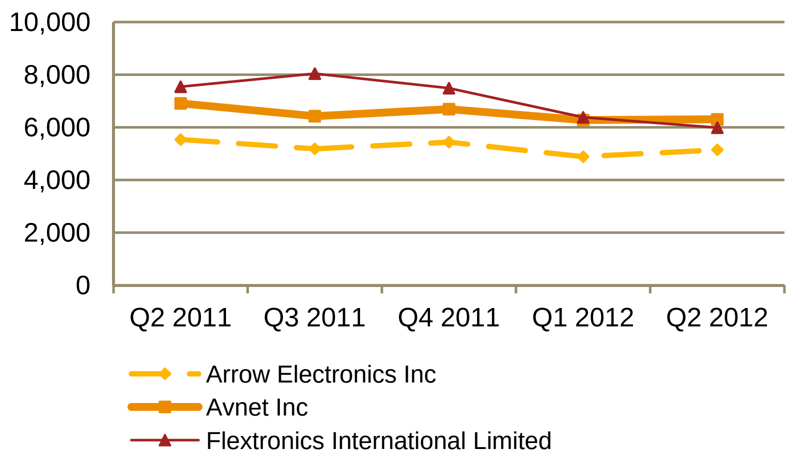
Company	Q1 2012				
	Revenue ($ millions)	Gross margin (%)	Net income/(loss) ($ millions)	EPS($)	Market cap ($ millions)
Arrow Electronics Inc.	4,890	13.92%	114	1.00	4,682
Avnet Inc.	6,281	12.00%	148	1.00	5,280
Flextronics International Ltd.	6,382	5.68%	157	0.22	5,050

Quarterly results of operations analysis (Q2)

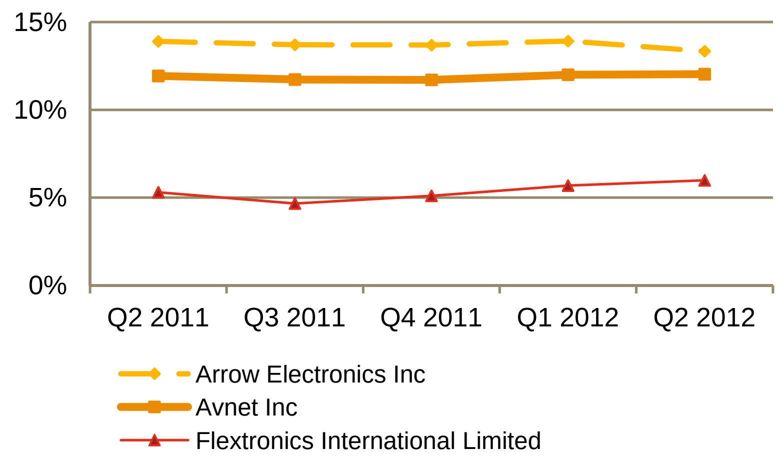
EMS/Distributors

Revenues and gross margin trends were as follows:

Revenues (in $ millions) – EMS/Distributors



Gross margin % – EMS/Distributors



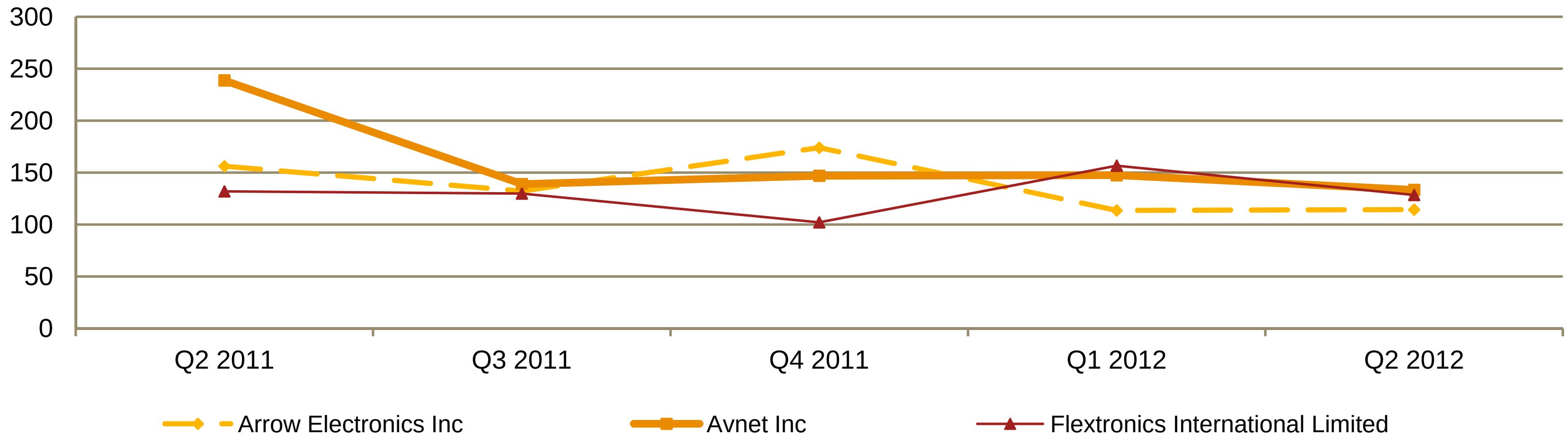
- Revenues for all EMS companies declined YoY for Q2 2012. Arrow Electronics registered a decline of 7.0% YoY, but increased by 5.3% sequentially. This change was led by a strong performance of enterprise computing solutions in Europe, which grew by 12.0% in local currency. Avnet Inc.'s revenue decreased by 8.7% YoY, but remained sequentially flat at 0.4%. The quarterly revenue numbers were much lower than expected as the customers turned conservative in the second half of the quarter due to the macroeconomic scenario. Flextronics' revenue declined sharply by 20.6% YoY and 6.2% QoQ. Lower demand was as per expectation for all other segments except for Integrated Network Solutions. The seasonal factors influencing the demand along with the macroeconomic situation led to the reporting of lower revenue numbers.
- Gross margin improved for Avnet and Flextronics YoY by 10 and 68 basis points, respectively, and sequentially, gross margins were relatively flat with 3 basis points and 30 basis points increase. Flextronics' gross margin increased due to improved product mix and better utilization of manufacturing facilities. Avnet's gross margin increase was led by higher gross margins from Technology Solutions segment. Arrow Electronics' gross margin dropped by 56 and 58 basis points YoY and QoQ, respectively. For Arrow, this drop was due to pricing pressures and negative impact of product mix.

Quarterly results of operations analysis (Q2), cont'd

EMS/Distributors

Net income trends were as follows:

Net income (in $ millions) – EMS/Distributors



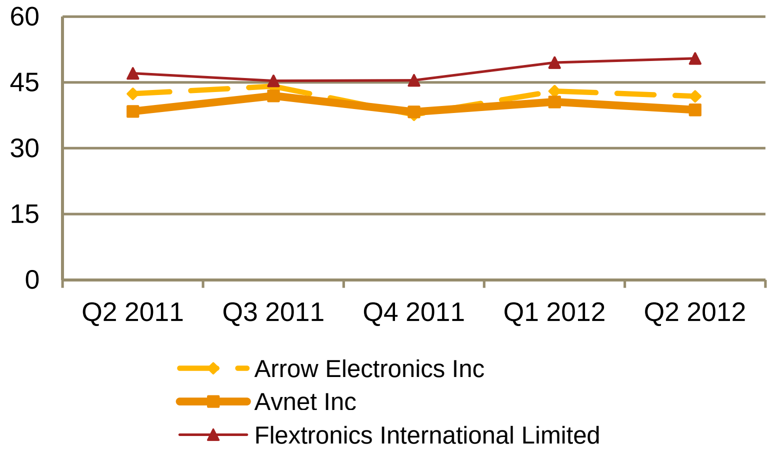
- Net income for all the three companies - Arrow, Avnet, and Flextronics recorded a YoY decline of 26.8%, 44.1%, and 2.7%, respectively. Sequentially, Avnet and Flextronics' net income dropped by 9.6% and 18.0%, respectively, whereas Arrow's net profit remained flat.
- Lower net income reported by Arrow was led by lower demand due to macro factors and seasonally low quarter for EMS industry. The input cost product mix also led to depleting margins.
- Flextronics reported a lower income due to the decline in net sales, which was primarily due to a US$1.4bln decrease in the High Velocity Solutions (HVS) market. The decreased sales in HVS market are a result of the company's strategy to re-balance portfolio mix and move to a 70%-30% balance between non-HVS and HVS.
- Avnet Inc.'s net income declined YoY due to the decline in operating income and a loss in other income, primarily driven by losses on foreign currency exchange rates as compared to a gain in the prior-year quarter.

Quarterly results of operations analysis (Q2), cont’d

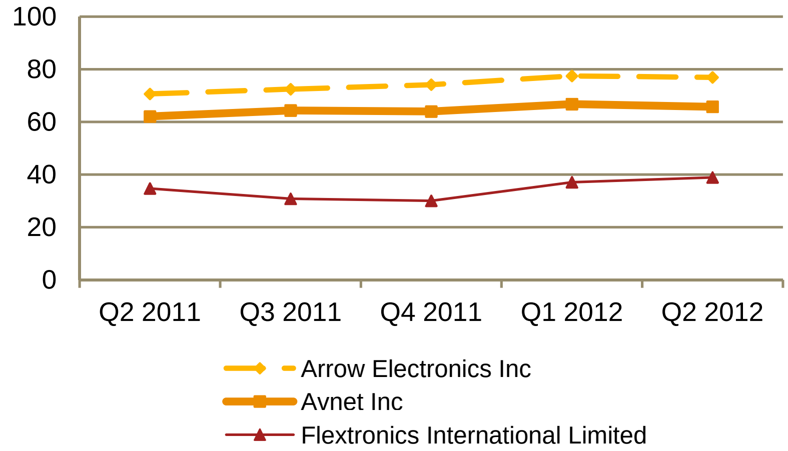
EMS/Distributors

Inventory and receivables trends were as follows:

Days inventory on hand – EMS/Distributors



Days sales in receivables – EMS/Distributors



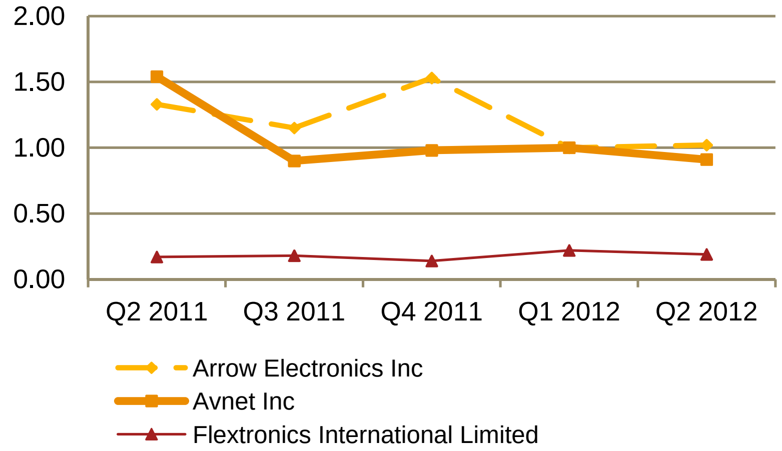
- Days inventory on hand was relatively flat QoQ for all companies. Avnet had the highest decrease of two days, followed by Arrow, whose days inventory decreased by a day as compared with the previous quarter. This decrease was due to the improved inventory management by the companies and better forecast of its products’ demand. Inventory on hand for Flextronics increased by one day QoQ due to lower sales, which led to slower inventory turnover rates.
- Days sales in receivables (DSO) was flat for Arrow and Avnet, which decreased by one day each QoQ. Flextronics' DSO increased by two days sequentially. The DSO of Arrow, Avnet, and Flextronics increased YoY by six, four, and four days, respectively.

Quarterly results of operations analysis (Q2), cont'd

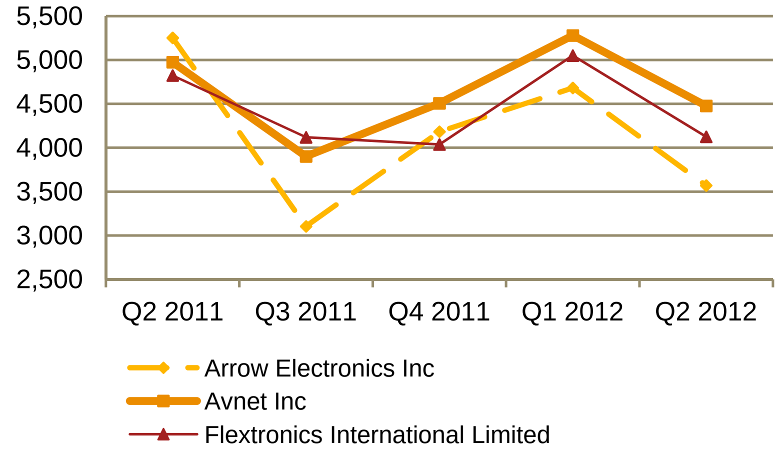
EMS/Distributors

Earnings per share (EPS) and market capitalization trends were as follows:

EPS($) – EMS/Distributors



Market cap (in $ millions) – EMS/Distributors



- EPS for Avnet and Flextronics declined by 9.0% and 13.6%, respectively, sequentially . Arrow's EPS increased marginally by 2.0% QoQ. Arrow and Avnet's EPS declined YoY by 23.3% and 40.9%, respectively, led by lower sales and impacted by seasonal factors; however, Flextronics' EPS increased YoY by 11.8%. Increased YoY EPS for Flextronics was primarily the result of the repurchase of approx. 20.4mn ordinary shares in the quarter and 72mn shares compared to the last year.
- Market cap dipped sequentially for all three companies as stock prices registered a significant fall in the quarter. As compared with the same period last year, Arrow, Avnet, and Flextronics' market cap decreased by 32.0%, 10.0%, and 14.5%, respectively.

Snapshot by subsector

Semiconductors

Market analysis

Semiconductors

- Worldwide wafer fab equipment (WFE) spending is on pace to total US$33bn in 2012, a decline of 8.9% from 2011 spending of US$36.2bn. The market is expected to return to growth in 2013 with WFE spending projected to surpass US$35.4bn, a 7.4% increase from 2012. Wafer fab manufacturing capacity utilization will be about 87% by the end of 2012. Leading-edge utilization will return to the high 80% range by the second half of 2012, and move into the low 90% range through 2013. Increased demand, combined with less than mature yields at the leading edge, is consuming increased capacity, with the result that utilization will begin to climb upward again.[1]
- Global semiconductor revenue dropped modestly by 3.6% in Q1 2012 compared to Q4 2011—reflecting normal seasonal patterns. However, revenue growth in Q2 2012 amounted to only about 3% compared to the first quarter—a low level of increase when compared with historical averages. Revenue guidance from key chip suppliers for the third quarter indicates the overall market will grow by just slightly more than 6% sequentially. Subdued growth in revenue during these two key quarters indicate the semiconductor market will be challenged to have sufficient growth to prevent the market from contracting for the year.[2]
- Traditional microprocessor sales are expected to be challenged in 2012 as PC demand is cannibalized by tablets. NAND flash memory revenues are also expected to grow in 2012 fueled by a strong increase in mobile consumer devices and solid-state drives. DRAM will see slight recovery in 2012 as one of the major players, Elpida, filed for bankruptcy. Inventory is a major concern for the industry and, according to HIS iSuppli, despite the semiconductor suppliers reducing their inventory by 7.5% over the last six months, total inventory will remain at high levels both in terms of aggregate dollar value as well as in days of inventory. Further reductions of at least another 5% is expected through 2H 2012.[2]

1. Gartner, June 2012 2. IHS iSuppli, Aug 2012

Market analysis continued

Semiconductors

- Intel Corporation reported quarterly revenue of US$13.5bn led by increased demand in data center and multiple new product launches. The company generated US$4.7bn of cash from operations. Revenue was up 5% sequentially. Revenue in the second quarter was slightly below expectations due to lower demand in Intel's NAND flash memory products. The company is not expecting strong growth next quarter as they are anticipating that end-users will continue to maintain low inventory levels because of a slower than previously expected recovery of the consumer market in Western Europe and North America, and moderating growth in emerging markets, especially China and Brazil.

- Applied Materials generated orders of US$1.80bn and net sales of US$2.34bn. Operating income was US$322 million. The company generated strong operating cash flow and used it to buy back 3.6% of shares outstanding in the quarter. Results included US$44 million of restructuring and asset impairment charges, consisting primarily of costs associated with the EES (Energy and Environmental Solutions) restructuring plan announced on May 10, 2012. The plan also resulted in inventory-related charges of approximately US$13 million. During the quarter the company also paid dividends amounting to US$115mn and repurchased US$500mn of stock, leading to a decrease in outstanding stock of 3.6% from the beginning of the quarter.

Market analysis continued

Semiconductors

- TSMC's second quarter revenue increased 21.8% to US$4.3bn from the previous quarter and increased 13.0% YoY. Gross margin for the quarter was 48.6% and operating margin was 36.5%. The company announced that it would invest US$1.4bn (US$1,039mn equity + US$342mn R&D) for a 5% equity stake in ASML to advance Extreme Ultraviolet (EUV) lithography technology. The agreement follows Intel's 15% stake and investment of US$4.1bn. TSMC has secured the equity at the same price as Intel despite ASML's stock rising 20% since July 2012, implying a US$170mn accounting gain. Thus, TSMC has recouped half of this R&D expense.
- Texas Instruments (TI) announced second-quarter revenue of US$3.34bn and net income of US$446mn. Analog and Embedded Processing segments grew sequentially, while the Wireless segment declined. Due to increased uncertainty, the company estimates that the revenue in Q3 2012 will be in line with the last quarter and below the seasonal average growth rate. The company plans to remain focused on strengthening market positions in Analog and Embedded Processing. TI has also announced employment reduction costs related to former National employees who have been or will be terminated after the closing date. About 350 jobs will be eliminated by the end of 2012 as a result of redundancies and cost efficiency measures. TI acquired the NSM distributor's inventory at fair value, resulting in an incremental charge of US$21 million to COR upon sale of the inventory in 2012.

Market analysis continued

Semiconductors

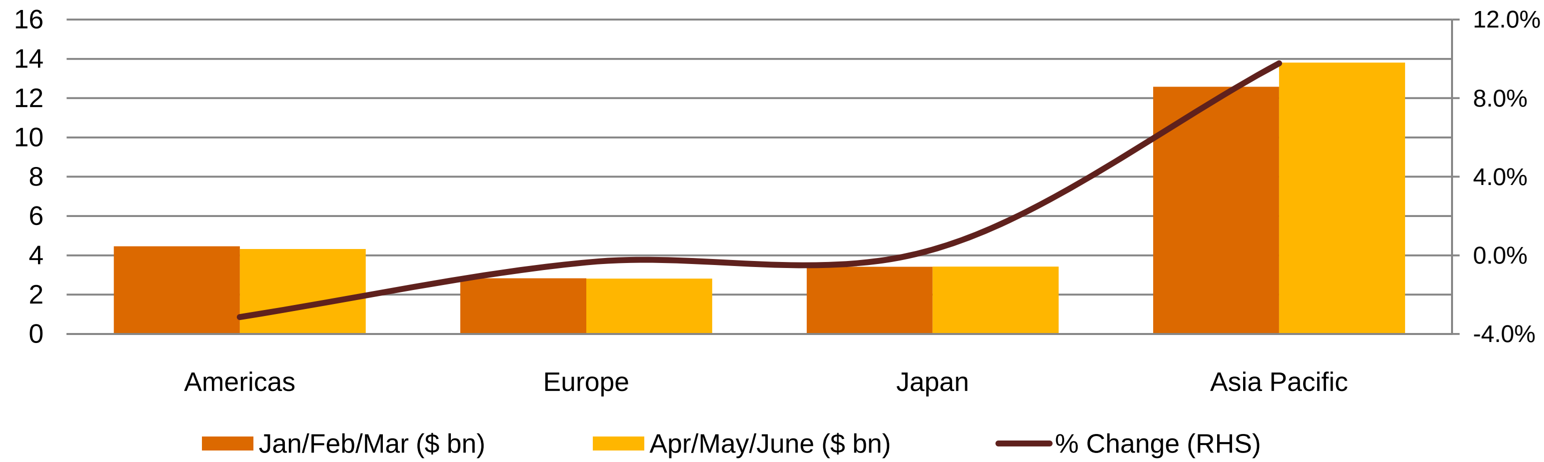
- Qualcomm expects the calendar year to be more back-end loaded than previously thought, as 28nm supply increases and more devices are launched in time for the holiday season. Qualcomm's foundries are ramping for 28nm (there are now four foundry vendors in different stages of ramping up production). Qualcomm has put significant resources into developing their Windows ARM-based mobile computing solution. These products are generally expected to be available by October and it is clear that the company believes this opportunity will lead to significant improvement of their revenues and bottom line.

Geographic revenue analysis (Q2)

Semiconductors

Three Months' Moving Average Sales – Geographic segmentation

Geographic revenue (in US$ billions) and % growth – Semiconductors



- The 3 month moving average revenue for Q2 2012 vis-a-vis Q1 2012 decreased by 3.14% to US$4.32bn in Americas and 0.35% in Europe to US$2.82bn. The revenues for Japan increased by 0.29% and for Asia Pacific it increased by 9.8% to US$13.8bn. Worldwide sales of semiconductors reached US$24.38bn for the month of June 2012, a slight decrease of 0.1% from the prior month when sales were US$24.40bn. Sales from June 2012 were 2% lower than the June 2011 total of US$24.89bn. The semiconductor industry continues to weather the turbulent global economy better than most sectors, but macroeconomic uncertainties are limiting overall recovery and growth. The Japan and Asia Pacific sequential increases are encouraging signs, but are tempered by continued weakness in Europe and the Americas.[1]

1. Semiconductor Industry Association , Aug 2012

Q2 and Q1 performance

Semiconductors

Company	Q2 2012				
	Revenue ($ millions)	Gross margin (%)	Net income/(loss) ($ millions)	EPS ($)	Market cap ($ millions)
Intel	13,501	63.36%	2,827	0.54	133,250
Applied Materials	2,343	39.69%	218	0.17	14,656
Texas Instruments	3,335	49.51%	446	0.38	49,944
TSMC	4,326	48.61%	1,412	0.05	72,452
Qualcomm Inc	4,626	62.84%	1,207	0.69	93,598

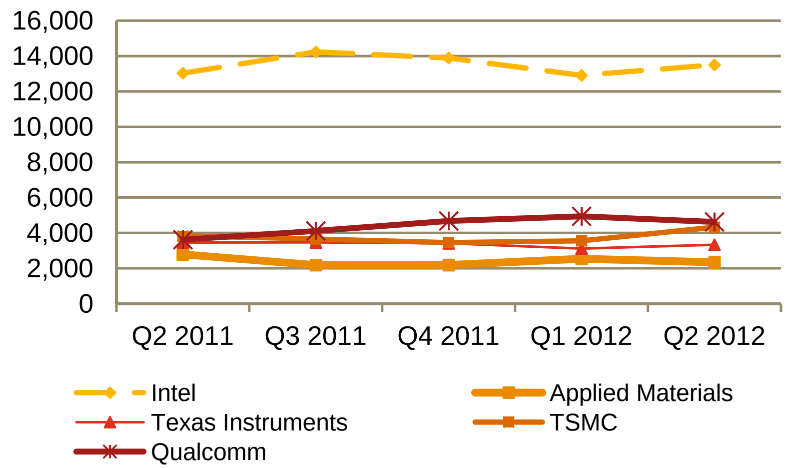
Company	Q1 2012				
	Revenue ($ millions)	Gross margin (%)	Net income/(loss) ($ millions)	EPS ($)	Market cap ($ millions)
Intel	12,906	64.04%	2,738	0.53	140,550
Applied Materials	2,541	39.79%	289	0.22	15,479
Texas Instruments	3,121	49.05%	265	0.22	54,644
TSMC	3,552	47.72%	1,127	0.04	79,213
Qualcomm Inc	4,943	63.93%	2,230	1.28	106,828

Quarterly results of operations analysis (Q2)

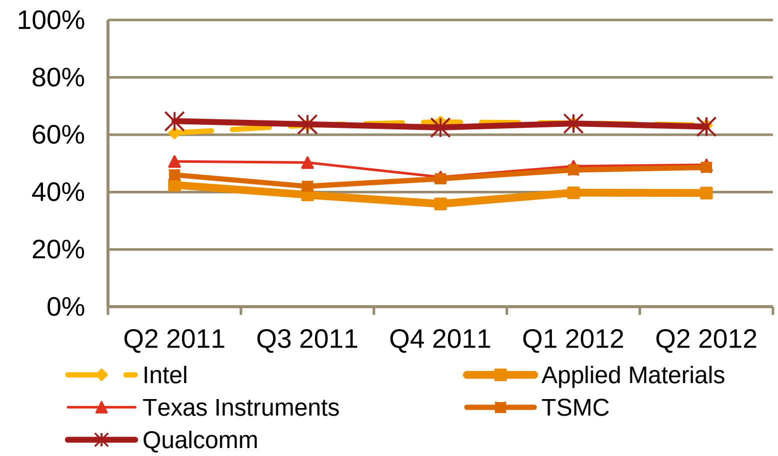
Semiconductors

Revenue and gross margin trends were as follows:

Revenues (in $ millions) – Semiconductors



Gross margin % – Semiconductors

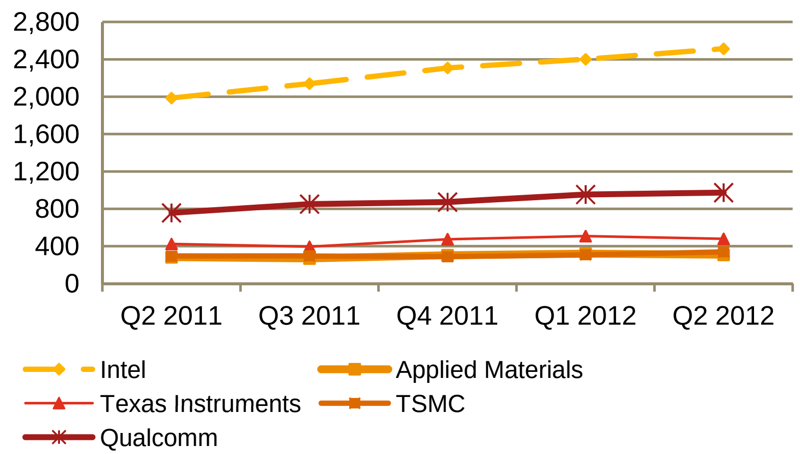


- Semiconductor companies reported revenue growth sequentially except for Applied Materials and Qualcomm. TSMC reported the highest sequential growth in revenue of 21.8% to US$4.33bn, led by strong demand for mobile computing related applications and TSMC's leadership in technology. By technology, 28nm process technology marked the strongest growth. Texas Instruments revenue increased by 6.9% QoQ to US$3.34bn due to spike in demand for Analog and Embedded Processing segments and supported by the seasonality of the semiconductor industry. Intel's revenue grew by 4.6% QoQ to US$13.5bn. The increase in revenue was due to PC Client Group and Data Center Group platform unit sales and average selling prices, which were up 7% and 1%, respectively. These increases were driven primarily by the enterprise and emerging market segments. Qualcomm's revenue declined to US$4.6bn, a drop of 6.4% QoQ. Applied Materials' top-line dropped QoQ by 7.8% to US$2.34bn. It was due to lower orders for Silicon Systems Group , which were US$1.17bn, down 41%, primarily due to lower demand from foundry and logic customers.
- Gross margins (GM) were relatively flat quarter on quarter for all the companies except for Qualcomm which had a decrease in gross margins by 109 bps due to lower volumes and higher IC testing cost. The marginal decline in margins for Intel by 68 bps was led by higher cost incurred in NAND production. TSMC's margins improved from 47.72% to 48.61%, an increase of 89 bps. This was due to higher capacity utilization. TI's margins improved by 46 bps due to higher utilization rates and improved product mix. Applied Materials' gross margins were flat QoQ.

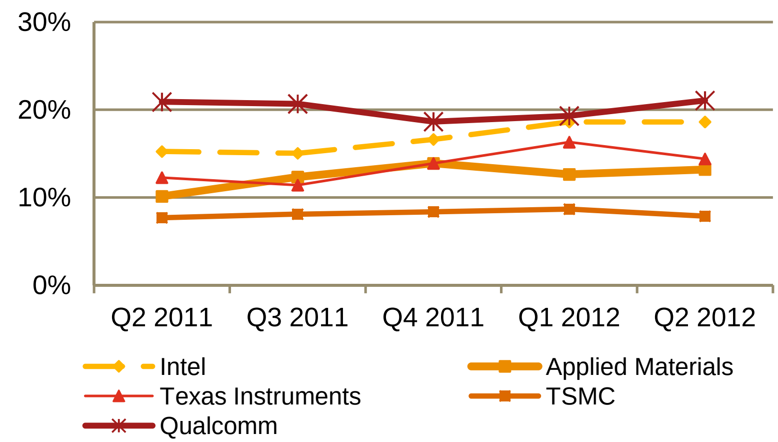
Quarterly results of operations analysis (Q2) continued
Semiconductors

R&D expenditure trends were as follows:

R&D expenses (in $ millions) – Semiconductors



R&D expenses (% of revenue) – Semiconductors



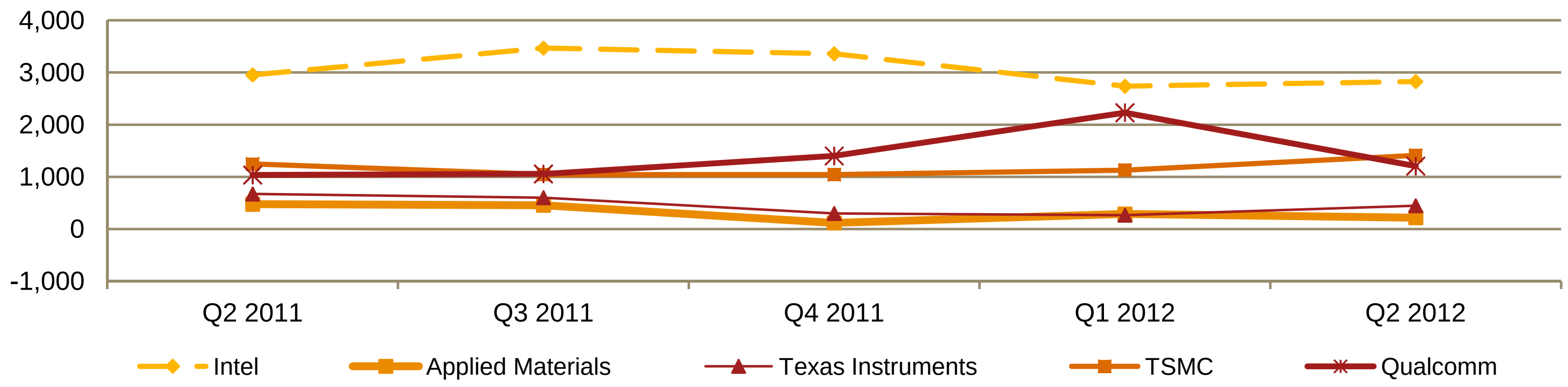
- R&D expenses increased q-o-q for all companies. Intel's, Applied Materials', Texas Instruments', TSMC's and Qualcomm's R&D expenses increased by 4.7%, 5.6%, 7.2%, 6.6% and 9.3% respectively. R&D for Intel increased due to higher process development costs due to R&D of next-generation 14nm process technology, higher compensation expenses and higher R&D costs related to the development of 450-mm wafer. Increase in R&D at TI was due to the inclusion of Silicon Valley Analog's (segment reporting for National semiconductor) R&D in accounting. TSMC's R&D increased due to higher levels of development activities for 20nm technologies. Qualcomm's R&D increased sharply primarily due to an increase in investments in the development of integrated circuit products (including connectivity products), next-generation technologies and other initiatives to support the acceleration of advanced wireless products and services.
- R&D as a percentage of sales increased for all companies except Texas Instruments which had a 192 bps decrease QoQ to 14.39% and TSMC which had a decrease of 81 basis points to 7.86%. Intel and Applied materials' R&D was flat QoQ at 18.61% and 13.91%. Qualcomm's R&D as a percentage of sales increased by 175 bps due to a sharp increase in R&D spends compared to a sequential decrease in revenue.

Quarterly results of operations analysis (Q2) continued

Semiconductors

Net income trends were as follows:

Net income (in $ millions) – Semiconductors



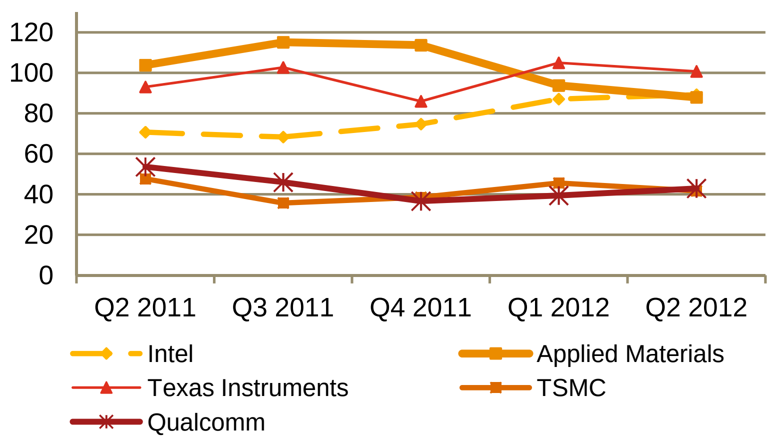
- Intel's net income increased by 3.3% to US$2.8bn QoQ, led by increased demand due to seasonality factors such as the back-to-school season and improved product mix.
- Applied Materials' net income dropped sharply by 24.6% to US$218mn QoQ. This was due to US$44mn of restructuring and asset impairment charges.
- Texas Instruments reported a 68.3% increase in net income to US$446mn sequentially. This was due to the improved operating results of the Analog, Embedded Processing and Others segments. Repayment of debt also led to lower interest cost, further supporting net income.
- TSMC's net income grew by 25.3% to US$1.4bn QoQ due to increased revenue and improved gross margins led by capacity utilization.
- The net income of Qualcomm declined by 45.9% QoQ to US$1.2bn, since in Q1 2012 the company recorded a gain of US$1.2bn from the sale of substantially all of company's 700 MHz spectrum and there were no such sales in Q2 2012.

Quarterly results of operations analysis (Q2) continued

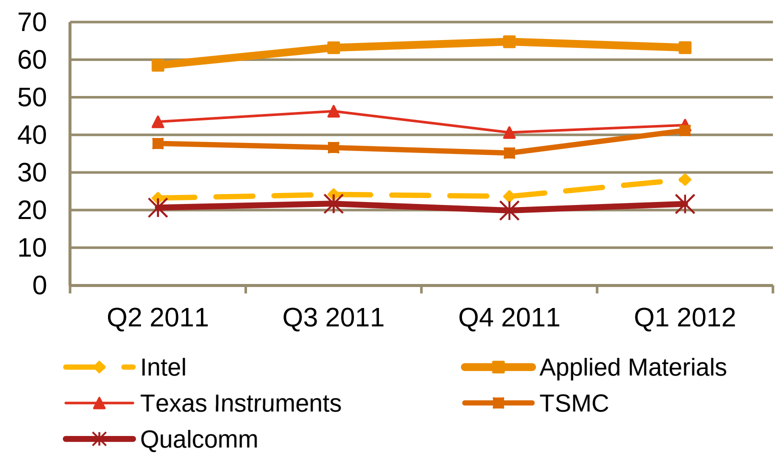
Semiconductors

Inventory and receivables trends were as follows:

Days inventory on hand – Semiconductors



Days sales in receivables – Semiconductors



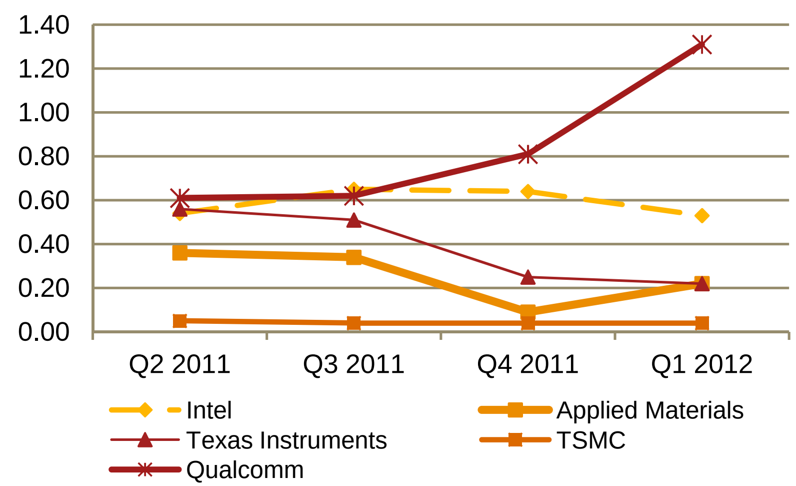
- Days inventory on hand (DOI) decreased sequentially for all the companies, except Intel and Qualcomm, where the DOI increased by 2.5% and 8.9%. Intel's DOI increased due to lower than expected sales and expected improvement in demand in the second half of the year. Qualcomm's inventory increase was due to increased production of a 45nm chipset which the company thought could substitute some initial 28nm demand. TSMC's DOI decreased by 8.5% due to a spurt in sales in the Computer and Communication segment, resulting in lower inventory buildup. The decrease in DOI of Texas Instruments (TI) and Applied Materials was 4 and 6 days, respectively. It was due to better inventory management.
- Days sales in receivable/outstanding (DSO) decreased sequentially for all companies except Texas Instruments and Qualcomm which had an increase in DSO of 1 day and 3 days respectively. DSO decreased for Intel, Applied Materials and TSMC by 5 days, 4 days and 3 days respectively. This was due to an increase in sales which was also due to the impact of seasonality and impending increased demand due to the back to school season.

Quarterly results of operations analysis (Q2) continued

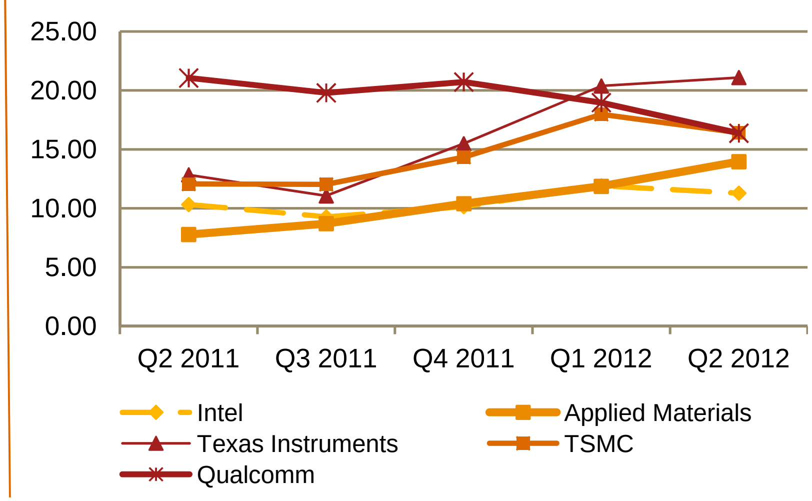
Semiconductors

EPS (earnings per share) and P/E (price/earnings) trends were as follows:

EPS ($)– Semiconductors



Price/ Earning ratio - Semiconductors



- EPS for Applied Materials and Qualcomm decreased by 22.7% and 47.3% QoQ respectively. This was due to lower net income driven by lower sales and margins. The EPS increased for Intel, Texas Instruments and TSMC by 1.9%, 72.7% and 25.0% respectively. The increase in EPS for Intel was not only due to increased net income, but also was supported by stock repurchase of $40.6mn. Qualcomm also improved its EPS by utilizing US$373 million to repurchase 6.6 million shares.
- All the companies tracked in this sector except Intel are currently trading at a higher P/E compared to the Semiconductor industry average P/E of 13.9x*. Intel is trading at 11.3x. Texas Instruments is trading at a P/E of 21.1x, which is relatively flat compared to the last quarter. Qualcomm's P/E dropped marginally, to 16.3x, based on the slowdown in demand and lower net income reported by the company. TSMC's P/E decreased, in spite of reporting sequentially higher net income, to 16.4x. Applied Materials' P/E is at 13.9x, in line with the overall industry average.

* Industry Average P/E – Capital IQ.

Snapshot by subsector

Software & Internet

Market analysis
Software & Internet

- Worldwide software-as-a-service (SaaS) revenue is forecast to reach US$14.5bn in 2012, a 17.9% increase from 2011 revenue of US$12.3bn. SaaS-based delivery will experience healthy growth through 2015 when worldwide revenue is projected to reach US$22.1bn.[1]
- Analysts believe that Amazon's core growth remains fundamentally intact, while margins continue to improve from the increasing mix of high-margin service and digital media business lines.[2] Given the quarter's profit upside, scaling across the fulfillment infrastructure and higher margin mix, the potential for operating profit increases remains quite high in coming quarters. Also, new features like Prime Instant Video, Kindle Lending Library and Kindle Fire are likely to boost Prime adoption and subsequent sales.[3]
- eBay continues to invest in Marketplaces and Payments businesses whose margins are expected to rise over the next several quarters. Analysts feel that mobile eBay shoppers and PayPal payers are three to four times more valuable than web-only users and eBay is well positioned to leverage the secular shift to mobile e-commerce.[3]
- Google's second quarter results were in-line with street expectations. The company saw a 42% YoY growth in paid clicks, while there was a decline of 16% in CPC (cost per click) due to foreign exchange volatility and ad format changes. CPC is expected to fall further in the coming quarters due to faster growth in emerging markets and in non-PC devices. Analysts believe that Google may experience pricing leverage as search markets mature and management's commentary that UK and and northern Europe accelerated this quarter has eased fears of Europe becoming a slow territory.[4]

1. Gartner press release, March 2012
2. Deutsche Bank, July 2012
3. J.P Morgan, July 2012
4. Morgan Stanley, July 2012

Market analysis continued

Software & Internet

- Microsoft delivered a strong quarter, with revenues in line with consensus expectation and a strong cash flow. The release of the next versions of Windows, Office, Windows Server, Windows Phone and many other products in the coming months is expected to drive the business forward. Windows 8 will have a meaningful position in tablets (particularly in the business user segment) which should serve as a catalyst for increased sales.[1]
- Windows 8 marks the beginning of the new WinRT (Windows Runtime) computing era and the beginning of the end of the WinNT era. The combination of the WinRT programming model, a new user interface (UI) and legacy WinNT support will allow users to continue running their Win32 programs alongside new WinRT apps.[2]
- Oracle's fiscal fourth quarter (second calendar quarter) recorded several all-time highs for the company. The company sold US$4bn in software for the first time and recorded applications growth of 27% in constant dollars. With the addition of RightNow and Taleo, the company has already become the world's second-largest SaaS company, with bookings approaching US$1bn run rate.
- SAP's June quarter was driven by strong growth across all regions and an increased momentum of emerging product segments (e.g. HANA, mobile and cloud). Analysts believe that SAP's license revenue is positioned for continued strong growth due to pent-up demand in large enterprises; the rebound in IT spending in the manufacturing vertical; growing traction of HANA; as well as demand for SAP's BusinessObjects tools, which the company continues to aggressively promote.[1]

1. Credit Suisse, July 2012
2. Gartner press release, July 2012

Market analysis continued

Software & Internet

- Symantec reported a solid June quarter relative to modest expectations. Since the acquisition of Veritas, Symantec has consistently underperformed Wall Street's revenue and margin expectations. With both declining license revenue and a deteriorating margin structure, analysts have started to believe that Symantec cannot maintain the status quo with regard to the company's strategy. The appointment of Steve Bennett as the company's permanent CEO is being viewed as a step to bring about changes to the company's strategy to grow revenue/bookings which the prior management was unable to implement.[1]
- Yahoo! reported mixed Q2 2012 results overall as reduced revenue was somewhat offset by lower than expected operating expenses. Core business remains a challenge for Yahoo![2]

1. Credit Suisse, July 2012
2. J.P. Morgan July 2012

Q2 performance
Software & Internet

Company	Q2 2012				
	Revenue ($ millions)	Gross margin (%)	Net Income/(Loss) ($ millions)	EPS	Market cap ($ millions)
Amazon	12,834	26.07%	7	0.01	103,214
eBay	3,398	70.95%	692	0.53	54,109
Google	12,214	58.96%	2,785	8.42	189,650
Microsoft	18,059	76.95%	(492)	(0.06)	256,375
Oracle	10,916	81.62%	3,451	0.69	145,679
SAP*	5,009	68.91%	849	0.71	70,718
Symantec	1,668	82.97%	172	0.24	10,227
Yahoo!	1,218	65.88%	228	0.18	18,768

*Euro to USD exchange rate used for SAP is 1.285 USD/Euro.

Q1 performance
Software & Internet

Company	Q1 2012				
	Revenue ($ millions)	Gross margin (%)	Net Income/(Loss) ($ millions)	EPS	Market cap ($ millions)
Amazon	13,185	23.95%	130	0.28	91,130
eBay	3,277	70.00%	570	0.44	47,638
Google	10,645	64.41%	2,890	8.75	208,984
Microsoft	17,407	77.30%	5,108	0.60	270,984
Oracle	9,039	78.89%	2,498	0.49	148,524
SAP*	4,391	65.31%	582	0.48	83,110
Symantec	1,681	82.93%	559	0.76	13,614
Yahoo!	1,221	67.40%	286	0.23	18,045

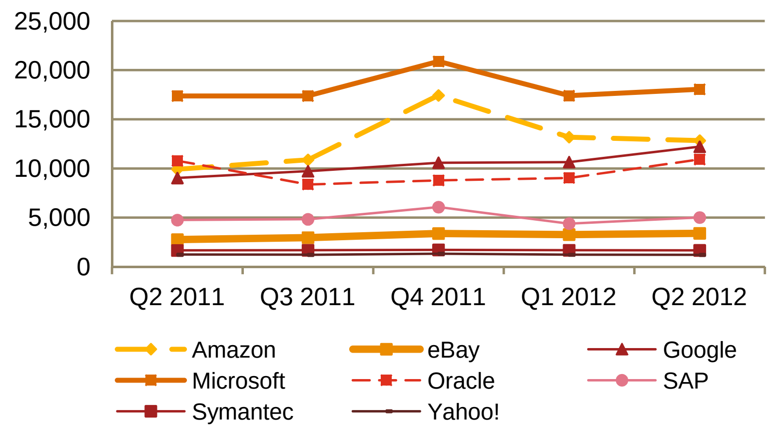
*Euro to USD exchange rate used for SAP is 1.3106 USD/Euro.

Quarterly results of operations analysis (Q2)

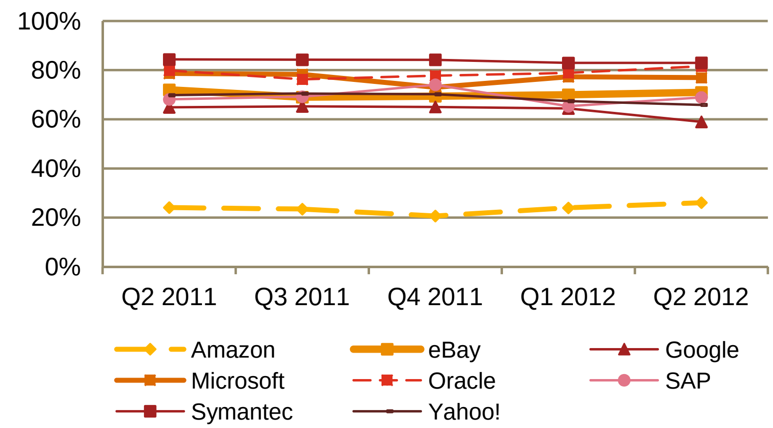
Software & Internet

Revenue and gross margin trends were as follows:

Revenues (in $ millions) – Software & Internet



Gross margin % – Software & Internet



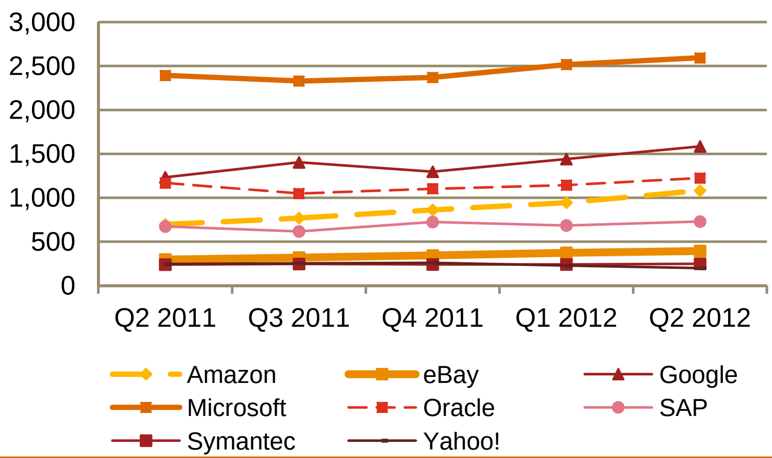
- Software & Internet companies had a good quarter in terms of revenue, with all the companies in the analysis registering positive YoY growth, except for Yahoo! which had a marginal decline of 0.9%. Google registered the highest YoY growth of 35.3%, primarily due to a 21% increase in revenue from both advertising and Google-owned sites. Additionally, Motorola Mobility contributed US$1.3bn to Google's overall revenue this quarter. Oracle had the highest QoQ growth in revenues of 20.8%, but on a YoY basis revenue grew only by 1.3%. Amazon's sales were impacted by US$(272)mn due to volatile exchange rates, leading to a 2.7% drop in QoQ revenues. However, increased unit sales and a higher mix of digital sales led to YoY growth of 29.5%. eBay's YoY revenue grew by 23.1%, driven primarily by increases in net revenues of 26% from PayPal, 9% from Marketplaces and revenues of US$221mn from GSI. Microsoft registered a growth in all its business segments except for the Windows and Windows Live divisions, which registered a decline in the fourth quarter. SAP's record software revenues and a 112% increase in cloud subscriptions and support business led to the growth in its revenues. Revenue for Symantec was almost flat in comparison with the previous quarter. Symantec's increase in revenue in the Security & Compliance segment and Storage & Server management segment was partially offset by a decline in the Consumer segment.
- Gross margin showed a mixed trend this quarter, with Amazon, Oracle and SAP registering YoY growth, and other companies in the analysis experiencing a decline. Amazon registered a 198 bps increase in YoY gross margin despite a 26.1% increase in cost of sales due to higher revenue growth in Amazon web services and third party businesses. Google recorded a 545 bps QoQ decline and a 590 bps YoY decline in gross margin because of the inclusion of cost of revenue of US$1bn from the Motorola business, increase in traffic acquisition costs and increase in data center costs. Gross margin for eBay, Microsoft and Symantec was almost flat QoQ.

Quarterly results of operations analysis (Q2) continued

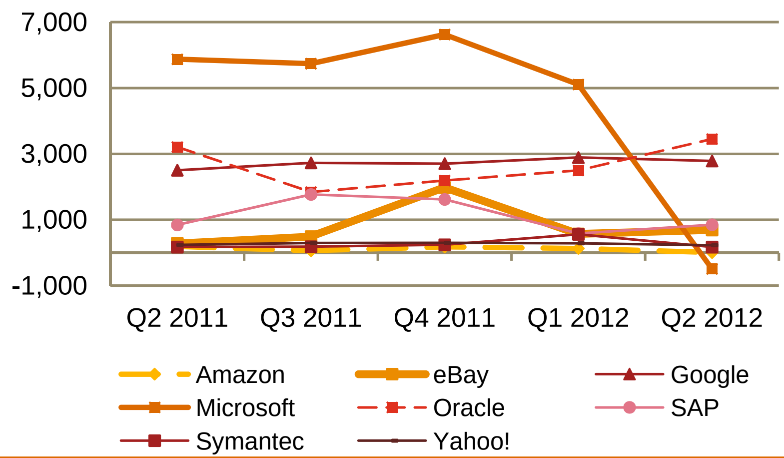
Software & Internet

R&D expenditure and net income trends were as follows:

R&D expenses (in $ millions) – Software & Internet



Net income (in $ millions) – Software & Internet



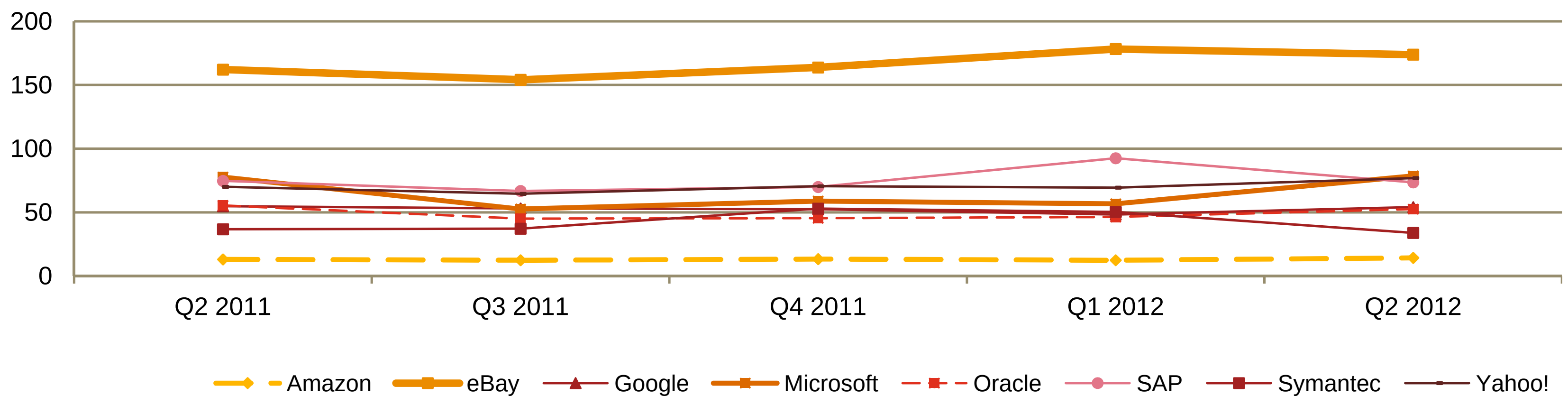
- Software & Internet companies increased their R&D budgets this quarter except for Yahoo! whose R&D spending was lower both YoY and QoQ. Amazon recorded a 55.0% YoY growth in R&D spending due to higher investments in the company's digital initiatives, technology infrastructure and increased payroll costs. eBay continues to incur high employee-related costs and continues to invest in top technology priorities, leading to a 32.6% increase in R&D expenses. Google's US$351mn increase in YoY R&D expenses was driven by an increase of US$112mn in labor and facilities costs and an additional cost of US$143mn related to Motorola. Microsoft's US$201mn increase in YoY R&D was due to increased headcount-related expenses. Symantec's R&D expenses increased 4.2% YoY as increased headcount led to an increase in salaries and wages expenses. Oracle and SAP also registered a growth of 7.1% and 6.5% respectively over the previous quarter.
- Net income showed significant movements this quarter for most of the companies in the analysis. Amazon's net income was US$7mn as compared to US$130mn in the previous quarter and US$191mn in Q2 2011. The company had a US$1.96bn increase in YoY cost of sales due to increased product, digital content and shipping costs resulting from increased sales. Microsoft reported negative net income for the first time due to a US$6.2bn goodwill impairment charge related to its OSD business. Excluding this charge, operating expenses were almost flat for Microsoft, reflecting its efficient cost management. eBay's net income increased by US$409mn YoY as the company gained US$118mn on divestiture of Rent.com as against losing US$256mn on the divestiture of certain GSI business in Q2 2011. Net income declined QoQ for Google and Symantec, while Yahoo!'s net income declined both QoQ and YoY.

Quarterly results of operations analysis (Q2) continued

Software & Internet

Receivables trends were as follows:

Days sales in receivables (DSO) – Software & Internet

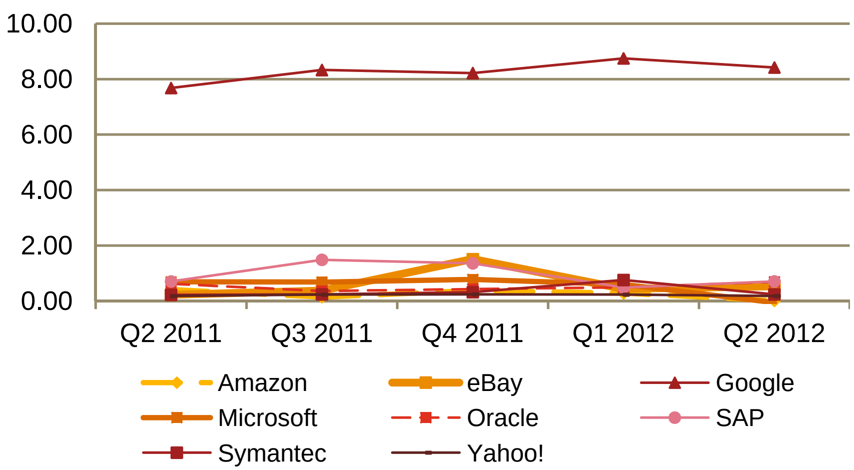


- Days sales in receivables (DSO) showed a mixed trend this quarter with Amazon, Google, Microsoft, Oracle and Yahoo! registering an increase, while the other companies in the analysis recording a decline. Amazon has the lowest DSO in this sector as consumers primarily use credit cards to buy and hence the receivables settle quickly. Microsoft's receivables increased by 44% this quarter, which led to the 22 days' increase in its DSO. SAP and Symantec registered significant declines in DSO of 19 days and 16 days respectively.

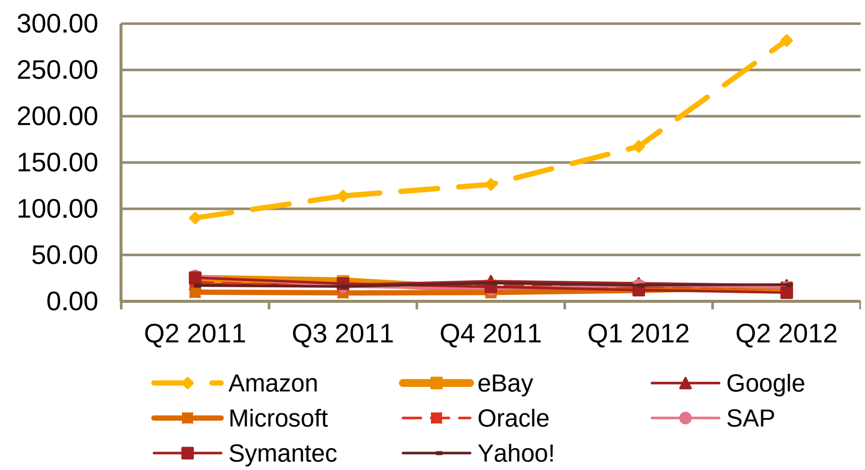
Quarterly results of operations analysis (Q2) continued
Software & Internet

EPS (earnings per share) and P/E (price/earnings) trends were as follows:

EPS – Software & Internet



Price/earnings – Software & Internet



- Amazon's EPS was US$0.01 this quarter compared to US$0.28 in the previous quarter and US$.41 in the same period last year. This was primarily due to higher cost of sales and an estimated loss of US$65mn related to the acquisition and integration of Kiva Systems. eBay's EPS of US$0.53 was 20.5% higher than the previous quarter and it reflected a gain on the divestiture of Rent.com. Goodwill impairment charges of US$6.2bn led to a negative EPS for Microsoft. Symantec's EPS recorded a significant sequential decline as the company had benefited from the sale of its share in the Huwaei-Symantec joint venture in the last quarter which was absent in the current quarter. Google and Yahoo! had a QoQ decline in EPS, while Oracle and SAP had 40.8% and 45.7% growth.
- With a sector average 12-month trailing P/E of 14.9x (excluding Amazon), Google, Microsoft, Oracle and Yahoo! traded above the sector average. Analysts remain positive on eBay's fundamentals and see incremental opportunities in Mobile Payments/Point-of-Sale and GSI business. Yahoo! is currently in a transition with the recent appointment of a new CEO. Analysts are equal-weight on Yahoo! and believe that the company faces risks from ad networks and social networks and search share loss.

Snapshot by subsector

Systems and PC Hardware

Market analysis
Systems and PC Hardware

- Worldwide PC shipments totaled 87.5 million units in the second quarter of 2012, a decline of 0.1% from the second quarter of 2011, according to preliminary results by Gartner, Inc. HP continued to be in the top position in worldwide PC shipments. It accounted for 14.9% of the market, but its global shipments declined 12.1%. Lenovo' s shipment growth continued to exceed the worldwide average, significantly narrowing the market share gap with HP.[1]
- Dell has announced six acquisitions and closed five in 2012, all of which will help drive a higher-value mix of solutions with more predictable revenue and margin streams. The company expects to close the pending acquisition of Quest Software in the second half of the third quarter.
- Led by mobility weakness, Dell's revenues were negatively impacted by a combination of competition, demand weakness and the impact of tablets. In the context of continued PC weakness, analysts believe that these trends may continue though the Windows 8 upgrade cycle offers some hope.[2]
- EMC reported strong financial results for the second quarter of 2012, marking the company's tenth consecutive quarter of double-digit YoY growth for consolidated revenue, GAAP net income and GAAP and non-GAAP EPS. Solid execution despite macro headwinds and product transitions highlight EMC's strong competitive position. Product refreshes and mix shifts toward higher-margin revenue streams position EMC better than other enterprise hardware companies to hit or beat EPS expectations in 2H12.[3]

1. Gartner press release, July 2012
2. Credit Suisse, Aug 2012
3. Morgan Stanley, July 2012

Market analysis continued

Systems and PC Hardware

- Analysts anticipate protracted declines in HP's three major businesses (~80% of revenue) to continue, making sustained growth in cash flow and EPS challenging. Also, management is likely to reinvest headcount reduction and related cost savings to improve HP's competitive position over the long haul. However, these investments will take time and it is unclear when these investments will translate into better product positioning. Ultimately, analysts believe that roughly three-fourths of HP's profits (BCS, Printing, PCs, Services) are facing long-term structural headwinds and it will be difficult for HP to replace these declining cash flow streams with new growth businesses.[1]
- IBM revenue growth missed forecasts due to currency, Europe and software headwinds, but profits and cash flow results met targets due to mix shift to higher-margin growth initiatives as well as recent workforce rebalancing. Despite weakening IT spending trends, IBM's hardware and services segments posted relatively consistent growth with Q1 2012. Software growth decelerated due to the lack of large bundled deals that boosted year-ago software results. Looking forward, reasonable growth in Europe, Japan and growth products, along with hiring plans for 2H12, suggest that software results should stabilize.[2]
- Lenovo reported solid results and has been executing well on all of its key focus areas: (1) gaining share in PCs; (2) improving margins by turning non-profitable markets around and (3) pushing into non-PC areas with strong growth in smartphones. At the same time, two key concerns for investors—losses in PC shipments outside China and smartphones—are starting to get addressed. For the first time in history, Lenovo turned profitable in PCs outside of China. The improvement has been largely driven by a turnaround in Eastern Europe and improving profitability in Asia Pac. Smartphones scale is also picking up, with Lenovo sales reaching 5mn units in this quarter.[3]

1. Deutsche Bank, Aug 2012
2. Morgan Stanley, July 2012
3. JP Morgan, Aug 2012

Market analysis continued

Systems and PC Hardware

- Lenovo and EMC have agreed to a joint venture, majority-owned by Lenovo, bringing certain assets and resources from EMC's Iomega business to develop and sell Network Attached Storage (NAS) products to small/medium businesses and distributed enterprise sites worldwide. The alliance will help Lenovo improve the capabilities of its servers, which are hubs for a company's computer network, and bring them to market on a wider scale through EMC.
- Xerox technology sales declined despite a favorable inventory correction (i.e. channel purchases). With ongoing macro uncertainty, analysts expect Xerox's customers to continue delaying purchasing decisions, resulting in incremental pressure on equipment sales in 2H12. Analysts believe the print industry is in secular decline and hence expect margin pressure to persist due to ongoing competition/aggressive pricing as vendors fight for share in a declining printer market.[1]

1. Deutsche Bank, July 2012

Q2 performance

Systems and PC Hardware

Company	Q2 2012				
	Revenue ($ millions)	Gross margin (%)	Net income/(loss) ($ millions)	EPS ($)	Market cap ($ millions)
Dell	14,483	21.67%	732	0.42	20,592
EMC	5,311	63.02%	650	0.29	53,790
HP	29,669	23.08%	(8,857)	(4.49)	36,115
IBM	25,783	47.63%	3,881	3.34	223,504
Lenovo	8,010	11.97%	144	0.01	178,782
Xerox	5,541	32.92%	309	0.22	10,288

Q1 performance

Systems and PC Hardware

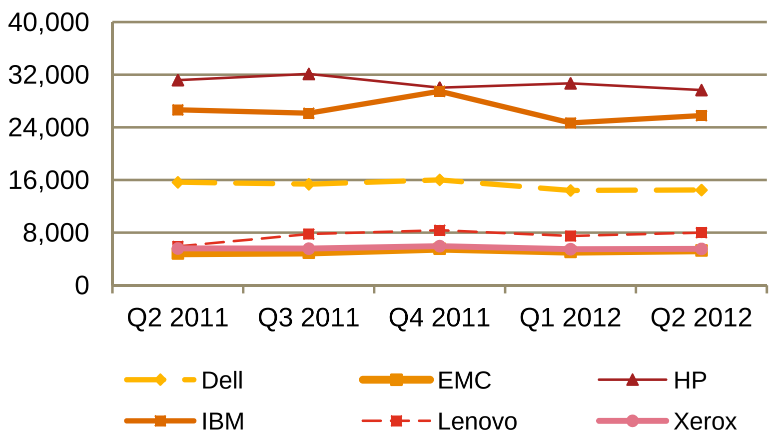
Company	Q1 2012				
	Revenue ($ millions)	Gross margin (%)	Net income/(loss) ($ millions)	EPS ($)	Market cap ($ millions)
Dell	14,422	21.27%	635	0.36	27,826
EMC	5,094	61.11%	587	0.27	62,739
HP	30,693	23.30%	1,593	0.80	47,183
IBM	24,673	45.06%	3,066	2.61	240,675
Lenovo	7,496	10.75%	69	0.01	185,834
Xerox	5,503	32.00%	269	0.19	10,890

Quarterly results of operations analysis (Q2)

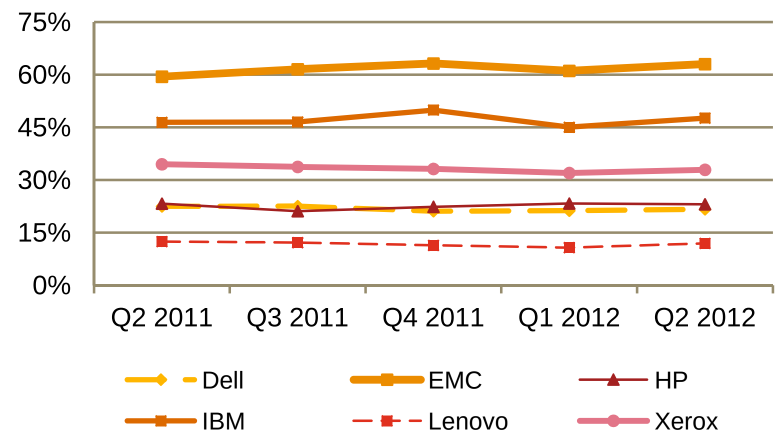
Systems and PC Hardware

Revenue and gross margin trends were as follows:

Revenues (in $ millions) – Systems and PC Hardware



Gross margin % – Systems and PC Hardware



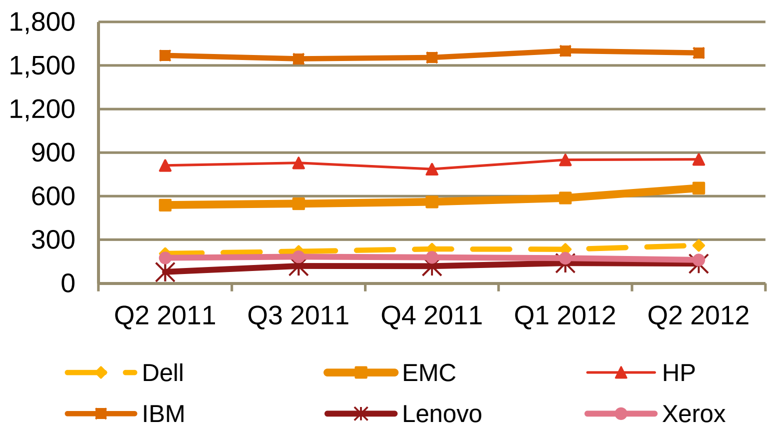
- System & PC hardware companies in the analysis slowed down this quarter vis-à-vis last year in terms of revenue except for Lenovo and EMC. Dell's revenue declined by 7.5% YoY primarily due to the contraction of desktop and mobility revenues. When compared to the previous quarter, revenue was almost flat. EMC's revenue grew by 4.3% sequentially and 9.6% YoY, driven by the Information Storage and VMware Virtual Infrastructure segments' product revenues as there has been a continuous higher demand for the portfolio of offerings that address the storage, data analysis and virtualization needs. HP is currently in the early stages of a multi-year turnaround and hence reported lower revenues. Except for the Software sector, all its sectors registered a decline in revenues. IBM's revenue was impacted by currency in the second quarter by approximately US$1bn, leading to a 3.3% YoY decline. Lenovo registered strong growth in revenue driven by increased PC shipments. Xerox's revenue was almost flat sequentially and declined 1.3% YoY as a result of the weak macroeconomic environment, particularly in Europe, leading to a negative impact from currency.
- Gross margin showed a positive trend this quarter, with all the companies reporting a sequential improvement except for HP. Gross profit for Dell improved by US$71mn due a vendor settlement. EMC's 358bps YoY increase in gross margin was driven by higher Information Storage and Virtualization revenues. HP recorded lower margins both sequentially and YoY. IBM registered a 119bps growth in gross margin due to a combination of margin expansion in the Services segment and an improving segment mix due to the relative growth of the Software business. Lenovo's gross profit improved by US$220mn YoY but due to its higher revenue this quarter gross margin declined by 50bps. Xerox's YoY decline in gross margin was driven by the ramping up of new Services contracts and the higher mix of Services revenue.

Quarterly results of operations analysis (Q2) continued

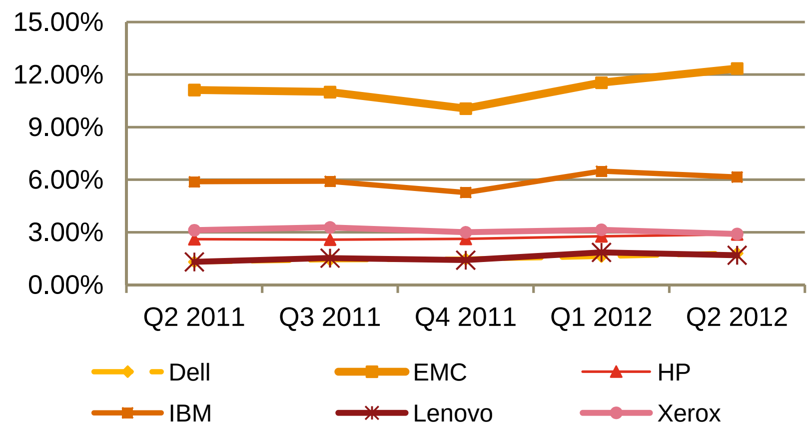
Systems and PC Hardware

R&D expenditure trends were as follows:

R&D expenses (in $ millions) – Systems and PC Hardware



R&D expenses (% of revenue) – Systems and PC Hardware



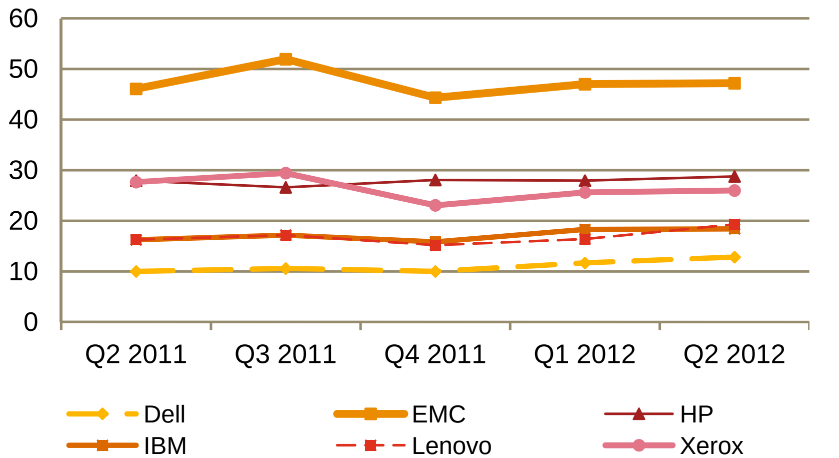
- R&D expenses increased significantly for Dell, EMC and Lenovo compared to the same period last year. HP and IBM also registered an increase, while Xerox experienced a decline. Dell's R&D expenses increased 11.5% sequentially and 27.3% YoY. This was consistent with the company's strategy for transforming its business and building a leading portfolio of solutions. HP's R&D expenses were almost flat sequentially. The 21.7% YoY growth in EMC's R&D expenses was driven by an increase in personnel-related costs, infrastructure costs and depreciation expense. Lenovo had the highest YoY growth of 74.7%, while sequentially the company registered a decline. IBM's R&D expenses increased 1.1% YoY, primarily driven by acquisitions which was partially offset by currency impacts. Lower R&D expenses for Xerox reflected the impact of restructuring and productivity improvements.
- While R&D as a percentage of revenue was in line with the previous quarter, it improved for Dell, EMC and HP and there was a marginal decline for IBM, Lenovo and Xerox. When compared to the same period last year, R&D as a percentage of revenue increased for all the companies except for Lenovo, which saw a marginal decline of 20bps. Higher revenues and lower R&D expenses for Lenovo and IBM QoQ led to a lower R&D as a percentage of sales.

Quarterly results of operations analysis (Q2) continued

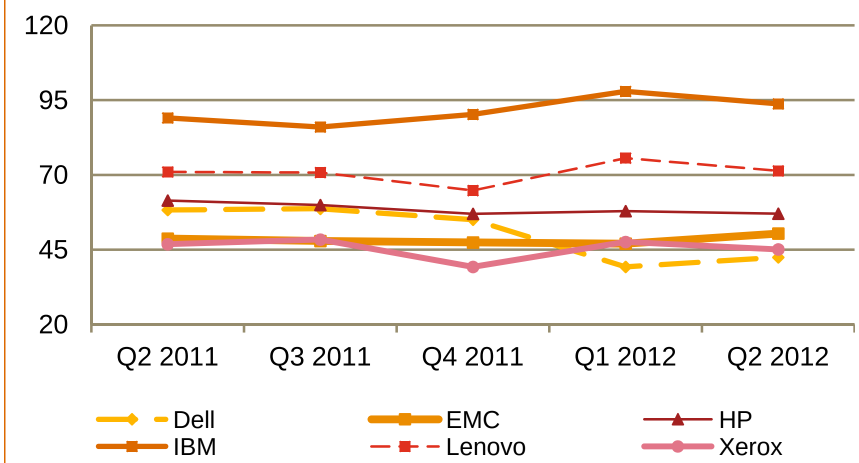
Systems and PC Hardware

Inventory and receivable trends were as follows:

Days inventory on hand – Systems and PC Hardware



Days sales in receivables – Systems and PC Hardware



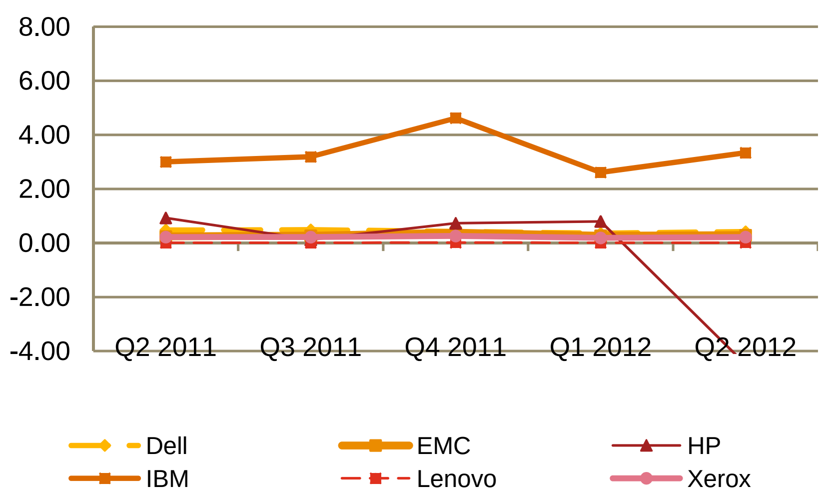
- Days inventory on hand increased sequentially for all the companies in the analysis and was in line with the previous quarter. The highest increase was for Lenovo, whose days inventory increased by 3 days sequentially. Even on a YoY basis, inventory days showed a positive trend except Xerox ,which registered a decline of 2 days. IBM’s inventory days increase was driven by a rise in inventories, primarily in Systems and Technology..
- Days sales in receivables (DSO) showed a mixed trend this quarter. When compared to the same period last year, DSO increased for EMC, IBM and Lenovo, while it declined for Dell, HP and Xerox. Xerox’s decline in DSO was driven by a decrease in higher accounts receivable, primarily due to growth in services revenue and a reduction in the use of prompt pay discounts. On a QoQ basis, DSO declined for all the companies except Dell and EMC.

Quarterly results of operations analysis (Q2) continued

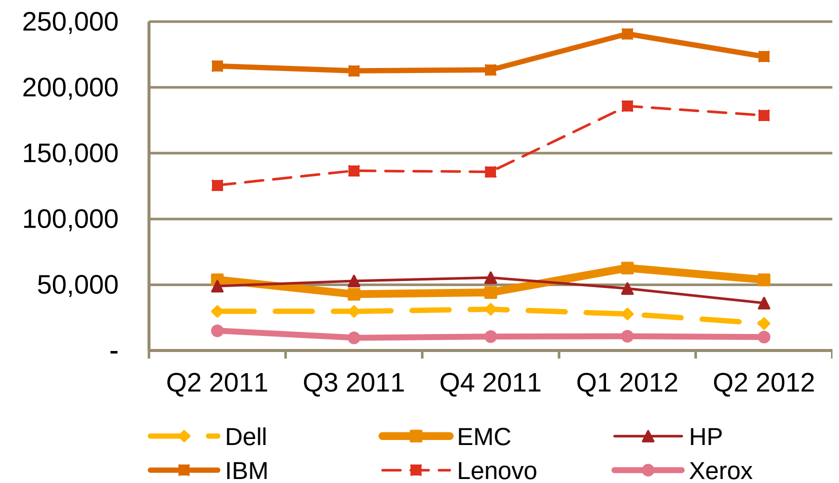
Systems and PC Hardware

EPS (earnings per share) and market capitalization trends were as follows:

EPS ($) – Systems and PC Hardware



Market cap (in $ millions) – Systems and PC Hardware

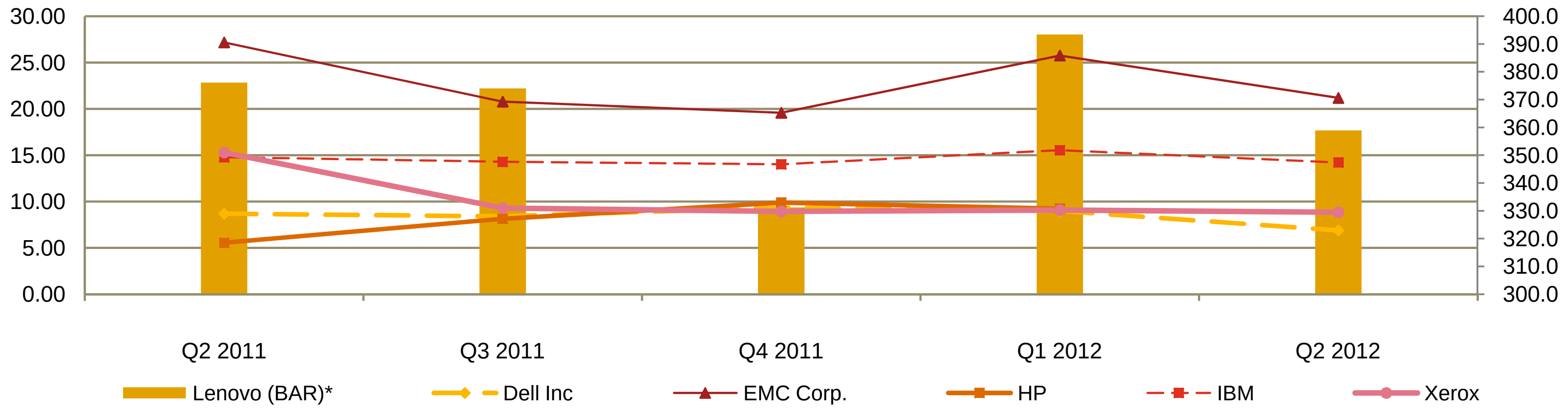


- System & PC hardware companies reported better profits this quarter compared to the previous quarter except for HP whose EPS went down to US$(4.49) from US$0.8 in Q1 2012 and US$0.93 in Q1 2011. This was primarily due to an additional expense of US$9.2bn or US$5.49 per diluted share related to the amortization and impairment of purchased intangible assets. Dell's EPS declined 12.5% YoY, driven by lower revenues as operating expenses were almost flat. EMC registered a 20.8% rise in net income YoY and a 7.4% growth sequentially. IBM repurchased 15.1mn shares of common stock this quarter. This, combined with a higher net income, which was driven by lower cost of sales and lower operating expenses, led to a 28.0% sequential increase and 11.3% YoY growth in EPS. Lenovo benefited from higher sales and a greater market share in the PC industry which led to the growth in EPS. EPS for Xerox was flat YoY, while it recorded a growth of 15.8% sequentially.
- The macroeconomic environment negatively affected System & PC hardware companies, which registered steep declines in their stock prices, leading to a significant erosion of their market cap. Dell and HP had a major fall, recording a 26.0% and 23.5% decline in market cap over the last quarter.

Quarterly results of operations analysis (Q2) continued
Systems and PC Hardware

P/E (price/earnings) trends were as follows:

Price/Earnings multiples – Systems and PC Hardware



- Poor investment sentiments led to a lower P/E for all the companies this quarter. Dell registered a P/E of 6.9 against a P/E of 9.0 in the previous quarter. A weaker PC demand and an apprehension of mis-execution regarding strategy/restructuring led to the lower P/E.
- Despite a strong quarter, management changes and macro risks have reduced P/E estimates for EMC. IBM's strong results in the midst of a slow industry led to a relatively smaller decline in P/E. The company recorded a P/E of 14.2 this quarter compared to 15.5 in the previous quarter.
- Lenovo had the best results this quarter among the companies in the analysis. The company continues to increase its market share in PC shipments and smartphones and analysts are optimistic on its stock. However, there was a drop in its P/E due to negative industry sentiments. Xerox's weak equipment sales and declining margins have led to a lower P/E multiple.

* P/E ratio of Lenovo is shown in bar chart as it is significantly higher than the rest of the companies.

Snapshot by subsector

CleanTech

Market analysis
CleanTech

- Solar photovoltaic (PV) demand during 2H12 will see increasing contributions from emerging markets in North America and Asia Pacific, with 60% of PV demand coming from these non-European regions. While 50% of global demand during 2H11 came from Germany and Italy, 54% of the demand in the final quarter of 2012 is forecast to come from China, India, Japan and the US.[1]
- Investors purchased a record 3.9 GW of solar photovoltaic projects in 2011, worth an estimated US$10.8bn. This increased the gigawatt capacity purchased by 122% from 2010. The report published by Bloomberg new Energy Finance examined 221 deals made from 2006 to 2011. It was found that Italy was the most active market for transactions involving operating assets during 2011, with a total of 540 MW purchased. But, in contrast, the top five individual deals, when looking only at the number of megawatts transferred, took place in the US. All of them involved assets that are now in production rather than in operation.[2]
- First Solar reported a strong quarter due to large blocks of revenue recognition from a couple of sizable projects. Analysts feel that the project pipeline looks good now, but whether the company will be able to replenish it as fast as it is consumed remains uncertain. Although the company did well in adding almost 300MW of new projects to its pipeline in Q2 2012, it would need to add nearly 1 GW more in 2H12 to keep the pipeline flat YoY. In addition, some of the pipeline that the company indicates is still in the backlog, has already been recognized as revenue under the completion of construction agreements with customers. So the 2.9 GW pipeline listed at the end of the year is likely a few hundred MW smaller in terms of remaining revenue.[3]

1. Solarbuzz, Aug 2012
2. Clean Technica, July 2012
3. JP Morgan, Aug 2012

Market analysis continued

CleanTech

- Average manufacturing cost per watt for First Solar increased by US$0.03, or 4% from US$0.75 in the three months ended June 30, 2011 to US$0.78 in the three months ended June 30, 2012 and included US$0.01 of non-cash share-based compensation. This increase was primarily the result of increases in underutilization of the company's manufacturing capacity.
- SunPower Corp posted better-than-expected second quarter results, but the company disappointed Wall Street by forecasting a loss in the current quarter. The solar panel-makers' profits have been hit by the steep decline in prices for the panels that turn sunlight into electricity because of a glut of supply and declining government subsidies for renewable energy. Still, SunPower's earnings excluding charges easily beat Wall Street's forecasts of a loss during the quarter. The company said it was cutting costs faster than originally planned.
- Analysts feel that Suntech Power remains well-positioned to win a large share of the Chinese market and gain incremental share in new markets such as Japan, India and the Middle East. Strong brand and product quality are likely to act as key differentiators, but cost disadvantage versus peers and a deteriorating balance sheet could remain near-term issues.[1] Suntech continues to have higher costs than other Chinese manufacturers, in part due to internal wafer production and possibly higher cost for materials. Additionally, the company continues to report an ASP premium due to regional mix, legacy contracts and brand strength. But there is a risk that the ASP premium will erode as new contracts are struck at higher prices.[2]

1. Deutsche Bank, May 2012
2. Credit Suisse, May 2012

Q2 and Q1 performance
CleanTech

Company	Q2 2012				
	Revenue ($ millions)	Gross margin (%)	Net income/(loss) ($ millions)	EPS	Market cap ($ millions)
First Solar, Inc.	957	25.46%	111	1.27	1,310
SunPower Corp.	596	12.33%	(84)	(0.71)	612
Suntech Power*	N/A	N/A	N/A	N/A	N/A

Company	Q1 2012				
	Revenue ($ millions)	Gross margin (%)	Net income/(loss) ($ millions)	EPS	Market cap ($ millions)
First Solar, Inc.	497	15.44%	(449)	(5.20)	2,172
SunPower Corp.	494	9.16%	(75)	(0.67)	755
Suntech Power*	409	0.59%	(133)	(0.74)	554

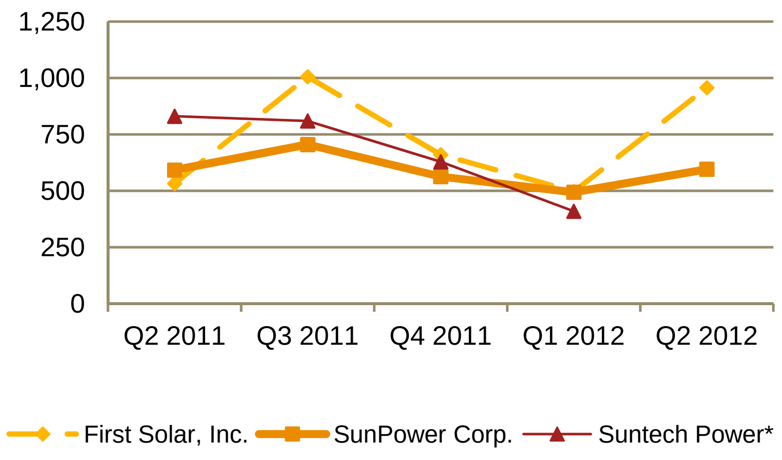
*Suntech Power's Q2 2012 numbers have not yet been released and, hence, we have used Q1 2012 numbers for the analysis.

Quarterly results of operations analysis (Q2)

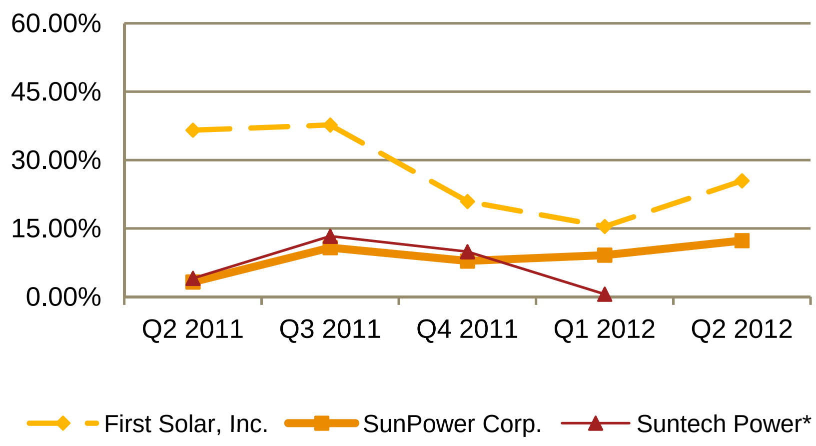
CleanTech

Revenue and gross margin trends were as follows:

Revenues (in $millions) – CleanTech



Gross margin % – CleanTech



- First Solar reported an exceptional quarter in terms of revenue with a sequential increase of 92.6% and a YoY increase of 79.7% in sales. The increases were primarily due to the increase in revenue recognized by the Systems segment. This increase was largely driven by an increase in the number and size of projects under construction meeting revenue recognition criteria during the quarter. Sunpower's revenue was almost flat YoY as an increase in revenue on solar power products sold was offset by a decline in revenue per watt. The company registered a QoQ increase of 20.6% due to an increase in revenue of US$111mn from the Americas driven by additional revenue recognized on two large-scale projects under construction in California. Suntech Power registered a decline of 34.9% QoQ and 53.3% YoY in Q1 2012 mainly due to a decline in shipments and a reduction in the average selling price of PV products.
- Despite high revenues, First Solar had a significant decline in YoY gross margin. This was primarily because of lower third-party module average selling prices and customer mix, accelerated depreciation on certain manufacturing equipment, plant underutilization, costs associated with remediation efforts and lower system module average selling prices. These declines were partially offset by an increase in the Systems segment margin, leading to an overall decline of 11.1 ppts. Sunpower's gross margin improved by 9.1 ppts YoY due to an 8.8% decline in its cost of sales driven by lower material costs, higher yields and better factory utilization. Gross margin for Suntech Power in Q1 2012 was negatively impacted by a provision of US$19.2mn for preliminary US countervailing and anti-dumping duties leading to a 932bps sequential decline.

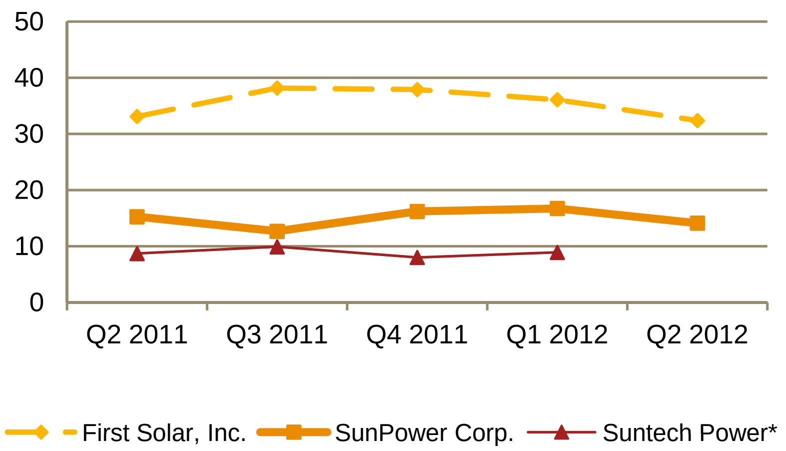
*Suntech Power's Q2 2012 numbers have not yet been released and, hence, we have used Q1 2012 numbers for the analysis.

Quarterly results of operations analysis (Q2) continued

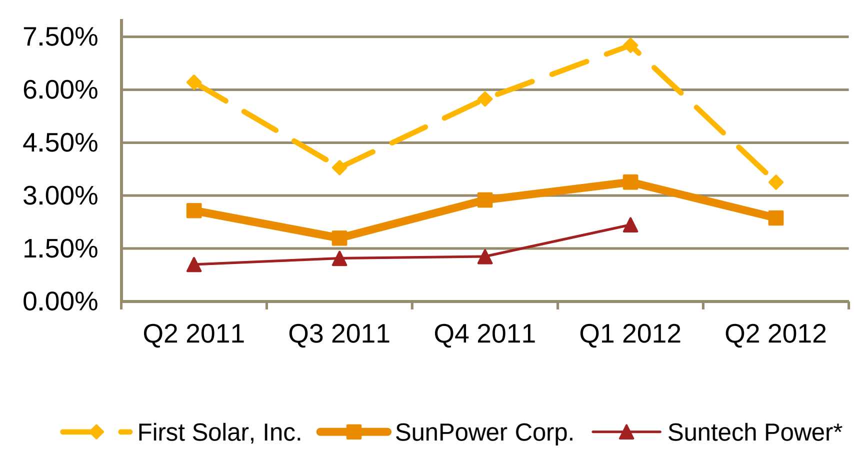
CleanTech

R&D expenditure trends were as follows:

R&D expenses (in $ millions) – CleanTech



R&D expenses (% of revenue) – CleanTech



- R&D expenses for Cleantech companies showed a negative trend this quarter with both First Solar and Sunpower registering YoY and QoQ declines. First Solar's R&D expenses declined by US$0.74mn as there was a US$1.4mn decrease in personnel-related expenses. There was a US$0.5mn decline in facility and other expenses. This was partially offset by a US$1.2mn increase in testing and qualification material costs. R&D expenses for Sunpower declined by 7.5% when compared to the same period last year and by 15.7% over the previous quarter. The decrease in investment in R&D was a result of the cost-saving initiative in reaction to the overall solar market, which led to lower outside services and other discretionary spending. Suntech Power registered a 13.3% decline in R&D expenses in Q1 2012 as compared to Q1 2011, while there was an 11.3% sequential increase.
- Lower R&D expenses coupled with higher revenues this quarter led to the decline of R&D as a percentage of sales for both First Solar and Sunpower. At 3.38%, First Solar's R&D as a percentage of revenue was almost half compared to the previous quarter. Sunpower registered a sequential decline of 1 ppt, while Suntech Power reported a 90 bps increase in Q1 2012 when compared to Q4 2011.

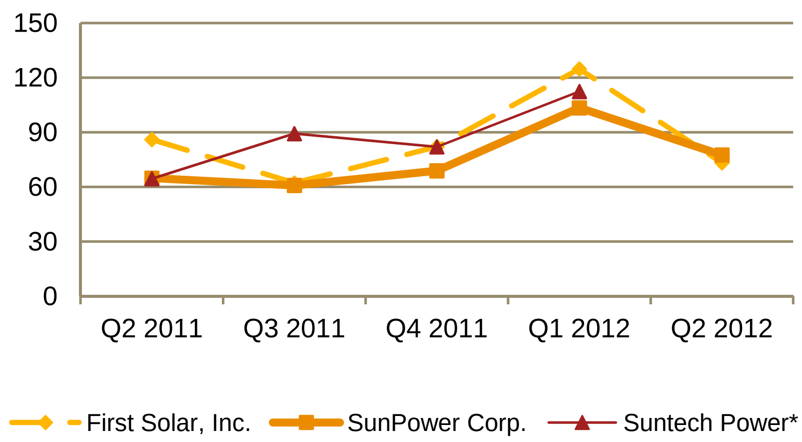
*Suntech Power's Q1 2012 numbers have not yet been released and, hence, we have used Q1 2012 numbers for the analysis.

Quarterly results of operations analysis (Q2) continued

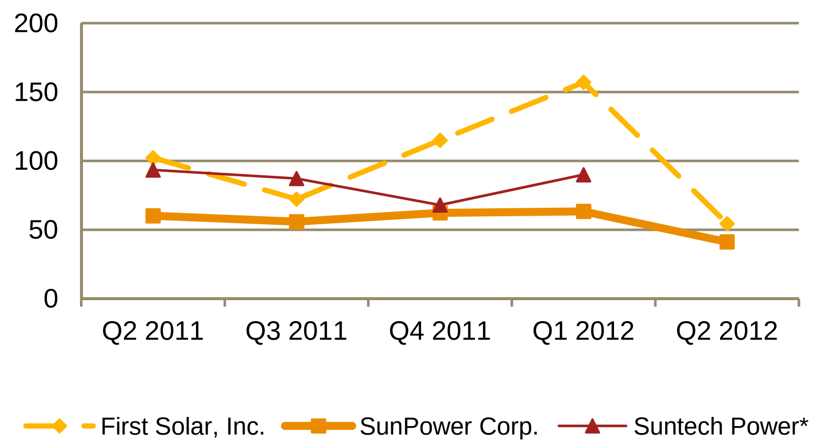
CleanTech

Inventory and receivables trends were as follows:

Days inventory on hand – CleanTech



Days sales in receivables – CleanTech



- Days inventory on hand declined significantly for First Solar and Sunpower. The 52 days and 26 days sequential decline for First Solar and Sunpower respectively was primarily driven by higher cost of sales and marginal decline in inventory levels. Inventory days for Suntech Power increased from 82 days in Q4 2011 to 112 days in Q1 2012 due to lower shipment volume leading to high inventory accumulation.
- Days sales outstanding followed a trend similar to that of inventory days. Accounts receivable for First Solar declined by US$288mn QoQ largely driven by the collection of US$172mn receivables due for the AVSR project. This, along with high revenues, led to the 103 days decline in DSO this quarter. DSO for Sunpower also improved by 22 days this quarter. Suntech Power's receivables declined in Q1 2012 vis-à-vis Q4 2012 due to continuous collection efforts. However, lower shipment volume led to an increase in DSO from 68 days to 90 days.

*Suntech Power's Q2 2012 numbers have not yet been released and, hence, we have used Q1 2011 numbers for the analysis.

Methodology

- We analyzed a selection of the largest technology companies included in the S&P 500 index, a selection of large international technology companies that regularly report financial results and a selection of promising CleanTech companies.
- In order to present the information by calendar year or calendar quarter, the financial information for companies with non-calendar years or quarters was included in the nearest calendar year or quarter.

We analyzed technology companies that operate predominantly within the following sectors:

- Communications
- Consumer Electronics
- EMS/Distributors
- Semiconductors
- Software & Internet
- Systems and PC Hardware
- CleanTech

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