



## OVERALL GROWTH IN THE TECHNOLOGY SECTOR INTACT DESPITE HEADWINDS

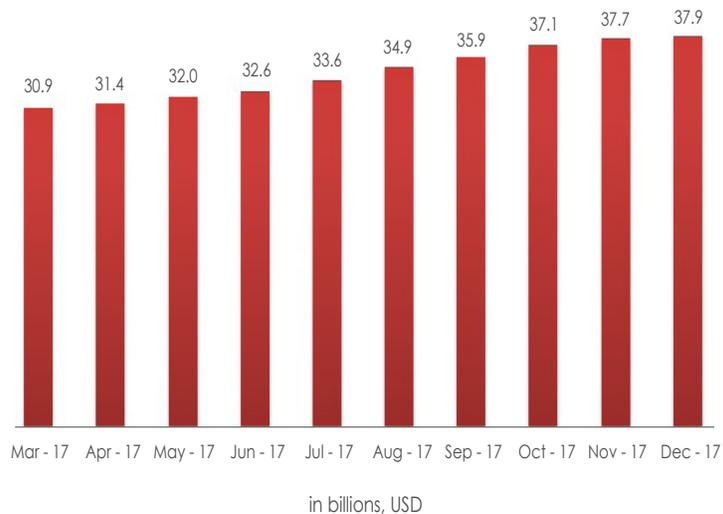
### KEY TAKEAWAYS

In recent years, the technology sector has seen sharp gains in market capitalization and is among the dominant sectors in most regional as well as global equity market indices.

Investors largely remain positive about the technology sector, for the still impressive pace of growth in revenues and earnings. Technology was the only sector that stood fast against the market correction in February. Most major technology companies continue to benefit from the structural shifts in consumer behavior and other long-term trends such as the growth of industrial automation. The strong cash flows of large technology companies allow them to invest more to develop innovative products and services, as well as strengthen their competitive position. However, rapid changes in technology could make business models and capital investments redundant. Softer pricing power or growing capital expenditure could also make investors uncomfortable, though there are signs of neither as yet.

In recent years, the technology sector has seen sharp gains in market capitalization and is among the dominant sectors in most regional as well as global equity market indices. Some of the largest technology companies are disruptors that have successfully replaced traditional business models in sectors such as consumer retail and entertainment. The rapid demand growth for hand held devices,

### Global semiconductor sales have remained buoyant



Data source: Semiconductor Industry Association (Bloomberg)

as well as data analytics and storage, have pushed up the demand for semiconductors and chipsets. Companies that had invested in developing innovative technologies, or building large scale manufacturing capacity, have benefited the most in recent years. Several of them have leveraged their successful consumer platforms and logistics networks to deliver new products and services. This has allowed them to sustain robust revenue growth rates.

The ecommerce leaders continue to see strong growth as the segment has consolidated significantly over the years. While the traditional retailers and service providers have steadily lost market share, the smaller ecommerce companies have either failed or were acquired by larger competitors. This consolidation has provided the market leaders significant scale and resources to further strengthen their positions. They are also well placed to expand into businesses that are yet to see significant disruption from online stores, such as drug retailing. While regulatory inflexibilities could delay their entry into new segments, it is likely only a matter of time before the ecommerce players gain market share with their cost efficiencies and quicker service delivery.

Similarly, the online entertainment and gaming market has seen exponential growth in recent past. Online video streaming services are cutting into the revenue share of cable service providers. The rapid growth of available titles and the relatively lower monthly subscription costs make them more attractive for most consumers. The market share of streaming services is still relatively low, especially in overseas markets. This offers substantial growth opportunities, particularly where the television cable services segment is fragmented and companies don't have the resources to compete. However, most of the video and audio streaming services are investing heavily to create original content. If these new titles do not generate sufficient consumer interest, the lower margins and cash flows could disappoint investors.

A few clouds have appeared over the demand outlook for device manufacturers, after the exponential gains in earlier years. In the absence of breakthrough features, the average consumer is less enthusiastic to upgrade their devices frequently. This lengthening of the cycle could hurt the market leaders that dominate the pricier segments. Further, the lower end brands now offer several of the features that were only available in the expensive models earlier. This has made it difficult for the leading brands to sustain their differentiation and pricing power.

The semiconductor manufacturers could also be negatively affected by the moderation in demand for hand held devices. This would be especially true for manufacturers that have invested heavily in chipsets and components used in smartphones and tablet computers. However, the industry as a whole could see favorable demand expansion from the growth of data storage and industrial automation. Cloud computing and storage, which is seeing accelerated growth now, has enough room to expand for several years. Segments such as industrial automation, connected home devices, and self-driving automobiles are in the early stages of growth. If these segments continue to develop as expected, the demand for semiconductors could increase further.

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