

# Impact of COVID-19 on the Consumer Electronics Market

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■ **WITHOUT COMMUNICATION AND** modern digital electronics, many people would not be able to work during the COVID-19 pandemic outbreak. Likewise, modern consumer technology is extremely dependent upon connectivity, processing, and memory/storage. With the general economic impact on many consumers,<sup>1</sup> overall consumer technology sales will be down in 2020, but people are more dependent than ever before on their consumer devices to connect with others and continue (when they can) working at home.

The reliance on web-based meetings, online education, and cloud-based services, in general, will increase as time goes on. After the pandemic ends, people will be more likely to participate in a virtual event and to look for virtual experiences to replace some physical experiences. This should drive increasing demand for bandwidth to support telepresence and virtual and augmented reality. This will also drive the consumer application and cloud-services industry.

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Streaming content over the internet will also experience extended growth and many people may spend a lot less time in their office and a lot more time at home or somewhere away from traffic. Increased use of online learning, particularly for higher education, could be an important element in reducing the costs of college and make it more affordable for more people. A reduction in commuting and some travel could also have a positive impact on the environment, reduce the need for commercial offices and parking in big cities. This could lead to more livable cities with increased open spaces.

COVID-19 has resulted in some impact on the sales of some consumer electronic products as well as the supply chain that supports consumer electronics manufacturing. For instance, in the memory and storage industry, SSDs, HDDs, and memory for data centers have flourished as cloud providers have added to their computing, networking, and processing equipment to support remote work.<sup>2</sup> Also, in the early days of the pandemic, sales of notebook computers and the memory and storage for these products increased as companies sent their employees home to work remotely. On

the other hand, smart phones, which recently had been shipping about 1.6 B units annually looks like shipments will decline by about 20% in 2020.<sup>3</sup>

Although much manufacturing of semiconductors is done using highly automated factories,<sup>4</sup> to avoid contamination from humans, installation of new equipment and maintenance of existing equipment generally requires international travel. In addition, semiconductors are generally shipped via air travel, so disruption in the air freight industry caused some slowdowns in semiconductor supplies. With control of the pandemic in countries in Asia, where most of consumer chips and products are manufactured, supply chains have partially recovered, although since the U.S. is a major source of the semiconductor manufacturing equipment, there are still some issues with product installations. However, the bigger issue for consumer electronics may come from the long-term economic impact of the pandemic in the United States.

Because of spreading of COVID-19 in the United States, many parts of the U.S. economy are experiencing significant financial hardship. Although there is intense work to develop a vaccine for COVID-19, it looks like the current pandemic will extend into 2021.<sup>5</sup> If the pandemic and the resulting economic impact on the United States continue for very long it will result in a much bigger and longer lasting problem for consumer electronics. Massive subsidies to support unemployed workers and distressed companies will help to fuel inflation, at the same time that the economy is experiencing a severe contraction. Increased prices on staples such as food and housing combined with reduced incomes will have an impact on consumer product sales, purchases that can be put off, will be.

As a consequence, those who can work remotely using their consumer electronics and

internet connections will fare better than others, and consumer electronics to support remote working will likely do OK in the current situation. Whereas discretionary consumer electronic products will suffer from a general pandemic driven economic recession. The pandemic will do much to increase working options in the long run and could have beneficial impacts on the quality of work and perhaps living conditions in cities. At the same time, an economic recession in the United States could reduce overall consumer electronic sales and cause significant unrest.

## ■ REFERENCES

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