

Xilinx Inc. (XLNX)

\$87.16 (As of 05/18/20)

Price Target (6-12 Months): **\$92.00**

Long Term: 6-12 Months

Zacks Recommendation:

Neutral

(Since: 12/23/19)

Prior Recommendation: Underperform

Short Term: 1-3 Months

Zacks Rank: (1-5)

3-Hold

Zacks Style Scores:

VGM:C

Value: D

Growth: B

Momentum: C

Summary

Xilinx's fourth-quarter fiscal 2020 results gained from growth in Zynq-based revenues. Moreover, solid radio shipments and strength in optical transport networks and access helped its WWG business. Also, contributions from compute acceleration, driven by a mix of cloud and high-performance compute customers drove Data Center business. Growing opportunity pipeline at DCG is a positive. However, slowdown in 5G rollout across multiple regions was a downside. The impact of the Huawei ban along with the adverse impact of the coronavirus pandemic on the business hurt the top line. Xilinx refrained from providing any guidance for fiscal 2021 as it is still assessing the expected impacts of COVID-19-related disruptions in some portions of its core markets, including Automotive, Broadcast, Consumer, Industrial and semiconductor test.

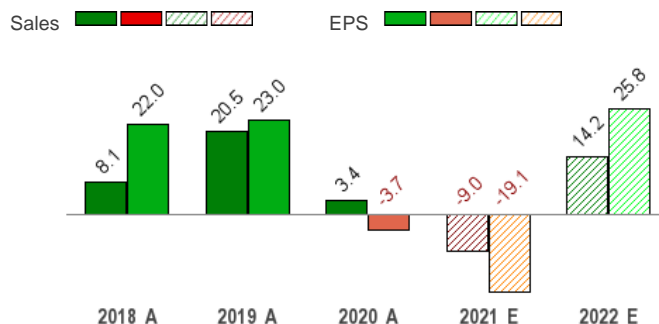
Price, Consensus & Surprise



Data Overview

52 Week High-Low	\$133.00 - \$67.68
20 Day Average Volume (sh)	3,205,786
Market Cap	\$21.3 B
YTD Price Change	-10.9%
Beta	0.98
Dividend / Div Yld	\$1.52 / 1.7%
Industry	Semiconductors - Programmable Logic
Zacks Industry Rank	Top 31% (80 out of 254)

Sales and EPS Growth Rates (Y/Y %)



Last EPS Surprise	2.6%
Last Sales Surprise	0.3%
EPS F1 Est- 4 week change	-16.8%
Expected Report Date	07/22/2020
Earnings ESP	0.0%
P/E TTM	25.9
P/E F1	32.2
PEG F1	2.7
P/S TTM	6.7

Sales Estimates (millions of \$)

	Q1	Q2	Q3	Q4	Annual*
2022	806 E	819 E	838 E	850 E	3,286 E
2021	690 E	699 E	736 E	767 E	2,877 E
2020	850 A	833 A	724 A	756 A	3,163 A

EPS Estimates

	Q1	Q2	Q3	Q4	Annual*
2022	\$0.83 E	\$0.85 E	\$0.88 E	\$0.88 E	\$3.41 E
2021	\$0.61 E	\$0.62 E	\$0.71 E	\$0.76 E	\$2.71 E
2020	\$0.97 A	\$0.94 A	\$0.68 A	\$0.78 A	\$3.35 A

*Quarterly figures may not add up to annual.

The data in the charts and tables, including the Zacks Consensus EPS and Sales estimates, is as of 05/18/2020. The reports text is as of 05/19/2020.

Overview

San Jose, CA-based Xilinx Inc., founded in 1984, designs and manufactures a broad range of programmable devices and associated technologies. This includes high-performance, high-density programmable logic devices (PLDs) such as programmable system on chips and three dimensional ICs; adaptive compute acceleration platform (ACAP); software design tools to program the PLDs; software development environments and embedded platforms; targeted reference designs; printed circuit boards and intellectual property (IP) core licenses covering Ethernet, memory controllers, Interlaken and peripheral component interconnect express interfaces as well as domain-specific IP in the areas of embedded, digital signal processing and connectivity plus market-specific IP cores.

In fiscal 2019, the company reported more than \$3 billion of revenues, up 24% over the fiscal 2018 figure.

The company classifies its products into two categories:

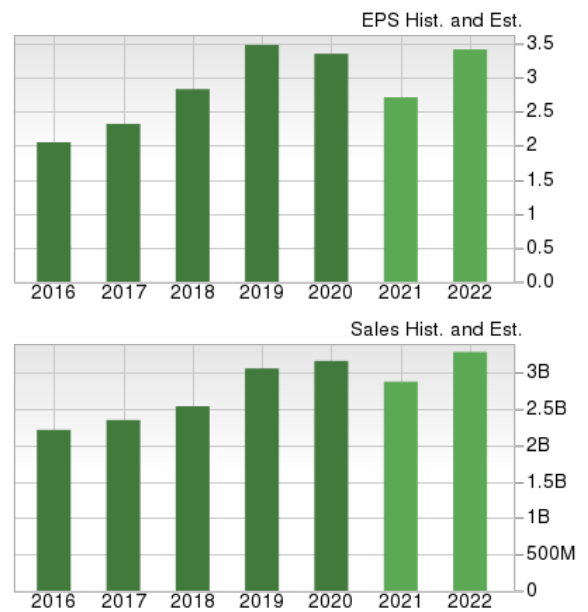
Advanced Products (64% of fiscal 2019 revenues) include Alveo, UltraScale+, Ultrascale and 7-series products.

Core Products (36%) include Virtex-6, Spartan-6, Virtex-5, CoolRunner- II Virtex-4, Virtex-II, Spartan-3, Spartan-2, XC9500 products, configuration solutions, software & support/services.

The company provides solutions for electronic equipment makers in wired and wireless communications, industrial, scientific and medical, aerospace and defense, audio, video and broadcast, consumer, automotive and data processing markets.

The company sells its products and services through independent domestic and foreign distributors and via direct sales to the original equipment manufacturers (OEMs) and its electronic manufacturing service providers (EMS). Sales are generated by these independent distributors, independent sales representative or the company's direct sales organization.

Starting first-quarter fiscal 2020, Xilinx changed its revenue reporting structure. Going forward, Communications is now called Wired and Wireless Group (WWG). Data Center Group is reported separately and includes high-performance computing. While Aerospace & Defense, Industrial and Test plus Measurement & Emulation (TME) is called AIT, the Automotive, Broadcast and Consumer group is called ABC.



Reasons To Buy:

- ▲ Xilinx's ongoing transition from a FPGA provider to an all-programmable devices producer has been helping the company gain market share. Its expanding product portfolio, which includes the Zynq RFSoc platform, is assisting it to counter intense competition from the likes of Intel. The company's Zynq portfolio, which is implemented in both the 28-nm and 16-nm node, is delivering sturdy top-line growth. The company has started shipping of the 16-nm RFSoc Silicon In-house family of product, which offers a superior architectural solution to 5G wireless with integrated RF-class analog technology. Moreover, its newly launched 7nm ACAP Versal platform is expected to be a game changer.
- ▲ We are optimistic over the demand of Xilinx's Ultrascale+ FPGAs by data-center operators for providing FPGA-as-a-Service. Amazon was the first to use Xilinx chips and started offering FPGA-as-a-Service in May 2017. The company's leadership position in China market with regard to FPGA-as-a-Service expanded with Alibaba moving from beta to general access. Alibaba Cloud recently announced that Xilinx is powering the data center and is being used by their cloud services enterprise customers. The company's Zynq MPSoc is powering Baidu's production-ready Apollo Computing Unit for automated valet parking.
- ▲ The ever-evolving technology sector has been witnessing a number of new trends over the past couple of years. Of these, the notable ones include AI, 5G connectivity, autonomous vehicles and IoT. This has created a whole new opportunity for hardware and software companies, in turn, increasing demand for programmable chips. We consider that the demand for FPGAs will surge over the long run, backed by its unique feature of the ability to be reprogrammed to the desired application or functionality requirements after manufacturing. Notably, Xilinx is a market leader in the FPGA market, with 58% share and has over one-year technology lead over its closest rival – Intel. Therefore, we believe that Xilinx is well placed to grab the opportunity arising from an increase in adoption of AI technologies, 5G connectivity, autonomous vehicles and IoT.
- ▲ Xilinx has significant exposure to Telecom & Wireless vertical markets. These markets are strongly co-related with global GDP growth and spending behavior. Most of the emerging economies are seeing unprecedented demand for mobile devices like smartphones and tablets and are also getting increasingly connected via the Internet. This has compelled these countries to heavily invest in Telecom & Wireless infrastructure. The growing usage of Zynq RFSocs and ACAP products for 5G deployments by both basebands and radios is a positive.
- ▲ The FPGA industry has a high barrier to entry. Bottlenecks such as a unique skill set that combines semiconductor and software expertise; high investment, especially at leading technology nodes; lack of third-party development tools; and intellectual property make this space less attractive. Hence, the FPGA market is operating as a duopoly with two key players, Xilinx and Altera, dominating approximately 80% of the market.
- ▲ Xilinx has a strong balance sheet with ample liquidity position and less debt obligations. As of Mar 30, 2020, the company had cash, cash equivalents and short-term investments of approximately \$2.27 billion. Moreover, long-term debt at the end of March was approximately \$747.1 million compared with \$1.25 billion at the end of its prior quarter. Also, its total debt-to-equity ratio of 32.3% is lower than the Computer & Technology sector average of 61.4%.
- ▲ Xilinx generates strong cash flows which provides it with ample liquidity to service its debts and fund future investments. The company generated \$1.19 billion in operating cash flow in fiscal 2020 compared with \$1.09 billion in 2018.
- ▲ At the same time, we are encouraged by Xilinx's endeavor to return shareholder value through continued share buybacks and dividends. Continuing with its policy of returning cash to shareholders, the company generated cash flow from operations of \$345.4 million in fourth-quarter 2020 and paid dividend worth \$91 million.

Xilinx is well-positioned to tap the opportunities arising from an increase in the adoption of AI technologies, 5G connectivity, autonomous vehicles and IoTs, which will drive growth in the long run.

Reasons To Sell:

- ▼ Xilinx could face challenges from its biggest competitor, Intel. After acquiring Altera in 2015, Intel has been developing high-end high-performance next-generation 14 nm FPGA chips by using its 14 nm tri-gate transistor technology. To remain competitive, Xilinx is planning a transition to the 16 nm node using Taiwan Semiconductor Company's FinFET technology. However, as Intel's manufacturing process is technologically more advanced, we do not expect Xilinx to outperform Intel in the lower dimension nodes. Apart from this, both the companies are likely to compete in 20 nm products that are still under production.
- ▼ By acquiring Altera, Intel now has a strategic advantage over Xilinx regarding its HardCopy offering (a new type of high performance ASIC for which Xilinx does not have a competing product). HardCopy offers the performance of an ASIC and the flexibility of a PLD. HardCopy devices, therefore, have the potential to drive future revenues due to their low costs and ability to address opportunities beyond the PLD market. As far as development costs are concerned, ASICs are more economical and offer improved chip performance than PLDs when used in high-volume production. Therefore, they are ideal for large-volume, low-cost appliances such as consumer electronics. Customers often opt for PLDs initially for their time-to-market benefits and then shift to ASICs to produce greater volumes at lower costs. With no exposure into ASICs, it will be difficult for Xilinx to outperform Intel.
- ▼ Xilinx keeps on innovating for producing advanced FPGAs of lower geometries to improve performance, density and system-level functionality, integration, and lower cost and power consumption at each manufacturing process node. With each transition to a new process node, there are considerable tape-out costs, the need to navigate the learning curve and limited volume production, which are all significant headwinds for margins and profitability. Xilinx is on the verge of a 20-nm and 16-nm transition, so there will be related pressure on gross margin.
- ▼ Notably, Xilinx refrained from providing any guidance for fiscal 2021 as it is still assessing the expected impacts of COVID-19-related disruptions in some portions of its core markets, including Automotive, Broadcast, Consumer, Industrial and semiconductor test.

5G deployment and a few other product mixes are a threat to gross margin. Stiff competition from peers is another material headwind.

Last Earnings Report

Xilinx's Q4 Earnings & Revenues Surpass Estimates

Xilinx delivered fourth-quarter fiscal 2020 earnings of 78 cents per share, exceeding the Zacks Consensus Estimate by 2.63%. However, the bottom line was 26% lower than the prior-year quarter's 94 cents.

Revenues declined 9% year over year to \$756 million but beat the Zacks Consensus Estimate of \$754 million. Weakness in the WWG business is a major overhang on the company.

The impact of the Huawei ban and other trade-related uncertainties along with the adverse impact of the coronavirus pandemic on the business hurt the top line.

Continued softness in the WWG business was a dampener in the fiscal fourth quarter.

Quarter in Detail

Product-wise, advanced product revenues declined 6% year over year, contributing 70% to total revenues. However, the revenues from core products (30% of total) decreased 14% from the year-ago quarter.

Despite the impact of a deteriorating wired and wireless business, Zynq-based revenues grew 2% on a year-over-year basis.

On the basis of end markets, WWG revenues (24% of total revenues) dropped 46% year over year. However, solid radio shipments and strength in optical transport networks and access were positives for this business.

Automotive, Broadcast and Consumer group (ABC) (16% of total revenues) increased 2% year over year. The automotive business suffered from macroeconomic and trade-related headwinds.

A&D, Industrial and TME (AIT) revenues (50% of total revenues) grew 15% on a year-over-year basis. The company witnessed increased revenues from emulation and prototyping customers in the TME market.

Data Center revenues (10% of total) surged 77% from the year-ago period, primarily owing to contributions from compute acceleration, driven by a mix of cloud and high-performance compute customers. Notable contribution from a hyperscaler deployment of an FPGA-based SmartNIC was a tailwind. Growing opportunity pipeline at DCG at a double-digit rate, particularly in video, HPC, database and fintech applications, was also a positive.

Geographically, the company registered a year-over-year decrease of 28% in the Asia Pacific, 4% in Japan and 11% in Europe. Meanwhile, revenues from North America grew 27% year over year.

Margins

Gross margin came in at 71%, up 350 basis points (bps) year over year.

Non-GAAP OpEx was \$317 million, lower than the midpoint of the guidance range due to a reduction in hiring and discretionary spending.

The company posted non-GAAP operating income of \$218.3 million, down 15.6% year over year. Operating margin contracted 220 bps to 29%.

Balance Sheet and Cash Flow

Xilinx exited the fiscal fourth quarter with cash, cash equivalents and short-term investments of approximately \$2.27 billion compared with \$2.43 billion sequentially.

The company has total long-term debt of \$747.1 million.

Xilinx generated \$345.4 million of cash from operations compared with \$323.6 million in the previous quarter.

During the quarter, the company repurchased 5.7 million shares at an average price of \$83 per share and paid out dividends worth \$91 million.

Outlook

For the first quarter of fiscal 2021, the company expects revenues between \$660 million and \$720 million.

In the earnings call, management mentioned that the company forecasts the WWG business to grow in the fiscal first quarter.

However, lower AIT, ADC and DCG sales are expected to lead to a sequential decline in revenues in the fiscal first quarter.

Gross margin is forecast to be 68-70%. Operating expenses are projected in the range of \$307-\$311 million for the fiscal first quarter.

Quarter Ending **03/2020**

Report Date	Apr 22, 2020
Sales Surprise	0.29%
EPS Surprise	2.63%
Quarterly EPS	0.78
Annual EPS (TTM)	3.37

Recent News

On Apr 16, Xilinx announced that Samsung Electronics has adopted the Xilinx Versal adaptive compute acceleration platform (ACAP) to roll out 5G worldwide. The application of Xilinx's advanced platform to Samsung's solutions is expected to boost 5G performance.

On Mar 10, Xilinx enhanced its Versal ACAP portfolio by launching Versal Premium platform. The platform features highly integrated, networked and power-optimized cores. Versal Premium has the industry's highest bandwidth and compute density on an adaptable platform.

On Mar 3, Xilinx unveiled industry's first SmartNIC platform Alveo U25 SmartNIC, which will deliver convergence of network, storage and compute acceleration functions on a single device.

On Dec 19, 2019, Xilinx announced that its Automotive Zynq UltraScale+ MPSoC is enabling Baidu's BIDU Apollo Computing Unit (ACU)-Advanced platform for Automated Valet Parking (AVP).

On Nov 12, 2019, Xilinx expanded its automotive-qualified 16 nanometer (nm) family with two new devices – the Xilinx Automotive (XA) Zynq UltraScale+ MPSoC 7EV and 11EG. The company also announced that its Vitis unified software platform is available for download.

Valuation

Shares of Xilinx have declined 13.5% in the year so far and 34.8% over the trailing 12-month period. Stocks in the Zacks sub-industry lost 13.5% in the year-to-date (YTD) period, while the Zacks Computer & Technology sector fell 18%. Over the past year, the Zacks sub-industry has lost 34.8% and the sector fell 9.2%.

The S&P 500 Index has declined 22.7% YTD and 14.2% in the past year.

The stock is currently trading at 31.07X forward 12-month earnings, which compares to 31.07X for the Zacks sub-industry, 23.8X for the Zacks sector and 21.52X for the S&P 500 index.

Over the past five years, the stock has traded as high as 37.41X and as low as 17.87X with a 5-year median of 24.19X. Our Neutral recommendation indicates that the stock will perform in-line with the market. Our \$92 price target reflects 32.62X forward 12-month earnings.

The table below shows summary valuation data for XLNX

Valuation Multiples - XLNX					
		Stock	Sub-Industry	Sector	S&P 500
P/E F12M	Current	31.07	31.07	23.8	21.52
	5-Year High	37.41	32.88	23.8	21.52
	5-Year Low	17.87	19.25	16.71	15.23
	5-Year Median	24.19	24.18	19.26	17.49
P/S F12M	Current	6.65	6.71	2.89	2.72
	5-Year High	10.78	9.46	3.58	3.44
	5-Year Low	4.45	4.67	2.32	2.54
	5-Year Median	6.29	6.33	3.03	3.00
P/B TTM	Current	7.98	7.98	4.19	3.31
	5-Year High	12.78	12.78	5.37	4.55
	5-Year Low	3.82	3.82	3.15	2.84
	5-Year Median	6.83	6.83	4.27	3.63

As of 05/18/2020

Industry Analysis Zacks Industry Rank: Top 31% (80 out of 254)



Top Peers

Company (Ticker)	Rec	Rank
Ambarella, Inc. (AMBA)	Neutral	3
Broadcom Inc. (AVGO)	Neutral	3
Intel Corporation (INTC)	Neutral	3
Lattice Semiconductor Corporation (LSCC)	Neutral	3
Microchip Technology Incorporated (MCHP)	Neutral	4
Marvell Technology Group Ltd. (MRVL)	Neutral	3
NVIDIA Corporation (NVDA)	Neutral	2
Texas Instruments Incorporated (TXN)	Neutral	3

Industry Comparison Industry: Semiconductors - Programmable Logic				Industry Peers		
	XLNX	X Industry	S&P 500	INTC	LSCC	NVDA
Zacks Recommendation (Long Term)	Neutral	-	-	Neutral	Neutral	Neutral
Zacks Rank (Short Term)	3	-	-	3	3	2
VGM Score	C	-	-	B	C	B
Market Cap	21.25 B	21.25 B	20.09 B	253.70 B	3.22 B	215.30 B
# of Analysts	9	9	14	14	5	11
Dividend Yield	1.74%	1.74%	2.1%	2.20%	0.00%	0.18%
Value Score	D	-	-	B	F	D
Cash/Price	0.11	0.11	0.07	0.08	0.06	0.05
EV/EBITDA	19.89	19.89	12.13	7.72	35.38	60.82
PEG Ratio	2.72	3.57	2.72	1.66	3.99	3.08
Price/Book (P/B)	9.18	9.18	2.75	3.32	9.40	17.57
Price/Cash Flow (P/CF)	21.01	21.01	10.86	7.88	32.86	66.63
P/E (F1)	32.69	32.15	20.10	12.44	39.90	46.69
Price/Sales (P/S)	6.72	6.72	2.05	3.35	7.99	19.72
Earnings Yield	3.11%	3.11%	4.77%	8.04%	2.51%	2.14%
Debt/Equity	0.32	0.32	0.76	0.48	0.56	0.21
Cash Flow (\$/share)	4.15	4.15	7.01	7.60	0.73	5.25
Growth Score	B	-	-	B	A	A
Hist. EPS Growth (3-5 yrs)	14.09%	14.09%	10.87%	21.32%	138.80%	43.93%
Proj. EPS Growth (F1/F0)	-19.07%	-18.87%	-10.31%	-1.07%	1.69%	29.47%
Curr. Cash Flow Growth	1.35%	1.35%	5.51%	6.53%	36.56%	-20.70%
Hist. Cash Flow Growth (3-5 yrs)	5.96%	5.96%	8.55%	9.99%	11.10%	28.68%
Current Ratio	2.68	2.68	1.28	1.74	3.40	7.67
Debt/Capital	24.40%	24.40%	44.46%	32.32%	35.77%	17.30%
Net Margin	25.07%	25.07%	10.59%	30.02%	10.97%	25.60%
Return on Equity	33.25%	33.25%	16.29%	31.64%	20.60%	26.08%
Sales/Assets	0.64	0.64	0.55	0.55	0.65	0.71
Proj. Sales Growth (F1/F0)	-9.02%	-9.02%	-2.49%	2.62%	-2.04%	24.04%
Momentum Score	C	-	-	B	D	B
Daily Price Chg	4.72%	4.72%	5.21%	2.81%	8.28%	3.06%
1 Week Price Chg	-4.18%	-4.18%	-4.56%	-2.33%	-5.75%	8.68%
4 Week Price Chg	-2.16%	-2.16%	4.12%	1.25%	21.52%	21.93%
12 Week Price Chg	2.32%	2.32%	-16.39%	-2.98%	30.04%	28.08%
52 Week Price Chg	-13.73%	-13.73%	-5.84%	37.56%	109.08%	130.65%
20 Day Average Volume	3,205,786	3,205,786	2,651,378	23,784,532	1,642,699	12,117,581
(F1) EPS Est 1 week change	0.00%	0.00%	0.00%	0.00%	0.00%	0.90%
(F1) EPS Est 4 week change	-16.81%	-16.81%	-4.48%	-0.82%	-30.83%	1.07%
(F1) EPS Est 12 week change	-25.43%	-25.43%	-16.39%	-3.37%	-35.90%	-0.59%
(Q1) EPS Est Mthly Chg	-17.75%	-17.75%	-9.90%	-11.70%	-30.92%	1.95%

Zacks Stock Rating System

We offer two rating systems that take into account investors' holding horizons: Zacks Rank and Zacks Recommendation. Each provides valuable insights into the future profitability of the stock and can be used separately or in combination with each other depending on your investment style.

Zacks Recommendation

The Zacks Recommendation aims to predict performance over the next 6 to 12 months. The foundation for the quantitatively determined Zacks Recommendation is trends in the company's estimate revisions and earnings outlook. The Zacks Recommendation is broken down into 3 Levels; Outperform, Neutral and Underperform. Unlike many Wall Street firms, we have an excellent balance between the number of Outperform and Neutral recommendations. Our team of 70 analysts are fully versed in the benefits of earnings estimate revisions and how that is harnessed through the Zacks quantitative rating system. But we have given our analysts the ability to override the Zacks Recommendation for the 1200 stocks that they follow. The reason for the analyst over-rides is that there are often factors such as valuation, industry conditions and management effectiveness that a trained investment professional can spot better than a quantitative model.

Zacks Rank

The Zacks Rank is our short-term rating system that is most effective over the one- to three-month holding horizon. The underlying driver for the quantitatively-determined Zacks Rank is the same as the Zacks Recommendation, and reflects trends in earnings estimate revisions.

Zacks Style Scores

The Zacks Style Score is as a complementary indicator to the Zacks rating system, giving investors a way to focus on the highest rated stocks that best fit their own stock picking preferences.

Academic research has proven that stocks with the best Value, Growth and Momentum characteristics outperform the market. The Zacks Style Scores rate stocks on each of these individual styles and assigns a rating of A, B, C, D and F. We also produce the VGM Score (V for Value, G for Growth and M for Momentum), which combines the weighted average of the individual Style Scores into one score. This is perfectly suited for those who want their stocks to have the best scores across the board.

Value Score	D
Growth Score	B
Momentum Score	C
VGM Score	C

As an investor, you want to buy stocks with the highest probability of success. That means buying stocks with a Zacks Recommendation of Outperform, which also has a Style Score of an A or a B.

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