



Teradyne, Inc. (TER)

Updated November 1st, 2021 by Derek English

Key Metrics

Current Price:	\$139	5 Year CAGR Estimate:	-1.4%	Market Cap:	\$23 B
Fair Value Price:	\$87	5 Year Growth Estimate:	8.0%	Ex-Dividend Date:	11/24/21
% Fair Value:	161%	5 Year Valuation Multiple Estimate:	-9.1%	Dividend Payment Date:	12/18/21
Dividend Yield:	0.3%	5 Year Price Target	\$127	Years Of Dividend Growth:	0
Dividend Risk Score:	C	Retirement Suitability Score:	F	Last Dividend Increase:	0%

Overview & Current Events

Teradyne, Inc (NDQ: TER) was founded in 1960 and is a leading global supplier of automation equipment for test and industrial applications. The company designs and sells automatic test systems to test semiconductors and complex electronics systems in most industries. Teradyne has four reportable operating segments. The semiconductor test segment is the largest and accounts for 72% of revenue; the system test segment accounts for 13%, while industrial automation and wireless test account for the final 15%. Interestingly, revenues from Taiwan, China, and Korea make up 66% of all income, while the United States accounts for only 10%.

Teradyne released Q3 2021 results on October 27th, 2021. The company has again posted strong results where total sales of \$951M were up 16% from Q3 2020. Wireless Test sales grew 16% due to the strong demand for flash memory and Analog test. In addition, the wireless test segment grew 70% based on high demand for Wi-Fi 6/6E and industrial automation grew 32% with strong demand for both universal robots and MiR. Operating profit was up 35% to \$329 million, and gross margin increased nearly 1% to 60%. EPS was \$1.59 while free cash flow for the quarter was \$493 million, where they spent \$210 million on buybacks with an average piece of \$124 and \$16 million on dividends.

Growth on a Per-Share Basis

Year	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2026
EPS	\$1.49	\$0.94	\$0.70	\$0.83	\$0.97	\$1.43	\$2.19	\$2.35	\$2.60	\$4.28	\$4.82	\$7.08
DPS	---	---	---	\$0.18	\$0.24	\$0.24	\$0.28	\$0.36	\$0.36	\$0.40	\$0.40	\$0.64
Shares¹	186	186	190	202	211	199	195	175	166	166	160	155

Teradyne has recorded solid and consistent growth over the last 11 years, with earnings per share growing every year since 2013. Since 2011 the earnings per share growth rate has come in at an average of 12.4% per annum. With the current shortage in semiconductors, companies like Intel (INTC) and, more importantly, Taiwan Semiconductor Manufacturing (TSM) have reported an intention to invest from \$20 billion to \$100 billion. Investment in semiconductors is good news for a company that develops test systems for semiconductors. While the test products concentrate on a limited number of customers, they drive significant demand for Teradyne's products. Therefore, we believe a growth rate of 8% on average per annum is reasonable.

Furthermore, the company estimates an EPS of at least \$1.14 for Q4, so we have increased our EPS estimate for 2021 to \$4.82 from \$4.40 as the company is performing better than expected. In addition, the company began its dividend policy in 2014, and even though they do not increase it every year, the average five-year growth rate is 10.8%. Currently, the company allocates 11% of capital to dividends, focusing on buybacks, accounting for 71% of capital allocation.

Valuation Analysis

Year	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	Now	2026
Avg. P/E	9.8	16.4	23.9	23.1	19.9	14.6	15.7	16.9	19.3	18.6	29.0	18.0
Avg. Yld.	0.0%	0.0%	0.0%	0.9%	1.2%	1.1%	0.8%	0.9%	0.7%	0.5%	0.3%	0.5%

¹ Share count in millions

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During the last ten years, Teradyne has traded with a P/E multiple of 17.8 on average. However, since the market decline in March 2020, the stock has risen from \$43 to \$125. This huge run has seen the company trade at a historically high 29 P/E multiple. In addition, as a test supplier to some of the major semiconductor companies, the recent shortage has helped the company trade at a premium. Still, we believe that they will trade closer to their mean over the next five years and return to a P/E ratio of 18.

Safety, Quality, Competitive Advantage, & Recession Resiliency

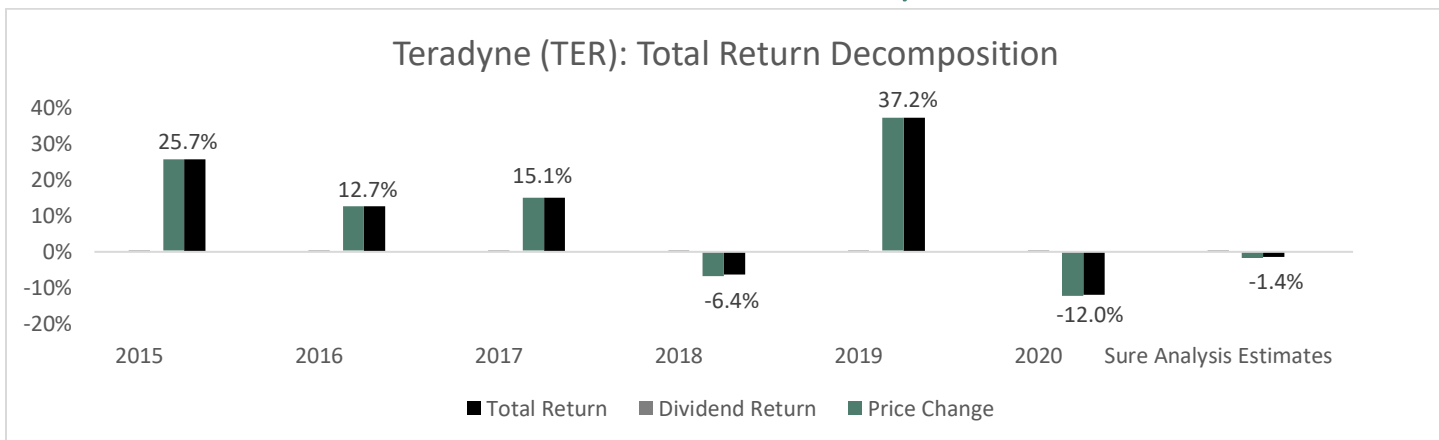
Year	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2026
Payout	0%	0%	0%	22%	25%	17%	13%	15%	14%	9%	8%	9%

Collaborative robots are in an upward market trend within the industrial automation segment that expects to expand 44.5% on average per year up to 2025. As a result, the company has been diversifying into collaborative robots by acquiring companies like universal robots and MiR in recent years, leaving the company in an excellent position to take advantage of this growth. This is proving to be an intelligent move as Industrial Automation was the fastest-growing segment this quarter. Semiconductor Assembly and test providers (OSAT) use Teradyne's products because they help them improve product quality while reducing the time to market. The System on chip market is experiencing high unit growth and is expected to grow ~13% CAGR in 2021. In addition, Teradyne's FLEX test platform architecture is a leading technology designed for high-efficiency multi-site testing. However, Teradyne is reliant on a limited number of customers for its business. For example, in 2020, TSM accounted for 15% of consolidated revenues, and its top 5 customers accounted for 36% of revenue. If either of these customers moves to a competitor, it could hurt Teradyne's potential future growth. In addition, Teradyne's recession resistance would likely prove flawed given its exposure to a highly cyclical industry.

Final Thoughts & Recommendations

Teradanye has seen impressive earnings growth over the last decade, including an impressive gain this past quarter. In addition, the company boasts a rock-solid balance sheet where they carry very little debt. The recent semiconductor chip shortage has prompted significant companies, such as TSM, to declare their intention to invest billions of dollars to increase production. As Teradanye's largest customer, this is an encouraging sign for the stability of future growth. However, the surge in the share price since October 2020 has limited future upside potential and diminishes investors' potential returns. We value the company currently at \$97, putting the stock at 161% of our fair value estimate, with a 5-year price target of \$127. With an expected negative annual total return rate of -1.4%, we rate the stock a sell. We note that Teradanye remains a good company for the watchlist, particularly if the share price returns to an 18 P/E ratio.

Total Return Breakdown by Year



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Income Statement Metrics

Year	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Revenue	1,429	1,657	1,428	1,648	1,640	1,753	2,137	2,101	2,295	3,121
Gross Profit	712	886	809	879	916	959	1,221	1,220	1,340	1,786
Gross Margin	49.8%	53.5%	56.6%	53.3%	55.8%	54.7%	57.2%	58.1%	58.4%	57.2%
SG&A Exp.	232	277	280	320	306	317	349	391	437	465
D&A Exp.	107	146	151	153	141	120	108	113	121	127
Operating Profit	238	280	193	197	248	297	535	489	540	915
Operating Margin	16.7%	16.9%	13.5%	11.9%	15.1%	17.0%	25.0%	23.3%	23.5%	29.3%
Net Profit	370	217	165	81	206	(43)	258	452	467	784
Net Margin	25.9%	13.1%	11.6%	4.9%	12.6%	-2.5%	12.1%	21.5%	20.4%	25.1%
Free Cash Flow	189	284	162	323	333	370	521	363	444	684
Income Tax	(130)	49	37	14	47	(12)	267	16	58	117

Balance Sheet Metrics

Year	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Total Assets	2,189	2,429	2,630	2,539	2,549	2,762	3,110	2,707	2,787	3,652
Cash & Equivalents	574	339	342	294	265	308	430	927	774	914
Accounts Receivable	129	153	158	151	211	192	273	291	362	498
Inventories	160	139	138	105	154	136	108	154	197	222
Goodwill & Int. Ass.	746	668	614	464	728	324	331	507	542	555
Total Liabilities	684	651	645	460	583	934	1,156	1,184	1,307	1,442
Accounts Payable	70	58	63	48	92	95	86	101	127	134
Long-Term Debt	163	173	187	-	-	353	366	380	395	410
Shareholder's Equity	1,505	1,778	1,985	2,079	1,966	1,829	1,954	1,522	1,480	2,211
D/E Ratio	0.11	0.10	0.09	-	-	0.19	0.19	0.25	0.27	0.19

Profitability & Per Share Metrics

Year	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Return on Assets	18.5%	9.4%	6.5%	3.1%	8.1%	-1.6%	8.8%	15.5%	17.0%	24.4%
Return on Equity	28.2%	13.2%	8.8%	4.0%	10.2%	-2.3%	13.6%	26.0%	31.1%	42.5%
ROIC	25.1%	12.0%	8.0%	3.8%	10.2%	-2.1%	11.5%	21.4%	24.8%	34.9%
Shares Out.	186	186	190	202	211	199	195	175	166	166
Revenue/Share	6.30	7.20	6.06	7.40	7.69	8.65	10.60	10.91	12.79	17.05
FCF/Share	0.83	1.23	0.69	1.45	1.56	1.83	2.58	1.88	2.47	3.74

Note: All figures in millions of U.S. Dollars unless per share or indicated otherwise.

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