US Autos & Industrial Tech

Lowering auto industry outlook, and broadly reducing estimates; Downgrade F, LEA, VC; upgrade BWA, ST, AUR

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We're lowering our US auto sales and global auto production forecasts to reflect tariffs and weaker consumer demand. We're also seeking to better reflect the growth of the Chinese auto OEMs and a slower BEV transition in the US in our updated industry and company views.

Despite the delay in 'reciprocal' tariffs announced on 4/9, our economists expect sector-specific tariffs (including auto tariffs) to remain in place, and a more difficult macroeconomic environment going forward, as detailed in their recent note. Stocks in our coverage are down 13% YTD at the median (vs. the S&P 500 down 7%), we believe reflecting increased risks to both sales and margins.

While we are incorporating our best view of the current fundamental and tariff environment, we recognize that tariffs and government policy plans have been fluid and that supply chains are complex. A sharper deterioration in the economic environment than we currently assume could result in additional downside to our estimates and price targets, while reduced trade friction may result in less severe earnings/stock downside. To help investors better understand various downside scenarios, we show how estimates, multiples, and stocks performed in several historical periods of weaker macroeconomic and financial market conditions in this report.

We believe the tariffs as proposed will raise the cost of both importing and manufacturing vehicles in the US by at least a low to mid single digit thousand dollar level on average (as we detail later in this report), **and we believe it will be hard for the auto industry to fully pass this on, especially with softening consumer demand more generally**. We recognize that tariff policy has been dynamic and evolving, but higher tariffs including for autos and auto parts is the base case view of our economics team (and tariffs are now in effect for vehicle imports into the US).

We assume new vehicle net prices in the US will rise by roughly ~$2-$4 thousand dollars over the next 6-12 months to better reflect tariff costs. While tariffs are not currently being applied to USMCA compliant parts, assuming tariffs are applied to major auto parts (even those that are USMCA compliant) as the government plans, then we believe that at least initially the US OEMs will utilize lower incentives to raise net prices over time. Some foreign auto OEMs could raise prices sooner to reflect higher import costs. We don't expect Tesla to meaningfully raise net prices in the US given its mostly US supply chain and due to slower demand. Complicating any analysis on industry pricing and cost is that, at least in the short term, Ford and Stellantis are actually now offering added incentives (and per Bloomberg the major US auto OEMs are in discussions with the government to exempt certain auto parts from tariffs).

Overall, we now assume US auto sales of 15.40/15.25 mn in 2025/2026 compared to 16.25/16.35 mn prior, and global auto production of 88.7/90.7 mn compared to 90.4/92.6 mn prior.

We continue to believe tariffs will be a source of downside for both auto OEMs and suppliers as our base case assumption, but we believe that OEMs can partly mitigate tariffs with pricing (we estimate prices would need to rise by at least $4-$5K for traditional US OEMs to fully offset lower volumes/higher costs from tariffs, but our base view is that they will not be able to fully offset higher costs). We believe there are still scenarios for the traditional OEMs to be net beneficiaries of tariffs (from better pricing, share gain, and/or a change in tariff rules that largely exempts most or all USMCA compliant auto parts) but also significant downside scenarios (e.g. significantly more negative price-cost trends than we expect, global trade war/macro challenges, share loss to foreign OEMs). We expect auto suppliers to offset most or all of the direct tariff costs they incur as a base case view, but to be affected by lower industry volumes (and without the pricing offset that OEMs may enjoy). Moreover, given that it can traditionally take a few years for tier 1s to move auto factories, an inability to pass on tariff costs is a downside risk for suppliers more generally.

With this sector update, we're also trying to better reflect the increasing strength of the Chinese auto OEMs, and a slower BEV transition in the US and potentially Europe. We continue to be impressed by the rate of technology/product progress and low costs of the auto industry in China (as discussed in our note "Global Automobiles: China for Global - automotive and autonomy takeaways"). Moreover, if the US auto industry is grappling with higher costs and tariffs, it will make it harder for US OEMs to compete globally in our opinion (especially for exports). While we had already reflected a slower BEV forecast in the US to reflect likely policy changes (e.g. IRA incentives and EPA rules), we further lower our US BEV outlook given weaker Tesla consumer demand (which we reflected in our Tesla estimates in our note on 4/2/25) and slower OEM BEV investment plans more generally. In addition, there is a proposal in Europe to allow OEMs to shift their product mix toward EVs somewhat slower. Overall, this should create a longer tail for hybrid/ICE products. A slower BEV transition in the US/Europe is one factor in our upgrades of both BWA and ST, both of which have good profit/content for hybrids/ICE vehicles even though they each have opportunities tied to BEVs too (albeit currently at lower margins).

We continue to see better investing opportunities on average in the industrial tech part of our coverage (e.g. electronics components, EMS, power, and test equipment), **although we see macro and tariff risk for this portion of our coverage too.** This relative preference is the result of what we think is a better cyclical outlook for industrials than autos (with the ISM having been in contraction for ~2 years before recently picking up from a lower level, in part from post destocking dynamics, although tariffs and tariff policy uncertainty are a risk for industrials too with the ISM back under 50 in March). We believe it is difficult for companies and industries to invest in manufacturing capacity while policy rules are in flux, which could lead to delayed and/or reduced industrial investments. The industrial tech companies also tend to have good content growth opportunities (e.g. power, datacenter, and automation), and typically have more defensive business models than autos (e.g. higher margins, end market diversity, and better FCF generation). We upgrade ST to Buy from Neutral in part to better reflect this relative preference within our coverage.

We make several rating changes to reflect recent stock trading and our industry expectations, and we adjust estimates and/or price targets for stocks broadly in our coverage. Highlights include:

1) We lower our rating on F shares to Neutral from Buy. Our cyclical view on the company had been too positive (with Street EPS estimates for 2025 revised down by 32% since we added it to the Buy list on 9/30/2024). Over the same time period, the stock is down 10% vs. the auto OEM/supplier stocks in our coverage down 15% on average and vs. the S&P 500 down 5%. We believe the decline in the stock was more limited than 2025 estimate reductions due to investor positioning/sentiment at the time of our upgrade, progress from the company on net cost reductions (which is a multi-year opportunity), and the potential for Ford's US manufacturing footprint to mitigate tariff downside (or perhaps be a tailwind). While we still see a long-term opportunity from the shift toward software & services as well as cost reductions, we move to a Neutral rating to reflect a more difficult cyclical dynamic (including competition internationally, weaker consumer demand, and what we expect will be higher costs from tariffs) and an expanded relative valuation multiple vs. traditional auto OEM peers. To the extent we had a more positive view on the cyclical/margin outlook and/or we thought a significant inflection in software & services profits was closer, then we could be more positive on the stock.

2) Thoughts on GM, TSLA, RIVN: A) For GM, while we lower estimates to better reflect our cyclical view and competition (in China and internationally), GM trades at a meaningfully lower P/E multiple than Ford, and we estimate that the headwind from tariffs as a percent of its EPS will be slightly lower for GM than Ford; we remain Buy rated; B) For Tesla, we believe that weaker auto demand/consumer sentiment, tariff costs (including in Energy), and US EV policy risk are offset by longer-term potential from its AI related efforts; we remain Neutral rated; C) For RIVN, the risk of lower US EV policy support and a weaker macro environment is offset by the company's improved balance sheet and the potential from R2 and licensing its E/E architecture, as well as potential share gain in the US EV market over time; we remain Neutral-rated.

3) Downgrade auto tier 1 suppliers LEA and VC to Neutral from Buy as we think tier 1 suppliers in general will struggle to fully offset lower industry volumes. While our base case view is that tier 1 suppliers will be able to mostly or fully offset direct tariff costs, we'd note that Visteon and Lear have the highest tariff exposure as a percent of EBIT (and thus less ability to offset tariffs than we assume is a downside risk). We lower estimates on suppliers broadly, and maintain our Sell ratings on MGA, LAZR, QS, and CHPT.

4) Upgrade BWA to Buy from Neutral - While we are lowering estimates for BWA too, on a relative basis we are now more positive on BorgWarner given: A) Its below average degree of US imports as a percent of EBIT (although there remain risks for BorgWarner, and other tier 1s, including from retaliatory tariffs, but this is mitigated by an in-region for-region approach); B) The company's above average sales exposure to China at about 20% of total revenue, with a high percent of this tied to domestic OEMs that are growing faster, including with eProducts; C) A longer tail for its hybrid and ICE products (although BorgWarner has products for all powertrain types and an attractive content per vehicle opportunity with EVs).

4) Upgrade ST to Buy from Neutral - We upgrade ST to Buy from Neutral post the sharp sell-off (e.g. ST is down 24% YTD vs. the S&P 500 down 7%) to reflect a trough valuation even on our below consensus estimates, and the potential for EPS to grow in 2026/2027 in part from an improved industrial market post destocking. In addition, Sensata has good content opportunities for hybrid vehicles (and a strong ICE/hybrid business in Europe), given its combustion and electrification specific product offerings (although Sensata has content opportunities in BEVs too, including with its electrical protection and powertrain agnostic parts).

5) Upgrade AUR to Neutral from Sell - Our catalyst of meaningful downside risk to Street estimates from a more measured AV trucking ramp over the near to intermediate term has passed. We believe the market is more focused on whether AV trucking is possible (we think it is) than the near to medium term ramp cadence/economics. Since being added to the Sell list on 1/3/2024, AUR shares are up 99% vs. the S&P 500 up 16% (while Street revenue estimates (FactSet) for 2025/2026 have been revised down materially by 82%/83% during this time, we attribute the increase in the stock to the market taking a much longer-term view to valuation). While we see valuation as rich, we are now ascribing a higher multiple given the market willingness to look long-term for AV investing opportunities, and we see AUR as also getting a scarcity premium at least for now due to a lack of other publicly traded autonomy exposed companies that are early/first to market. We continue to see Aurora as a leader in the AV trucking space, and expect that the company will begin driverless commercial operations this year in small scale (they plan to start with one truck with a high level of remote assistance this month). We see a more balanced catalyst path from here, with the company likely beginning commercial operations soon, but also having a multi-year path to profitability and needing additional capital. Key risks to our view include a faster/slower AV volume ramp including its ability to ramp up its supply chain partners/shift to an as-a-service model and expand routes, better/worse pricing/margins (with factors including its ability to reduce BOM costs and the degree of competition), and the cost to raise capital.

Exhibit 1: Coverage snapshot

					CY2025E					
	Rating	12-month Price Target	Price	Upside/ Downside	Mkt Cap ($US mn)	ROE	P/E	EV/EBITDA	EV/Sales	EV/FCFF
Auto OEMs										
F	Neutral	$9	$9.50	-5%	$38,190	11%	9.5x	2.3x	0.1x	20.5x
GM	Buy	$63	$45.74	38%	$49,171	11%	4.6x	2.1x	0.2x	6.6x
TSLA	Neutral	$260	$272.20	-4%	$957,327	20%	182.0x	60.3x	10.0x	721.0x
RIVN	Neutral	$12	$11.77	2%	$12,453	--	--	--	1.7x	--
Median						12%	9.5x	2.3x	0.9x	20.5x
Tier 1 Suppliers										
BWA	Buy	$34	$26.89	26%	$5,892	15%	7.1x	4.0x	0.6x	11.1x
MGA	Sell	$31	$33.65	-8%	$9,621	11%	7.5x	3.8x	0.3x	13.3x
LEA	Neutral	$84	$82.87	1%	$4,541	14%	7.2x	3.9x	0.3x	10.4x
GNTX	Neutral	$23	$21.80	6%	$4,956	18%	12.1x	8.4x	1.9x	15.2x
VC	Neutral	$74	$73.77	0%	$2,058	25%	9.2x	3.9x	0.5x	10.3x
APTV	Not Rated		$54.42		$12,814	17%	8.1x	6.5x	1.0x	13.5x
Median						16%	7.8x	4.0x	0.5x	12.2x
Components and Systems										
APH	Buy	$72	$66.18	9%	$83,923	26%	30.1x	18.2x	4.8x	31.0x
TEL	Buy	$170	$133.86	27%	$40,292	19%	17.3x	11.4x	2.7x	17.9x
BDC	Buy	$120	$98.31	22%	$4,039	25%	14.1x	10.8x	1.8x	19.6x
ST	Buy	$27	$20.88	29%	$3,129	19%	7.3x	7.5x	1.7x	11.6x
Median						22%	15.7x	11.1x	2.3x	18.8x
Lidar and Autonomy										
AUR	Neutral	$6.00	$6.55	-8%	$11,279	--	--	--	60.6x	--
INVZ	Neutral	$0.75	$0.56	33%	$95	--	--	--	0.4x	--
LAZR	Sell	$2.00	$4.85	-59%	$170	--	--	--	4.6x	--
MBLY	Buy	$17	$15.14	12%	$12,279	--	--	-714.9x	6.3x	46.4x
Median						--	--	--	5.5x	--
EMS										
FLEX	Buy	$41	$31.58	30%	$12,443	21%	13.7x	7.7x	0.5x	14.8x
JBL	Buy	$146	$137.38	6%	$15,263	36%	17.3x	8.0x	0.6x	12.3x
Median						29%	15.5x	7.8x	0.6x	13.6x
Test and Measurement										
KEYS	Buy	$176	$142.50	24%	$24,795	27%	24.3x	19.2x	4.7x	22.6x
Power and Thermal Management										
VRT	Buy	$85	$72.82	17%	$28,143	28%	20.5x	15.0x	3.3x	21.4x
Voice Technology										
CRNC	Neutral	$8.00	$8.18	-2%	$351	5%	--	--	2.1x	22.3x
EV Battery										
QS	Sell	$3.00	$4.05	-26%	$2,061	--	--	--	28.4x	--
Charging Infrastructure										
CHPT	Sell	$0.50	$0.60	-16%	$267	--	--	--	0.6x	--
Warehouse Automation										
SYM	Neutral	$18	$21.38	-16%	$12,559	--	--	--	1181.9x	46.2x
Coverage Median						19%	10.8x	7.6x	1.8x	15.2x

*All price targets are for a 12-month time frame.
Forward Revenue & EBITDA take 2027 GSe for INVZ and 2028 LAZR
2027 for CHPT; 2028 GSe for QS and 2030e for AUR; all discounted back to 2025

Pricing as of market close on 4/9

Source: Goldman Sachs Global Investment Research, FactSet

Assuming a mild to moderate decline in the macroeconomic environment, plus some compression in multiples, we show downside screens for the stocks in our coverage in Exhibit 2. Relative to our base case views, key assumptions in these scenarios include: 1) incremental price-cost headwinds for F and GM; 2) moderately weaker volumes plus some stranded tariff costs for auto tier 1s; 3) revenue/margin adjustments for components/test/EMS companies that are informed by past periods of mild to moderate macroeconomic pressure. Please see the "Analysis of past downturns" section below for more details and case studies of past periods (including more severe pullbacks).

Exhibit 2: Downside screen for established companies in our coverage

Ticker	CY26 EPS	Downside CY 26 EPS	% change in EPS	Downside multiple	Implied stock price	Current price	Implied downside
Auto OEMs							
F	$1.40	$0.84	-40%	6X	$5	$9.50	-47%
GM	$10.00	$6.50	-35%	5X	$33	$45.74	-28%
TSLA	$3.15	$2.50	-21%	60X	$150	$272.20	-45%
Tier 1 Suppliers							
APTV	$7.30	$4.74	-35%	-	-	$54.42	-
BWA	$4.25	$3.40	-20%	7X	$24	$26.89	-11%
GNTX	$2.05	$1.64	-20%	12X	$20	$21.80	-8%
MGA	$5.20	$3.90	-25%	7X	$27	$33.65	-20%
LEA	$12.00	$8.40	-30%	7X	$67	$82.87	-19%
VC	$8.25	$4.95	-40%	13X	$64	$73.77	-13%
Components and Systems							
APH	$2.40	$2.04	-15%	25X	$51	$66.18	-23%
BDC	$7.50	$5.63	-25%	12X	$68	$98.31	-31%
ST	$3.05	$2.28	-25%	7X	$16	$20.88	-23%
TEL	$8.50	$6.80	-20%	15X	$102	$133.86	-24%
EMS, Test and Measurement, and Power and Thermal Management							
FLEX	$2.98	$2.09	-30%	12X	$25	$31.58	-21%
JBL	$10.53	$7.37	-30%	12X	$88	$137.38	-36%
KEYS	$7.96	$6.77	-15%	17X	$115	$142.50	-19%
VRT	$4.35	$3.05	-30%	15X	$46	$72.82	-37%

Tesla uses CY27 earnings

EPS ex. SBC for JBL, FLEX, and KEYS, EPS inc. SBC for the remainder

Pricing as of market close on 4/9

Source: Goldman Sachs Global Investment Research

Analysis of past downturns

We show how estimates, multiples and stocks performed in several historical periods of weaker macroeconomic conditions below, as well as a summary across historical pullbacks, given the more cautious view from our economics teams.

First, we show the median pullback by stock across past periods of stress (the GFC of 2008/2009, Euro debt crisis in 2011, the industrial pullback and 'peak SAAR' concerns in 2H15, COVID-19, and the Ukraine-Russia War) in Exhibit 3, along with the YTD decline in stocks.

Exhibit 3: Median performance across historical stock market pullbacks, and the YTD pullback by stock

	Median stock performance across stock market pullbacks			
	6 months after	12 months after	Peak to trough	Current YTD stock pullback
Auto OEMs				
F	(34.2%)	(11.3%)	(37.8%)	(4.0%)
GM	(27.2%)	(15.5%)	(42.7%)	(14.1%)
TSLA	11.1%	3.3%	(28.2%)	(32.6%)
Auto Tier 1 Suppliers				
BWA	(21.1%)	(10.9%)	(53.1%)	(15.4%)
MGA	(21.8%)	(28.7%)	(45.5%)	(19.5%)
LEA	(13.9%)	(13.7%)	(32.2%)	(12.5%)
GNTX	(11.9%)	(5.3%)	(28.2%)	(24.1%)
VC	(10.4%)	(32.3%)	(44.8%)	(16.9%)
Components & Systems				
APH	(12.2%)	1.9%	(20.4%)	(4.7%)
TEL	(8.7%)	(11.3%)	(24.2%)	(6.4%)
BDC	(25.0%)	(23.8%)	(32.7%)	(12.7%)
ST	(21.3%)	(9.2%)	(35.1%)	(23.8%)
EMS				
FLEX	(20.5%)	2.8%	(39.2%)	(17.7%)
JBL	(8.1%)	2.9%	(31.7%)	(4.5%)
Test & Measurement				
KEYS	(2.8%)	(0.4%)	(23.7%)	(11.3%)

The data looks at the Global Financial Crisis, the Euro debt crisis in 2011, the 2015 industrial pullback, COVID-19, and the Ukraine-Russia war

Source: FactSet, Goldman Sachs Global Investment Research

We show how estimates and multiples for our coverage have evolved YTD, and in past case studies, in Exhibit 4 to Exhibit 9.

Exhibit 4: Current pullback - Stock, NTM EPS estimates, and NTM P/E multiple changes in 2025 YTD

	Current macro pullback (start date 1/1/2025)			
	Street NTM P/E multiple		Street NTM EPS estimate	Stock performance
	Start of the year	Current	YTD	YTD
Auto OEMs				
F	5.8X	7.0X	(20.5%)	(4.0%)
GM	5.0X	4.0X	8.5%	(14.1%)
TSLA	120.9X	92.2X	(11.7%)	(32.6%)
Auto Tier 1 Suppliers				
APTV	8.6X	7.2X	7.2%	(10.0%)
BWA	7.0X	6.1X	(2.9%)	(15.4%)
MGA	7.1X	6.3X	(9.6%)	(19.5%)
LEA	7.1X	6.2X	(0.4%)	(12.5%)
GNTX	13.8X	11.1X	(5.8%)	(24.1%)
VC	9.9X	8.5X	(3.3%)	(16.9%)
Components & Systems				
APH	32.1X	27.9X	9.9%	(4.7%)
TEL	17.2X	15.7X	2.6%	(6.4%)
BDC	14.7X	13.4X	(4.0%)	(12.7%)
ST	8.1X	6.3X	(2.7%)	(23.8%)
EMS				
FLEX	14.2X	10.9X	6.9%	(17.7%)
JBL	15.7X	14.0X	6.7%	(4.5%)
Test & Measurement				
KEYS	22.6X	19.1X	4.6%	(11.3%)

Source: FactSet, Goldman Sachs Global Investment Research

Exhibit 5: Financial Crisis - Stock, NTM EPS estimate, and NTM P/E multiple changes during the GFC

	Global Financial Crisis (start date 6/30/2008)							
	Street NTM P/E multiple			Street NTM EPS estimate		Stock performance		
	3 months prior	6 months after	12 months after	6 months after	12 months after	6 months after	12 months after	Peak to trough
Auto OEMs								
F	--	--	--	--	--	(52.4%)	26.2%	(73.8%)
GM	--	--	--	--	--	(67.0%)	(90.5%)	(98.4%)
TSLA	--	--	--					
Auto Tier 1 Suppliers								
BWA	16.0X	16.5X	40.2X	(53.3%)	(69.1%)	(52.3%)	(23.1%)	(65.8%)
MGA	9.5X	15.8X	--	(74.5%)	(112.4%)	(51.9%)	(28.7%)	(66.3%)
LEA	13.7X	--	--	(106.4%)	(189.8%)	(91.9%)	(96.5%)	(99.9%)
GNTX	17.8X	21.0X	43.9X	(57.0%)	(71.9%)	(41.0%)	(19.7%)	(53.5%)
VC	--	--	--	--	--	(87.8%)	(94.3%)	(99.4%)
Components & Systems								
APH	15.9X	11.9X	17.0X	(19.8%)	(24.5%)	(47.3%)	(29.5%)	(57.7%)
TEL	12.9X	9.6X	21.1X	(42.2%)	(69.5%)	(55.4%)	(48.1%)	(79.2%)
BDC	9.5X	8.6X	10.7X	(37.1%)	(57.8%)	(41.4%)	(50.7%)	(75.2%)
EMS								
FLEX	10.8X	4.7X	13.9X	(41.1%)	(67.3%)	(73.3%)	(55.9%)	(83.0%)
JBL	8.6X	7.8X	12.4X	(33.1%)	(52.0%)	(60.5%)	(54.8%)	(80.7%)

Source: FactSet, Goldman Sachs Global Investment Research

Exhibit 6: Eurozone debt crisis - Stock, NTM EPS estimate, and NTM P/E multiple changes during European debt crisis

	Euro debt crisis (start date 1/27/2011)							
	Street NTM P/E multiple			Street NTM EPS estimate		Stock performance		
	3 months prior	6 months after	12 months after	6 months after	12 months after	6 months after	12 months after	Peak to trough
Auto OEMs								
F	7.2X	6.2X	7.9X	(8.3%)	(29.4%)	(34.2%)	(35.0%)	(37.8%)
GM	--	--	--	10.6%	(7.8%)	(27.2%)	(37.0%)	(42.7%)
TSLA	--	--	--	--	--	10.9%	17.7%	(7.0%)
Auto Tier 1 Suppliers								
BWA	17.6X	17.0X	15.8X	18.5%	33.0%	1.6%	5.9%	(27.0%)
MGA	11.2X	9.0X	9.1X	5.4%	(8.2%)	(21.8%)	(31.4%)	(37.7%)
LEA	11.4X	8.5X	7.8X	12.8%	6.2%	(12.3%)	(24.1%)	(32.2%)
GNTX	18.6X	21.6X	21.3X	15.1%	20.3%	(13.4%)	(10.4%)	(28.2%)
VC	--	--	--	11.8%	(1.6%)	(10.4%)	(33.4%)	(44.5%)
Components & Systems								
APH	16.8X	14.9X	16.3X	6.1%	7.4%	(13.4%)	(4.2%)	(29.9%)
TEL	11.1X	10.3X	10.8X	6.1%	(2.0%)	(1.9%)	(4.9%)	(24.5%)
BDC	14.1X	13.1X	14.0X	14.5%	26.9%	(4.2%)	13.3%	(32.7%)
ST	11.0X	15.5X	13.6X	10.7%	2.4%	15.8%	(5.6%)	(19.5%)
EMS								
FLEX	10.2X	9.1X	9.2X	(1.4%)	0.5%	(21.9%)	(19.5%)	(39.2%)
JBL	6.8X	7.4X	8.4X	8.5%	14.7%	(8.1%)	10.6%	(31.7%)

Source: FactSet, Goldman Sachs Global Investment Research

Exhibit 7: 2015 industrial pullback and 'peak SAAR' concerns - Stock, NTM EPS estimate, and NTM P/E multiple changes during the 2015 industrial pullback

	Industrial pullback (start date 5/29/2015)							
	Street NTM P/E multiple			Street NTM EPS estimate		Stock performance		
	3 months prior	6 months after	12 months after	6 months after	12 months after	6 months after	12 months after	Peak to trough
Auto OEMs								
F	9.9X	7.7X	6.4X	10.2%	23.6%	(4.2%)	(11.3%)	(26.4%)
GM	8.2X	6.8X	5.5X	12.1%	20.5%	1.1%	(12.7%)	(25.2%)
TSLA	113.0X	160.4X	151.0X	(12.0%)	(10.0%)	(7.7%)	(11.1%)	(42.7%)
Auto Tier 1 Suppliers								
APTV	16.7X	17.0X	12.6X	6.6%	11.5%	0.7%	(22.1%)	(34.5%)
BWA	19.4X	14.5X	11.2X	(4.9%)	(2.9%)	(28.9%)	(44.1%)	(53.1%)
MGA	10.9X	8.7X	7.5X	1.4%	6.8%	(22.1%)	(29.2%)	(45.5%)
LEA	11.2X	10.9X	9.1X	13.0%	27.6%	8.4%	1.9%	(18.1%)
GNTX	16.7X	14.6X	13.4X	6.2%	13.3%	(2.4%)	(4.4%)	(22.5%)
VC	47.9X	39.3X	18.2X	32.5%	77.8%	9.0%	(32.3%)	(44.8%)
Components & Systems								
APH	22.4X	21.6X	21.4X	(0.6%)	6.2%	(3.7%)	1.9%	(20.4%)
TEL	16.5X	16.5X	14.0X	1.5%	6.2%	(2.4%)	(13.6%)	(24.2%)
BDC	15.9X	11.9X	11.5X	(6.8%)	(2.1%)	(25.0%)	(24.0%)	(56.0%)
ST	17.7X	15.3X	12.3X	(2.6%)	(3.6%)	(15.6%)	(33.0%)	(44.9%)
EMS								
FLEX	14.8X	13.4X	13.6X	5.1%	14.7%	(7.7%)	2.8%	(25.1%)
JBL	10.0X	9.6X	8.1X	16.2%	3.3%	3.7%	(22.5%)	(31.3%)
Test & Measurement								
KEYS	13.9X	11.8X	12.2X	6.1%	2.7%	(6.3%)	(6.5%)	(35.5%)

Source: FactSet, Goldman Sachs Global Investment Research

Exhibit 8: COVID - Stock, NTM EPS estimate, and NTM P/E multiple changes during COVID-19 period

	COVID (start date 1/1/2020)							
	Street NTM P/E multiple			Street NTM EPS estimate		Stock performance		
	3 months prior	6 months after	12 months after	6 months after	12 months after	6 months after	12 months after	Peak to trough
Auto OEMs								
F	6.5X	--	8.4X	(134.0%)	(20.3%)	(35.7%)	(5.5%)	(56.9%)
GM	5.4X	9.5X	6.9X	(59.2%)	(6.7%)	(31.8%)	13.8%	(54.1%)
TSLA	125.5X	143.2X	190.6X	24.3%	194.3%	167.6%	743.4%	(13.7%)
Auto Tier 1 Suppliers								
APTV	15.3X	31.3X	32.4X	(56.1%)	(26.8%)	(20.6%)	37.2%	(64.7%)
BWA	10.0X	15.3X	11.6X	(38.0%)	(7.6%)	(21.1%)	(10.9%)	(54.5%)
MGA	7.9X	13.5X	11.3X	(51.2%)	(5.9%)	(20.1%)	29.1%	(55.8%)
LEA	7.1X	14.8X	11.3X	(52.6%)	(7.5%)	(22.6%)	15.9%	(49.0%)
GNTX	15.7X	17.3X	17.5X	(15.5%)	11.2%	(11.9%)	17.1%	(30.7%)
VC	17.6X	41.7X	29.7X	(67.4%)	(14.2%)	(22.6%)	45.0%	(53.4%)
Components & Systems								
APH	24.6X	28.9X	31.0X	(17.1%)	6.6%	(12.2%)	20.8%	(16.8%)
TEL	15.9X	17.7X	22.1X	(14.1%)	4.1%	(16.5%)	26.3%	(24.0%)
BDC	9.2X	9.9X	13.2X	(29.7%)	(29.7%)	(43.0%)	(23.8%)	(12.9%)
ST	12.7X	15.6X	16.7X	(37.6%)	(13.9%)	(33.5%)	(2.1%)	(35.1%)
EMS								
FLEX	10.9X	12.5X	18.2X	(19.3%)	(0.1%)	(20.5%)	42.5%	(53.4%)
JBL	10.0X	9.3X	9.0X	(11.1%)	25.1%	(24.9%)	2.9%	(55.3%)
Test & Measurement								
KEYS	19.7X	21.1X	23.3X	(9.8%)	8.2%	(2.8%)	28.7%	(23.7%)

Source: FactSet, Goldman Sachs Global Investment Research

Exhibit 9: Ukraine - Russia war - Stock, NTM EPS estimate, and NTM P/E multiple changes during the Russia & Ukraine conflict and broader European demand concerns

	Russia & Ukraine conflict (start date 2/24/2022)							
	Street NTM P/E multiple			Street NTM EPS estimate		Stock performance		
	3 months prior	6 months after	12 months after	6 months after	12 months after	6 months after	12 months after	Peak to trough
Auto OEMs								
F	10.5X	7.7X	7.3X	(3.8%)	(22.6%)	(9.5%)	(30.7%)	(36.2%)
GM	9.2X	6.1X	6.5X	(8.1%)	(14.0%)	(15.3%)	(15.5%)	(33.4%)
TSLA	137.0X	55.8X	45.6X	41.6%	14.8%	11.3%	(26.2%)	(59.1%)
Auto Tier 1 Suppliers								
APTV	38.1X	21.7X	24.5X	(2.8%)	1.8%	(27.4%)	(14.4%)	(41.7%)
BWA	11.6X	8.9X	11.3X	1.8%	6.2%	(8.7%)	21.1%	(23.6%)
MGA	12.5X	9.6X	11.1X	(8.1%)	(28.1%)	(18.8%)	(26.8%)	(35.8%)
LEA	12.2X	10.8X	12.2X	(3.3%)	(13.9%)	(13.9%)	(13.7%)	(26.3%)
GNTX	18.8X	15.5X	16.8X	2.2%	(4.0%)	(7.1%)	(5.3%)	(20.9%)
VC	33.8X	17.6X	21.2X	33.7%	50.5%	(2.0%)	32.7%	(26.4%)
Components & Systems								
APH	32.0X	25.6X	25.2X	7.5%	8.5%	2.6%	1.9%	(16.8%)
TEL	22.3X	16.9X	17.8X	1.2%	(6.7%)	(8.7%)	(11.3%)	(24.0%)
BDC	13.2X	11.1X	12.1X	18.3%	33.3%	23.0%	50.9%	(12.9%)
ST	15.4X	11.2X	13.0X	(8.7%)	(5.8%)	(27.1%)	(12.8%)	(35.1%)
EMS								
FLEX	13.1X	11.2X	13.2X	12.7%	21.7%	9.4%	40.0%	(14.8%)
JBL	9.6X	7.9X	9.6X	14.2%	26.1%	9.2%	46.5%	(11.2%)
Test & Measurement								
KEYS	28.8X	21.6X	19.4X	10.2%	12.9%	7.8%	(0.4%)	(17.6%)

Source: FactSet, Goldman Sachs Global Investment Research

Assuming a mild to moderate pullback in the macroeconomic environment, plus a compression in multiples, we show downside screens for the stocks in our coverage in Exhibit 10.

Exhibit 10: Downside scenario screen for established stocks in our coverage

Ticker	CY26 EPS	Downside CY 26 EPS	% change in EPS	Downside multiple	Implied stock price	Current price	Implied downside
Auto OEMs							
F	$1.40	$0.84	-40%	6X	$5	$9.50	-47%
GM	$10.00	$6.50	-35%	5X	$33	$45.74	-28%
TSLA	$3.15	$2.50	-21%	60X	$150	$272.20	-45%
Tier 1 Suppliers							
APTV	$7.30	$4.74	-35%	-	-	$54.42	-
BWA	$4.25	$3.40	-20%	7X	$24	$26.89	-11%
GNTX	$2.05	$1.64	-20%	12X	$20	$21.80	-8%
MGA	$5.20	$3.90	-25%	7X	$27	$33.65	-20%
LEA	$12.00	$8.40	-30%	7X	$67	$82.87	-19%
VC	$8.25	$4.95	-40%	13X	$64	$73.77	-13%
Components and Systems							
APH	$2.40	$2.04	-15%	25X	$51	$66.18	-23%
BDC	$7.50	$5.63	-25%	12X	$68	$98.31	-31%
ST	$3.05	$2.28	-25%	7X	$16	$20.88	-23%
TEL	$8.50	$6.80	-20%	15X	$102	$133.86	-24%
EMS, Test and Measurement, and Power and Thermal Management							
FLEX	$2.98	$2.09	-30%	12X	$25	$31.58	-21%
JBL	$10.53	$7.37	-30%	12X	$88	$137.38	-36%
KEYS	$7.96	$6.77	-15%	17X	$115	$142.50	-19%
VRT	$4.35	$3.05	-30%	15X	$46	$72.82	-37%

Tesla uses CY27 earnings

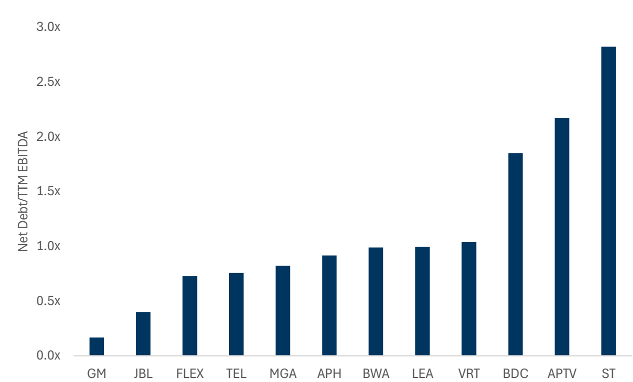
EPS ex. SBC for JBL, FLEX, and KEYS, EPS inc. SBC for the remainder

Pricing as of market close on 4/9

Source: Goldman Sachs Global Investment Research

Finally, we show balance sheet and FCF strength in Exhibit 11 - Exhibit 13. Please note the net leverage screen only shows companies with net debt and positive EBITDA.

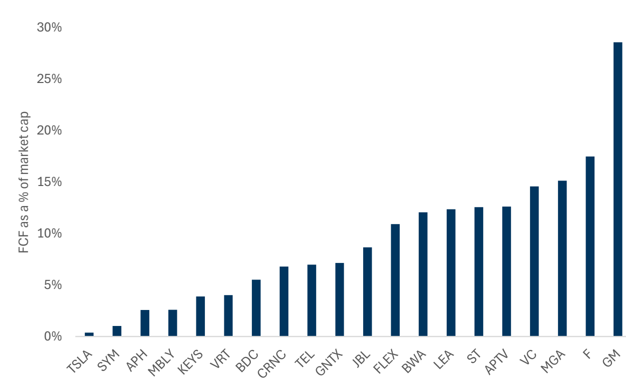
Exhibit 11: Net debt/TTM EBITDA



FLEX and JBL use EBITDA ex. SBC, GM uses automotive net debt

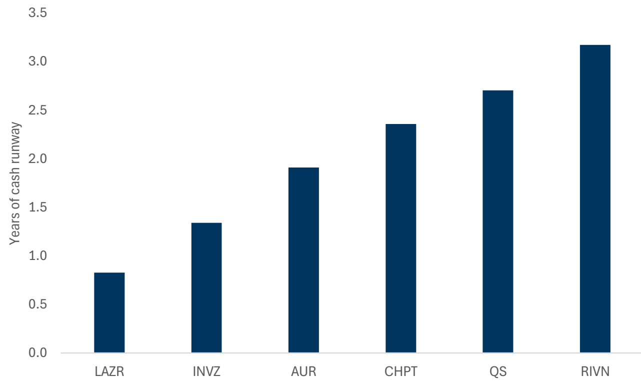
Source: Company data, Goldman Sachs Global Investment Research

Exhibit 12: TTM FCF as a % of current market cap



Source: Company data, Goldman Sachs Global Investment Research; F and GM use automotive FCF

Exhibit 13: Years of cash runway for cash burning companies based on TTM FCF and FY4Q liquidity



CHPT, LAZR and RIVN include credit facilities, QS includes VW royalty pre-payment, INVZ includes $40 mn raised in FY1Q

Source: Company data, Goldman Sachs Global Investment Research

Stock trading recap and valuation overview

The stocks in our coverage are down ~13% at the median vs. the S&P 500 down ~7% since the beginning of the year driven by tariff risk and the potential for slower growth. Investors are incrementally concerned not only about auto and industrial demand, but also fundamentals in the datacenter market.

Exhibit 14: Stock performance of covered companies since 4Q24 EPS reports and YTD

	Stock Performance			
	Since 4Q24 reports		2025 YTD	
	Absolute	Relative to S&P 500	Absolute	Relative to S&P 500
Auto OEMs				
GM	-16.7%	-7.5%	-14.1%	-6.9%
F	-5.1%	4.9%	-4.0%	3.2%
TSLA	-30.0%	-20.4%	-32.6%	-25.4%
RIVN	-13.5%	-2.7%	-11.5%	-4.3%
Tier 1 Suppliers				
BWA	-13.7%	-3.8%	-15.4%	-8.2%
LEA	-11.3%	-1.3%	-12.5%	-5.3%
GNTX	-22.7%	-12.6%	-24.1%	-16.9%
MGA	-15.2%	-4.4%	-19.5%	-12.3%
APTV	-11.2%	-1.2%	-10.0%	-2.8%
VC	-11.3%	-0.6%	-16.9%	-9.6%
Electronic Components				
APH	-9.0%	0.8%	-4.7%	2.5%
* TEL	-9.7%	0.1%	-6.4%	0.8%
ST	-19.1%	-9.0%	-23.8%	-16.6%
BDC	-15.5%	-5.5%	-12.7%	-5.5%
Lidar & Autonomy				
AUR	1.6%	11.4%	4.0%	11.2%
LAZR	-22.8%	-19.1%	-9.9%	-2.6%
INVZ	-30.7%	-22.3%	-66.5%	-59.2%
MBLY	-5.4%	4.2%	-24.0%	-16.8%
EMS				
* FLEX	-22.2%	-12.1%	-17.7%	-10.5%
* JBL	-4.5%	-0.8%	-4.5%	2.7%
Test & Measurement				
* KEYS	-17.2%	-8.9%	-11.3%	-4.1%
Power & Thermal Management				
VRT	-40.9%	-30.8%	-35.9%	-28.7%
Voice Technology				
* CRNC	-35.8%	-25.5%	4.2%	11.4%
Warehouse Automation				
* SYM	-30.9%	-20.9%	-9.8%	-2.6%
EV Battery				
QS	-16.1%	-6.3%	-22.0%	-14.7%

**Since most recent FY quarterly reports*

Source: FactSet

CY25/CY26 consensus EPS estimates for established companies in our coverage have been revised -3%/-2% since the day before companies' respective 4Q24 reports and -5%/-4% at the median since the start of 2025.

Exhibit 15: 2025 and 2026 estimate revisions since 4Q EPS reports and YTD

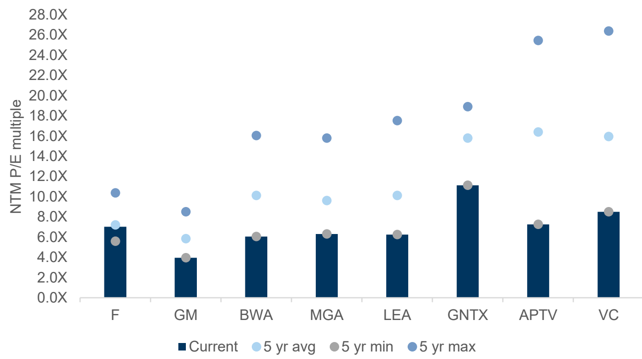
		Change in consensus EPS estimates			
		2025		2026	
		Since T-1 4Q24 reports	2025 YTD	Since T-1 4Q24 reports	2025 YTD
	Auto OEMs				
	GM	5.0%	6.9%	5.3%	9.5%
	F	-20.3%	-23.5%	-14.2%	-18.1%
	TSLA	-18.9%	-19.7%	-12.6%	-13.6%
	Tier 1 Suppliers				
	BWA	-2.7%	-5.5%	-4.1%	-7.7%
	LEA	-3.6%	-5.7%	-2.0%	-4.6%
	GNTX	-6.8%	-9.1%	-4.3%	-6.0%
	MGA	-14.1%	-15.5%	-6.8%	-6.7%
	APTV	4.2%	3.0%	2.8%	1.0%
	VC	-2.9%	-6.1%	-5.9%	-9.0%
	Electronic Components				
	APH	5.8%	6.5%	5.8%	6.1%
*	TEL	0.2%	-0.3%	0.5%	-0.1%
	ST	-3.5%	-5.5%	-4.0%	-8.3%
	BDC	-6.9%	-7.1%	-4.2%	-3.8%
	Lidar & Autonomy				
	MBLY	-24.5%	-26.5%	-22.8%	-23.6%
	EMS				
*	FLEX	3.5%	4.1%	0.7%	2.5%
*	JBL	2.5%	2.5%	2.6%	3.7%
	Test & Measurement				
*	KEYS	1.2%	1.1%	-0.5%	-0.6%
	Power & Thermal Management				
	VRT	-0.4%	-0.5%	-2.9%	-3.6%
	Voice Technology				
*	CRNC	33.4%	43.9%	3.8%	-3.7%
	Warehouse Automation				
*	SYM	-4.8%	-6.2%	10.7%	0.1%

**Since most recent FY quarterly reports*

Source: FactSet

Most auto OEMs and tier 1 suppliers in our coverage are now trading at or near historical trough multiples on consensus NTM EPS estimates.

Exhibit 16: GM and our tier 1 suppliers coverage are currently trading at or near 5 year historical trough valuations



Source: FactSet, Goldman Sachs Global Investment Research

Tariffs and elasticity of demand

Tariffs and elasticity of demand

We believe the tariffs as proposed by the government will raise the cost of both importing and manufacturing vehicles in the US by at least a low to mid single digit thousand dollar level on average. Recall that of the roughly 16 mn vehicles sold annually in the US, about 8 mn are sourced domestically, with US production in total at 10-10.5 mn per year (with a few million for export). Key regions for imports include Mexico, Canada, Europe, Japan and Korea.

On 3/26, President Trump announced an incremental 25% tariff on autos and certain auto parts, per an executive order, with the tariffs on vehicles taking effect on 4/3 and tariffs on certain auto parts set to begin on 5/3.

USMCA compliant vehicles will get a credit for US specific content (e.g. the 25% tariff would only apply to the non-US content of the vehicle, and the non-US content would be calculated by subtracting the value of the US content from the total value of the vehicle). USMCA compliant parts will not be subject to a tariff until the government establishes a process to exempt US content from tariffs. The order directs the Secretary of Commerce to establish a process for adding auto parts to the scope of the tariffs within 90 days. Note that we believe most autos and auto parts from our covered companies are USMCA compliant based on company comments and our industry conversations.

Per the White House fact sheet, auto parts that would be subject to tariffs include engines, transmissions, powertrain parts, and electrical components, with the ability to add further parts going forward. Additionally, the government published the Federal Register notice on 4/3 detailing which auto parts are subject to tariffs (and the scope of auto parts are broad and include items such as tires, wire harnesses, and seats). While tariffs are not currently being applied to USMCA compliant parts, assuming tariffs are applied to major auto parts (even those that are USMCA compliant), we believe that costs could rise meaningfully. Importantly, per Bloomberg, the major US auto OEMs are in discussions with the government to exempt certain auto parts from tariffs (e.g. select products that are labor intensive and unlikely to be made domestically even with tariffs).

A 25% tariff on imported cars could raise the cost of the vehicle by $4K to $15K (assuming costs of $15K to $60K that are subject to tariffs for illustrative purposes (Exhibit 17), although we acknowledge some vehicles would fall outside this band). With respect to the level of US content on imported vehicles, although one Fed study put this at about 40%, NHTSA filings suggest that for most vehicles it's materially lower than this.

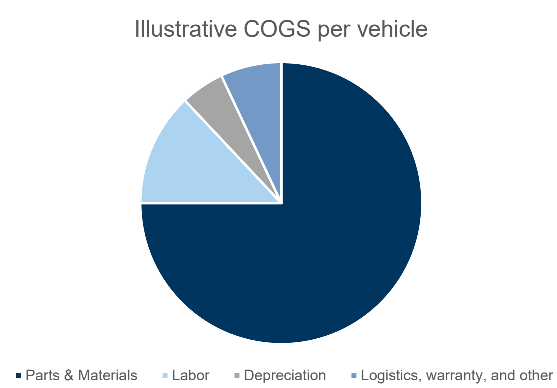
Exhibit 17: Illustrative incremental tariff cost per vehicle for imported vehicles

Illustrative incremental tarff cost per vehicle Imported vehicle	
Representative imported value per vehicle	$15K-$60K
Illustrative incremental tariff costs	$4K-$15K

Source: Goldman Sachs Global Investment Research

For the cost to manufacture vehicles in the US, given a high level of imported parts for most vehicles (with the White House fact sheet putting US content at at most 50%), we'd expect costs to go up by at least a few thousand dollars. We estimate that about two thirds to three quarters of vehicle COGS are from parts and materials (Exhibit 18), and COGS in total are often in the range of $30-$40K for vehicles made in the US, suggesting higher costs for domestically made vehicles with tariffs. Although we'd expect certain supply chain adjustments (e.g. GM is moving some truck production from Mexico into the US), we do not currently expect a meaningful part of the supply chain in Mexico and in Central America to move into the US given labor cost differential, labor supply challenges, and tariff uncertainty (potentially limiting company willingness to invest new capex), and the traditionally long timeframes to establish and qualify automotive plants. That said, vehicle assembly from some foreign OEMs could shift into the US from other higher labor cost locations (e.g., as detailed by Automotive News).

Exhibit 18: Illustrative COGS per vehicle



Source: Goldman Sachs Global Investment Research

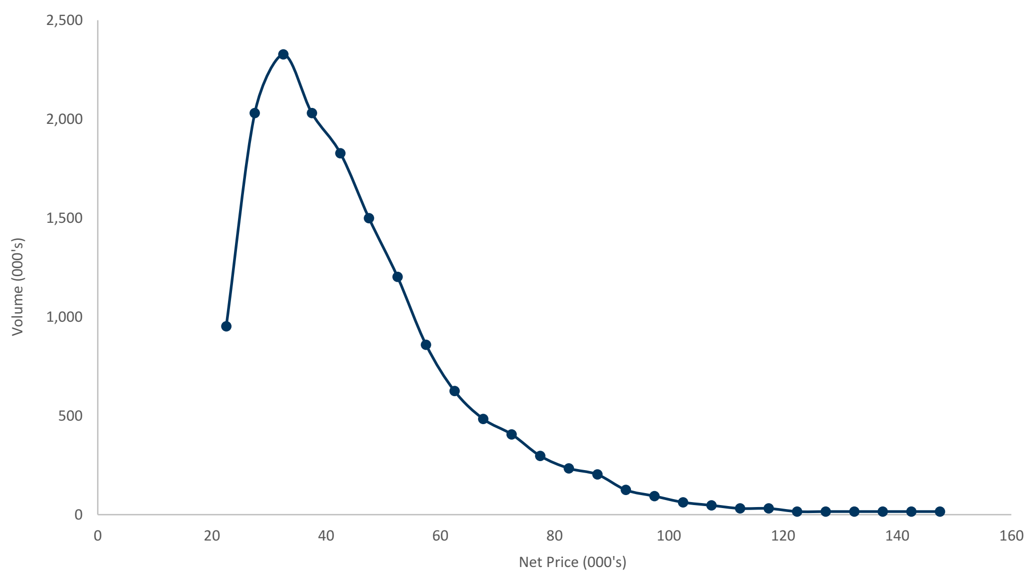
Exhibit 19: Illustrative incremental cost per vehicle for vehicles assembled in America

Illustrative incremental tarff cost per vehicle Assembled in America	
Representative COGS per vehicle	$30K-$40K
Percentage of COGS that are parts/materials	~2/3 to 3/4
Representative mix of US parts/materials in COGS	20-50%
Illustrative incremental tariff costs	$3K-$6K

Source: Goldman Sachs Global Investment Research

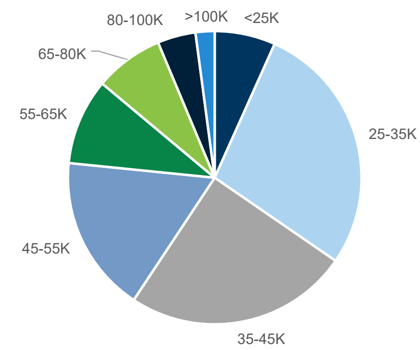
To help frame the potential impact to consumer demand, recall we have previously written that a low single digit change in price has historically correlated to a low single digit change in demand in the mainstream part of the market, and we show vehicle sales volumes relative to price in Exhibit 20 and Exhibit 21. In a scenario where the price of vehicles to consumers were to rise by a low to mid single digit thousands of dollar level on average (which would assume some or most of the additional costs are passed on to consumers), an elasticity of demand analysis would imply a low single to low double digit percent effect on US auto sales, all else equal.

Exhibit 20: Illustrative volume by price band for US sales



Source: Goldman Sachs Global Investment Research

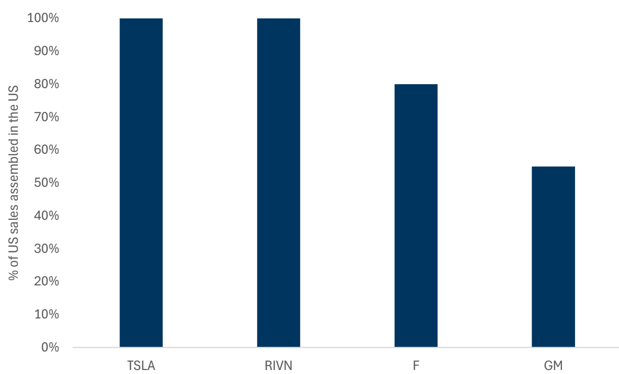
Exhibit 21: Illustrative volume by price band for US auto sales



Source: Goldman Sachs Global Investment Research

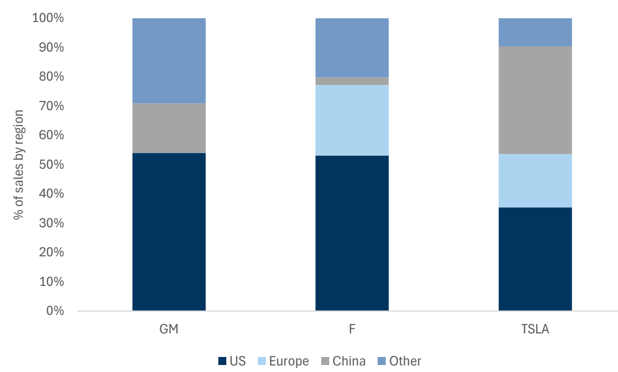
We show supply chain exposure for auto OEMs and suppliers in Exhibit 22 - Exhibit 25.

Exhibit 22: % of US sales assembled in the US for OEMs in our coverage



Source: Company data, Goldman Sachs Global Investment Research

Exhibit 23: % of sales by region for OEMs in our coverage



Uses % of JV stake for China sales

Source: Company data, Goldman Sachs Global Investment Research, IHS, CPCA, ACEA, Autodata

For Ford and GM, we show scenarios of the potential headwind from tariffs on 2026 EBIT relative to our prior view. We acknowledge and believe it's important to note that there are outcomes outside of these ranges.

Exhibit 24: Potential tariff impact to F and GM

	GM	F
2024 sourcing		
Vehicles sold in the US during 2024	~2.7 mn	~2.1 mn
% sourced from US factories	50-60%	~80%
Vehicles for US sales sourced domestically	~ 1.5 - 1.6 mn	~1.7 mn
2026 US assembly		
Increase to US assembly (shifted imports and/or increased output)	~0.5K - 400K	~0 - 250K
Total vehicles assembled in the US in 2026	~1.6-2.0 mn	~1.7-1.8 mn
Tariff costs per vehicle on parts & materials for vehicles assembled in the US	~$3-$5K	~$3-$5K
EBIT impact from tariffs for US assembled vehicles	**~$4.5-$10 bn**	**~$5.0-$8 bn**
2026 Imported vehicles		
Imported vehicles in 2024	~1-1.2 mn	~200-400k
% change in assembly for imported vehicles (moved to US or lost volumes)	about 1/3 to 1/2	about 1/3 to 1/2
Tariff costs for cars still imported	~$3-$7K	~$3-$7K
EBIT impact from imported vehicles (lost volumes, tariffs, and other inefficiencies)	**~$1-$5 bn**	**~$0.5-$2 bn**
Mitigating actions		
Increased pricing per vehicle sold in the US market	~$2-$4K	~$2-$4K
Pricing impact to EBIT	**~$4-$9 bn**	**~$4-$7 bn**
Benefit from cost, mix, supply chain & other efficiencies	**~$0.5-$2 bn**	**~$0.5 - $1.5 bn**
Summary impact		
Net impact to 2026 EBIT	~$2-$4 bn	~$1-$3 bn
% of prior 2026 EBIT forecast	~15-35%	~15-35%
% EPS impact relative to prior 2026 forecast	~10-30%	~15-40%

Source: Goldman Sachs Global Investment Research

Exhibit 25: Tier 1 sales by region

	Net sales					
	North America	Europe, Middle East & Africa	China	Other Asia	South America	Other
* Aptiv	36%	33%	21%	8%	2%	
BorgWarner	28%	37%	20%	13%		2%
** Gentex	36%	12%	9%	23%		20%
*** Lear	42%	36%	13%	6%	4%	
*** Magna	48%	36%	13%	1%		1%
**** Visteon	31%	32%	12%	25%	4%	

* For Aptiv, US includes net sales that relate to the company's operations located in Mexico as the assets are utilized for products sold to customers located in the U.S

** Gentex discloses automotive revenue for Germany in Europe, Japan and Korea for Asia, Mexico for other North America; Other includes non-automotive US sales

*** Consolidated China revenue shown for Lear and Magna

**** Other Asia includes China export sales where parts are produced in China but shipped to other Asian markets (~7% total sales); percentages may not add to 100% due to inter-regional eliminations

Data based on most recent company 10-K (2024 data)

Source: Company data, Goldman Sachs Global Investment Research

In addition, we show key customers for tier 1s given the potential for disparate tariff effects by OEMs.

Exhibit 26: OEM exposure by auto supplier

	% of Revenues by OEM														
	Stellantis	VW	GM	Ford	Geely	SAIC GM	Mercedes	Tesla	Toyota	BMW	Tata Motors	Mazda	JLR	Nissan	Mahindra
Aptiv	9%	8%	9%	8%	5%	3%	4%	5%	2%	2%	2%				
* BorgWarner		10%		13%											
Gentex		*13%*	*11%*						*19%*						
Lear	9%	11%	22%	11%			11%								
Magna	10%	10%	15%	12%			13%			12%					
Visteon	6%	9%	15%	23%	4%		6%			4%		7%	4%	7%	4%

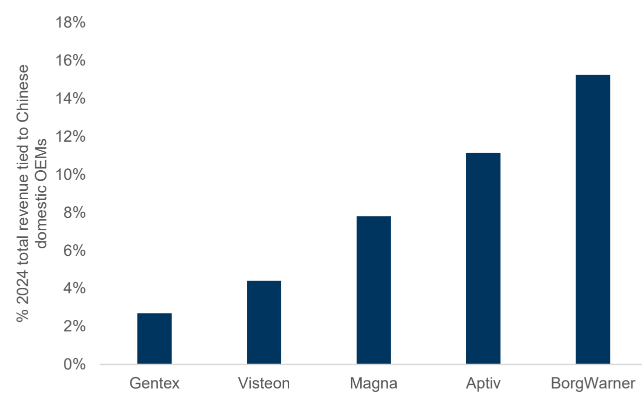
Aptiv as of FY2022; other companies as of FY2024

**No other single customer accounted for more than 10% of the Company's consolidated net sales. Sales to the Company's top ten customers represented 67% of sales for the year ended December 31, 2024, per BWA's 10-K*

Source: Company 10-K filings

Given the importance of customer exposure, especially to the faster growing Chinese domestic OEMs, we analyze revenue tied to the domestic Chinese OEMs for select tier 1s in our coverage. We estimate that a low to mid single digit percentage of total company revenues in 2024 were tied to the domestic Chinese OEMs for Gentex and Visteon. In our tier 1 supplier coverage, we estimate that BorgWarner has the largest exposure to Chinese domestic OEMs at around a mid-teens level of total company revenue in 2024.

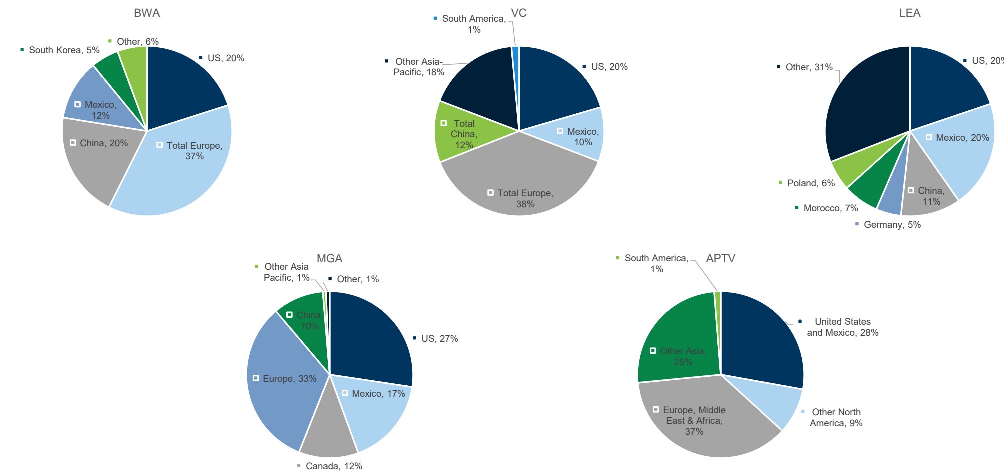
Exhibit 27: % of total company revenue tied to domestic Chinese OEMs in 2024



Source: Company 10-K filings, Company data, Goldman Sachs Global Investment Research

Importantly, the tier 1 suppliers in our coverage tend to have an in-region for region approach to manufacturing. We show PP&E by region in Exhibit 28.

Exhibit 28: Tier 1 long lived assets by region



Source: Company data, Goldman Sachs Global Investment Research

We also frame tariff exposure based on 2024 imports for companies that provided Canada and Mexico imports detail on their 4Q24 calls at the proposed 25% rate (Exhibit 29). While we expect tier 1s to mostly or fully offset direct costs as a base case, we see exposure as a downside risk (with Lear and Visteon having the highest exposure relative to EBIT).

Exhibit 29: Tariff exposure (at a 25% rate) for tier 1s in our coverage based on 2024 imports and EBIT

Company	Potential Tariff Impact	2024 EBIT	Tariff Impact as a % of 2024 EBIT
APTV	$1,150	$2,366	49%
BWA	$142	$1,417	10%
GNTX	$8	$460	2%
LEA	$750	$1,096	68%
VC	$238	$328	73%

Source: Company data, Goldman Sachs Global Investment Research

Commodities are also rising due to tariffs.

Key metals on vehicles and auto parts include steel, aluminum, and copper. Since the beginning of the year, steel, aluminum, and copper prices have increased 32%/7%/13% respectively (Exhibit 30-Exhibit 32). Recall on 3/12 the US started imposing a 25% tariff on imported steel and an incremental 10% tariff on aluminum. While the prices of key materials have increased since the beginning of the year we note that many of our companies hedge against their key commodities so the impact to raw materials may not be immediately realized.

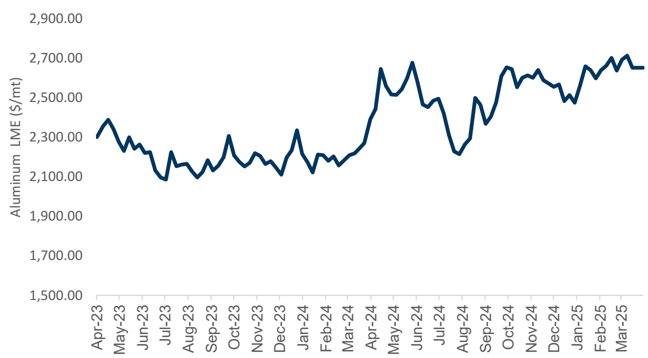
Exhibit 30: Steel price over time
US Midwest Domestic HRC Steel (NYM $/st)

Source: FactSet, Data compiled by Goldman Sachs Global Investment Research

Exhibit 31: Copper price over time
Copper cash LME ($/mt)

Source: FactSet, Data compiled by Goldman Sachs Global Investment Research

Exhibit 32: Aluminum prices over time
Aluminum cash LME ($/mt)



Source: FactSet, Data compiled by Goldman Sachs Global Investment Research

On Ford's exposure to potential steel and aluminum tariffs, recall the company commented that it sources ~90% of its steel in the US and ~10% from Canada (and nothing meaningful from Mexico). Additionally, Ford commented at a conference that some of its suppliers have international sources for aluminum. We'd also note that tariffs could also cause the price of domestically sourced metals to rise.

GM commented that its direct tariff exposure is pretty small for metals. About a third of GM's steel is procured at fixed price contracts and then another third is indexed over one to two-year periods. Tariffs could also cause the price of domestic metals to rise, and this may lead OEMs including GM to take mitigating steps especially if tariffs are sustained.

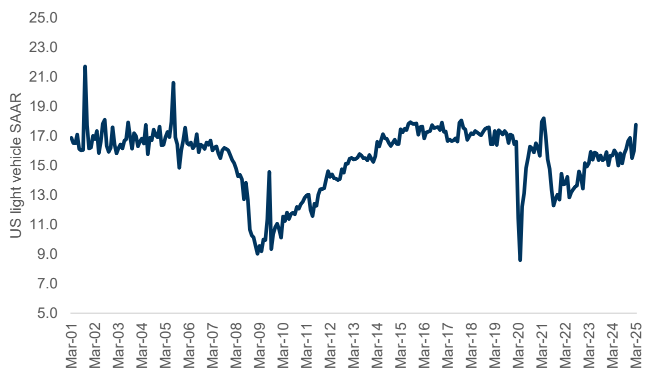
Lowering auto industry forecast

We lower our auto industry outlook, and now assume US auto sales of 15.40/15.25 mn in 2025/2026 from 16.25/16.35 mn prior, and global auto production of 88.7/90.7 from 90.4/92.6 mn prior.

US auto market was strong in 1Q, though likely driven by pull in demand in March; key leading indicators are now softening

The US auto light vehicle SAAR averaged 16.4 mn in 1Q, though this was significantly helped by the March SAAR of 17.8, which we believe was driven by pull in demand ahead of likely tariffs from both consumers and fleets based on our industry discussions and media reports.

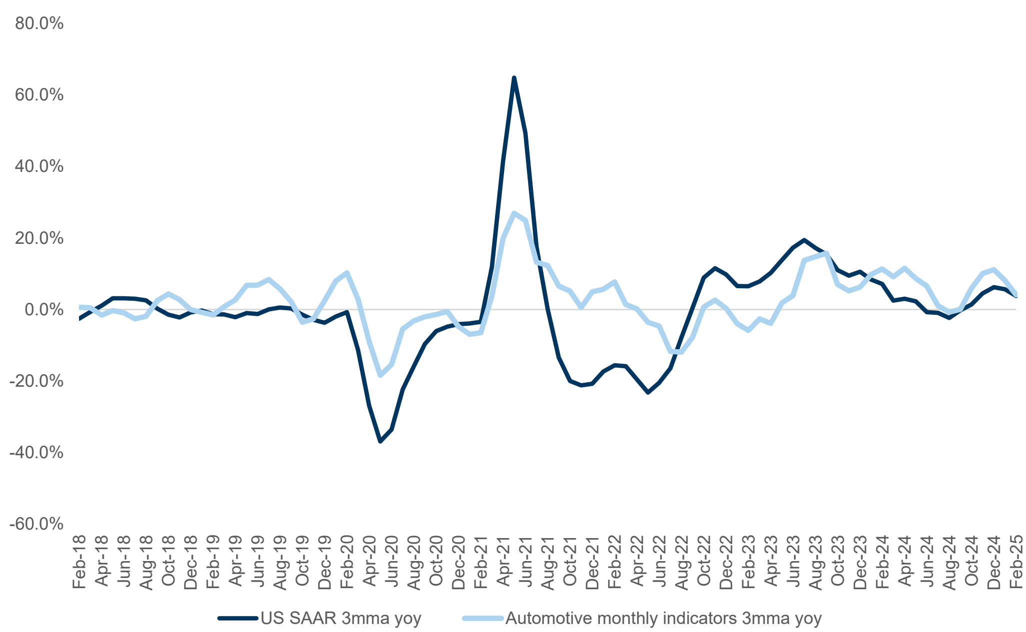
Exhibit 33: US LV SAAR



Source: Wards, Goldman Sachs Global Investment Research

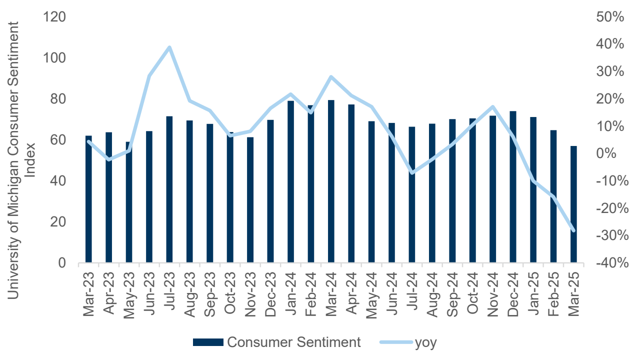
We believe demand will soften from here, based on the potential for higher prices, and per our auto leading indicators analysis (recall this tracks key inputs including Google search traffic, housing starts, and consumer sentiment, and has an R-squared of 0.6 on a 2-month lead vs US SAAR yoy), which have been decelerating (Exhibit 34). Key components such as consumer confidence and housing starts have decreased yoy for each of the months in 1Q for which data is available (Exhibit 35 and Exhibit 36).

Exhibit 34: US SAAR vs. Auto Monthly Indicators



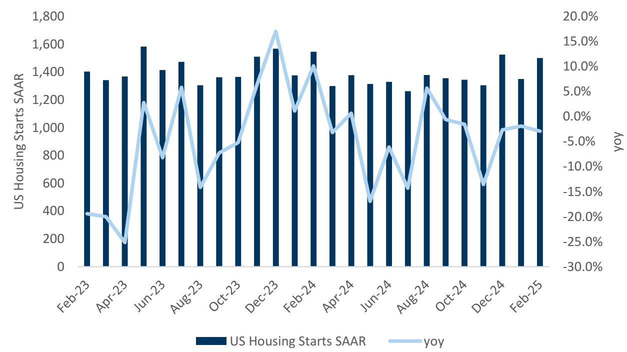
Source: Goldman Sachs Global Investment Research, University of Michigan, The Conference Board, St. Louis Federal Reserve

Exhibit 35: Consumer confidence declined yoy in January, February, and March respectively



Source: University of Michigan, Goldman Sachs Global Investment Research

Exhibit 36: US housing starts SAAR has declined yoy in the past several months



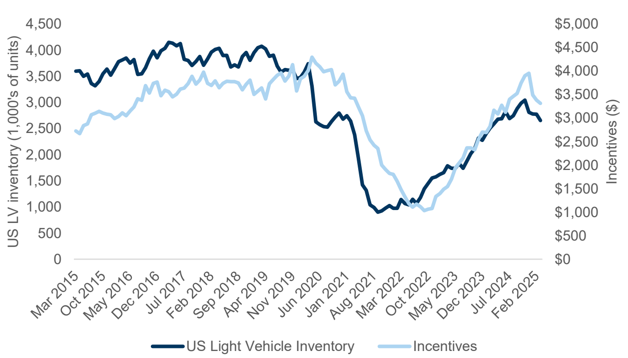
Source: St. Louis Federal Reserve, Goldman Sachs Global Investment Research

Given this demand backdrop, as well as the prospect for higher costs due to tariffs, we believe supply/inventory and incentive levels are important to consider as it relates to how much OEMs can adjust prices.

US light vehicle inventory remains modestly below historical levels for the industry, though it is at relatively normalized levels for the Detroit 3 (or D3, namely GM, Ford, and Stellantis; Exhibit 37 and Exhibit 38).

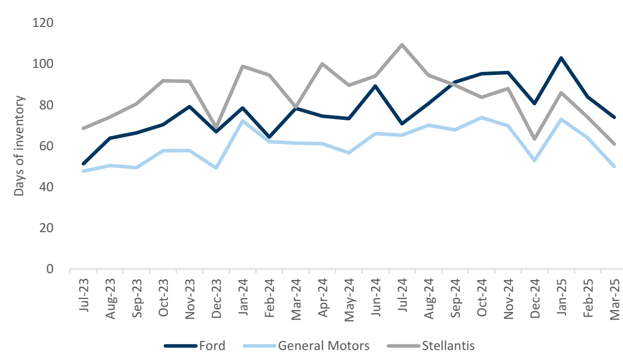
We expect that the traditional US auto OEMs in our coverage will utilize incentives, at least initially, as the primary method to adjust net prices for tariff costs given industry supply/demand dynamics and given their historical approach to pricing (with sticker price adjustments more often made once a year with new model years). If incentives were reduced by ~$2K per vehicle on average over several months, it would allow OEMs to raise net prices by ~$2K per vehicle and bring incentives back to the types of levels during the COVID driven supply chain shortages.

Exhibit 37: US light vehicle inventory and incentives are at relatively normalized levels



Source: Autodata

Exhibit 38: Days of inventory for GM, Ford, and Stellantis



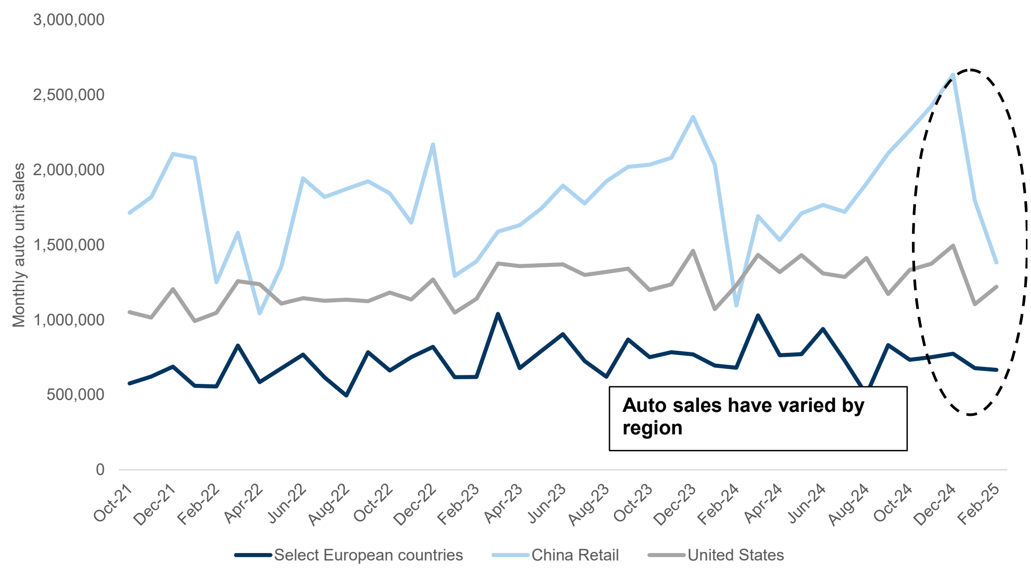
Source: Autodata

International auto sales remain mixed, with Europe down and China up in 1Q

We show monthly auto sales by region in Exhibit 39. European auto sales in key geographies were down 2% for the first two months of 1Q, and sales in China were up

1% for the first two months of 1Q.

Exhibit 39: Monthly regional auto sales



Source: Autodata, CPCA, ACEA

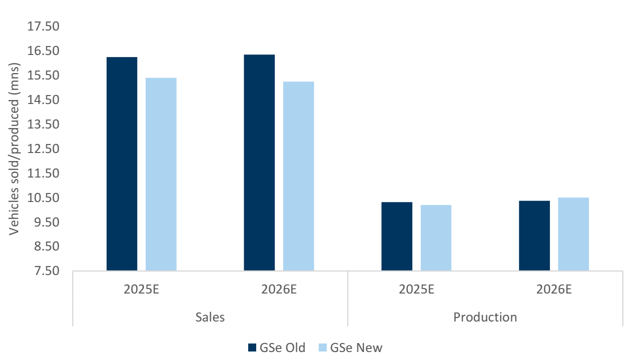
Revising our auto production and sales estimates to reflect US tariff and consumer demand impacts

We lower our US SAAR forecast for 2025/26 to 15.40/15.25 mn from 16.25/16.35 mn prior.

Given the increased costs, we also expect inventory levels to be worked down somewhat, and we lower our global production assumptions. We now assume global production for 2025/2026 of 88.7/90.7 from 90.4/92.6 mn.

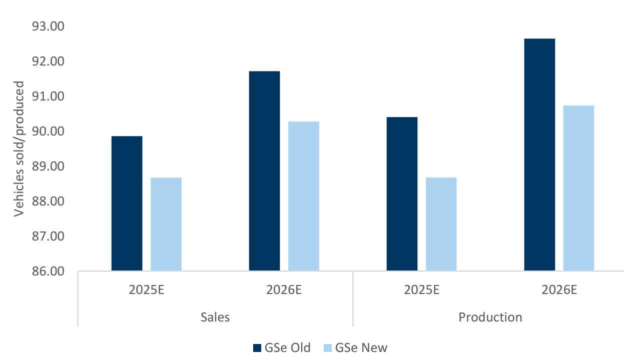
We also reduce to our global sales and production estimates, driven by Mexico, Canada, Europe, Japan and Korea. Please see the note from our colleague Kota Yuzawa for more detail on the changes in Japan and Korea.

Exhibit 40: We lower our US sales and production forecasts for 2025 and 2026



Source: Goldman Sachs Global Investment Research

Exhibit 41: We similarly reduced our global sales and production forecasts for 2025/2026



Source: Goldman Sachs Global Investment Research

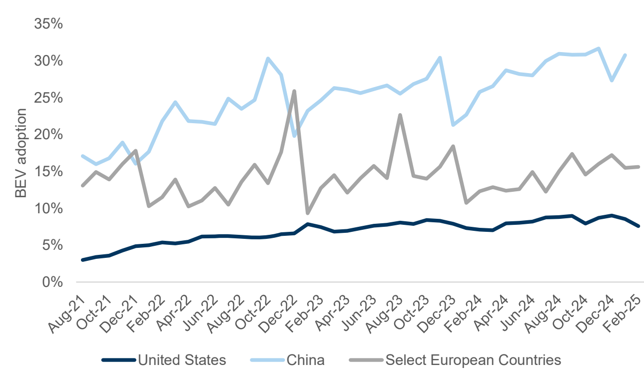
EV and hybrid sales by region, updating powertrain forecast for US

EV sales were up 12% yoy in 1Q in the US per data from Motor Intelligence, albeit from a low base. Hybrid sales in the US were up 45% yoy in 1Q, and PHEV sales were up 1%.

In Europe, EV sales were up 32% and PHEV sales were up 4% in 1Q through February. In China, through February, PHEV sales were up 54% YTD and BEVs were up 51% YTD.

EV sales as a percent of new vehicles are running at about 7-8% in the US currently per Motor Intelligence, compared to China at about 30% and Europe in the low double digits to mid teens range.

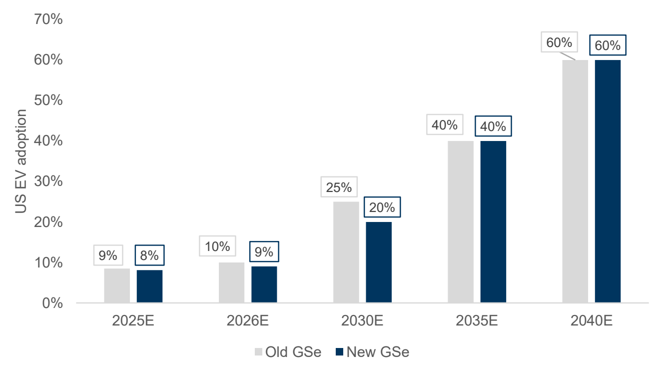
Exhibit 42: BEV adoption by region



Source: CPCA, Autodata, BEA, ACEA

We lower our US EV forecast reflecting the recent reduction to our Tesla deliveries estimates (recall that Tesla accounts for 40-50% of the US EV market), and given a slower approach to BEVs from auto OEMs more generally (especially with several higher volume EVs from Ford and GM historically made in Mexico that now have tariff costs). Recall GM has historically manufactured its Blazer and Equinox EVs in Mexico, and Ford has historically manufactured the Mach-E EV in Mexico. Our new 2025/2030/2035/2040 EV estimates as a percent of total sales are 8.1%/20%/40%/60% from 8.5%/25%/40%/60%.

Exhibit 43: We lower our EV forecast for the US for the next several years



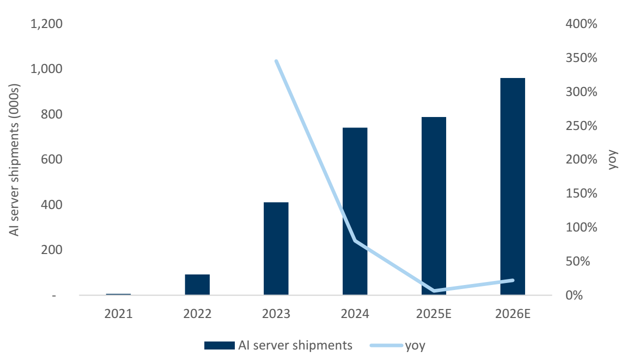
Source: Goldman Sachs Global Investment Research

Other key end market trends

Datacenter market growing but at a slower pace

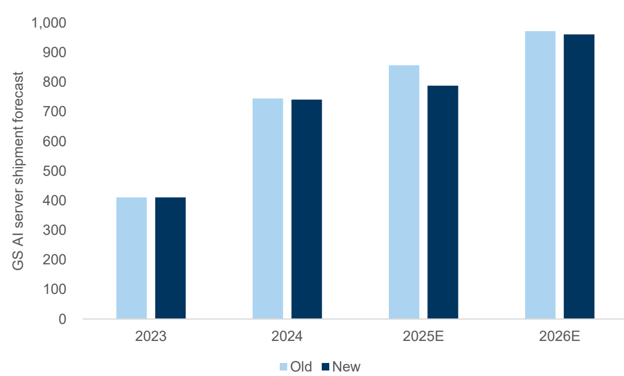
Our GS TMT colleagues recently lowered their AI server shipment forecast, though they expect AI server shipments to continue to grow, and they expect 6% growth in 2025 and 22% in 2026. An aggregation of capex for the key hyperscalers shows about 40% and 15% yoy growth in 2025 and 2026 respectively.

Exhibit 44: AI server shipments are expected to grow 6% and 22% in 2025/2026 respectively



Source: Company data, Goldman Sachs Global Investment Research

Exhibit 45: GS old vs new AI server forecast



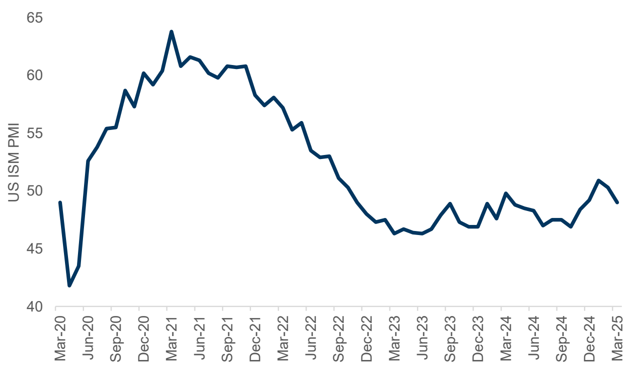
Source: Goldman Sachs Global Investment Research, Company data

Industrial end market has shown signs of improvement from a low base, but ISM is back under 50

While many of the companies in our coverage with industrial exposure spoke to improving industrial trends in North America and/or Asia on their 4Q earnings calls, and we expect industrial demand to trend higher from a low level, we believe the pace could be affected by tariffs, tariff uncertainty, and slower macroeconomic demand.

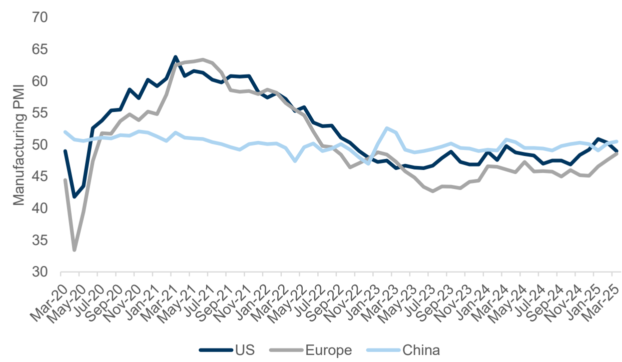
The US ISM PMI was down 2% yoy and sequentially in March to 49.0. This is after the prior 2 months were >50, and the prior 4 consecutive months showed yoy growth. This improvement came after ~2 years of the ISM being sub 50.

Exhibit 46: US ISM PMI



Source: FactSet, Goldman Sachs Global Investment Research

Exhibit 47: Manufacturing PMI in US, China, and Europe



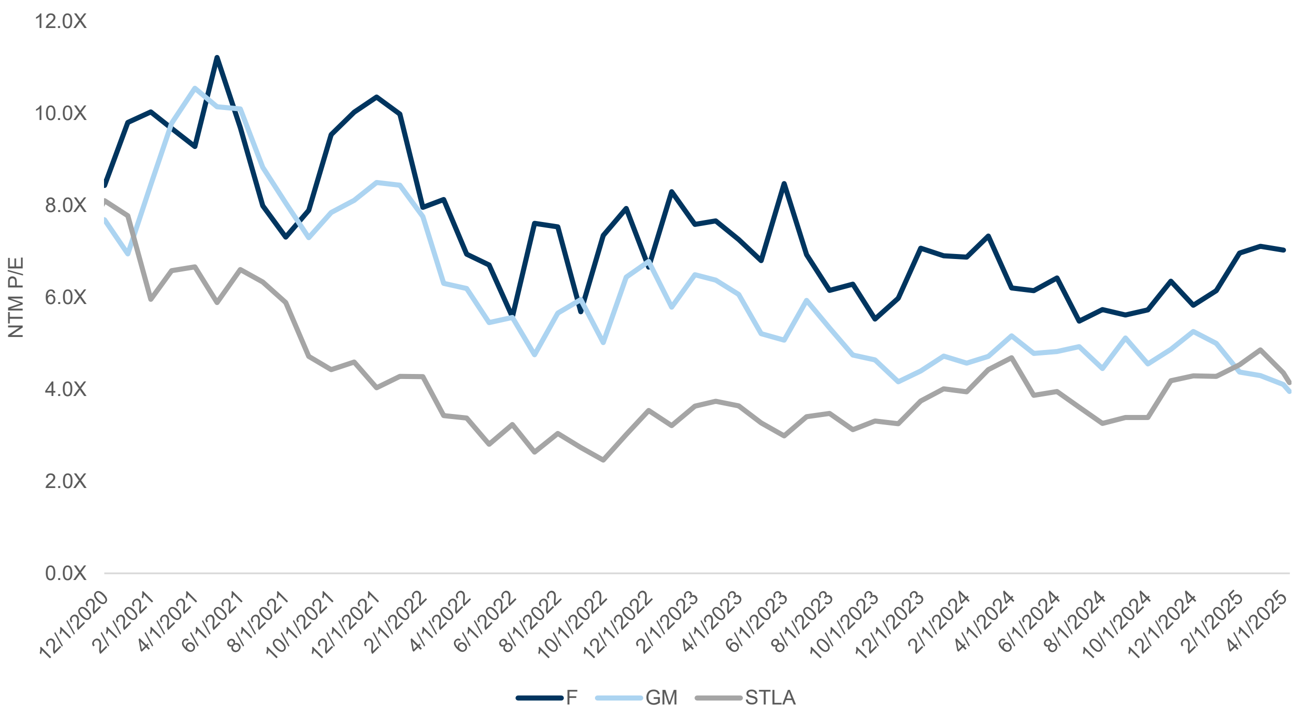
Source: FactSet, Goldman Sachs Global Investment Research

Ford - downgrade to Neutral to better reflect cyclical risks and valuation

We downgrade Ford to Neutral from Buy to better reflect a more difficult cyclical dynamic including competition internationally, weaker consumer demand, and what we expect will be higher costs from tariffs. In addition, Ford has recently outperformed peers and now trades at an expanded relative valuation multiple vs. peers (Exhibit 48 and Exhibit 49).

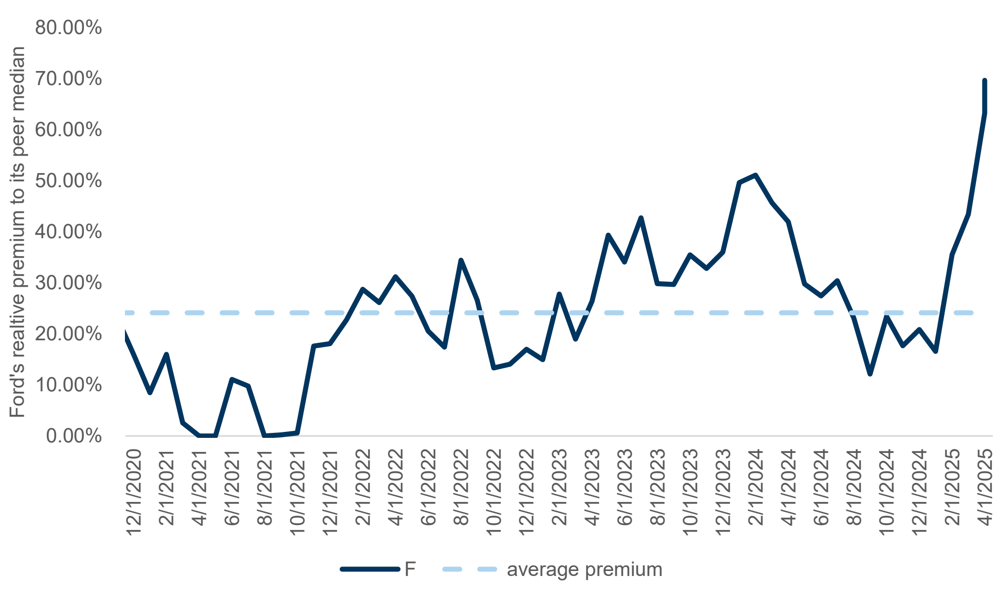
Exhibit 48: Ford's valuation has remained at a premium compared to its peer

NTM P/E



Source: FactSet, Goldman Sachs Global Investment Research

Exhibit 49: Ford's relative NTM P/E valuation premium compared to its peer median



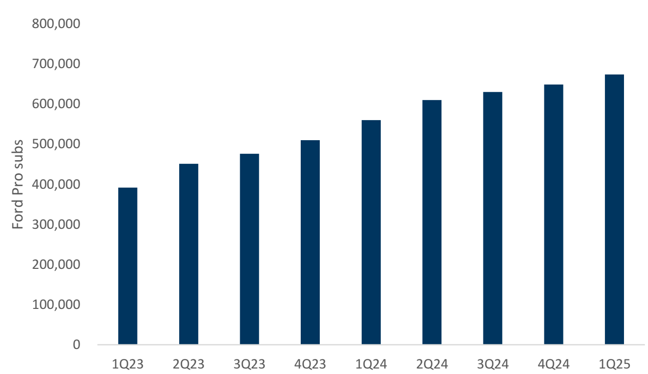
Source: FactSet, Goldman Sachs Global Investment Research

Our cyclical view on fundamentals had been too positive, with Street EPS estimates for 2025 revised down by 32% since we added it to the Buy list on 9/30/2024. Over the same time period, the stock was down 10% vs. the auto OEM/supplier stocks in our coverage down 15% on average and vs. the S&P 500 down 5%. We believe this was largely due to investor positioning/sentiment at the time of our upgrade, progress from the company on net cost reductions, and the potential for Ford's US manufacturing footprint to mitigate tariff downside (or perhaps be a tailwind).

We still see a long-term opportunity from the shift toward software & services (especially with Ford's strong commercial customer set in its Pro business) as well as cost reductions (with reduced warranty costs a multi-billion dollar opportunity over time). However, as we wrote in our 2024 upgrade, we still see cyclical factors as critical for the stock. Ford Pro subscribers do continue to trend higher, although the overall software and digital services contribution remains a relatively small percent of overall Ford profits. When including physical services, Ford targets software & services to reach 20% of Pro segment EBIT in the medium term. The cyclical headwinds we believe that the business is now facing could make it more difficult for Ford to reach its prior target for $1bn of software revenue in 2025.

To the extent we had a more positive view on the cyclical/margin outlook and/or we thought a significant inflection in software & services profits was closer, then we could be more positive on the stock. Conversely, a more difficult end demand, price-cost and/or competitive landscape could lead us to be more cautious.

Exhibit 50: Ford Pro subscribers have continued to grow



Source: Company data, Goldman Sachs Global Investment Research

Key risks

Key upside/downside risks to our Neutral rating relate to the auto cycle (demand and/or price-mix could be weaker or stronger than we expect), Ford gaining or losing more market share than we expect, a larger/smaller than expected tariff impact; and margins (both from margin and pricing pressure in a downturn, the degree of success with company specific initiatives such as the transition to hybrids/EVs, and its ability to grow in higher margin software & services).

Lear - downgrade to Neutral to better reflect growth and margin

headwinds

We downgrade Lear to Neutral from Buy to better reflect weaker auto production and tariff risk.

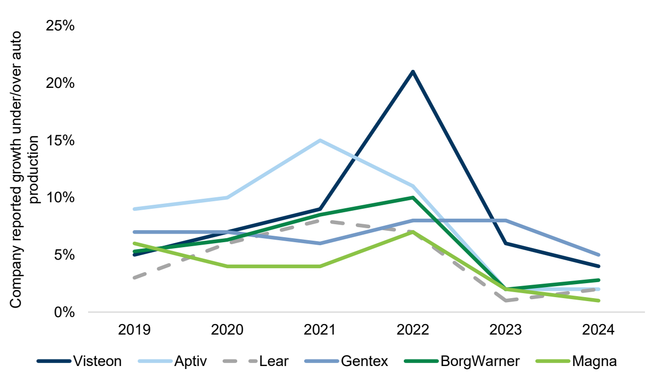
We acknowledge that our call on the stock was wrong. Since being added to the Buy list on 6/23/2021, the stock is down 53%, which is below other tier 1 suppliers in our coverage down 49% on average, and well below the S&P 500 +29%. We attribute the underperformance to a weaker outlook for auto production especially at Lear's key customers, as well as margin/tariff risks.

We believe tariffs and slower macroeconomic conditions will create challenges especially for the Western OEMs, many of which are important customers for Lear. More muted growth and delayed/reduced new product launches have recently hampered its ability to outgrow the market (Exhibit 51).

While our base case view is that tier 1 suppliers can offset most or all direct tariff exposure, Lear has well above average tariff exposure as a percent of its EBIT, with ~$3 bn of imports into the US in 2024 (as detailed in Exhibit 29 in the tariff section of this report). The company also has higher labor intensity than most tier 1 suppliers in our coverage (Exhibit 52), although Lear has been moving some production to Honduras to reduce wage costs (we note that its Honduras operations could be subject to tariffs). In addition, we believe higher metals prices are also a cost item that Lear will need to work to mitigate.

Importantly, we do continue to appreciate Lear's leadership position in seating, including thermal comfort, as well as operational efficiency efforts. To the extent tariff risk is reduced, and we gain more confidence in Lear's ability to outgrow the market (and improve its EBIT/FCF), then we could be more positive on the stock.

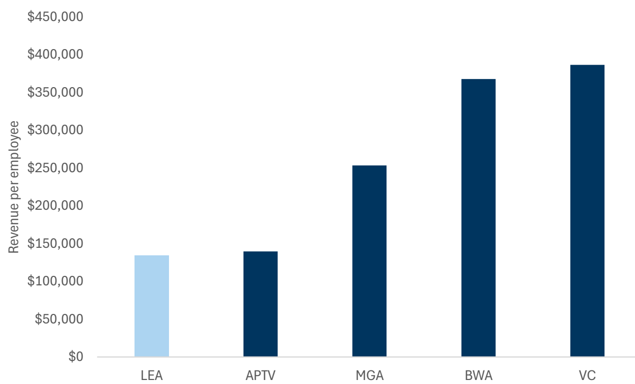
Exhibit 51: Company reported and implied growth over market (GoM)



Source: Company data, Goldman Sachs Global Investment Research

Out of our tier 1 coverage, Lear has the lowest revenue per worker, in part due to the labor intensity of some of its key products. We believe this illustrates that in a scenario where it needs to more quickly adjust its operational footprint, this could be more difficult to do quickly.

Exhibit 52: Tier 1 revenues per worker



Source: Company data, Goldman Sachs Global Investment Research

Key Risks

Key downside/upside risks to our thesis include: The auto cycle being more positive or negative than we expect; Lear outgrowing/undergrowing underlying auto production more than we expect; Lear gaining/losing market share in Seating and/or E-systems; larger/smaller than expected tariff impacts; and upside/downside to margins (wages, supply chain issues, and competition could negatively impact Lear's margin targets and cost actions including increased automation could positively impact margins).

Visteon - downgrade to Neutral to better reflect fundamental environment

We downgrade VC shares to Neutral from Buy. We believe that auto tier 1 suppliers in general will struggle to fully offset lower industry volumes. In addition, although we expect tier 1s to be able to largely pass on tariff costs as a base case, Visteon has well above average tariff risk (based on the level of imports relative to its EBIT). Finally, we'd note that its bookings have plateaued recently, including in domain controllers and electrification, which could imply slower outgrowth potential if this is sustained.

Since being added to the Buy list on 2/21/2022, the stock is down 39%, compared to the average stock performance of our tier 1 supplier coverage down 47% and the S&P 500 up 25%. We attribute the decline in the stock to weaker auto production, especially for Western OEMs where Visteon has more exposure.

While Visteon's outgrowth has been solid compared to its customer production, its customer exposure has been a headwind (e.g. less business with Chinese domestic OEMs). This is a factor in Visteon's more cautious end market assumption for production this year.

However, Visteon's digital cockpit products have contributed to above average growth over customer production, and we expect digital cockpit to remain a source of growth. In addition, Visteon has had wins recently with Toyota, and improved penetration here could support its sales.

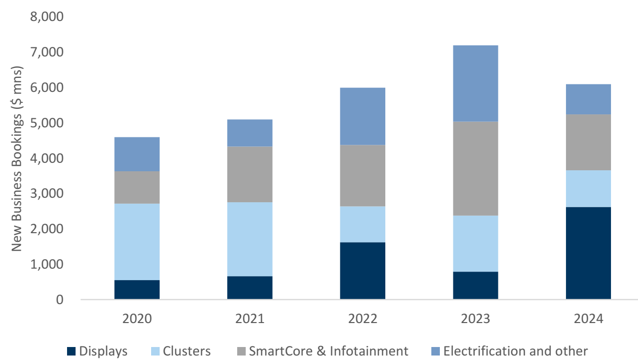
Exhibit 53: Visteon has a lower customer weighted LVP outlook for 2025 than other tier 1s in our coverage

Company	LVP Outlook
APTV	-3%
BWA	-2%
LEA	-2%
MGA	-2%
VC	MSD decline

Source: Company data, Goldman Sachs Global Investment Research

We note that recently Visteon's bookings have been flattish, including in electrification and domain controllers (e.g. SmartCore) which we consider to be important applications.

Exhibit 54: Visteon new business bookings FY20-24



Source: Company data, Goldman Sachs Global Investment Research

Key Risks

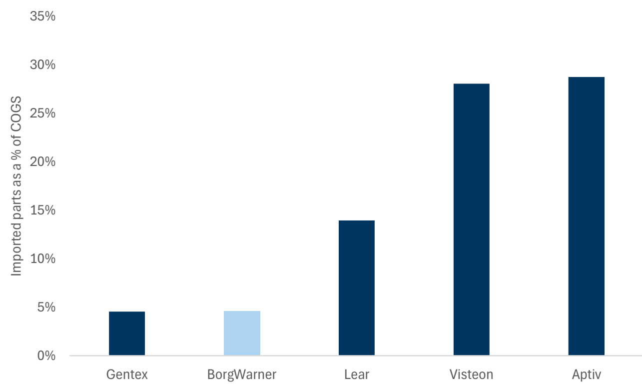
Key downside/upside risks to our thesis include: The auto cycle being more positive or negative than we expect; Visteon outgrowing/undergrowing underlying auto production more or less than we expect; Visteon gaining/losing market share; and margins improving or worsening more than we expect in part due to different tariff rules.

BorgWarner - upgrade to Buy to reflect balanced powertrain exposure and China traction, as well as below average tariff risk

We are now more positive on BorgWarner and upgrade the stock to Buy given: A) Its below average degree of US imports limits tariff risk; B) The company's above average sales exposure to China should support revenue, as China accounts for about 20% of the company's revenue and a high percent of this is tied to domestic OEMs (including with eProducts); C) A longer tail for its hybrid and ICE products, and BorgWarner has a wide range of products for all powertrain types. Our 12-month price target of $34 implies 26% upside (vs. our coverage median of 6%).

While tariffs risk remains a headwind for the tier 1s in our coverage, BorgWarner on a relative basis has a lower percentage of imports into the US relative to its overall COGS (Exhibit 55).

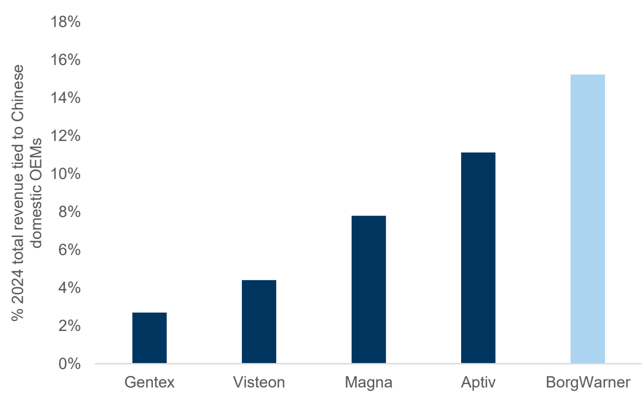
Exhibit 55: Borgwarner has a lower percentage of its auto parts being imported than peers
Imported auto parts from Mexico and Canada to the US as a percentage of COGS



Source: Company data, Goldman Sachs Global Investment Research

Given that many Western suppliers have faced headwinds in China due to customer mix, we believe Borgwarner's above average sales exposure to China at about 20% of total revenue positions the company well (with ~75% of its China business with domestic OEMs and ~90% of the eProduct business in China with the domestic Chinese OEMs).

Exhibit 56: BorgWarner has the highest percentage of its total revenue tied to Chinese domestic OEMs among tier 1s in our coverage



Source: Company data, Goldman Sachs Global Investment Research

BorgWarner has also highlighted that it has many upcoming launches with Chinese domestic auto OEMs (Exhibit 57).

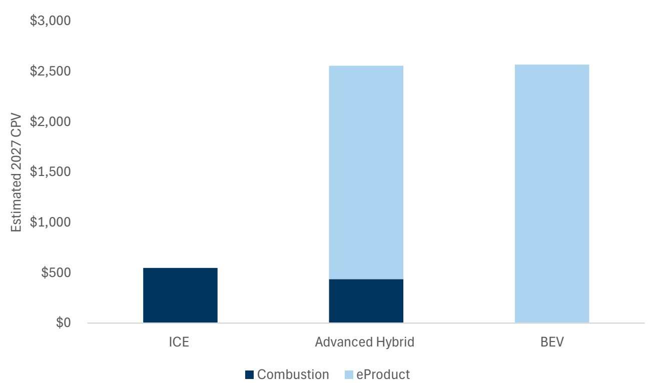
Exhibit 57: Borgwarner eProducts production awards

North America		Europe		China/RoW	
Product	SOP	Product	SOP	Product	SOP
800V Interver	2025	800V Inverter	2025	800V eMotor	2025
HV eFan	2025	800V Inverter	2025	Inverter + eMotor	2025
Battery Cooling Plate	2025	800V Inverter	2025	Comb. Inverter + DC/DC Converter	2025
800V HV Coolant Heater	2025	Battery Cooling Plate	2025	HV Coolant Heater	2025
400V HV Coolant Heater	2025	HV eFan	2025	HV Coolant Heater	2025
800V HV Coolant Heater	2026	Electric Cross Differential	2026	400V eMotor	2025
800V Onboard Charger	2027			eMotor	2025
HV eFan	2027			eMotor	2025
				Electric Cross Differential	2026
				eMotor	2026
				HV Coolant Heater	2028

Source: Company data, Goldman Sachs Global Investment Research

BorgWarner has higher content per vehicle potential on hybrids and BEVs, and thus the company can still benefit from a rising mix of hybrid volume in the near to medium term (Exhibit 58). While its profits on eProducts remain negative, we believe the company's restructuring actions (and growth in the longer-term) will help it get to profitability. In addition, we consider its powertrain exposure to be balanced given its higher margins on ICE vehicles.

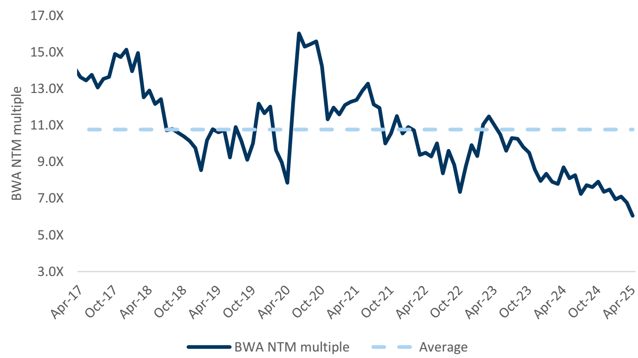
Exhibit 58: BWA estimated 2027 CPV



Source: Company data, Goldman Sachs Global Investment Research

Lastly, the stock is trading at a multi-year low on NTM P/E.

Exhibit 59: BWA NTM P/E multiple



Source: FactSet, Goldman Sachs Global Investment Research

Key Risks

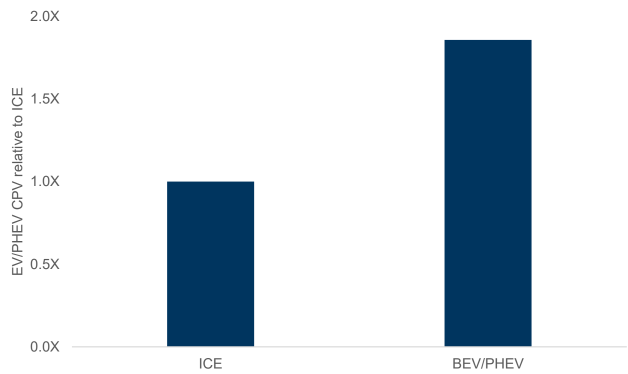
Key downside risks to our view relate to revenue growth and long-term profitability, including how this is impacted by BorgWarner's exposure to EVs and profits from ICE related products, market share, a larger than anticipated tariff impact, and the overall growth of the automotive industry.

Sensata - upgrade to Buy given trough valuation, opportunity in industrial, and balanced powertrain exposure

We upgrade ST shares to Buy from Neutral post the sharp sell off (e.g. ST is down 24% YTD vs. the S&P 500 down 7%) to reflect a trough valuation even on our below consensus estimates, and the potential for EPS to grow in 2026/2027 in part from an improved industrial market post destocking. In addition, Sensata has good content opportunities for hybrids/ICE vehicles (especially in Europe), given its combustion and electrification specific product offerings (although Sensata has content opportunities on BEVs too, including with its electrical protection and powertrain agnostic parts). Our new 12-month price target of $27 implies 29% upside, compared to our coverage median of 6% upside.

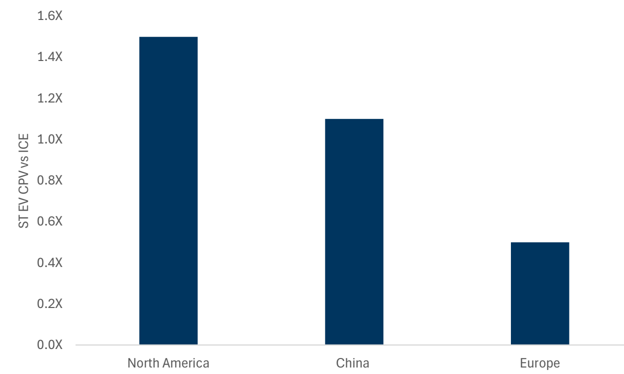
Sensata has a good content per vehicle opportunity on both hybrids and BEVs, and we believe that its margins are attractive on ICE vehicles (and in Europe it remains more exposed to ICE/hybrids than BEVs in terms of sales, although it expects its BEV content to rise in Europe from design wins). Overall, we believe that Sensata can still have good participation in an environment with more hybrid volumes, but also participate in the BEV market (albeit we believe Sensata's BEV profits remain lower currently).

Exhibit 60: Sensata potential content for EVs relative to ICE



Source: Company data, Goldman Sachs Global Investment Research

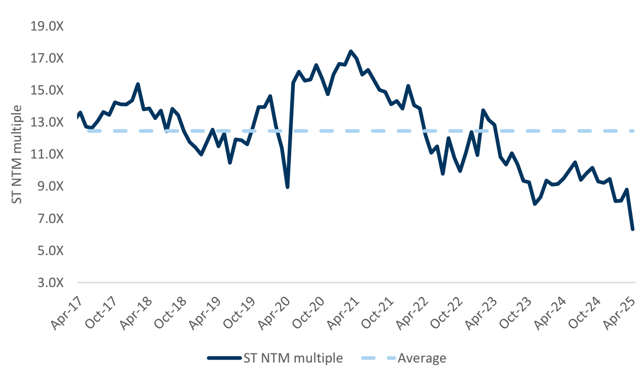
Exhibit 61: Sensata CPV on EV vs ICE vehicles in key regions



Source: Company data, Goldman Sachs Global Investment Research

Importantly, Sensata's stock is trading significantly below historical levels. While we expect Street estimates to be revised lower, in part given tariff risk (and we believe that some of Sensata's products made in Mexico may not be USMCA compliant), we believe this is more than priced into the stock even on our estimates.

Exhibit 62: Sensata NTM P/E multiple



Source: FactSet, Goldman Sachs Global Investment Research

Key Risks

Key downside risks relate to its ability to grow revenue including from content opportunities in electrification, auto and trucking production trends (about 75% of Sensata's revenue is exposed to the automotive and HVOR end markets), supply and demand trends in other end markets (such as industrial, appliance & HVAC, and aerospace), margins, and leverage/FCF.

Adjusting price targets and estimates

We show our updated price targets in Exhibit 63 & Exhibit 64.

Exhibit 63: Updated 12-month price targets

	Autos & Industrial Technology Price Target Changes					
	NEW			OLD		
Auto OEMs						
	Target Multiple	Norm. EPS	Price Target	Target Multiple	Norm. EPS	Price Target
F	6X	$1.45	$9	6X	$1.75	$11
GM	6X	$10.50	$63	6X	$12.10	$73
	Target Multiple	PT Methodology	Price Target	Target Multiple	PT Methodology	Price Target
TSLA	100X	Q5-Q8 EPS	$260	100X	Q5-Q8 EPS	$275
RIVN	2X	Q5-Q8 Revenue	$12	3X	Q5-Q8 Revenue	$14
Auto Tier 1 Suppliers						
	Target Multiple	Norm. EPS	Price Target	Target Multiple	Norm. EPS	Price Target
LEA	7X	$12.00	$84	9X	$13.00	$117
MGA	6X	$5.20	$31	7X	$5.45	$38
BWA	8X	$4.25	$34	7X	$4.40	$31
GNTX	11X	$2.05	$23	13X	$2.15	$28
VC	9X	$8.25	$74	12X	$8.55	$103
Electronic Components						
	Target Multiple	Norm. EPS	Price Target	Target Multiple	Norm. EPS	Price Target
ST	9X	$3.05	$27	9X	$3.45	$31
TEL	20X	$8.50	$170	21X	$9.05	$190
APH	30X	$2.40	$72	37X	$2.40	$89
BDC	16X	$7.50	$120	17X	$8.15	$139
EMS						
	Target Multiple	PT Methodology	Price Target	Target Multiple	PT Methodology	Price Target
FLEX	15X	Q5-Q8 EPS	$41	19X	Q5-Q8 EPS	$53
JBL	15X	Q5-Q8 EPS	$146	18X	Q5-Q8 EPS	$175
Autonomy						
	Target Multiple	PT Methodology	Price Target	Target Multiple	PT Methodology	Price Target
MBLY	34X	Q5-Q8 EBITDA	$17	38X	Q5-Q8 EBITDA	$20
Power & Thermal Management						
	Target Multiple	PT Methodology	Price Target	Target Multiple	PT Methodology	Price Target
VRT	14X	Q5-Q8 EBITDA	$85	22X	Q5-Q8 EBITDA	$135
Test & Measurement						
	Target Multiple	Norm. EPS	Price Target	Target Multiple	Norm. EPS	Price Target
KEYS	25X	$7.05	$176	26X	$7.40	$192
Voice Technology						
	Target Multiple	PT Methodology	Price Target	Target Multiple	PT Methodology	Price Target
CRNC	2X	Q5-Q8 Revenue	$8	3X	Q5-Q8 Revenue	$14

**Our 12-month PT for MG.TO listed in CAD is $44 CAD from $54 previously*

Source: Goldman Sachs Global Investment Research

Exhibit 64: Summary of 12-month price target changes for early-stage companies in our coverage

	New					Old				
	Price Target	Target Multiples			Discounted Period	Price Target	Target Multiples			Discounted Period
	Blended	Bear	Base	Bull		Blended	Bear	Base	Bull	
Luminar	$2.00	3X	3X	4X	CY2028	$3.50	3X	3X	5X	CY2028
Innoviz	$0.75	3X	3X	5X	CY2027	$1.25	2X	3X	7X	CY2027
Aurora	$6.00	7X	11X	15X	CY2030	$3.00	5X	10X	15X	CY2028
Symbotic	$18.00	15X	25X	30X	FY2027	$25.00	20X	35X	45X	FY2027
QuantumScape	$3.00	4X	10X	20X	CY2028	$4.00	5X	12X	25X	CY2028
ChargePoint	$0.50	0.75X	0.75X	1.0X	CY2027	$0.75	0.75X	1.0X	1.25X	CY2027

*Symbotic uses EBITDA estimates all other companies use revenue

Source: Goldman Sachs Global Investment Research

We also show sales and EPS estimate changes for 2025/26/27 in Exhibit 65.

Exhibit 65: Summary of estimate changes for FY25/26/27

FY2025	Old revenue	New revenue	% change	Old EPS	New EPS	% change
Auto OEMs						
F	$178,481	$176,026	-1%	$1.25	$1.00	-20%
GM	$183,926	$175,093	-5%	$11.90	$10.00	-16%
TSLA	$96,760	$94,245	-3%	$1.60	$1.50	-6%
RIVN	$5,312	$5,536	4%	($2.45)	($2.50)	--
Auto Tier 1 Suppliers						
APTV	$19,999	$19,501	-2%	$7.30	$6.75	-8%
LEA	$22,402	$21,924	-2%	$13.00	$11.45	-12%
MGA	$39,425	$38,695	-2%	$5.10	$4.50	-12%
BWA	$13,785	$13,510	-2%	$4.25	$3.80	-11%
GNTX	$2,425	$2,543	5%	$1.95	$1.80	-8%
VC	$3,750	$3,681	-2%	$8.55	$8.00	-7%
Electronic Components						
ST	$3,595	$3,444	-4%	$3.20	$2.85	-11%
TEL	$16,030	$15,852	-1%	$8.05	$7.75	-4%
APH	$17,393	$18,132	4%	$2.20	$2.20	0%
BDC	$2,700	$2,607	-3%	$7.50	$7.00	-7%
Lidar & Autonomy						
LAZR	$87	$83	-5%	($5.30)	($4.70)	--
INVZ	$55	$50	-9%	($0.30)	($0.30)	--
MBLY	$1,755	$1,715	-2%	$0.30	$0.25	-17%
AUR	$5	$5	0%	($0.48)	($0.48)	--
EMS						
FLEX	$25,642	$25,642	0%	$2.61	$2.61	0%
Voice Technology						
CRNC	$241	$238	-1%	$0.10	$0.04	-57%
Test & Measurement						
KEYS	$5,235	$5,189	-1%	$7.05	$6.75	-4%
Power & Thermal Management						
VRT	$9,203	$9,152	-1%	$3.60	$3.55	-1%
EV Charging & Battery						
CHPT	$485	$450	-7%	($0.24)	($0.25)	--
QS	$0	$0	--	($0.60)	($0.57)	--

FY2026	Old revenue	New revenue	% change	Old EPS	New EPS	% change
Auto OEMs						
F	$180,725	$181,362	0%	$1.70	$1.40	-18%
GM	$184,696	$179,376	-3%	$12.10	$10.00	-17%
TSLA	$116,589	$112,527	-3%	$2.55	$2.35	-8%
RIVN	$5,892	$6,343	8%	($2.05)	($2.00)	--
Auto Tier 1 Suppliers						
APTV	$20,833	$20,158	-3%	$8.10	$7.30	-10%
LEA	$23,163	$22,192	-4%	$15.60	$12.00	-23%
MGA	$40,756	$38,713	-5%	$6.40	$5.20	-19%
BWA	$14,172	$13,814	-3%	$4.75	$4.25	-11%
GNTX	$2,600	$2,779	7%	$2.20	$2.05	-7%
VC	$3,916	$3,762	-4%	$9.50	$8.25	-13%
Electronic Components						
ST	$3,697	$3,504	-5%	$3.50	$3.05	-13%
TEL	$17,103	$16,762	-2%	$8.90	$8.25	-7%
APH	$18,586	$19,295	4%	$2.40	$2.40	0%
BDC	$2,796	$2,678	-4%	$8.15	$7.50	-8%
Lidar & Autonomy						
LAZR	$110	$100	-9%	($3.80)	($3.35)	--
INVZ	$65	$60	-8%	($0.35)	($0.35)	--
MBLY	$1,848	$1,773	-4%	$0.35	$0.30	-14%
AUR	$20	$20	0%	($0.50)	($0.50)	--
EMS						
FLEX	$26,654	$25,449	-5%	$2.90	$2.75	-5%
Voice Technology						
CRNC	$246	$239	-2%	$0.10	($0.06)	--
Test & Measurement						
KEYS	$5,575	$5,407	-3%	$8.15	$7.70	-6%
Power & Thermal Management						
VRT	$10,502	$10,262	-2%	$4.50	$4.35	-3%
EV Charging & Battery						
CHPT	$576	$525	-9%	($0.17)	($0.18)	--
QS	$8	$5	-33%	($0.65)	($0.60)	--

FY2027	Old revenue	New revenue	% change	Old EPS	New EPS	% change
Auto OEMs						
F	$180,241	$181,469	1%	$1.80	$1.45	-20%
GM	$184,726	$180,217	-2%	$12.50	$10.75	-14%
TSLA	$129,916	$129,549	0%	$3.25	$3.15	-3%
RIVN	$7,587	$8,238	9%	($1.85)	($1.75)	--
Auto Tier 1 Suppliers						
APTV	$21,681	$20,980	-3%	$8.85	$8.15	-8%
LEA	$23,633	$22,675	-4%	$17.00	$13.75	-19%
MGA	$41,898	$39,816	-5%	$7.25	$5.90	-19%
BWA	$14,449	$14,029	-3%	$5.15	$4.70	-9%
GNTX	$2,769	$2,878	4%	$2.45	$2.25	-8%
VC	$4,118	$3,921	-5%	$11.00	$9.00	-18%
Electronic Components						
ST	$3,778	$3,611	-4%	$3.80	$3.40	-10%
TEL	$18,016	$17,668	-2%	$9.70	$9.15	-6%
APH	$19,889	$20,670	4%	$2.60	$2.60	0%
BDC	$2,857	$2,770	-3%	$8.55	$8.00	-7%
Lidar & Autonomy						
LAZR	$170	$160	-6%	($2.40)	($2.25)	--
INVZ	$85	$65	-24%	($0.30)	($0.30)	--
MBLY	$2,149	$2,062	-4%	$0.45	$0.40	-11%
AUR	$192	$60	-69%	($0.45)	($0.48)	--
EMS						
FLEX	$28,305	$27,137	-4%	$3.20	$3.05	-5%
Voice Technology						
CRNC	$256	$250	-2%	$0.25	$0.11	-57%
Test & Measurement						
KEYS	$5,956	$5,767	-3%	$9.00	$8.65	-4%
Power & Thermal Management						
VRT	$11,857	$11,515	-3%	$5.35	$5.25	-2%
EV Charging & Battery						
CHPT	$657	$586	-11%	($0.12)	($0.16)	--
QS	$45	$40	-11%	($0.65)	($0.60)	--

EPS estimates exclude SBC for RIVN, LAZR, INVZ, MBLY, FLEX, CRNC, KEYS, CHPT, QS

Our updated estimates reflect the recently closed VOXX, Richards, and Andrew deals for Gentex, TE Connectivity, and Amphenol respectively

Source: Goldman Sachs Global Investment Research

We show our updated estimates compared to the Street (FactSet) in the exhibit below.

Exhibit 66: GS vs. Street table

		1QCY25E					2QCY25E				
		YoY Revenues		EPS			YoY Revenues		EPS		
	Auto OEMs	**GS**	**Street**	**GS**	**Street**	**% Diff**	**GS**	**Street**	**GS**	**Street**	**% Diff**
	F	(10%)	(11%)	($0.03)	($0.02)	--	(7%)	(7%)	$0.33	$0.34	(3%)
	GM	0%	1%	$2.67	$2.62	2%	(10%)	(3%)	$2.60	$3.10	(16%)
*	TSLA	(7%)	4%	$0.32	$0.45	(29%)	(9%)	1%	$0.45	$0.63	(29%)
*	RIVN	(21%)	(18%)	($0.71)	($0.77)	--	25%	21%	($0.74)	($0.71)	--
	Average	**(9%)**	**(6%)**			**(13%)**	**(0%)**	**3%**			**(16%)**
	Tier 1 Suppliers	**GS**	**Street**	**GS**	**Street**	**% Diff**	**GS**	**Street**	**GS**	**Street**	**% Diff**
	BWA	(5%)	(5%)	$0.95	$0.97	(2%)	(5%)	(2%)	$0.92	$1.12	(18%)
	GNTX	(2%)	(3%)	$0.44	$0.43	2%	11%	6%	$0.43	$0.46	(7%)
	LEA	(9%)	(9%)	$2.84	$2.61	9%	(9%)	(5%)	$2.92	$3.09	(6%)
	MGA	(9%)	(12%)	$0.84	$0.89	(6%)	(10%)	(8%)	$1.06	$1.17	(9%)
	VC	(1%)	(2%)	$1.85	$1.77	5%	(9%)	(5%)	$2.01	$2.20	(9%)
	APTV	(2%)	(3%)	$1.53	$1.50	2%	(2%)	1%	$1.76	$1.75	1%
	Average	**(5%)**	**(6%)**			**2%**	**(4%)**	**(2%)**			**(8%)**
	Ticker	**QoQ Revenue**		**EPS**			**QoQ Revenue**		**EPS**		
	Components & Systems	**GS**	**Street**	**GS**	**Street**	**% Diff**	**GS**	**Street**	**GS**	**Street**	**% Diff**
	APH	0%	(2%)	$0.52	$0.51	2%	7%	7%	$0.57	$0.55	4%
	BDC	(7%)	(8%)	$1.47	$1.49	(1%)	6%	9%	$1.73	$1.75	(1%)
	ST	(3%)	(3%)	$0.73	$0.72	1%	(1%)	4%	$0.73	$0.80	(9%)
	TEL	3%	3%	$1.95	$1.96	(1%)	2%	4%	$1.95	$2.05	(5%)
	Average	**(2%)**	**(2%)**			**0%**	**4%**	**6%**			**(3%)**
	Lidar and Autonomy	**GS**	**Street**	**GS**	**Street**	**% Diff**	**GS**	**Street**	**GS**	**Street**	**% Diff**
	AUR	--	--	($0.11)	($0.12)	--	--	--	($0.12)	($0.12)	--
*	LAZR	23%	24%	($1.23)	($1.74)	--	16%	20%	($0.99)	($1.48)	--
*	INVZ	49%	91%	($0.08)	($0.10)	--	22%	(4%)	($0.08)	($0.09)	--
*	MBLY	(11%)	(11%)	$0.08	$0.07	14%	(1%)	0%	$0.07	$0.07	0%
	EMS	**GS**	**Street**	**GS**	**Street**	**% Diff**	**GS**	**Street**	**GS**	**Street**	**% Diff**
*	FLEX	(5%)	(5%)	$0.70	$0.70	0%	(1%)	2%	$0.62	$0.64	(3%)
*	JBL	4%	5%	$2.33	$2.29	2%	2%	2%	$2.71	$2.75	(1%)
	Average	**(0%)**	**(0%)**			**1%**	**1%**	**2%**			**(2%)**
	Test & Measurement	**GS**	**Street**	**GS**	**Street**	**% Diff**	**GS**	**Street**	**GS**	**Street**	**% Diff**
*	KEYS	(1%)	(1%)	$1.66	$1.65	1%	(1%)	2%	$1.54	$1.71	(10%)
	Power & Thermal Management	**GS**	**Street**	**GS**	**Street**	**% Diff**	**GS**	**Street**	**GS**	**Street**	**% Diff**
	VRT	(18%)	(17%)	$0.60	$0.61	(2%)	18%	17%	$0.87	$0.89	(2%)
	EV Battery	**GS**	**Street**	**GS**	**Street**	**% Diff**	**GS**	**Street**	**GS**	**Street**	**% Diff**
	QS	--	--	($0.22)	($0.21)	--	--	--	($0.21)	($0.21)	--
	Charging	**GS**	**Street**	**GS**	**Street**	**% Diff**	**GS**	**Street**	**GS**	**Street**	**% Diff**
*	CHPT	(2%)	(1%)	($0.07)	($0.07)	--	10%	10%	($0.06)	($0.06)	--
	Warehouse Automation	**GS**	**Street**	**GS**	**Street**	**% Diff**	**GS**	**Street**	**GS**	**Street**	**% Diff**
	SYM	9%	7%	$0.05	$0.04	25%	7%	8%	$0.06	$0.06	0%

		CY25E						CY26E					
		Revenue			EPS			Revenue			EPS		
	Auto OEMs	**GS**	**Street**	**% Diff**	**GS**	**Street**	**% Diff**	**GS**	**Street**	**% Diff**	**GS**	**Street**	**% Diff**
	F	$176,026	$178,292	(1%)	$1.00	$1.30	(23%)	$181,362	$176,224	3%	$1.40	$1.49	(6%)
	GM	$175,093	$181,143	(3%)	$10.00	$11.40	(12%)	$179,376	$179,047	0%	$10.00	$12.02	(17%)
*	TSLA	$94,245	$108,596	(13%)	$1.90	$2.68	(29%)	$112,527	$131,365	(14%)	$2.75	$3.67	(25%)
*	RIVN	$5,536	$5,421	2%	($2.50)	($2.77)	--	$6,343	$7,510	(16%)	($2.00)	($2.29)	--
	Average			**(4%)**			**(21%)**			**(7%)**			**(16%)**
	Tier 1 Suppliers	**GS**	**Street**	**% Diff**	**GS**	**Street**	**% Diff**	**GS**	**Street**	**% Diff**	**GS**	**Street**	**% Diff**
	BWA	$13,510	$13,862	(3%)	$3.80	$4.32	(12%)	$13,814	$14,362	(4%)	$4.25	$4.77	(11%)
	GNTX	$2,543	$2,494	2%	$1.80	$1.89	(5%)	$2,779	$2,675	4%	$2.05	$2.15	(5%)
	LEA	$21,924	$22,483	(2%)	$11.45	$12.58	(9%)	$22,192	$23,220	(4%)	$12.00	$15.16	(21%)
	MGA	$38,695	$39,464	(2%)	$4.50	$4.99	(10%)	$38,713	$40,938	(5%)	$5.20	$6.27	(17%)
	VC	$3,681	$3,746	(2%)	$8.00	$8.43	(5%)	$3,762	$3,917	(4%)	$8.25	$9.37	(12%)
	APTV	$19,501	$19,955	(2%)	$6.75	$7.22	(7%)	$20,158	$21,036	(4%)	$7.30	$8.30	(12%)
	Average			**(2%)**			**(8%)**			**(3%)**			**(13%)**
	Ticker	**Revenue**			**EPS**			**Revenue**			**EPS**		
	Components & Systems	**GS**	**Street**	**% Diff**	**GS**	**Street**	**% Diff**	**GS**	**Street**	**% Diff**	**GS**	**Street**	**% Diff**
	APH	$18,132	$18,526	(2%)	$2.20	$2.30	(4%)	$19,295	$20,123	(4%)	$2.40	$2.57	(7%)
	BDC	$2,607	$2,678	(3%)	$7.00	$7.11	(2%)	$2,678	$2,824	(5%)	$7.50	$7.96	(6%)
	ST	$3,444	$3,644	(5%)	$2.85	$3.20	(11%)	$3,504	$3,810	(8%)	$3.05	$3.55	(14%)
	TEL	$16,036	$16,466	(3%)	$7.86	$8.31	(5%)	$16,943	$17,606	(4%)	$8.45	$9.22	(8%)
	Average			**(3%)**			**(6%)**			**(5%)**			**(9%)**
	Lidar and Autonomy	**GS**	**Street**	**% Diff**	**GS**	**Street**	**% Diff**	**GS**	**Street**	**% Diff**	**GS**	**Street**	**% Diff**
	AUR	$5	$5	12%	($0.48)	($0.47)	--	$20	$49	(60%)	($0.50)	($0.45)	--
*	LAZR	$83	$88	(5%)	($4.70)	($5.57)	--	$100	$135	(26%)	($3.35)	($3.95)	--
*	INVZ	$50	$56	(11%)	($0.30)	($0.37)	--	$60	$130	(54%)	($0.35)	($0.30)	--
*	MBLY	$1,715	$1,768	(3%)	$0.25	$0.30	(17%)	$1,773	$2,090	(15%)	$0.30	$0.44	(32%)
	EMS	**GS**	**Street**	**% Diff**	**GS**	**Street**	**% Diff**	**GS**	**Street**	**% Diff**	**GS**	**Street**	**% Diff**
*	FLEX	$25,168	$26,193	(4%)	$2.72	$2.81	(3%)	$26,827	$27,405	(2%)	$2.98	$3.21	(7%)
*	JBL	$28,263	$28,172	0%	$9.52	$9.34	2%	$29,545	$29,659	(0%)	$10.53	$10.42	1%
	Average			**(2%)**			**(1%)**			**(1%)**			**(3%)**
	Test & Measurement	**GS**	**Street**	**% Diff**	**GS**	**Street**	**% Diff**	**GS**	**Street**	**% Diff**	**GS**	**Street**	**% Diff**
*	KEYS	$5,211	$5,305	(2%)	$6.89	$7.20	(4%)	$5,451	$5,647	(3%)	$7.83	$8.15	(4%)
	Power & Thermal Management	**GS**	**Street**	**% Diff**	**GS**	**Street**	**% Diff**	**GS**	**Street**	**% Diff**	**GS**	**Street**	**% Diff**
	VRT	$9,152	$9,194	(0%)	$3.55	$3.55	0%	$10,262	$10,451	(2%)	$4.35	$4.31	1%
	EV Battery	**GS**	**Street**	**% Diff**	**GS**	**Street**	**% Diff**	**GS**	**Street**	**% Diff**	**GS**	**Street**	**% Diff**
	QS	$0	$0	--	($0.85)	($0.88)	--	$5	$4	--	($0.90)	($0.81)	--
	Charging	**GS**	**Street**	**% Diff**	**GS**	**Street**	**% Diff**	**GS**	**Street**	**% Diff**	**GS**	**Street**	**% Diff**
*	CHPT	$446	$456	(2%)	($0.26)	($0.24)	--	$517	$574	(10%)	($0.19)	($0.05)	--
	Warehouse Automation	**GS**	**Street**	**% Diff**	**GS**	**Street**	**% Diff**	**GS**	**Street**	**% Diff**	**GS**	**Street**	**% Diff**
	SYM	$2,305	$2,455	(6%)	$0.26	$0.32	(19%)	$2,791	$3,144	(11%)	$0.54	$0.57	(5%)

* *Estimates adjusted to exclude stock based compensation to compare to the Street (TSLA, RIVN, KEYS, FLEX, JBL, LAZR, INVZ, MBLY, CHPT)*

Source: Goldman Sachs Global Investment Research, FactSet

Ratings, key risks, and price targets for companies in this report are shown in Exhibit 67.

Exhibit 67: Ratings, key risks, and 12-month price targets for companies in our coverage

	Company	Ticker	GS Rating	Current Price	Price Target	PT Methodology	Key upside/downside risks
	Auto OEMs						
	Tesla	TSLA	Neutral	$272.20	$260	Q5-Q8 EPS	EV adoption, margins, market share, the auto cycle, operational execution, key person risk
	General Motors	GM	Buy	$45.74	$63	Norm. EPS	The auto cycle, market share, margins, FCF, and the ability to pivot to growth areas such as EVs and AVs
	Ford	F	Neutral	$9.50	$9	Norm. EPS	The auto cycle, market share, margins, and the ability to pivot to growth areas such as EVs and AVs
	Rivian	RIVN	Neutral	$11.77	$12	Q5-Q8 Sales	Pre-orders/sales volumes, production ramp, market share, margins, software/services mix, the auto cycle, and EV adoption
	Tier 1 Suppliers						
	BorgWarner	BWA	Buy	$26.89	$34	Norm. EPS	Revenue growth including ability to outgrow market due to EV portfolio, diesel exposure, the auto cycle, margins, and market share
	Gentex	GNTX	Neutral	$21.80	$23	Norm. EPS	Revenue growth, margins, and multiple expansion
	Lear	LEA	Neutral	$82.87	$84	Norm. EPS	The auto cycle, ability to benefit from increasing EV industry mix, margins, market share
*	Magna	MGA	Sell	$33.65	$31	Norm. EPS	The auto cycle, market share, ability to outgrow production and capitalize on secular growth themes, capital allocation, and FCF
	Visteon	VC	Neutral	$73.77	$74	Norm. EPS	Ability to capitalize on EVs and AVs, margins, revenue, market share, general macroeconomic risk, multiple expansion/contraction
	Electronic Components						
	Amphenol	APH	Buy	$66.18	$72	Norm. EPS	Sales trends, margins, capital allocation
	TE Connectivity	TEL	Buy	$133.86	$170	Norm. EPS	Revenue growth and auto demand, margins, and M&A
	Belden	BDC	Buy	$98.31	$120	Norm. EPS	Industrial/macro trends, margins, leverage, and M&A
	Sensata	ST	Buy	$20.88	$27	Norm. EPS	Auto production, margins, leverage, tax rate, FX, and ability to increase CPV in EVs and hybrids
	Autonomy						
	Aurora	AUR	Neutral	$6.55	$6.00	2028 Sales (Discounted)	Time to market, industry pricing per mile, ability to expand geographic reach
	Innoviz	INVZ	Neutral	$0.56	$0.75	2027 Sales (Discounted)	Lidar adoption and ASPs, margins, market share, M&A, balance sheet
	Luminar	LAZR	Sell	$4.85	$2.00	2027 Sales (Discounted)	Lidar adoption and ASPs, margins, market share, M&A, balance sheet
	Mobileye	MBLY	Buy	$15.14	$17	Q5-Q8 EBITDA	ADAS/AV adoption, competition, geopolitics, market share, supply constraints and supplier/partner readiness
	EMS						
	Flex	FLEX	Buy	$31.58	$41	Q5-Q8 EPS	Macro demand, growth in key end markets (such as datacenter and auto), ability to expand margins, geopolitical uncertainty, and FCF
	Jabil	JBL	Buy	$137.38	$146	Q5-Q8 EPS	Revenue growth (including due to macro factors, market share, and program mix), ability to expand margins, geopolitical uncertainty and FCF
	Test and Measurement						
	Keysight	KEYS	Buy	$142.50	$176	Norm. EPS	Revenue growth (especially in 5G), margins, M&A, and the impact the US/China trade relations on fundamentals
	Power and Thermal Management						
	Vertiv	VRT	Buy	$72.82	$85	Q5-Q8 EBITDA	Revenue growth, margins
	Voice Technology						
	Cerence	CRNC	Neutral	$8.18	$8.00	Q5-Q8 Sales	Industry and macro environment, competition, margins, natural ASP degradation
	EV Battery						
	QuantumScape	QS	Sell	$4.05	$3.00	2028 Sales (Discounted)	Ability to hit its targeted battery specs and ramp production, technological breakthroughs in today's lithium-ion batteries
	Charging Infrastructure						
	ChargePoint	CHPT	Sell	$0.60	$0.50	2027 Sales (Discounted)	EV adoption/driver charging habits, margins, market share, European expansion, ASPs
	Warehouse Automation						
	Symbotic	SYM	Neutral	$21.38	$18	FY2026 EBITDA (Discounted)	Customer concentration, industry competition, warehouse automation investment trends, revenue growth

*Our 12-month PT for MG.TO listed in Canada is 44 CAD

Market pricing as of market close on 4/9/25

Source: Goldman Sachs Global Investment Research, FactSet

Disclosure Appendix

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