



Tesla 5.3% 08/15/25 (TSLA)

Electric Cars Revolution

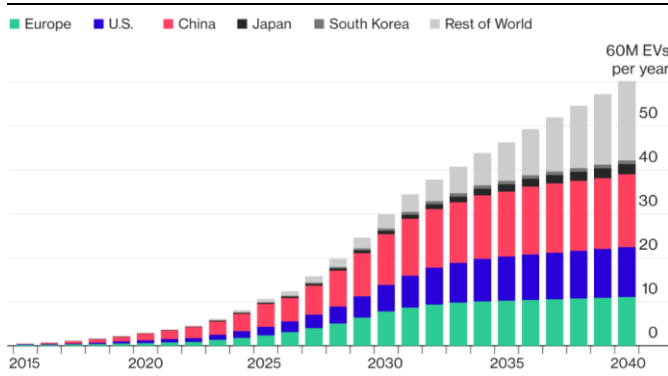
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Company Background: Tesla is the first US automotive company to go public in more than 50 years. The company manufactures and sells Model S, X and 3 series of electric vehicles and has a market cap of US\$52 bn with production facilities in the United States and China (under construction).

Credit Considerations:

Tesla is a market leader in the EV car market, which is growing quickly across the world. Tesla's main revenue driver comes from automotive sales, which accounted for 84% of 4Q18's revenue. According to Bloomberg's Electric Vehicles Outlook 2018, EV sales across the world are set to grow to 11 million by 2025. In China, Europe and US, EVs will account for 19%, 14% and 11% of all passenger vehicle sales respectively.

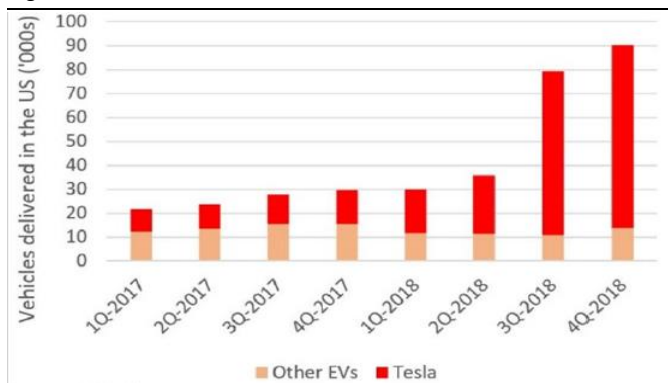
Figure 1: Global EV market by geography breakdown



Source: Bloomberg, KGI Research

In the past 2 years, Tesla has accounted for all of the electric vehicle (EV) volume growth in the US. As of 2018, EVs account for 2% of the total US market with EVs outselling hybrid electric vehicles (HEV) in 4Q18, the first time in US history.

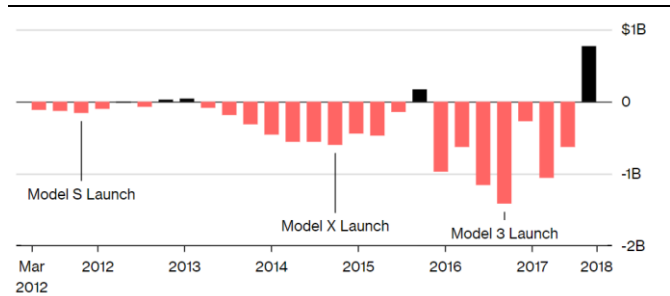
Figure 2: Electric Vehicle Volume Growth in the US



Source: Company Data, KGI Research

Tesla is cash flow positive but concerns about Model 3's demand and production rate remain. For the first time in 2 years, Tesla reported positive operating cash flows of US\$2.1 bn in 2018, boosted by sales of Model 3 in the US. For FY19, Elon Musk has guided 420,000 to 600,000 vehicles delivery, alongside positive free cash flows in every quarter with capital expenditure of US\$2.5 bn. Additionally, Mr Musk also expects Gigafactory Shanghai to start producing cars by the end of 2019 and Model 3 to be the last "bet-the-company" situation which could put the company at risk running into cash flow problems.

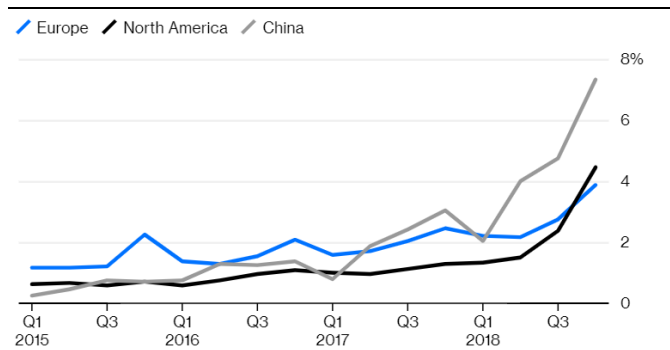
Figure 3: Tesla's Free Cash Flows



Source: Bloomberg, KGI Research

EV sales in China are critical to Tesla. EV sales in China has seen the strongest growth among the Top 3 largest auto market in the world. As of 2018, electric vehicles grew to 7% of new vehicle sales from 1% in 2016 with a CAGR of 118% since 2011. To tap on this growth, Tesla will build a production plant in Lingang, Shanghai with an initial production rate of 3,000 Model 3 vehicles/week, making the factory Tesla's first car plant outside the United States and the first wholly foreign-owned electric auto project in China.

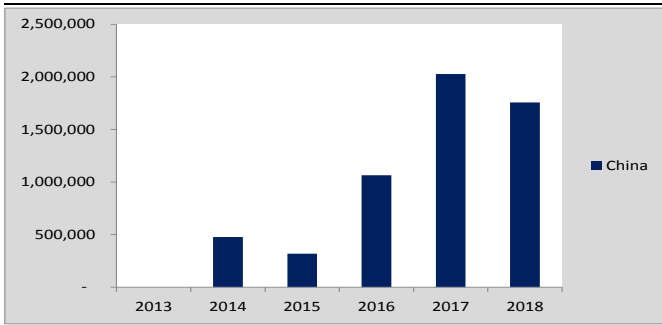
Figure 4: Volume growth in the largest automobile markets



Source: Bloomberg, KGI Research

Strong Demand in China for EV cars. For FY18, Tesla's revenue in China dropped 13% YoY to US\$1.76 bn, driven by higher costs from the US-China trade war. When the trade war started, Tesla was subjected to a 40% import tax at the beginning of the trade war in July 2018. Currently, the company remain subjected to a 15% import tax, before the conclusion of US-China trade talks.

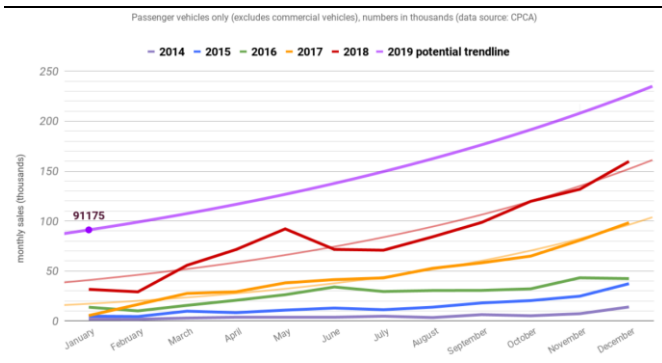
Figure 5: Tesla Annual Revenue (China) – US\$bn



Source: Company Data, KGI Research

Pending any changes in import taxes, we expect Tesla sales in China to accelerate in FY19 given the latest China EV sales count, which rose to 91,175 in Jan 2019 from less than 50,000 in Jan 2018.

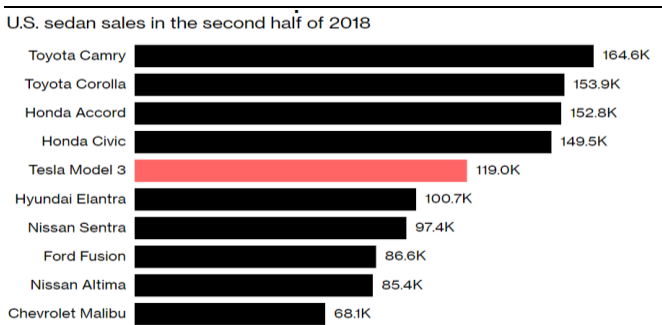
Figure 6: China New Energy Vehicle Sale 2014 - 2019



Source: CleanTechnica, CPCA, KGI Research

Continued dominance in the United States. Among EV cars in the United States, Tesla has been the top selling EV since 2015, beating Nissan, Toyota, BMW and others. Among the large luxury car segment which includes Lexus RX, Tesla topped the charts in 2018 sales. Among all passenger cars which includes Toyota and Honda, Tesla ranked 5th in America.

Figure 7: Tesla ranked 5th in America for all cars sold in 2H18



Source: Bloomberg, KGI Research

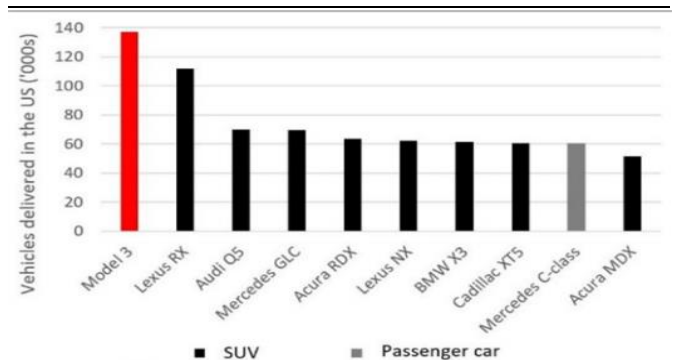
Figure 8: Tesla tops EV sales in the US since 2015

Top Selling Electric Vehicles in the US: 2011 - 2017							
Model	2011	2012	2013	2014	2015	2016	2017
Chevrolet Volt	7,671	23,461	23,094	18,805	15,393	24,739	20,349
Tesla Model S	0	2,650	17,650	16,689	25,202	28,896	27,060
Nissan LEAF	9,674	9,819	22,610	30,200	17,269	14,006	11,230
Toyota Prius PHV/Prime*	0	12,750	12,088	13,264	4,191	2,474	20,936
Ford Fusion Energi	0	0	6,089	11,550	9,750	15,938	9,632
Ford C-MAX Energi	0	2,374	7,154	8,433	7,591	7,957	8,140
Tesla Model X	0	0	0	0	214	18,223	21,315
BMW i3	0	0	-	6,092	11,024	7,625	6,276
Fiat 500e	0	0	2,310	5,132	6,194	5,330	5,380
Chevrolet Bolt	0	0	0	0	0	579	23,297
BMW X5 xDrive40e	0	0	0	N/A	892	5,995	5,349

* Prius PHV/Prius Prime are combined, though technically different models (sales overlapped in 2018)
Data Source: InsideEVs | Research and Chart: Loren McDonald/EVAdoption.com

Source: InsideEVs, EVAdoption.com, KGI Research

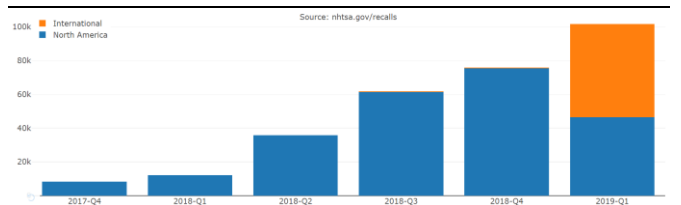
Figure 9: Model 3 is the best-selling premium vehicle in the US (2018)



Source: Company Data, KGI Research

VIN Registrations are not stopping. Looking at the latest Vehicle Identification Number (VIN) registration figures, Tesla's 1Q19 Model 3 registration has reached 100K, which is in line with Elon Musk's guidance of 350K to 500K Model 3 sales for 2019. For a VIN to be assigned, an order confirmation is required and after the VIN is assigned, the vehicle will go into production.

Figure 10: Model 3 Quarterly VIN Registrations



Source: Teslati, www.model3vins.com, KGI Research

US\$35,000 Model 3 Launch. More recently, Tesla launched the standard range Model 3, priced at US\$35,000 and lowered prices for existing EV models (Model 3, Model S, Model X). Additionally, Mr Musk announced plans to close Tesla stores and shift Tesla's sales strategy to online sales only. As a result, management has guided a loss in 1Q19 and a return to the black in 2Q19.

Figure 11: Launched Long Awaited Standard Range Model 3

Model	RWD			AWD	
	Standard range	Mid-range	Long range	Long range	Performance
MSRP (US\$)	35,000	40,000	43,000	47,000	58,000
First delivery date	1Q-2Q19F	4Q18	3Q17	3Q18	3Q18
Battery capacity (kWh)	50	~60	75	75	75
Range (miles)	220	264	325	310	310
Top speed (mph)	130	140	140	145	162
0-60mph (second)	5.6	5.2	5.0	4.5	3.2

Source: Tesla, KGI Research

Model 3 supply chain is supplying 7K units per week. According to our colleagues in Taiwan, channel checks in the Tesla Model 3 supply chain reveals an increase in component shipments to 7k units per week in February, with the demand outlook sustaining at 7k per week for March. The base Model 3 launch along with the price cuts creates shipment upside, but further pricing pressure on the supply chain can be expected.

Tesla's plan to close retail stores would cut costs by around 5%, insufficient to offset the EV price cuts just announced. Following the price reductions entering 2019 for some components, price negotiations between Tesla and its supply chain could resume when component demand expands further. We currently forecast Model 3 production reaching 350k in 2019, in line with Elon Musk's target for 2019.

Credit Recommendations:

This bond **is not part** of our defensive portfolio recommendation and should only be considered for investors with high risk appetite and a preference for high yield debt.

Currently, Tesla's 2025 is trading at a YTW of 7.99% with a G-spread of 543 bps, close to its 5-year CDS of 560bps, which has tightened from a high of 703bps in September 2018. On a relative value basis, we believe Tesla's 2025 is trading at an attractive level given that its traditional auto-related peers with higher leverage trades at credit spreads between 380 to 490 bps.

Figure 11: Tesla's High Yield Peer Group

Security	Name	Price	Yield	G-Spread	Parasites	Market Cap	Net Debt/EBITDA	Net Debt/Equity	Duration	Rating	Industry	
CBUS 7% 03/15/27	TESLA INC	88.29	5.07	533	AO 75713	51,468,221	4.83	359,008	331,236,014	5.3 CCC-	Auto Manufacturers	
TW 6% 11/30/23	NIO INC	103.75	12.1	421	AW98306	10,279,983	-	-	85,041,361	4.4-	Auto Manufacturers	
WPC 5% 10/01/25	GOODYEAR TIRE	104.00	3.69	430	DD116749	4,995,186,467	2.81	931,818	97,869,249	6.5 BB-	Auto Parts&Equipment	
TESLA 5.3% 08/15/25	GOODYEAR TIRE	91.18	3.67	380	AM72507	4,995,186,467	2.81	931,818	97,869,249	6.3 BB-	Auto Parts&Equipment	
DNP 5% 10/01/25	GOODYEAR TIRE	94.28	3.34	350	LW078953	4,995,186,467	2.81	931,818	97,869,249	5.9 BB-	Auto Parts&Equipment	
DAN 5% 04/15/25	DANA FIN LUX SAR	101.59	3.65	368	LW223916	2,893,100,278	1.36	681,227	81,193,255	4.3 BB-	Auto Parts&Equipment	
AXL 6% 04/01/25	DANA FIN LUX SAR	99.80	3.25	343	AM94877	2,893,100,278	1.36	681,227	81,193,255	3.6 BB-	Auto Parts&Equipment	
AXL 6% 04/01/25	DANA HOLDING	99.82	3.04	312	E6480731	2,893,100,278	1.36	681,227	81,193,255	3.3 BB-	Auto Parts&Equipment	
TEN 5% 07/15/26	TENNECO INC	85.07	5.06	526	LW348057	2,893,100,278	1.51	818	143,622,449	5.9 B+	Auto Parts&Equipment	
ADMT 4% 08/15/26	TENNECO INC	91.26	4.59	433	472	E637807	2,893,100,278	1.51	818	143,622,449	4.8 B+	Auto Parts&Equipment
GT 7/28/15/28	DELPHI BRSBY	88.87	4.61	469	AP082266	1,973,708,351	1.57	951,402	267,579,907	5.3 BB-	Auto Parts&Equipment	
AXL 6% 03/15/26	ADIENT GLOBAL HD	78.43	6.31	685	C0284571	1,936,370,361	2.72	2,024,936	99,240,215	5.9 B+	Auto Parts&Equipment	
GT 1/19/15/27	AMER AXLE & MFG	99.13	4.03	420	AM780711	1,850,286,408	2.75	2,126,869	224,188,851	6.0 B	Auto Parts&Equipment	
AXL 6% 04/01/27	AMER AXLE & MFG	98.91	4.07	420	AC657786	1,850,286,408	2.75	2,126,869	224,188,851	6.0 B	Auto Parts&Equipment	
AXL 6% 04/01/27	AMER AXLE & MFG	97.67	4.09	418	AR722170	1,850,286,408	2.75	2,126,869	224,188,851	5.4 B	Auto Parts&Equipment	
CPS 5% 11/15/26	AMER AXLE & MFG	100.17	3.69	369	AM780711	1,850,286,408	2.75	2,126,869	224,188,851	3.5 B	Auto Parts&Equipment	
GT 5/05/31/26	AMER AXLE & MFG	99.99	3.74	371	80	AG657762	1,850,286,408	2.75	2,126,869	224,188,851	3.5 B	Auto Parts&Equipment
TW 6% 11/30/23	COOPER TIRE&RUBR	106.58	3.94	421	DD110096	1,669,949,771	-0.12	974,537	3,644,955,588	5.8 BB-	Auto Parts&Equipment	
TW 6% 11/30/23	COOPER STANDARD	89.78	4.74	486	C0284569	1,084,087,151	1.50	668,932	65,895,057	5.9 B+	Auto Parts&Equipment	
DAN 5% 12/15/24	WABASH NATIONAL	92.63	4.37	441	AP094172	0,795,080,631	2.39	2,467,171	78,763,988	5.3 B+	Auto Manufacturers	
TEN 6% 12/15/24	TITAN INTL INC	93.41	5.69	594	AT648561	0,367,890,214	3.36	1,486,741	72,588,720	3.9 B-	Auto Parts&Equipment	
DAN 6% 06/01/26	TITAN INTL INC	93.03	5.82	577	94	AP884315	0,367,890,214	3.36	1,486,741	72,588,720	3.9 B-	Auto Parts&Equipment

Source: Bloomberg, KGI Research

Should Tesla's demand and production meet expectations in FY19, we expect Net Debt/EBITDA to improve from 4.8x to ~2x, based on consensus estimates. At these levels, we expect TSLA'2025 credit spreads to contract below 400bps with a price ~94, a 7% gain from today's price.

Figure 12: CDS spreads have tightened since the highs of 2018



Source: Bloomberg, KGI Research

Risks:

CoC Risk - To trigger Tesla's 2025 change of control provisions, a buyout would require any person or group to have ownership of more than 50% of Tesla's voting stock and a credit rating downgrade by both Moody's and S&P. However, a buyout of Tesla by a holding company or special purpose vehicle, would not be deemed as a change of control under the covenants.

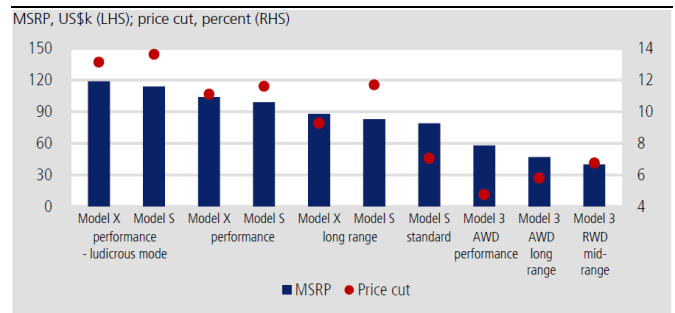
Operational Risk - Weak Demand for Model 3, decline in vehicle production rate, failure to obtain regulatory approval to begin production in Gigafactory Shanghai, higher taxes from a worsening trade war could affect margins, and new penalties from the SEC.

Figure 13: Tesla news since 3Q18 earnings call

Date	Event
2018.11.10	Increased prices of 75D by US\$1,000 but cut prices of 100D/P100D by US\$500 for Model S/X
2018.11.22	Reduced Model S/X prices by 12-26% in China
2018.12.24	Reduced Model 3 price by 7% in China
2018.12.27	Started new leasing company in China
2019.01.02	Reduced price of all models by US\$2,000 amid lowered US\$3,750 federal tax credit
2019.01.07	Began construction of Gigafactory 3 in Shanghai, China
2019.01.09	Discontinued 75kWh versions of Model S/X
2019.01.18	Revealed plans to lay off 7% of employees
2019.01.22	Kicked off initial shipment of Model 3 in China
2019.01.29	Introduced battery-locked versions of Model S/X
2019.02.01	Terminated customer referral program
2019.02.05	Reduced Model 3 price by US\$1,100
2019.02.06	Kicked off initial shipment of Model 3 in Europe
2019.02.28	Launched standard version of Model 3 for US\$35,000
2019.02.28	Announced shift to online-only sales
2019.03.01	Reduced non-US\$35,000 Model 3 price by US\$2,900 and Model S/X prices by US\$6,000-18,000
2019.03.14	To unveil Model Y in Los Angeles

Source: KGI Research

Figure 14: Tesla cut selling prices for existing EV models by 4.8-13.6%



Source: Tesla, KGI Research

Figure 15: Model 3 Vs Mass-Market Sedans

Model	MSRP (US\$)	Engine/ motor	Horsepower (HP)	2018 sales (unit)
Tesla Model 3	35,000	Single electric motor	271	140,317
Nissan Leaf	29,990	Single electric motor	147	14,715
Chevrolet Bolt	36,620	Single electric motor	200	18,020
Toyota Prius Prime	27,300	1.8L electric motor	121	27,595
Mercedes C-Class	41,400	2.0L turbo	255	54,289
Mercedes CLA-Class	32,700	2.0L turbo	208	26,269
Audi A4	37,400	2.0L turbo	252	34,311
Audi A5	44,200	2.0L turbo	252	25,972
BMW 3-Series	40,250	2.0L turbo	255	44,578
BMW 5-Series	52,650	2.0L turbo	248	43,937
Infiniti Q50	35,550	2.0L turbo	208	34,763
Toyota Camry	23,945	2.5L	203	343,439
Honda Accord	23,720	1.5L turbo	192	291,071
Nissan Altima	23,900	2.5L	182	209,146

Source: KGI Research

Financials

INCOME STATEMENT (USD mn)	2016A	2017A	2018A
Total Automotive Revenue	6,351	9,641	18,515
Energy generation and storage	181	1,116	1,555
Services and other	468	1,001	1,391
Total Revenues	7,000	11,759	21,461
Operating Profit	(667)	(1,632)	(388)
EBITDA	280	4	1,513
Profit Before Tax	(746)	(2,209)	(1,005)
Net Income	(720)	(2,241)	(1,063)
BALANCE SHEET (USD mn)	2016A	2017A	2018A
Total Assets	22,664	28,655	29,740
Cash and cash equivalents	3,393	3,368	3,686
Inventory	2067	2264	3113
Customers deposits	664	854	793
Senior Debt	6,755	6,755	7,081
Junior Debt	2,873	2,873	3,552
Total Liabilities	16,750	23,023	23,426
Shareholders Equity	4,753	4,237	4,923
CASH FLOW STATEMENT (USD mn)	2016A	2017A	2018A
CFO	(124)	(61)	2,098
Depreciation and Amortization	947	1,636	1,901
Capex	(1,280)	(3,415)	(2,101)
FCFF	(1,404)	(3,475)	(3)
CF from Investing	(1,081)	(4,196)	(2,337)
CF from Financing	3,744	4,415	574
Change in Cash	2,533	198	311
KEY RATIOS	2016A	2017A	2018A
GP Margin	22.8%	18.9%	18.8%
Operating Profit Margin	-9.5%	-13.9%	-1.8%
EBITDA Margin	4.0%	0.0%	7.0%
Net Debt/EBITDA	22.29	1,598.40	4.59
Senior Leverage	24.15	1,724.63	4.68
Junior Leverage	10.27	733.59	2.35

Source: Company Data, KGI Research

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Rating	Definition
	KGI Securities Research's recommendations are based on an Absolute Return rating system.
BUY	>10% total return over the next 12 months
HOLD	-10% to +10% total return over the next 12 months
SELL	<-10% total return over the next 12 months

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