

## **Update on the Luxury market**

**This year for the first time in a very long time luxury vehicle sales are down in January and February. The last time we had a weak first two months was in 2009 which was obviously due to the severity of the financial crisis. During that period luxury actually softened the previous October to December (2008) and luxury remained down for seven consecutive months before responding. When it did respond all the lost sales were picked up by the end of the year and by year-end luxury sales ended slightly higher for the year. With the current market it is only the second time in 20 years that we have seen the start of the year very weak in the luxury market. This has raised a number of questions with the number one question being ... WHY? And the number two question being ...How long will this downturn last?**

**Both are difficult to be precise on but let me give you some of our thoughts.**

**Not to try to make light of it but we have to be careful about putting too much weight on Jan/Feb sales. They collectively account for only about 10 percent of yearly sales and as can be seen from the table below it would only take one or two months to recoup these lost sales. During most April's and May's we buy almost as many luxury vehicles in each month as the first two months of the year. We are not predicting a full recovery but I caution putting too much weight on the first two months.**

**That being said this year appears to have more downside threat than earlier anticipated. Following are a few observations from our early research on this topic.**

**First there has been a very significant downside in the parts of the economy that underpins luxury sales. The obvious ones include the real estate market including banking as well as the equity markets. Anyone in the equity market knows firsthand that last fall was a disaster especially December but October was also very problematic. We suspect that a lot of luxury buyers looked at their portfolios at the end of the year and decided to sit on their hands. This maps exactly what happened in 2008 and 2009 when the stock market was decimated and luxury sales collapsed for five months. In that situation it was short term in that as soon as the equity markets started to come back the luxury market followed in lock step.**

**We also know that there might be a light at the end of this tunnel this year since equity returns for January and February have been off the charts and most analysts are saying that the market losses from last fall have pretty well been restored. March and April luxury sales will tell us a lot.**

**The opposite view is that the equity markets were down because of the volatility in the US Administration and that cannot be solved until the next U.S. election in 2020. It is highly likely that U.S. politics will play havoc with equity returns for the next year and a half and to the degree the Luxury market is dependent on stock market returns the volatility of the market could be with us for quite some time.**

**The real estate market downturn is more problematic. House sales both in value and in volume are down substantially (give or take between 20 and 30 percent) so anyone who makes a living in real estate (brokers on commission and bankers) would see their income be down similarly. And they represent a solid part of the luxury vehicle market. We do not know how much but it is not small.**

**There also is what we call the 'wealth effect'. Owners of these houses have also seen a marked depreciation in their values and even though they may not be selling their homes they often borrow on the strength of the value in their homes so might be struggling getting financing.**

**In addition, some of the wealth effect is more psychological than financial (although only on paper consumers 'feel' less wealthy and hold back on their spending). This is perhaps a bigger issue than the ability to borrow on their wealth since we don't see any lack of willingness to lend within the captive finance companies of the various luxury OEMs.**

**With both sides of this most analysts we talk to or read do not see any early return in the real estate market. So the related downside on luxury vehicle sales has longer to play out.**

**Second, if you look carefully at the growth in luxury sales it had a lot to do with the move of the OEMs into the light truck market and the move down scale with their product. Both of these trends significantly expanded the reach of luxury brands into the overall market. We wonder if this has pretty well played itself out. Light truck now account for 65 percent of the luxury market and their penetration has started to slow. Light truck penetration of the luxury market was up 12 points in five years and was up only 4 points over the last two years.**

**There also doesn't appear to be anywhere to go in terms of further broadening their product mix. Compact SUV/CUV has increased from virtually nothing a decade ago to 80K units last year. The smallest luxury vehicles are still a compact sized vehicle be it a car or a light truck and we don't anticipate a sub-compact sized luxury vehicle so a further move down market with resultant volumes is unlikely. (In**

Europe there are sub-compact luxury vehicles but we don't know of any brand intending to bring one of these vehicles into North America).

If we are correct there now appears little ability for an expansion in the category to provide much upside in volumes. There may be some upside but not as much as over the last 10 years. This also does not explain the sudden drop at the beginning of the year but helps us better understand what the long term forecast may be. i.e. ... a slowing of growth.

Third, we also wonder how many of the buyers of these smaller more entry level luxury vehicles were 'true' luxury consumers. Some were likely (excuse the word) more 'pretend' luxury than actual luxury. The economy is holding well but it is the bottom half of the economy that always feels the pain first and some of these luxury buyers just may not be able to come back to the market on a regular basis like the true luxury buyer. This does explain some of the current immediate downturn.

Fourth, related to this we track the number of luxury vehicles on the road. They have exploded increasing by a million units just since the year 2010 (see table below). We identify three reasons for this. First, are the increased sales (also see the table below). Sales went from 40K in 1990 to almost 240K last year .... This is huge growth by any measure. Second, we know that luxury vehicles are very well built, are pampered by their owners, are well maintained by their owners, are driven less per year and therefore have significantly higher survival rates than mass market vehicles. Two-thirds of luxury vehicles are still on the road after 15 years of ownership, less than 45 percent of mass market brands. So not only did Canadians buy a lot of luxury vehicles but they stay on the road for a very long time which increases UIO counts. And third, we know that most used vehicle imports into

Canada were luxury vehicles where the arbitrage situation favoured bringing up a vehicle from the United States. All three of these trends resulted in an explosion of luxury vehicles on the road.

The importance of this comes down to what we call the 'churn' factor. Below is a table of luxury sales relative to luxury vehicles on the road. We believe that most consumers, once in a luxury vehicle, stay in the luxury market since it is very hard for them to move back to a mass market vehicle. In the past decade the churn in this segment of the market has been between a high 8 percent and a low 9 percent. Although you have to be careful here in that some luxury buyers likely were also moving up from the mass market segments. We wonder whether some of the current softness comes from these 'pretend' luxury owners not being able to turn over their vehicle to the same degree as the true luxury owner? The mass market buyer has a churn rate of between 6 and 7 percent so this may be more representative of the fringe luxury owner and would account for some of the current decline. It however also doesn't account for the sudden downturn.

Fifth, we also know that a high percentage of luxury units are leased. The downside of the massive increase in luxury vehicles bought over the last decade is the number of luxury vehicles entering the used vehicle market today. Whenever there is an over-supply with any good and especially vehicles we see prices decline. We started to see a softening in residual values in the luxury segments a few years ago and especially the last few quarters.

New leases are now starting to reflect these lower residuals (see table below) and so the luxury buyer is hit in two ways. Higher interest rates impact them more than the mass market buyer simply due to the capital cost of their vehicles and lower residuals increase the monthly payment of their vehicle even further. This doesn't explain the sudden decline in luxury sales although some companies may

have reset residuals at the beginning of the year. But it does help answer the question about how long this will last ... i.e. longer than most expect.

Sixth, another factor related to lower residuals is competition from the used luxury market. We can't track month to month used vehicle sales (only an estimate of annual volumes) but dealers tell us demand is healthy and annual used luxury sales were up 3.0 percent last year (see table below). So there may be a substitution effect with fringe luxury owners replacing their vehicle with a used vehicle instead of a new vehicle. Again this does not explain the sudden drop in sales but does mean that this downturn could be longer than a few months since lower used vehicle prices will be with us for some time.

Finally, last fall we forecast the overall market to be down between 3 and 5 percent this year with the mass market down between 4 and 6 percent and the luxury market between 0.5 and 1.0 percent. We haven't yet decided to downgrade these numbers but the 10 percent decline in January and February is problematic and will be a challenge to make up over the remainder of the year.

It is possible since these two months account for a very small percentage of luxury sales but will be a challenge. At this stage we want to wait a month or two in an effort not to over-react. Although the economy has softened (tracking under 1 percent GDP growth in the last quarter) there still are signs of a decent economic performance in 2019. And most of our cyclical metrics remain in positive territory. Our structural metrics play more to our longer term outlook and they remain very positive.

Indeed on this topic we come back to the question of how long does this last? There are still a lot of very positive metrics at play that indicate the luxury market has a lot of room to grow long term. Top

**on our list is demographics and especially the aging baby boomer. Relative to the rest of the world, Canada has one of the highest percentages of its population in this category. This indeed is the core luxury buyer and the continued growth in their numbers bodes well for long term growth in luxury sales.**

**It is also difficult to be overly negative on the luxury market. As you can see by the following table for almost 20 years it has seen regular and solid growth. We are not afraid to call the market down (we indeed did that for this year) but we have more than two dozen economic and industry specific metrics that feed into our model. The model has served us well for quite some time so we are hesitant to panic at this time. We do however have the luxury market outlook on our “watch” list and will be monitoring this very closely.**

**I’ve tried to explain the why? Question ... the how long question will have to wait a few months for us to get more intelligence. The last downturn lasted seven months. We are not anticipating that length this time but will keep everyone posted as this developed.**

**Dennis**

## Total Luxury Market - Monthly Sales

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
2000	4,435	5,404	9,274	9,678	9,671	9,131	6,944	7,741	8,280	8,139	9,066	7,300	95,063
2001	5,236	5,581	8,310	9,948	10,596	9,976	7,474	8,018	7,374	8,325	9,109	7,798	97,745
2002	6,272	6,689	9,523	10,760	11,426	11,032	9,615	9,156	9,139	9,302	9,137	8,102	110,153
2003	6,456	7,067	9,613	11,499	12,810	11,157	9,622	9,115	10,486	10,738	9,506	9,410	117,479
2004	6,119	7,220	10,741	12,587	11,475	11,632	8,962	8,966	9,997	9,855	9,177	9,196	115,927
2005	5,571	6,884	10,736	11,904	12,472	12,102	10,375	10,280	9,992	10,207	10,250	10,044	120,817
2006	6,346	7,538	12,710	11,512	13,331	11,773	9,488	10,773	11,386	9,925	10,156	10,468	125,406
2007	7,232	7,674	12,272	12,400	13,662	13,170	10,341	10,175	9,802	9,303	10,374	10,966	127,371
2008	7,975	7,791	10,672	13,152	13,609	12,986	10,704	9,804	10,940	10,507	8,660	8,937	125,737
2009	5,870	6,653	10,044	11,525	12,939	13,514	11,340	11,181	11,003	12,366	10,414	10,076	126,925
2010	7,273	8,409	13,536	13,832	13,213	13,951	11,706	11,600	12,224	12,285	11,492	11,133	140,654
2011	7,057	9,131	13,687	14,162	13,151	13,833	11,347	11,957	12,962	12,418	12,788	11,037	143,530
2012	8,631	9,839	13,926	13,917	14,994	14,637	12,043	12,509	13,686	13,468	12,419	12,219	152,288
2013	8,464	9,735	15,528	14,876	15,425	14,920	13,457	13,561	14,715	15,053	14,291	12,972	162,997
2014	9,698	10,381	16,305	15,968	17,034	16,265	14,742	15,231	16,711	16,997	15,790	15,042	180,164
2015	10,627	11,335	16,722	20,456	20,524	18,645	16,778	17,707	19,327	18,473	16,977	15,608	203,179
2016	12,045	13,006	19,316	21,063	20,138	19,944	17,888	18,705	20,178	19,286	18,525	16,517	216,611
2017	13,240	14,731	21,408	21,620	22,452	22,970	19,728	20,150	22,145	20,720	20,077	16,634	235,875
2018	13,900	15,355	21,828	23,199	23,526	23,671	19,010	19,841	21,295	20,905	19,475	15,908	237,913
2019	12,635	13,722											

## Canadian Light Vehicle Market - Luxury Vehicles

Year	Compact Luxury Car	Mid-Size Luxury Car	High Luxury Car	Luxury Sport Car	Compact Luxury SUV	Intermediate Luxury SUV	Large Luxury SUV	Total Luxury	Luxury Share
1990	0	18,604	16,541	4,217	0	65	0	39,427	3.1%
2000	10,102	35,387	25,015	4,581	839	12,748	2,142	90,814	5.9%
2010	9,968	50,500	12,545	4,033	18,806	39,001	5,802	140,655	9.0%
2011	9,310	48,371	13,028	3,805	24,658	37,974	6,274	143,420	9.0%
2012	6,990	48,789	13,808	4,323	30,844	39,121	8,414	152,289	9.1%
2013	9,221	52,690	12,708	4,565	33,634	40,789	9,390	162,997	9.3%
2014	13,670	53,607	13,492	5,572	40,160	43,533	10,130	180,164	9.7%
2015	15,085	56,535	12,839	6,525	55,195	45,157	11,843	203,179	10.7%
2016	15,502	50,754	12,997	7,234	61,314	52,852	15,958	216,611	11.1%
2017	14,473	53,992	15,305	7,783	70,825	56,072	17,425	235,875	11.6%
2018	13,003	50,768	13,313	6,627	79,842	56,845	17,513	237,911	12.0%
Change	-10.2%	-6.0%	-13.0%	-14.9%	12.7%	1.4%	0.5%	0.9%	



## Canadian Light Vehicle Market - Luxury Vehicles

Year	Total Luxury	Luxury Share	Luxury Passenger Car	Percent Luxury Passenger Car	Luxury Light Truck	Percent Luxury Light Truck
1990	39,427	3.1%	39,362	99.8%	65	0.2%
2000	90,814	5.9%	75,085	82.7%	15,729	17.3%
2010	140,655	9.0%	77,046	54.8%	63,609	45.2%
2011	143,420	9.0%	74,514	52.0%	68,906	48.0%
2012	152,289	9.1%	73,910	48.5%	78,379	51.5%
2013	162,997	9.3%	79,184	48.6%	83,813	51.4%
2014	180,164	9.7%	86,341	47.9%	93,823	52.1%
2015	203,179	10.7%	90,984	44.8%	112,195	55.2%
2016	216,611	11.1%	86,487	39.9%	130,124	60.1%
2017	235,875	11.6%	91,553	38.8%	144,322	61.2%
2018	237,911	12.0%	83,711	35.2%	154,200	64.8%
Change	0.9%		-8.6%		6.8%	

## The Luxury Market in Canada

	Vehicles on the Road Total	Luxury Vehicles on the Road	Percent of Total Vehicles on the Road	New Luxury Sales	New as a Percent of Luxury of UIO
2010	22,001,278	1,610,789	7.3%	140,655	8.7%
2011	22,184,955	1,705,668	7.7%	143,420	8.4%
2012	22,502,638	1,825,114	8.1%	152,289	8.3%
2013	23,521,261	2,001,372	8.5%	162,997	8.1%
2014	24,479,474	2,154,284	8.8%	180,164	8.4%
2015	25,560,776	2,315,076	9.1%	203,179	8.8%
2016	26,263,152	2,451,816	9.3%	216,611	8.8%
2017	26,771,802	2,594,708	9.7%	235,875	9.1%
2018	27,546,515	2,793,679	10.1%	237,911	9.0%

## Luxury Vehicle Sales in Canada by Brand - Units

		1990	2000	2010	2017	2018	Change	Share
1	Mercedes-Benz	4,065	12,457	28,062	45,456	42,875	-5.7%	18.0%
2	BMW	4,002	11,022	27,202	38,562	39,033	1.2%	16.4%
3	Audi	1,385	5,992	14,333	36,007	36,908	2.5%	15.5%
4	Lexus	607	5,257	14,249	24,765	24,111	-2.6%	10.1%
5	Acura	2,455	16,373	17,340	20,300	20,337	0.2%	8.5%
6	Infiniti	283	4,340	8,233	12,433	12,581	1.2%	5.3%
7	Cadillac	5,105	6,042	7,194	13,330	11,893	-10.8%	5.0%
8	Land Rover	65	1,015	2,547	9,145	10,196	11.5%	4.3%
9	Volvo	5,583	8,658	5,795	7,102	9,217	29.8%	3.9%
10	Porsche	327	1,288	2,036	8,249	8,904	7.9%	3.7%
11	Lincoln	4,361	6,417	8,630	8,107	8,197	1.1%	3.4%
12	Jaguar	1,005	2,323	755	4,620	4,349	-5.9%	1.8%
13	Kia	0	0	37	303	1,769	483.8%	0.7%
14	Chevrolet	823	1,181	364	2,016	1,524	-24.4%	0.6%
15	Genesis	0	284	814	528	1,441	172.9%	0.6%
16	VW	0	0	706	991	987	-0.4%	0.4%
17	FCA	910	1,246	0	0	842		0.4%
18	Maserati				1,246	764	-38.7%	0.3%
19	Nissan	813	1	961	1,099	772	-29.8%	0.3%
20	Toyota	1,827	1,771	502	444	626	41.0%	0.3%
21	Alfa Romeo				1,113	560	-49.7%	0.2%
22	Ford	0	0	0	8	16	100.0%	0.0%
23	Dodge	0	152	54	51	9	-82.4%	0.0%
	<b>Total Luxury</b>	<b>39,427</b>	<b>90,814</b>	<b>140,655</b>	<b>235,875</b>	<b>237,911</b>	<b>0.9%</b>	<b>100.0%</b>

## Size of the Fixed Operation's Market for Luxury Vehicles

	2000	2010	2017	2018	Change
Units in Operation	780,874	1,610,789	2,594,708	2,779,457	7.1%
UIO Per Dealer	1,829	2,876	4,125	4,405	6.8%
Repair costs per unit	\$1,220	\$1,721	\$2,190	\$2,266	3.5%
Total Aftermarket - \$millions	\$953	\$2,772	\$5,681	\$6,299	10.9%
Number of Luxury Dealers	427	560	629	631	0.3%
Aftermarket per Dealer	\$2,231,069	\$4,950,100	\$9,031,994	\$9,981,979	10.5%

## Number of Franchises in Canada - Primarily Luxury

	AS OF Nov 2010	AS OF Nov 2011	AS OF Nov 2012	AS OF Nov 2013	AS OF Nov 2014	AS OF Nov 2015	AS OF Nov 2016	AS OF Nov 2017	AS OF Nov 2018
CADILLAC	134	134	131	128	128	126	125	121	122
LINCOLN	102	102	95	94	95	96	95	95	91
MERCEDES-BENZ	53	53	53	55	56	57	57	59	59
ACURA	48	49	50	50	50	50	51	51	51
BMW	41	44	44	45	46	47	48	51	50
AUDI	41	41	41	42	43	44	45	47	48
INFINITI	29	29	30	33	38	39	41	42	41
LEXUS	34	34	36	37	38	38	38	39	39
VOLVO	41	41	39	38	38	38	36	37	37
JAGUAR/LAND ROVER	22	23	23	23	23	24	25	25	25
GENESIS								18	21
PORSCHE	14	14	14	15	16	16	16	19	19
ALFA ROMEO								15	16
MASERATI						8	8	10	12
Total	560	565	556	560	571	583	585	629	631

## LIGHT VEHICLE SALES PER FRANCHISE - Luxury

	2010	2011	2012	2013	2014	2015	2016	2017	2018	Change from 2017
MERCEDES-BENZ	559	586	625	632	679	769	815	880	838	-43
ACURA	315	379	442	394	374	357	381	401	378	-22
BMW	773	794	857	838	830	895	930	894	920	25
AUDI	350	411	488	488	570	608	679	766	769	3
VOLVO	160	166	143	123	118	126	170	192	249	57
LEXUS	323	314	361	418	467	518	546	587	624	38
INFINITI	284	239	266	271	271	290	295	296	307	11
JAGUAR/LANDROVER	341	396	435	461	483	513	435	494	509	15
PORSCHE	468	412	434	444	437	435	422	449	450	2
ALFA ROMEO								80	88	8
GENESIS								29	69	39
CADILLAC	55	57	51	75	82	97	97	110	97	-13
LINCOLN	85	80	65	62	72	83	88	85	90	5
Total	251	254	274	291	316	349	370	376	377	1

## NUMBER OF LUXURY VEHICLES ON THE ROAD IN CANADA - BY MANUFACTURER

	2010	2011	2012	2013	2014	2015	2016	2017	2018	Change
ACURA	304,711	308,362	313,266	330,306	348,916	351,481	363,119	367,741	370,930	0.9%
AUDI	98,576	104,714	128,982	157,880	179,212	203,578	229,632	256,739	286,939	11.8%
BMW	249,437	272,712	301,999	330,986	361,172	392,326	419,858	445,213	471,363	5.9%
INFINITI	83,256	89,336	94,938	102,835	111,470	120,453	129,484	137,794	144,654	5.0%
JAGUAR	26,533	26,617	26,544	27,137	27,951	29,051	29,154	30,057	30,564	1.7%
LAND ROVER	25,078	27,372	30,513	34,988	39,965	45,716	53,084	59,324	66,351	11.8%
LEXUS	134,877	148,828	161,374	176,521	192,182	210,723	229,520	247,440	264,893	7.1%
MERCEDES-BENZ	210,180	232,575	265,646	297,016	329,085	366,787	403,960	440,186	476,838	8.3%
PORSCHE	38,277	42,164	44,963	48,514	53,349	58,765	63,970	70,277	77,345	10.1%
VOLVO	152,868	153,735	143,166	154,147	154,879	155,567	154,228	151,677	151,979	0.2%

## VEHICLES ON THE ROAD PER DEALER - Primarily Luxury

	2010	2011	2012	2013	2014	2015	2016	2017	2018	Change
BMW	6,084	6,198	6,864	7,355	7,852	8,347	8,747	8,730	9,427	8.0%
MERCEDES-BENZ	3,966	4,388	5,012	5,400	5,877	6,435	7,087	7,461	8,082	8.3%
ACURA	6,348	6,293	6,265	6,606	6,978	7,030	7,120	7,211	7,273	0.9%
LEXUS	3,967	4,377	4,483	4,771	5,057	5,545	6,040	6,345	6,792	7.1%
AUDI	2,404	2,554	3,146	3,759	4,168	4,627	5,103	5,463	5,978	9.4%
VOLVO	3,728	3,750	3,671	4,057	4,076	4,094	4,284	4,099	4,108	0.2%
PORSCHE	2,734	3,012	3,212	3,234	3,334	3,673	3,998	3,699	4,071	10.1%
INFINITI	2,871	3,081	3,165	3,116	2,933	3,089	3,158	3,281	3,528	7.5%
LAND ROVER	1,140	1,190	1,327	1,521	1,738	1,905	2,123	2,373	2,654	11.8%
JAGUAR	1,206	1,157	1,154	1,180	1,215	1,210	1,166	1,202	1,223	1.7%

## Canadian Used Vehicle Sales by Luxury Brand - Estimates

	2010	2011	2012	2013	2014	2015	2016	2017	2018	Change
Acura	65,541	71,994	65,861	69,847	69,441	70,031	73,458	73,106	74,621	2.1%
BMW	40,645	47,404	48,628	47,727	50,265	52,094	56,876	59,830	61,367	2.6%
Mercedes Benz	27,540	34,758	37,284	38,880	40,975	43,119	48,890	54,155	55,968	3.3%
Lexus	22,438	28,754	27,663	27,828	27,406	27,706	31,199	33,136	35,225	6.3%
Cadillac	28,420	30,891	29,973	29,381	31,258	32,285	30,977	30,082	31,655	5.2%
Volvo	35,030	36,692	32,361	31,552	30,382	29,903	29,986	27,935	28,322	1.4%
Audi	12,480	12,767	14,180	15,806	17,063	18,033	19,975	22,016	22,775	3.4%
Lincoln	14,409	16,836	18,089	17,009	17,719	18,451	19,564	19,485	19,668	0.9%
Infiniti	14,413	18,346	17,166	15,733	15,347	15,781	16,522	16,366	17,362	6.1%
Land Rover	4,274	4,518	4,581	4,661	4,587	4,943	5,405	5,923	6,185	4.4%
Porsche	2,863	3,309	3,696	3,985	4,030	4,223	4,709	4,612	4,786	3.8%
Jaguar	2,641	2,711	3,311	3,377	3,152	3,585	3,001	2,914	2,878	-1.2%
Luxury Brands	242,275	278,090	272,821	276,406	280,366	287,869	309,584	319,478	329,158	3.0%

## LIGHT TRUCK - LUXURY SPORT UTILITY Residuals

### ACTUAL WHOLESALE PRICES Relative to original MSRP

MODEL YR	24 MTH	36 MTH	48 MTH	60 MTH	72 MTH	84 MTH
2001 MY	75.1%	59.1%	47.1%	41.5%	34.8%	27.8%
2002 MY	65.6%	54.2%	48.5%	39.0%	31.3%	22.5%
2003 MY	60.7%	55.0%	44.8%	36.1%	27.6%	25.5%
2004 MY	63.5%	53.6%	44.6%	32.9%	32.0%	24.7%
2005 MY	60.2%	49.6%	37.2%	36.3%	28.2%	23.7%
2006 MY	57.8%	43.8%	44.3%	34.4%	29.1%	24.6%
2007 MY	55.2%	58.3%	46.4%	37.9%	31.5%	26.6%
2008 MY	66.1%	56.0%	45.7%	37.2%	31.9%	28.4%
2009 MY	69.4%	59.7%	47.8%	40.4%	36.7%	33.2%
2010 MY	69.5%	57.4%	49.6%	43.9%	37.2%	31.8%
2011 MY	67.5%	58.1%	50.5%	46.2%	38.0%	29.0%
2012 MY	69.5%	62.1%	55.3%	45.9%	34.7%	
2013 MY	73.9%	66.2%	54.5%	43.9%		
2014 MY	74.5%	64.6%	54.5%			
2015 MY	72.5%	62.3%				
2016 MY	69.5%					

## PASSENGER CAR - LUXURY

### ACTUAL WHOLESALE PRICES

MODEL YR	24 MTH	36 MTH	48 MTH	60 MTH	72 MTH	84 MTH
2001 MY	61.5%	53.7%	42.4%	35.3%	27.2%	21.5%
2002 MY	62.9%	50.5%	44.6%	34.9%	28.1%	20.7%
2003 MY	60.5%	52.7%	40.7%	31.6%	24.1%	23.6%
2004 MY	66.5%	52.8%	40.7%	30.7%	29.4%	21.4%
2005 MY	59.2%	46.4%	35.3%	33.0%	25.3%	20.5%
2006 MY	56.3%	46.7%	43.3%	34.1%	26.3%	23.2%
2007 MY	56.2%	53.0%	43.2%	33.3%	28.1%	23.9%
2008 MY	65.9%	55.1%	44.2%	35.5%	30.2%	25.4%
2009 MY	68.0%	56.5%	45.2%	37.3%	30.0%	25.6%
2010 MY	64.2%	52.5%	42.1%	34.4%	28.8%	25.4%
2011 MY	62.5%	50.1%	39.9%	32.9%	29.2%	23.8%
2012 MY	60.9%	46.0%	42.3%	44.1%	28.6%	
2013 MY	58.6%	51.2%	43.9%	36.0%		
2014 MY	63.4%	55.8%	42.8%			
2015 MY	66.2%	53.5%				
2016 MY	62.7%					

### Mid-Sized Luxury Passenger Car Segment

	2010	2011	2012	2013	2014	2015	2016	2017	2018	Share	Change	
Mercedes Benz	C-CLASS GAS	8,151	9,447	10,616	9,356	7,054	9,992	9,954	10,848	9,688	19.4%	-10.7%
BMW	3-SERIES	14,009	11,226	11,234	12,507	10,086	9,590	7,452	7,694	6,190	12.4%	-19.5%
Audi	90/A4	5,211	5,480	6,118	5,956	5,850	5,461	6,031	7,007	5,584	11.2%	-20.3%
Audi	A5	2,309	1,948	2,024	2,351	2,165	1,693	1,516	3,671	4,589	9.2%	25.0%
ACURA	TL/TLX	2,895	3,229	3,323	2,374	3,497	5,075	4,137	4,205	3,826	7.7%	-9.0%
BMW	4-Series				546	3,469	4,942	4,765	3,746	3,543	7.1%	-5.4%
INFINITI	G35/G37/Q50	4,408	3,603	3,003	3,048	3,666	3,703	3,391	3,531	3,424	6.9%	-3.0%
LEXUS	IS 300/250/350	2,233	2,235	1,975	2,579	3,945	3,401	3,033	3,221	2,871	5.7%	-10.9%
LEXUS	ES 250/300/330	2,688	1,892	2,535	3,096	2,726	2,305	2,153	1,892	1,808	3.6%	-4.4%
KIA	STINGER								172	1,682	3.4%	877.9%
GM	ATS			189	3,256	3,714	3,493	2,375	2,164	1,561	3.1%	-27.9%
Genesis	G70									967	1.9%	
Volvo	V60					853	1,032	627	932	771	1.5%	-17.3%
TOYOTA	AVALON	502	496	427	1,264	996	765	586	444	626	1.3%	41.0%
Jaguar	XE							358	858	571	1.1%	-33.4%
FCA	Giulia								596	510	1.0%	-14.4%
Volvo	S60	208	1,519	1,525	1,374	1,063	665	657	380	474	0.9%	24.7%
GM	Catera/CTS	2,974	3,048	2,157	997	1,076	921	880	565	453	0.9%	-19.8%
Genesis	G80							55	433	393	0.8%	-9.2%
LEXUS	RC					78	792	526	512	321	0.6%	-37.3%
KIA	CADENZA				195	160	173	166	124	83	0.2%	-33.1%
All other		4,912	4,248	3,663	3,791	3,209	2,532	2,092	997	0	0.0%	
<b>Sub Total Mid-Sized Luxury Pass</b>		<b>50,500</b>	<b>48,371</b>	<b>48,789</b>	<b>52,690</b>	<b>53,607</b>	<b>56,535</b>	<b>50,754</b>	<b>53,992</b>	<b>49,935</b>	<b>100.0%</b>	<b>-7.5%</b>
Share of Passenger Car Sales		7.2%	7.0%	6.4%	6.9%	7.0%	7.9%	7.7%	8.4%	8.6%		
Share of Total Light Vehicle Sale:		3.2%	3.1%	2.9%	3.0%	2.9%	3.0%	2.6%	2.6%	2.5%		

## Compact Luxury Passenger Car Segment

	2010	2011	2012	2013	2014	2015	2016	2017	2018	Share	Change
Mercedes Benz B-CLASS GAS	2,994	2,440	454	3,815	6,546	6,226	6,611	6,133	5,024	38.6%	-18.1%
Audi A3	1,322	1,289	1,409	354	2,452	3,788	3,795	3,997	4,249	32.7%	6.3%
ACURA ILX			2,259	3,192	2,752	2,551	2,459	2,047	1,903	14.6%	-7.0%
BMW 2-Series					883	1,703	2,091	1,929	1,827	14.1%	-5.3%
All other	5,652	5,581	2,868	1,860	1,037	817	546	367	0	0.0%	
<b>Sub Total Compact Luxury Passenger</b>	<b>9,968</b>	<b>9,310</b>	<b>6,990</b>	<b>9,221</b>	<b>13,670</b>	<b>15,085</b>	<b>15,502</b>	<b>14,473</b>	<b>13,003</b>	<b>100.0%</b>	<b>-10.2%</b>
Share of Passenger Car Sales	1.4%	1.3%	0.9%	1.2%	1.8%	2.1%	2.3%	2.3%	2.3%		
Share of Total Light Vehicle Sales	0.6%	0.6%	0.4%	0.5%	0.7%	0.8%	0.8%	0.7%	0.7%		

## High Luxury Passenger Car Segment

	2010	2011	2012	2013	2014	2015	2016	2017	2018	Share	Change
Mercedes Benz E-CLASS GAS/DIES	3,914	3,898	4,083	3,359	3,789	3,162	2,953	3,930	3,529	24.9%	-10.2%
BMW 5-SERIES	2,382	2,963	2,727	2,717	2,337	1,996	2,019	2,706	2,516	17.8%	-7.0%
Mercedes Benz S CLASS GAS	763	743	715	468	1,094	1,126	1,049	1,096	1,004	7.1%	-8.4%
Ford MKS	980	630	485	264	206	172	198	5	833	5.9%	
Porsche Panamera	387	359	422	328	375	341	300	559	783	5.5%	40.1%
Audi A7		606	907	730	876	787	887	761	559	4.0%	-26.5%
Volvo V90								444	526	3.7%	18.5%
GM XTS			270	787	743	839	707	729	522	3.7%	-28.4%
Audi 100/200 A6	596	669	937	1,033	1,113	990	834	868	522	3.7%	-39.9%
BMW 7-SERIES	741	532	755	373	374	358	626	546	441	3.1%	-19.2%
Ford Continental							174	574	438	3.1%	-23.7%
BMW i-Series					227	531	523	360	404	2.9%	12.2%
Volvo S90							101	379	309	2.2%	-18.5%
LEXUS LS 400/430	226	156	150	216	167	123	95	40	280	2.0%	600.0%
GM CT6							250	352	238	1.7%	-32.4%
LEXUS GS 300	251	128	924	642	480	390	415	328	213	1.5%	-35.1%
Maserati Ghibli						365	318	328	203	1.4%	-38.1%
Jaguar SEDANS(XJ)	189	227	178	336	351	343	323	239	200	1.4%	-16.3%
Jaguar XF	449	401	344	604	567	466	542	494	173	1.2%	-65.0%
Audi V8/A8	132	211	234	273	266	238	216	186	145	1.0%	-22.0%
Maserati Quattroporte						78	108	157	106	0.7%	-32.5%
Genesis G90							38	92	81	0.6%	-12.0%
ACURA LEGEND/RL/RLX	64	56	29	185	243	182	107	59	64	0.5%	8.5%
INFINITI M45/Q70	550	408	320	249	128	217	156	66	53	0.4%	-19.7%
KIA K900					23	36	26	7	4	0.0%	-42.9%
All other	921	1,041	328	144	133	99	32	0	0	0.0%	
<b>Sub Total High Luxury Passenger</b>	<b>12,545</b>	<b>13,028</b>	<b>13,808</b>	<b>12,708</b>	<b>13,492</b>	<b>12,839</b>	<b>12,997</b>	<b>15,305</b>	<b>14,146</b>	<b>100.0%</b>	<b>-7.6%</b>
Share of Passenger Car Sales	1.8%	1.9%	1.8%	1.7%	1.8%	1.8%	2.0%	2.4%	2.4%		
Share of Total Light Vehicle Sales	0.8%	0.8%	0.8%	0.7%	0.7%	0.7%	0.7%	0.8%	0.7%		

## Luxury Sports Car Segment

	2010	2011	2012	2013	2014	2015	2016	2017	2018	Share	Change
GM Corvette	364	352	250	324	1,181	1,715	1,758	2,016	1,524	23.0%	-24.4%
Porsche 911 SERIES	525	475	584	661	805	859	945	1,234	1,398	21.1%	13.3%
NISSAN 350Z/370Z	899	453	489	452	411	688	932	965	700	10.6%	-27.5%
Audi TT	319	450	454	370	289	251	599	621	403	6.1%	-35.1%
BMW 6-Series	61	205	469	428	443	490	458	327	388	5.9%	18.7%
Jaguar F-Type				229	457	462	522	417	373	5.6%	-10.6%
Porsche Cayman	119	124	92	240	259	322	345	270	333	5.0%	23.3%
Porsche BOXSTER	166	151	277	401	360	360	345	340	323	4.9%	-5.0%
Audi R8	137	147	112	111	116	89	158	235	231	3.5%	-1.7%
Mercedes Benz GT					0	145	175	249	226	3.4%	-9.2%
Mercedes Benz SLK	324	375	512	374	369	270	280	221	185	2.8%	-16.3%
Mercedes Benz SL	230	192	335	398	344	281	221	304	163	2.5%	-46.4%
LEXUS LC								171	129	1.9%	-24.6%
NISSAN GTR	62	72	117	125	125	130	156	134	72	1.1%	-46.3%
FCA 4C					2	122	68	62	50	0.8%	-19.4%
ACURA NSX							50	49	47	0.7%	-4.1%
Maserati Gran Turismo Convertible						25	30	16	20	0.3%	25.0%
Maserati Gran Turismo						39	35	34	19	0.3%	-44.1%
BMW 8-SERIES									18	0.3%	
Ford GT								8	16	0.2%	100.0%

## Compact Luxury SUV Segment

		2010	2011	2012	2013	2014	2015	2016	2017	2018	Share	Change
AUDI	Q5	3,060	4,502	6,152	7,547	7,862	8,203	8,313	3,724	11,952	15.0%	220.9%
MERCEDES-BENZ	GLK/GLC	5,852	5,294	5,279	5,979	5,599	5,304	4,774	8,742	8,982	11.2%	2.7%
ACURA	RDX	3,163	3,070	4,726	6,112	6,557	7,380	8,047	8,101	8,890	11.1%	9.7%
BMW	X3	2,840	4,671	5,017	5,658	5,219	4,527	5,417	5,730	8,296	10.4%	44.8%
LEXUS	NX					296	6,127	6,295	7,407	7,859	9.8%	6.1%
BMW	X1		2,980	4,776	2,910	2,735	2,942	5,205	6,120	5,308	6.6%	-13.3%
PORSCHE	Macan					1,223	2,121	2,800	3,767	3,960	5.0%	5.1%
AUDI	Q3					1,566	3,596	3,860	10,271	3,780	4.7%	-63.2%
MERCEDES-BENZ	GLA					964	3,719	4,400	4,090	3,566	4.5%	-12.8%
INFINITI	EX35/QX50	1,925	1,521	1,360	1,445	1,897	2,283	2,326	1,812	2,881	3.6%	59.0%
VOLVO	XC60	1,540	1,865	1,885	1,681	1,542	1,646	1,526	2,315	2,826	3.5%	22.1%
Lincoln	MKC					1,849	2,970	2,618	2,337	2,466	3.1%	5.5%
BMW	X2									1,856	2.3%	
LAND ROVER	DISCOVERY Sport						991	2,354	2,028	1,412	1.8%	-30.4%
LAND ROVER	RANGE ROVER EVOQUE		412	1,353	1,782	1,706	2,162	1,704	1,734	1,377	1.7%	-20.6%
VOLVO	XC40									1,252	1.6%	
BMW	X4					490	1,144	1,236	1,195	1,007	1.3%	-15.7%
Alfa Romeo	Stelvio								455	842	1.1%	85.1%
Jaguar	E-Pace									574	0.7%	
Cadillac	XT4									399	0.5%	
INFINITI	QX30							439	997	357	0.4%	-64.2%
All Other Models		426	343	296	520	655	80	0	0	0		
Sub-total Compact Luxury SUV Segmen		18,806	24,658	30,844	33,634	40,160	55,195	61,314	70,825	79,842	100.0%	12.7%
Percent of Light Truck Segment		2.2%	2.8%	3.4%	3.4%	3.7%	4.7%	4.8%	5.1%	5.7%		
Percent of the Total Market		1.2%	1.6%	1.8%	1.9%	2.2%	2.9%	3.1%	3.5%	4.0%		

## Luxury Intermediate Sports Utility Market

		2010	2011	2012	2013	2014	2015	2016	2017	2018	Share	Change
LEXUS	RX300/330/350/L	7,383	6,760	7,130	7,789	7,913	7,063	8,147	9,402	9,329	16.4%	-0.8%
MERCEDES-BENZ	GLE								6,446	7,480	13.2%	16.0%
BMW	X5	4,012	4,155	3,975	4,704	5,470	5,381	6,942	6,865	6,462	11.4%	-5.9%
Cadillac	XT5							2,789	6,586	5,942	10.5%	-9.8%
ACURA	MDX	5,994	5,334	5,242	6,114	6,272	5,814	5,425	5,838	5,605	9.9%	-4.0%
Lincoln	MKX	4,458	4,595	3,792	3,238	2,702	2,900	3,551	3,345	3,126	5.5%	-6.5%
LAND ROVER	RANGE ROVER	1,168	1,475	1,634	1,806	2,580	2,680	3,151	2,692	3,104	5.5%	15.3%
VOLVO	XC90	1,194	756	454	500	427	957	2,951	2,650	3,059	5.4%	15.4%
Jaguar	F-Pace							1,289	2,612	2,417	4.3%	-7.5%
PORSCHE	CAYENNE	839	1,105	1,628	2,050	1,904	2,389	2,325	2,079	2,107	3.7%	1.3%
LAND ROVER	Velar								641	1,817	3.2%	183.5%
LAND ROVER	RANGE ROVER	431	419	388	590	896	1,101	1,167	1,362	1,594	2.8%	17.0%
VOLKSWAGEN	TOUAREG	706	1,618	1,975	2,087	2,332	2,028	1,390	991	987	1.7%	-0.4%
LEXUS	LX450/LX470/57	180	114	259	296	342	348	748	917	925	1.6%	0.9%
LAND ROVER	DISCOVERY								686	892	1.6%	30.0%
BMW	X6	1,017	1,140	998	749	897	1,274	1,178	1,285	777	1.4%	-39.5%
Maserati	Levante							187	711	416	0.7%	-41.5%
INFINITI	FX35/45/50/QX7	1,085	934	758	601	466	528	481	443	387	0.7%	-12.6%
LEXUS	GX 470	513	414	376	351	582	662	551	508	376	0.7%	-26.0%
Jaguar	I-Pace									41	0.1%	
ACURA	ZDX	863	129	110	49	6	1	2	1	2	0.0%	100.0%
All Other Models		9,158	9,026	10,402	9,865	10,744	12,031	10,578	12	0		
Sub-total Luxury Intermediate SUV Seg		39,001	37,974	39,121	40,789	43,533	45,157	52,852	56,072	56,845	100.0%	1.4%
Percent of Light Truck Segment		4.6%	4.3%	4.3%	4.2%	4.0%	3.8%	4.1%	4.0%	4.0%		
Percent of the Total Market		2.5%	2.4%	2.3%	2.3%	2.4%	2.4%	2.7%	2.8%	2.9%		

## Large Luxury Sport Utility Vehicle Segment

		2010	2011	2012	2013	2014	2015	2016	2017	2018	Share	Change
AUDI	Q7	1,247	1,565	1,653	1,781	1,959	1,658	4,335	4,666	4,507	25.7%	-3.4%
INFINITI	JX/QX60			2,178	3,191	3,613	3,863	4,238	4,627	4,350	24.8%	-6.0%
MERCEDES-BENZ	G-CLASS/GL-CI	1,437	1,722	1,973	2,617	2,599	2,742	2,828	3,397	3,028	17.3%	-10.9%
Cadillac	Escalade	713	652	564	440	617	1,612	1,783	1,917	1,830	10.4%	-4.5%
Lincoln	Navigator	544	609	546	295	328	550	557	652	1,177	6.7%	80.5%
INFINITI	QX56/QX80	265	470	374	413	521	727	1,063	957	1,129	6.4%	18.0%
Cadillac	ESCALADE ES\	264	223	178	143	204	473	1,052	1,009	948	5.4%	-6.0%
AUDI	Q8									387	2.2%	
Lincoln	MKT	922	518	450	392	289	217	102	200	157	0.9%	-21.5%
All Other Models		410	515	498	118	0	1	0	0	0		
Sub-total Large Luxury SUV Segment		5,802	6,274	8,414	9,390	10,130	11,843	15,958	17,425	17,513	100.0%	0.5%
Percent of Light Truck Segment		0.7%	0.7%	0.9%	1.0%	0.9%	1.0%	1.2%	1.2%	1.2%		
Percent of the Total Market		0.4%	0.4%	0.5%	0.5%	0.5%	0.6%	0.8%	0.9%	0.9%		