

# HOW A BORDER ADJUSTABLE TAX WILL AFFECT AUTOMAKERS AND SUPPLIERS IN THE U.S.

## Introduction

Last month, we estimated how much a “border adjustable tax” system (BAT) could affect the price of specific automakers and suppliers. *Bloomberg, Automotive News, Cars.com, The New York Daily News, Car & Driver, and The Washington Post*, among others, covered our findings.

Our original estimates represented a “worst case scenario” for the automakers. The precise cost to particular automakers is unclear, because we do not know what the BAT rate will be, how it will be implemented, how much corporate tax rates will fall, or whether the dollar will strengthen enough to mitigate higher costs for imported vehicles and auto parts.

Most important, we do not know whether automakers will change their behavior to reduce their US tax liability, as the BAT’s supporters intend. For example, to reduce its BAT exposure, an automaker could increase production at its US assembly plants, purchase more parts from US suppliers, and/or reallocate production of particular models across its plants in Mexico, Canada, and the US.

However, we *can* estimate how each automaker may fare relative to its competitors. For example, we estimate that Honda will fare three times as well as Toyota and nearly twice as well as Nissan.

We can then estimate what each automaker could do to reduce its BAT exposure relative to its competitors. For example, how much more US content would Toyota, Subaru, and VW each have to purchase, or how many more vehicles or engines or transmissions would each have to assemble here, in order to match Honda?

Finally, we can estimate what these efforts would mean for US vehicle and auto parts production.

This series examines how a BAT could encourage changes in production and what those changes could mean for automotive production, investment, supplier orders, workers, and the US economy. This report focuses on Asia-based automakers. Future reports will cover U.S.-based, Europe-based, and other automakers.

## Why This Matters

President Trump has said that he wants to see new plants, or at least capacity additions, and not just a modest reallocation of production volume to US facilities. However, most analysts – including **Baum & Associates** -- see 2015-2017 as the peak of the auto sales cycle, which means that Trump’s task is harder. How do you increase capacity, employment, and production at a time when overall sales are expected to drop?

As we reported last month, we believe many of the world’s automakers are deathly afraid to offend the new president, which means that automakers are likely to produce more vehicles here this year than they otherwise would have. Until there is greater clarity on whether the new trade and tax policies become law, **Baum & Associates** will not be making major changes to our production forecasts this quarter. But we do not rule out eventually increasing our forecast

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of US builds *by hundreds of thousands of units*. Since many automakers may need to get more US content into their vehicles, we also do not rule out major new investments in engine, transmission, and axle plants in the US.

LMC Automotive predicted just a month ago that capacity in Mexico would grow by more than 50% between 2015 and 2023, going from 3.7 million to 5.5 million units. We at **Baum & Associates** think that *at least* one-third of that 1.8-million-unit growth may now instead occur in the US.

The harder part is figuring out which additional vehicles they will be, produced by which automakers, and in which plants.

### BAT's Impact Will Vary Widely, Based on Each Automakers' US Production Footprint, Fleet Profile, and Powertrain Supply Chain

As we will see, the net imported content of automakers selling cars and light trucks in the US varies from 5.9% to 96.8%. While every automaker except Tesla has some imported content that will be subject to the BAT, some automakers face a BAT liability of just \$0.5 billion, while others would have to pay as much as \$7 billion annually unless they sharply increase their US footprint. The differences among automakers reflect not just where each assembles the vehicles they sell in the US, but also how much they export, where they make engines and transmissions, and how much of the components that go into their vehicles are purchased from supplier facilities in the US.

### BAT Assumptions

The new tax regime that we are modeling in our studies can be summarized as follows:

1. Reducing the tax rate on the *repatriation of profits* held abroad from 35% to something more like 10% for a limited time period. The theory is that bringing that money home would spur more investment in the US, though critics note that it might be used instead for companies to buy back their own shares. We will not be modeling the impact of this proposal, though we see it as likely to become law.
2. Reducing the tax rate on corporate profits from 35% to 20%, while at the same time eliminating certain deductions that unfairly (in many analysts' view) advantage debt over equity (e.g., interest deductibility) and hedge funds over other investors (carried interest).
3. Applying a so-called "border tax" on parts and products shipped into the US for sale here. To date, figures from 15% to 35% have been bandied about, but the two main architects of the concept – Auerbach and former John McCain economic advisor and University of Chicago economist Douglas Holtz-Eakin – are talking about a **20% border tax**,<sup>1</sup> offset (in ways we will explain below) by what amounts to a credit for exporting. The way it would work is that the revenue from exports would not be taxed, while the cost of the US labor and material used to make those exports could be deducted from US taxable income.

It is this last proposal – a 20% border tax and a modified, export income-exempting 20% corporate tax – that **Baum & Associates** will model. Both the border tax and the rate cut have

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<sup>1</sup> On January 26, President Trump proposed using part of a 20% border tax to pay for the planned "wall" along the US-Mexico border. For reference, \$296 billion was exported from Mexico to the US in 2016, \$45 billion of that in cars, trucks, and their parts.

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been part of the House leadership's economic plans since mid-2016, so they seem to have legs. While the devil will, as always, be in the details, we think that it is useful to see the way that this proposal differentially impacts the different automakers. Any policy that taxes imports will have roughly this incidence.

### Our Original Assessment of How a Border Adjustment Tax System Would Affect Automakers and Suppliers

#### US Auto Trade in Units

Automaker	Approximate 2015/2016 Sales & Production				Estimated US/Can/Mex Exports Beyond NAFTA Region	Estimated Imports from:	
	US Sales	US Prod	Can Prod	Mex Prod		Europe	Asia
Tesla	25,000	80,000	0	0	42,000	0	0
Ford	2,550,000	2,410,000	264,950	421,000	330,000	107,000	0
Honda	1,610,000	1,340,000	386,300	255,700	200,000	0	40,000
GM	3,090,000	2,465,000	522,911	617,300	200,000	10,000	135,000
FCA	2,250,000	1,515,000	553,200	408,900	150,000	150,000	0
BMW	410,000	396,800	0	0	200,000	209,000	0
Nissan	1,490,000	1,045,000	0	850,249	300,000	0	151,000
Toyota	2,555,000	1,379,400	594,700	135,700	230,000	0	697,000
Subaru	585,000	297,400	0	0	0	0	390,000
Hyundai/Kia	1,390,000	778,400	0	184,000	50,000	0	720,000
Mercedes	380,000	315,200	0	0	200,000	333,000	0
VW	550,000	92,000	0	448,600	400,000	506,000	0
Geely	70,000	0	0	0	0	0	82,000
Mazda	320,000	0	0	157,300	80,000	0	298,000
Mitsubishi	95,000	0	0	0	0	0	112,000
Tata	85,000	0	0	0	0	100,000	0
<i>Total</i>	<i>17,455,000</i>	<i>12,114,200</i>	<i>2,322,060</i>	<i>3,478,750</i>	<i>2,382,000</i>	<i>1,415,000</i>	<i>2,625,000</i>

Even at this high-level view, it is clear there are at least four classes of automakers in relation to the new tax structure we are modeling.

1. Tesla, Ford, GM, FCA, and Honda all make in the US at least two-thirds of the vehicles they sell in the US. Interestingly, Honda's US production share (83%) exceeds those of GM (80%) and FCA (67%).
2. Nissan, Toyota, Hyundai-Kia, VW, and Subaru all build in the US more than half the vehicles that they sell here, but they still import many of the vehicles they sell in the US: Toyota from Japan and Canada, Nissan from Mexico, Hyundai-Kia from Korea, VW from Europe and Mexico, and Subaru from Japan. Within this group, Toyota and Nissan have much higher US content in the vehicles they make here than do the others.
3. BMW and Mercedes make up a very different class. Both bring in many vehicles from Europe, and they have fairly low US content in the vehicles they build in the US. But they "make up" for some of that by exporting more than half of the vehicles that they make here.

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4. Finally, there are the pure importers – Geely (Volvo<sup>2</sup>), Mazda, Mitsubishi, and Tata (Jaguar and Land Rover). With no US production footprint, they are most in the crosshairs of a border tax policy regime.

The next table summarizes the way each automaker supplies the units it sells in the US.

Source of Units Sold in the US

Automaker	US	Canada	Mexico	Europe	Asia
Tesla	<b>100%</b>	0%	0%	0%	0%
Ford	<b>82%</b>	6%	9%	4%	0%
Honda	<b>72%</b>	18%	8%	0%	2%
GM	<b>69%</b>	13%	14%	0%	4%
FCA	<b>62%</b>	21%	11%	6%	0%
BMW	<b>57%</b>	0%	0%	43%	0%
Nissan	<b>56%</b>	0%	36%	0%	9%
Toyota	<b>58%</b>	17%	2%	0%	23%
Hyundai-Kia	<b>46%</b>	0%	10%	0%	44%
Subaru	<b>43%</b>	0%	0%	0%	57%
Mercedes	<b>26%</b>	0%	0%	74%	0%
VW	<b>14%</b>	0%	8%	78%	0%
Geely	<b>0%</b>	0%	0%	0%	100%
Mazda	<b>0%</b>	0%	21%	0%	79%
Mitsubishi	<b>0%</b>	0%	0%	0%	100%
Tata	<b>0%</b>	0%	0%	100%	0%

But this still-too-high-level view leaves out an important element of the policy environment – that not all vehicles are the same. *A border tax is levied only on the portion of vehicles that are imported*, not on the part that is made in the US. Thus, the typical Detroit Three vehicle shipped from Mexico to the US has an average of at least 40% US content, so at most 60% of its value is subject to the border tax. But the typical Toyota, VW, or BMW vehicle imported from Japan or Europe has almost no US content, so nearly its total value is subject to the border tax levy.

The next table starts to factor in the impact of different automakers' very different levels of US content in the vehicles they sell here. Indeed, while the world's automakers assembled 12.1 million units in the US last year, because of imported parts content that only translated into 8.6 million "unit-equivalents" of American content. With unit sales of 17.5 million and only 8.6 million unit-equivalents, it's clear that the US new car and light truck market is less than half American supplied. It's that other half that a border tax aims to go after.

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<sup>2</sup> Volvo will have an assembly plant in South Carolina, beginning production in late 2018 or early 2019.

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Automaker	Vehicles Assembled in the US				
	Vehicles Assembled in US	Vehicles Exported from US	US Content of US-Assembled Vehicles	US Vehicle Content Equivalents	% of US Content
Tesla	80,000	42,000	85%	68,000	0.8%
Ford	2,410,000	250,000	88%	2,120,800	24.6%
Honda	1,340,000	125,000	72%	964,800	11.2%
GM	2,465,000	125,000	84%	2,070,600	24.0%
FCA	1,515,000	125,000	78%	1,181,700	13.7%
BMW	396,800	200,000	30%	119,040	1.4%
Nissan	1,045,000	100,000	62%	647,900	7.5%
Toyota	1,379,400	100,000	66%	910,404	10.6%
Subaru	297,400	0	35%	104,090	1.2%
Hyundai/Kia	778,400	50,000	40%	311,360	3.6%
Mercedes	315,200	200,000	30%	94,560	1.1%
VW	92,000	20,000	33%	30,360	0.4%
Geely	0	0	0%	0	0.0%
Mazda	0	0	0%	0	0.0%
Mitsubishi	0	0	0%	0	0.0%
Tata	0	0	0%	0	0.0%
Total Above	12,114,200	1,337,000	71%	8,623,614	100.0%
				<i>Memo: D3 %</i>	62.3%

So far, we have only considered the US content in cars and light trucks that are assembled in the US, either for sale here or for export beyond the NAFTA region. As automakers will surely insist, this is an unfair under-estimate of their “American-ness” in that it fails to give them credit for the US content of the vehicles they assemble in Canada and Mexico (and, much less materially, of some of the vehicles they import from Europe and Asia). Thus, while the 12.1 million vehicles assembled in the US in 2016 were comprised of 8.6 million US-equivalents and therefore 3.5 million imported vehicle-equivalents, the 17.5 million vehicles sold in the US last year were made up of 11.4 million US vehicle-equivalents and 6.1 million imported vehicle-equivalents. ***The key question for this study is how many of those 6.1 million imported vehicle-equivalents could a new tax policy shift to the US.***

The key starting point is to determine just how American each automaker is, based on 2016 data. By knowing where automakers make the vehicles they sell in or export from the US, and how much US content their vehicles have (wherever assembled), we can derive a ratio between US content, expressed in full vehicle-equivalents, and US sales. Shorn of its complexity, it is the difference between unity and this ratio that would be subject to the proposed BAT. Thus Ford, with a content-to-sales ratio of 96.8, would only have 3.2% of its US revenue subject to the BAT. The table below shows this content-to-sales ratio for each of the automakers. Clearly, automakers with less than 50% ratios would need to increase sharply their US footprint to be able to handle the BAT, which is precisely its goal.

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	US Sales	Total US Content	Pct of	<b>Veh-Eqvt</b> s as
	Units	in Vehicle-	Total US	<b>% of US Unit</b>
		Equivalents	Content	<b>Sales</b>
Tesla	25,000	68,000	0.6%	<b>100.0%</b>
FCA	2,250,000	1,692,180	14.9%	<b>75.2%</b>
Ford	2,550,000	2,469,570	21.7%	<b>96.8%</b>
GM	3,090,000	2,645,766	23.3%	<b>85.6%</b>
Honda	1,610,000	1,219,345	10.7%	<b>75.7%</b>
Hyundai/Kia	1,390,000	438,560	3.9%	<b>31.6%</b>
Nissan	1,490,000	918,075	8.1%	<b>61.6%</b>
Toyota	2,555,000	1,288,429	11.3%	<b>50.4%</b>
Subaru	585,000	143,090	1.3%	<b>24.5%</b>
BMW	410,000	139,940	1.2%	<b>34.1%</b>
Mercedes	380,000	127,860	1.1%	<b>33.6%</b>
VW	550,000	148,250	1.3%	<b>27.0%</b>
Geely	70,000	4,100	0.0%	<b>5.9%</b>
Mazda	320,000	53,395	0.5%	<b>16.7%</b>
Mitsubishi	95,000	11,200	0.1%	<b>11.8%</b>
Tata	85,000	5,000	0.0%	<b>5.9%</b>
<b>TOTAL</b>	<b>17,455,000</b>	<b>11,372,760</b>		

Note on assumptions:

- Detroit Three have 40% US content in their Mexico-assembled vehicles, 60% in their Canada-assembled vehicles, and 10% (except for 20% for Ford) in their Europe/Asia-assembled vehicles.
- Asia-based automakers have 30% US content in their Mexico-assembled vehicles, 45% in their Canada-assembled vehicles, and 10% in their Asia-assembled vehicles.
- Europe-based automakers have 15% US content in their Mexico-assembled vehicles; none assembles in Canada.

Now let's bring all these pieces together – what's made here, what's imported, what's exported, and how much US content the different automakers' vehicles have – and see what the impact of a 20% border tax and a modified 20% corporate profits tax would be on each automaker. Obviously, many assumptions lie behind our results, so none of the numbers here should be taken as exact. Long story short, unless automakers act to boost their US production and/or purchasing footprint, the new tax regime would mean a \$28 billion hit to their collective bottom line. (That hit may be reduced by other features of a new tax regime, such as the proposed immediate expensing of investment outlays.)

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Net Impact of New Border Tax Regime on the Automakers						
Billions of \$US						
Automaker	Non-US Veh-Eqvt Content	Avg Wholesale Cost per Veh	Est'd Imported Content (\$ billion)	Border Tax on Net Imported Content	Corp Profit Tax Savings	Net Impact of New Tax Regime
Tesla	0	\$ 88,745	\$ -	\$ -	\$ -	\$ -
Ford	80,430	\$ 33,286	\$ 2.7	\$ 0.5	1.3	(0.8)
Honda	390,655	\$ 25,075	\$ 9.8	\$ 2.0	0.5	1.4
GM	444,234	\$ 34,637	\$ 15.4	\$ 3.1	1.5	1.6
FCA	557,820	\$ 30,345	\$ 16.9	\$ 3.4	0.6	2.8
BMW	270,060	\$ 39,100	\$ 10.6	\$ 2.1	0.4	1.7
Nissan	571,925	\$ 25,276	\$ 14.5	\$ 2.9	0.4	2.5
Toyota	1,266,571	\$ 27,696	\$ 35.1	\$ 7.0	0.9	6.1
Subaru	441,910	\$ 24,299	\$ 10.7	\$ 2.1	0.1	2.0
Hyundai/Kia	951,440	\$ 20,919	\$ 19.9	\$ 4.0	0.4	3.6
Mercedes	252,140	\$ 41,565	\$ 10.5	\$ 2.1	0.4	1.6
VW	401,750	\$ 33,093	\$ 13.3	\$ 2.7	0.1	2.5
Geely	65,900	\$ 35,000	\$ 2.3	\$ 0.5	0.1	0.4
Mazda	266,605	\$ 21,250	\$ 5.7	\$ 1.1	0.1	1.0
Mitsubishi	83,800	\$ 23,375	\$ 2.0	\$ 0.4	0.0	0.4
Tata	80,000	\$ 70,430	\$ 5.6	\$ 1.1	0.1	1.0
Total Above	6,125,240		\$ 174.9	\$ 35.0	7.0	28.0

Note to assumptions:

- Average Wholesale Cost is 85% of Kelley Blue Book transaction price
- US operating profit estimated from Annual Reports
- All other data estimated by Baum & Associates.

In our last report, we estimated how much each would have to raise vehicle prices to recoup the “worst case” cost of a BAT. We found that, unless automakers increase the US content of the vehicles they sell here or export from here, all but two would incur substantial per-vehicle cost penalties. For some automakers, the penalties would more or less zero out their US operating profit. Note that, in that study, we overstated some automakers’ potential BAT liability. For example, we calculated net penalties of \$995 for GM, \$2,651 for Toyota, and \$17,204 for Tata. Our revised estimates are lower. We calculate net penalties of \$521 for GM, \$2,397 for Toyota, and \$11,669 for Tata.

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	Units	Billions of \$US	<i>Worst Case : No Rise in US Content to Offset Net Tax Penalty</i>	
Automaker	Non-US Veh-Eqvt Content	<b>Net Impact of New Tax Regime</b>	Price Hike Needed to Recoup Net Impact	% Price Hike
Tesla	0	\$ -	\$ -	0%
Ford	80,430	<b>(0.8)</b>	\$ -	0%
Honda	390,655	<b>1.4</b>	\$ 900	3%
GM	444,234	<b>1.6</b>	\$ 521	1%
FCA	557,820	<b>2.8</b>	\$ 1,250	4%
BMW	270,060	<b>1.7</b>	\$ 4,218	9%
Nissan	571,925	<b>2.5</b>	\$ 1,684	6%
Toyota	1,266,571	<b>6.1</b>	\$ 2,397	7%
Subaru	441,910	<b>2.0</b>	\$ 3,453	12%
Hyundai/Kia	951,440	<b>3.6</b>	\$ 2,589	11%
Mercedes	252,140	<b>1.6</b>	\$ 4,342	9%
VW	401,750	<b>2.5</b>	\$ 4,603	12%
Geely	65,900	<b>0.4</b>	\$ 5,519	13%
Mazda	266,605	<b>1.0</b>	\$ 3,260	13%
Mitsubishi	83,800	<b>0.4</b>	\$ 3,808	14%
Tata	80,000	<b>1.0</b>	\$ 11,669	14%
Total Above	6,125,240	<b>28.0</b>		

In reality, the US remains an indispensable market for nearly all automakers, so were the new tax regime to be enacted, all but two automakers could be expected to act quickly to increase their US footprints. As we will see, those actions would greatly enlarge US auto and auto parts production and employment.

To predict what the Asia-based automakers will do, we have constructed a “case study,” which seems to us to illustrate the likely responses of each automaker.

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Automaker	Units	Billions of \$US					With US Content Raised to Meet Category's Goal	
	Net Non-US Veh-Eqvt	Avg Wholesale Cost per Veh	Est'd Imported Content (\$ billion)	Border Tax on Net Imported Content	Corp Profit Tax Savings	Net Impact of New Tax Regime	Price Hike Needed to Recoup Net Impact	% Price Hike
	Tesla	0	\$ 88,745	\$ -	\$ -	\$ -	\$ -	\$ -
Ford	80,430	\$ 33,286	\$ 2.7	\$ 0.5	1.3	(0.8)	\$ (315)	-1%
Honda	390,655	\$ 25,075	\$ 9.8	\$ 2.0	0.5	1.4	\$ 900	3%
GM	97,462	\$ 34,637	\$ 3.4	\$ 0.7	1.5	(0.8)	\$ (256)	-1%
FCA	70,968	\$ 30,345	\$ 2.2	\$ 0.4	0.6	(0.1)	\$ (64)	0%
BMW	205,000	\$ 39,100	\$ 8.0	\$ 1.6	0.4	1.2	\$ 2,977	6%
Nissan	361,538	\$ 25,276	\$ 9.1	\$ 1.8	0.4	1.4	\$ 970	3%
Toyota	619,953	\$ 27,696	\$ 17.2	\$ 3.4	0.9	2.5	\$ 995	3%
Subaru	141,946	\$ 24,299	\$ 3.4	\$ 0.7	0.1	0.6	\$ 961	3%
Hyundai/Kia	337,274	\$ 20,919	\$ 7.1	\$ 1.4	0.4	1.0	\$ 740	3%
Mercedes	190,000	\$ 41,565	\$ 7.9	\$ 1.6	0.4	1.1	\$ 2,982	6%
VW	275,000	\$ 33,093	\$ 9.1	\$ 1.8	0.1	1.7	\$ 3,077	8%
Geely	52,500	\$ 35,000	\$ 1.8	\$ 0.4	0.1	0.3	\$ 4,179	10%
Mazda	240,000	\$ 21,250	\$ 5.1	\$ 1.0	0.1	0.9	\$ 2,906	12%
Mitsubishi	71,250	\$ 23,375	\$ 1.7	\$ 0.3	0.0	0.3	\$ 3,190	12%
Tata	63,750	\$ 70,430	\$ 4.5	\$ 0.9	0.1	0.8	\$ 8,976	11%
Total Above	3,197,725		\$ 92.9	\$ 18.6	7.0	11.6		

### Case Study: How Top Asia-Based Automakers Could Match Honda

Honda is the most American among non-US-based automakers because it produces more of its cars and trucks here, buys more of its parts here, and employs more of its workers here. At just \$900 per vehicle in net tax penalty, Honda would enjoy an enormous cost advantage over the other Asia-based automakers (Toyota \$2,397, Nissan \$1,684, Subaru \$3,453, and Hyundai/Kia \$2,589).

So, what could those companies do to eliminate this BAT advantage by matching Honda's content-to-sales ratio of 75.7%? And what would such actions mean for the US economy? Across those four automakers, matching Honda's content-to-sales ratio would mean almost 1.8 million additional full US vehicle-equivalents.

	US Sales	<b>Veh-Eqvt's as % of US Unit Sales</b>	Additional Veh-Eqvt's to Match Honda
	Units		
Honda	1,610,000	<b>75.7%</b>	0
Hyundai/Kia	1,390,000	<b>31.6%</b>	614,166
Nissan	1,490,000	<b>61.6%</b>	210,387
Toyota	2,555,000	<b>50.4%</b>	646,619
Subaru	585,000	<b>24.5%</b>	299,964
			1,771,136

At a ceiling level of content of about 85% per vehicle, that would mean almost 2.1 million more cars and light trucks assembled here.

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- Toyota's net BAT/corporate tax liability would plunge from \$2,397 per unit sold in the US to \$995, a savings of \$1,402 per unit. Multiplied by its 2.555 million US unit sales, the savings comes to \$3.582 billion per year.
- Nissan's liability would fall from \$1,684 to \$970 per unit. Multiplied by its 1.49 million US unit sales, the savings comes to \$1.063 billion per year.
- Subaru's net tax liability would drop from \$3,453 to just \$961 per unit. Multiplied times its 585,000 unit US sales, that comes to \$1.458 billion per year.
- Hyundai/Kia's net liability would plunge from \$2,589 per vehicle to just \$740. Across the 1.39 million units it sells in the US, the savings total \$2.57 billion per year.

### How Automakers and Suppliers Might Respond

As one would expect, the Detroit Three have a significantly higher level of US content in the cars and light trucks they sell in the US than do most other automakers. But with the US market fully mature, they and most other automakers are focusing their new capacity, products, and investments on growth markets such as Eastern Europe, China, ASEAN, and India. Thus, absent policy changes that change their investment returns, additional investment in North American capacity beyond "normal" plant and product updates is less likely for the Detroit Three than for Europe- and Asia-based automakers that are looking for new opportunities beyond their home regions. Policy changes that punish imported content and encourage US content could change the calculus.

Moreover, there are some interesting possibilities for increasing US content that do not require major new investment. We believe that 2015-17 is the peak of the current automotive sales cycle, and expect lower unit sales in 2018-21. That slowdown can be expected to result in excess capacity in many plants. A BAT regime would very likely induce automakers to allocate a disproportionate share of their global plant downtime to their non-US plants as a simple, low-cost way to reduce their BAT liability, although it would be dependent on additional product allocation in the US plants being compatible with the platforms and products produced in these plants. Except in Europe (and particularly Germany), where works councils would object to this "unfair" allocation of unemployment, there is little downside to automakers keeping their US plants running at or near full capacity.

The following sections discuss ways in which Asia-based automakers could improve their US content position to equate with leaders in their category.

### **US Content Opportunities for Asia-Based Automakers**

In response to criticism from American political and industry leaders in the 1980s, the three major Japanese automakers, Honda, Toyota, and Nissan, all have built many vehicle assembly plants in the United States and brought many of their Japan-based suppliers with them. Since that time, each of these automakers has dramatically expanded their footprint in the US, Canada (Honda and Toyota), and Mexico (Nissan and more recently Honda and Toyota). Besides assembly capacity, Honda was ahead of its competitors with respect to powertrain localization with a number of plants in the US. The US market has long been more important to Honda than to Nissan and Toyota. These factors led to Honda's current US content-to-sales ratio of over 75%, higher than FCA's though below GM's and Ford's. Thus, we have made Honda's share the "goal" for the major Asia-based companies to illustrate the opportunity should these companies seek to lower their BAT liability by increasing their US content. Hyundai/Kia is

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well behind its Japanese competitors in US content, but is increasing both its US market penetration and local production footprint.

Nissan's US footprint, which gives it a 60% US content-to-sales ratio, is based on a very large facility in Smyrna, TN, along with another large assembly plant in Canton, MS. The remainder of Nissan's substantial North American vehicle production is in Aguascalientes and Cuernavaca, Mexico. These plants serve multiple markets, including Mexico (where Nissan is a market leader), South America, and the US. Thus, Nissan is in Mexico for reasons that go well beyond cost reduction and it is thus less likely Nissan would move significant production from Mexico to the US. While Nissan does have US production facilities for both engines and transmissions, a significant share of each of these major components is produced in Mexico and Asia. Some of this production could be moved to the US, but that would require substantial greenfield investments and/or purchases from local suppliers.

Toyota's US content-to-sales ratio is just over 50%. Compared to Honda, Nissan, and Hyundai/Kia, it has a very broad product line of cars, CUVs, minivans, pickups, and SUVs. Because some of its models are fairly low-volume, they are still imported from sole-source plants in Japan. Toyota also has major vehicle assembly centers in Canada. Its Mexican assembly facility footprint is modest but growing. The largest global market for Lexus products is the US, yet only the RX (Canada) and more recently the ES (US) are built in North America. Toyota has been hesitant to allow Lexus products beyond the control of its Japanese engineering and supplier base, but some changes are likely as a result of Akio Toyoda's new philosophy to provide more responsibility for its local units. Thus some volume might be able to be shifted from Japan to the US in response to a BAT. The move of Toyota's N.A. headquarters to Plano, TX and the upgrading of its engineering and sourcing operations in Ann Arbor, MI also suggest that new opportunities for US capacity expansion exist. This has already occurred within Toyota's pickup truck product line, which is already US-centric.

Toyota has been extremely loyal to its Japanese *keiretsu* suppliers, although it has certainly expanded beyond them, even as most of them have established significant North American production, including in the US. With respect to engine production, US facilities are significant, particularly for truck engines. The same is true for transmission production (including Aisin, which is Toyota's global transmission "partner"), although there remains significant import volume from Japan. Toyota, primarily through its first tier-suppliers including its Japanese "partners," has committed to increased local sourcing of parts as its assembly and powertrain capacity have grown. But more could be done, and the BAT might provide added impetus to pursue this strategy.

Hyundai/Kia has two major assembly plants in the southern US that produce a variety of cars and crossovers. A plant has also recently opened in Mexico to produce small cars; it will serve multiple markets, including the US. Because Hyundai and Kia were behind their Asia-based competitors in establishing a US footprint., their US content-to-sales ratio is only a little over 30%. Clearly, there is opportunity for growth. Hyundai/Kia is planning to increase North American production, but doing so will require new investment since current plants are running at or near capacity. Hyundai/Kia remains heavily reliant on the importation of powertrain, primarily from Korea, although it does produce some engines and transmissions in the US. As vehicle assembly increases, it is logical and appropriate to increase engine and transmission assembly space, and sometimes at the same plants -- a strategy that has been used in the past.

Subaru's US content-to-sales ratio is only 25%. Because of recent strong growth of the brand in America, its existing vehicle capacity in Indiana is fully utilized, leading it to continue to invest

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there to increase future capacity. So far, it has not seen fit to open a second US assembly facility, instead relying on Japan for many of its products sold in the US. Subaru is also well behind the curve on US powertrain production, which contributes to its relatively low US content. With a BAT, Subaru would have to face a tough decision of whether to invest heavily in US assembly and powertrain capacity or else face a stiff per-vehicle penalty. But there is a good chance that its response would be to build at least one new assembly and one powertrain plant here.

### **Opportunities for Supplier Localization**

This section has focused primarily upon the opportunities that automakers can directly address a BAT by increasing their own capacity in vehicle assembly or in engines and transmissions. It is, of course, also possible to increase capacity for the stamping of major body panels onsite, as this capability is sometimes linked to assembly plant development.

Automakers can significantly and fairly quickly increase the US content of their vehicles by purchasing more componentry from US-based supplier facilities. This is easier for automakers with low current US content, so it is an obvious early step for nearly every automaker besides the Detroit Three and Honda. Parts that can be spec'd and approved in relatively short order include interior trim, metal and plastic part trim and chassis parts, fasteners, belts, hoses, brakes, wheels, and tires. The US hosts hundreds of supplier facilities that make these parts and products, many of them owned by non-US-based companies that Europe- and Japan-based automakers already know well.

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