

U.S. Beauty Retail

UBS Evidence Lab inside: What's Happening in Beauty Retail, 3Q'19

Equities

Americas
Retailers, Broadline

Michael Goldsmith

Analyst
michael.goldsmith@ubs.com
+1-212-713 2951

Michael Lasser

Analyst
michael.lasser@ubs.com
+1-212-713 2440

Jay Sole

Analyst
jay.sole@ubs.com
+1-212-713 3559

Steven Strycula

Analyst
steven.strycula@ubs.com
+1-212-713 1428

Zuzanna Pusz, CFA

Analyst
zuzanna.pusz@ubs.com
+44-20-7567 1883

Gustavo Piras Oliveira, CFA

Analyst
gustavo.oliveira@ubs.com
+55-11-3513 6520

Julie Zhuang, CFA

Analyst
julie.zhuang@ubs.com
+44-20-7567 1888

Are more of ULTA's top-selling makeup items available at other retailers?

Product overlap between ULTA and other retailers remained relatively consistent in 3Q. For 175 top-selling SKUs at ULTA, 45% were available at M (51% in July), 39% at Sephora (38% in July), & 30% at JWN (22% in Apr). In mass, 37% were sold at AMZN 1P (39% in July), 25% at WMT 1P (29% in July), & 13% at TGT (18% in July). That said, Sephora carried 72% of ULTA's top 25 best-selling makeup products in Oct, up from 68% in July (63% avg the last 10 surveys). Given cosmetics is ULTA's largest product category (50% of sales), a differentiated assortment is key to its success.

ULTA has been adding fewer items to its website in recent months

Over the past 6 months, 61%-66% of ULTA's online assortment was on its website in the year ago period (vs. 51-54% in the prior 12 months). We believe this declining product newness reflects fewer beauty introductions. This is consistent with EL's comment that the number of new makeup launches declined -20% in the last year. Increased innovation & newness could reinvigorate beauty demand, in our view

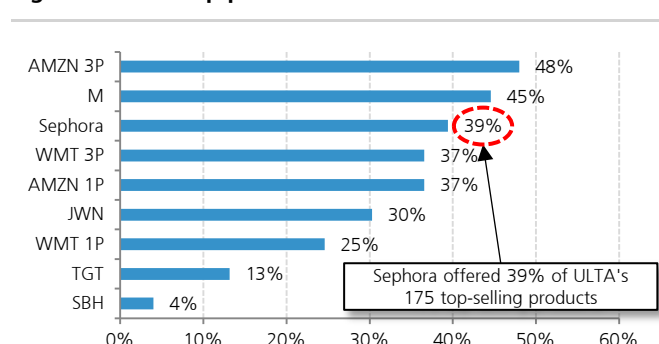
ULTA's store overlap with Sephora and cannibalization has been steady

We think this indicates that the industry sales deceleration is a function of other factors and not the result of increased B&M store overlap. According to UBS Evidence Lab data, in 3Q'19, 28% of ULTA stores compete with a Sephora in a 10 min drive time. This is the same as in 1Q'13. Since 3Q'14, 45%-48% of ULTA stores have overlapped with Sephora stores in JC Penney locations in a 10 min drive. On cannibalization, only 14% ULTA stores overlap with another one at a 10 min drive time. At a 15 minute drive time, 46% overlap with another ULTA store. This is up from 28% in 3Q'12.

What is happening in the pricing environment?

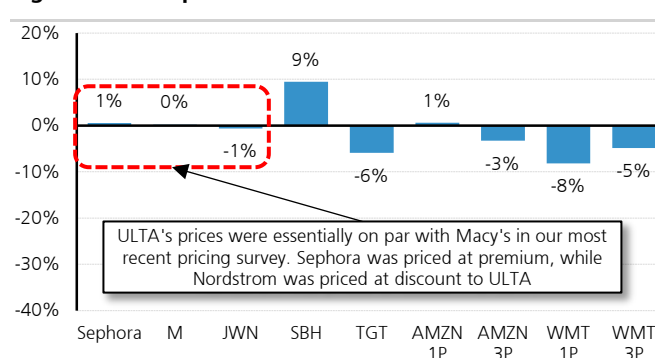
We reviewed prices for 275 top ULTA products & other retailers (as of Oct 17). On exact SKU matches with ULTA, Sephora's prices were 0.5% more expensive (0.1% in July), Macy's was 0.2% more expensive (6.5% in July), & JWN was -0.7% cheaper (-0.1% in July). According to UBS Evidence Lab, pricing on ULTA LFL items was down -0.3% YoY in 3Q'19 vs. -0.4% avg the prior 7 quarters. While base pricing remains relatively consistent, ULTA has historically used loyalty program promotions to drive sales. The degree that it relied on this lever will likely determine the trajectory of its GM.

Figure 1: ULTA top products available at other retailers



Source: UBS

Figure 2: ULTA prices relative to others on LFL items



Source: UBS

www.ubs.com/investmentresearch

This report has been prepared by UBS Securities LLC. **ANALYST CERTIFICATION AND REQUIRED DISCLOSURES BEGIN ON PAGE 55.** UBS does and seeks to do business with companies covered in its research reports. As a result, investors should be aware that the firm may have a conflict of interest that could affect the objectivity of this report. Investors should consider this report as only a single factor in making their investment decision.

Table of Contents

• Key Takeaways	Page 3
– Takeaway #1 – Cosmetics store sales decelerated in 3Q'19	Page 4
– Takeaway #2 – Overall product overlap with ULTA is stable	Page 5
– Takeaway #3 – Sephora is carrying more of ULTA's top-selling makeup	Page 6
– Takeaway #4 – ULTA has been adding fewer new products to its website	Page 7
– Takeaway #5 – ULTA's cannibalization has been stable	Page 8
– Takeaway #6 – ULTA's overlap with Sephora has been steady	Page 9
• Monitoring the Pricing Environment – UBS Evidence Lab Pricing Intelligence	Page 10
• Monitoring the Pricing Environment – Beauty Retail Pricing & Availability	Page 13
• Monitoring the Store Landscape – UBS Evidence Lab Store Overlap	Page 20
• Monitoring the Store Landscape – UBS Evidence Lab Demographics	Page 34
• Monitoring the Store Landscape – UBS Evidence Lab Regional Exposure	Page 38
• Monitoring the Digital Landscape – Social Media Analysis	Page 49
• Appendix 1: Methodology	Page 51

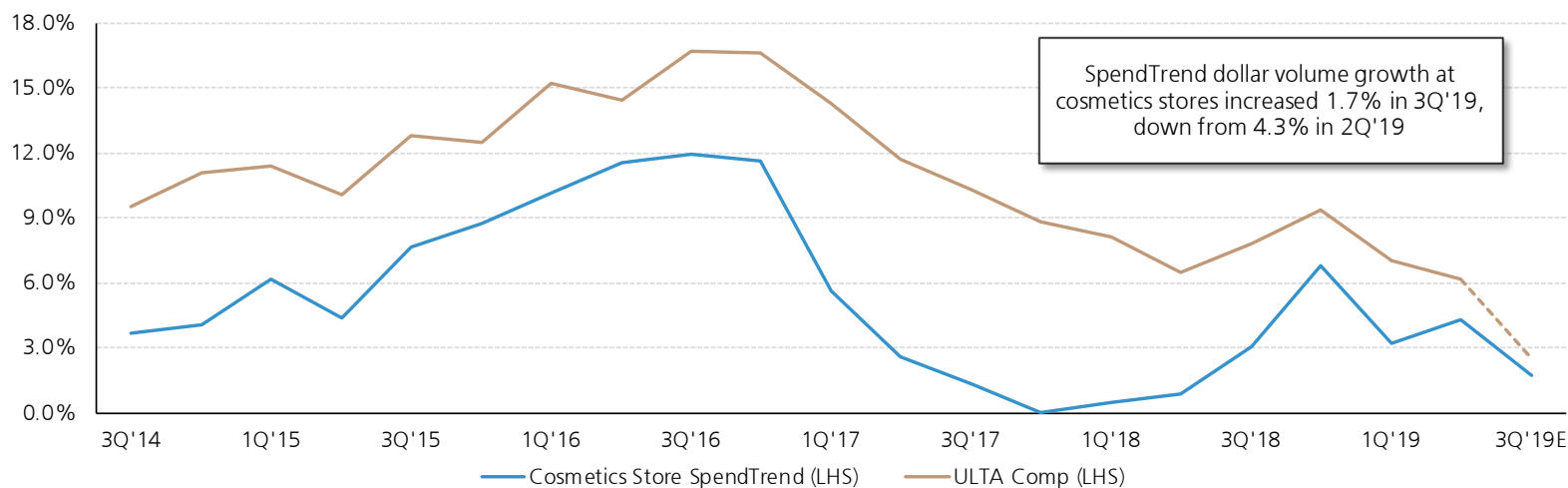
Section 1

Key Takeaways

Takeaway #1 – Cosmetics store sales decelerated in 3Q'19

- SpendTrend dollar volume growth at cosmetics stores increased 1.7% year-over-year during ULTA's 3Q'19. This represents a slowdown from the 4.3% growth in 2Q'19. The data indicates the category started the quarter slow with just a 0.3% increase in August. But, trends picked up a bit with a 2.9% increase in September and a 2.2% increase in October.
- There has been an 82% correlation between ULTA's quarterly same store sales and dollar volume growth change in cosmetics since 2Q'14.
- Throughout this report, we examine competition in US beauty retail from several angles to determine the sources of this pressure and how competition is trending.

Dollar Volume Growth Cosmetic Stores vs. ULTA Quarterly Comp, 3Q'14-3Q'19E

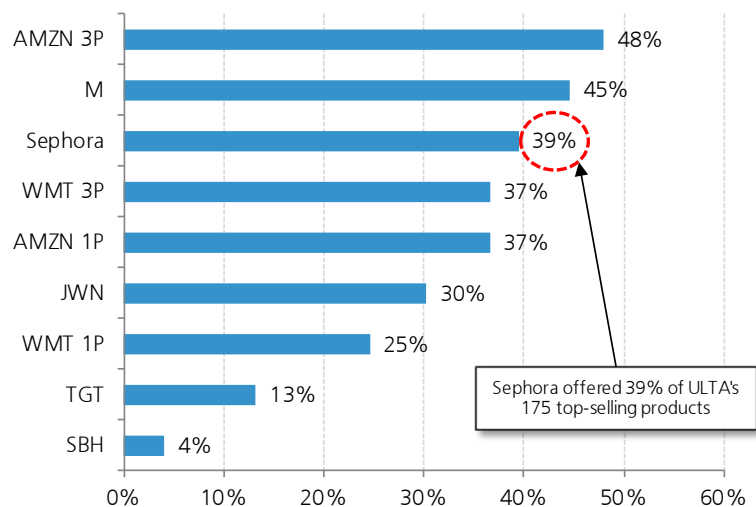


Source: Bloomberg, Company reports, UBS Estimates

Takeaway #2 – Overall product overlap with ULTA is stable

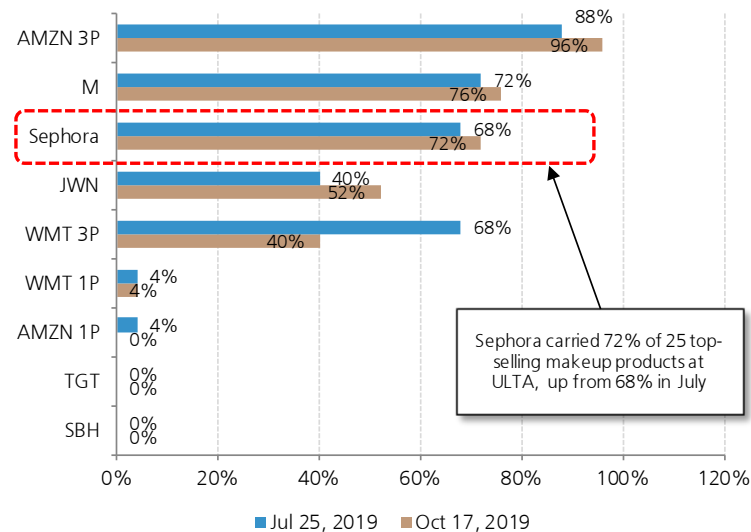
- In the October 2019 edition of our pricing survey of 175 top-selling products at ULTA, many items driving ULTA's sales weren't available at other retailers. This highlights that ULTA is generally insulated from competition.
 - For example, only 45% were available at Macy's, 39% were available at Sephora, and 30% were available at Nordstrom.
 - Similarly, only 37% were available at Amazon 1P, 25% were available at Walmart 1P, and 13% were available at Target.
- ULTA is well positioned in its key category, makeup (cosmetics represented 51% of its total sales in FY'18). Though, its top 25 makeup SKUs overlap with other retailers has increased since our last survey.
 - 76% were available at Macy's (vs. 72% in July 2019), 72% at Sephora (vs. 68% in July 2019), while 52% at JWN (vs. 40% in July 2019).
 - Availability through the mass channel continues to be limited. Only 4% were available at WMT 1P each, while none were available at AMZN 1P and TGT.

ULTA 175 Top-Selling Products Available at Other Beauty Retailers



Source: UBS

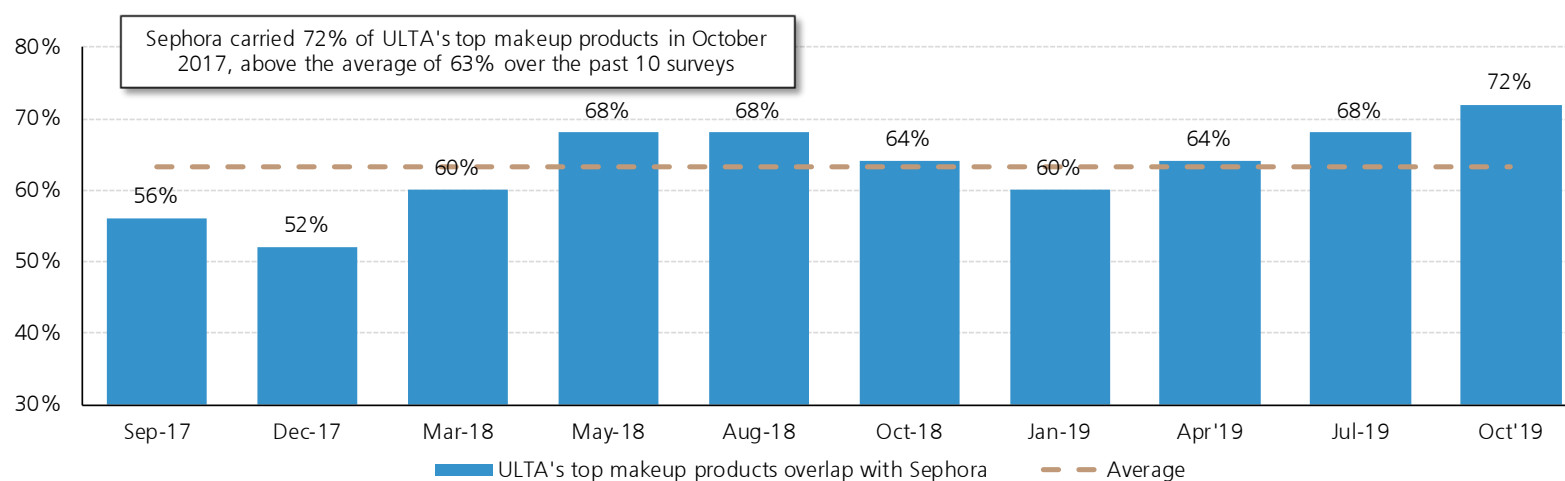
ULTA 25 Top-Selling Makeup Products Available at Other Beauty Retailers



Takeaway #3 – Sephora is carrying more of ULTA's top-selling makeup

- Sephora offered 72% of ULTA's top 25 selling makeup products in October 2019. This is up from 68% in April 2019 and 56% in September 2017. Further, this is above the 63% average over the past 10 surveys.
- While this was a slight step-up from the 68% overlap last quarter, we think this is a topic that merits attention.
- Should other retailers increasingly carry ULTA's top-selling products, it would mean that ULTA's assortment could be less differentiated.
- On Estee Lauder's 1Q'20 earnings call, the company noted that the number of new product launches in makeup declined -20% in the last year. We think lower levels of product introduction could mean less differentiation across the retailers.

ULTA's top 25 makeup products overlap with Sephora

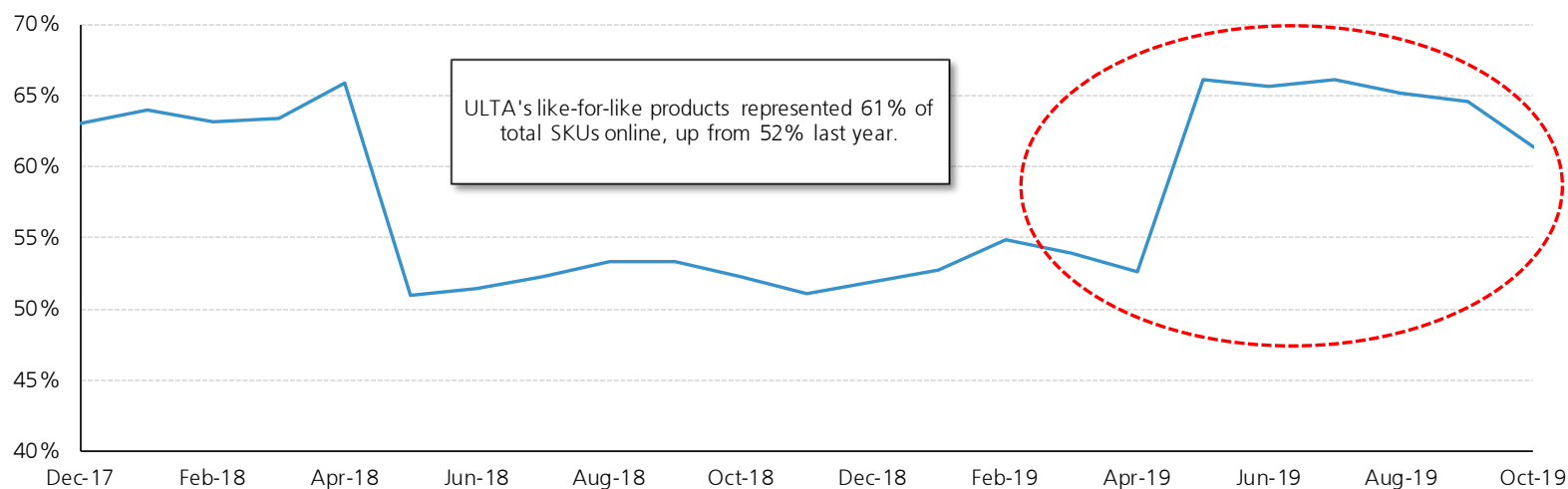


Source: UBS

Takeaway #4 – ULTA has been adding fewer new products

- According to UBS Evidence Lab data, in recent months ULTA has been introducing fewer new items to its assortment than last year.
- Specifically, 61% and 66% of ULTA's online assortment over the past six months was on its website in the year-ago period. In the prior twelve months, 51%-54% of its online assortment was on its website in the year-ago period.
- We think this reflects less newness on ULTA's website as a result of fewer beauty product introductions.
- On ULTA's 2Q'19 earnings call, the company emphasized that newness and innovation have been a primary growth driver over the past several years and that this has slowed recently. On Estee Lauder's 1Q'20 earnings call, the company noted that the number of new product launches in makeup declined -20% in the last year.

ULTA's like-for-like products as a percentage of total SKUs

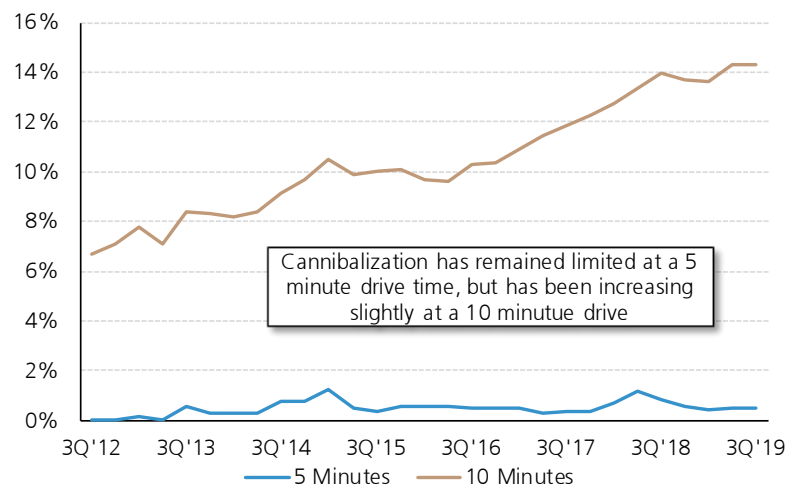


Source: UBS Evidence Lab

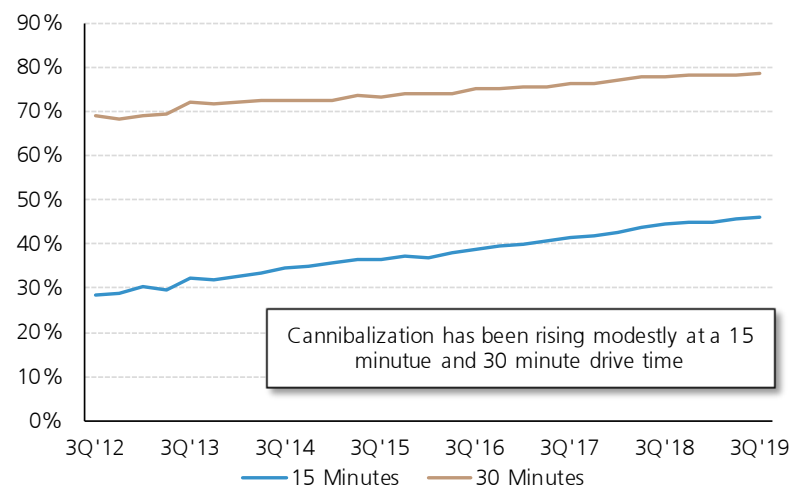
Takeaway #5 – ULTA's cannibalization has been stable

- Stable store overlap suggests that ULTA's cannibalization hasn't materially picked up.
 - Less than 1% of ULTA's stores overlap with another ULTA store in a 5 minute drive time. This has been consistent over time. More than 14% of ULTA's stores compete with another ULTA store in a 10 minute drive time. While cannibalization at this drive time remains limited, it has gradually increased from 7% in 3Q'12.
 - At a 15 minute drive time, 46% of ULTA's stores overlap with another ULTA store. This compares to 28% in 3Q'12. 78% of ULTA's stores overlap with another ULTA store in a 30 minute drive time, up from 69% in 3Q'12.
- During the same time frame, ULTA's store count has increased from nearly 500 to over 1,200. This highlights that ULTA can grow its footprint without excessively cannibalizing its existing locations.
- At its 2018 Analyst Day, ULTA noted that store cannibalization has held steady at 130 bps for many years. This data suggests there hasn't been a material change to this figure.

ULTA cannibalization at a 5 & 10 min drive time



ULTA cannibalization at a 15 & 30 min drive time

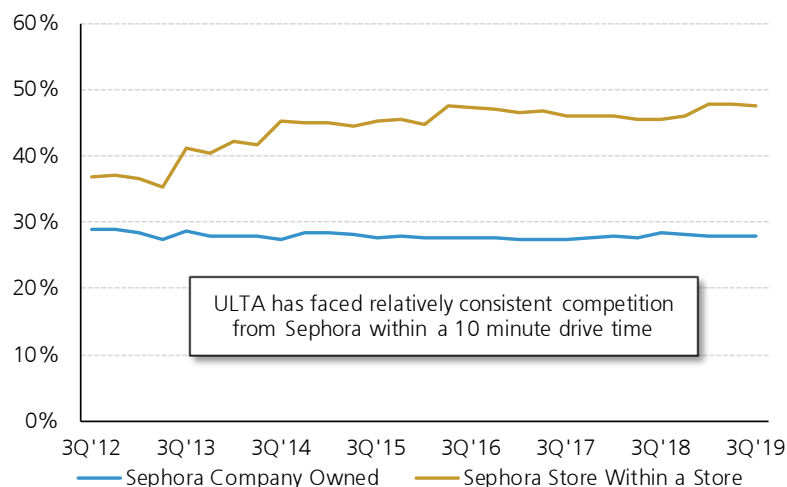


Source: UBS Evidence Lab

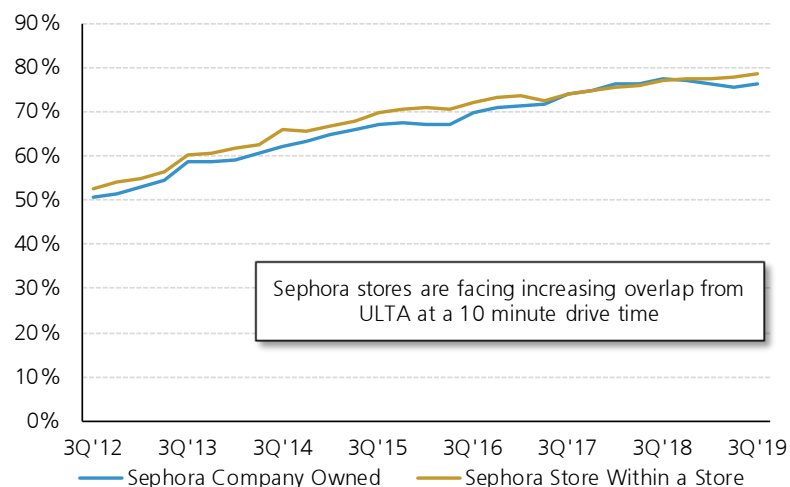
Takeaway #6 – ULTA's overlap with Sephora has been steady

- ULTA stores face modest competition from Sephora and this has been relatively stable over time. This suggests this factor isn't weighing on ULTA's top-line growth.
- At a 10 minute drive, 28% of ULTA stores compete with a Sephora. In 1Q'13, 28% of ULTA stores competed with a Sephora store. At the same time, 47% of ULTA stores compete with a Sephora Store Within a Store. This compares to 36% in 1Q'13. Though, the degree of competitive incidence has been stable more recently (ULTA's overlap with Sephora Stores Within a Store has trended between 45% and 48% since 3Q'14).
- Sephora stores have seen increasing levels of competition from ULTA. At a 10 minute drive time, 76% of Sephora stores face competition from ULTA. This is up from 53% in 1Q'13. Similarly, 79% of Sephora Store Within a Stores face competition from ULTA. This is up from 55% in 1Q'13.

ULTA's stores face modest overlap with Sephora



Sephora stores face elevated overlap with ULTA



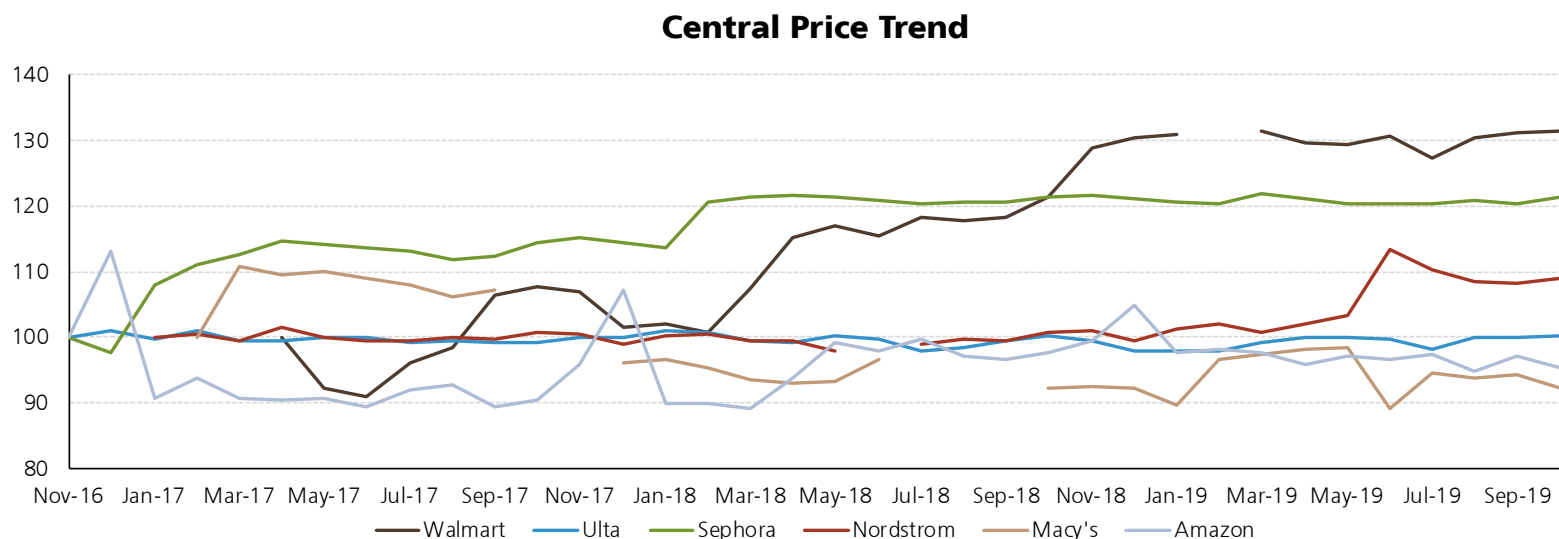
Source: UBS Evidence Lab

Section 2

Monitoring the Pricing Environment – UBS Evidence Lab Pricing Intelligence

ULTA's overall prices have been fairly stable over time

- Using UBS Evidence Lab data, we analyzed how aggregate prices on all products have changed over time across different retailers.
- Notably, ULTA has kept its overall prices generally steady over time. Specifically, prices of ULTA's assortment (including both like-for-like and new items) have fluctuated between -2% to +1% since November 2016.
- It's important to note that this reflects all available SKUs on its website and not just like-for-like products. As such, our work assesses the full selection of products at each retailer.

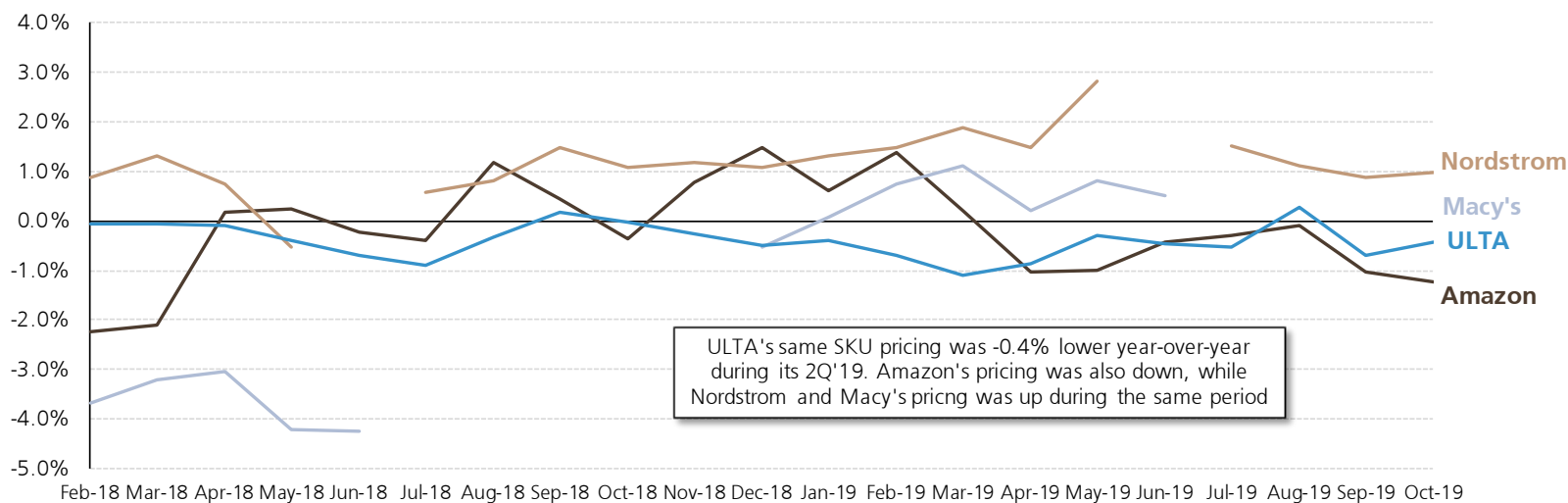


Source: UBS Evidence Lab

ULTA's like-for-like SKU pricing was lower than last year

- UBS Evidence Lab price intelligence harvested beauty product offerings from nearly 30 retailer websites across 7 countries since October 2015. The database now totals over 33 million records. One use for the database is to determine trends in year-over-year pricing.
- During the months of ULTA's 3Q'19, its pricing on like-for-like products was -0.3% lower year-over-year. In particular, its pricing was up 0.3% in August, down -0.7% in September, and down -0.4% in October.
- For comparison, like-for-like beauty pricing during the same period was up 1.0% at Nordstrom and down -0.8% at Amazon.

Like-for-Like Year-Over-Year Beauty Price Trend



Source: UBS Evidence Lab

Section 3

Monitoring the Pricing Environment – Beauty Retail Pricing & Availability

What is the product overlap with ULTA?

- In order to assess product overlap between ULTA and other beauty retailers, we reviewed the top 25 best-selling products on ULTA's website across 7 categories as well as 100 new arrivals as of October 17, 2019. We compared this list of 275 products to the websites of other retailers for availability and pricing.
 - ULTA's overlap with Walmart 1P and Amazon 1P in the Makeup category remains limited. Walmart 1P offered only one makeup product (4%), while Amazon 1P didn't carry any makeup item from ULTA's top 25 in the category.
 - Similarly, Walmart 1P and Amazon 1P have little overlap with ULTA's New Arrivals category. Specifically, Walmart 1P carried only 2, while Amazon 1P carried only 7 out of 100 ULTA's New Arrivals.
 - At the same time, Sephora has limited overlap with ULTA in the Nails and New Arrivals categories. Specifically, none of ULTA's top 25 products in the Nails category was available at Sephora, while it offered only 3 of ULTA's 100 newest items.

ULTA Top-Selling Products Available at Key Beauty Retailers by Category (October 17 survey)

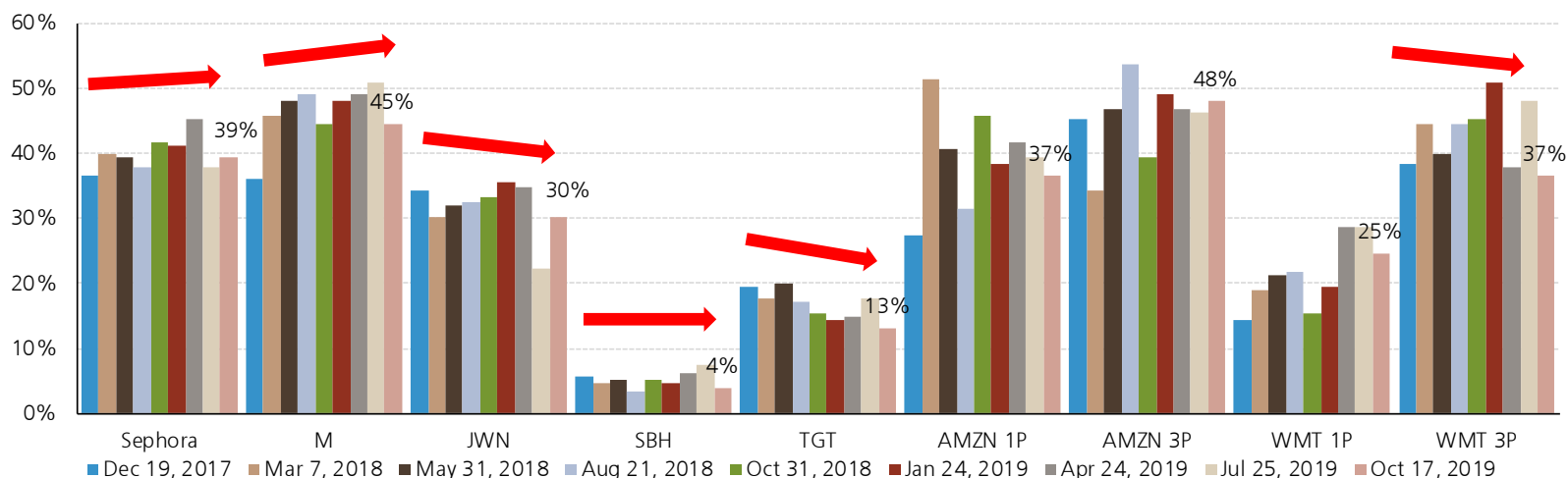
	Sephora	M	JWN	SBH	TGT	AMZN 1P	AMZN 3P	WMT 1P	WMT 3P
Makeup	72%	76%	52%	0%	0%	0%	96%	4%	40%
Nails	0%	12%	0%	24%	32%	28%	40%	32%	28%
Skincare	40%	40%	32%	0%	0%	36%	40%	12%	28%
Haircare	20%	28%	16%	0%	28%	56%	28%	56%	16%
Fragrance	76%	80%	64%	0%	0%	48%	48%	20%	56%
Bath and Body	16%	24%	16%	0%	20%	32%	48%	28%	24%
Men	52%	52%	32%	4%	12%	56%	36%	20%	64%
New Arrivals	3%	18%	2%	0%	11%	7%	8%	2%	3%

Source: Company reports, UBS

What is the historical product overlap with ULTA?

- Over the ten survey iterations, Sephora has consistently carried about 40% of ULTA's top 175 products, including 39% in the latest edition. Although ULTA and Sephora compete in the specialty channel, these results may indicate there's enough space for both retailers.
- Further, Macy's carried 45% and Nordstrom offered 30% of ULTA's best selling items as of October 17, 2019. These are generally in line with retailers' averages over the past ten surveys (46% for Macy's and 31% for Nordstrom).
- ULTA's top products offering at Amazon 1P has been volatile through the history of our survey. In the latest edition, Amazon carried 37% of ULTA's top 175 products, compared to 39% in July 2019 and 36% in September 2017. Separately, Walmart offered 25% of ULTA's top products, down from 29% in July 2019, but up from 17% in our first iteration of the survey.

ULTA Top-Selling Products Available at Other Key Beauty Retailers



Source: Company reports, UBS

What is the historical makeup overlap with ULTA?

- ULTA's top 25 makeup products availability at Amazon 1P and Walmart 1P has been limited throughout the history of our survey. This category represents over 50% of ULTA's annual sales.
 - On average, only 4% have been carried by Walmart 1P and Amazon 1P. We think this underlines ULTA's product mix differentiation from the mass channel which insulates it from competition.
 - Availability through 3P sellers on AMZN & WMT is high, but prices are usually more expensive. That said, in our latest survey, pricing at both AMZN 3P & WMT 3P was more competitive. Specifically, AMZN 3P prices were generally on par with ULTA, while WMT 3P prices were 2% more expensive than ULTA's.
- ULTA's top 25 makeup products overlap with Sephora, Macy's and Nordstrom is higher compared to our first survey and has increased recently.
 - In our latest survey, Macy's carried 76% of ULTA's top makeup items (vs. 72% in July 2019), Sephora carried 72% (vs. 68% in July 2019), and Nordstrom carried 52% (vs. 40% in July 2019).
 - Since our last survey, Sephora and Macy's product overlap has increased 400 bps each, while Nordstrom has increased 1,200 bps. While this may indicate that ULTA's offering in makeup category has become less of an advantage, it is important to note that these numbers tend to fluctuate.

ULTA Top-Selling Makeup Items Available at Key Beauty Retailers

Makeup	Sephora	M	JWN	SBH	TGT	AMZN 1P	AMZN 3P	WMT 1P	WMT 3P
Sep 20, 2017	56%	44%	40%	0%	0%	12%	72%	8%	32%
Dec 19, 2017	52%	48%	44%	0%	0%	0%	88%	0%	48%
Mar 7, 2018	60%	60%	44%	0%	4%	0%	96%	0%	72%
May 31, 2018	68%	68%	56%	0%	0%	8%	84%	0%	68%
Aug 21, 2018	68%	76%	64%	0%	4%	4%	84%	8%	56%
Oct 31, 2018	64%	56%	44%	0%	4%	4%	96%	4%	44%
Jan 24, 2019	60%	48%	52%	0%	0%	0%	84%	4%	52%
Apr 24, 2019	64%	80%	56%	0%	0%	12%	80%	8%	52%
Jul 25, 2019	68%	72%	40%	0%	0%	4%	88%	4%	68%
Oct 17, 2019	72%	76%	52%	0%	0%	0%	96%	4%	40%
Average	63%	63%	49%	0%	1%	4%	87%	4%	53%

Source: Company reports, UBS

What is the historical new products overlap with ULTA?

- We also looked at 100 new products on ULTA's website to see if they were available at other beauty retailers. This serves as an indication of the exclusiveness of the SKUs ULTA is adding to its website.
- There's limited availability of ULTA's new products at other retailers. This demonstrates that ULTA's is well positioned among those looking for new products.
 - For example, Sephora carried only 3 of ULTA's 100 newest products online as of October 17, 2019, while Nordstrom offered only 2 of ULTA's 100 new arrivals. At the same time, Macy's offered 18 of ULTA's 100 newest products.
- ULTA's new products availability at Amazon 3P and Walmart 3P is below historical levels. Specifically, AMZN 3P carried only 8, while WMT 3P offered only 3 of ULTA's 100 new arrivals.
- While product availability of ULTA's 100 new arrivals at Target increased compared to last two surveys, it remains limited. In particular, Target carried 11 of ULTA's 100 new products as of October 17, 2019. This compares to 3 products in July 25, 2019 and 7 items in April 24, 2019.

ULTA New Arrivals Products Available at Key Beauty Retailers

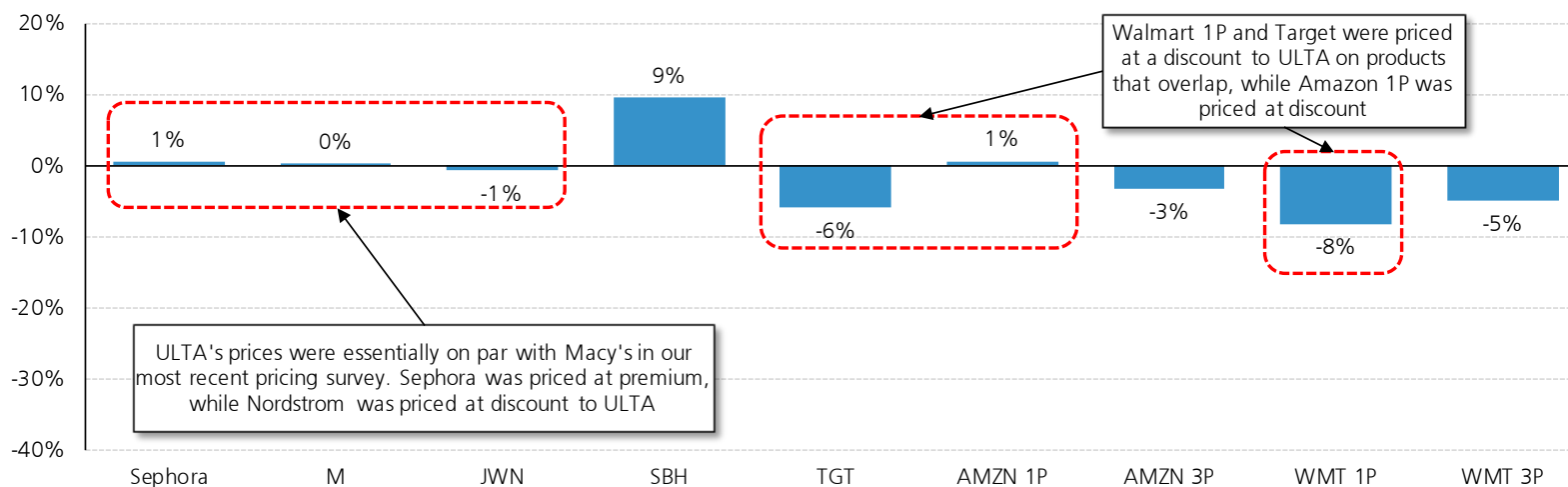
New Arrivals	Sephora	M	JWN	SBH	TGT	AMZN 1P	AMZN 3P	WMT 1P	WMT 3P
Sep 20, 2017	16%	20%	14%	0%	0%	10%	30%	6%	10%
Dec 19, 2017	23%	25%	15%	3%	6%	12%	17%	4%	5%
Mar 7, 2018	19%	7%	13%	1%	2%	4%	21%	2%	10%
May 31, 2018	9%	10%	11%	5%	11%	18%	20%	13%	9%
Aug 21, 2018	28%	5%	8%	0%	15%	13%	32%	5%	10%
Oct 31, 2018	4%	2%	4%	0%	10%	5%	20%	12%	5%
Jan 24, 2019	1%	3%	2%	2%	23%	2%	24%	11%	12%
Apr 24, 2019	13%	9%	6%	2%	7%	8%	19%	4%	9%
Jul 25, 2019	19%	12%	20%	0%	3%	9%	27%	3%	19%
Oct 17, 2019	3%	18%	2%	0%	11%	7%	8%	2%	3%
Average	14%	11%	10%	1%	9%	9%	22%	6%	9%

Source: Company reports, UBS

What is the price difference with ULTA?

- We compared the prices for 175 of ULTA's top products to other retailers.
- The pricing environment within the specialty beauty and department store channel remains rational.
 - Interestingly, ULTA's prices were essentially on par with Macy's, modestly more expensive than Sephora and moderately cheaper than Nordstrom. Specifically, for products that were carried by the other retailers, Macy's prices were 0.2% more expensive than ULTA's, Sephora's prices were 0.5% more expensive than ULTA's, while Nordstrom's prices were -0.7% cheaper than ULTA's.
- At the same time, Walmart 1P and Target's prices were cheaper than ULTA on like-for-like products, while Amazon 1P prices were slightly higher than ULTA's. Though, these retailers offers mainly mass beauty products.
 - Specifically, Walmart 1P's prices were -8% lower than ULTA's, Target's prices were -6% cheaper than ULTA's, while Amazon 1P's prices were 1% more expensive than ULTA's.

ULTA Top-Selling Products Prices Relative to Key Beauty Retailers (October 17 survey)

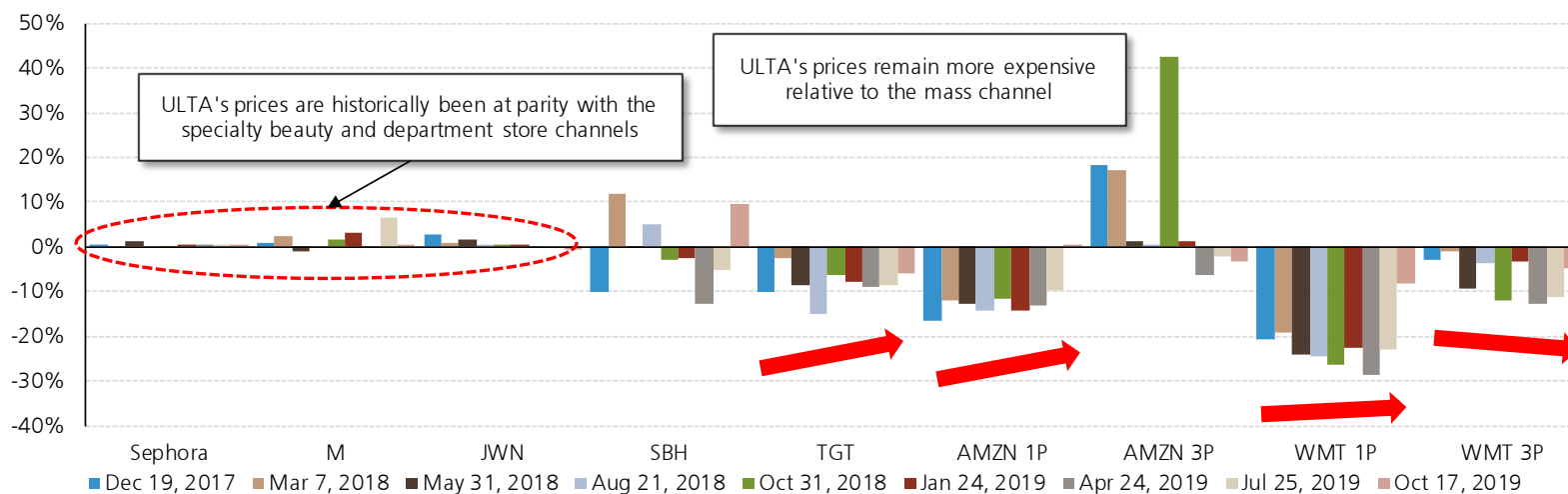


Source: Company reports, UBS

What has the price difference been with ULTA over time?

- ULTA's prices have been largely in-line with the specialty beauty channel and the department stores across history of our survey.
- Further, its price differential with the mass channel (TGT and WMT) has been fairly stable over the past couple of surveys.
- Overall, we believe that ULTA's depth of assortment is its key competitive advantage compared to mass merchants and puts it in the superior position in beauty category.

ULTA Top-Selling Products Available at Other Key Beauty Retailers (October 17 survey)



Source: Company reports, UBS

Section 4

Monitoring the Store Landscape – UBS Evidence Lab Store Overlap

ULTA Store Overlap

- ULTA frequently competes with Sally Beauty. 92% of ULTA's stores compete with a Sally beauty store at a 10 minute drive time. The overlap rises to 98% of when considering a 15 minute drive time.
- ULTA commonly overlaps with both Sephora freestanding and "store-within-a-store" locations. At a 15 minute drive time, 44% of ULTA stores competes with a Sephora store. At the same drive time, 66% of ULTA stores face competition from a Sephora Store Within a Store (in a JC Penney).
- ULTA's most frequent direct competitor at a 5 minute drive is CVS. 85% of ULTA's stores are located in this drive time of a CVS store.
- Relative to the Department Stores, 56% of ULTA stores compete with a Macy's and 21% of ULTA stores compete with a Nordstrom within a 15 minute drive time.

ULTA Store Overlap Matrix

Ultia Beauty	5 Minutes	10 Minutes	15 Minutes	30 Minutes
CVS	85%	96%	97%	98%
Target	68%	87%	91%	95%
Walgreens	67%	95%	98%	99%
Sally Beauty Supply	65%	92%	98%	100%
Bath Body Works	62%	82%	92%	98%
Bare Escentuals SWAS	57%	70%	81%	91%
Lancome SWAS	56%	77%	91%	98%
Urban Decay Cosmetics SWAS	55%	65%	76%	88%
Kohl's	47%	70%	85%	94%
Aveda SWAS	40%	68%	82%	94%
JCPenney	35%	51%	71%	92%
MAC Cosmetics SWAS	35%	48%	64%	81%
Sephora SWAS	33%	47%	66%	89%
Macy's	25%	39%	56%	76%
Kerastase SWAS	19%	40%	54%	74%
Merle Norman Cosmetics	18%	35%	49%	79%
Sephora	16%	28%	44%	69%
Kiehls SWAS	14%	26%	42%	68%
LUSH	8%	15%	29%	56%
Aveda	7%	14%	25%	49%
MAC Cosmetics	6%	13%	24%	48%
LOCCITANE	6%	13%	23%	50%
Bare Escentuals	5%	11%	20%	43%
Nordstrom	5%	11%	21%	44%
LOCCITANE SWAS	5%	11%	23%	46%
Saks Off Fifth	4%	9%	18%	44%
The Body Shop	4%	9%	18%	40%
Armstrong McCall	3%	11%	14%	15%
Bluemercury	3%	8%	16%	38%
Perfumania	3%	7%	13%	35%
Louis Vuitton International	2%	5%	11%	32%
Kiehls	2%	6%	13%	30%
Bloomingdale's	2%	4%	8%	21%
Saks Fifth Avenue	1%	2%	6%	19%
Louis Vuitton International SWAS	1%	3%	6%	18%
Barneys New York	0%	1%	2%	7%
Urban Decay Cosmetics	0%	0%	1%	3%
Bergdorf Goodman	0%	0%	0%	0%

Source: UBS Evidence Lab

Sephora Store Overlap

- Sephora's stores are located in close proximity to ULTA. At a 10 minute drive time, 76% of Sephora's stores face competition from a ULTA store. This number rises to 93% when considering a 15 min drive time.
- Sephora's exposure to Sally Beauty is elevated. 81% of Sephora's stores compete with Sally Beauty at a 10 minute drive time. The overlap rises to 93% when considering a 15 minute drive time.
- Relative to the Department Stores, 86% of Sephora's stores compete with a Macy's and 47% of Sephora's stores compete with a Nordstrom within a 15 minute drive time.

Sephora Store Overlap Matrix

Sephora	5 Minutes	10 Minutes	15 Minutes	30 Minutes
Bare Escentuals SWAS	88%	94%	98%	100%
Lancome SWAS	86%	94%	98%	100%
CVS	85%	99%	100%	100%
Urban Decay Cosmetics SWAS	79%	90%	95%	100%
Bath Body Works	73%	88%	97%	100%
MAC Cosmetics SWAS	68%	82%	91%	97%
Aveda SWAS	68%	88%	95%	100%
Walgreens	61%	97%	100%	100%
Macy's	61%	77%	86%	95%
Kiehls SWAS	60%	69%	78%	91%
Kerastase SWAS	56%	77%	88%	96%
Target	54%	90%	97%	99%
Ulta Beauty	48%	76%	93%	100%
LUSH	45%	56%	67%	85%
LOCCITANE	40%	49%	58%	79%
Sally Beauty Supply	37%	81%	93%	100%
MAC Cosmetics	37%	45%	55%	77%
JCPenney	35%	51%	66%	94%
Sephora SWAS	35%	51%	65%	93%
Aveda	31%	39%	51%	73%
Nordstrom	30%	38%	47%	72%
LOCCITANE SWAS	29%	39%	51%	75%
The Body Shop	25%	33%	44%	65%
Bare Escentuals	23%	28%	34%	58%
Kiehls	22%	29%	37%	60%
Kohl's	21%	52%	79%	98%
Bluemercury	19%	33%	45%	67%
Louis Vuitton International	18%	25%	35%	62%
Merle Norman Cosmetics	14%	28%	44%	77%
Louis Vuitton International SWAS	11%	16%	22%	42%
Saks Off Fifth	11%	23%	37%	72%
Bloomingdale's	11%	17%	23%	47%
Saks Fifth Avenue	10%	16%	23%	41%
Barneys New York	4%	7%	9%	21%
Perfumania	4%	9%	19%	52%
Armstrong McCall	2%	10%	12%	12%
Bergdorf Goodman	1%	2%	3%	5%
Urban Decay Cosmetics	1%	1%	2%	7%

Source: UBS Evidence Lab

Sephora Store Within a JC Penney Store Overlap

- JC Penney continues to struggle in a changing retail environment. It reported a -9.3% comp in 3Q'19, with a -6.6% comp excluding the exit of major appliance and in-store furniture categories.
- Sephora stores within a store have an elevated exposure to ULTA. At a 10 minute drive time, 78% of Sephora stores within a store competes with an ULTA store. This number rises to 88% when considering a 15 min drive time.
- Relative to the Department Stores, 56% of Sephora stores within a store compete with a Macy's and 14% of Sephora stores within a store compete with a Nordstrom within a 15 minute drive time.
- Sephora stores face direct competition from Sally Beauty. 96% of Sephora stores within a store compete with Sally Beauty at a 10 minute drive time. The overlap rises to 99% when considering a 15 minute drive time.

Sephora SWAS Store Overlap Matrix

Sephora SWAS	5 Minutes	10 Minutes	15 Minutes	30 Minutes
JCPenney	98%	100%	100%	100%
Bath Body Works	88%	94%	96%	98%
Lancome SWAS	85%	90%	94%	98%
CVS	80%	97%	97%	98%
Bare Escentuals SWAS	71%	79%	84%	91%
Urban Decay Cosmetics SWAS	69%	74%	78%	85%
Sally Beauty Supply	66%	96%	99%	100%
Target	64%	89%	93%	95%
Walgreens	61%	95%	98%	98%
Ulta Beauty	59%	79%	89%	94%
MAC Cosmetics SWAS	50%	55%	64%	77%
Macy's	46%	49%	56%	69%
Kohl's	43%	72%	87%	94%
Aveda SWAS	39%	70%	82%	92%
Merle Norman Cosmetics	23%	41%	53%	77%
Sephora	21%	28%	36%	59%
Kiehls SWAS	21%	26%	36%	60%
Kerastase SWAS	13%	32%	43%	66%
LUSH	12%	15%	22%	45%
Bare Escentuals	10%	12%	17%	35%
Aveda	9%	12%	19%	40%
MAC Cosmetics	8%	11%	16%	40%
The Body Shop	7%	9%	14%	31%
LOCCITANE SWAS	7%	9%	14%	35%
Nordstrom	6%	8%	13%	33%
LOCCITANE	6%	9%	16%	40%
Armstrong McCall	5%	15%	18%	19%
Perfumania	5%	7%	12%	28%
Saks Off Fifth	3%	5%	12%	33%
Kiehls	2%	3%	6%	22%
Bloomingdale's	2%	2%	4%	12%
Louis Vuitton International	1%	2%	5%	23%
Louis Vuitton International SWAS	1%	2%	3%	12%
Saks Fifth Avenue	1%	2%	3%	13%
Bluemercury	1%	4%	9%	29%
Urban Decay Cosmetics	0%	1%	1%	2%
Barneys New York	0%	0%	1%	4%
Bergdorf Goodman	0%	0%	0%	0%

Source: UBS Evidence Lab

Barneys New York Store Overlap

- The challenges at Barneys serve as another reminder of how retailers like ULTA are gaining share at the expense of others.
- Barneys New York has recently filled for bankruptcy and is expected to close most of its 19 locations. As such we leveraged UBS Evidence Lab data to identify those with elevated level of store overlap.
- Barneys New York stores have an elevated exposure to Sephora. At a 5 minute drive time, 64% of Barneys' stores compete with a Sephora store. This number rises to 77% when considering a 15 min drive time.
- Barneys faces relatively modest levels of competition from ULTA at a 5 minute drive time as only 18% of its stores are close to an ULTA at this drive time. Though, it increases to 68% at a 10 minute drive time, and 86% at a 15 minute drive time.
- Relative to the Department Stores, 41% of Barneys' stores compete with a Macy's and 32% of Barneys' stores compete with a Nordstrom within a 5 minute drive time.

Barneys New York Store Overlap Matrix

Nordstrom	5 Minutes	10 Minutes	15 Minutes	30 Minutes
Bare Escentuals SWAS	73%	82%	95%	100%
LOCCITANE	73%	77%	82%	95%
CVS	68%	95%	95%	100%
Lancome SWAS	68%	77%	91%	100%
Aveda SWAS	68%	77%	86%	95%
Sephora	64%	64%	77%	95%
Kiehls SWAS	59%	59%	73%	86%
MAC Cosmetics SWAS	55%	68%	82%	95%
Kerastase SWAS	55%	64%	77%	95%
MAC Cosmetics	55%	55%	73%	86%
Bath Body Works	50%	82%	95%	100%
Saks Off Fifth	45%	73%	82%	95%
LUSH	45%	50%	59%	86%
Walgreens	41%	86%	95%	100%
Urban Decay Cosmetics SWAS	41%	68%	91%	100%
Kiehls	41%	55%	59%	77%
Bloomingdale's	41%	55%	59%	68%
The Body Shop	41%	45%	59%	77%
Nordstrom	41%	41%	55%	82%
Louis Vuitton International SWAS	36%	41%	45%	59%
Aveda	36%	36%	59%	77%
Target	32%	86%	91%	100%
Macy's	32%	59%	73%	100%
LOCCITANE SWAS	32%	45%	68%	82%
Louis Vuitton International	32%	41%	45%	64%
Perfumania	32%	36%	41%	68%
Bare Escentuals	32%	32%	36%	55%
Saks Fifth Avenue	27%	27%	45%	55%
Bluemercury	23%	45%	55%	82%
Ulta Beauty	18%	68%	86%	100%
Sally Beauty Supply	18%	68%	91%	100%
JCPenney	5%	18%	41%	86%
Sephora SWAS	5%	18%	41%	86%
Kohl's	5%	9%	45%	95%
Bergdorf Goodman	5%	5%	9%	14%
Merle Norman Cosmetics	0%	0%	18%	64%
Armstrong McCall	0%	0%	0%	0%
Urban Decay Cosmetics	0%	0%	0%	0%

Source: UBS Evidence Lab

Sephora Store Within a Store Overlap

- Sephora stores within a store face direct competition from ULTA. At a 10 minute drive time, 79% of Sephora stores within a store competes with an ULTA store. This number rises to 89% when considering a 15 min drive time.
- Sephora stores within a store frequently overlaps with Sally Beauty. 96% of Sephora stores within a store compete with Sally Beauty at a 10 minute drive time. The overlap rises to 99% when considering a 15 minute drive time.
- Relative to the Department Stores, 56% of Sephora stores within a store compete with a Macy's and 13% of Sephora stores within a store compete with a Nordstrom within a 15 minute drive time.

Sephora SWAS Store Overlap Matrix

Sephora SWAS	5 Minutes	10 Minutes	15 Minutes	30 Minutes
JCPenney	98%	100%	100%	100%
Bath Body Works	88%	94%	96%	98%
Lancome SWAS	85%	90%	94%	98%
CVS	80%	97%	97%	98%
Bare Escentuals SWAS	71%	79%	84%	91%
Urban Decay Cosmetics SWAS	69%	74%	78%	85%
Sally Beauty Supply	66%	96%	99%	100%
Target	64%	89%	93%	95%
Walgreens	61%	95%	98%	98%
Ulta Beauty	59%	79%	89%	94%
MAC Cosmetics SWAS	50%	55%	64%	77%
Macy's	46%	49%	56%	69%
Kohl's	43%	72%	87%	94%
Aveda SWAS	39%	70%	82%	92%
Merle Norman Cosmetics	23%	41%	53%	77%
Sephora	21%	28%	36%	59%
Kiehls SWAS	21%	26%	36%	60%
Kerastase SWAS	13%	32%	43%	66%
LUSH	12%	15%	22%	45%
Bare Escentuals	10%	12%	17%	35%
Aveda	9%	12%	19%	40%
MAC Cosmetics	8%	11%	16%	40%
The Body Shop	7%	9%	14%	31%
LOCCITANE SWAS	7%	9%	14%	35%
Nordstrom	6%	8%	13%	33%
LOCCITANE	6%	9%	16%	40%
Armstrong McCall	5%	15%	18%	19%
Perfumania	5%	7%	12%	28%
Saks Off Fifth	3%	5%	12%	33%
Kiehls	2%	3%	6%	22%
Bloomingdale's	2%	2%	4%	12%
Louis Vuitton International	1%	2%	5%	23%
Louis Vuitton International SWAS	1%	2%	3%	12%
Saks Fifth Avenue	1%	2%	3%	13%
Bluemercury	1%	4%	9%	29%
Urban Decay Cosmetics	0%	1%	1%	2%
Barneys New York	0%	0%	1%	4%
Bergdorf Goodman	0%	0%	0%	0%

Source: UBS Evidence Lab

Sally Beauty Store Overlap

- Sally Beauty's degree of competitive incidence with Ulta is elevated. At a 10 minute drive time, 55% of Sally Beauty stores face competition from a ULTA store. This number rises to 74% when considering a 15 min drive time.
- Sally Beauty's overlap with Sephora is somewhat limited. 18% of Sally Beauty stores compete with Sephora at a 10 minute drive time. The overlap rises to 35% when considering a 15 minute drive time.
- Relative to the Department Stores, 47% of Sally Beauty stores compete with a Macy's and 14% of Sally Beauty stores compete with a Nordstrom within a 15 minute drive time.

Sally Beauty Store Overlap Matrix

Sally Beauty Supply	5 Minutes	10 Minutes	15 Minutes	30 Minutes
CVS	76%	91%	93%	96%
Walgreens	74%	94%	96%	98%
Target	42%	68%	78%	87%
Lancome SWAS	35%	64%	84%	94%
Bath Body Works	35%	63%	80%	92%
Ulta Beauty	30%	55%	74%	87%
Kohl's	29%	53%	71%	87%
Bare Escentuals SWAS	26%	53%	70%	86%
Aveda SWAS	25%	58%	74%	88%
JCPenney	22%	42%	64%	87%
Urban Decay Cosmetics SWAS	21%	43%	62%	79%
Sephora SWAS	18%	37%	58%	82%
Merle Norman Cosmetics	16%	32%	48%	77%
MAC Cosmetics SWAS	14%	33%	53%	74%
Macy's	11%	29%	47%	68%
Kerastase SWAS	11%	28%	44%	66%
Sephora	6%	18%	35%	61%
Kiehls SWAS	6%	18%	34%	60%
Armstrong McCall	4%	10%	14%	17%
LUSH	3%	10%	21%	48%
Aveda	3%	9%	18%	43%
Bare Escentuals	2%	6%	15%	37%
MAC Cosmetics	2%	8%	18%	42%
LOCCITANE	2%	8%	17%	42%
Perfumania	2%	6%	12%	31%
LOCCITANE SWAS	2%	7%	16%	38%
Nordstrom	1%	6%	14%	37%
The Body Shop	1%	6%	13%	33%
Saks Off Fifth	1%	6%	13%	36%
Bluemercury	1%	5%	11%	32%
Kiehls	1%	3%	8%	25%
Bloomingdale's	1%	2%	5%	16%
Louis Vuitton International	1%	3%	8%	27%
Louis Vuitton International SWAS	0%	2%	5%	15%
Saks Fifth Avenue	0%	2%	5%	17%
Urban Decay Cosmetics	0%	0%	1%	3%
Barneys New York	0%	0%	1%	5%
Bergdorf Goodman	0%	0%	0%	0%

Source: UBS Evidence Lab

Bath & Body Works Store Overlap

- As a reminder, Bath & Body Works is owned by L Brands.
- Bath & Body Works has relatively limited overlap with some of the single-brand beauty retailers.
 - For example, only 16% of Bath & Body Works stores have a The Body Shop within a 15 minute drive.
- Compared to the multi-brand stores, the overlap with Bath & Body Works is higher.
 - For instance, 69% of Bath & Body Work stores overlap with an ULTA and 27% overlap with a Sephora standalone store within a 10 minute drive time.

Bath & Body Works Store Overlap Matrix

Bath Body Works	5 Minutes	10 Minutes	15 Minutes	30 Minutes
CVS	73%	93%	95%	97%
Lancome SWAS	68%	80%	90%	97%
Walgreens	62%	92%	96%	98%
Sally Beauty Supply	57%	88%	95%	98%
Target	53%	80%	85%	91%
Bare Escentuals SWAS	50%	65%	77%	88%
Ulta Beauty	49%	69%	81%	90%
Urban Decay Cosmetics SWAS	46%	57%	69%	81%
JCPenney	44%	55%	70%	89%
Sephora SWAS	38%	49%	64%	83%
Aveda SWAS	37%	66%	80%	91%
MAC Cosmetics SWAS	36%	45%	59%	75%
Kohl's	36%	63%	80%	90%
Macy's	32%	40%	53%	70%
Sephora	20%	27%	40%	63%
Merle Norman Cosmetics	18%	35%	49%	77%
Kerastase SWAS	18%	34%	48%	68%
Kiehls SWAS	18%	26%	38%	62%
LUSH	11%	16%	26%	51%
MAC Cosmetics	9%	13%	21%	44%
Bare Escentuals	8%	12%	19%	41%
Aveda	8%	13%	22%	45%
LOCCITANE	8%	12%	21%	47%
LOCCITANE SWAS	8%	11%	20%	43%
Nordstrom	7%	10%	17%	41%
The Body Shop	6%	9%	16%	37%
Perfumania	6%	9%	14%	33%
Saks Off Fifth	5%	10%	17%	41%
Armstrong McCall	3%	11%	13%	15%
Kiehls	3%	5%	10%	28%
Louis Vuitton International	3%	5%	9%	30%
Bloomingdale's	3%	4%	7%	19%
Bluemercury	2%	7%	14%	35%
Louis Vuitton International SWAS	2%	3%	6%	18%
Saks Fifth Avenue	1%	3%	6%	19%
Barneys New York	0%	1%	1%	6%
Urban Decay Cosmetics	0%	1%	1%	3%
Bergdorf Goodman	0%	0%	0%	1%

Source: UBS Evidence Lab

MAC Cosmetics Store Overlap

- As a reminder, MAC Cosmetics is owned by Estee Lauder.
- MAC operates both freestanding stores and "store-within-a-store" locations. This analysis is for its freestanding stores.
- Freestanding MAC stores have an elevated exposure to other beauty retailers. This is likely due to their store footprint that is concentrated in Urban or Mall locations.
- Estee Lauder believes its standalone stores are integral to the omnichannel experience. Further, it's using new store formats to enhance its retail capabilities.

MAC Cosmetics Store Overlap Matrix

MAC Cosmetics	5 Minutes	10 Minutes	15 Minutes	30 Minutes
CVS	79%	96%	99%	100%
Bare Escentuals SWAS	78%	86%	96%	100%
Lancome SWAS	78%	90%	95%	100%
Sephora	73%	82%	88%	97%
Urban Decay Cosmetics SWAS	71%	81%	92%	99%
Bath Body Works	69%	83%	97%	100%
Aveda SWAS	66%	82%	91%	99%
MAC Cosmetics SWAS	66%	79%	90%	99%
Walgreens	60%	93%	99%	100%
Kiehls SWAS	57%	67%	78%	96%
Kerastase SWAS	57%	76%	89%	98%
Macy's	57%	76%	86%	97%
LUSH	55%	60%	69%	92%
LOCCITANE	52%	59%	71%	89%
Target	46%	85%	97%	100%
LOCCITANE SWAS	42%	53%	63%	84%
Nordstrom	40%	45%	53%	81%
Ulta Beauty	40%	68%	89%	100%
Aveda	37%	44%	57%	81%
The Body Shop	34%	43%	55%	79%
Kiehls	33%	41%	47%	71%
JCPenney	27%	44%	65%	97%
Sally Beauty Supply	27%	70%	91%	100%
Sephora SWAS	27%	44%	63%	97%
Louis Vuitton International	25%	31%	44%	72%
Bare Escentuals	20%	23%	28%	53%
Bluemercury	18%	31%	49%	76%
Bloomingdale's	16%	23%	30%	57%
Kohl's	16%	45%	69%	97%
Louis Vuitton International SWAS	15%	20%	29%	51%
Saks Fifth Avenue	13%	18%	28%	48%
Saks Off Fifth	13%	29%	45%	79%
Perfumania	6%	11%	23%	60%
Barneys New York	4%	10%	13%	25%
Merle Norman Cosmetics	4%	15%	35%	72%
Armstrong McCall	3%	8%	13%	14%
Urban Decay Cosmetics	2%	3%	4%	11%
Bergdorf Goodman	2%	3%	4%	8%

Source: UBS Evidence Lab

MAC Cosmetics Store Within A Store Overlap

- This analysis is for MAC Cosmetics' "store-within-a-store" locations.
- MAC stores within a store concepts frequently compete with other beauty retailers. This is likely due to its largely urban footprint.
- For instance, MAC stores within a store has 96% store overlap with Sally Beauty, and 96% overlap with ULTA within a 15 minute drive time.

MAC Cosmetics SWAS Store Overlap Matrix

MAC Cosmetics SWAS	5 Minutes	10 Minutes	15 Minutes	30 Minutes
Lancome SWAS	90%	95%	98%	100%
Bath Body Works	85%	93%	98%	100%
CVS	82%	98%	99%	100%
Bare Escentuals SWAS	79%	86%	92%	97%
Urban Decay Cosmetics SWAS	73%	80%	88%	95%
Macy's	70%	76%	81%	88%
Walgreens	64%	97%	99%	100%
Ulta Beauty	63%	85%	95%	99%
Target	59%	91%	96%	98%
Aveda SWAS	55%	77%	88%	96%
JCPenney	54%	62%	78%	95%
Sephora SWAS	52%	61%	76%	94%
Sally Beauty Supply	51%	89%	96%	100%
Sephora	50%	55%	65%	83%
Kiehls SWAS	48%	55%	63%	82%
Kerastase SWAS	36%	58%	72%	87%
LUSH	34%	40%	48%	70%
LOCCITANE	28%	33%	42%	66%
Kohl's	28%	60%	83%	97%
Nordstrom	26%	30%	36%	58%
LOCCITANE SWAS	26%	31%	38%	61%
MAC Cosmetics	25%	30%	37%	63%
Aveda	24%	29%	39%	61%
Bare Escentuals	19%	23%	28%	50%
The Body Shop	19%	22%	29%	54%
Merle Norman Cosmetics	16%	33%	50%	80%
Kiehls	15%	19%	24%	45%
Louis Vuitton International	15%	18%	24%	48%
Bloomingdale's	11%	13%	18%	34%
Saks Off Fifth	10%	16%	28%	58%
Louis Vuitton International SWAS	9%	11%	15%	29%
Saks Fifth Avenue	7%	10%	14%	28%
Perfumania	7%	10%	16%	44%
Bluemercury	6%	18%	30%	54%
Armstrong McCall	4%	14%	16%	18%
Barneys New York	2%	3%	4%	12%
Urban Decay Cosmetics	1%	2%	3%	5%
Bergdorf Goodman	0%	1%	1%	2%

Source: UBS Evidence Lab

The Body Shop Store Overlap

- As a reminder, The Body Shop is owned by Natura & Co.
- With respect to single-brand stores, The Body Shop commonly overlaps with Bath & Body Works. 83% of The Body Shop stores face competition from a Bath & Body Works store within a 5 minute drive.
- Also, Sephora's degree of competitive incidence with The Body Shop at a 5 minute drive time is significant. Further, Ulta is a direct competitor at a 15 minute drive time.
- Other key competitors such as Kiehl's have much lower overlap with The Body Shop. 37% of The Body Shop stores face competition from a Kiehl's standalone store at a 10 minute drive time.

The Body Shop Store Overlap Matrix

The Body Shop	5 Minutes	10 Minutes	15 Minutes	30 Minutes
Bare Escentuals SWAS	90%	93%	97%	100%
Lancome SWAS	89%	94%	99%	100%
MAC Cosmetics SWAS	84%	89%	95%	100%
Bath Body Works	83%	92%	99%	100%
Urban Decay Cosmetics SWAS	81%	89%	96%	100%
Macy's	78%	83%	92%	96%
Sephora	78%	83%	88%	96%
CVS	72%	96%	99%	100%
Kiehls SWAS	69%	73%	79%	94%
Aveda SWAS	66%	85%	95%	100%
LUSH	64%	70%	76%	93%
MAC Cosmetics	56%	63%	71%	85%
Kerastase SWAS	54%	71%	89%	96%
LOCCITANE	54%	59%	64%	84%
Walgreens	54%	97%	100%	100%
Target	52%	91%	98%	100%
Nordstrom	52%	55%	61%	82%
LOCCITANE SWAS	50%	60%	67%	83%
Ulta Beauty	50%	76%	90%	100%
JCPenney	44%	53%	76%	98%
Aveda	43%	49%	59%	83%
Sephora SWAS	43%	55%	75%	98%
Bare Escentuals	35%	39%	46%	62%
Sally Beauty Supply	33%	81%	95%	100%
Kiehls	32%	37%	45%	66%
Louis Vuitton International	24%	27%	37%	65%
Kohl's	19%	56%	83%	99%
Saks Off Fifth	16%	25%	40%	72%
Bloomingdale's	15%	17%	25%	46%
Louis Vuitton International SWAS	11%	12%	18%	40%
Perfumania	9%	12%	20%	48%
Merle Norman Cosmetics	8%	17%	33%	68%
Bluemercury	8%	27%	41%	66%
Saks Fifth Avenue	8%	12%	18%	39%
Barneys New York	5%	6%	7%	18%
Urban Decay Cosmetics	2%	2%	2%	8%
Armstrong McCall	1%	7%	8%	8%
Bergdorf Goodman	1%	1%	3%	5%

Source: UBS Evidence Lab

Lancome Store Within A Store Overlap

- As a reminder, Lancome is owned by L'Oréal.
- Lancome stores within a store commonly compete with Sally Beauty. At a 10 minute drive time, 82% of Lancome stores within a store face competition from a Sally Beauty store. This number rises to 90% when considering a 15 min drive time.
- Its exposure to Ulta is also elevated. 64% of Lancome stores within a store have an Ulta store within a 10 minute drive. This rises to 77% at a 15 minute drive.
- Lancome stores within a store overlap with Sephora is limited. 39% of Lancome stores within a store compete with a Sephora at a 10 minute drive time. The overlap rises to 47% when considering a 15 minute drive time.

Lancome SWAS Store Overlap Matrix

Lancome SWAS	5 Minutes	10 Minutes	15 Minutes	30 Minutes
CVS	72%	91%	93%	95%
Bath Body Works	67%	78%	85%	91%
Walgreens	62%	91%	94%	96%
Bare Escentuals SWAS	55%	67%	74%	84%
Urban Decay Cosmetics SWAS	51%	61%	69%	80%
Sally Beauty Supply	49%	82%	90%	95%
Target	46%	73%	80%	86%
MAC Cosmetics SWAS	46%	53%	62%	74%
Ulta Beauty	42%	64%	77%	86%
Macy's	41%	49%	57%	67%
Aveda SWAS	41%	65%	75%	87%
JCPenney	41%	52%	65%	84%
Sephora SWAS	38%	48%	61%	80%
Sephora	32%	39%	47%	62%
Kiehls SWAS	30%	38%	45%	62%
Kohl's	26%	52%	70%	85%
Kerastase SWAS	25%	41%	52%	67%
LUSH	21%	26%	33%	51%
Merle Norman Cosmetics	20%	36%	49%	77%
LOCCITANE	16%	21%	28%	46%
LOCCITANE SWAS	16%	20%	27%	44%
MAC Cosmetics	16%	21%	27%	45%
Aveda	16%	20%	28%	46%
Nordstrom	15%	19%	25%	41%
Bare Escentuals	11%	14%	19%	36%
The Body Shop	11%	15%	21%	38%
Kiehls	9%	12%	17%	31%
Louis Vuitton International	9%	11%	16%	34%
Bloomingdale's	7%	9%	12%	23%
Louis Vuitton International SWAS	6%	8%	11%	21%
Saks Off Fifth	5%	11%	19%	41%
Saks Fifth Avenue	5%	7%	10%	22%
Armstrong McCall	5%	13%	16%	19%
Bluemercury	4%	13%	21%	38%
Perfumania	4%	6%	11%	33%
Barneys New York	1%	2%	3%	8%
Urban Decay Cosmetics	1%	1%	2%	4%
Bergdorf Goodman	0%	1%	1%	1%

Source: UBS Evidence Lab

Kiehl's Store Overlap

- As a reminder, Kiehl's is owned by L'Oréal.
- Kiehl's most frequent competitor is Sephora. At a 10 minute drive time, 99% of Kiehl's stores face competition from a Sephora store.
- At a 10 minute drive time, 59% of Kiehl's stores directly compete with a The Body Shop store. This number rises to 70% when considering a 15 min drive time.
- Kiehl's stores are also located in close proximity to Ulta. 63% of Kiehl's stores compete with Ulta at a 10 minute drive time. The overlap rises to 83% when considering a 15 minute drive time.

Kiehl's Store Overlap Matrix

Kiehl's	5 Minutes	10 Minutes	15 Minutes	30 Minutes
Sephora	93%	99%	99%	99%
Bare Escentuals SWAS	91%	96%	98%	99%
Lancome SWAS	90%	95%	96%	99%
CVS	85%	100%	100%	100%
Urban Decay Cosmetics SWAS	82%	93%	94%	99%
LOCCITANE	82%	88%	91%	98%
Kiehls SWAS	82%	88%	90%	98%
MAC Cosmetics SWAS	78%	93%	94%	98%
LUSH	74%	84%	90%	98%
Kerastase SWAS	74%	90%	95%	99%
MAC Cosmetics	74%	82%	90%	98%
Macy's	71%	84%	93%	99%
Aveda SWAS	67%	90%	94%	99%
Nordstrom	65%	72%	79%	94%
Walgreens	62%	99%	99%	99%
Bath Body Works	60%	85%	94%	99%
LOCCITANE SWAS	57%	73%	85%	96%
Aveda	56%	67%	76%	89%
Target	49%	89%	98%	99%
The Body Shop	43%	59%	70%	89%
Louis Vuitton International	40%	52%	65%	82%
Bloomingdale's	35%	45%	52%	71%
Bare Escentuals	29%	30%	38%	60%
Bluemercury	29%	51%	67%	85%
Ulta Beauty	28%	63%	83%	99%
Louis Vuitton International SWAS	27%	34%	44%	62%
Saks Off Fifth	21%	41%	60%	90%
Sephora SWAS	18%	30%	50%	91%
JCPenney	18%	29%	49%	93%
Sally Beauty Supply	16%	67%	89%	99%
Saks Fifth Avenue	15%	23%	37%	56%
Barneys New York	6%	17%	20%	38%
Kohl's	6%	28%	59%	98%
Merle Norman Cosmetics	4%	15%	29%	66%
Perfumania	2%	7%	17%	54%
Urban Decay Cosmetics	2%	5%	7%	15%
Bergdorf Goodman	0%	5%	7%	11%
Armstrong McCall	0%	6%	6%	7%

Source: UBS Evidence Lab

Beauty Retail Cannibalization

- ULTA's store cannibalization is relatively low despite having more than 1,200 stores.
 - Less than 1% of ULTA's stores overlap with another ULTA store in a 5 minute drive time.
 - 14% of ULTA's stores compete with another ULTA store in a 10 minute drive time.
 - 46% of ULTA's stores overlap with another ULTA store in a 15 minute drive time.
 - 78% of ULTA's stores overlap with another ULTA store in a 30 minute drive time.
- For comparison, 28% of Sephora stores and 38% of Sally Beauty stores compete with another store from the same chain at a 10 minute drive time.
- We believe that ULTA has enough room to further expand its square footage without overly cannibalizing its existing locations.

Cannibalization Within Various Drive Times

Cannibalization	5 Minutes	10 Minutes	15 Minutes	30 Minutes
Bergdorf Goodman	100%	100%	100%	100%
Kerastase SWAS	66%	82%	90%	96%
Lancome SWAS	54%	65%	74%	87%
Urban Decay Cosmetics SWAS	50%	65%	78%	91%
Bare Escentuals SWAS	49%	65%	76%	88%
CVS	52%	85%	91%	98%
Walgreens	43%	82%	89%	96%
Kiehls SWAS	40%	56%	72%	86%
MAC Cosmetics SWAS	39%	50%	61%	84%
Louis Vuitton International SWAS	33%	33%	45%	60%
Aveda SWAS	34%	64%	77%	91%
Louis Vuitton International	23%	29%	32%	47%
Bloomingdale's	19%	25%	36%	66%
LOCCITANE SWAS	19%	28%	44%	75%
Bluemercury	17%	34%	50%	80%
MAC Cosmetics	15%	26%	42%	78%
LOCCITANE	8%	22%	37%	73%
Aveda	13%	28%	44%	71%
Sephora	10%	28%	46%	78%
Bath Body Works	9%	31%	55%	79%
Perfumania	8%	13%	20%	49%
Kiehls	7%	21%	30%	67%
Saks Fifth Avenue	5%	5%	5%	26%
Sally Beauty Supply	2%	38%	67%	86%
Target	2%	29%	67%	88%
LUSH	2%	13%	26%	69%
JCPenney	0%	1%	10%	53%
Nordstrom	2%	7%	23%	66%
Macy's	1%	7%	27%	74%
The Body Shop	1%	6%	18%	63%
Merle Norman Cosmetics	1%	6%	17%	57%
Ulta Beauty	0%	14%	46%	78%
Sephora SWAS	0%	1%	14%	61%
Barneys New York	0%	0%	14%	14%
Bare Escentuals	0%	1%	8%	43%
Armstrong McCall	0%	11%	41%	69%
Urban Decay Cosmetics	0%	0%	0%	0%
Saks Off Fifth	0%	0%	6%	40%
Kohl's	0%	6%	38%	77%

Source: UBS Evidence Lab

Section 5

Monitoring the Store Landscape – UBS Evidence Lab Demographics

Demographics Within a 5 Minute Drive Time

- Within a 5 minute drive time of an ULTA store, there is on average:
 - Median household income of \$58.9k
 - Total households of 6.3k
 - Total population of 15.8k
- For comparison, the demographics surrounding a Sephora store are on average:
 - Median household income of \$70.3k
 - Total households of 8.4k
 - Total population of 19.7k
- We think this may suggest that ULTA's stores are located in more suburban areas. This gives it room to expand its presence in more urban regions.

Demographics, 5 Minute Drive Time

	Per Capita Income (000) (USD)	Median Household Income (000) (USD)	Total Households (000)	Total Population (000)
Bergdorf Goodman	102.9	130.5	42.3	72.4
Bluemercury	59.9	95.3	11.4	26.2
Louis Vuitton International SWAS	54.8	80.2	14.1	31.8
Kiehls	48.3	76.5	12.9	28.9
Kerastase SWAS	48.0	76.9	12.1	29.0
Bloomingdale's	47.5	80.8	13.1	33.7
Saks Fifth Avenue	46.4	65.5	10.8	25.6
Barneys New York	45.3	81.6	5.4	19.9
Louis Vuitton International	45.3	72.1	10.8	21.8
Kiehls SWAS	44.1	71.4	8.6	20.6
LOCCITANE	43.9	72.8	8.3	20.6
LUSH	42.6	75.2	8.7	20.3
Nordstrom	42.1	71.6	8.3	19.4
Sephora	40.5	70.3	8.4	19.7
Aveda	40.4	64.4	7.5	18.2
The Body Shop	39.6	70.4	7.9	18.1
MAC Cosmetics	39.3	64.8	9.7	23.7
LOCCITANE SWAS	38.8	64.6	9.5	23.0
Bare Escentuals	36.5	65.1	5.8	12.6
Saks Off Fifth	35.3	67.9	6.0	15.2
MAC Cosmetics SWAS	33.8	61.2	6.8	16.9
Target	33.6	62.9	5.0	12.6
Urban Decay Cosmetics SWAS	33.4	61.2	6.7	16.4
Kohl's	33.0	63.4	5.6	14.2
Aveda SWAS	32.9	57.5	7.5	18.2
Bare Escentuals SWAS	32.8	59.7	6.3	15.5
Macy's	32.6	60.5	5.7	13.9
Ulta Beauty	31.6	58.9	6.3	15.8
CVS	30.2	56.9	9.0	23.2
Perfumania	29.9	55.4	4.2	10.1
Bath Body Works	29.6	54.4	4.8	11.9
Lancome SWAS	28.8	52.2	5.3	12.9
Sephora SWAS	28.7	52.5	5.1	12.2
Walgreens	27.8	52.5	10.4	26.5
Armstrong McCall	27.7	50.1	10.1	25.7
Urban Decay Cosmetics	27.5	71.0	10.4	25.7
JCPenney	26.9	49.2	4.3	10.5
Sally Beauty Supply	26.7	51.4	6.5	16.4
Merle Norman Cosmetics	24.8	44.1	4.7	11.7

Source: UBS Evidence Lab

Demographics Within a 10 & 15 Minute Drive Time

Demographics, 10 Minute Drive Time

	Per Capita Income (000) (USD)	Median Household Income (000) (USD)	Total Households (000)	Total Population (000)
Bergdorf Goodman	84.8	107.2	288.1	519.2
Bluemercury	52.7	85.0	57.5	142.8
Louis Vuitton International SWAS	48.3	77.2	82.8	179.5
Bloomingdale's	46.6	79.8	71.1	165.0
Kerastase SWAS	44.0	70.9	59.8	148.3
Kiehls	43.6	72.1	73.4	176.4
Louis Vuitton International	43.6	66.1	61.0	143.8
LOCCITANE	42.3	69.6	52.6	133.2
Nordstrom	41.7	68.9	56.7	138.7
Saks Fifth Avenue	41.6	61.8	67.8	153.4
Kiehls SWAS	41.4	66.9	50.8	124.2
LUSH	40.9	70.0	54.2	134.7
Aveda	39.1	64.6	50.0	123.9
Barneys New York	39.0	68.8	42.6	110.5
Sephora	38.8	66.5	51.7	131.0
MAC Cosmetics	38.2	63.8	59.5	148.3
The Body Shop	37.7	68.2	57.2	148.0
LOCCITANE SWAS	37.4	65.6	60.5	157.2
Saks Off Fifth	35.9	69.7	45.2	117.8
Bare Escentuals	35.4	64.5	43.3	107.3
Target	33.2	63.0	34.3	90.4
MAC Cosmetics SWAS	32.8	60.4	47.0	121.3
Urban Decay Cosmetics SWAS	32.6	61.3	43.6	113.2
Kohl's	32.2	62.4	31.7	84.6
Macy's	32.0	59.8	42.6	112.4
Bare Escentuals SWAS	32.0	59.5	38.9	101.1
Aveda SWAS	31.6	56.6	33.4	84.9
Ulta Beauty	30.7	58.3	36.0	93.8
CVS	30.0	56.6	39.1	103.1
Perfumania	29.1	56.9	39.0	104.3
Bath Body Works	29.0	54.6	31.9	82.7
Lancome SWAS	28.6	52.9	33.6	87.0
Sephora SWAS	28.4	53.9	33.7	88.3
Walgreens	28.2	52.8	40.5	105.8
Armstrong McCall	27.9	51.0	42.1	110.6
Sally Beauty Supply	26.7	51.4	32.7	85.5
JCPenney	26.5	50.2	26.3	67.0
Merle Norman Cosmetics	25.1	45.3	16.1	41.7
Urban Decay Cosmetics	22.3	55.0	70.9	201.5

Demographics, 15 Minute Drive Time

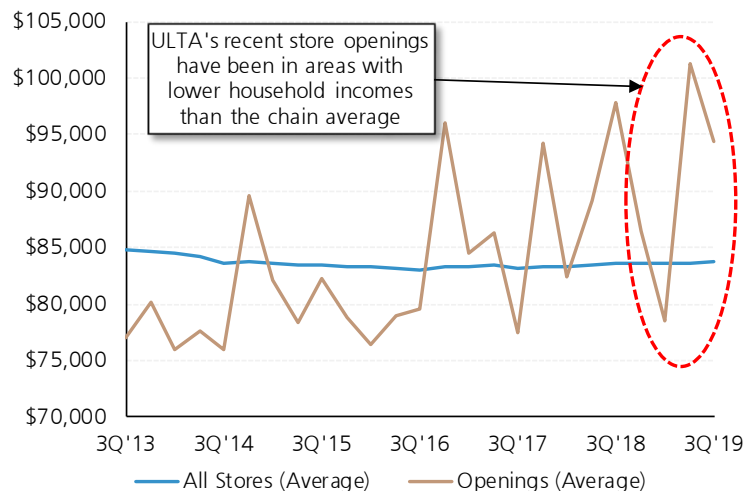
	Per Capita Income (000) (USD)	Median Household Income (000) (USD)	Total Households (000)	Total Population (000)
Bergdorf Goodman	63.4	79.2	614.9	1226.3
Bluemercury	47.6	77.9	149.5	379.0
Louis Vuitton International SWAS	45.1	72.1	219.2	553.2
Bloomingdale's	44.4	71.2	171.2	455.7
Kiehls	40.1	67.4	197.9	492.7
Kerastase SWAS	39.4	66.2	152.4	385.5
Louis Vuitton International	38.9	62.3	157.0	389.1
Nordstrom	38.9	67.8	159.8	408.7
LOCCITANE	38.6	64.6	145.4	362.7
LUSH	38.4	66.6	146.2	370.7
Barneys New York	37.5	75.8	137.1	358.5
Saks Fifth Avenue	37.2	60.0	171.7	407.8
Kiehls SWAS	37.1	62.3	132.0	333.1
LOCCITANE SWAS	36.5	63.3	163.5	432.1
Aveda	36.5	61.1	133.7	336.5
The Body Shop	36.4	64.3	158.6	419.2
Saks Off Fifth	36.1	67.1	119.0	323.9
Sephora	35.8	62.9	137.5	356.2
MAC Cosmetics	34.8	61.8	158.8	417.5
Bare Escentuals	34.6	63.4	112.8	294.7
Target	32.5	61.6	86.1	232.9
MAC Cosmetics SWAS	31.7	58.1	119.0	314.6
Urban Decay Cosmetics SWAS	31.5	58.6	107.3	282.4
Kohl's	31.4	59.8	73.0	193.5
Macy's	31.4	59.1	107.4	287.2
Bare Escentuals SWAS	31.0	58.0	95.0	254.1
Aveda SWAS	30.7	55.5	76.4	193.7
CVS	29.8	55.8	89.7	236.6
Ulta Beauty	29.8	56.5	83.8	218.3
Perfumania	28.8	57.2	110.1	296.5
Bath Body Works	28.5	53.6	76.9	199.9
Walgreens	28.5	53.1	89.4	234.5
Lancome SWAS	28.4	52.8	79.4	208.1
Sephora SWAS	27.9	53.1	76.7	201.1
Armstrong McCall	27.1	50.1	85.1	240.1
Sally Beauty Supply	27.0	51.5	71.6	189.5
JCPenney	26.6	50.8	57.9	145.9
Urban Decay Cosmetics	25.7	56.1	166.7	446.7
Merle Norman Cosmetics	25.1	46.4	28.2	72.0

Source: UBS Evidence Lab

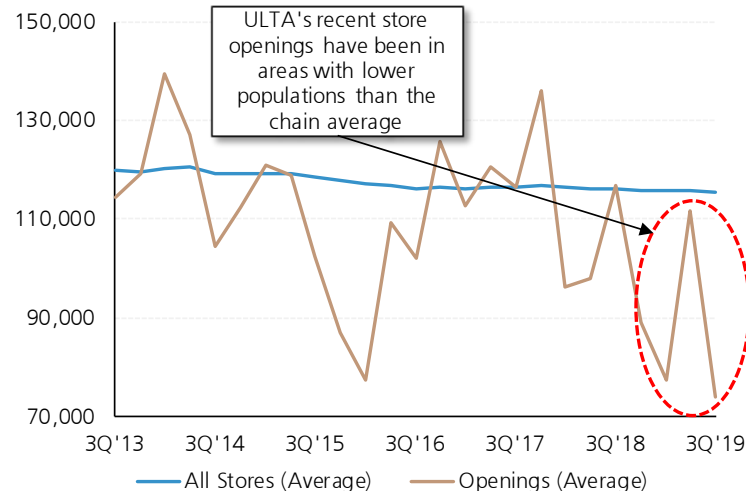
ULTA has been opening stores in wealthier areas

- According to UBS Evidence Lab data, the average household income within a 10 minute drive of ULTA's store base is \$83,600 as of 3Q'19. From 1Q'13-3Q'16, ULTA was generally opening stores that were located in less affluent areas than the chain average. Since then, it has increasingly opened new stores in wealthier areas than the chain average.
- At the same time, the average population within a 10 minute drive time of ULTA's store base is 115,500. That said, ULTA has been recently opening stores in less populous areas than the chain average.

Average Household Income Surrounding All ULTA Stores vs. Store Openings (10 min drive)



Average Population Surrounding All ULTA Stores vs. Store Openings (10 min drive)



Source: UBS Evidence Lab

Section 6

Monitoring the Store Landscape – UBS Evidence Lab Regional Exposure

ULTA Geographic Exposure

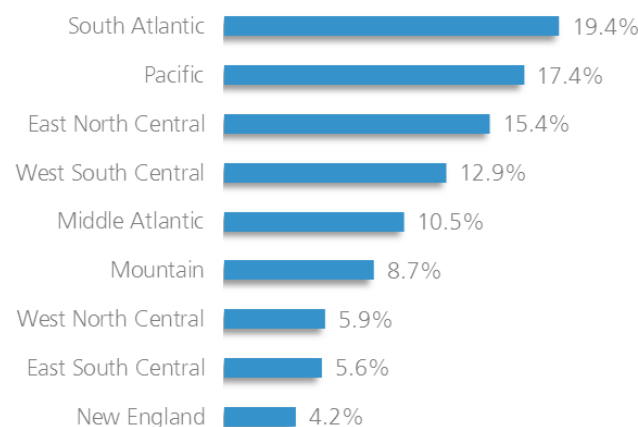
- During 3Q'19 ULTA opened stores across the U.S., with most openings in the Middle Atlantic regions. It also closed several stores across the country.
- From a regional perspective, ULTA's stores are well diversified, with over 19% of its stores in the South Atlantic region.
- From an MSA perspective, ULTA's stores have the most exposure to the New York & LA metro areas.

Map of Store Base, Openings, & Closings

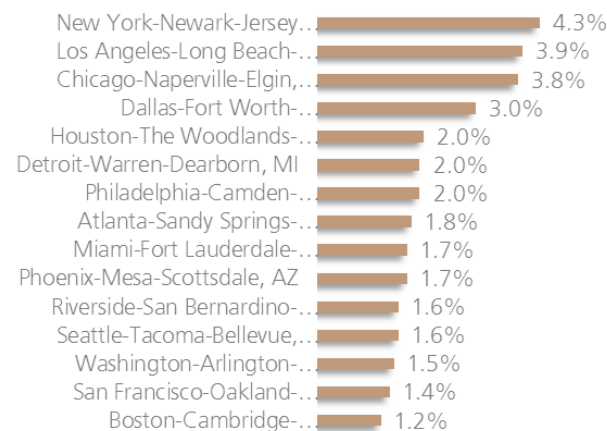


Source: UBS Evidence Lab

Regional Exposure



Metropolitan Statistical Area (MSA) Exposure



Sephora Geographic Exposure

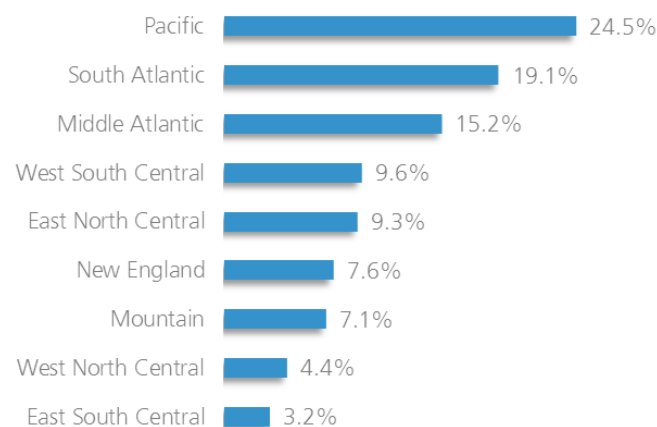
- According to UBS Evidence Lab, Sephora opened a number of stores in 3Q'19, primarily in the Northeast and Pacific regions, while closed one in the West North Central region.
- From a regional perspective, Sephora has a significant exposure to the Pacific region, with over 24% of its locations in that area.
- Sephora has a large presence in the New York & LA metro areas, with nearly 20% of its base there.

Map of Store Base, Openings, & Closings

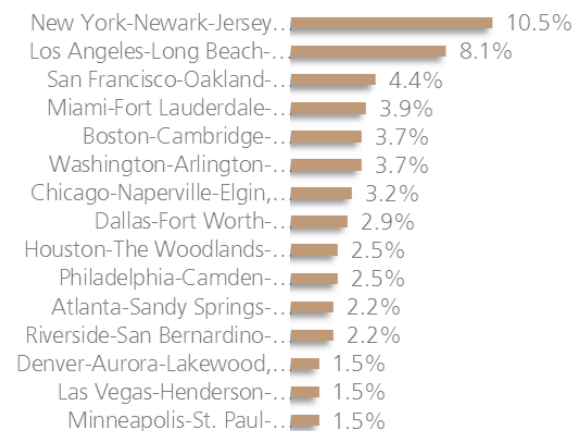


Source: UBS Evidence Lab

Regional Exposure



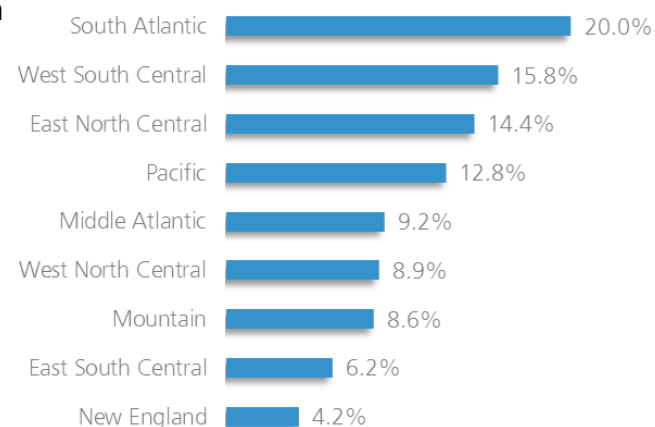
Metropolitan Statistical Area (MSA) Exposure



Sephora Store Within a Store Geographic Exposure

- During 3Q'19, Sephora Stores Within a Store opened a store in the East South Central region, while closed one in the Easy North Central region.
- From a regional perspective, Sephora Stores Within a Store are primarily located in the South Atlantic region, with 20% of its stores there.
- From an MSA perspective, Sephora Stores Within a Store are well diversified across markets, with the largest exposure to Chicago & New York MSAs.

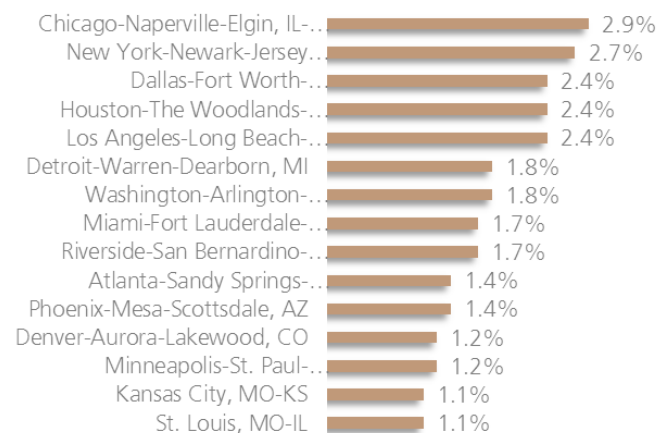
Regional Exposure



Map of Store Base, Openings, & Closings



Metropolitan Statistical Area (MSA) Exposure



Source: UBS Evidence Lab

Sally Beauty Geographic Exposure

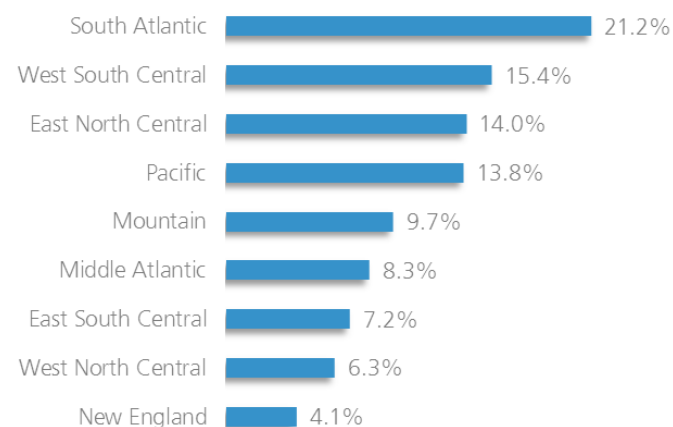
- According to UBS Evidence Lab data, Sally Beauty closed a number of its stores across the country in 3Q'19, while opened two new locations.
- From a regional perspective, Sally Beauty stores are primarily located in the South Atlantic region, with over 21% of its locations there.
- From an MSA perspective, Sally Beauty stores are well diversified across a number of markets, with the largest exposure to LA metro area.

Map of Store Base, Openings, & Closings

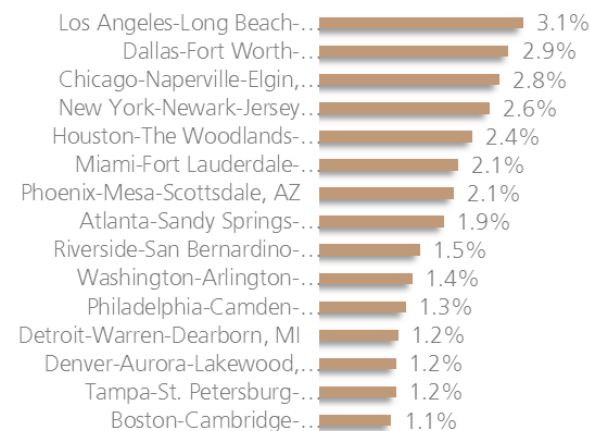


Source: UBS Evidence Lab

Regional Exposure



Metropolitan Statistical Area (MSA) Exposure



MAC Cosmetics Geographic Exposure

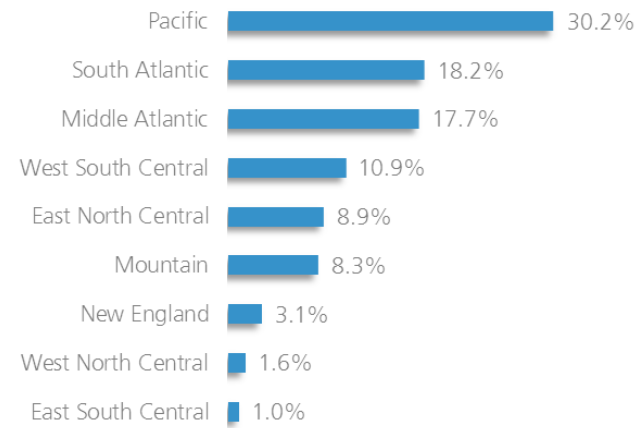
- During 3Q'19, MAC Cosmetics both closed and opened several locations across the country.
- From a regional perspective, MAC Cosmetics stores are primarily in the Pacific region where more than 31% of its stores are located.
- From an MSA perspective, MAC Cosmetics stores are primarily in the New York & Los Angeles metro markets, with nearly 30% of its stores there.

Map of Store Base, Openings, & Closings

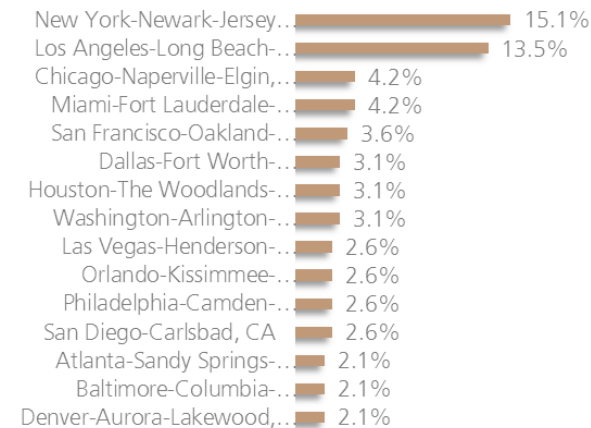


Source: UBS Evidence Lab

Regional Exposure



Metropolitan Statistical Area (MSA) Exposure



MAC Cosmetics Store Within a Store Geographic Exposure

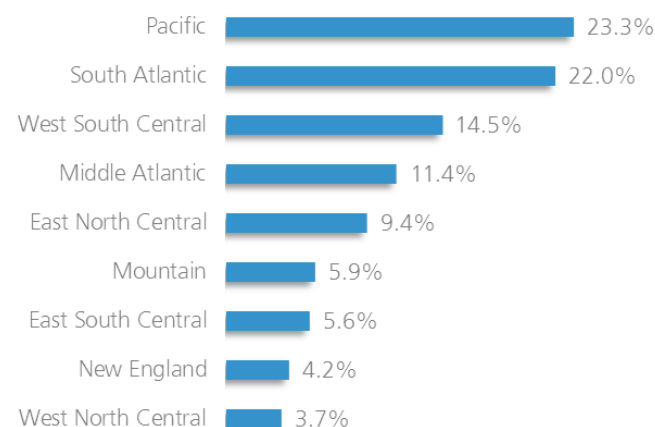
- MAC Cosmetics SWAS opened a number of stores in 3Q'19, primarily in the Atlantic and Pacific regions, while closed several locations.
- From a regional perspective, over 45% of MAC Cosmetics Stores Within a Store are in the Pacific and South Atlantic region.
- From an MSA perspective, MAC Cosmetics Stores Within a Store are somewhat concentrated in the New York & Los Angeles markets.

Map of Store Base, Openings, & Closings

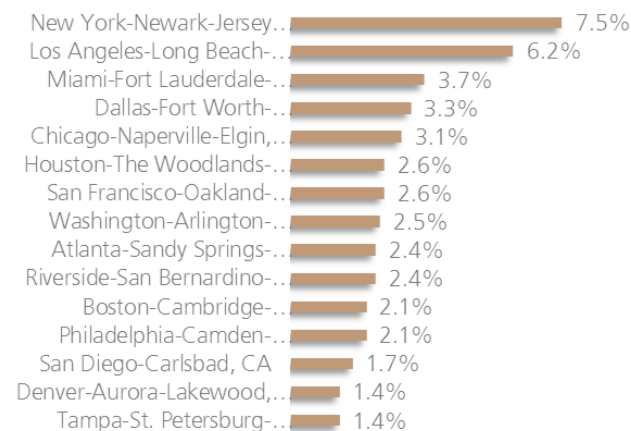


Source: UBS Evidence Lab

Regional Exposure



Metropolitan Statistical Area (MSA) Exposure



Bath and Body Works Geographic Exposure

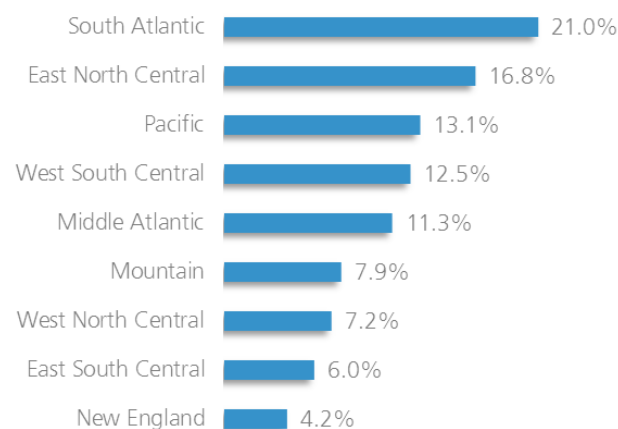
- During 3Q'19, Bath & Body Works opened several new stores across the country, while closed on location in the East South Central region.
- From a regional perspective, Bath & Body Works has a physical presence spread across the country, with the largest exposure to the South-Atlantic region at 21% of its store base.
- From an MSA perspective, Bath & Body Works stores are well diversified across markets.

Map of Store Base, Openings, & Closings

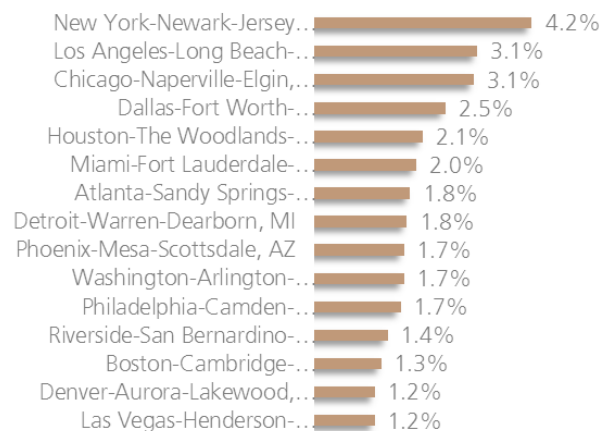


Source: UBS Evidence Lab

Regional Exposure



Metropolitan Statistical Area (MSA) Exposure



The Body Shop Geographic Exposure

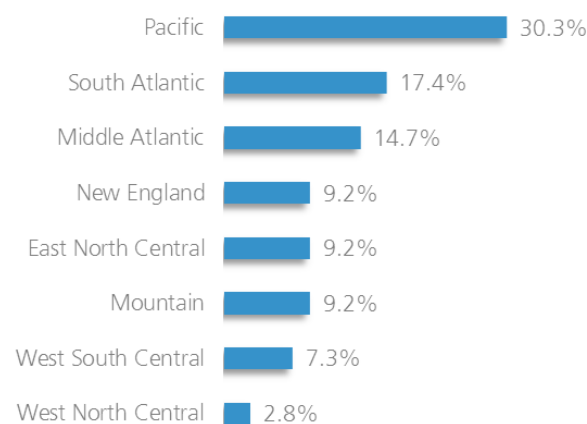
- According to UBS Evidence Lab data, Body Shop closed some of its locations in 3Q'19, while did not open any new stores during the period.
- From a regional perspective, The Body Shop is highly concentrated in the Pacific region, where over 30% of its stores are located.
- From an MSA perspective, The Body Shop stores are primarily in the Los Angeles & New York metro areas.

Map of Store Base, Openings, & Closings

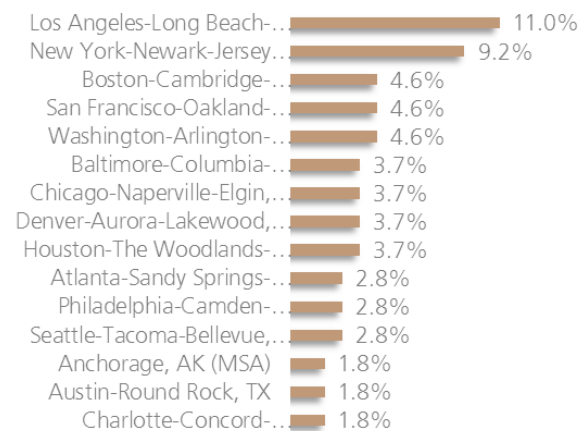


Source: UBS Evidence Lab

Regional Exposure



Metropolitan Statistical Area (MSA) Exposure



Lancome Store Within a Store Geographic Exposure

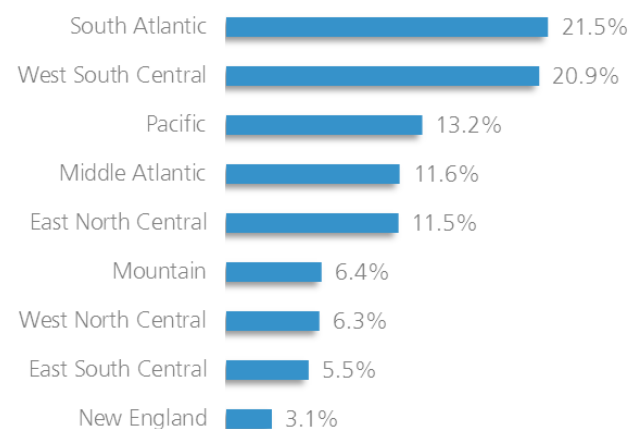
- During 3Q'19, Lancome Store Within a Store both opened and closed some of its locations, according to UBS Evidence Lab.
- From a regional perspective, Lancome Store Within a Store is highly concentrated in South Atlantic and West South Central Regions, with nearly 43% of its stores there.
- From an MSA perspective, Lancome Store Within a Store are well diversified across markets, with the largest exposure to the New York metro area.

Map of Store Base, Openings, & Closings

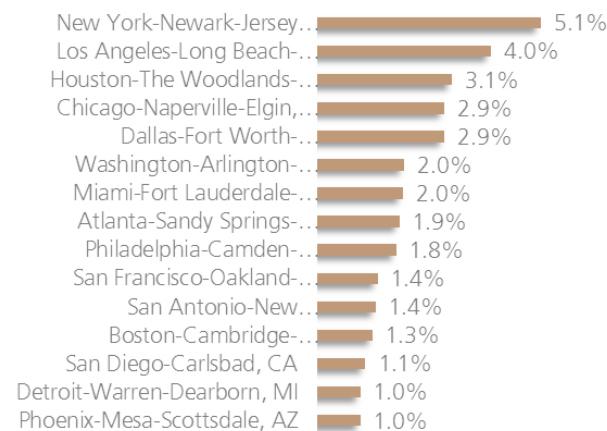


Source: UBS Evidence Lab

Regional Exposure



Metropolitan Statistical Area (MSA) Exposure



Kiehl's Geographic Exposure

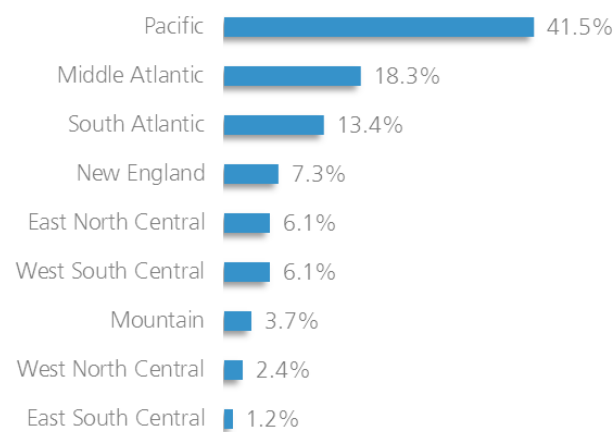
- UBS Evidence Lab did not identify any Kiehl's stores opening or closing during 3Q'19.
- From a regional perspective, Kiehl's is highly concentrated in the Pacific region, with over 41% of its stores in that area.
- From an MSA perspective, Kiehl's stores are primarily in the Los Angeles & New York metro areas.

Map of Store Base, Openings, & Closings

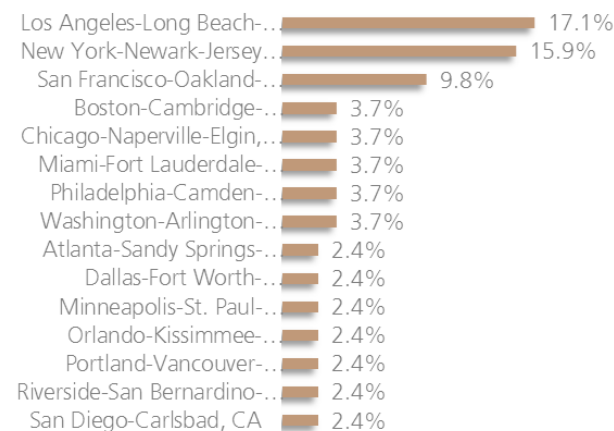


Source: UBS Evidence Lab

Regional Exposure



Metropolitan Statistical Area (MSA) Exposure



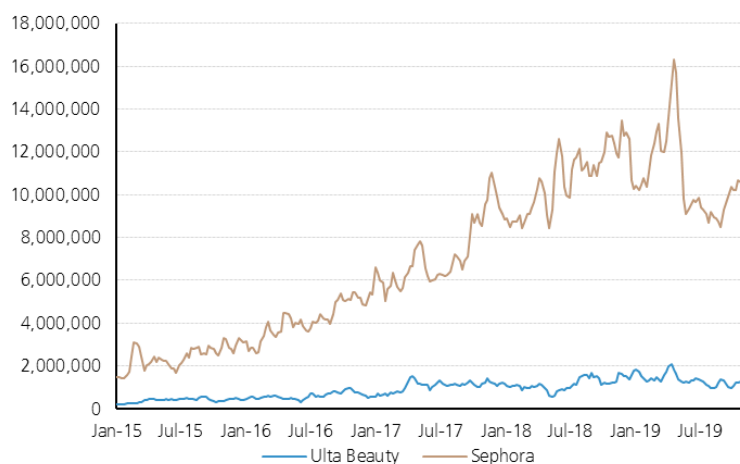
Section 7

Monitoring the Digital Landscape – Social Media Analysis

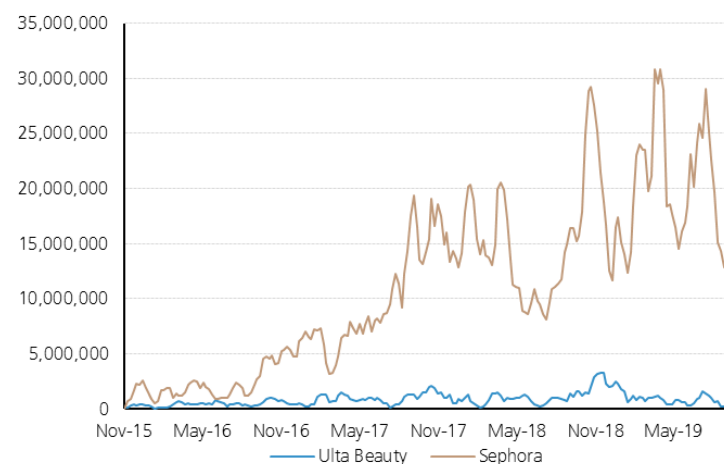
Sephora has a larger social media presence

- Sephora has significantly larger number of interactions with its followers than Ulta.
- On average, Ulta receives around 1.5 mm likes each week. Sephora gets significantly more likes, including approximately ~9 mm in October. Though, it is worth noting that Sephora has seen a meaningful deceleration in this metric since its peak in April.
- Also, Sephora's videos on Instagram are watched considerably more often than Ulta's. That said, this metric has been volatile.
- Given Ulta's larger store footprint, we think this highlights an opportunity for Ulta to improve its engagement through this channel.

Weekly number of likes on Instagram



Weekly video views on Instagram



Source: UBS Evidence Lab

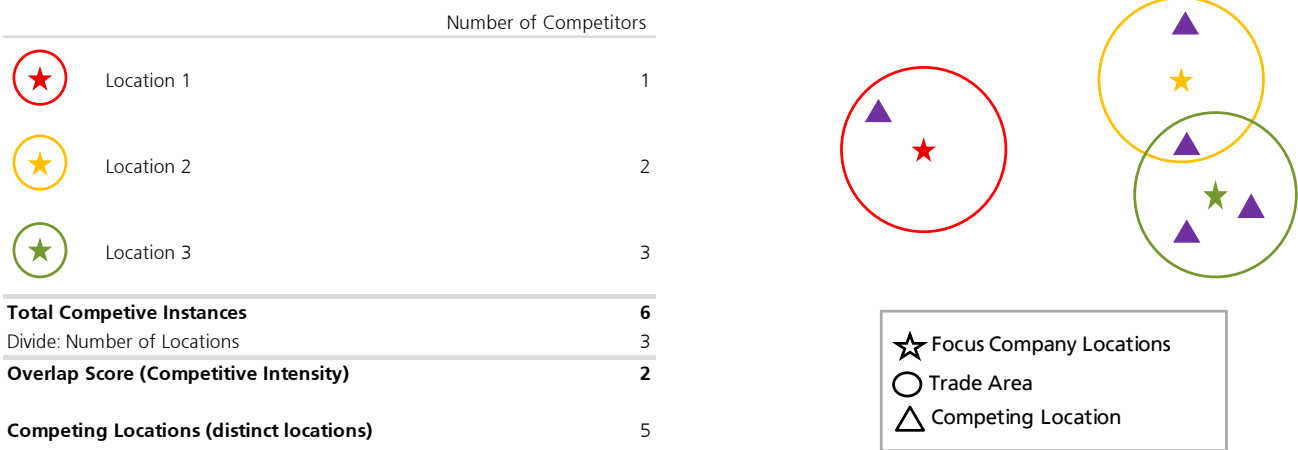
Appendix 1: Methodology

Methodology Overview

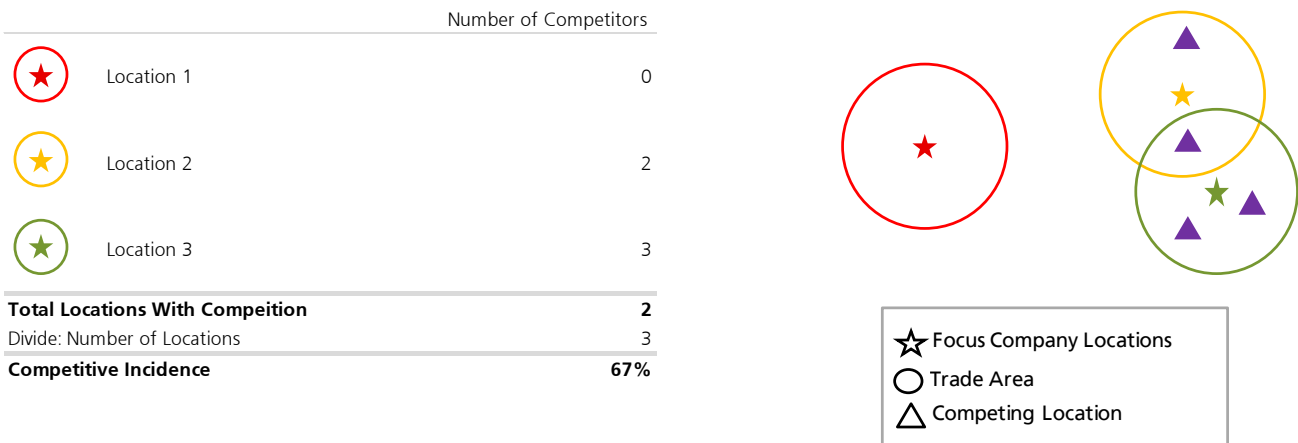
The UBS Evidence Lab Market Quality Analysis Lab is a suite of analysis techniques to measure important environmental factors facing a business including competition, cannibalization, and addressable market quality. The UBS Evidence Lab leverages a global database of 70+ million business rooftops that is thoroughly cleansed for localization accuracy, ownership, industry, birth and death dates and other key features for each rooftop. The UBS Evidence Lab using advanced geospatial analyses enhances these rooftops with proprietary metrics that explain the quality of a company's physical footprint. Data are gathered from thousands of individual sources including web mining, FOIA requests, business listing databases, in person collection, and other syndicated sources. All the business rooftop and demographic data is loaded into a global data warehouse. Before processing the analytics, several data quality routines and processes are run to validate and enhance the raw data set. Any property that fails a validation check is flagged or cleansed (i.e. filtered from the data set being analyzed) until quality standards are met.

UBS Evidence Lab Competition Model: these data and analysis include various proprietary measures of competitive intensity providing a framework to answer questions around which competitors are more or less exposed to competitive pressures; Metrics include overlap score, competitive incidence and cannibalization among others.

UBS Evidence Lab Overlap Score



UBS Evidence Lab Competitive Incidence



UBS Evidence Lab Demographic Model: these data provide a series of addressable demographic market statistics to help provide a framework to which companies enjoy the best or worst surrounding addressable market. For example, this analysis can provide information on the relative density of core consumers of a location within a reasonable trade area definition (ex. 5 minute walk time, 30 minute drive time, etc.).

UBS Evidence Lab Regional Exposure Model: this model shows a target company's regional distribution or exposure to defined regions and this model shows a measure called capacity share which can be thought of a proxy measure of local market share.

Distribution Math: Capacity Share & Regional Distribution

Region A		Region B									
Locations		Locations									
Dealer 1	2	Dealer 1	5								
Dealer 2	4	Dealer 2	7								
Region C		Region D									
Locations		Locations									
Dealer 1	15	Dealer 1	5								
Dealer 2	34	Dealer 2	8								

		Region A	Region B	Region C	Region D	Total Dealers (B)
Dealer 1		2	5	15	5	27
Dealer 2		4	7	34	8	53
Total Dealer per Region (A)		6	12	49	13	80
Capacity Share: Share of Total Location in a Region (A)						
Dealer 1		33%	42%	31%	38%	
Dealer 2		67%	58%	69%	62%	
Regional Distribution: Share of Total Dealer Locations (B)						
Dealer 1		7%	19%	56%	19%	
Dealer 2		8%	13%	64%	15%	

powered by UBS Evidence Lab

UBS Evidence Lab Regional Exposure Model: The competition monitor is a specialized product in Market Quality analysis that provide a temporal frameworks to assess changes (growth, acceleration, deceleration) in key forces facing a location set including competition, cannibalization, demographics, weather, traffic and local market economics. Importantly, the competition monitor attempts to

provide proxy measure that are comparable or organic in nature removing outsized deviations in trend due to openings, closings or mergers.

Cannibalization Share	The number of cannibalized locations as a percentage of the total location base		
Cannibalized Locations	The unique number of locations that compete with another location of the same banner; for example the unique number of Best Buys that compete with another Best Buy in the same trade area.		
Comparable Overlaps (CSO) Score	The UBS Evidence Lab Comparable Overlap Score (CSO) is a measure of competitive intensity around comparable locations of the subject banner. Own location competition (i.e. cannibalization) is excluded from this measure. The CSO is represented in the report as a y/y growth rate of the underlying metric.		
Comparable Locations	Locations that have been open for more than four quarters		
Competition Weights	UBS Evidence Lab Competition Weights are coefficients to adjust location for differing factors of competition like product mix, demographic focus (gender, income, race, etc.), end-market (B2B vs B2C), location format, etc. For example, for a Walmart Supercenter that generate an average of ~\$150M in sales, a Dollar Store that only generate an average of ~\$1.5M in sales might be adjusted by a factor of 1% based on size alone ($1.5/150 = 1\%$).		
Competitive Incidence	Measures the percentage of locations that have at least one competitor within the stated trade area		
Demographic (DMQ)	Market	Quality	Demographic Market Quality (DMQ) measures the density of the addressable consuming unit within a designated Trade Area. DMQ is presented in several ways including the quality measure for Comparable Locations or the relative market quality of location openings versus Comparable Locations. Intrinsically, markets with differences in addressable consumer densities tend to drive differences in unit productivity (sales per location). We would expect retailers that move into less favorable markets to have difficulty in driving similar levels of unit productivity, all else being equal.
Overlap Score or Competitive Intensity	The UBS Evidence Lab Overlap (OS) score is a measure of competitive intensity around locations of the subject banner. The OS excludes own-location or cannibalistic competitive locations. The OS when adjusted for competition weights, measures the average number of <i>equivalent</i> competitors within a sensitized trade area; equivalent competition is based one to one competition weights derived for each competitor combination based on the strength of the competition.		
Formations	Formations measure the year-over-year growth of net location growth.		
Trade Area	A Trade Area or Catchment Area is a designated geography around a location/business where economic activity is conducted. The Trade Area can be expressed as a distance (mile radii), drive time, standard geography (MSA, county, etc.), or the spatial extremes based on the location of the consuming units of the subject business (households, consumers, small businesses, etc.).		

**UBS Evidence Lab is a sell-side team of experts, independent of UBS Research, that work across 12 practice areas and 45 specialized labs creating insight-ready datasets. The experts turn data into evidence by applying a combination of tools and techniques to harvest, cleanse, and connect billions of data items each month. Since 2014, UBS Research Analysts have utilized the expertise of UBS Evidence Lab for insight-ready datasets on companies, sectors, and themes, resulting in the production of over 6,000 differentiated UBS Research reports. UBS Evidence Lab does not provide research, investment recommendations, or advice, but provides insight-ready datasets for further analysis by UBS Research and by clients.*

Geospatial

The UBS Evidence Lab Market Quality Analysis Lab is a suite of analysis techniques to measure important environmental factors facing a business including competition, cannibalization, and addressable market quality. The UBS Evidence Lab leverages a global database of 70+ million business rooftops that is thoroughly cleansed for localization accuracy, ownership, industry, birth and death dates and other key features for each rooftop. The UBS Evidence Lab using advanced geospatial analyses enhances these rooftops with proprietary metrics that explain the quality of a company's physical footprint. Data are gathered from thousands of individual sources including web mining, FOIA requests, business listing databases, in person collection, and other syndicated sources. All the business rooftop and demographic data is loaded into a global data warehouse. Before processing the analytics, several data quality routines and processes are run to validate and enhance the raw data set. Any property that fails a validation check is flagged or cleansed (i.e. filtered from the data set being analyzed) until quality standards are met.

Valuation Method and Risk Statement

Investing in retail stocks entails certain risks, including but not limited to changes in consumer spending and its components, retail industry competition and general market risk.

Required Disclosures

This report has been prepared by UBS Securities LLC, an affiliate of UBS AG. UBS AG, its subsidiaries, branches and affiliates are referred to herein as UBS.

For information on the ways in which UBS manages conflicts and maintains independence of its research product; historical performance information; and certain additional disclosures concerning UBS research recommendations, please visit www.ubs.com/disclosures. The figures contained in performance charts refer to the past; past performance is not a reliable indicator of future results. Additional information will be made available upon request. UBS Securities Co. Limited is licensed to conduct securities investment consultancy businesses by the China Securities Regulatory Commission. UBS acts or may act as principal in the debt securities (or in related derivatives) that may be the subject of this report. This recommendation was finalized on: 02 December 2019 02:06 AM GMT. UBS has designated certain Research department members as Derivatives Research Analysts where those department members publish research principally on the analysis of the price or market for a derivative, and provide information reasonably sufficient upon which to base a decision to enter into a derivatives transaction. Where Derivatives Research Analysts co-author research reports with Equity Research Analysts or Economists, the Derivatives Research Analyst is responsible for the derivatives investment views, forecasts, and/or recommendations.

Analyst Certification: Each research analyst primarily responsible for the content of this research report, in whole or in part, certifies that with respect to each security or issuer that the analyst covered in this report: (1) all of the views expressed accurately reflect his or her personal views about those securities or issuers and were prepared in an independent manner, including with respect to UBS, and (2) no part of his or her compensation was, is, or will be, directly or indirectly, related to the specific recommendations or views expressed by that research analyst in the research report.

UBS Investment Research: Global Equity Rating Definitions

12-Month Rating	Definition	Coverage ¹	IB Services ²
Buy	FSR is > 6% above the MRA.	45%	29%
Neutral	FSR is between -6% and 6% of the MRA.	40%	29%
Sell	FSR is > 6% below the MRA.	15%	21%
Short-Term Rating	Definition	Coverage ³	IB Services ⁴
Buy	Stock price expected to rise within three months from the time the rating was assigned because of a specific catalyst or event.	<1%	<1%
Sell	Stock price expected to fall within three months from the time the rating was assigned because of a specific catalyst or event.	<1%	<1%

Source: UBS. Rating allocations are as of 30 September 2019.

1: Percentage of companies under coverage globally within the 12-month rating category.

2: Percentage of companies within the 12-month rating category for which investment banking (IB) services were provided within the past 12 months.

3: Percentage of companies under coverage globally within the Short-Term rating category.

4: Percentage of companies within the Short-Term rating category for which investment banking (IB) services were provided within the past 12 months.

KEY DEFINITIONS: **Forecast Stock Return (FSR)** is defined as expected percentage price appreciation plus gross dividend yield over the next 12 months. In some cases, this yield may be based on accrued dividends. **Market Return Assumption (MRA)** is defined as the one-year local market interest rate plus 5% (a proxy for, and not a forecast of, the equity risk premium). **Under Review (UR)** Stocks may be flagged as UR by the analyst, indicating that the stock's price target and/or rating are subject to possible change in the near term, usually in response to an event that may affect the investment case or valuation. **Short-Term Ratings** reflect the expected near-term (up to three months) performance of the stock and do not reflect any change in the fundamental view or investment case. **Equity Price Targets** have an investment horizon of 12 months.

EXCEPTIONS AND SPECIAL CASES: UK and European Investment Fund ratings and definitions are: **Buy:** Positive on factors such as structure, management, performance record, discount; **Neutral:** Neutral on factors such as structure, management, performance record, discount; **Sell:** Negative on factors such as structure, management, performance record, discount. **Core Banding Exceptions (CBE):** Exceptions to the standard +/-6% bands may be granted by the Investment Review Committee (IRC). Factors considered by the IRC include the stock's volatility and the credit spread of the respective company's debt. As a result, stocks deemed to be very high or low risk may be subject to higher or lower bands as they relate to the rating. When such exceptions apply, they will be identified in the Company Disclosures table in the relevant research piece.

Research analysts contributing to this report who are employed by any non-US affiliate of UBS Securities LLC are not registered/qualified as research analysts with FINRA. Such analysts may not be associated persons of UBS Securities LLC and therefore are not subject to the FINRA restrictions on communications with a subject company, public appearances, and trading securities held by a research analyst account. The name of each affiliate and analyst employed by that affiliate contributing to this report, if any, follows.

UBS Securities LLC: Michael Goldsmith; Michael Lasser; Jay Sole; Steven Strycula. **UBS AG London Branch:** Zuzanna Pusz, CFA; Julie Zhuang, CFA. **UBS Brasil CCTVM S.A.:** Gustavo Piras Oliveira, CFA.

Company Disclosures

Company Name	Reuters	12-month rating	Short-term rating	Price	Price date
Estée Lauder Companies ^{13, 16}	EL.N	Neutral	N/A	US\$195.47	29 Nov 2019
L Brands Inc ^{13, 16}	LB.N	Neutral	N/A	US\$19.14	29 Nov 2019
L'Oréal ¹⁸	OREP.PA	Buy	N/A	€258.70	29 Nov 2019
LVMH Moët Hennessy Louis Vuitton SA ^{7, 18}	LVMH.PA	Buy	N/A	€407.30	29 Nov 2019
Macy's Inc ^{7, 16}	M.N	Neutral	N/A	US\$15.32	29 Nov 2019
Natura &Co ³	NATU3.SA	Sell	N/A	R\$33.12	29 Nov 2019
Nordstrom Inc ¹⁶	JWN.N	Sell	N/A	US\$38.17	29 Nov 2019
Ulta Beauty, Inc. ¹⁶	ULTA.O	Buy	N/A	US\$233.86	29 Nov 2019

Source: UBS. All prices as of local market close.

Ratings in this table are the most current published ratings prior to this report. They may be more recent than the stock pricing date

- 3. UBS is acting as Advisor to Natura &Co. in their announced acquisition of Avon Products, Inc.
- 7. Within the past 12 months, UBS Securities LLC and/or its affiliates have received compensation for products and services other than investment banking services from this company/entity.
- 13. UBS AG, its affiliates or subsidiaries beneficially owned 1% or more of a class of this company's common equity securities as of last month's end (or the prior month's end if this report is dated less than 10 days after the most recent month's end).
- 16. UBS Securities LLC makes a market in the securities and/or ADRs of this company.
- 18. UBS AG London branch or affiliates acts as liquidity provider or market maker in the financial instruments of this company.

Unless otherwise indicated, please refer to the Valuation and Risk sections within the body of this report. For a complete set of disclosure statements associated with the companies discussed in this report, including information on valuation and risk, please contact UBS Securities LLC, 1285 Avenue of Americas, New York, NY 10019, USA, Attention: Investment Research.

The Disclaimer relevant to Global Wealth Management clients follows the Global Disclaimer.

Global Disclaimer

This document has been prepared by UBS Securities LLC, an affiliate of UBS AG. UBS AG, its subsidiaries, branches and affiliates are referred to herein as UBS.

This Document is provided solely to recipients who are expressly authorized by UBS to receive it. If you are not so authorized you must immediately destroy the Document.

Global Research is provided to our clients through UBS Neo, and in certain instances, UBS.com and any other system or distribution method specifically identified in one or more communications distributed through UBS Neo or UBS.com (each a system) as an approved means for distributing Global Research. It may also be made available through third party vendors and distributed by UBS and/or third parties via e-mail or alternative electronic means. The level and types of services provided by Global Research to a client may vary depending upon various factors such as a client's individual preferences as to the frequency and manner of receiving communications, a client's risk profile and investment focus and perspective (e.g., market wide, sector specific, long-term, short-term, etc.), the size and scope of the overall client relationship with UBS and legal and regulatory constraints.

All Global Research is available on UBS Neo. Please contact your UBS sales representative if you wish to discuss your access to UBS Neo.

When you receive Global Research through a System, your access and/or use of such Global Research is subject to this Global Research Disclaimer and to the UBS Neo Platform Use Agreement (the "Neo Terms") together with any other relevant terms of use governing the applicable System.

When you receive Global Research via a third party vendor, e-mail or other electronic means, you agree that use shall be subject to this Global Research Disclaimer, the Neo Terms and where applicable the UBS Investment Bank terms of business (<https://www.ubs.com/global/en/investment-bank/regulatory.html>) and to UBS's Terms of Use/Disclaimer (<http://www.ubs.com/global/en/legalinfo2/disclaimer.html>). In addition, you consent to UBS processing your personal data and using cookies in accordance with our Privacy Statement (<http://www.ubs.com/global/en/legalinfo2/privacy.html>) and cookie notice (<http://www.ubs.com/global/en/homepage/cookies/cookie-management.html>).

If you receive Global Research, whether through a System or by any other means, you agree that you shall not copy, revise, amend, create a derivative work, provide to any third party, or in any way commercially exploit any UBS research provided via Global Research or otherwise, and that you shall not extract data from any research or estimates provided to you via Global Research or otherwise, without the prior written consent of UBS.

This document is for distribution only as may be permitted by law. It is not directed to, or intended for distribution to or use by, any person or entity who is a citizen or resident of or located in any locality, state, country or other jurisdiction where such distribution, publication, availability or use would be contrary to law or regulation or would subject UBS to any registration or licensing requirement within such jurisdiction.

This document is a general communication and is educational in nature; it is not an advertisement nor is it a solicitation or an offer to buy or sell any financial instruments or to participate in any particular trading strategy. Nothing in this document constitutes a representation that any investment strategy or recommendation is suitable or appropriate to an investor's individual circumstances or otherwise constitutes a personal recommendation. By providing this document, none of UBS or its representatives has any responsibility or authority to provide or have provided investment advice in a fiduciary capacity or otherwise. Investments involve risks, and investors should exercise prudence and their own judgment in making their investment decisions. None of UBS or its representatives is suggesting that the recipient or any other person take a specific course of action or any action at all. By receiving this document, the recipient acknowledges and agrees with the intended purpose described above and further disclaims any expectation or belief that the information constitutes investment advice to the recipient or otherwise purports to meet the investment objectives of the recipient. The financial instruments described in the document may not be eligible for sale in all jurisdictions or to certain categories of investors.

Options, structured derivative products and futures (including OTC derivatives) are not suitable for all investors. Trading in these instruments is considered risky and may be appropriate only for sophisticated investors. Prior to buying or selling an option, and for the complete risks relating to options, you must receive a copy of "The Characteristics and Risks of Standardized Options." You may read the document at <http://www.theocc.com/publications/risks/riskchap1.jsp> or ask your salesperson for a copy. Various theoretical explanations of the risks associated with these instruments have been published. Supporting documentation for any claims, comparisons, recommendations, statistics or other technical data will be supplied upon request. Past performance is not necessarily indicative of future results. Transaction costs may be significant in option strategies calling for multiple purchases and sales of options, such as spreads and straddles. Because of the importance of tax considerations to many options transactions, the investor considering options should consult with his/her tax advisor as to how taxes affect the outcome of contemplated options transactions.

Mortgage and asset-backed securities may involve a high degree of risk and may be highly volatile in response to fluctuations in interest rates or other market conditions. Foreign currency rates of exchange may adversely affect the value, price or income of any security or related instrument referred to in the document. For investment advice, trade execution or other enquiries, clients should contact their local sales representative.

The value of any investment or income may go down as well as up, and investors may not get back the full (or any) amount invested. Past performance is not necessarily a guide to future performance. Neither UBS nor any of its directors, employees or agents accepts any liability for any loss (including investment loss) or damage arising out of the use of all or any of the Information.

Prior to making any investment or financial decisions, any recipient of this document or the information should take steps to understand the risk and return of the investment and seek individualized advice from his or her personal financial, legal, tax and other professional advisors that takes into account all the particular facts and circumstances of his or her investment objectives.

Any prices stated in this document are for information purposes only and do not represent valuations for individual securities or other financial instruments. There is no representation that any transaction can or could have been effected at those prices, and any prices do not necessarily reflect UBS's internal books and records or theoretical model-based valuations and may be based on certain assumptions. Different assumptions by UBS or any other source may yield substantially different results.

No representation or warranty, either expressed or implied, is provided in relation to the accuracy, completeness or reliability of the information contained in any materials to which this document relates (the "Information"), except with respect to Information concerning UBS. The Information is not intended to be a complete statement or summary of the securities, markets or developments referred to in the document. UBS does not undertake to update or keep current the Information. Any opinions expressed in this document may change without notice and may differ or be contrary to opinions expressed by other business areas or groups, personnel or other representative of UBS. Any statements contained in this report attributed to a third party represent UBS's interpretation of the data, information and/or opinions provided by that third party either publicly or through a subscription service, and such use and interpretation have not been reviewed by the third party. In no circumstances may this document or any of the Information (including any forecast, value, index or other calculated amount ("Values")) be used for any of the following purposes:

- (i) valuation or accounting purposes;
- (ii) to determine the amounts due or payable, the price or the value of any financial instrument or financial contract; or
- (iii) to measure the performance of any financial instrument including, without limitation, for the purpose of tracking the return or performance of any Value or of defining the asset allocation of portfolio or of computing performance fees.

By receiving this document and the Information you will be deemed to represent and warrant to UBS that you will not use this document or any of the Information for any of the above purposes or otherwise rely upon this document or any of the Information.

UBS has policies and procedures, which include, without limitation, independence policies and permanent information barriers, that are intended, and upon which UBS relies, to manage potential conflicts of interest and control the flow of information within divisions of UBS and among its subsidiaries, branches and affiliates. For further information on the ways in which UBS manages conflicts and maintains independence of its research products, historical performance information and certain additional disclosures concerning UBS research recommendations, please visit www.ubs.com/disclosures.

Research will initiate, update and cease coverage solely at the discretion of UBS Research Management, which will also have sole discretion on the timing and frequency of any published research product. The analysis contained in this document is based on numerous assumptions. All material information in relation to published research reports, such as valuation methodology, risk statements, underlying assumptions (including sensitivity analysis of those assumptions), ratings history etc. as required by the Market Abuse Regulation, can be found on UBS Neo. Different assumptions could result in materially different results.

The analyst(s) responsible for the preparation of this document may interact with trading desk personnel, sales personnel and other parties for the purpose of gathering, applying and interpreting market information. UBS relies on information barriers to control the flow of information contained in one or more areas within UBS into other areas, units, groups or affiliates of UBS. The compensation of the analyst who prepared this document is determined exclusively by research management and senior management (not including investment banking). Analyst compensation is not based on investment banking revenues; however, compensation may relate to the revenues of UBS and/or its divisions as a whole, of which investment banking, sales and trading are a part, and UBS's subsidiaries, branches and affiliates as a whole.

For financial instruments admitted to trading on an EU regulated market: UBS AG, its affiliates or subsidiaries (excluding UBS Securities LLC) acts as a market maker or liquidity provider (in accordance with the interpretation of these terms under English law or, if not carried out by UBS in the UK the law of the relevant jurisdiction in which UBS determines it carries out the activity) in the financial instruments of the issuer save that where the activity of liquidity provider is carried out in accordance with the definition given to it by the laws and regulations of any other EU jurisdictions, such information is separately disclosed in this document. For financial instruments admitted to trading on a non-EU regulated market: UBS may act as a market maker save that where this activity is carried out in the US in accordance with the definition given to it by the relevant laws and regulations, such activity will be specifically disclosed in this document. UBS may have issued a warrant the value of which is based on one or more of the financial instruments referred to in the document. UBS and its affiliates and employees may have long or short positions, trade as principal and buy and sell in instruments or derivatives identified herein; such transactions or positions may be inconsistent with the opinions expressed in this document.

Within the past 12 months UBS AG, its affiliates or subsidiaries may have received or provided investment services and activities or ancillary services as per MiFID II which may have given rise to a payment or promise of a payment in relation to these services from or to this company.

Where Global Research refers to "UBS Evidence Lab Inside" or has made use of data provided by UBS Evidence Lab you understand that UBS Evidence Lab is a separate department to Global Research and that UBS Evidence Lab does not provide research, investment recommendations or advice.

United Kingdom: This material is distributed by UBS AG, London Branch to persons who are eligible counterparties or professional clients. UBS AG, London Branch is authorised by the Prudential Regulation Authority and subject to regulation by the Financial Conduct Authority and limited regulation by the Prudential Regulation Authority. **Europe:** Except as otherwise specified herein, these materials are distributed by UBS Europe SE, a subsidiary of UBS AG, to persons who are eligible counterparties or professional clients (as detailed in the Bundesanstalt für Finanzdienstleistungsaufsicht (BaFin) Rules and according to MiFID) and are only available to such persons. The information does not apply to, and should not be relied upon by, retail clients. UBS Europe SE is authorised by the [European Central Bank (ECB)] and regulated by the BaFin and the ECB. **France:** Prepared by UBS Europe SE and distributed by UBS Europe SE and UBS Securities France S.A. UBS Securities France S.A. is regulated by the ACPR (Autorité de Contrôle Prudentiel et de Résolution) and the Autorité des Marchés Financiers (AMF). Where an analyst of UBS Securities France S.A. has contributed to this document, the document is also deemed to have been prepared by UBS Securities France S.A. **Germany, Luxembourg, the Netherlands, Belgium and Ireland:** Prepared by UBS AG, London Branch and distributed by UBS AG, London Branch and UBS Europe SE. **Spain:** Prepared by UBS Europe SE and distributed by UBS Europe SE and UBS Securities España SV, SA. UBS Securities España SV, SA is regulated by the Comisión Nacional del Mercado de Valores (CNMV). **Turkey:** Distributed by UBS AG, London Branch. No information in this document is provided for the purpose of offering, marketing and sale by any means of any capital market instruments and services in the Republic of Turkey. Therefore, this document may not be considered as an offer made or to be made to residents of the Republic of Turkey. UBS AG, London Branch is not licensed by the Turkish Capital Market Board under the provisions of the Capital Market Law (Law No. 6362). Accordingly, neither this document nor any other offering material related to the instruments/services may be utilized in connection with providing any capital market services to persons within the Republic of Turkey without the prior approval of the Capital Market Board. However, according to article 15 (d) (ii) of the Decree No. 32, there is no restriction on the purchase or sale of the securities abroad by residents of the Republic of Turkey. **Poland:** Distributed by UBS Europe SE (spółka z ograniczoną odpowiedzialnością) Oddział w Polsce regulated by the Polish Financial Supervision Authority. Where an analyst of UBS Europe SE (spółka z ograniczoną odpowiedzialnością) Oddział w Polsce has contributed to this document, the document is also deemed to have been prepared by UBS Europe SE (spółka z ograniczoną odpowiedzialnością) Oddział w Polsce. **Russia:** Prepared and distributed by UBS Bank (OOO). **Switzerland:** Distributed by UBS AG to persons who are institutional investors only. UBS AG is regulated by the Swiss Financial Market Supervisory Authority (FINMA). **Italy:** Prepared by UBS Europe SE and distributed by UBS Europe SE and UBS Europe SE, Italy Branch. Where an analyst of UBS Europe SE, Italy Branch has contributed to this document, the document is also deemed to have been prepared by UBS Europe SE, Italy Branch. **South Africa:** Distributed by UBS South Africa (Pty) Limited (Registration No. 1995/011140/07), an authorised user of the JSE and an authorised Financial Services Provider (FSP 7328). **Israel:** This material is distributed by UBS AG, London Branch. UBS Securities Israel Ltd is a licensed Investment Marketer that is supervised by the Israel Securities Authority (ISA). UBS AG, London Branch and its affiliates incorporated outside Israel are not licensed under the Israeli Advisory Law. UBS AG, London Branch is not covered by insurance as required from a licensee under the Israeli Advisory Law. UBS may engage among others in issuance of Financial Assets or in distribution of Financial Assets of other issuers for fees or other benefits. UBS AG, London Branch and its affiliates may prefer various Financial Assets to which they have or may have Affiliation (as such term is defined under the Israeli Advisory Law). Nothing in this Material should be considered as investment advice under the Israeli Advisory Law. This Material is being issued only to and/or is directed only at persons who are Eligible Clients within the meaning of the Israeli Advisory Law, and this material must not be relied on or acted upon by any other persons. **Saudi Arabia:** This document has been issued by UBS AG (and/or any of its subsidiaries, branches or affiliates), a public company limited by shares, incorporated in Switzerland with its registered offices at Aeschenvorstadt 1, CH-4051 Basel and Bahnhofstrasse 45, CH-8001 Zurich. This publication has been approved by UBS Saudi Arabia (a subsidiary of UBS AG), a Saudi closed joint stock company incorporated in the Kingdom of Saudi Arabia under commercial register number 1010257812 having its registered office at Tatweer Towers, P.O. Box 75724, Riyadh 11588, Kingdom of Saudi Arabia. UBS Saudi Arabia is authorized and regulated by the Capital Market Authority to conduct securities business under license number 08113-37. **UAE / Dubai:** The information distributed by UBS AG Dubai Branch is only intended for Professional Clients and/or Market Counterparties, as classified under the DFSA rulebook. No other person should act upon this material/communication. The information is not for further distribution within the United Arab Emirates. UBS AG Dubai Branch is regulated by the DFSA in the DIFC. UBS is not licensed to provide banking services in the UAE by the Central Bank of the UAE, nor is it licensed by the UAE Securities and Commodities Authority. **United States:** Distributed to US persons by either UBS Securities LLC or by UBS Financial Services Inc., subsidiaries of UBS AG; or by a group, subsidiary or affiliate of UBS AG that is not registered as a US broker-dealer (a 'non-US affiliate') to major US institutional investors only. UBS Securities LLC or UBS Financial Services Inc. accepts responsibility for the content of a document prepared by another non-US affiliate when distributed to US persons by UBS Securities LLC or UBS Financial Services Inc. All transactions by a US person in the securities mentioned in this document must be effected through UBS Securities LLC or UBS Financial Services Inc., and not through a non-US affiliate. UBS Securities LLC is not acting as a municipal advisor to any municipal entity or obligated person within the meaning of Section 15B of the Securities Exchange Act (the "Municipal Advisor Rule"), and the opinions or views contained herein are not intended to be, and do not constitute, advice within the meaning of the Municipal Advisor Rule. **Canada:** Distributed by UBS Securities Canada Inc., a registered investment dealer in Canada and a Member-Canadian Investor Protection Fund, or by another affiliate of UBS AG that is registered to conduct business in Canada or is otherwise exempt from registration. **Mexico:** This report has been distributed and prepared by UBS Casa de Bolsa, S.A. de C.V., UBS Grupo Financiero, an entity that is part of UBS Grupo Financiero, S.A. de C.V. and is a subsidiary of UBS AG. This document is intended for distribution to institutional or sophisticated investors only. Research reports only reflect the views of the analysts responsible for the reports. Analysts do not receive any compensation from persons or entities different from UBS Casa de Bolsa, S.A. de C.V., UBS Grupo Financiero, or different from entities belonging to the same financial group or business group of such. For Spanish translations of applicable disclosures, please go to www.ubs.com/disclosures. **Brazil:** Except as otherwise specified herein, this material is prepared by UBS Brasil CCTVM S.A. to persons who are eligible investors residing in Brazil, which are considered to be Investidores Profissionais, as designated by the applicable regulation, mainly the CVM Instruction No. 539 from the 13th of November 2013 (determines the duty to verify the suitability of products, services and transactions with regards to the client's profile). **Hong Kong:** Distributed by UBS Securities Asia Limited and/or UBS AG, Hong Kong Branch, which is incorporated in Switzerland with limited liability. Please contact local licensed/registered representatives of UBS Securities Asia Limited and/or UBS AG, Hong Kong Branch in respect of any matters arising from, or in connection with, the analysis or document. **Singapore:** Distributed by UBS Securities Pte. Ltd. [MCI (P) 009/09/2018 and Co. Reg. No.: 198500648C] or UBS AG, Singapore Branch. Please contact UBS Securities Pte. Ltd., an exempt financial adviser under the Singapore Financial Advisers Act (Cap. 110); or UBS AG, Singapore Branch, an exempt financial adviser under the Singapore Financial Advisers Act (Cap. 110) and a wholesale bank licensed under the Singapore Banking Act (Cap. 19) regulated by the Monetary Authority of Singapore, in respect of any matters arising from, or in connection with, the analysis or document. The recipients of this document represent and warrant that they are accredited and institutional investors as defined in the Securities and Futures Act (Cap. 289). **Japan:** Distributed by UBS Securities Japan Co., Ltd. to professional investors (except as otherwise permitted). Where this document has been prepared by UBS Securities Japan Co., Ltd., UBS Securities Japan Co., Ltd. is the author, publisher and distributor of the document. Distributed by UBS AG, Tokyo Branch to Professional Investors (except as otherwise permitted) in relation to foreign exchange and other banking businesses when relevant. **Australia:** Clients of UBS AG: Distributed by UBS AG (ABN 47 088 129 613 and holder of Australian Financial Services License No. 231087). Clients of UBS Securities Australia Ltd: Distributed by UBS Securities Australia Ltd (ABN 62 008 586 481 and holder of Australian Financial Services License No. 231098). This Document contains general information and/or general advice only and does not constitute personal financial product advice. As such, the information in this document has been prepared without taking into account any investor's objectives, financial situation or needs, and investors should, before acting

on the Information, consider the appropriateness of the Information, having regard to their objectives, financial situation and needs. If the Information contained in this document relates to the acquisition, or potential acquisition of a particular financial product by a 'Retail' client as defined by section 761G of the Corporations Act 2001 where a Product Disclosure Statement would be required, the retail client should obtain and consider the Product Disclosure Statement relating to the product before making any decision about whether to acquire the product. The UBS Securities Australia Limited Financial Services Guide is available at: www.ubs.com/ecs-research-fsg.

New Zealand: Distributed by UBS New Zealand Ltd. UBS New Zealand Ltd is not a registered bank in New Zealand. You are being provided with this UBS publication or material because you have indicated to UBS that you are a "wholesale client" within the meaning of section 5C of the Financial Advisers Act 2008 of New Zealand (Permitted Client). This publication or material is not intended for clients who are not Permitted Clients (non-permitted Clients). If you are a non-permitted Client you must not rely on this publication or material. If despite this warning you nevertheless rely on this publication or material, you hereby (i) acknowledge that you may not rely on the content of this publication or material and that any recommendations or opinions in such this publication or material are not made or provided to you, and (ii) to the maximum extent permitted by law (a) indemnify UBS and its associates or related entities (and their respective Directors, officers, agents and Advisors) (each a 'Relevant Person') for any loss, damage, liability or claim any of them may incur or suffer as a result of, or in connection with, your unauthorised reliance on this publication or material and (b) waive any rights or remedies you may have against any Relevant Person for (or in respect of) any loss, damage, liability or claim you may incur or suffer as a result of, or in connection with, your unauthorised reliance on this publication or material. **Korea:** Distributed in Korea by UBS Securities Pte. Ltd., Seoul Branch. This document may have been edited or contributed to from time to time by affiliates of UBS Securities Pte. Ltd., Seoul Branch. This material is intended for professional/institutional clients only and not for distribution to any retail clients. **Malaysia:** This material is authorized to be distributed in Malaysia by UBS Securities Malaysia Sdn. Bhd (Capital Markets Services License No.: CMSL/A0063/2007). This material is intended for professional/institutional clients only and not for distribution to any retail clients. **India:** Distributed by UBS Securities India Private Ltd. (Corporate Identity Number U67120MH1996PTC097299) 2/F, 2 North Avenue, Maker Maxity, Bandra Kurla Complex, Bandra (East), Mumbai (India) 400051. Phone: +912261556000. It provides brokerage services bearing SEBI Registration Number: INZ000259830; merchant banking services bearing SEBI Registration Number: INM000010809 and Research Analyst services bearing SEBI Registration Number: INH000001204. UBS AG, its affiliates or subsidiaries may have debt holdings or positions in the subject Indian company/companies. Within the past 12 months, UBS AG, its affiliates or subsidiaries may have received compensation for non-investment banking securities-related services and/or non-securities services from the subject Indian company/companies. The subject company/companies may have been a client/clients of UBS AG, its affiliates or subsidiaries during the 12 months preceding the date of distribution of the research report with respect to investment banking and/or non-investment banking securities-related services and/or non-securities services. With regard to information on associates, please refer to the Annual Report at: http://www.ubs.com/global/en/about_ubs/investor_relations/annualreporting.html **Taiwan:** Distributed by UBS Securities Pte. Ltd., Taipei Branch which is regulated by the Taiwan Securities and Futures Bureau. This document contains general information and/or general advice only and does NOT constitute any "Recommendation" to clients for the covered companies or any companies mentioned in this document. **Indonesia:** This report is being distributed by PT UBS Sekuritas Indonesia and is delivered by its licensed employee(s), including marketing/sales person, to its client. PT UBS Sekuritas Indonesia, having its registered office at Wisma GKB, 22nd floor, JL. Jend. Sudirman, kav.28, Jakarta 10210, Indonesia, is a subsidiary company of UBS AG and licensed under Capital Market Law no. 8 year 1995, a holder of broker-dealer and underwriter licenses issued by the Capital Market and Financial Institution Supervisory Agency (now Otoritas Jasa Keuangan/OJK). PT UBS Sekuritas Indonesia is also a member of Indonesia Stock Exchange and supervised by Otoritas Jasa Keuangan (OJK). Neither this report nor any copy hereof may be distributed in Indonesia or to any Indonesian citizens except in compliance with applicable Indonesian capital market laws and regulations. This report is not an offer of securities in Indonesia and may not be distributed within the territory of the Republic of Indonesia or to Indonesian citizens in circumstance which constitutes an offering within the meaning of Indonesian capital market laws and regulations.

The disclosures contained in research documents produced by UBS AG, London Branch or UBS Europe SE shall be governed by and construed in accordance with English law.

UBS specifically prohibits the redistribution of this document in whole or in part without the written permission of UBS and in any event UBS accepts no liability whatsoever for any redistribution of this document or its contents or the actions of third parties in this respect. Images may depict objects or elements that are protected by third party copyright, trademarks and other intellectual property rights. © UBS 2019. The key symbol and UBS are among the registered and unregistered trademarks of UBS. All rights reserved.

Global Wealth Management Disclaimer

You receive this document in your capacity as a client of UBS Global Wealth Management. This publication has been distributed to you by UBS Switzerland AG (regulated by FINMA in Switzerland) or its affiliates ("UBS") with whom you have a banking relationship with. The full name of the distributing affiliate and its competent authority can be found in the country-specific disclaimer at the end of this document.

The date and time of the first dissemination of this publication is the same as the date and time of its publication.

Risk information:

You agree that you shall not copy, revise, amend, create a derivative work, provide to any third party, or in any way commercially exploit any UBS research, and that you shall not extract data from any research or estimates, without the prior written consent of UBS.

This document is for distribution only as may be permitted by law. It is not directed to, or intended for distribution to or use by, any person or entity who is a citizen or resident of or located in any locality, state, country or other jurisdiction where such distribution, publication, availability or use would be contrary to law or regulation or would subject UBS to any registration or licensing requirement within such jurisdiction.

This document is a general communication and is educational in nature; it is not an advertisement nor is it a solicitation or an offer to buy or sell any financial instruments or to participate in any particular trading strategy. Nothing in this document constitutes a representation that any investment strategy or recommendation is suitable or appropriate to an investor's individual circumstances or otherwise constitutes a personal recommendation. By providing this document, none of UBS or its representatives has any responsibility or authority to provide or have provided investment advice in a fiduciary capacity or otherwise. Investments involve risks, and investors should exercise prudence and their own judgment in making their investment decisions. None of UBS or its representatives is suggesting that the recipient or any other person take a specific course of action or any action at all. By receiving this document, the recipient acknowledges and agrees with the intended purpose described above and further disclaims any expectation or belief that the information constitutes investment advice to the recipient or otherwise purports to meet the investment objectives of the recipient. The financial instruments described in the document may not be eligible for sale in all jurisdictions or to certain categories of investors.

Options, derivative products and futures are not suitable for all investors, and trading in these instruments is considered risky. Mortgage and asset-backed securities may involve a high degree of risk and may be highly volatile in response to fluctuations in interest rates or other market conditions. Foreign currency rates of exchange may adversely affect the value, price or income of any security or related instrument referred to in the document. For investment advice, trade execution or other enquiries, clients should contact their local sales representative.

The value of any investment or income may go down as well as up, and investors may not get back the full (or any) amount invested. Past performance is not necessarily a guide to future performance. Neither UBS nor any of its directors, employees or agents accepts any liability for any loss (including investment loss) or damage arising out of the use of all or any of the information (as defined below).

Prior to making any investment or financial decisions, any recipient of this document or the information should take steps to understand the risk and return of the investment and seek individualized advice from his or her personal financial, legal, tax and other professional advisors that takes into account all the particular facts and circumstances of his or her investment objectives.

Any prices stated in this document are for information purposes only and do not represent valuations for individual securities or other financial instruments. There is no representation that any transaction can or could have been effected at those prices, and any prices do not necessarily reflect UBS's internal books and records or theoretical model-based valuations and may be based on certain assumptions. Different assumptions by UBS or any other source may yield substantially different results.

No representation or warranty, either expressed or implied, is provided in relation to the accuracy, completeness or reliability of the information contained in any materials to which this document relates (the "Information"), except with respect to Information concerning UBS. The Information is not intended to be a complete statement or summary of the securities, markets or developments referred to in the document. UBS does not undertake to update or keep current the Information. Any opinions expressed in this document may change without notice and may differ or be contrary to opinions expressed by other business areas or groups, personnel or other representative of UBS. Any statements contained in this report attributed to a third party represent UBS's interpretation of the data, information and/or opinions provided by that third party either publicly or through a subscription service, and such use and interpretation have not been reviewed by the third party. In no circumstances may this document or any of the Information (including any forecast, value, index or other calculated amount ("Values")) be used for any of the following purposes:

- (i) valuation or accounting purposes;
- (ii) to determine the amounts due or payable, the price or the value of any financial instrument or financial contract; or
- (iii) to measure the performance of any financial instrument including, without limitation, for the purpose of tracking the return or performance of any Value or of defining the asset allocation of portfolio or of computing performance fees.

By receiving this document and the Information you will be deemed to represent and warrant to UBS that you will not use this document or any of the Information for any of the above purposes or otherwise rely upon this document or any of the Information.

UBS has policies and procedures, which include, without limitation, independence policies and permanent information barriers, that are intended, and upon which UBS relies, to manage potential conflicts of interest and control the flow of information within divisions of UBS (including between Global Wealth Management and Research) and among its subsidiaries, branches and affiliates. For further information on the ways in which UBS manages conflicts and maintains independence of its research products, historical performance information and certain additional disclosures concerning UBS research recommendations, please visit www.ubs.com/disclosures.

Research will initiate, update and cease coverage solely at the discretion of research management, which will also have sole discretion on the timing and frequency of any published research product. The analysis contained in this document is based on numerous assumptions. Different assumptions could result in materially different results.

The analyst(s) responsible for the preparation of this document may interact with trading desk personnel, sales personnel and other parties for the purpose of gathering, applying and interpreting market information. UBS relies on information barriers to control the flow of information contained in one or more areas within UBS into other areas, units, groups or affiliates of UBS. The compensation of the analyst who prepared this document is determined exclusively by research management and senior management (not including investment banking). Analyst compensation is not based on investment banking revenues; however, compensation may relate to the revenues of UBS and/or its divisions as a whole, of which investment banking, sales and trading are a part, and UBS's subsidiaries, branches and affiliates as a whole.

For financial instruments admitted to trading on an EU regulated market: UBS AG, its affiliates or subsidiaries (excluding UBS Securities LLC) acts as a market maker or liquidity provider (in accordance with the interpretation of these terms in the UK) in the financial instruments of the issuer save that where the activity of liquidity provider is carried out in accordance with the definition given to it by the laws and regulations of any other EU jurisdictions, such information is separately disclosed in this document. For financial instruments admitted to trading on a non-EU regulated market: UBS may act as a market maker save that where this activity is carried out in the US in accordance with the definition given to it by the relevant laws and regulations, such activity will be specifically disclosed in this document. UBS may have issued a warrant the value of which is based on one or more of the financial instruments referred to in the document. UBS and its affiliates and employees may have long or short positions, trade as principal and buy and sell in instruments or derivatives identified herein; such transactions or positions may be inconsistent with the opinions expressed in this document.

Within the past 12 months UBS Switzerland AG, its affiliates or subsidiaries may have received or provided investment services and activities or ancillary services as per MiFID II which may have given rise to a payment or promise of a payment in relation to these services from or to this company.

If you require detailed information on disclosures of interest or conflict of interest as required by Market Abuse Regulation please contact the mailbox MAR_disclosures_twopager@ubs.com. Please note that e-mail communication is unsecured.

External Asset Managers / External Financial Consultants: In case this research or publication is provided to an External Asset Manager or an External Financial Consultant, UBS expressly prohibits that it is redistributed by the External Asset Manager or the External Financial Consultant and is made available to their clients and/or third parties.

Distributed to US persons by UBS Financial Services Inc. or UBS Securities LLC, subsidiaries of UBS AG. UBS Switzerland AG, UBS Europe SE, UBS Bank, S.A., UBS Brasil Administradora de Valores Mobiliarios Ltda, UBS Asesores Mexico, S.A. de C.V., UBS Securities Japan Co., Ltd, UBS Wealth Management Israel Ltd and UBS Menkul Degerler AS are affiliates of UBS AG. UBS Financial Services Incorporated of Puerto Rico is a subsidiary of UBS Financial Services Inc. **UBS Financial Services Inc. accepts responsibility for the content of a report prepared by a non-US affiliate when it distributes reports to US persons. All transactions by a US person in the securities mentioned in this report should be effected through a US-registered broker dealer affiliated with UBS, and not through a non-US affiliate. The contents of this report have not been and will not be approved by any securities or investment authority in the United States or elsewhere. UBS Financial Services Inc. is not acting as a municipal advisor to any municipal entity or obligated person within the meaning of Section 15B of the Securities Exchange Act (the "Municipal Advisor Rule") and the opinions or views contained herein are not intended to be, and do not constitute, advice within the meaning of the Municipal Advisor Rule.**

Austria: This publication is not intended to constitute a public offer under Austrian law. It is distributed only for information purposes to clients of UBS Europe SE, Niederlassung Österreich, with place of business at Wächtergasse 1, A-1010 Wien. UBS Europe SE, Niederlassung Österreich is subject to the joint supervision of the European Central Bank ("ECB"), the German Central Bank (Deutsche Bundesbank), the German Federal Financial Services Supervisory Authority (Bundesanstalt für Finanzdienstleistungsaufsicht), as well as of the Austrian Financial Market Authority (Finanzmarktaufsicht, FMA), to which this publication has not been submitted for approval. UBS Europe SE is a credit institution constituted under German law in the form of a Societas Europaea, duly authorized by the ECB. **Bahrain:** UBS is a Swiss bank not licensed, supervised or regulated in Bahrain by the Central Bank of Bahrain and does not undertake banking or investment business activities in Bahrain. Therefore, clients have no protection under local banking and investment services laws and regulations. **Canada:** The information contained herein is not, and under no circumstances is to be construed as, a prospectus, an advertisement, a public offering, an offer to sell securities described herein, solicitation of an offer to buy securities described herein, in Canada or any province or territory thereof. Any offer or sale of the securities described herein in Canada will be made only under an exemption from the requirements to file a prospectus with the relevant Canadian securities regulators and only by a dealer properly registered under applicable securities laws or, alternatively, pursuant to an exemption from the dealer registration requirement in the relevant province or territory of Canada in which such offer or sale is made. Under no circumstances is the information contained herein to be construed as investment advice in any province or territory of Canada and is not tailored to the needs of the recipient. To the extent that the information contained herein references securities of an issuer incorporated, formed or created under the laws of Canada or a province or territory of Canada, any trades in such securities must be conducted through a dealer registered in Canada or, alternatively, pursuant to a dealer registration exemption. No securities commission or similar regulatory authority in Canada has reviewed or in any way passed upon these materials, the information contained herein or the merits of the securities described herein and any representation to the contrary is an offence. In Canada, this publication is distributed by UBS Investment Management Canada Inc. **China:** This research report is neither intended to be distributed to PRC investors nor to provide securities investment consultancy services within the territory of PRC. **Czech Republic:** UBS is not a licensed bank in the Czech Republic and thus is not allowed to provide regulated banking or investment services in the Czech Republic. Please notify UBS if you do not wish to receive any further correspondence. **Denmark:** This publication is not intended to constitute a public offer under Danish law. It is distributed only for information purposes to clients of UBS Europe SE, Denmark Branch, filial af UBS Europe SE, with place of business at Sankt Annæ Plads 13, 1250 Copenhagen, Denmark, registered with the Danish Commerce and Companies Agency, under No. 38 17 24 33. UBS Europe SE, Denmark Branch, filial af UBS Europe SE is subject to the joint supervision of the European Central Bank ("ECB"), the German Central Bank (Deutsche Bundesbank), the German Federal Financial Services Supervisory Authority (Bundesanstalt für Finanzdienstleistungsaufsicht), as well as of the Danish Financial Supervisory Authority (Finanstilsynet), to which this publication has not been submitted for approval. UBS Europe SE is a credit institution constituted under German law in the form of a Societas Europaea, duly authorized by the ECB. **Egypt:** Securities or other investment products are not being offered or sold by UBS to the public in Egypt and they have not been and will not be registered with the Egyptian Financial Supervisory Authority. **France:** This publication is distributed by UBS (France) S.A., French "société anonyme" with share capital of € 132.975.556, 69, boulevard Haussmann F-75008 Paris, R.C.S. Paris B 421 255 670, to its clients and prospects. UBS (France) S.A. is a provider of investment services duly authorized according to the terms of the "Code Monétaire et Financier", regulated by French banking and financial authorities as the "Autorité de Contrôle Prudentiel et de Résolution." **Germany:** This publication is not intended to constitute a public offer under German law. It is distributed only for information purposes to clients of UBS Europe SE, Germany, with place of business at Bockenheimer Landstrasse 2-4, 60306 Frankfurt am Main. UBS Europe SE is a credit institution constituted under German law in the form of a Societas Europaea, duly authorized by the European Central Bank ("ECB"), and supervised by the ECB, the German Central Bank (Deutsche Bundesbank) and the German Federal Financial Services Supervisory Authority (Bundesanstalt für Finanzdienstleistungsaufsicht), to which this publication has not been submitted for approval. **Greece:** UBS Switzerland AG and its affiliates (UBS) are not licensed as a bank or financial institution under Greek legislation and do not provide banking and financial services in Greece. Consequently, UBS provides such services from branches outside of Greece, only. This document may not be considered as a public offering made or to be made to residents of Greece. **Hong Kong:** This publication is distributed to clients of UBS AG Hong Kong Branch by UBS AG Hong Kong Branch, a licensed bank under the Hong Kong Banking Ordinance and a registered institution under the Securities and Futures Ordinance. UBS AG Hong Kong Branch is incorporated in Switzerland with limited liability. **Indonesia, Malaysia, Philippines, Thailand:** This material was provided to you as a result of a request received by UBS from you and/or persons entitled to make the request on your behalf. Should you have received the material erroneously, UBS asks that you kindly destroy/delete it and inform UBS immediately. Any and all advice provided and/or trades executed by UBS pursuant to the material will only have been provided upon your specific request or executed upon your specific instructions, as the case may be, and may be deemed as such by UBS and you. The

material may not have been reviewed, approved, disapproved or endorsed by any financial or regulatory authority in your jurisdiction. The relevant investments will be subject to restrictions and obligations on transfer as set forth in the material, and by receiving the material you undertake to comply fully with such restrictions and obligations. You should carefully study and ensure that you understand and exercise due care and discretion in considering your investment objective, risk appetite and personal circumstances against the risk of the investment. You are advised to seek independent professional advice in case of doubt. **India:** UBS Securities India Private Ltd. (Corporate Identity Number U67120MH1996PTC097299) 2/F, 2 North Avenue, Maker Maxity, Bandra Kurla Complex, Bandra (East), Mumbai (India) 400051. Phone: +912261556000. It provides brokerage services bearing SEBI Registration Number INZ000259830; merchant banking services bearing SEBI Registration Number: INM000010809 and Research Analyst services bearing SEBI Registration Number: INH000001204. UBS AG, its affiliates or subsidiaries may have debt holdings or positions in the subject Indian company/companies. Within the past 12 months, UBS AG, its affiliates or subsidiaries may have received compensation for non-investment banking securities-related services and/or non-securities services from the subject Indian company/companies. The subject company/companies may have been a client/clients of UBS AG, its affiliates or subsidiaries during the 12 months preceding the date of distribution of the research report with respect to investment banking and/or non-investment banking securities-related services and/or non-securities services. With regard to information on associates, please refer to the Annual Report at: http://www.ubs.com/global/en/about_ubs/investor_relations/annualreporting.html. **Israel:** UBS is a premier global financial firm offering wealth management, asset management and investment banking services from its headquarters in Switzerland and its operations in over 50 countries worldwide to individual, corporate and institutional investors. In Israel, UBS Switzerland AG is registered as Foreign Dealer in cooperation with UBS Wealth Management Israel Ltd., a wholly owned UBS subsidiary. UBS Wealth Management Israel Ltd. is a Portfolio Manager licensee which engages also in Investment Marketing and is regulated by the Israel Securities Authority. This publication is intended for information only and is not intended as an offer to buy or solicitation of an offer. Furthermore, this publication is not intended as an investment advice and/or investment marketing and is not replacing any investment advice and/or investment marketing provided by the relevant licensee which is adjusted to each person needs. No action has been, or will be, taken in Israel that would permit an offering of the product(s) mentioned in this document or a distribution of this document to the public in Israel. In particular, this document has not been reviewed or approved by the Israeli Securities Authority. The product(s) mentioned in this document is/are being offered to a limited number of sophisticated investors who qualify as one of the investors listed in the first supplement to the Israeli Securities Law, 5728-1968. This document may not be reproduced or used for any other purpose, nor be furnished to any other person other than those to whom copies have been sent. Anyone who purchases the product(s) mentioned herein shall do so for its own benefit and for its own account and not with the aim or intention of distributing or offering the product(s) to other parties. Anyone who purchases the product(s) shall do so in accordance with its own understanding and discretion and after it has received any relevant financial, legal, business, tax or other advice or opinion required by it in connection with such purchase(s). The word "advice" and/or any of its derivatives shall be read and construed in conjunction with the definition of the term "investment marketing" as defined under the Israeli Regulation of Investment Advice, Investment Marketing and Portfolio Management Law, 1995. **Italy:** This publication is not intended to constitute a public offer under Italian law. It is distributed only for information purposes to clients of UBS Europe SE, Succursale Italia, with place of business at Via del Vecchio Politecnico, 3-20121 Milano. UBS Europe SE, Succursale Italia is subject to the joint supervision of the European Central Bank ("ECB"), the German Central Bank (Deutsche Bundesbank), the German Federal Financial Services Supervisory Authority (Bundesanstalt für Finanzdienstleistungsaufsicht), as well as of the Bank of Italy (Banca d'Italia) and the Italian Financial Markets Supervisory Authority (CONSOB - Commissione Nazionale per le Società e la Borsa), to which this publication has not been submitted for approval. UBS Europe SE is a credit institution constituted under German law in the form of a Societas Europaea, duly authorized by the ECB. **Jersey:** UBS AG, Jersey Branch, is regulated and authorized by the Jersey Financial Services Commission for the conduct of banking, funds and investment business. Where services are provided from outside Jersey, they will not be covered by the Jersey regulatory regime. UBS AG, Jersey Branch is a branch of UBS AG a public company limited by shares, incorporated in Switzerland whose registered offices are at Aeschenvorstadt 1, CH-4051 Basel and Bahnhofstrasse 45, CH 8001 Zurich. UBS AG, Jersey Branch's principal place business is 1, IFC Jersey, St Helier, Jersey, JE2 3BX. **Luxembourg:** This publication is not intended to constitute a public offer under Luxembourg law. It is distributed only for information purposes to clients of UBS Europe SE, Luxembourg Branch, with place of business at 33A, Avenue J. F. Kennedy, L-1855 Luxembourg. UBS Europe SE, Luxembourg Branch is subject to the joint supervision of the European Central Bank ("ECB"), the German Central bank (Deutsche Bundesbank), the German Federal Financial Services Supervisory Authority (Bundesanstalt für Finanzdienstleistungsaufsicht), as well as of the Luxembourg supervisory authority (Commission de Surveillance du Secteur Financier), to which this publication has not been submitted for approval. UBS Europe SE is a credit institution constituted under German law in the form of a Societas Europaea, duly authorized by the ECB. **Mexico:** This information is distributed by UBS Asesores México, S.A. de C.V. ("UBS Asesores"), an affiliate of UBS Switzerland AG, incorporated as a non-independent investment advisor under the Securities Market Law due to the relation with a Foreign Bank. UBS Asesores is a regulated entity and it is subject to the supervision of the Mexican Banking and Securities Commission ("CNBV"), which exclusively regulates UBS Asesores regarding the rendering of portfolio management, as well as on securities investment advisory services, analysis and issuance of individual investment recommendations, so that the CNBV has no surveillance faculties nor may have over any other service provided by UBS Asesores. UBS Asesores is registered before CNBV under Registry number 30060. You are being provided with this UBS publication or material because you have indicated to UBS Asesores that you are a Sophisticated Qualified Investor located in Mexico. The compensation of the analyst(s) who prepared this report is determined exclusively by research management and senior management of any entity of UBS Group to which such analyst(s) render services. **Nigeria:** UBS Switzerland AG and its affiliates (UBS) are not licensed, supervised or regulated in Nigeria by the Central Bank of Nigeria or the Nigerian Securities and Exchange Commission (SEC) and do not undertake banking or investment business activities in Nigeria. The investment products mentioned in this material are not being offered or sold by UBS to the public in Nigeria and they have not been submitted for approval nor registered with the Nigerian SEC. If you are interested in products of this nature, please let us know and we will direct you to someone who can advise you. The investment products mentioned in this material are not being directed to, and are not being made available for subscription by any persons within Nigeria other than the selected investors to whom the offer materials have been addressed as a private sale or domestic concern within the exemption and meaning of Section 69(2) of the Investments and Securities Act, 2007 (ISA). **Portugal:** UBS Switzerland AG is not licensed to conduct banking and financial activities in Portugal nor is UBS Switzerland AG supervised by the Portuguese regulators (Bank of Portugal "Banco de Portugal" and Portuguese Securities Exchange Commission "Comissão do Mercado de Valores Mobiliários"). **Russia:** This document or information contained therein is for information purposes only and constitute neither a public nor a private offering, is not an invitation to make offers, to sell, exchange or otherwise transfer any financial instruments in the Russian Federation to or for the benefit of any Russian person or entity and does not constitute an advertisement or offering of securities in the Russian Federation within the meaning of Russian securities laws. **Singapore:** This material was provided to you as a result of a request received by UBS from you and/or persons entitled to make the request on your behalf. Should you have received the material erroneously, UBS asks that you kindly destroy/delete it and inform UBS immediately. Clients of UBS AG Singapore branch are asked to please contact UBS AG Singapore branch, an exempt financial adviser under the Singapore Financial Advisers Act (Cap. 110) and a wholesale bank licensed under the Singapore Banking Act (Cap. 19) regulated by the Monetary Authority of Singapore, in respect of any matters arising from, or in connection with, the analysis or report. **Spain:** This publication is not intended to constitute a public offer under Spanish law. It is distributed only for information purposes to clients of UBS Europe SE, Sucursal en España, with place of business at Calle María de Molina 4, C.P. 28006, Madrid. UBS Europe SE, Sucursal en España is subject to the joint supervision of the European Central Bank ("ECB"), the German Central Bank (Deutsche Bundesbank), the German Federal Financial Services Supervisory Authority (Bundesanstalt für Finanzdienstleistungsaufsicht), as well as of the Spanish supervisory authority (Banco de España), to which this publication has not been submitted for approval. Additionally it is authorized to provide investment services on securities and financial instruments, regarding which it is supervised by the Comisión Nacional del Mercado de Valores as well. UBS Europe SE, Sucursal en España is a branch of UBS Europe SE, a credit institution constituted under German law in the form of a Societas Europaea, duly authorized by the ECB. **Sweden:** This publication is not intended to constitute a public offer under Swedish law. It is distributed only for information purposes to clients of UBS Europe SE, Sweden Bankfilial, with place of business at Regeringsgatan 38, 11153 Stockholm, Sweden, registered with the Swedish Companies Registration Office under Reg. No 516406-1011. UBS Europe SE, Sweden Bankfilial is subject to the joint supervision of the European Central Bank ("ECB"), the German Central bank (Deutsche Bundesbank), the German Federal Financial Services Supervisory Authority (Bundesanstalt für Finanzdienstleistungsaufsicht), as well as of the Swedish supervisory authority (Finansinspektionen), to which this publication has not been submitted for approval. UBS Europe SE is a credit institution constituted under German law in the form of a Societas Europaea, duly authorized by the ECB. **Taiwan:** This material is provided by UBS AG, Taipei Branch in accordance with laws of Taiwan, in agreement with or at the request of clients/prospects. **Turkey:** No information in this document is provided for the purpose of offering, marketing and sale by any means of any capital market instruments and services in the Republic of Turkey. Therefore, this document may not be considered as an offer made or to be made to residents of the Republic of Turkey in the Republic of Turkey. UBS Switzerland AG is not licensed by the Turkish Capital Market Board (the CMB) under the provisions of the Capital Market Law (Law No. 6362). Accordingly neither this document nor any other offering material related to the instruments/services may be utilized in connection with providing any capital market services to persons within the Republic of Turkey without the prior approval of the CMB. However, according to article 15 (d) (ii) of the Decree No. 32 there is no restriction on the purchase or sale of the instruments by residents of the Republic of Turkey. **UAE:** UBS is not licensed in the UAE by the Central Bank of UAE or by the Securities & Commodities Authority. The UBS AG Dubai Branch is licensed in the DIFC by the Dubai Financial Services Authority as an authorised firm. **United Kingdom:** This document is issued by UBS Wealth Management, a division of UBS AG which is authorised and regulated by the Financial Market Supervisory Authority in Switzerland. In the United Kingdom, UBS AG is authorised by the Prudential Regulation Authority and is subject to regulation by the Financial Conduct Authority and limited regulation by the Prudential Regulation Authority. Details about the extent of regulation by the Prudential Regulation Authority are available from us on request. A member of the London Stock Exchange. This publication is distributed to retail clients of UBS Wealth Management. **Ukraine:** UBS is not registered and licensed as a bank/financial institution under Ukrainian legislation and does not provide banking and other financial services in Ukraine. UBS has not made and will not make any offer of the mentioned products to the public in Ukraine. No action has been taken to authorize an offer of the mentioned products to the public in Ukraine and the distribution of this document shall not constitute financial services for the purposes of the Law of Ukraine "On Financial Services and State Regulation of Financial Services Markets" dated 12 July 2001. Accordingly, nothing in this document or any other document, information or communication related to the mentioned products

shall be interpreted as containing an offer or invitation to offer, or solicitation of securities in the territory of Ukraine. Electronic communication must not be considered as an offer to enter into an electronic agreement or electronic instrument within the meaning of the Law of Ukraine "On Electronic Commerce" dated 3 September 2015.

This document is strictly for private use by its holder and may not be passed on to third parties or otherwise publicly distributed.

© UBS 2019. The key symbol and UBS are among the registered and unregistered trademarks of UBS. All rights reserved.

