



## Lulu Ledgers

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**Buy** Lululemon Athletica Inc (**NASDAQ: LULU**)

Current Price: \$270.38 (10/4/2024)

Target Price: \$343.32 (+26.98%)



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*Contributors: P. Provost and D. Rowland*

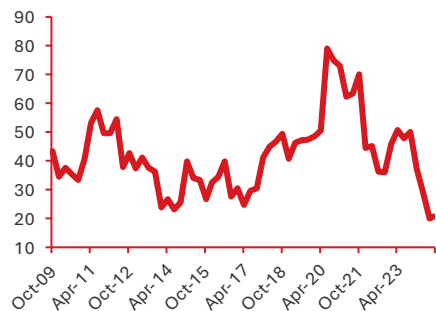
# Executive Summary

## Narrative Summary

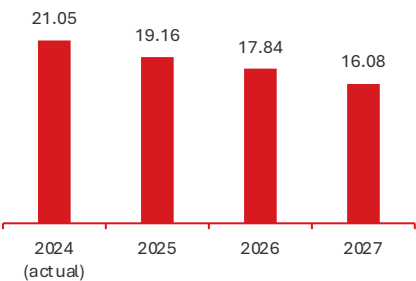
Lululemon is currently undervalued, trading near 52-week lows and down ~50% YTD, largely due to **market overreaction** to macroeconomic challenges and concerns over its North American growth and China expansion. While public missteps in inventory and innovation have fueled the bear thesis, **strong fundamentals**, particularly in the **men's segment**, their **high-margin accessories**, and **significant unrealized Chinese growth**, present upside the market is underestimating.

## Attractive Value

Historical P/E



Forward P/E



Lululemon's **lowest** and forward **P/E ratios ever**, combined with a **strong 59.6% gross margin** and a **63.7% increase in EPS YoY**, suggest the market is **undervaluing its profitability potential**, making it attractive for long term value investors.

## Bear View

### Slowdown in Women's in U.S

Women's sales reported flat, **+7%** versus Street's **+9%** expectation

YoY reduction in seasonal styles, expected to rebalance by **2H25**

### Missteps in Inventory and Innovation

Sizing and colorway issues reported to be fixed by 2H24 but **pushed back** to 1H25

**-14% YoY** in 2Q24 inventory movement prior to **+13.6%** in the period before

### Recessionary Fears

FY24's EPS guidance was **cut \$0.30** due to consumer **slow down**

### China Not as Hot

China's contribution to Lulu could reach **\$12.5 Bn** but sales could be **delayed till 2032**

Men's sales **decreased** from **+15%** to **+11%** 1Q24

## What's Really Occurring

Global store traffic and Google search queries remained strong in Q2. Meanwhile, the **men's and accessories** segments **grew by double digits**, and **international sales rose 29%**, highlighting robust global demand. A **quick recovery is anticipated** as new assortments and inventory missteps are introduced and corrected.

Despite inventory challenges, **Lululemon maintained strong full-price sales**. **Gross margin exceeded targets at 59.6%**, highlighting operational strength. **Inventory was down 14% YoY** due to planned optimization after a 13.6% increase. New assortments and innovations are **expected by early 2025**, ensuring **momentum recovery**.

Lululemon **beat Q2 expectations** with **\$3.15 EPS** and a **\$1.2B buyback**, reflecting confidence in long-term growth.

Despite short-term economic concerns, Lululemon's **37% YoY revenue growth** in China surpasses Nike (7%) and Adidas (9%). Locally positioned as the **"Hermès of Yoga,"** Lululemon is set to capitalize on China's **8.5%** sportswear market **CAGR** by targeting high-spending urban and Tier 3 consumers.

# Business Overview

## Company Overview (NASDAQ: LULU)

- **Leading brand** in premium athletic apparel, specializing in **yoga-inspired** products with growing men's and accessories segments
- Founded in **1998**, headquartered in Vancouver, Canada
- IPO Date: **July 27, 2007**

### Product Segments

- Women's (Align™, Wunder Under)
- Men's (ABC™ Pants)
- Accessories (Everywhere Belt Bag)
- Footwear (Blissfeel)

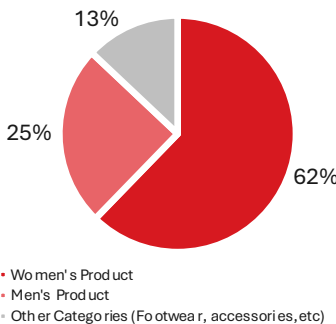


### Revenue Drivers

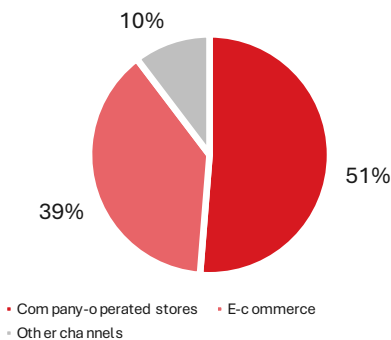
- Strategic focus on global markets, especially China, with **international revenue up 29% YoY**
- Continued **expansion into high-margin categories** like men's athleisure, footwear, and accessories is **further diversifying** Lululemon's revenue streams
- The rapid **growth of Direct-to-Consumer** channels, particularly through **e-commerce**, is enhancing both margins and sales

## Revenue Breakdown (Q2 '24)

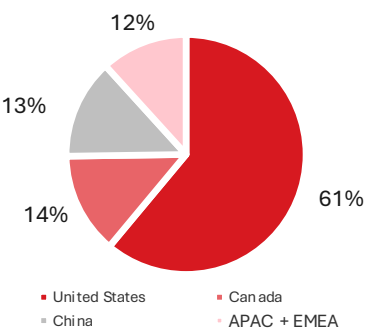
### By Product Segment



### By Channel



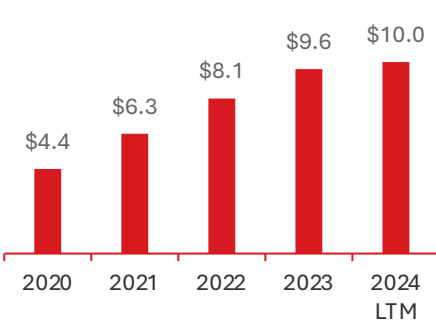
### By Geography



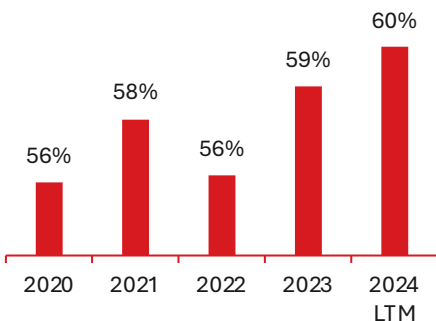
Lululemon's revenue is driven by **strong women's apparel**, rapid expansion into **men's, footwear, and accessories**, and a growing **e-commerce channel**, while its global reach is expanding with significant growth in **China** and the **APAC region**

## Historical Financials

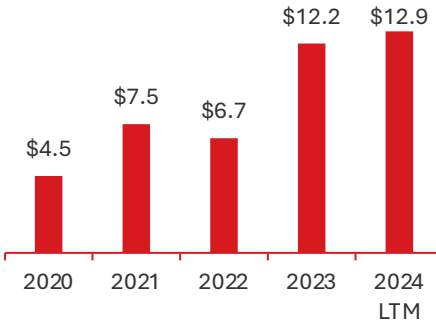
### Revenue (Billions)



### Gross Margin



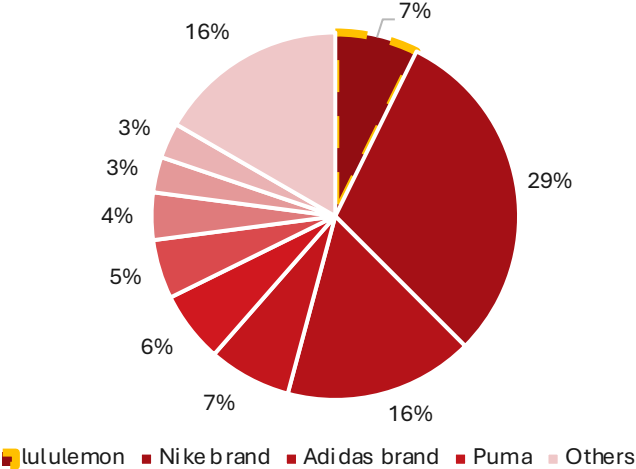
### EPS (GAAP Adj)



# Industry Overview

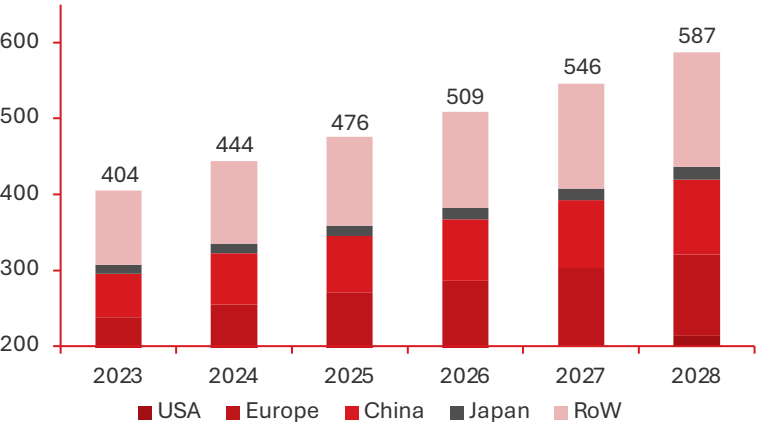
## Global Market Share

- Nike holds the **majority** market share but has faced operational **inefficiencies**; appointing **Elliot Hill** as CEO to regain **stability**
- Lululemon uses **premium pricing** and **brand loyalty** to maintain **industry-leading margins** despite a smaller market share



## Sportswear Market

Global Sportswear Market Value CAGR (\$ Billions)



Steady growth is anticipated within the Sportswear Market within the next 4 years, specifically in China

## Porter's 5 Forces

### Threat of New Entrants

While the market is growing, barriers like brand loyalty and high marketing costs limit new competition

### Threat of Substitution

Athleisure competes with casual wear, but its unique mix of function and fashion makes it hard to fully substitute

### Rivalry

Dominated by players like Nike, Lululemon, and Adidas, competition is intense with constant innovation

### Buyer's Bargaining Power

With many options available, consumers can easily switch brands, driving prices down

### Supplier's Bargaining Power

Suppliers hold some power, especially those offering sustainable or specialized fabrics, though this is mitigated through scale

## Tailwinds and Headwinds

### Tailwinds

#### ▲ Health and Wellness Boom

Growing health consciousness and sports participation, especially post-pandemic, will fuel continued demand, the Lululemon lifestyle

#### ▲ E-Commerce

The rapid growth of online retail, particularly in the athleisure space, provides new sales channels

#### ▲ Sustainability

Rising consumer demand for eco-friendly products is a positive for brands investing in sustainable innovation like Lululemon

### Headwinds

#### ▼ Price Competition

Intense competition from low-cost international producers, particularly in Asia, puts pressure on pricing

#### ▼ Economic Uncertainty

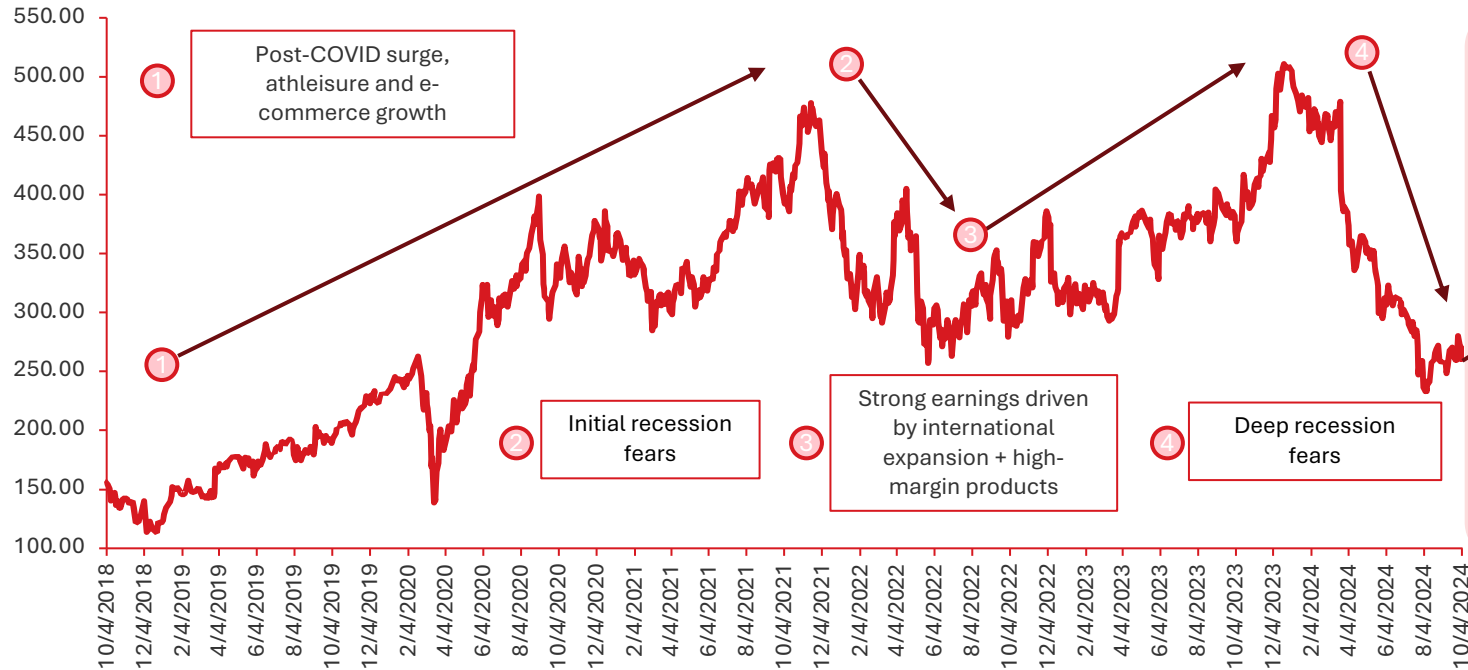
Inflation and a potential slowdown in discretionary spending could limit growth, especially in high-end segments

#### ▼ Counterfeits

The proliferation of counterfeit athleisure products poses a challenge for brands maintaining premium pricing

# Market Expectations

## Lululemon Stock Price: The Story



## What The Market Isn't Seeing

- Investors are **primarily focused on the Americas**, overlooking significant growth potential in China
- Lululemon's high gross margin reflects its **strong e-commerce strategy** and **growth in men's and accessories**—categories poised for expansion that the **market underestimates**

## Why The 52-Week Low...

- U.S. women's** comps fell **-2%**, down from flat last quarter
- Full-year **EPS** guidance **cut** to **\$13.95-\$14.15** (from \$14.27-\$14.47); **sales lowered** to **\$10.375-\$10.475 billion**
- Total comparable **sales growth** slowed to **+3% in Q2**, down from **+7% in Q1**

## Market's View

"We believe it will take several quarters of sustainable sequential improvement to **regain conviction** in the **long-term growth** algorithm of the North America business."

**-Goldman Sachs**

## Microtrends

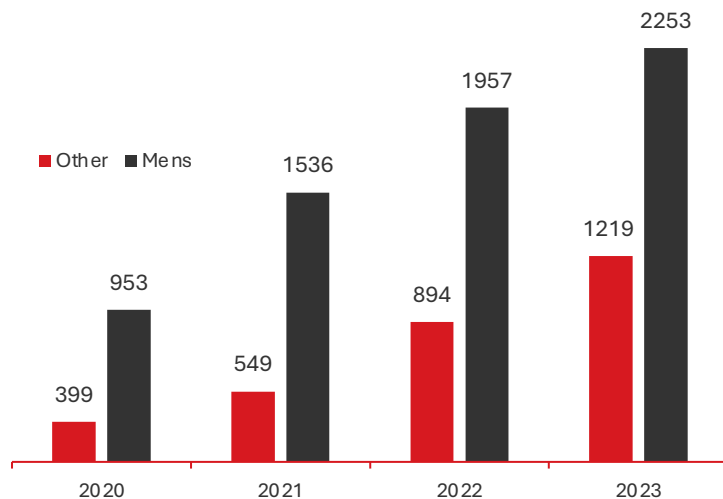
- Shifts toward old-money and early 2000s styles are impacting demand
- These **short-lived trends**, typically lasting **3-6 months**, can temporarily decrease equity value
- May briefly capture market share, but brands like Lululemon, Nike, and Adidas outlast these trends

# Driver 1 | Sustained Margin Expansion

## Men's & High-Margin Product Growth

- **Proprietary fabrics** (Luon, Nulux) drive **industry-leading Net Promoter Score**, highlighting **strong customer loyalty** and **stickiness** in the men's segment
- **Men's** segment **grew 30% YoY**, but only **30%** of men are **aware of their catalog**, showing **untapped potential** through marketing like the **OBJ** partnership
- **Accessories** grew **15% YoY**, a high-margin category that **complements** core products and boosts cross-category sales

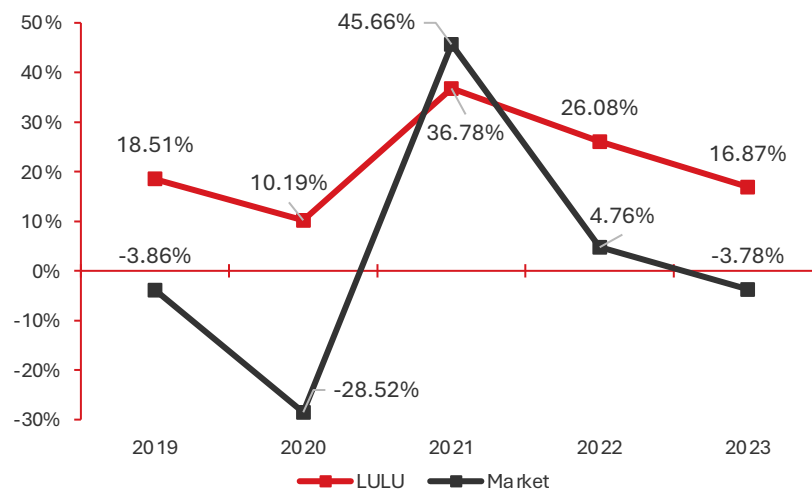
Men's and Accessories Growth (Thousands)



## Women's Segment Stagnation Overblown

- US women's **growth slowed** due to **inventory mismatches** but remains a **minor issue, overblown** by **recession fears**
- We forecast **China expansion** to add **200+ million** potential **women consumers**
- **Strong brand loyalty** with a **92% retention rate** among **top 20%** of spenders
- **Women's revenue CAGR: 19%** over the past **4 years**
- Despite the women's market decline, Lululemon has **consistently rebounded and outperformed** market headwinds

Women's Clothing YoY Rev. Growth



## Supply Chain & E-Commerce Growth

- E-commerce contributed **38% of Q2 2024 revenue (+2% YoY)**, boosting margins and reducing reliance on stores
- **E-commerce drove Q2 gross margin to 59.6%**, with lower costs and faster feedback loops
- **Bearish e-commerce growth** is projected at 8.5% ('24e, '25e)
- Supply chain shifts **cut freight costs by 120 bps** in Q2, with **further reductions expected** from inland sourcing in **SE Asia/China**
- **China e-commerce** grew **34%** in Q2, showcasing rapid growth potential with minimal infrastructure

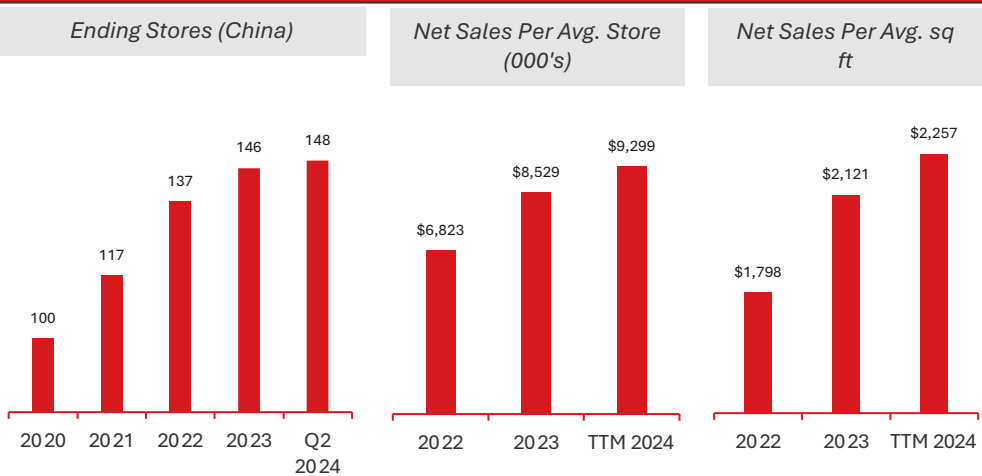
**“Challenges within the US women’s business have been attributed to inventory issues... potentially pushing recovery into 1H25 instead of 2H24”**

*-Morgan Stanley, 2Q24*

Though the market is focused on short-term inventory issues, Lululemon has a track record of quickly addressing operational challenges, including past inventory and supply chain disruptions (2020). Their ability to swiftly adjust strategies, suggests a quicker recovery than anticipated

# Driver 2 | Market Position in China (1/2)

## Lululemon's Superior Growth and Expansion Strategy



Expanded from its first store in China (Q4 '16) to a planned **220 stores** by **2026**, achieving **\$9,299** in net sales per store and **\$2,257** per square foot, demonstrating **strong efficiency** despite **rapid expansion**

## Lulu's Strategic Localization & E-Commerce Expansion

- Uses **local** events and fitness influencer partnerships, like the **Summer Sweat Games** in Shanghai, to **build strong brand loyalty** with Chinese consumers
- Expanded partnerships with **JD.com** and **Tmall** (75% of the e-commerce market) provide access to a **\$3.3 trillion market** (vs \$1.2T in the US)



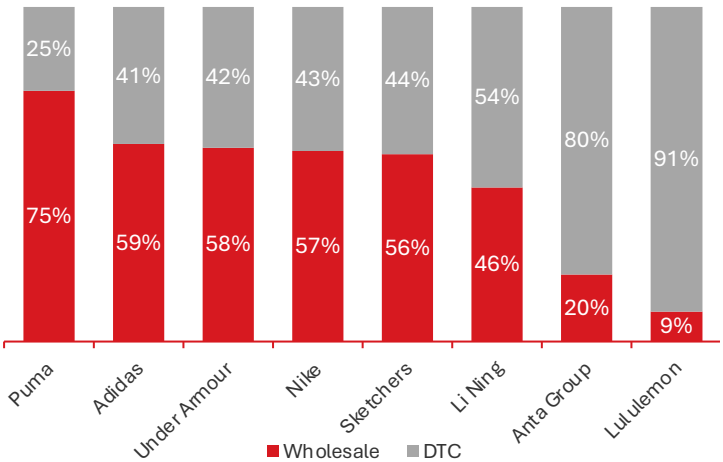
## China's Booming Athleisure Market & Competitive Landscape

Chinese Competitor Overview			
Brand	2023 Revenue MM	2Q '24 Revenue Growth (YoY)	Gross Margins
Lululemon	\$964	37%	60%
Nike	\$7,248	7%	45%
Adidas	\$3,381	9%	40%
Anta	\$8,736	6%	64%
Li-Ning	\$1,962	2%	50%

## Market Leadership & Competitive Moat

- Achieving **37% YoY revenue growth**, **outpacing mass-market Chinese** suppliers (Anta, Li-Ning) and **global giants** (Nike, Adidas)
- Lululemon capitalizes on a **heavily status-oriented Chinese consumer** that are willing to **pay a premium** for quality
- Chinese **sportswear market** valued at **\$492.6 billion**, growing at **8.5% CAGR**, driving opportunities for premium
- Lululemon leads the industry in China** with **91% of revenue** being **sold directly to consumers**, resulting in higher margins

## Wholesale vs Direct to Consumer



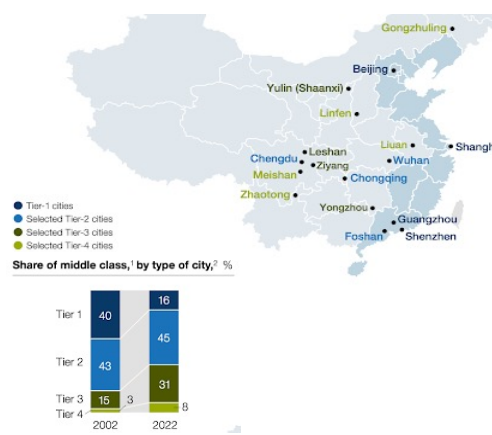
# Driver 2 | Poised to Capture Chinese Tailwinds (2/2)

## Capturing Rising Disposable Income in Target Markets

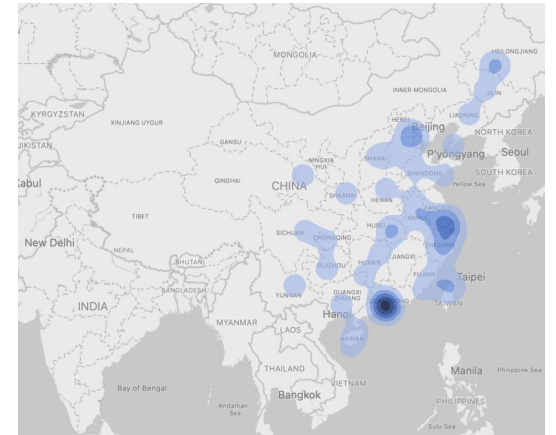
- **80 million new middle- and upper-class consumers by 2025**, with **70% from Tier 3 cities**
- By 2025, the middle and upper class will represent **55% of China's population** (BCG)
- **40% of Chinese consumers** are willing to pay more for premium goods (McKinsey)
- China will **lead in global luxury goods sales (25%)** by 2025 (Bain), boosted further by recent \$1.5T liquidity injection

- Rising incomes boost **demand for premium brands** like Lululemon, seen as status symbols in the Chinese market
- Lululemon's **focus on Tier 1 and 2 cities** taps into high-spending urban consumers
- **Expanding into Tier 3 cities** allows Lululemon to capture the emerging middle class

China's Middle-Class Expansion Across Key Cities



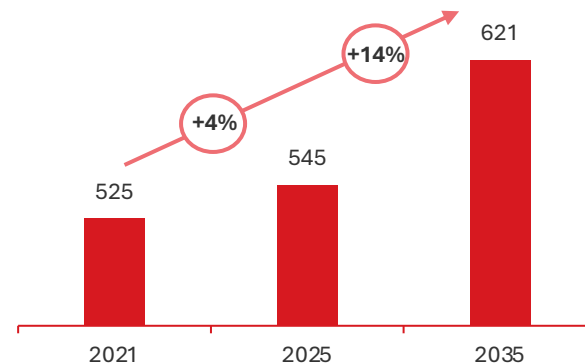
Lululemon's Strategic Store Expansion in High-Growth Cities



## China's Fitness Boom and Lulu's Premier Positioning

- **Healthy China 2030** targets **37.2% to 38.5% exercise participation by 2025 and 45% by 2035**, with women outlined as key drivers
- **2,000 fitness facilities** are being built/renovated, and **5,000 townships** will be equipped with fitness centers
- By 2025, **80% of communities** will have **fitness center access within 15 minutes**

Population Exercising (Millions)



Impact on Lulu

- China's growing fitness culture **boosts demand** for Lululemon's **premium activewear**
- New fitness centers align with **Lululemon's community-driven strategy**, increasing **engagement and loyalty**
- Wellness initiatives will drive ongoing demand for high-margin products, cementing **China as a key growth market for years to come**

# Risks | Mitigation

## Risks

### Global Market

**Currency exchange challenges** arise from fluctuating relations and economic conditions between China and the West.

Rise of the **Guochao** trend (**nationalist wave**) among China's Gen Z, emphasizing local pride, challenges growth of Western Brands

### Increased Competition

The athletic apparel market is **highly competitive** with established brands like Nike, Adidas, and emerging brands pose **threat to market share**

### Decreased Consumer Spending

This year, consumer spending growth has **decreased** from **3% to 2%**. For companies like Lululemon, this could lead to **conservative purchasing behavior** among customers, potentially impacting sales growth

### Inventory Concerns

High inventory risk leads to **overstock, markdowns, and an insufficient amount of outlier sizes**

## Mitigants

- Engaged in **\$19.7 million** of forward currency exchange contracts to mitigate currency risks
- Leveraging local influencers and events to **craft a non-Western, locally sourced brand image**
- Collaborating with popular local figures like **Michelle Yeoh** to strengthen brand relevance in China

- Companies like Vuori, Alo, and Gymshark pose a threat, but consumer overlap is minimal. Lululemon stands out **with superior product quality, strong brand loyalty**, and remains the **most recognizable name in athleisure**
- Lulu customer's propensity to spend at competitor (Sketchers, GymShark, and Vuori) are **7%, -31%, and -40%** respectively

- Lululemon has positioned itself as a premium brand, which often caters to **higher-income consumers less affected by economic downturns**. They also continue to focus on maintaining a **diverse product portfolio**
- **85%** of Lulu's customers are in the **>150k in salary** bracket

- Despite stock limitations and underproduction of certain sizes, Lululemon's rare sales **effectively clear inventory** due to the **scarcity of discounts**
- **E-commerce** and store redistribution help mitigate inventory buildup by allowing **efficient reallocation of products** across locations

# DCF Analysis: Implied Share Price

Income Statement Items	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	TV Year
Revenue	\$ 3,979	\$ 4,402	\$ 6,257	\$ 8,111	\$ 9,619	\$ 10,546	\$ 11,562	\$ 12,691	\$ 13,979	\$ 15,455	\$ 17,155	
% Growth		10.62%	42.14%	29.63%	18.60%	① 9.64%	9.63%	9.77%	10.15%	10.55%	11.00%	
Gross Profit	\$ 2,223	\$ 2,459	\$ 3,600	\$ 4,484	\$ 5,604	\$ 5,965	\$ 6,590	\$ 7,288	\$ 8,087	\$ 9,006	\$ 10,068	
% Margin	55.87%	55.86%	57.54%	55.28%	58.26%	② 56.56%	57.00%	57.43%	57.85%	58.27%	58.69%	
EBIT	\$ 891	\$ 850	\$ 1,375	\$ 1,726	\$ 2,207	\$ 2,258	\$ 2,497	\$ 2,764	\$ 3,069	\$ 3,419	\$ 3,824	
% Margin	22.38%	19.31%	21.97%	21.28%	22.95%	21.41%	21.59%	21.77%	21.95%	22.12%	22.29%	
EBIAT	\$ 639	\$ 619	\$ 1,016	\$ 1,248	\$ 1,582	\$ 1,518	\$ 1,717	\$ 1,903	\$ 2,129	\$ 2,462	\$ 2,816	
% Margin	16.05%	14.07%	16.24%	15.39%	16.44%	14.39%	14.85%	14.99%	15.23%	15.93%	16.42%	
Unlevered FCF	\$ 259	\$ 522	\$ 814	\$ 444	\$ 547	\$ 1,220	\$ 839	\$ 727	\$ 1,177	\$ 1,412	\$ 1,639	\$ 113,572

① GR derived from a combination of analyst estimates, historical trends, and internal estimates

③ Small portion of notes payable is insignificant towards capital structure. Does not affect WACC

④ EV/EBITDAR used as terminal per industry standard

⑤ Diluted share value as of July 27<sup>th</sup>, 2024, The Company's most recent quarterly report

② Margin derived from historical COGS as a % of sales

## Equity and Debt Weight

Equity Market cap	\$ 4,232.08
Debt Market cap	\$ -
Total	\$ 4,232.08

## Cost of Equity

RFR	3.50%
Beta	1.25
Market Premium	5.00%

Cost of Equity	9.75%
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## WACC

### Equity

% of Equity	100.00%
Cost of Equity	9.75%

### Debt

% of Debt	0.00%
Cost of Debt	0.00%

Tax Rate	28.80%
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WACC	9.75%
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## Multiple Calculation

④ EV/EBITDAR YR1	25.10
EV/EBITDAR YR2	34.58
EV/EBITDAR YR3	23.43
EV/EBITDAR YR4	17.22
EV/EBITDAR YR5	19.67
AVG Multiple	23.43

## Terminal Value

EBITDA in Terminal year	\$ 4,848
Terminal Multiple	23.43x
Terminal Value	\$ 113,572

## Enterprise Value

Enterprise Value	\$ 42,260
Debt Value	0
Cash	\$ 2,244
Equity Value	\$44,504

## Share Price

Equity Value	\$ 44,504
Diluted Shares	⑤ 124.86
Implied Share Price	\$ 356.43

# Sensitivity Analysis

## DCF and Sensitivity Analysis Show Potential Upsides

	Return	EV/EBITDAR	Weight	R x W	Weighted Return
Bear	-10%	6.90X	25%	-3%	Weighted Return: +27%
Base	32%	23.43X	50%	16%	
Bull	55%	29.64X	25%	14%	

Exit EV/EBITDA	WACC					
	8.75%	9.25%	9.75%	10.25%	10.75%	
	25.4	\$ 421.91	\$ 401.32	\$ 381.90	\$ 363.57	\$ 346.27
	24.4	\$ 407.72	\$ 387.89	\$ 369.18	\$ 351.53	\$ 334.87
	23.4	\$ 393.53	\$ 374.46	\$ 356.47	\$ 339.49	\$ 323.47
	22.4	\$ 379.34	\$ 361.03	\$ 343.75	\$ 327.45	\$ 312.06
	21.4	\$ 365.15	\$ 347.60	\$ 331.04	\$ 315.41	\$ 300.66

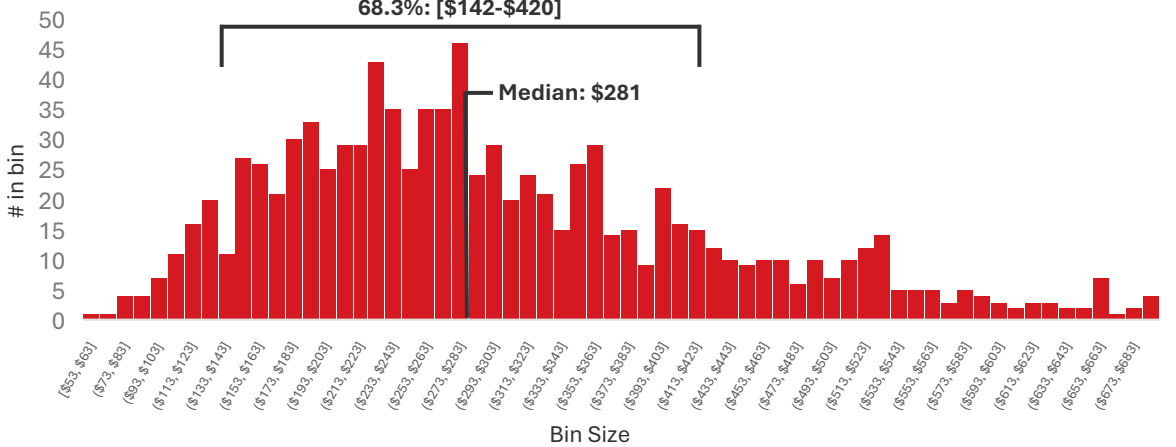
## Case Probability

Return to Normalcy	<b>2/3 Upside</b> Opportunity in the <b>Chinese market</b> and <b>improving margins</b> lead to <b>improved results</b>
25% Bear	Less likely as scenario would require a <b>decreased Gross Margin</b> and company to <b>miss revenue growth</b> goals by <b>20%</b> . Historical performance shows this is <b>unlikely</b>
50% Base	Requires <b>Gross Margin</b> to maintain or <b>improve</b> . Requires <b>revenue growth</b> to <b>hit</b> or <b>miss</b> goals by <b>10%</b> ; with both instances still showing a <b>potential upside</b>
25% Bull	Increasing Gross Margin alongside meeting or <b>beating revenue growth</b> expectations indicates a <b>large upside</b>

## Assumption Analysis

	Market	Bear	Base	Bull	Comments
China CAGR	6.64%	5.98%	6.73%	7.48%	Case depends on company ability to capitalize on demand and growth potential in China
Men's CAGR	9.00%	6.10%	11.02%	12.25%	Dependent on continual growth in Men's lines. New product introduction should see to increase sales
E-Com CAGR	9.50%	8.50%	10.00%	11.25%	Case depends on company ability to maintain optimal inventory levels and provide E-Commerce services in growing markets

## Monte Carlo Simulation



# Management Analysis | Appendix

## Executive Overview



**Calvin McDonald**  
CEO

Years at LULU: 6

Industry Experience: 30



**Meghan Frank**  
CFO

Years at LULU: 7

Industry Experience: 24



**Julie Averill**  
CIO

Years at LULU: 7

Industry Experience: 21



**Nikki Neuburger**  
CBO

Years at LULU: 4

Industry Experience: 20



**Celeste Burgoyne**  
President, Americas

Years at LULU: 19

Industry Experience: 29



**Andre Maestrini**  
EVP, International

Years at LULU: 3

Industry Experience: 34

## Looking Forward

### Lululemon's Drive to Newness

Definition: The introduction of new products, styles, and ideas to attract both new and returning consumers to unite with the brand

Lulu hopes to **“Return to historical levels of newness no later than spring 2025”**

– Calvin McDonald

### Change in Structure

Nikki Neuburger has been promoted to the Chief Brand and Product Officer to drive innovative products. Her **recently announced team** has a streamlined decision-making process allowing **Lulu to pivot styles and popular lines for faster ideation** and further **improving the speed to market.**

## Power of Three Plan

The goal was to **2x** Menswear & E-Commerce and **4x** International revenue from **2019 – 2024**. Lulu exceeded expectations for Menswear and E-Commerce but fell short of international revenue growth.

### Product Innovation

Expanded beyond yoga and legacy apparel to diversify into **running, training, and other lifestyles**. The innovation in **fabrics** and **technology** created performance enhancing designs to differentiate products from competitors.

### Omni Guest Experience

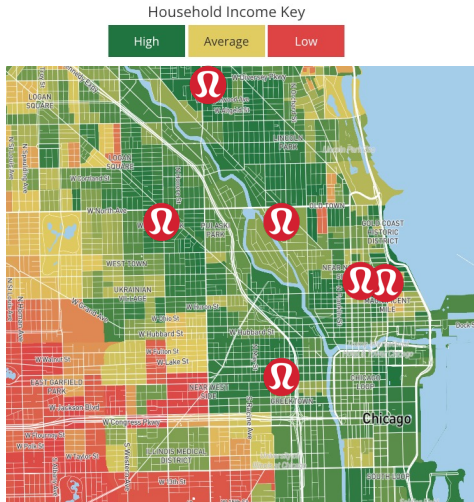
The omnichannel experience for **online** and **in-store shopping** improved customer experience and community engagement with events and experiential stores.

### Market Expansion

The **2x** of Menswear and E-Commerce was **fueled** by an **expansion of product offerings** and an increased presence in **Europe** and **Asia**.

# Site Visit | Appendix

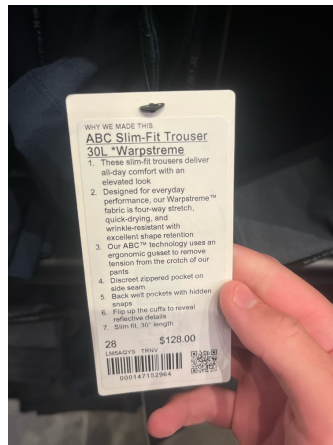
## Lulu Locations



Lulu places locations in **affluent** areas with **luxury retailers** nearby. We visited a flagship store in the heart of Chicago's Gold Coast



This is the **RFID** tracking technology used on products in every store to locate and track inventory levels. The device will guide the user to the item's tag via **Bluetooth**



## Quotes from Store Manager and Analysis

*"The expansion of product lines, like our **men's and new accessories**, has been the **biggest driver of growth** for us... and that is true across all of our age demographics"*

Stores are seeing the strongest growth from the increasing variety of product lines and targeting a **larger addressable market**. The **largest increase** in recent years has been the **menswear department**, which has **attracted all ages**, but mostly the 25-46 age range. The **growth in the men's shoe line** has also outpaced the women's shoe line.

*"Women core products are consistently **40% of revenue** and will always sell themselves, at any price"*

Lululemon began with the focus on women's pants and that continues to be the biggest core in retail locations. There is **always demand regardless of the price** and virtually nothing must be done to get women's pants out the door. Having such a **staple cash cow** has allowed Lulu to **deploy free cash flow in expanding their men's and high margin accessories catalog**. Getting customers in the door for such a quality product often results in adding high-margin items to their purchase such as bags, hats, etc.

*"Technology in the stores has been a game changer. Tags have **RFID chips** for easy product location and mobile devices allow for **organized inventory, limited markdowns, and excellent customer service**"*

The technology developed for store use has **increased inventory efficiency** and **customer experience** for easy transactions and short wait times to find products in store. This technology also allows them to move quickly on trends understanding the velocity of every product and where consumer preferences are shifting.

# Case Analysis | Appendix

Geography	2019	2020	2021	2022	2023	2024E	2025E	2026E	2027E	2028E	2029E	Demographic	2019	2020	2021	2022	2023	2024E	2025E	2026E	2027E	2028E	2029E
USA	\$ 2,854.36	\$ 3,105.13	\$ 4,345.69	\$ 5,654.34	\$ 6,346.39							Womens						\$ 6,823.58	\$ 7,574.17	\$ 8,407.33	\$ 9,332.14	\$ 10,358.68	\$ 11,498.13
		8.79%	39.95%	30.11%	12.24%								\$ 2,767.83	\$ 3,049.91	\$ 4,171.76	\$ 5,259.80	\$ 6,147.37	\$ 6,762.11	\$ 7,438.32	\$ 8,182.15	\$ 9,000.36	\$ 9,900.40	\$ 10,890.44
Canada	\$ 649.11	\$ 672.61	\$ 954.22	\$ 1,163.11	\$ 1,285.26									10.19%	36.78%	26.08%	16.87%	10.00%	10.00%	10.00%	10.00%	10.00%	10.00%
Americas						\$ 7,820.00	\$ 7,925.00	\$ 8,083.50	\$ 8,245.17	\$ 8,410.07	\$ 8,578.27	Mens						\$ 6,700.63	\$ 7,286.94	\$ 7,906.33	\$ 8,558.60	\$ 9,243.29	\$ 9,959.64
						2.47%	1.34%	2.00%	2.00%	2.00%	2.00%							9.00%	8.75%	8.50%	8.25%	8.00%	7.75%
	\$ 3,503.47	\$ 3,777.74	\$ 5,299.91	\$ 6,817.45	\$ 7,631.65	\$ 7,801.17	\$ 7,895.44	\$ 8,037.56	\$ 8,182.23	\$ 8,329.51	\$ 8,479.44							\$ 2,528.63	\$ 2,838.29	\$ 3,185.87	\$ 3,576.02	\$ 4,013.94	\$ 4,505.50
China		7.83%	40.29%	28.63%	11.94%		2.22%	1.21%	1.80%	1.80%	1.80%	Other	\$ 927.24	\$ 953.18	\$ 1,535.85	\$ 1,956.60	\$ 2,252.75	\$ 2,501.04	\$ 2,776.69	\$ 3,082.73	\$ 3,422.49	\$ 3,799.71	\$ 4,218.49
						\$ 7,763.50	\$ 7,836.46	\$ 7,946.17	\$ 8,037.56	\$ 8,109.89	\$ 8,162.61			2.80%	61.13%	27.40%	15.14%	11.02%	11.02%	11.02%	11.02%	11.02%	11.02%
						1.73%	0.94%	1.40%	1.15%	0.90%	0.65%							\$ 2,390.69	\$ 2,537.07	\$ 2,692.42	\$ 2,843.82	\$ 2,989.51	\$ 3,127.72
Rest of World						\$ 1,588.01	\$ 2,159.69	\$ 2,859.43	\$ 3,693.24	\$ 4,662.49	\$ 5,763.75		\$ 284.23		\$ 549.01	\$ 894.11	\$ 1,219.15	\$ 1,341.07	\$ 1,475.17	\$ 1,622.69	\$ 1,784.96	\$ 1,963.45	\$ 2,159.80
	\$ 95.64	\$ 196.06	\$ 378.39	\$ 681.63	\$ 1,134.29	\$ 1,492.73	\$ 1,917.26	\$ 2,408.00	\$ 2,962.71	\$ 3,576.97	\$ 4,244.41			40.31%	37.67%	62.86%	36.35%	10.00%	10.00%	10.00%	10.00%	10.00%	10.00%
		105%	93.00%	80.14%	66.41%	\$ 3,161.15	\$ 1,606.15	\$ 1,866.35	\$ 2,138.47	\$ 2,419.08	\$ 2,704.76							\$ 1,328.87	\$ 1,448.47	\$ 1,578.83	\$ 1,720.93	\$ 1,875.81	\$ 2,044.64
						20.00%	18.00%	16.20%	14.58%	13.12%	11.81%							\$ 1,304.49	\$ 1,395.80	\$ 1,493.51	\$ 1,575.65	\$ 1,638.68	\$ 1,679.65
						\$ 1,189.85	\$ 1,659.05	\$ 2,313.28	\$ 3,225.51	\$ 4,497.46	\$ 6,270.99							7.00%	7.00%	7.00%	5.50%	4.00%	2.50%
						39.43%	39.43%	39.43%	39.43%	39.43%	39.43%							\$ 10,693.27	\$ 11,887.63	\$ 13,215.89	\$ 14,693.12	\$ 16,336.07	\$ 18,163.43
	\$ 380.18	\$ 428.08	\$ 578.32	\$ 611.43	\$ 853.34	\$ 1,156.20	\$ 1,566.54	\$ 2,122.51	\$ 2,875.81	\$ 3,896.45	\$ 5,279.33		\$ 3,979.30	\$ 4,401.88	\$ 6,256.62	\$ 8,110.51	\$ 9,619.27	\$ 10,592.02	\$ 11,663.48	\$ 12,843.71	\$ 14,143.79	\$ 15,575.92	\$ 17,153.57
		12.60%	35.10%	5.73%	39.56%	\$ 35.49%	\$ 35.49%	\$ 35.49%	\$ 35.49%	\$ 35.49%	\$ 35.49%							\$ 10,395.81	\$ 11,219.82	\$ 12,092.26	\$ 12,978.07	\$ 13,871.48	\$ 14,767.01
						\$ 1,088.89	\$ 1,389.47	\$ 1,773.02	\$ 2,240.28	\$ 2,802.68	\$ 3,471.22												
						27.60%	27.60%	27.60%	26.35%	25.10%	23.85%												
						\$ 10,597.85	\$ 11,743.74	\$ 13,256.21	\$ 15,163.91	\$ 17,570.02	\$ 20,613.01												
						\$ 10,450.09	\$ 11,379.23	\$ 12,568.07	\$ 14,020.75	\$ 15,802.93	\$ 18,003.18												
	\$ 3,979.29	\$ 4,401.88	\$ 6,256.62	\$ 8,110.51	\$ 9,619.28	\$ 10,213.54	\$ 10,832.09	\$ 11,585.55	\$ 12,416.30	\$ 13,331.64	\$ 14,338.59												

- 3 cases assumed for each item; **Bull, Base, and Bear**
- Revenue Bear cases assume revenue will **stagnate** at a **fixed rate** after **3 years**

- Cost of Goods Sold is forecasted using historical margins
- Bull cases assume internal and external expectations are met, to a reasonable degree
- Gross Margin (Driver 2) can be expected to grow at a conservative rate each year, continuing upon past positive trends

Channel	2019	2020	2021	2022	2023	2024E	2025E	2026E	2027E	2028E	2029E	COGS & GP	2019	2020	2021	2022	2023	2024E	2025E	2026E	2027E	2028E	2029E
Stores						\$ 4,910.00	\$ 5,281.00	\$ 5,703.48	\$ 6,159.76	\$ 6,652.54	\$ 7,184.74	COGS						\$ 4,556.43	\$ 4,952.31	\$ 5,416.07	\$ 5,953.17	\$ 6,578.16	\$ 7,310.00
						11.31%	7.56%	8.00%	8.00%	8.00%	8.00%		\$ 1,755.91	\$ 1,943.05	\$ 2,656.83	\$ 3,626.93	\$ 4,014.88	42.94%	42.50%	42.07%	41.65%	41.23%	40.81%
	\$ 2,501.07	\$ 1,658.81	\$ 2,821.50	\$ 3,648.13	\$ 4,410.96	\$ 4,860.10	\$ 5,190.60	\$ 5,605.85	\$ 6,054.32	\$ 6,538.66	\$ 7,061.76		44.13%	44.14%	42.46%	44.72%	41.74%	\$ 4,550.35	\$ 4,880.96	\$ 5,270.19	\$ 5,712.07	\$ 6,216.23	\$ 6,795.27
E-Commerce		-33.68%	70.09%	29.30%	20.91%	\$ 4,760.29	\$ 5,012.07	\$ 5,413.03	\$ 5,819.01	\$ 6,226.34	\$ 6,631.06	% of Rev						\$ 43.44%	\$ 43.00%	\$ 42.57%	\$ 42.15%	\$ 41.73%	\$ 41.31%
						7.92%	5.29%	8.00%	7.50%	7.00%	6.50%							\$ 4,783.79	\$ 5,087.00	\$ 5,448.06	\$ 5,826.03	\$ 6,221.19	\$ 6,633.95
						\$ 4,690.49	\$ 5,103.25	\$ 5,507.43	\$ 5,943.62	\$ 6,414.35	\$ 6,922.37							46.44%	46.34%	46.24%	46.14%	46.04%	45.94%
Other						\$ 4,800.00	\$ 5,103.25	\$ 5,507.43	\$ 5,943.62	\$ 6,414.35	\$ 6,922.37	GP	\$ 2,223.39	\$ 2,458.83	\$ 3,599.79	\$ 4,483.58	\$ 5,604.40	\$ 6,055.29	\$ 6,699.28	\$ 7,456.87	\$ 8,341.00	\$ 9,378.14	\$ 10,602.79
	\$ 1,137.82	\$ 2,284.07	\$ 2,777.94	\$ 3,699.79	\$ 4,311.11	\$ 4,530.33	\$ 4,760.70	\$ 4,978.57	\$ 5,206.41	\$ 5,444.69	\$ 5,693.86		55.87%	55.86%	57.54%	55.28%	58.26%	57.06%	57.50%	57.93%	58.35%	58.77%	59.19%
		100.74%	21.62%	33.18%	16.52%	\$ 4,500.80	\$ 4,698.83	\$ 4,884.91	\$ 5,053.93	\$ 5,203.52	\$ 5,331.53							\$ 5,925.23	\$ 6,469.23	\$ 7,108.90	\$ 7,840.48	\$ 8,681.48	\$ 9,654.66
						\$ 1,005.00	\$ 1,075.00	\$ 1,161.00	\$ 1,253.88	\$ 1,354.19	\$ 1,462.53	% Margin						\$ 56.56%	\$ 57.00%	\$ 57.43%	\$ 57.85%	\$ 58.27%	\$ 58.69%
						12.01%	6.97%	8.00%	8.00%	8.00%	8.00%							\$ 5,517.73	\$ 5,891.10	\$ 6,334.66	\$ 6,801.45	\$ 7,292.05	\$ 7,807.24
						\$ 994.22	\$ 1,056.55	\$ 1,141.07	\$ 1,232.35	\$ 1,330.94	\$ 1,437.42							53.56%	53.66%	53.76%	53.86%	53.96%	54.06%
	\$ 340.41	\$ 459.00	\$ 657.18	\$ 762.60	\$ 897.21	\$ 972.66	\$ 1,020.09	\$ 1,096.59	\$ 1,173.35	\$ 1,249.62	\$ 1,324.60												
		34.84%	43.18%	16.04%	17.65%	8.41%	4.88%	7.50%	7.00%	6.50%	6.00%												
						\$ 10,605.49	\$ 11,459.25	\$ 12,371.91	\$ 13,357.25	\$ 14,421.08	\$ 15,569.64												
						\$ 10,384.65	\$ 11,007.84	\$ 11,725.49	\$ 12,493.09	\$ 13,314.29	\$ 14,193.04												
						\$ 10,233.75	\$ 10,730.99	\$ 11,394.54	\$ 12,046.29	\$ 12,679.49	\$ 13,287.18												

# Monte Carlo Simulation | Appendix

## Inner Workings

- Takes historical stock performance and uses a **statistical approach** to forecast **future ranges**
- Based of day-to-day **logarithmic returns** to simulate 365 days worth of **hypothetical share prices**

## Assumptions of Simulation

- X = Average Logarithmic Return (Past 365 days): **0.024%**
- $\sigma$  = Standard Deviation of log returns: **2.560%**
- Y = Variance based on population of log returns: **0.066%**
- Z = Random Value; Inverse of the standard normal cumulative distribution of a random probability
- $\mu$  = Starting share price

## Formula & Parameters

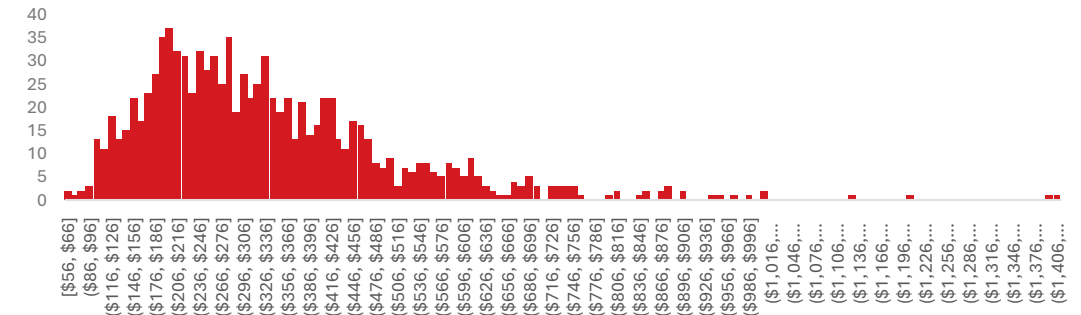
- $\mu(e^{X+\sigma(Z)})$  = Share Price
- Simulates 365 days worth of share prices
- Runs 100 simulations

## Implications

- **Standard Deviation** and **mean** of results show **strong likelihood** of a **reasonable upside**
- Most values within likely range result in a **positive** or **stagnant return**

## Further Examples

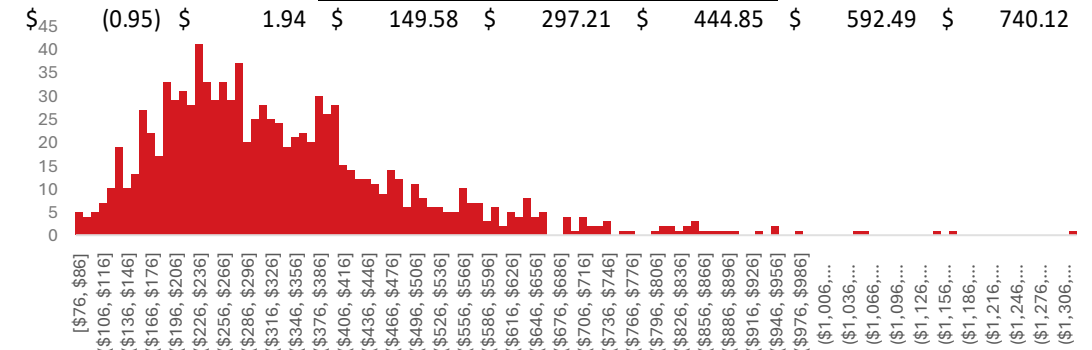
- Each simulation utilizes a **histogram** and **normal distribution** to show **likelihood of different ranges**
- Each line represents a bin with a range of ten
- These examples show outliers, differing from the one previously shown



99.7%

99.5%

68.3%



99.7%

99.5%

68.3%

Share Price Ranges (\$)