



duolingo

Duolingo, Inc. (DUOL)

Fundamental Analysis and Investment Recommendation

Team: Mosaic Capital

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Risk Analysis

1530 



Ben Worsley
Valuation

1249 



Selma Andersen
Industry Analysis

 **duolingo english test**

BUY @ \$97.85 DUOL | Upside 239.17%



Duolingo Inc	
Current Stock Price NASDAQ: DUOL	\$97.85
12-Month Target Price	\$331.88
Upside Potential	239.17%
Proposed Allocation (Shares)	\$20,000 (198)
Valuation Method	DCF & EBITDA Multiple
Key Assumptions	Category Expansion, AI development, & no commoditization
Valuation Range	\$74.98 - \$904.00
Portfolio Impact	1.93%



Market leader in language learning



High Growth & Expanding Margins



AI-Driven Product Advantage



Strong Monetization Upside

Company Snapshot – Duolingo Inc (NASDAQ: **DUOL**)



Founded	2011, Pittsburgh, Pennsylvania
Employees	~855
Core Business	Education Technology / Language Learning Platform
Business Segments	
Subscription	(Duolingo Plus / Super) Ad-free experience, offline access, unlimited hearts, personalized practice
Advertising	In-app ads served to free users
Duolingo English Test	Online English ability certification accepted by universities globally

Revenue / EPS Growth

- ~39%+ revenue growth, driven by paid subscriber expansion and total bookings increase.
- Higher engagement and paid conversion, with DAUs and subscriber counts rising.
- Monetization expanding beyond subscriptions (DET, advertising, in-app purchases).
- Improving margins via operating leverage as the business scales.

Market Growth

- ~2 billion global language learners vs 52.7M DAUs → significant runway for user growth.
- English learners represent ~80% of global language demand but only 46% of DAUs, presenting major expansion opportunity.
- Proficiency standard ambition (Duolingo Score + DET accepted by 5,500+ institutions) strengthens long-term demand.
- Expansion into Math and Music broadens total addressable market beyond language learning.

Strategic Outlook

- Prioritizing long-term user growth over short-term monetization
- Increased AI investment to improve engagement and teaching quality
- Rapid experimentation model supports continuous product improvement
- Building toward a global proficiency standard (Duolingo Score + DET)

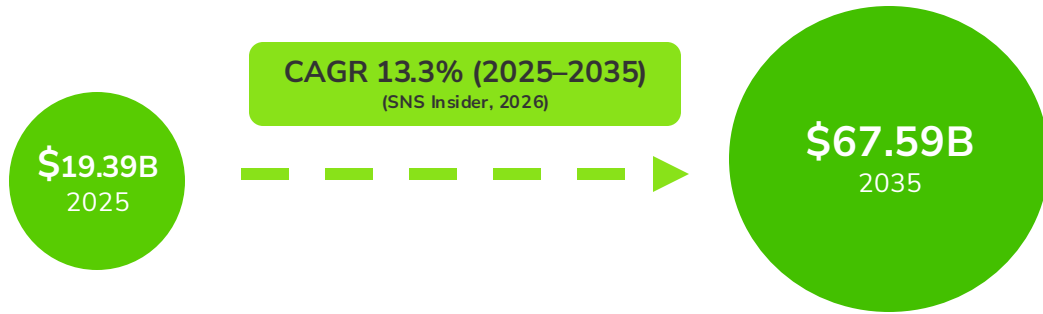
Financial Strength

- FY2025 Revenue: \$1,038M(+39% YoY)
- Gross Margin: ~73%
- Net Income: \$414M
- Operating Cash Flow: \$388M



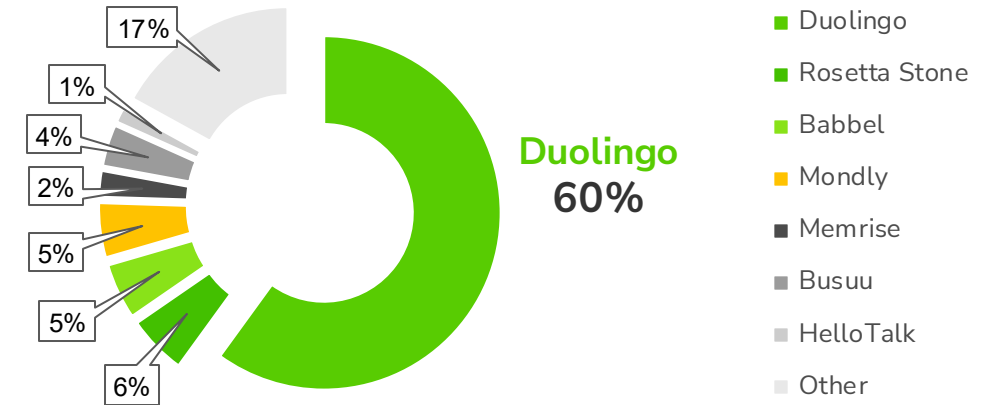
Industry & Competitive Landscape

U.S. Online Language Learning Market



Driven by the shift to digital education and mobile-first learning adoption.

Global Market Share by App Usage



01 Overview

- Global online language learning market growing rapidly
- Duolingo revenue grew 41% YoY in Q3 2025
- **50.5M Daily Active Users (+36% YoY)**

03 Competitive Landscape

- Highly competitive EdTech and language learning market
- Duolingo is the leading mobile language learning platform globally
- 11.5M paid subscribers (+34% YoY)

02 Market Tailwinds

- Growing global demand for digital education
- Mobile-first learning adoption accelerating
- Increasing paid subscriber penetration
- AI improving personalization and engagement

04 Market Headwinds

- Competition from free and paid language apps
- AI infrastructure costs increasing (margin pressure)
- Reliance on app stores and third-party platforms

Peer Comparison



Market and Financial Data In USD Millions, except for ratios

10 Comparable Companies	Ticker	Enterprise Value	LTM Revenue	LTM EBITDA	LTM EBIT	P / E	EV / Sales	EV / EBITDA	EV / EBIT
DUOLINGO	DUOL US	3,672.19	1,037.59	165.45	135.57	11.72	3.54x	22.20x	27.09x
NICE LTD	NICE IT	6,682.77	2,945.40	853.87	645.76	11.57	2.27x	7.83x	10.35x
DIGITALOCEAN HOLDINGS INC	DOCN US	6,473.52	901.43	294.49	156.99	120.89	7.18x	21.98x	41.24x
APPFOLIO INC - A	APPF US	6,420.25	950.82	175.58	152.92	47.11	6.75x	36.57x	41.99x
CLEAR SECURE INC -CLASS A	YOU US	6,067.79	900.78	221.10	186.48	43.43	6.74x	27.44x	32.54x
RINGCENTRAL INC-CLASS A	RNG US	4,399.50	2,515.14	378.71	120.55	43.84	1.75x	11.62x	36.49x
DOXIMITY INC-CLASS A	DOCS US	3,806.52	637.78	268.02	238.77	19.99	5.97x	14.20x	15.94x
PRIVIA HEALTH GROUP INC	PRVA US	2,556.12	2,122.84	37.29	28.21	139.71	1.20x	68.55x	90.63x
EVERCOMMERCE INC	EVCM US	2,491.57	612.75	199.16	34.03	31.16	4.07x	12.51x	73.23x
APPIAN CORP-A	APPN US	2,085.00	726.94	35.89	0.61	124.92	2.87x	58.09x	3423.64x
DOUBLEVERIFY HOLDINGS INC	DV US	1,609.74	748.29	152.46	79.20	32.73	2.15x	10.56x	20.33x

Assumptions



Base Case

- AI improves retention
- Margin Normalization
- Brand Moat

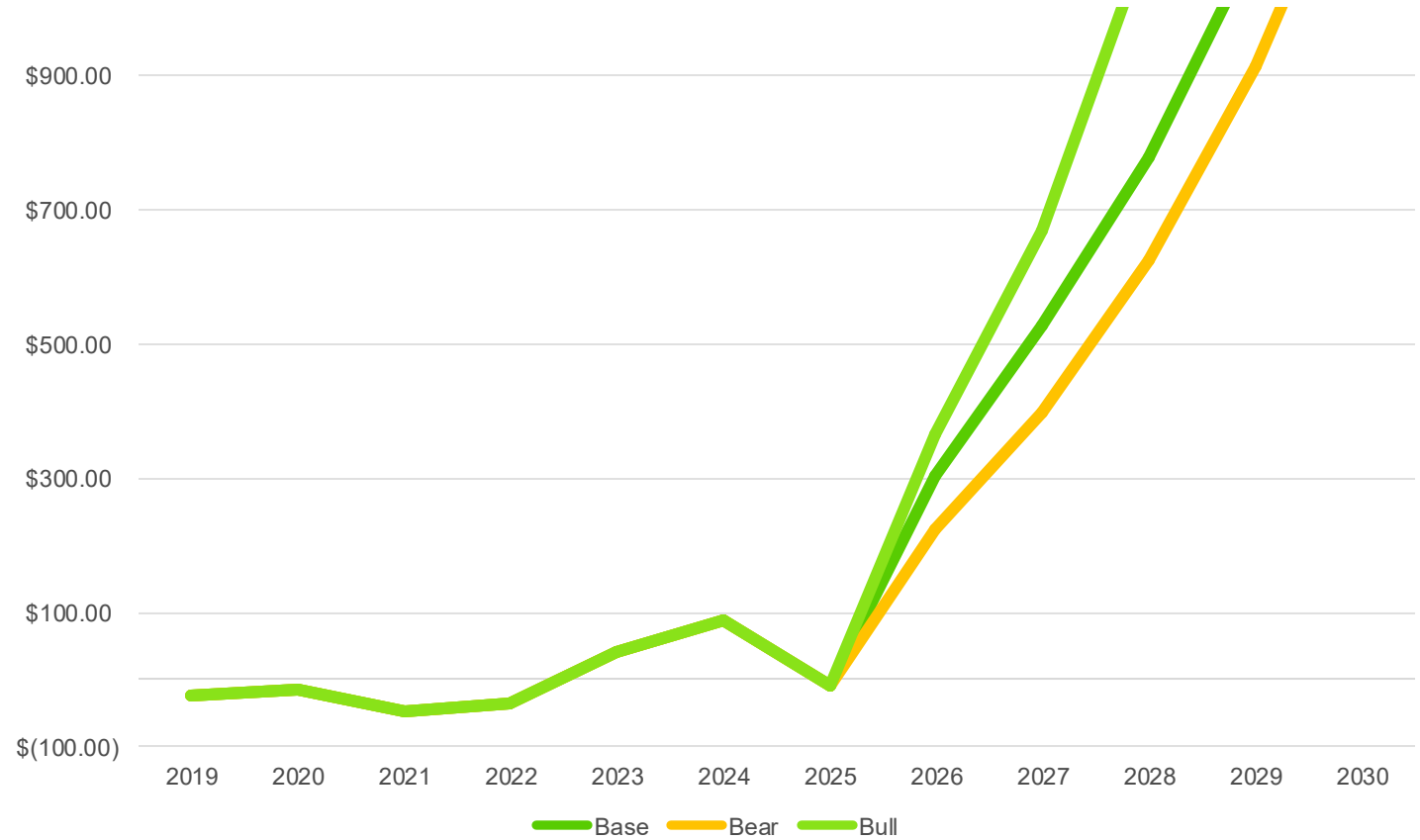
Bull Case

- Subscription conversion
- Further deployment of AI
- Category Expansion

Bear Case

- Slower revenue growth
- Increased CapEx
- AI Commoditization

FCF Projections



Outcomes



Valuation Range and Implied Share Price



WACC Calculation



US Real Gross Domestic Product	4.4%
Perpetuity Growth Rate	3.0%

Weighted Average Cost of Capital Calculation

Source: Bloomberg >>> WACC

Weighted Average Cost of Capital 13.8%

Equity

Cost of Equity	
Risk Free Rate	3.94%
+ Equity Risk Premium	10.03%
Beta	1.46
x Country / Region Premium	6.87%
Expected Market Return	10.81%
- Risk Free Rate	3.94%

Total Cost of Common Equity 13.97%

Market Cap	4,709
% of Total Capital	98.0%
Share Price	101.00
Shares Outstanding	46.63

+ Debt

Cost of Debt	
1 - Effective Tax Rate	100.00%
Effective Tax Rate	0.00%
x Total Pre-Tax Cost of Debt	3.94%
Note Rate x ST Debt as % of Total Debt	0.00%
Short Term Debt as % of Total Debt	0.00%
x Note Rate	3.37%
+ Bond Rate x LT Debt as % of Total Debt	3.94%
Long Term Debt as % of Total Debt	100.00%
Bond Rate	3.94%

Total Cost of Debt 3.94%

Total Debt	93.78
% of Total Capital	2.0%
ST Debt	-
LT Debt	93.78

+ Preferred Equity

Cost of Preferred Equity	
Preferred Dividend	-
/ Preferred Equity	-

Total Cost of Preferred Equity 0.0%

Total Preferred Equity	-
% of Total Capital	0.0%
Preferred Equity and Hybrid Capital	-
Total Capital	4,803

Exit EV / EBITDA Multiple Calculation

Exit EV / EBITDA Multiple 22.2x

Ticker	EV/EBITDA
DUOLINGO	22.20x
NICE LTD	7.83x
DIGITALOCEAN HOLDINGS INC	21.98x
APPFOLIO INC - A	36.57x
CLEAR SECURE INC -CLASS A	27.44x
RINGCENTRAL INC-CLASS A	11.62x
DOXIMITY INC-CLASS A	14.20x
PRIVIA HEALTH GROUP INC	68.55x
EVERCOMMERCE INC	12.51x
APPIAN CORP-A	58.09x
DOUBLEVERIFY HOLDINGS INC	10.56x

Median	18.09x
IQR	30.59x
Up Limit	87.84x

Risks & Challenges



RISKS

- **AI Disruption & Commoditization** ●●●●●
 - LLMs (ChatGPT, etc.) offer free real-time translation, tutoring, and conversation practice, reducing perceived need for paid subscriptions.
 - AI-native competitors like Speak gaining traction with enterprise clients (KPMG, HD Hyundai), exposing a gap in B2B strategy.
- **Monetization & Conversion** ●●●●●
 - Only ~9% of MAUs convert to paid subscribers; ~91% remain on the free tier monetized via ads.
 - Aggressive discounting and free trials to boost user growth may compress margins near-term.
- **Platform Dependency** ●●●●●
 - ~80% of revenue flows through Apple App Store (59%) and Google Play (20%), subject to 15–30% commission fees.
 - Changes in app store policies, fees, or ranking algorithms could materially impact revenue and user acquisition.
- **Revenue Growth Deceleration** ●●●●●
 - Revenue growth projected to slow from 41% (2024) to ~18–20% (2026); analysts project ~13.5% by 2028.
 - Q4 2025 bookings showed signs of saturation in core U.S. market.
- **Valuation Risk** ●●●●●
 - Stock lost 46% in 2025; high-beta equity leaves little room for execution errors.
 - Forward P/E of ~43x implies market expects sustained growth; any miss could trigger sharp sell-offs.

CHALLENGES

- **Engagement Fatigue** ●●●●●
 - Streak/gamification model risks diminishing returns in mature markets where penetration is high.
 - Consumer education apps rely on sustained personal motivation, unlike sticky enterprise SaaS.
- **New Vertical Execution** ●●●●●
 - Math, music, and chess verticals are early-stage and unproven at scale; must replicate language's addictive engagement loop.
 - Overextension across too many subjects could dilute brand identity and R&D focus.
- **International Monetization Gap** ●●●●●
 - International users are 70%+ of the base but contribute <30% of revenue due to lower ARPU.
 - Emerging market expansion requires adapting to diverse cultures, languages, and price sensitivities.
- **User Growth vs. Profitability** ●●●●●
 - Strategic shift to prioritize DAU growth over operating profit; margins likely to compress in near-term quarters.
- **Learning Efficacy Perception** ●●●●●
 - Critics argue gamification prioritizes engagement over depth, producing casual learners rather than proficient speakers.
 - Must demonstrate educational outcomes to justify premium pricing vs. free AI alternatives.
- **Data Privacy & Regulation** ●●●●●
 - Increasing regulatory scrutiny on data collection, especially with a large share of users under 30; geopolitical app store risks in markets like China.

SWOT Assessment



INTERNAL FACTORS

STRENGTHS +

- **Market dominance:** ~50% of language-app revenue; 52.7M DAUs (Q2 2025, +40% YoY) with 60% usage share.
- **Sticky engagement:** DAU/MAU ratio of 37.2%; gamification drives daily habit formation and organic growth.
- **AI-first strategy:** GPT-4 features (Roleplay, Video Call with Lily, Birdbrain) deepen personalization.
- **High margins:** 72.8% gross margin (FY24) vs. 40-60% EdTech peers; scalable SaaS economics.

INTERNAL FACTORS

WEAKNESSES -

- **Low conversion rate:** ~91.5% of 135M MAUs are non-paying; revenue concentrated in ~8.5% paid subscribers.
- **Platform dependency:** Reliant on Apple/Google app stores for distribution and revenue; fee/policy changes create risk.
- **Limited advanced proficiency:** Perceived as beginner-focused; lacks depth for B2+ learners and professional training.
- **Speech/dialogue gaps:** AI speech recognition limitations and lack of conversational practice reduce outcomes.

EXTERNAL FACTORS

OPPORTUNITIES +

- **Vertical diversification:** Math, Music, and Chess (1M+ DAUs on iOS by Q2 2025) expand TAM beyond language.
- **Global expansion:** 148 new courses launched Apr 2025; targeting 1B+ potential learners in emerging markets.
- **AI content scaling:** Generative AI cut course creation from a decade to months; 7,500 units shipped in 2024 vs. 425 in 2021.
- **DET institutional growth:** Duolingo English Test accepted at 5,500+ institutions; B2B and certification revenue runway.

EXTERNAL FACTORS

THREATS -

- **Big Tech entry:** Google, Apple, and Amazon have AI/voice capabilities to build competing language platforms.
- **Real-time translation:** Advancing translation tech may reduce perceived need for language learning over time.
- **DAU growth deceleration:** MAU growth showing signs of slowing; social media strategy shifts add uncertainty.
- **Regulatory risk:** Global data privacy laws (GDPR, COPPA) and app store regulatory changes could increase costs.

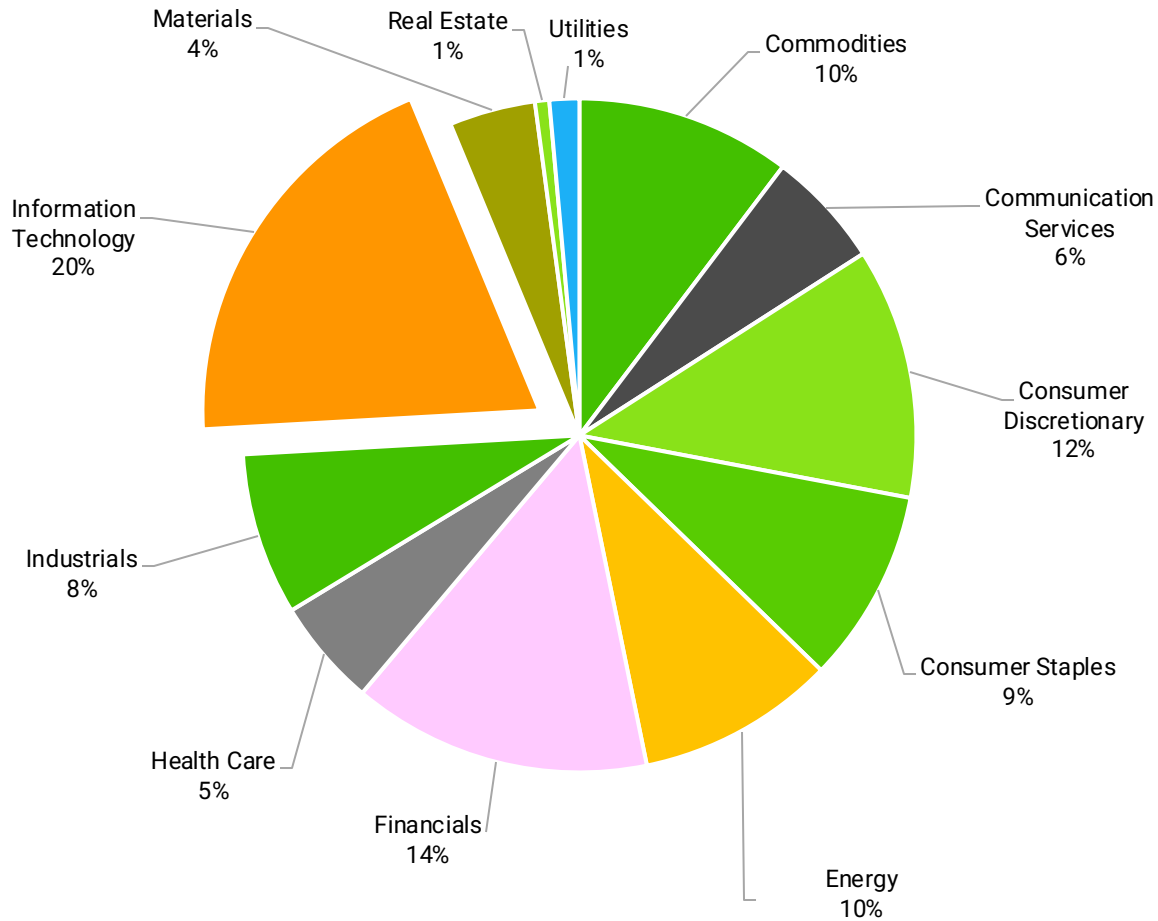
Porter's Five Forces



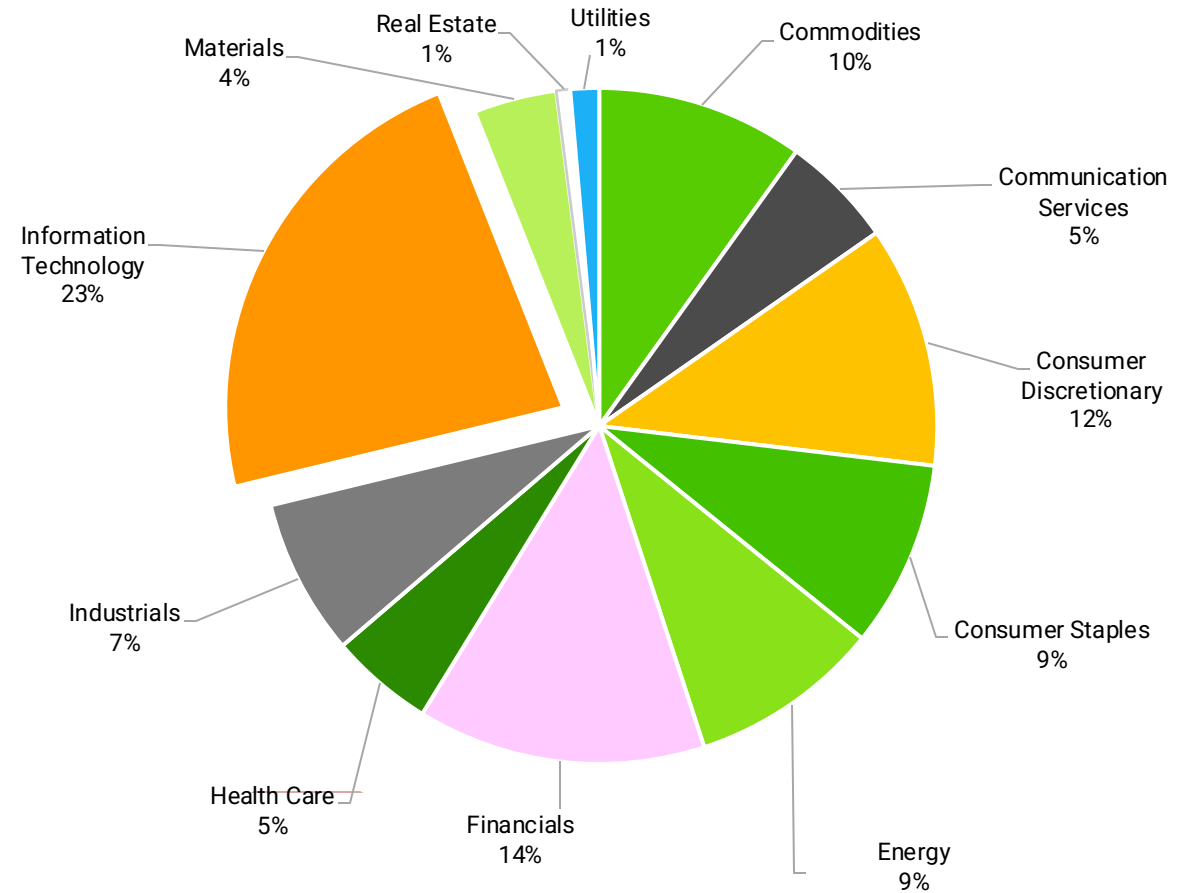
Portfolio Sector Allocation



CURRENT Sector Allocations



AFTER Sector Allocations



IT is 7.8% w/ inclusion of cash

Summary



01 Investment Recommendation

Recommendation: BUY 198 Shares (\$20,000) | NASDAQ: DUOL

- Analyst Avg. Target: \$232 (consensus of 10 analysts)
- Current Price: ~\$97.85 | Upside: ~239.17%
- Consensus: Moderate Buy (6 Buy, 3 Hold, 1 Sell)
- Duolingo's dominant market position (60% share), AI-driven product moat, and expanding verticals support a compelling long-term growth thesis at current valuations.

03 Key Catalysts

- Expansion into math, music, and chess driving new addressable markets
- AI-powered personalization (Birdbrain, Max) deepening engagement and retention
- DET (Duolingo English Test) gaining institutional traction as low-cost alternative
- International monetization opportunity: 70%+ users, <30% revenue
- \$400M share repurchase program authorized in 2026

02 Major Risks

- AI disruption from LLMs and real-time translation tools threatening core value proposition
- Low 9% paid conversion rate limits near-term revenue upside vs. DAU growth
- ~80% revenue through app stores creates platform dependency risk
- Revenue growth decelerating (41% to ~18%) as U.S. market matures
- Elevated valuation multiples increase downside sensitivity

04 Strategic Outlook

- Duolingo is evolving from a language learning app into a comprehensive AI-powered education platform spanning languages, math, music, and literacy.
- With 52.7M DAUs (+36% YoY), \$748M FY2024 revenue (+41% YoY), and 11.5M paid subscribers, the business fundamentals remain exceptionally strong.
- Management is prioritizing the path to 100M DAUs by 2028, investing in free tier improvements and new subjects, positioning for sustained double-digit growth.



duolingo

Thank You
