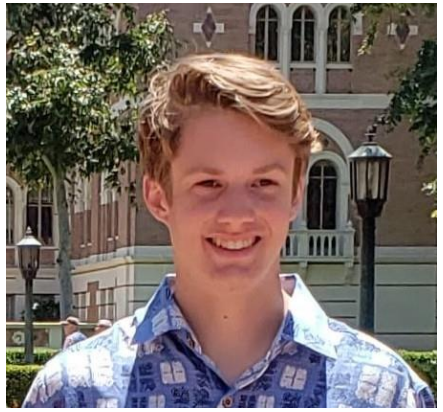
Advanced Micro Devices, Inc.

AMD

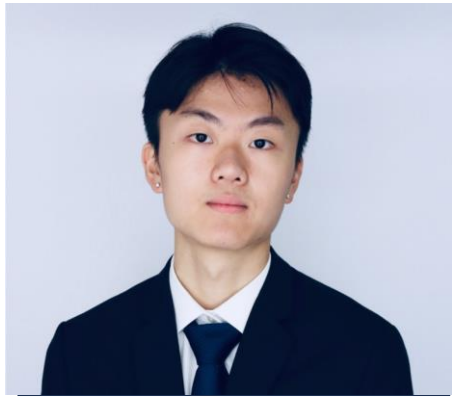
Overweight

GIS Pure Alpha Generalist Division

AJ Wong
Portfolio Manager



Blake Degner
Investment Associate



Stanley Zheng
Investment Analyst

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Investment Analyst

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1. Executive Summary

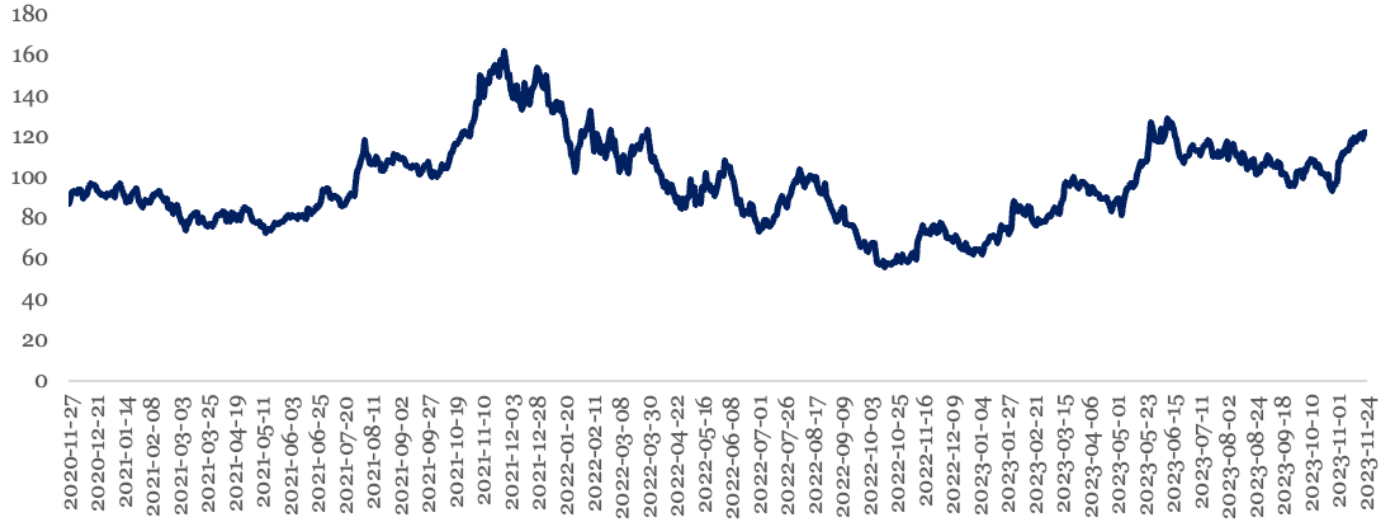
Valuation Summary

Target Price: $140
2028 (5Yr.) Revenue Projection: $48.4 Bn
WACC: 10.19%
Terminal Growth: 4.0%
Assumed Exit Multiple: 15.0x
Comps EV/EBITDA Multiple: 19.3x

Key Statistics

Current Stock Price:	$98.50
52 Week High:	$132.83
52 Week Low:	$60.05
LTM Revenue:	$22.11Bn
LTM EBITDA:	$3.05 Bn
P/E:	951.04x
EV/Revenue:	8.8 x

3 Yr. Price History



Key Drivers

1. **AI Industry Potential:** AMD's AI Strategy is making substantial progress in the promising AI chip industry that is still seeing its key players establish themselves

2. **Financial Performance:** Amid recent operating inefficiencies for the past fiscal year, there is a significant reversal opportunity given AMD's track record and abilities

3. **Competitive Positioning:** Through organic, inorganic methods, and creative mediums, AMD is positioning itself to expand industries it has an expertise in and those untapped

2. Variant Thesis and Market View

Our View

Hopeful for Growth & Expansion

- We are also cautious of inflated tech trading multiples across the board
- AMD's robust track record and capacity for better financial performance on the back of significant R&D investments are a key positive
- Likely prospect of penetrating the AI chip market makes the stock more compelling of an option than general market consensus

The Street View

Cautious & Expecting Street Perspective:

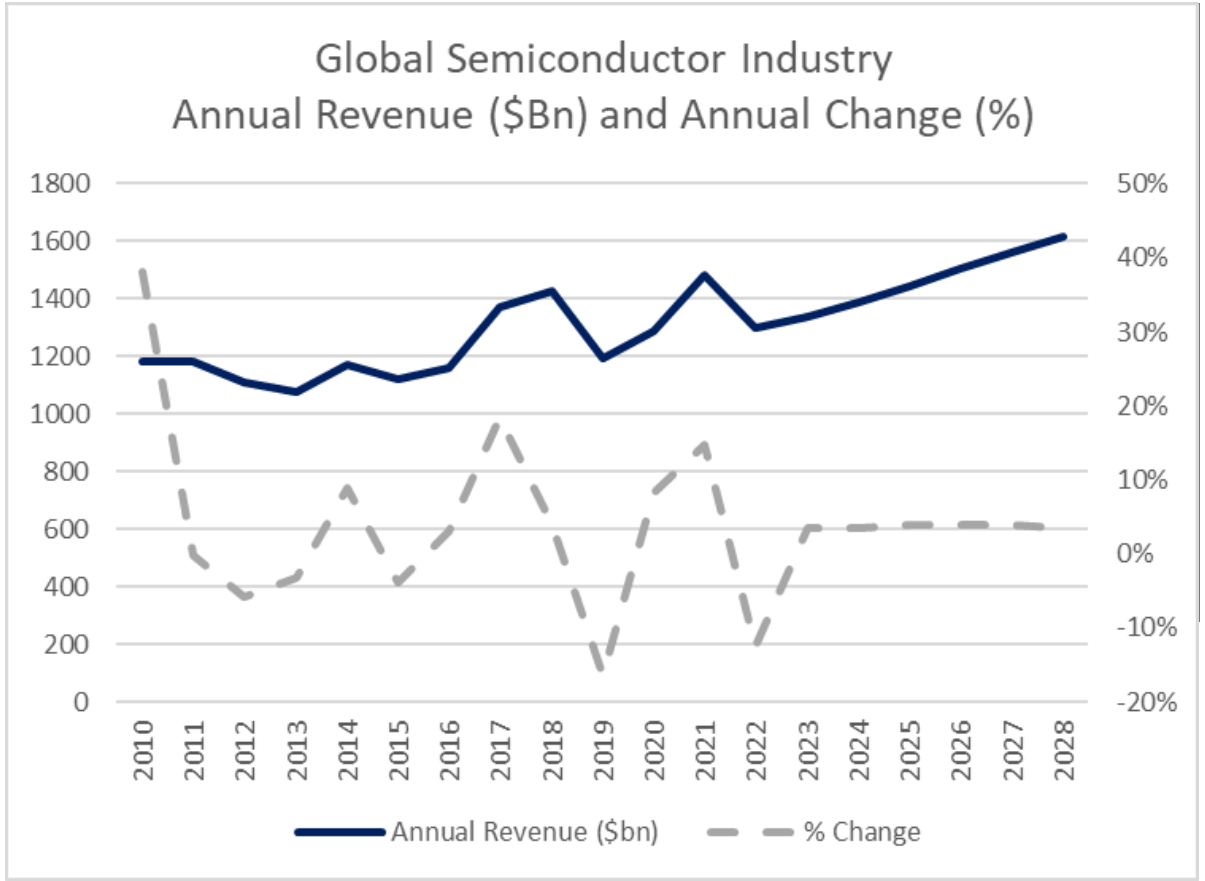
- Investors and analysts alike are looking to their earnings reports for signs of better operational efficiency
- Focusing on indicators of being potential and worthy competitors to Nvidia and other major CPU / GPU players' market
- The street is also expecting a rebound given October's recent technology sector downturn

Semiconductor Industry

The semiconductor industry is at the heart of modern technology, providing the essential components for a wide range of electronic devices. Semiconductors, made from silicon and other materials, are used to fabricate integrated circuits or chips, which are the brains of everything from computers and smartphones to appliances and vehicles.

- The semiconductor market is characterized by intense competition and rapid innovation
- Highly influenced by global economic trends and supply chain dynamics
- The global semiconductor market was estimated at approximately USD 1.3 trillion in 2023
    - Forecasted CAGR of ~3.8% over the next five years
- Industry has experienced significant consolidation over the past decade through mergers and acquisitions
- In 2023, the market is dominated by a few key players, each holding a significant market share and offering a broad range of products and services
    - The top five companies account for approximately 54% of total revenues.
    - Employs over 1 million people worldwide
- Increasingly regulated by the federal government in the US, especially with new AI developments

Industry Market Size Projection



Expected 5-Year CAGR of 3.8%

Intel

Market Capitalization: $185B
LTM Revenue: $53B
LTM Revenue Growth: -24.0%
Gross Margin: 38.1%
Key Products: Core CPUs, Data Center GPUs

Company Description: Intel Corporation specializes in creating computing products that feature various components and technologies, including microprocessors, chipsets, stand-alone SoCs, or multichip packages based on Intel architecture.

The company's business is organized into five primary segments: Client Computing (CCG), Data Center and AI (DCAI), Network and Edge (NEX), Mobileye, and Intel Foundry Services (IFS). Intel's recent restructuring, effective from the first quarter of 2023, involved integrating its Accelerated Computing Systems and Graphics Group (AXG) into CCG and DCAI to streamline operations and reduce costs. Intel's diverse portfolio and strategic restructuring position it as a key player in the global technology market.

Nvidia

Market Capitalization: $1180B
LTM Revenue: $44.9B
LTM Revenue Growth: 57.1%
Gross Margin: 69.9%
Key Products: RTX GPUs, Data Center GPUs

Company Description: NVIDIA is a pioneer in accelerated computing, expanding from PC graphics to areas like AI, data science, autonomous vehicles, and metaverse applications.

NVIDIA's GPU architecture, initially for virtual worlds in gaming, now drives deep learning AI applications, including recommendation systems, language models, and generative AI. Their technology is essential in high-performance computing fields like aerospace and energy exploration and powers many of the world's fastest supercomputers. The company operates in two segments: Compute & Networking, which includes data center computing, automotive AI, and software; and Graphics, focusing on gaming GPUs and metaverse applications. NVIDIA caters to four primary markets: Data Center, Gaming, Professional Visualization, and Automotive, each leveraging its comprehensive computing platforms.

Broadcom

Market Capitalization: $404B
LTM Revenue: $35.5B
LTM Revenue Growth: 11.9%
Gross Margin: 74.3%
Key Products: Semiconductor Solutions, Infra-Software

Company Description: Broadcom is a leading global technology company specializing in semiconductor and infrastructure software solutions.

Its core focus includes designing high-performance SoC components and software for niche markets, backed by an extensive patent portfolio. Broadcom's semiconductor products cater to various sectors, including networking, telecommunications, data centers, and renewable energy systems. In infrastructure software, Broadcom provides solutions to manage and secure applications across diverse platforms, serving large corporations and government agencies. The company's strategy involves merging semiconductor and software technology leadership with significant scale, achieved through targeted acquisitions and robust R&D.

Notes: CapitalIQ, Company Filings

Key Statistics

Valuation
Market Capitalization: $194.86 Bn
P / E (TTM): 951.04x

Income
LTM (6/30/23) Revenue: $22.11 Bn
2024E Revenue: $26.5 Bn
LTM Revenue Growth: 4.2% YoY
LTM EBITDA: $3.929 Bn
2024E EBITDA: $8.1 Bn
LTM EBITDA Growth: 13.7%
LTM Net Income: $0.208 Bn
LTM NI Growth: -84.7%

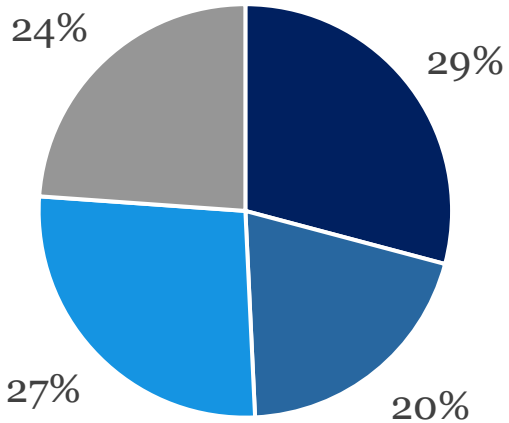
Profitability
Gross Margin: 50.3%
EBITDA Margin 13.8%
Net Income Margin 0.9%

Business Model Overview

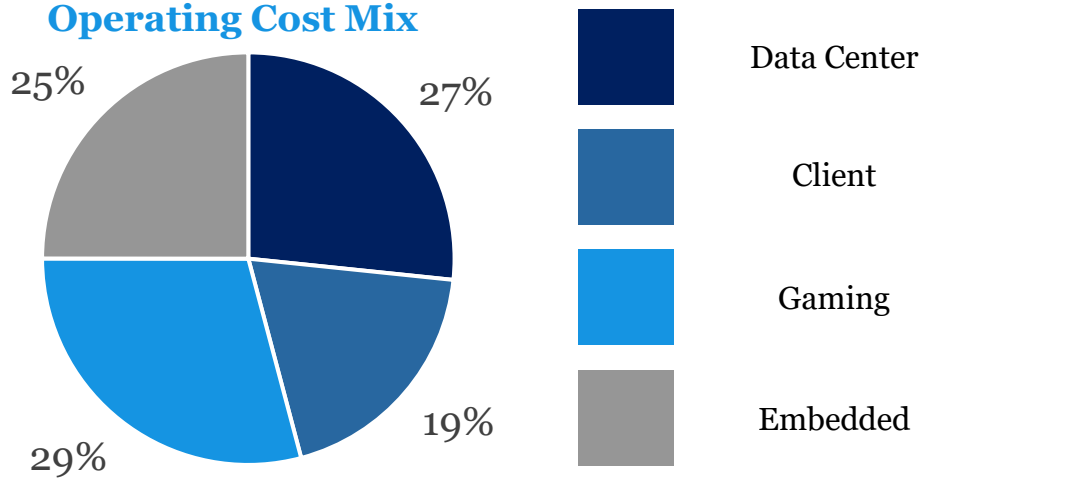
Advanced Micro Devices Inc. - ticker symbol AMD - is an American multinational leading semiconductor company based in Santa Clara, California. The company was founded in 1969 by Jerry Sanders and a group of other technology professionals. AMD began with primarily memory chips and computer parts before expanding into the microprocessor market. AMD specializes in the development of computer processors, gaming and related technologies, and have recently begun moving towards the artificial intelligence space. AMD, along with its two biggest competitors Intel and Nvidia, have led the computer processing market for years and now set their eyes on AI as the next big thing.

Revenue and Cost Mix (Pie Charts)

Revenue Mix



Operating Cost Mix



4. Company Overview – Segments

Data Center

- Expertise in server CPUs and GPUs, DPUs, FPGAs and Adaptive SoC products for data centers
- AMD has been heavily focused on this segment in particular, expanding their data center presence and now offering the industry's strongest portfolio of computing solutions
- The current market for data centers has been emphasizing high performance, energy efficiency, and scalability

Client

- Primarily includes server CPUs, APUs, and chipsets for desktop and notebook personal computers
- AMD Client products include Desktop CPU's for desktop platforms including the Ryzen and Athlon series processors, Notebook CPUs, Commerical CPUs, and Chipsets
- AMD is balancing computing platforms consisting of CPUs, chipsets and GPUs to work together at the system level to bring end users improved system stability, increased performance and enhanced power efficiency.

Gaming

- Specializes in discrete GPUs, semi-custom SoC products and development services
- Gaming products under AMD include semi-custom products, discrete desktop and notebook GPUs, and professional GPUs
- AMD leverages its existing IP to create a variety of products tailored to a specific customer's needs, including complex fully-customized SoCs to more modest adaptations and integrations of existing CPU, APU or GPU products.

Embedded

- Covers embedded CPUs, GPUs, APUs, FPGAs and adaptive SOC products
- Embedded products that AMD produces include Embedded CPUs, APUs, and GPUS, FPGAs and Adaptive SoCs, development boards, kits and configuration products, and Legacy Product Families.
- Embedded products address computing needs in automotive, industrial, test, measurement, emulation, medical, multimedia, aerospace, defense, etc.

Key Customers

Data Center Segment

- Mid-Large scale enterprises, cloud data centers
  - AWS, Google Cloud, IBM, Microsoft Azure, Oracle
- Data Servers
  - provides server processors for data centers, enterprise server manufacturers

Gaming Segment

- Gaming Console Manufacturers
  - Sony PlayStation, Xbox
- ESports
- Graphics Card Manufacturers

Client Segment

- PC Manufacturers (OEMs)
  - Dell, HP, Lenovo, Acer, ASUS
- Retailers for AMD components, products with AMD processors
- Consumers and Businesses for AMD product use

Embedded Segment

- Industrial & Manufacturing
- Medical / Healthcare
- Aerospace & Defense
- Transportation & Automotive

Key Suppliers

Semiconductor Foundries

- TSMC, GlobalFoundries
- Semiconductor wafers, manufacturing of AMD CPUs, GPUs, custom chips, and more

Chip Packaging & Testing Services

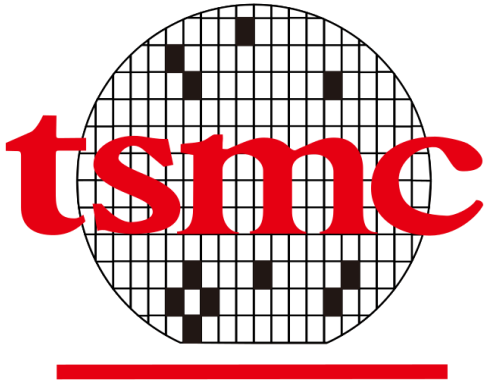
- ASE Group, Amkor Technology, Siliconware Precision Industries

Raw Material Suppliers

Logistics and Distribution Players

Human Capital

- Designers, programmers
- Administrative
  - Customer service, auxiliary support staff, executive leadership



Dr. Lisa Su

Chief Executive Officer
& Chair
AMD

Dr. Lisa T. Su led the transformation of AMD into one of the fastest growing semiconductor companies in the world. Dr. Su joined AMD in January 2012 as senior vice president and general manager, global business units and was responsible for driving end-to-end business execution of AMD products and solutions.

Victor Peng

President,
AMD

Victor Peng is President at AMD. In this role, he is responsible for AMD's adaptive and embedded products including FPGAs, adaptive SoCs and embedded processors and the company's AI strategy, including the AI roadmap across client, edge and cloud, datacenter GPUs and AI software efforts. Peng rejoined AMD in 2022 after 14 years at Xilinx.

Darren Grasby

Executive Vice President,
Strategic Partnerships
President EMEA

Darren Grasby is executive vice president, strategic partnerships, and president of AMD EMEA. Since joining AMD in 2007, Grasby has been instrumental in driving profitable growth across AMD's different routes to market and increasing the company's global sales footprint.

Phil Guido

Executive Vice President
& Chief Commerical Officer

Phil Guido is executive vice president and chief commercial officer leading the Worldwide Sales Organization for AMD.Phil was previously general manager, global managing partner of Strategic Sales at IBM Consulting, responsible for expanding IBM's deep partnerships with enterprise customers

Jean Hu

Executive Vice President,
Chief Financial Officer & Treasurer
AMD

Jean Hu is executive vice president, chief financial officer and treasurer of AMD, responsible for the company's financial planning and strategy. In this role, Hu leads the global finance organization, global corporate services, facilities, and indirect procurement. Prior to AMD, Hu served as CFO of Marvell where she led all aspects of financial planning, accounting, reporting, treasury, tax and investor relations.

Forrest Norrod

Executive Vice President and
General Manager
AMD

Forrest Norrod is AMD's executive vice president and general manager of the Data Center Solutions Business Group at AMD. Norrod was previously vice president and general manager of the Server Business at Dell.

5. Key Driver 1: AI Industry Potential

AMD is making substantial progress in the AI chip industry that is still seeing key players establish themselves..

Internal

•AMD is aggressively enhancing its ROCm software, aiming to compete directly with Nvidia's CUDA. This step is critical in establishing AMD as a formidable player in the AI software landscape, broadening its market reach.

• AMD has successfully integrated ROCm with popular AI frameworks such as PyTorch and TensorFlow. This integration, coupled with compatibility with Hugging Face models, significantly extends ROCm's usability and appeal to developers.

• By acquiring companies like Mipsology and Nod.ai, AMD has significantly bolstered its capabilities in AI software, leveraging these companies' expertise to strengthen its position in the AI industry.

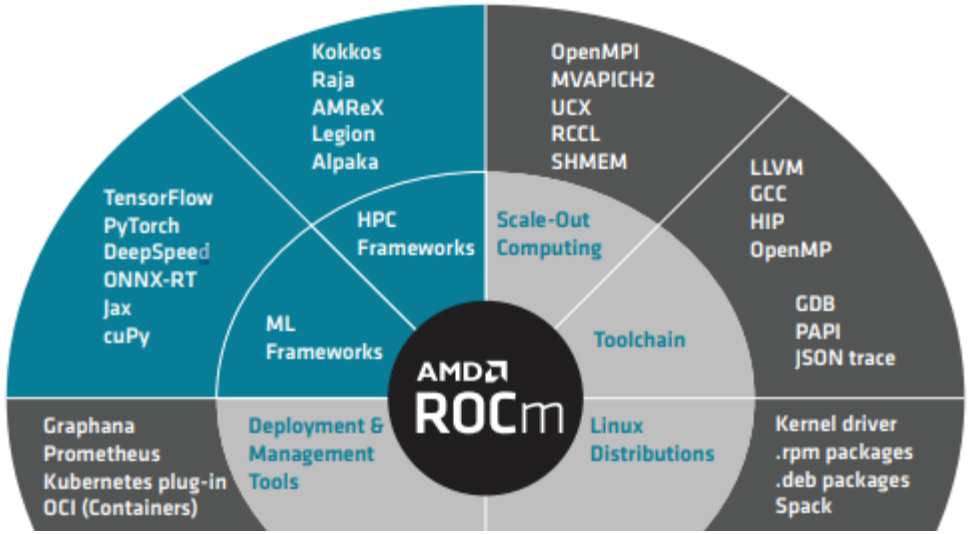
• AMD's Data Center GPU segment is on an upward trajectory, with revenue expected to surpass $2 billion by 2024. This growth reflects the increasing market demand for AMD's advanced AI computing solutions.

• The potential of AMD's MI300 chips is immense, projected to be AMD's fastest-selling product, achieving $1 billion in sales at an unprecedented pace. This underscores AMD's commitment to innovation and leadership in AI hardware technology.

Macro

• The achievement by Lamini, an AI startup, in reaching software parity with CUDA on AMD's Instinct MI250 GPUs, represents a notable milestone. This development enhances the attractiveness of AMD's GPUs for complex AI tasks.

AMD's ROCm Software



XILINX

nod

5. Key Driver 2: Financial Performance

Advanced Micro Devices, Inc.

Amid recent operating inefficiencies for the past fiscal year, there is a significant reversal opportunity given AMD's track record and abilities

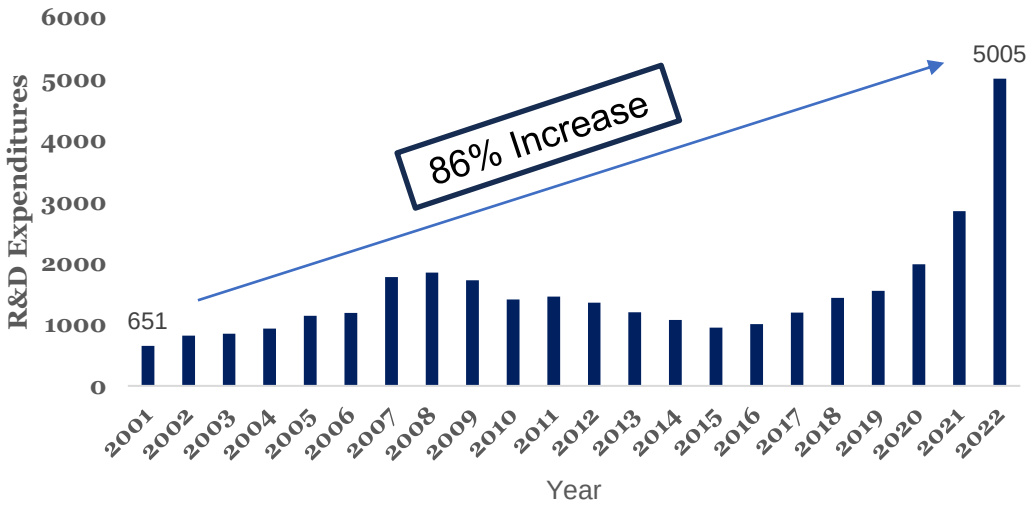
Future Expectations

- AMD announced revenue for the third quarter of 2023 recently of $5.8 billion, gross margin of 47%, operating income of $224 million, net income of $299 million
- AMD fourth quarter expectations include revenue growth to approximately 6.1 billion
- R&D efforts are heavily focused in the data center segment of revenue; currently seeing consistent growth historically and high future expectations of converting R&D into revenue

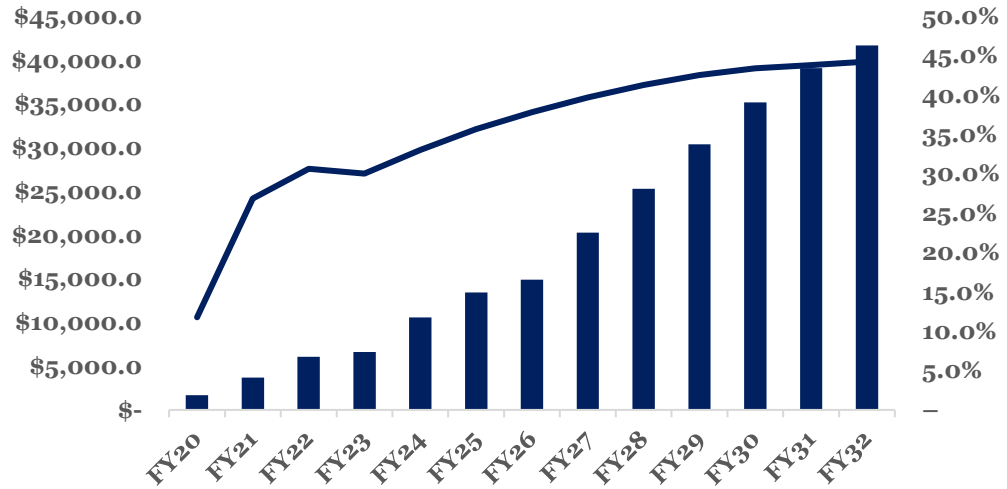
Recent Events

- February 2022, AMD completed acquisition of Xilinx
- $1.9B acquisition of distributed computing startup Pensando Systems in May 2022
- AMD has been taking Intel computer CPU market share
- AMD predicted improving profit margins and free cash flows growth of 20% for 3-4 years
- Recent announcement of the release of the new AMD ROCm™ 5.6 open software platform

R&D Expense Growth



Data Center Revenue ($Bn) & Margin



5. Key Driver 3: Competitive Positioning

Through organic, inorganic methods, and creative mediums, AMD is positioning itself to expand industries it has an expertise in and those untapped.

Acquisitions

Xilinx

- AMD completed its acquisition of Xilinx in February 2022 for $49 Billion in an all-stock deal.
- Xilinx specializes in the design and development of programmable logic devices, including field-programmable gate arrays (FPGAs) and associated software and services, for a wide range of industries.
- With this acquisition, AMD is expanding its presence in the data center market with specialty chips from Xilinx.

Nod.ai

- In October, AMD announced a deal to buy Nod.ai to expand the company's open AI software capabilities.
- The acquisition will help in the development of AI processors and accelerators.

Gaining Market Share

Intel

- In the third quarter, AMD took market share from Intel in CPUs for PCs as well as servers, according to Mercury Research.

Consumer CPUs

- AMD's share of desktop PC processor sales was 19.2% in the third quarter, up from 13.9% in the year-earlier period. Its share of notebook PC processor sales was 19.5%, vs. 15.7% in the same quarter last year.

Server CPUs

- AMD's unit share of the lucrative server CPU market rose to 23.3% in the third quarter from 17.5% in the year-earlier period.

Key AI Related Partnerships

Microsoft

- In May, Bloomberg reported that Microsoft and AMD are teaming up to develop an alternative to Nvidia's graphics processing units, which currently dominate the AI market.

Hyperscalers and Cloud Providers

- AMD is seeing strong adoption of their 4th Gen EPYC processors from cloud hyperscalers such as Amazon's AWS, Microsoft's Azure, Alibaba, and Oracle.
- Microsoft Azure announced the first Genoa-X HPC instances, offering more than five times higher performance in technical computing workloads than their prior generation.

Dell

- Dell is leveraging AMD EPYC fourth-generation CPUs in its latest PowerEdge C6615 server.

Income Statement Highlights

- 2022 Revenue Growth – 43.6%
- 2022 Gross Profit Margin – 51.1%
- 2022 EBITDA - 4,700,000,000
- 2022 EBITDA Margin – 19.9%
- 2022 Net Income Margin - 5.6%

Income Statement						
For the Fiscal Period Ending	12 months Dec-29-2018	12 months Dec-28-2019	12 months Dec-26-2020	12 months Dec-25-2021	12 months Dec-31-2022	LTM 12 months Sep-30-2023
Currency	*USD*	*USD*	*USD*	*USD*	*USD*	*USD*
Revenue						
Data Center	-	-	1,685.0	3,694.0	6,043.0	5,869.0
Client	-	-	5,189.0	6,887.0	6,201.0	4,093.0
Gaming	-	-	2,746.0	5,607.0	6,805.0	6,488.0
Embedded	-	-	143.0	246.0	4,552.0	5,661.0
Total Revenue	**6,475.0**	**6,731.0**	**9,763.0**	**16,434.0**	**23,601.0**	**22,111.0**
Cost Of Goods Sold	4,028.0	3,863.0	5,416.0	8,505.0	11,550.0	10,985.0
Gross Profit	**2,447.0**	**2,868.0**	**4,347.0**	**7,929.0**	**12,051.0**	**11,126.0**
Selling General & Admin Exp.	562.0	750.0	995.0	1,448.0	2,336.0	2,298.0
R & D Exp.	1,434.0	1,547.0	1,983.0	2,845.0	5,005.0	5,727.0
Amort. of Goodwill and Intangibles	-	-	-	-	3,548.0	3,220.0
Other Operating Expense/(Income)	-	(60.0)	-	(12.0)	(102.0)	(33.0)
Other Operating Exp., Total	**1,996.0**	**2,237.0**	**2,978.0**	**4,281.0**	**10,787.0**	**11,216.0**
Operating Income	**451.0**	**631.0**	**1,369.0**	**3,648.0**	**1,264.0**	**(90.0)**
Net Interest Exp.	(103.0)	(79.0)	(39.0)	(26.0)	(23.0)	81.0
EBT Excl. Unusual Items	**340.0**	**547.0**	**1,332.0**	**3,626.0**	**1,260.0**	**9.0**
Impairment of Goodwill	-	-	-	-	-	-
Gain (Loss) On Sale Of Invest.	-	1.0	2.0	56.0	(62.0)	(4.0)
Other Unusual Items	(12.0)	(176.0)	(54.0)	(7.0)	-	-
EBT Incl. Unusual Items	**328.0**	**372.0**	**1,280.0**	**3,675.0**	**1,198.0**	**5.0**
Income Tax Expense	(9.0)	31.0	(1,210.0)	513.0	(122.0)	(203.0)
Earnings from Cont. Ops.	**337.0**	**341.0**	**2,490.0**	**3,162.0**	**1,320.0**	**208.0**
Net Income	**337.0**	**341.0**	**2,490.0**	**3,162.0**	**1,320.0**	**208.0**

Notes

Balance Sheet Highlights

- Has 5.8 Billion USD in Cash & Equivalents
- Major Assets –
  24B Goodwill, 22B Other Intangibles
- Upcoming Liabilities –
  2.6B Accounts Payable, 3.4B Accrued Expenses, 0.75B Current Portion of LT Debt
- Significant Additions to Goodwill and Other Intangibles in 2022 due to Acquisition of Xilinx, offset by Additional Paid in Capital and LT Debt
- Gross margin up to > 50% from 37.8% in 2018

Notes

Balance Sheet

Balance Sheet as of:	Dec-29-2018	Dec-28-2019	Dec-26-2020	Dec-25-2021	Dec-31-2022	Sep-30-2023
Currency	*USD*	*USD*	*USD*	*USD*	*USD*	*USD*
ASSETS						
Cash And Equivalents	1,078.0	1,466.0	1,595.0	2,535.0	4,835.0	3,561.0
Short Term Investments	78.0	37.0	695.0	1,073.0	1,020.0	2,224.0
Total Cash & ST Investments	**1,156.0**	**1,503.0**	**2,290.0**	**3,608.0**	**5,855.0**	**5,785.0**
Accounts Receivable	1,235.0	1,859.0	2,066.0	2,706.0	4,126.0	5,054.0
Other Receivables	16.0	20.0	10.0	2.0	2.0	1.0
Total Receivables	**1,251.0**	**1,879.0**	**2,076.0**	**2,708.0**	**4,128.0**	**5,055.0**
Inventory	845.0	982.0	1,399.0	1,955.0	3,771.0	5,358.0
Prepaid Exp.	277.0	225.0	378.0	312.0	1,265.0	-
Restricted Cash	5.0	4.0	-	-	-	-
Other Current Assets	6.0	4.0	-	-	-	490.0
Total Current Assets	**3,540.0**	**4,597.0**	**6,143.0**	**8,583.0**	**15,019.0**	**16,688.0**
Gross Property, Plant & Equipment	1,055.0	1,473.0	1,761.0	2,203.0	3,480.0	3,803.0
Accumulated Depreciation	(707.0)	(768.0)	(912.0)	(1,134.0)	(1,507.0)	(1,730.0)
Net Property, Plant & Equipment	**348.0**	**705.0**	**849.0**	**1,069.0**	**1,973.0**	**2,073.0**
Long-term Investments	58.0	58.0	63.0	69.0	83.0	244.0
Goodwill	289.0	289.0	289.0	289.0	24,177.0	24,186.0
Other Intangibles	226.0	210.0	229.0	323.0	24,480.0	21,950.0
Deferred Tax Assets, LT	15.0	22.0	1,245.0	931.0	58.0	76.0
Other Long-Term Assets	80.0	147.0	144.0	1,155.0	1,790.0	2,409.0
Total Assets	**4,556.0**	**6,028.0**	**8,962.0**	**12,419.0**	**67,580.0**	**67,626.0**
LIABILITIES						
Accounts Payable	1,041.0	1,201.0	546.0	1,406.0	2,956.0	2,570.0
Accrued Exp.	783.0	1,084.0	1,796.0	2,424.0	3,077.0	3,376.0
Curr. Port. of LT Debt	136.0	-	-	312.0	-	752.0
Curr. Port. of Leases	-	-	-	-	93.0	-
Curr. Income Taxes Payable	-	-	-	-	-	769.0
Unearned Revenue, Current	11.0	-	-	-	-	-
Other Current Liabilities	13.0	74.0	75.0	98.0	243.0	160.0
Total Current Liabilities	**1,984.0**	**2,359.0**	**2,417.0**	**4,240.0**	**6,369.0**	**7,627.0**
Long-Term Debt	1,114.0	486.0	330.0	1.0	2,467.0	1,715.0
Long-Term Leases	-	199.0	201.0	348.0	396.0	395.0
Def. Tax Liability, Non-Curr.	11.0	11.0	11.0	12.0	1,934.0	1,152.0
Other Non-Current Liabilities	181.0	146.0	166.0	321.0	1,664.0	1,767.0
Total Liabilities	**3,290.0**	**3,201.0**	**3,125.0**	**4,922.0**	**12,830.0**	**12,656.0**
Common Stock	10.0	12.0	12.0	12.0	16.0	17.0
Additional Paid In Capital	8,750.0	9,963.0	10,544.0	11,069.0	58,005.0	59,182.0
Retained Earnings	(7,436.0)	(7,095.0)	(4,605.0)	(1,451.0)	(131.0)	56.0
Treasury Stock	(50.0)	(53.0)	(131.0)	(2,130.0)	(3,099.0)	(4,235.0)
Comprehensive Inc. and Other	(8.0)	-	17.0	(3.0)	(41.0)	(50.0)
Total Common Equity	**1,266.0**	**2,827.0**	**5,837.0**	**7,497.0**	**54,750.0**	**54,970.0**
Total Equity	**1,266.0**	**2,827.0**	**5,837.0**	**7,497.0**	**54,750.0**	**54,970.0**
Total Liabilities And Equity	**4,556.0**	**6,028.0**	**8,962.0**	**12,419.0**	**67,580.0**	**67,626.0**

7. Valuation – Public Comparables

			Market Values			Profitability		Revenue Multiples		EBITDA Multiples		Leverage
Company	Ticker	Primary Operation	Share Price (2)	Equity Market Value	Enterprise Value	Operating Margin (LTM)	EBITDA Margin (LTM)	EV/Revenue (2022)	EV/Revenue (2023 LTM)	EV/EBITDA (2022)	EV/EBITDA (2023 LTM)	Total Debt/EBITDA (2023)
NVIDIA Corporation	NVDA	Semiconductors	469.5	1,193,875.0	1,188,805.0	33.0%	37.9%	12.4x	33.2x	37.1x	86.1x	0.9x
Intel Corporation	INTC	Semiconductors	37.8	163,834.0	185,974.0	-3.90%	15.7%	1.8x	3.3x	5.6x	19.3x	5.4x
Qualcomm	QCOM	Semiconductors	120.1	138,246.0	138,414.0	24.1%	29.2%	3.1x	3.5x	8.4x	11.1x	1.5x
Micron Technology	MU	Semiconductors	73.6	82,747.0	84,343.0	-35.1%	14.20%	1.9x	5.1x	3.4x	33.9x	6.0x
Broadcom Inc	AVGO	Semiconductors	911.4	395,202.0	403,445.0	45.7%	57.3%	7.3x	10.9x	12.6x	18.9x	1.9x
	Median		**$120**	**$163,834**	**$185,974**	**24.1%**	**29.2%**	**3.1x**	**5.1x**	**8.4x**	**19.3x**	**1.9x**
Selection Criteria:	Min		$38	$82,747	$84,343	-35.1%	14.2%	1.8x	3.3x	3.4x	11.1x	0.9x
Semiconductors	Max		$911	$1,193,875	$1,188,805	45.7%	57.3%	12.4x	33.2x	37.1x	86.1x	6.0x
Similar leverage and structure	25th		$74	$138,246	$138,414	-3.9%	15.7%	1.9x	3.5x	5.6x	18.9x	1.5x
Similar business model and margins	75th		$470	$395,202	$403,445	33.0%	37.9%	7.3x	10.9x	12.6x	33.9x	5.4x
Global customers and suppliers												
Excluded bankrupt/distressed peers	**Mean**		**$322**	**$394,781**	**$400,196**	**12.8%**	**30.9%**	**5.3x**	**11.2x**	**13.4x**	**33.8x**	**3.1x**
	St Dev		$372	$462,348	$457,192	32.4%	17.7%	4.5x	12.7x	13.7x	30.3x	2.4x

Advanced Micro Devices, Inc.	Representative Level	25th	Median	75th	Std Dev	Chosen Range	Implied Enterprise Value
EV/Revenue (2023)	$22,111	3.5x	5.1x	10.9x	12.7x	9.5x – 10.5x	**210,054 - 232,166**
						Target Share Price	**$123.11 - $136.70**

(1) Values in $US million

(2) Price data as of market close on Friday, November 10, 2023

PCA Profile

Selection Criteria:

- Semiconductors
- Similar leverage and structure
- Similar business model, verticals, margins
- Global customers and suppliers
- Excluded bankrupt / distressed peers

Key Points

Advanced Micro Devices Inc. - DCF Assumptions & Output:

Company Name:	Advanced Micro Devices Inc.
Ticker:	AMD
Current Share Price:	$ 98.50
Diluted Shares Outstanding:	1,627
Effective Tax Rate:	13.0%
Discount Rate (WACC):	10.19%
Conversion Units:	1,000,000
Last Fiscal Year:	2022-12-31

Current Equity Value:	**$ 160,259.5**
(-) Cash & Cash-Equivalents:	4,835.0
(-) Equity Investments:	1,020.0
(-) Other Non-Core Assets, Net:	
(-) Net Operating Losses:	1,031.0
(+) Total Debt:	2,467.0
(+) Preferred Stock:	-
(+) Noncontrolling Interests:	-
(+) Unfunded Pension Obligations:	-
(+) Capital Leases:	396.0
(+) Restructuring & Other Liabilities:	
Current Enterprise Value:	**170,008.5**

Terminal Value - Multiples Method:		
Median EV / EBITDA of Comps:	19.3 x	
Baseline Terminal EBITDA Multiple:	15.0 x	
Baseline Terminal Value:	$440,781.6	
Implied Terminal FCF Growth Rate:	4.2%	
(+) PV of Terminal Value:	167,002.6	
(+) Sum of PV of Free Cash Flows:	83,453.5	
Implied Enterprise Value:	**$250,456.1**	
% of Implied EV from Terminal Value:	*66.7%*	
(+) Cash & Cash-Equivalents:	$ (4,835.0)	
(+) Equity Investments:	(1,020.0)	
(+) Other Non-Core Assets, Net:	-	
(+) Net Operating Losses:	(1,031.0)	
(-) Total Debt:	(2,467.0)	
(-) Preferred Stock:	-	
(-) Noncontrolling Interests:	-	
(-) Unfunded Pension Obligations:	-	
(-) Capital Leases:	(396.0)	
(-) Restructuring & Other Liabilities:	-	$ (9,749.0)
Implied Equity Value:	**240,707.1**	
Diluted Shares Outstanding:	1,627	
Implied Share Price from DCF:	**$ 147.95**	
Premium / (Discount) to Current:	**50.2%**	

Terminal Value - Perpetuity Growth Method:	
Expected Long-Term GDP Growth:	3.0%
Baseline Terminal FCF Growth Rate:	4.0%
Baseline Terminal Value:	$425,351.6
Implied Terminal EBITDA Multiple:	14.5 x
(+) PV of Terminal Value:	161,156.5
(+) Sum of PV of Free Cash Flows:	83,453.5
Implied Enterprise Value:	**$244,610.1**
% of Implied EV from Terminal Value:	*65.9%*
(+) Cash & Cash-Equivalents:	$ (4,835.0)
(+) Equity Investments:	(1,020.0)
(+) Other Non-Core Assets, Net:	-
(+) Net Operating Losses:	(1,031.0)
(-) Total Debt:	(2,467.0)
(-) Preferred Stock:	-
(-) Noncontrolling Interests:	-
(-) Unfunded Pension Obligations:	-
(-) Capital Leases:	(396.0)
(-) Restructuring & Other Liabilities:	-
Implied Equity Value:	**234,861.1**
Diluted Shares Outstanding:	1,627
Implied Share Price from DCF:	**$ 144.35**
Premium / (Discount) to Current:	**46.6%**

Discounted Cash Flow Projections

		Historical			Projected									
Advanced Micro Devices Inc. - FCF Projectio	*Units:*	FY20	FY21	FY22	FY23	FY24	FY25	FY26	FY27	FY28	FY29	FY30	FY31	FY32
Revenue:	*$ M*	$ 9,763.0	$ 16,434.0	$ 23,601.0	$ 22,693.0	$ 26,544.0	$ 30,610.0	$ 34,885.0	$ 41,535.0	$ 48,395.9	$ 55,247.5	$ 61,604.0	$ 66,918.6	$ 70,661.2
Revenue Growth Rate:	*%*	*N/A*	*68.3%*	*43.6%*	*(3.8%)*	*17.0%*	*15.3%*	*14.0%*	*19.1%*	*16.5%*	*14.2%*	*11.5%*	*8.6%*	*5.6%*
Operating Income (EBIT):	*$ M*	1,369.0	3,648.0	1,264.0	5,322.6	7,259.0	9,164.4	10,976.3	14,062.6	17,236.0	20,452.0	23,420.0	25,809.8	27,583.6
Operating Margin:	*%*	*14.0%*	*22.2%*	*5.4%*	*23.5%*	*27.3%*	*29.9%*	*31.5%*	*33.9%*	*35.6%*	*37.0%*	*38.0%*	*38.6%*	*39.0%*
Growth Rate:	*%*	*N/A*	*166.5%*	*(65.4%)*	*321.1%*	*36.4%*	*26.2%*	*19.8%*	*28.1%*	*22.6%*	*18.7%*	*14.5%*	*10.2%*	*6.9%*
(-) Taxes, Excluding Effect of Interest:	*$ M*	1,210.0	(513.0)	122.0	(691.9)	(943.7)	(1,191.4)	(1,426.9)	(1,828.1)	(2,240.7)	(2,658.8)	(3,044.6)	(3,355.3)	(3,585.9)
Net Operating Profit After Taxes (NOPAT):	*$ M*	2,579.0	3,135.0	1,386.0	4,630.7	6,315.3	7,973.1	9,549.4	12,234.5	14,995.3	17,793.3	20,375.4	22,454.6	23,997.7
Adjustments for Non-Cash Charges:														
(+) Depreciation & Amortization:	*$ M*	312.0	407.0	4,174.0	680.8	783.0	887.7	994.2	1,163.0	1,330.9	1,491.7	1,632.5	1,739.9	1,801.9
% Revenue:	*%*	3.2%	2.5%	17.7%	3.0%	3.0%	2.9%	2.9%	2.8%	2.8%	2.7%	2.7%	2.6%	2.6%
(+) Deferred Income Taxes:	*$ M*	(1,223.0)	308.0	(1,505.0)	173.0	188.7	178.7	142.7	182.8	112.0	132.9	152.2	167.8	179.3
% Income Statement Taxes:	*%*	(101.1%)	(60.0%)	(1233.6%)	25.0%	20.0%	15.0%	10.0%	10.0%	5.0%	5.0%	5.0%	5.0%	5.0%
Net Change in Working Capital:	*$ M*	701.0	(389.0)	1,841.0	(227.0)	962.8	1,016.5	1,068.8	1,662.5	1,715.2	1,712.9	1,589.1	1,328.7	935.7
% Change in Revenue:	*%*	28.3%	(5.8%)	25.7%	25.0%	25.0%	25.0%	25.0%	25.0%	25.0%	25.0%	25.0%	25.0%	25.0%
% Revenue:	*%*	*7.2%*	*(2.4%)*	*7.8%*	*(1.0%)*	*3.6%*	*3.3%*	*3.1%*	*4.0%*	*3.5%*	*3.1%*	*2.6%*	*2.0%*	*1.3%*
(-) Capital Expenditures:	*$ M*	(294.0)	(301.0)	(450.0)	(510.6)	(597.2)	(688.7)	(784.9)	(934.5)	(1,088.8)	(1,243.0)	(1,386.0)	(1,505.6)	(1,589.8)
% Revenue:	*%*	3.0%	1.8%	1.9%	2.2%	2.2%	2.2%	2.2%	2.2%	2.2%	2.2%	2.2%	2.2%	2.2%
Unlevered Free Cash Flow:	*$ M*	$ 2,075.0	$ 3,160.0	$ 5,446.0	$ 4,746.9	$ 7,652.7	$ 9,367.3	$ 10,970.2	$ 14,308.3	$ 17,064.6	$ 19,887.8	$ 22,363.2	$ 24,185.3	$ 25,324.7
Growth Rate:	*%*	*N/A*	*52.3%*	*72.3%*	*(12.8%)*	*61.2%*	*22.4%*	*17.1%*	*30.4%*	*19.3%*	*16.5%*	*12.4%*	*8.1%*	*4.7%*
Discount Period:	*#*				1	2	3	4	5	6	7	8	9	10
Discount Rate (WACC):	*%*				10.19%	10.19%	10.19%	10.19%	10.19%	10.19%	10.19%	10.19%	10.19%	10.19%
Cumulative Discount Factor:	*#*				0.908	0.824	0.747	0.678	0.616	0.559	0.507	0.460	0.417	0.379
PV of Unlevered FCF:	*$ M*				$ 4,307.9	$ 6,302.5	$ 7,001.0	$ 7,440.7	$ 8,807.2	$ 9,532.3	$ 10,081.8	$ 10,288.1	$ 10,097.2	$ 9,595.0
EBITDA:	*$ M*	$ 1,681.0	$ 4,055.0	$ 5,438.0	$ 6,003.4	$ 8,042.1	$ 10,052.1	$ 11,970.5	$ 15,225.6	$ 18,566.9	$ 21,943.7	$ 25,052.5	$ 27,549.7	$ 29,385.4
Growth Rate:	*%*	*N/A*	*141.2%*	*34.1%*	*10.4%*	*34.0%*	*25.0%*	*19.1%*	*27.2%*	*21.9%*	*18.2%*	*14.2%*	*10.0%*	*6.7%*

Sensitivity Analysis

		Weighted Average Cost of Capital (WACC):										
		8.94%	9.19%	9.44%	9.69%	9.94%	**10.19%**	10.44%	10.69%	10.94%	11.19%	11.44%
Terminal EV / EBITDA Multiple (Terminal Value Calculated Using the Multiples Method):	16.00 x	$ 171.77	$ 168.21	$ 164.74	$ 161.35	$ 158.05	**$ 154.81**	$ 151.66	$ 148.57	$ 145.56	$ 142.62	$ 139.75
	15.75 x	169.85	166.34	162.91	159.56	156.30	**153.10**	149.98	146.94	143.96	141.06	138.22
	15.50 x	167.93	164.46	161.08	157.77	154.54	**151.39**	148.31	145.30	142.36	139.49	136.69
	15.25 x	166.01	162.59	159.25	155.98	152.79	**149.68**	146.64	143.67	140.77	137.93	135.16
	15.00 x	**164.10**	**160.72**	**157.42**	**154.19**	**151.04**	147.97	**144.97**	**142.03**	**139.17**	**136.37**	**133.63**
	14.75 x	162.18	158.84	155.58	152.40	149.29	**146.26**	143.29	140.40	137.57	134.80	132.10
	14.50 x	160.26	156.97	153.75	150.61	147.54	**144.55**	141.62	138.76	135.97	133.24	130.58
	14.25 x	158.34	155.09	151.92	148.82	145.79	**142.84**	139.95	137.13	134.37	131.68	129.05
	14.00 x	156.42	153.22	150.09	147.03	144.04	**141.13**	138.28	135.49	132.77	130.11	127.52

		Weighted Average Cost of Capital (WACC):										
		8.94%	9.19%	9.44%	9.69%	9.94%	**10.19%**	10.44%	10.69%	10.94%	11.19%	11.44%
Terminal FCF Growth Rate (Terminal Value Calculated Using the Gordon Growth Method):	4.40%	$ 201.06	$ 189.08	$ 178.31	$ 168.58	$ 159.73	**$ 151.66**	$ 144.27	$ 137.48	$ 131.22	$ 125.43	$ 120.06
	4.30%	197.64	186.07	175.65	166.20	157.61	**149.76**	142.55	135.93	129.81	124.15	118.89
	4.20%	194.36	183.18	173.08	163.91	155.56	**147.91**	140.89	134.42	128.45	122.91	117.76
	4.10%	191.22	180.40	170.61	161.71	153.58	**146.13**	139.28	132.97	127.12	121.70	116.65
	4.00%	**188.21**	**177.73**	**168.23**	**159.58**	**151.67**	144.41	**137.72**	**131.55**	**125.83**	**120.52**	**115.58**
	3.90%	185.32	175.16	165.94	157.52	149.82	**142.74**	136.21	130.18	124.58	119.38	114.53
	3.80%	182.54	172.69	163.72	155.54	148.03	**141.12**	134.74	128.84	123.36	118.27	113.51
	3.70%	179.86	170.30	161.59	153.62	146.30	**139.55**	133.32	127.55	122.18	117.18	112.52
	3.60%	177.29	168.00	159.53	151.76	144.62	**138.03**	131.94	126.29	121.03	116.13	111.55

Other Chipmakers Entering AI Space	• Intel, despite a smaller market share, has entered the AI market and could leverage its long-standing chip production experience to challenge AMD and Nvidia. • Amazon CEO Andy Jassy announced in June that they had produced two new AI chips, promising to offer the best price-to-performance ratio available. Amazon lacks experience in the chip development space, but it has years of dominance in the cloud market and recently made promising inroads in AI software. Meanwhile, it has vast resources to potentially become a big player in the space.
US-China Trade War Impact	• In a series of measures in late 2023, the U.S. government significantly tightened restrictions on semiconductor exports to China. This includes the U.S. Department of Commerce's actions to clarify and enforce rules restricting China's access to advanced U.S. semiconductor technology, crucial for AI platform development. • The Biden administration's specific focus on limiting exports of advanced silicon chip technology further intensifies these restrictions. • This escalated trade tension directly impacts companies like AMD, which faces a ban on exporting its AI chips to China, a major market. The need to adapt to these sanctions adds extra costs and creates uncertainty about future market access and regulations.
TSMC's Cost Pressures and Competitive Risks	• TSMC, AMD's manufacturing partner, is facing financial challenges as its investments in advanced chip technology are not yielding expected profits. This scenario, where increased investment does not lead to proportionate gains, can affect TSMC's innovation capacity and pricing. • Reports suggest Samsung may have received a US waiver to supply chips to China without usual restrictions. This advantage in a key market could significantly boost Samsung's position against TSMC, creating competitive pressures that might lead to market shifts and supply chain implications for AMD.

Appendix

A. Revenue Build for DCF (Bottom-Up)

Advanced Micro Devices, Inc.

Advanced Micro Devices Inc.		Historical			Projected									
Revenue and Expenses:	*Units:*	FY20	FY21	FY22	FY23	FY24	FY25	FY26	FY27	FY28	FY29	FY30	FY31	FY32
Net Sales by Segment:														
Data Center	*$ M*	$ 1,685.0	$ 3,694.0	$ 6,043.0	$ 6,612.0	$ 10,568.0	$ 13,423.0	$ 14,872.0	$ 20,258.0	$ 25,256.7	$ 30,352.4	$ 35,110.2	$ 39,033.9	$ 41,639.6
Client	*$ M*	5,189.0	6,887.0	6,201.0	4,564.0	5,856.0	6,169.0	6,781.0	7,457.0	$ 8,084.2	$ 8,683.4	$ 9,240.2	$ 9,740.2	$ 10,169.9
Gaming	*$ M*	2,746.0	5,607.0	6,805.0	6,099.0	5,378.0	5,517.0	6,801.0	6,630.0	$ 7,145.9	$ 7,630.5	$ 8,071.6	$ 8,457.5	$ 8,777.3
Embedded	*$ M*	143.0	246.0	4,552.0	5,418.0	4,742.0	5,501.0	6,431.0	7,190.0	$ 7,909.0	$ 8,581.3	$ 9,182.0	$ 9,687.0	$ 10,074.4
Total Consolidated Sales:	*$ M*	**$ 9,763.0**	**$ 16,434.0**	**$ 23,601.0**	**$ 22,693.0**	**$ 26,544.0**	**$ 30,610.0**	**$ 34,885.0**	**$ 41,535.0**	**$ 48,395.9**	**$ 55,247.5**	**$ 61,604.0**	**$ 66,918.6**	**$ 70,661.2**
Annual Growth Rate:	*%*	*N/A*	*68.3%*	*43.6%*	*(3.8%)*	*17.0%*	*15.3%*	*14.0%*	*19.1%*	*16.5%*	*14.2%*	*11.5%*	*8.6%*	*5.6%*
Growth Rates by Segment:														
Data Center	*%*	*N/A*	*119.2%*	*63.6%*	*9.4%*	*59.8%*	*27.0%*	*10.8%*	*36.2%*	24.7%	20.2%	15.7%	11.2%	6.7%
Client	*%*	*N/A*	*32.7%*	*(10.0%)*	*(26.4%)*	*28.3%*	*5.3%*	*9.9%*	*10.0%*	8.4%	7.4%	6.4%	5.4%	4.4%
Gaming	*%*	*N/A*	*104.2%*	*21.4%*	*(10.4%)*	*(11.8%)*	*2.6%*	*23.3%*	*(2.5%)*	7.8%	6.8%	5.8%	4.8%	3.8%
Embedded	*%*	*N/A*	*72.0%*	*1,750.4%*	*19.0%*	*(12.5%)*	*16.0%*	*16.9%*	*11.8%*	10.0%	8.5%	7.0%	5.5%	4.0%
Operating Income by Segment:														
Data Center	*$ M*	198.0	991.0	1,848.0	1,983.6	3,487.4	4,784.0	5,618.4	8,035.8	10,419.4	12,897.2	15,217.3	17,087.1	18,410.0
Client	*$ M*	1,608.0	2,088.0	1,190.0	1,224.6	1,728.4	1,966.5	2,291.3	2,645.7	2,982.9	3,300.1	3,582.0	3,813.6	4,021.6
Gaming	*$ M*	(138.0)	934.0	953.0	1,036.8	1,005.7	1,114.2	1,455.9	1,490.3	1,670.5	1,837.3	1,982.4	2,098.0	2,199.1
Embedded	*$ M*	(11.0)	44.0	2,252.0	1,077.6	1,037.4	1,299.8	1,610.7	1,890.8	2,163.1	2,417.4	2,638.3	2,811.3	2,953.0
All Other	*$ M*	(288.0)	(409.0)	(4,979.0)										
Operating Margin by Segment:														
Data Center	*%*	11.8%	26.8%	30.6%	30.0%	**33.0%**	**35.6%**	**37.8%**	**39.7%**	**41.3%**	**42.5%**	**43.3%**	**43.8%**	**44.2%**
Client	*%*	31.0%	30.3%	19.2%	26.8%	**29.5%**	**31.9%**	**33.8%**	**35.5%**	**36.9%**	**38.0%**	**38.8%**	**39.2%**	**39.5%**
Gaming	*%*	(5.0%)	16.7%	14.0%	17.0%	**18.7%**	**20.2%**	**21.4%**	**22.5%**	**23.4%**	**24.1%**	**24.6%**	**24.8%**	**25.1%**
Embedded	*%*	(7.7%)	17.9%	49.5%	19.9%	**21.9%**	**23.6%**	**25.0%**	**26.3%**	**27.3%**	**28.2%**	**28.7%**	**29.0%**	**29.3%**
All Other	*%*	(2.9%)	(2.5%)	(21.1%)	(2.5%)	(2.5%)	(2.5%)	(2.5%)	(2.5%)	(2.5%)	(2.5%)	(2.5%)	(2.5%)	(2.5%)