

# NVIDIA Corporation

## F4Q/F1Q Upside – Re-Hashing the Past Would Be a Mistake

Semiconductor Devices | Forecast Change

## NVDA

Target price (12M, US\$)

620.00

Outperform<sup>[M]</sup>

**Bottom Line.** NVDA reported F4Q/F1Q WELL ABOVE on strong Gaming (50% of Rev) albeit more inline DCG (38% of Rev). While, lack of DCG upside, Crypto uncertainty and ARM overhang will continue to be headwinds on the stock (NVDA +12% in past 90-days vs. SOX of 22%), NVDA still represents the best secular growth in Semis with an almost open-ended AI TAM protected by increasingly wider, deeper moats in software and silicon. Specifically on DCG, while core y/y deceleration from +77% to +45% to +25% is not ideal, we estimate 14-to-13 week F1Q implies PF core-DCG +5-7% q/q and we see re-acceleration in 2H as enterprise re-opens and new workloads including NLP, conversational AI, Edge/Industry 4.0 proliferate. On Crypto – we estimate \$100-\$300m Rev in F4Q/F1Q each – but unlike F3Q18-F3Q19 – the Crypto market is becoming more institutionalized, only Ethereum uses GPUs, NVDA is halving hash rates RTX and introducing a purposed built CMP in F1Q (\$50m in Rev) – likely minimizing excess.

**By-the-Numbers F4Q/F1Q.** F4Q (JanQ) Rev/EPS of \$5.0bn/\$3.10 was ABOVE CS/Street ~\$4.8bn/\$2.80 and above high-end of guide \$4.70-4.90bn/~\$2.66-2.92. By segment: (1) Gaming \$2.5bn (50% of Rev) was +10% q/q, (2) Datacenter \$1.9bn (38% of Rev) was ~flat q/q – embedding core-NVDA +9% q/q offsetting expected MLNX decline, (3) Pro Vis \$307m (+30% q/q) and (4) Auto \$145bn (+16% q/q). F1Q (AprQ) Rev/EPS was guided to ~\$5.3bn/\$3.21 WELL ABOVE CS/Street \$4.5bn/\$2.53 and \$4.5bn/\$2.51. F1Q Rev +6% q/q (+14% PF q/q) will be driven primarily by Gaming, though all other segments should grow q/q. We model core DCG Rev +2% q/q +5-7% PF for extra week in F4Q.

**Valuation and Price Target.** We raise our FY22/23 EPS to \$13.35/\$15.85 from \$11.45/\$13.50 vs. Street of \$11.61/\$13.28. NVDA trades at 50x NTM P/E a 97% premium to the SOX, below the 5-yr median premium of 120-140%. Our TP of \$620 is based on ~40x CY25 EPS of >\$20 discounted back – still mostly INLINE w/ top-quartile multiples but below top decile. Though the timing/magnitude of DCG re-acceleration is unclear, we'd note: (1) NVDA is an enabler of AI, (2) AI is transformative/disruptive to every industry, and (3) as the cost of Data Analytics declines, elasticity of application explosion underpins Compute TAM CAGR accelerating from 3-5% to 10-15% w/ NVDA's DCG CAGR of 2x TAM.

### Financial and valuation metrics

| Year                         | 12/20A   | 12/21E   | 12/22E   | 12/23E   |
|------------------------------|----------|----------|----------|----------|
| EPS (Excl. ESO) (US\$)       | 7.06     | 12.10    | 15.58    | 18.09    |
| EPS (CS adj.,)               | 5.80     | 10.01    | 13.35    | 15.85    |
| Prev. EPS (CS adj., US\$)    | -        | 9.69     | 11.45    | 13.50    |
| P/E (CS adj.) (x)            | 100.1    | 57.9     | 43.4     | 36.6     |
| P/E rel. (CS adj., %)        | 349.0    | 251.4    | 217.5    | 203.5    |
| Revenue (US\$ m)             | 10,918.0 | 16,675.0 | 21,925.0 | 24,740.0 |
| Net Debt (US\$ m)            | -12,623  | -4,406   | -10,440  | -18,198  |
| OCFPS (US\$)                 | 7.77     | 8.12     | 11.92    | 15.17    |
| P/OCF (x)                    | 74.7     | 71.5     | 48.6     | 38.2     |
| Number of shares (m)         | 619.00   |          |          | 30.30    |
| BV/share (Next Qtr., US\$)   | 21.1     |          |          | 22.4     |
| Net debt (Next Qtr., US\$ m) | -9,395.0 |          |          | -        |
| Dividend yield (%)           | -        |          |          | -        |

Source: Company data, Refinitiv, Credit Suisse estimates

|   |                 |
|---|-----------------|
| Price (24 Feb 21, US\$)                                   | 579.96          |
| 52-week price range                                       | 613.21 - 196.40 |
| Enterprise value (US\$ m)                                 | 354,589         |
| [V] = Stock Considered Volatile (see Disclosure Appendix) |                 |

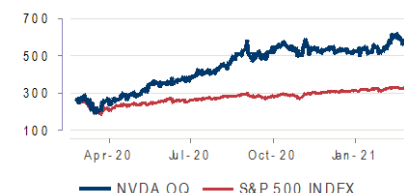
### Research Analysts

**John W. Pitzer**  
212 538 4610  
john.pitzer@credit-suisse.com

**Dalya Hahn**  
212 325 7843  
dalya.hahn@credit-suisse.com

**Jerome Darling**  
212 325 3211  
jerome.darling@credit-suisse.com

### Share price performance



On 24-Feb-2021 the S&P 500 INDEX closed at 3925.43Daily  
Feb26, 2020 - Feb24, 2021, 02/26/20 = US\$267.65

| Quarterly EPS | Q1   | Q2   | Q3   | Q4   |
|---------------|------|------|------|------|
| 2020A         | 0.88 | 1.24 | 1.78 | 1.89 |
| 2021E         | 1.80 | 2.18 | 2.91 | 3.10 |
| 2022E         | 3.21 | 3.32 | 3.39 | 3.43 |

**DISCLOSURE APPENDIX AT THE BACK OF THIS REPORT CONTAINS IMPORTANT DISCLOSURES, ANALYST CERTIFICATIONS, LEGAL ENTITY DISCLOSURE AND THE STATUS OF NON-US ANALYSTS.** US Disclosure: Credit Suisse 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.

# NVIDIA Corporation (NVDA)

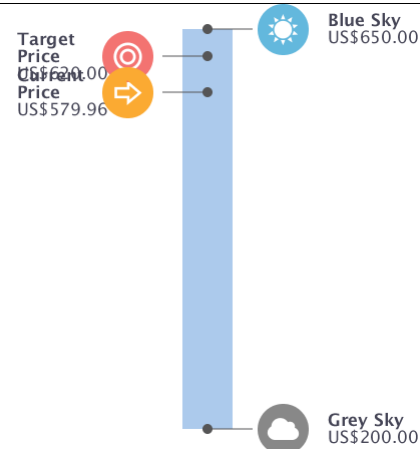
Price (24 Feb 2021): **US\$579.96**Target Price: **620.00**Analyst: **John Pitzer**Rating: **Outperform [V]**

| Income Statement                   | 12/20A   | 12/21E   | 12/22E   | 12/23E   |
|------------------------------------|----------|----------|----------|----------|
| Revenue (US\$ m)                   | 10,918.0 | 16,675.0 | 21,925.0 | 24,740.0 |
| EBITDA                             | 3,971.0  | 7,175.9  | 9,986.2  | 11,951.5 |
| Operating profit                   | 3,706.0  | 6,804.0  | 9,396.5  | 11,162.1 |
| Recurring profit                   | 3,860.0  | 6,684.0  | 9,191.5  | 10,942.1 |
| Cash Flow                          | 12/20A   | 12/21E   | 12/22E   | 12/23E   |
| Cash flow from operations          | 4,798    | 5,091    | 7,510    | 9,559    |
| CAPEX                              | (488)    | (1,128)  | (1,142)  | (1,293)  |
| Free cashflow to the firm          | 4,310    | 3,963    | 6,368    | 8,266    |
| Cash flow from investments         | 2,780    | (12,750) | (1,142)  | (1,293)  |
| Net share issue/repurchase         | 0        | (96)     | (320)    | (320)    |
| Dividends paid                     | (391)    | (395)    | (396)    | (404)    |
| Issuance (retirement) of debt      | -        | -        | -        | -        |
| Other                              | (767)    | 4,103    | 0        | 0        |
| Cashflow from financing activities | (1,158)  | 3,612    | (716)    | (724)    |
| Effect of exchange rates           | -        | -        | -        | -        |
| Changes in Net Cash/Debt           | 6,417    | (8,218)  | 6,034    | 7,758    |
| Net debt at end                    | (12,623) | (4,406)  | (10,440) | (18,198) |
| Balance Sheet (\$US)               | 12/20A   | 12/21E   | 12/22E   | 12/23E   |
| Assets                             |          |          |          |          |
| Other current assets               | 157      | 239      | 239      | 239      |
| Total current assets               | 17,407   | 15,863   | 22,274   | 30,390   |
| Total assets                       | 21,032   | 28,599   | 30,741   | 39,727   |
| Liabilities                        |          |          |          |          |
| Short-term debt                    | 0        | 999      | 0        | 0        |
| Total current liabilities          | 1,784    | 3,925    | 2,839    | 2,845    |
| Long-term debt                     | 1,991    | 5,964    | 6,581    | 6,365    |
| Total liabilities                  | 5,111    | 11,898   | 11,430   | 11,220   |
| Shareholder equity                 | 15,921   | 16,701   | 19,312   | 28,508   |
| Total liabilities and equity       | 21,032   | 28,599   | 30,741   | 39,727   |
| Net debt                           | (12,623) | (4,406)  | (10,440) | (18,198) |
| Per share                          | 12/20A   | 12/21E   | 12/22E   | 12/23E   |
| No. of shares (wtd avg)            | 618      | 627      | 630      | 630      |
| CS adj. EPS                        | 5.80     | 10.01    | 13.35    | 15.85    |
| Prev. EPS (US\$)                   | -        | 9.69     | 11.45    | 42.77    |
| Dividend (US\$)                    | 0.00     | 0.00     | 0.00     | 0.00     |
| Free cash flow per share           | 6.98     | 6.32     | 10.11    | 13.12    |
| Earnings                           | 12/20A   | 12/21E   | 12/22E   | 12/23E   |
| Sales growth (%)                   | (6.8)    | 52.7     | 31.5     | 12.8     |
| Net profit growth (%)              | (15.0)   | 75.4     | 34.0     | 18.7     |
| EPS growth (%)                     | (14.2)   | 72.7     | 33.4     | 18.7     |
| EBIT margin (%)                    | 33.9     | 40.8     | 42.9     | 45.1     |
| Valuation                          | 12/20A   | 12/21E   | 12/22E   | 12/23E   |
| EV/Sales (x)                       | 31.72    | 21.26    | 15.90    | 13.78    |
| EV/EBIT (x)                        | 93.5     | 52.1     | 37.1     | 30.5     |
| P/E (x)                            | 100.1    | 57.9     | 43.4     | 36.6     |
| Quarterly EPS                      | Q1       | Q2       | Q3       | Q4       |
| 2020A                              | 0.88     | 1.24     | 1.78     | 1.89     |
| 2021E                              | 1.80     | 2.18     | 2.91     | 3.10     |
| 2022E                              | 3.21     | 3.32     | 3.39     | 3.43     |

## Company Background

Nvidia Corporation focuses on PC graphics, graphics processing unit (GPUs) and artificial intelligence (AI). The Company's processor has created platforms that address four markets: Gaming, Professional Visualization, Datacenter, and Automotive.

## Blue/Grey Sky Scenario



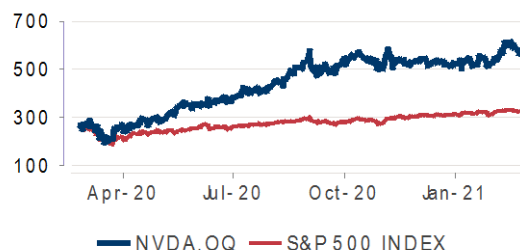
## Our Blue Sky Scenario (US\$) 650.00

In the blue sky scenario, NVDA sees a full materialization of its forecasted Datacenter and Autonomous vehicle TAMs of \$50bn and \$60bn, respectively, and NVDA maintains positions of leadership of in both. Moreover, in this scenario, NVDA sees a successful launch of its Turing gaming chips, and sees continued positive secular trends in the Gaming industry. This will drive EPS of ~\$19 in FY2023, and the stock can be worth in \$650 at a 34x P/E.

## Our Grey Sky Scenario (US\$) 200.00

In the grey sky scenario, NVDA sees increased competition from companies like INTC and AMD in the datacenter space, while internally-developed ASICs take market share as well. Also in this scenario, the proliferation of AV is delayed, as a result of increased regulation and other factors. Finally, AMD regains significant market share of the PC Gaming industry. This will drive EPS of ~\$6 in FY2023, and the stock can be worth \$200 at a 33x P/E.

## Share price performance



On 24-Feb-2021 the S&P 500 INDEX closed at 3925.43  
Daily Feb26, 2020 - Feb24, 2021, 02/26/20 = US\$267.65

Source: Company data, Refinitiv, Credit Suisse estimates

**Figure 1: Summary of Results and Expectations**

US\$ in millions, unless otherwise stated

| NVDA-US               | Oct-20  | Jan-21  |         |         |                       | Apr-21E |         |         |                       | FY2022E  |          |          | FY2023E  |          |          |
|-----------------------|---------|---------|---------|---------|-----------------------|---------|---------|---------|-----------------------|----------|----------|----------|----------|----------|----------|
|                       | Actual  | Actual  | CS      | Cons    | Guidance              | New CS  | CS      | Cons    | Guidance              | New CS   | CS       | Cons     | New CS   | CS       | Cons     |
| Revenue               | \$4,726 | \$5,003 | \$4,800 | \$4,813 | \$4.70-4.90bn         | \$5,300 | \$4,500 | \$4,465 | \$5.19bn-\$5.41bn     | \$21,925 | \$19,300 | \$19,703 | \$24,740 | \$22,000 | \$22,344 |
| % q/q                 | 22.2%   | 5.9%    | 1.6%    | 1.8%    | -0.5% to +3.6%        | 5.9%    | -6.3%   | -7.2%   | +3.8% to +8.1%        |          |          |          |          |          |          |
| Seasonal q/q %        | 5.0%    | 3.9%    | 3.9%    |         |                       | 5.2%    | 5.2%    |         |                       |          |          |          |          |          |          |
| % y/y                 | 56.8%   | 61.1%   | 54.6%   | 118.3%  |                       | 72.1%   | 46.1%   | 48.1%   |                       | 31.5%    | 17.2%    | 19.6%    | 12.8%    | 14.0%    | 13.4%    |
| Gross Margin          | 65.5%   | 65.5%   | 65.5%   | 65.4%   | 65.5% +/- 0.5%        | 66.0%   | 66.0%   | 65.1%   | 66.0% +/- 0.5%        | 66.3%    | 66.3%    | 65.9%    | 66.5%    | 66.5%    | 66.5%    |
| OpEx                  | \$1,101 | \$1,187 | \$1,180 | \$1,176 | ~1,180m               | \$1,200 | \$1,180 | \$1,123 | ~\$1,120m             | \$5,130  | \$4,725  | \$4,833  | \$5,290  | \$5,090  | \$5,362  |
| Operating Margin      | 42.2%   | 41.8%   | 40.9%   | 40.9%   | ~41%                  | 43.4%   | 39.8%   | 39.9%   | ~43%                  | 42.9%    | 41.8%    | 41.4%    | 45.1%    | 43.4%    | 42.5%    |
| Net Income            | \$1,835 | \$1,957 | \$1,756 |         |                       | \$2,023 | \$1,596 |         |                       | \$8,411  | \$7,216  |          | \$9,983  | \$8,502  |          |
| Net Margin            | 38.8%   | 39.1%   | 36.6%   |         |                       | 38.2%   | 35.5%   |         |                       | 38.4%    | 37.4%    |          | 40.4%    | 38.6%    |          |
| EPS (Non-GAAP w/SBC)  | \$2.30  | \$2.44  | \$2.20  |         |                       | \$2.60  | \$1.95  |         |                       | \$10.92  | \$9.11   |          | \$13.39  | \$11.14  |          |
| EPS (Non-GAAP ex-SBC) | \$2.91  | \$3.10  | \$2.79  | \$2.80  | Implied \$2.66-\$2.92 | \$3.21  | \$2.53  | \$2.51  | Implied \$3.07-\$3.34 | \$13.35  | \$11.45  | \$11.61  | \$15.85  | \$13.50  | \$13.28  |
| Fully diluted shares  | 630     | 631     | 630     |         |                       | 630     | 630     |         |                       | 630      | 630      |          | 630      | 630      |          |

Source: Company data, Credit Suisse estimates, FactSet

**NVDA reported F4Q21 Rev/EPS ABOVE CS/Street**

- **Revenue:** \$5.0bn (+5.9% q/q) was ABOVE CS Preview ~\$4.9bn (+3.7% q/q), CS print/Street \$4.8bn (+1.6% q/q) - and ABOVE high-end guidance range of \$4.70bn-\$4.90bn.
  - **Gaming:** \$2.5bn (+10% q/q) INLINE with CS Preview ~\$2.50bn and ABOVE CS print/Street of \$2.41bn/\$2.36bn – driven by strong RTX30 series launch and Ampere GPU. The entire 30 series lineup has been hard to keep in stock and NVDA exited F4Q with channel inventories even lower than beginning of Q - despite increasing supply, channel inventories will likely remain low throughout F1Q. Note, only ~15% of installed base has upgraded to RTX-30.
  - **Crypto:** NVDA has created a new GPU for Ethereum mining launching in March i.e. Crypto Mining Processors (CMPs) – crypto added \$100-300m to Gaming Rev in F4Q and should contributed \$50m to F1Q – NVDA will quantify separately going forward.
- **Datacenter:** \$1.9bn (+97% y/y, ~flat q/q) slightly ABOVE CS/Street of \$1.87bn/\$1.84bn. Core-NVDA compute was up +45% y/y more than offsetting decline in MLNX. Rev lead by vertical industries (>50% of Datacenter Rev) – A100 based Servers and DGX systems both did well and drove stronger than expected core-NVDA compute q/q growth.
  - **MLNX:** +30% y/y with growth in the quarter led by Hyperscale and large consumer internet customers which grew >60% y/y with several contributing record revenues – MLNX should return to q/q growth in Q1 from high speed networking products
- **Pro Vis:** \$307m (+30% q/q) ABOVE CS/Street of \$240m/\$265m – ahead of expectations. Strong q/q growth driven by recovery in DT workstations as some workers returned and enterprises resumed modest buying.
- **Auto:** \$145bn (+16% q/q) ABOVE CS/Street of \$135m/\$139m. Sequential growth driven by recovery in Auto unit volumes and increased cockpit Rev.
- **OEM & IP:** \$153m (-21% q/q) ABOVE CS/Street \$140m/\$170m.
- **GM:** 65.5% (~flat q/q) was INLINE with CS of 65.5% and slightly ABOVE Street of 65.4%. This was INLINE with expectations – noting, higher margins for Gaming GPUs and lower IP related costs, partially offset by lower margin mix in Datacenter portfolio.
- **OpEx:** \$1.19bn was slightly ABOVE CS/Street of \$1.18bn

- **OpM:** 41.8% (-40 bps q/q) was ABOVE CS/Street of 40.9% (-130 bps).
- **Other Expenses/Income Net:** \$45m expense was BELOW CS of \$55m – 1 cent accretive to EPS
- **Taxes:** \$87m was BELOW CS of \$153m – 10 cent accretive to EPS
- **EPS:** \$3.10 was ABOVE CS Preview \$2.92, CS print of \$2.79 and Street of \$2.80 and ABOVE implied guidance range of \$2.66-2.92 – 20 cent operational EPS upside to CS print
- **Inventory:** \$1.83bn +22% q/q; days of 90 up 13 days q/q from 77 in F3Q.
- **ARM Update:** Previously, at deal announcement in September NVDA outlined 18-months timeline to secure approvals and this remains unchanged (“process moving forward as expected”) – specifically from CFO remarks: *“we are in constructive dialogue with the relevant authorities and are confident that regulators will see the benefits to the entire tech eco-system”*

### NVDA Guided F1Q22 Rev/EPS WELL ABOVE CS/Street

- **Revenue:** \$5.3bn +/- 2% (+6.0% q/q) is WELL ABOVE CS Preview ~\$4.80bn, CS print of \$4.50bn (-6.3% q/q) and Street \$4.47bn (-7.2% q/q).
  - **Segment Commentary:** Most of q/q growth driven by Gaming (~\$50m from Crypto), with MLNX returning to q/q growth, Datacenter growing q/q – and all segments being able to grow sequentially. NVDA emphasized it has enough supply to address elevated demand – could supply even greater than guided outlook.
  - **Datacenter:** Core-NVDA compute grew double-digits in F4Q and offset MLNX, F1Q should be good for MLNX (Ethernet, Infiniband, switches...) and well as Compute. Future growth in core-Compute should be driven by Cloud/virtualization, further natural language processing integration (BERT/MSFT Word), and expansion deep-learning recommenders (conversational AI, DL). Additionally, Industrial/Edge/5G are all opportunities for Datacenter growth into AI for new applications – transportation, agriculture, factory automation, etc...
- **GM:** 66.0% +/- 0.5% is INLINE with CS of 66.0% and ABOVE Street of 65.1%
- **Implied OpM:** ~43% is ABOVE CS of 39.8% and Street at 39.9%
- **Other Expenses/Income Net:** \$50m is slightly BELOW CS of \$55m expense – 1 cent accretive to EPS
- **Taxes:** ~\$225m is ABOVE CS of \$139m – 13 cent headwind to EPS
- **Implied EPS:** ~\$3.21 is ABOVE CS Preview \$2.82, CS print of \$2.53 and Street of \$2.51 – 80 cent operational upside to CS print.
- **FY22 Opex:** Expected to grow mid 20% y/y
- **Capex:** \$300-325m

**Figure 2: NVDA Revenue Model**

US\$ in millions, unless otherwise stated

|                            | Apr-20<br>F1Q21 | Jul-20<br>F2Q21 | Oct-20<br>F3Q21 | Jan-21<br>F4Q21 | Apr-21<br>F1Q22E | Jul-21<br>F2Q22E | Oct-21<br>F3Q22E | Jan-22<br>F4Q22E |  | FY2019<br>CY2018 | FY2020<br>CY2019 | FY2021<br>CY2020 | FY2022E<br>CY2021E | FY2023E<br>CY2022E |
|----------------------------|-----------------|-----------------|-----------------|-----------------|------------------|------------------|------------------|------------------|--|------------------|------------------|------------------|--------------------|--------------------|
| Gaming                     | \$1,339.0       | \$1,654.0       | \$2,271.0       | \$2,495.0       | \$2,725.0        | \$2,725.0        | \$2,750.0        | \$2,750.0        |  | \$6,246.0        | \$5,518.0        | \$7,759.0        | \$10,950.0         | \$11,150.0         |
| Datacenter                 | \$1,141.0       | \$1,752.0       | \$1,900.0       | \$1,903.0       | \$1,970.0        | \$2,090.0        | \$2,185.0        | \$2,300.0        |  | \$2,932.0        | \$2,983.0        | \$6,696.0        | \$8,545.0          | \$10,755.0         |
| Professional Visualization | \$307.0         | \$203.0         | \$236.0         | \$307.0         | \$310.0          | \$310.0          | \$310.0          | \$310.0          |  | \$1,130.0        | \$1,212.0        | \$1,053.0        | \$1,240.0          | \$1,465.0          |
| Automotive                 | \$155.0         | \$111.0         | \$125.0         | \$145.0         | \$145.0          | \$145.0          | \$150.0          | \$150.0          |  | \$641.0          | \$700.0          | \$536.0          | \$590.0            | \$750.0            |
| OEM and IP                 | \$138.0         | \$146.0         | \$194.0         | \$153.0         | \$150.0          | \$150.0          | \$150.0          | \$150.0          |  | \$767.0          | \$505.0          | \$631.0          | \$600.0            | \$620.0            |
| Total                      | \$3,080         | \$3,866         | \$4,726         | \$5,003         | \$5,300          | \$5,420          | \$5,545          | \$5,660          |  | \$11,716         | \$10,918         | \$16,675         | \$21,925           | \$24,740           |
| % of Total                 |                 |                 |                 |                 |                  |                  |                  |                  |  |                  |                  |                  |                    |                    |
| Gaming                     | 43.5%           | 42.8%           | 48.1%           | 49.9%           | 51.4%            | 50.3%            | 49.6%            | 48.6%            |  | 53.3%            | 50.5%            | 46.5%            | 49.9%              | 45.1%              |
| Datacenter                 | 37.0%           | 45.3%           | 40.2%           | 38.0%           | 37.2%            | 38.6%            | 39.4%            | 40.6%            |  | 25.0%            | 27.3%            | 40.2%            | 39.0%              | 43.5%              |
| Professional Visualization | 10.0%           | 5.3%            | 5.0%            | 6.1%            | 5.8%             | 5.7%             | 5.6%             | 5.5%             |  | 9.6%             | 11.1%            | 6.3%             | 5.7%               | 5.9%               |
| Automotive                 | 5.0%            | 2.9%            | 2.6%            | 2.9%            | 2.7%             | 2.7%             | 2.7%             | 2.7%             |  | 5.5%             | 6.4%             | 3.2%             | 2.7%               | 3.0%               |
| OEM and IP                 | 4.5%            | 3.8%            | 4.1%            | 3.1%            | 2.8%             | 2.8%             | 2.7%             | 2.7%             |  | 6.5%             | 4.6%             | 3.8%             | 2.7%               | 2.5%               |
| Total                      | 100.0%          | 100.0%          | 100.0%          | 100.0%          | 100.0%           | 100.0%           | 100.0%           | 100.0%           |  | 100.0%           | 100.0%           | 100.0%           | 100.0%             | 100.0%             |
| Q/Q                        |                 |                 |                 |                 |                  |                  |                  |                  |  |                  |                  |                  |                    |                    |
| Gaming                     | -10.2%          | 23.5%           | 37.3%           | 9.9%            | 9.2%             | 0.0%             | 0.9%             | 0.0%             |  |                  |                  |                  |                    |                    |
| Datacenter                 | 17.9%           | 53.5%           | 8.4%            | 0.2%            | 3.5%             | 6.1%             | 4.5%             | 5.3%             |  |                  |                  |                  |                    |                    |
| Professional Visualization | -7.3%           | -33.9%          | 16.3%           | 30.1%           | 1.0%             | 0.0%             | 0.0%             | 0.0%             |  |                  |                  |                  |                    |                    |
| Automotive                 | -4.9%           | -28.4%          | 12.6%           | 16.0%           | 3.0%             | 8.0%             | 11.0%            | 4.2%             |  |                  |                  |                  |                    |                    |
| OEM and IP                 | -9.2%           | 5.8%            | 32.9%           | -21.1%          | -1.0%            | 1.0%             | 7.0%             | 0.0%             |  |                  |                  |                  |                    |                    |
| Total                      | -0.8%           | 25.5%           | 22.2%           | 5.9%            | 5.9%             | 2.3%             | 2.3%             | 2.1%             |  |                  |                  |                  |                    |                    |
| Y/Y                        |                 |                 |                 |                 |                  |                  |                  |                  |  |                  |                  |                  |                    |                    |
| Gaming                     | 26.9%           | 26.0%           | 36.9%           | 67.3%           | 103.5%           | 64.8%            | 21.1%            | 10.2%            |  | 13.3%            | -11.7%           | 40.6%            | 41.1%              | 1.8%               |
| Datacenter                 | 80.0%           | 167.5%          | 161.7%          | 96.6%           | 72.7%            | 19.3%            | 15.0%            | 20.9%            |  | 51.8%            | 1.7%             | 124.5%           | 27.6%              | 25.9%              |
| Professional Visualization | 15.4%           | -30.2%          | -27.2%          | -7.3%           | 1.0%             | 52.7%            | 31.4%            | 1.0%             |  | 21.1%            | 7.3%             | -13.1%           | 17.8%              | 18.1%              |
| Automotive                 | -6.6%           | -46.9%          | -22.8%          | -11.0%          | -6.5%            | 30.6%            | 20.0%            | 3.4%             |  | 14.9%            | 9.2%             | -23.4%           | 10.1%              | 27.1%              |
| OEM and IP                 | 39.4%           | 31.5%           | 35.7%           | 0.7%            | 8.7%             | 2.7%             | -22.7%           | -2.0%            |  | -1.4%            | -34.2%           | 25.0%            | -4.9%              | 3.3%               |
| Total                      | 38.7%           | 49.9%           | 56.8%           | 61.1%           | 72.1%            | 40.2%            | 17.3%            | 13.1%            |  | 20.6%            | -6.8%            | 52.7%            | 31.5%              | 12.8%              |

Source: Company data, Credit Suisse estimates

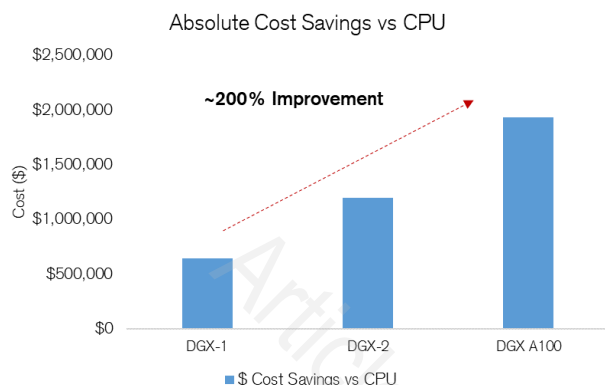
**ARM Transaction Update:** Recently, on 2/12 [Bloomberg reported](#) GOOG, MSFT, and QCOM are among the companies protesting US Anti-Trust regulators on the deal. However, the Cambridge A-1 Super-Computer (announced at GTC 2020) clearly would serve the dual purpose of appeasing UK regulators and supporting AI Clara Drug Discovery business. When asked of ARM transaction's value to NVDA's AI offerings – Jensen replied “we can achieve extraordinary success and all the successes we've talked about with you guys without ARM. However with ARM there are some really exciting things we can do...as we turn the CPU core into CPU platform we will deliver lots of value to ARM...as we create all of that value to ARM platform it would be great to own it first...we would love to own it as we create the value around it.”. We'd remind investor – as we outlined in our note [NVDA For ARM – Nothing Ventured, Nothing Gained](#) – we remain to be convinced what ARM brings to NVDA that it cannot already do as a standalone Company.

**DGX A100 Expands/Captures NVDA's TAM:** Officially launched on 5/14 at GTC, NVDA's 7nm DGX A100 delivers the largest generational leap in both peak power and performance vs. predecessors DGX-1/DGX-2 – and delivers multiple technological improvements integrating newly acquired MLNX networking I/O - expanding DCG TAM from \$50bn to \$60bn+ by enabling solutions across the full processing/networking/storage stack. The DGX A100 is the most powerful AI processor to-date w/ 20x peak performance, requiring 50% fewer switches while still delivering AI Training/Inference 6x/7x faster than DGX-2. In terms of cost/power, DGX A100 has 3.0x/1.6x better cost savings than the DGX-1/2 and is in full-production with Rev in AprQ and traction at BABA, AMZN, MSFT, GOOG, and HP. The DGX A100 underscores CEO Huang's motto “the more you buy the more you save” as well as our view that AI is the first technology which will systematically lower the cost of Data Analytics (akin to Moore's, Butter's, Kryder's Laws for Data Creation, Storage and Transmission) – compared to



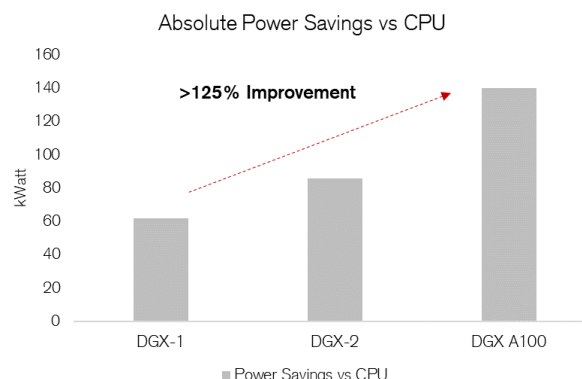
CPU-based datacenters processing the same amount of data on A100 is 1/10th the cost, 1/20th the power, and in 1/25th the space.

**Figure 3: DGX A100 Cost Savings vs. Standard CPUs**



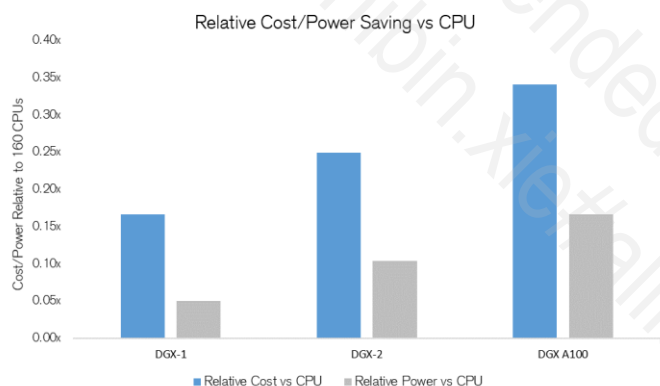
Source: Company data, Credit Suisse estimates

**Figure 4: DGX A100 Power Savings vs. Standard CPUs**



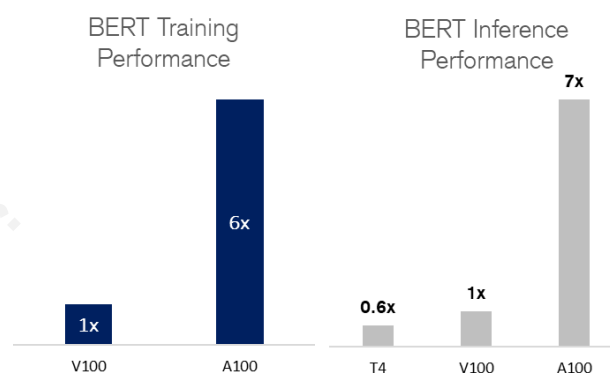
Source: Company data, Credit Suisse estimates

**Figure 5: DGX A100 Relative Cost/Power Savings**



Source: Company data, Credit Suisse estimates

**Figure 6: DGX A100 Inference/Training Performance**



Source: Company data, Credit Suisse estimates

### GTC Fall 2020 Product Launches/Updates:

- NVDA AI Gaining Momentum in Accelerated Inference:** The need for AI inference has accelerated – i.e. # of days to train model on 1 PF Computer has increased 30,000x in less than 5 year, doubling every 2 months. In fact, the aggregate compute throughput has increased ~10x every 2 years and in CY20 >166 ExaOps of inference compute were run on CSPs, more than 6x that of CY19 – by end of year aggregate NVDA GPU inference cloud compute will exceed that of all cloud GPUs, in 2-3 years NVDA GPUs will represent ~90% of total cloud inference compute. Notably, NVDA's NGC is now on available on/for the cloud ("a marketplace within a marketplace"), to-date has ~1m downloads and is growing 400% y/y – and more CSPs are integrating (i.e. MSFT Azure, AWS and GCP).
- NVDA Powers Enterprise Computing:** Includes VMWare and Cloudera collaboration/partnerships– VMWare being the OS platform for 70% world's enterprises, implying BlueField-2/DOCA will run 30-40m DC enterprise servers.
  - Datacenter Infrastructure on a Chip Architecture (DOCA):** NVDA announced Data Centre infrastructure-on-a-Chip Architecture (DOCA) SDK that provides developers with a comprehensive, open platform for building SW-defined, HW-accelerated networking, storage, security and

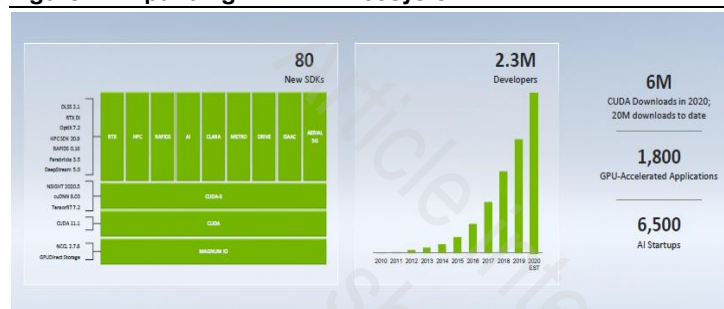
management applications running on the BlueField family of Data Processing Units (DPUs). Similar to what CUDA has done for AI Inference/GPU accelerated applications, this enables developers to build applications on DPU-accelerated data center infrastructure services.

- **Data-Processing Unit (DPU):** A new kind of processor, known as Data Processing Units or DPUs was launched in the form of the BlueField-2 – a programmable processor with 6.9b transistors, 8 64-bit Arm CPU cores, and acceleration capabilities for faster processing for networking, storage and security. Approx. ~30% of CPU cores are consumed running DC infra and BF-2 delivers the same DC services as ~125 CPU cores. This is supported by DOCA that enables cohesive ecosystem consistent throughout every generation of Bluefield; Bluefield-2 is sampling, the Bluefield-2X w/ Ampere GPU is also sampling, BF-3 is finishing, and BF-4 in high gear (and comes w/ CUDA support, NVDA AI, an integrated GPU).
- 3. **EGX Edge AI Platform:** EGX Edge AI platform is expanding to combine the NVDA A100 GPU and BlueField-2 DPU on a single PCIe card to use AI to enable IoT for industrial, retail, logistic, medical, etc. This will provide the enterprises with a common platform to build secure/accelerated datacenters. Already optimized AI software stacks for multiple industry verticals are available on NVIDIA's NGC, their SW catalogue offering a range of industry-specific AI toolkits and pre-trained models to make it easier to build and deploy AI applications on NVIDIA systems. Recent announced partnerships include: KION, Canonical, Cloudera, Red Hat, SUSE and VMware.
  - **Edge – Fleet Command:** This new EGX service called NVIDIA Fleet Command makes it easier for enterprises to deploy and manage updates across IoT devices, combining the real-time processing capabilities of edge computing w/ the ability to manage all devices from the cloud.
  - **Edge – Jetson Nano:** Expansion of Jetson AI at the Edge platform – an Arm-based SoC, designed for robotics – latest addition is the Jetson Nano 2GB at only ~\$59 and supported by the NVIDIA JetPack SDK. Using the Isaac SIM platform enterprises can training autonomous systems virtually and DRIVE to test AV driving on the Omniverse.
- 4. **RTX Omniverse (A6000 and A40):** NVDA launched Ampere based RTX A6000 and A40 Video Card for Pro-Viz. The A6000 is the first Pro-Viz card on Ampere architecture w/ >2x performance to prev. gen Quadro RTX 8000 and available mid-December. The A40 is similar to A6000 but designed for "passive cooling".
- 5. **Clara Discovery, AI for Drug Discovery** – The Cambridge-1 AI supercomputer – expected to be the fastest in UK, Top 30 in the World, w/ collaborations with Academia/Pharma (AstraZenca, GSK, NHS) – will run CLARA discovery a suite of products (Parabricks, Clara Imaging, BioMegatron, BioBERT, RAPIDS for Data Science) to advance drug discovery using AI. Run on the DGX SuperPod (A100) it can use simulations to model, generate, and design new leads from existing chemical/drugs and NLP to study past publications.
  - **GSK Collaboration** – World's first in-house AI drug discovery lab. GSK has accumulated more data in C1Q this year than entire 300 year history combined and thus will use a DGX Superpod – 20 to 140 DGX system – to run its AI models. NVDA has created a SuperPOD blueprint for enterprises to replicate – i.e. the more you buy the more you save.
- 6. **Broadening Ecosystem & Customer Adoption of Vertical SW:** With over 2.3m develops, hundreds of ISVs, 1000+ enterprises, and tangible use cases by FB, Tencent, etc.
  - **Merlin Recommender in Open Beta** – using RAPIDS democratizing large scale deep learning recommenders (i.e. Tencent search) using NVDA

RAPIDS. When running 30 DB on 1TB Dataset, a 16 DGX cluster ran 20x than fastest CPU server; 1/7<sup>th</sup> the cost 1/3<sup>rd</sup> the power.

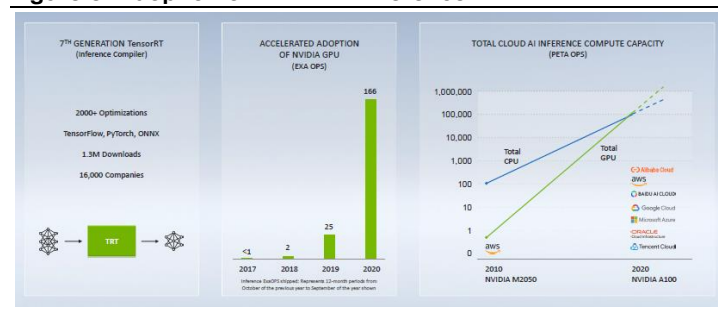
- **Jarvis in Open Beta** – SW system run on Ampere for conversational AI and is ½ the latency (<300ms response vs 600ms on CPUs), 1/3<sup>rd</sup> the cost, and 7x throughput.
- **Maxine for Video-Conferencing:** Cloud native streaming video AI service for video calls – reduces bandwidth 10x, AI system for tracking eye contact, removing background light, and supporting real-time translation.

### Figure 7: Expanding NVDA AI Ecosystem



Source: Company data, Credit Suisse estimates

### Figure 8: Adoption of NVDA AI Inference



Source: Company data, Credit Suisse estimates

**Driving Towards a Recurring Revenue Stream:** On 6/23 NVDA and Mercedes-Benz announced a partnership to launch a fleet of AVs by 2024 using a vertically integrated solution with NVDA Silicon, Hardware and importantly SW based on DRIVE, NVDA's AV software stack. We see the agreement as providing a tangible "traditional" Rev stream of Silicon/Hardware with optionality around a yet proven albeit interesting "non-traditional" SW-based recurring Rev stream (split 50/50 with Mercedes) which over the life of the vehicle could generate MORE Rev than the initial Silicon/Hardware sale. The partnership is non-exclusive and NVDA owns/controls all the IP implying additional OEMs over time. While Auto currently represents ~5% of NVDA's Rev, the Mercedes agreement represents a potential "traditional" TAM of >\$1.0-2.0bn/yr (\$0.80-\$1.60 of EPS vs. CS CY21 EPS of ~\$10.00) – assuming (1) units of ~2.3m/yr, (2) Silicon/Hardware content of ~\$500-1k per vehicle, (3) Incr OpM of 55% and (4) 10% TR. Additional upside could be generated by SW updates and AV "skills" (e.g. parking, valet, racing, etc.) – not unlike the App Store in the iOS ecosystem. Assuming ~10 year avg. life generates an installed base of 23m units; at \$200/year of additional SW add-ons Rev would drive another >\$2bn/year of highly visible, highly profitable (>\$2 EPS) and highly valued Rev from Mercedes alone. While the traditional Rev stream is tangible/high probability, we still have questions about the non-traditional recurring Rev while acknowledging optionality – it is unclear to us in a fully autonomous world which features will be standard and which optional – if only to ensure a high level of safety for all. NVDA has outlined a >\$30bn Auto TAM by 2025 excluding recurring SW: (1) \$25bn from L2/L3 AV and robotaxis (2) \$3bn from AI Training/Development and (3) \$2bn from simulation/validation applications – with >\$60bn TAM by 2035 as AV adoption increases.



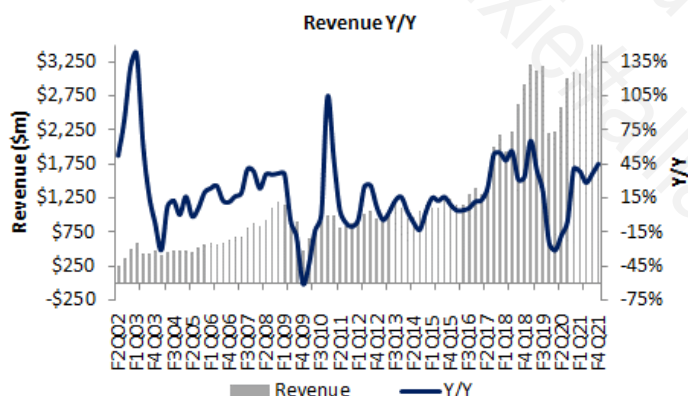
Figure 9: AV Semi Strategy Highlights

| Company        | Autonomous Plans / Key Actions  |
|----------------|---|
| Intel/Mobileye | <ul style="list-style-type: none"> <li>• Mobileye develops REM crowd-sourced map platform, exploits proliferation of ADAS cameras to maintain in near-real-time accurate map</li> <li>• Vision based solution provides functionality from basic Level 2 ADAS through Level 4/5 autonomous, with capabilities in all core pillars of AV development (sensing, mapping, driver policy, compute)</li> <li>• Announced plan in Oct'18 to collaborate with VW to commence self-driving taxi service in Israel in 2019, targeting scale in 2022 (few hundred vehicles); Mobileye to provide self-driving technology to pilot</li> <li>• Announced collaboration in Jan'19 with Beijing Public Transport Corp and Beijing Betai to develop autonomous commercial public transportation services in China, to be deployed in 2022</li> <li>• Alliance with BMW (subsequently added FCA, MGA, APTV, Conti) for development of L3/L4 autonomous vehicles with 2021 launch</li> <li>• Announced partnership with Aptiv in Aug'16 for CSLP platform (central sensing localization and planning) - turnkey solution for L4 vehicles</li> <li>• Acquired by Intel in 2017 for \$15bn; Mobileye was originally a mapping service, in the same year pursuing its own AV development jointly with Magna</li> <li>• Announced acquisition of Moovit (Mobility-as-a-Service Company) for ~\$900m (May-2020) to accelerate Mobileye offering</li> </ul> |
| Nvidia         | <ul style="list-style-type: none"> <li>• DRIVE Platform (including AutoPilot, Xavier &amp; AGX Pegasus) capable of supporting Level 2+ to Level 5 autonomous driving solutions, offered to hundreds of companies including: Veoneer, Volvo, Continental, Daimler, Bosch, etc.</li> <li>• Providing its Jetson AGX Xavier platform to power the next generation of autonomous delivery robots; JD.com and Meituan are a few of the many companies that use the platform</li> <li>• Announced partnership with Mercedes Benz (June 20') to create an in-vehicle computing system and AI computing infrastructure. This will be achieved by leveraging the NVIDIA DRIVE platform and will become the standard for next-generation fleets to enable autonomous driving functionalities.</li> </ul>  |

Source: Company data, Credit Suisse estimates

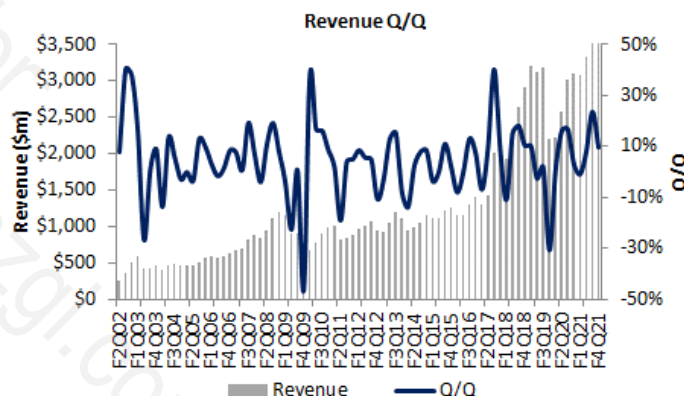
## Key Charts and Historical Trends

Figure 10: Revenue y/y trends



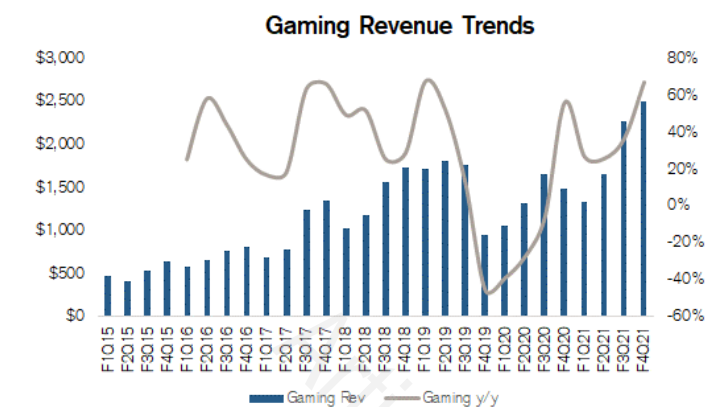
Source: Company data, Credit Suisse estimates

Figure 11: Revenue q/q trends



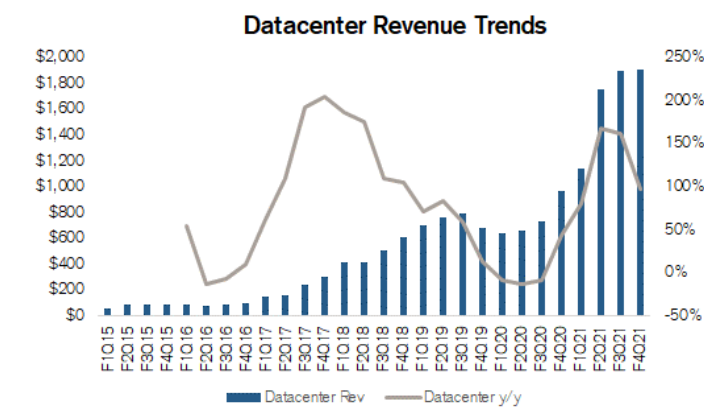
Source: Company data, Credit Suisse estimates

Figure 12: Gaming trends



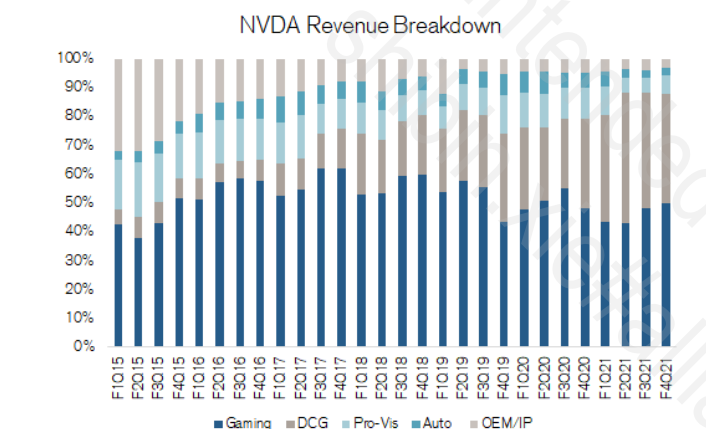
Source: Company data, Credit Suisse estimates

Figure 13: Datacenter trends



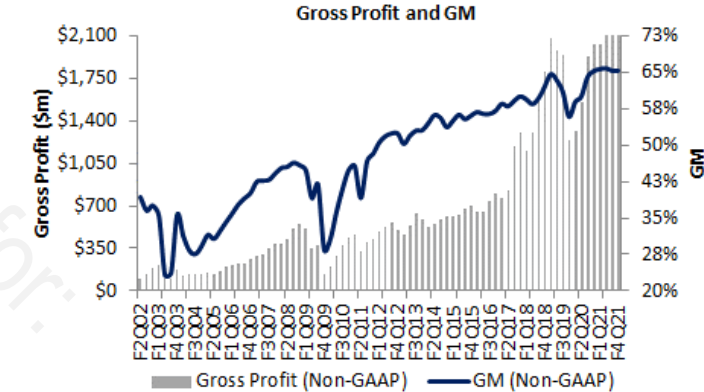
Source: Company data, Credit Suisse estimates

Figure 14: Revenue Breakdown



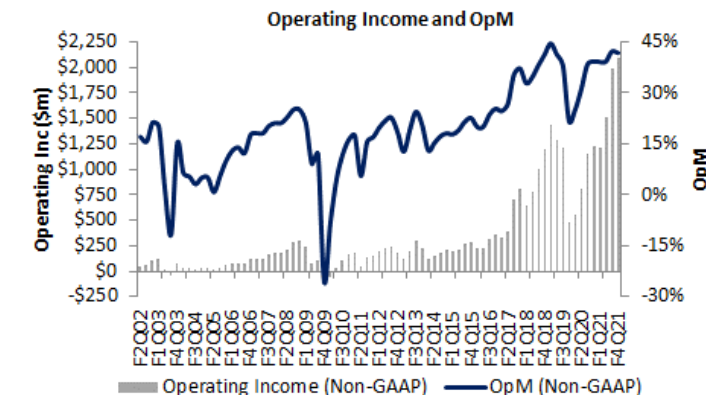
Source: Company data, Credit Suisse estimates

Figure 15: GM and Gross Profit



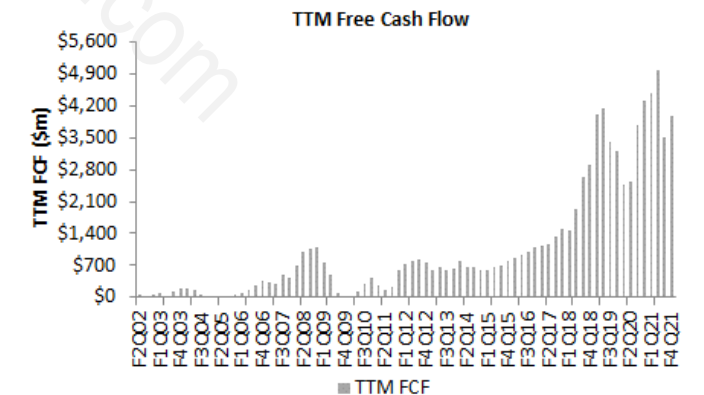
Source: Company data, Credit Suisse estimates

Figure 16: OpM and OpInc



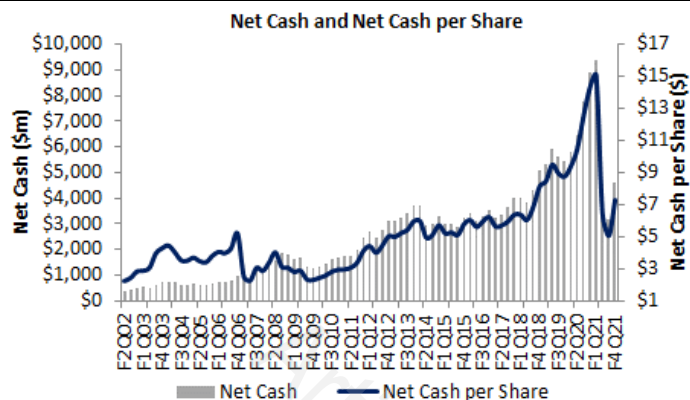
Source: Company data, Credit Suisse estimates

Figure 17: TTM FCF



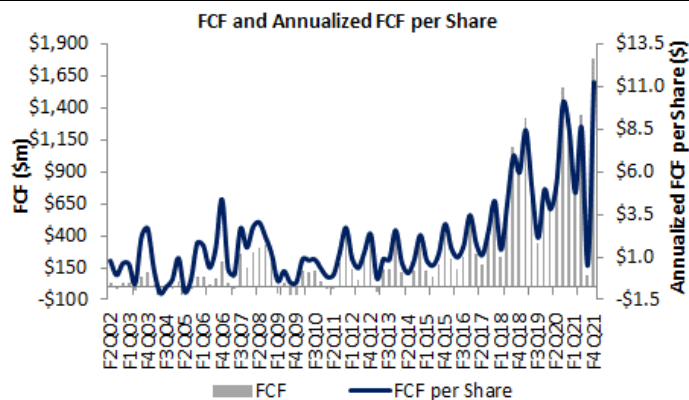
Source: Company data, Credit Suisse estimates

Figure 18: Net Cash/sh



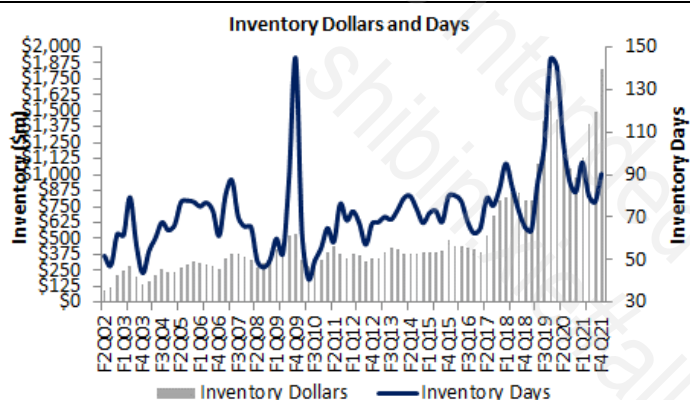
Source: Company data, Credit Suisse estimates

Figure 19: FCF/sh



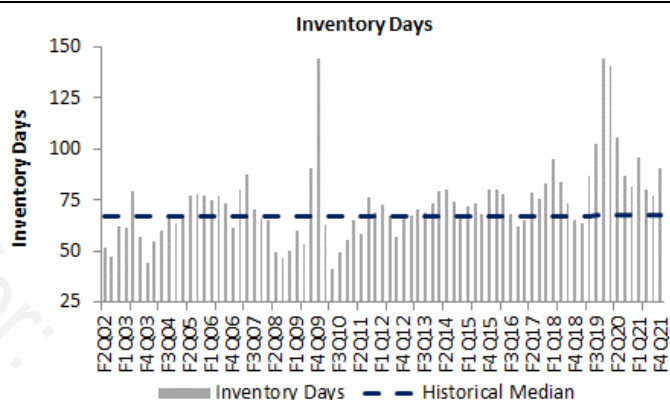
Source: Company data, Credit Suisse estimates

Figure 20: Inventory \$s and Days



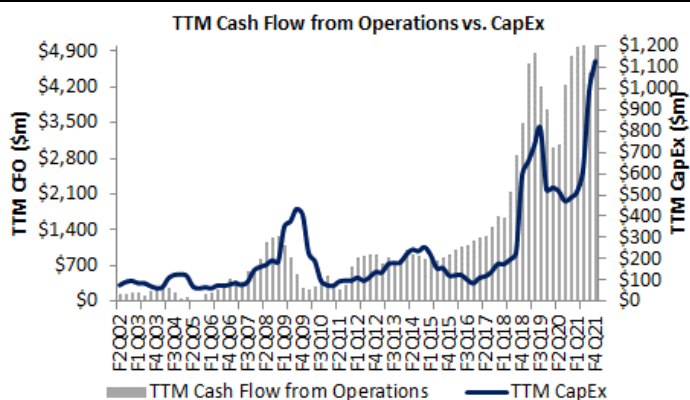
Source: Company data, Credit Suisse estimates

Figure 21: Historical Inventory Levels



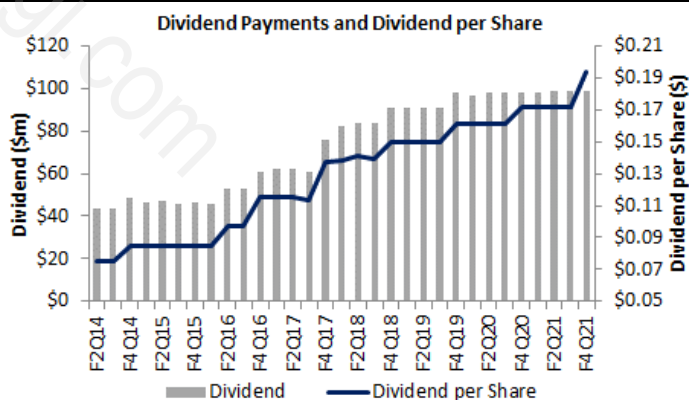
Source: Company data, Credit Suisse estimates

Figure 22: Cash Flow vs Capex



Source: Company data, Credit Suisse estimates

Figure 23: Dividend Payments



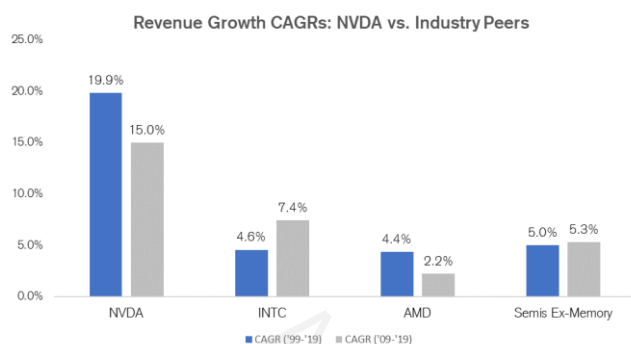
Source: Company data, Credit Suisse estimates

## Key Issues

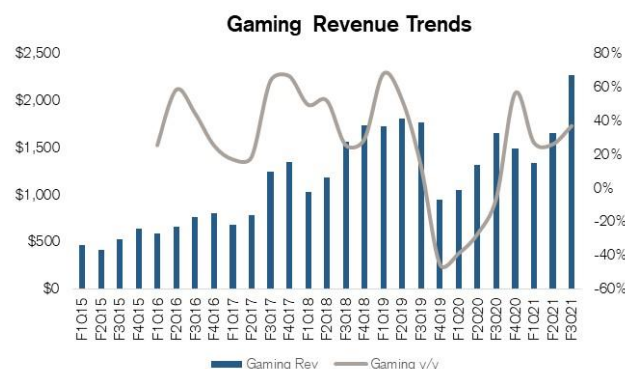
**The Data-Driven Economy Underpins Semi Value Capture, NVDA Most Levered.** We continue to argue that the Compute TAM is poised to accelerate as the world transitions from mostly creating data, to actually analyzing data – the latter is significantly more compute intensive. Specifically our Data Thesis consists of 4 buckets – Data Creation, Data Storage, Data Transmission and Data Analytics – of which Analytics is perhaps the most important

bucket because it provides the foundation for data monetization without which Data becomes inherently less valuable/interesting. It is our contention that Creation, Storage and Transmission have all benefited from non-linear cost declines over the last 40+ years – Moore's Law, Butter's Law and Kryder's Law. As cost/function has decreased use cases have accelerated, expanding market potential well beyond what anyone thought possible at inception. To date, the cost of Analytics has mostly increased as most of the world's data is unstructured and prior to AI needed to be structured (a very costly process) in order to be analyzed. We see AI/ML as the first technology able to draw conclusions from unstructured data – greatly reducing the cost of analytics, which in turn should increase used cases and ultimate market size.

- **Compute TAM Accelerating, Rising Tide...** NVDA estimates a Data Center TAM of \$50bn, against FY20 Rev of \$2.98b, and an AV TAM of \$60b against FY20 Rev of \$700m. Importantly, our analysis suggests the Company could be significantly UNDERESTIMATING the market opportunity. We estimate the Compute TAM growing from ~\$90bn to \$230bn by 2025 (~15% CAGR). While the AI tech space should become increasingly crowded as competitors see the size of the opportunity, NVDA should benefit from capturing even a small % of Server TAM. Note, though NVDA has built sustainable moats in the Datacenter with CUDA and DGX/Volta – we conservatively modeled NVDA share declining from 90% to 50% in Server Accelerators and the Company can still maintain DC Rev at a +30% 3-yr CAGR (growing to ~44% of Rev from ~27% in FY20).
- **Recent Completed Acquisition of MLNX:** On 3/26, NVDA closed its deal to acquire MLNX for \$125/sh in cash, or an EV of ~\$6.9b, NVDA expects the deal to be immediately accretive to Non-GAAP GM, EPS, and FCF, without embedding any Rev or cost synergies as NVDA focuses on accelerating innovation and R&D spend. The acquisition increases NVDA's Datacenter TAM to \$60b+ from \$50b and enables NVDA to augment its core computing IP with MLNX's high-performance interconnect IP (InfiniBand/Ethernet), strengthening NVDA's position by enabling them to provide solutions across the full computing stack – processing, networking, and storage. MLNX had CY19 Rev of \$1.3bb (+22% y/y) and will increase NVDA's exposure to Datacenter to 36% from ~30%. NVDA and MLNX have worked together in the past, including on the DGX-2 Deep Learning server; the management teams believe the two companies' cultures are complementary. NVDA believes acquiring MLNX will grow its \$50b computing TAM to \$60b+ by adding \$11b in high-speed networking. MLNX is a leader in high-speed interconnect and networking, and the mgmt. teams believe they share performance-driven cultures focused on innovation and collaboration.
- **Gaming Driving a Continued Revenue Stream:** We believe that following the F4Q19 trough, there is still room for recovery and growth in the Gaming segment (which is already +56% y/y from reset), which has maintained an impressive ~22% five-year CAGR, as consumers continue to adopt mainstream midrange Pascal and now high-end Turing. The ~30+% y/y growth that this segment has seen in the past will not endure in the long term (we model 41%/14%/-4% growth in the out-years following a CY19 reset), but we do view Gaming as a sustainable growth driver in some capacity in both the near and medium term. We model Gaming growing at a 3/5-year CAGR of ~9/16% in CY22, with both unit growth and ASP growth as customers continuing to buy higher up the stack. Notably, Pascal and Turing will coexist in the marketplace, with Turing pricing reflecting the significant performance improvement. Since launch in February 2019, Turing sell through has outpaced Pascal by ~46% in Rev, and with ~50% of installed base using compatible architecture there is room for significant growth – Turing penetration only at ~4%. Turing brings Ray Tracing to the gaming segment; and more games are making use of the capability (i.e. wildly popular Fortnite), we view the progressively wide-spread adoption in 2020 as helping sustain revenue and ASP growth. Importantly, we believe the Gaming segment provides a solid base with strong free cash flow (FCF) generation for the continued R&D investment to support the scale out of growth businesses (Datacenter and Auto). Secular growth drivers, namely increasing graphics requirements for leading-edge PC games, eSports penetration, the rise of social gaming, and strong APAC demand support continued growth.

**Figure 24: NVDA Rev Growth to Date vs. Peers**

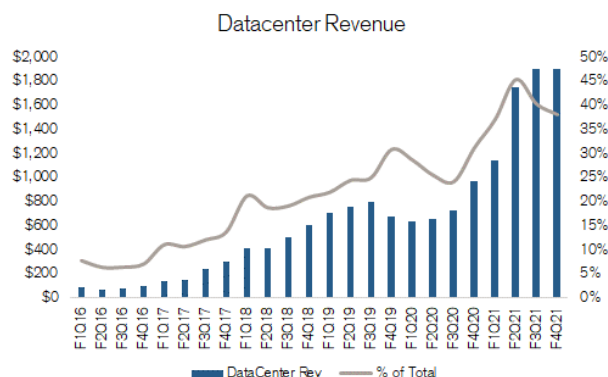
Source: SIA, Company data, Credit Suisse estimates.

**Figure 25: NVDA Gaming Rev over Time**

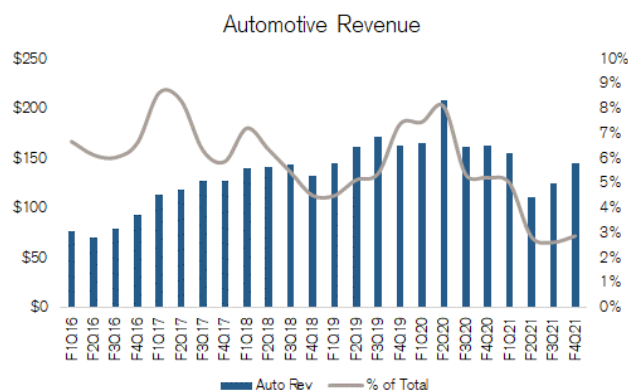
Source: Company data, Credit Suisse estimates.

■ **Future Growth Driven by Datacenter:** NVDA, at its analyst day in March, outlined a \$50bn datacenter TAM in 2023, as the New Data Economy rests heavily on AI's ability to analyze the data that is being created at the edge and in the cloud in its unstructured form. NVDA currently has significant share in HPC/AI applications, but other entrants are vying for share in the space (INTC and XLNX with FPGAs, AMD with GPUs, and potentially others down the line). It is unclear what position NVDA will maintain in these markets; however, we believe a rising tide lifts all boats in AI. Even if NVDA's share of accelerated compute declines to 60% (from the current significant majority) of the Acceleration segment (assuming 20% of \$89M Server TAM in 2022), its implied acceleration revenues would be ~\$8.9B, suggesting a revenue CAGR north of our 30% through 2022 even with conservative share assumptions. Thereafter, the company would see continued expansion as analytics demand increases, as more value can be derived from data growth.

■ **Autonomous Driving Provides Longer-Term Revenue Opportunities:** NVDA had pointed to a \$60bn AV TAM in 2035, but currently, Automotive is sub-10% of revenues, with the bulk of revenues coming from the Infotainment end market. In the longer term, NVDA is heavily focused on gaining traction in the Autonomous Driving space. It has established a strong presence here, having built out an impressive platform (e.g., DRIVE Constellation, DGX, SIM) and established 400+ partnerships, many of which are high profile (e.g., Tesla, Mercedes, Toyota). We model ~4%+ 5-yr CAGR for the space through 2022 as revenue growth begins to gain traction – though real acceleration is contingent on AV market which we see realistically becoming more accretive beyond CY22 – and here, as in Datacenter, we believe that a growing TAM is good for all market participants.

**Figure 26: Datacenter Rev Has Grown to ~35% of Total Rev...**

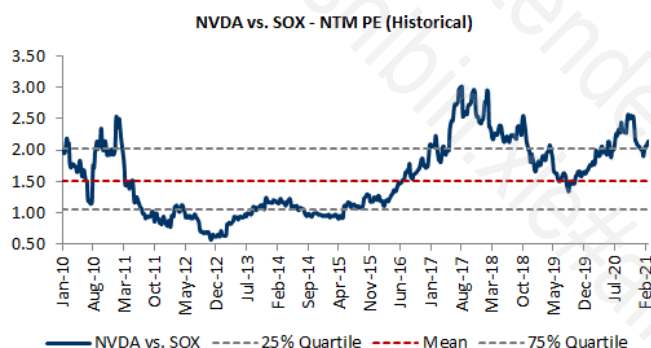
Source: Company Data, Credit Suisse Estimates.

**Figure 27: ...While Automotive Rev Remains <10% of Total Rev**

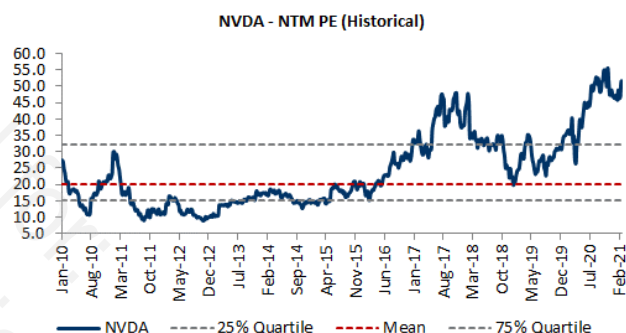
Source: Company Data, Credit Suisse Estimates.



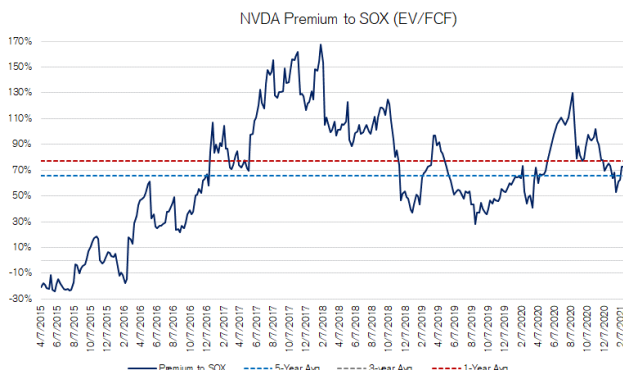
- **Other Segments Declining as a % of Revenues:** NVDA's remaining business segments, Professional Visualization (Pro Vis) and OEM/IP, are expected to continue to make up a decreasing proportion of Total Rev. We forecast that the Pro Vis segment will make up ~8-9% of Total Rev in FY2023 (vs. ~10% Total Rev in FY 2020). Here, we see upside potential to our estimates (6-7% 3-yr CAGR through 2022), given NVDA's Turing-based Pro Vis cards enable ray tracing applications and drive value to professional users in a number of enterprise applications (including medicine, architecture, product design, retailing, etc.) alongside gamer adoption, potentially contributing to higher units and ASPs. Pro-Vis also has multiple NVDA's OEM market is declining, both as a % of revenue and in absolute value. The OEM market is characterized by lower ASPs with a "good enough" performance, and NVDA has undergone a significant mix-shift away from the segment (~23% of Rev in FY2015 to less than 5% in FY2020). Although in 2018 the company saw a significant contribution to OEM revs. from Crypto, peaking at \$289m in the April Q, this will not be a meaningful driver LT for NVDA's revenue growth. Finally, although NVDA has exhibited the ability to monetize IP with its patent license agreement with INTC, which concluded in Q1 FY2018, we do not forecast any additional royalty revenue in our model. We expect OEM/IP to shrink to ~3% of Rev by FY22, conservatively decreasing at a ~7% 5-year CAGR thru 2022.

**Figure 28: NVDA NTM P/E vs. SOX**

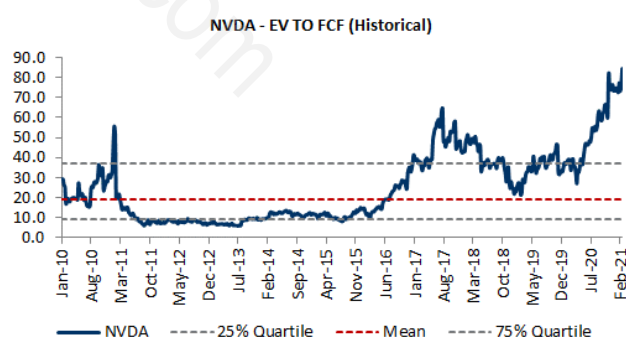
Source: FactSet, Company data, Credit Suisse estimates.

**Figure 29: NVDA NTM PE (Historical)**

Source: FactSet, Company data, Credit Suisse estimates.

**Figure 30: NVDA NTM EV/FCF vs. SOX**

Source: FactSet, Company data, Credit Suisse estimates.

**Figure 31: NVDA EV/FCF Historical**

Source: FactSet, Company data, Credit Suisse estimates.

## Valuation, Methodology and Risks

---

### Target Price and Rating

#### Valuation Methodology and Risks: (12 months) for NVIDIA Corporation (NVDA.OQ)

**Method:** Our \$620 target price and Outperform rating for NVDA are based on 52x FY23 P/E - still in-line with average premium to the SOX. We rate NVDA the stock Outperform as we expect it to appreciate more than its peers.

**Risk:** Risks to our \$620 target price and Outperform rating are (1) a shift in consumer preferences in the gaming industry; (2) volatile demand in NVDA's key growth segments; and (3) competition in the Gaming, AV, and AI markets.

Article intended for:  
shibin.xie#allianzgi.com

**Companies Mentioned** (Price as of 24-Feb-2021)

Alphabet (GOOGL.OQ, \$2083.81)

Amazon.com Inc. (AMZN.OQ, \$3159.53)

Microsoft (MSFT.OQ, \$234.55)

NVIDIA Corporation (NVDA.OQ, \$579.96, OUTPERFORM[V], TP \$620.0)

## Disclosure Appendix

**Analyst Certification**

John W. Pitzer, Dalya Hahn and Jerome Darling each certify, with respect to the companies or securities that the individual analyzes, that (1) the views expressed in this report accurately reflect his or her personal views about all of the subject companies and securities 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 in this report.

**3-Year Price and Rating History for NVIDIA Corporation (NVDA.OQ)**

| NVDA.OQ   | Closing Price | Target Price |        |
|-----------|---------------|--------------|--------|
| Date      | (US\$)        | (US\$)       | Rating |
| 25-Nov-18 | 145.00        | 225.00       | O *    |
| 11-Mar-19 | 161.14        |              | R      |
| 01-May-20 | 282.78        |              | NR     |
| 20-May-20 | 358.80        | 425.00       | O      |
| 20-Aug-20 | 485.64        | 530.00       |        |
| 01-Sep-20 | 552.84        | 620.00       |        |

\* Asterisk signifies initiation or assumption of coverage.

**As of December 10, 2012 Analysts' stock rating are defined as follows:**

**Outperform (O) :** The stock's total return is expected to outperform the relevant benchmark\* over the next 12 months.

**Neutral (N) :** The stock's total return is expected to be in line with the relevant benchmark\* over the next 12 months.

**Underperform (U) :** The stock's total return is expected to underperform the relevant benchmark\* over the next 12 months.

\*Relevant benchmark by region: As of 10th December 2012, Japanese ratings are based on a stock's total return relative to the analyst's coverage universe which consists of all companies covered by the analyst within the relevant sector, with Outperforms representing the most attractive, Neutrals the less attractive, and Underperforms the least attractive investment opportunities. As of 2nd October 2012, U.S. and Canadian as well as European (excluding Turkey) ratings are based on a stock's total return relative to the analyst's coverage universe which consists of all companies covered by the analyst within the relevant sector, with Outperforms representing the most attractive, Neutrals the less attractive, and Underperforms the least attractive investment opportunities. For Latin America, Turkey and Asia (excluding Japan and Australia), stock ratings are based on a stock's total return relative to the average total return of the relevant country or regional benchmark (India - S&P BSE Sensex Index); prior to 2nd October 2012 U.S. and Canadian ratings were based on (1) a stock's absolute total return potential to its current share price and (2) the relative attractiveness of a stock's total return potential within an analyst's coverage universe. For Australian and New Zealand stocks, the expected total return (ETR) calculation includes 12-month rolling dividend yield. An Outperform rating is assigned where an ETR is greater than or equal to 7.5%; Underperform where an ETR less than or equal to 5%. A Neutral may be assigned where the ETR is between -5% and 15%. The overlapping rating range allows analysts to assign a rating that puts ETR in the context of associated risks. Prior to 18 May 2015, ETR ranges for Outperform and Underperform ratings did not overlap with Neutral thresholds between 15% and 7.5%, which was in operation from 7 July 2011.

**Restricted (R) :** In certain circumstances, Credit Suisse policy and/or applicable law and regulations preclude certain types of communications, including an investment recommendation, during the course of Credit Suisse's engagement in an investment banking transaction and in certain other circumstances.

**Not Rated (NR) :** Credit Suisse Equity Research does not have an investment rating or view on the stock or any other securities related to the company at this time.

**Not Covered (NC) :** Credit Suisse Equity Research does not provide ongoing coverage of the company or offer an investment rating or investment view on the equity security of the company or related products.

**Volatility Indicator [V] :** A stock is defined as volatile if the stock price has moved up or down by 20% or more in a month in at least 8 of the past 24 months or the analyst expects significant volatility going forward.

Analysts' sector weightings are distinct from analysts' stock ratings and are based on the analyst's expectations for the fundamentals and/or valuation of the sector\* relative to the group's historic fundamentals and/or valuation:

**Overweight :** The analyst's expectation for the sector's fundamentals and/or valuation is favorable over the next 12 months.

**Market Weight :** The analyst's expectation for the sector's fundamentals and/or valuation is neutral over the next 12 months.

**Underweight :** The analyst's expectation for the sector's fundamentals and/or valuation is cautious over the next 12 months.

\*An analyst's coverage sector consists of all companies covered by the analyst within the relevant sector. An analyst may cover multiple sectors.

Credit Suisse's distribution of stock ratings (and banking clients) is:

#### Global Ratings Distribution

| Rating             | Versus universe (%) | Of which banking clients (%) |
|--------------------|---------------------|------------------------------|
| Outperform/Buy*    | 52%                 | (32% banking clients)        |
| Neutral/Hold*      | 35%                 | (27% banking clients)        |
| Underperform/Sell* | 11%                 | (22% banking clients)        |
| Restricted         | 2%                  |                              |

Please click [here](#) to view the MAR quarterly recommendations and investment services report for fundamental research recommendations.

*\*For purposes of the NYSE and FINRA ratings distribution disclosure requirements, our stock ratings of Outperform, Neutral, and Underperform most closely correspond to Buy, Hold, and Sell, respectively; however, the meanings are not the same, as our stock ratings are determined on a relative basis. (Please refer to definitions above.) An investor's decision to buy or sell a security should be based on investment objectives, current holdings, and other individual factors.*

#### Important Global Disclosures

Credit Suisse's research reports are made available to clients through our proprietary research portal on CS PLUS. Credit Suisse research products may also be made available through third-party vendors or alternate electronic means as a convenience. Certain research products are only made available through CS PLUS. The services provided by Credit Suisse's analysts to clients may depend on a specific client's preferences regarding the frequency and manner of receiving communications, the client's risk profile and investment, the size and scope of the overall client relationship with the Firm, as well as legal and regulatory constraints. To access all of Credit Suisse's research that you are entitled to receive in the most timely manner, please contact your sales representative or go to <https://plus.credit-suisse.com>.

Credit Suisse's policy is to update research reports as it deems appropriate, based on developments with the subject company, the sector or the market that may have a material impact on the research views or opinions stated herein.

Credit Suisse's policy is only to publish investment research that is impartial, independent, clear, fair and not misleading. For more detail please refer to Credit Suisse's Policies for Managing Conflicts of Interest in connection with Investment Research: <https://www.credit-suisse.com/sites/disclaimers-ib/en/managing-conflicts.html>.

Any information relating to the tax status of financial instruments discussed herein is not intended to provide tax advice or to be used by anyone to provide tax advice. Investors are urged to seek tax advice based on their particular circumstances from an independent tax professional.

Credit Suisse has decided not to enter into business relationships with companies that Credit Suisse has determined to be involved in the development, manufacture, or acquisition of anti-personnel mines and cluster munitions. For Credit Suisse's position on the issue, please see <https://www.credit-suisse.com/media/assets/corporate/docs/about-us/responsibility/banking/policy-summaries-en.pdf>.

The analyst(s) responsible for preparing this research report received compensation that is based upon various factors including Credit Suisse's total revenues, a portion of which are generated by Credit Suisse's investment banking activities

Please refer to the firm's disclosure website at <https://rave.credit-suisse.com/disclosures/view/selectArchive> for the definitions of abbreviations typically used in the target price method and risk sections.

See the Companies Mentioned section for full company names

Credit Suisse currently has, or had within the past 12 months, the following as investment banking client(s): NVDA.OQ

Credit Suisse provided investment banking services to the subject company (NVDA.OQ) within the past 12 months.

Within the past 12 months, Credit Suisse has received compensation for investment banking services from the following issuer(s): NVDA.OQ

Credit Suisse expects to receive or intends to seek investment banking related compensation from the subject company (NVDA.OQ) within the next 3 months.

Credit Suisse or a member of the Credit Suisse Group is a market maker or liquidity provider in the securities of the following subject issuer(s): NVDA.OQ

A member of the Credit Suisse Group is party to an agreement with, or may have provided services set out in sections A and B of Annex I of Directive 2014/65/EU of the European Parliament and Council ("MiFID Services") to, the subject issuer (NVDA.OQ) within the past 12 months.

For date and time of production, dissemination and history of recommendation for the subject company(ies) featured in this report, disseminated within the past 12 months, please refer to the link: <https://rave.credit-suisse.com/disclosures/view/report?i=593940&v=-3t2ny53trokuyyu9ivqqu4zan>.

#### Important Regional Disclosures

Singapore recipients should contact Credit Suisse AG, Singapore Branch for any matters arising from, or in connection with, this research report. The analyst(s) involved in the preparation of this report may participate in events hosted by the subject company, including site visits. Credit Suisse does not accept or permit analysts to accept payment or reimbursement for travel expenses associated with these events.

For Credit Suisse Securities (Canada), Inc.'s policies and procedures regarding the dissemination of equity research, please visit <https://www.credit-suisse.com/sites/disclaimers-ib/en/canada-research-policy.html>.

Investors should note that income from such securities and other financial instruments, if any, may fluctuate and that price or value of such securities and instruments may rise or fall and, in some cases, investors may lose their entire principal investment.

To the extent any Credit Suisse equity research analyst employed by Credit Suisse International (a "UK Analyst") has interactions with a Spanish domiciled client of Credit Suisse AG or its affiliates, such UK Analyst will be acting for and on behalf of CSSSV, with respect only to the provision of equity research services to Spanish domiciled clients of Credit Suisse AG or its affiliates.

Pursuant to CVM Instruction No. 598/2018, of May 3, 2018, the author(s) of the report hereby certify(ies) that the views expressed in this report solely and exclusively reflect the personal opinions of the author(s) and have been prepared independently, including with respect to Credit Suisse. Part of the author(s)'s compensation is based on various factors, including the total revenues of Credit Suisse, but no part of the

compensation has been, is, or will be related to the specific recommendations or views expressed in this report. In addition, Credit Suisse declares that: Credit Suisse has provided, and/or may in the future provide investment banking, brokerage, asset management, commercial banking and other financial services to the subject company/companies or its affiliates, for which they have received or may receive customary fees and commissions, and which constituted or may constitute relevant financial or commercial interests in relation to the subject company/companies or the subject securities.

This research report is authored by:

**Credit Suisse Securities (USA) LLC**.....John W. Pitzer ; Dalya Hahn ; Jerome Darling

Important disclosures regarding companies that are the subject of this report are available by calling +1 (877) 291-2683. The same important disclosures, with the exception of valuation methodology and risk discussions, are also available on Credit Suisse's disclosure website at <https://rave.credit-suisse.com/disclosures> . For valuation methodology and risks associated with any recommendation, price target, or rating referenced in this report, please refer to the disclosures section of the most recent report regarding the subject company.

Article intended for:  
shibin.xie#allianzgi.com



This report is produced by subsidiaries and affiliates of Credit Suisse operating under its Global Markets Division. For more information on our structure, please use the following link: <https://www.credit-suisse.com/who-we-are>. This report may contain material that 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 which would subject Credit Suisse or its affiliates ("CS") to any registration or licensing requirement within such jurisdiction. All material presented in this report, unless specifically indicated otherwise, is under copyright to CS. None of the material, nor its content, nor any copy of it, may be altered in any way, transmitted to, copied or distributed to any other party, without the prior express written permission of CS. All trademarks, service marks and logos used in this report are trademarks or service marks or registered trademarks or service marks of CS or its affiliates. The information, tools and material presented in this report are provided to you for information purposes only and are not to be used or considered as an offer or the solicitation of an offer to sell or to buy or subscribe for securities or other financial instruments. CS may not have taken any steps to ensure that the securities referred to in this report are suitable for any particular investor. CS will not treat recipients of this report as its customers by virtue of their receiving this report. The investments and services contained or referred to in this report may not be suitable for you and it is recommended that you consult an independent investment advisor if you are in doubt about such investments or investment services. Nothing in this report constitutes investment, legal, accounting or tax advice, or a representation that any investment or strategy is suitable or appropriate to your individual circumstances, or otherwise constitutes a personal recommendation to you. Please note in particular that the bases and levels of taxation may change. Information and opinions presented in this report have been obtained or derived from sources believed by CS to be reliable, but CS makes no representation as to their accuracy or completeness. CS accepts no liability for loss arising from the use of the material presented in this report, except that this exclusion of liability does not apply to the extent that such liability arises under specific statutes or regulations applicable to CS. This report is not to be relied upon in substitution for the exercise of independent judgment. CS may have issued, and may in the future issue, other communications that are inconsistent with, and reach different conclusions from, the information presented in this report. Those communications reflect the different assumptions, views and analytical methods of the analysts who prepared them and CS is under no obligation to ensure that such other communications are brought to the attention of any recipient of this report. Some investments referred to in this report will be offered solely by a single entity and in the case of some investments solely by CS, or an associate of CS or CS may be the only market maker in such investments. Past performance should not be taken as an indication or guarantee of future performance, and no representation or warranty, express or implied, is made regarding future performance. Information, opinions and estimates contained in this report reflect a judgment at its original date of publication by CS and are subject to change without notice. The price, value of and income from any of the securities or financial instruments mentioned in this report can fall as well as rise. The value of securities and financial instruments is subject to exchange rate fluctuation that may have a positive or adverse effect on the price or income of such securities or financial instruments. Investors in securities such as ADRs, the values of which are influenced by currency volatility, effectively assume this risk. Structured securities are complex instruments, typically involve a high degree of risk and are intended for sale only to sophisticated investors who are capable of understanding and assuming the risks involved. The market value of any structured security may be affected by changes in economic, financial and political factors (including, but not limited to, spot and forward interest and exchange rates), time to maturity, market conditions and volatility, and the credit quality of any issuer or reference issuer. Any investor interested in purchasing a structured product should conduct their own investigation and analysis of the product and consult with their own professional advisers as to the risks involved in making such a purchase. Some investments discussed in this report may have a high level of volatility. High volatility investments may experience sudden and large falls in their value causing losses when that investment is realised. Those losses may equal your original investment. Indeed, in the case of some investments the potential losses may exceed the amount of initial investment and, in such circumstances, you may be required to pay more money to support those losses. Income yields from investments may fluctuate and, in consequence, initial capital paid to make the investment may be used as part of that income yield. Some investments may not be readily realisable and it may be difficult to sell or realise those investments, similarly it may prove difficult for you to obtain reliable information about the value, or risks, to which such an investment is exposed. This report may provide the addresses of, or contain hyperlinks to, websites. Except to the extent to which the report refers to website material of CS, CS has not reviewed any such site and takes no responsibility for the content contained therein. Such address or hyperlink (including addresses or hyperlinks to CS's own website material) is provided solely for your convenience and information and the content of any such website does not in any way form part of this document. Accessing such website or following such link through this report or CS's website shall be at your own risk.

This report is issued and distributed in **European Union (except Germany and Spain)**: by Credit Suisse Securities (Europe) Limited, One Cabot Square, London E14 4QJ, England, which is authorised by the Prudential Regulation Authority and regulated by the Financial Conduct Authority and the Prudential Regulation Authority; **Spain**: Credit Suisse Securities, Sociedad de Valores, S.A. ("CSSSV") regulated by the Comisión Nacional del Mercado de Valores; **Germany**: Credit Suisse (Deutschland) Aktiengesellschaft regulated by the Bundesanstalt für Finanzdienstleistungsaufsicht ("BaFin"); **United States**: Credit Suisse Securities (USA) LLC; **Canada**: Credit Suisse Securities (Canada), Inc.; **Switzerland**: Credit Suisse AG; **Brazil**: Banco de Investimentos Credit Suisse (Brasil) S.A. or its affiliates; **Mexico**: Banco Credit Suisse (México), S.A., Institución de Banca Múltiple, Grupo Financiero Credit Suisse (México) and Casa de Bolsa Credit Suisse (México), S.A. de C.V., Grupo Financiero Credit Suisse (México) ("Credit Suisse Mexico"); This document has been prepared for information purposes only and is exclusively distributed in Mexico to Institutional Investors. Credit Suisse Mexico is not responsible for any onward distribution of this report to non-institutional investors by any third party. The authors of this report have not received payment or compensation from any entity or company other than from the relevant Credit Suisse Group company employing them; **Japan**: by Credit Suisse Securities (Japan) Limited, Financial Instruments Firm, Director-General of Kanto Local Finance Bureau (Kinsisho) No. 66, a member of Japan Securities Dealers Association, The Financial Futures Association of Japan, Japan Investment Advisers Association, Type II Financial Instruments Firms Association; **Hong Kong**: Credit Suisse (Hong Kong) Limited; **Australia**: Credit Suisse Equities (Australia) Limited; **Thailand**: Credit Suisse Securities (Thailand) Limited, regulated by the Office of the Securities and Exchange Commission, Thailand, having registered address at 990 Abdulrahman Place, 27th Floor, Unit 2701, Rama IV Road, Siom, Bangkok, Bangkok 10500, Thailand, Tel. +66 2614 6000; **Malaysia**: Credit Suisse Securities (Malaysia) Sdn Bhd; **Singapore**: Credit Suisse AG, Singapore Branch; **India**: Credit Suisse Securities (India) Private Limited (CIN no.U67120MH1996PTC104392) regulated by the Securities and Exchange Board of India as Research Analyst (registration no. INH 000001030) and as Stock Broker (registration no. INZ000248233), having registered address at 9th Floor, Ceejay House, Dr.A.B. Road, Worli, Mumbai - 18, India, T- +91-22 6777 3777; **South Korea**: Credit Suisse Securities (Europe) Limited, Seoul Branch; **Taiwan**: Credit Suisse AG Taipei Securities Branch; **Indonesia**: PT Credit Suisse Sekuritas Indonesia; **Philippines**: Credit Suisse Securities (Philippines) Inc., and elsewhere in the world by the relevant authorised affiliate of the above.

#### Additional Regional Disclosures

**Australia**: Credit Suisse Securities (Europe) Limited ("CSSEL") and Credit Suisse International ("CSI") are authorised by the Prudential Regulation Authority and regulated by the Financial Conduct Authority ("FCA") and the Prudential Regulation Authority under UK laws, which differ from Australian Laws. CSSEL and CSI do not hold an Australian Financial Services Licence ("AFSL") and are exempt from the requirement to hold an AFSL under the Corporations Act (Cth) 2001 ("Corporations Act") in respect of the financial services provided to Australian wholesale clients (within the meaning of section 761G of the Corporations Act) (hereinafter referred to as "Financial Services"). This material is not for distribution to retail clients and is directed exclusively at Credit Suisse's professional clients and eligible counterparties as defined by the FCA, and wholesale clients as defined under section 761G of the Corporations Act. Credit Suisse (Hong Kong) Limited ("CSHK") is licensed and regulated by the Securities and Futures Commission of Hong Kong under the laws of Hong Kong, which differ from Australian laws. CSHK does not hold an AFSL and is exempt from the requirement to hold an AFSL under the Corporations Act in respect of providing Financial Services. Investment banking services in the United States are provided by Credit Suisse Securities (USA) LLC, an affiliate of Credit Suisse Group. CSSU is regulated by the United States Securities and Exchange Commission under United States laws, which differ from Australian laws. CSSU does not hold an AFSL and is exempt from the requirement to hold an AFSL under the Corporations Act in respect of providing Financial Services. Credit Suisse Asset Management LLC (CSAM) is authorised by the Securities and Exchange Commission under US laws, which differ from Australian laws. CSAM does not hold an AFSL and is exempt from the requirement to hold an AFSL under the Corporations Act in respect of providing Financial Services. This material is provided solely to Institutional Accounts (as defined in the FINRA rules) who are Eligible Contract Participants (as defined in the US Commodity Exchange Act). Credit Suisse Equities (Australia) Limited (ABN 35 068 232 708) ("CSEAL") is an AFSL holder in Australia (AFSL 237237).

**Malaysia**: Research provided to residents of Malaysia is authorised by the Head of Research for Credit Suisse Securities (Malaysia) Sdn Bhd, to whom they should direct any queries on +603 2723 2020.

**Singapore**: This report has been prepared and issued for distribution in Singapore to institutional investors, accredited investors and expert investors (each as defined under the Financial Advisers Regulations) only, and is also distributed by Credit Suisse AG, Singapore Branch to overseas investors (as defined under the Financial Advisers Regulations). Credit Suisse AG, Singapore Branch may distribute reports produced by its foreign entities or affiliates pursuant to an arrangement under Regulation 32C of the Financial Advisers Regulations. Singapore recipients should contact Credit Suisse AG, Singapore Branch at +65-6212-2000 for matters arising from, or in connection with, this report. By virtue of your status as an institutional investor, accredited investor, expert investor or overseas investor, Credit Suisse AG, Singapore Branch is exempted from complying with certain compliance requirements under the Financial Advisers Act, Chapter 110 of Singapore (the "FAA"), the Financial Advisers Regulations and the relevant Notices and Guidelines issued thereunder, in respect of any financial advisory service which Credit Suisse AG, Singapore Branch may provide to you.

**EU**: This report has been produced by subsidiaries and affiliates of Credit Suisse operating under its Global Markets Division.

In jurisdictions where CS is not already registered or licensed to trade in securities, transactions will only be effected in accordance with applicable securities legislation, which will vary from jurisdiction to jurisdiction and may require that the trade be made in accordance with applicable exemptions from registration or licensing requirements.

This material is issued and distributed in the U.S. by CSSU, a member of NYSE, FINRA, SIPC and the NFA, and CSSU accepts responsibility for its contents. Clients should contact analysts and execute transactions through a Credit Suisse subsidiary or affiliate in their home jurisdiction unless governing law permits otherwise.

CS may provide various services to US municipal entities or obligated persons ("municipalities"), including suggesting individual transactions or trades and entering into such transactions. Any services CS provides to municipalities are not viewed as "advice" within the meaning of Section 975 of the Dodd-Frank Wall Street Reform and Consumer Protection Act. CS is providing any such services and related information solely on an arm's length basis and not as an advisor or fiduciary to the municipality. In connection with the provision of the any such services, there is no agreement, direct or indirect, between any municipality (including the officials, management, employees or agents thereof) and CS for CS to provide advice to the municipality. Municipalities should consult with their financial, accounting and legal advisors regarding any such services provided by CS. In addition, CS is not acting for direct or indirect compensation to solicit the municipality on behalf of an unaffiliated broker, dealer, municipal securities dealer, municipal advisor, or investment adviser for the purpose of obtaining or retaining an engagement by the municipality for or in connection with Municipal Financial Products, the issuance of municipal securities, or of an investment adviser to provide investment advisory services to or on behalf of the municipality. If this report is being distributed by a financial institution other than Credit Suisse AG, or its affiliates, that financial institution is solely responsible for distribution. Clients of that institution should contact that institution to effect a transaction in the securities mentioned in this report or require further information. This report does not constitute investment advice by Credit Suisse to the clients of the distributing financial institution, and neither Credit Suisse AG, its affiliates, and their respective officers, directors and employees accept any liability whatsoever for any direct or consequential loss arising from their use of this report or its content. No information or communication provided herein or otherwise is intended to be, or should be construed as, a recommendation within the meaning of the US Department of Labor's final regulation defining "investment advice" for purposes of the Employee Retirement Income Security Act of 1974, as amended and Section 4975 of the Internal Revenue Code of 1986, as amended, and the information provided herein is intended to be general information, and should not be construed as, providing investment advice (impartial or otherwise).

Copyright © 2021 CREDIT SUISSE AG and/or its affiliates. All rights reserved.

When you purchase non-listed Japanese fixed income securities (Japanese government bonds, Japanese municipal bonds, Japanese government guaranteed bonds, Japanese corporate bonds) from CS as a seller, you will be requested to pay the purchase price only.