



Updated thoughts & investor feedback on China/Huawei topics

Over the past month, semiconductor stocks have been negatively impacted by a resurgence in trade fears, which culminated in the announcement of a ban of sales to Huawei. Since then, several co's have either reduced guidance (IPHI, QROV, LITE, NPTN), or at the very least more accurately sized this exposure (ADI, MRVL). We have found most investors are still trying to size the direct & indirect risks of the ban, while a few are using this as a buying opportunity, looking for stocks that appear to have been most/least appropriately "punished". In this note we analyze both fundamental risk to EPS estimates, as well as stock moves to-date and valuations. Ultimately, with volatility and uncertainty both at highs, we continue to recommend selectivity in the semi sector. To this point, our favorite names are those that either have been "overly punished" in the China/Huawei debate, and/or those that possess idiosyncratic revenue/margin drivers and attractive valuations even while contemplating the combination of these dynamics.

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+1-212-250-0639**Gauging the aggregate exposures**

In this note we provide a framework for thinking about the overall impact of recent trade developments on companies in our coverage. We look at Comms Infrastructure exposure (ranges from 1-42% of revs for co's in our coverage), Handsets exposure (ranging from ~4-77% of revs), Huawei exposure (DBE ~0-17% of revs in our coverage), and true end demand in China (DBE ranging from 0-40% of revs, vs. 20-67% range for "ship-to" revs reported in co's filings). Overall, the impact of trade tensions will likely have an impact on almost all of our coverage, whether directly (through direct sales to Huawei/China) or indirectly (as the impact of the tariffs weighs on global economic growth).

What's already built in?

The SOX has fallen -16% month-to-date, its worst month since 2008 and vastly underperforming the S&P (-6% over the same time period). While the entirety of stock moves in the month of May cannot fully be attributed to Huawei/China trade tensions (some have been driven by co-specific developments, such as AMD Computex announcements, QCOM FTC findings, etc.), we believe these MTD moves provide a useful framework for investors to begin to judge where the exposure is most/least appropriately reflected. We also take a look at where each stock is relative to its 52-week low and high to assess how much downside is priced in. Finally, we take a look at CY20 P/E valuations vs. their 5-yr averages, and while there are some outliers (NXPI well below 5-yr average due to QCOM acq, NVDA post-crypto

Top Picks

Intel (INTC.OQ),USD44.57	Buy
Broadcom Inc. (AVGO.OQ),USD255.94	Buy
NXP Semiconductors (NXPI.OQ),USD91.81	Buy
Marvell Technology (MRVL.OQ),USD21.92	Buy
Inphi Corporation (IPHI.N),USD43.53	Buy

Source: Deutsche Bank

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multiple compression, etc.) semis valuations on the whole are -4% below their 5-year average. Ultimately, we conclude some broad-based stocks like MPWR & ON seem to be "overly punished" when comparing their stock declines to our estimates of aggregate China/Huawei exposure, while interestingly the companies most exposed to these dynamics (XLNX, ADI, IPHI) have held in relatively well (MTD performance better than most peers).

DB Take - Selectivity remains paramount as uncertainty is heightened

We continue to recommend selectivity in the semiconductor space as uncertainty is heightened, and downside to existing EPS estimates remains a key risk. The bull case is that a resolution on the trade front will come sooner than later, in which case we believe the stocks will rally. However, we believe a "bonanza" is unlikely to occur as cyclical headwinds continue to persist (inventory burn, end market slowing, etc.). We believe the bear case is that the "trade war" becomes an "economic war", as China chooses how to retaliate (China-based JVs, rare earth minerals, etc.). While we believe the stocks are unlikely to recede to their Dec lows (~-18% additional downside), the SOX currently stands +12% YTD, and giving back a meaningful portion of these YTD gains wouldn't be a surprise to us. Overall, we're staying selective, acknowledging that both cyclical and trade-related headwinds continue to weigh on the sector. We recommend focusing on names that have idiosyncratic rev/EPS drivers, with minimal Huawei exposure and reasonable valuations. Our top picks include INTC and AVGO in large-cap, NXPI and MRVL in mid-cap, and IPHI in small-cap.

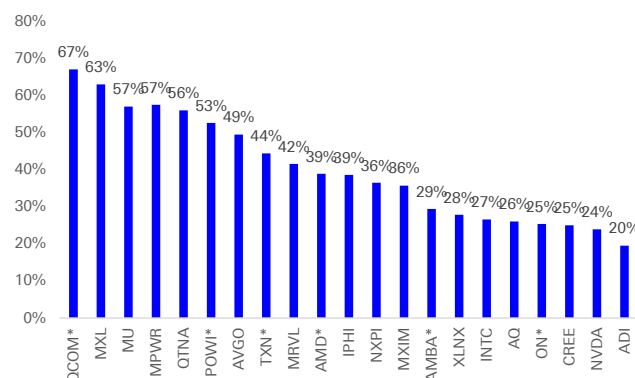
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Fundamental exposure to China/Comms/Handsets/Huawei

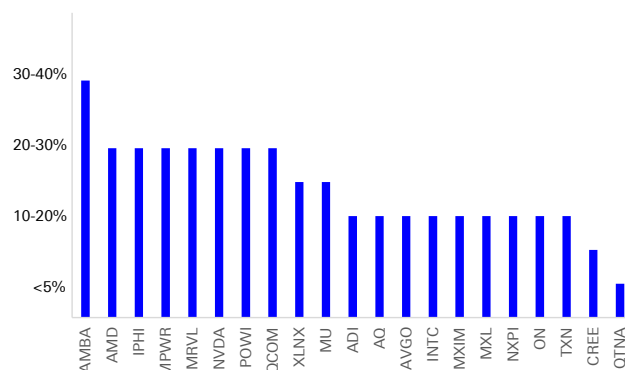
In the charts below, we show our coverage's exposure overall to China (ship-to basis) as well as our best estimate for "true China end demand" (i.e., how much is truly consumed in China, vs. simply shipped to), though we note this exposure is difficult to measure even from the companies' perspectives. We also show each co's exposure to the Comms Infrastructure end market, the Handset market, and our best estimate of Huawei-related revenues in order to provide investors with a framework on how to size exposure from the latest round of trade tensions.

Figure 1: China as a % of revs (per filings)



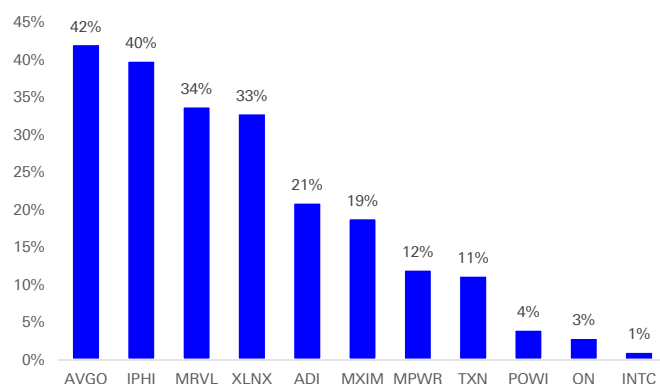
Source : Company filings, Deutsche Bank estimates. * INTC, QCOM, POWI, TXN include Hong Kong sales. AMD include Taiwan sales. AMBA include Asia Pacific sales. ON includes Hong Kong sales exclusively (no China).

Figure 2: DBe true China end demand as a % of revs



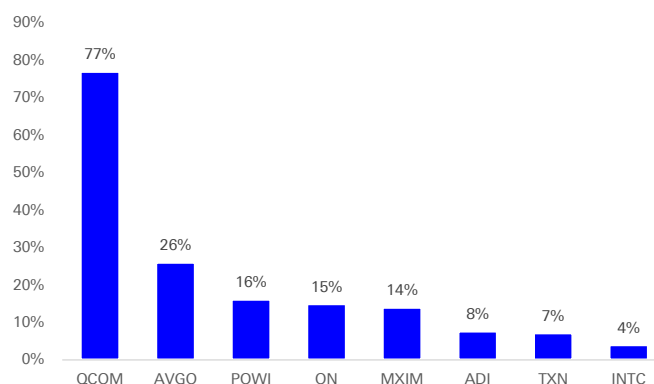
Source : Deutsche Bank estimates.

Figure 3: Communications revs as a % of total sales



Source : Company reports, Deutsche Bank estimates

Figure 4: Wireless handset revs as % of total sales

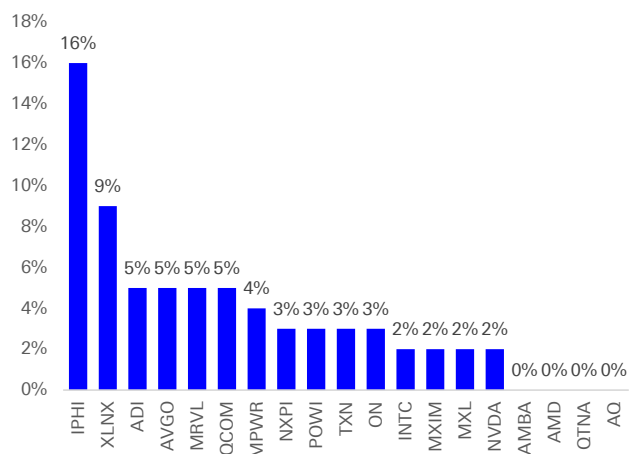


Source : Company reports, Deutsche Bank estimates

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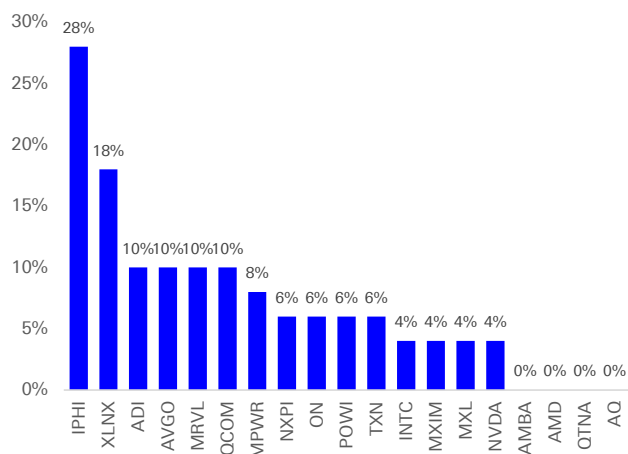


Figure 5: DBe Huawei revs in CY19E (not including ban)



Source : Deutsche Bank estimates

Figure 6: DBe Huawei EPS in CY19E (not including ban)

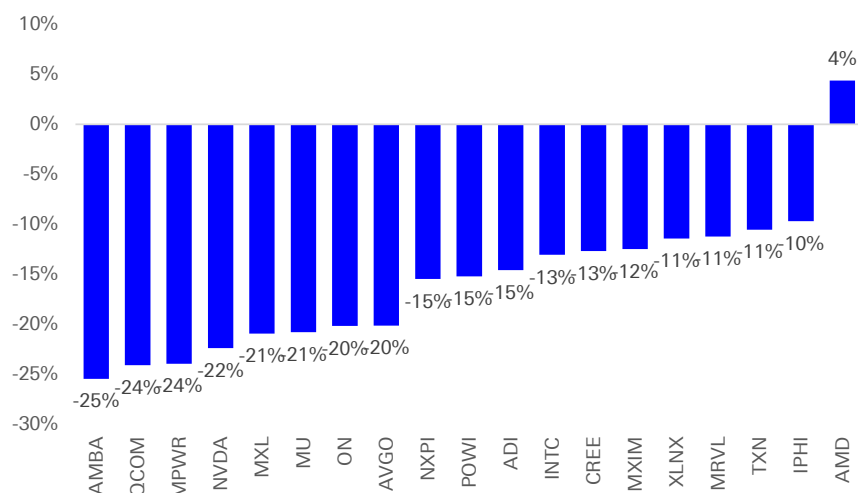


Source : Deutsche Bank estimates

What is priced in to stocks?

In an effort to frame which stocks have been punished the most since the resurgence of trade fears began to permeate the industry, below we show stock moves month-to-date (MTD). While the entirety of stock movements in the month of May cannot fully be attributed to Huawei/China trade tensions (AMD developments at Computex, QCOM FTC findings, etc.), we believe these MTD moves provide a useful framework for investors to begin to judge where the exposure is most/least reflected. Similarly, we show our coverage % off 52-week lows and 52-week highs to provide further context of which stocks have been most/least "punished". Finally, we'd highlight that across our coverage, CY20 P/E ratios now stand -4% below their 5-year averages, reflecting heightened uncertainty regarding earnings estimates due to trade.

Figure 7: MTD stock moves

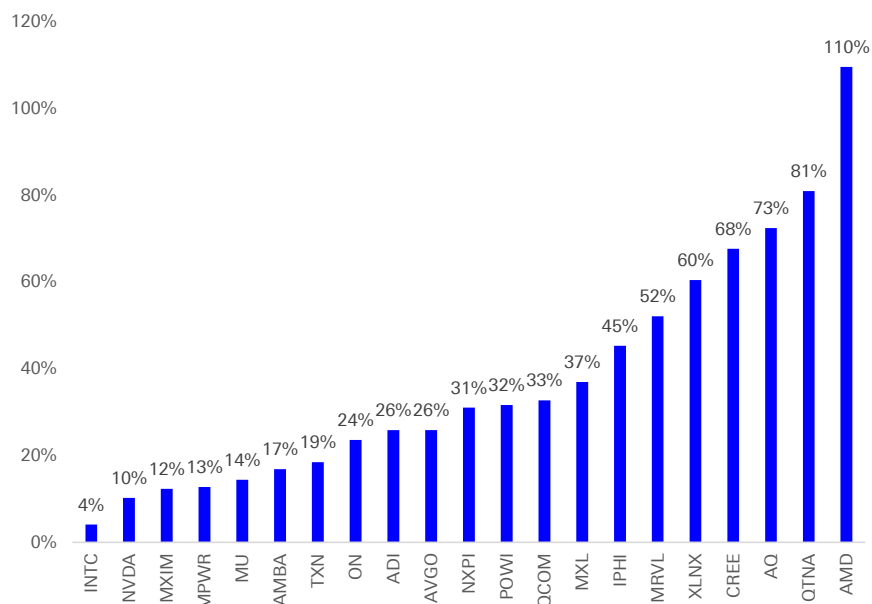


Source : FactSet

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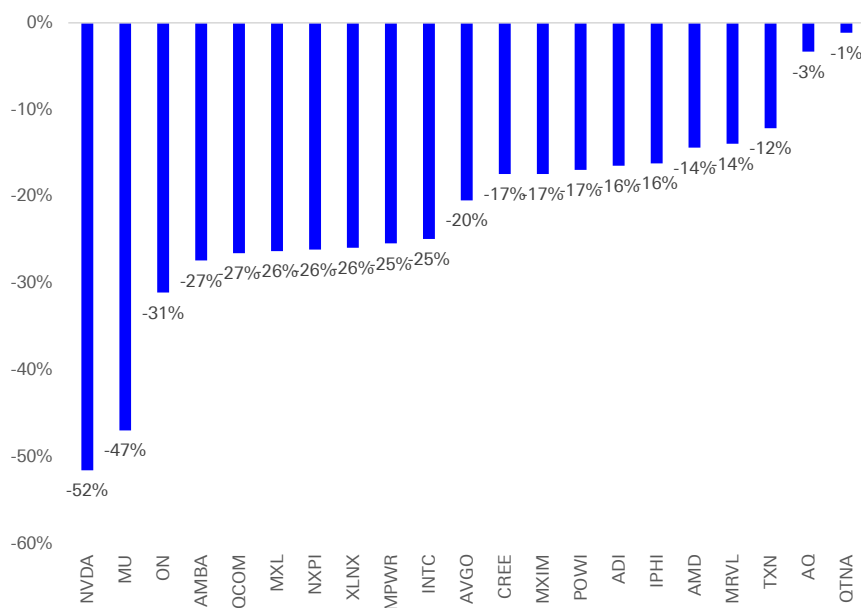


Figure 8: Stock % off 52-week low



Source : FactSet

Figure 9: Stock % off 52-week high

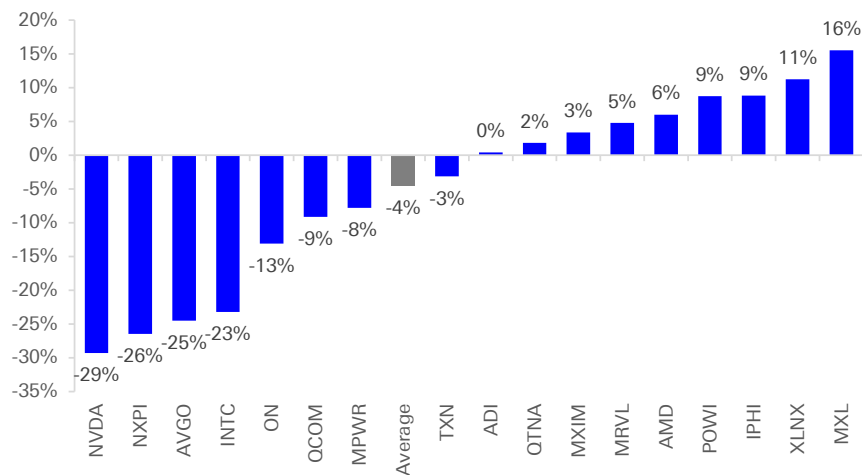


Source : FactSet

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Figure 10: Current Street CY20 P/E vs. 5-yr average



Source : FactSet, Deutsche Bank. Excludes MU, CREE, AMBA, and AQ due to volatile and/or lack of P/E data.

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Appendix 1

Important Disclosures

*Other information available upon request

Disclosure checklist			
Company	Ticker	Recent price*	Disclosure
Broadcom Inc.	AVGO.OQ	254.48 (USD) 28 May 2019	1, 7, 8, 14, 15
Inphi Corporation	IPHI.N	42.53 (USD) 28 May 2019	6, 9, 14
Intel	INTC.OQ	43.57 (USD) 28 May 2019	1, 2, 7, 8, 14, 15
Marvell Technology	MRVL.OQ	21.35 (USD) 28 May 2019	2
NXP Semiconductors	NXPI.OQ	89.61 (USD) 28 May 2019	1, 2, 6, 7, 8, 9, 14, 15

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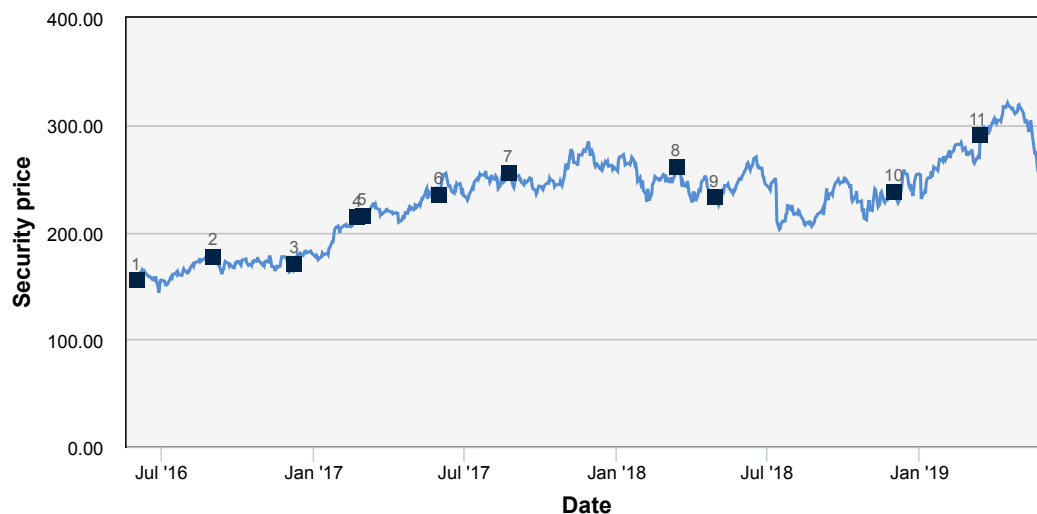
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issuers and the securities of those issuers. In addition, the undersigned lead analyst has not and will not receive any compensation for providing a specific recommendation or view in this report. Ross Seymore.

Historical recommendations and target price: Broadcom Inc. (AVGO.OQ)

(as of 05/24/2019)



Current Recommendations

Buy
Hold
Sell
Not Rated
Suspended Rating

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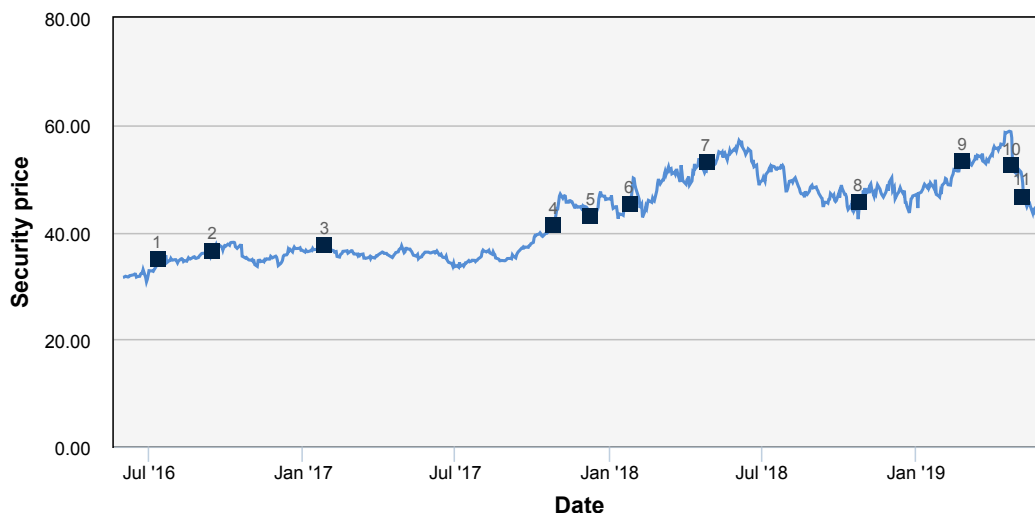
1.	06/03/2016	Buy, Target Price Change USD 200.00 Ross Seymore	7.	08/25/2017	Buy, Target Price Change USD 295.00 Ross Seymore
2.	09/02/2016	Buy, Target Price Change USD 205.00 Ross Seymore	8.	03/15/2018	Buy, Target Price Change USD 325.00 Ross Seymore
3.	12/09/2016	Buy, Target Price Change USD 225.00 Ross Seymore	9.	04/30/2018	Buy, Target Price Change USD 310.00 Ross Seymore
4.	02/23/2017	Buy, Target Price Change USD 235.00 Ross Seymore	10.	12/02/2018	Buy, Target Price Change USD 300.00 Ross Seymore
5.	03/02/2017	Buy, Target Price Change USD 255.00 Ross Seymore	11.	03/15/2019	Buy, Target Price Change USD 330.00 Ross Seymore
6.	06/02/2017	Buy, Target Price Change USD 275.00 Ross Seymore			

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Historical recommendations and target price: Intel (INTC.OQ)

(as of 05/24/2019)



Current Recommendations

Buy
Hold
Sell
Not Rated
Suspended Rating

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1.	07/13/2016	Buy, Target Price Change USD 40.00 Ross Seymore	7.	04/27/2018	Buy, Target Price Change USD 64.00 Ross Seymore
2.	09/16/2016	Buy, Target Price Change USD 42.00 Ross Seymore	8.	10/26/2018	Buy, Target Price Change USD 55.00 Ross Seymore
3.	01/27/2017	Buy, Target Price Change USD 43.00 Ross Seymore	9.	02/26/2019	Buy, Target Price Change USD 65.00 Ross Seymore
4.	10/27/2017	Buy, Target Price Change USD 45.00 Ross Seymore	10.	04/26/2019	Buy, Target Price Change USD 62.00 Ross Seymore
5.	12/10/2017	Buy, Target Price Change USD 50.00 Ross Seymore	11.	05/09/2019	Buy, Target Price Change USD 60.00 Ross Seymore
6.	01/26/2018	Buy, Target Price Change USD 55.00 Ross Seymore			

Historical recommendations and target price: Inphi Corporation (IPHI.N)

(as of 05/24/2019)



Current Recommendations

Buy
Hold
Sell
Not Rated
Suspended Rating

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1.	11/02/2016	Buy, Target Price Change USD 50.00 Ross Seymore	7.	02/08/2018	Buy, Target Price Change USD 37.00 Ross Seymore
2.	02/08/2017	Buy, Target Price Change USD 55.00 Ross Seymore	8.	07/25/2018	Buy, Target Price Change USD 40.00 Ross Seymore
3.	05/03/2017	Buy, Target Price Change USD 47.00 Ross Seymore	9.	01/30/2019	Buy, Target Price Change USD 45.00 Ross Seymore
4.	07/21/2017	Buy, Target Price Change USD 46.00 Ross Seymore	10.	03/06/2019	Buy, Target Price Change USD 50.00 Ross Seymore
5.	08/08/2017	Buy, Target Price Change USD 45.00 Ross Seymore	11.	05/01/2019	Buy, Target Price Change USD 55.00 Ross Seymore
6.	01/19/2018	Buy, Target Price Change USD 41.00 Ross Seymore			

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Historical recommendations and target price: Marvell Technology (MRVL.OQ)

(as of 05/24/2019)



Current Recommendations

Buy
Hold
Sell
Not Rated
Suspended Rating

** Analyst is no longer at Deutsche Bank

1.	07/20/2016	Hold, Target Price Change USD 12.00 Ross Seymore	7.	06/26/2018	Upgraded to Buy, Target Price Change USD 24.00 Ross Seymore
2.	07/28/2016	Hold, Target Price Change USD 13.00 Ross Seymore	8.	09/07/2018	Buy, Target Price Change USD 25.00 Ross Seymore
3.	11/18/2016	Hold, Target Price Change USD 15.00 Ross Seymore	9.	12/02/2018	Buy, Target Price Change USD 22.00 Ross Seymore
4.	03/03/2017	Hold, Target Price Change USD 16.00 Ross Seymore	10.	02/07/2019	Buy, Target Price Change USD 21.00 Ross Seymore
5.	05/24/2017	Hold, Target Price Change USD 18.00 Ross Seymore	11.	04/04/2019	Buy, Target Price Change USD 25.00 Ross Seymore
6.	11/29/2017	Hold, Target Price Change USD 24.00 Ross Seymore			

Historical recommendations and target price: NXP Semiconductors (NXPI.OQ)

(as of 05/24/2019)



Current Recommendations

Buy
Hold
Sell
Not Rated
Suspended Rating

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1.	06/19/2017	Hold, Target Price Change USD 110.00 Ross Seymore	5.	10/04/2018	Buy, Target Price Change USD 105.00 Ross Seymore
2.	03/15/2018	Hold, Target Price Change USD 127.50 Ross Seymore	6.	03/14/2019	Buy, Target Price Change USD 110.00 Ross Seymore
3.	07/26/2018	Upgraded to Buy, Target Price Change USD 107.00 Ross Seymore	7.	04/30/2019	Buy, Target Price Change USD 120.00 Ross Seymore
4.	09/07/2018	Buy, Target Price Change USD 110.00 Ross Seymore			

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Equity Rating Key

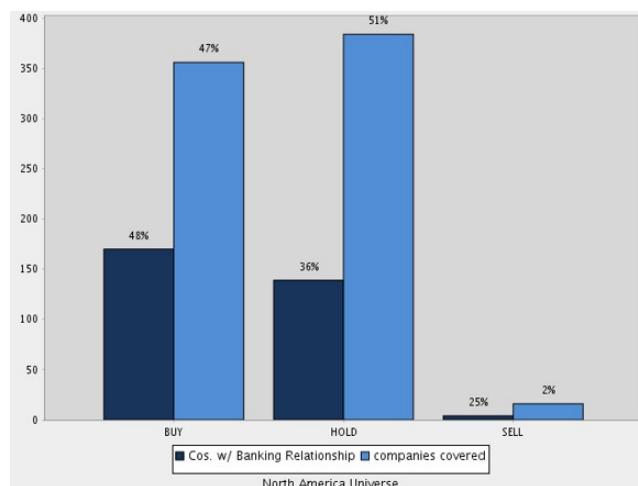
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Sell: Based on a current 12-month view of total share-holder return, we recommend that investors sell the stock.

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