Season's Readings: Tesla, Apple, AMD, AMAT, Nvidia…

A year in review… and our manifesto for 2019

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As our first year of existence comes to a close, we thought we'd look back at 2018 and share with all of you what our plan was, what we think we did well, what we clearly didn't do well, and, building on this, what our good resolutions for 2019 would be.

We are happy with what we have achieved in our first 8 months. We have started building a research operation which is in line with our vision, and we have been able to make some very differentiated calls leveraging our unique capabilities. We have also made serious mistakes and overlooked some aspects of the job. We want to learn from what we didn't get right and adjust the way we do research in 2019.

On the commercial front, we are very happy with where we stand after only 8 months. We are confident we are on the right track to build an operation successful enough to retain the talents we need and to invest in our research product to increase its uniqueness.

We would like to warmly thank all those who have already committed to support us. We make a living off your tangible support, and most importantly, we you help us build confidence in our model. We thank those who have expressed interest and will, hopefully soon, become supporters as well. We would like to thank all our industry contacts, who have expressed real enthusiasm for our differentiated research product and support us. We view the relationships we are building with them as one of our most important differentiating factors in the long run. Last but not least, we would like to thank our New Street Research Partners. We are delivering on the vision we had, and it is an exhilarating feeling!

I – What we tried to build in 2018

We joined forces with New Street and initiated coverage on 12 stocks in May this year, with a unique model, built on the following five principles:

i) More resources:

As I transitioned from my previous role, I doubled the size of my team and tripled my external research budget. Our independent model gives us more resources to allocate to research. We analyze more in depth, and we can spend money on getting the data and the information edge we need. No distraction with trading and others, the ratio of dollars paid by client to dollars spent on research increased 3x between my previous role and today, and it makes a difference.

ii) Broader expertise:

We have expertise in electrical engineering, telecommunication engineering, multiple fields of computer sciences, chemical and materials engineering, strategy, marketing, and (I almost forgot) corporate finance. When it comes to sectors, the team has covered in the last 10 years mobile phones, telecom equipment, data networking, IT Hardware, cybersecurity, semiconductors, and semi cap equipment. We knew nothing about cars but learnt rapidly, and we have made continuous learning one of our core processes. (Sometimes the tough way - we recently learnt a bunch about GPU distribution…)

iii) More focus:

We cover a limited number of stocks at any point in time (at the moment we average 3 stocks per head, and don't plan to ever do more than 2x that) and want to build a business supporting a limited number of clients, in order to be able to provide high-touch services and produce relevant research. Our plan is to have an order of magnitude less clients than I had in my previous role. I believe writing research for a small group of clients is a very different and much higher value process than writing research for all Wall Street.

iv) No limits:

Our field of research is Technology Infrastructure. We believe we should always be able to go where our research is leading us. If researching power semiconductors gives us an edge to understand Tesla, so be it - let's cover Tesla!

v) Technology infrastructure as a whole:

All research houses have a siloed approach, mostly driven by II categories. Our conviction is that Technology Infrastructure can be well understood only by looking at it from top to bottom and from the center to the edge. We built our coverage and structured our team with that idea in mind. The whole team works together, builds expertise together, and produces a single research product. We killed the "publishing analyst" model, and we feel very good about it!

II – What we did well in 2018

We thought we'd mention 3 calls which reflect well our differentiated approach: Tesla, Apple and AMD.

i) Tesla

We initiated coverage with two convictions: 1) Tesla was about to sustainably turn cash positive, despite a $1bn quarterly burn rate, and 2) Tesla was 10 years ahead of anyone else in the new game of designing and manufacturing at scale desirable electric cars, which gives the brand ample room to build a sustainable position in the premium car market. The performance of the company over the summer proved our first point right (**exhibit 1&2**).

We see multiple indications our second point is becoming increasingly likely (**exhibit 3**).

This call is the direct result of our research model:

- **Resources:** Modeling Tesla's cash flow on a per-model 3 basis represented weeks of work, from interviews with industry experts to benchmarks and the modeling itself. I wasn't surprised nobody else did it on the steet.
- **Expertise:** Some of it inherited from our diverse coverage (basis of electrical engineering learnt covering Infineon), some from our past experiences (premium brand strategic marketing, experience curve analysis), some learnt the hard way (car manufacturing). We definitely put in our work a combination of perspectives not available elsewhere.

Exhibit 4 gives you a preview of what we expect next: Continued ramp in 2019, leading to double digit margins. If you want to read more about our Tesla perspective:

- Tesla Deep dive: **Is Tesla a loaded gun? Moment of truth**
- Tesla 3Q18 Wrap-up: **Thesis playing out at full steam… and more**

Exhibit 1 - The Model 3 provides Tesla with up to $30k in cash per car

Cash contribution of each incremental Model 3

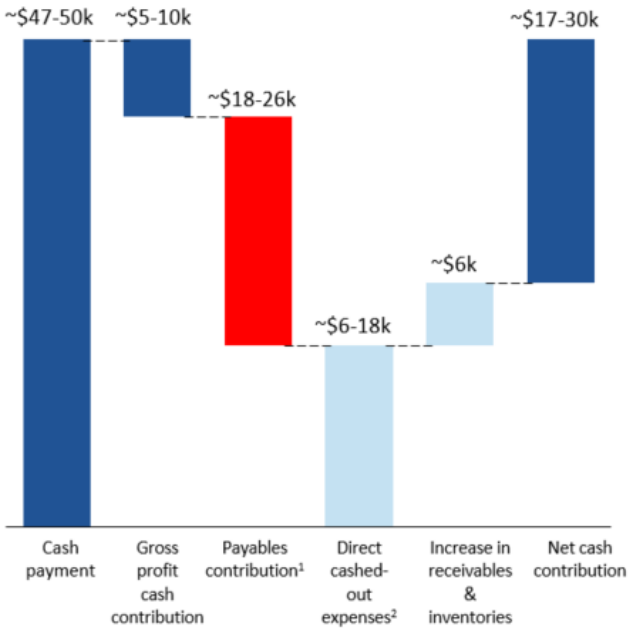
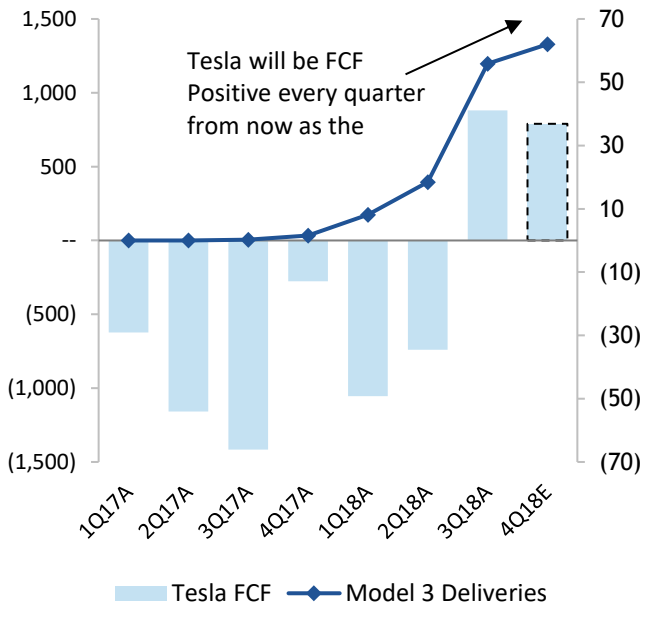


Exhibit 2 - The ramp of the Model 3 has driven Tesla FCF positive

LHS: Tesla FCF (US$m) RHS: Model 3 Deliveries (k)



Source: Corporate reports and NSR estimates and analysis

Exhibit 3 - The experience curve is real in EV and Tesla is 5-10 years ahead

Tesla has 10 years of practical experience in designing, manufacturing, selling, driving, servicing and improving electric cars. This is an advantage very few observers recognize and understand. Here is a practical example: Model 3 introduces silicon carbide for charger and inverter. Other car manufacturers are still years away from introducing this into their EVs.

First Model S (IGBTs)

Both inverters and chargers are based on IGBTs (insulated gate bipolar transistors) which require space and active cooling.

Charger made of 28 IGBTs, placed in the front of the car, integrated with an active cooling system.

Enormous 100,000 W cable running from the socket to the charger.

3-foil inverter comprised of 92 IGBTs distributed across 3 boards combined in a triangle shape and integrated in a cylindrical chamber. The inverter is larger than the motor.

First Model 3 (SiC) … and the next step

Both inverters and chargers use silicon-carbide MOSFETS which take a fraction of the space required for IGBTs, and require minimal, passive cooling.

The high-power cable is not required anymore.

The size of the charger and the inverter are reduced by ~70%.

The energy efficiency of the conversion chain is improved by 20%.

Next step (Model Y?) – Inverter integrated into the motor.

Main charger Main inverter 100,000 W cable

Source: Tesla and NSR estimates and analysis.

Exhibit 4 - We expect Tesla to support double digit operating margins by end 2019

As volumes increase and gross margin continue to improve, we expect Tesla to comfortably land in double-digit operating margins at the end of next year. Something consensus clearly doesn't expect yet.

Date	3Q18	4Q19 - NSR		4Q19 – Cons.
Model S&X units	28k	28k		29k
Model 3 units	56k	110k	1	88k
Total Vehicles Delivered	84k	138k		117k
Revenues	$6.8bn	$8.9bn		$7.7bn
Gross Margin (%)	22%	25%	2	25%
Opex	$0.9bn	$1.2bn	3	$1.4bn
Opex as a % of sales	13%	13%		18%
Operating Margin (%)	8.8%	12%	4	6%

1. **Model 3 deliveries:** we expect Tesla to ramp production and deliveries to ~110k by end of next year (~7k/week Fremont, ~2k/week China, Shanghai).

2. **Gross Margin:** we expect gross margins to increase towards ~25%, driven by scale and experience.

3. **OPEX:** operating expenses will at least remain stable as a percentage of sales, and potentially decline, driven by operating leverage. Consensus estimates on OPEX (~$1.4bn, i.e. 18% of sales) are too conservative.

4. **Operating Margin:** we hence expect Tesla to exit 2019 with operating margins in the double-digits. Something consensus clearly does not yet expect.

Source: NSR estimates and analysis.

ii) Apple

We based our controversial (lone rider with a negative rating since August 20th) call on two convictions: 1) The iPhone X had pulled forward demand in 2018 (**exhibit 5-6**), and 2) iPhone shipments are on a structural declining trend as replacement cycles elongate and the first-hand installed base doesn't grow anymore (**exhibit 7**). Since we downgraded the stock, we have been swamped with datapoints which show that our thesis playing out (**exhibit 8**).

Here again our model played in full swing:

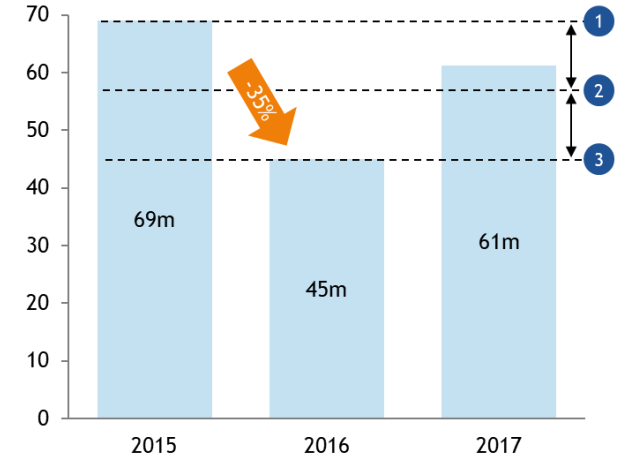
- **Resources -** we gathered very detailed information spanning over 10 years to understand how Apple shipments by SKU got affected by the introduction of premium models. We combined two data sources with feedback from our own local paertners walking around China to gather useful supply chain datapoints.
- **Technology Infrastructure -** the main insights of the call each come from our experience of other segments: our research on Intel got us to understand the secular decline of the PC market between 2012 and 2017, and see similar trends at work for the iPhone (**exhibit 9**). Our experience in Data Networking and Cybersecurity reminded us how product cycles can hide underlying trends. Adjusting reported numbers for product cycle is an art that proved useful for Apple this year.

If you want to read more about our Apple perspective:

- Apple Downgrade: **iPhone X brought forward demand; brace for the 2019 air pocket. Downgrade to sell**
- Apple 4FQ18 Wrap-up: **We have seen the movie before and We don't need units to understand it**

Exhibit 5 - The iPhone 6 plus pulled forward demand in 2015, impacting 2016

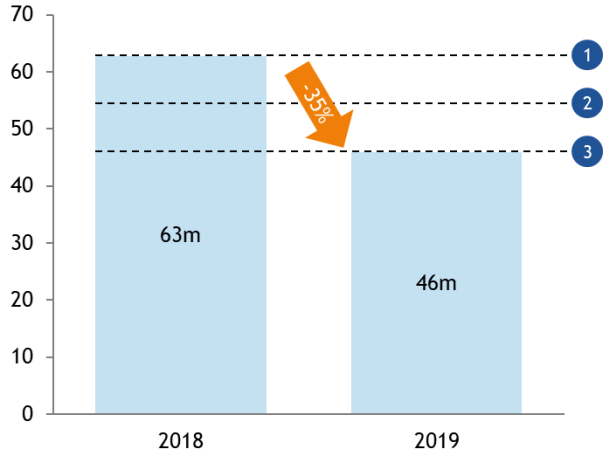
Shipments of iPhone Plus, 2015-2017 (m)



1. Demand brought forward the year the iPhone 6+ is introduced
2. Likely "Normal" demand for the iPhone 6+
3. Demand likely lost as a result in the following year

Exhibit 6 – Similarly, iPhone X pulled forward demand in 2018, impacting 2019

Shipments of iPhone X, 2018 & iPhone XS, 2019 (m)



1. Demand brought forward the year the iPhone X is introduced
2. Likely "Normal" demand for the iPhone X
3. Demand likely lost as a result in the following year

Source: Corporate reports, Counterpoint and NSR estimates and analysis.

Exhibit 7 – Since 2016, on an adjusted basis, iPhone units have been in secular decline

Shipments of iPhone Plus, 2015-2017 (m)

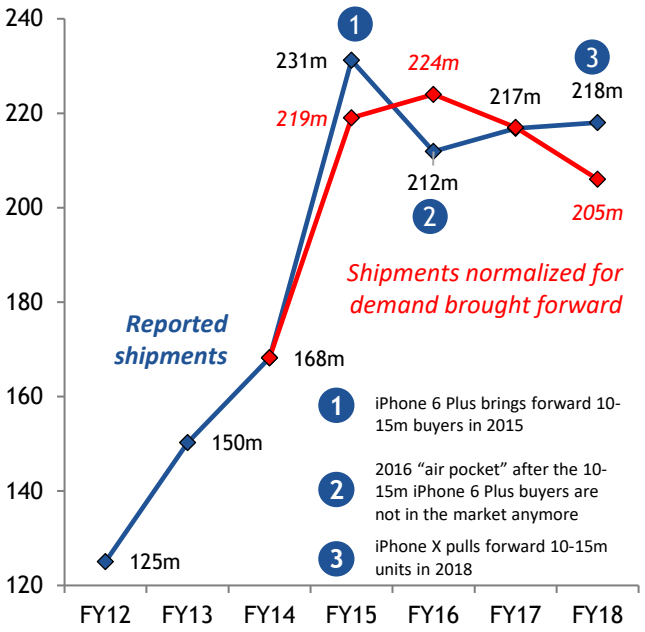


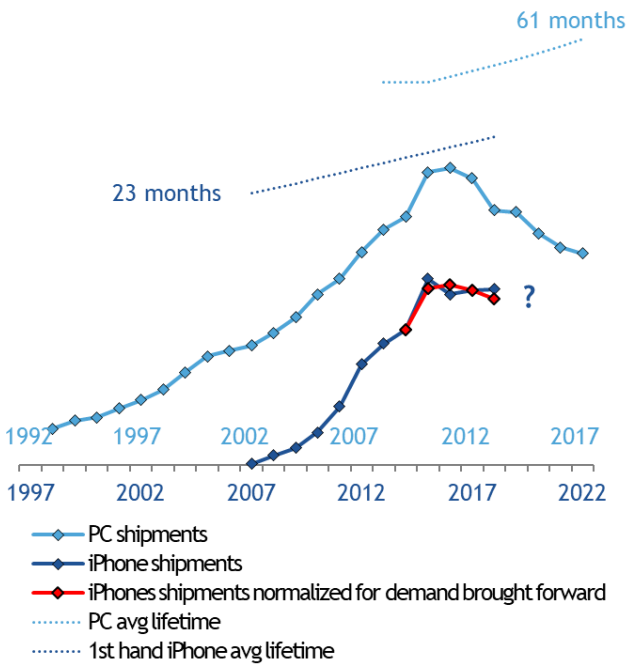
Exhibit 8 – Weak underlying demand will be reflected in the March quarter guide

- Apple reported another quarter of weak shipments, 1.3% below consensus, the guide implies shipments 3.8% below consensus in the December quarter.
- Apple stopped reporting units…
- We got swamped into datapoints indicating brutal production cuts: AMS, TTM, Foxconn, Pegatron, Lumentum and Qorvo.
- We heard of early price cuts in distribution channels (Japan).
- Apple offer up to 100% additional credit on trade-ins, equating to a 13% discount on an XR.
- We expect a second quarter guide well below expectations, with iPhone revenues $33.6bn vs. consensus $40.2bn.

Source: Corporate reports, NSR estimates and analysis.

Exhibit 9 – PC shipments declined for 5 years in a row as they lost share of wallet and replacement cycles elongated

PC & iPhone shipments and replacement cycles (re-scaled & aligned for comparison)



- In 2012, as the smartphones market boomed an spending on tablets grew materially, PCs lost share of wallet. Users didn't buy cheaper PCs but replaced them less often.
- This came at a point innovation in PC stalled.
- The number of PC users kept growing slowly, but they spent less on PC, through less frequent refresh and less multiple ownership.
- It is likely iPhones go through a similar transition. We have good evidence the number of iPhone users is still growing nicely, but shipments are not, and are actually in slow decline, when adjusted for pull-forward demand.
- New devices (Wearables, home devices) are likely taking some share of wallet from iPhones, but is still small. iPhone replacement cycles are likely elongating mostly because innovation has slowed, and there is some sort of user fatigue about replacing their iPhones too often.

Source: Apple, Strategy Analytics and NSR estimates and analysis.

iii) AMD

We initiated on AMD after one of our clients asked about AMD as a threat to Intel. We worked on it immediately and concluded 1) AMD cannot compete with Intel on fundamentals (**exhibit 10-11**) and 2) AMD is forced into extreme architectural choices in order to compete with Intel in niche markets, and will never win the cloud universal node (**exhibit 12-14**).

This call was the result of our focus,our expertise and our "no limits" model:

- **Focus –** we were able to allocate several man weeks to the question of AMD as a competititve threat to Intel, at the request of a single of our clients, large shareholder of the latter.
- **Expertise** in computer science and micro-architecture to analyse AMD's architecture, industrial marketing and strategy to understand the competitive game between Intel and AMD.
- **No limits -** we decided to initiate on AMD given the insight we pulled-up in this work, and were able to do so in two weeks, mobilizing the whole team.

If you want to read more about our AMD perspective:

- AMD Initiation: **AMD coverage initiation: Hard stop around the corner – Sell, Target Price $18**
- AMD 4FQ18 Wrap-up: **Quarter and guide playing out along our expectations**

Exhibit 10 - AMD can barely afford a tenth of Intel's R&D

Intel & AMD R&D expenses (US$bn)

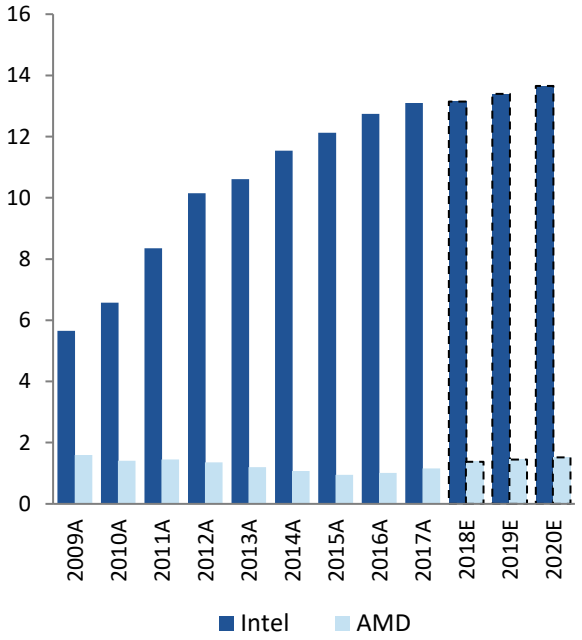
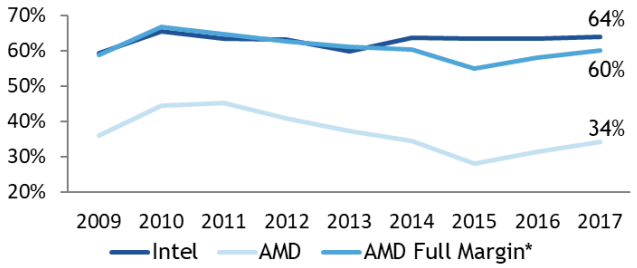


Exhibit 11 – AMD can't compete on prices with Intel

Intel and AMD gross margin (%)



- Intel's gross margin is nearly 2x that of AMD, but mostly because it integrates design and manufacturing.
- AMD's "full margin", i.e. integrating the margin of foundries and OSAT, is actually very similar to Intel.
- With that type of margin, AMD's pricing is "all other things being equal" similar to Intel. It is not true that AMD is a price cutter. When they win with cheaper chips, it is with lower spec chips.
- Most importantly, AMD's low operating margins (<10%) give the company no room for maneuver to compete on prices.

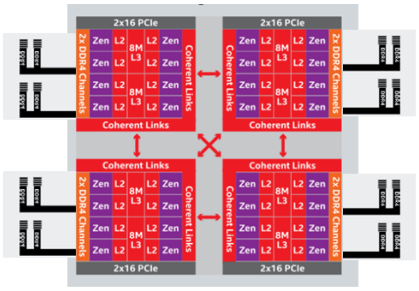
Source: Corporate reports, FactSet consensus and NSR estimates and analysis.

Exhibit 12 – AMD is forced into extreme architectural choices

AMD's latest architecture (EPYC), in order to save on complexity, went for bringing together 4 "Zeppelin" dies (8-core architecture of the Ryzen high-end desktop AMD chip) into a MCM (Multi-Chip Module) packaging. Implications are simple:

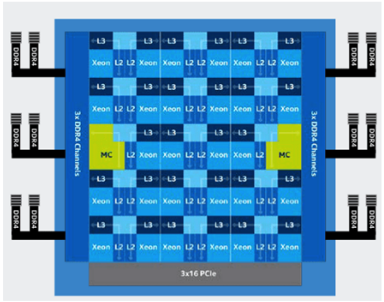
- 1) EPYC offers more core count, memory channels and L3 cache, but partitioned, i.e. each core can access only a small subset of L3 and memory channels: respectively 3x and 5x less
- 2) EPYC has twice smaller L2 caches, as it had to make room for more L3 caches and memory channels

AMD's EPYC



- 4 clusters of 8 cores, each with two memory channels and 8 MB of L3 cache.
- L2 caches are limited to 512k each.
- Clusters communicate between each other with an interconnect, and therefore cannot share L3 and channels without a prohibitive latency cost

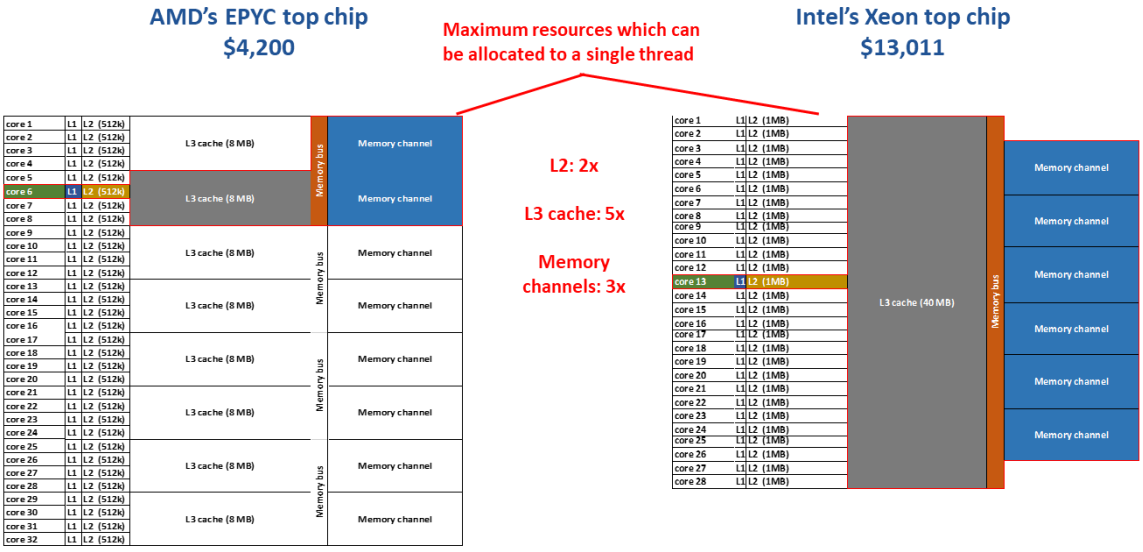
Intel's Xeon



- Memory channels and L3 cache are "meshed" across all the chip, manufactured on a single die.
- 40MB L3 cache and 6 memory channels in Xeon's most expensive configuration (Platinum).
- Xeon saves more room for L2 Caches: 1 MB per core.
- All cores can access all the L3 cache and all memory channels with consistent latency.

Source: Intel, AMD, and NSR analysis.

Exhibit 13 - AMD offers more resources per chip but terrible "worst-thread performance"



Source: Intel, AMD, and NSR analysis.

Exhibit 14 - AMD cannot win the cloud universal node

Based on the most prominent work of Google on the topic in the last 5 years, we can safely conclude AMD will not threaten Intel for the hyperscale node: it requires flexibility in terms of the shape of workloads handled, large L2 caches and excellent peak performance for the "worst thread" which will potentially slow a large distributed process. Exactly all the 3 things where Xeon is indisputably better than AMD.

What the hyperscale node requires	Source & Rationale	Why AMD doesn't work	Why Intel works
1 Flexible workloads	Google 2012[1]: large nodes to handle multiple workloads of multiple size. Google 2015[2]: the diversity of workloads in the cloud is growing.	Workloads requiring large caching and memory bandwidth don't do well on AMD's clustered architecture. AMD's clustered architecture don't do well with heterogeneous threads	Maximal resources allocated to a single workload is, against AMD, 2x for L2; 5x for L3 and 3x for memory bandwidth.
2 High performance L2 cache	Google 2015[2]: executable binaries are increasing in size and complexity, requiring more L2 cache. Resulting lost cycles grow by 27% p.a.	512KB L2 cache, limited by the number of L3 caches.	
3 Best "worst-case" performance	Google 2012[1]: distributed application and user latency mostly depend on the performance of nodes at the "worst-case thread"	Architecture cannot attribute outsized resources to a single thread	single thread can leverage all L3 cache and memory bandwidth of the chip

[1]Brawny cores still beat wimpy cores, most of the time – Urs Hölzle – Google.
[2]Profiling a warehouse-scale computer - Svilen Kanev, Juan Pablo Darago, Kim Hazelwood

Source: NSR analysis.

iv) Corporate Access

We also wanted to mention our corporate access agenda amongst what we did well. As a result of our positioning, we met excellent reception in the industry. We presented multiple times our work to conferences, seminars, board meetings and executive committee meetings.

As a result, we meet good reception when asking for access to executives, sites and experts, which helped us organize a long list of corporate access events which probably represents in 8 months close to what I did in 10 years in my previous role. We have the **resources** to make this happen, and the **expertise** to facilitate relevant discussions.

Exhibit 15 – New Street Technology Infrastructure Corporate Access 2018

Date	Event
13th May	**OFS Optical** Lunch with Pierre Marty, EVP Marketing & Sales
23rd May	**Cybereason** Lunch with Israel Barak, Chief Information Security Officer
30th May	**Accelerated Computing Mini-Conference** AMAT CIO & CEOs of Mipsology, Instadeep, Crossbar, Syntiant & Netronome
14th June	**Tesla Gigafactory Tour** – All access tour & test drives of Model 3 & Model S
19th June	**A.I. on the Edge Mini-Conference.** ARM Executive, CEOs of GreenWaves, Artofus, Instadeep & Founder of Achrinox
20th June	**Samsung** Lunch with Patrick Chomet, EVP Product & Innovation
26th June	**Lunch with former Gigafactory executive,** Mark Schwager. Understanding battery manufacturing
9th July	**Lunch with former LG Chem US CEO.** Understanding battery manufacturing
10-12th July	**Semicon West meetings:** Nvidia & CEOs of AMAT, Tokyo Electron, Veeco, Teradyne; A.I. design forum
23-25th July	**ERI Summit** – AMAT CEO, Intel CTO, challenges & opportunities brought by the end of Moore's law
13th Aug	**Elon musk Going to Jail? going Private? Conference Call with Jenner & Block LLP** – Discussing Elon Musk's proposed takeover of Tesla
10th Sep	**ASML: CFO meeting & HQ Visit** – Experience EUV tools in the flesh. Meet Line Managers
27th Sep	**Palo Alto Networks CFO meetings.** Discussing the Application Framework & general cybersecurity
27th Sep	**AMAT: CEO, CFO meetings & tour of R&D centre.** Experience first hand AMAT's newtools
2nd Oct	**Broadcom Roadshow & Dinner** with Tom Krause, CFO
9th-11th Oct	**Nvidia CEO meeting** & meetings with companies making A.I. real at GTC Europe
17th Oct	**Instadeep roadshow** with Karim Beguir, Co-founder & CEO.
29th Nov	**Tesla Fremont tour** – Touring Model 3 production lines, test drives & trials of new autopilot

Source: NSR analysis.

III – What we didn't do well in 2018

We didn't get everything right at all… Here are two calls on which we miserably failed, but from which we learnt a lot:

i) Applied Materials

We initiated coverage with a very bullish perspective: As the business becomes less cyclical, gets recognized as a near monopoly and as exposed to quality growth drivers on most of what it does, the stock should re-rate. We got it wrong. We stand by our industry perspective, AMAT is getting less cyclical, is a near monopoly and benefits from strong growth drivers (**exhibit 16-17**). However, the stock isn't re-rating, as the near-term uncertainty of its outlook remains structural (**exhibit 18-19**).

It is a good thing to understand fundamentals of the business, but to be successful at calling AMAT, we need an edge in understanding near term developments and how sentiment on the stock plays. What we simply missed is that our secular thesis had played out already a lot in the last 5 years, with steep revenue growth, and that if multiple expansion didn't follow suit that was for a reason. Cyclical concerns would remain, hampering the stock, until… the cycle happens. We are now in the middle of it, expect a short and shallow one, but will wait for tangible signs it plays out before coming back to our fundamental thesis.

Exhibit 16 - Leading equipment manufacturers growing 2x the rate of the industry

Semiconductors metrics 2010 – 2025

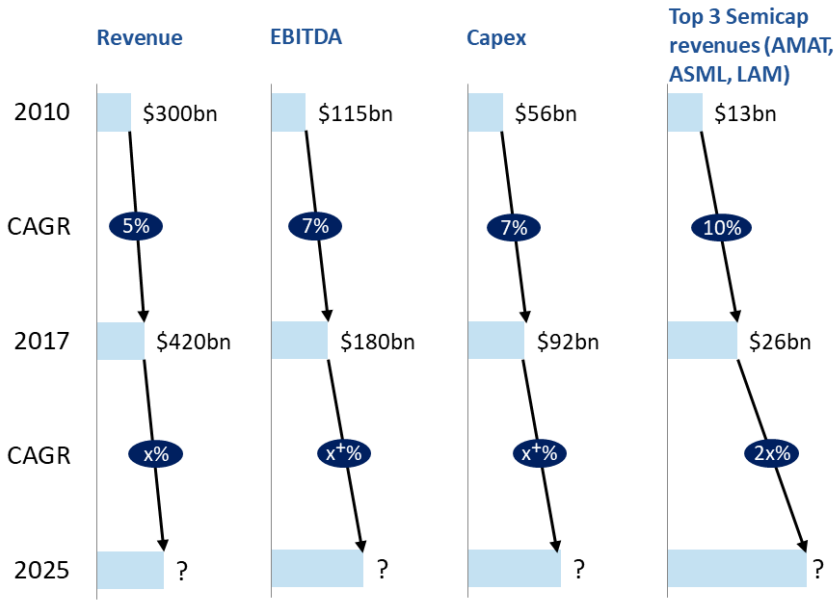
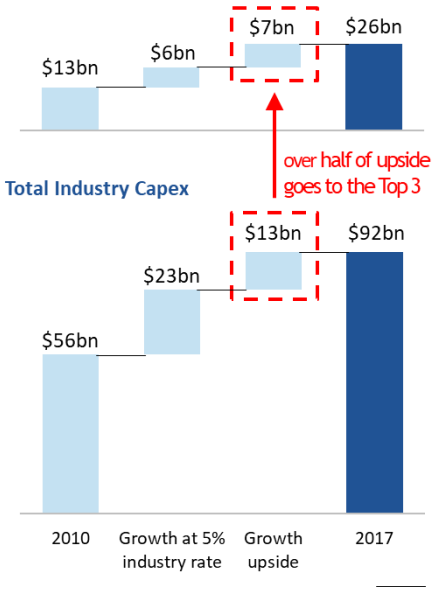


Exhibit 17 -Top 3 semicap capture >50% of the upside

Revenues of the top 3 Semicap manufacturers (AMAT, ASML, LAM)



Source: Corporate reports and NSR estimates and analysis

Exhibit 18 - Short cycle correction is playing out in semi cap, but comes along with uncertain macro

"Several factors negatively impacting spending. *Elevated macroeconomic risks, global trade tensions and specific to our industry, a pullback in memory investments. (…) We still believe that 2018 and 2019 combined spending will be around $100 billion. (…) we now see 2018 as slightly higher than 2019."*

Gary E. Dickerson, CEO, AMAT – 15 Nov. 2018

"**When we think about kind of calendar 2019 (…) there's been (…) muting of investment expectations primarily in NAND (…).** (I would expect) in the second half 2018 to first half 2019 (…) revenue levels will be incrementally higher in DRAM, logic (…), and foundry. **I would expect NAND to be down half over half, second half 2018 compared to first half 2019."**

Martin B. Anstice, CEO, LAM Research – 16 Oct. 2018

Source: Corporate reports and NSR analysis

Exhibit 19 - 2019 WFE: down to $47bn from >$50bn this year.

WFE Market (US$bn)

WFE Market (US$bn)	2018	2019	2020
Memory	**29.5**	**25.3**	**27.6**
NAND	15.0	11.7	12.1
DRAM	14.5	13.6	15.6
DRAM (ex. EUV)	14.5	12.6	13.4
EUV	0	1.0	2.2
Logic and Foundry	**21.5**	**22.1**	**24.4**
Logic & Foundry (ex. EUV)	19.4	19.2	21.1
EUV	2.1	3.0	3.3
Total WFE Market	**51**	**47**	**52**

Source: Corporate reports and NSR estimates and analysis

ii) Nvidia

We initiated coverage with a differentiated conviction, seeing in gaming unrecognized growth potential, with underlying community growth and sustainable ASP growth (**exhibit 20-21**). We failed at anticipating how much crypto currency boosted end demand and channel inventories in 2018, and we underestimated the downside potential embedded in the stock's elevated multiple (**exhibit 22**).

Here again, good work on fundamentals wasn't enough to make a good call. We lacked an intimate understanding of GPU distribution dynamics. Not only did we lack knowledge of it, but we also failed to proactively research the problem. Ex-post, we realized we could have identified the risk and concluded Nvidia was a name not to play into numbers but after the print. We didn't research enough the other side of the debate.

Exhibit 20 - GeForce ASPs have grown >10% p.a. for >5 years

High End GeForce Pricing & gaming GPU ASP (US$)

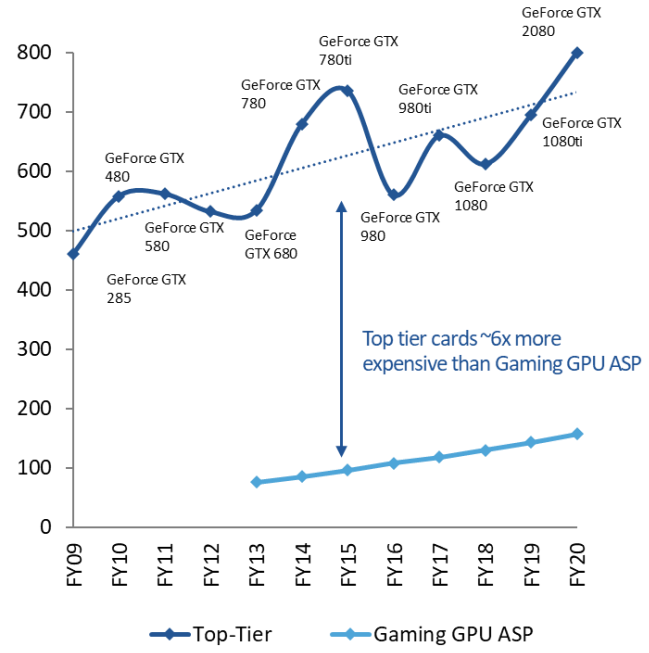


Exhibit 21 - PC gaming community can grow 8-10% p.a.

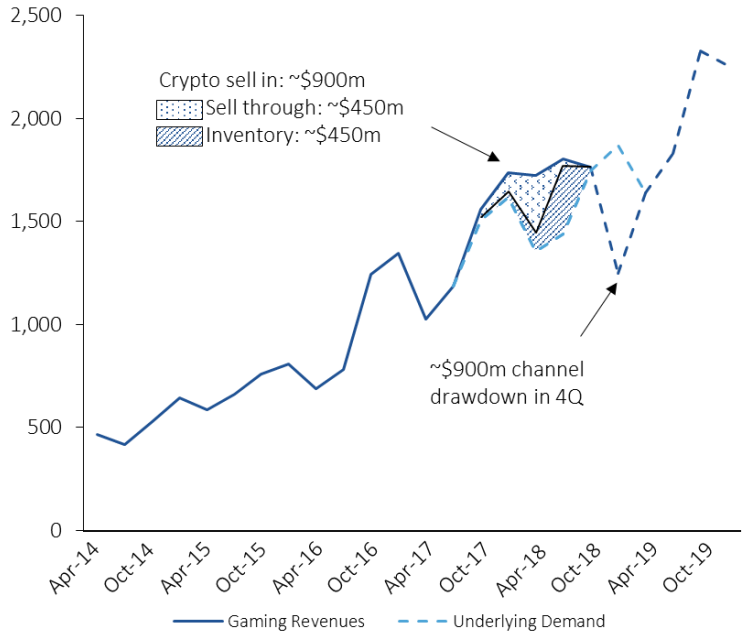
Driver	Sustainable growth	Comment
Population Growth	1%	Global Average.
Age pyramid boost	3-4%	Gamer one day, gamer forever
Increasing penetration in emerging markets	2-3%	Penetration in China << US
Social network effect	2-3%	e.g. Fortnite
Total	8-10%	

Source: Nvidia, Hexus, NewZoo, OECD, Statista and NSR estimates and analysis.

Exhibit 16 - Leading equipment manufacturers growing 2x the rate of the industry

Semiconductors metrics 2010 – 2025

Exhibit 17 – What we missed



- Looking back at the last 12 months, we now understand Nvidia booked $900m of revenues in excess of normal gaming demand.
- Half of it went into the crypto-mining market, half of it into distribution channels
- Nvidia's guide for the January quarter implies is ~$500m below normal gaming demand and implies Nvidia target to clear channels in one quarter.

Source: Corporate reports and NSR estimates and analysis

IV – What we learnt from it – our good resolutions for 2019

Our resolutions are simple: keep doing what worked well, try differently what didn't.

Keep doing what worked well:

- **Focus, expertise, Technology Infrastructure… and no limits:** we will slowly expand our coverage to increase its relevance, based on what our existing clients ask, where we see investment opportunities, and where we see learning opportunities. This will lead us towards usual suspects in tech, but also more exotic names… stay tuned.
- **Resources:** as we continue to develop commercially, we will increase our research resources, with a focus on consumer insights and value chain data points.
- **Corporate access:** We will maintain a packed corporate access agenda, focused on high-value-added thematic events.

Try differently what didn't work well:

- **Technology Infrastructure Quarterly Bible.** We initiated the series in November. (Link to the first opus: The Tech Infrastructure Quarterly Bible 3Q18: What we learnt in the quarter and our updated Thoughts) This 70-page report is the outcome of a steady process we have put in place to follow and understand near term developments in the industry and sentiment. It is not data gathered in an undigestible document, but a thorough review of that data and the key insights we distilled from all what we saw and heard during the quarter.
- **More nuance in our calls.** We will provide better perspectives in terms of valuation and timing in our recommendations.
- **Better research the other side of the debate.** We will endeavor to maintain a more balanced perspective on our calls, and do work to evaluate the probability we are missing something or we are wrong. Not an easy task, we still need to figure out how to do that well, but we will work on it.

Disclosures

12-month historical recommendation changes are available on request

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