

Intel Corp INTC

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Intel's server processor business will be a key growth driver over time.



by Andy Ng

Investment Thesis 06/13/2014

Intel is the dominant force in the roughly \$30 billion computer microprocessor market, in which it holds long-term advantages over smaller rival Advanced Micro Devices. Intel has benefited tremendously from the proliferation of personal computers in the past few decades and has long held the lead in microprocessor technology and performance.

However, Intel has seen some recent headwinds, namely from a maturing PC market and the emergence of a new competitor in ARM, whose processor designs populate most smartphones and tablets. The line between PCs and mobile devices has been blurring, with ARM attempting to move upstream while Intel tries to extend its presence downstream with its Atom chips that are aimed at mobile devices.

The emergence of the tablet has provided a battleground for the two, and ARM has been much more successful so far.

There is evidence that ARM-based tablets are cannibalizing PC sales, which in turn has somewhat pressured Intel's computer processor sales. However, we believe ARM's threat to Intel has been overblown. ARM has been successful in chips for mobile devices and tablets because of the low power consumption of its designs, something that Intel has been unable to match despite being able to offer higher processor performance. Nonetheless, the Atom processors are becoming much more competitive in power efficiency, with early indications that the new Silvermont version of Atom has substantially narrowed the gap with ARM. This should allow Intel to achieve more design wins in tablets and smartphones and ultimately encroach upon ARM's turf in the next year or two.

Intel's server processor business will be its key growth driver in coming years and will indirectly benefit from the proliferation of mobile devices. The rising adoption of tablets and smartphones is part of the cloud computing trend, where computing tasks are offloaded onto the cloud and users access the cloud with an interface such as a tablet. The trend will require substantial server buildouts to create the cloud infrastructure, which will provide tailwinds for Intel's lucrative server processor business.

Economic Moat 06/13/2014

Intel's wide economic moat stems from its immense scale, which gives the firm long-term advantages in maintaining its lead in the microprocessor market. Intel holds the edge in terms of processor performance because of its massive research and development budget, which is unmatched in the semiconductor industry. In addition, the firm has the resources to continually invest in the most cutting-edge semiconductor manufacturing technologies. By having a one- to two-year lead over the rest of the chip industry in driving Moore's Law, Intel has the ability to produce faster and/or more power-efficient chips at a lower per unit cost than any other chipmaker. This advantage comes into play not only in PC processors, but also in server chips. We believe Intel's moat is encapsulated in its "tick-tock" strategy, in which the firm advances its chip manufacturing technologies every two years (the tick), while it launches a new architecture for its microprocessors during the years in between (the tock).

While Intel has had limited success in penetrating the smartphone and tablet processor market so far, it has only begun to use its manufacturing technology advantage in its Atom product line. Intel's new Silvermont Atom chips are the first

Morningstar's Take INTC

Analyst		
Price 10-15-2014	Fair Value Estimate	Uncertainty
30.93 USD	26 USD	Medium
Consider Buy	Consider Sell	Economic Moat
18.2 USD	35.1 USD	Wide
Morningstar Credit Rating		Stewardship Rating
AA		Standard

Bulls Say

- Intel is the largest semiconductor company in the world. The firm has sustained its position at the forefront of technology by investing heavily in R&D.
- The firm holds a roughly four fifths share in the microprocessor market.
- Intel has an immense budget for capital expenditures, allowing it to maintain the most cutting-edge semiconductor manufacturing technologies in the world.

Bears Say

- PC industry growth has slowed from the heady rates of the 1990s. As a result, Intel's opportunities to expand may be limited.
- Intel must successfully maintain its technology lead in the processor market. Any missteps by the firm could trigger market share loss to AMD.
- AMD's purchase of ATI in 2006 has given Intel's smaller rival the know-how and technology to offer platform solutions as well.

Competitors INTC

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Name	Price	% Chg	TTM Sales \$ mil
Intel Corp	\$30.95	-3.70	53,912
Taiwan Semiconductor Manufacturing Co Ltd ADR	\$19.92	-1.14	21,042
Texas Instruments Inc	\$42.30	-0.02	12,548
Broadcom Corp	\$35.09	-0.90	8,235
ARM Holdings PLC ADR	\$40.31	-0.44	1,189
ARM Holdings PLC	\$13.32	-4.86	1,189

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Pick and Choose in the Overheated Tech Sector

Atoms manufactured using cutting-edge process technology, as the firm used older-generation technologies for prior Atom products. As a result, we think Intel will have opportunities to achieve some success in mobile device processors as it fully harnesses its moat in that market.

Valuation 10/15/2014

Our fair value estimate is \$26 per share. The firm is benefiting from a corporate PC refresh cycle in the near term. Nonetheless, we think sales of processors used in PCs will face some pressures in the longer term, and we expect slight gradual declines over time. More important, we think Intel's key growth driver in the coming years will be its server processor business, which currently accounts for about one fifth of the firm's sales. In addition, we think Intel can capture some share in the smartphone and tablet processor market in the next couple of years, as the Atom appears to be closing the competitive gap with ARM-based chips in terms of power efficiency. Intel's revenue was down 1% in 2013. PC market headwinds weighed on Intel's PC processor business during the year, but were mostly offset by growth in the server processor segment. While pressures in the PC market persist, the firm is benefiting from some improvement in PC demand, thanks to a corporate PC refresh cycle. We expect this, combined with growth in server chip sales, to allow sales to grow 6% in 2014. Over the long run, we think Intel can grow in the midsingle digits, on average, annually. Our assumptions are based on our projections for Intel's main PC processor segment, which we think will decline in the low-single-digit range on average in the longer term, as well as other segments, including chipsets, motherboards, and flash memory. We believe the server processor segment will be Intel's fastest-growing business, as the trend toward cloud computing will require substantial server buildouts, and we project that it can roughly grow in the low to mid-teens range over the longer term. Finally, we project that Intel will see some success with its foray into smartphone and tablet processors via its Atom chips beginning in 2014, though revenue from these products will be minimal for the year because of steep discounts offered by the firm to capture market share. Nonetheless, we forecast the Atom smartphone and tablet processor business will eventually grow to about \$5.2 billion in revenue by 2017. Profitability has improved during the past several years, partly as a result of the firm's cost-cutting work. We forecast that operating margins will come in at 28% in 2014 and will run in the 22%-23% range in the long run.

Risk 06/13/2014

The semiconductor industry is cyclical, which causes fluctuations in Intel's financial performance. Intel must hold on to its technology lead in order to maintain its position as the behemoth of the microprocessor market. Failure to do so would result in share loss to AMD.

Management 01/17/2014

Brian Krzanich took over as CEO in May 2013 from Paul Otellini, who retired. Krzanich was previously COO and has been with the firm since 1982. Before becoming COO in January 2012, he held leadership positions in Intel's manufacturing organization. Stacy Smith became CFO in 2007. Smith joined Intel in 1988 and has held various positions at the company, including finance, information technology, and sales and marketing roles. Former CFO Andy Bryant remains at Intel and is now chairman of the board. We consider the firm to have a deep management bench.

Management has made the right moves to allow Intel to maintain its dominant position in computer processors in recent years, but the success of the firm's recent forays into new markets is still up for debate. Intel has been making a concerted effort to break into smartphone and tablet processors, which has traditionally been the stronghold of ARM, with its Atom chips, and even paid \$1.4 billion to acquire Infineon's wireless connectivity chip business in 2011 to support the endeavor. Although Intel has seen limited success so far, there are signs that it is starting to make some progress on that front. In addition, Intel acquired antivirus and security software maker McAfee for \$6.7 billion (net of cash) in 2011, with the vision of adding security features to its chips and hardware, which when

integrated with software will provide more effective security solutions. Although strategically sound, we think it remains to be seen whether Intel can successfully execute its vision for McAfee.

Overview

Profile:

Intel is the world's largest chipmaker. It develops and manufactures microprocessors and platform solutions for the global personal computer market. Intel pioneered the x86 architecture for microprocessors.

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