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ECONOMYCAPITAL ACCOUNT

U.S. Bid to Revive Chip Manufacturing Collides With Wall Street's Demands

Intel is among companies facing both political push for more factories in U.S. and investor resistance to capital spending—conflict Chinese competitors don't face

By Greg Ip Follow

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Intel Corp.'s Patrick Gelsinger might be Washington's favorite chief executive right now. At the groundbreaking for a $20 billion-plus semiconductor-fabrication plant near Columbus, Ohio, on Friday, he was joined by legislators from both parties, Ohio Gov. Mike DeWine, a Republican, and President Biden, a Democrat.

"We're going to build the most advanced stuff in the world, right here, in Ohio," Mr. Gelsinger declared. "We put our chips on the table, to help the U.S. regain its manufacturing heart, as well as unquestioned technology leadership."

Those words are music to the ears of American lawmakers who are consumed with reviving domestic manufacturing. The reception on Wall Street to Mr. Gelsinger's plans, which include spending up to $100 billion in coming years on semiconductor-fabrication plants, or fabs, globally, has been cooler. Intel's stock price is down about 50% since Mr. Gelsinger

took the company's helm in February 2021. Its market value has fallen below that of Advanced Micro Devices Inc., which has long lagged behind Intel in selling advanced microprocessors.

The share price is suffering from Intel's failure to keep up with its rivals in adopting the most advanced manufacturing processes (which it is rushing to correct), slumping PC sales and recession fears. But a deeper tension is also at work: The growing bipartisan consensus in Washington that key technology, from chips to electric-vehicle batteries, must be made in the U.S. instead of in Asia, in particular China, might be at odds with what shareholders want.

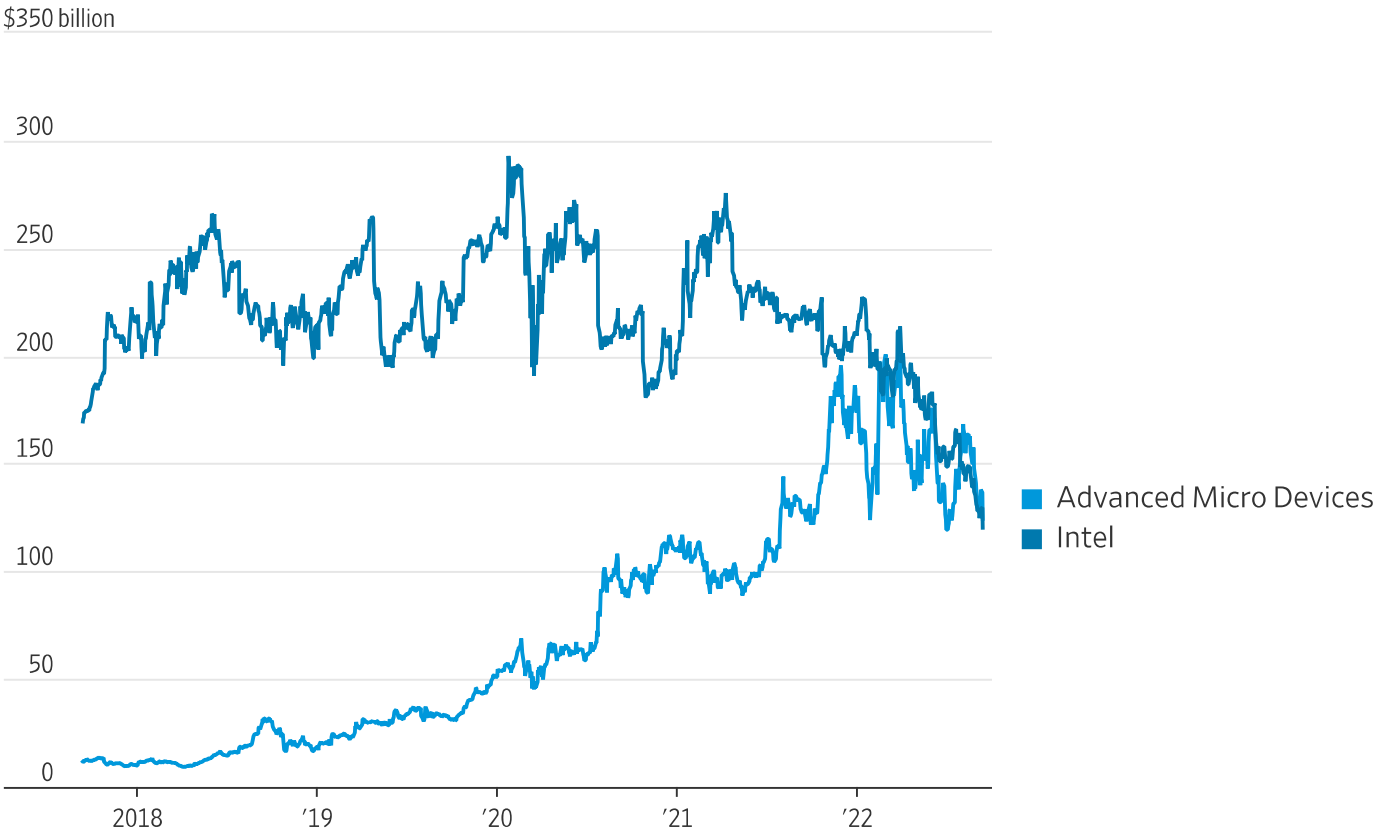
In the U.S., private markets allocate capital to where returns are highest. That used to be advanced manufacturing. For a long time, Intel designed the world's most popular processors in fabs unmatched in scale and efficiency.

Starting over a decade ago, the necessary economies of scale became overwhelming; the price of a fab now tops $10 billion. All but the largest manufacturers lacked the scale to generate a satisfactory return on capital for investors.

AMD, much smaller than Intel, struggled to shoulder the cost. In 2009, it went "fabless," spinning off its factories while outsourcing chip fabrication, mostly to Taiwan Semiconductor Manufacturing Co., a "foundry" that makes chips designed by others. Had AMD stuck with fabs, "they would have gone down the drain—and they very nearly did," said Gus Richard, an analyst at investment bank Northland Capital Markets.

Reversal of Roles

Market value



Source: FactSet

The fabless trend dovetails with Wall Street's broader embrace of asset-light companies whose intellectual property, brands or multimillion-user platforms offer potentially spectacular returns on minimal capital. Conversely, valuations of companies reliant on tangible assets such as factories and equipment have suffered, said Jason Thomas, chief economist at private-equity manager Carlyle Group Inc. Tangible assets, he said, aren't "reversible—you can't sell half a factory you don't need," and their value would be even more depressed in situations when the owner is most desperate to sell it.

Management gurus such as Clayton Christensen challenged the wisdom of giving priority to return on capital, and some Asian companies agreed. "There is capital everywhere," TSMC founder and CEO, Morris Chang, told Mr. Christensen in 2009. "And it is cheap. So why are Americans so afraid of using capital?" (Ironically, TSMC today is the world's most valuable semiconductor company.)

Japanese, Taiwanese and South Korean companies historically could focus less on return on capital, earnings per share and share price than their American counterparts because

founding families, allied companies or the government were dominant shareholders. China today is an extreme case of this: The state either owns key manufacturers outright, is a major shareholder, or protects them from foreign competition.

As in so many industries, chip manufacturing migrated to Asia where labor and capital were plentiful and heavily subsidized. Meanwhile, American companies excelled where intellectual content mattered most: chip designers such as Nvidia Corp., AMD, Qualcomm Inc., for some products, Apple Inc., chip-design software such as Cadence Design Systems Inc. and Synopsys Inc., as well as chip-making equipment such as Applied Materials Corp. and Lam Research Corp.

For a long time, American leaders saw this as a demonstration of mutually beneficial comparative advantage. But the supply-chain disruptions unleashed by the Covid-19 pandemic and the belligerent behavior of Russia and China have awakened them to the strategic risk of importing so many vital products from Asia. Mr. Biden said Friday that it was no longer enough for advanced technology to be invented in America—it must also be manufactured here.

Mr. Gelsinger has positioned Intel as a company that does both. In 2020, it faced pressure to go fabless but after assuming the CEO position last year, Mr. Gelsinger doubled down on manufacturing, announcing Intel would compete with TSMC making other companies' chips. Intel is "the only company in the United States that can do both leading-edge design and manufacturing in-house," he told Congress in March. But, he warned, it was fighting a 30%-50% cost disadvantage against Asia, where chip making is heavily subsidized.

Lobbying by Intel and other chip makers helped persuade Congress to pass the bipartisan Chips and Science Act in July, extending nearly $53 billion in subsidies to build or expand fabs in the U.S. For Intel, it helps, but it isn't enough: The company needs to finance both new fabs, revamped manufacturing processes at existing fabs, and its dividend, all while margins are under pressure. To conserve capital, it has enlisted Brookfield Asset Management Inc. as a co-investor in the fabs, and will build the factory structures first and equip them only when demand materializes. Intel also benefits from the U.S. government's restrictions on the supply of vital technology to Chinese chip companies.

"The more important part of their strategy is to regain dominance in process technology, and I think they can do that—it's just going to take two or three years," Mr. Richard of Northland Capital Markets said.

Yet, even if a meaningful share of semiconductor manufacturing does return to the U.S., that might be of limited applicability for the U.S.'s wider effort to reshore manufacturing. Countless other companies face the same intense pressure to maximize shareholder returns, without Washington's helping hand.

Write to Greg Ip at greg.ip@wsj.com

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