CURRENT MARKET NEWS

Caught in the crossfire: New Commerce Department rules target semiconductors

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Earlier this month, the U.S. Department of Commerce (DOC) issued updated export control regulations which, if fully implemented, will further restrict sales of key technologies to China beyond those imposed on telecom giant Huawei.

While semiconductor stocks at first took the news in stride, they sold off sharply after Lam Research (LRCX) issued a filing that highlighted the DOC rule changes as a new risk factor. The company stated that the rule "may require us to apply for additional export licenses for our products to be sold to certain customers in China. There is no assurance that we will be issued licenses that we may apply for on a timely basis or at all."

These regulatory changes have been in the works for several months, but it was never clear if they would be ultimately approved and, importantly, if they had President Trump's support. Investors hoped that the proposals would be adjusted or blocked in order to preserve the progress achieved in the Phase 1 U.S.-China trade agreement. That may still ultimately be the case, but as negative rhetoric has heated up again between China and the U.S. , the risk of disruptive outcome for the chip equipment industry has also increased.

In all, there were three rule changes that potentially affect the semiconductor industry:

1) Elimination of License Exception Civil End Users (CIV):

https://s3.amazonaws.com/public-inspection.federalregister.gov/2020-07240.pdf

2) Expansion of Export, Reexport, and Transfer (in-Country) Controls for Military End Use (MEU) or Military End Users in the People's Republic of China, Russia or Venezuela:

https://s3.amazonaws.com/public-inspection.federalregister.gov/2020-07241.pdf

3) Modification of License Exception Additional Permissive Re-exports (APR):

https://s3.amazonaws.com/public-inspection.federalregister.gov/2020-07239.pdf

The first two rules are considered final (effective June 29), while the third is only proposed at this point. Rule #1 eliminates the Civil End Users (CIV) exemption which had allowed the export of certain high-tech items on the government's Commerce Control List (see link to CCL here) to countries of national security concern without obtaining a license. The CCL list includes various types of semiconductors, semiconductor equipment and many other high-tech items such as jet engine components.

Rule #2 broadens the list of items for which licensing requirements and review policy apply, and expands the definition of military end use (MEI) to include semiconductor manufacturing / assembly / test equipment, programmable logic chips, microwave semiconductors and other semiconductors for space applications.

Rule #3 (not final yet) proposes to eliminate the license exception for partner countries involving the re-export of U.S.-origin technology items that would have been denied if exported directly from the U.S. It appears that this rule would limit re-export from some countries (including Hong Kong) to mainland China but it wouldn't block shipments from Taiwan as currently written.

It appears that almost all semiconductor categories could be impacted by the first (CIV) rule, but the dollar amount of semiconductor products currently exported from U.S. factories to China under the CIV exemption is relatively low. As far as the second (MEU) rule change, U.S.-manufactured semiconductor equipment and certain types of high-performance semiconductors including field programmable gate arrays (FPGAs) will now require a license.

While these rule changes could certainly be disruptive, the impact may not be as bad as feared based on comments from KLA Corp. (KLAC) which reported earnings last week. KLAC's management noted that *"the majority of our business and most of our products (> 60%) are manufactured and assembled outside of the U.S. and we routinely ensure that our products are not used for prohibited military end uses in China."* However, the company went on to say that *"we are still assessing the new rules and working with trade associations and others to obtain additional guidance from the U.S. government..."*

Exhibit 1: U.S. semi equipment sales to China have been increasing rapidly

U.S.-Based semiconductor equipment sales to China					
Company	**Mar-19**	**Jun-19**	**Sept-19**	**Dec-19**	**Mar-20**
Applied Materials (AMAT)					
China Sales	993	1,117	1,199	1,271	
Yr/Yr Growth	-24%	-32%	6%	31%	
% of Total	28%	31%	32%	31%	
KLA Corp (KLAC)					
China Sales	206	400	346	382	353
Yr/Yr Growth	7%	18%	15%	47%	71%
% of Total	19%	32%	24%	25	25%
LAM Research (LRCX					
China Sales	416	790	592	758	792
Yr/Yr Growth	-15%	18%	2%	110%	90%
% of Total	17%	33%	27%	29%	32%

Source: Company Filings, Refinitiv

It is no secret that China seeks to become self sufficient in semiconductors and is spending aggressively to do so. U.S. efforts to cut off Huawei from U.S. technology may have served as a wake-up call (China's Sputnik moment), strengthening the resolve of Chinese officials.

From the U.S. Government standpoint, China's military-civil integration strategy is concerning as is the country's attempts to gain on the U.S. through technology theft and massive subsidies to local Chinese firms. Efforts to block Huawei's rise haven't been as successful as the Trump Administration intended, and they are determined to make things tougher. We see three possible scenarios:

1) The Department of Commerce rule changes remain relatively easy for semi equipment companies to get around and are mainly sabre rattling with the goal of looking tough on China. The U.S. government has a legitimate need to figure out where U.S.-based semiconductor technology is ending up (amazingly, it doesn't have a good handle on this now) and requiring licenses will help;

2) The new rules will make it more difficult for Huawei (which manufactures both telecom equipment and semiconductors) and other Chinese companies to get around the restrictions that have already been put in place. If these changes don't work, the U.S. government will add new ones that do. For example, Huawei currently designs chips that are manufactured by Taiwan Semiconductor (TSM), but the U.S. could make TSM choose between continuing to work with Huawei (a ~15% customer) or keeping the customers like Apple (AAPL), NVIDIA (NVDA) and Qualcomm (QCOM) which represent the bulk of its sales; and

3) The U.S. effectively declares a holy war on China and takes whatever actions are necessary to keep the Chinese from manufacturing leading edge semiconductor devices.

Scenarios one or possibly two seem the most likely near term, but scenario three can't be ruled out as U.S. and China tensions continue.

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