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Deglobalization and the Future of Trade

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Of the longer-term implications emerging from this global pandemic, one of the more likely—and more discussed—ones is an acceleration of the trend toward deglobalization and localization. **In this *Economics Weekly,* we discuss this trend, how we got here, whether or not the backlash we are seeing is against China or globalization more generally, and where we are headed next.**

The China Backlash

Earlier on in the emergence of the global coronavirus pandemic, a number of analysts and commentators felt that this episode would turn out to be a big win for China. It was thought that the speed at which China managed to 1) close down its economy, isolate the problem, and control the spread of the virus, and then 2) reopen and return to almost full production was viewed as admirable. Its authoritarian state control was proving to be extremely successful in such a scenario, with the result that it would help to ensure the continued smooth functioning of global supply chains once demand in the West had similarly recovered. Comparatively, the responses to the virus in the West were viewed as sloppy, slow, and inconsistent, with some countries and even individual states fighting between themselves for essential PPE supplies seemingly only provided by China.

While this probably describes the responses of both sides quite accurately, it has nevertheless not played into the hands of the Chinese as they might have hoped. In fact, the repercussions from the virus have instead led to an exacerbation of the existing tensions around China and its global influence, with the result that the "made-in-China" virus is actually accelerating the trend toward deglobalization and localization.

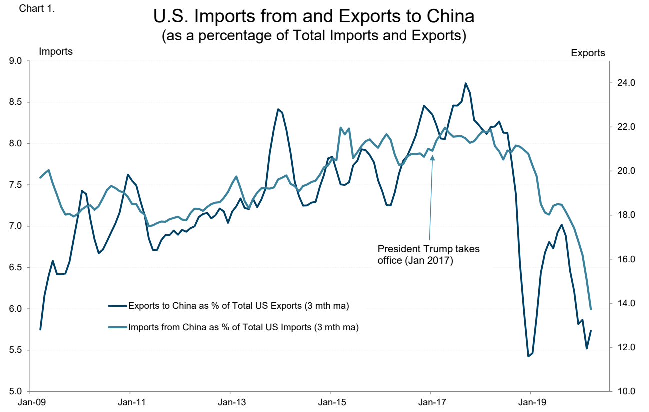
For the Chinese, this is a major risk to their growth strategy and one they have been vigorously fighting in a number of ways. One more recent tactic has included a more-aggressive diplomatic response for those critical of its reaction and policies. The press have dubbed this new strategy as "wolf warrior diplomats"; China has been replacing courtesy with intimidation and threats, whereby it has refused to supply some essential products to countries unless said countries toe the official China Party line. These countries are even being requested to publicly praise China's handling of the crisis. This has not been a winning strategy.

For a country that has been aggressively building out its Belt and Road Initiative on the basis that it will be a major global trading super power—and forcing many emerging markets to take on huge levels of debt to build out the necessary infrastructure—deglobalization is definitely not the direction of travel in which China is hoping the world will be headed. It is also likely to start to paint that debt in sharper relief.

For President Trump, this virus has been opportunistically used as another stick with which to bash China and promote the America First agenda. With the recent successful passage of the phase-one trade deal seemingly all but forgotten and the financial markets having stabilized with some light at the end of the tunnel with respect to the virus, the president has once again been firing up this anti-China rhetoric.

This week, this has included an attempt to ban the Federal Retirement Thrift Investment Board from investing in Chinese companies. Peter Navarro, the president's trade advisor, was one of the first to jump on this virus as an opportunity to reduce the nation's reliance on China for medical equipment supplies and drugs. Meanwhile, Senator Marco Rubio introduced the "Strengthening America's Supply Chain and National Security Act," a bipartisan act to reduce the nation's reliance on China for pharmaceutical production. This act is being supported by a number of Democrats, including Senator Elizabeth Warren.

Since President Trump was elected, goods exports to China have shrunk by 23%, while there has been a 42% decline in goods imports (chart 1). However, aggregate goods exports excluding China are 3.1% higher, and aggregate goods imports excluding China are 13.2% higher.



Source: Census Bureau, William Blair Equity Research

Yet, the United States isn't alone in backing away from China. Japan, for example, as part of its $992 billion stimulus package last month, passed a $2.2 billion measure to provide subsidies to companies that were prepared to repatriate their production out of China and back to Japan. The Australians have received heavy rebuke from the Chinese for pushing for an enquiry into the origins of the virus, and the EU and Britain have once again started to rethink the adoption of Huawei for their 5G network.

Anti-Globalization or Just Anti-China?

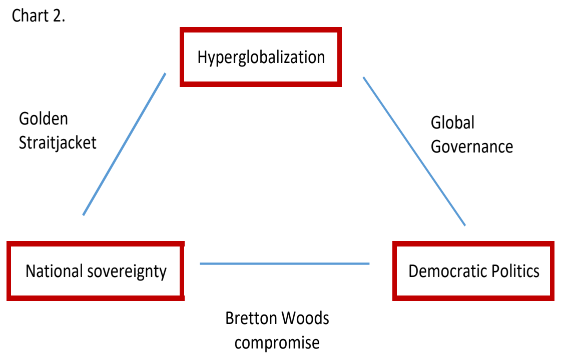
The reality is that it's a bit of both.

There is clearly a major geopolitical power struggle going between China and the United States for global dominance. The United States is responding by retrenching and turning more protectionist, while China has been easing up on some of its protectionist policies—but very unwillingly and only as much as it has to in order to achieve its domestic goals.

This power struggle also comes against even greater questions around the extent and the nature of globalization itself. The general populous has been increasingly vocal about these questions for years now, and they are once again resurfacing as a result of the virus. These questions revolve around security—security for food, health, and defense. But also more holistically there are questions around the benefits of unfettered free trade itself.

How Did We Get Here?

A neat way of looking at the trade-offs that globalization has generated is depicted by trade economist Dani Rodrik's "trilemma" (shown in chart 2). His theory suggests that when it comes to trade, economies can only choose between two of these three options: national sovereignty, democratic politics, and hyperglobalization. He proposed that is impossible to attain all three at the same time, so "pick two, any two."



Pick two, any two

Source: "The inescapable trilemma of the world economy", Dani Rodrik, June 27, 2007

If, for example, you choose democratic politics and hyperglobalization (i.e., deeper economic integration), not only can you not have national sovereignty, but the more hyperglobalized you become, the more you will be forced to give up your own economic democratic sovereignty in favor of globally agreed-upon regulations and standards that promote such globalization. If you wanted to maintain your national sovereignty but still undertake international trade, you would have to sacrifice your domestic agenda and adhere to a gold standard. Lastly, as Rodrik puts it, "*We can* [also] *downgrade our ambitions with respect to how much international economic integration we can (or should) achieve. So we go for a limited version of globalization, which is what the post-war Bretton Woods regime was about (with its capital controls and limited trade liberalization). It has unfortunately become a victim of its own success. We have forgotten the compromise embedded in that system, and which was the source of its success.*"

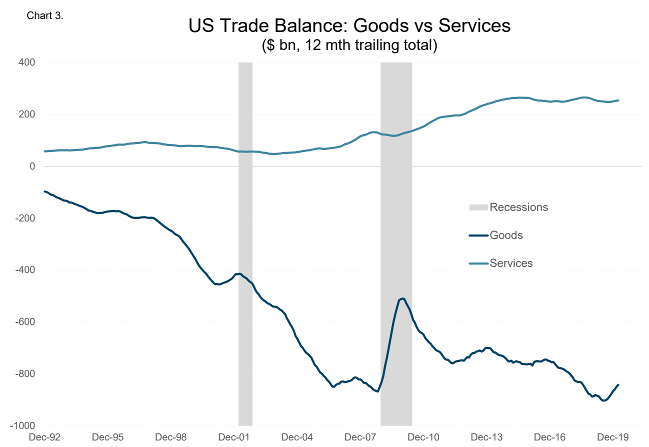
For the "neoliberal elite" the only choice that made sense was a continued steady march toward hyperglobalization. Global trade had always been known as "the only free lunch in economics"; it was a win-win for everyone. Unfortunately, as we now know, this wasn't quite true, and this choice was pushed way too far. Not only were the losing industries left high and dry, whereby the gains reaped by the trade winners were not distributed to support the losers; the losers also seemingly lost their democratic ability to do anything about it, e.g., "it's the unelected officials in Brussels."

While this has clearly been a major problem for EU member countries, in particular for those on the periphery who lack the political and economic clout of the powerhouses in the center, it has also been a problem for the United Kingdom for more distinct reasons. Globalization also has been a problem in the U.S. for many in the manufacturing industries, which have lost out to not only China, but also Mexico and numerous other emerging market countries.

In short, for them, it has been more about anti-globalization than specifically anti-China. The solution has been a resurgence of political populism, a need to "take back control," and a thumbing one's nose at "those so-called experts."

Where Do We Go From Here?

In thinking about the direction of globalization and trade moving forward, **it will be crucially important to distinguish between trade in goods versus trade in services** (chart 3).



Source: Census Bureau, William Blair Equity Research

Goods Come Home

Up to now, the global economy has really only concentrated on trade in goods. And, as a result, deglobalization/localization is mainly about bringing the outsourcing and production of those goods back home.

Some countries, like Japan, are trying to achieve this by using subsidies; others, such as the U.S., are using tariffs, tax cuts, regulatory changes, and increasingly security threats (food, virus, defense), as well as Twitter!

And it is starting to work. According to William Blair research analysts Nick Heymann and Larry DeMaria, the crisis has resulted in a tangible acceleration (supercharged!) of the desire to re-shore production back to the United States. Although they believe that companies are still only in the very early stages of such a shift and just starting to have these sorts of serious conversations both internally and with their suppliers and end-clients, this was viewed as the direction of travel.

The benefits from such a deglobalization strategy for the corporate sector might revolve around less transportation costs (which may also imply less environmental degradation); less regulatory red tape from foreign nations/more influence domestically; less that gets "lost in translation" both literally and financially; less risk of IP theft; less security threat (particularly from a China that has tangibly shifted away from greater free market capitalism and back toward state nationalism/authoritarianism); production that is closer to its end-consumer, which should allow for faster turnaround times and greater flexibility; and more jobs back home.

In theory, this should also be a positive for smaller-cap, less internationally diversified companies that are less able to maneuver among the global regulatory frameworks and their associated costs, and can benefit from their feet-on-the-ground local knowledge.

The downside is that this might also be associated with higher production costs, related to more stringent domestic regulatory and environmental/health standards; higher real wage costs; and, therefore, lower profit margins—presumably most of the very reasons companies opted to produce abroad in the first place. It also comes at a developmental cost for many other emerging market nations that were previously benefiting from the capital inflows, increased education, skills, and living standards; but also for developed market companies that were benefiting from better foreign know-how and alternative perspectives. Lastly, with regard to China specifically, this might also result in increasing China's regional hegemonic power, in a situation where the U.S. pulls out and leaves a power vacuum. For example, in the last two weeks, the U.S. has already been forced to increase its presence in the South China Sea on the back of more aggression there toward regional trading partners.

To offset these cost pressures, companies will necessarily have to increase innovation and productivity, without which there is likely to be greater upward pressure on prices.

It is here where the Trump administration is potentially getting it wrong, and where President Obama's highly controversial and taken-out-of-context "you didn't build that" gets it right. If you want to bring these companies home, you need to lay the foundations, both in terms of infrastructure and government spending on R&D, education, and science.

As we know from the work of economists such as Mariana Mazzucato, Bill Janeway, et al., innovation often depends on sources of funding that are decoupled from concerns for economic return, i.e., research-and-development expenditure in areas such as fighting wars, fighting viruses, and fighting cancer—spending that is driven by entities that can tolerate trial and error, and error, and error … before eventually getting it right (or sometimes not, as is also often the case). A prime example of this type of spending is at the government agency DARPA (Defense Advanced Research Projects Agency), an innovative department that invented the internet, Windows, Google Maps, Siri, Unix, GPS, and the stealth fighter.

Conversely, cutting immigration and increasing the debt and deficit on tax cuts, while cutting the budgets for science and R&D expenditure, and not prioritizing much-needed infrastructure spending projects are not helping to provide the "platform upon which entrepreneurs and venture capitalists can dance" (Janeway).

Services Go Global

Historically, economists have largely tended to ignore the trade in services, given that: 1) trade in goods is so much greater than the trade in services (chart 3), and 2) services are hard to trade—think haircuts. There is also less tangible data to track for services; for example, there is no container traffic through ports, no futures markets for legal advice as there is for commodities, no factories churning out widgets, no logistics industry built up around trade in services, etc. Furthermore, we don't track the number of consultants/lawyers/bankers getting on planes or even think about these intangibles as international trade. Yet, it is these services that represent the next wave of globalization.

The Third Wave of Globalization

As the economist Richard Baldwin writes in his book *The Globotics Upheaval: Globalization, Robotics, and the Future of Work*, services will be the third wave of globalization. It is one that is being built on the back of digitization and machine learning—where the first wave related to the steam engine (1700s onward) and the second related to computer automation (1970s onward).

It may initially seem to be a more subtle change, but will be just as radical in shaking up the economy. **This time, rather than arbitraging manufacturing globally, it will be service sector employment that is increasingly arbitraged globally.**

This globalization of the service sector is being achieved through increased technology and connectivity. Or as Baldwin terms it, through the use of:

1. **Domestic telecommuting**—effectively what many of us are doing at the moment, through Zoom, Skype, Webex, etc. But Baldwin asks, Why stop there? If a

domestic employee can telecommute in from the suburbs, why not a foreign worker from an emerging market who ones needs one-tenth of the salary as the developed market employee? Companies such as Slack are currently engaged in this.

2. **Telemigration**—which Baldwin dubs "the containerships of telecommuting." Software could allow companies to pick and choose workers globally for short- or long-term contracts, across any number of industries or fields. Companies like Upwork are already doing this.

3. **Machine learning and machine translation**—translation improvements will eventually effectively eliminate language barriers that have previously existed. Through instantaneous translation, a huge potential for a new global service sector will be available for worker arbitrage. Machine learning, meanwhile, will be able to read, parse, and respond to emails, read millions of documents, and check data—much of the work currently being done in the legal, insurance, research, banking, and government sectors.

The downside risks are that we see the same type of backlash against the globalization of services as we did against manufacturing; only this time, services account for a much larger share of the U.S. economy and many more times the number of (white-collar) jobs, which up to now have been largely insulated from the threat of globalization.

As a result, unless governments start to think about putting in place the kinds of support that will help to more evenly redistribute the gains from the winners to the losers, we should expect to see even greater political upheaval; more mass protests; more civil disorder; more pressure for a universal basic income; and rising government debts, and deficits, as they try to manage the displaced.

It might also result in increased disinflation pressures on real wages, and potentially higher real rates of interest. For those companies that are more likely to benefit, profit margins may indeed be higher, but will be generating greater returns once again for the owners of capital and not for the (fewer) domestic workers they employ or the aggregate economy more generally ($r > g$).

Once again, this may provide a relative benefit for smaller companies that can more easily afford the labor they need, if their labor pool is increasingly the global workforce—it should help them to get big faster.

Conclusion

The coronavirus outbreak has undoubtedly accelerated the existing trend toward deglobalization. Many countries—not just the United States—are also using the "China virus" as a cudgel to bash China, highlighting the security threats it poses to food, health, and defense, in order to encourage companies to return home (or at the very least to shift production elsewhere).

A return of manufacturing to the United States is a trend that is likely to continue, with numerous benefits, though potentially some costs—largely related to real wages and more stringent health/environmental/regulatory standards, which may have been faced elsewhere and would have been the main reasons for going offshore in the first place. To make their return more attractive and increase productivity, the government should be providing a solid platform for them to land on, including infrastructure spending and support for R&D, education, and sciences.

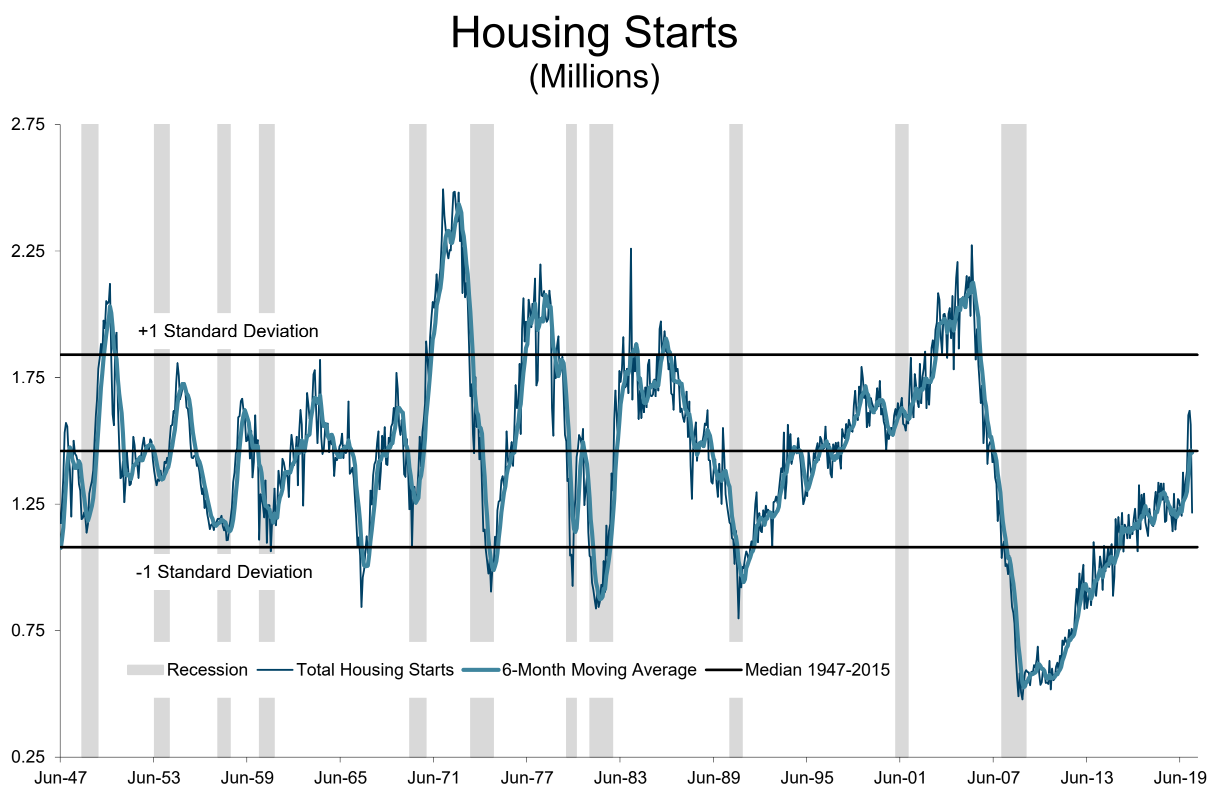
However, as is typical of governments, in many ways they are once again fighting the last war. Up until recently, international trade has mainly been about goods rather than the less-tradeable, though significantly larger services sector. Today, we are already seeing the next wave of globalization unfolding; this one related to the outsourcing of services. Yet, without forward planning, we may once again be faced with even greater populist sentiment and civil unrest, as many white-collar service sector jobs—which up to now have largely been insulated from the threat of globalization—start to face it full on. Governments would be wise to see this coming and plan ahead.

Highlights in the Week Ahead

Date	Time (EDT)	Indicator	Last	Consensus	WB Estimate	Actual
19 May	8:30 a.m.	Housing Starts (Apr)	-22.3%	-21.9%	-25.0%	
		Building Permits	-7.0%	-25.9%	-25.0%	
20 May	2:00 p.m.	FOMC Meeting Minutes (Apr 29)				
21 May	8:30 a.m.	Initial Jobless Claims (May 16)	2981	NA	2000	
21 May	10:00 a.m.	Leading Economic Indicators (Apr)	-6.7%	-5.7%	-6.0%	
21 May	10:00 a.m.	Existing Home Sales (Apr)	-17.0%	-8.5%	NA	

Sources: Bloomberg, William Blair Equity Research

Indicator of the Week: Housing Starts



Source: Census Bureau, William Blair

Economic Scorecard

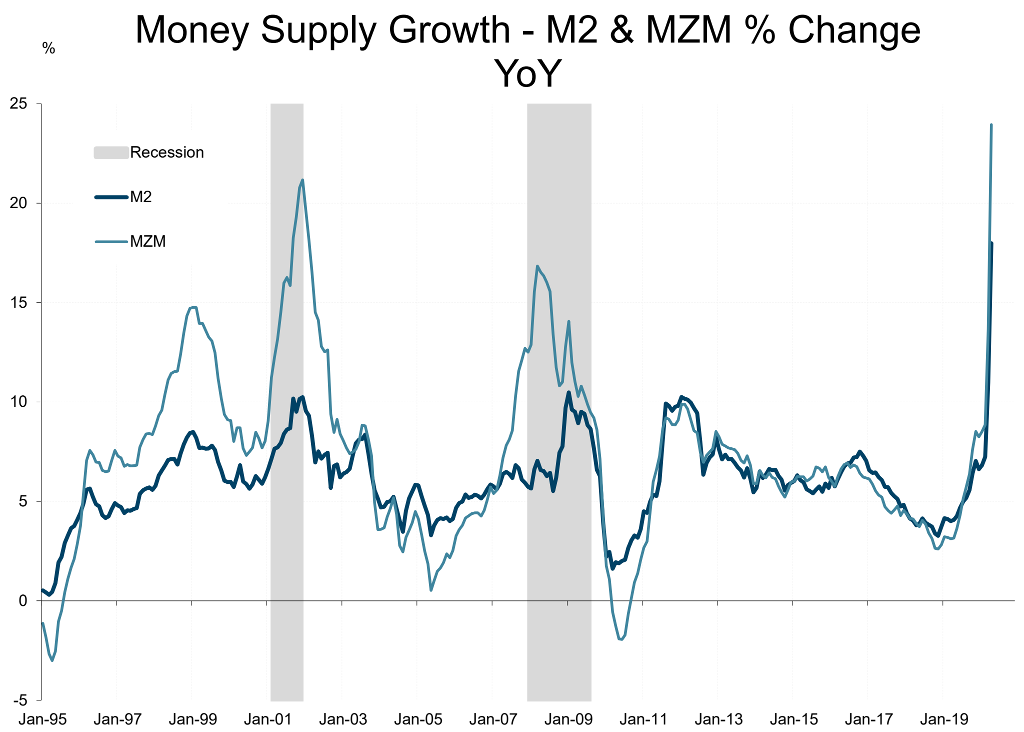
Rolling monthly heat map, % Change on Year Ago (unless otherwise noted)

	Nov-18	Dec-18	Jan-19	Feb-19	Mar-19	Apr-19	May-19	Jun-19	Jul-19	Aug-19	Sep-19	Oct-19	Nov-19	Dec-19	Jan-20	Feb-20	Mar-20	Apr-20	May-20
Growth																			
US Leading Indicators	4.9	4.0	3.4	2.9	2.7	2.4	2.4	1.7	1.5	1.0	0.3	0.2	0.2	0.3	0.7	0.4	-6.5		
US Coincident Indicators	2.2	2.2	2.4	2.2	2.2	1.8	1.8	1.7	1.5	1.5	1.6	1.4	1.5	1.2	1.1	1.4	0.3		
US Lagging Indicators	3.0	2.9	2.9	3.1	3.2	2.9	2.4	2.8	3.5	2.9	2.8	2.6	2.5	2.2	1.6	1.6	2.6		
Consumer																			
Total Retail Sales	3.6	0.9	2.5	2	3.6	3.9	3	3.6	3.6	4.3	4	3.3	3.3	5.6	4.9	4.5	-5.8		
Personal Income	4.7	5	4.5	4.7	4.7	4.8	4.7	4.6	4.1	4.1	4.3	4.1	4.4	3.7	3.9	3.9	1.4		
Real Disposable Personal Income	3.7	4.2	3.2	3.4	3.3	3.1	3	2.9	2.5	2.6	3	2.6	2.9	1.8	2.1	2.1	0.1		
Real Personal Consumption	3	1.7	2.4	2.3	2.8	2.7	2.6	2.6	2.6	2.5	2.7	2.3	2.3	3.3	3	3.2	-5		
Personal Saving Rate (%)	7.2	8.8	8.3	8.8	8.4	8	7.8	7.8	7.4	7.7	7.8	7.6	7.7	7.5	7.7	8	13.1		
Consumer Confidence (Conference Board)**	136.4	126.6	121.7	131.4	124.2	129.2	131.3	124.3	135.8	134.2	126.3	126.1	126.8	128.2	130.4	132.6	118.8	86.9	
Employment																			
Employment Growth	1.5	1.6	1.7	1.4	1.4	1.4	1.3	1.3	1.3	1.3	1.4	1.3	1.4	1.4	1.4	1.6	0.9	-12.9	
ASA Temporary Staffing Index	1.1	-12.7	-0.6	-1.3	-1.9	-3.0	-2.4	-1.7	-4.6	-4.7	-5.1	-6.5	1.4	-6.9	-6.2	-6.8	-24.4	-36.6	
ISM Employment Index Manufacturing*	57.8	56.2	55.2	53.2	57.1	52.4	53.1	54.3	51.3	47.6	46.5	47.9	46.8	45.2	46.6	46.9	43.8	27.5	
ISM Employment Index Services*	57.8	56.2	56.4	55.6	55.9	54.5	57.1	55.2	55.7	53.7	51.7	53.9	54.9	54.8	53.1	55.6	47	30	
Unemployment Rate, %	3.7	3.9	4	3.8	3.8	3.6	3.6	3.7	3.7	3.7	3.5	3.6	3.5	3.5	3.6	3.5	4.4	14.7	
Average Hourly Earnings	3.4	3.4	3.3	3.5	3.4	3.3	3.3	3.4	3.5	3.5	3.1	3.2	3.3	3	3.1	3	3.3	7.9	
Initial Jobless Claims (avg. wkly. chg. '000s)	226	217	220	225	217	216	217	221	214	217	213	215	216	226	210	214	2667	5040	
Jop Openings	21.0	17.1	13.2	7.2	7.3	4.3	3.9	-1.3	-1.2	-1.1	-3.2	1.0	-9.5	-10.3	-6.8	-2.4	-6.5	-5.5	
Layoff Announcements	51.5	35.3	18.7	117.2	0.4	10.9	85.9	12.8	43.2	39	-24.8	-33.5	-16	-25.2	27.8	-26.3	266.9	1576.9	
Housing Market																			
Housing Starts	-7.8	-5.6	-3.2	-10.9	-9.6	0.2	-5.1	4.5	1.7	7.5	2.4	10.7	14.9	40.2	25.4	36.1	1.4		
New Home Sales	-14	-14	2.5	3.9	6	4.3	-8	18	8.4	17.2	19.4	26.9	13.8	28.2	20.7	10.8	-9.5		
Existing Home Sales	-8.2	-10.1	-8.6	-2.5	-5.6	-3.7	-1.1	-2.0	0.8	2.5	3.2	4.2	3.1	10.4	8.8	7.1	0.8		
Median House Price (Existing Homes)	-10.2	-4	-7.3	-2	-7.4	7.8	-1.3	0.4	-5.9	1.7	-3.8	-1.8	6.3	-0.1	7.7	2.9	3.5		
Existing Homes Inventory (Mths' supply)	4.1	4.3	4.3	3.9	3.9	4	4	4	3.9	3.8	3.9	3.9	3.9	3.6	3.5	3.2	3.6		
New Homes Inventory (Mths' supply)	6.5	7.4	6.5	6.1	5.8	6.1	6.7	5.4	6	5.5	5.3	5.4	5.5	5.4	5	5.2	6.4		
NAHB Homebuilder Sentiment*	60	56	58	62	62	63	66	64	65	67	68	71	71	76	75	74	72	30	
Inflation																			
Consumer Price Index	2.2	1.9	1.6	1.5	1.9	2	1.8	1.6	1.8	1.7	1.7	1.8	2.1	2.3	2.5	2.3	1.5	0.3	
CPI Less-food & energy	2.2	2.2	2.2	2.1	2	2.1	2	2.1	2.2	2.4	2.4	2.3	2.3	2.3	2.3	2.4	2.1	1.4	
Producer Price Index	2.6	2.6	1.9	1.9	2	2.4	2.1	1.6	1.6	1.9	1.5	1	1	1.4	2.1	1.3	0.7	-1.2	
PPI Less-food & energy	2.7	2.9	2.6	2.5	2.3	2.5	2.4	2.2	2.2	2.3	2	1.6	1.2	1.3	1.7	1.4	1.4	0.6	
PCE Price Index	1.9	1.8	1.4	1.3	1.4	1.5	1.4	1.4	1.4	1.4	1.3	1.3	1.3	1.6	1.8	1.8	1.3		
PCE Prices Less-food & energy	2.0	2.0	1.8	1.6	1.5	1.6	1.5	1.6	1.6	1.8	1.7	1.6	1.5	1.6	1.7	1.8	1.7		
Business Activity - US																			
Industrial Production	4.1	3.8	3.6	2.7	2.3	0.7	1.7	1.0	0.4	0.3	-0.2	-0.8	-0.4	-0.9	-0.9	0.0	-5.5		
New Cap Gds Orders less-aircraft & parts	6.4	2.2	3.5	2.3	2.2	2.4	0.7	-0.5	0.7	-1.9	0.2	-0.5	-1.5	1.8	1.5	1.7	-0.1		
Business Inventories	4.5	4.8	5.3	4.9	5	5.3	5.3	5.2	4.8	4.2	3.7	3	2.8	2.2	1.1	-0.1	0		
ISM Manufacturing PMI*	58.8	55	55.5	54.1	54.6	53.4	52.3	51.6	51.3	48.8	48.2	48.5	48.1	47.8	50.9	50.1	49.1	41.5	
Markit US Manufacturing PMI*	55.3	53.8	54.9	53	52.4	52.6	50.5	50.6	50.4	50.3	51.1	51.3	52.6	52.4	51.9	50.7	48.5	36.1	
ISM Non-Manufacturing Index*	60.2	58	56	58.5	56.3	55.7	56.3	55.4	54.8	56	53.5	54.4	53.9	54.9	55.5	57.3	52.5	41.8	
Markit US Services PMI*	54.7	54.4	54.2	56	55.3	53	50.9	51.5	53	50.7	50.9	50.6	51.6	52.8	53.4	49.4	39.8	26.7	
Business Activity - International																			
Germany Manufacturing PMI Markit/BME*	51.8	51.5	49.7	47.6	44.1	44.4	44.3	45	43.2	43.5	41.7	42.1	44.1	43.7	45.3	48	45.4	34.5	
Japan Manufacturing PMI Jibun Bank*	52.2	52.6	50.3	48.9	49.2	50.2	49.8	49.3	49.4	49.3	48.9	48.4	48.9	48.4	48.8	47.8	44.8	41.9	
Caixin China Manufacturing PMI*	50.2	49.7	48.3	49.9	50.8	50.2	50.2	49.4	49.9	50.4	51.4	51.7	51.8	51.5	51.1	40.3	50.1	49.4	
China Manufacturing PMI*	50	49.4	49.5	49.2	50.5	50.1	49.4	49.4	49.7	49.5	49.8	49.3	50.2	50.2	50	35.7	52	50.8	
UK Manufacturing PMI Markit/CIPS*	53.3	54.3	52.8	52.1	55.1	53.1	49.4	48	48	47.4	48.3	49.6	48.9	47.5	50	51.7	47.8	32.6	
France Manufacturing PMI Markit*	50.8	49.7	51.2	51.5	49.7	50	50.6	51.9	49.7	51.1	50.1	50.7	51.7	50.4	51.1	49.8	43.2	31.5	
Currencies*																			
Euro (EUR/USD)	-4.9	-4.5	-7.8	-6.7	-9.0	-7.1	-4.5	-2.7	-5.3	-5.3	-6.1	-1.4	-2.6	-2.2	-3.1	-3.0	-1.7	-2.3	
Renmimbi (USD/CNY)	5.3	5.7	6.5	5.7	7.0	6.4	7.7	3.7	0.9	4.8	4.1	0.9	1.0	1.2	3.2	4.5	5.5	4.9	
Yen (USD/Yen)	0.9	-2.7	-0.3	4.4	4.3	1.9	-0.5	-2.6	-2.8	-4.3	-4.9	-4.3	-3.6	-1.0	-0.5	-3.1	-3.0	-3.8	
Sterling (GBP/USD)	-5.7	-5.6	-7.6	-3.6	-7.0	-5.3	-5.0	-3.9	-7.4	-6.2	-5.7	1.4	1.4	3.9	0.7	-3.3	-4.7	-3.4	
Canadian $ (USD/CAD)	3.1	8.5	6.6	2.7	3.5	4.2	4.3	-0.3	1.4	2.1	2.6	0.1	-0.1	-4.7	0.9	1.8	5.3	4.2	
Mexican Peso (USD/MXN)	9.3	0.0	2.7	2.4	6.9	1.2	-1.5	-3.4	2.7	5.1	5.4	-5.4	-4.1	-3.7	-1.4	1.9	21.8	27.6	
US Equities																			
S&P 500	4.3	-6.2	-4.2	2.6	7.3	11.2	1.7	8.2	5.8	0.9	2.2	12.0	13.8	28.9	19.3	6.1	-8.8	-1.1	
S&P 400 Midcap	-1.1	-12.5	-6.1	2.5	0.9	5.2	-7.0	-0.3	-0.9	-8.0	-4.2	7.1	7.0	24.1	9.4	-5.0	-23.9	-16.5	
S&P 600 Smallcap	2.1	-9.8	-2.6	5.7	0.1	2.9	-11.8	-6.3	-8.1	-16.4	-10.8	1.6	3.2	20.9	4.9	-9.1	-27.1	-20.9	
Russell 2000	-0.7	-12.2	-4.8	4.2	0.7	3.2	-10.3	-4.7	-5.8	-14.1	-10.2	3.4	6.0	23.7	7.6	-6.3	-25.1	-17.6	

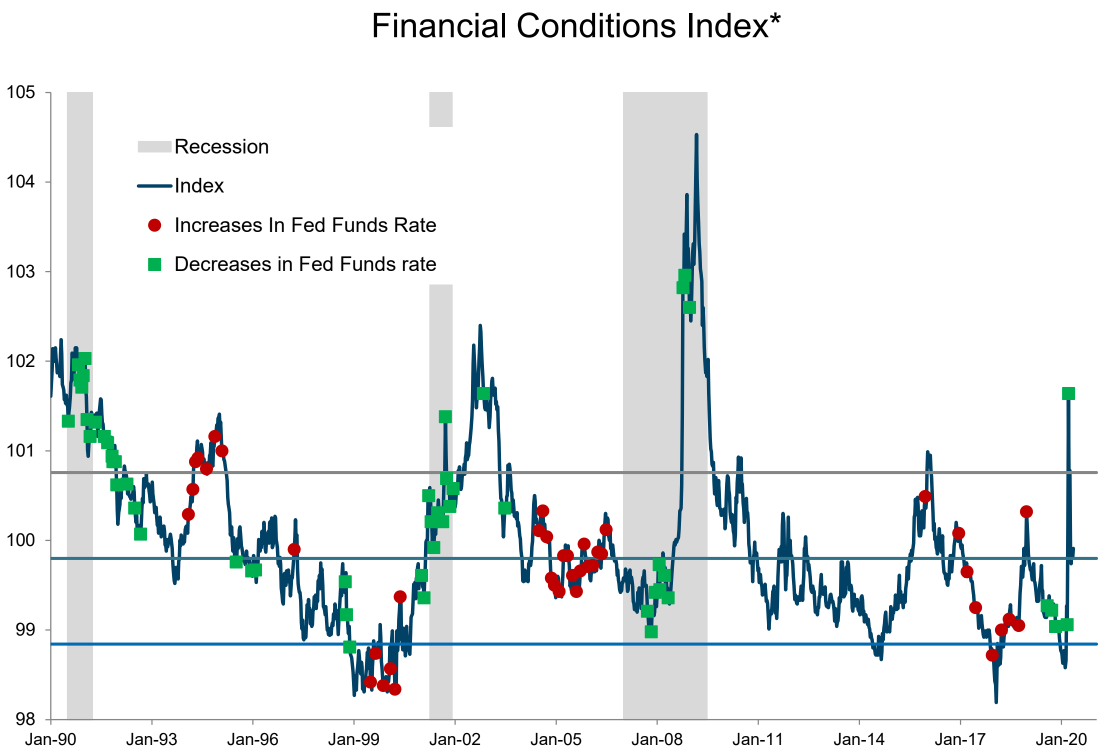
* Diffusion Index, **1985=100, ***Currencies - green/red = strengthening/weakening foreign currency vs dollar

Source: ISM, Federal Reserve, Census Bureau, Bureau of Labor Statistics, Conference Board, Bloomberg, William Blair

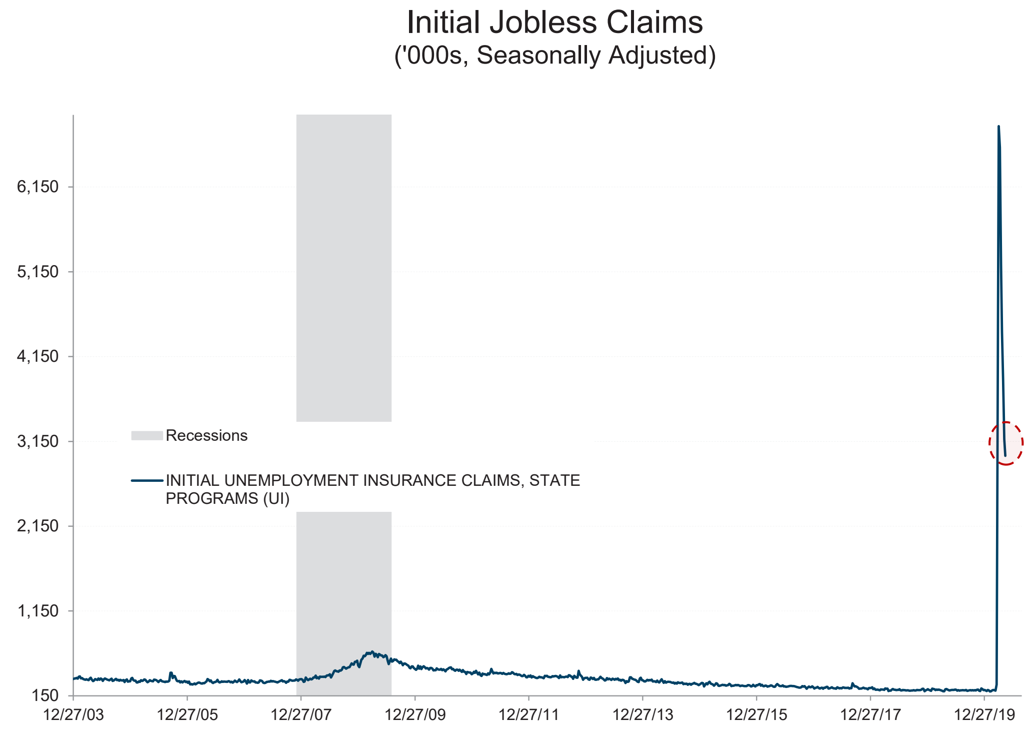
Other Economic Indicators



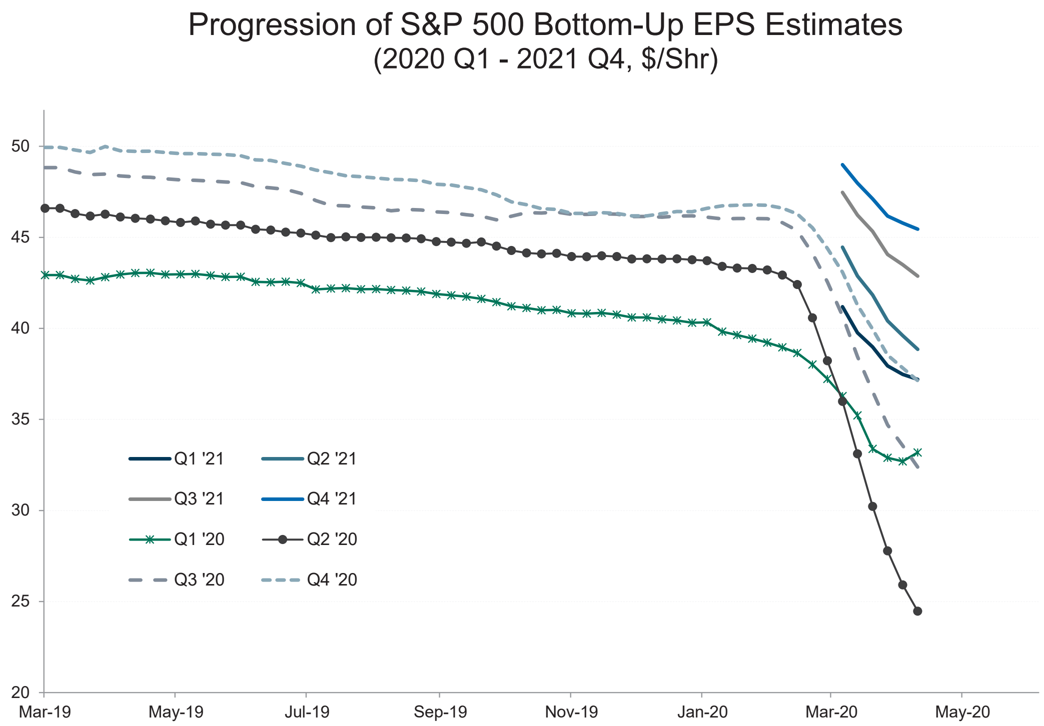
Source: Federal Reserve, William Blair



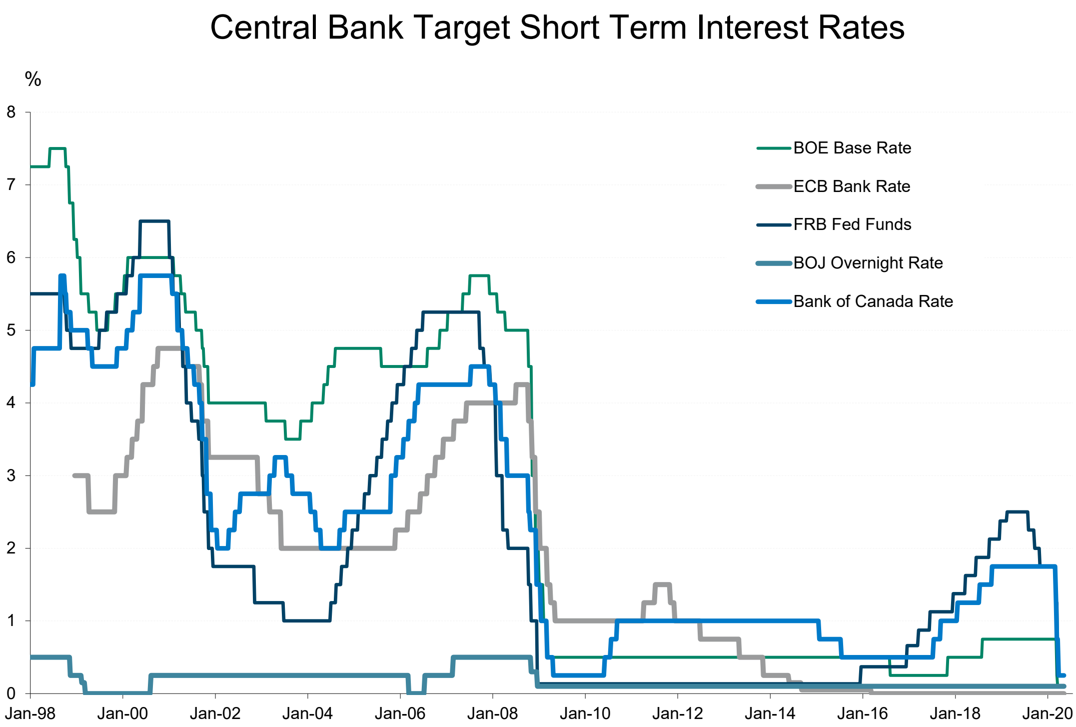
*The Goldman Sachs FCI is a weighted sum of a short-term bond yield, a long-term corporate yield, the exchange rate, and a stock market variable. Since 2005, the long-term corporate yield has been measured as a sum of the 10-year swap rate and the 10-year credit default swap spread.
Source: Bloomberg, William Blair



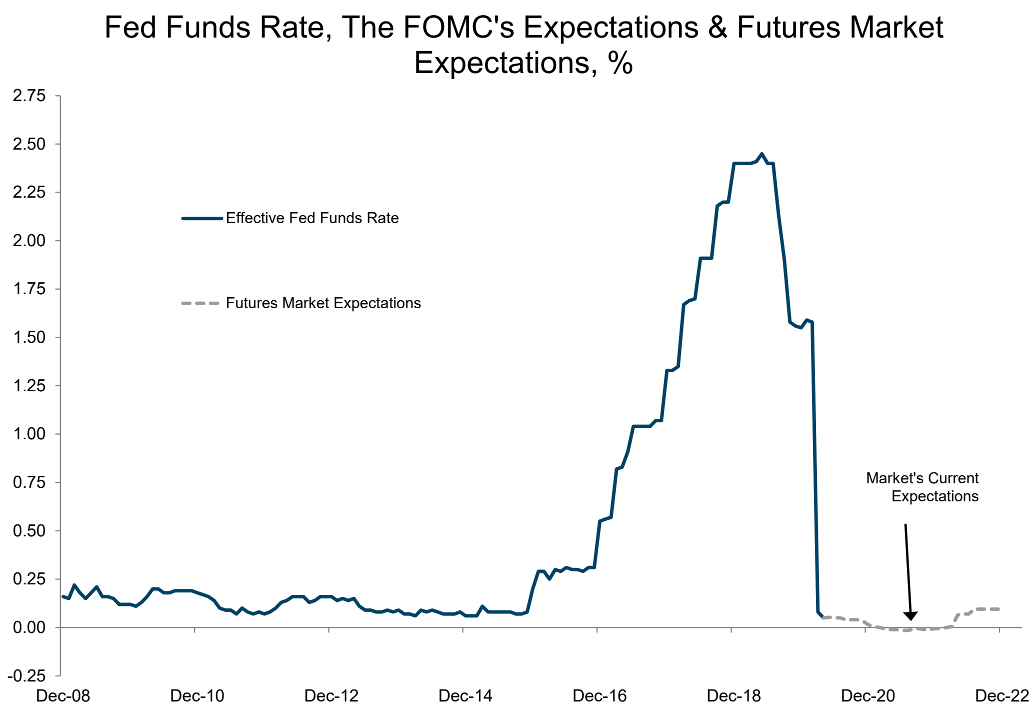
Source: Department of Labor, Bloomberg, William Blair Equity Research



Source: Refinitiv, William Blair



Source: Bloomberg, William Blair



Source: Bloomberg, Federal Reserve, William Blair

S&P 500 Sector Performance

Global Industry Classification System	Current Weight* 14-May-20	Week Ago 07-May-20	Month Ago 14-Apr-20	Qtr-to-Date 31-Mar-20	Year-to-Date 31-Dec-19
S&P 500 Index	**100.00**	**-1.00**	**0.23**	**10.37**	**-11.71**
S&P400 MidCap Index		**-3.27**	**-0.21**	**8.57**	**-24.04**
S&P600 SmallCap Index		**-5.04**	**-3.82**	**2.68**	**-31.14**
Dow Jones Industrials		**-1.05**	**-1.35**	**7.79**	**-17.22**
Nasdaq Composite		**-0.40**	**5.03**	**16.15**	**-0.32**
Communication Services	**11.25**	**-0.89**	**4.04**	**13.08**	**-6.40**
Advertising	0.07	-6.07	-7.82	-7.33	-36.48
Alternate Carriers	0.04	-3.46	-10.42	-2.84	-30.43
Broadcasting	0.14	1.52	-2.40	11.60	-44.10
Cable & Satellite	1.11	-0.60	-4.16	7.42	-14.74
Integrated Telecommunication Services	1.75	-1.14	-6.84	0.17	-19.19
Interactive Home Entertainment	0.43	0.28	10.41	18.98	15.66
Interactive Media & Services	5.62	-1.44	10.16	19.31	0.91
Movies & Entertainment	1.60	0.77	3.13	13.04	-5.44
Publishing & Printing	0.03	11.09	13.92	20.22	-24.14
Wireless Telecommunication Svcs	0.48	-0.40	5.90	13.13	21.03
Consumer Discretionary	**11.00**	**-0.44**	**3.31**	**17.56**	**-5.47**
Apparel Retail	0.36	-7.02	-10.20	-5.16	-28.47
Apparel & Accessories & Luxury Goods	0.15	-6.70	-11.17	1.88	-50.67
Auto Parts & Equipment	0.09	-2.40	0.98	24.20	-34.15
Automobile Manufacturers	0.21	-0.18	-4.85	4.80	-42.73
Automobile Retail	0.30	3.31	10.51	30.57	-12.63
Casinos & Gaming	0.20	-4.53	-3.98	14.17	-44.39
Computer & Electronics Retail	0.08	1.23	10.51	35.42	-12.08
Consumer Electronics	0.06	-0.96	-5.72	3.12	-20.77
Department Stores	0.02	-7.94	-16.37	15.24	-64.37
Distributors	0.07	-4.90	1.05	9.10	-33.54
Footwear	0.44	-2.27	-1.05	4.60	-14.57
General Merchandise Stores	0.50	4.23	4.78	21.29	-1.64
Home Furnishings	0.04	-2.89	-7.60	0.37	-45.44
Home Improvement Retail	1.36	1.28	12.74	26.25	3.15
Homebuilding	0.19	-3.71	8.91	25.00	-18.68
Hotels, Resorts & Cruise Lines	0.25	-7.18	-4.16	2.57	-57.82
Household Appliances	0.03	0.99	4.30	25.83	-26.82
Housewares & Specialties	0.02	-3.49	-15.79	-12.50	-39.54
Internet Retail	5.22	0.60	4.42	21.66	21.78
Leisure Products	0.04	-5.50	-13.45	-9.69	-38.81
Motorcycle Manufacturers	0.01	-4.34	1.03	3.28	-47.43
Restaurants	1.18	-2.15	-0.02	12.57	-12.78
Specialized Consumer Services	0.01	-1.48	5.78	9.16	-34.55
Specialty Stores	0.16	-2.85	3.29	11.28	-5.22
Consumer Staples	**8.08**	**-0.05**	**-5.76**	**3.89**	**-10.02**
Agricultural Products	0.08	-1.73	-8.27	-2.90	-26.30
Brewers	0.03	-3.48	-22.07	-6.97	-32.67
Distillers & Vintners	0.19	-2.48	-2.92	12.53	-12.92
Drug Retail	0.14	-4.45	-16.24	-15.08	-34.11
Food Distributors	0.10	-8.22	-0.70	5.15	-43.91
Food Retail	0.10	0.31	2.15	8.83	13.07
Household Products	1.74	0.74	-4.97	4.69	-4.91
Hypermarkets & Supercentres	1.96	-0.05	-4.44	7.09	3.04
Packaged Foods & Meats	1.23	1.88	-2.02	6.67	-7.01
Personal Products	0.16	-5.51	-2.71	1.48	-23.85
Soft Drinks	1.65	-0.06	-6.73	5.37	-11.53
Tobacco	0.70	-0.71	-12.73	-6.62	-23.12
Energy	**2.83**	**-3.33**	**6.10**	**22.23**	**-40.18**
Integrated Oil & Gas	1.46	-3.52	2.47	17.38	-35.43
Oil & Gas Drilling	0.01	6.26	-5.39	10.86	-61.81
Oil & Gas Equipment & Services	0.19	-3.24	5.16	24.34	-57.84
Oil & Gas Exploration & Production	0.56	-4.88	13.45	31.92	-43.82
Oil & Gas Refining & Marketing & Transportation	0.33	-1.81	16.81	30.91	-40.25
Oil & Gas Storage & Transportation	0.28	-1.04	1.56	20.13	-36.78

Financials	**9.58**	**-2.90**	**-6.51**	**1.49**	**-31.33**
Asset Management & Custody Banks	0.78	-1.99	-0.05	7.09	-21.11
Consumer Finance	0.47	-3.33	0.50	4.48	-40.75
Diversified Banks	2.79	-4.92	-10.41	-3.77	-42.85
Financial Exchanges & Data	1.27	1.45	5.26	16.76	4.08
Insurance Brokers	0.57	4.20	2.86	18.18	-5.18
Investment Banking & Brokerage	0.73	-3.89	-4.82	7.97	-26.06
Life & Health Insurance	0.40	-7.61	-8.67	1.61	-40.11
Multi-line Insurance	0.16	-2.33	-9.14	-0.74	-46.56
Multi-Sector Holdings	0.97	-1.47	-11.41	-6.51	-24.54
Property & Casualty Insurance	0.67	-3.53	-16.08	-7.61	-26.98
Reinsurance	0.03	-6.97	-20.39	-15.95	-41.58
Regional Banks	0.74	-6.25	-4.70	3.37	-42.17
Health Care	**15.26**	**0.69**	**2.46**	**12.23**	**-2.44**
Biotechnology	2.54	2.68	4.20	13.17	9.41
Health Care Distributors	0.24	-3.81	-5.76	-2.80	-7.78
Health Care Equipment	3.69	-2.59	1.20	11.65	-6.36
Health Care Facilities	0.16	-3.72	-12.57	5.85	-33.66
Health Care Services	0.77	0.97	2.88	8.35	-10.84
Health Care Supplies	0.16	-4.06	0.85	9.00	-21.88
Health Care Technology	0.08	-2.09	-4.87	4.13	-10.63
Life Sciences Tools & Services	1.09	-0.15	3.88	16.39	-2.86
Managed Health Care	1.76	2.32	7.04	17.31	-1.33
Pharmaceuticals	4.76	2.41	1.83	11.58	-0.97
Industrials	**7.49**	**-3.25**	**-4.82**	**0.83**	**-26.81**
Aerospace & Defense	1.68	-3.72	-10.47	-2.55	-35.67
Agricultural & Farm Machinery	0.16	-6.76	-8.20	-8.22	-26.82
Air Freight & Logistics	0.47	-2.46	-8.21	-1.96	-20.79
Airlines	0.16	-6.96	-25.54	-29.55	-65.17
Building Products	0.35	-2.08	-2.30	3.05	-26.27
Construction & Engineering	0.06	-8.26	-11.21	-7.58	-21.51
Construction Machinery & Heavy Trucks	0.46	-1.63	-3.91	0.24	-23.59
Diversified Support Svcs	0.17	2.99	13.17	24.76	-13.50
Electrical Components & Equipment	0.41	-4.08	3.01	8.96	-21.45
Environmental & Facilities Services	0.32	-3.40	-0.67	6.00	-11.14
Human Resource & Employment Services	0.02	-1.22	6.87	18.16	-29.36
Industrial Conglomerates	1.03	-4.89	-8.78	-7.22	-29.34
Industrial Machinery	0.75	-3.94	-2.04	5.17	-24.69
Railroads	0.84	-1.80	2.48	9.52	-14.56
Research & Consulting Svcs	0.40	-2.21	2.28	11.95	-6.58
Trading Companies & Distributors	0.18	0.84	6.09	17.79	-11.35
Trucking	0.11	-1.18	6.96	10.61	2.40
Information Technology	**26.16**	**-0.53**	**4.40**	**15.51**	**1.40**
Application Software	2.17	-2.15	5.13	15.17	5.54
Communications Equipment	0.97	3.67	0.46	10.11	-9.21
Data Processing & Outsourced Services	4.39	-2.26	6.58	15.91	-3.81
Electronic Components	0.16	-4.64	-0.85	7.01	-26.52
Electronic Equipment & Instruments	0.15	-2.11	8.38	22.00	-8.91
Electronic Manufacturing Services	0.13	-4.07	3.10	14.28	-23.26
Internet Software & Services	0.16	-0.57	1.52	13.57	11.97
IT Consulting & Services	1.11	-5.24	-2.30	8.09	-15.69
Semiconductor Equipment	0.47	7.40	3.23	17.40	-7.66
Semiconductors	4.00	0.95	2.03	14.44	-1.48
Systems Software	6.66	-1.55	4.41	14.84	14.22
Technology Distributors	0.06	-6.53	-6.60	6.91	-30.20
Technology Hardware, Storage & Peripherals	5.73	1.63	6.85	19.76	2.30
Materials	**2.42**	**-1.70**	**-0.89**	**11.95**	**-17.82**
Commodity Chemicals	0.17	0.98	-6.67	11.93	-40.58
Construction Materials	0.09	-5.54	-15.23	-10.51	-36.00
Copper	0.05	-7.58	-0.36	22.81	-36.81
Diversified Chemicals	0.03	-0.41	6.81	29.28	-24.02
Fertilizers & Agricultural Chemicals	0.15	-9.39	-9.29	0.15	-28.44
Gold	0.22	3.22	11.27	47.17	53.38
Industrial Gases	0.58	-2.17	-3.07	6.64	-12.12
Metal & Glass Containers	0.08	-5.84	-8.71	-4.05	-4.07
Paper Packaging	0.22	0.58	-4.64	4.38	-25.34
Specialty Chemicals	0.76	-0.38	5.45	19.18	-16.97
Steel	0.05	-8.37	-2.32	4.08	-33.39

Real Estate	**2.67**	**-5.11**	**-11.34**	**-0.02**	**-19.86**
Health Care REITs	0.16	-2.57	-20.61	-6.50	-47.40
Hotel & Resort REITs	0.03	-9.15	-12.24	-9.05	-45.88
Industrial REITs	0.30	-5.12	-7.13	2.88	-6.67
Office REITs	0.16	-9.05	-18.71	-5.85	-35.80
Real Estate Service	0.05	-12.33	-18.26	-4.93	-41.51
Residential REITs	0.34	-7.79	-11.72	-1.09	-26.72
Retail REITs	0.20	-8.03	-17.11	-3.36	-51.90
Specialized REITs	1.43	-3.45	-8.90	1.99	-0.65
Utilities	**3.13**	**0.65**	**-8.70**	**-0.17**	**-14.33**
Electric Utilities	2.11	1.67	-7.80	-0.65	-13.29
Gas Utilities	0.05	-1.55	-12.23	-4.38	-15.18
Independent Power Producers & Energy Traders	0.03	-2.47	-15.63	-13.09	-40.76
Water Utilities	0.09	-2.36	-12.97	-2.75	-5.36
Multi-Utilities	0.99	-0.85	-9.63	1.77	-15.36

*Current Weight is market cap based, based on calculations by William Blair Intl. Ltd.

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DOW JONES: 23625.30
S&P 500: 2852.50
NASDAQ: 8943.72

Additional information is available upon request.

Current Rating Distribution (as of May 14, 2020):

Coverage Universe	Percent	Inv. Banking Relationships *	Percent
Outperform (Buy)	71	Outperform (Buy)	20
Market Perform (Hold)	29	Market Perform (Hold)	8
Underperform (Sell)	1	Underperform (Sell)	0

*Percentage of companies in each rating category that are investment banking clients, defined as companies for which William Blair has received compensation for investment banking services within the past 12 months.

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