Licensed by the California Department of Corporations as an Investment Advisor

Investment Newsletter – March 2020

We all are painfully aware of the human health aspects of the coronavirus disaster that is unfolding around us. In this newsletter I'll focus on the economic and financial impacts: the problems we face and the solutions to these problems. After that I will provide a short discussion of the impact on investment real estate. Due to the length of these topics I will defer my review of the performance of the Short Term Income strategy.

The Coronavirus Lockdown Makes the Economy Sick

Because of the coronavirus, a large part of the population has been driven to stay home. This happened first in China, then Italy, and now here, as well as much of the rest of the world. This situation disrupts both the supply side of the economy and the demand side of the economy. Economists refer to these separately as a supply shock and a demand shock.

China accounts for about 25% of the world's manufactured goods. A very large portion of their manufacturing capacity was taken out of service when they instituted their lock downs. Even factories that remained open were constrained because the labor force had gone away for the lunar new-year holiday and could not return. China officially reported a 13.5% drop in industrial production for January and February. The Wuhan quarantine was put in effect January 23rd. The normal lunar new-year shutdown of factories was January 25th. This shutdown was extended to February 9th due to the coronavirus. Even then, many factories could not open until they had the required safety protocols in place (and workers could get back). I expect the March drop in supply to be equally as bad. Given that most market economists believe the government manipulates the numbers to show more favorable results, the true drop is likely more than 20%.

The Chinese shutdown is bad for companies all over the world because so many international companies have at least some production there. Apple has most of its production there. Automobile manufacturers in Europe had to shut down when they could no longer get parts from China. Now production shut downs are spreading throughout the world.

In the U.S. we have shut down most economic activity involving people leaving their homes. This means that most of the services sectors are shut down (except health care). Because services are about 77% of gross national product we can expect a large decline in economic output in the first quarter and probably also the

2nd quarter. This is a major recession. Such a disruption will dramatically reduce the revenue and earnings of U.S. companies which cannot produce their products and services.

The demand side shock comes from the fact that businesses without revenue and workers without paychecks cannot afford to buy as much stuff. This means that even companies still producing will be affected by the drop-off in purchasing power that comes with closed businesses and mass layoffs. Jobless claims for the week ended March 21st were 3,283,000 – up 3,001,000 in one week. By comparison the previous high was 695,000 in October 1982.

The Rush for Liquidity

Liquidity means having easy access to cash. In normal times we don't think too much about this because money comes in every month and, in turn, goes out to pay the bills. The problem comes when the income stops, but the bills do not. In this situation people and businesses may stop paying their bills. For example Cheese Cake factory announced they will not pay rent on their stores in April. Given the eviction moratoriums announced in California it would not be surprising if a significant number of renters stopped paying rent. Meanwhile the landlords still have to pay their bills so they will need cash from somewhere.

Some industries face serious risk of bankruptcy because they rely on cash flow from continuing operations to make their debt payments. For example Carnival Cruise lines operates its business using customer deposits made far in advance of the trips. They also have large long term borrowings they use to finance their ships. Suddenly they have no idea when they can cruise again and large losses this year are a certainty. Their customers would be unsecured creditors in bankruptcy court and would likely lose their money. This, combined with the danger of going on a cruise, will likely cause many or most to ask for their money back. According to Carnival's last financial report their current liabilities exceed their current assets by roughly $7 billion. This month they drew down their credit line of $3 billion to buy some time. Many other companies face a cash crunch; they are drawing down their bank credit lines and selling any investment securities they may have.

Similarly people and small businesses are selling investments to raise cash to cover expenses. Once such liquidity induced selling starts, it becomes self reinforcing. The initial wave of sales pushes prices down. Then people who see prices fall pull money from mutual funds and sell exchange traded funds. This increases the market's need for liquidity – meaning investors with cash willing to buy. The rush to sell assets to meet redemptions can lead to margin calls for leveraged investors and, in turn, lead to forced sales.

Bond Market Liquidity Crunch

In financial markets the liquidity of a security refers to how easily it can be bought or sold in the amount desired without significantly changing the price. This ease of buying and selling is determined by how many buyers and sellers are interested in that particular security. They have to pay attention in order to set a price to buy or sell. For large company stocks like Apple or Microsoft there are a

© 2020 Berkeley Investment Advisors (not affiliated with U.C. Berkeley)

great many institutional buyers and sellers that will transact if the price suits them. Because there are so many interested investors and traders with different opinions on price, there is usually always someone to take the other side of a trade. In contrast, individual bonds have vastly less investors who pay enough attention to enter a bid or ask price. This is because bond issue sizes are much smaller and tend to be held longer than stocks. In order to increase the purchase or sales volume significantly above normal, bond prices have to move enough to make it worthwhile to pay attention.

In normal times the bond market functions well with fairly steady transaction volumes. For most individual investors it does not make sense to buy individual bonds. Buying bond funds makes more sense because liquidity is better and it is easier to diversify the holdings. Even though these funds provide good liquidity in normal times, a massive move by investors to pull money out of funds at the same time causes the fund managers to try selling bonds all at the same time. Such a wave of selling into an illiquid underlying bond market can only be accomplished by lowering prices enough to get more potential buyers to take notice, pay enough attention to value the bonds, and bid.

With regard to the closed-end bond fund market, we have both an advantage and a disadvantage. The advantage is that sellers cannot demand that the fund managers sell the underlying bonds which would push bond prices down for everyone. The disadvantage is that the closed-end funds themselves are illiquid; thus their prices must move a lot to attract buyers.

An Excerpt from My Note to Clients on March 18th 2020

Today we saw what can happen in securities with lower liquidity – a severe imbalance of sellers relative to buyers can drive prices down much further than in a well-functioning (liquid) market. Prices for closed-end bond funds went down far more than the more liquid equity market even though bonds get paid before equity holders at the end of the day. The bond market is under severe strain due to a lack of buyers right now. Major corporations are drawing down their credit lines from the banks and the banks in turn are turning to the Federal Reserve for liquidity as cash has become king. This does not leave many buyers to provide cash to those needing it for the near term emergency. Even exchange traded funds traded at significant discounts to indicated net asset values.

I want to share some numbers to give you an idea of what I'm seeing here. The average discounts to bond values of the 3 closed-end fund strategies ended today at:

Short Term Income: 30.4%
Long Term Income: 18.2%
California Tax-Exempt: 22.7%

In contrast, for the high-yield closed-end funds we track historically, the highest discount reached in the financial crisis was 22.6% in September 2008. Six months later it was 12.6% and a year later it was down to 7.6% - meaning buyers in September 2008 earned an extra 15% return relative to owning the bonds.

If we look at yields on our closed-end funds they are pretty compelling. The average closed-end fund in Short Term income yields 13.76%. In Long Term income the average is 12.87% - this portfolio has a significant portion of

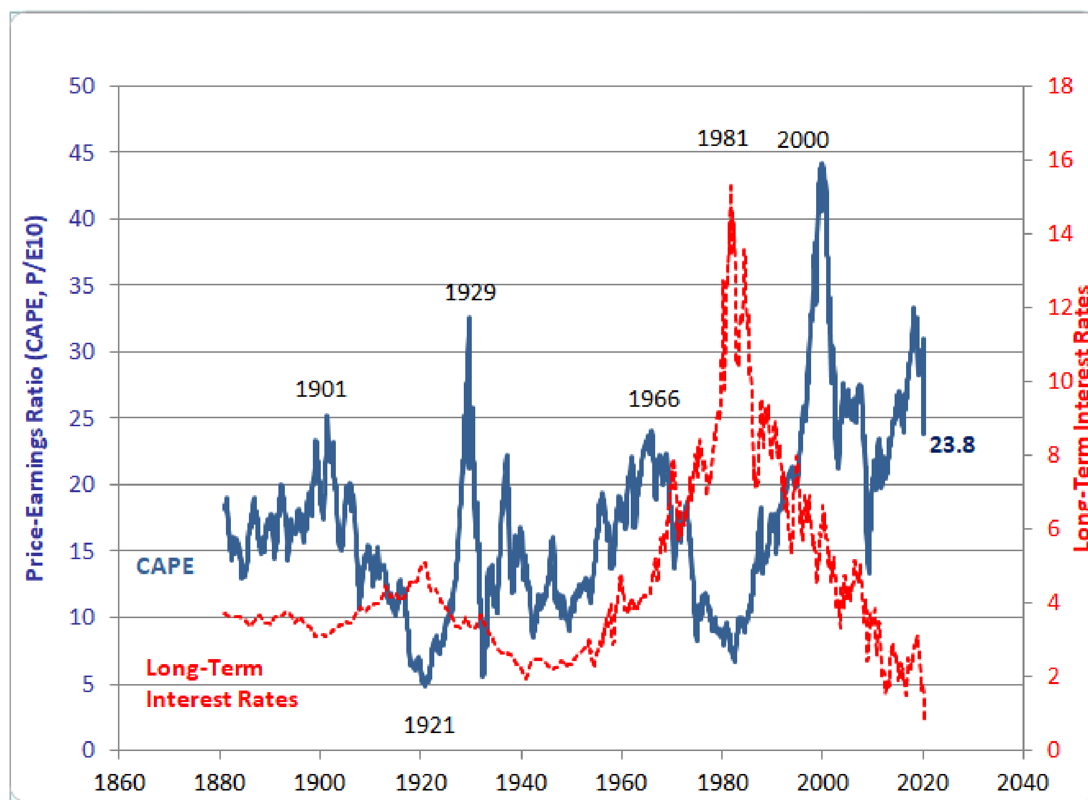
investment grade bonds so it is a bit lower. The California Tax exempt portfolio, which is investment grade, yields 5.29%. By comparison 10 year U.S. Treasury bonds yield 1.23%.

My point is that these are absurdly high FUTURE returns for such a low yield world. I never expected we would see yields this high without inflation. Personally, I find it hard to resist even though I know prices may fall further.

How Much Must Prices & Yields Move to Draw in Buyers

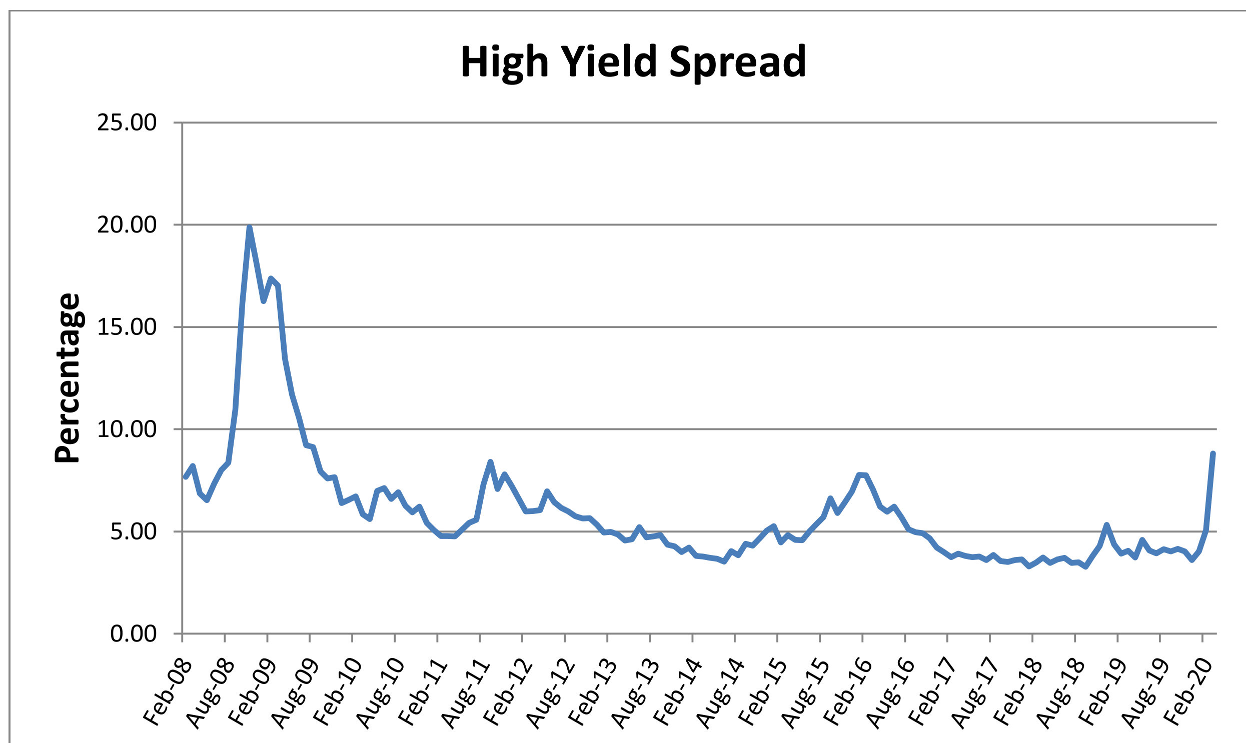
In the discussion above I said that prices must move to increase volume. As I pointed out above and in prior newsletters, securities price changes are the flip side of changes in the required future return for taking on the risk of owning a security. Most of the trading that goes on these days is price insensitive – index fund buyers and day traders have little idea of the risks and long run future returns they should expect from the securities they hold. There are, however, still a sizable number of investors out there who are focused on earning returns in line with risks. To do so, they must assess long run fundamentals to estimate returns and risks. I'll refer to these people as the fundamental investors. When the day traders all rush to be on one side – buying or selling, it is the fundamental investors that will have to be enticed to take the other side.

Because we are heading into a down turn of unknown duration, risks are higher than in the past and therefore fundamental investors require higher returns (meaning lower prices). Here's the widely cited equity market valuation data known as the Cyclically Adjusted Price to Earnings (CAPE) ratio from Professor Shiller at Yale University:



In this chart when the CAPE (blue line) is high, risks of loss are high and future returns tend to be poor. Conversely if CAPE goes lower than normal, then risks of further declines become less and future expected returns rise. We are currently at a CAPE of 23.8. By way of comparison: at the peak of the last bull market in 2007 the CAPE was 27.3; it fell to 13.3 in 2009. Historically speaking we are still much closer to the top of the range than the middle. This implies that there is still much risk for the large cap stocks in the S&P 500 index and below average future returns to compensate for this risk.

In the bond market we can look at the level of interest rates and high-yield spreads – meaning the additional return we get by holding lower rated bonds. As of 3/31/20 the 10 year U.S. Treasury bond yields .68%. This is a very low rate relative to recent years. A reversion to say 2% would cause these bonds to decline in price by 12%. So we see that returns are very low relative to interest rate risk. In the high-yield bond market, the difference between their yields and the yield on Treasury bonds is called the spread. This is the extra return you get for taking credit risk. Here's a chart of the spread over the last 12 years.

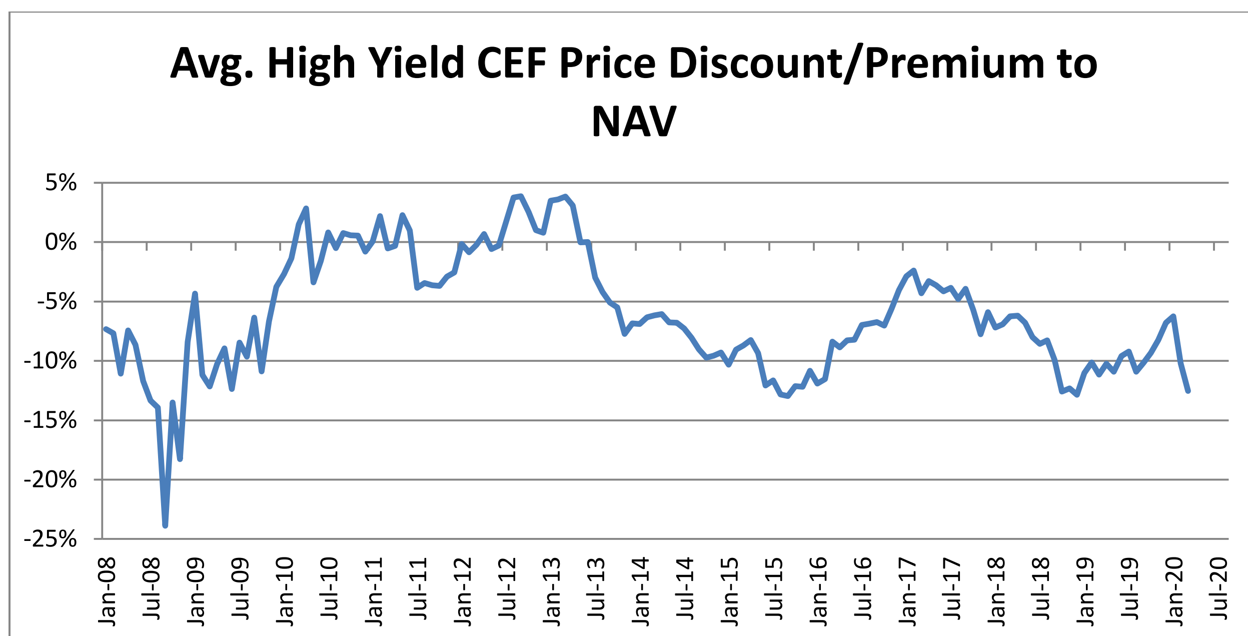


This chart shows end of month spreads and an 8.82% spread at 3/30/20. The spread recently went as high as 10.87% on 3/23/20 but declined after the Federal Reserve announced several programs to support bond market liquidity. The only time spreads have exceeded this level since the start of the data series in 1996 was in the 2008-2009 financial crisis. Over the 12 year period of this chart the median spread was 5.09% so we see that spread compensation for buyers was on the low side at the start of the year but then reached roughly double the normal level on 3/23/20.

The highest month-end spread in the above chart is 19.9% in November 2008. During the financial crisis the spread first exceeded 9% in September 2008

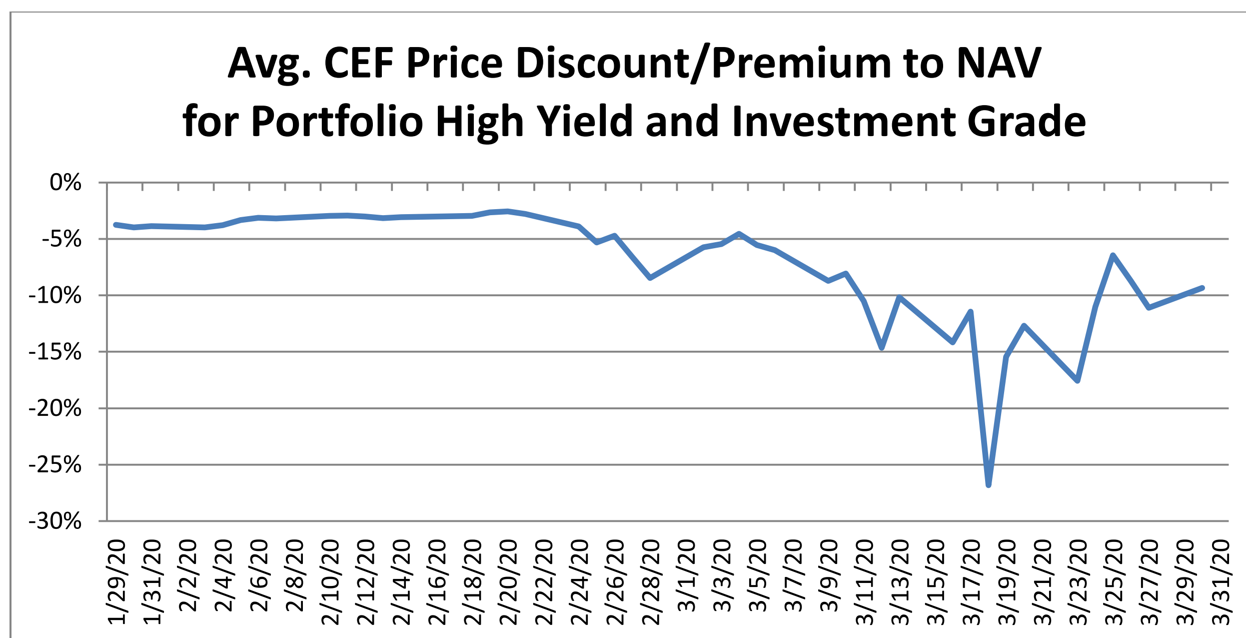
and it stayed above that level for 12 months. Given the speed and size of the Federal Reserve bank's response this time it seem unlikely spreads will go much higher than the recent high. In my view, credit spreads in the range of 9% to 10% are at a high enough level to compensate for the risks. Above a 9% spread I expect fundamental investors to increase buying as spreads rise and thereby support a price floor for the high-yield bond market.

Besides interest rate and credit spread risks and compensation, the closed-end bond fund market also fluctuates due to changes in the fund prices relative to the net asset values (NAV) of the underlying bonds, i.e. the discounts (or premiums). The chart below shows the month-end average discount (or premium) on 7 high-yield closed-end funds that we track monthly since 2008. The March 2020 discount is at 3/30/20. Because this only shows the month-end number, it misses the extreme moves during the month of March. But it gives a sense of the normal range.



For this time series of the average discount, the median of the series is a 6.8% discount. At 3/30/20 the discount is 13.4% which is larger than the 13.2% discount at the end of December 2018 (when I emailed clients to recommend buying). Discounts have only been greater than 13.4% at month-end during the four months ended November 2008.

The above chart provides the historical context of the range we expect for closed-end fund discounts. Now let's look at the volatility we observed day by day since late January 2020. Note that the funds for the graph on the next page are from our actual portfolios and include both high-yield and investment grade bond funds. As you can see, things normally don't move much day to day; but the market clearly went crazy in mid March- even exceeding the worst month-end discount for high-yield funds during the financial crisis.



The point here is that for long run investors, valuations look attractive. Still the extreme volatility and the sudden wipeout of bond market liquidity requires caution for fundamental investors. We must try to analyze this unique situation and the implications for various risk classes - while slowly buying in as opportunities present themselves.

A Recap of the Problems that Must be Overcome

Before we move on to a discussion of solutions, I want to summarize the problems infecting the economic and financial markets. They are as follows.

1. A Supply Shock: the goods and services sold by companies and individuals are not being produced.
2. A Demand Shock: a large part of the economy no longer has income and therefore cannot spend money buying from others.
3. A Liquidity Crunch: naturally lower volume bond markets ceased to function normally because bond mutual funds made forced sales to meet overwhelming redemption requests.
4. Securities valuations were relatively high going into the crisis because of the favorable economic environment; therefore they had far to fall in the new environment before reaching a point that could stimulate buying by fundamental investors.

Prescriptions for Solving the Problems

First I'll summarize how the above problems will be solved and then I'll explain the progress we see so far in implementing solutions.

1. Restore Production: in the long run this will require finding a cure for the virus; but in the meantime we will have to find ways to work around the virus threat.

© 2020 Berkeley Investment Advisors (not affiliated with U.C. Berkeley)

2. Restore Demand: the long run solution is the same as for restoring production but replacing lost income with government assistance and loans now can mitigate much economic and financial damage.
3. The Federal Reserve Bank has to do whatever it takes to restore liquidity to the bond market, including (at least temporarily) loosening bank regulations so that banks can support market liquidity.
4. Securities values must decline so as to increase future returns enough to entice fundamental investors to increase their buying and thereby put a floor on prices.

Where we Stand and What Happens Next

The problem of restoring production will be the hardest problem to solve and take the longest because to completely restore the economy's capacity to produce will require a vaccine for the virus or its equivalent in "herd immunity". By this I mean that even if no vaccine materializes, at some point a large enough share of the population[1] will develop immunity so that the rate of transmission will greatly decline. This will naturally happen once a large part of the population has been infected and recovered. Of course our medical goal is to slow that transition to herd immunity so as not to overwhelm the health system in treating the patients.

In the meantime, it is imperative that we can test people and isolate those inflected to reduce transmission and deploy whatever off-the-shelf medicines we can find that prove effective in treating the symptoms and speeding recovery. Based on what I've read, there are several promising possibilities; I expect supply of these drugs will ramp up and they'll be used extensively within the next 3 months.

Because the economic damage is so severe, I expect government imposed shut-ins will end as soon as treatment, testing and transmission mitigation strategies are sufficiently ready to protect hospitals from overcrowding.

Governments around the world, including the U.S., will use government money to restore demand in the interim before production can be brought back online. So far we have extended sick pay and increased unemployment payments to the point where some people will actually make more staying home than going back to work. This will help restore the purchasing power of the unemployed and thereby cushion the demand shock. The government will also extend loans to many businesses and, in some cases, grants tied to maintaining payroll and rent payments. This will enable affected businesses to maintain some level of spending and hopefully allow more to survive to the end of the crisis so as to prevent permanent demand destruction. The two trillion dollar stimulus package is enough to make up losses in demand for roughly 4 months by my estimates.

On March 23rd the Federal Reserve Bank announced an unprecedented list of new lending and liquidity enhancement programs aimed at supporting lending and bond markets with a huge amount of federal government capital. Prior to this, all credit markets were malfunctioning – even municipal government bonds and U.S. Treasury bond markets. Credit spreads declined every day in the week after the

[1] Given the currently estimated transmission rate, cases will stop growing once 62% of the population is immune, either through vaccine or because the infected develop anti-bodies and so become immune.

announcement. This program should restore liquidity to the bond markets and significantly reduce volatility and mispricing of bond exchange traded funds[2]. In turn, by restoring normal market functioning, we should see a sentiment change among retail investors which will likely cause closed-end fund discounts to stabilize.

There is an old saying among oil traders that the cure for low oil prices is low oil prices. Although I don't foresee the drop in oil prices restoring oil demand this time, I do think that lower bond prices and the corresponding higher yields reached a point where fundamental investors were willing to come in on the buy side and balance the market. As I alluded to in the section above on how much must prices move, it appears that high-yield spreads (and thus high-yield bond prices) reached their extreme on March 23rd – the day the Fed announced their programs to support the credit markets. In contrast closed-end fund discounts reached their widest point 3 trading days earlier on March 18th, at which point the discounts reached a tipping point that brought buyers back to the market.

As discussed above, the stock market never reached a valuation level consistent with the looming recession. While certain sectors have sold off to the point where future returns look interesting, there is still a lot of uncertainty as to how bad things can get. For example, no one really knows when retail stores can reopen in the U.S. and whether shoppers will be willing to visit them before there is a vaccine. That means retailers can go bankrupt even if they previously had a good business. The market overall never came close to the valuation level we saw in 2009 even though most forecasters think this recession will be far worse. For this reason I plan to be cautious in choosing the time to increase equity risk and I will focus on areas that are priced for the reality of the situation.

A Quick Discussion of the Impact on Investment Real Estate

This is likely to be a much worse time for investment real estate than during the financial crisis in 2008. Tenants of retail commercial properties will delay paying rent and many are likely to go bankrupt before paying the deferred rent. Cities like San Francisco may prohibit landlords from evicting these tenants and thus force additional losses on landlords. California has also placed restrictions on evicting residential renters who cannot pay their rent. Even some renters who can pay will probably ask for discounts or defer payments to see what happens. Meanwhile, landlords still have to pay the same fixed costs as always, including their own mortgage payments. Those landlords without sufficient cash in reserve may default on their mortgages and/or go bankrupt. I've already heard about buyers walking away from large purchase deposits to default on commercial property purchase contracts. The commercial real estate loan market has shut down and it will be difficult and costly to finance or refinance commercial property. I expect investment property prices to fall until the vast majority of the newly unemployed get back to work. I would recommend deferring investment property purchases for at least 6 months until we have a better idea of when a recovery might come.

Contact Information: RayMeadows@BerkeleyInvestment.com 510-367-3280

[2] Prior to the announcement we saw plenty of bond ETF trading at discounts greater than 5% - which cannot happen when the bond market is functioning normally.