

November 29, 2013

“Government’s view of the economy could be summed up in a few short phrases: If it moves, tax it. If it keeps moving, regulate it. And if it stops moving, subsidize it.”

-RONALD REAGAN

“Monetary policy cannot be coherent unless fiscal policy is.”

TOM SARGENT, Nobel-laureate economist

When all you have is a printing press... Regular EVA readers know that I am a serious fan of Woody Brock. There is no question in my mind he is one of the most intellectually gifted economists/strategists alive today and, frankly, knowing Woody as I do, I’m quite certain he would not argue with my assessment! No one has ever accused him of false humility, but, as Ali once said, “It ain’t braggin’ if it’s true.”

Like numerous others in my pantheon of brilliant thinkers, Woody warned early and often about the bubble economy that was allowed to inflate to nearly system-crashing dimensions in the last decade. I vividly recall reading a white paper he had written before the meltdown in stocks and home prices, emphatically stating that US net worth was dangerously above its normal relationship to the size of the economy.

One of the qualities that I particularly admire in Woody is his willingness to deeply focus on the research of other experts, a rarity among intellectuals with a curriculum vitae as impressive as his. This edition of our guest EVA, condensing his most recent monthly client essay, is a classic example of that admirable attribute. He liberally quotes, and credits, the work of William R. White, chief economist for the Organization for Economic Development (OECD) as well as Jeremy Stein, one of the Fed’s very own rising stars.

As you will read, Woody’s essay is a highly relevant follow-on to last week’s EVA, which expressed my reservations about both current Fed policy and the woman almost certain to take the reins—and the keys to the printing press—from Ben Bernanke early next year. One of the key points he explores, far better than I did, is that the Fed is unquestionably attempting to bring about certain outcomes for which it is simply not equipped (despite controlling that potent piece of equipment known as the printing press).

As Woody notes, all the world’s “rich” economies, not just the US, are facing multiple overarching problems that require an equal number of solutions. Relying on a central bank, even the formidable Fed, to solve all of them is more than unrealistic—it is, as you will see, extremely dangerous. The fact that the Fed’s Jeremy Stein is sounding alarms about financial institutions once again putting themselves, and the system itself, at risk as they stretch for yield by engaging in complex and inscrutable transactions (even to regulators) is particularly disconcerting.

Woody can do esoteric with the best of them but in this edition of his monthly client letter he stays almost totally in the realm of the understandable. When he does briefly lapse into econo-jargon, with phrases like “Tinbergen Controllability Theorem” and “macro-controllability, these concepts are explained in lay terms in the ensuing text. In essence, as conveyed last week, no central bank’s money fabrication can force growth when the other preconditions have gone missing. (It’s analogous to a football team beset by injuries where the star player tries to do too much, eventually leading to flame-out.)

Woody’s original piece ran 22 pages so I’ve condensed it considerably. As a result, there may be a continuity glitch here and there. If you’d like to access the complete document, please [click on this link](#). Additionally, for all the EVA readers who work in the financial industry, I’d like to emphasize that Evergreen has been a client of Woody’s for a couple of years and I believe his service is exceptionally affordable given the quality of the content.



David Hay | Chief Investment Officer

THE UNINTENDED CONSEQUENCES OF ULTRA-EASY MONETARY POLICY Could Future Crises Be Brewing?

In several past essays, we have drawn upon the theory of “macro-controllability” to argue that monetary policy has been over-utilized and indeed abused during the past five years. This was largely due to the failure of policy makers to properly use fiscal and deregulatory policy to redress the collapse of economic growth since 2008. A number of notable central bankers and economists have arrived at a similar conclusion, even if they chose not to utilize the controllability framework we find indispensable for explaining tepid growth and in proposing sound policy prescriptions.

But one economist stood out from the pack. In a paper he wrote last fall, William White, Chief Economist of the OECD in Paris and formerly of the BIS in Basel, was arguably the first to express grave concern over the long-run, unintended consequences of ultra-easy monetary policy*. In this new **PROFILE**, we shall discuss six of his far-reaching and disturbing arguments. Yet we will not restrict ourselves to White’s paper. Where appropriate, we will introduce the research of others whose arguments support and extend White’s own, in particular, the compelling concerns recently set forth by Federal Reserve Board Governor Jeremy Stein.

A POINT OF CONFUSION

Before going any further, one point needs emphasis. While most everyone acknowledges that monetary policy will soon tighten, most of the focus has been on the prospect of tapering down QE asset purchases as a necessary first step. They ask: Exactly when will this begin? What form will this process take? Will it be a mere cessation of new asset purchases, or a sell-off of existing assets as well? And what will be the impact of the onset of tapering on longer-term interest rates given today's jittery and confused bond market?

But what about the second dimension to the unwinding of ultra-easy monetary policy, namely, higher Fed funds rates and an upward shift in the entire yield curve — for reasons having nothing to do with QE? This is seldom discussed. From the research we have carried out, it is this second dimension of the end of easy monetary policy that is the more important of the two. The nation has never experienced six years of hyper-low interest rates. What impact has this had on the restructuring of the balance sheets of insurers and banks? In striving to match assets and liabilities across 24 consecutive quarters of near-zero rates, what tricks might financial institutions have played (reaching-for-yield via derivative positions) that could backfire and occasion a financial crisis once the yield curve rises from the dead? In particular, what about the increased utilization of new “collateral and maturity transformation” schemes that could occasion future panics?

Is today's (Nov. 12) front page Financial Times article correct — that the true winner from zero interest rates will have been the shadow banking system? God forbid!

WILLIAM R. WHITE'S PAPER

White's main argument is that, since the financial crash of 2008, both the scope and the magnitude of ultra-easy monetary policies by central banks are unprecedented. Even during the Great Depression, rates were never so low for so long. While he would agree with the necessity of some of these policies, if not their magnitude, White raises two concerns. First, he believes the efficacy of ultra-easy policy in stimulating economic growth has been much less than most others assume. This finding is important—not only because it helps explain the weakness of the recoveries of many OECD nations to date, but also because it suggests that we should not over-rely on monetary policy in dealing with future potential shocks.

White's second concern goes deeper. He sets forth a number of adverse “unintended consequences” that will stem from today's “ultra-easy” monetary policy. While admitting that ultra-easy policies have “bought time” to deal with the global crisis, he worries that the longerterm price of such policies will prove very high. In short, will the gamble of ultra-easy policy have been worth taking in retrospect?

In this essay, we discuss both sets of White's concerns. While his essay serves to organize the flow of ideas that follows, we take the liberty to draw upon the research of others who share White's basic concerns, but who look at matters differently.

THE RELATIVE INEFFECTIVENESS OF ULTRA-EASY POLICY IN STIMULATING GROWTH

WHY THE "TRANSMISSION CHANNELS" OF MONETARY POLICY WERE SCLEROTIC

White begins by reminding us that “stimulative monetary policies are commonly referred to as ‘Keynesian.’ However, it is important to note that Keynes himself was not convinced of the effectiveness of easy money in restoring real growth in the face of a Deep Slump. This was one of the principal insights of the *General Theory*.” In the first part of his discussion, White asks: First, will ultra-easy monetary policy be effectively transmitted to the real economy, as opposed to, say, financial institutions that benefited enormously from central bank largesse? *Second*, assuming that policy is effectively transmitted, will the private sector respond in such a way as to stimulate aggregate private demand and employment? He answers both questions in the negative.

First consider the policy transmission issue. There are several reasons why policy transmission has been less effective than usual.

The Zero Bound Trap: By lowering rates to 0%, the Fed foreclosed upon the possibility of further interest rate easing should future conditions require it. This restriction on future policy is new and worrisome.

Government Yield Curve Transmission: While near 0% yields were associated with lower long-bond yields as was desired, there is ambiguity as to whether this reflected monetary policy *per se*, or was simply a disinflation-based extension of a 10-year decline in nominal long rates already in play. Looking forward, White is concerned that long rates might rise without a corresponding rise in Fed funds rates. And indeed, in the year since he published his essay, T-bond yields had doubled at one point despite no change in the funds rate. He also worries that the ongoing fiscal crises in the US and elsewhere could ultimately create a meltdown of trust and drive long-yields higher regardless of the funds rate policy. *All in all, he views the classical yield curve transmission policy to have been compromised.*

Corporate Spreads: These fell less than would have been “normal” and less than was expected. Looking forward, credible fiscal tightening (causing even slower GDP growth) could serve to increase these spreads, thus impairing the normal corporate transmission effects of a very low Fed funds rate.

Mortgage Spreads: Mortgage rates in the US and many other nations have not followed policy rates to the normal extent. In the US, as the funds rate fell sharply from 2008 onward, the 30-year FNMA rate declined much less. This reflected a less competitive mortgage market due to increased concentration, greater regulatory costs, and a loss of confidence in financial institutions which caused higher wholesale funding costs. Whatever the reasons, the mortgage transmission mechanism was less effective than usual.

Lower Fed interest rates are not the only means by which monetary conditions in advanced economies can be transmitted. There are also:

Higher Asset Prices and Wealth Effects: Higher asset prices serve to increase wealth and thus consumption — or so we are told. In the case of the crash of 2008, however, much lower rates in many nations did not prevent ever-lower housing prices driven by non-interest-rate issues. As for equity wealth, stock prices did recover after easing began, as might have been expected. Yet these increases moderated in the summers of 2010 and again in 2011. As White notes in his paper, “In each case, the announcement of some ‘non-standard’ policy measure caused stock prices to rise once again. The fact that numerous central banks repeatedly had to turn to non-standard measures indicates the degree to which even zero lower-bound rates have failed to stimulate as they should have.”

Non-Standard Policy Measures: These include US-style QE, ECB-style QE, and firm precommitments to keep the policy interest rate very low for prolonged periods. Again, White stresses:

“Many of the non-standard measures taken were similar to those previously undertaken by Japan. *It is instructive therefore that the Japanese monetary authorities remain highly skeptical of their effectiveness in stimulating aggregate demand.* Perhaps the most important reason for this is that the demand for bank reserves tends to rise to match the increase in supply. In short, loan growth does not seem to be much affected. If, in expanding the monetary base, the central bank also absorbs collateral needed to liquefy private markets, that too could be a negative influence on demand.”

Exchange Rate Depreciation Due to Lower Rates: Finally, lower policy rates are supposed to cause currency depreciation and generate increased aggregate domestic demand (exports rise, imports fall). They are also supposed to stimulate inflation through higher prices of imported goods. The problem with this transmission channel is that it works best when only *one* nation devalues in this manner. Its effectiveness will be blunted should other trading partners be lowering *their* exchange rates — whether due to conditions at home or simply to remain competitive.

This is precisely what happened this time around. In the developed world, most every nation attempted currency depreciation. As for the emerging economies whose currencies should have risen, policy makers prevented this via large-scale currency market interventions, and outright capital controls. They refused to suffer reduced domestic demand due to currency appreciations.

For these many reasons, the transmission channels from easy monetary policy to economic activity on Main Street have been much less effective than policy makers had hoped for, or than they had been in the past.

* See “Ultra-Easy Monetary Policy and the Law of Unintended Consequences” by William R. White, Dallas Federal Reserve Working Paper 126. September 12, 2012.

WHY PRIVATE SECTOR DEMAND HAS BEEN NON-RESPONSIVE

The analysis in this section extends that of the previous section, but it goes much deeper in investigating the sources of stagnant private sector demand despite very low interest rates.

Most economists assume that lower rates encourage households to save less and consume more, and companies to invest more. One reason why this may not have held true this time is that *ultra*-easy policy smacks of “policy desperation.” Households and business people alike may have interpreted such an extreme policy response as proof that things are much worse than they are being told. This could further dampen animal spirits, depress confidence, and reduce the will to spend.

Economists have assumed a positive relationship between interest rates and the savings rate. But recent analysis suggests that this relationship is much weaker than once supposed. For example, if savers have a goal to accumulate a certain amount of money for retirement (true of most everyone we know), then to achieve their goals as interest rates fall (and thus as accumulation rates fall) will require a *higher* rate of savings. The algebraic sign of the standard relationship thus reverses.

What about the assumed negative relationship between aggregate household spending and interest rates? Low rates depress the income of creditors (elderly people in particular), and boost the spending power of debtors. Given new evidence on the marginal propensity to consume of these two groups, it is now thought that lower rates in fact *depress* rather than *raise* aggregate household spending.

Finally, there is the putative “wealth effect,” whereby low rates lead to higher asset prices and thus greater wealth. White stresses that this commonplace argument masks a serious analytical flaw:

“Lower interest rates cannot generate ‘wealth,’ if an increase in wealth is appropriately defined as the capacity to have a higher future standard of living. From this perspective, higher equity prices constitute wealth only if based on higher expected productivity and higher future earnings.” Neither condition is thought to hold true given today’s circumstances.

TAPERING

Case 1: Should tapering commence, and be followed by unexpected news of weaker economic *growth*, and then by unexpected news of lower inflation, the putative *increase* in yields due to reduced Fed purchases could be fully offset by a decrease in yields reflecting private investors’ comfort with a less inflationary future, and consequent willingness to buy bonds at a lower yield.

Case 2: Conversely, were the announced reduction of Fed purchases followed by news first of higher inflation, *and* then of stronger growth, yields could rise not by 75 basis points, but by 150 basis points. Add in the impact of Pricing Model Uncertainty as stressed above, and yields could rise by up to 250 basis points, representing an overshoot of $250 - 150 = 100$ basis points.

What matters here is that the larger economic context in which tapering is implemented can have a very significant impact on asset prices that is independent of what the Fed intended or wished for. This is one further reason why we like Professor McKinnon’s strategy: The Fed should commence easing by *predictably* impacting the one variable it *fully* controls, namely, the Fed funds rate (policy rate). (More details on Professor McKinnon’s strategy in Woody’s [full piece](#).)

IMPACT OF RISING RATES ON FINANCIAL INSTITUTIONS

This section discusses the impact of monetary tightening that worries us the most. There is little doubt that the entire yield curve will eventually rise by some 200-300 bps. as we slowly emerge from the difficulties generated by the Global Financial Crash. Were this *not* to happen, the dynamics of the economy will have changed in ways that this author cannot fathom and thus will not discuss. The only question is *when* rates will rise.

But what will higher yields imply for a broad array of financial institutions — insurance companies and banks in particular? It is surprising to us that so few people discuss this issue, especially as rising yields could precipitate very adverse unintended consequences of the kind described below. While Bill White acknowledges this issue, he does not discuss it in any length. Fortunately, however, Federal Reserve Board Member Jeremy Stein has recently discussed it, and we shall draw upon his new paper “Overheating in Credit Markets: Origins, Measurement, and Policy Responses.”*

One reason the impact of higher rates on financial institutions is rarely discussed is that there is no one answer to this question. The answer will reflect the old adage that “where you sit depends upon where you stand.” More specifically, a higher yield curve will help some firms, and hurt others, just as lower rates assist private borrowers and hurt private lenders. Analogously a steeper or flatter yield curve will help some, while hurting others. More microscopically, the impact of higher yields on a particular type of firm (e.g., a life insurance company) will depend upon the particular asset/liability-matching strategies that have been utilized by the firm.

Because of these complexities, we shall only address certain *non-obvious ways* in which higher rates will have unintended and adverse impacts on firms’ balance sheets. To illustrate this via a case study of sorts, we consider how an insurance company may run into problems in matching assets and liabilities when interest rates not only start rising, but rise from unprecedented lows. We know that many such firms experienced grave difficulties when yields *fell* unexpectedly during the past six years. These problems were often caused by new and untested “matching strategies” invented to cope with collapsing yields — “reaching-for-yield” strategies in particular.

Will firms experience *symmetrical* difficulties when yields rise? Or new difficulties? In coping with rising yields, what “off-balance-sheet” tricks could firms play in order to meet regulatory requirements? Might latent AIG-type risks arise in this context? Will the regulators be the last to anticipate these?

The reason we have selected this case study is because Fed Board Member Jeremy Stein cites this problem as a serious one, and discusses it in detail.

*Presented at “Restoring Household Financial Stability after the Great Recession,” a Research Symposium sponsored by the Federal Reserve Bank of St. Louis, February 7, 2013. I am indebted to Professor Benjamin Friedman of Harvard University for proposing that we draw upon this excellent paper.

THE INSURANCE COMPANY CASE STUDY

For simplicity, consider the case of a life insurer when ultra-easy monetary policy comes to an end. The standard thinking is: “Well, when rates rise, the value of the firm’s liabilities will fall, reflecting a lower discount rate, and the value of its assets will fall as well. Of course, the degree to which its asset values will fall depends upon its particular mix of assets, and their duration. This being true, matching assets and liabilities should not prove problematic as rates rise.”

But such received wisdom may well be wrong. Stein writes: “A prolonged period of low interest rates, of the sort we are experiencing today, can create incentives for agents to take on greater duration or credit risks, or to employ additional financial leverage, in an effort to ‘reach-for-yield’. An insurance company that has offered guaranteed minimum rates of return on some of its products might find its solvency threatened by a long stretch of low rates and feel compelled to take on added risk. A similar logic applies to a bank whose net interest margins are under pressure because low rates erode the profitability of its deposit-taking franchise.”

Stein’s research convinces him that we have witnessed a significant reach-for-yield in the financial sector. He believes the price we will pay for this could be very high. This is because of the *systemic risks* (non-firm-specific risks) that arise from a particularly toxic combination — one brought to life during the Global Financial Crisis. This is the combination of excessive reach-for-yield risk-taking along with excessive “maturity transformation” (AKA “collateral transformation”). As he puts it so clearly:

“A badly underwritten subprime loan is one thing, and a badly underwritten subprime loan that serves as the collateral for asset-backed commercial paper (ABCP) held by a money market fund is something else — and way more dangerous.”

Yes indeed — way more dangerous because this toxic combination can generate systemic risk and panic. Building upon this observation, Stein calls for a somewhat idealized measurement construct:

“What we’d really like to know, for any given asset class — be it subprime mortgages, junk bonds, or leveraged loans — is this: What fraction of it is ultimately *financed* by short-term demandable claims held by investors who are likely to pull back quickly when things start to go bad?”

Stein goes on to sketch how to construct such a measure. Given our extensive discussion of “endogenous risk” in these pages during the past decade, all this is music to our ears. For as the global crash taught us, the true risks to be managed by the authorities are not industry-specific exogenous shocks of the kind stressed in financial theory, but rather the endogenous risks that arise within the system and become systemic given excessive leverage.

Collateral Transformation Risk: Of particular concern is the risk that Stein calls “collateral transformation risk.” This concept will be familiar to some readers, but not to many. It could not be more important. Once again, we can do no better than to quote Stein:

“Collateral transformation is best explained with an example. Imagine an insurance company that wants to engage in a derivatives transaction. To do so, it is required to post collateral with a clearing house and, because the clearing house has high standards, the collateral must be ‘pristine’ — that is, it must be in the form of Treasury securities. However, the insurance company doesn’t have any unencumbered Treasury securities available — all it has in unencumbered form are some junk bonds.

Here is where the collateral swap comes in. The insurance company might approach a broker-dealer and engage in what is effectively a two-way repo transaction whereby it gives the dealer its junk bonds as collateral, borrows the Treasury securities, and agrees to unwind the transaction at some point in the future. Now the insurance company can go ahead and pledge the borrowed Treasury securities as collateral for its derivatives trade... Of course, the dealer himself may not have the spare Treasury securities on hand, and so, to obtain them, he may have to engage in the mirror-image transaction with a third party that does — say a pension fund. Thus the dealer would, in a second leg, use the junk bonds as collateral to borrow Treasury securities from the pension fund.

And why would the pension fund see this transaction as beneficial? Tying back to the theme of reaching-for-yield, perhaps the fund is looking to goose its reported returns without changing the holdings it reports on its balance sheets.”

Would the regulators be the last to detect these transaction chains, much less to understand the latent risks being generated? Stein concludes with two important points about deals such as the one just discussed. *First*, the transactions involved reproduce the same “unwind risks” that would exist had the clearing house lowered its own collateral standards in the first place. “To see this point, observe that if the junk bonds fall in value (which they probably will, as easy monetary policy ends), the insurance company will face a margin call on its collateral swap with the dealer. It will therefore have to scale back this swap, which will force it to partially unwind its derivatives trade — just as would happen if it had posted the junk bonds directly to the clearing house.”

Second, the transactions create additional counterparty exposure — the exposure between the insurance company and the dealer, and between the dealer and the pension fund.

Stein concludes that the Fed has very little data on how pervasive these kinds of transactions are today. However, he notes that with the ever tighter requirements for “pristine collateral” ranging from the Basel III Liquidity Coverage Ratio, to centralized clearing, to heightened margin requirements, the demand for such transaction chains could increase sharply. Systemic risks could explode.

This concludes our discussion. Please note the role in this chain of events of the end of ultraeasy monetary policy (underlined just above). *It is higher rates that cause the drop in collateral values that trigger the resulting “unwind panic.”*

IMPACT OF A MISALLOCATION OF RESOURCES

White dedicates many pages to a discussion of how credit booms and busts are of ultimate importance, and he believes that ultra-easy policy exacts a price via the asset market bubbles and busts it creates. His views are a mix of those of the so-called “Austrian School” and those of Keynes.

“The Austrian conclusion was that credit created by the banking system rather than the lending of *genuine* savings would indeed spur lending, but would also create misallocations of real resources (“malinvestments”). These supply-side misallocations would eventually culminate in an economic crisis....The magnitude of the crisis would be closely related to the amount of excess credit created in the previous upswing.”

To the extent that ultra-easy monetary policy may end up generating excessive credit creation, the long-run consequences of such short-term assistance could prove disastrous in the future.

Not the least of White’s concerns is that excess capacity from excessive investment can create deflation, a phenomenon that becomes exponentially worse in proportion to the amount of credit outstanding. In discussing his “misallocation” thesis, White draws upon the earlier work of G. Haberler who distinguished between two different forms of malinvestments: Vertical and Horizontal ones. Vertical malinvestments imply an intertemporal misallocation of resources. This occurs when easy and cheap access to credit causes an excessive shift toward capital investments, particularly those with long lives. But cheap and easy credit also implies reduced savings rates and greater debt. These latter two developments will end up constraining future *spending* at the very time that the new supply of resources comes online.

Horizontal malinvestments are those in specific sectors that lead to excess capacity. The cause can be either cheap credit, or else a sector-specific belief that the sector’s prospects are very bright.

White’s fear is that today’s extremely cheap credit will end up creating malinvestments of both kinds, paving the way for a debt-burst that could exceed that which we just lived through.

CONCLUSION

The purpose of this **PROFILE** has been to examine some of the unintended consequences of the ultra-easy monetary policy we have experienced both here in the US and overseas since 2008. We have seen at least a dozen ways in which today’s long period of very easy money and very low yields has distorted the workings of the financial system. This will cause unintended consequences in the near future as QE is ended, and as the funds rate is driven back up from near zero. Many of these will be adverse consequences.

The best note on which to end this paper is to restate what we have stressed repeatedly during recent years — as have many central bankers worldwide: Much too much has been asked of monetary policy in dealing with a very serious macroeconomic breakdown. Via the Tinbergen “controllability theorem” that we often cite, it is not that monetary policy does not help; it clearly does. Rather it is that no matter how “easy” monetary policy has been, it will never suffice to generate a normal recovery on its

own. We emphasize that this is a theorem, not merely an opinion. Proper fiscal and regulatory policies are needed to complement the central bank's efforts.

Had all three of these policy knobs on the dashboard been jointly optimized, as is required in the Tinbergen-Arrow-Kurz theory, there would have been no need for monetary policy to have been ULTRA-easy. The Funds rate could have bottomed at 2%, and much less QE would have been required. As a result, many of the future "risks" we have detailed would not exist.

This last point has been perhaps the most central theme of our 2013 **PROFILE** essays: What matters is optimal macroeconomic policy and controllability. Accordingly, the market's obsession with the only game in town (monetary policy) is badly misplaced. What scholars such as William White and Jeremy Stein have done is to warn us that, aside from not serving to generate meaningful recoveries, ultra-easy monetary policy has created myriad new risks of the kind we have described. Historians will one day assess ex post whether this unprecedented monetary policy gamble was successful on a "net" basis.

IMPORTANT DISCLOSURES

This report is for informational purposes only and does not constitute a solicitation or an offer to buy or sell any securities mentioned herein. This material has been prepared or is distributed solely for informational purposes only and is not a solicitation or an offer to buy any security or instrument or to participate in any trading strategy. All of the recommendations and assumptions included in this presentation are based upon current market conditions as of the date of this presentation and are subject to change. Past performance is no guarantee of future results. All investments involve risk including the loss of principal. All material presented is compiled from sources believed to be reliable, but accuracy cannot be guaranteed. Information contained in this report has been obtained from sources believed to be reliable, Evergreen Capital Management LLC makes no representation as to its accuracy or completeness, except with respect to the Disclosure Section of the report. Any opinions expressed herein reflect our judgment as of the date of the materials and are subject to change without notice. The securities discussed in this report may not be suitable for all investors and are not intended as recommendations of particular securities, financial instruments or strategies to particular clients. Investors must make their own investment decisions based on their financial situations and investment objectives.