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May 31, 2018

To Our Clients and Friends:

The Monthly Letter covers three topics this month. First, we discuss the Coming Bond Storm. With the Developed Market Central Banks undoing Quantitative Easing (QE) and starting to raise rates, interest rates are reversing course. Investors and companies, that have feasted on cheap debt, could be in for a rude awakening as interest rates normalize. Second, populism continues to be a "Force To Be Reckoned With" in Europe. After populations endured the worst stretch of growth since the Great Depression and then saw the fruits of the recovery over the past few years go elsewhere to date, the natives are growing restless. Third, with Electric Vehicles on the horizon, Oil Producers face a dilemma. How best to reap the economic bounty from oil without accelerating the inevitable. This requires a delicate balancing act of controlling oversupply while also ensuring enough oil to meet near term demand. And Fourth, as always, we close with brief comments of interest to our readers.

<u>The Coming Bond Storm, Part 1: That 1980s LBO Game Again, Repurchasing to the Poorhouse, & Loving That Covenant Lite</u>

> "*Financial institutions tend to assume that risk diversification – a classic portfolio principle of financial institutions – protects them sufficiently from the negative impact of credit deterioration. In addition, credit risk is blurred by increasing recourse to credit guarantees and insurance. In today's world, institutional lenders and investors take false comfort that their enlarged securitized holdings allow them to make quick adjustments to changes in credit conditions.*
>
> *For the system as a whole, however, this is impossible. Any single bank or investor can sell off assets to others and raise cash in an emergency, but that means others must be willing to acquire the assets. If everyone is trying to raise cash at the same time, no one will be successful, because there will be no buyers.*"

Chapter 3: Dangers in the Rapid Growth of Debt
Interest Rates, the Markets, and the New Financial World
By Henry Kaufman, 1986

> "*There are Trading Sardines and then there are Investment Sardines. You better know which one you have before you open the can.*"

Old Wall Street Saying

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For those of us who lived through the 1980s, Wall Street roared along. First came a huge bond and equity bull market, as the country recovered from the inflation of the 1970s. At the same time came the advent of mortgage backed securities. These were swept along as home prices shot upward as US 10 Year Treasury interest rates fell from over 15.0% in 1981 to less than 7.5% in late 1986, enabling borrowers to pay more and more for the same residence. In addition, companies rushed to break ground on commercial buildings and order trains, cars, and planes as the Tax Reform Act of 1986 put an end to many of the tax shelters that these drove. Then in the late 1980s, LBOs (leveraged buyouts) and corporate takeovers exploded, as raiders and greenmailers and new merchant investment banks rode to the fore with the newly invented junk bonds, care of Michael Milken and Drexel Burnham Lambert. While the 1987 crash interrupted the party temporarily, when it became apparent this was a stock market event not an economy event, the party roared on to new heights, culminating in the epic buyout struggle over RJR Nabisco. As the RJR saga demonstrated, there existed no company too big nor a price too high to pay. And this type of approach replicated itself through the markets as company after company became either a buyout target or ripe pickings for a corporate raider. The multiples paid for companies reached new heights using linear or exponential financial projections to justify the prices paid, with little if any thought to what could go wrong. While the party lasted, Wall Street enjoyed the Roaring 1980s. Of course, this all came crashing down as the Federal Reserve raised interest rates, increasing the Effective Fed Funds Rate from 6.5% in March, 1988 to 9.8% in May, 1989. In fact, the Federal Reserve, realizing its mistake in tightening so quickly, lowered rates rapidly, but not rapidly enough, bringing the Effective Fed Funds Rate down to 8.15% by the time the Recession began in June, 1990.

The hangover rivaled the party. Housing prices fell 25% or more in major markets between 1987 and 1993. In some markets, such as Las Vegas, prices fell over 50%. In addition, in cities such as New York, condos which went for $275,000 in 1987 could be purchased for as little as $110,000 in 1993. Banks went bust, producing the S&L crisis, and mortgage securities collapsed. In addition, commercial buildings, which possessed a massive oversupply due to the rush to build prior to the 1986 Act tax deadline, saw occupancies drop and rents collapse, crushing the cash flow for the buildings. This put many of these buildings in the hands of insurance companies, that were the major underwriters of the debt, with massive losses threatening their solvency. In the junk bond market, today known as “high yield”, prices collapsed as the recession hit company financials. Numerous companies could not pay their interest bill. And due to the lack of buyers in the markets, even strong junk credits that could meet their interest and pay off the bonds at maturity, such as Duracell, the consumer battery manufacturer, traded for $0.50 on the $1.00. Quite a debacle one might say.

Today, some of the same practices that ended so badly 30 years ago appear in play, with new descriptors to protect the guilty. Valuations in M&A transactions have soared, along with the drop in rates. If you can finance it, you can justify it. Thus, not only are LBO shops (now known as Private Equity or PE) paying very healthy multiples of EBITDA and EBIT, but public corporations joined the game, much as

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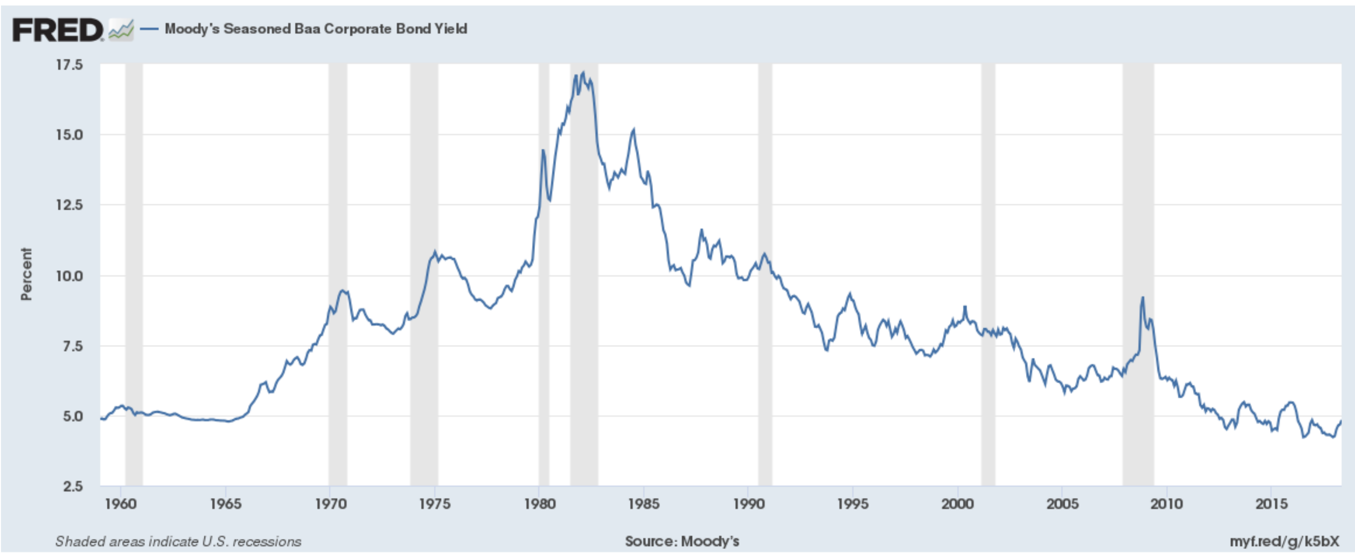
in the late 1980s. (EBITDA stands for Earnings Before Interest Taxes Depreciation & Amortization while EBIT stands for Earnings Before Interest & Taxes.) For example, a company just announced a transaction for 13.5x EBITDA for a competitor. This works out to 18.5x the target's EBIT producing a 5.5% initial return on the capital deployed. The problem with such a low return, even assuming "synergies" that increase the initial return to 7%, comes down to the cost of money and things that go bump in the night. Let's first approach the cost of money. As the below charts demonstrate, the cost of money can vary quite a bit. The first chart covers BAA Yields, for decent quality corporate borrowers, while the second chart covers CCC or Below Yields, what is colloquially known as High Yield or, in the vernacular, Junk:



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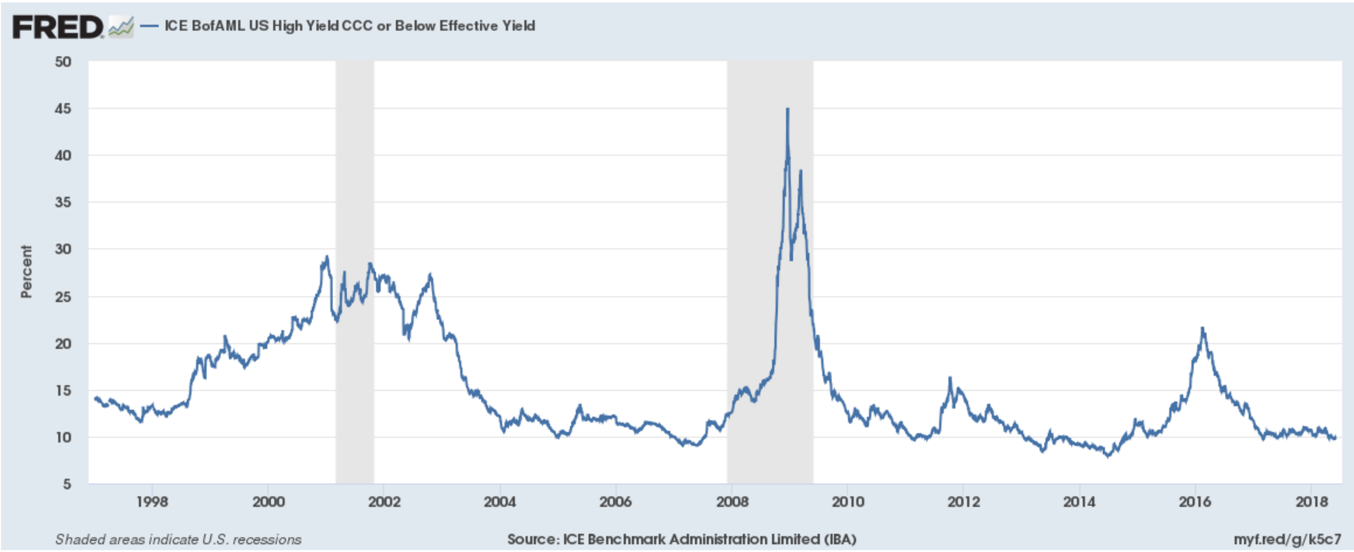

For borrowers in the 1960s, who came off a similarly low period of interest rates, things did not turn out as expected. Baa Interest Rates rose from below 5% in 1965 to almost 7% in 1968. They then took another leap forward to over 9% by mid-1970. Companies that financed with typical 5 Year or 7 Year financing faced a shock when it came time to refinance their debt as costs almost doubled. Suppose, a company just paid 18.5x EBIT and funded it 80% with debt. What happens when rates rise 2% on the acquisition? The following table demonstrates the issue:

	Original Purchase	*Refinanced Debt*
EBIT	*$10.0*	*$10.0*
$150 Million Debt At Interest Rate:	*5.00%*	*7.00%*
Interest Cost:	*$ 7.5*	*$10.5*
Profit:	*+$2.5*	*-$0.5*

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As the above table makes clear, profit becomes an object in the eye of the beholder. Now let us suppose further, that something comes along called a Recession, a thing that goes bump in the night. In a garden variety Recession, profits fall 20% - 25%. This would make the above table look like the following:

	Original Purchase	*Refinanced Debt*	*Refi Plus Recession*
EBIT	*$10.0*	*$10.0*	*$ 8.0*
$150 Million Debt At Interest Rate:	*5.00%*	*7.00%*	*7.00%*
Interest Cost:	*$ 7.5*	*$10.5*	*$10.5*
Profit:	*+$2.5*	*($0.5)*	*($2.5)*

And this assumes that the credit rating does not fall below investment grade of BBB. Should the firm possess cash flow difficulties in covering its interest tab, markets would demand a much higher premium for taking on the risk of the firm. In other words, rates would increase in an exponential manner. And instead of paying 7% on its debt, the firm could face a rate of 10% or higher. For those nostalgic folks who currently want to replicate, Again, the pathway blazed by Mr. Milken and Drexel Burnham Lambert in That 1980s LBO Game, life will get interesting as the Federal Reserve herds the economy towards a Recession over the next few years.

While not all corporations threw caution to the wind in their acquisitions, another whole segment focused on repurchasing copious amounts of stock while putting large amounts of debt on the balance sheet. This use of corporate cash focused on reducing the shares outstanding for the significant options companies granted to their executives. Thus, instead of investing in productive assets that could earn a return on capital and service the debt currently and in a downturn, companies chose to add debt without any way to service it. As a result, over 48% of Investment Grade Debt is rated BBB today up from 32% in 2009, despite 10 years of economic growth. This rating stands only one notch above Non-Investment Grade. Furthermore, Non-Financial Corporate Debt to GDP stands at record levels:

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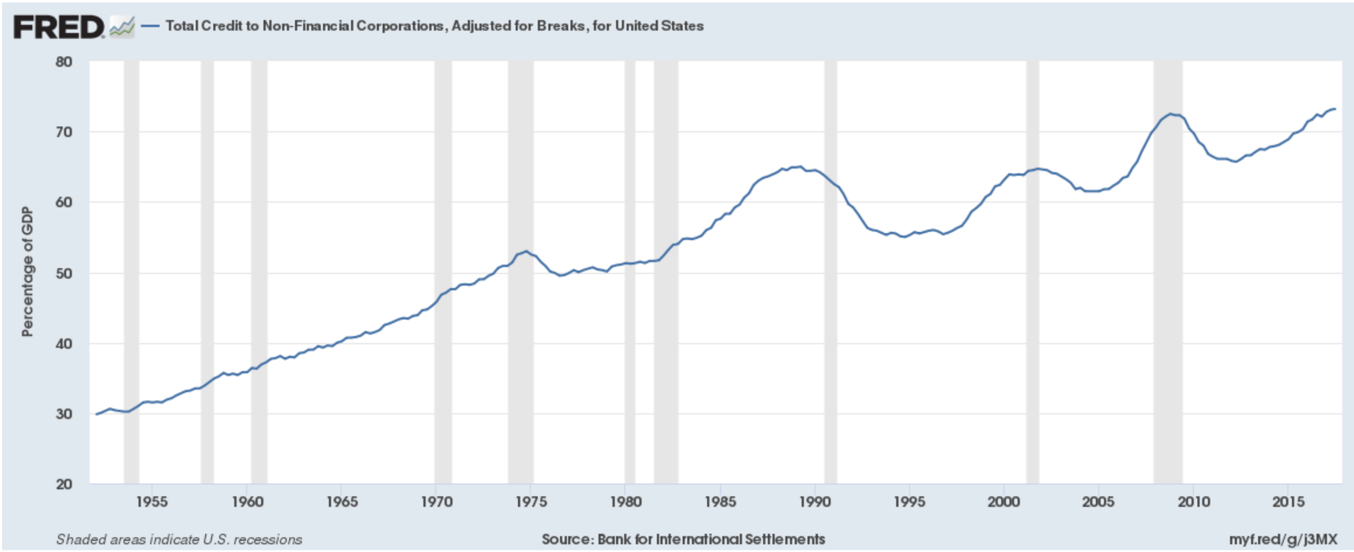

None of this bodes well should something go bump in the night for the US economy. But if everyone is doing it, it must be correct.

However, there does stand a difference between the largest public companies and their smaller brethren. Their smaller brethren, such as the companies found in the Russell 2000, increased their spending significantly this year due to the benefits from the tax cut passed last year. In fact, small companies raised their Capital Expenditures to Sales levels back to levels seen only early in the economic recovery, in 2012 and 2013, and during their peak spending years in the prior recovery, in 2006 and 2007. Small companies only spent more relative to sales back in 1998 and 1999. Given the assets put in place, they will stand in better stead than their larger brethren in a downturn. So, where are large companies spending cash not spent on capital expenditures or acquisitions? Massive Stock Buybacks. In fact, these companies stand on track to buyback a record amount of stock in 2018. At the same time, the large companies in the S&P 500 continue to invest at Capital Expenditure to Sales rates reminiscent of recession levels. In simpler terms, many of the companies in the S&P 500 appear well on track to Repurchasing To The Poorhouse. (For the deleterious impact on the US economy of these policies, see *What's Good For GM, Is Not Good For America: The Problem of Capital Investment* published January 31, 2015, *Buybacks, De-Equitization, and The Hit to Capital Formation* published December 31, 2015, and *What's Good For GM, Is Not Good For America: The Carrot and The Stick* published on October 31, 2017.)

However, while corporations lusted after debt, investors stand close behind. Investors sent trillions into bond funds over the past several years just as long term interest rates stood at record lows last seen

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during the Great Depression. Their reach for yield became so strong, they accepted Covenant Lite Bonds and Loans. For those unfamiliar with the term "Covenant Lite", one might consider it equivalent to a swear word for the debt investor. Effectively, a Covenant Lite bond or loan removes key protections for the investor from the indenture, the long legal document that dictates the bond or loan owner's rights. In other words, when the you-know-what hits the fan, the debt owner may find the usual claims on a company's cash flows and assets don't exist. And the bond or loan issued at 100 cents on the dollar could end up trading significantly lower, wiping out any interest the investor received and then some. Covenant Lite Bonds now comprise 75% of Total Bond Issuance by corporations and 74% of Leveraged Loans Outstanding, up from less than 10% in 2009. In addition to these standard Covenant Lite bonds, investors gobbled up junk bonds that also contained Covenant Lite provisions. For an example of the issues investors face in a downturn, the WeWork bond offering stands front and center. The company lost over $900 million last year and had negative cash flow of ~$775 million. While it had ~$2 billion in cash on the balance sheet at year end, given projected losses, the company clearly felt this cash cushion inadequate and raised another $700 million through a bond offering in April. All three major rating agencies awarded the bonds ratings well into junk bond territory. And, if in a recession, as seems likely, a portion of its short term lessors decide to terminate their leases on 30 days notice, as allowed, Cash Flow would come under more pressure as the long term leases the company signed obligate it to send monies out the door regardless of the occupancy of its facilities.

With this type of issuance, today's Covenant Lite Bonds, Leveraged Loans, and Junk Bonds have come to resemble those of the late 1980s. At that time, it was clear that numerous companies could barely cover or not cover at all their interest bill in good times, let alone bad. And, of course, this was covered up by the trading between institutions, such as Lincoln Savings & Loan and Columbia S&L, whereby loans were moved from one set of books to another at predetermined levels, to maintain the illusion of value and not recognize the true losses. Or, as was seen more recently during the early stages of the housing debacle in 2008, banks kept mortgages and mortgage securities on their books at values consistent with the loan issuance value or the initial mortgage security issuance valuation, as opposed to marking to market loans and securities to account for the massive defaults occurring in the marketplace. Curious how institutions try to save their own skins. In both cases, only when the regulators stepped into the market, to force the recognition of economic reality, did the institutions involved recognize on their books the losses they had incurred. Until this occurred, they claimed "plausible denial" that they possessed an issue. Ultimately, all that is going on today resembles that old Wall Street saying "There are Trading Sardines and then there are Investment Sardines. You better know which one you have before you open the can." For those trolling in Covenant Lite waters, it appears they are fishing for Trading Sardines. But for the companies issuing those securities, it is Loving That Covenant Lite. (Data from public sources, Jefferies, and The Federal Reserve coupled with Green Drake Advisors analysis.)

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The EU: Every Country For Itself

> "*What then is to be done? The tentative suggestions of this chapter may appear to the reader inadequate. But the opportunity was missed at Paris during the six months which followed the Armistice, and nothing we can do now can repair the mischief wrought at that time. Great privation and great risks to society have become unavoidable. All that is now open to us is to redirect, so far as lies in our power, the fundamental economic tendencies which underlie the events of the hour, so that they promote the re-establishment of prosperity and order, instead of leading us deeper into misfortune.*"

Chapter VII: Remedies
The Economic Consequences of the Peace
By John Maynard Keynes, 1919

> "*Observe that all wide sight and self-command
> Deserts these throngs now driven to demonry
> By the Immanent Unrecking. Nought remains
> But vindictiveness here amid the strong,
> And there amid the weak an impotent rage.*"

Part The Third
The Dynasts
By Thomas Hardy, 1908

For those students of history, the prophetic words of John Maynard Keynes echo down the halls of history. Of course, the object of his concern stood foremost in front of the globe at the end of World War I: the terms of the peace. For the terms of the peace in 1919 would shape the European economy for years to come. Of course, as Keynes understood, the economic terms of the peace created an unsustainable state of affairs. Keynes analysis proved prescient as the Treaty of Versailles led to the bankruptcy of Germany and the economic collapse across the rest of Europe, setting the stage for the rise of totalitarianism and, ultimately, World War II. And while the sustainability of the individual pieces of the treaty could be debated, the aggregate impact could not.

Similarly, one can look at today's state of affairs in Europe. This state of affairs stands the direct result of the creation of a common currency in the late 1990s, which redistributed economic growth across the continent. It aided the strong currency, industrial oriented countries such as Germany and Austria, by

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weakening the relative value of their currencies. Thus, it provided a tailwind to their exports and their global manufacturing position. It harmed the weak currency countries of Southern Europe, such as Italy, Greece, Spain, and Portugal, by strengthening the value of their currencies and raising their labor costs. Thus, it provided a strong headwind to their economies, making much of their production uncompetitive globally and harming their long term economic growth.

Numerous economists predicted ultimate disaster, as the European countries appeared ill-suited to the type of currency union enjoyed by the United States. In fact, Milton Friedman famously wrote the following in 1997 (The full article can be read at https://www.project-syndicate.org/commentary/the-euro--monetary-unity-to-political-disunity):

> "The drive for the Euro has been motivated by politics not economics. The aim has been to link Germany and France so closely as to make a future European war impossible, and to set the stage for a federal United States of Europe. I believe that adoption of the Euro would have the opposite effect. It would exacerbate political tensions by converting divergent shocks that could have been readily accommodated by exchange rate changes into divisive political issues. Political unity can pave the way for monetary unity. Monetary unity imposed under unfavorable conditions will prove a barrier to the achievement of political unity."

The Euro: Monetary Unity to Political Disunity
By Milton Friedman, August 28, 1997
Project Syndicate

And if one examines the economic results for countries like Spain, Italy, Portugal, and Greece, the data support an unqualified thumbs down on the Euro. These countries' economies stand 20% to 40% smaller today than if the Euro did not exist for them. And given the poor economic results under the Euro, the expected political reaction, with no real economic recovery since 2009 for many of these countries, comes as no surprise. The voters in countries that got the short end of the stick with the Euro started down the logical path: repudiation of the terms of the current economic deal.

The recent elections in Italy and the current government in Greece, stand as a foretaste of the slow dissolution of the EU. For the UK, their decision to maintain their currency prevented the types of punishment that Germany imposed on Greece. In fact, the actions of Germany in handling Greece's bankruptcy probably hastened the UK exit, as it became clear how a German dominated EU would dictate policy to the UK. The Brexit negotiations confirm this view, as Germany and France attempt to extract the maximum economic price to punish the UK for its 'brazen' exit. (One wonders what Keynes would comment on this.) Fortunately for the UK, they possess their own currency and the ability to ultimately halt the massive transfer of wealth from the UK to the EU without tangible benefits for the

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UK. For Italy, the Chinese proverb “May you live in interesting times.” hangs overhead. Clearly, the EU, as constructed, will provide a continued drag on Italy’s economy. But the likely new construct appears fuzzy. It stands somewhere in between full exit and the current status, involving an effective “partial” exit that vastly improves Italy’s economic growth. And this likely stands as a mid-ground setting the stage for full exit from the Euro later, given the only true solution to Italy’s economic growth issues lie in a restoration of its currency, the Lira. While certain financial institutions believe Germany will use the ECB to threaten Italy with bankruptcy if it attempts to exit or change the terms of the current economic deal, should Germany go down that path, the political reaction to such a move likely would only reinforce the current populist government in Italy, encourage them to recreate the Lira, and hasten the country’s exit from the EU. Other countries such as Spain and Portugal would be tempted to follow Italy to regain control over their economies and improve the fate of their citizens.

For a model of what this might look like, Italy, Spain, and Portugal need only look a few hundred miles East to see the salutary benefits of access to the EU markets coupled with possessing their own currency. Central Europe retained the zloty, koruna, and forint. Thus, these countries retained control over their economies. As a result, they have grown at rapid rates with free access to the Western European markets coupled with significant investment from the EU. For countries like Italy, the short term pain of leaving the Euro pale in comparison to the benefits of regaining control over the economy with the ability to depreciate the currency and restore global competitiveness. Economic growth could resemble the 1980s and 1990s once more. For Italy and other Southern European countries, creating a deal similar to the one Sweden possesses, with access to the EU but its own currency the krona, would provide the type of breathing room they need to restore economic growth. While Germany will fight, using whatever means possible, to preserve the benefits of the current economic arrangement, the cost to other countries’ economies sits at a politically unacceptable level. The new parties in power stand as a testament to the laws of economics. These laws can be ignored, but only at great peril as the bill always comes due. And the longer politicians attempt to forestall the inevitable, by kicking the can down the road, the higher the cost. For the European Union, the Euro bill has come due. The costs outweigh the benefits for many countries and their citizens. With their citizens demanding changes and electing politicians who will implement them, time has run out. And the can cannot be kicked anymore. For countries such as Germany and Austria, it will be a rearguard action with the occasional counterattack as they attempt to slow down the oncoming train. But, despite their best efforts, that train continues to gain momentum given economic reality. And, as that reality takes center stage, for the European Union, it will be Every Country For Itself. (Data from public sources coupled with Green Drake Advisors analysis.)

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The Saudi Put vs Green Energy Machine Part 2: Harvesting Returns

"*The shape of a good's market demand curve varies from one good to another and from one market to another. In particular, market demand curves vary in the sensitivity of quantity demanded to price. For some goods, a small change in price results in a large change in quantity demanded; for other goods, a large change in price results in a small change in quantity demanded.*"

Chapter 2: Demand and Supply
Microeconomics: Theory and Applications
By Edwin Mansfield, 1970

"*Catch a parrot and teach him to say 'supply and demand,' and you have an excellent economist.*"

Attributed to both:
Thomas Carlyle, 1881
Irving Fisher, 1910

Electric Vehicles (EVs) continue to come down the cost curve. With the future rushing forward, R&D and capital investment horizons have become shorter and shorter, as global automobile companies and their suppliers position for crossover by 2025. New entrants, such as major technology players, position themselves to participate in both EVs and AVs (Autonomous Vehicles) by aligning themselves with the major car companies or suppliers that possess strong manufacturing capabilities as well as leading edge IP (Intellectual Property). However you slice it, the race to the start line accelerates with survival at stake for the existing players and billions of dollars of market share up for grabs for the new entrants.

For the major oil producing countries, this future nightmare inexorably moves forward to supplant their key end markets in gasoline and diesel fuel. At best, global oil demand peaks in the 2030s, at worst by the late 2020s. The economic issue comes down to the following comparison of fuel costs between running a car on gasoline as opposed to electricity. As shown below, even in the high cost states for electricity, E Gallons are cheaper than Gasoline Gallons:

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State	*Regular Gasoline*	*E Gallon*
Louisiana	*$2.63*	*$0.81*
North Dakota	*$2.92*	*$0.83*
California	*$3.72*	*$1.74*
Massachusetts	*$2.95*	*$2.02*
New York	*$3.07*	*$1.65*
	-------	-------
US Average	*$2.92*	*$1.15*
	-------	-------

Data from AAA and Jefferies, LLC

Once EVs cost no more than the typical car today, that possesses an internal combustion engine and runs on gasoline, the economics will move in EVs favor. And as they do, charging stations will proliferate, making it just as easy to recharge the battery as to fill the tank with gas. Most industry participants expect this economic crossover, for the average car, to occur between 2022 and 2025.

With a limited window, the major oil producers, such as Saudi Arabia or Russia, must focus on maximizing their revenue, while they still can control their own destiny. This becomes a tricky trade-off between price and volume. Given the nature of oil demand, which is fairly sticky in the short run or what economists would call inelastic, producers have incentive to manage the market to grow volumes and simultaneously to raise prices to siphon off as much revenue as possible without hurting demand growth. Simply put for Saudi Arabia, the difference between $40/barrel for their oil and $60/barrel for their oil comes out to a small $200 million per day or $73 billion per year, assuming they export all 10 million barrels a day that they produce. For Russia, that number works out to more than $90 billion, given their higher production of 13.4 million barrels per day. For all of OPEC excluding Russia, this totals ~$290 billion per year. Over a decade that works out to an additional $700 and $900+ billion for Saudi and Russia, respectively. And for OPEC plus Russia, this totals almost $4 trillion. That's not chump change no matter how you look at it. At the same time, the major producers must not let prices create incentives for countries like the US or Brazil to ramp up production massively to a level that swamps the market. In other words, the oligopoly of OPEC plus Russia, which controls over 50% of global production, must manage price carefully. And given the nature of commodity markets, overshoots seem inevitable. Thus, oil prices collapsed into the $20s when Saudi Arabia moved to discipline producers outside of the oligopoly for their runaway production growth. And more recently, oil prices hit $80 per barrel for Brent as global inventories came into long term equilibrium.

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With the Green Energy Machine bearing down on them, the time premium on the Saudi Put is eroding. And while it still represents a long term put, its expiration date is coming into focus. Given this reality and the acceleration occurring in EV investment, oil producers must focus on Harvesting Returns in order to maximize their revenue over the next decade. After that, oil will enter the long slow decline as new commodities, such as lithium and rare earths become the key raw materials of the Green Energy Era. And while the Saudi Put dominates the early rounds of the 15 Round heavyweight title bout, the Green Energy Machine scored numerous points that position it to win as the fight moves into the middle to late rounds, creating a new heavyweight champion of the world. (Data from OPEC, IEA, Jefferies LLC, and AAA coupled with Green Drake Advisors analysis.)

Robot Salutes, Two Faced, Crying Over Timber, and Mini Me's

Finally, we close with brief comments on Robot Salutes, Two Faced, Cry Timber, and Mini Me. First, the armed forces continue to move down the technology curve with the adoption of robots for the battlefield. Both the US Army and Marines awarded contracts to Endeavor Robotics and QinetIQ for both small bots weighing less than 25 pounds and medium size bots weighing up to 165 pounds. These bots will focus on detecting explosives as well as chemical, biological, radioactive, and nuclear threats. In this second generation, the military standardized the chassis to provide interoperable bots and lower costs. In the pipeline are fully autonomous bots with weapons that can stand in the place of soldiers. Already, South Korea is deploying gun-bots in the Demilitarized Zone facing North Korea. Given the pace of innovation, in the not too distant future, it will become commonplace to see Robot Salutes. Second, solar panel manufacturers are removing the aluminum backing to enable the reflected sunlight to hit the bottom of the panel. Studies demonstrate this adds 10% - 15% to the panel's output. Given this, it will not be too long before all solar panels are Two Faced. Third, lumber prices have reached their best levels in over 20 years at ~$500 per mbf (thousand board feet) compared to their collapse down to ~$220 per mbf in 2009. For homebuilders, this represents another cost pressure for which we see them Crying Over Timber. And Fourth, scientists at the University of Washington discovered a methodology to use robots to grow miniature organs. This will allow scientists to test a large number of compound samples in a short time period, accelerating new drug discovery, and allowing for the application of big data to early stage studies. With another step on the pathway to the Bionic Human, we see Mini Me's in everyone's future.

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In Closing

Should you have any questions on how the above issues or the items discussed in our accompanying cover letter impact your family's financial position or your business's future as well as the potential actions you could take in response, please do not hesitate to contact us. We welcome the opportunity to discuss this with you.

Yours Truly,

Paul L. Sloate
Chief Executive Officer
& Senior Advisor

Steve Rodia
President
& Senior Advisor