Green Drake Advisors, LLC
175 Strafford Avenue, Suite One
Wayne, PA 19087
(610) 687-7766 Voice
(610) 300-3211 Fax

www.greendrakeadvisors.com

August 31, 2018

To Our Clients and Friends:

The Monthly Letter covers four topics this month. First, we provide an analysis of Amazon's entry into the supermarket industry. While Amazon grabbed some initial share and made a splash with its acquisition of Whole Foods, the longer term outcome of its entry remains in question as the industry brings assets, technology, and capital to bear to defend against Amazon's entry. Second, with the US finally acknowledging the major changes in the global economy that have occurred over the past 40 years, the policies that aided the rise of the Emerging Markets (EM) are being reassessed, including their ability to devalue their currencies to aid their economic growth. This change in policies will have an impact on how the US interacts with the EM and how their economies are structured. Third, over the past 90 years, the US Government made many promises to the average voter. However, due to the true costs, politicians in Washington dared not fund these long term liabilities, lest they lose their jobs. With the lack of action over the past 30 years, pressure continues to build on the system. This pressure will come to a boil by the late 2020s at the latest, as the economics of the situation force change upon the country. And Fourth, as always, we close with brief comments of interest to our readers.

Revenge of the Supermarkets

> "*The entry into an industry (by either acquisition or internal development) of an established firm is often a major driving force for industry structural change. Established firms from other markets generally have skills or resources that can be applied to change competition in the new industry; in fact this often provides a major motivation for their entry decision. Such skills and resources are very often different from those of existing firms, and their application in many cases changes the industry's structure. Also, firms in other markets may be able to perceive opportunities to change industry structure better than existing firms because they have no ties to historical strategies and may be in a position to be more aware of technological changes occurring outside the industry that can be applied to competing in it.*"

Competitive Strategy: Techniques for Analyzing Industries and Companies
Chapter 8: Industry Evolution
By Michael E. Porter, 1980

> "*We believe the future of retail will include both physical and digital customer experiences. Everything we are doing today will enhance our ability to provide everyone in America with the convenience of shopping for anything, anytime, anywhere. We are incredibly excited that it is Kroger who is bringing Ocado technology to the U.S. for the first time.*

Green Drake Advisors, LLC
175 Strafford Avenue, Suite One
Wayne, PA 19087
(610) 687-7766 Voice
(610) 300-3211 Fax

www.greendrakeadvisors.com

The platform includes online ordering, automated fulfillment, and home delivery capabilities, so it's a perfect fit with our vision and strategy. We look forward to innovating together with Ocado to enhance Kroger's digital and robotics capabilities."

Rodney McMullen, Chairman & CEO
Kroger Inc.
First Quarter Conference Call
June 21, 2018

For the supermarket industry, Amazon's purchase of Whole Foods was an existential moment. A new competitor utilizing a non-traditional channel of distribution, the Internet, planned to obsolete the industry, putting all supermarket stores out of business. And with a competitor not required to make a profit, it put a bind on an industry that needed to create profits to enable it to invest in the systems necessary to compete successfully in the future. For Amazon, entry into the supermarket industry became a logical extension of its retail presence. And, as its 2018 sales remain on a path to exceed $240 billion, this entry acted to underpin its future revenue growth, which requires entry into larger and larger industries. Thus, the supermarket industry, which appeared a dinosaur ready for extinction much as the book industry two decades earlier, would support Amazon's long term goals of transforming all of retail. In fact, if one read the press articles on Amazon's entry, it sounded as if Amazon stood victorious without a shot being fired with the supermarket industry already dead.

However, the real world continues a messy place, in which both the Internet and physical retail stores co-exist. In fact, for many industries, the consumer needs to see, feel, and experience the items prior to purchase. The supermarket industry is such an industry, especially for fresh produce. In addition, the supermarket industry participants include large retailers with significant financial resources and industry scale to support their long term competitive position in an inherently low margin business. Lastly, delivering food items through the Internet is neither cheap nor necessarily efficient, as moving small packages of goods via truck delivery creates much more expense per item than delivering a large truck packed with pallets of individual goods. In addition, a full trucking cold chain, requiring specialized trucks and equipment to preserve goods from the distribution point to the consumer, must be put in place. These are but a few of the issues in entering a mature, highly competitive industry with multiple players possessing significant scale and resources to counter a new entrant.

The large players in the supermarket industry include companies such as Kroger, Walmart, and Costco. These companies possess sales of $130 billion, $500 billion, and $140 billion, respectively. With Amazon initially entering their sector through the Internet then adding Whole Foods to have a physical presence, each one of these companies responded in a different way. Walmart bought Jet.com in 2016

Green Drake Advisors, LLC
175 Strafford Avenue, Suite One
Wayne, PA 19087
(610) 687-7766 Voice
(610) 300-3211 Fax

www.greendrakeadvisors.com

to provide the IT infrastructure and executive management needed to meet Amazon toe-to-toe on the Internet. In addition, Walmart added robotic picking recently to select stores to automate the online order/in-store pick-up process. Kroger leveraged its internal IT to provide data analytics on over 70 million households that shop there, every bit as detailed as Amazon's analytics. They added to this with a recent link-up with Ocado, the UK provider of automated picking systems for stores and warehouse systems to automate Internet sales to provide a truly competitive offering to the consumer. Costco, as does Kroger, continues to leverage its vast database on the 50+ million households that shop there. This enables customized offerings to its shoppers. In addition, with the advances in automated picking systems and the integration of online ordering, Costco, as well as other large box retailers, possesses the ability to convert a portion of its large stores to dedicated Internet order fulfillment. And as selling space shrinks over time, it can naturally add this to its online warehouse and fulfillment structure as it establishes this structure in each store. Given these moves to make each of the key players competitive in the industry, Amazon possesses much less of an advantage than when it entered other retail sectors in the economy.

And while the systems, processes, and physical structures provide the ability to go to toe-to-toe with Amazon, the real "Rubber Meets the Road" occurs at the price level, whereby consumers get to see the offerings from each retailer. And while Amazon may have the opportunity to undercut prices in other areas of the economy, that possess large margins and high costs enabling it to grab share, the supermarket industry does not fit this description. In fact, Amazon stands at a competitive disadvantage due to the buying power of the large retailers. When Amazon went to Procter & Gamble and other packaged goods companies to request special packaging and lower prices than the existing players in the industry, Walmart reminded these companies that the company purchased more of their goods than anyone else. In fact, Walmart made it clear that any company that did not give it the lowest unit pricing for its goods stood at risk of losing its business. As Walmart purchases 20% of these companies' products, such a threat loomed large in their considerations of how to address Amazon's request, which they politely declined. The following table illustrates a recent pricing study comparing Amazon pricing with that of Kroger and Walmart over the last four months:

	Amazon Prime Pantry	*Amazon Fresh*	*Whole Foods*
Compared to Kroger	*+0% to +4%*	*+12% to +14%*	*+23% to +30%*
Compared to Walmart	*+1% to +5%*	*+10% to +17%*	*+25% to +28%*

As the above Table makes clear, Amazon pricing stands well above Kroger and Walmart for a large portion of its sales and struggles to match them for staples that can ship directly to consumers from a warehouse. Thus, where the “Rubber Meets The Road”, Amazon stands at a competitive disadvantage. And while it may chew up some share from the smaller players in the industry, taking share from the larger companies, such as Walmart, Target, Costco, and Kroger, likely will prove difficult and costly.

With the media viewing every industry as a target for Amazon to roll over, the above statistics make clear that there exists a large gap between perception and reality. And for industries in which the players possess scale, such as the supermarket industry, or in which the existing competitors must possess extremely efficient operations to survive, such as the drug distribution industry, the ability of Amazon to overwhelm the existing entrenched companies, as the press would indicate, stands in question. Furthermore, to enter all of these industries requires, not only technology and organizational capabilities, but significant capital to underwrite the entry costs, put in place the assets, and attract key people with which to wage competitive war. And while Amazon may have shot the first bullets in entering the supermarket industry, the industry appears to have absorbed the initial fusillade, enabling it to gather the troops and weapons necessary for a long bloody struggle. And when the story is written of the history of this war, it may well be titled “The Revenge of the Supermarkets” as they leverage their scale, technology, and capital in a counteroffensive that leaves both sides bloodied, but much of the industry in the hands of the current competitors. (Data from JP Morgan, Credit Suisse, and company reports, coupled with Green Drake Advisors analysis.)

Currency Wars Part V: The End to EM Devaluations

> “*As one might expect, introducing market power on both sides also introduces a new issue: the possibility of strategic trade policy. In general, strategic moves may be defined as actions that by themselves work to the strategic player’s advantage. The classic example from industrial organization is investment in excess capacity by a firm in order to deter entry by new competitors: the excess capacity viewed in isolation lowers the firm’s profits, but the effect on the behavior of firms that would otherwise have entered makes the expense worthwhile. In the trade policy context, the now standard example is that of an export subsidy that would ordinarily lower national welfare but that may raise welfare if it has a deterrent effect on foreign competition.*”

Trade Policy and Market Structure
Chapter 5: Strategic Export Policy
By Elhanan Helpman and Paul R. Krugman
MIT Press, 1989

Green Drake Advisors, LLC
175 Strafford Avenue, Suite One
Wayne, PA 19087
(610) 687-7766 Voice
(610) 300-3211 Fax

www.greendrakeadvisors.com

> "*Our primary findings may be summarized as follows. First, the Ricardian theorem of comparative advantage holds in the two-country world even if the preferences are different across countries. Second, in the case of incomplete specialization, local indeterminacy emerges under milder conditions, as compared to Drugeon (1998) and Nishimura and Shimomura (2006). Third, in the case of complete specialization, the relationship between tariffs and economic growth is ambiguous. When the Home country specializes in the investment (respectively, consumption) goods, a sufficiently higher rate of tariffs on the consumption (respectively, investment) goods reverses the trade pattern in the long run and decreases economic growth when the productivity coefficient of the investment goods in the Home (respectively, Foreign) country is larger than the threshold. However, economic growth is increased when the productivity coefficient of the investment goods in the Home (respectively, Foreign) country is smaller and in the Foreign (respectively, Home) country is larger than the threshold. Finally, tariffs increase (respectively, decrease) the long-run welfare in the Home country when it specializes in the investment (respectively, consumption) goods…*
> *[T]he reason for the effect on long-run welfare is simple. The long-run welfare in the Home country is increasing in the ratio of consumption between the Home and Foreign country. When the Home country specializes in the investment goods, tariffs on the imported consumption goods increase the ratio of consumption between the Home and Foreign country in the long run, thereby increasing long-run Welfare in the Home country.*"

Import Tariffs and Growth in a Model with Habits
By Been-Lon Chen, Shun-Fa Lee, and Koji Shimomura
International Trade and Economic Dynamics, 2009
Editors, Takashi Kamihigashi and Laixun Zhao

When economic historians look back on the past 40 years to write their histories, they will focus on the massive undervaluation of Emerging Market (EM) currencies coupled with their ability to export high value goods to the Developed Market (DM) Economies. This combination allowed them to supercharge their economic growth, enabling them to grow at a rate unsustainable otherwise, as their domestic economies stood at a size and income level unable to absorb the goods they produced. Through exporting goods, they developed a critical mass of industry that drove upward their income levels, putting their domestic markets in a position to absorb larger and larger components of the goods they produced and to continue to invest in more productive capacity, further boosting their Investment. In fact, unbeknownst to the citizens of the DM, the EM exceeded the size of the DM in 2009, never to look back, given its higher growth rate.

For the DM, this increased production overseas initially increased domestic welfare, as low value commodity inputs were outsourced, lowering prices to the average citizen. But, as with anything, any

Green Drake Advisors, LLC
175 Strafford Avenue, Suite One
Wayne, PA 19087
(610) 687-7766 Voice
(610) 300-3211 Fax

www.greendrakeadvisors.com

good idea, taken to an extreme, becomes a bad idea. And taken to an extreme is exactly what occurred here. From 1999 to 2018, high value goods production moved offshore at a rapid pace. As a result, for the average citizen, high paying jobs moved overseas and were replaced by low paying jobs. The decrease in income lowered the average citizen's standard of living well in excess of the lower prices they could enjoy on the imported goods they no longer could afford. In addition, with Investment taking a large hit, economic growth slowed, hurting the citizen's even further and harming the DM governments' abilities to respond to these problems, as tax revenues did not grow at projected rates.

A simple thought experiment illustrates what occurred over the past 40 years. Imagine two countries growing at different rates. One possesses a GDP of 70 and the other a GDP of 30. Imagine that the country with a GDP of 70 grows at 3% but the country with a GDP of 30 grows at 7%. Here is what occurs over the long run:

Country	*Today*	*10 Years*	*20 Years*	*30 Years*
A	*70*	*94.1*	*126.4*	*169.9*
B	*30*	*59.0*	*116.1*	*228.4*

As is clear from the example, the different growth rates lead to Country B becoming 34% larger over 30 years, even though it started out 57% smaller. For those in the financial field, this example just illustrates the Law of Compounding over the long term. Now let's apply this to the Emerging Markets compared to the Developed Markets. The first table below shows the data in Nominal Dollars, care of the International Monetary Fund (IMF). In other words, it does not adjust in any way, shape, or form for the massive undervaluation of the Emerging Market currencies, which understates the true size of their economies relative to the Developed Economies:

GDP in Trillions of US Dollars Nominal

Region	*1980*	*1990*	*2000*	*2010*	*2018*
EM	*$ 2.7*	*$ 5.1*	*$ 7.1*	*$22.7*	*$35.1*
DM	*$11.1*	*$18.3*	*$26.8*	*$43.2*	*$52.4*
Global	*$13.8*	*$23.4*	*$33.9*	*$65.9*	*$87.5*
EM Percent	*19.6%*	*21.8%*	*20.9%*	*34.5%*	*40.1%*

Green Drake Advisors, LLC
175 Strafford Avenue, Suite One
Wayne, PA 19087
(610) 687-7766 Voice
(610) 300-3211 Fax

www.greendrakeadvisors.com

Despite not adjusting for the currency undervaluation, the table makes clear the EM continues to gain on the DM. In fact, the EM now represents 40% of Global GDP up from 21% in 2000. Should the relative growth rates remain the same over the next 15 years, the Emerging Markets Economies will stand larger than the Developed Markets in Nominal US Dollars. So, from a political perspective, politicians can still claim that the Developed Economies reign supreme in the global order, even if that supremacy is going away. They may also use this to justify still a certain number of policies in regards to trade and financial aid, which the data below might call into question.

Now let's correct this table for the massive EM currency undervaluation, using Purchasing Power Parity (PPP), and look at the real size of the EM Economies compared to the DM Economies. As the IMF data below demonstrate, a different story appears:

GDP in Trillions of US Dollars – PPP Basis

Region	*1980*	*1990*	*2000*	*2010*	*2018*
EM	*$ 4.8*	*$ 9.9*	*$21.5*	*$47.9*	*$ 79.9*
DM	*$ 8.3*	*$17.4*	*$28.4*	*$41.4*	*$ 55.0*
Global	*$13.1*	*$27.3*	*$49.9*	*$89.3*	*$134.9*
EM Percent	*36.6%*	*36.3%*	*43.1%*	*53.6%*	*59.2%*

In fact, it might be called a Tale of Two Cities. As the PPP table demonstrates, the real size of the EM Economies stands 45% larger than the DM Economies and they now comprise, in real terms, almost 60% of the Global Economy. Now, given this real world data from the IMF, how should the Developed Economies act in order to enable their economies to participate in the higher growth that the Emerging Economies enjoyed over the past 30 years? Should they follow the same policies that dominated economic and foreign policy and that caused their economies to shrink significantly relative to the global economy? Or should they adopt something new? One might think new policies that produce a better result should become the focus given the data. (For those who wish to view the IMF data on their own, it is available at http://www.imf.org/external/datamapper/datasets/WEO/1 where the IMF conveniently provides the data for download in Excel tables.)

Unfortunately, the current public perception in the US, on the make-up of the Global Economy, appears stuck in the view of the globe established at the end of World War II, in 1945, when the US stood astride the globe as the dominant economic power. The average citizen in the US possesses no knowledge that China became a larger economy than the US in 2014, when measured on a PPP basis. Nor do they understand that the EM economies dwarf those of the West and continue to grow much faster. This unfortunate state of affairs appears right out of a children's fable, The Emperor Has No Clothes, with mainstream politicians and the media taking on the role of the crowd. No one in the crowd appears willing to tell the truth, even though they think it, as they are blinded by words of the Emperor and his advisors or, in this case, beholden to those whose interests they serve by acting blind to the truth. Thus, they fail to openly recognize the reality of today. Then a small child, who only knows what he sees, speaks up saying, "The Emperor has no clothes." Once the child states the truth, all realize he is correct and that the Emperor stands naked for all to see.

For the Developed Economies, the little boy appeared in the form of Donald Trump. And while the majority of the media and most professional economists continue to have difficulty seeing that the Emperor stands naked and put their hands over their eyes so they don't have to see the nudity, the public at large appears to recognize this reality. And once this reality forces itself upon decision makers and the media that like to shape public opinion, then a different set of policies focused on a much better economic result for the US and other DM economies must become the focus. When countries such as China, India, Indonesia, Brazil, South Korea, Mexico, Turkey, Malaysia, Iran and others all possess 1%+ PPP Global GDP or close to it, then policies must reflect these facts. For EM Economies that enjoy unfettered access to the US and other DM markets for their goods coupled with the ability to depreciate their currencies at will with no consequences, that era appears set to fade into history. This change began with Act I, a pending restructuring of trade agreements by the US over the past year. And while Act I focuses on changing the terms of engagement through access to its markets, in order to protect its economy and ensure fair treatment, Act II in this play approaches. This Act will address the Currency War waged on the US and other Developed Economies over the past 30 years. It will only allow access to its markets if other countries maintain the value of their currencies. It will treat currency devaluations as de facto tariff moves. It will move to cut off those offending parties. And, in extremis, it will intervene in the currency markets to ensure US and DM products and services remain globally competitive. And, in doing so, this change in policy will create The End to EM Devaluations as the Developed Economies explicitly recognize the massive change in the world over the past 40 years. (Data from the IMF coupled with Green Drake Advisors analysis.)

I Can Tell A Lie: Government Promises & The Pot Of Gold At The End Of The Rainbow: Part 1

> "*[P]rices do not play the same allocative role with public goods as they do with private goods. Prices are a rationing device in the case of private goods since they determine who consumes how much. With public goods this is not the case. Since everyone by definition consumes the*

Green Drake Advisors, LLC
175 Strafford Avenue, Suite One
Wayne, PA 19087
(610) 687-7766 Voice
(610) 300-3211 Fax

www.greendrakeadvisors.com

same quantity of G once it has been provided, a pricing scheme plays no allocative role. The only function of a pricing scheme would be to determine how the costs of financing the public good are to be shared among the users.

While on efficiency grounds there is no reason to prefer benefit pricing to any other financing scheme, on equity grounds there may be considerations, depending upon the value judgment that is made about distribution. Just as in a private goods economy there are an infinite number of Pareto-optimal allocations of resources, so in a public goods economy there are too, each one differing from the other by having a different distribution of welfare or utility. Some persons will be better off and some worse off in comparing any two efficient allocations. The financing scheme in conjunction with the initial ownership of resources will determine which of the Pareto-optimal allocations is achieved (assuming one is achieved)."

Public Sector Economics
Chapter 4: The Theory of Public Goods
By Robin W. Broadway, 1979

Politicians and the governments they serve like to make lots of promises. In these promises stand the opportunity to serve the populace while ensuring the individual politicians and the governing parties they serve successfully achieve reelection. Sometimes these promises are simple, such as building a new road or repaving an existing one. But sometimes they are complex, such as promising pension payments or medical services, with far reaching consequences little understood at the time of the promise. For the United States as a country, such promises include Social Security and Medicare, two large government programs, that were established in 1935 and in 1965 respectively. When those programs were established, the United States and its population stood in a very different place. And the liabilities stood at very small levels relative to the overall economy. But with population growth, lengthening lifespans, and advances in medicine, these liabilities grew at exponential rates. As a result, they stand at multiples of current US GDP.

To understand the path from hither to yon, a few simple facts are in order. We will start with lengthening lifespans, as these are at the crux of the matter. The following table makes clear the assumption at the time of adoption of Social Security, with an expected retirement age of 65, and the reality today:

Green Drake Advisors, LLC
175 Strafford Avenue, Suite One
Wayne, PA 19087
(610) 687-7766 Voice
(610) 300-3211 Fax

www.greendrakeadvisors.com

	Expected Lifespan	
Year	*Male*	*Female*
1935	*59.9*	*63.9*
1945	*63.6*	*67.9*
1955	*66.7*	*72.8*
1965	*66.8*	*73.7*
1975	*68.8*	*76.6*
1985	*71.1*	*78.2*
1995	*72.5*	*78.9*
2005	*75.2*	*80.4*
2017	*76.3*	*81.1*

Data from the US Centers for Disease Control

As the above Table makes clear, the average American did not live to see Social Security in 1935. But today, the average American can expect multiple years of payments. For the government, this created a problem. And in fact, in 1982, under President Ronald Reagan, there occurred a Social Security "Crisis". Just a few years earlier, there occurred a crisis under President Jimmy Carter. To fix things, Social Security was indexed with a COLA (Cost of Living Adjustment) in the 1977 and the tax rate raised from 2% to 6% over time. This fix would supposedly save the program for the next 50 years. Unfortunately, the fix lasted less than 5 years. With revenue tied to wages, which were rising less than inflation, and expenses tied to inflation, inflation soon ate up any surplus projections. Thus, a Crisis occurred just a few years later. To solve this "Crisis" and to avoid any individual politician or party from taking blame for what was to come, a bipartisan commission was established chaired by the former head of the Federal Reserve, Alan Greenspan. To solve the Crisis, the government chose to accelerate the increase in taxes, make benefits taxable, and raise the age of eligibility for future workers. These actions supposedly would prepare the government for the eventual retirement of the Baby Boomer generation. It would build up a surplus that could then be drawn upon to pay future benefits. Of course, none of these moves proved politically popular, but Congress hid behind the aura of the bipartisan commission.

Let's fast forward from 1983 to 2018. The pending retirement of the Baby Boomers stands pending no longer. Their official retirement began in 2012, while early retirement started in 2008 – 2009 due to the recession, and will continue through 2030. With this wave of retirements, the following 3 things ensued:

Green Drake Advisors, LLC
175 Strafford Avenue, Suite One
Wayne, PA 19087
(610) 687-7766 Voice
(610) 300-3211 Fax

www.greendrakeadvisors.com

1. *In 2010, tax revenues, through incoming payroll taxes, stopped covering payouts due to regular retirements coupled with early retirements. Payments of interest to the Social Security Trust Fund averted drawdown for a few years by enabling the Trust Fund to continue growing.*
2. *Social Security Trust Fund drawdown began in 2018, four years earlier than the date projected just last year.*
3. *Complete Social Security Trust Fund depletion will occur in 2034, according to the latest Trustee Annual Report. Should a similar fate befall depletion as the beginning of drawdown, depletion could occur as early as 2030.*

None of this sounds good. In fact, if we view Social Security the same way as a corporate pension plan, then it possesses an Unfunded Liability of $32 Trillion. And no, that is not a typo. As indicated above, politicians and governments make promises they do not understand. For corporations, the cost of their pension promises became clear in the 1980s when the accounting authorities forced these liabilities onto their balance sheets. For the US government, they only become clear when the money dries up.

To this looming crisis, let us now add the fiscal position of the United States. In investing, there is an old but true saying:

"Balance Sheets Don't Matter Until They Matter."

What this means comes down to the following. In normal times, banks and other lenders feel comfortable extending credit to corporations. However, when times get tough, bankers examine balance sheets very carefully. They pull back lending to those with leveraged balance sheets and even conservative lending endures more scrutiny. Regulators step in to ensure there are no exceptions. Now, what is the current status of the US Government. The following two charts provides some perspective:

Green Drake Advisors, LLC
175 Strafford Avenue, Suite One
Wayne, PA 19087
(610) 687-7766 Voice
(610) 300-3211 Fax

www.greendrakeadvisors.com

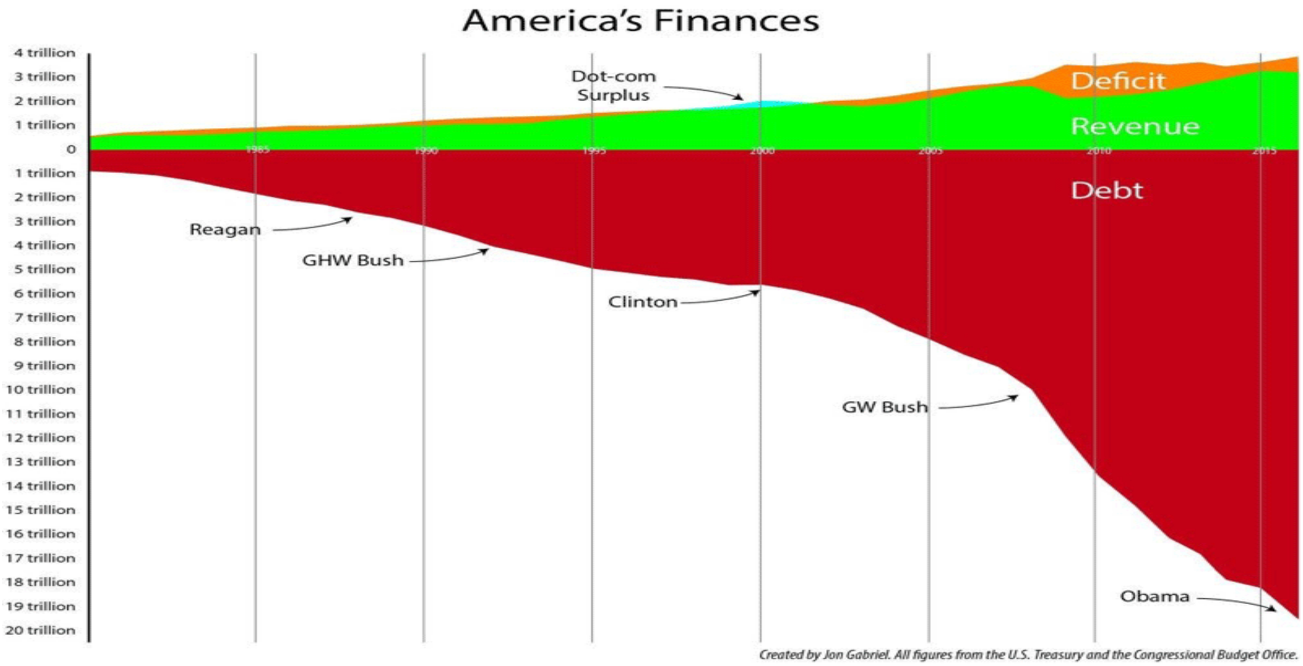
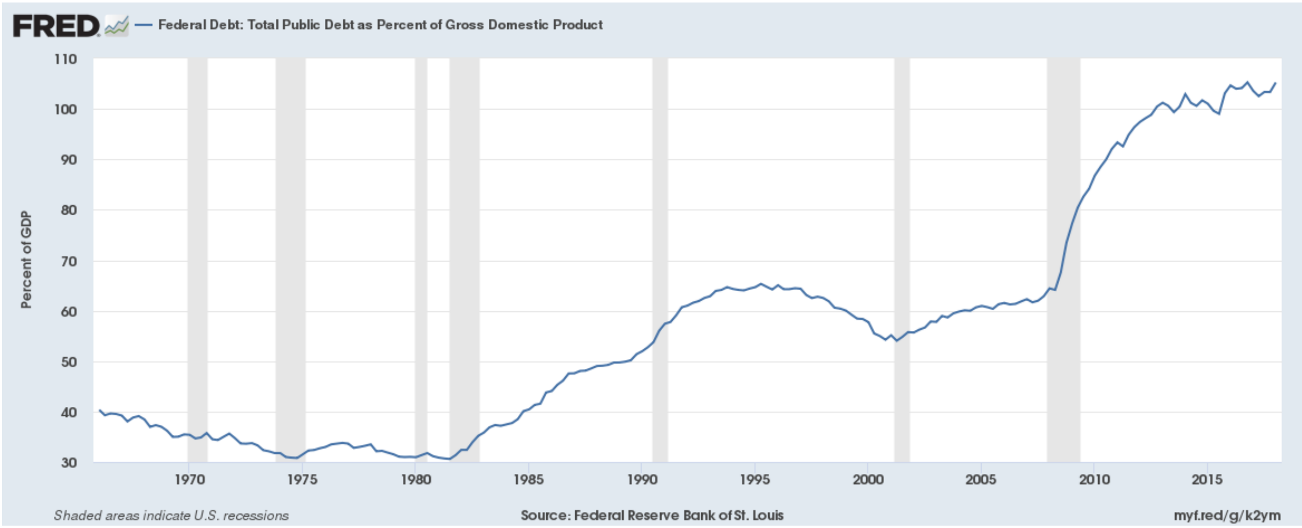


Chart courtesy of breakingcharts.com.

And the following chart, care of the Federal Reserve:



Green Drake Advisors, LLC
175 Strafford Avenue, Suite One
Wayne, PA 19087
(610) 687-7766 Voice
(610) 300-3211 Fax

www.greendrakeadvisors.com

As the charts illustrate, the US debt stands high relative to GDP. In fact, it stands at over 100% of GDP. And this balance sheet will only see higher levels as the massive tax cuts enacted last year roll through the government budget.

Given where the US sits, there exist a series of unpleasant solutions to the problem. None of which will prove politically popular. And this will occur before the true cost of the debt the government accumulated over the past decade comes due. Before examining the US "solutions", an examination of Japan's experience in addressing this same problem will provide a glimpse of what is to come here in the US. Japan went through a similar issue a decade ago. In order to solve the issue, Social Insurance Taxes were raised from 13.9% to 18.3%. This meant, for the average worker, that even though wages rose, the tax increases ate up much of the rise in wages, as a result, living standards went nowhere for a decade. In 2018, the last of these increases will occur, allowing the Japanese actually to collect a higher paycheck.

Now imagine it is 2025 in the US. Not only does the Social Security Trust Fund appear headed for bankruptcy but the Medicare Trust Fund as well. (The Medicare Trustee's latest Annual Report to Congress projects depletion in 2026, requiring draconian cuts to providers. Outside organizations estimate Medicare's unfunded liability at over $48 trillion today. Whether it truly stands at this level depends on whether or not one believes that the government will ultimately create something akin to Europe's and Japan's price regulation in healthcare.) On top of this, the government's interest cost soars as debt continues to pile up on the balance sheet of the country. From 2.25% rate on $20 Trillion in 2018, costs have risen to 6% in 2025, similar to its cost in 2000, on $30 Trillion in debt. This increased the country's interest cost from $450 billion in 2018 to $1.8 trillion in 2025. Fortunately, strong growth of 3%+ allowed the country to maintain its Debt to GDP at ~100%. Entitlements and interest expense threaten to crowd out all other expenditures, meaning no money would exist for the military, courts, roads, or any other basic function of government. Congress stands between a rock and a hard place. It's choices stand as follows:

1. *Cut Social Security benefits for existing retirees by something in excess of 17%. This is the cut required in 2018 to balance things. So, kicking the can down the road means the costs rise even more.*
2. *Cut Social Security benefits for future retirees by something in excess of 21%. This is the cut required today with a similar outcome to kicking the can down the road in the above choice.*
3. *Raise Payroll Tax Rates by 5%+ to pay for the cost. Entitlements and mandatory outlays are projected to grow by over 5% of GDP from 14.5% today to almost 20% of GDP by 2026.*
4. *Raise the eligibility age for Social Security at a more rapid rate.*
5. *Create a National Health Service and regulate medical prices.*

Green Drake Advisors, LLC
175 Strafford Avenue, Suite One
Wayne, PA 19087
(610) 687-7766 Voice
(610) 300-3211 Fax

www.greendrakeadvisors.com

One might note that all these choices are politically unpopular. However, this situation came from 40 years of kicking the can down the road since 1983. The likely outcome for Americans seems some combination of all of these as Congress promised a Pot Of Gold At The End Of The Rainbow, which of course no one can ever reach. And once the reality sets into the average voter of what Congress hath wrought, the anger in politics seen today might look like a picnic.

While the future appears difficult and filled with many hard choices, the US over its history rose to the occasion over and over again to do what was necessary. Americans are realists. When they are told the truth, they act as needed. While politicians to date have espoused the phrase: “I Can Tell A Lie”, as the wiggle room disappears over the next 5 years, the truth will out. President Dwight Eisenhower summarized this best in his Farewell Address in 1961 when he stated:

> “*Throughout America’s adventure in free government, our basic purposes have been to keep the peace; to foster progress in human achievement, and to enhance liberty, dignity, and integrity among people and among nations. To strive for less would be unworthy of a free and religious people. Any failure traceable to arrogance, or our lack of comprehension or readiness to sacrifice would inflict upon us grievous hurt both at home and abroad.*”

For the United States, reality stands ahead. But with Americans having made hard choices and sacrifices in the past, to strive for less would be unworthy of a free people. (Data from Medicare Trustees Annual Report to Congress, Social Security Trustees Annual Report to Congress, Congressional Budget Office, Federal Reserve, and the Hoover Institute coupled with Green Drake Advisors analysis.)

Chicken Little, Dragon Fuel, Space Mining, and The Bionic Human

Finally, we close with brief comments on Chicken Little, Dragon Fuel, Space Mining, and The Bionic Human. First, US chicken processors plan to add 8% to their capacity between 2018 and early 2020. Unfortunately, industry demand grows only 1% or so a year. With capacity utilization falling for the foreseeable future, we see the industry crying “The sky is falling!” just like Chicken Little. Second, Chinese demand for fuel continues to grow rapidly. According to the latest statistics, China’s consumption of oil products rose 7.2% year-over-year in July. In addition, Chinese LNG imports rose almost 34% year-over-year. With the Chinese economy continuing to mature, Dragon Fuel is becoming more and more critical. Third, Japan plans to land multiple robotic landing craft from the Hayabusa-2 spacecraft on an asteroid this fall. While the goal of this landing is to collect data from the ancient asteroid, it also stands as a precursor to testing the ability to land and conduct operations in a vacuum. As a result, it is another step on the road to the commercialization of space and enabling Space Mining.

Green Drake Advisors, LLC
175 Strafford Avenue, Suite One
Wayne, PA 19087
(610) 687-7766 Voice
(610) 300-3211 Fax

www.greendrakeadvisors.com

And Fourth, scientists at Oregon State University discovered that precursor cells for skeletal muscles also give rise to neurons, blood cells, muscles, and immune cells. With this discovery, scientists believe they have moved closer to solving many genetic or environmental disorders and to manufacturing whole limbs, such as an arm or a leg. We see this as one more step on the road to The Bionic Human.

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	Steve Rodia
Chief Executive Officer	President
& Senior Advisor	& Senior Advisor