

### 1st Quarter 2016: Worries and Wonders

"No one pretends that democracy is perfect or all-wise. Indeed, it has been said that democracy is the worst form of government except all those other forms that have been tried from time to time."

-Sir Winston Churchill

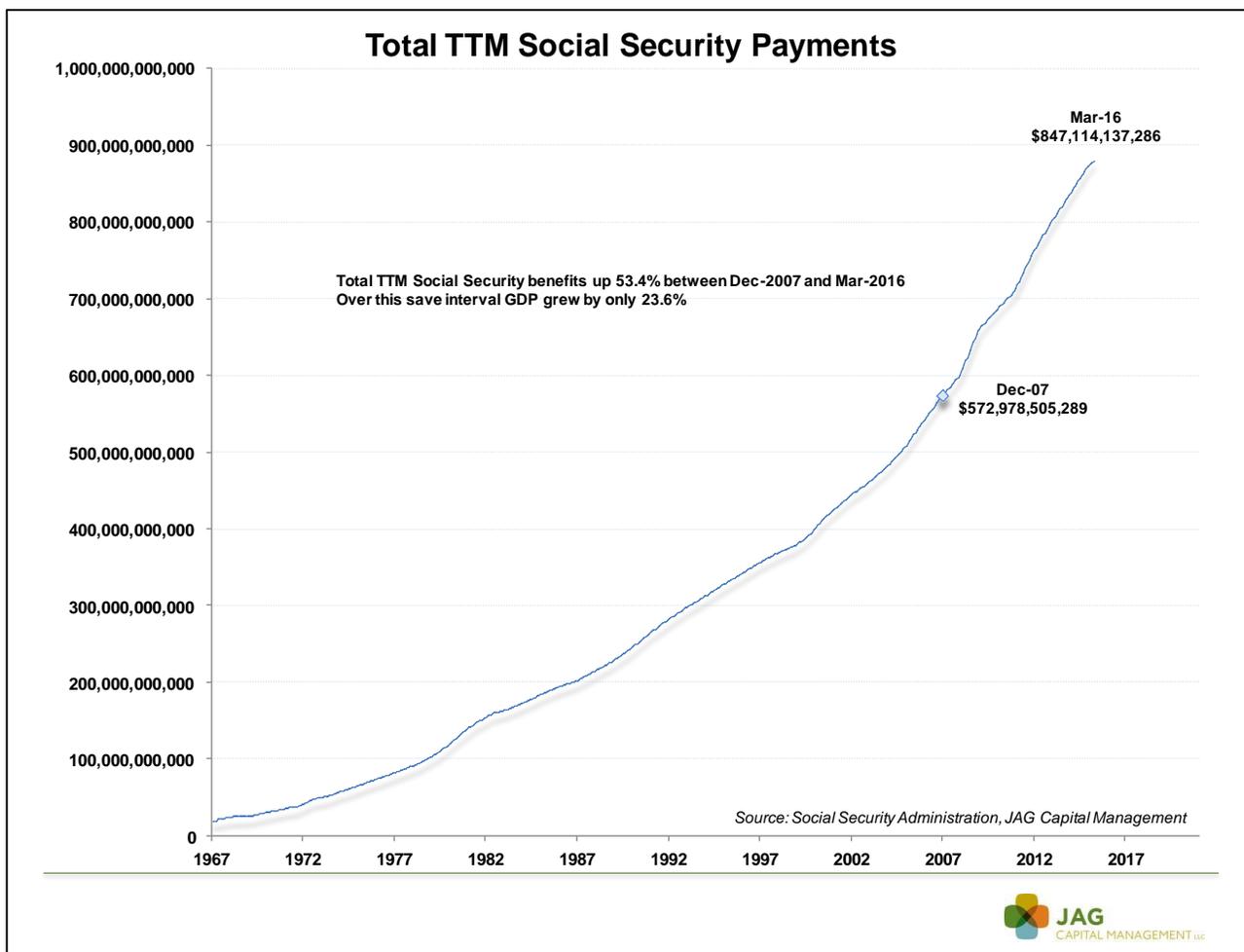
Another presidential election is upon us, bringing with it the usual quadrennial deluge of attack ads, unsolicited phone calls, white lies, arguments, counter arguments, and general bloviating from candidates of both major parties. Thankfully, we are now only seven months away from the election. But in the meantime, buckle up for yet another bumpy ride through the sausage factory of American politics.

This election cycle has been characterized by the rise of anti-establishment candidates from both parties. Also, while there has probably never been an anger free presidential election, it seems that our 2016 election cycle is filled with a bit more

vitriol than the last few. Part of this perception might be created by the enormous growth of the internet and social media. The internet and social media sites like Facebook and Twitter make it much easier for those with rather extreme points of view to “gather” online and broadcast their opinions around the world. The result is at least the perception – if not the reality – of a more fractured electorate than we have had in recent memory.

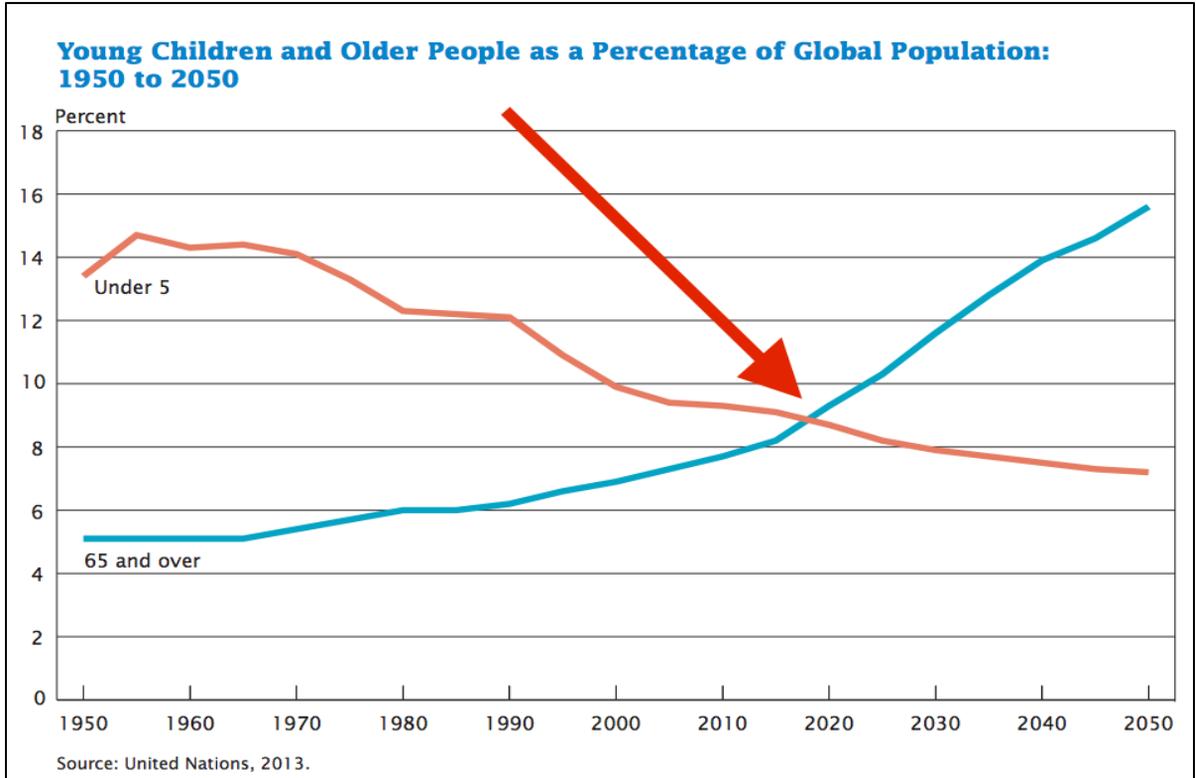
We at JAG try to leave politics to the politicians, but we can think of several issues we hope will be debated this year, which almost certainly will not be. Social Security spending is one such issue. No politician who seeks election or re-election wants to be in the position of telling people that they may get less of something they have been expecting, or that they may have to wait a while longer to get it. This is why any intelligent discussion of Social Security benefits has been a “third rail” for politicians for more than a generation. There is literally no good solution to reigning in Social Security costs that will avoid alienating a significant proportion of voters.

The next few charts frame the long-term challenge we face:

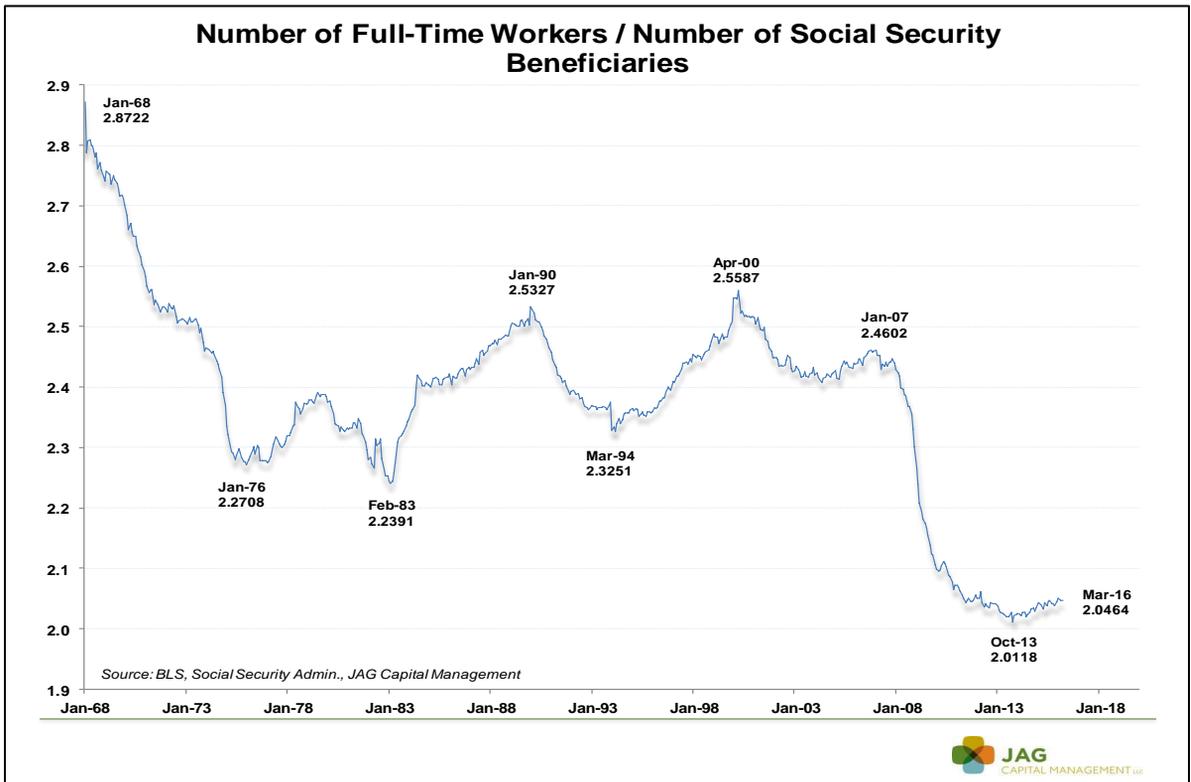


First of all, our spending on Social Security benefits has increased at more than 2x the rate of GDP growth since 2007. Over a very long-term horizon, this is unsustainable.

A big part of the reason for this is our aging population, which is a global phenomenon:

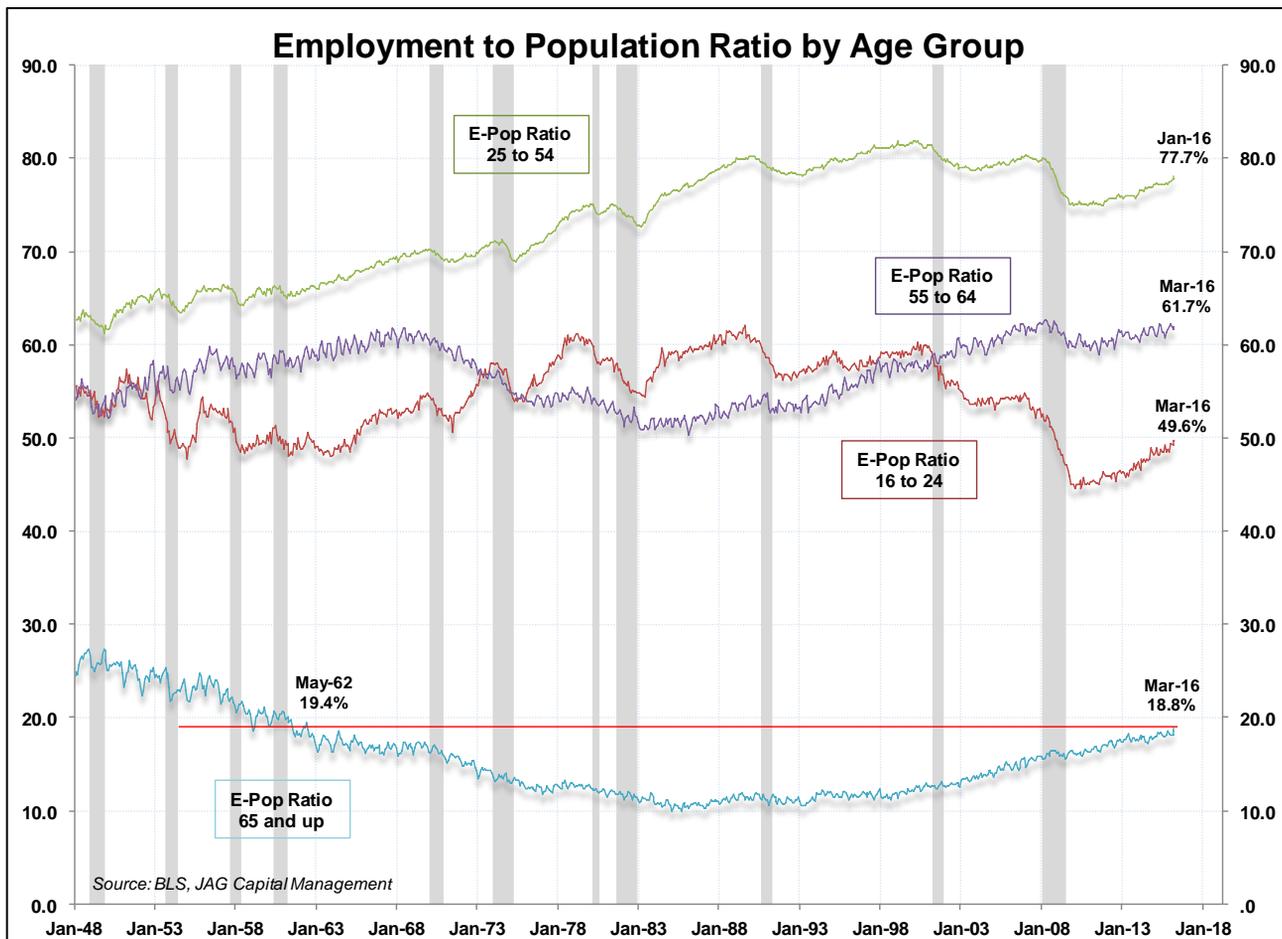


In the United States, our aging population means that fewer full-time workers are supporting each beneficiary of Social Security:



The Baby Boom, which saw a huge spike in the birthrate between 1946 and 1964, is obviously part of the problem. An estimated 78.3 million Americans alive today were born during this period. As these boomer babies grew up and entered the workforce, they helped support retirees who were then receiving Social Security. But now, even the youngest members of the Baby Boom generation are over 50 years old, and the oldest are now 70. As these boomers leave the workforce, there are fewer workers left to support them and other current retirees.

Another troubling fact is that today's millennial generation has been slow to join the workforce, especially after the Great Recession of 2008-2009. Only 49.6% of people aged 16 to 24 are employed, down from almost 60% at the turn of the last century:



We are not public policy experts, but longer-term it is obvious that something will have to change with Social Security. We expect that politicians will avoid the issue until and unless it becomes more pressing. The likely solution is that many individuals will have to wait longer to receive their benefits, or that taxes will have to modestly increase, or some combination of means-testing will need to be formulated. Given demographic and economic trends, this may not be a front-and-center political issue until the 2024 or 2028 election cycle. If we are correct in this prediction, consider this information a helpful preview.

The title of this quarter's memo is "Worries and Wonders." We have already covered one of our major long-term worries.

Now, in the interest of balance, let's spend a little bit of time discussing the "wonder" of modern technology. We all know that the dawn of the internet changed how we communicate, purchase goods and services, advertise, and view media. Trillions of dollars of shareholder value have evolved from internet based business models since the late 1990's.

We spend a lot of time at JAG thinking about what may be the "next big thing" in the technology industry, and we think it might be Virtual and Augmented Reality (VR/AR). As defined by Forbes contributor Duncan Rolph, "Virtual Reality refers to an immersive, computer generated reality that provides the user an artificial sensory experience." Augmented reality uses computer generated tools to enhance our sensory inputs.

Joe Kinnison, our Senior Equity Analyst, has put together a report that gives a snapshot of how we are approaching this industry as investment managers. If you would like a copy of the full report, please just send us an email and we will get it to you. In the meantime, here are the highlights:

### **Why now?**

VR/AR hardware and software is shipping for the first time. Facebook's Oculus Rift VR headset will be in consumer hands this summer, and HTC debuted its Vive headset this spring. The first "killer app" for VR/AR hardware and software will likely be videogames, but there are potentially huge implications for the entertainment industry (think virtual reality feature films), travel industry (virtual excursions to cruise ships and sightseeing), business productivity (virtual meetings), and social media (virtually sharing experiences and events with family and friends).

### **It is a Big Market**

VR/AR has the potential to grow into a huge market. Early estimates for market size in the next 5 years range from \$110 to \$150 billion. Over \$1.1 billion in publicly disclosed investments have been made into VR/AR companies over the past two calendar years, and that number seems poised to increase substantially in 2016 and 2017.

### **Multiple Investment Opportunities**

Similar to the advent of the internet, which spawned companies such as Amazon, Google, Yahoo, and Facebook, we believe that VR/AR could foster the growth of a new wave of technology giants. We are evaluating the investment opportunities through the prism of "Enablers" and "Beneficiaries." Enablers are companies that create the hardware and software to allow VR/AR to work effectively. Beneficiaries will be companies that lever VR/AR technology to enhance their own business plans. We believe the impact of VR/AR could reach across a variety of industries outside of the technology sector.

### **Caveats**

As Microsoft founder Bill Gates once said, "We always overestimate the change that will occur in the next two years and underestimate the change that will occur in the next ten." We think VR/AR will provide some of the best investment opportunities of the next decade, but there will certainly be fits and starts (remember the internet stock bust of 2000?). For now, we are watching, waiting and learning more. We will keep you posted.

Best regards,

Norm Conley  
CEO & CIO  
April 2016

P.S. Go Cards!

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