



Looking Through Rose-Tinted Glasses

In 1980 the psychologist Richard Solomon published a theory of emotional equilibrium based upon the work of the scientist Ewald Hering almost a century earlier. In his study of how visual systems interpret color, Hering developed what is now known as opponent-process theory. He demonstrated that our sense of neutral white or gray reflects the status of a tug-of-war between circuits for the color red versus green, blue versus yellow, and black versus white. The world as seen through red-tinted glasses will over time return to neutral, but when the glasses are removed it will appear green. In other words, when red-sensitive neurons are over-stimulated for an extended period, they eventually relax their tug as the rosy tint in our consciousness fades out. When the goggles are removed, the green neurons are rested and ready and will predominate the visual experience.



Solomon asserted that our emotions too are kept in equilibrium by a balance of opposing circuits. Fear is balanced with confidence, pleasure with pain, hunger with satiety, etc. When one emotion is experienced, the other is suppressed. This can be explained by thrill-seeking behaviors like skydiving. Beginners experience extreme fear as they jump and great relief when they land. Subsequent jumps then involve less fear and more pleasure, and over time riskier jumps need to be taken to attain earlier levels of pleasure.

The Federal Reserve's massive stimulus programs since the Great Recession – amounting to over \$4 trillion according to conservative estimates – in addition to its zero interest rate policy have suppressed the fear circuit in market participants. Risk-assets across the board have surged in value as investors have reached further out on the risk spectrum to achieve

acceptable returns and income. Today's bulls seem to have been wearing tinted glasses for so long that they've forgotten they're on at all.

The principle that low interest rates intrinsically justify higher valuations continues to drive the market higher, yet it is incomplete in one important way. When investors determine the present value of future cash flows for a security (the fair price), both a discount rate (interest rate) and a growth rate are required inputs. If growth expectations are held constant and interest rates fall, prices should naturally rise. However, if interest rates fall as a result of reduced growth expectations, as they have over the past decade and a half, the significant valuation premiums we see today are not as justifiable as today's bulls would suggest.

We have stressed in recent years the abundance of headwinds that we believe will prevent robust and sustainable economic growth: the enormous build-up of manufacturing capacity since the early 1980's - largely due to extraordinary growth in China; a global oversupply of commodities and cheap labor; job displacement due to improvements in robotics and artificial intelligence; gridlock in Washington; and the retirement and shifting consumption patterns of the baby boomer generation. This edition of *Viewpoints* will focus on the impending pension crisis in the U.S., which is in a sense the collision of our country's ineffective leadership with our aging population.

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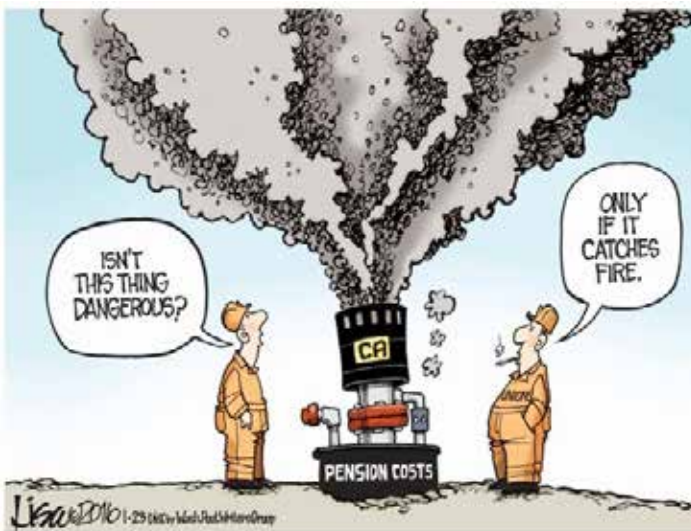
numbers are almost too big to fathom. A recent study conducted by Citibank determined that government pensions in the 20 largest OECD nations are currently encumbered with \$78 trillion in unfunded liabilities. The United States accounts for the lion's share of the distribution, owning 62% of the \$36 trillion in global pension assets; coming in a distant second is Britain with 8%. For a sense of scale, \$36 trillion is seven times the daily volume of the foreign exchange market, the largest in the world.

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Before we introduce any real-world examples it may help to provide a brief overview of the nature of pension accounting, which is crucial to understanding the problem. The funded status of a plan represents the value of the plan's assets (investments) less what is called the projected benefit obligation (PBO): the present value of projected pension benefits assuming the plan terminated immediately, such that it had to provide retirement income for all employees for their years of service up to that date. Actuaries make assumptions about the retiree population, compensation increases and perhaps most relevant to this discussion, a discount rate, to arrive at a single present value for the future payment streams. For example, if Company X owes \$100

in 5 years and assumes a 10% discount rate, it's PBO is $\$100 / (1.10)^5 = \62 . If the plan assets exceed \$62 it is overfunded, and underfunded if less than \$62.

It is important to understand that the discount rate to calculate the projected benefit obligation is also an implicit assumption of the expected return on pension assets. In other words, if Company X also has \$62 in pension assets (i.e. a fully funded plan), then it will need to return 10% annually on those assets to meet its obligation.



What is particularly alarming is that the average discount rate/return assumption used by sponsors has always been, and continues to be about 8%, despite the two recent financial crashes and the extremely low yields on safer investments like Treasuries - the instruments that traditionally were used to back promised payments to retirees. Pension asset managers have had to compensate for the lack of safe yield by adding higher returning securities in real estate, venture capital,

and emerging markets in order to have a fighting chance at meeting future obligations.

One thing is clear, that demographics are on a collision course with the mountain of unfunded promises to retirees. An estimated 7.5 million baby boomers are expected to retire over the next 15 years, most of whom are relying on their pensions and other investments to live out their golden years. The *average* baby boomer has a net worth of \$1.1 million, but this figure is misleading, skewed by the upper-end one percenters. The *median* baby boomer, a more telling statistic, has a net worth of \$180,000, with about 60% of that in the stock market. This group's fear of running out of money will be characterized by 1) sharply reduced consumption, and 2) the need to "stay in the game" with respect to higher yielding securities.

Time will tell how politicians will handle the perfect storm that is pitting taxpayers against taxpayers. On the one hand, there are teachers, police officers, and firefighters who legally and legitimately earned every dollar that's been promised to them. On the other are those who took a risk earning a living in the private sector, asking why their property taxes are going up to pay for other people's pensions that have been inappropriately accounted for. Unlike a corporation, which can sell assets to meet liabilities, a municipality's assets (taxpayers) can pack up and move if they can't tolerate tax increases.

Urban areas generally have more severe pension quandaries than rural ones, but the crises are

widespread. Cook County, Illinois is facing a population exodus as a result of its \$15 billion unfunded liability. The State of Kentucky has an unfunded liability of nearly \$40 billion. The city of Dallas police and firefighters fund assets will only cover the next ten years of pension payments. Since 2014, New York City has spent more on pensions than it has on repairing schools, parks, bridges and subways combined. The list goes on and the political outcomes are unknown. What is known is that if nothing changes the system will go bankrupt.

Ultimately, family formation among millennials, now equivalent in size to the baby boomer cohort, will be a crucial offset to the deflationary pressures that will accompany the changing investment and consumption patterns of the boomers. In the meantime, we remain goggle-free and our portfolios will continue to reflect our thesis that the need for income will continue to be the predominant investment theme for some time, along with our mantra of maximizing how well we and our clients can sleep at night by minimizing risk wherever possible.

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