The Type 2 Investor

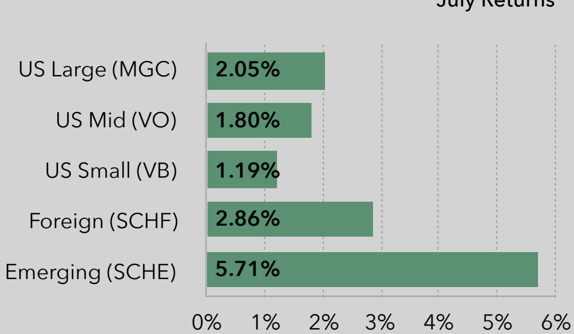
August 8, 2017

July 2017

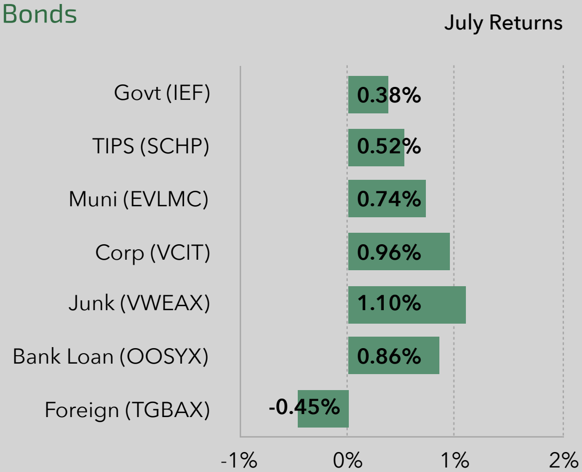
Economic Data

- 209,000 jobs were added in July, but it was all part-time jobs with waiters and bartenders seeing the most gains; the unemployment rate ticked down one-tenth to 4.3%
- Existing home sales fell 1.8% in June but are still in the positive column year-over-year; new homes sales maintained a healthy 610,000 annual rate for the month
- Year-over-year inflation (CPI) fell further yet to 1.6% in June, while the core rate (ex-food & energy) held steady at 1.7%
- Retail sales continued their slide falling 0.2% in June

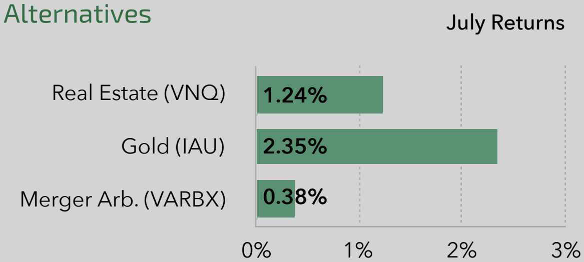
Stocks



Bonds



Alternatives



Performance data provided by Morningstar.

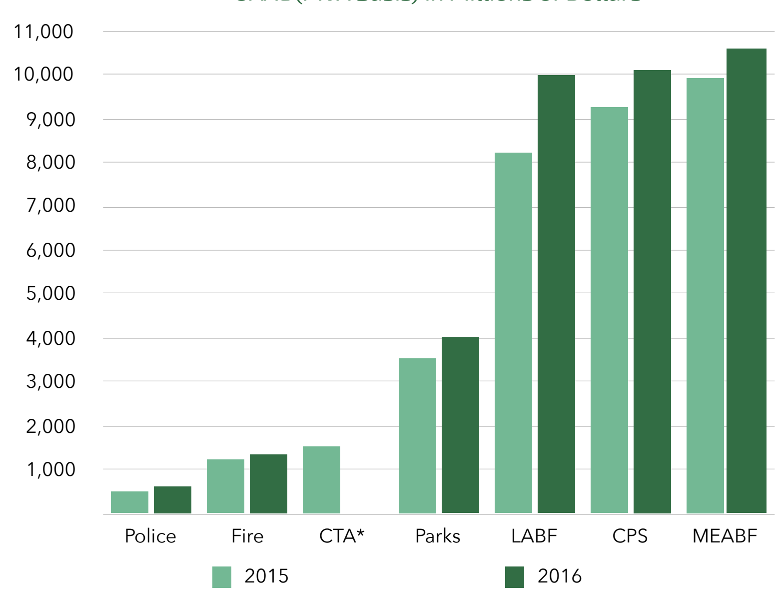
The brain uses two systems to process information. The first type is intuitive but lazy, rapidly forming judgements with no conscious input. The second system is slow, reflective, and is not guided by emotions. It is that second system – type 2 – that we want in control of our investment portfolios.

Chicago's Pension Dumpster Fire

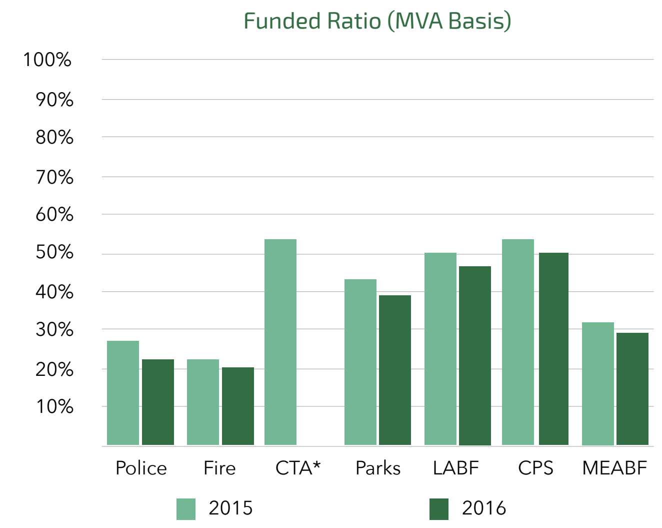
As a finance nerd, one of my favorite summer diversions is checking in on the health of the City of Chicago's various pension funds. It is not necessarily a function of my job, but as a property owner in the Second City I have a tangible vested interest in the matter. Most probably would not consider it a fun way to spend a July day. It involves poking around each pension plan's website looking for the most recent actuarial valuation report, and sifting through the scores of pages for the few pieces of data that really matter.

One of the most important measures of a pension fund's health is what is called the Unfunded Actuarial Accrued Liability (UAAL). The UAAL is the difference between actuarial liabilities based on the earnings, age, gender, and other factors of their membership, and the value of the assets. It essentially attempts to show how much more money the plan would need today in order to make good on all its promises for tomorrow. Pension plans usually report this figure two ways. The first uses an actuarial valuation of the assets, which I ignore because it is not the real value of assets but rather a smoothed out number that pretends the fund will make up for underperforming its target rate of return in the past. The second is the market value of assets (MVA) which is what the fund actually has and is therefore, you know, reality. So let's first take a look at those figures.

UAAL (MVA Basis) in Millions of Dollars

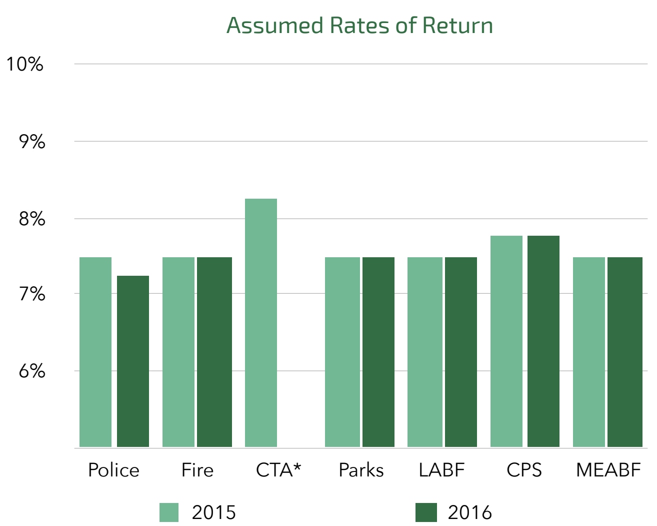


Woof! 2016 data is not yet available for the Chicago Transit Authority (CTA), but every other pension plan saw their unfunded liabilities increase despite an above-average year for stocks. But to be fair that doesn't really show it in the appropriate context. To do that we need to look at the funded ratio, which is simply the MVA as a percentage of the actuarial accrued liability. 100% would indicate a fully-funded pension. A number above 100% would indicate an over-funded pension (a seemingly mythical creature) while anything under that would indicate the pension was underfunded. The closer the number gets to zero, the closer the pension gets to insolvency.



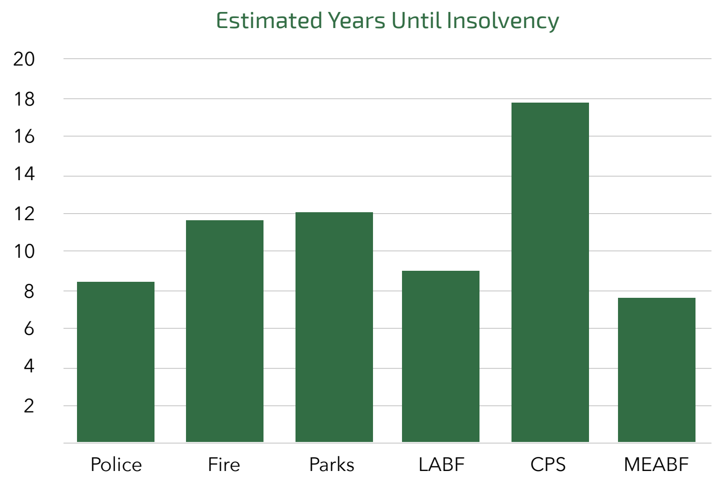
Ruh row! The Chicago Public Schools (CPS) pension looks to be in the best shape, and it only has half the money it supposedly needs. Meanwhile, the race to insolvency appears to be a three-horse battle between the Police, Firefighters, and Municipal Employees' Annuity and Benefit Fund (MEABF). At first glance the Firefighters look to be the most troubled, but once again we need to find out a little more to get a clearer picture of things.

The target rate of return is another important piece of data. This is the average return the pension thinks it will get every year. More importantly, this is the number used to discount the plan's liabilities. And the plan gets to pick (within some degree of reason) whatever number they want for this. The higher the number, the lower the liabilities look, which is why it's such a big deal.



So assumed rates of returns range from an unlikely 7.25% for the Policemen's Fund (hey, at least they lowered it from last year) to a very unlikely 8.25% for the CTA. Those would be bold assumptions even if the pensions were fully funded. When they are only 20 or 30% funded, they are more than just a little misleading. After all, the pension can only expect to get a return on assets it actually owns. So discounting all liabilities at the expected rate of return when assets are only a fraction of liabilities greatly masks the truth. If, for example, we only apply the expected return to the portion of MEABF liabilities that are funded, and apply the long-term municipal bond yield to the unfunded portion as the Government Accounting Standards Board (GASB) recommends, the single equivalent discount rate to use would be 3.91%. This increases actuarial liabilities by 55% and the funded ratio then drops from 29.47% to 19.05%.

The last thing I like to look at is what I call the burn rate. This is cash coming into the plan minus cash going out, and ignores any gains or losses from investments. I then divide the MVA by this number to get a rough idea of how many years the fund could continue to burn through cash at the current rate before it runs out. It's admittedly a back-of-the-napkin-type calculation, and increased funding, realized investment returns, and a host of other variables will have an impact on this, but I think it is a good measure for plans on life support.



This metric shows less than eight years of life left in the MEABF pension at the rate things are going. The Actuarial Valuation and Review as of December 31, 2016 admits as much saying, "The funding method mandated by the Illinois Pension Code is insufficient to avoid insolvency, and without a change, the Fund is in imminent danger of insolvency and the assets are projected to be depleted within the next 9 years (during 2025)." They go further stating, "the legality of this situation is questionable, and if it is determined that the reserve for accumulated active member contributions cannot be paid to existing annuitants, the Fund would become insolvent earlier than 2025."

Add up all the estimated unfunded pension liabilities for Chicago and the number you get is north of $38 billion. Divide that up between Chicago's 1,035,436 households, and the bill comes to $36,941 each. And that's just the city. Chicago's share of Cook County's pension adds another $3,725 to the tab, and the State's pension plans throw another

Binge Box

Ozark

Let's be honest, the only thing that matters right now is *Game of Thrones*. Sadly, however, that will end in three weeks and we'll need something else to binge after a hard day. A good friend and client recently recommended *Ozark* on Netflix to me, and I'm going to pay it forward.

Finally, a show that portrays just how exciting my work is – *Ozark*'s protagonist is a financial advisor! Ok, so maybe I'm not involved in money laundering for the second largest Mexican drug cartel, but it's flattering nonetheless. It takes great writing and some solid acting to make the adventures of a financial advisor binge worthy, but Jason Bateman is up to the task.

$28,192 on top of that. That's an estimated total unfunded pension liability of $68,858 per Chicago household. I am not writing that check!

I have no idea how this is going to play out, but I am having trouble envisioning a scenario where pension participants, courts, politicians, and taxpayers all agree to meet in the middle on this one. Completely unrelated, but if anyone is looking to buy a condo in the Ravenswood neighborhood of Chicago please let me know.

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Tactical Asset Allocation

Asset Class	Heavy Under-weight	Under-weight	Neutral	Over-weight	Heavy Over-weight
Cash				●	
Fixed Income		●			
Core Domestic		●			
TIPS				●	
US High Yield	●				
Bank Loans				●	
Foreign Bonds			●		
Equities		●			
Large Cap		●			
Mid Cap		●			
Small Cap	●				
Developed Intl.		●			
Emerging			●		
Alternatives				●	
Real Estate		●			
Commodities					●
Hedging					●

About EmeraldSpark

EmeraldSpark Investments, LLC is a Registered Investment Adviser based in Chicago, IL. We were founded by Ryan P. Layton, CFA in 2015 to provide personalized financial planning and fiduciary investment management services to select individuals. Our investment process blends the foundations of Modern Portfolio Theory with the latest research in the field of behavioral finance. We specialize in asset allocation and investment due diligence to help provide our clients with investment strategies personalized to match their specific goals and risk comfort zone.

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