When E.F. Hutton Talks

If you like your health plan, you can keep your health plan.
– Barack Obama

Of course, one objective of both traditional and nontraditional policy during recoveries is to promote a return to productive risk-taking.
– Ben Bernanke

Most people are other people. Their thoughts are someone else's opinion, their lives a mimicry, their passions a quotation.
– Oscar Wilde ("De Profundis")

Don't piss down my back and tell me it's raining.
– Fletcher ("The Outlaw Josey Wales")

$\boldsymbol{EU = Max(E(1+r)^{\alpha}/\alpha)}$
– Paul Samuelson, Nobel Prize winner, author of all-time best-selling economics textbook

Through his research, teaching, and writing Paul Samuelson had more impact on the economic life of this country and the world than any government economic official and many presidents.
– Larry Summers, former Treasury Secretary (and Paul Samuelson's nephew)

$\boldsymbol{EU = Max(E\ log\ (1+r)^2)}$
– Edward Thorp, hedge fund manager, author of all-time best-selling gambling textbook

Edward O. Thorp and the Kelly criterion have been a lighthouse for risk management for me and PIMCO for over 45 years. First at the blackjack tables, and then in portfolio management, the Kelly system has helped to minimize risk and maximize return for thousands of PIMCO clients.
– Bill Gross, Co-CIO PIMCO

The concept of utility is the most fundamental concept in economics. It gets wrapped up in impressive sounding terms like “exogenous preference functions”, and written in all sorts of arcane runes and formulas, but all utility means is that you like something more than something else. The assumptions that economic theory makes about utility are really pretty simple and mostly about consistency – if you like vanilla ice cream more than chocolate ice cream, and chocolate more than strawberry, then economic theory assumes you also like vanilla more than strawberry – and continuity – if you like one scoop of vanilla ice cream, then you like two scoops even more. But as far as *what* you like, what your *tastes* or *preferences* are in ice cream or music … or health insurance plans … economic theory is intentionally silent. Economics is all about making rational decisions given some set of likes and dislikes. It doesn’t presume to tell you what you *should* like or dislike, and it assumes that you do in fact *know* what you like or dislike.

Or at least that’s what economic theory used to proclaim. Today economic theory is used as the intellectual foundation for a political stratagem that goes something like this: you do not know what you truly like, and in particular you do not know your economic self-interest, but luckily for you we are here to fix that. This is the common strand between QE and Obamacare. The former says that you are *wrong* to prefer safety to risk in your investments, and so we will fix that misconception of yours by making it extremely painful for you not to take greater investment risks than you would otherwise prefer. The latter says that you are *wrong* to prefer no health insurance or a certain type of health insurance to another type of health insurance, and so we will make it illegal for you to do anything but purchase a policy that we are certain you would prefer if only you were thinking more clearly about all this.

Anyone who believes that this political maneuver is inherently a phenomenon of the Left is kidding himself. The Right – in the form of sectarian or secular authoritarianism that imposes behavioral politics on the justification that this is how to get into heaven or demonstrate true patriotism – is no stranger to exactly this sort of political aggrandizement. Nor am I arguing that it’s smart to put your money under a mattress or that it’s wise to use the local emergency clinic as your primary care provider. What I’m saying is that the notion that *we* know your interests better than *you* know your interests is inherently an anti-liberal position, whether it comes from the Left or the Right. That’s liberalism with a small-l, the liberalism of Adam Smith and John Stuart Mill, not Walter Mondale … a political philosophy that argues for your right to be as stupid as you want to be in your personal economic decisions.

While there are hundreds of examples of anti-liberal policies in the annals of Western history, QE and Obamacare stand out in two important respects.

First, they're big. Really big. Either policy on its own would be the largest instantiation in human history of what the French call *dirigisme*, at least on an absolute scale. I suppose you could argue that the US Social Security system has evolved into something even larger, but that took 70+ years to match what QE and Obamacare have accomplished in a few dozen months. I've written at length about the manner in which emergency policy responses to national traumas like wars and depressions are transformed into permanent government programs, so I won't repeat that here. Suffice it to say that it's not a coincidence that Social Security is a child of the Great Depression in the same way that both QE and Obamacare are children of the Great Recession. The institutionalization and expansion of centralized economic policy is what always happens after an economic crisis, but the scale and scope of QE and Obamacare, particularly when considered together as two sides of the same illiberal coin, are unprecedented in US history.

Second, and this is what really distinguishes the dirigiste policies of today from those of the past, the political and bureaucratic advocates of QE and Obamacare have co-opted the Narrative of Science to promote these policies to the public. If you look at the financial media's representation of monetary policy during, say, the Volcker years, you see a curious thing. *These articles almost never mention academic papers or Fed research.* Today you can't go a week without tripping over a prominent WSJ or FT article trumpeting this Fed publication or that IMF working paper as the reason behind a monetary policy rhyme. The authority vested in the Volcker Fed was based on a Narrative of Experience, an argument for trust based on a representation of personal leadership and experiential wisdom. Today, the argument for trusting the Fed places zero weight on the real-world experience or personal wisdom of the Fed Chair. Instead, both Bernanke and Yellen are presented as Wizards who channel the transcendent magic of economic theory. For better or worse, a popular faith in Economic Science is the source of their authority.

As for healthcare policy … the entire edifice of Obamacare has been presented as a self-consciously scientific, enlightened economic argument. This allows its political adversaries to be painted as bizarrely opposed to an objectively correct scientific position, as either know-nothing rubes who probably don't even believe in evolution or as greedy stooges of the criminally rapacious insurance industry. Contrast this to the media presentation of healthcare policy initiatives in the 1960's, particularly the establishment of Medicare as part of Johnson's Great Society. As the phrase "Great Society" implies, arguments for Medicare had nothing to do with macroeconomic theories of efficiency and everything to do with political theories of justice. All of Johnson's political initiatives, from Medicare to the Civil Rights Act, were based on a Narrative of Social Justice, an explicitly political argument that made little pretense of marshaling social science to prove the point. Seems like a more honest mode of politics to me, one that recognizes and embraces the hot-blooded nature of politics for what it is rather than hiding it within a cool armor of Science, and maybe that's why Johnson's policies have stood the test of time.

Why has the Narrative of Science been co-opted in this way? Because it works. Because Science is the dominant religion, i.e. belief system in transcendent forces, in the West today. Because politicians have always sought to direct or tap into these belief systems for their own ends. In exactly the same way that French kings in the 13th century used ecclesiastical arguments and Papal bulls to justify their conquest of what we now know as southern France in the Albigensian Crusades, so do American Presidents in the 21st century use macroeconomic arguments and Nobel prize winner op-eds to justify their expansionist aims. Economists play the same role in the court of George W. Bush or Barack Obama as clerics played in the court of Louis VIII or Louis IX. They intentionally write and speak in a "higher" language that lay people do not understand, they are assigned to senior positions in every bureaucratic institution of importance, and they are treated as the conduits of a received Truth that is – at least in terms of its relationship to politics – purely a social construction. I'm not trying to be flippant about this, but when you read the history of the Middle Ages I find it impossible not to be struck by the similarity in *social meaning* between clerics then and economists today.

So why does this bug me so much? What's the big deal about wrapping a political argument in the mantle of Economics in the same way that it used to be wrapped in the mantle of Catholicism? Isn't this what powerful political and commercial interests have done since the dawn of time, drawing on some outside source of social authority to support their cause?

Part of the answer is that as a limited government, small-l liberal I'm on the losing side of this particular political argument. I believe that it's crucial to allow everyone to be as stupid as they want to be in their personal economic decisions because a) economic vitality and growth in the aggregate *requires* plenty of individual mistakes and losers along the way (sorry, but it does), and

b) the alternative – allowing or requiring government to make these decisions on our behalf – inevitably creates a terribly fragile system where a single poor decision can lead to permanent ruin. Is it difficult and at times inefficient to maintain limited government in a mass society? Absolutely. Should we make small exceptions to these liberal principles to grease the wheels of effective governance in ordinary times, and big exceptions to these principles in a national emergency? Without a doubt. I think Lincoln saved the United States in 1861 when he suspended habeas corpus and imposed martial law in wide swaths of the country. I think Bernanke saved the world in 2009 when he implemented QE 1. But like the Roman dictator Cincinnatus, a great leader goes back to the farm after he saves the Republic. It's the hardest thing to do in politics … to voluntarily relinquish emergency powers used wisely for the common good, to maintain a personal humility and trust in the system in the aftermath of great success. George Washington did it, and that's why he's the greatest President this country ever had. I understand that it's not terribly likely we'll ever see Washington's like again … different times, different world, etc., etc. … but hope springs eternal.

The other part of the answer is that using Science for political ends subverts its usefulness (as does using Religion for political ends … just ask Martin Luther). We lose something very important when we associate a particular social scientific hypothesis with a winning policy outcome or a losing policy outcome, and that's the recognition that social science – particularly economic science – is never True or False, but only more or less useful depending on whatever it is in life that you value … your utility function. Both as individuals and as collectives, we can achieve much greater levels of utility – we can be happier – if we maintain this agnostic view of Truth when it comes to social science. Politicians want to sell us on the notion that they have The Answer, that they can deliver the good life if only we keep them in power. Social scientists – or at least honest ones – recognize that there are no Answers in the patterns and relationships they identify, even if those patterns can be written in the highly precise language of mathematics. There is More Useful and Less Useful in social science … that's all … and claims to the contrary detract from the very real benefits and advances that social science can provide.

Here's a concrete example of what I mean …

Let's say that you're interested in wealth maximization, that this is the utility function you are most concerned with as an investor, and you want to know what percentage of your wealth you should allocate to the different investment opportunities you can choose from. Paul Samuelson, the most influential economist of the post-World War II era and the first American winner of the Nobel prize in Economics has an answer for you: $\boldsymbol{EU = Max(E(1+r)^{\alpha}/\alpha)}$. Translation: the more confident you are in the expected return of the investment choice, the more you should allocate to that choice, but in a more or less linearly proportional manner. On the other hand, Edward Thorp, author of "Beat the Dealer" and evangelist of the Kelly Criterion – an algorithm designed by mathematician John Kelly at Bell Labs in the 1950's and used by investors like Warren Buffett, Bill Gross, and Jim Simons (if you've never read "Fortune's Formula", by William Poundstone, you should) – has a different answer for you: $\boldsymbol{EU = Max(E\,log\,(1+r)^{2})}$. Translation, the more confident you are in the expected return of the investment choice, the more you should allocate to that choice, but in a logarithmically proportional manner.

The difference between investing on the basis of linear proportionality and logarithmic proportionality is vast and incommensurable. With the Kelly criterion, even a small expected advantage in the investment odds – say a 52% chance of doubling your investment and a 48% chance of losing it all – requires you to invest a significant portion of your overall wealth, in this case about 2%. With a larger expected advantage in the investment odds, the recommended allocation gets very large, very fast. If the odds are 60/40 on doubling up/losing the entire investment, Kelly says invest 20% of your total wealth; if the odds are 80/20, Kelly says invest 60% of your total wealth in this single bet! Definitely not for the faint of heart, and definitely a far riskier strategy at any given point in time than the straightforward Samuelson expected utility approach. But you never lose ALL of your money with the Kelly criterion, and over a long enough period of time (maybe a very long period of time) with infinitely divisible bet amounts and correct assessment of the investment odds, the Kelly criterion will, by definition, maximize the growth *rate* of your wealth.

These are two VERY different answers to the wealth maximization question by two world-class geniuses, each with a legion of world-class genius supporters. Samuelson is a lot more famous and received far more public accolades; Thorp made a lot more money from investing (Kelly died of a stroke at age 41 in 1965 and never made a dime from his theory). But they can't BOTH be right, the politician would say. What's The Answer to the wealth maximization question so we can institute the right policy? Well … they ARE both right, there is no Answer, and the correct choice between the two depends entirely on *your* individual utility function. In fact, choosing either wealth maximization algorithm and imposing it on everyone is guaranteed to make *everyone* worse off in the aggregate.

How's that? Let's say I'm investing my life savings, and I've only got one shot to get this right. Not one investment, but one shot at implementing a coherent investment strategy for this, the only life's savings I will ever have. If that's my personal situation, then I would be nuts to choose the Kelly criterion to drive that strategy. It's just too risky, and if I'm unlucky I'll be down so much that I'll hate myself. Maybe in the long run it maximizes my wealth growth rate, but in the long run I'm also dead. On the other hand, let's say I'm investing a small bonus. It's not the only bonus I'll ever receive, and in and of itself it's not life changing money. If that's my personal situation, then I would be nuts NOT to choose the Kelly criterion because it has the very real possibility of transforming the small bonus into life changing money.

No one's utility function for money is linear – $20 has more than 20 times the utility to me than $1 – and no two people have the same utility function for money – I'm sure there are people out there who care as little about $20 as I do about $1. Everyone's utility function for money changes over time, and most are contextually dependent. It is *impossible* to design a one-size-fits-all wealth maximization formula, which is why human financial advisors have such an important job. It's also why government efforts to force us to converge on a utility function for investment choices, healthcare choices, or any other sort of personal economic choice result in such a widespread gnashing of teeth and popular dissatisfaction. At best, it's a myopic conception of how to generate more economic utility. At worst, it's an intentional subversion of useful social science to cloak politics as usual. In either event, it's something that deserves to be called out, and that's what I'll keep doing with Epsilon Theory.

Postscript

Two quick points on portfolio management, utility functions, and the Kelly criterion that I'll present without elaboration and will probably only be of interest to professional investors who are immersed in this sort of thing.

1) In several important respects, risk parity investment allocations are to 60/40 stock/bond allocations what the Kelly criterion is to Samuelson expected utility.

2) The allocation of capital by an investment manager who wants to establish multiple independent Kelly criterion strategies across traders or sub-investment managers, each of whose individual utility functions favors a fractional Kelly or Samuelson expected utility function, is a solvable game.

