



CUBIC ASSET MANAGEMENT, LLC

2014 1st Quarter Stock Market Commentary

THE ULTIMATUM GAME

“An imbalance between rich and poor is the oldest and most fatal ailment of all republics.”

- Plutarch, Greek historian
c. 46-120 A.D.

Almost everyone has seen the charming commercial for AT&T in which an actor sits on the floor with a group of children and asks them "Who thinks more is better than less?" Of course, they all raise their hands. "Okay, why?", he continues, which elicits the following response from one of the girls. "More is better than less, because if there's more less stuff, then you might want to have some more. But then, your parents won't let you because there's only a little. If you really like something, you'll want more of it. We want more. We want more. Like, you really like something, you want more."

It seems kind of obvious, that more of something you want is preferable to less. But what if it's not true. Consider the following two person game, usually called The Ultimatum Game in economics. The game begins by one person in the game, who is called the proposer, being given some amount of money, say \$100, which he divides into two parts, say \$50 and \$50. This division is presented to the second player, called the responder, as a 'take it or leave it' offer (hence the name "ultimatum"). The responder can accept the proposed division, or reject it. If the responder accepts, then the two parties divide the money according to the proposal, in this case \$50 each. If the responder rejects the offer, then both parties receive nothing. In either case, the game is over once the responder has made his decision. Usually, the game is played anonymously.

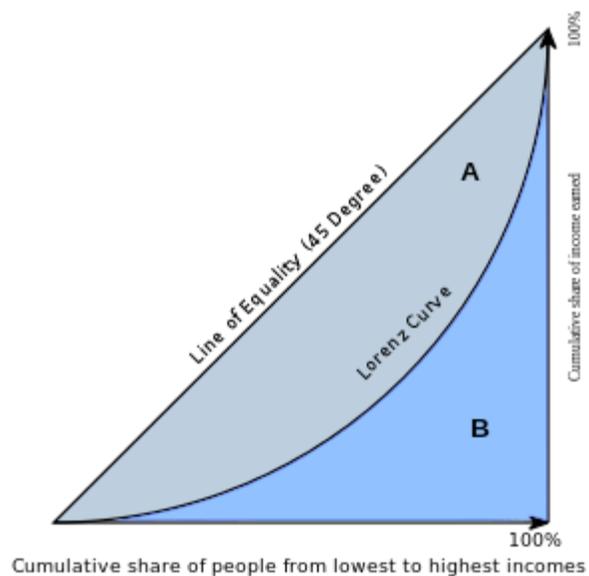
In a rational world, the proposer's best strategy is to offer the responder the smallest non-zero amount possible, in this case \$1, with the intention of keeping \$99. In theory, the responder should always accept this offer, since he will have \$1 more than if he rejects it. (More is better than less.) But in practice, such an offer is almost universally rejected. In Western societies, proposers tend to offer a nearly 50-50 split, while responders reject offers they deem to be unfair. Splits of \$80-\$20 are rejected roughly half the time.

Brain scans of people playing the Ultimatum Game show that unfair offers trigger, in the responder's brain, a feeling of "moral disgust". The anterior insula, usually associated with negative emotional states like disgust or anger, becomes more active when unfair offers are proposed. Interestingly, players experience this unfairness aversion only when the proposer is a human being. The activation is much lower when the proposer is a computer. Further, the anterior insula activation is generally proportional to the degree of unfairness.

From a sociological perspective, the Ultimatum Game illustrates the human unwillingness to accept unfairness or injustice. Players are willing to cut off their own nose to spite their face rather than allow someone who is perceived as too greedy to benefit.

This research seems unusually relevant in framing the current populist attack by President Obama on what he has dubbed "a dangerous and growing inequality". Citing Census Bureau data, he has decried increasing inequality as a "decades long trend".

The measure that is generally used to gauge the degree of income inequality is the Gini coefficient. This is based upon something called the Lorenz curve, which is a graph that shows the percentage of the population along the x-axis, while along the y-axis is the cumulative percentage of earnings received by anyone with an income below x. In a completely egalitarian society, the Lorenz curve would be a line at a 45 degree angle. In such a society, the lowest 25% of the population would earn 25% of the total earnings, the lowest 50% would earn 50% of the income, and so on. In every society, the actual Lorenz curve has a shape similar to that shown at right. In the United States, the lowest 25% of the population actually earns about 5% of the total, and the first 50% earns roughly 15%.



The Gini coefficient is defined to be the area **A** divided by **A+B**. In a perfectly equal society the Gini coefficient would be 0, since the Lorenz curve would be the line of equality. The closer the Gini coefficient is to one, the greater the concentration of wealth in a few hands. Not surprisingly, the highest Gini coefficients are found in Africa. South Africa's coefficient is 0.7, for example. In the developed nations, the index ranges between 0.24 and 0.49.

Using this measure, it is true that income inequality in the United States has risen slowly but steadily since the early 1970s. There is wide disparity between states. Maine, for example, has the lowest Gini, meaning it is the least unequal, while Washington, D.C. has the highest. Why is it not surprising that once again the populist speech emanating from Washington is not consistent with their own actions?

Unfortunately, though, the Gini coefficient is an extremely flawed measure. First of all, it uses only pre-tax data. The United States has one of the most progressive tax systems in the world. The top 10% of earners pay more than 70% of total income taxes, for example. The infamous top 1% pay more than 30%. A progressive tax code goes a long way towards reducing income inequality. Just as crucially, the Gini coefficient completely excludes all transfer payments like Medicare, Medicaid, the Earned Income Tax Credit, food stamps, and health insurance subsidies, all programs designed for income redistribution. According to a study in 2006 by the non-partisan Congressional Budget Office (CBO) the lowest quintile of the income scale already receives nearly \$10 in federal spending for every \$1 they pay in taxes, while the top quintile receives only 17 cents.

In October 2011 the CBO released a study of income trends in the United States since 1979, in which it adjusted for the various factors listed above. It showed that the average family income, when adjusted for government benefits and taxes, experienced a 62% gain after adjusting for inflation. Moreover, all five quintiles of income showed real gains in family income, a sharp contrast to the President's rhetoric. These results were confirmed in another study by economists Lee Ohanian and Kip Hagopian at Columbia University entitled "The Mis-measure of Inequality". They studied the period 1993-2009, again adjusting for taxes and transfer payments, and concluded that income inequality had declined 1.8% during those sixteen years. President Obama is certainly aware of this data. In a speech he delivered last December 4 at the Center for American Progress (whatever that is) he cited the Columbia University study when he noted that since 1967 when Lyndon Johnson's Great Society program was initiated, government transfers and tax policy changes have reduced the poverty rate in America from 26% to 16%.

The problem seems not to be that the poor and middle class are falling behind, since objectively they are not. They are making progress, but unfortunately more slowly than they did twenty years ago, and certainly more slowly than those at the top of the income scale. Moreover, in a nation that prides itself on its work ethic, it is unsatisfying that a large portion of the population finds it necessary to receive government benefits simply to maintain the lifestyle enjoyed by their parents. Just as in the Ultimatum Game, many people would prefer that no one had anything, rather than condone a system in which some seem to have too much.

The economic consequences of income inequality are far from clear. Liberal economists, like Paul Krugman, would have us believe that this is a settled issue - that rising income inequality results in lower GDP growth. But in a paper published in February of this year by Robert Barro of the National Bureau of Economic Research, he concludes that higher levels of income inequality only result in lower GDP growth in poor countries, while the opposite is true in wealthier ones.

Whether income disparity accelerates or dampens economic activity, it seems clear that the resentment it causes is frequently a precursor of social unrest, protests, riots, or even revolutions. The sad fact is that government efforts at redistribution have done little to close the gap. During the Obama presidency marginal tax rates on the wealthy have been raised, making the tax code even more progressive. The Affordable Care Act was passed, which provides subsidies for lower income purchasers of insurance, another example of redistribution. At the same time, the government has pursued a policy of keeping interest rates near zero, which has the effect of

boosting asset prices. And it is precisely the wealthy who benefit (since they hold most of the assets), counteracting the equalizing effects of redistributionist policies. Even government efforts to promote gender equality in the workplace, a laudable goal, tend to promote income inequality, since numerous studies have shown that women with high earnings tend to marry men of a similar socioeconomic background, thus widening the gap with lower earning couples.

But there is one initiative which could go a long way to reducing the income gap, without causing the type of rancor that divides Congress on most issues - improve the quality of public school education and the affordability of college. According to a recent study from the Pew Research Center based upon 2013 Census data, the income gap between those with and without a college education is the widest in history. In 1965, young adults age 25-32 with a college education earned \$7,449 per year more than those with only a high school education. Now, with many of the jobs for which only a high school education was required eliminated by globalization and automation, that gap has grown to \$17,500 in constant dollars. Not only has the relative gap widened, the absolute earnings of high school graduates has actually fallen by more than \$3,000 during that time period. A whopping 22% of young adults with a high school education live in poverty, compared to only 7% for college graduates.

Moreover, the field of study seems to be crucial to whether a college degree leads to related employment. Fully 50% more graduates with science or engineering majors found related employment than those with business or liberal arts degrees. Many Silicon Valley firms, as well as technology companies across the country, report that many high-tech jobs go unfilled because they cannot find appropriately educated workers.

President Obama has supported additional financial resources to make a college education more affordable as a method for creating upward economic mobility. Similar proposals have been made by Republicans, like Senator Marco Rubio of Florida. Redistributionist policies reduce incentives for the most productive members of society, while leaving large segments of the population trapped in dead-end jobs for which the government provides supplementary benefits.

In a 2004 report entitled *Beyond Economic Growth* the World Bank concluded the following. "An excessively equal (income) distribution can be bad for economic efficiency. Take, for example, the experience of socialist countries where deliberately low inequality deprives people of the incentives needed for active participation in economic activities." It went to conclude that the consequence is "slower economic growth leading to more poverty." It seems much more appealing to provide everyone the opportunity to find meaningful employment in our information based economy. Health care and education are forecast to continue seeing strong job growth, areas where a college degree is a prerequisite. It seems like better social policy, as well as better economic policy. And for investors, a more robust economy will inevitably produce better long-term returns.