

# UCLA ECONOMICS

*Undergraduate Newsletter*

Editor: Joshua Strickfaden

## Welcome Back Bruins!

“We make a living by what we get, but we make a life by what we give.”  
—Winston Churchill



### Professor Adriana Lleras-Muney Named by Barack Obama as Top Scientist



On January 9th, former President Barack Obama recognized Professor Adriana Lleras-Muney as a recipient of the Presidential Early Career Award for Scientists and Engineers (PECASE), the highest honor bestowed upon science and engineering professionals in the early stages of their independent research careers. Professor Lleras-Muney is a faculty member of UCLA's Department of Economics, whose research is funded by the Department of Health and Human Services and other agencies. To learn more about Professor Lleras-Muney and her research, check out the following link: <http://www.econ.ucla.edu/alleras/>.

### Summer Economics at UCLA: There's No Better Way to Graduate Early!

The following courses are expected to be offered during the summer:

#### Session A (June 26—August 4)

**Econ 1:** Principles of Economics (Micro)  
**Econ 2:** Principles of Economics (Macro)  
**Econ 11:** Microeconomic Theory  
**Econ 41:** Statistics for Economists  
**Econ 101:** Microeconomic Theory  
**Econ 102:** Macroeconomic Theory  
**Econ 103/103L:** Intro to Econometrics  
**Econ 106F:** Finance  
**Econ 106G:** Intro to Game Theory  
**Econ M134:** Environmental Economics  
**Econ 160:** Money and Banking

#### Session C (August 7—September 15)

**Econ 1:** Principles of Economics (Micro)  
**Econ 2:** Principles of Economics (Macro)  
**Econ 11:** Microeconomic Theory  
**Econ 41:** Statistics for Economists  
**Econ 97:** Economic Toolkit  
**Econ 101:** Microeconomic Theory  
**Econ 102:** Macroeconomic Theory  
**Econ 103/103L:** Intro to Econometrics  
**Econ 106F:** Finance  
**Econ 122:** International Finance

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## Opinion: Is Global Demand for U.S. Treasuries Waning? Investigating Japan's Recent Sell-off

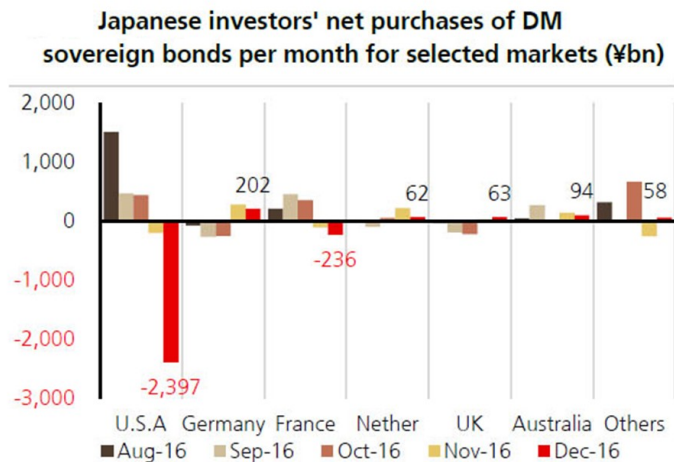
In an age where President Trump's unfiltered 140-character Twitter missives have the power to shake financial markets and dictate foreign policy, even America's biggest creditors are having second thoughts about funding the U.S. government. The latest reactant is Japan, the largest holder of U.S. Treasuries, which dumped nearly ¥2.4 trillion (approximately \$21 billion) worth of U.S. government debt last December alone.

Japan's sell-off in U.S. Treasuries is particularly striking. After all, Japan's army of domestic investors is well-known for pursuing income overseas to escape Japan's low interest rate environment, and the U.S. had been no exception. This move by Japanese investors can be attributed to two underlying factors. For one, there is the prospect of greater deficits (as seen by Trump's plans to invest in infrastructure and cut back on taxes) as well as inflation in the U.S., which would reduce the relative value of bond returns. Also weighing on the sell-off is the Federal Reserve's decision to raise interest rates by 25 basis points last December, which led to a drop in the prices of government debt, raising investor concerns over rate hikes in the near future.

Although Japan's ¥2.4 trillion sell-off represents a departure with only a fraction of its total holdings, it marks the first incidence of two consecutive net sale months since 2014. And with Trump's ambitious plans to reinvigorate the U.S. economy, a consistent decline in foreign demand could prove problematic to America, which relies heavily on its ability to finance itself cheaply. After all, Japan isn't the only country in the game of dumping U.S. Treasuries. China, America's second-largest creditor, has also been selling a record number of American Treasuries in an effort to parry the rapid depreciation of the yuan.

The consensus is clear. There are few foreign investors who want to tap into the \$14 trillion U.S. Treasury market. With political uncertainty permeating the American frontier early on in 2017, there is even anticipation of a surge in yields in the near future, which would further discourage overseas investors from investing in U.S. Treasuries. This is not to say that foreign creditors will abandon Treasuries altogether. After all, they collectively own about 43% of the U.S. government debt market, and excessive sell-offs could spell disaster for both the U.S. and its creditors.

Will foreign investors eventually change their minds and begin investing once more in the "world's safest debt market?" Time will tell. But for now, it looks like that they aren't buying it.

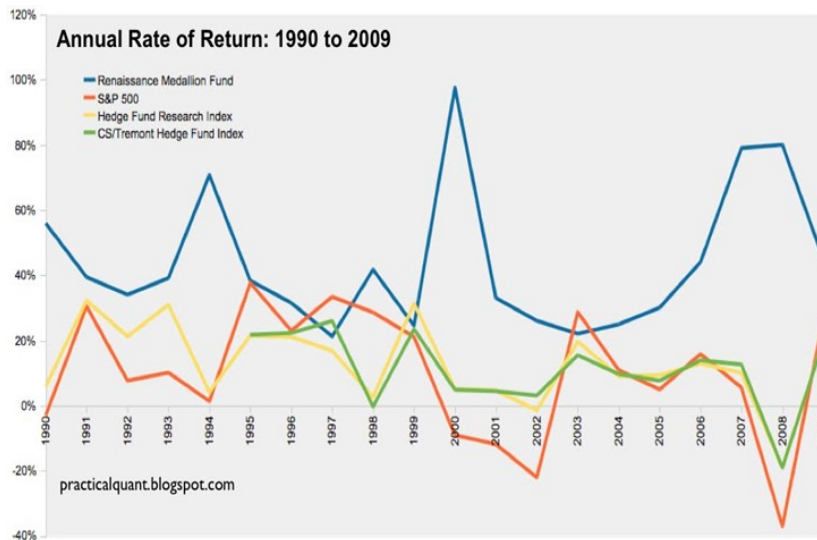


Cr. <http://www.mof.go.jp/index.htm> (image)

Contributor: Joshua Strickfaden, Undergraduate Economics Student

## Opinion: Renaissance Medallion: The Crystal Ball to Investing

Imagine investing with a crystal ball that shows you the market prices in the future. In the course of a few days, you could afford luxuries beyond your wildest imaginations and, perhaps, even the fabled amount that is USC's tuition. Of course, such a crystal ball doesn't exist (at least, not that I know of). But what if there was a way to use statistical models to replicate the functions of a crystal ball and predict the price action of a security? That is precisely what a quantitative hedge fund strives to accomplish, and at the pinnacle of these funds towers Renaissance Technology's Medallion Fund.



Dubbed the "Commercial Version of the Manhattan Project" by MIT Finance Professor Andrew Lo, the Medallion Fund has generated incredible returns soon after its inception in 1982. Medallion's goal is simple: detect signals in the market that predict future price action. However, the method of accomplishing that goal may very well be one of the most difficult problems to solve in the world of finance. If it was easy after all, everyone would be doing it, and Medallion would drown in a sea of competitors. So, what exactly is the secret to Medallion's success?

Renaissance's first secret is to hire not finance experts but data-hungry mathematicians, programmers and scientists. Founded by Jim Simons, a prominent mathematician and professor at MIT and Harvard, Renaissance's first core members were computational linguists from IBM. Two of those linguists, Peter Brown and Robert Mercer, realized that the probabilities and statistics involved in creating speech recognition could be applied to financial markets. In speech recognition, when given auditory signal  $x$ , there is a good chance that the person said  $y$ . Likewise in financial markets, when given market signal  $x$ , it is likely that the security will move in the direction of  $y$ . Of course, this comparison is vastly simplifying the mechanics of what actually happens, but this essentially is what built the foundation for Medallion's work. Today, Medallion consists of around 300 employees, 90 of whom are Ph.D. recipients in math and physics.

Renaissance's second secret is its unconventional method of using predictive market signals rather than traditional fundamental analysis and research. At a 2013 conference, Peter Brown disclosed a correlation between sunny days and rising markets as one of the myriad signals that he used in his analysis, although it wasn't a large money maker due to being correct only slightly above 50% of the time. Brown claimed that strong signals have already been traded out, so the fund compensates by finding signals in massive volume. The job of those at Medallion is to endlessly discover and test these signals to generate a return.

To outsiders, Medallion's unconventional methods might seem like voodoo magic or some other form of witchcraft aimed at sucking money out of the markets and making the mega-rich richer. And for all we know, it may very well be. Medallion's specific predictive signals are a heavily guarded secret, and although Brown stated that many other funds inevitably use some of the same signals, Medallion's impressive returns have shown that it holds some special ingredient that no one else has. Whether this is specifically due to its first-rate employees, superior predictive signals or any other special factors, we may never know. Nonetheless, Medallion stands at the forefront of technology and finance, bringing together the best of researchers and scientists and culminating the cutting-edge of market strategies. It is an extraordinary testament to the unlimited possibilities of combining finance and technology.

## Questions?

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will be capped at \$100,000 for single filing status and \$200,000 for married filing jointly status. Trump's plan also removes the head of household filing status and personal exemptions for taxpayers and their dependents. Consequently, taxpayers with multiple dependents will end up paying more federal taxes under this new plan.

The Trump team believes that its tax reform will come with no cost to the national debt. However, economists are arguing that there is no possible way to achieve Trump's tax plan without affecting the national deficit. It is estimated that Trump's tax plan would create deficits ranging from \$2.6 trillion to \$10 trillion. Whether the tax cuts will increase GDP is a topic that is being debated among some economic analysts. Steven Mnuchin, the 77<sup>th</sup> Secretary of the Treasury, suggests that the idea of "dynamic scoring" should be taken into account when evaluating Trump's tax plan. He asserts, "Dynamic scoring would lower the presumed cost of tax cuts to the Treasury" (Newman). Even with dynamic scoring implemented, there is still a possibility that Trump may have to make amends to his tax plan in order to prevent the national deficit from increasing.

While Trump's tax plan is not finalized and will likely undergo some changes, it nonetheless provides considerable insight into what America can expect from this administration. Although Trump's team is confident that the tax plan will not impact the national debt, many economists are doubtful. While he may be able to cut taxes, he may not be able to control the policy's effects on the economy. All Americans can do now is wait and see if his tax plan will be as successful as he claims in the upcoming years.

Cr. <http://finance.yahoo.com/news/more-details-emerge-on-trumps-plan-to-slash-taxes-230439515.html> (source)

Contributor: Nia Hampton, Undergraduate Economics Student

Note: The views expressed in this newsletter are those of the authors and do not necessarily represent or reflect the views of the UCLA Department of Economics.

## Opinion: Will Trump's Tax Plan Work?

With the completion of the Inauguration for the 45<sup>th</sup> president, the United States enters into a new political reign led by President Donald Trump. As he is a successful businessman, Americans are curious as to how Trump will tackle the economy, specifically his plan for taxes. Many skeptics wonder if Trump's plan for tax cuts will succeed without affecting the national debt.

As relayed in his presidential campaign, Trump wants to significantly reduce taxes to stimulate economic growth. His plan includes decreasing the number of income tax brackets to three: 12%, 25% and 33%. The standard deduction would increase to \$15,000 for single filing status and \$30,000 for married filing jointly status. The increase in standard deductions would mainly benefit middle-class taxpayers. Itemized deductions, however,

will be capped at \$100,000 for single filing status and \$200,000 for married filing jointly status.

Trump's plan also removes the head of household filing status and personal exemptions for taxpayers and their dependents. Consequently, taxpayers with multiple dependents will end up paying more federal taxes under this new plan.