

J.P. Morgan Prime Money Market Fund and the Expected Path of Short-Term Interest Rates

Jose Ignacio Lopez
HEC Paris *

April 25, 2016

“The Committee will determine the timing of the initial increase in the federal funds rate on a meeting-by-meeting basis, depending on its assessment of realized and expected progress toward its objectives of maximum employment and 2 percent inflation”

- Janet L. Yellen, Chair of the Board of Governors of the Federal Reserve System,
Congressional Testimony, July 2015

Case Study Macroeconomics for Business HEC Paris

George Gatch, CEO of J.P. Morgan Asset Management, is reviewing, as of June 30, 2015, the current asset allocation of the J.P. Morgan Prime Money Market Fund (ticker VMVXX) given the prospects of changes in the current stand in monetary policy of the US Federal Reserve. Short-term interest rates in the US, and in other developed countries, remain at record lows. The US economy has continued to recover and markets expect that the Federal Reserve will start increasing interest rates soon. There is disagreement, though, among analysts and market participants on when the Fed will raise rates for the first time and at which pace.

Should the J.P. Morgan Prime Money Market Fund modify its current asset portfolio to better position for an eventual rate hike? How fast will the Fed increase interest rates and what will be the effect of monetary tightening on money markets? Mr. Gatch and his team of market analysts are seeking answers to these questions in order to set a business strategy for the near future.

Company Overview

J.P. Morgan Asset Management Inc. is a privately owned investment manager. It was founded in 1935 and is based in New York with additional offices across North America, South America,

*MBA HEC PARIS. Global Economics Spring 2016. 1 Rue de la Libération 78351 Jouy en Josas Cedex, France.
Email: lopez@hec.fr. Tel: +33 621526951

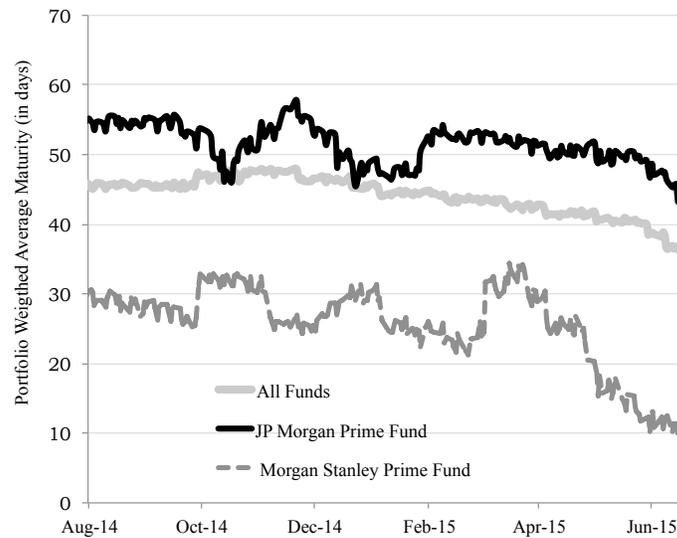
Europe, and Asia. The firm manages equity, fixed income, and money market mutual funds for its clients.

The J.P. Morgan Prime Money Market Fund¹, one of the asset units of J.P. Morgan Asset Management, is designed for temporary or medium-term cash investments, seasonal operating cash and the liquidity components of investment portfolios. The fund aims to provide the highest possible level of current income while still maintaining liquidity and preserving capital. It was founded in 1993 and currently controls assets worth US\$ 116 billion. Most assets under the fund's control are short-term fixed-income securities. Only 7% of the fund's assets are invested in securities with maturity longer than 180 days.

Money Market Funds and Monetary Policy in the US

In recent months, money fund managers have on average reduced portfolio maturities as the industry positions for rising rates. However, there is evidence of widely differing views within these broad trends as reported by Fitch Ratings². Figure 1 shows the Weighted Average Maturity (WAM) of different funds since 2014. The variations in the WAM partly reflects the differing expectations on the timing of the Fed's first rate increase.

Figure 1: Money Market Fund Weighed Average Maturities



Source: iMoneyNet and Fitch Ratings

The WAM of Morgan Stanley-managed prime funds has been trending down since the beginning of 2015, dropping to 12 days seen at the beginning of June, from 31 days recorded in January. On

¹<https://www.jpmorganfunds.com>

²<https://www.fitchratings.com/site/fitch-home/pressrelease>

Figure 2: 2-Year Treasury Constant Maturity Rate (Percent, Not Seasonally Adjusted)



Source: Fred St Louis: <https://research.stlouisfed.org/fred2/>

the opposite end, J.P. Prime Money fund is in a much higher level, with WAM of 47 days as of the end of June. Across all US prime money market funds, WAMs have declined to 37 days at the beginning of June 2015, from 48 days at the end of October 2014, according to iMoneyNet data.

Adjusting maturities is a key strategy for money funds, as portfolios with shorter maturities will generally tend to outperform if the Fed raises rates faster than the market expects, while longer-positioned funds will likely outperform if the Fed moves slower than expected.

Fed Funds

According to the June 2015 FOMC³, Fed officials believe economic conditions are approaching levels that could warrant a start to rate hikes. In the last two months a stronger market consensus of an interest rate liftoff before year's end pushed down prices of the 2-year treasury note, which are highly influenced by prospects on the policy rate. Yields climbed to 0.73% in June from 0.49% at the beginning of April (see figure 2).

Table 1 shows forecasts of the Fed Funds rate for the next two years based on estimates by JP Prime Money Fund's chief economist. Some analysts argue that the Fed is ready to take back its normal course and follow again the Taylor Rule given the decline in the unemployment rate and the strong recovery of the economy. The JP Prime Money Fund chief economist disagrees, and believes that given the low levels of participation in the labor market, the estimated low level of the natural real interest rate, and the current international economic environment, the Fed will increase rates at a very moderate pace.

³<http://www.federalreserve.gov/newsevents/press/>

Table 1: Economic Forecasts

	Inflation	GDP Growth	Natural Real Rate	Chief Economist Fed Fund (Forecast)
Dec-15	1.5	2.8	0.00	0.25
Jun-16	2.1	2.9	0.25	0.50
Dec-16	2.7	2.8	0.50	1.00
Jun-17	2.5	3.0	0.75	1.50

Table 1 also presents the real GDP growth rate and the natural real interest rate for the US economy, inputs for the Taylor Rule forecasts based on the following representation:

$$i_t = r_t^n + \pi_t^* + \phi_\pi (\pi_t - \pi_t^*) + \phi_y \left(100 \times \frac{Y_t - Y_{t-1}}{Y_{t-1}} - y_t^* \right). \quad (1)$$

This rule states how the level of the Fed Funds rate (i_t) depends on: the level of the natural rate of interest (r_t^n), the current level of inflation (π_t), the desired (target) level of inflation by the Central Bank (π_t^*), and the difference between the growth rate of real GDP ($100 \times \frac{Y_t - Y_{t-1}}{Y_{t-1}}$) with respect to a target consistent with full employment (y_t^*). The two coefficients (ϕ_π) and (ϕ_y) are positive and estimated to be equal to 0.5. These coefficients indicate by how much short-term nominal interest rates should change relative to changes in the level of inflation and the growth rate of output relative to their respective targets. The desired level of inflation, (π_t^*), is 2% and the target for the growth rate of GDP, (y_t^*), is 3%.

Decision Time

Mr. Gatch and his team have to decide how to adjust, if needed, the current portfolio of the JP Prime Money Fund. The discussion is centered on what to do with the current holdings of 2-year treasury notes. Most assets of the JP Prime Money Fund are in the form of short-term securities with maturities of less than three months, but 7% of total assets, US\$7.6 billion, are in the form of 2-year notes, bought early in June 2015 and with maturity date June 2017. The 2-year notes pay a semi-annual coupon of 0.625 and are now traded at 0.73% yield. Table 2 describes the coupon and face value payment schedule of the 2-year notes until maturity.

Table 2: Prime Money Market Fund 2-Year Treasury holdings and note characteristics

Portfolio 2-Year Treasury Notes	
Coupon (semi-annual)	0.625%
Total Holdings	US\$ 7,656,000,000
Current Yield	0.73%
Ticker Symbol (generic)	USGG2YR:IND http://www.bloomberg.com/quote/USGG2YR:IND
Payment Schedule (Coupons and Principal)	
Dec-15	0.3125
Jun-16	0.3125
Dec-16	0.3125
Jun-17	100.3125

Some market analysts of the firm believe that given the recent sell-off of the 2-year note (see Figure 2), the firm should unwind its position and sell the 2-year-treasury portfolio at current prices, before its too late and prices fall further. Others, however, agree with the chief economist and expect the Fed to tighten monetary policy at a slow pace. They argue that if rate-hikes are back-loaded, it will be better to wait one year to liquidate the 2-year notes portfolio and then reinvest in short-term securities. A third alternative is to keep the 2-year notes until maturity avoiding the expected market volatility of the upcoming quarters.

Which strategy should turn more profitable for the next two years (see Table 3 for a summary of the 3 suggested options)? Should the JP Prime Money Fund follow the lead of Morgan Stanley and shorten its portfolio maturity by selling its 2-year notes or be patient and bet on a price recovery of these bonds? Should Mr. Gatch trust the chief economist's forecasts or stick to the path of short-term rates implied by the Taylor Rule? How much would the Taylor Rule estimate change if the Fed has different estimates for the natural real interest rate or acts according to different coefficients (ϕ_π) and (ϕ_y) ?

Table 3: Suggested Portfolio Strategies

Option 1
Sell Portfolio of 2-year notes at the current yield (0.73%)
Invest in short-term bills that bear the Fed Fund's Rate for the next 2 years (under the 2 scenarios)
Option 2
Hold the 2-year notes for one year, collect the coupons for the first year and sell the portfolio at future price
The expected future price (the one-year ahead price) will depend on the estimates of Fed Funds
For the last year, invest on short-term bills that bear the Fed Fund's Rate (under the 2 scenarios)
Option 3
Hold 2-year notes until maturity and collect coupons for the 2 years and the principal at maturity.
(assuming coupons are not re-invested in short-term bills that bear the Fed Fund's Rate)