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Operation Twist: 1961 vs. 2011

Ever since the crisis, Federal Reserve (and other central banks following Fed) has introduced new innovative measures to stimulate the US economy. As interest rates in key developed economies are at zero percent levels and economies continuing to struggle, central banks are being cornered to arrive at innovative measures to help the economy. In our earlier report, we had looked at Fed's new measure in its Aug-11 policy which specified Fed would keep the policy rates near zero till mid-2013 (Fed's New Communication Strategy: Will it Work? 23-Aug-11).

In its Sep-11 policy (21-Sep-2011), Fed implemented another measure where it will sell its short term treasuries and invest the proceeds in long term treasuries. This is being called as "Operation Twist" of the Federal Reserve based on a similar named-policy in 1961.

This paper understands the mechanics of Operation Twist and how it will help stimulate the economy. It also sees the impact of Operation Twist in 1961 on markets to asses the probable impact today.

I. Operation Twist in 1961

Operation Twist was launched in 1961 as John F. Kennedy became President of United States. As he took office, US had been under recession since Apr-60 and Kennedy wanted to take measures to stimulate the economy. Ironically, Kennedy announced Operation Twist in Feb-61 and NBER records Feb-61 as the end of recession. At that time, it was being felt unless something is done the recession likely to continue.

In recession, central banks cut rates but Fed was unable to do so under the Gold-Dollar fixed exchange rate system (or the Bretton Woods exchange rate system). Under this system, all the currencies were pegged to US Dollar and US Dollar was pegged to gold. US was running a current account deficit and was facing gold outflows to balance its external account. The interest rates in US were already lower than Europe and if Fed lowered the rate further, Fed feared there will be more gold outflows leading to instability in currency values. Based on this limitation, Kennedy cooperated with Federal Reserve and initiated Operation twist. Under this, Fed will buy longer term securities and Treasury will issue more short-term bonds to push long term interest rates lower. It was named as Operation Twist based on the Twist dance form which was hugely popular in 1960s.

The economics behind this is that as Fed buys long term securities, the rise in demand for these long term securities leads to lower long-term yields. The lower yields will then be transmitted to lower long term interest rates in the economy leading to higher investments and consumption in the economy. It will also lead to lower interest burden on existing debt holders leading to further stimulation of the economy.

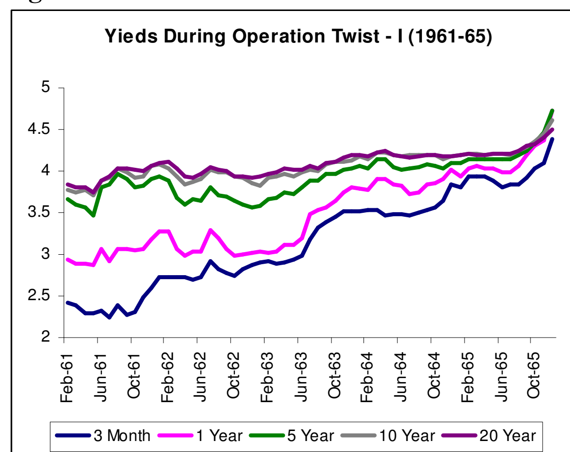
Research by Eric Swanson of San Francisco Fed shows that under OT - I, Fed bought around $8.8 bn of longer term bonds and reduced its short-term treasuries by $7.4 bn ("Let's Twist Again: A High-Frequency Event-Study Analysis of Operation Twist and Its Implications for QE2). Another research by Adam Zaretsky shows Fed's asset portfolio changed post OT-I (Table 1)

Table 1: Treasuries in Fed Balance Sheet during OT-I (% of Total Treasuries)		
	1960 (before OT-I)	1961 (after OT-I)
Certificates (short term securities with coupons)	33	6
T-Bills (less than 1 year)	10.6	11.1
T-notes (1 to 5 year)	46	69
T-bonds (more than 5 years)	9	13
Note: Figures do not add to 100 as there are other items in assets. Source: Zaretsky		

Both research indicate, OT-I was limited to 1961 with very little activity in remaining years till it was called-off officially in 1965.

We do not have daily yield data to assess the impact of OT-I (first Operation Twist) but have monthly data. It started in Feb-61 and ended officially in 1965. If we see the yields in the whole period, we see yields increasing across the curve in the 4 year period. In Feb-61, 3 month yield is at 2.42% and by Dec-65 it is 4.38%. The impact should have been more visible on the longer tenures but 10-year yield rises from 3.78% in Feb-61 to 4.62% in Dec-65 whereas 20-year yield rises from 3.84% to 4.5% in the same period.

Figure 1



Source; St Louis Fed

However, as most of the OT-I program was limited to 1961 itself, let us see the impact on yields during that period. As per Swanson's paper, there were six major announcements in 1961 from Feb-11 to Apr-11 which should have led to lower long-term yields. Table 1 lists the average yields in each of the months of 1961 across different maturities. We do see that yields have declined across tenors till May-61 and then they start to rise.

Table 2: Treasury Yields during OT-I (1961)					
	3 Month	1 Year	5 Year	10 Year	20 Year
Feb-61	2.42	2.93	3.66	3.78	3.84
Mar-61	2.39	2.88	3.6	3.74	3.81
Apr-61	2.29	2.88	3.57	3.78	3.81
May-61	2.29	2.87	3.47	3.71	3.74
Jun-61	2.33	3.06	3.81	3.88	3.89
Jul-61	2.24	2.92	3.84	3.92	3.93

Aug-61	2.39	3.06	3.96	4.04	4.04
Sep-61	2.28	3.06	3.9	3.98	4.04
Oct-61	2.3	3.05	3.8	3.92	4.01
Nov-61	2.48	3.07	3.82	3.94	4
Dec-61	2.6	3.18	3.91	4.06	4.07

The analysis seems to indicate the impact of OT-I on yields was limited and for a short-period of time.

In the above mentioned study, Swanson shows the impact was much higher than anticipated earlier. He looks at the impact on daily yields in these six important announcements and finds that higher impact is seen in Treasury yields (around 15 bps cumulative easing between 2-Feb-1961 to 7-Apr-61) compared to corporate bonds easing by 2-4 bps and Agency securities (Fannie Mae etc) by 13 bps. He suggests though the impact on corporate and agency securities is lower, Fed should also try and buy longer dated corporate and agency securities for larger benefits.

II. Operation Twist in 2011

Stanley Fisher of Bank of Israel in P. R. Brahmananda Memorial Lecture at RBI (Feb-11) said in a crisis central bankers (and other policymakers) often find themselves implementing policy actions that they never thought they would have to undertake. His advice to central bankers was "Never say never". On similar lines, we see Fed doing Operation Twist after 50 yeas amidst mixed experience whether first one was useful or not. This has been the case with most of Fed's unconventional monetary policy measures like credit easing, QE1, QE2 etc where these programs have been started despite limited past experience showing that these programs worked.

In its monetary policy meeting held on 20 and 21-Sep-2011, Federal Reserve relaunched Operation Twist (called OT-II in this study). Fed announced it would buy $400bn of long dated securities in the bucket of 6-30 years and sell short dated securities in the 3 years and lower bucket. It plans to finish this maturity extension program by Jun-12.

However, Fed does not disclose its asset maturity profile as mentioned in the FOMC statement. (Table 3). As on 14-Sep-11, Fed has around $1.6 trillion of US Treasuries classified across 6 tenures. The largest share is of securities in 1 to 5 year tenure constituting around 43.1% of the total Treasury Portfolio followed by securities in 5-10 year at 35.1% of the portfolio.

Table 3: Fed Treasury Portfolio as on September 15, 2011

	within 15 days	16 days to 90 days	91 days to 1 year	1 year to 5 year	5 year to 10 year	Over 10 years	Total
Treasury Securities (in $ bn)	12.1	24.2	127.1	715.2	583.1	197.2	1659.0
Treasury Securities (% of total)	0.7	1.5	7.7	43.1	35.1	11.9	100

Source: Federal Reserve

If we take less than 5 year as short term securities which Fed will intend to sell and above 5 year as long term securities which Fed will buy, currently the short-term portfolio is 53% of the total portfolio and 47% as the long term portfolio. After the completion of OT-II in Jun-12, short term securities would be 29% of the total treasury portfolio (assuming the overall holding remains the

same) and long term would be around 71% of the total portfolio. This is a significant extension of maturities from Fed's current portfolio which is titled towards short-term securities currently.

Apart from this, NY Fed has released how this buying of long term bonds would be distributed under various maturities. 64% buying would happen in securities between 6-10 years amounting to $256 bn and 29% in 20-30 years amounting to around $ 116 bn.

Table 4: Distribution of Operation Twist II under various maturities

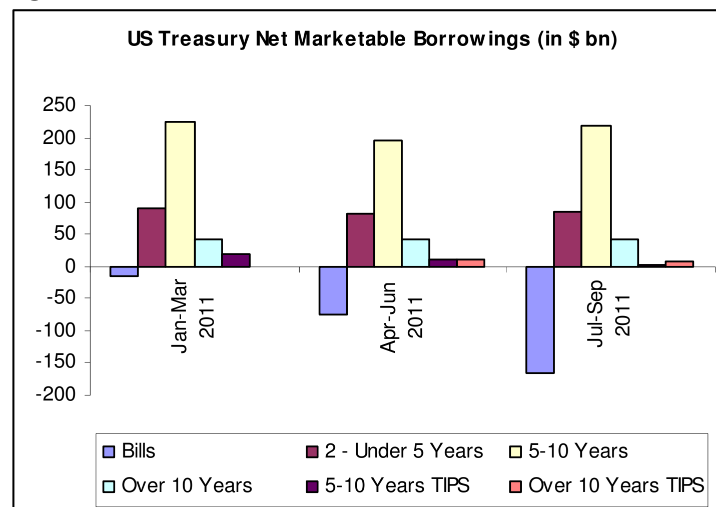
Maturities	In %	Amount (USD bn)
6 – 8 Years	32	128
8 -10 Years	32	128
10-20 years	4	16
20-30 years	29	116
TIPS 6-30 Years	3	12

Source: NY Fed

Another feature of OT-I was Treasury issued more short-term notes in order to keep the long-term yields lower. If it issued more long-term bonds, it would again put upwards pressure on long-term yields, negating the impact of Fed's actions to lower long-term yields.

Treasury releases its estimate for market borrowing on a quarterly basis. Hence, we can only estimate the nature of supply of Treasuries in Oct-Dec 2011 period. Treasury has estimated that for Oct-Dec 2011 it would need to borrow around $285 bn from markets. If we look at Treasury's strategy in 2011, on the net it has been issuing more long-term bonds compared to short-term bills/bonds. If we divide Table 5 into two buckets of less than 5 year and more than 5 year securities, we see on net basis short-term bonds/bills contribute just 0.1% of net issuances in 2011, long-term bonds form around 93.6% and remaining 6.2% is via TIPS securities.

Figure 2



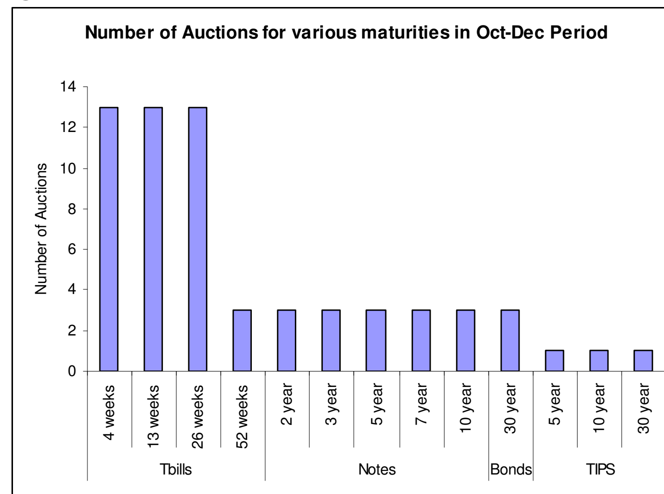
Source: US Treasury

Based on this analysis, Treasury should change its strategy from Q4 2011 onwards and should issue short-term bonds of higher amounts in upcoming auctions for the period of Operation Twist (till Jun-12). The impact of OT-II on yields is likely to be higher if Treasury cooperates with Fed like it

did in 1961. Post-crisis, Treasury has been issuing more long-term bonds taking advantage of low interest rates. This strategy might have to be tweaked post announcement of OT-II.

Figure 3 shows the number of Treasury auctions to be held in Oct-Dec period. As Treasury does not disclose the amount to be raised in its calendar, we cannot know the amount to be raised in each security. Out of 63 auctions in Oct-Dec 2011 period, 42 are for T-Bills, 9 for securities below 5 years and 9 for securities above 5 years. 3 auctions would be held for TIPS securities. It will be interesting to note whether Treasury changes the amounts it plans to raise in each maturity and prefers short-term maturities over long-term maturities.

Figure 3



Source: US Treasury

III. Comparing OT-II with Other Fed Policies

In many ways, OT-II is a mixture of Fed's Credit Easing Policy and Quantitative Easing started during the crisis.

- **OT-II and Credit Easing:** In early part of the crisis, Federal Reserve initiated credit easing policy (CE) which swapped the risky securities (like Agency securities, commercial paper etc) for US Treasuries. There was no expansion of balance sheet. Same is the case with OT-II as well, where there will be swapping of short-term Treasuries with long-term Treasuries and there will be no balance sheet expansion. The difference is that in CE the private sector assets were purchased to lower the spreads on these assets. In OT-II, it is expected that private sector long-term securities (like corporate bonds, mortgage securities) will decline following the decline in US Treasuries.

- **OT-II and QE-II:** OT-II is similar to QE-II as in both the focus is on long-term US Treasuries. In QE-II this was financed via expansion of bank reserves but in case of OT-II, it would be financed via selling short-term securities held in Fed's portfolio. In fact, Swanson in the above mentioned paper compares QE-II with OT-I and finds both were quite similar in terms of size and impact. Though size of OT-I was just about $ 8.8 bn and QE-II was $ 600 bn but in terms of % of GDP OT-I was 1.7% of GDP and QE-II was 4.1% of GDP. QE-II is still more than double but the difference is not as large when compared absolute number wise. Moreover, OT-I was supported by US Treasury as well and when we take both Fed and Treasury programs into

account, OT-I likely to be a much larger program. He also points OT-I was started as Fed was unable to lower rates as it was under fixed exchange rate system. Similarly QE-II was started as Fed was unable to lower its policy rate as it was already zero percent.

IV. Final Thoughts

It has just been a few days since OT-II was launched and the experience has been mixed. The long-term yields have already declined sharply but it is also because Fed has highlighted a highly bearish outlook for US economy. This has led to yet another rush for safe haven securities and a decline in all risky assets. This has led to surge in demand for safe assets and 10-year US Treasury has touched all time lows of around 1.72% and 30-year is also trading at a low of 2.80%.

The experience of various Fed programs in this crisis and even OT-I suggests that the success has been limited for a few days. Moreover, the bond yields are already trading at much lower levels compared to OT-I and further lowering of yields is going to be limited. One lesson from OT-I is that cooperation from US Treasury could be crucial in making this a success. The short-term yields are near zero and Treasury can raise more resources at the short-term rates which should help OT-II become more successful.

Federal Reserve has also mentioned that it would reinvest principal payments from its holdings of agency debt and agency mortgage-backed securities in agency mortgage-backed securities. This is a positive move as lessons from OT-I points that Treasury alone policy does not bring the desired benefits. A policy that mixes Treasuries, Agency backed securities and corporate bonds helps deliver better results.

Overall, even if Fed and Treasury cooperate in second phase of Operation Twist, the gains from it are expected to be at best limited.

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