

The Financial Impact of Regime Change in Bank of Japan



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Introduction

Since the 1990s, stagnation and deflation have plagued the Japanese economy. In an effort to stimulate growth, the Bank of Japan has adopted non-traditional monetary policy measures of forward guidance of future policy rates, targeted asset purchases, and quantitative easing (Ueda, 2012).

Ueda (2012) demonstrates that forward guidance generates significant effects on future short-term rates and current long-term rates. Ueda (2012) also finds that targeted asset purchases effectively reduce liquidity premiums in distressed markets. However, Oda and Ueda (2007) observe that pure quantitative easing is ineffective at reducing the risk premiums of interest rates. Aside from unconventional monetary policy, Sargent (1982) argues that dramatic changes in government policy are needed to alter inflationary expectations.

This project conducts an event-study analysis to assess the financial impact of the Bank of Japan's nonconventional monetary policy on asset prices. We contribute to the literature by considering the effectiveness of the Bank of Japan's most recent policies under the new leadership of Prime Minister Shinzō Abe and Bank of Japan Governor Haruhiko Kuroda.

Data and Method

Nikkei Inc., the Ministry of Finance Japan, and the Federal Reserve Bank of St. Louis provide data on the Nikkei 225 Index, Japanese Government Bonds, and the dollar/yen rate respectively. We investigate ten announcements from February 2012 through April 2013 during which the Bank of Japan altered its policy.

We measure the effects of policy changes by seeing whether there is a statistically significant difference in asset prices before and after the announcement. One assumption is that an event's impact is captured by the abnormal return, the difference between the actual return and the expected return:

$$\varepsilon_{it} = R_{it} - \hat{u}_{it} \quad (1)$$

where R_{it} is the observed return and \hat{u}_{it} is the predicted return. The null hypothesis is that announcements have no impact on asset prices. Under the alternative hypothesis, positive changes in monetary policy should be associated with lower JGB yields, a weaker yen, and an increase in stock prices. Thus, the abnormal return should take a nonzero value if an event reveals unexpected news.

Results

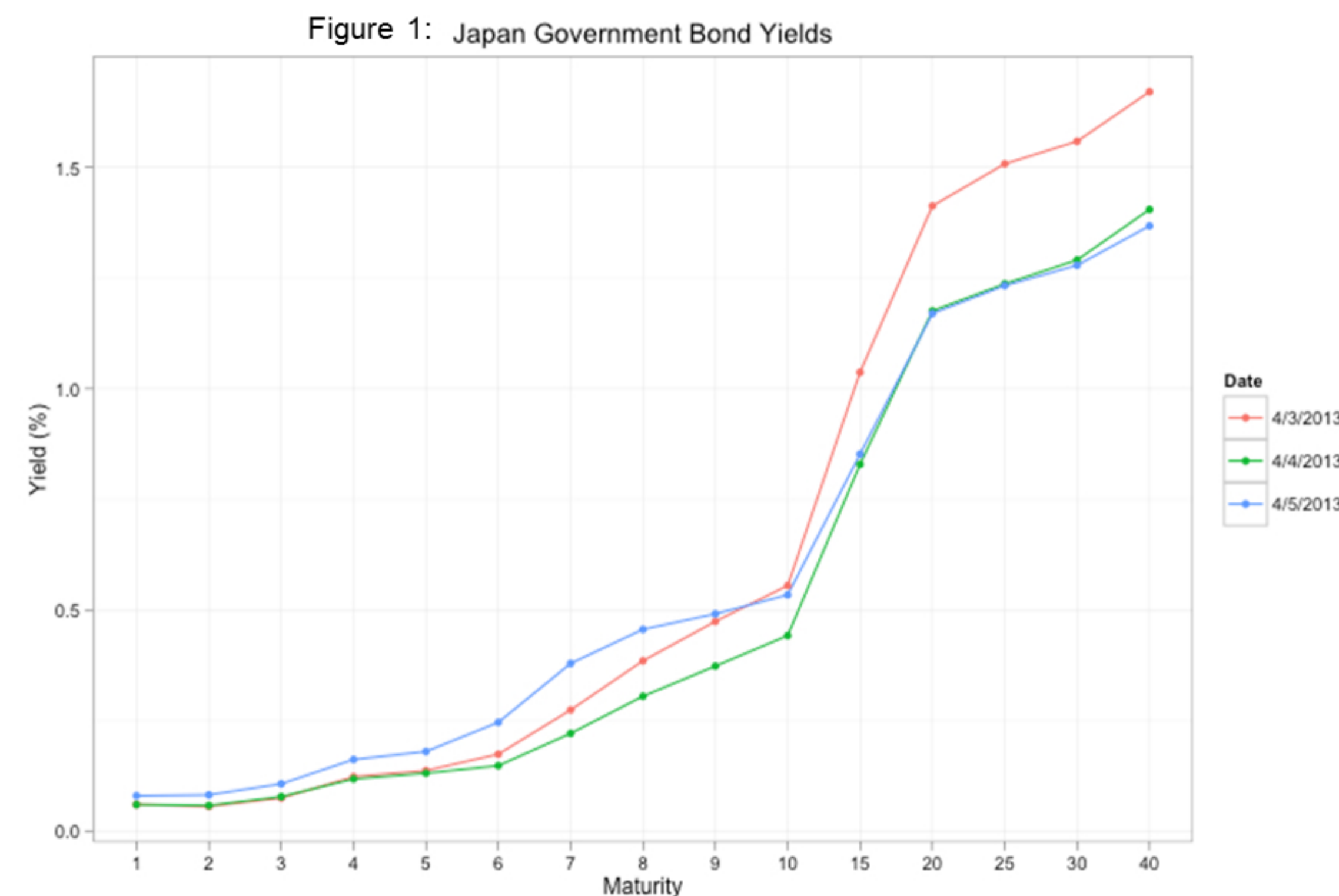


TABLE 1 Asset price responses to announcements										
		Window	USD/JPY	Nikkei 225	1-year	2-year	3-year	4-year	5-year	6-year
1% inflation target adopted	2012.2.14	1D	0.87**	52.891	-0.001	-0.010***	-0.008**	-0.015**	-0.017**	-0.015*
		2D	0.700	261.16**	-0.010***	-0.020***	-0.016***	-0.020**	-0.024**	-0.025
New U.S. Dollar Lending Arrangement established	2012.4.10	1D	-0.420	-8.240	-0.001	0	-0.007*	-0.005	-0.004	-0.009
		2D	-0.480	-87.520	-0.001	0	-0.010	-0.005	-0.004	-0.012
JGBs, J-REITs, ETFs purchases increased	2012.4.27	1D	-0.300	-40.940	0	0.001	-0.017***	-0.019*	-0.019	-0.025
		2D	-0.970	-210.880	0	0	-0.019***	-0.021	-0.018	-0.029
Asset purchases increased and fixed-rate funds-supplying operation decreased	2012.7.12	1D	-0.410	-130.990	-0.001	0	-0.001	-0.009	-0.010	-0.015
		2D	-0.500	-126.880	-0.001	0	-0.001	-0.006	-0.004	-0.006
JGBs and T-Bills purchases increased	2012.9.19	1D	-0.190	108.440	0	0	0	0	0	0.005
		2D	-0.290	-36.789	0	0	-0.007***	-0.009	-0.012	-0.009
Asset purchases increased	2012.10.30	1D	-0.230	-87.359	0	-0.001	0	0.001	0	-0.007
		2D	0.130	-1.050	0	-0.001	0	0.005	0.007	0.003
JGBs and T-Bills purchases increased	2012.12.20	1D	0.010	-121.070	0	0	0	-0.010***	-0.008	-0.009
		2D	-0.220	-220.341	-0.001	0	0.003	-0.015**	-0.012	-0.014
Adopted 2% inflation target and open-ended asset purchase method	2013.1.22	1D	-1.280	-37.811	-0.001	0	0.002	-0.005	-0.004	-0.005
		2D	-1.460	-260.750	0.009	0.010	0.011	0.005	0.007	0.006
Introduced "Quantitative and Qualitative Monetary Easing"	2013.4.4	1D	3.16***	272.340	0	0.002	0.003	-0.005	-0.006	-0.026**
		2D	3.9***	471.439	0.020	0.026	0.032	0.039	0.043	0.072
Set guidelines to increase monetary base	2013.4.26	1D	-1.580	-41.950	0	0.001	0.004	0.010	0.011	0.011
		2D	-1.330	-65.220	0.002	-0.001	0.004	0.011	0.013	0.020

Notes: Entries are listed as the change in the first differences of prices over 1 day and 2 days respectively.

***p<0.01, **p<0.05, *p<0.1

		Window	7-year	8-year	9-year	10-year	15-year	20-year	25-year	30-year	40-year
1% inflation target adopted	2012.2.14	1D	-0.015	-0.014	-0.015	-0.011	-0.010	-0.001	0	0.001	0.004
		2D	-0.024	-0.024	-0.019	-0.013	-0.015	-0.001	-0.005	0.001	0.010
New U.S. Dollar Lending Arrangement established	2012.4.10	1D	-0.016	-0.015	-0.014	-0.014	-0.020	-0.017	-0.018	-0.016	-0.008
		2D	-0.024	-0.025	-0.024	-0.018	-0.024	-0.021	-0.019	-0.016	-0.004
JGBs, J-REITs, ETFs purchases increased	2012.4.27	1D	-0.025	-0.029	-0.024	-0.023	-0.019	-0.013	-0.007	-0.004	-0.003
		2D	-0.029	-0.032	-0.027	-0.032	-0.039	-0.034	-0.029	-0.025	-0.023
Asset purchases increased and fixed-rate funds-supplying operation decreased	2012.7.12	1D	-0.016	-0.020	-0.018	-0.014	-0.007	0	0.001	-0.002	0.001
		2D	-0.005	-0.014	-0.015	-0.014	-0.017	-0.013	-0.011	-0.018	-0.010
JGBs and T-Bills purchases increased	2012.9.19	1D	0.006	0.010	0.005	0.004	0.005	0.010	0.011	0.013	0.012
		2D	-0.013	-0.013	-0.013	-0.010	-0.019	-0.008	0	0.004	0.004
Asset purchases increased	2012.10.30	1D	-0.015	-0.014	-0.014	-0.009	-0.008	0.005	0	0	0.004
		2D	0	0.001	0.001	0.003	-0.002	0.005	0.004	0.004	0.014
JGBs and T-Bills purchases increased	2012.12.20	1D	-0.013	-0.009	-0.010	-0.010	-0.009	-0.015	-0.020	-0.019	-0.020
		2D	-0.019	-0.014	-0.018	-0.019	-0.018	-0.031*	-0.050**	-0.048**	-0.043*
Adopted 2% inflation target and open-ended asset purchase method	2013.1.22	1D	-0.005	-0.005	-0.005	-0.003	-0.005	0.005	0	0.005	0.006
		2D	0.006	0.005	0.001	-0.004	-0.005	-0.005	-0.014	-0.005	-0.007
Introduced "Quantitative and Qualitative Monetary Easing"	2013.4.4	1D	-0.053***	-0.080***	-0.101***	-0.113***	-0.208***	-0.237***	-0.271***	-0.268***	-0.266***
		2D	0.105	0.071	0.017	-0.021	-0.185**	-0.243***	-0.275***	-0.280***	-0.303***
Set guidelines to increase monetary base	2013.4.26	1D	0.008	0.009	0.009	0.009	0.007	-0.003	-0.007	-0.006	-0.004
		2D	0.021	0.020	0.020	0.026	0.022	0.004	-0.013	-0.014	-0.010

***p<0.01, **p<0.05, *p<0.1

Conclusion

Across the majority of policy announcements, interest rates decrease as expected, but the Nikkei Index and dollar/yen rate fail to move in the predicted directions. Targeted asset purchases and quantitative easing have insignificant effects on asset prices. We find that nonconventional monetary policy measures are associated with only temporary changes in asset prices.

Results show that the Bank of Japan's regime change under Governor Kuroda has the most significant effect on asset prices. On April 4, 2013, the Bank of Japan announced its plan to double the monetary base and conduct open-ended asset purchases as part of "Quantitative and Qualitative Monetary Easing". The announcement generated significant effects on interest rates and the dollar/yen rate. The Nikkei closed up 272 points on the announcement date, but the movement failed to be significant.

Figure 1 displays the yields of Japanese Government Bonds during the Bank of Japan's regime change. As part of "Quantitative and Qualitative Monetary Easing", the Bank of Japan will increase its amount of purchases of Japanese Government Bonds by 50 trillion yen annually. Specifically, the Bank will target purchases to include bonds with residual maturities of more than 1 year and up to 10 years. As shown in Figure 1, interest rates responded to the announcement accordingly, with the yields of 6-year, 7-year, 8-year, 9-year, 10-year, 15-year, 20-year, 25-year, 30-year and 40-year Japanese Government Bonds significantly decreasing.

References and Acknowledgements

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