



Secular trends dominate the interest rate regime

Monetary Policy vs. Listed Infrastructure

By Jags WALIA & Robert MATE

Over the last few years infrastructure has been one of the fastest growing sectors in the world, emerging as a new asset class. Part of this development was the establishment of our own industry organization – GLIO – but a crucial driver has been monetary policy.

There are two reasons mentioned in the literature that explain the sector's significant growth. The first reason is the significant need for infrastructure investments caused by several decades of underinvestment by governments. The second reason is the increased interest of institutional investors for infrastructure investments due to their attractive characteristics, especially in a low-yield environment. As a result, both listed and non-listed infrastructure have seen significant capital inflows.

As US interest rates have recently been modestly rising, the impact of rising rates or monetary policy on listed infrastructure is discussed frequently. This article highlights the key findings of our academic paper that examines the impact of monetary policy interventions, such as rate cuts, rate hikes, rate inactions, quantitative easing and tapering on listed infrastructure in the USA during the period from 1994 to 2018.

The impact of policy interventions on infrastructure returns

One way to capture the impact of the Fed's policy interventions on the stock

price of listed infrastructure is to look at the market's reaction on the day of the change. The so-called event-study method is appropriate as the study constitutes looking at specific events (i.e. monetary policy announcements) and gauge their effect on stocks by estimating cumulative abnormal returns (CARs). We have defined the 'normal return' of an infrastructure stock just before the event, in the "Estimation Window", using the market method.

The latter is a function of the risk-free rate, beta and market return. We used this method to predict the 'normal returns' during the Fed's policy intervention. The difference between the 'normal return' and the actual return, cumulated across all stocks, is called the CAR and it measures the return impact attributable to the policy intervention. Hence a positive response implies observed stock price reaction larger than forecasted.

The Diagram 1. provides further insight into this methodology. 'Event date' (day 0) refers to the day of the monetary policy announcement (the event). Dates t1 and t2 refer to one day prior the

announcement day, marking the beginning of the event window and one day after the announcement day, marking the end of the event window. This event window is referred to as '(+1; -1) window'. Six different types of event windows were used in this study in order to capture different effects. Days prior to the announcement reflect the markets' expectations before the announcement, while days after the announcement reflect the post-announcement effect of Monetary Policy. Intuitively, if the event window is set specifically to the day of the announcement, i.e. (0; 0), then the on-the-day direct effect of monetary policy will be captured.

218 monetary policy announcements analyzed since 1994

In order to have enough data on various types of Monetary Policy announcements, the sample period used was from 1994 to 2018. (See Table 1). The relevant sample consists of 57 listed infrastructure companies over this sample period, providing us with enough data points to conduct this analysis. (See Table 3).

We have also split up the sample and looked at four different time periods to see if the market's reaction differs across these periods. The time periods investigated are the following:

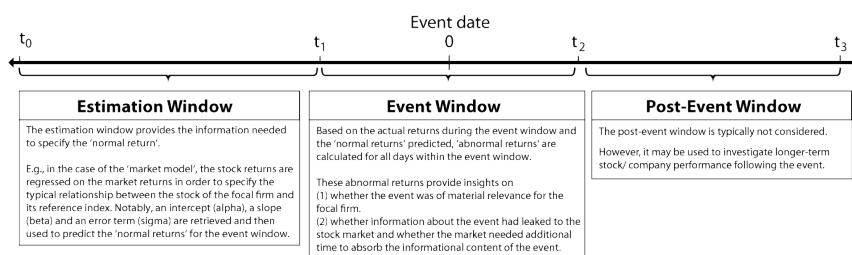
1. pre-2000s period (1994-2000),
2. pre-crisis period (1994-2007),
3. crisis period (2007-2010) and
4. post-crisis period (2010-2019).

No obvious relationship between infrastructure stocks reaction and interest rates

Starting with the most conclusive results presented in the table 'Output of Event Study', infrastructure stocks responded positively to policy inaction. This held true regardless of Monetary Policy regime. On the other hand, the results for interest-rate cuts were mixed. During the pre-crisis and crisis period, stocks reacted negatively to rate decreases, while stocks reacted positively to rate cuts in the period leading up to the 2000s.

During Quantitative Easing (QE), stock price reactions of infrastructure were more positive than expected. At the end of the QE, stocks reacted negatively to Tapering, fearing the coming rising rate

Diagram 1: Impact attributable to the policy intervention



Source: Eventstudytools (2019)

Table 1. Outline of the number and the various types of Monetary Policy announcements used in the analysis.

Types of monetary policy announcements	Entire Sample
Total number of events	218
Number of rate increases	40
Number of rate decreases	27
Number of rate inactions	118
Number of Quantitative Easing (QE) announcements	19
Number of Tapering announcements	14

Source: Federal Open Market Committee (1933-2019)

Table 2: Output of Event Study

	Event windows	Rate cut	Rate hike	Rate inaction	QE	Tapering
"Pre 2000s (1994-2000)"	(-2, +2)	n.s.	n.s.	0.24%	-	-
	(-1, +3)	n.s.	n.s.	0.25%	-	-
	(-1, +1)	0.29%	n.s.	n.s.	-	-
	(-1, 0)	0.52%	n.s.	n.s.	-	-
	(0; 0)	0.18%	n.s.	n.s.	-	-
"Pre Crisis (1994-2007)"	(0; +1)	n.s.	n.s.	n.s.	-	-
	(-2, +2)	-0.53%	n.s.	0.16%	-	-
	(-1, +3)	-0.55%	-0.27%	0.25%	-	-
	(-1, +1)	-0.59%	n.s.	n.s.	-	-
	(-1, 0)	n.s.	-0.29%	n.s.	-	-
Global Financial Crisis (2007-2010)	(0; 0)	n.s.	-0.12%	n.s.	-	-
	(0; +1)	-0.65%	n.s.	n.s.	-	-
	(-2, +2)	-0.85%	-	0.41%	0.38%	-
	(-1, +3)	n.s.	-	0.55%	n.s.	-
	(-1, +1)	n.s.	-	n.s.	n.s.	-
"Post Crisis (2010-2019)"	(-1, 0)	-0.24%	-	n.s.	n.s.	-
	(0; 0)	-0.42%	-	n.s.	n.s.	-
	(0; +1)	n.s.	-	n.s.	n.s.	-
	(-2, +2)	-	0.37%	n.s.	0.40%	n.s.
	(-1, +3)	-	n.s.	n.s.	n.s.	n.s.
	(-1, +1)	-	0.25%	0.26%	n.s.	-0.51%
	(-1, 0)	-	n.s.	n.s.	n.s.	-0.35%
	(0; 0)	-	0.13%	n.s.	n.s.	-0.26%
	(0; +1)	-	0.49%	0.20%	n.s.	-0.42%

* n.s. = statistically not significant

Source: Analysis by Kempen Listed Infrastructure team

environment. Interestingly, while rate hikes in the period prior to the crisis led to a negative reaction (infrastructure underperformed in the expected reaction), the period after the crisis when Tapering ended, witnessed a positive stock price reaction to rising interest rates (infrastructure outperformed the expected reaction). This could be explained by the

higher economic stimulus from QE which seems to have outweighed the increase in cost of capital.

Another explanation is that in the period prior to the crisis, infrastructure was a less established sector. Following the crisis, as described above, the asset class gained popularity among institutional >

We saw no relationship between quarterly changes in yields with the relative performance of listed infrastructure, supporting the view that there is no significant relationship between interest rates and the performance of listed infrastructure.

investors. As a result, capital inflow has lowered the cost of capital for infrastructure companies.

The element of surprise

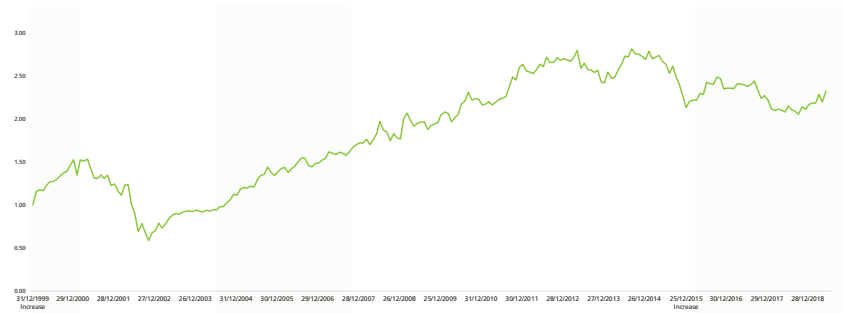
Assuming that markets are efficient, they should respond to interest-rate changes only if there was a surprise in the monetary policy announcement. Of course, the market may also react to the ‘tone’ of the announcement, i.e. whether the Fed is more dovish or hawkish. Therefore, as a robustness check, we investigated whether the above results differ if interest rate changes are decomposed into expected and surprise components. The unexpected (or surprise) element of the policy announcement can be obtained by calculating the change in the implied fed funds futures rate (which is obtained as 100 minus the contract price) relative to the day before the announcement.

As expected, when Fed rate activity was priced into futures, there was a muted stock price move versus what was forecasted. Interestingly, the event window capturing the day *after* a non-surprise announcement resulted in a positive reaction in the case of rate hikes. Moving to the results of policy announcements that did surprise, we saw that surprise rate cuts and hikes have led to negative reactions versus what was forecasted. Meanwhile rate inaction has led to a positive reaction, both on the day of the announcement and the event window capturing the post-announcement day as well.

What’s yield got to do with it?

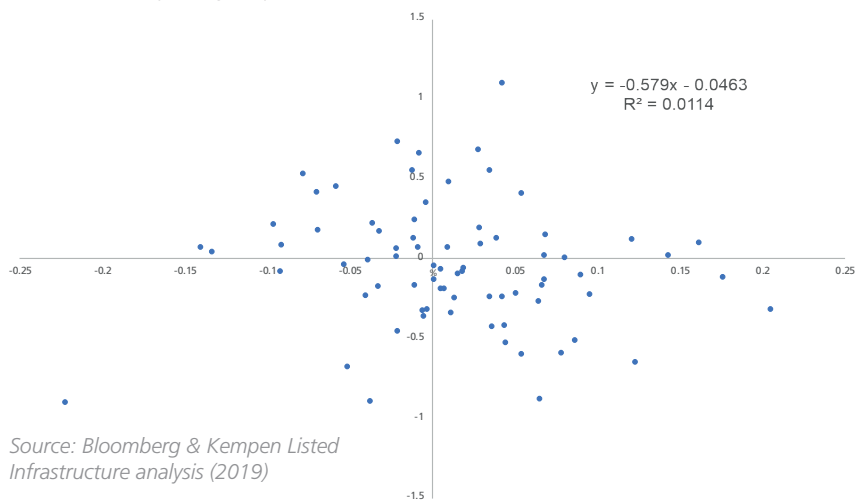
In addition to studying the abnormal returns of listed infrastructure from Monetary Policy, we also show in Chart 1. the relative performance of US listed infrastructure versus the S&P500 in different interest environments (since 1999). Across five different interest rate environments since 2000, the view that ‘rate rises are bad for infrastructure’ does not hold true. We see the relative performance of US infrastructure versus the

Chart 1: Relative performance (PUREUSUS/S&P500) & interest rate regimes



Source: Bloomberg & Kempen Listed Infrastructure analysis (2019)

Chart 2: Quarterly change in yield vs. relative infra performance



Source: Bloomberg & Kempen Listed Infrastructure analysis (2019)


S&P500 moving independently of the interest regime in the background. Over this longer-term horizon, the secular challenges or opportunities for the asset class drive its relative performance. We also saw no relationship between

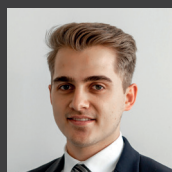
quarterly changes in yields with the relative performance of listed infrastructure (Chart 2), supporting the view that there is no significant relationship between interest rates and the performance of listed infrastructure.

The market presents us with a nice buying opportunity into a secular trend. What more could an investor want?

Investment implications – secular trend dominates the interest rate regime

Based on our event study and regression, we conclude that Monetary Policy does not have a clear effect on the path of listed infrastructure's expected or relative returns. The secular trend dominates the interest rate regime over this period. Moreover, in the more recent history listed infrastructure stocks have reacted more positively than expected to Monetary Policy. This recent period is in our view the most relevant as it reflects the market's behavior towards listed infrastructure as a newly established asset class.

In the scenarios where the Fed surprises the market, listed infrastructure stocks undershoot expected returns over a small window. In other words, the market presents us with a nice buying opportunity into a secular trend. What more could an investor want? 



Norbert MÁTÉ

Norbert Máté is a member of Kempen's Listed Infrastructure fund team and currently studying MSc in Finance in the Netherlands. He is the author of a recent paper studying the impact of monetary policy interventions on Listed Infrastructure. Norbert did his bachelor in Economics and Business Administration in Denmark and Canada. He has been an instructor in Financial Accounting, and Financial Analyst at Morgan Stanley.
Norbert.Mate@kempen.nl



Jags WALIA

Jags Walia is Senior Portfolio Manager, Kempen Listed Infrastructure fund. 24 years in equity markets. Investing in several sectors including Energy, Industrials, Materials, Media and Technology. Started career at Morgan Stanley in London 1995, most recently at APG in Amsterdam, before joining Kempen earlier this year.
Jags.Walia@kempen.nl

Table 3: FactSet Universal Screening

Symbol	Name	Market Value \$m	GICS Sub Ind Name
UNP	Union Pacific Corporation	100,225	Railroads
NEE	NextEra Energy, Inc.	83,086	Electric Utilities
DUK	Duke Energy Corporation	62,740	Electric Utilities
CSX	CSX Corporation	50,834	Railroads
D	Dominion Energy, Inc.	48,664	Multi-Utilities
SO	Southern Company	45,404	Electric Utilities
EXC	Exelon Corporation	43,657	Electric Utilities
NSC	Norfolk Southern Corporation	40,091	Railroads
AEP	American Electric Power Company, Inc.	36,865	Electric Utilities
WMB	Williams Companies, Inc.	26,681	Oil & Gas Storage & Transportation
PEG	Public Service Enterprise Group Inc	26,233	Multi-Utilities
XEL	Xcel Energy Inc.	25,327	Electric Utilities
ED	Consolidated Edison, Inc.	24,544	Multi-Utilities
OKE	ONEOK, Inc.	22,202	Oil & Gas Storage & Transportation
WEC	WEC Energy Group Inc	21,853	Multi-Utilities
ES	Eversource Energy	20,610	Electric Utilities
PPL	PPL Corporation	20,407	Electric Utilities
DTE	DTE Energy Company	20,066	Multi-Utilities
FE	FirstEnergy Corp.	19,222	Electric Utilities
EIX	Edison International	18,496	Electric Utilities
ETR	Entergy Corporation	16,272	Electric Utilities
AEE	Ameren Corporation	15,949	Multi-Utilities
EVRG	Evergy, Inc. (old: Westar Energy)	14,495	Electric Utilities
CNP	CenterPoint Energy, Inc.	14,149	Multi-Utilities
CMS	CMS Energy Corporation	14,070	Multi-Utilities
PCG	PG&E Corporation	12,358	Electric Utilities
ATO	Atmos Energy Corporation	10,450	Gas Utilities
LNT	Alliant Energy Corp	9,957	Electric Utilities
KSU	Kansas City Southern	9,631	Railroads
AES	AES Corporation	9,577	Multi-Utilities
PNW	Pinnacle West Capital Corporation	9,551	Electric Utilities
NI	NiSource Inc	9,439	Multi-Utilities
OGE	OGE Energy Corp.	7,826	Electric Utilities
GXP	Great Plains Energy Incorporated	6,953	Electric Utilities
SCG	SCANA Corporation	6,833	Multi-Utilities
EEP	Enbridge Energy Partners, L.P. Class A	6,108	Oil & Gas Storage & Transportation
WTR	Aqua America, Inc.	6,089	Water Utilities
VVC	Vectren Corporation	5,397	Multi-Utilities
EQT	EQT Corporation	4,807	Oil & Gas Exploration & Production
IDA	IDACORP, Inc.	4,690	Electric Utilities
BPL	Buckeye Partners, L.P.	4,457	Oil & Gas Storage & Transportation
NJR	New Jersey Resources Corporation	4,070	Gas Utilities
SWX	Southwest Gas Holdings, Inc.	4,057	Gas Utilities
HE	Hawaiian Electric Industries, Inc.	3,987	Electric Utilities
ALE	ALLETE, Inc.	3,925	Electric Utilities
BKH	Black Hills Corporation	3,767	Multi-Utilities
SR	Spire Inc.	3,727	Gas Utilities
PNM	PNM Resources, Inc.	3,273	Electric Utilities
AVA	Avista Corporation	2,790	Multi-Utilities
AWR	American States Water Company	2,464	Water Utilities
CWT	California Water Service Group	2,291	Water Utilities
MGEE	MGE Energy, Inc.	2,079	Electric Utilities
NWN	Northwest Natural Holding Co.	1,746	Gas Utilities
SJW	SJW Group	1,580	Water Utilities
CMTL	Comtech Telecommunications Corp.	801	Communications Equipment
UTL	Unitil Corporation	753	Multi-Utilities