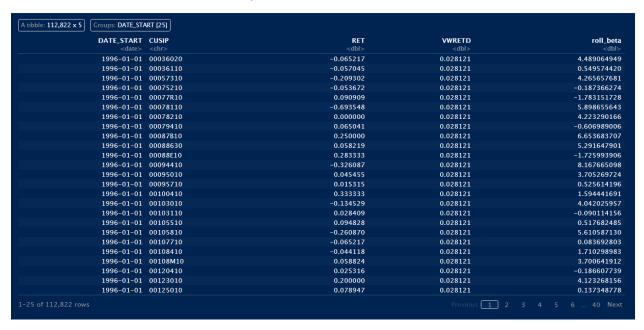
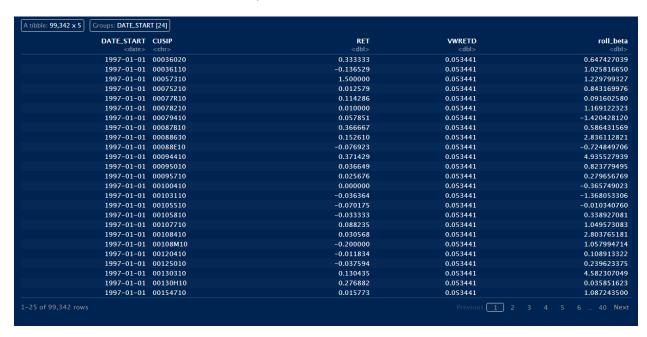
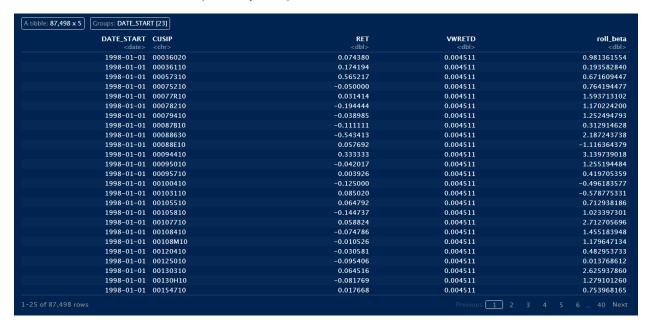
## Beta Calculation 1 Yr Lookback (Monthly Data)



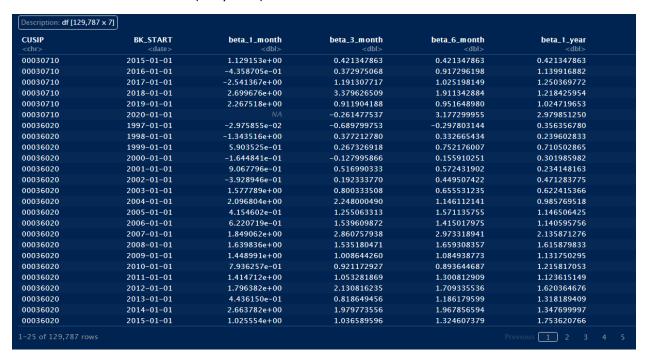
### Beta Calculation 2 Yr Lookback (Monthly Data)



#### Beta Calculation 3 Yr Lookback (Monthly Data)



#### Beta with Different Lookbacks (Daily Data)

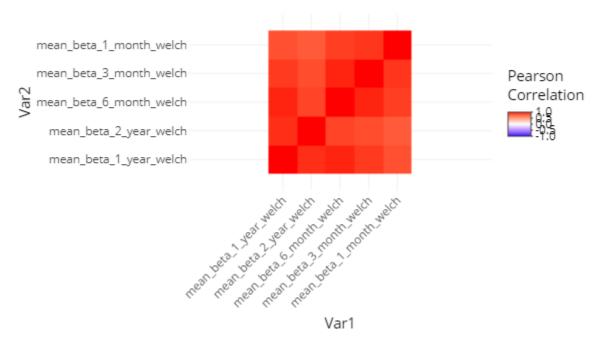


## Beta with Different Lookbacks - Welch Winsorization (Daily Data)

CUSIP	BK_START	beta_1_month_welch	beta_3_month_welch	beta_6_month_welch	beta_1_year_welch	b
<chr></chr>	<date></date>	<dbl></dbl>	<dbl></dbl>	<dbl></dbl>	<dbl></dbl>	
00030710	2015-01-01	0.873305402	0.515742259	0.515742259	0.515742259	
00030710	2016-01-01	0.131158902	0.543004966	0.939723480	1.116479558	
00030710	2017-01-01	-0.427716023	0.544826306	0.732686606	1.153596824	
00030710	2018-01-01	1.474756288	2.247593550	1.233111656	1.137491869	
00030710	2019-01-01	2.064835304	1.307812875	1.282775044	1.177475032	
00030710	2020-01-01		0.579389923	2.114711971	2.002509850	
00036020	1997-01-01	0.509579210	0.148817589	0.211995623	0.735415954	
00036020	1998-01-01	-0.308050367	0.510554702	0.442017430	0.459571245	
00036020	1999-01-01	0.537008626	0.403115266	0.749425049	0.716563738	
00036020	2000-01-01	0.283192432	0.011168092	0.121517025	0.260641464	
00036020	2001-01-01	0.713439484	0.470488611	0.536015813	0.311929472	
00036020	2002-01-01	-0.326373701	0.344180021	0.519308310	0.500375897	
00036020	2003-01-01	1.524032388	0.804801081	0.652013330	0.653349314	
00036020	2004-01-01	1.906372683	1.900905587	1.085331236	0.904049970	
00036020	2005-01-01	0.632509525	1.222361468	1.343979658	1.081030600	
00036020	2006-01-01	0.692898214	1.399588979	1.404534531	1.078838675	
00036020	2007-01-01	1.387221336	2.103113839	2.312121074	1.943489330	
00036020	2008-01-01	1.641248003	1.531010680	1.592395229	1.496609497	
00036020	2009-01-01	1.408802966	1.001148296	1.069593452	1.124835099	
00036020	2010-01-01	0.771728217	0.910642715	0.842005277	1.211836017	
00036020	2011-01-01	1.542021265	1.041924018	1.267859583	1.106628326	
00036020	2012-01-01	1.755941348	2.076489191	1.689252021	1.594478390	
00036020	2013-01-01	0.512604990	0.873811838	1.200120116	1.308621587	
00036020	2014-01-01	2.190247543	1.669737817	1.742098186	1.289705749	
00036020	2015-01-01	0.991103782	1.014726653	1.257981967	1.603924247	

Correlation Heatmap for all Betas Welch (Daily Data)

# Correlation Heatmap for Analysis



## Mean Beta 1 Yr Lookback Industry wise (Daily Data)

## Mean Betas Over Time For Each Industry Data

