Term Yield Alternatives in FRED

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September 8, 2020

The Bad Beta Good Beta paper uses r_M^e, TY, PE, and VS as the state variables for its VAR model. The source of the author's original TY is Global Financial Data, which isn't publicly available. So I consider some publicly available alternative term yields from Federal Reserve Economic Data. I compare TY and

- $t10yff$: 10-Year Treasury Constant Maturity Minus Federal Funds Rate
- $t10y2y$: 10-Year Treasury Constant Maturity Minus 2-Year Treasury Constant Maturity
- $t10y3m$: 10-Year Treasury Constant Maturity Minus 3-Month Treasury Constant Maturity
- $gs10gs5$: 10-Year Treasury Constant Maturity Rate minus 5-Year Treasury Constant Maturity Rate
- $gs10gs3$: 10-Year Treasury Constant Maturity Rate minus 3-Year Treasury Constant Maturity Rate
- $gs10gs2$: 10-Year Treasury Constant Maturity Rate minus 2-Year Treasury Constant Maturity Rate
- $gs10gs1$: 10-Year Treasury Constant Maturity Rate minus 1-Year Treasury Constant Maturity Rate
- $gs10gsm$: 10-Year Treasury Constant Maturity Rate minus the mean of 3-Year Treasury Constant Maturity Rate and 1-Year Treasury Constant Maturity Rate
- $gs10dgs3mo$: 10-Year Treasury Constant Maturity Rate minus 3-Month Treasury Constant Maturity Rate

based on their descriptive statistics, correlations, and historical behavior.

The results show that both $t10y2y$ and $gs10gs2$ have the higest correlations of 0.91 with ty. However, $gs10gsm$, which starts in April 1953, has 278 more observations than $gs10gs2$, which starts in June 1976.

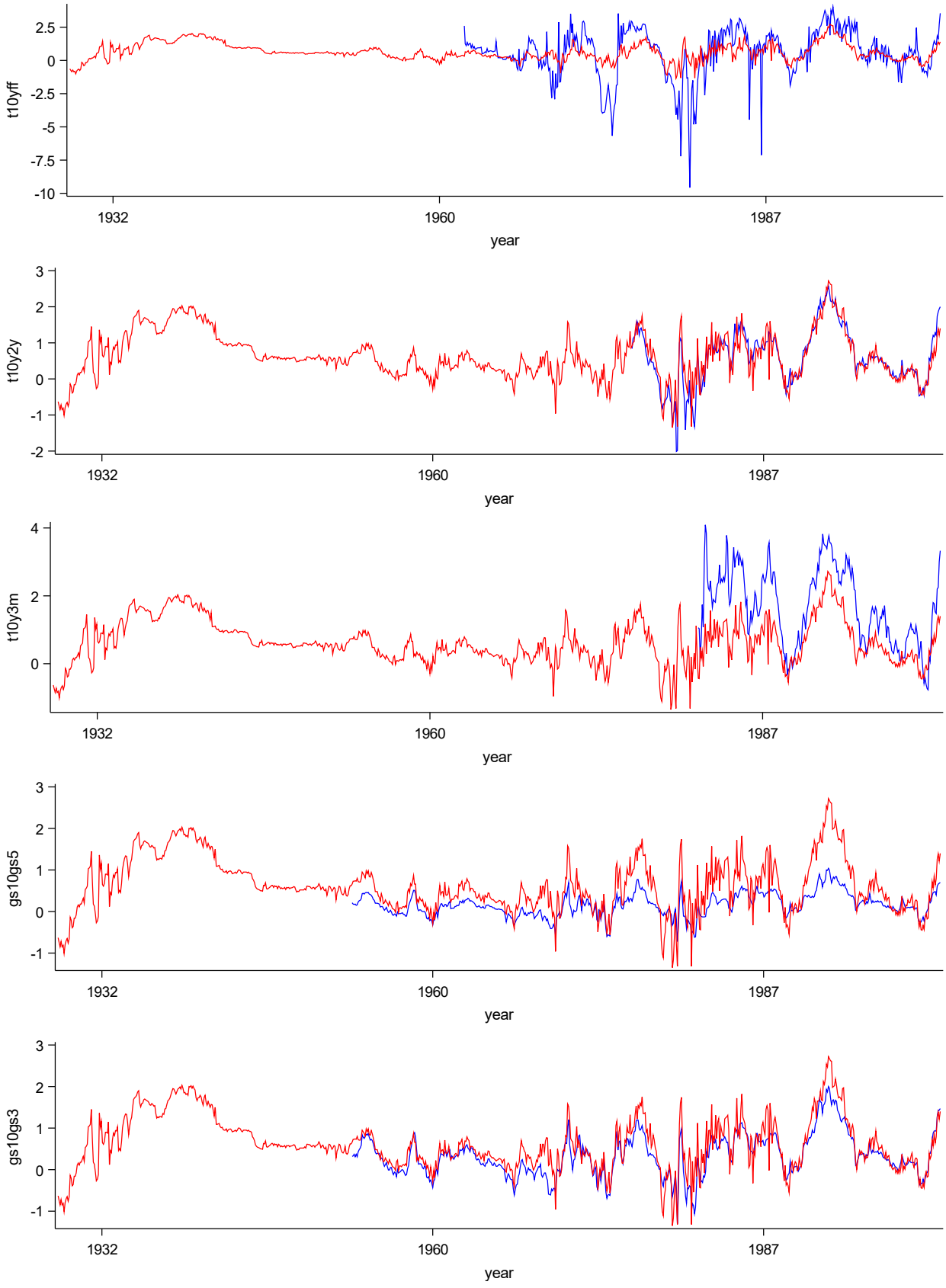
The SAS code downloads the data and computes the numbers.

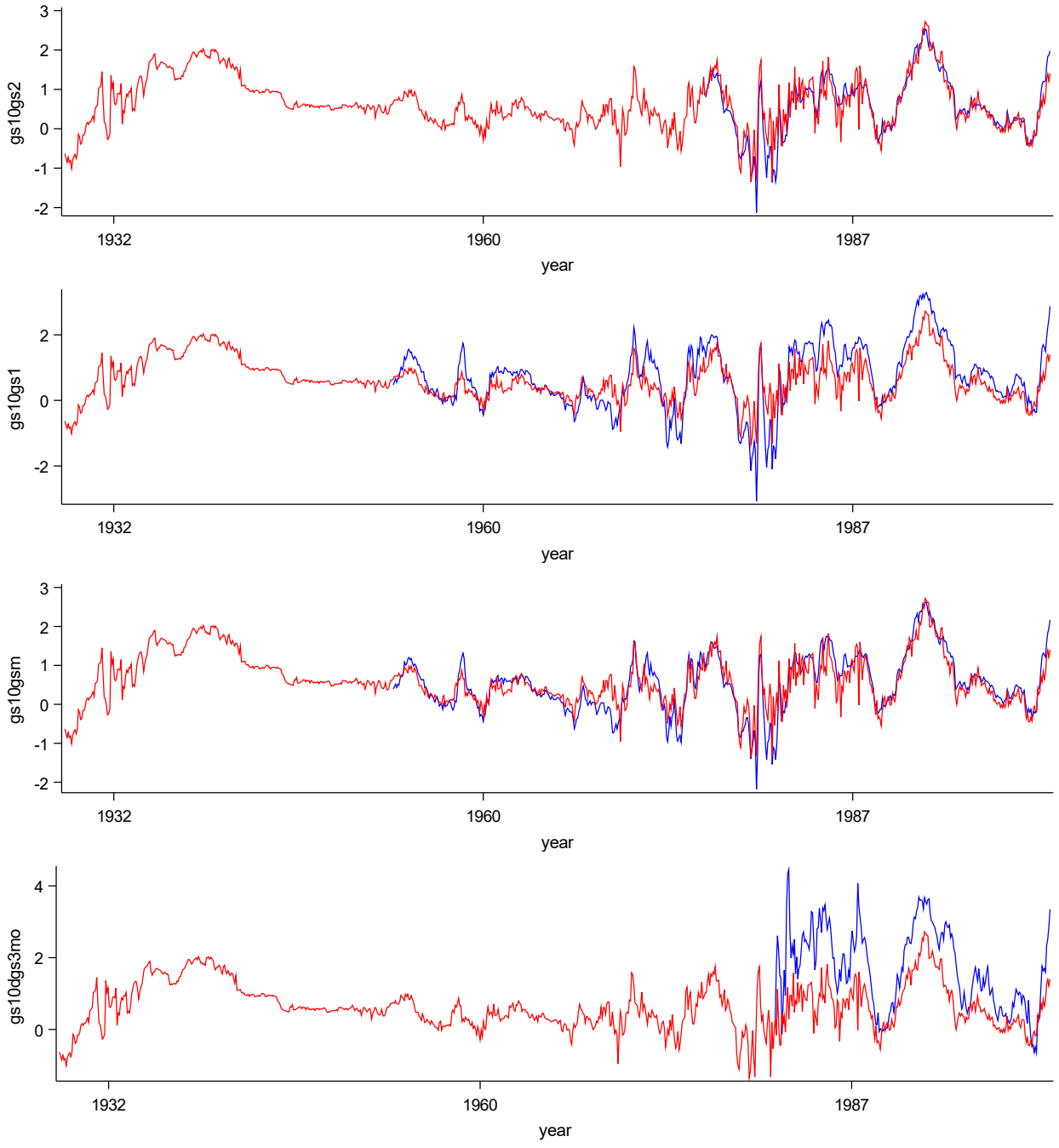
Descriptive statistics from TY and its alternatives

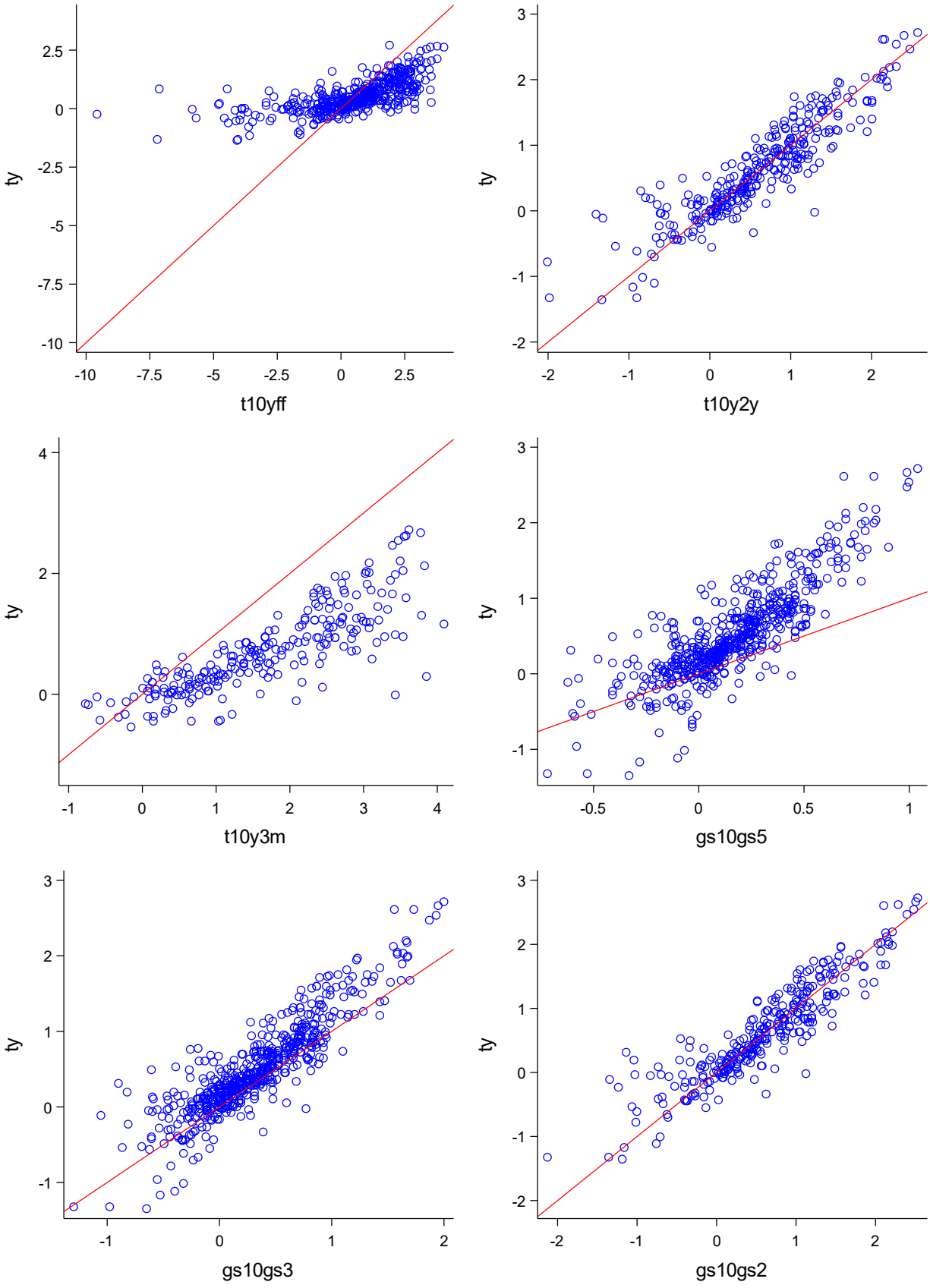
Variable	N	Mean	StdDev	Skew	Kurt	Min	Q1	Median	Q3	Max	RMSEty
ty	877	0.63	0.64	0.32	0.35	-1.35	0.22	0.55	0.96	2.72	0.00
t10yff	480	0.56	1.84	-1.32	3.29	-9.57	-0.22	0.81	1.86	4.04	1.48
t10y2y	307	0.61	0.79	-0.16	0.29	-2.01	0.09	0.58	1.12	2.57	0.33
t10y3m	240	1.69	1.12	-0.00	-0.94	-0.77	0.77	1.66	2.57	4.09	1.18
gs10gs5	585	0.16	0.28	0.15	0.53	-0.72	-0.01	0.14	0.34	1.04	0.53
gs10gs3	585	0.33	0.51	0.42	0.64	-1.30	0.00	0.29	0.66	2.00	0.33
gs10gs2	307	0.61	0.79	-0.14	0.21	-2.13	0.12	0.60	1.12	2.53	0.33
gs10gs1	585	0.72	0.98	-0.10	0.48	-3.07	0.11	0.70	1.40	3.29	0.58
gs10gsm	585	0.52	0.74	0.10	0.43	-2.19	0.05	0.50	1.03	2.62	0.34
gs10dgs3mo	244	1.71	1.11	0.05	-0.87	-0.65	0.77	1.67	2.57	4.46	1.23

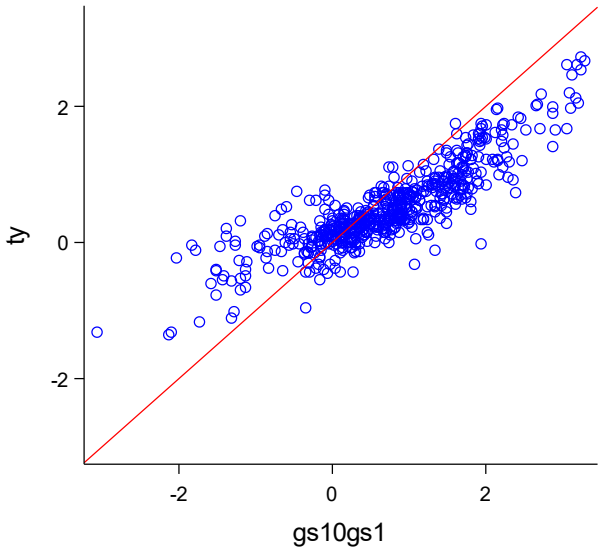
Correlations between TY and its alternatives

name	ty	t10yff	t10y2y	t10y3m	gs10gs5	gs10gs3	gs10gs2	gs10gs1	gs10gsm	gs10dgs3mo
ty	1.00	0.68	0.91	0.83	0.84	0.89	0.91	0.87	0.89	0.77
t10yff	0.68	1.00	0.79	0.79	0.68	0.74	0.80	0.82	0.80	0.76
t10y2y	0.91	0.79	1.00	0.85	0.93	0.97	0.98	0.97	0.98	0.83
t10y3m	0.83	0.79	0.85	1.00	0.72	0.80	0.84	0.92	0.89	0.99
gs10gs5	0.84	0.68	0.93	0.72	1.00	0.97	0.96	0.90	0.93	0.70
gs10gs3	0.89	0.74	0.97	0.80	0.97	1.00	0.99	0.95	0.98	0.78
gs10gs2	0.91	0.80	0.98	0.84	0.96	0.99	1.00	0.98	0.99	0.83
gs10gs1	0.87	0.82	0.97	0.92	0.90	0.95	0.98	1.00	0.99	0.90
gs10gsm	0.89	0.80	0.98	0.89	0.93	0.98	0.99	0.99	1.00	0.87
gs10dgs3mo	0.77	0.76	0.83	0.99	0.70	0.78	0.83	0.90	0.87	1.00


t10yff
2.5
0
-2.5
-5
-7.5
-10
1932
1960
1987
year
t10y2y
3
2
1
0
-1
-2
1932
1960
1987
year
t10y3m
4
2
0
1932
1960
1987
year
gs10gs5
3
2
1
0
-1
1932
1960
1987
year
gs10gs3
3
2
1
0
-1
1932
1960
1987
year


gs10gs2
3
2
1
0
-1
-2
1932
1960
1987
year
gs10gs1
2
0
-2
1932
1960
1987
year
gs10gsm
3
2
1
0
-1
-2
1932
1960
1987
year
gs10dgs3mo
4
2
0
1932
1960
1987
year


ty
t10yff
t10y2y
t10y3m
gs10gs5
gs10gs3
gs10gs2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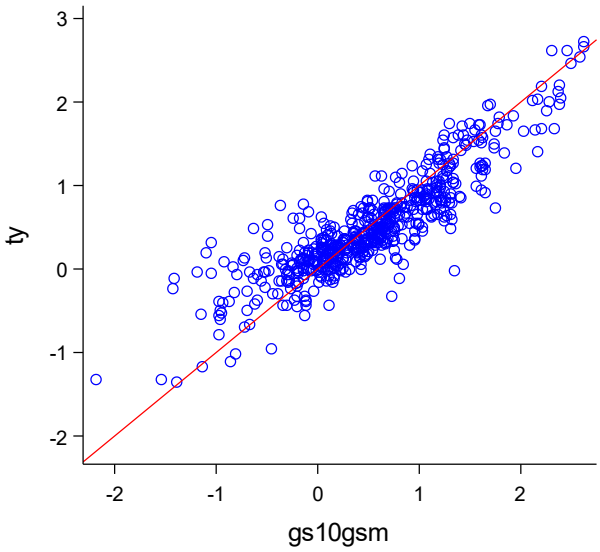
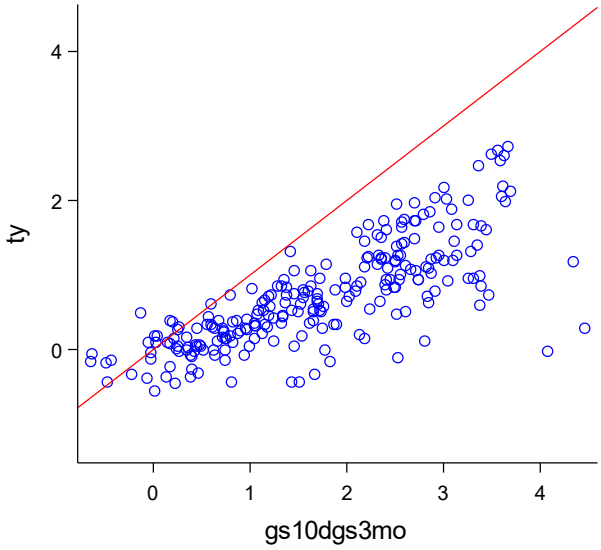
gs10gs1
2
0
-2
-2
0
2


ty
gs10gsm
3
2
1
0
-1
-2
-2
-1
0
1
2


ty
gs10dgs3mo
4
2
0
0
1
2
3
4