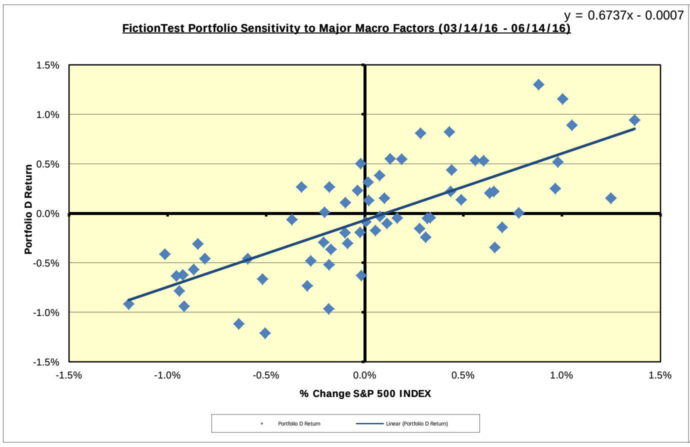
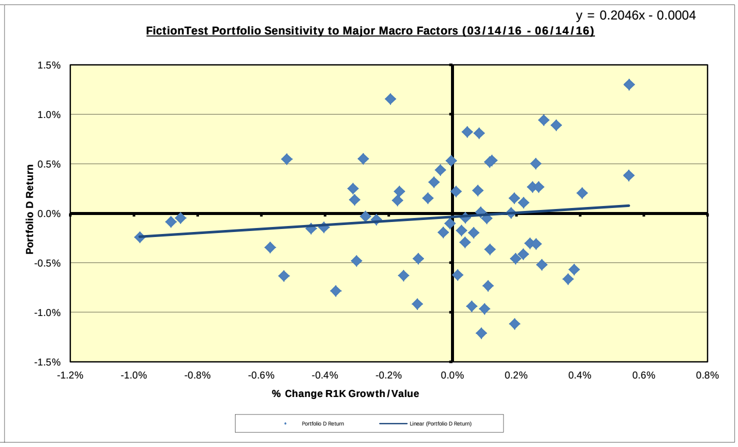
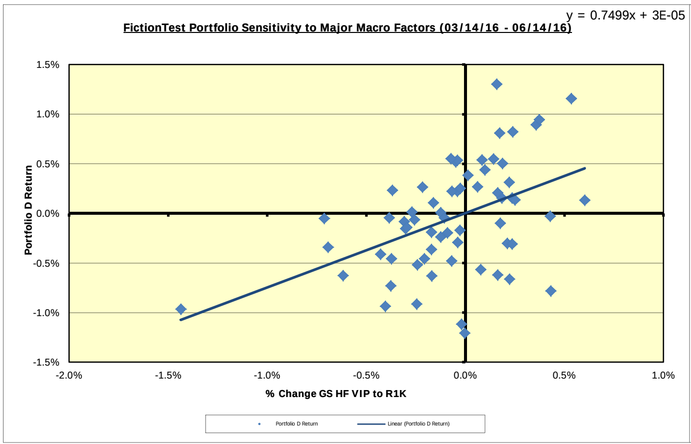
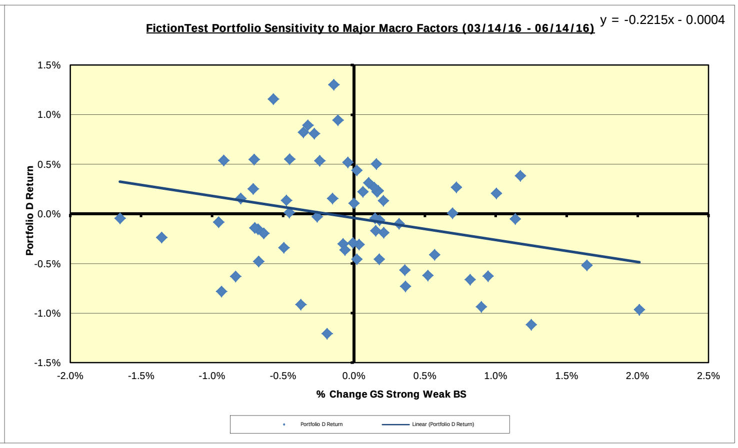
FictionTest Portfolio Sensitivity to Major Macro Factors (03/14/16 - 06/14/16): Correlation Matrix

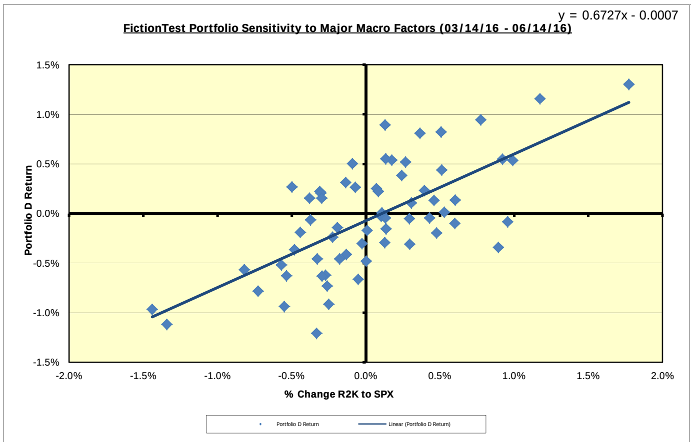
		Annualized Vol	9%	10%	5%	5%	11%	9%	24%	37%	7%	41%	17%
		-	Portfolio D Return	SPX Index	.R1KGV Index	.HFVIPR1K Index	.GSSWBS Index	.R2KSPX Index	USSWIT10 Index	GT10 Govt	DXY Curncy	USCRWTIC Index	LMEX Index
		Portfolio D Return	1.0	0.7	0.1	0.5	(0.3)	0.7	0.5	0.2	0.1	0.2	0.1
S&P 500 INDEX		SPX Index	0.7	1.0	(0.1)	0.2	(0.2)	0.5	0.6	0.4	(0.1)	0.3	0.3
R1K Growth/Value		.R1KGV Index	0.1	(0.1)	1.0	0.2	0.6	(0.1)	(0.2)	(0.2)	0.1	(0.6)	(0.4)
GS HF VIP to R1K		.HFVIPR1K Index	0.5	0.2	0.2	1.0	(0.3)	0.3	0.3	0.2	0.2	0.1	0.1
GS Strong Weak BS		.GSSWBS Index	(0.3)	(0.2)	0.6	(0.3)	1.0	(0.4)	(0.3)	(0.0)	0.1	(0.6)	(0.4)
R2K to SPX		.R2KSPX Index	0.7	0.5	(0.1)	0.3	(0.4)	1.0	0.4	0.1	(0.1)	0.2	0.3
USD INFL ZERO CPN	10Y	USSWIT10 Index	0.5	0.6	(0.2)	0.3	(0.3)	0.4	1.0	0.2	(0.2)	0.4	0.2
US TREASURY N/B		GT10 Govt	0.2	0.4	(0.2)	0.2	(0.0)	0.1	0.2	1.0	0.3	0.3	0.3
DOLLAR INDEX SPOT		DXY Curncy	0.1	(0.1)	0.1	0.2	0.1	(0.1)	(0.2)	0.3	1.0	(0.2)	(0.4)
Bloomberg West Texas Intermedi		USCRWTIC Index	0.2	0.3	(0.6)	0.1	(0.6)	0.2	0.4	0.3	(0.2)	1.0	0.4
LMEX LONDON METALS INDEX		LMEX Index	0.1	0.3	(0.4)	0.1	(0.4)	0.3	0.2	0.3	(0.4)	0.4	1.0

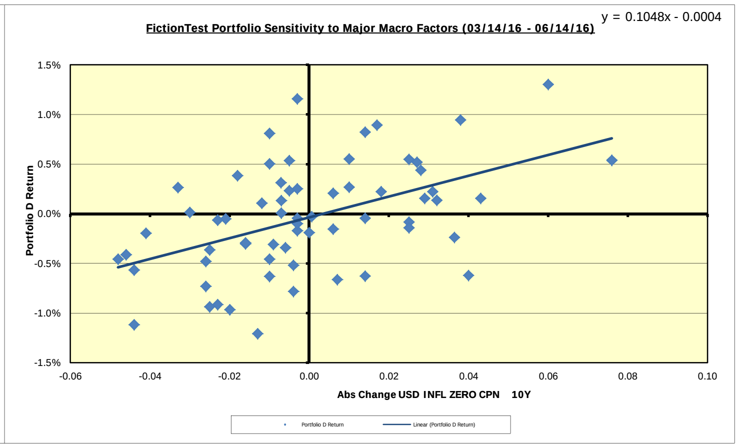




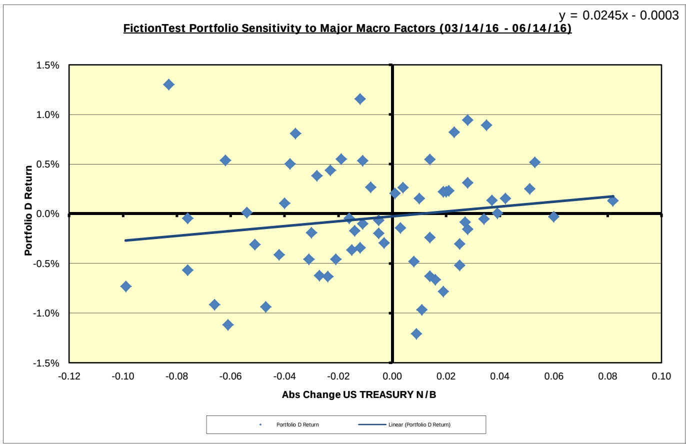


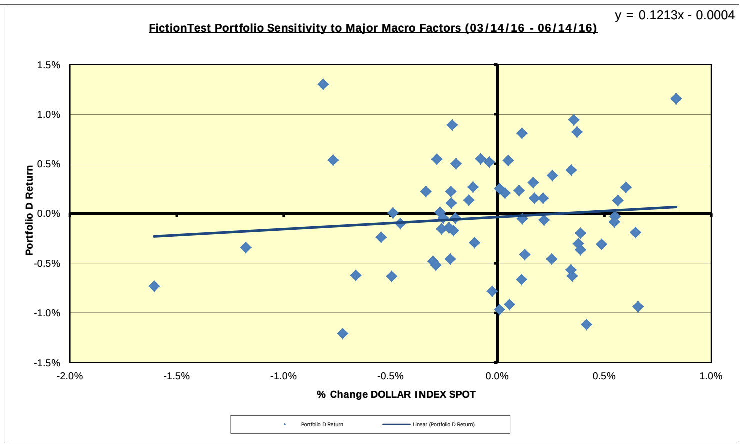


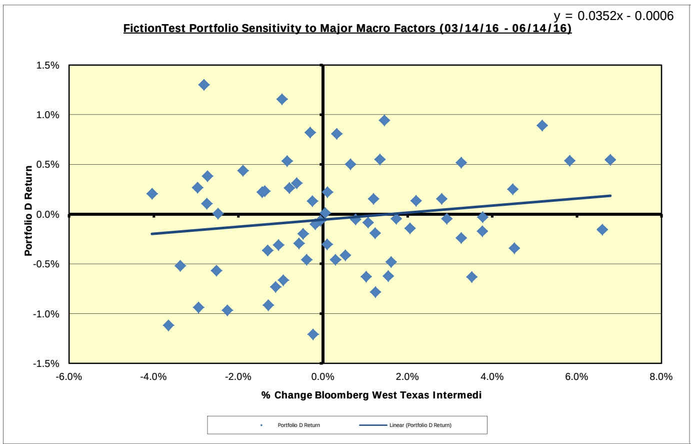


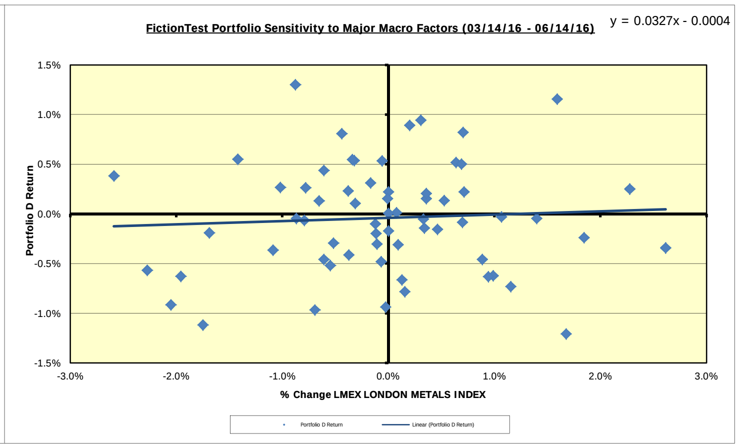


FictionTest Portfolio Sensitivity to Major Macro Factors (03/14/16 - 06/14/16): Correlation Matrix



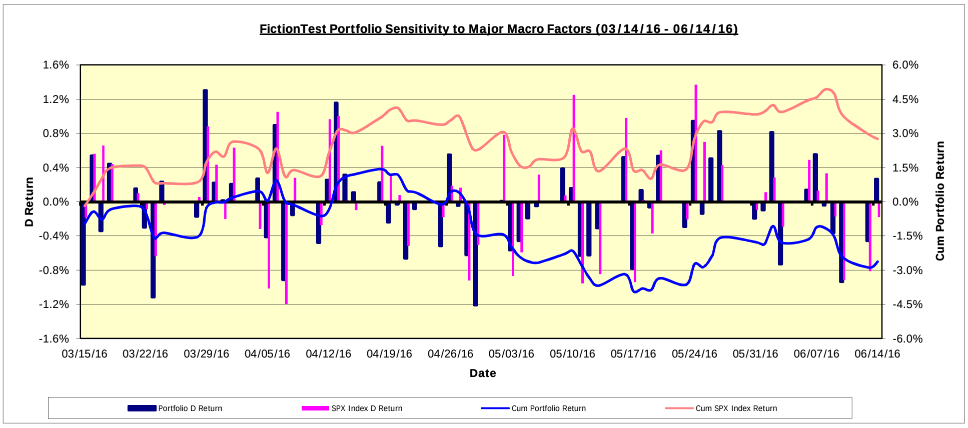






Latest 5d Change	Latest 1m Change	Latest 3m Change	Asset	Latest 5d z-Score	Latest 1m z-Score	Latest 3m z-Score
-1.5%	1.1%	-2.6%	Portfolio D Return	(1.2)	0.4	(0.6)
-1.7%	1.4%	2.8%	SPX Index	(1.3)	0.5	0.6
0.4%	-0.4%	-1.5%	.R1KGV Index	0.5	(0.3)	(0.6)
-1.3%	-0.1%	-3.7%	.HFVIPR1K Index	(1.7)	(0.0)	(1.4)
1.1%	-1.9%	-0.4%	.GSSWBS Index	0.7	(0.6)	(0.1)
-1.0%	2.7%	3.0%	.R2KSPX Index	(0.8)	1.0	0.7
(0.117)	(0.116)	(0.027)	USSWIT10 Index	(2.0)	(1.0)	(0.1)
(0.105)	(0.087)	(0.346)	GT10 Govt	(1.2)	(0.5)	(1.1)
1.2%	0.3%	-1.8%	DXY Curncy	1.2	0.2	(0.5)
-3.7%	4.9%	30.4%	USCRWTIC Index	(0.7)	0.4	1.5
0.4%	0.7%	-2.7%	LMEX Index	0.2	0.1	(0.3)

Isolated Single Factor Change	Expected Portfolio Return	Asset
-1.0%	-0.7%	SPX Index
-1.0%	-0.2%	.R1KGV Index
-1.0%	-0.7%	.HFVIPR1K Index
-1.0%	0.2%	.GSSWBS Index
-1.0%	-0.7%	.R2KSPX Index
-0.05	-0.5%	USSWIT10 Index
-0.1	-0.2%	GT10 Govt
-1.0%	-0.1%	DXY Curncy
-5.0%	-0.2%	USCRWTIC Index
-2.5%	-0.1%	LMEX Index



FictionTest Portfolio Sensitivity to Major Macro Factors (03/14/16 - 06/14/16)

Stock Return Correlation to Major Macro Factors

Note: using excess returns, as opposed to returns, can produce significantly different results esp. if vol of returns and/or spread returns are low.

						yields	*yields*			
Correl wrt SPX Index -->	*1.0*	*(0.1)*	*0.2*	*(0.2)*	*0.5*	*0.6*	*0.4*	*(0.1)*	*0.3*	*0.3*
Item	**SPX Index**	**.R1KGV Index**	**.HFVIPR1K Index**	**.GSSWBS Index**	**.R2KSPX Index**	**USSWIT10 Index**	**GT10 Govt**	**DXY Curncy**	**USCRWTIC Index**	**LMEX Index**
1	S15MEDAX 0.8	OPHT 0.3	OPHT 0.4	WM 0.3	PAG 0.6	CSGP 0.5	C 0.6	CME 0.2	DO 0.7	DO 0.5
2	BRK/B 0.8	COST 0.2	C 0.4	COST 0.2	NUVA 0.6	ALSN 0.5	MET 0.6	GT 0.2	BHI 0.5	EMN 0.4
3	SNPS 0.7	WM 0.2	PRGO 0.4	WMT 0.2	MXIM 0.5	MBLY 0.5	BRK/B 0.4	MXIM 0.2	SE 0.5	C 0.4
4	DNB 0.7	FIS 0.2	A 0.4	CVS 0.1	MBLY 0.5	DNB 0.5	CME 0.3	OPHT 0.2	EMN 0.4	BRK/B 0.4
5	MMC 0.7	DDR 0.2	PAG 0.3	ICE 0.1	S15MEDAX 0.5	EMN 0.4	MMC 0.3	SYNA 0.2	ALSN 0.4	TAHO 0.3
6	DHR 0.6	WPG 0.2	JBLU 0.3	DDR 0.1	VIAV 0.5	PAG 0.4	DO 0.3	BABA 0.1	TAHO 0.4	MET 0.3
7	MET 0.6	GT 0.1	CSGP 0.3	CME 0.1	AMAT 0.5	BRK/B 0.4	GT 0.3	C 0.1	PAG 0.4	BHI 0.3
8	MXIM 0.6	BABA 0.1	MET 0.3	WTM 0.0	SNPS 0.5	BHI 0.4	BHI 0.3	JBLU 0.1	MBLY 0.4	S15MEDAX 0.3
9	C 0.6	AYI 0.1	NUVA 0.3	SNPS 0.0	SYNA 0.5	S15MEDAX 0.4	DHR 0.3	ICE 0.1	AYI 0.3	ALSN 0.3
10	A 0.6	SNPS 0.1	BABA 0.3	WPG 0.0	ALSN 0.4	A 0.4	PAG 0.3	PRGO 0.1	TPX 0.3	CSGP 0.3
11	ALSN 0.6	PRGO 0.1	FIS 0.3	GT 0.0	C 0.4	MET 0.4	SNPS 0.2	MET 0.1	C 0.3	NEM 0.3
12	XRAY 0.6	MXIM 0.1	TPX 0.3	OPHT 0.0	OPHT 0.4	MMC 0.4	A 0.2	NUVA 0.1	MET 0.3	DHR 0.3
13	POST 0.5	CVS 0.1	SAVE 0.3	THG 0.0	DNB 0.4	SAVE 0.4	TSLA 0.2	WMT 0.1	DNB 0.3	DNB 0.3
14	AYI 0.5	KAR 0.1	MBLY 0.3	FIS -0.1	TSLA 0.4	SNPS 0.4	S15MEDAX 0.2	PAG 0.1	CSGP 0.3	MMC 0.3
15	NUVA 0.5	CSGP 0.1	DNB 0.2	TSLA -0.1	DHR 0.4	SE 0.4	ICE 0.2	AMAT 0.0	IRM 0.3	A 0.3
16	SE 0.5	WMT 0.0	ALSN 0.2	KAR -0.1	CSGP 0.4	POST 0.4	CSGP 0.2	KAR 0.0	NEM 0.3	IRM 0.2
17	PAG 0.5	XRAY 0.0	GT 0.2	MXIM -0.1	BRK/B 0.4	C 0.3	DNB 0.2	FIS 0.0	BRK/B 0.3	TSLA 0.2
18	VIAV 0.5	POST 0.0	SYNA 0.2	XRAY -0.1	GT 0.4	NUVA 0.3	MXIM 0.2	VIAV 0.0	S15MEDAX 0.2	TPX 0.2
19	EMN 0.5	WTM 0.0	VIAV 0.2	MMC -0.1	TPX 0.4	TPX 0.3	BABA 0.2	SAVE 0.0	A 0.2	SE 0.2
20	THG 0.5	THG 0.0	CME 0.2	DHR -0.1	A 0.3	GT 0.3	AYI 0.2	DNB 0.0	VIPS 0.2	XRAY 0.2
21	SYNA 0.5	VIPS 0.0	MXIM 0.1	POST -0.1	XRAY 0.3	VIAV 0.3	SE 0.2	SNPS 0.0	DHR 0.2	PAG 0.2
22	CVS 0.5	AMAT 0.0	AMAT 0.1	AYI -0.1	POST 0.3	WPG 0.3	EMN 0.2	VIPS 0.0	VIAV 0.2	CAB 0.2
23	MBLY 0.4	ICE 0.0	WTM 0.1	BRK/B -0.1	MET 0.3	XRAY 0.3	VIAV 0.2	CVS 0.0	BABA 0.2	VIPS 0.2
24	CME 0.4	S15MEDAX 0.0	AYI 0.1	JBLU -0.1	MMC 0.3	MXIM 0.3	WMT 0.1	THG 0.0	POST 0.2	VIAV 0.1
25	JBLU 0.4	TSLA 0.0	MMC 0.1	IRM -0.1	DDR 0.3	VIPS 0.3	XRAY 0.1	DHR -0.1	MMC 0.2	BABA 0.1
26	AMAT 0.4	JBLU 0.0	XRAY 0.1	CSGP -0.2	CAB 0.3	CAB 0.3	ALSN 0.1	WTM -0.1	KAR 0.2	GT 0.1
27	SAVE 0.4	TPX 0.0	KAR 0.1	CAB -0.2	WPG 0.3	TAHO 0.3	CAB 0.1	XRAY -0.1	XRAY 0.1	POST 0.1
28	COST 0.4	CME -0.1	S15MEDAX 0.1	BABA -0.2	IRM 0.3	SYNA 0.3	SYNA 0.1	A -0.1	WTM 0.1	AYI 0.1
29	CSGP 0.4	MMC -0.1	SNPS 0.1	S15MEDAX -0.2	KAR 0.3	DHR 0.3	CVS 0.1	AYI -0.1	SYNA 0.1	SAVE 0.1
30	BHI 0.4	SYNA -0.1	CAB 0.1	NEM -0.2	SAVE 0.3	CVS 0.2	OPHT 0.1	S15MEDAX -0.1	TSLA 0.1	SNPS 0.1
31	GT 0.4	SAVE -0.1	TSLA 0.1	AMAT -0.2	JBLU 0.3	TSLA 0.2	AMAT 0.1	BRK/B -0.1	GT 0.1	AMAT 0.1
32	CAB 0.4	NUVA -0.1	THG 0.1	TPX -0.2	AYI 0.3	BABA 0.2	THG 0.1	TSLA -0.1	THG 0.1	ICE 0.1
33	DDR 0.4	NEM -0.1	BHI 0.1	SYNA -0.2	ICE 0.3	OPHT 0.2	TPX 0.1	CAB -0.1	WPG 0.1	COST 0.1
34	FIS 0.4	A -0.1	VIPS 0.1	MET -0.3	BABA 0.2	JBLU 0.2	WTM 0.1	ALSN -0.1	PRGO 0.1	MXIM 0.0
35	TPX 0.4	VIAV -0.1	BRK/B 0.0	SAVE -0.3	EMN 0.2	DO 0.2	POST 0.1	MMC -0.1	MXIM 0.1	THG 0.0
36	WPG 0.4	MBLY -0.1	COST 0.0	VIAV -0.3	PRGO 0.2	KAR 0.2	KAR 0.0	WM -0.2	CAB 0.0	SYNA 0.0
37	DO 0.4	DNB -0.1	POST 0.0	PRGO -0.3	DO 0.2	THG 0.2	FIS 0.0	COST -0.2	AMAT 0.0	KAR 0.0
38	TSLA 0.4	IRM -0.1	DHR 0.0	VIPS -0.3	THG 0.2	WM 0.2	SAVE 0.0	WPG -0.2	ICE 0.0	PRGO 0.0
39	BABA 0.3	CAB -0.1	SE 0.0	NUVA -0.3	VIPS 0.2	AYI 0.2	VIPS 0.0	SE -0.2	NUVA 0.0	DDR 0.0
40	OPHT 0.3	DHR -0.2	EMN 0.0	A -0.3	BHI 0.1	AMAT 0.2	JBLU 0.0	MBLY -0.2	CVS 0.0	CME 0.0
41	WMT 0.3	TAHO -0.3	WPG 0.0	C -0.3	SE 0.1	COST 0.2	NUVA 0.0	DO -0.2	DDR 0.0	WPG 0.0
42	VIPS 0.3	BRK/B -0.3	ICE 0.0	DNB -0.3	CME 0.1	NEM 0.2	WM 0.0	CSGP -0.2	FIS 0.0	MBLY 0.0
43	ICE 0.3	PAG -0.3	WM -0.1	EMN -0.4	CVS 0.1	CME 0.1	MBLY 0.0	BHI -0.2	SAVE 0.0	JBLU 0.0
44	KAR 0.2	BHI -0.3	CVS -0.1	TAHO -0.4	FIS 0.1	DDR 0.1	PRGO 0.0	POST -0.2	SNPS 0.0	WM 0.0
45	IRM 0.2	MET -0.3	TAHO -0.2	BHI -0.4	COST 0.1	IRM 0.1	COST 0.0	IRM -0.2	WMT 0.0	NUVA 0.0
46	WTM 0.1	SE -0.3	NEM -0.2	PAG -0.4	TAHO 0.1	WTM 0.1	IRM -0.1	EMN -0.3	JBLU -0.1	FIS 0.0
47	PRGO 0.1	C -0.4	WMT -0.2	SE -0.4	NEM 0.0	FIS 0.1	WPG -0.1	DDR -0.3	OPHT -0.1	OPHT -0.1
48	WM 0.1	ALSN -0.4	DO -0.2	MBLY -0.4	WMT 0.0	WMT 0.1	DDR -0.1	TPX -0.3	COST -0.1	CVS -0.1
49	TAHO 0.0	EMN -0.5	IRM -0.2	ALSN -0.5	WM 0.0	PRGO 0.0	NEM -0.2	NEM -0.6	WM -0.1	WMT -0.1
50	NEM -0.1	DO -0.6	DDR -0.3	DO -0.6	WTM -0.1	ICE 0.0	TAHO -0.2	TAHO -0.6	CME -0.1	WTM -0.1

FictionTest Portfolio Sensitivity to Major Macro Factors (03/14/16 - 06/14/16)

-	<-- Correl Bucket [Correl(Ticker,SPX Index D Return)] -->			
Low -ve Correl	**Random**	**Low +ve Correl**	**Mod +ve Correl**	**Strong +ve Correl**
	NEM -0.08	ICE 0.27	SE 0.50	BRK/B 0.75
	TAHO 0.04	VIPS 0.30	NUVA 0.52	S15MEDAX 0.78
	WM 0.07	WMT 0.31	AYI 0.53	
	PRGO 0.11	OPHT 0.34	POST 0.53	
	WTM 0.12	BABA 0.35	XRAY 0.56	
	IRM 0.19	TSLA 0.36	ALSN 0.56	
	KAR 0.23	DO 0.37	A 0.59	
		WPG 0.37	C 0.62	
		TPX 0.37	MXIM 0.63	
		FIS 0.38	MET 0.63	
		DDR 0.40	DHR 0.64	
		CAB 0.40	MMC 0.71	
		GT 0.41	DNB 0.72	
		BHI 0.42	SNPS 0.73	
		CSGP 0.42		
		COST 0.42		
		SAVE 0.43		
		AMAT 0.44		
		JBLU 0.44		
		CME 0.44		
		MBLY 0.44		
		CVS 0.46		
		SYNA 0.46		
		THG 0.48		
		EMN 0.48		
		VIAV 0.49		
		PAG 0.50		

Correl Bucket (Ticker,SPX Index D Return)		**Long**	**Short**	- **Net**	- *Beta wrt SPX Index D Return* **Risk-adj Net**
	(0.50)				
Low -ve Correl	(0.25)	0%	0%	0%	0%
Random	0.25	2%	-8%	-5%	1%
Low +ve Correl	0.50	49%	-12%	37%	58%
Mod +ve Correl	0.75	21%	-13%	8%	8%
trong +ve Correl	1.00	1%	-1%	0%	1%
Total		*74%*	*-33%*	*41%*	*67%*

FictionTest Portfolio Sensitivity to Major Macro Factors (03/14/16 - 06/14/16)