

Risk Factors for Oil Prices Before and After Covid-19

PRE-COVID DATA SET

Fit Model - JMP Pro

Model Specification

Select Columns

101 Columns

Enter column name

- EPU.US
- VIX
- RBTC
- RUSO
- RGLD
- RSPY
- RSLY
- RXLK
- RXLB
- RXLE
- RXLF
- RXLI
- RXLP
- RXLU
- RXLV
- RXLY
- RIYR
- RPBW
- RACWX
- RTLH

Pick Role Variables

Y: ☐ RUSO (optional)

Weight: optional numeric

Freq: optional numeric

Validation: ☒ Holdback-PreCOVID

By: optional

Personality: Standard Least Squares

Emphasis: Minimal Report

Help Run

Recall ☐ Keep dialog open

Remove

Construct Model Effects

Add Cross Nest Macros

Degree: 2

Attributes ☒

Transform ☒

☐ No Intercept

- RXLF
- RXLI
- RXLP
- RXLU
- RXLV
- RXLY
- RIYR
- RPBW
- RACWX
- RTLH

Risk Factors for Oil Prices Before and After Covid-19

Response RUSO				
Parameter Estimates				
Term	Estimate	Std Error	t Ratio	Prob> t
Intercept	-0.000229	0.000514	-0.45	0.6560
RBTC	-0.007856	0.012195	-0.64	0.5197
RGLD	0.0192104	0.077101	0.25	0.8033
RSPV	-0.435592	1.313953	-0.33	0.7404
RSLY	-0.222489	0.107271	-2.07	0.0384*
RXLK	0.0162729	0.330363	0.05	0.9607
RXLB	-0.072418	0.117749	-0.62	0.5387
RXLE	1.1543238	0.110124	10.48	<.0001*
RXLF	0.0424476	0.222957	0.19	0.8491
RXLI	-0.282525	0.202078	-1.40	0.1625
RXLP	0.1048671	0.186796	0.56	0.5747
RXLU	-0.170643	0.095651	-1.78	0.0748
RXLV	-0.245218	0.202374	-1.21	0.2260
RXLY	-0.04339	0.207786	-0.21	0.8346
RIYR	-0.056302	0.095868	-0.59	0.5572
RPBW	0.1352116	0.055056	2.46	0.0143*
RACWX	0.0916033	0.133381	0.69	0.4924
RTLH	0.1891656	0.683968	0.28	0.7822
RHYG	0.4783188	0.212202	2.25	0.0245*
REMB	0.4109892	0.195829	2.10	0.0362*
RTLT	-0.398788	0.309901	-1.29	0.1986
RIEI	-0.888974	1.036963	-0.86	0.3916
RTIP	1.5918929	0.347587	4.58	<.0001*
RLQD	-0.683403	0.415762	-1.64	0.1007
RSHY	-1.287547	2.002185	-0.64	0.5204
RFXE	-0.079161	0.124373	-0.64	0.5247
RFXV	-0.000374	0.121469	-0.00	0.9975
RFXB	0.0583024	0.10241	0.57	0.5693
RFXF	-0.079724	0.078087	-1.02	0.3076
RFXA	-0.068092	0.112452	-0.61	0.5450
RFXC	1.0330183	0.146084	7.07	<.0001*
REPU	-0.000489	0.001068	-0.46	0.6471

The Original or Standard Least Squares Model picks the Energy Sector index (RXLE), Inflation Protected US Treasury Bonds (RTIP), and Canadian Dollar (RFXC) as strong predictors.

It also chose the S&P 600 (small company) index (RSLY), Invesco WilderHill Clean Energy ETF (RPBW), High-Yield US Corporate Bonds (RHYG) and Int'l (Emerging Market) Bonds (REMB) as probable predictors.

Risk Factors for Oil Prices Before and After Covid-19

RUSO.PreCovid19 - Fit Least Squares - JMP Pro

File Edit Tables Rows Cols DOE Analyze Graph Tools View Window Help



Response RUSO

Validation: Holdback-PreCOVID

Effect Summary

Summary of Fit

Analysis of Variance

Parameter Estimates

Effect Tests

Crossvalidation

Source	RSquare	RASE	Freq
Training Set	0.6784	0.01344	797
Validation Set	0.4246	0.01291	266
Test Set	0.4610	0.01508	267

Effect Details

The Original or Standard Least Squares Model has a Training set R^2 value of 67.8% and an Average² Error Value of 1.3%. The Test set R^2 value of 46.1% and an Average² Error Value of 1.5%.

Risk Factors for Oil Prices Before and After Covid-19

Fit Model - JMP Pro

Model Specification

Select Columns

102 Columns

Enter column name

- LRPBW
- LRACWX
- LRTLH
- LRHYG
- LREMB
- LRTL
- LRIEI
- LRTIP
- LRLQD
- LRSHY
- LRFXE
- LRFX
- LRFXB
- LRFXF
- LRFXA
- LRFXC
- LREPU
- LRVIX
- Holdback-PreCOVID
- Pred For...COVID OLS

Pick Role Variables

Y: ☐ RUSO
optional

Weight: optional numeric

Freq: optional numeric

Validation: ☒ Holdback-PreCOVID

By: optional

Personality: Stepwise

Help Run

Recall ☐ Keep dialog open

Remove

Construct Model Effects

Add Cross Nest Macros

Degree: 2

Attributes ☒

Transform ☒

☐ No Intercept

- RBTC
- RGLD
- RSPY
- RSLY
- RXLK
- RXLB
- RXLE
- RXLF
- RXLI
- RXLP

Risk Factors for Oil Prices Before and After Covid-19

RUSO.PreCovid19 - Fit Stepwise - JMP Pro

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Stepwise Fit for RUSO

Stepwise Regression Control

Stopping Rule: Max Validation RSquare



Enter All

Make Model

Direction: Forward



Remove All

Run Model

Go

Stop

Step

535 rows not used due to excluded rows or missing values.

SSE	DFE	RMSE	RSquare	RSquare Adj	Cp	p	AICc	BIC	RSquare Validation	RASE Validation	RSquareTest	RASE Test
0.1543471	786	0.0140132	0.6552	0.6508	8.7267104	11	-4527.69	-4471.92	0.4752	0.012334	0.4777	0.014842

Current Estimates

Lock	Entered	Parameter	Estimate	nDF	SS	"F Ratio"	"Prob>F"
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Intercept	-0.0002591	1	0	0.000	1
<input type="checkbox"/>	<input type="checkbox"/>	RBTC	0	1	7.056e-5	0.359	0.54922
<input type="checkbox"/>	<input type="checkbox"/>	RGLD	0	1	0.000073	0.372	0.54234
<input type="checkbox"/>	<input checked="" type="checkbox"/>	RSPY	-1.593254	1	0.013023	66.319	1.5e-15
<input type="checkbox"/>	<input type="checkbox"/>	RSLY	0	1	0.000243	1.239	0.26595
<input type="checkbox"/>	<input checked="" type="checkbox"/>	RXLK	0.32941895	1	0.001116	5.682	0.01738
<input type="checkbox"/>	<input type="checkbox"/>	RXLB	0	1	0.000123	0.628	0.42848
<input type="checkbox"/>	<input checked="" type="checkbox"/>	RXLE	1.2603603	1	0.08848	450.575	2.1e-79
<input type="checkbox"/>	<input type="checkbox"/>	RXLF	0	1	0.000203	1.033	0.30967
<input type="checkbox"/>	<input type="checkbox"/>	RXLI	0	1	0.000377	1.923	0.16595
<input type="checkbox"/>	<input type="checkbox"/>	RXLP	0	1	5.786e-5	0.294	0.58759
<input type="checkbox"/>	<input type="checkbox"/>	RXLU	0	1	0.000319	1.626	0.20266
<input type="checkbox"/>	<input type="checkbox"/>	RXLV	0	1	0.000336	1.712	0.19105
<input type="checkbox"/>	<input type="checkbox"/>	RXLY	0	1	0.000122	0.620	0.43133
<input type="checkbox"/>	<input type="checkbox"/>	RIYR	0	1	0.000108	0.547	0.45968
<input type="checkbox"/>	<input type="checkbox"/>	RPBW	0	1	0.000383	1.955	0.16243
<input type="checkbox"/>	<input type="checkbox"/>	RACWX	0	1	0.000038	0.193	0.66045
<input type="checkbox"/>	<input type="checkbox"/>	RTLH	0	1	1.393e-6	0.007	0.93295
<input type="checkbox"/>	<input checked="" type="checkbox"/>	RHYG	0.40039964	1	0.000899	4.580	0.03266
<input type="checkbox"/>	<input checked="" type="checkbox"/>	REMB	0.3701584	1	0.000917	4.668	0.03103
<input type="checkbox"/>	<input checked="" type="checkbox"/>	RTLTL	-0.4281526	1	0.002165	11.024	0.00094

The Forward Stepwise Model picks up on the S&P 600 (large company) index (RSPY), Technology Select Sector SPDR Fund (RXLK), Energy sector index (RXLE), High-Yield US Corporate Bonds (RHYG), Int'l (Emerging Market) Bonds (REMB), Long-Term (20+ years) US Treasury Bonds (RTLTL), 3-to-7 year US Treasury Bonds (RIEI), Inflation Protected US Treasury Bonds (RTIP), Canadian Dollar (RFXC), and S&P 600 (small company) index (RSLY), Invesco WilderHill Clean Energy ETF, as possible predictors.

Risk Factors for Oil Prices Before and After Covid-19

Stepped Model - JMP Pro

Model Specification

Select Columns

102 Columns

Enter column name

- Date
- BTC
- USO
- GLD
- SPY
- SLY
- XLK
- XLB
- XLE
- XLF
- XLI
- XLP
- XLU
- XLV
- IYR
- PBW
- ACWX
- TLH
- HYG

Pick Role Variables

Y: **RUSO** (optional)

Weight: optional numeric

Freq: optional numeric

Validation: **Holdback-PreCOVID**

By: optional

Construct Model Effects

Add: RSPY, RXLK, RXLE, RHYG, REMB, RTLT, RIEI, RTIP, RFXC, LRSLY

Cross

Nest

Macros

Degree: 2

Attributes: ☒

Transform: ☒

☐ No Intercept

Personality: Standard Least Squares

Emphasis: Minimal Report

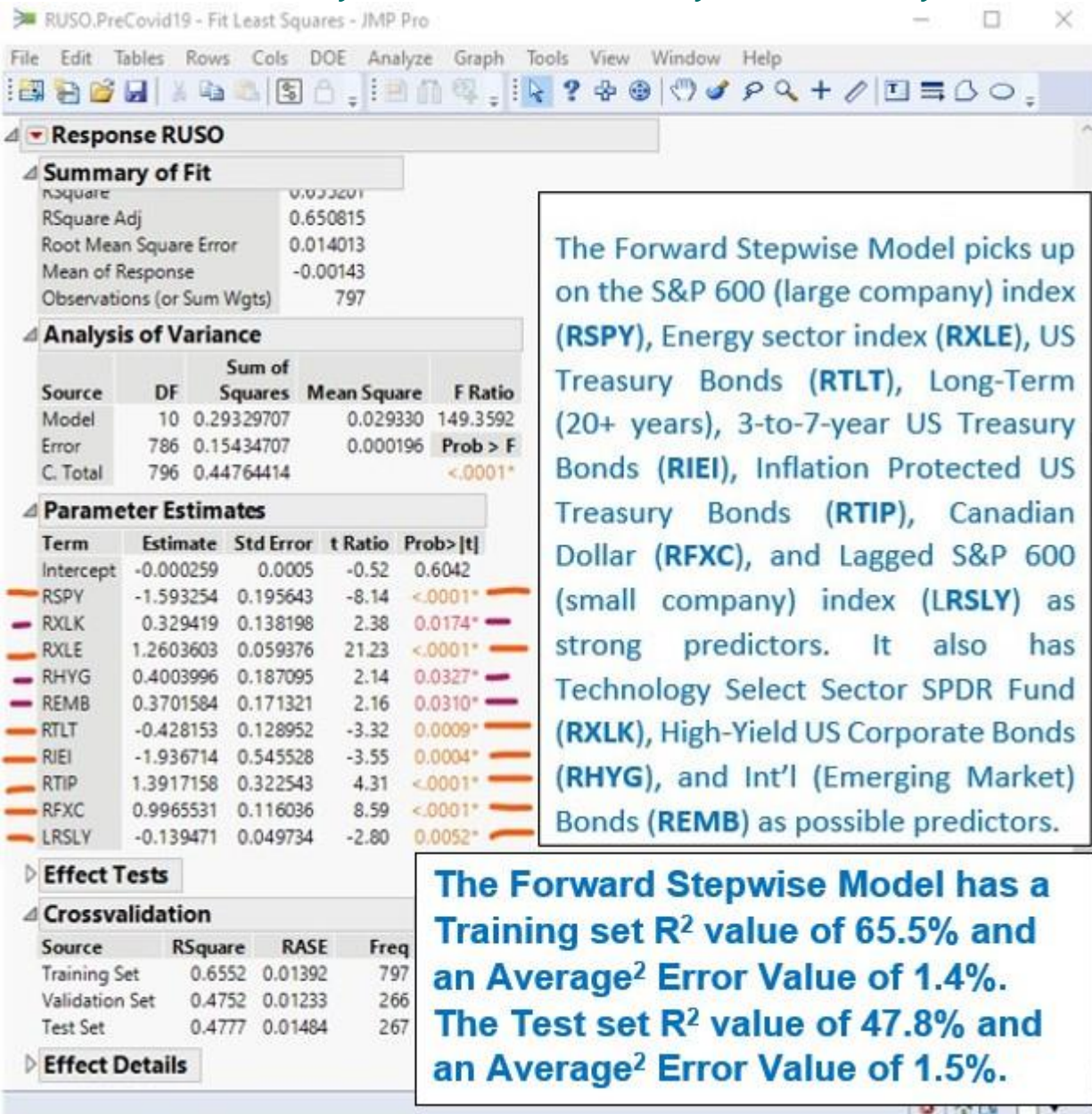
Help Run

Recall ☐ Keep dialog open

Remove

The Forward Stepwise Model picks up on the S&P 600 (large company) index (**RSPY**), Technology Select Sector SPDR Fund (**RXLK**), Energy sector index (**RXLE**), High-Yield US Corporate Bonds (**RHYG**), Int'l (Emerging Market) Bonds (**REMB**), Long-Term (20+ years) US Treasury Bonds (**RTLT**), 3-to-7 year US Treasury Bonds (**RIEI**), Inflation Protected US Treasury Bonds (**RTIP**), Canadian Dollar (**RFXC**), and S&P 600 (small company) index (**RSLY**), Invesco WilderHill Clean Energy ETF, as possible predictors.

Risk Factors for Oil Prices Before and After Covid-19



Risk Factors for Oil Prices Before and After Covid-19

File Edit Tables Rows Cols DOE Analyze Graph Tools View Window Help

Stepwise Fit for RUSO

Stepwise Regression Control

Stopping Rule: Max Validation RSquare Enter All

Direction: Backward Remove All

535 rows not used due to excluded rows or missing values.

SSE	DFE	RMSE	RSquare	RSquare Adj	Cp	p	AICc	BIC	RSquare Validation	RASE Validation	RSquare Test	RASE Test
0.1439631	731	0.0140335	0.6784	0.6498	66	66	-4461.1	-4159.98	0.4246	0.012915	0.4610	0.015077

Current Estimates

Lock	Entered	Parameter	Estimate	nDF	SS	"F Ratio"	"Prob>F"
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Intercept	-0.0002292	1	0	0.000	1
<input type="checkbox"/>	<input checked="" type="checkbox"/>	RBTC	-0.0078559	1	8.173e-5	0.415	0.51966
<input type="checkbox"/>	<input checked="" type="checkbox"/>	RGLD	0.01921036	1	1.223e-5	0.062	0.80331
<input type="checkbox"/>	<input checked="" type="checkbox"/>	RSPY	-0.4355916	1	2.164e-5	0.110	0.74035
<input type="checkbox"/>	<input checked="" type="checkbox"/>	RSLY	-0.2224892	1	0.000847	4.302	0.03842
<input type="checkbox"/>	<input checked="" type="checkbox"/>	RXLK	0.01627289	1	4.778e-7	0.002	0.96073
<input type="checkbox"/>	<input checked="" type="checkbox"/>	RXLB	-0.0724175	1	7.449e-5	0.378	0.53874
<input type="checkbox"/>	<input checked="" type="checkbox"/>	RXLE	1.15432383	1	0.021639	109.874	4.8e-24
<input type="checkbox"/>	<input checked="" type="checkbox"/>	RXLF	0.04244765	1	7.138e-6	0.036	0.84906
<input type="checkbox"/>	<input checked="" type="checkbox"/>	RXLI	-0.2825246	1	0.000385	1.955	0.16251
<input type="checkbox"/>	<input checked="" type="checkbox"/>	RXLP	0.10486708	1	0.000062	0.315	0.5747
<input type="checkbox"/>	<input checked="" type="checkbox"/>	RXLU	-0.1706431	1	0.000627	3.183	0.07484
<input type="checkbox"/>	<input checked="" type="checkbox"/>	RXLV	-0.2452178	1	0.000289	1.468	0.22602
<input type="checkbox"/>	<input checked="" type="checkbox"/>	RXLY	-0.0433896	1	8.588e-6	0.044	0.83465
<input type="checkbox"/>	<input checked="" type="checkbox"/>	RIYR	-0.0563019	1	0.000068	0.345	0.55719
<input type="checkbox"/>	<input checked="" type="checkbox"/>	RPBW	0.13521158	1	0.001188	6.031	0.01429
<input type="checkbox"/>	<input checked="" type="checkbox"/>	RACWX	0.09160334	1	9.289e-5	0.472	0.49244
<input type="checkbox"/>	<input checked="" type="checkbox"/>	RTLH	0.18916561	1	0.000015	0.076	0.78219
<input type="checkbox"/>	<input checked="" type="checkbox"/>	RHYG	0.47831884	1	0.001001	5.081	0.02449

The Backward Stepwise Model picks all the variables as possible predictors.

Risk Factors for Oil Prices Before and After Covid-19

RUSO.PreCovid19 - Fit Least Squares - JMP Pro

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Response RUSO

Analysis of Variance

Parameter Estimates

Term	Estimate	Std Error	t Ratio	Prob> t
Intercept	-0.000229	0.000514	-0.45	0.6560
RBTC	-0.007856	0.012195	-0.64	0.5197
RGLD	0.0192104	0.077101	0.25	0.8033
RSPY	-0.435592	1.313953	-0.33	0.7404
RSLY	-0.222489	0.107271	-2.07	0.0384*
RXLK	0.0162729	0.330363	0.05	0.9607
RXLB	-0.072418	0.117749	-0.62	0.5387
RXLE	1.1543238	0.110124	10.48	<.0001*
RXLF	0.0424476	0.222957	0.19	0.8491
RXLI	-0.282525	0.202078	-1.40	0.1625
RXLP	0.1048671	0.186796	0.56	0.5747
RXLU	-0.170643	0.095651	-1.78	0.0748
RXLV	-0.245218	0.202374	-1.21	0.2260
RXLY	-0.04339	0.207786	-0.21	0.8346
RIYR	-0.056302	0.095868	-0.59	0.5572
RPBW	0.1352116	0.055056	2.46	0.0143*
RACWX	0.0916033	0.133381	0.69	0.4924
RTLH	0.1891656	0.683968	0.28	0.7822
RHYG	0.4783188	0.212202	2.25	0.0245*
REMB	0.4109892	0.195829	2.10	0.0362*
RTLT	-0.398788	0.309901	-1.29	0.1986
RIEI	-0.888974	1.036963	-0.86	0.3916
RTIP	1.5918929	0.347587	4.58	<.0001*
RLQD	-0.683403	0.415762	-1.64	0.1007
RSHY	-1.287547	2.002185	-0.64	0.5204
RFXE	-0.079161	0.124373	-0.64	0.5247
RFXY	-0.000374	0.121469	-0.00	0.9975
RFXB	0.0583024	0.10241	0.57	0.5693
RFXF	-0.079724	0.078087	-1.02	0.3076
RFXA	-0.068092	0.112452	-0.61	0.5450
RFXC	1.0330183	0.146084	7.07	<.0001*
REPU	-0.000489	0.001068	-0.46	0.6471

The Backward Stepwise Revised Model picks the Energy Sector index (RXLE), Inflation Protected US Treasury Bonds (RTIP), and Canadian Dollar (RFXC) as strong predictors.

It also chose the S&P 600 (small company) index (RSLY), Invesco WilderHill Clean Energy ETF (RPBW), High-Yield US Corporate Bonds (RHYG) and Int'l (Emerging Market) Bonds (REMB) as probable predictors.

Risk Factors for Oil Prices Before and After Covid-19

RUSO.PreCovid19 - Fit Least Squares 2 - JMP Pro

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Response RUSO

Validation: Holdback-PreCOVID

Effect Summary

Summary of Fit

Analysis of Variance

Parameter Estimates

Term	Estimate	Std Error	t Ratio	Prob> t
Intercept	-0.000516	0.000534	-0.97	0.3342
RXLE	1.1618358	0.056854	20.44	<.0001*
RTIP	-0.153643	0.200322	-0.77	0.4433
RFXC	1.0825325	0.120339	9.00	<.0001*
RSLY	-0.572478	0.081293	-7.04	<.0001*
RPBW	0.0623745	0.054238	1.15	0.2505
RHYG	0.2535993	0.199523	1.27	0.2041
REMB	-0.034511	0.18051	-0.19	0.8484

Effect Tests

Crossvalidation

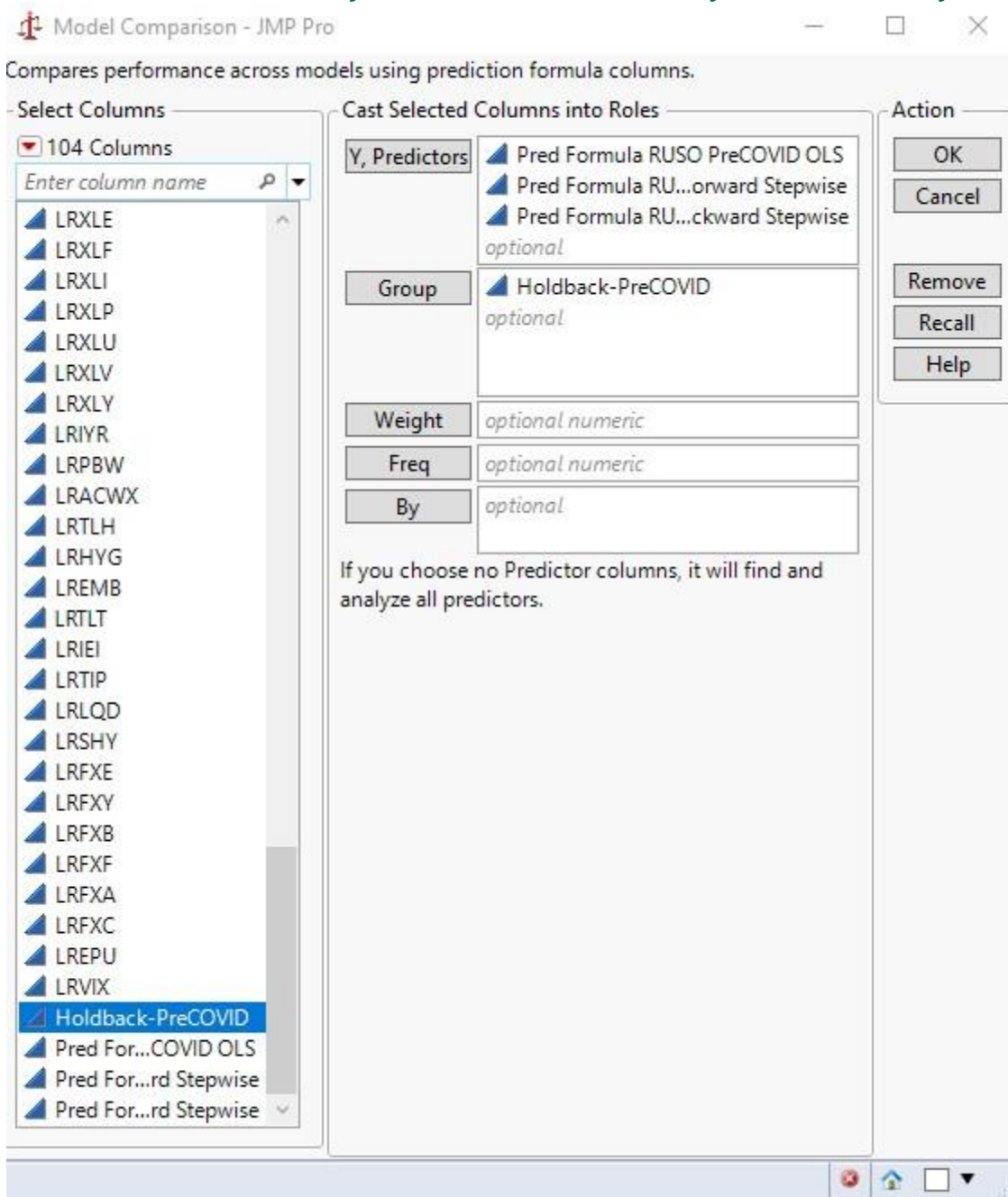
Source	RSquare	RASE	Freq
Training Set	0.6027	0.01493	798
Validation Set	0.4410	0.01273	266
Test Set	0.4885	0.01469	267

Effect Details

The Backward Stepwise Revised Model picks the Energy Sector index (RXLE), Canadian Dollar (RFXC) and S&P 600 (small company) index (RSLY) as it's predictors.

The Backward Stepwise Model has a Training set R^2 value of 60.3% and an Average² Error Value of 1.5%. The Test set R^2 value of 48.9% and an Average² Error Value of 1.5%.

Risk Factors for Oil Prices Before and After Covid-19



Risk Factors for Oil Prices Before and After Covid-19

RUSO.PreCovid19 - Model Comparison - JMP Pro

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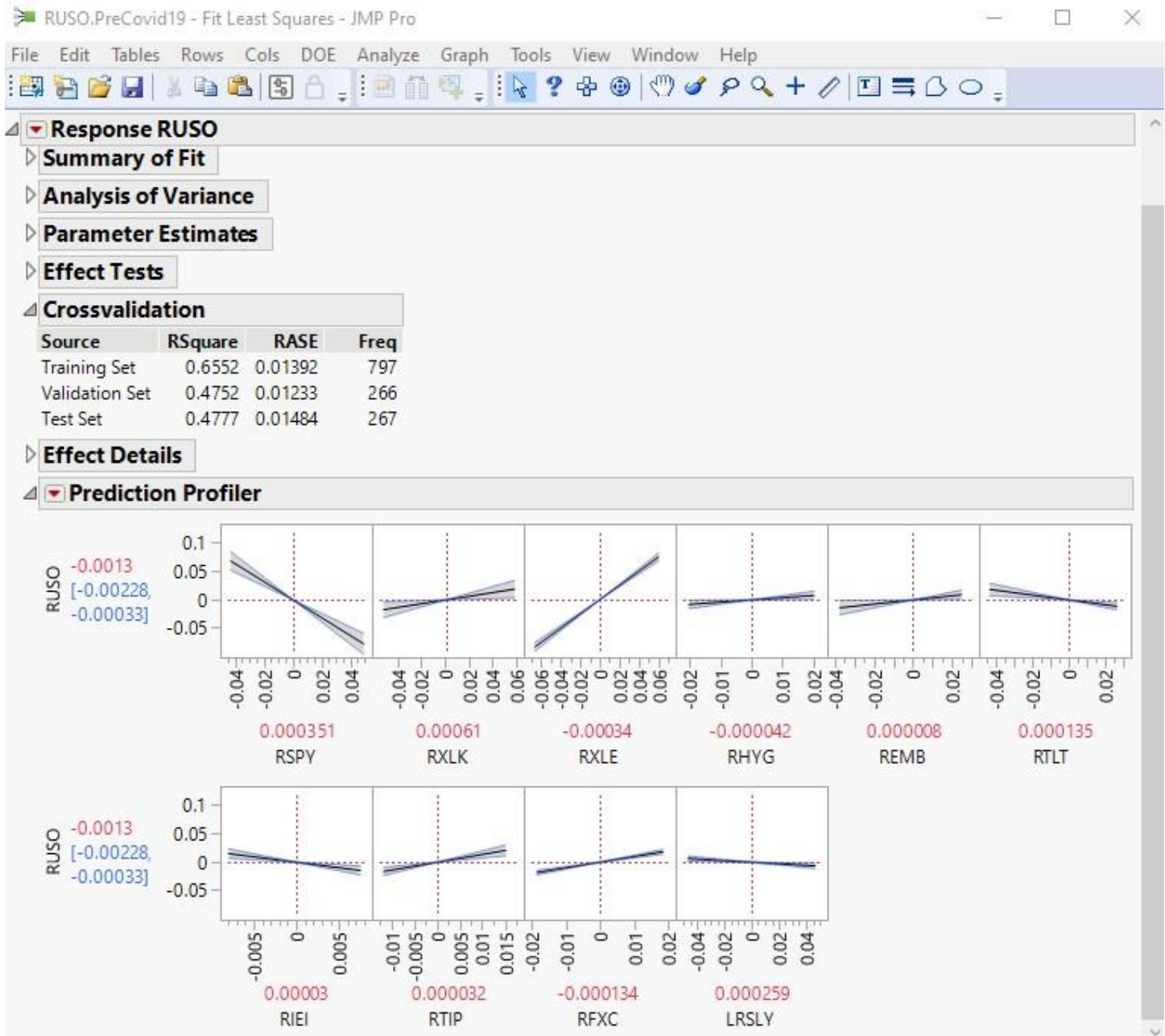
Model Comparison

Predictors

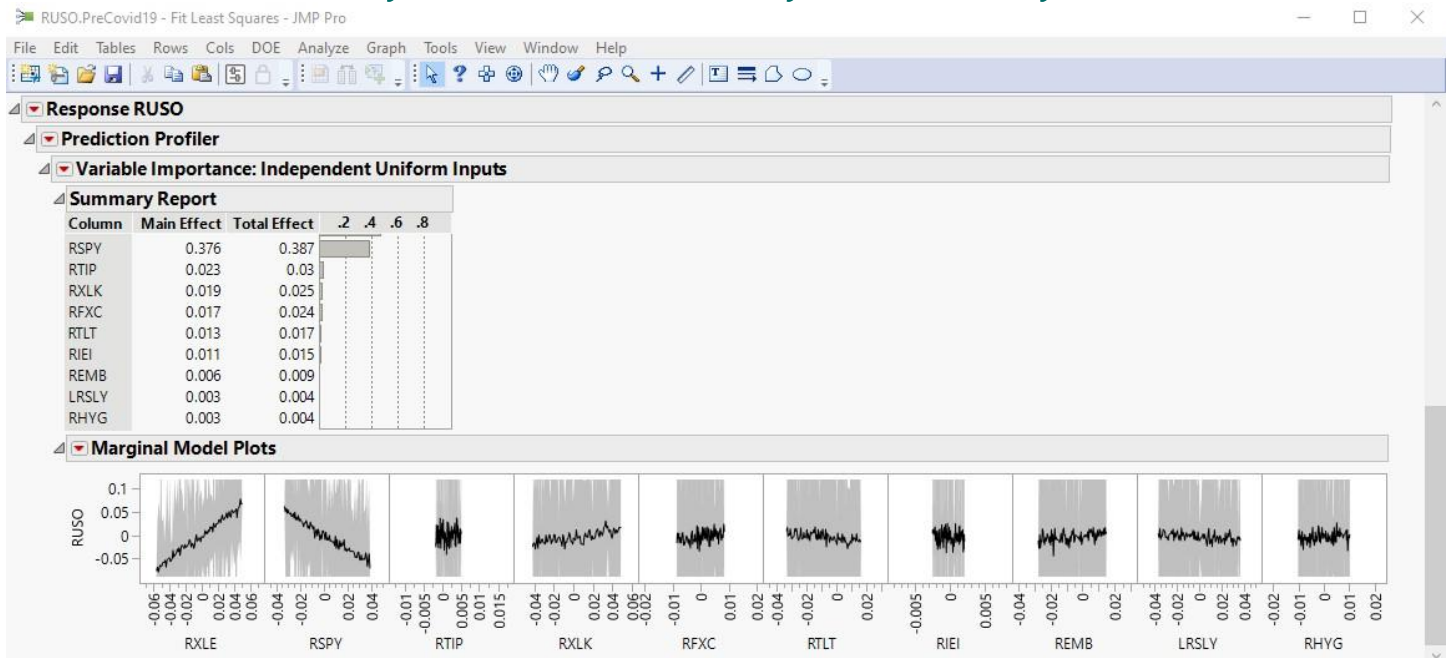
Measures of Fit for RUSO

Holdback-PreCOVID	Predictor	Creator	.2 .4 .6 .8	RSquare	RASE	AAE	Freq
0	Pred Formula RUSO PreCOVID OLS	Fit Least Squares		0.6784	0.0134	0.0107	797
0	Pred Formula RUSO PreCOVID Forward Stepwise	Fit Least Squares		0.6552	0.0139	0.0111	797
0	Pred Formula RUSO PreCOVID Backward Stepwise	Fit Least Squares		0.6784	0.0134	0.0107	797
1	Pred Formula RUSO PreCOVID OLS	Fit Least Squares		0.4246	0.0129	0.0101	266
1	Pred Formula RUSO PreCOVID Forward Stepwise	Fit Least Squares		0.4752	0.0123	0.0097	266
1	Pred Formula RUSO PreCOVID Backward Stepwise	Fit Least Squares		0.4246	0.0129	0.0101	266
2	Pred Formula RUSO PreCOVID OLS	Fit Least Squares		0.4610	0.0151	0.0116	267
2	Pred Formula RUSO PreCOVID Forward Stepwise	Fit Least Squares		0.4777	0.0148	0.0114	267
2	Pred Formula RUSO PreCOVID Backward Stepwise	Fit Least Squares		0.4610	0.0151	0.0116	267

Risk Factors for Oil Prices Before and After Covid-19



Risk Factors for Oil Prices Before and After Covid-19



Risk Factors for Oil Prices Before and After Covid-19

COVID DATA SET

Fit Model - JMP Pro

Model Specification

Select Columns

104 Columns

Enter column name

- LRTLH
- LRHYG
- LREMB
- LRTL
- LRIEI
- LRTIP
- LRLOD
- LRSHY
- LRFXE
- LRFXY
- LRFXB
- LRFXF
- LRFXA
- LRFXC
- LREPU
- LRVIX
- Holdback
- Pred For...-RUSO OLS
- Pred For...wise RUSO
- Pred For...rd Stepwise

Pick Role Variables

Y: RUSO (optional)

Weight: optional numeric

Freq: optional numeric

Validation: Holdback

By: optional

Personality: Standard Least Squares

Emphasis: Effect Screening

Help Run

Recall ☐ Keep dialog open

Remove

Construct Model Effects

Add: RBTC

Cross: RGLD

Nest: RSPY

Macros: RSLY

Degree: 2

Attributes: RXLK

Transform: RXLB

☐ No Intercept

RXLE

RXL

RXL

RXL

Risk Factors for Oil Prices Before and After Covid-19

RUSO.Covid19 - Fit Least Squares - JMP Pro

File Edit Tables Rows Cols DOE Analyze Graph Tools View Window Help

Response RUSO

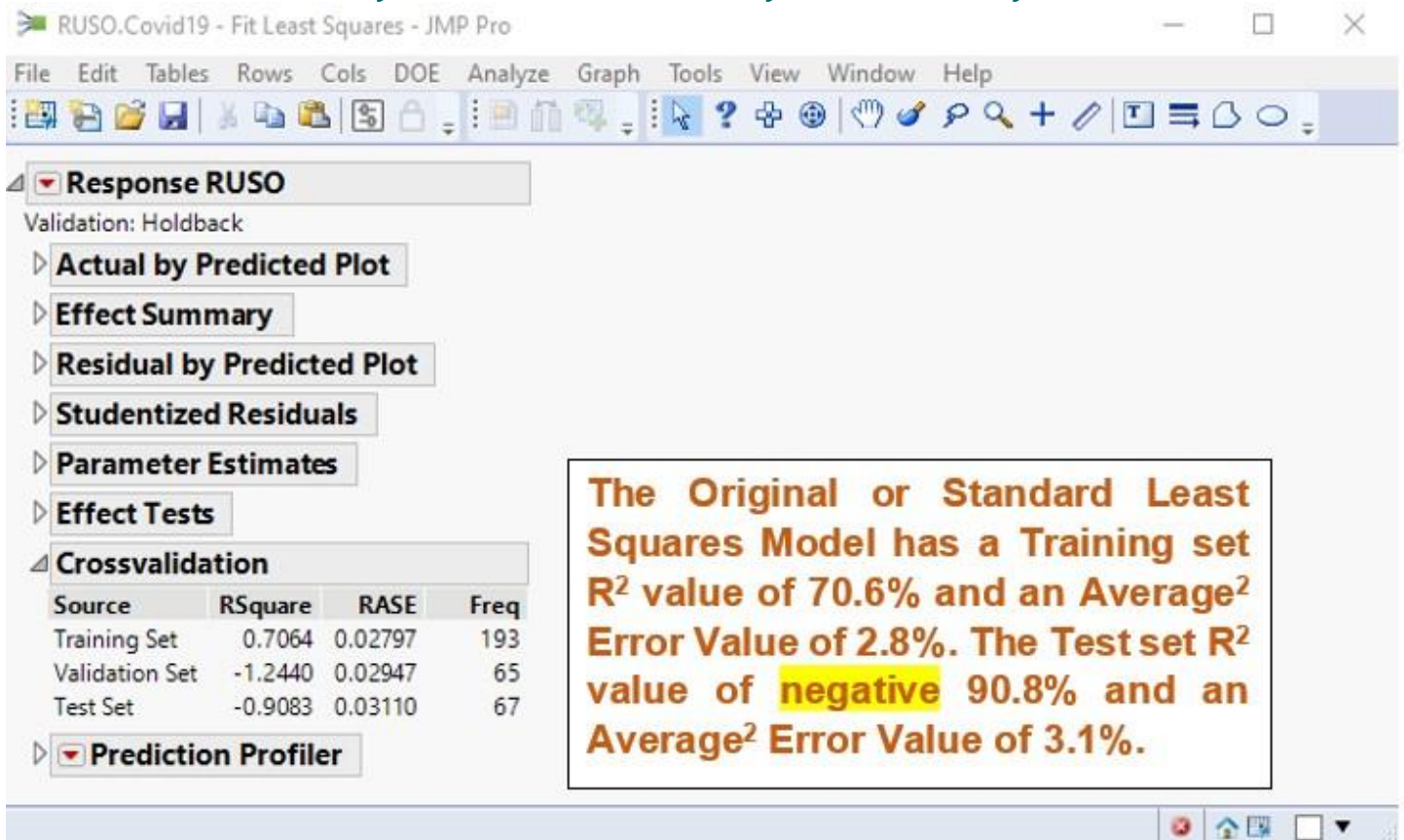
Parameter Estimates

Term	Estimate	Std Error	t Ratio	Prob> t
Intercept	-0.00248	0.003067	-0.81	0.4202
RBTC	0.0757393	0.084498	0.90	0.3718
RGLD	-0.109764	0.317534	-0.35	0.7302
RSPY	2.2799753	2.351697	0.97	0.3341
RSLY	-1.201931	0.457008	-2.63	0.0096*
RXLK	-0.589428	0.853742	-0.69	0.4912
RXLB	0.0673928	0.459402	0.15	0.8836
RXLE	0.8861222	0.218547	4.05	<.0001*
RXLF	-1.167355	0.439565	-2.66	0.0089*
RXLI	0.5766312	0.553788	1.04	0.2997
RXLP	0.7856	0.556192	1.41	0.1603
RXLU	-0.856767	0.344013	-2.49	0.0140*
RXLV	-0.443944	0.495669	-0.90	0.3721
RXLY	-0.968032	0.62909	-1.54	0.1263
RIYR	0.4517105	0.355976	1.27	0.2068
RPBW	0.3024674	0.213207	1.42	0.1584
RACWX	-1.178315	0.563889	-2.09	0.0386*
RTLH	3.3073575	2.054578	1.61	0.1099
RHYG	0.6830669	0.734613	0.93	0.3542
REMB	1.7959766	0.743741	2.41	0.0172*
RTLTL	-2.825262	1.374428	-2.06	0.0419*
RIEI	1.0326077	4.541405	0.23	0.8205
RTIP	-1.130776	1.054518	-1.07	0.2856
RLQD	0.1007124	0.682027	0.15	0.8828
RSHY	-9.059288	6.67312	-1.36	0.1770
RFXE	1.0391464	1.602711	0.65	0.5179
RFXV	-1.021872	0.940779	-1.09	0.2794
RFXB	0.9976764	0.753577	1.32	0.1879
RFXF	-0.579535	1.57767	-0.37	0.7140
RFXA	-1.339679	0.840427	-1.59	0.1134
RFXC	1.2278512	1.046271	1.17	0.2428
REPU	-0.012294	0.010901	-1.13	0.2615
RVIX	-0.0561	0.058341	-0.96	0.3381

The Original or Standard Least Squares Model picks the S&P 600 (small company) index (RSLY), the Energy Sector index (RXLE), the Financial Services Sector index (RXLF), and Lagged US oil Prices (LRUSO) as strong predictors.

It also chose the Utilities Sector index (RXLU), Market-Cap-Weighted index of int'l stocks (RACWX), Int'l (Emerging market) bonds (REMB), Long-term (20+ years) US Treasury bonds, (RTLTL), and Lagged Stock Market Volatility(LRVIX) as possible predictors.

Risk Factors for Oil Prices Before and After Covid-19



Risk Factors for Oil Prices Before and After Covid-19

Fit Model - JMP Pro

Model Specification

Select Columns

104 Columns

Enter column name

- LRTLH
- LRHYG
- LRMB
- LRTL
- LRIE
- LRTIP
- LRLQD
- LRSHY
- LRFXE
- LRFX
- LRFXB
- LRFXF
- LRFXA
- LRFXC
- LRPU
- LRVIX
- Holdback
- Pred For...-RUSO OLS
- Pred For...wise RUSO
- Pred For...rd Stepwise

Pick Role Variables

Y: RUSO
optional

Weight: *optional numeric*

Freq: *optional numeric*

Validation: Holdback

By: *optional*

Personality: Stepwise

Help Run

Recall ☐ Keep dialog open

Remove

Construct Model Effects

Add Cross Nest Macros

Degree: 2

Attributes: ☐

Transform: ☐

☐ No Intercept

- RBTC
- RGLD
- RSPY
- RSLY
- RXLK
- RXLB
- RXLE
- RXLF
- RXLI
- RXLP

Risk Factors for Oil Prices Before and After Covid-19

RUSO.Covid19 - Fit Stepwise - JMP Pro

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Stepwise Fit for RUSO

Stepwise Regression Control

Stopping Rule: Max Validation RSquare

Direction: Forward

134 rows not used due to excluded rows or missing values.

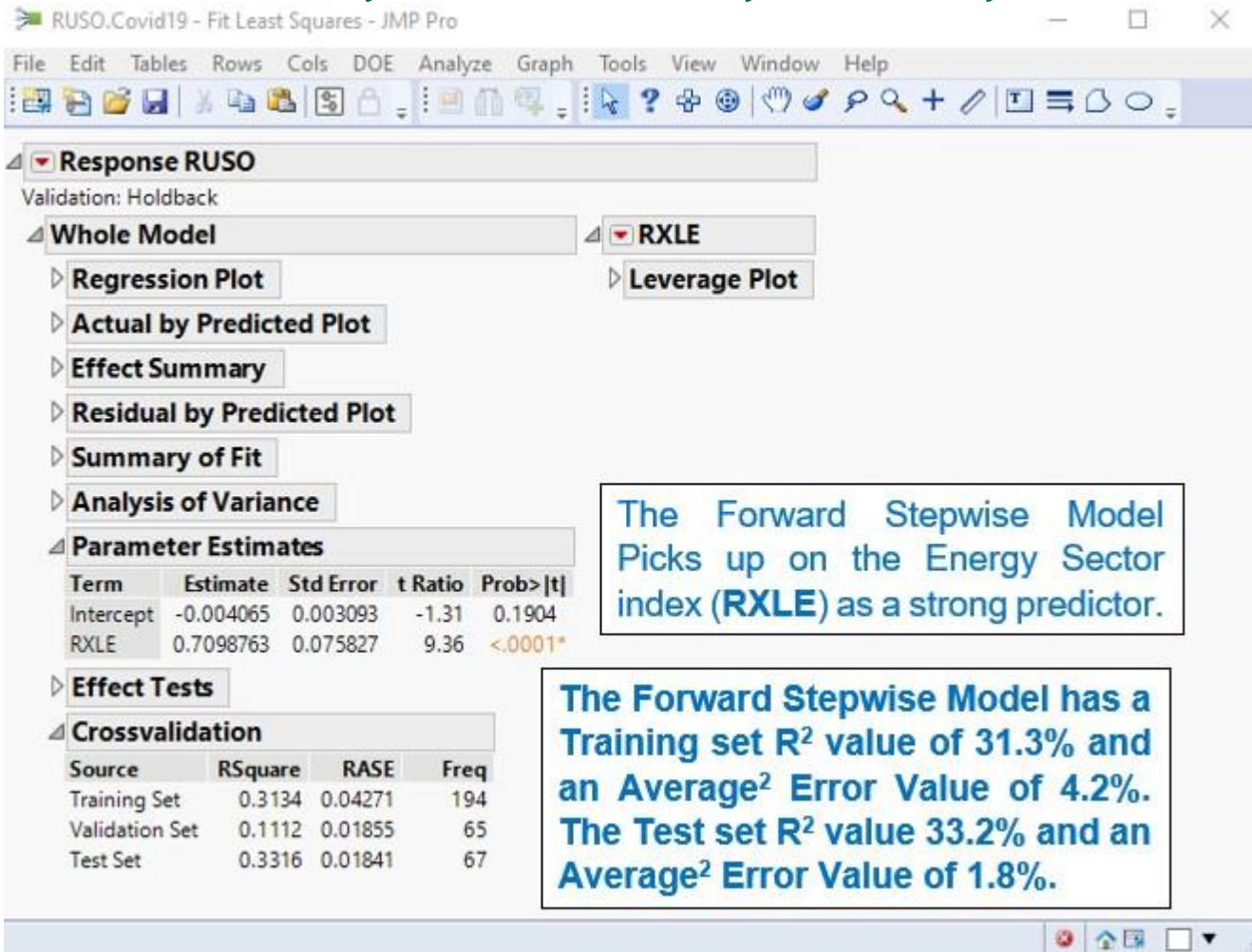
SSE	DFE	RMSE	RSquare	RSquare Adj	Cp	p	AICc	BIC	RSquare Validation	RASE Validation	RSquare Test	RASE Test
0.3526443	191	0.0429687	0.3141	0.3105	107.72094	2	-663.025	-653.364	0.1078	0.018582	0.3275	0.018464

Current Estimates

Lock	Entered	Parameter	Estimate	nDF	SS	"F Ratio"	"Prob>F"
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Intercept	-0.0042445	1	0	0.000	1
<input type="checkbox"/>	<input type="checkbox"/>	RBTC	0	1	0.000334	0.180	0.67171
<input type="checkbox"/>	<input type="checkbox"/>	RGLD	0	1	0.000255	0.138	0.71117
<input type="checkbox"/>	<input type="checkbox"/>	RSPY	0	1	0.000385	0.208	0.64897
<input type="checkbox"/>	<input type="checkbox"/>	RSLY	0	1	0.00678	3.724	0.05511
<input type="checkbox"/>	<input type="checkbox"/>	RXLK	0	1	0.000385	0.207	0.64933
<input type="checkbox"/>	<input type="checkbox"/>	RXLB	0	1	0.007972	4.394	0.03738
<input type="checkbox"/>	<input checked="" type="checkbox"/>	RXLE	0.70982958	1	0.161503	87.474	2.3e-17
<input type="checkbox"/>	<input type="checkbox"/>	RXLF	0	1	0.009545	5.286	0.02259
<input type="checkbox"/>	<input type="checkbox"/>	RXLI	0	1	0.007039	3.870	0.05062

The Forward Stepwise Model Picks up on the Energy Sector index (RXLE) as a strong predictor.

Risk Factors for Oil Prices Before and After Covid-19



Risk Factors for Oil Prices Before and After Covid-19

RUSO.Covid19 - Fit Stepwise - JMP Pro

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Stepwise Fit for RUSO

Stepwise Regression Control

Stopping Rule: Max Validation RSquare

Direction: Backward

134 rows not used due to excluded rows or missing values.

SSE	DFE	RMSE	RSquare	RSquare Adj	Cp	p	AICc	BIC	RSquare Validation	RASE Validation	RSquare Test	RASE Test
0.1509359	127	0.0344742	0.7064	0.5562	66	66	-626.037	-480.332	-1.244	0.02947	-0.908	0.031103

Current Estimates

Lock	Entered	Parameter	Estimate	nDF	SS	"F Ratio"	"Prob>F"
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Intercept	-0.0024804	1	0	0.000	1
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	RBTC	0.07573931	1	0.000955	0.803	0.37177
<input type="checkbox"/>	<input checked="" type="checkbox"/>	RGLD	-0.1097642	1	0.000142	0.119	0.73016
<input type="checkbox"/>	<input checked="" type="checkbox"/>	RSPY	2.27997535	1	0.001117	0.940	0.33414
<input type="checkbox"/>	<input checked="" type="checkbox"/>	RSLY	-1.2019307	1	0.008221	6.917	0.00959
<input type="checkbox"/>	<input checked="" type="checkbox"/>	RXLK	-0.5894275	1	0.000566	0.477	0.4912
<input type="checkbox"/>	<input checked="" type="checkbox"/>	RXLB	0.06739278	1	2.558e-5	0.022	0.8836
<input type="checkbox"/>	<input checked="" type="checkbox"/>	RXLE	0.88612221	1	0.019538	16.440	8.7e-5
<input type="checkbox"/>	<input checked="" type="checkbox"/>	RXLF	-1.1673553	1	0.008382	7.053	0.00893
<input type="checkbox"/>	<input checked="" type="checkbox"/>	RXLI	0.57663124	1	0.001289	1.084	0.29974
<input type="checkbox"/>	<input checked="" type="checkbox"/>	RXLP	0.78560004	1	0.002371	1.995	0.16026
<input type="checkbox"/>	<input checked="" type="checkbox"/>	RXLU	-0.8567667	1	0.007372	6.203	0.01405
<input type="checkbox"/>	<input checked="" type="checkbox"/>	RXLV	-0.4439437	1	0.000953	0.802	0.37214
<input type="checkbox"/>	<input checked="" type="checkbox"/>	RXLY	-0.9680319	1	0.002814	2.368	0.12635
<input type="checkbox"/>	<input checked="" type="checkbox"/>	RIYR	0.4517105	1	0.001914	1.610	0.20678
<input type="checkbox"/>	<input checked="" type="checkbox"/>	RPBW	0.30246744	1	0.002392	2.013	0.15845
<input type="checkbox"/>	<input checked="" type="checkbox"/>	RACWX	-1.1783153	1	0.005189	4.367	0.03865
<input type="checkbox"/>	<input checked="" type="checkbox"/>	RTLH	3.30735752	1	0.00308	2.591	0.10994
<input type="checkbox"/>	<input checked="" type="checkbox"/>	RHYG	0.68306692	1	0.001028	0.865	0.35422
<input type="checkbox"/>	<input checked="" type="checkbox"/>	RFMR	1.70507650	1	0.00602	5.821	0.01717

The Backward Stepwise Model picks all the variables as possible predictors.

Risk Factors for Oil Prices Before and After Covid-19

RUSO.Covid19 - Fit Least Squares - JMP Pro

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Response RUSO

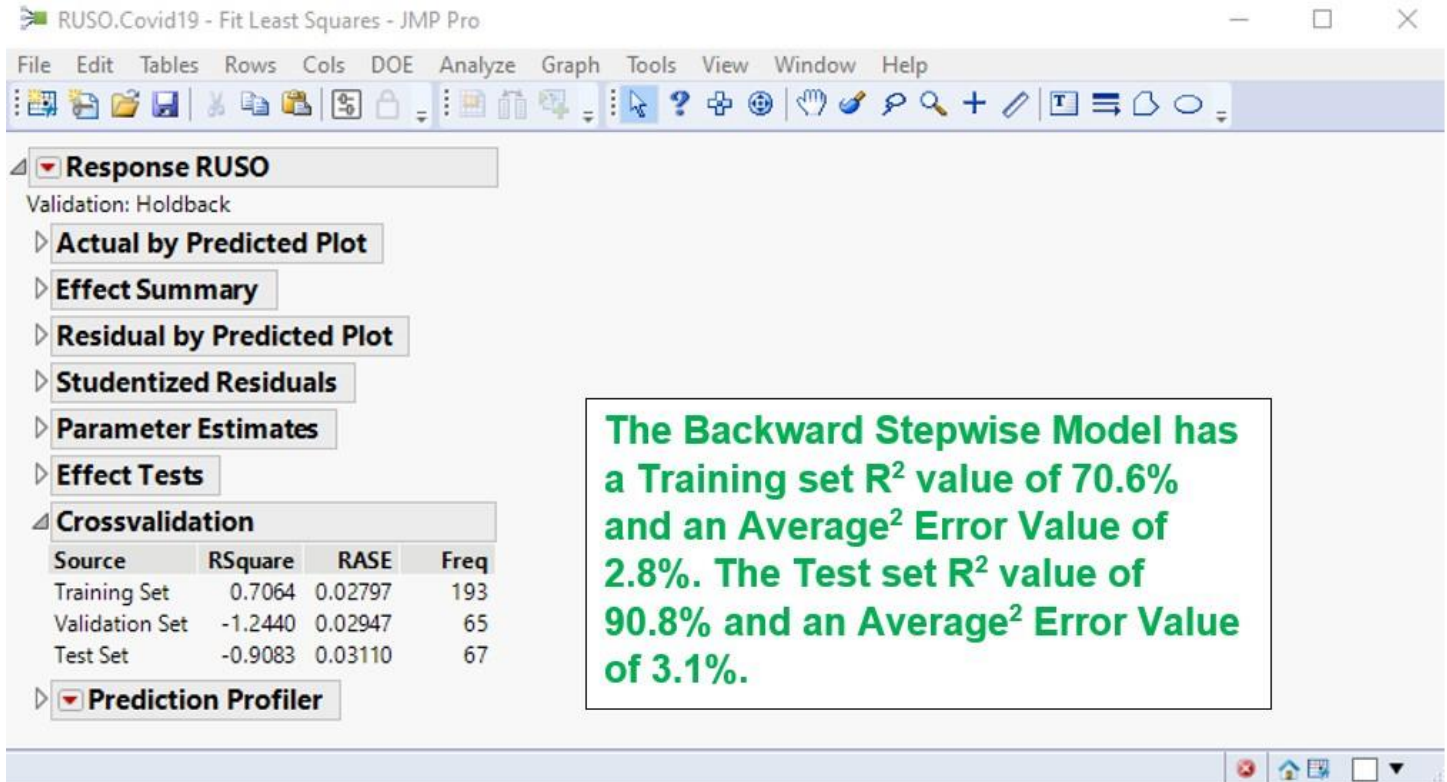
Parameter Estimates

Term	Estimate	Std Error	t Ratio	Prob> t
Intercept	-0.00248	0.003067	-0.81	0.4202
RBTC	0.0757393	0.084498	0.90	0.3718
RGLD	-0.109764	0.317534	-0.35	0.7302
RSPY	2.2799753	2.351697	0.97	0.3341
RSLY	-1.201931	0.457008	-2.63	0.0096*
RXLK	-0.589428	0.853742	-0.69	0.4912
RXLB	0.0673928	0.459402	0.15	0.8836
RXLE	0.8861222	0.218547	4.05	<.0001*
RXLF	-1.167355	0.439565	-2.66	0.0089*
RXLI	0.5766312	0.553788	1.04	0.2997
RXLP	0.7856	0.556192	1.41	0.1603
RXLU	-0.856767	0.344013	-2.49	0.0140*
RXLV	-0.443944	0.495669	-0.90	0.3721
RXLY	-0.968032	0.62909	-1.54	0.1263
RIYR	0.4517105	0.355976	1.27	0.2068
RPBW	0.3024674	0.213207	1.42	0.1584
RACWX	-1.178315	0.563889	-2.09	0.0386*
RTLH	3.3073575	2.054578	1.61	0.1099
RHYG	0.6830669	0.734613	0.93	0.3542
REMB	1.7959766	0.743741	2.41	0.0172*
RTLTL	-2.825262	1.374428	-2.06	0.0419*
RIEI	1.0326077	4.541405	0.23	0.8205
RTIP	-1.130776	1.054518	-1.07	0.2856
RLQD	0.1007124	0.682027	0.15	0.8828
RSHY	-9.059288	6.67312	-1.36	0.1770
RFXE	1.0391464	1.602711	0.65	0.5179
RFXV	-1.021872	0.940779	-1.09	0.2794
RFXB	0.9976764	0.753577	1.32	0.1879
RFXF	-0.579535	1.57767	-0.37	0.7140
RFXA	-1.339679	0.840427	-1.59	0.1134
RFXC	1.2278512	1.046271	1.17	0.2428
REPU	-0.012294	0.010901	-1.13	0.2615
RVIX	-0.0561	0.058341	-0.96	0.3381

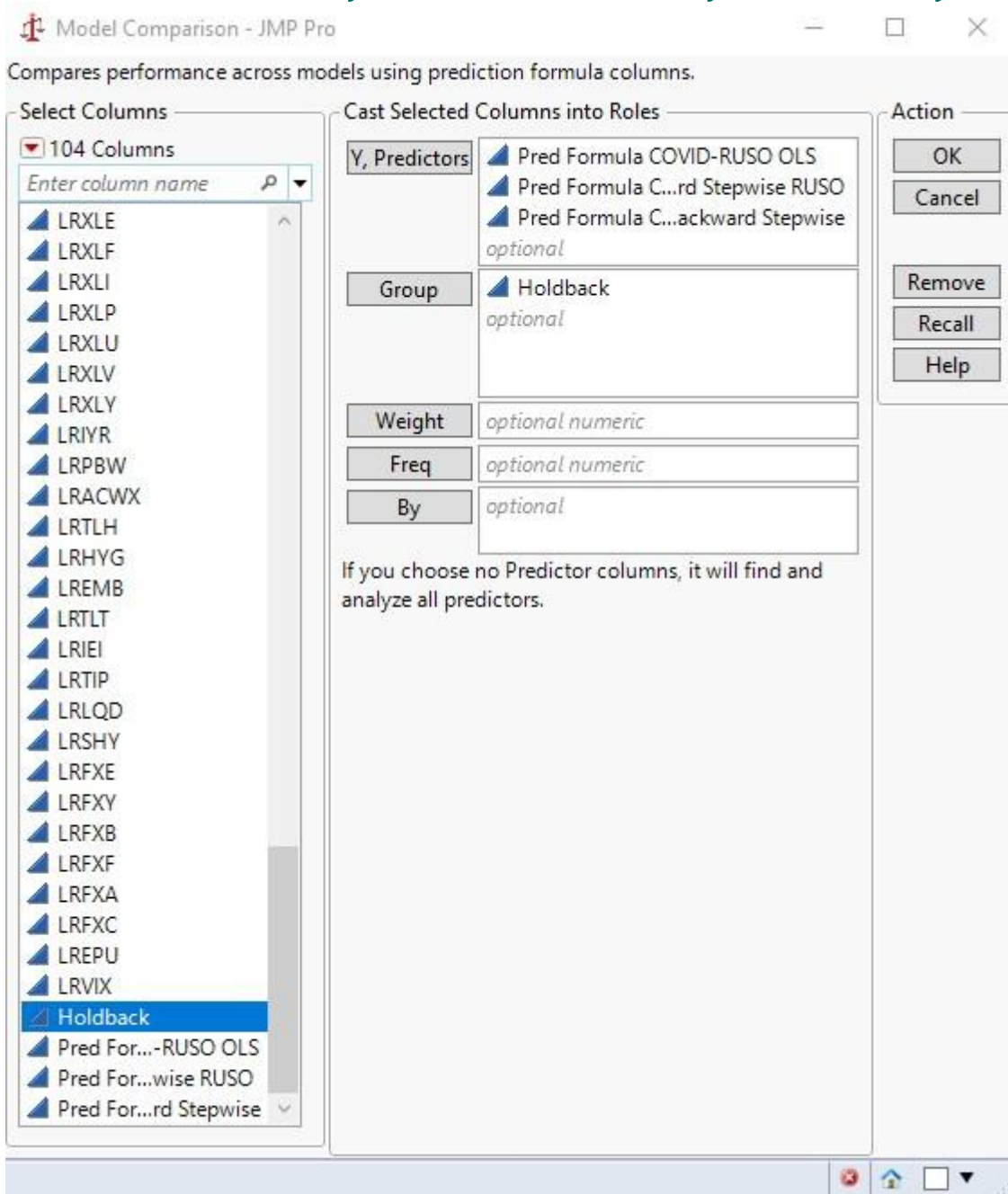
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It also chose the Utilities Sector index (RXLU), Market-Cap-Weighted index of int'l stocks (RACWX), Int'l (Emerging market) bonds (REMB), Long-term (20+ years) US Treasury bonds, (RTLTL), and Lagged Stock Market Volatility(LRVIX) as possible predictors.

Risk Factors for Oil Prices Before and After Covid-19



Risk Factors for Oil Prices Before and After Covid-19



Risk Factors for Oil Prices Before and After Covid-19

RUSO,Covid19 - Model Comparison - JMP Pro

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Model Comparison

Predictors

Measures of Fit for RUSO

Holdback	Predictor	Creator	.2 .4 .6 .8	RSquare	RASE	AAE	Freq
0	Pred Formula COVID-RUSO OLS	Fit Least Squares		0.7064	0.0280	0.0201	193
0	Pred Formula COVID-RUSO Forward Stepwise RUSO	Fit Least Squares		0.3134	0.0427	0.0259	194
0	Pred Formula COVID-RUSO Backward Stepwise	Fit Least Squares		-0.000	0.0515	0.0312	194
1	Pred Formula COVID-RUSO OLS	Fit Least Squares		-1.244	0.0295	0.0242	65
1	Pred Formula COVID-RUSO Forward Stepwise RUSO	Fit Least Squares		0.1112	0.0185	0.0148	65
1	Pred Formula COVID-RUSO Backward Stepwise	Fit Least Squares		-0.231	0.0218	0.0172	65
2	Pred Formula COVID-RUSO OLS	Fit Least Squares		-0.908	0.0311	0.0240	67
2	Pred Formula COVID-RUSO Forward Stepwise RUSO	Fit Least Squares		0.3316	0.0184	0.0150	67
2	Pred Formula COVID-RUSO Backward Stepwise	Fit Least Squares		-0.168	0.0243	0.0187	67

Risk Factors for Oil Prices Before and After Covid-19

