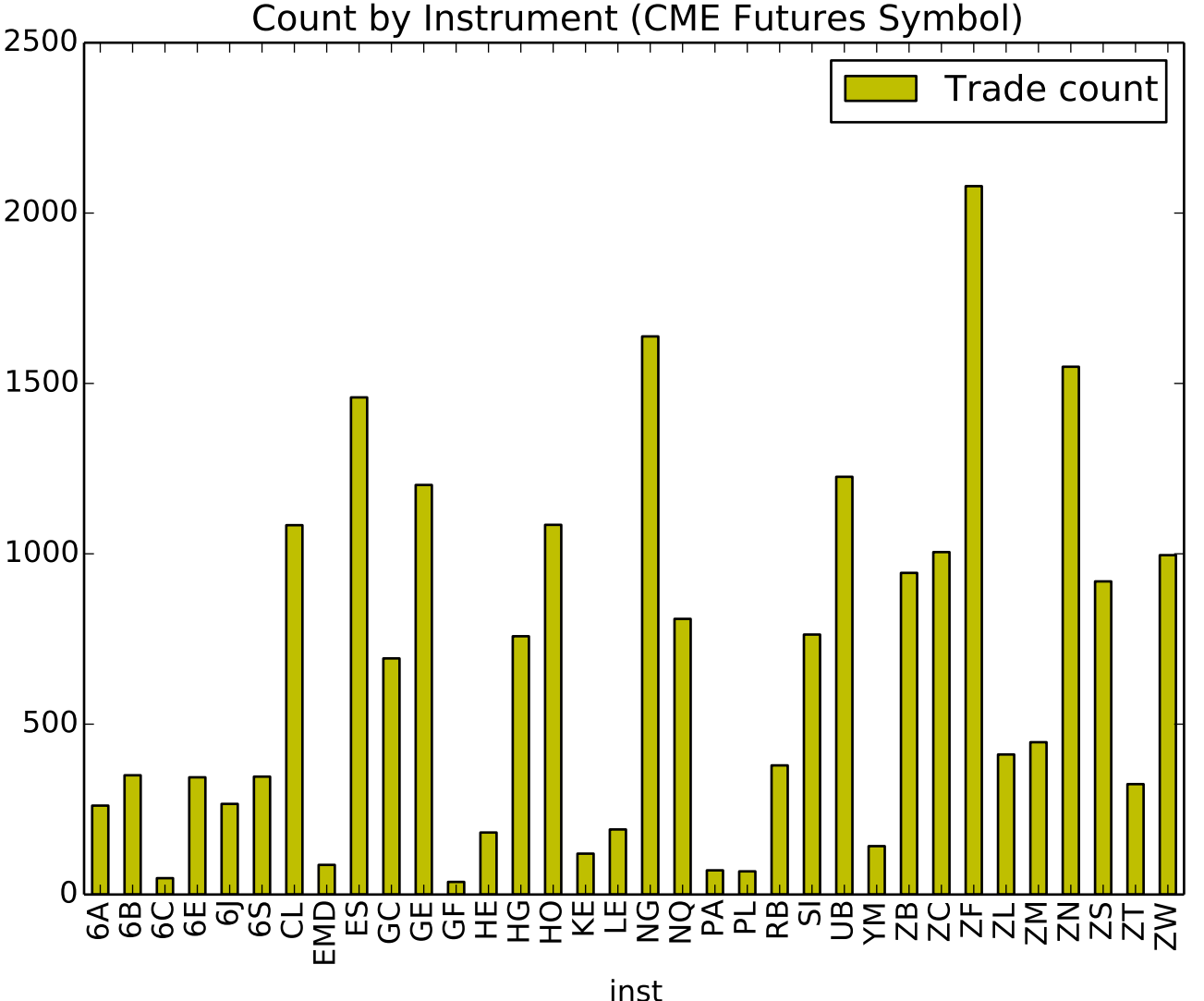
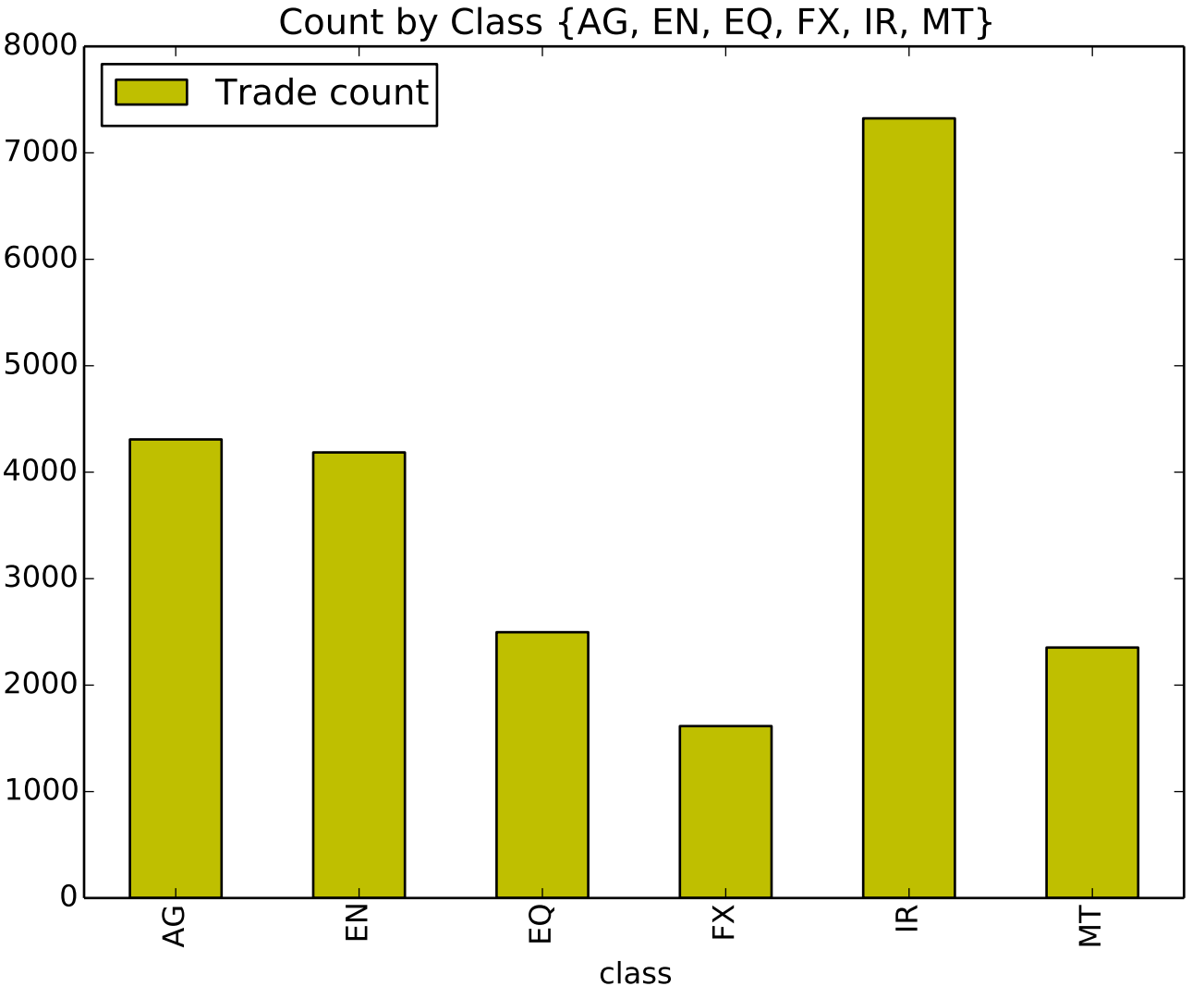
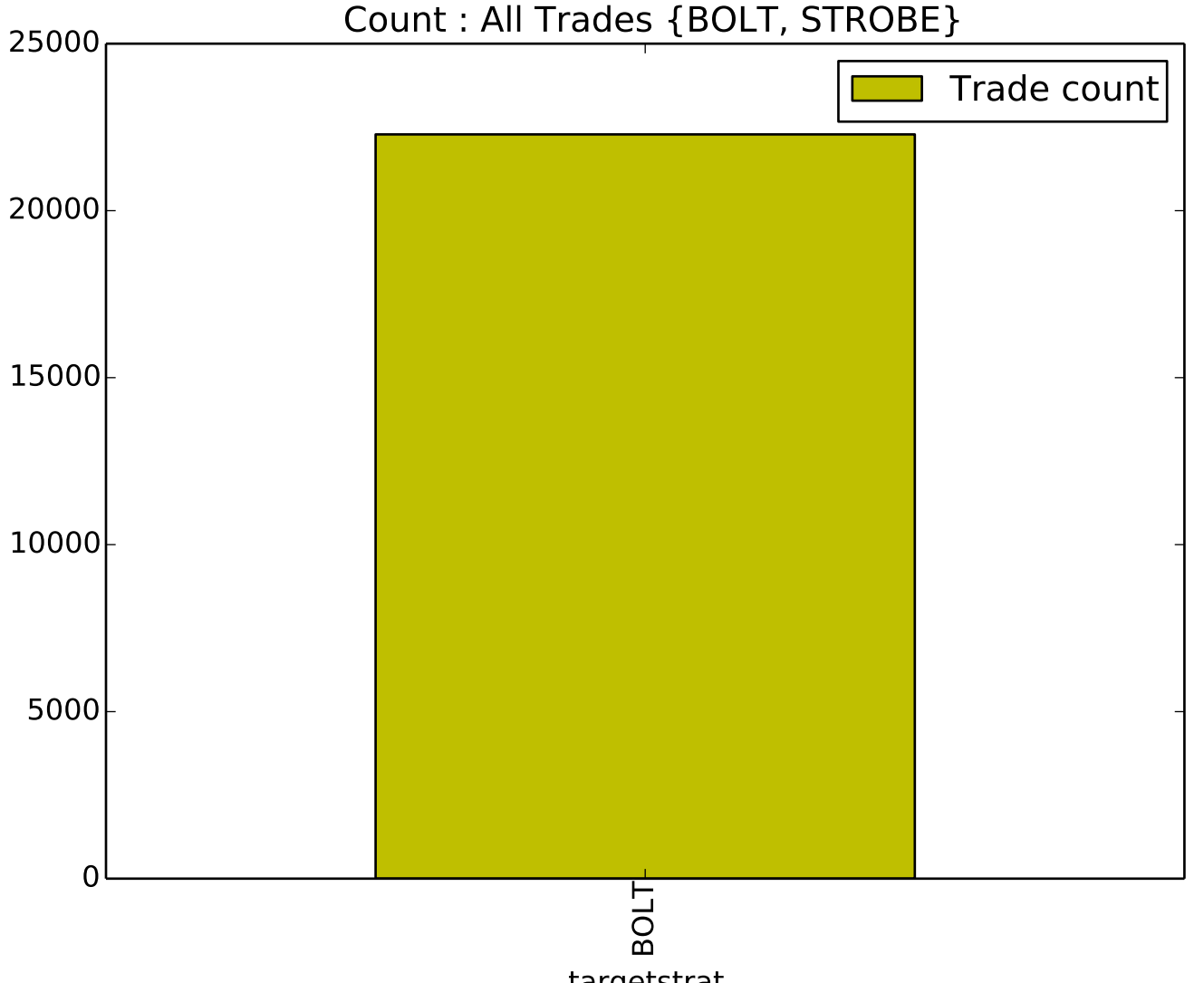
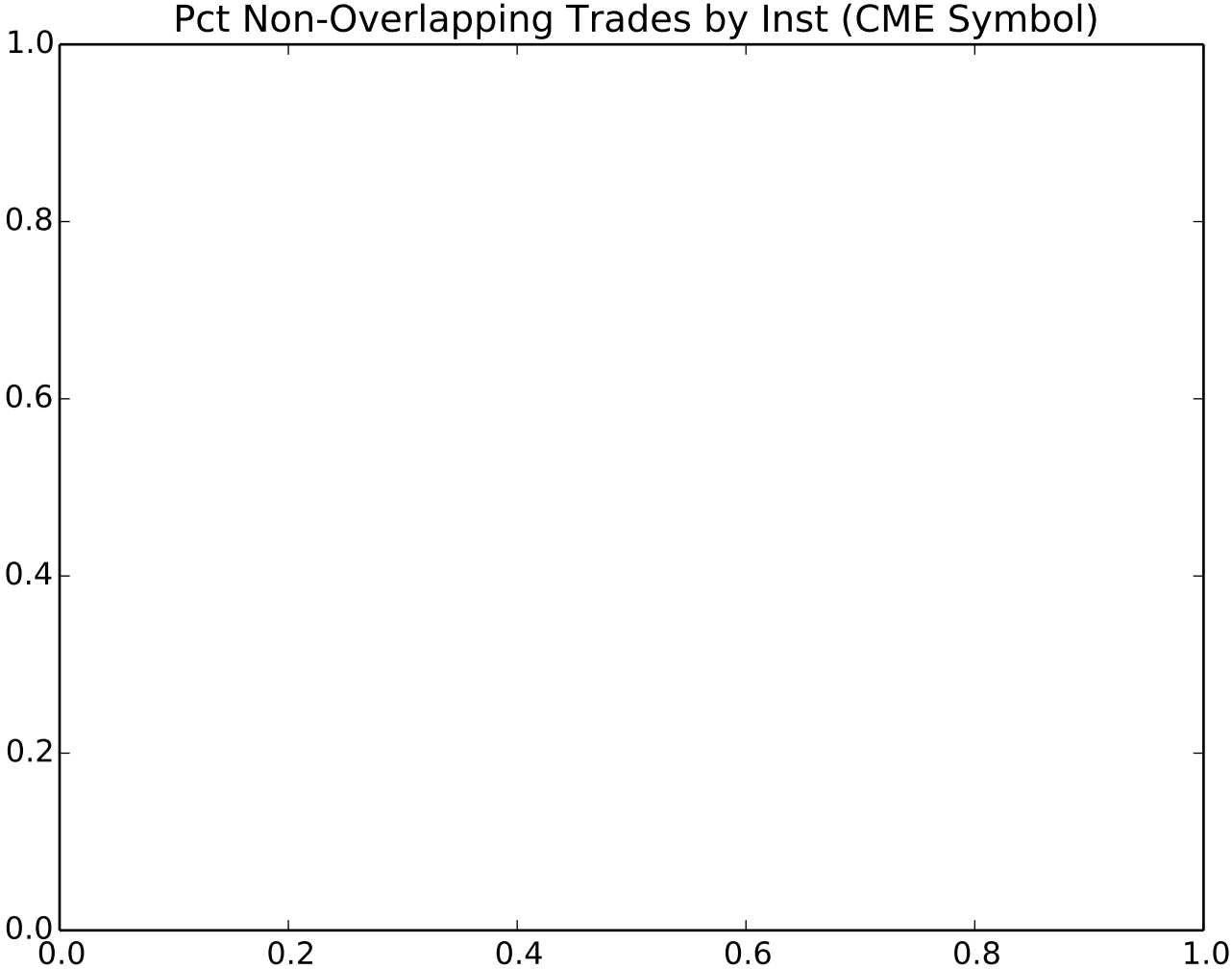
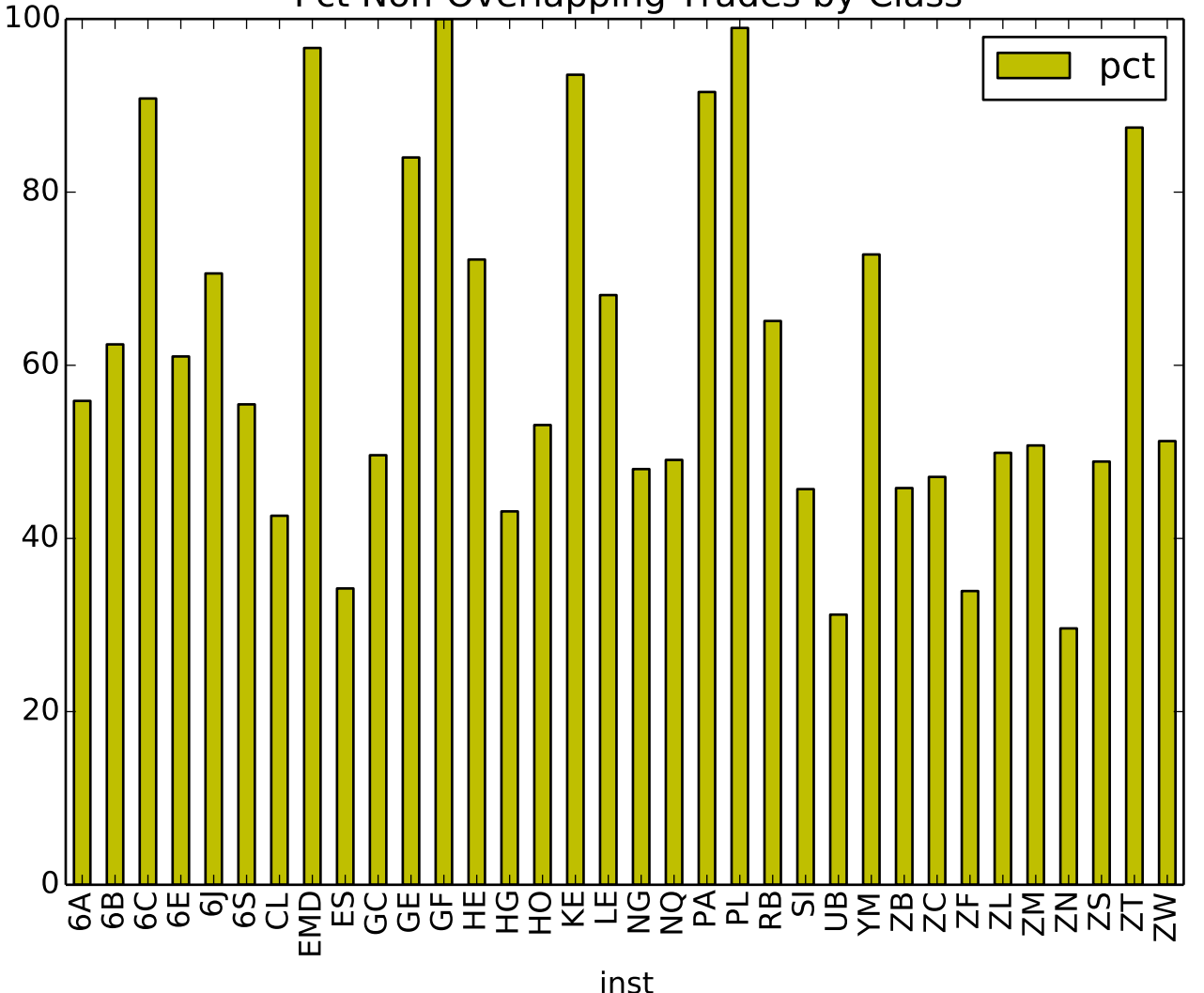
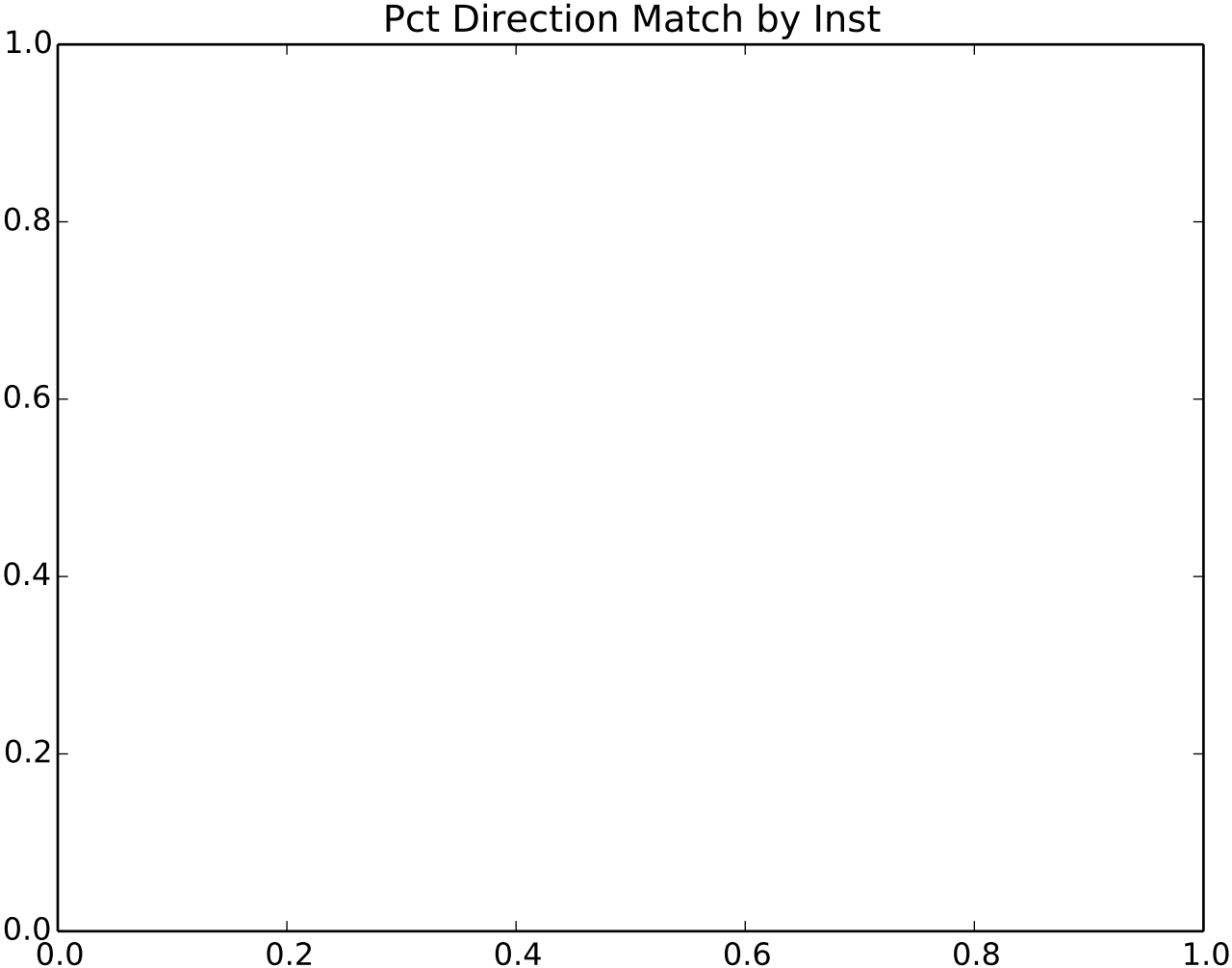

Count by Instrument (CME Futures Symbol)
Trade count
2500
2000
1500
1000
500
0
6A
6B
6C
6E
6J
6S
CL
EMD
ES
GC
GE
GF
HE
HG
HO
KE
LE
NG
NQ
PA
PL
RB
SI
UB
YM
ZB
ZC
ZF
ZL
ZM
ZN
ZS
ZT
ZW
inst

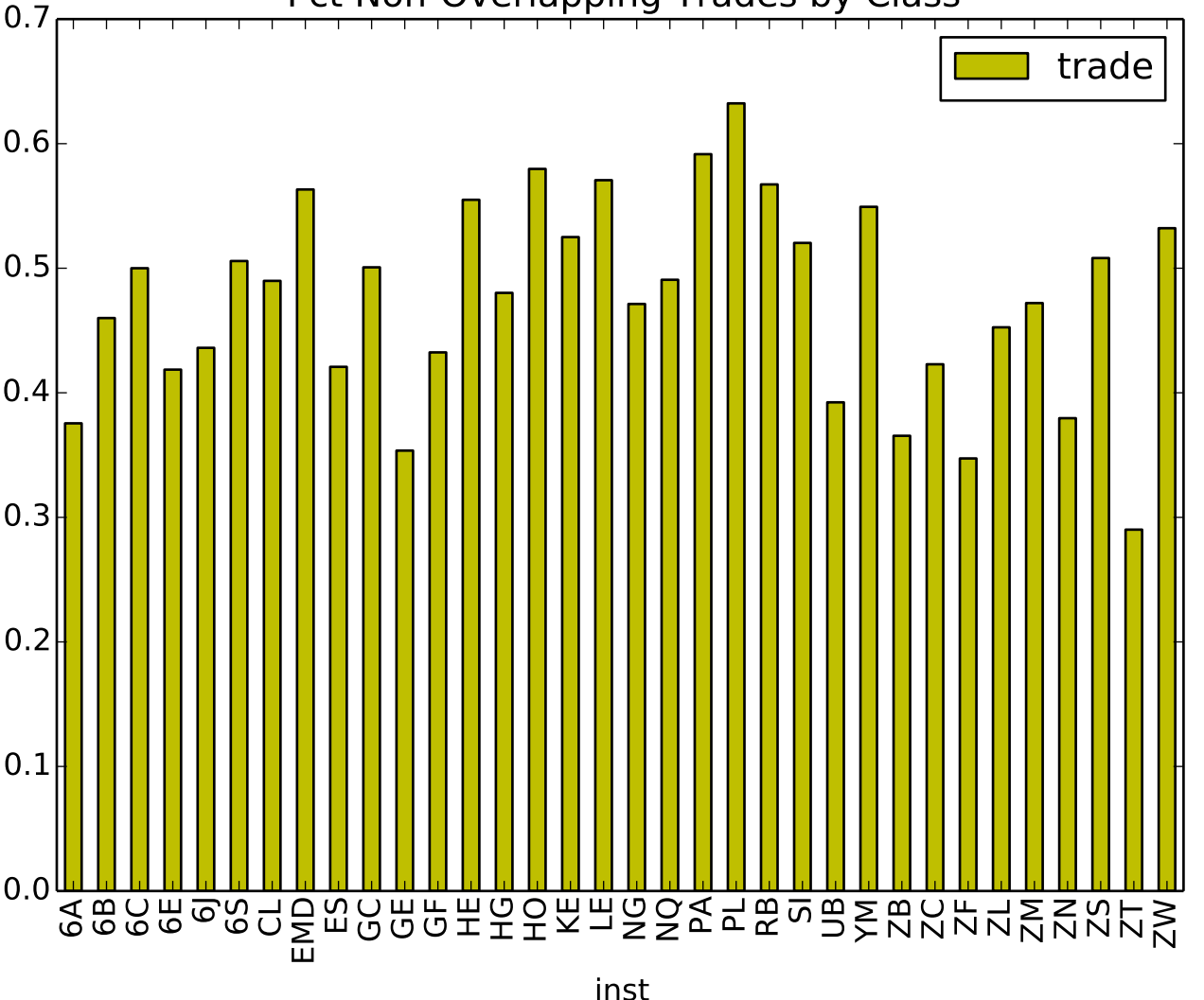

Count by Class {AG, EN, EQ, FX, IR, MT}
Trade count
8000
7000
6000
5000
4000
3000
2000
1000
0
AG
EN
EQ
FX
IR
MT
class

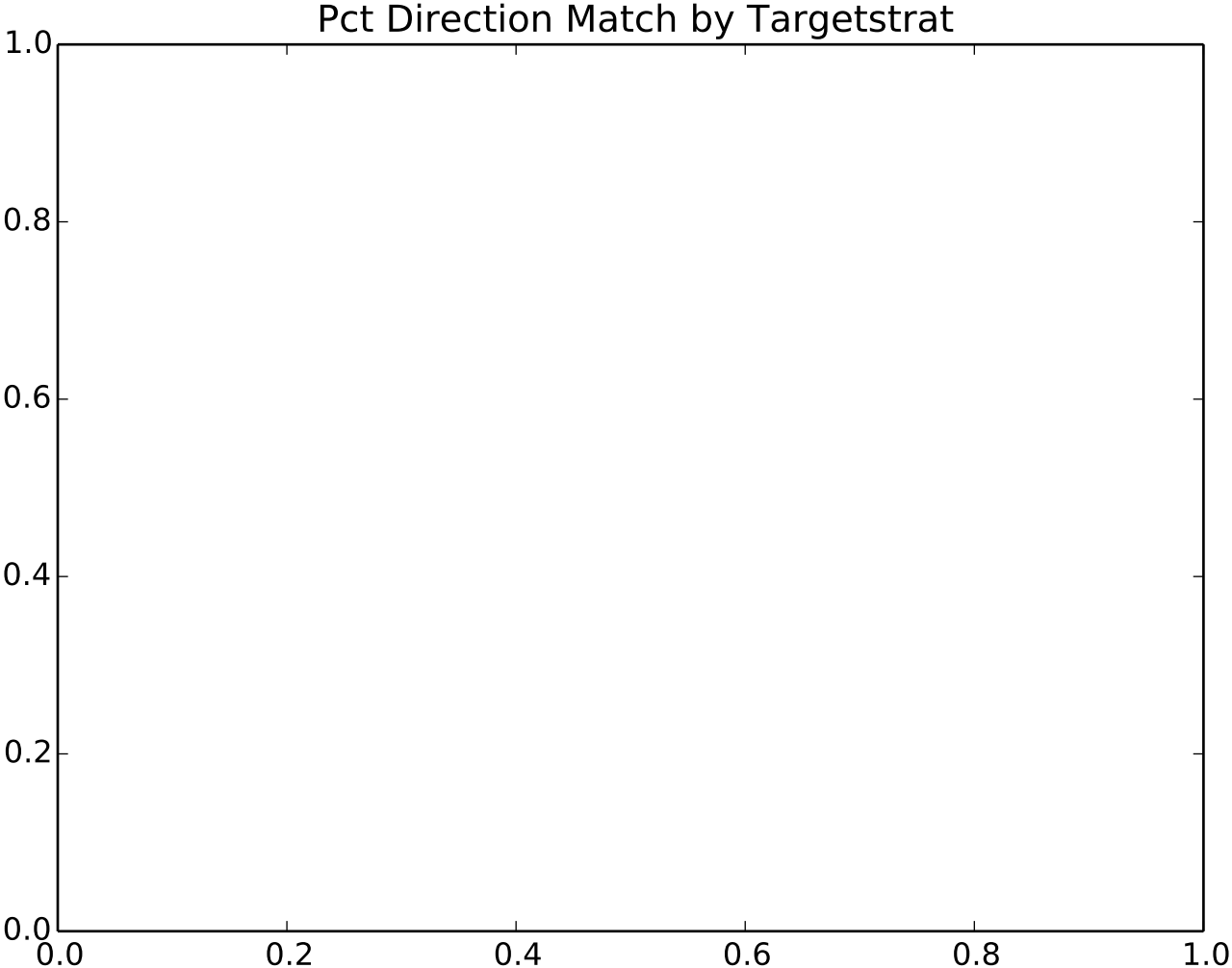

Count : All Trades {BOLT, STROBE}
Trade count
25000
20000
15000
10000
5000
0
BOLT
targetstrat

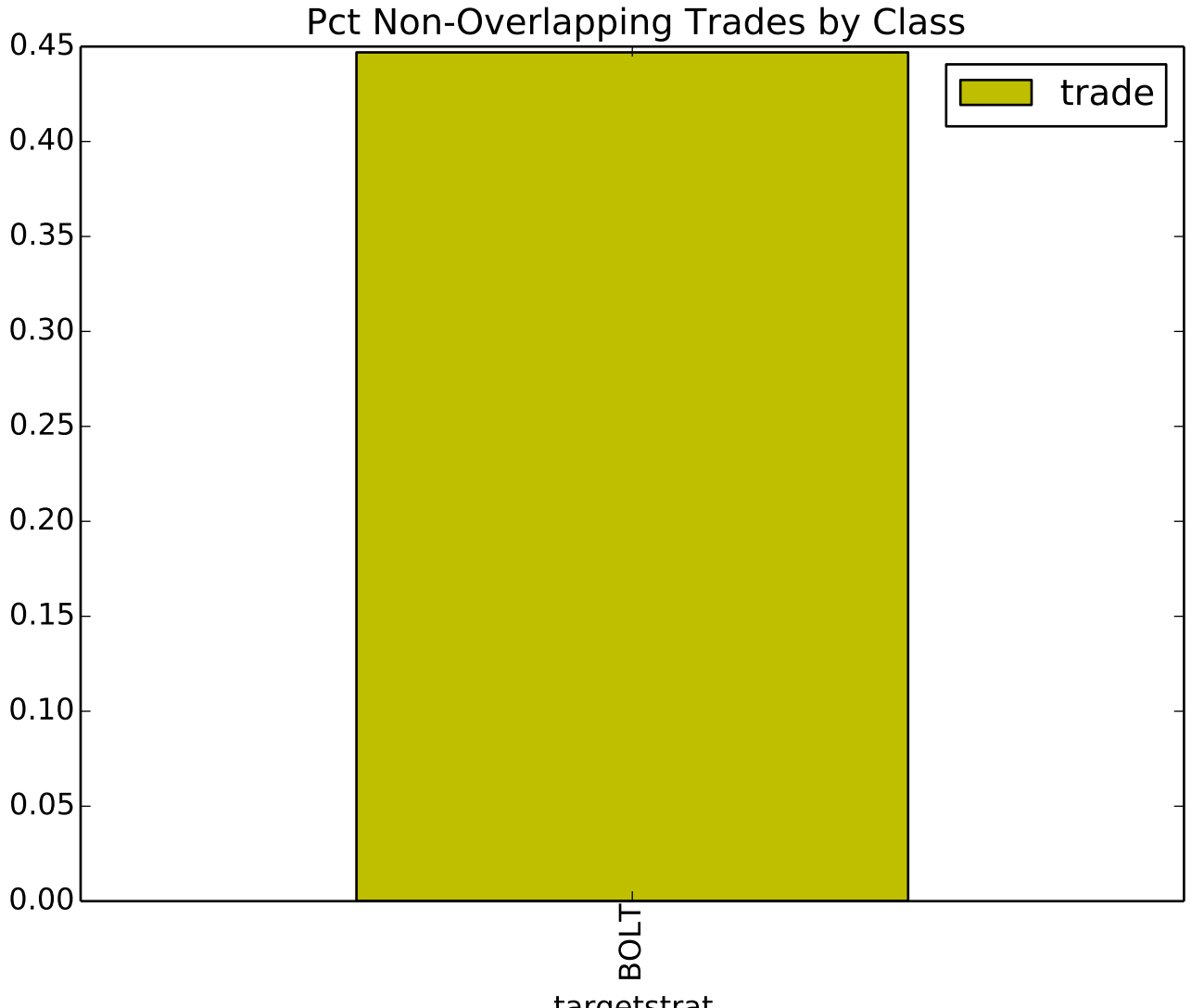

Pct Non-Overlapping Trades by Inst (CME Symbol)
1.0
0.8
0.6
0.4
0.2
0.0
0.0
0.2
0.4
0.6
0.8
1.0

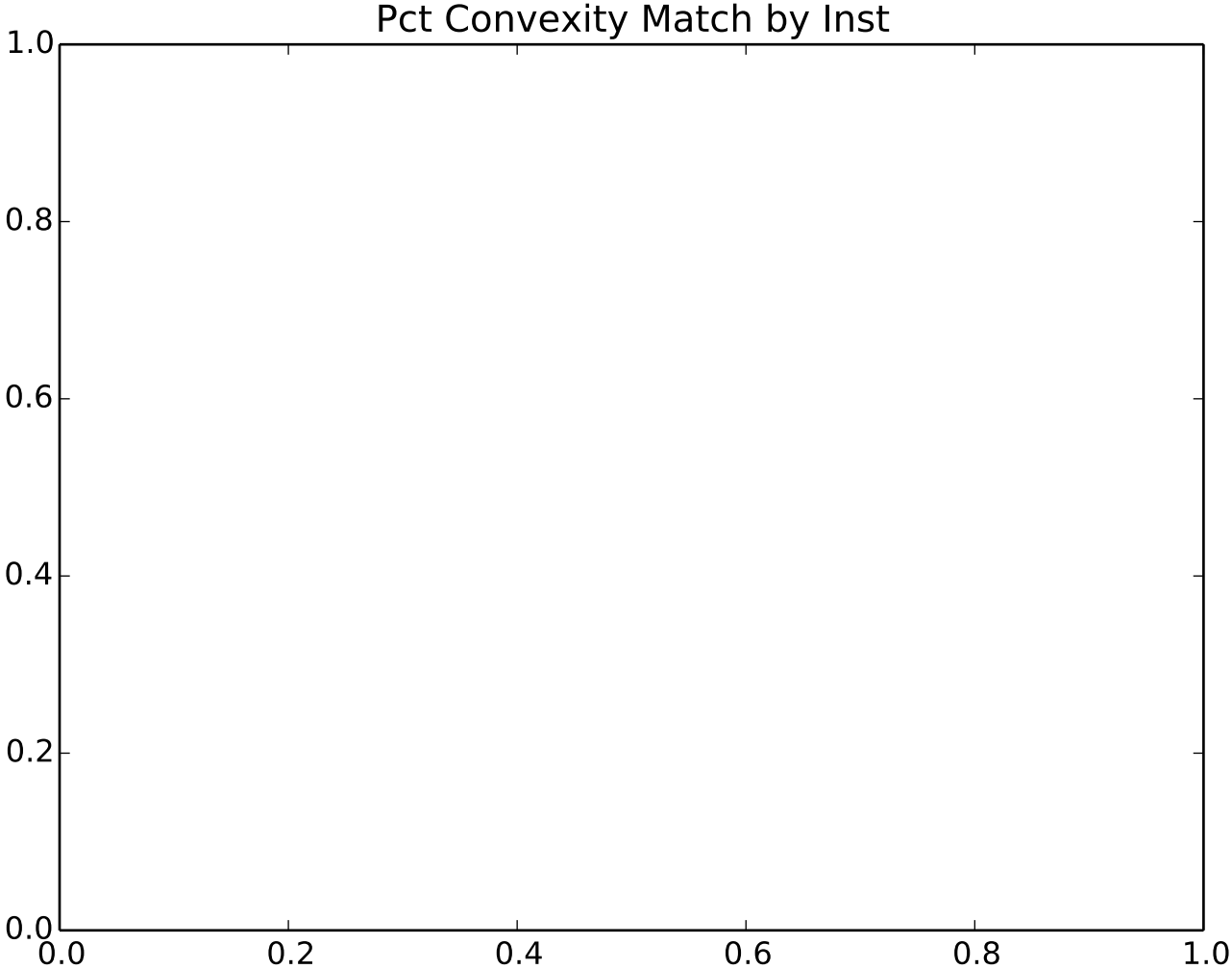

Pct Non-Overlapping Trades by Class
pct
100
80
60
40
20
0
6A
6B
6C
6E
6J
6S
CL
EMD
ES
GC
GE
GF
HE
HG
HO
KE
LE
NG
NQ
PA
PL
RB
SI
UB
YM
ZB
ZC
ZF
ZL
ZM
ZN
ZS
ZT
ZW
inst

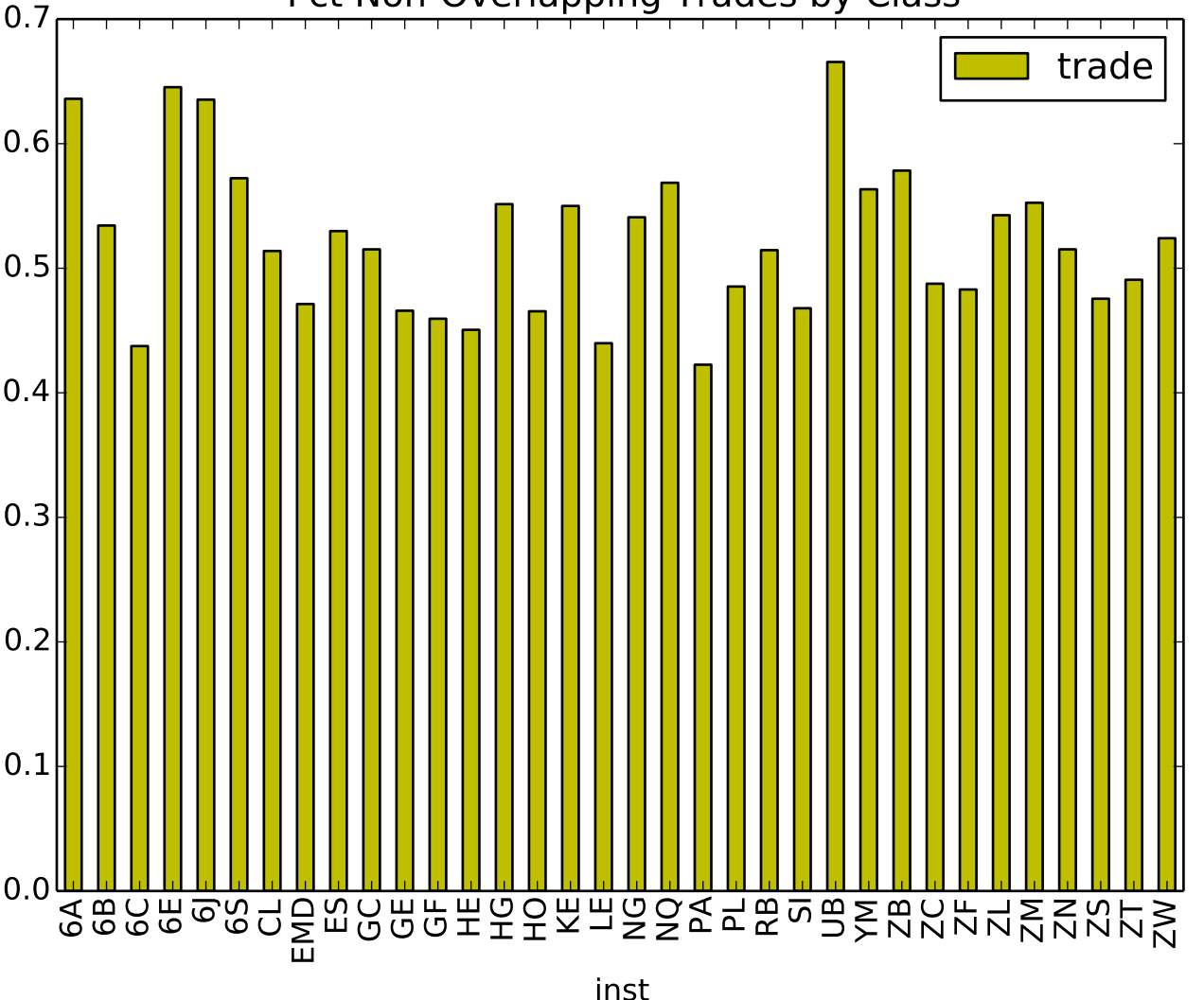

Pct Direction Match by Inst
1.0
0.8
0.6
0.4
0.2
0.0
0.0
0.2
0.4
0.6
0.8
1.0

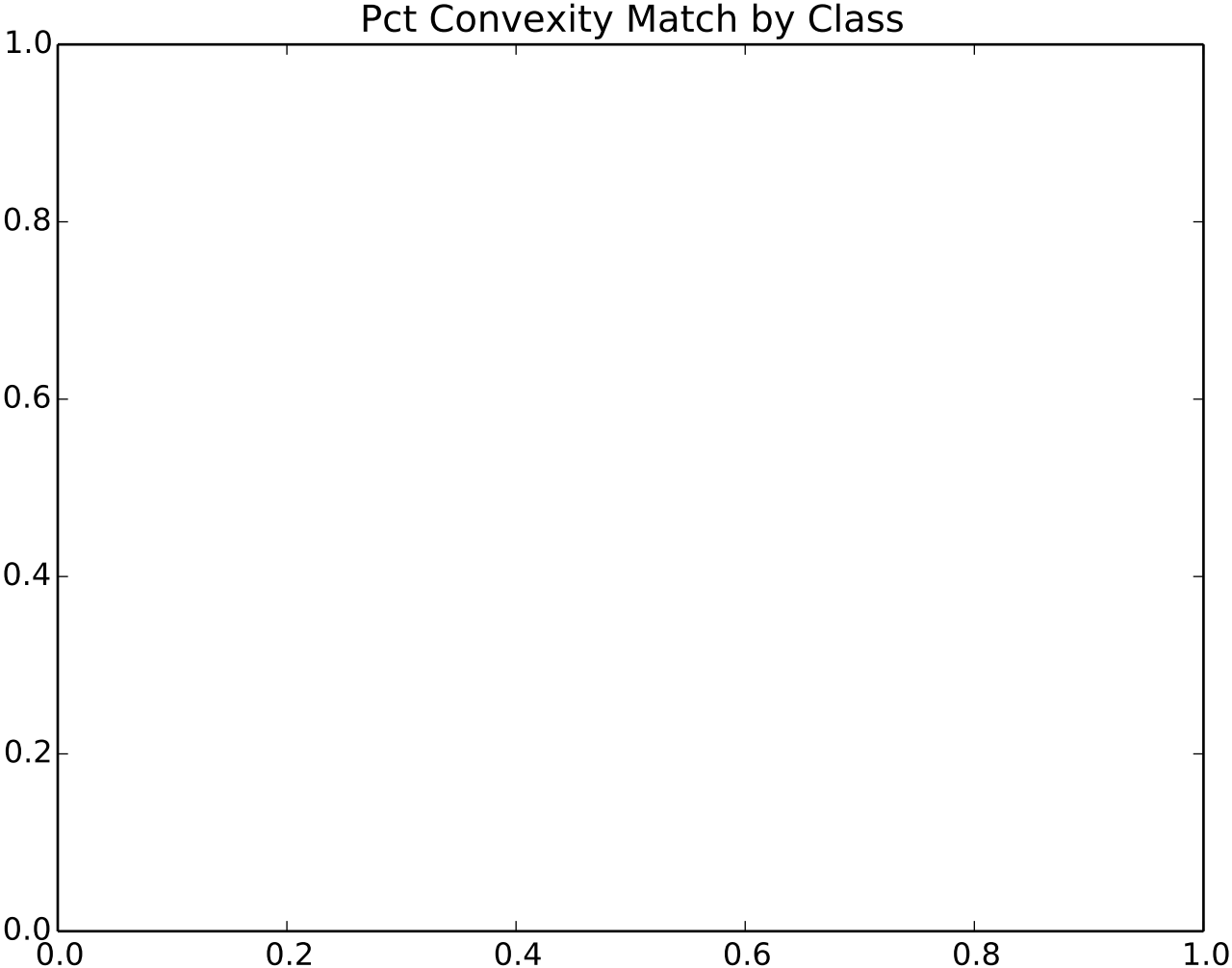

Pct Non-Overlapping Trades by Class
trade
0.7
0.6
0.5
0.4
0.3
0.2
0.1
0.0
6A
6B
6C
6E
6J
6S
CL
EMD
ES
GC
GE
GF
HE
HG
HO
KE
LE
NG
NQ
PA
PL
RB
SI
UB
YM
ZB
ZC
ZF
ZL
ZM
ZN
ZS
ZT
ZW
inst

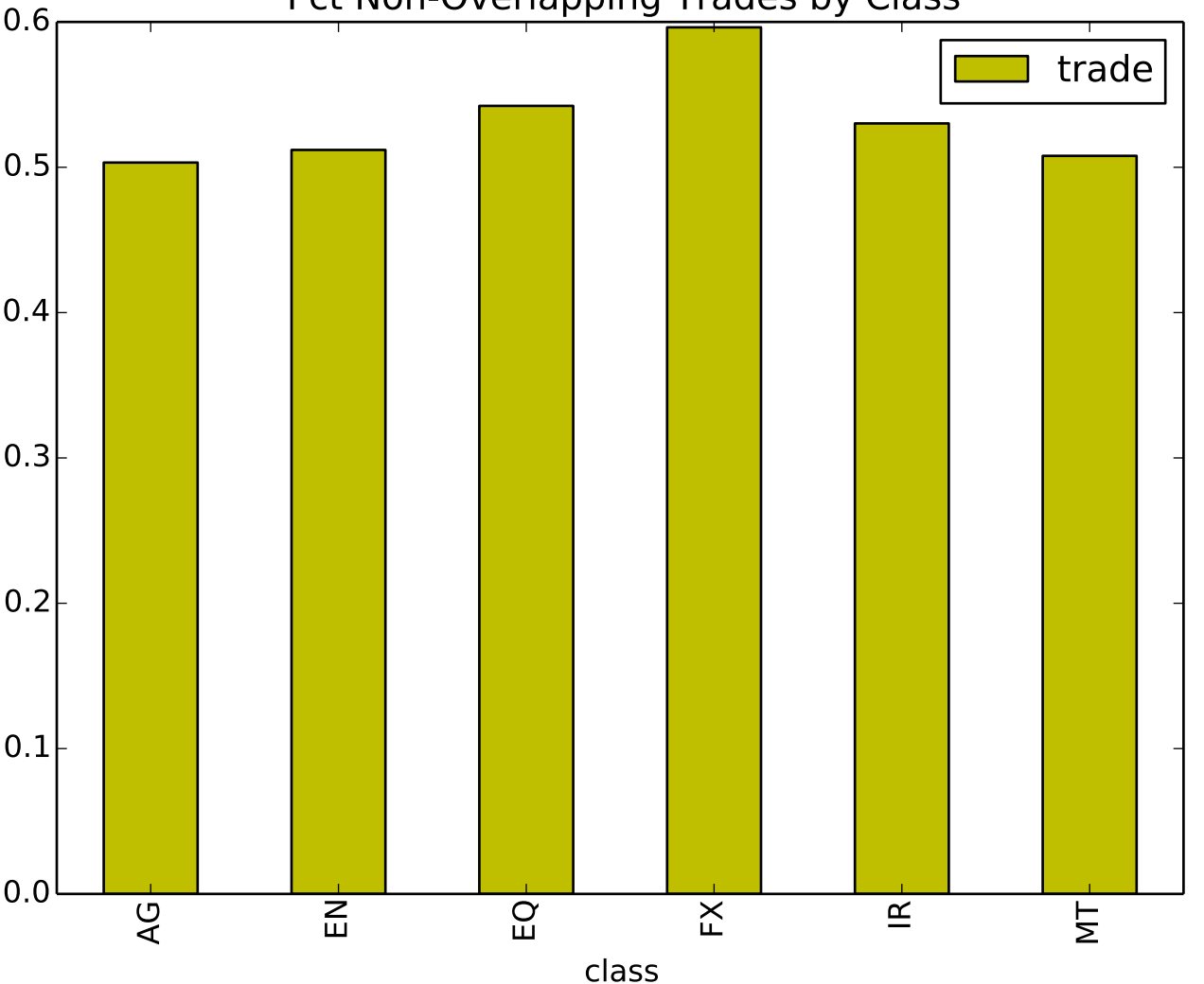

Pct Direction Match by Targetstrat
1.0
0.8
0.6
0.4
0.2
0.0
0.0
0.2
0.4
0.6
0.8
1.0

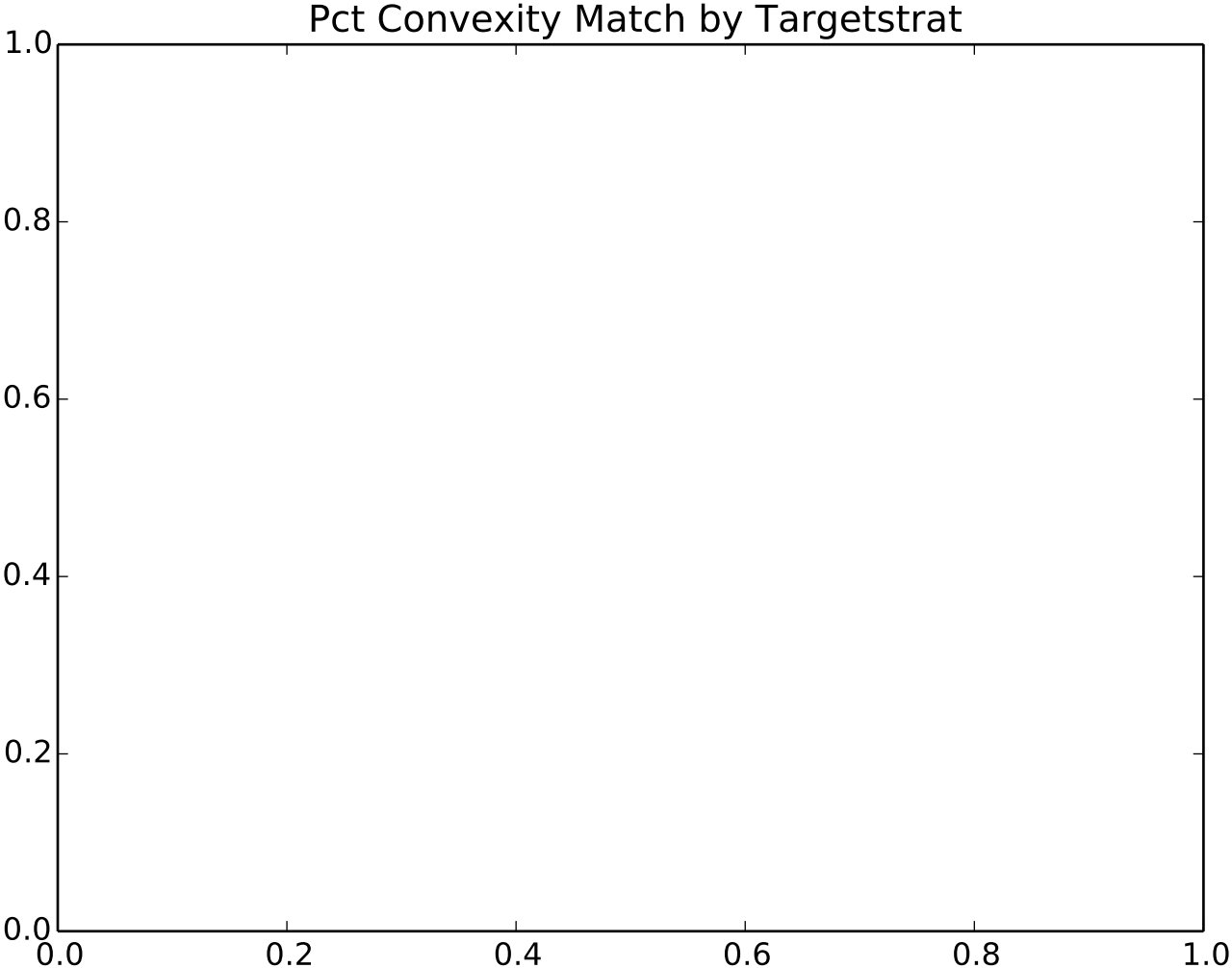

Pct Non-Overlapping Trades by Class
trade
0.45
0.40
0.35
0.30
0.25
0.20
0.15
0.10
0.05
0.00
BOLT
targetstrat

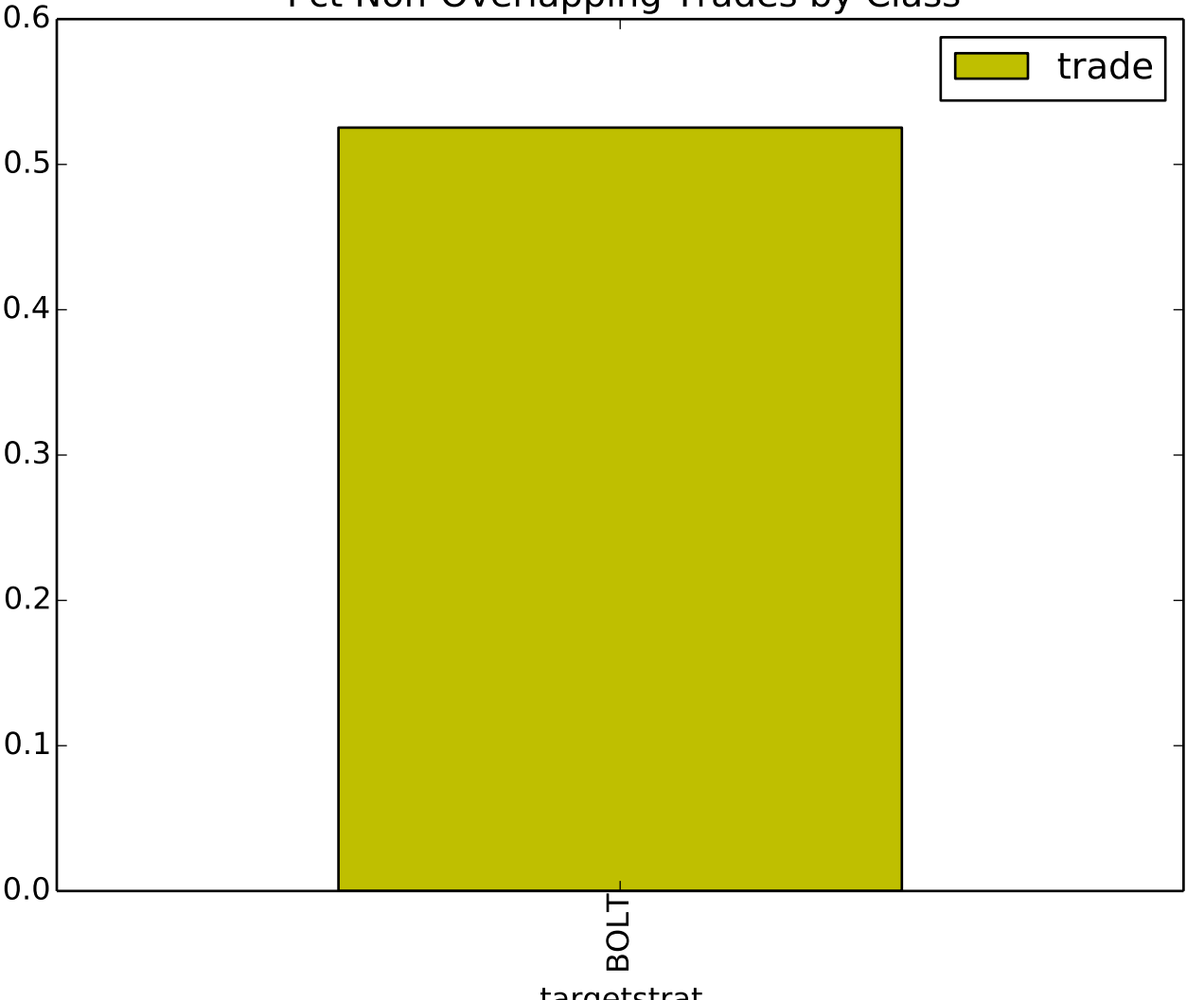

Pct Convexity Match by Inst
1.0
0.8
0.6
0.4
0.2
0.0
0.0
0.2
0.4
0.6
0.8
1.0

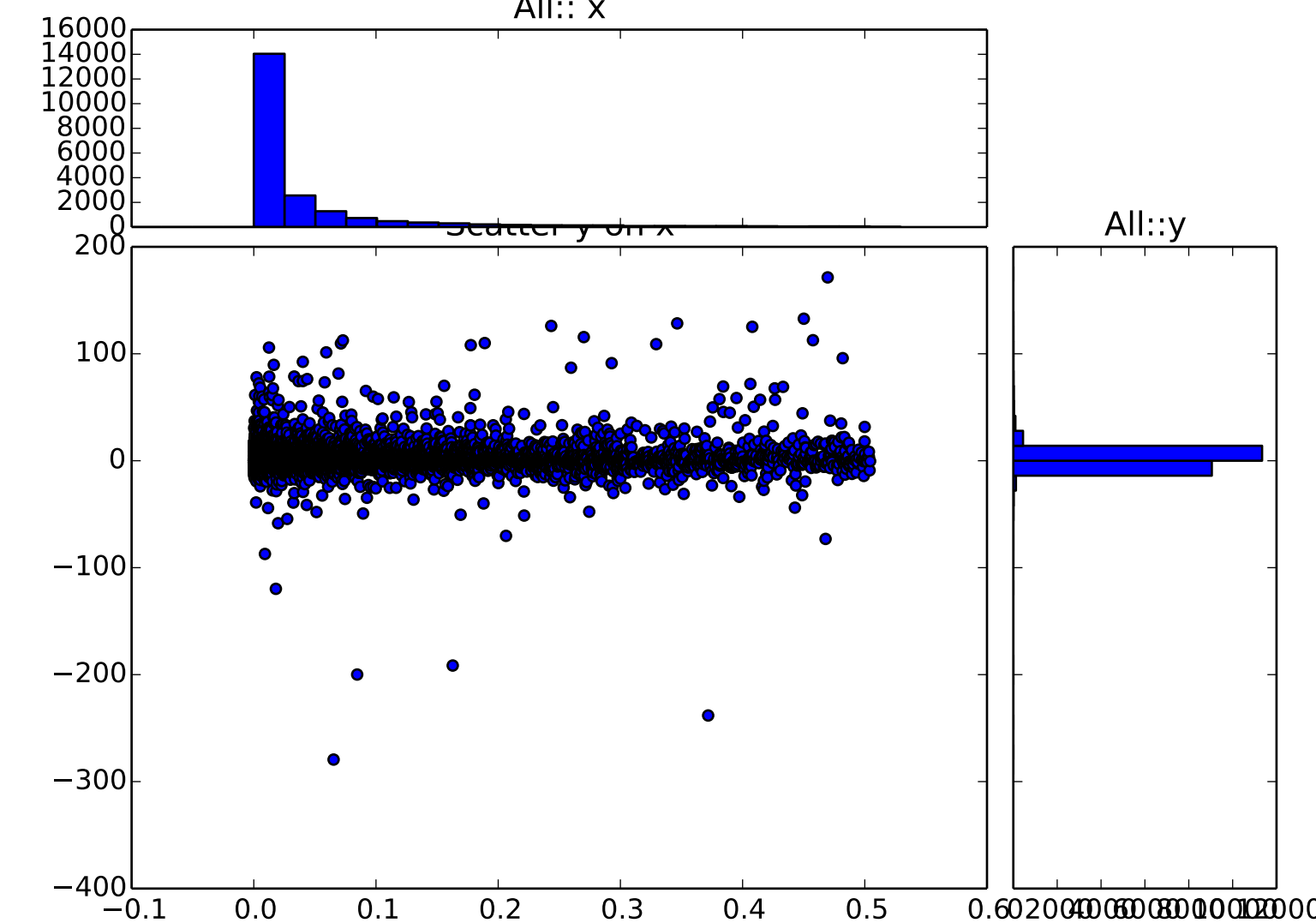

Pct Non-Overlapping Trades by Class
trade
0.7
0.6
0.5
0.4
0.3
0.2
0.1
0.0
6A
6B
6C
6E
6J
6S
CL
EMD
ES
GC
GE
GF
HE
HG
HO
KE
LE
NG
NQ
PA
PL
RB
SI
UB
YM
ZB
ZC
ZF
ZL
ZM
ZN
ZS
ZT
ZW
inst

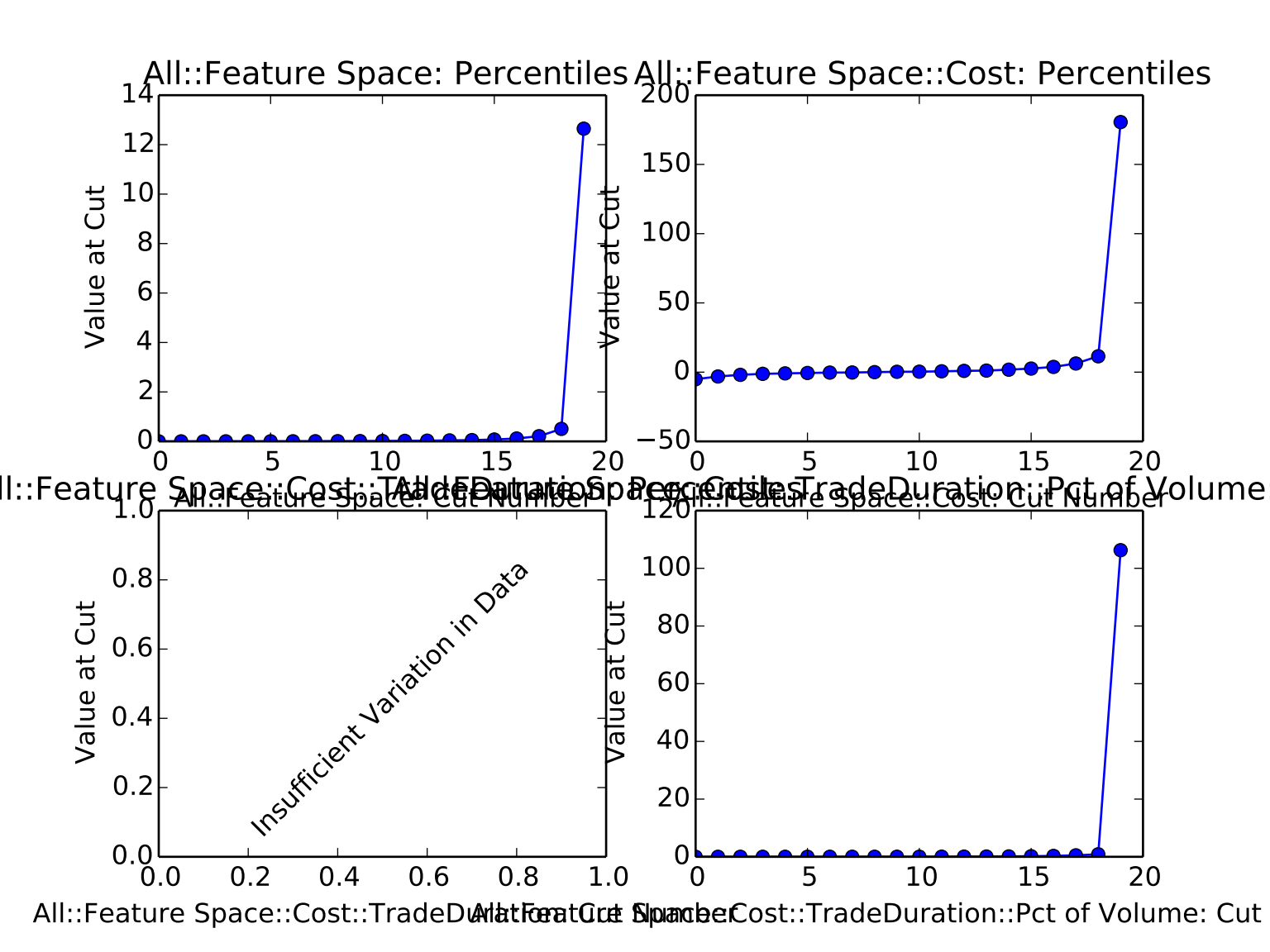

Pct Convexity Match by Class
1.0
0.8
0.6
0.4
0.2
0.0
0.0
0.2
0.4
0.6
0.8
1.0

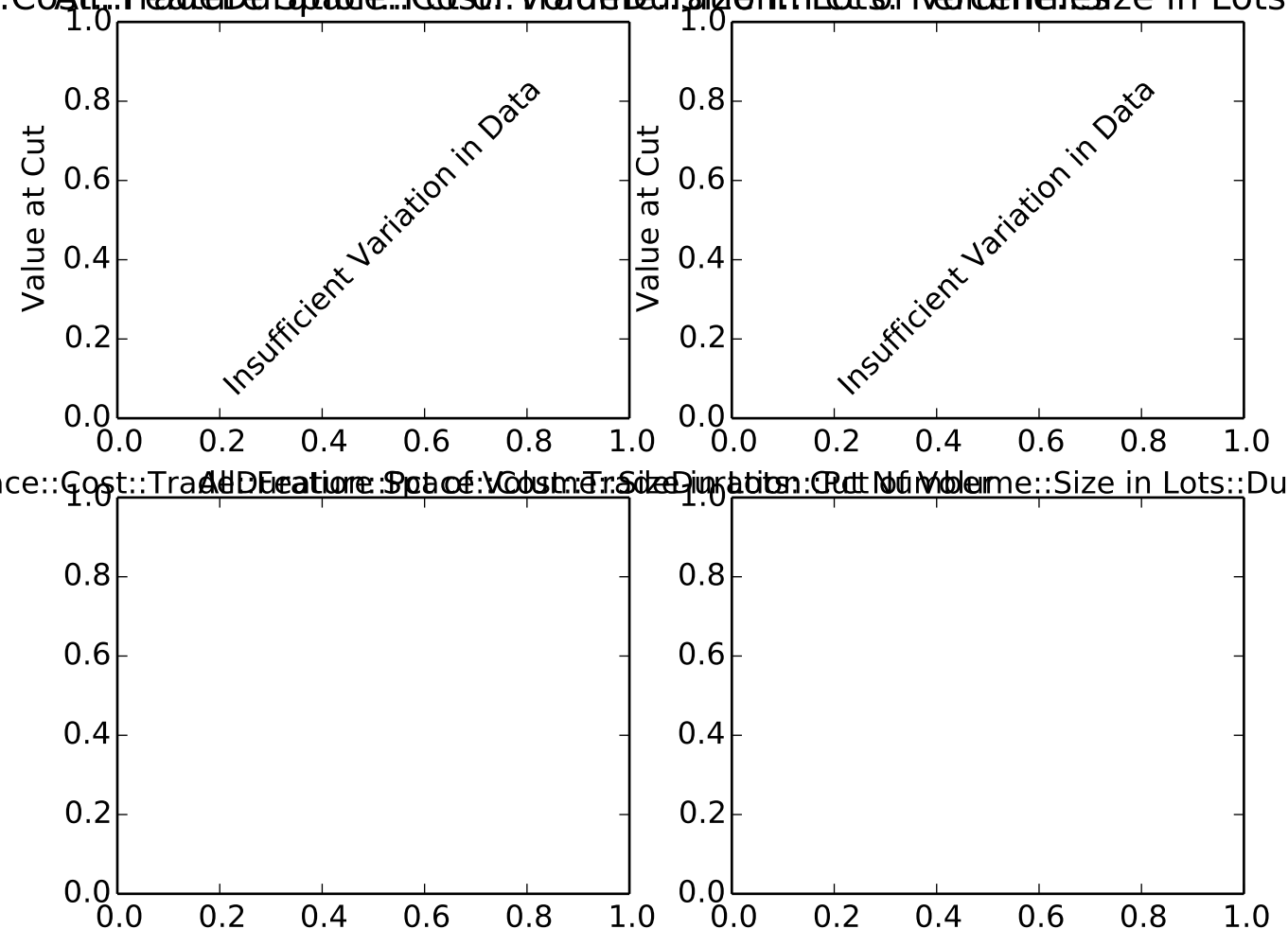

Pct Non-Overlapping Trades by Class
trade
0.6
0.5
0.4
0.3
0.2
0.1
0.0
AG
EN
EQ
FX
IR
MT
class

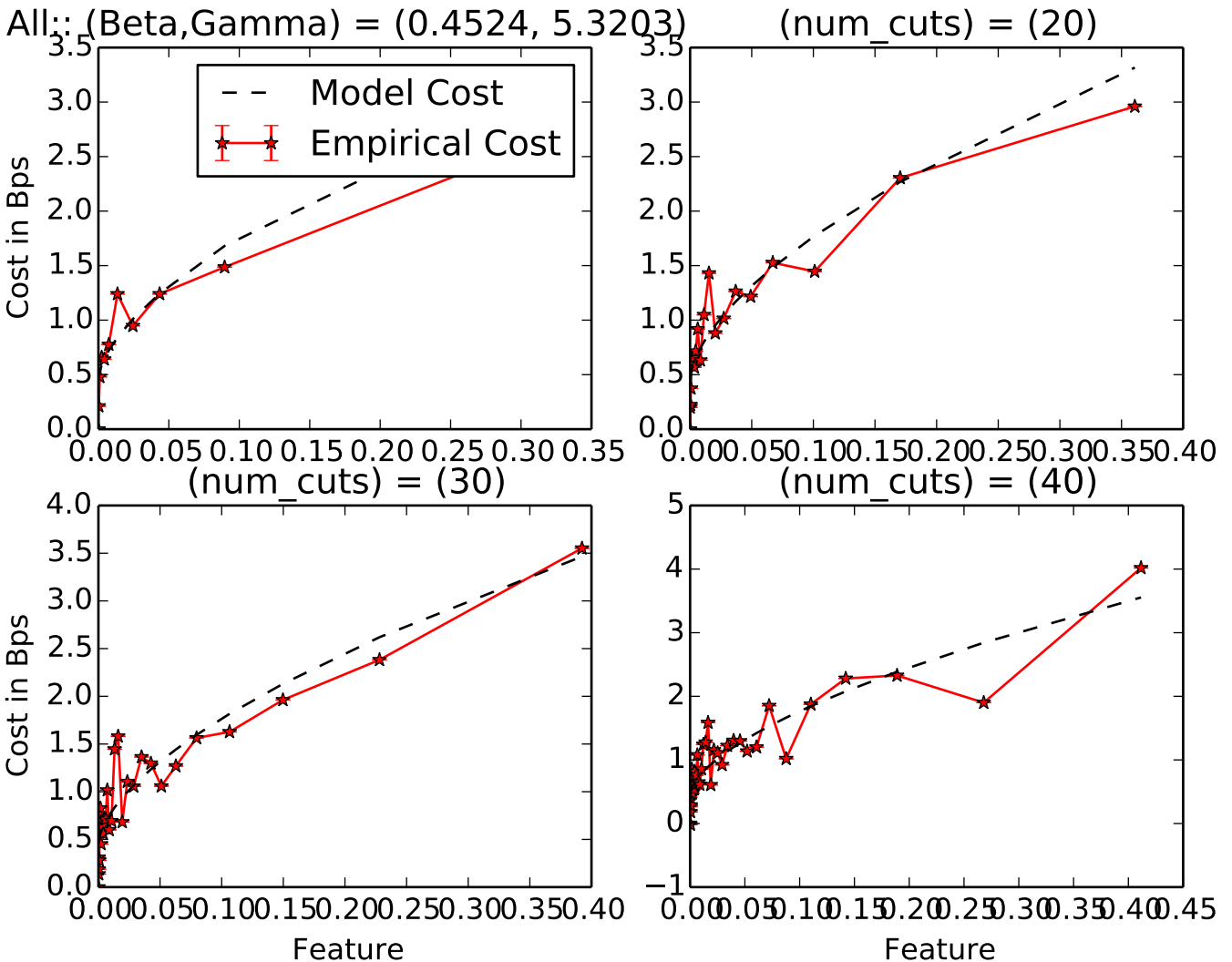

Pct Convexity Match by Targetstrat
1.0
0.8
0.6
0.4
0.2
0.0
0.0
0.2
0.4
0.6
0.8
1.0

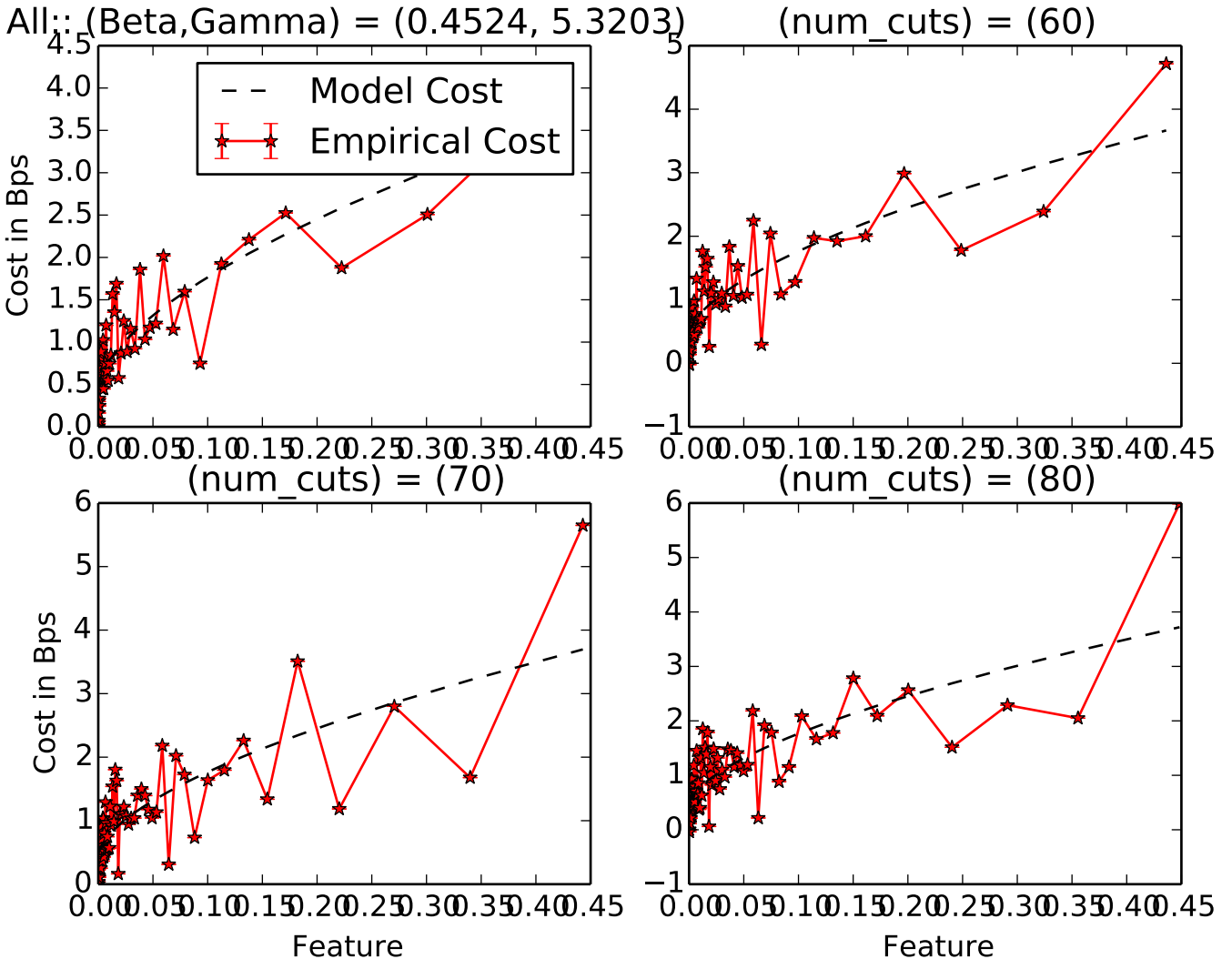

Pct Non-Overlapping Trades by Class
trade
0.6
0.5
0.4
0.3
0.2
0.1
0.0
BOLT
targetstrat

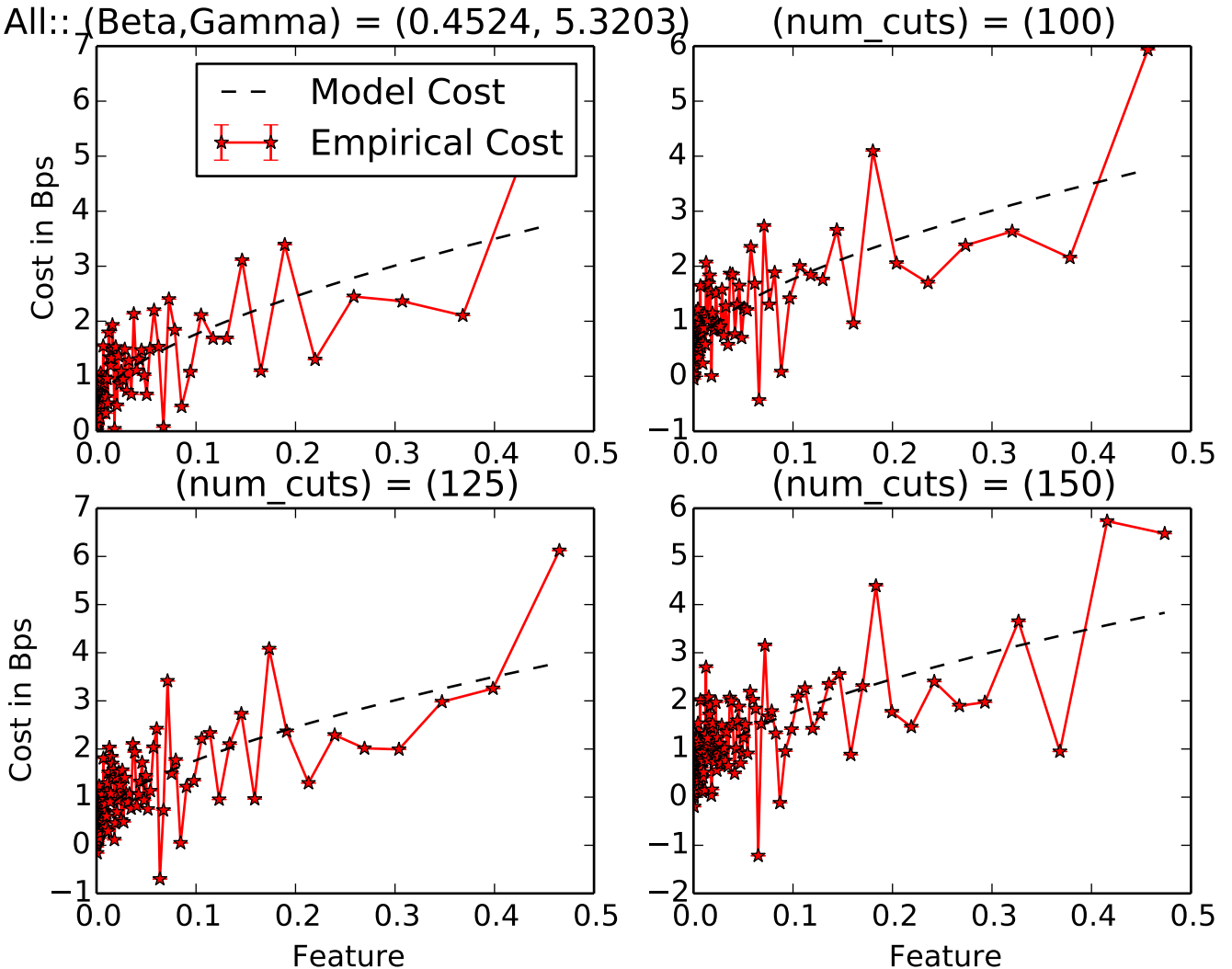

All:: x
16000
14000
12000
10000
8000
6000
4000
2000
0
Scatter y on x
All::y
200
100
0
−100
−200
−300
−400
−0.1
0.0
0.1
0.2
0.3
0.4
0.5
0.6
0
20000
40000
60000
80000
100000
120000

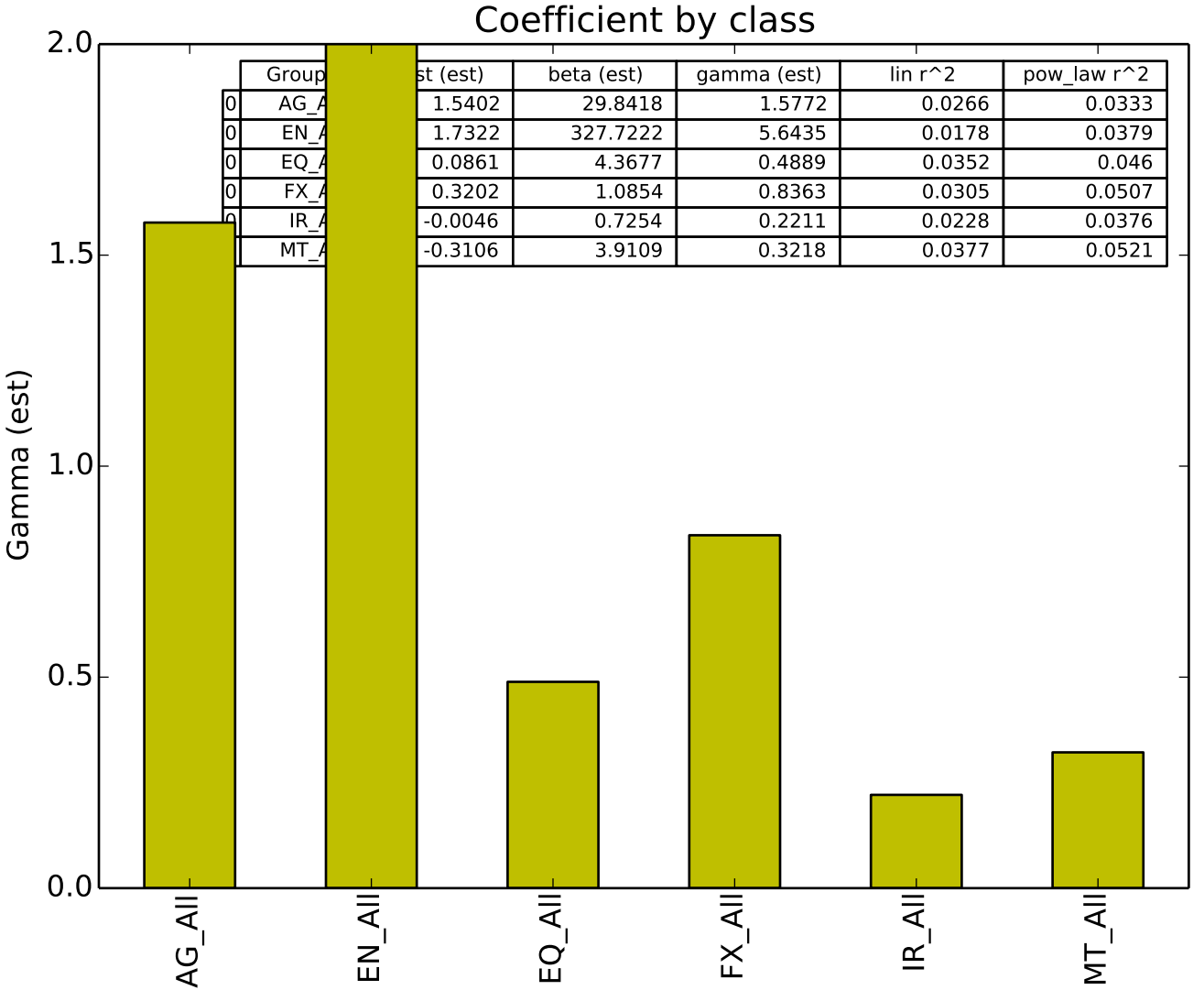

All::Feature Space: Percentiles
Value at Cut
All::Feature Space: Cut Number
All::Feature Space::Cost: Percentiles
Value at Cut
All::Feature Space::Cost: Cut Number
All::Feature Space::Cost::TradeDuration::Percentiles
Value at Cut
Insufficient Variation in Data
All::Feature Space::Cost::TradeDuration: Cut Number
All::Feature Space::Cost::TradeDuration::Pct of Volume
Value at Cut
All::Feature Space::Cost::TradeDuration::Pct of Volume: Cut


Value at Cut
Insufficient Variation in Data
Value at Cut
Insufficient Variation in Data
0.0
0.2
0.4
0.6
0.8
1.0

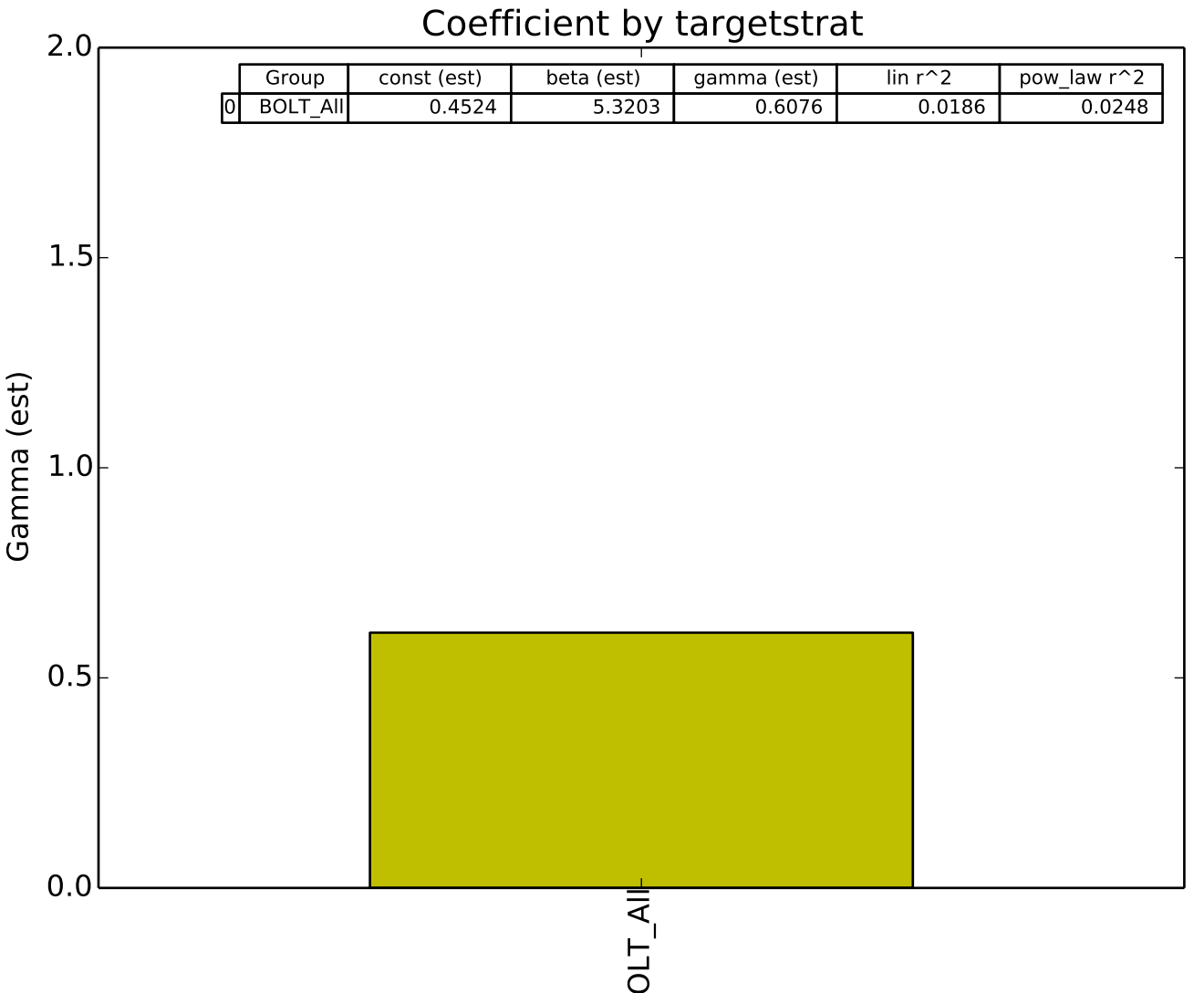

All:: (Beta,Gamma) = (0.4524, 5.3203)
(num_cuts) = (20)
(num_cuts) = (30)
(num_cuts) = (40)
Model Cost
Empirical Cost
Cost in Bps
Feature

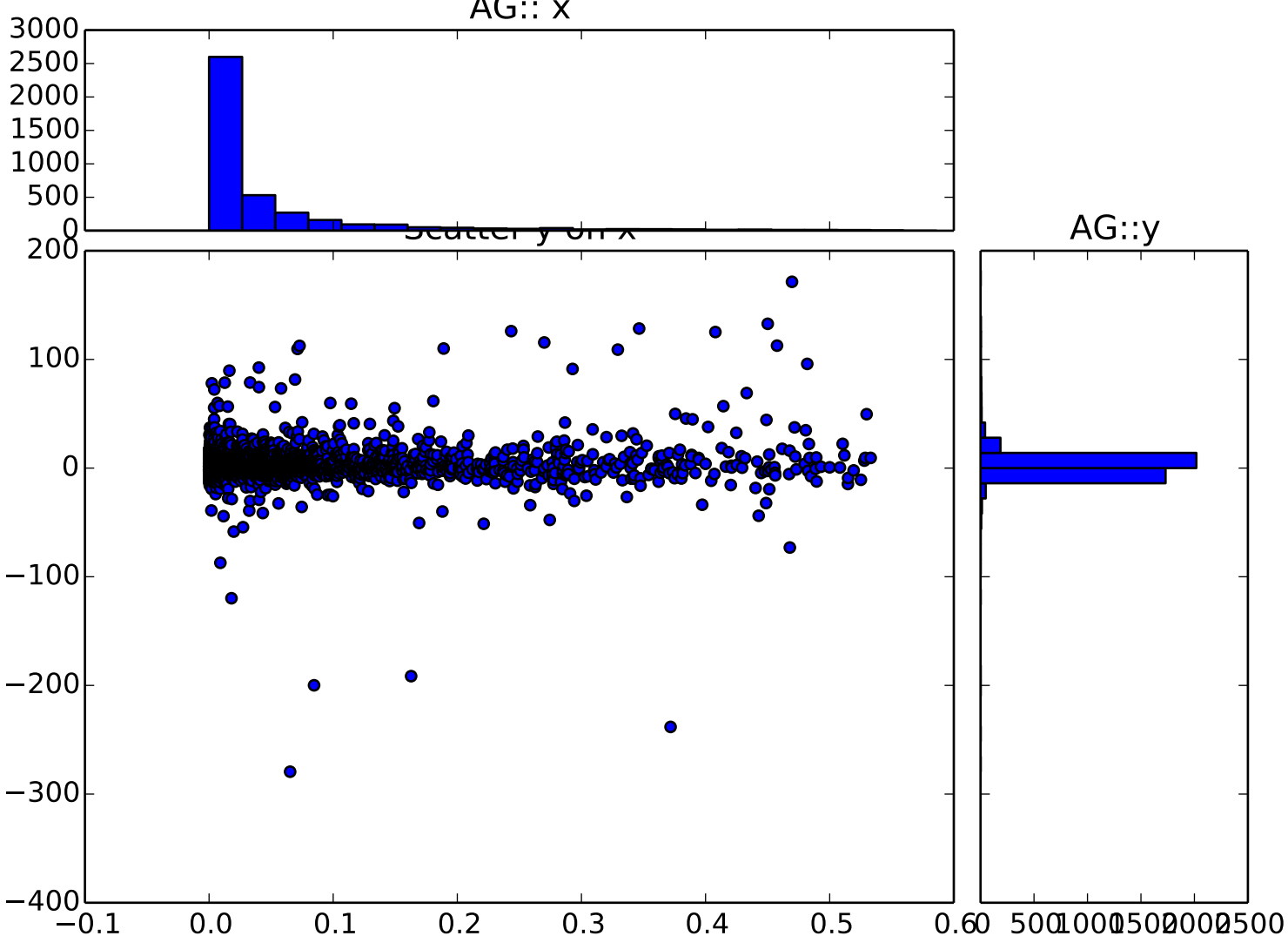

All:: (Beta,Gamma) = (0.4524, 5.3203)
(num_cuts) = (60)
(num_cuts) = (70)
(num_cuts) = (80)
Model Cost
Empirical Cost
Cost in Bps
Feature

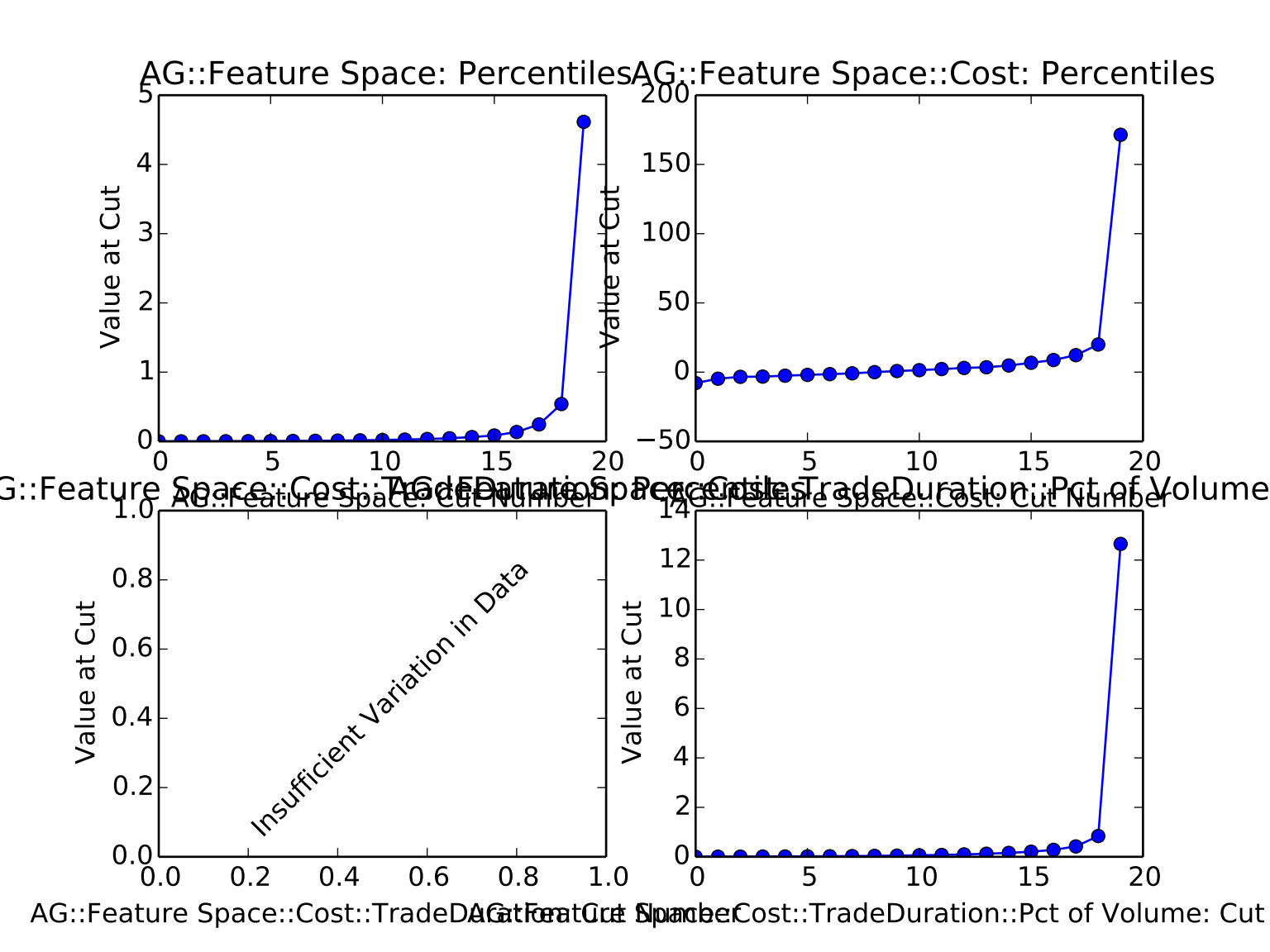

All:: (Beta,Gamma) = (0.4524, 5.3203)
Model Cost
Empirical Cost
Cost in Bps
(num_cuts) = (100)
(num_cuts) = (125)
(num_cuts) = (150)
Feature
Feature

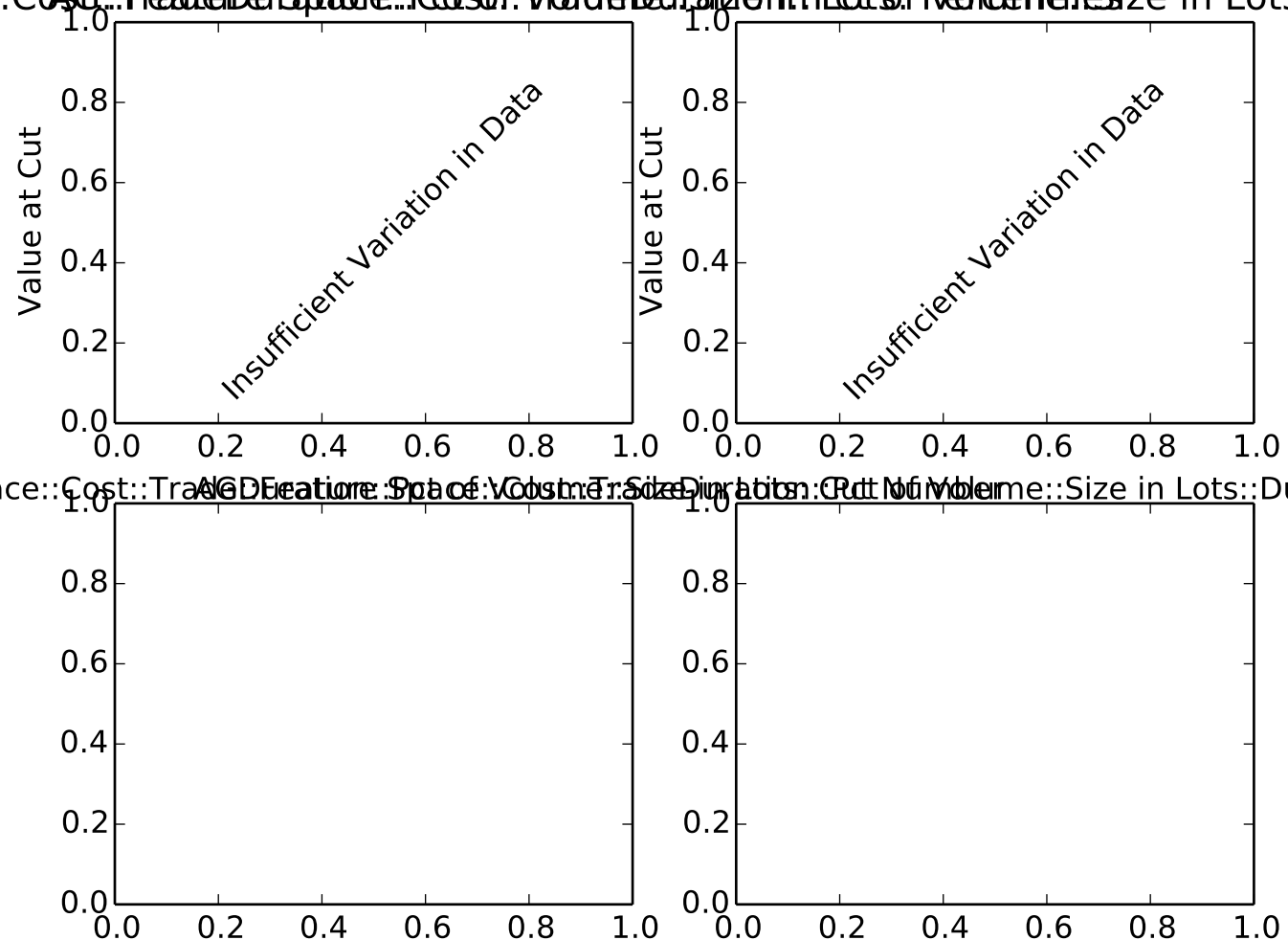


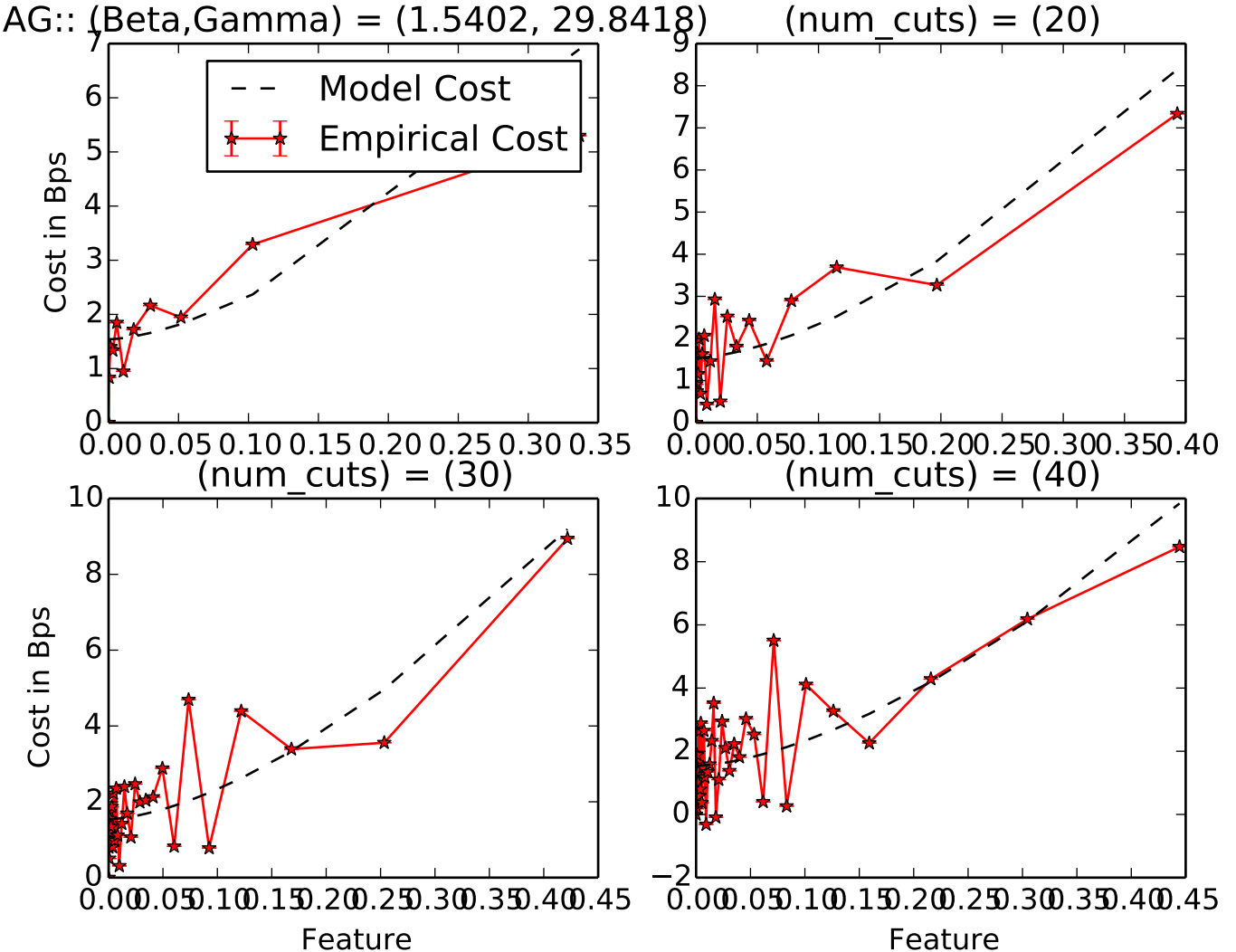

| | Group | st (est) | beta (est) | gamma (est) | lin r^2 | pow_law r^2 |
|---|---|---|---|---|---|---|
| 0 | AG_A | 1.5402 | 29.8418 | 1.5772 | 0.0266 | 0.0333 |
| 0 | EN_A | 1.7322 | 327.7222 | 5.6435 | 0.0178 | 0.0379 |
| 0 | EQ_A | 0.0861 | 4.3677 | 0.4889 | 0.0352 | 0.046 |
| 0 | FX_A | 0.3202 | 1.0854 | 0.8363 | 0.0305 | 0.0507 |
| 0 | IR_A | -0.0046 | 0.7254 | 0.2211 | 0.0228 | 0.0376 |
| | MT_A | -0.3106 | 3.9109 | 0.3218 | 0.0377 | 0.0521 |

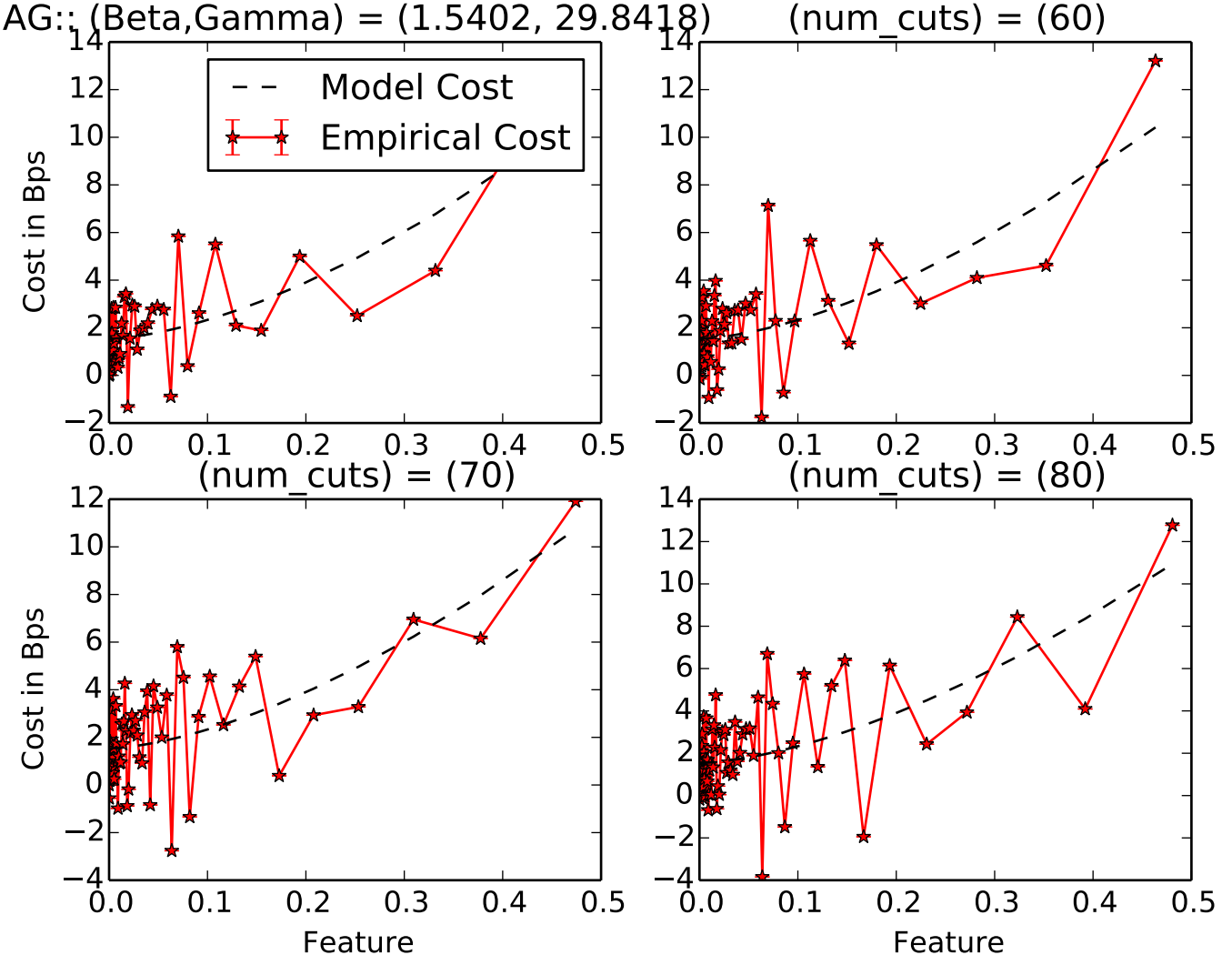

Coefficient by targetstrat
Group
const (est)
beta (est)
gamma (est)
lin r^2
pow_law r^2
0
BOLT_All
0.4524
5.3203
0.6076
0.0186
0.0248
2.0
1.5
1.0
0.5
0.0
Gamma (est)
BOLT_All

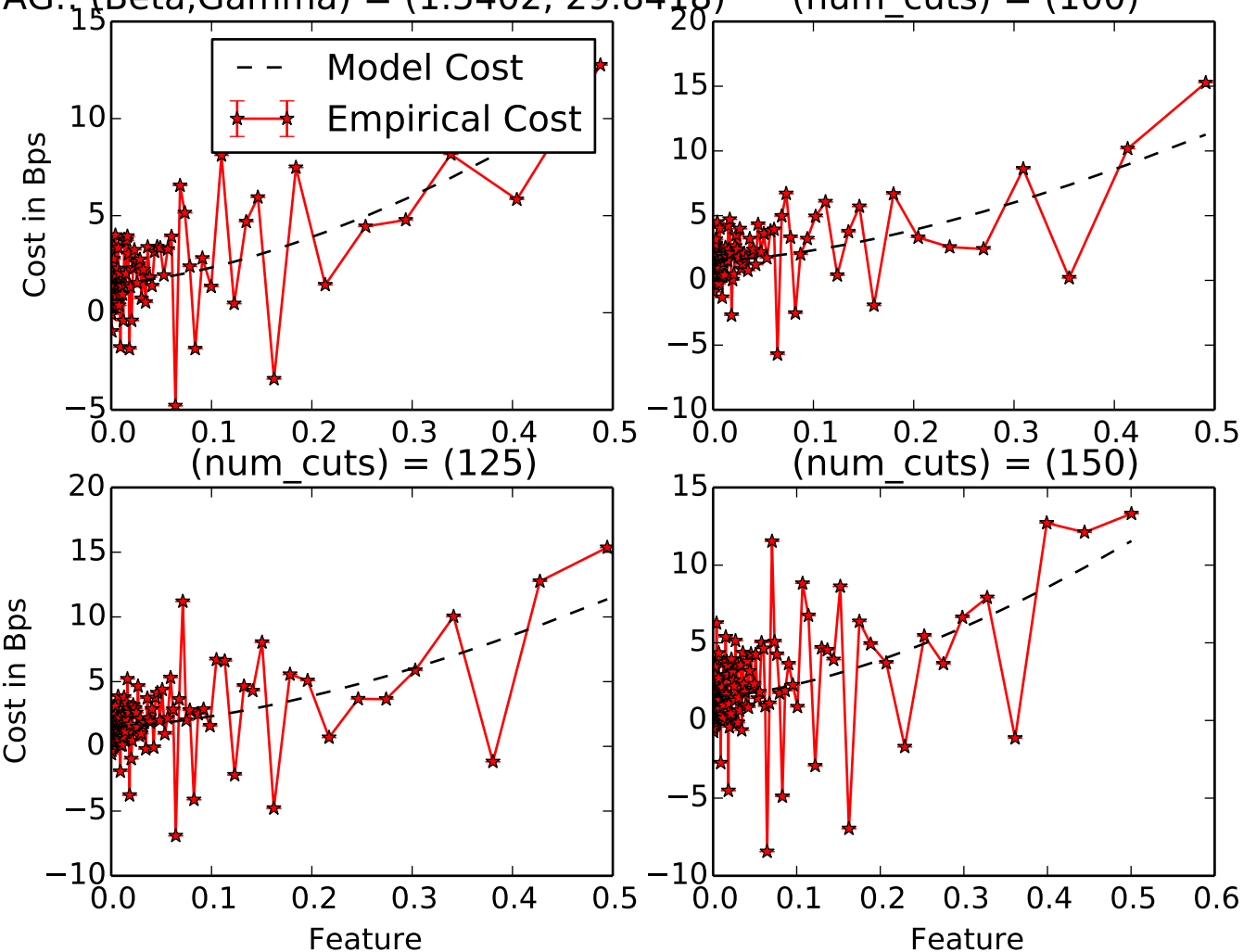

AG:: x
AG::y
3000
2500
2000
1500
1000
500
0
200
100
0
−100
−200
−300
−400
−0.1
0.0
0.1
0.2
0.3
0.4
0.5
0.6
0
500
1000
1500
2000
2500

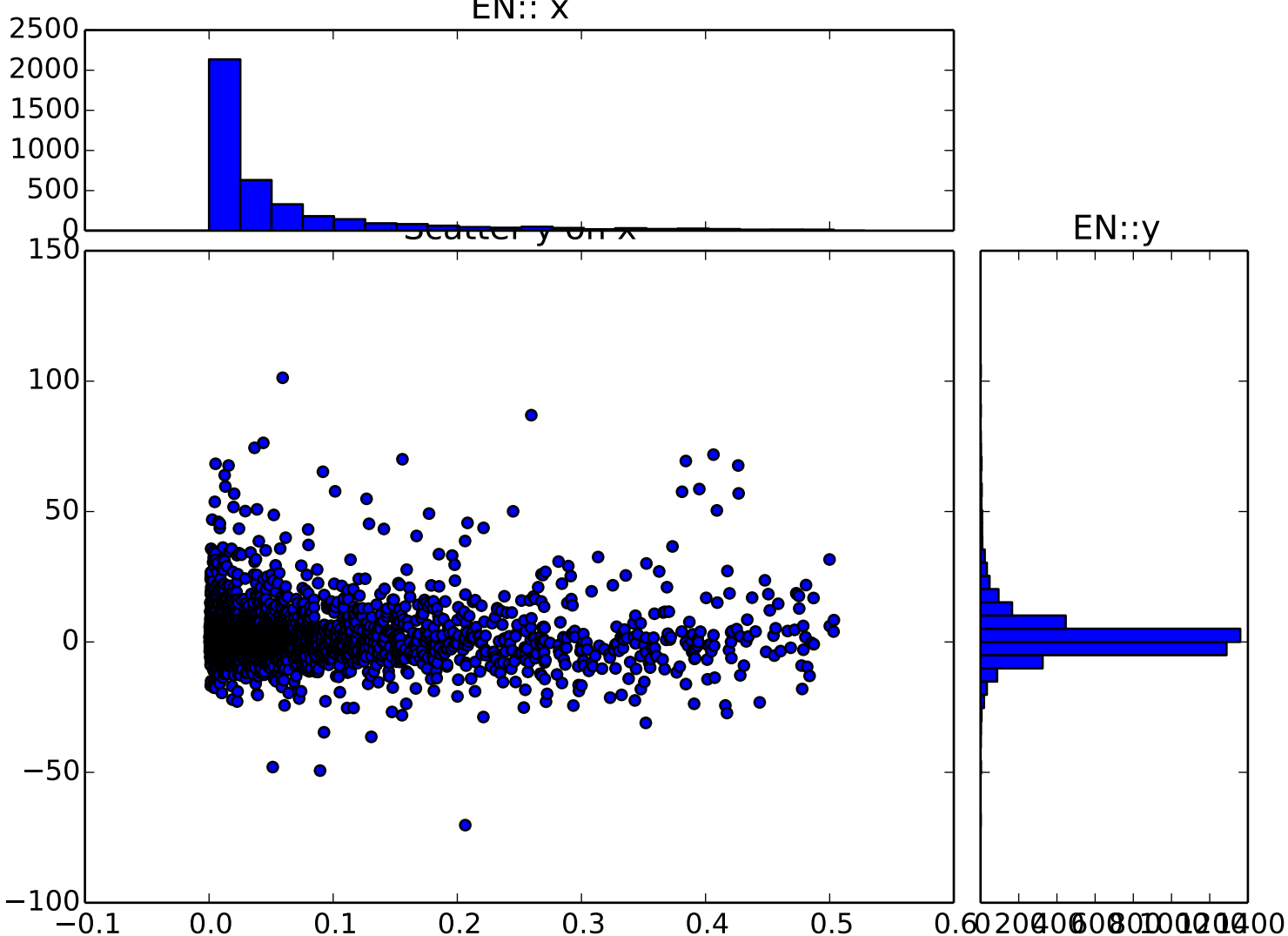

AG::Feature Space: Percentiles
Value at Cut
AG::Feature Space: Cut Number
AG::Feature Space::Cost: Percentiles
Value at Cut
AG::Feature Space::Cost: Cut Number
AG::Feature Space::Cost::TradeDuration: Percentiles
Value at Cut
Insufficient Variation in Data
AG::Feature Space::Cost::TradeDuration: Cut Number
AG::Feature Space::Cost::TradeDuration::Pct of Volume: Percentiles
Value at Cut
AG::Feature Space::Cost::TradeDuration::Pct of Volume: Cut Number

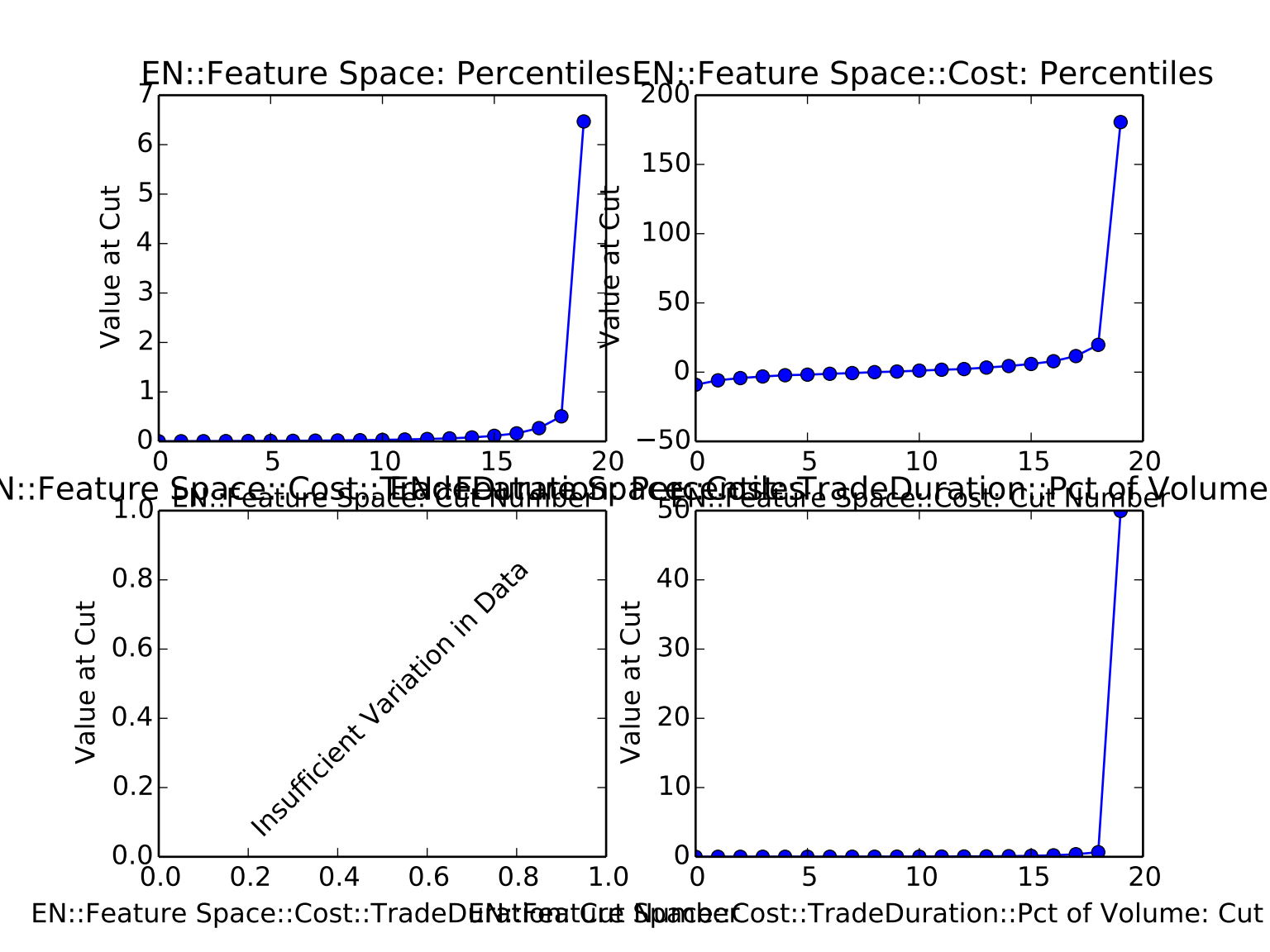

Value at Cut
Insufficient Variation in Data
Value at Cut
Insufficient Variation in Data
0.0
0.2
0.4
0.6
0.8
1.0

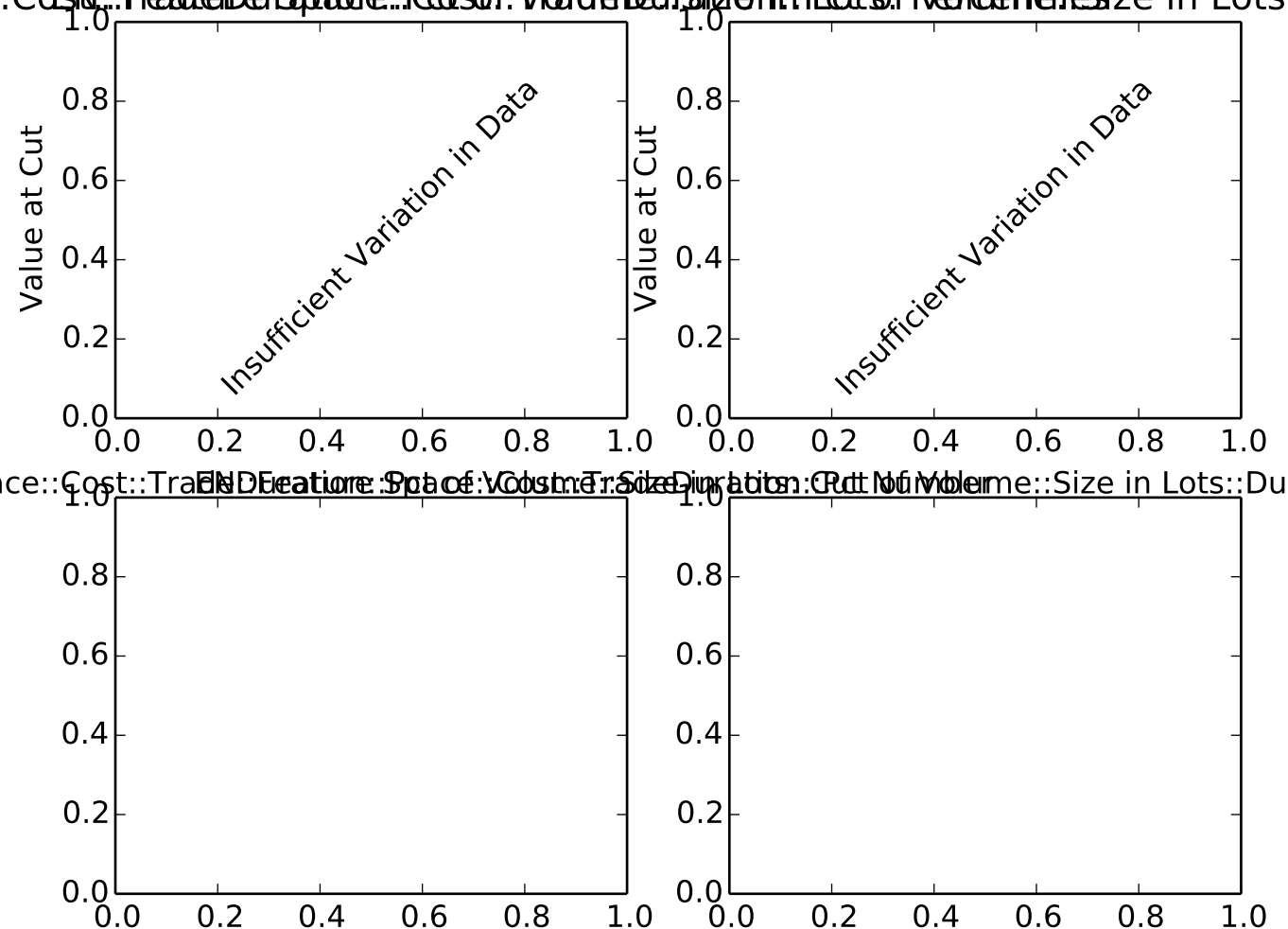

AG:: (Beta,Gamma) = (1.5402, 29.8418)
(num_cuts) = (20)
(num_cuts) = (30)
(num_cuts) = (40)
Model Cost
Empirical Cost
Cost in Bps
Feature

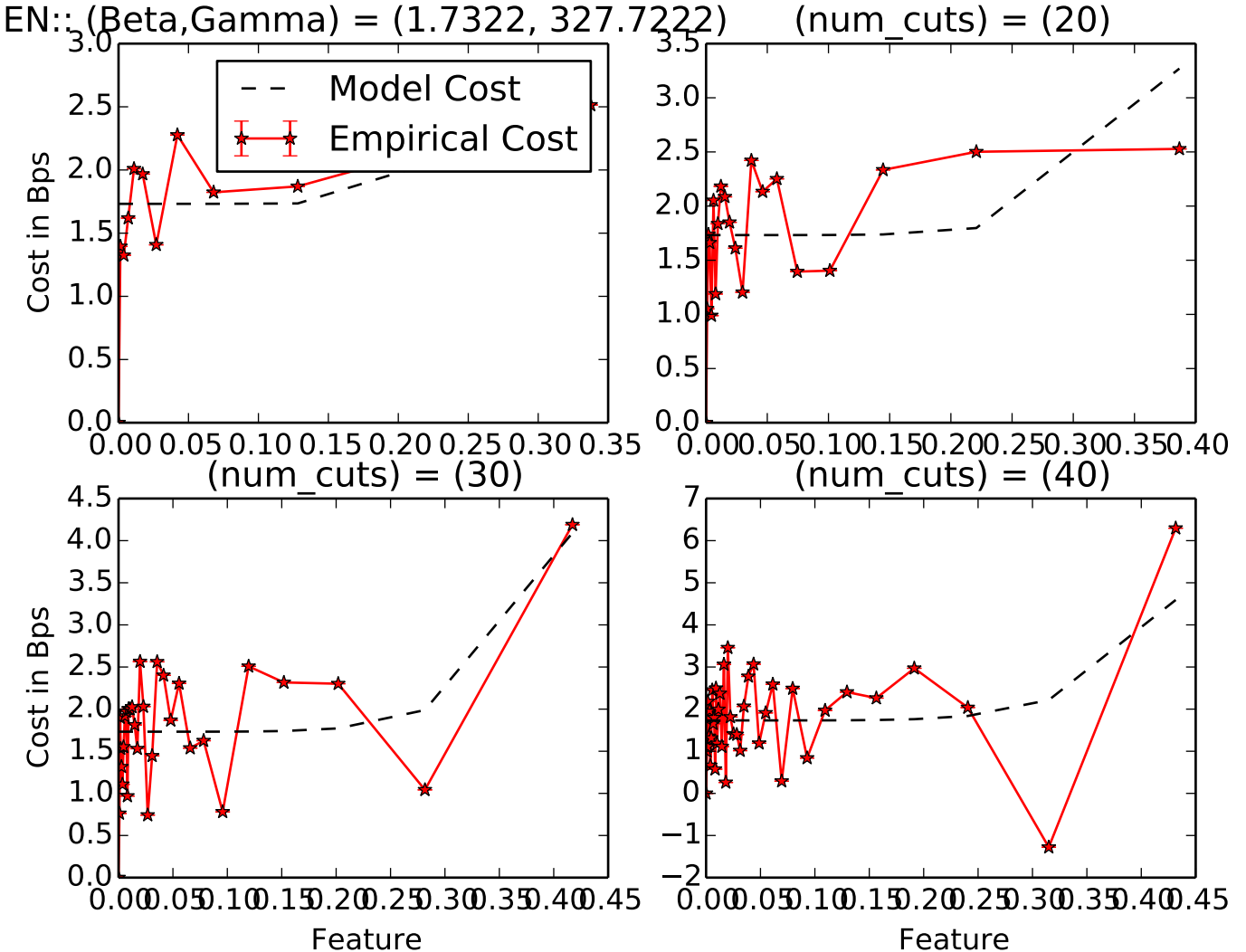

AG:: (Beta,Gamma) = (1.5402, 29.8418)
(num_cuts) = (60)
(num_cuts) = (70)
(num_cuts) = (80)
Model Cost
Empirical Cost
Cost in Bps
Feature

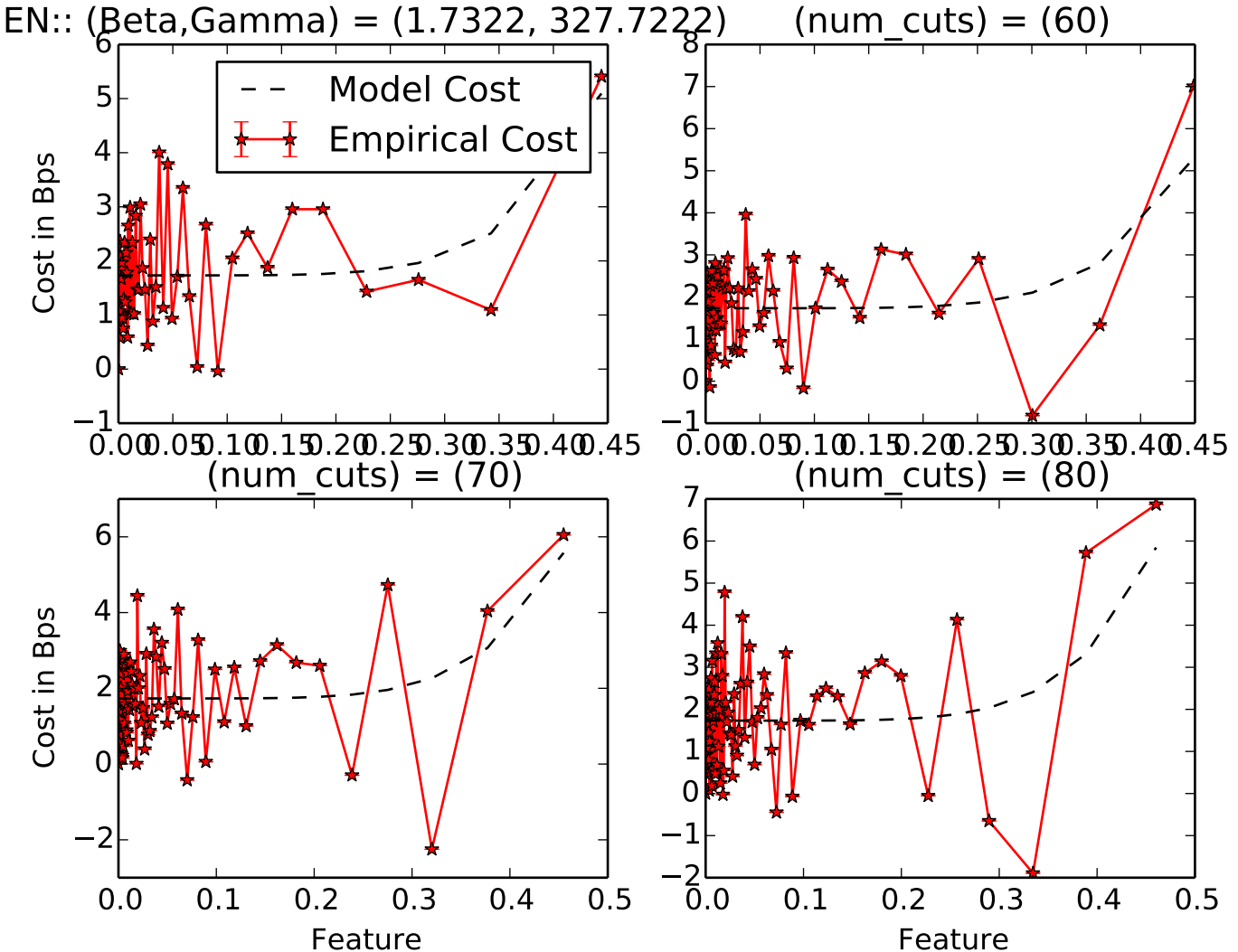

AG:: (Beta,Gamma) = (1.5402, 29.8418)
(num_cuts) = (100)
(num_cuts) = (125)
(num_cuts) = (150)
Model Cost
Empirical Cost
Cost in Bps
Feature

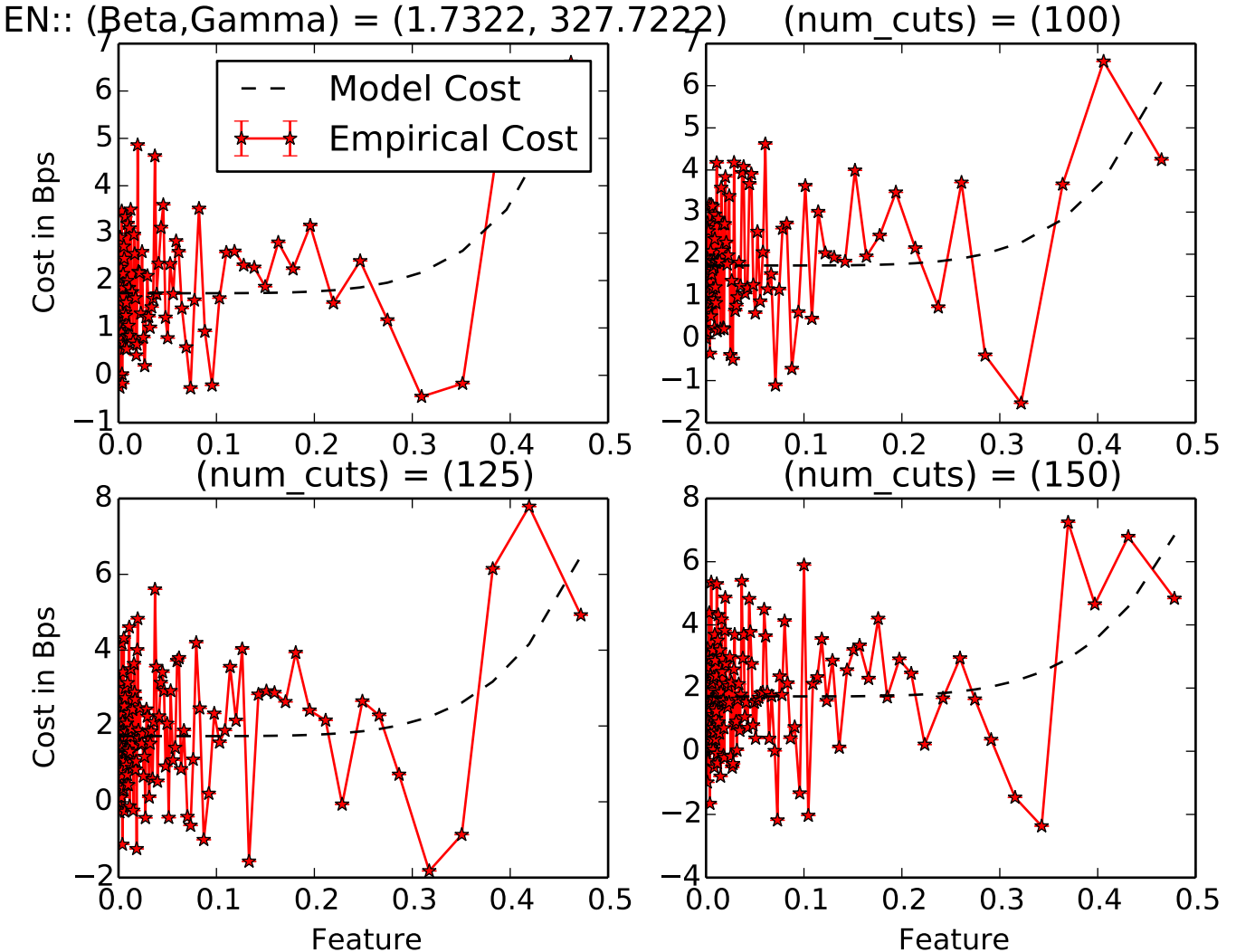

EN:: x
2500
2000
1500
1000
500
0
Scatter y on x
EN::y
150
100
50
0
−50
−100
−0.1
0.0
0.1
0.2
0.3
0.4
0.5
0.6
0
200
400
600
800
1000
1200
1400

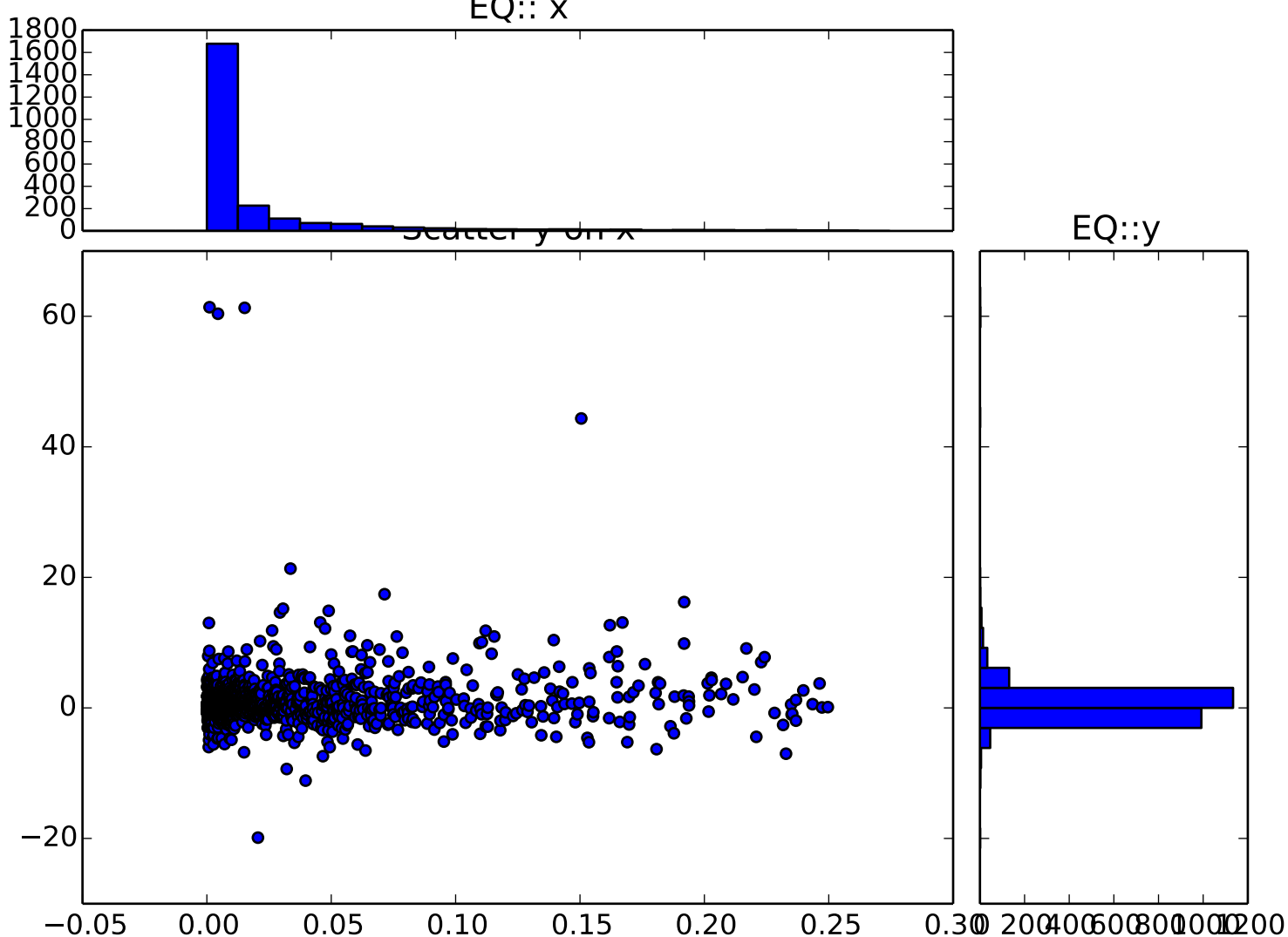

EN::Feature Space: Percentiles
Value at Cut
EN::Feature Space: Cut Number
EN::Feature Space::Cost: Percentiles
Value at Cut
EN::Feature Space::Cost: Cut Number
EN::Feature Space::Cost::TradeDuration: Percentiles
Value at Cut
Insufficient Variation in Data
EN::Feature Space::Cost::TradeDuration: Cut Number
EN::Feature Space::Cost::TradeDuration::Pct of Volume: Percentiles
Value at Cut
EN::Feature Space::Cost::TradeDuration::Pct of Volume: Cut Number

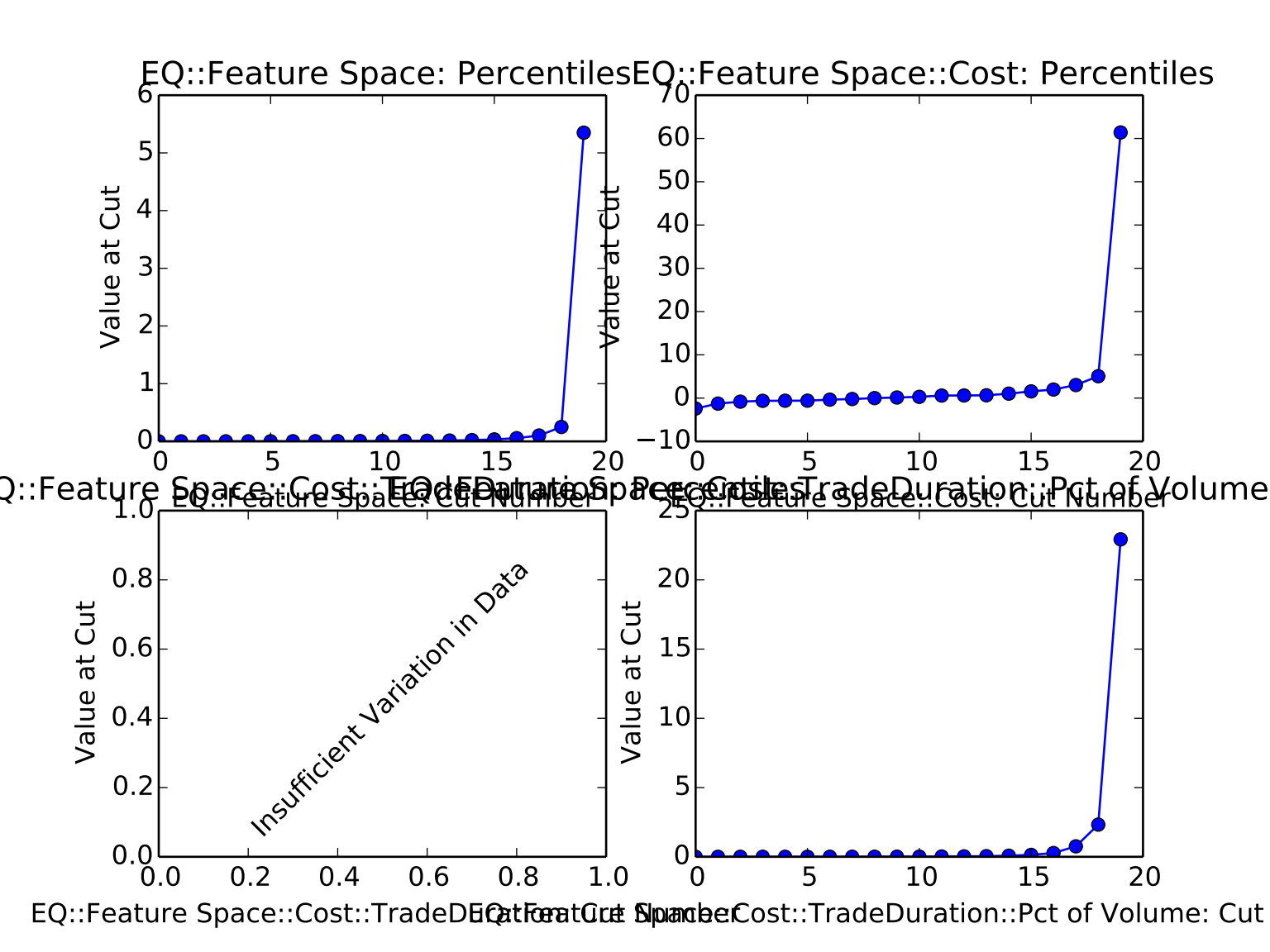

Insufficient Variation in Data
Value at Cut
Insufficient Variation in Data
Value at Cut

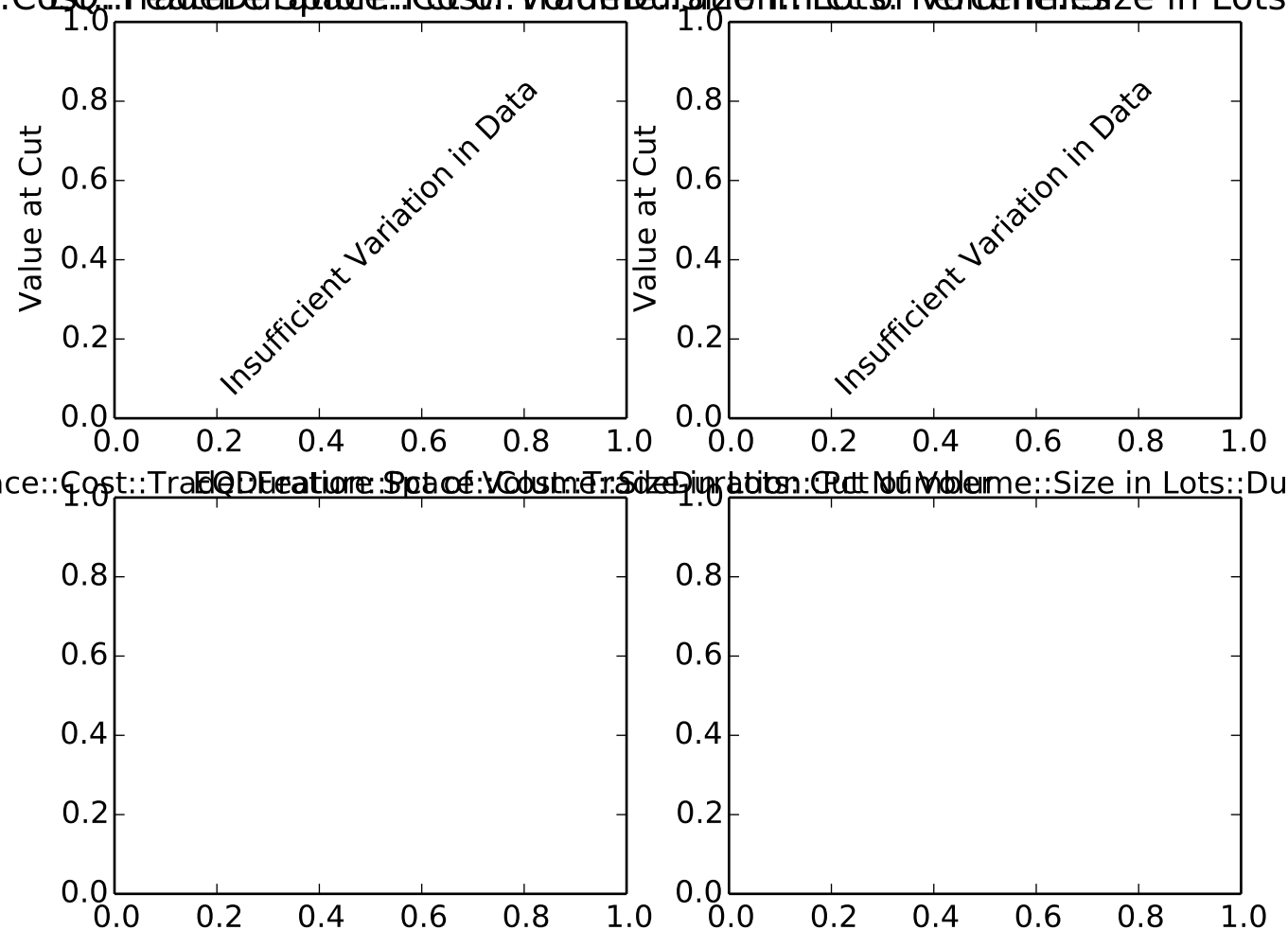

EN:: (Beta,Gamma) = (1.7322, 327.7222)
(num_cuts) = (20)
(num_cuts) = (30)
(num_cuts) = (40)
Model Cost
Empirical Cost
Cost in Bps
Feature

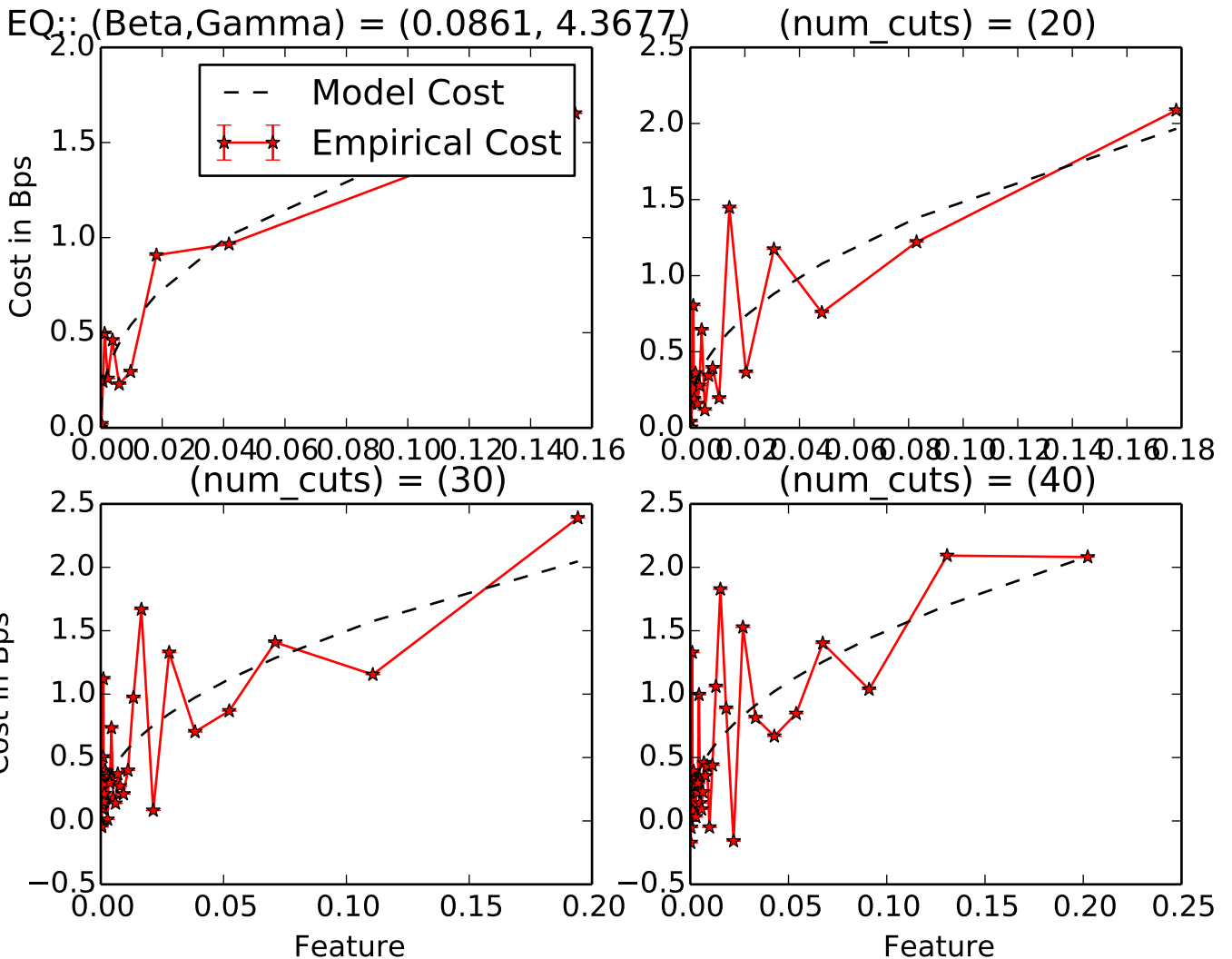

EN:: (Beta,Gamma) = (1.7322, 327.7222)
(num_cuts) = (60)
(num_cuts) = (70)
(num_cuts) = (80)
Model Cost
Empirical Cost
Cost in Bps
Feature

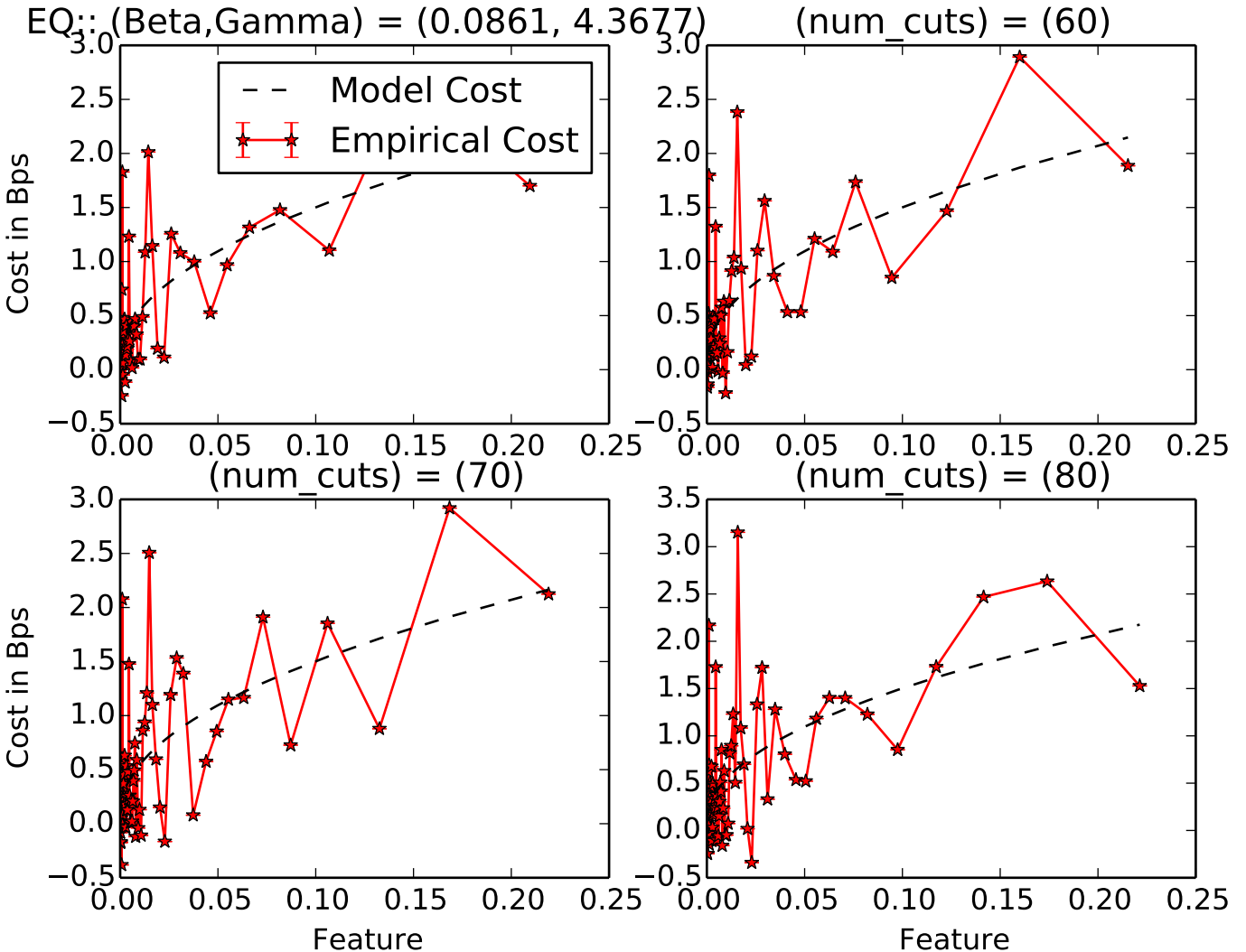

EN:: (Beta,Gamma) = (1.7322, 327.7222)
(num_cuts) = (100)
(num_cuts) = (125)
(num_cuts) = (150)
Model Cost
Empirical Cost
Cost in Bps
Feature

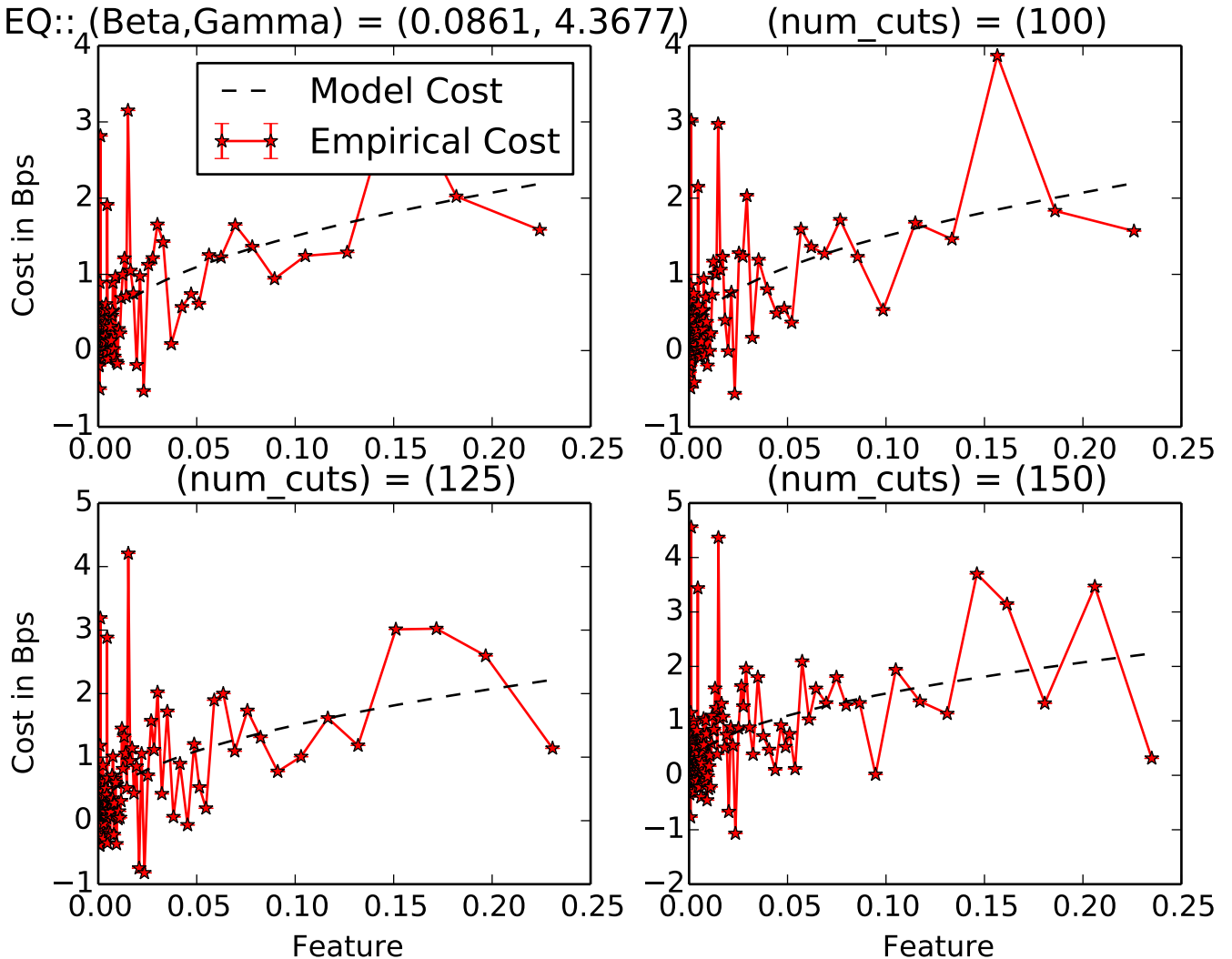

EQ:: x
1800
1600
1400
1200
1000
800
600
400
200
0
Scatter y on x
EQ::y
60
40
20
0
−20
−0.05
0.00
0.05
0.10
0.15
0.20
0.25
0.30
0
200
400
600
800
1000
1200

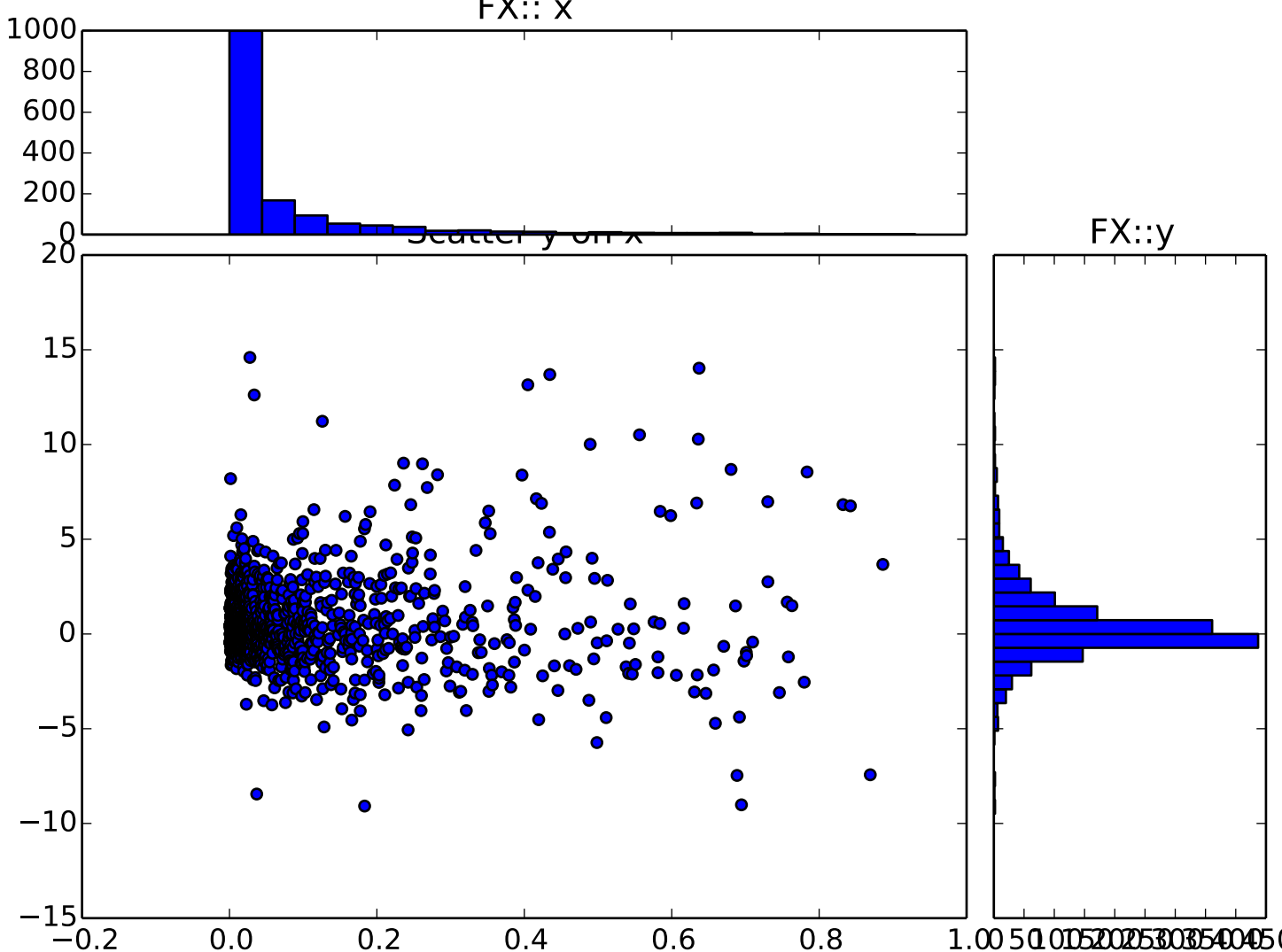

EQ::Feature Space: Percentiles
Value at Cut
EQ::Feature Space: Cut Number
EQ::Feature Space::Cost: Percentiles
Value at Cut
EQ::Feature Space::Cost: Cut Number
EQ::Feature Space::Cost::TradeDuration: Percentiles
Value at Cut
Insufficient Variation in Data
EQ::Feature Space::Cost::TradeDuration: Cut Number
EQ::Feature Space::Cost::TradeDuration::Pct of Volume: Percentiles
Value at Cut
EQ::Feature Space::Cost::TradeDuration::Pct of Volume: Cut Number

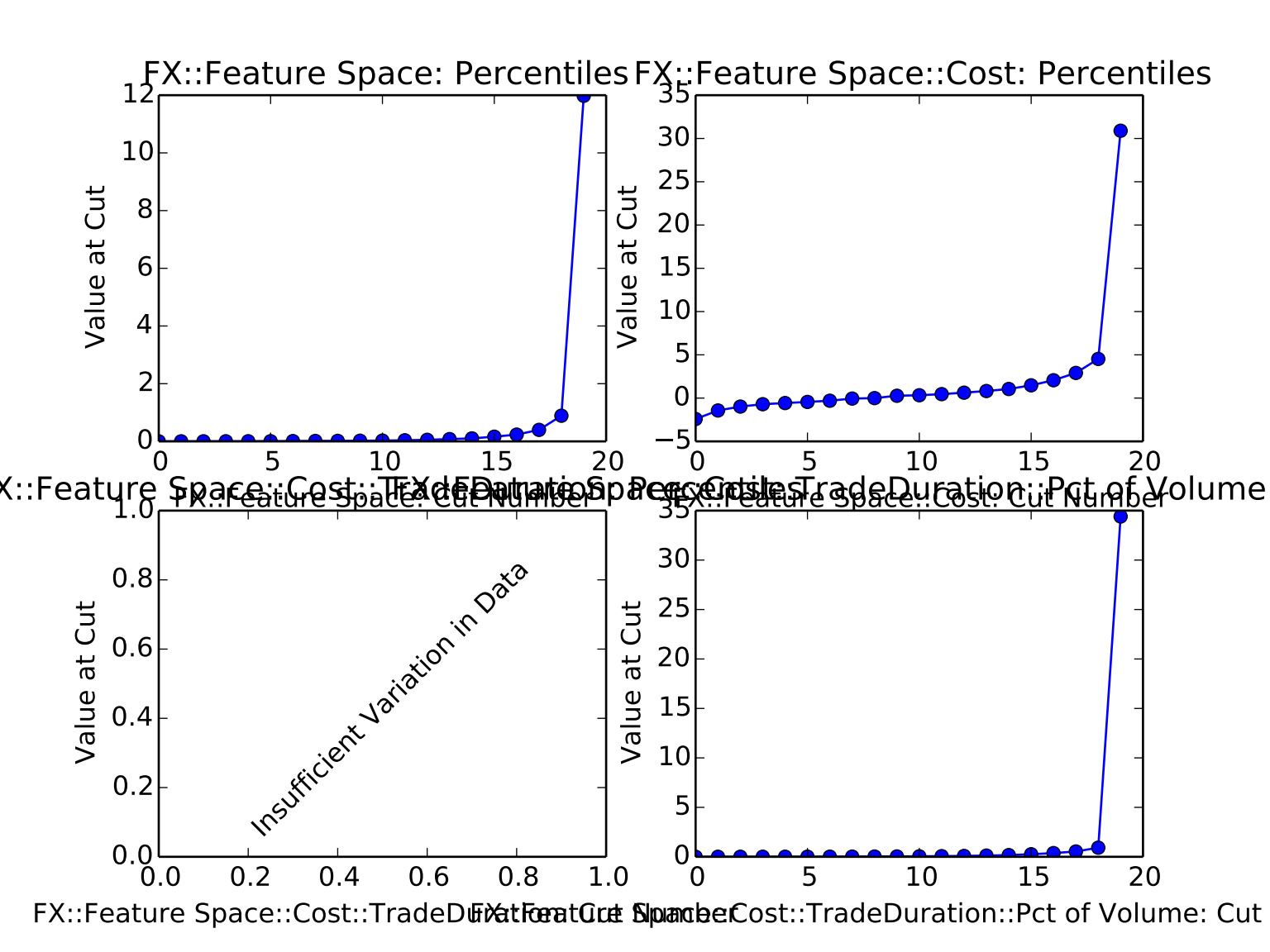

Value at Cut
Insufficient Variation in Data
Value at Cut
Insufficient Variation in Data
0.0
0.2
0.4
0.6
0.8
1.0

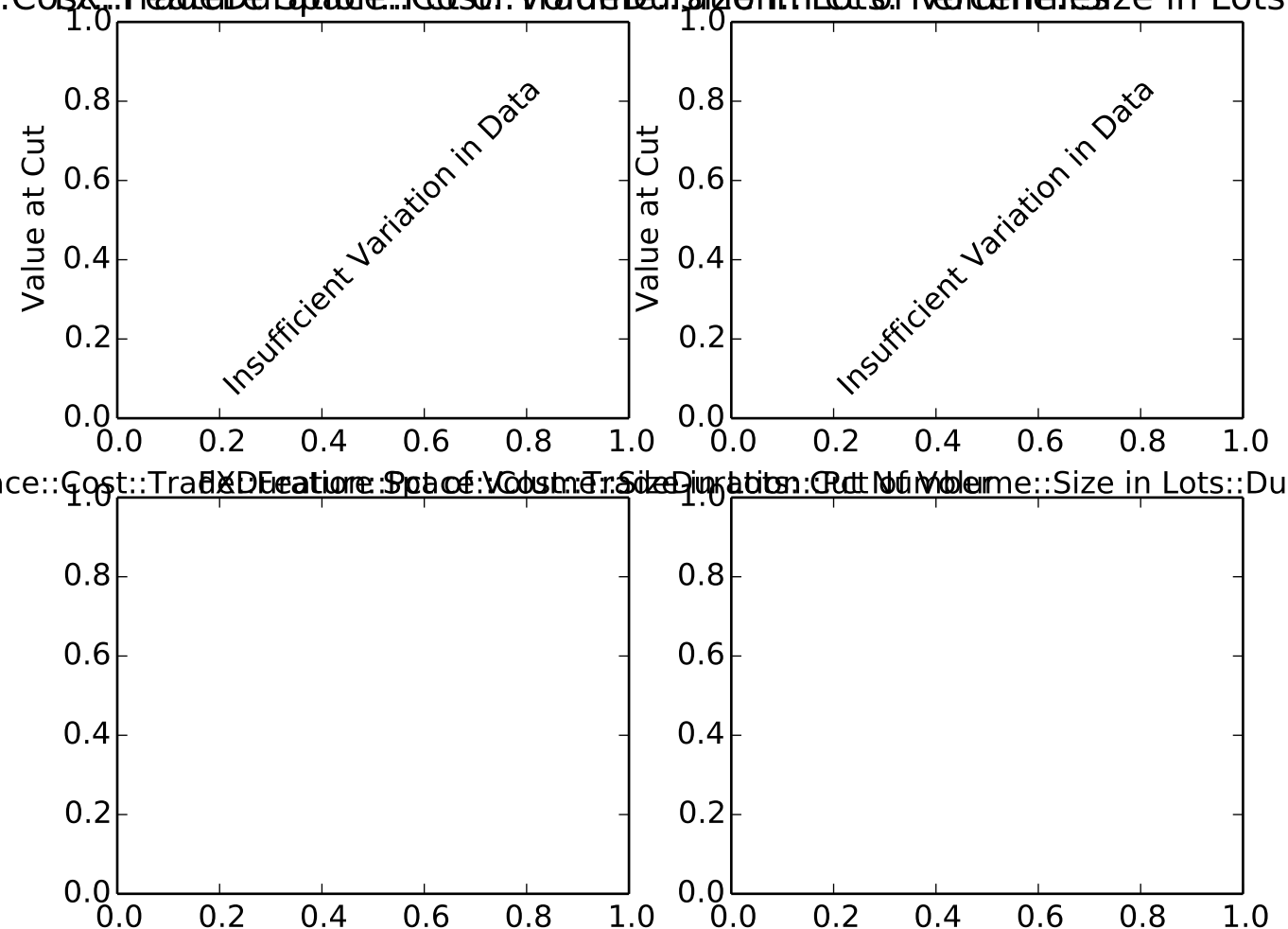

EQ:: (Beta,Gamma) = (0.0861, 4.3677)
(num_cuts) = (20)
(num_cuts) = (30)
(num_cuts) = (40)
Model Cost
Empirical Cost
Cost in Bps
Feature

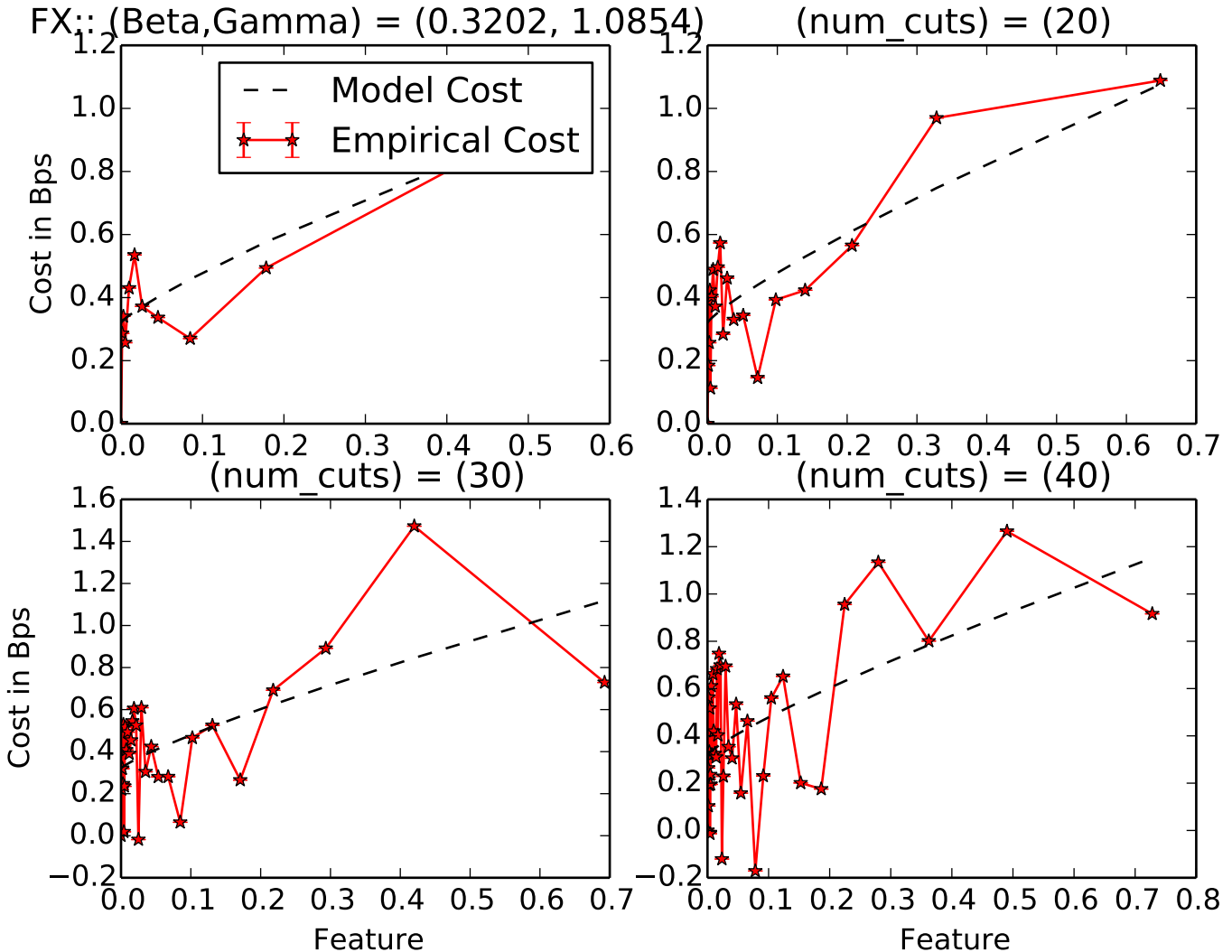

EQ:: (Beta,Gamma) = (0.0861, 4.3677)
(num_cuts) = (60)
(num_cuts) = (70)
(num_cuts) = (80)
Model Cost
Empirical Cost
Cost in Bps
Feature

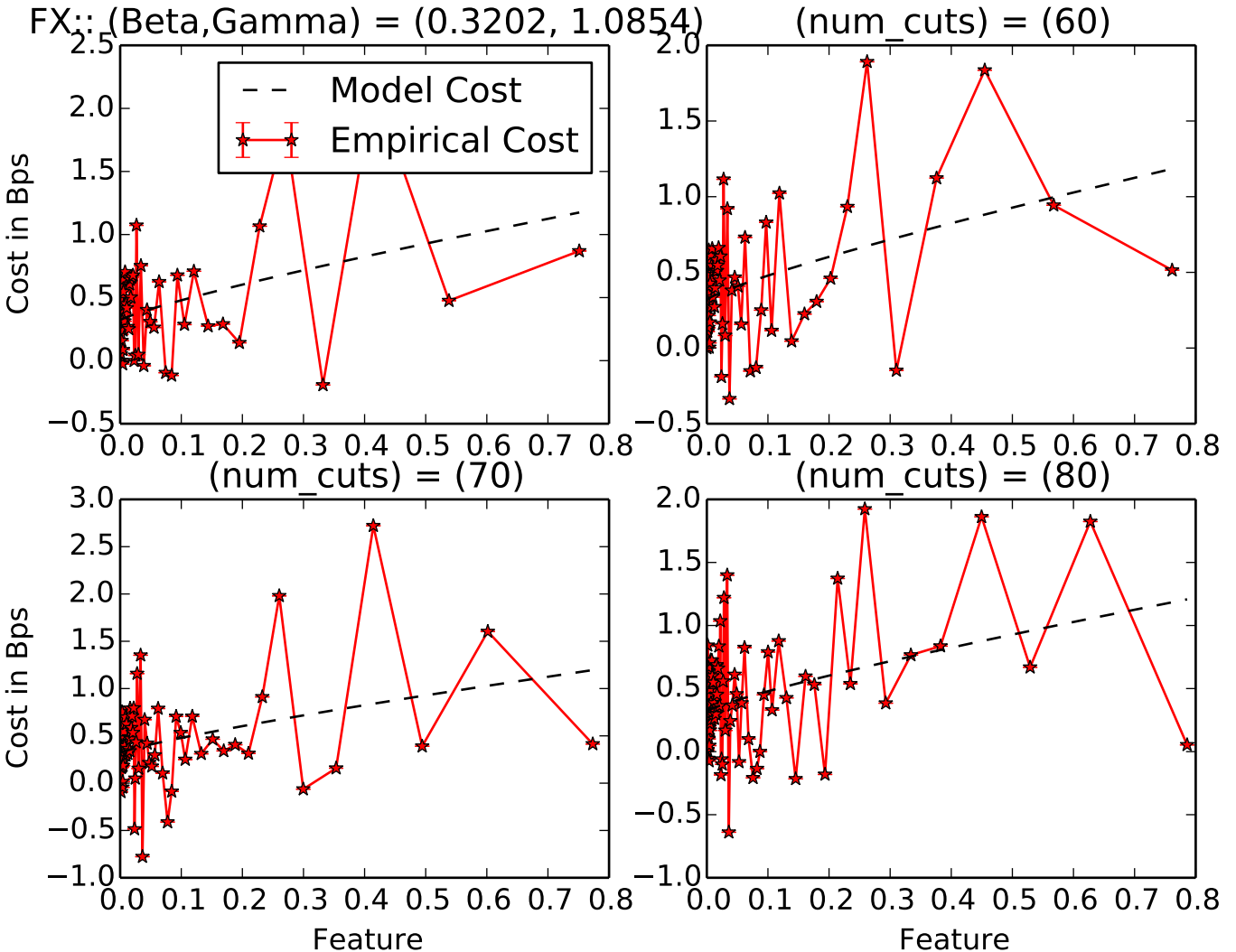

EQ:: (Beta,Gamma) = (0.0861, 4.3677)
(num_cuts) = (100)
(num_cuts) = (125)
(num_cuts) = (150)
Model Cost
Empirical Cost
Cost in Bps
Feature

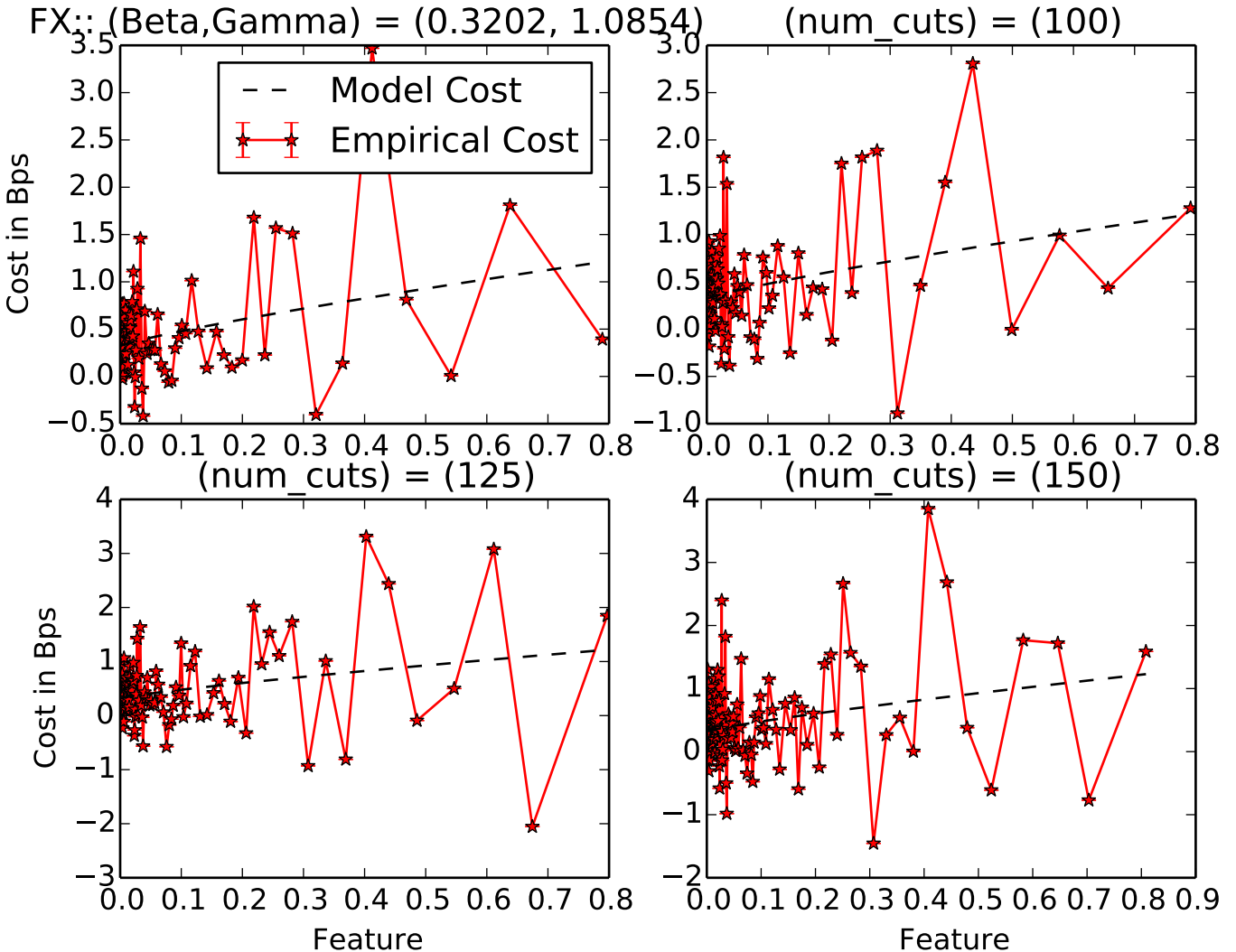

FX:: x
1000
800
600
400
200
0
Scatter y on x
FX::y
20
15
10
5
0
−5
−10
−15
−0.2
0.0
0.2
0.4
0.6
0.8
1.0

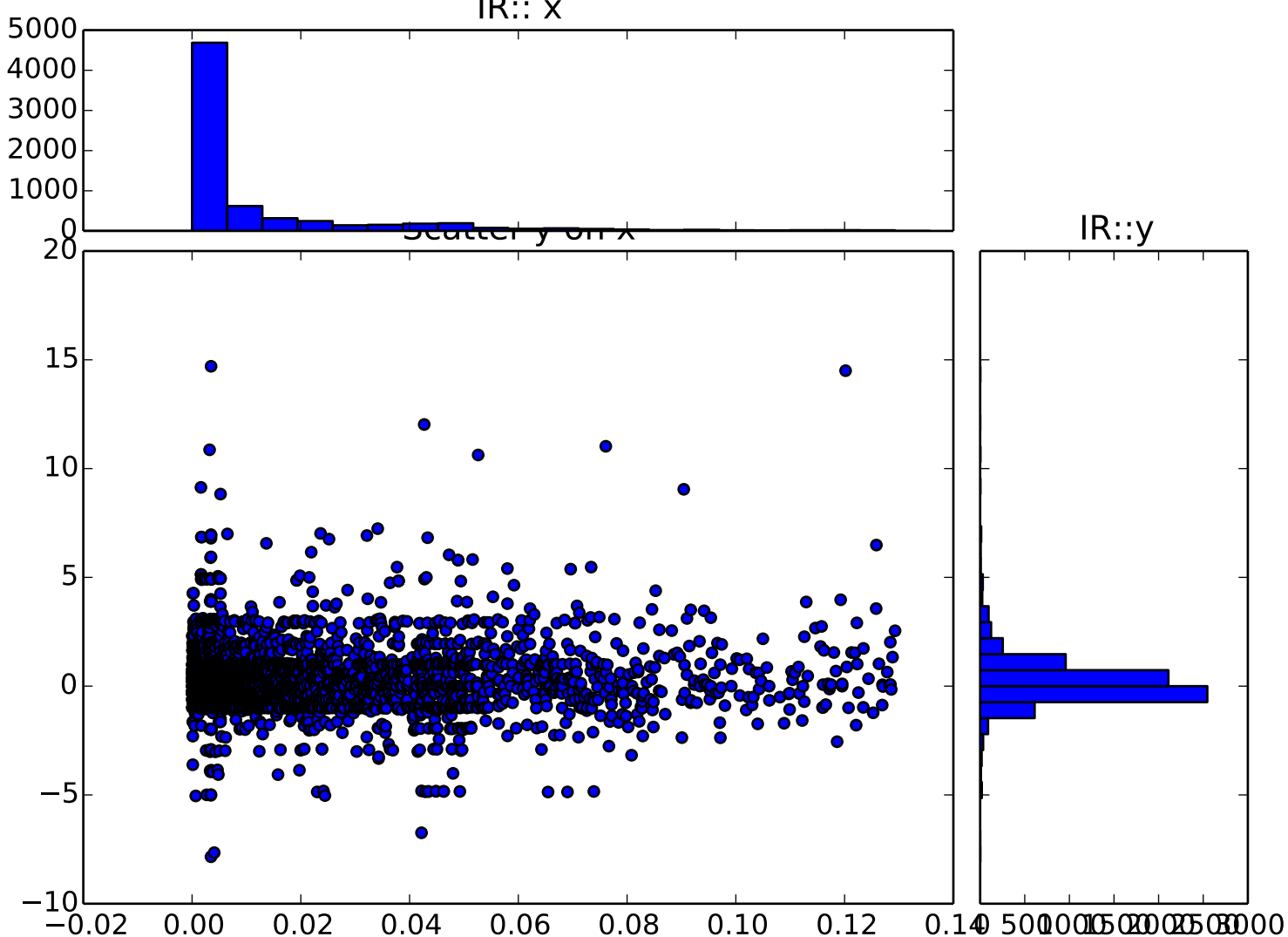

FX::Feature Space: Percentiles
Value at Cut
FX::Feature Space: Cut Number
FX::Feature Space::Cost: Percentiles
Value at Cut
FX::Feature Space::Cost: Cut Number
FX::Feature Space::Cost::TradeDuration::Pct of Volume: Percentiles
Value at Cut
Insufficient Variation in Data
FX::Feature Space::Cost::TradeDuration::Pct of Volume: Cut Number

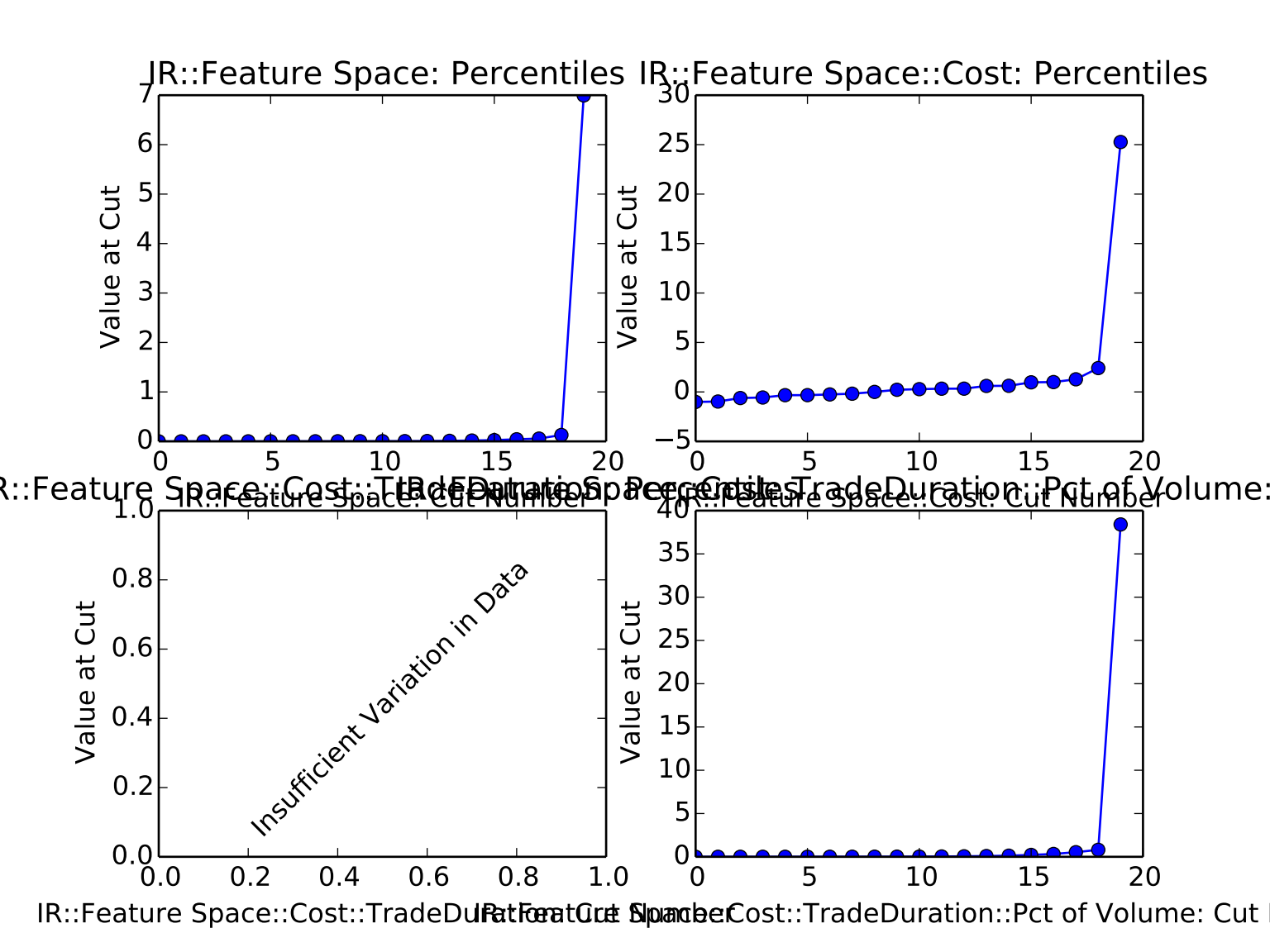

Value at Cut
Insufficient Variation in Data
Value at Cut
Insufficient Variation in Data

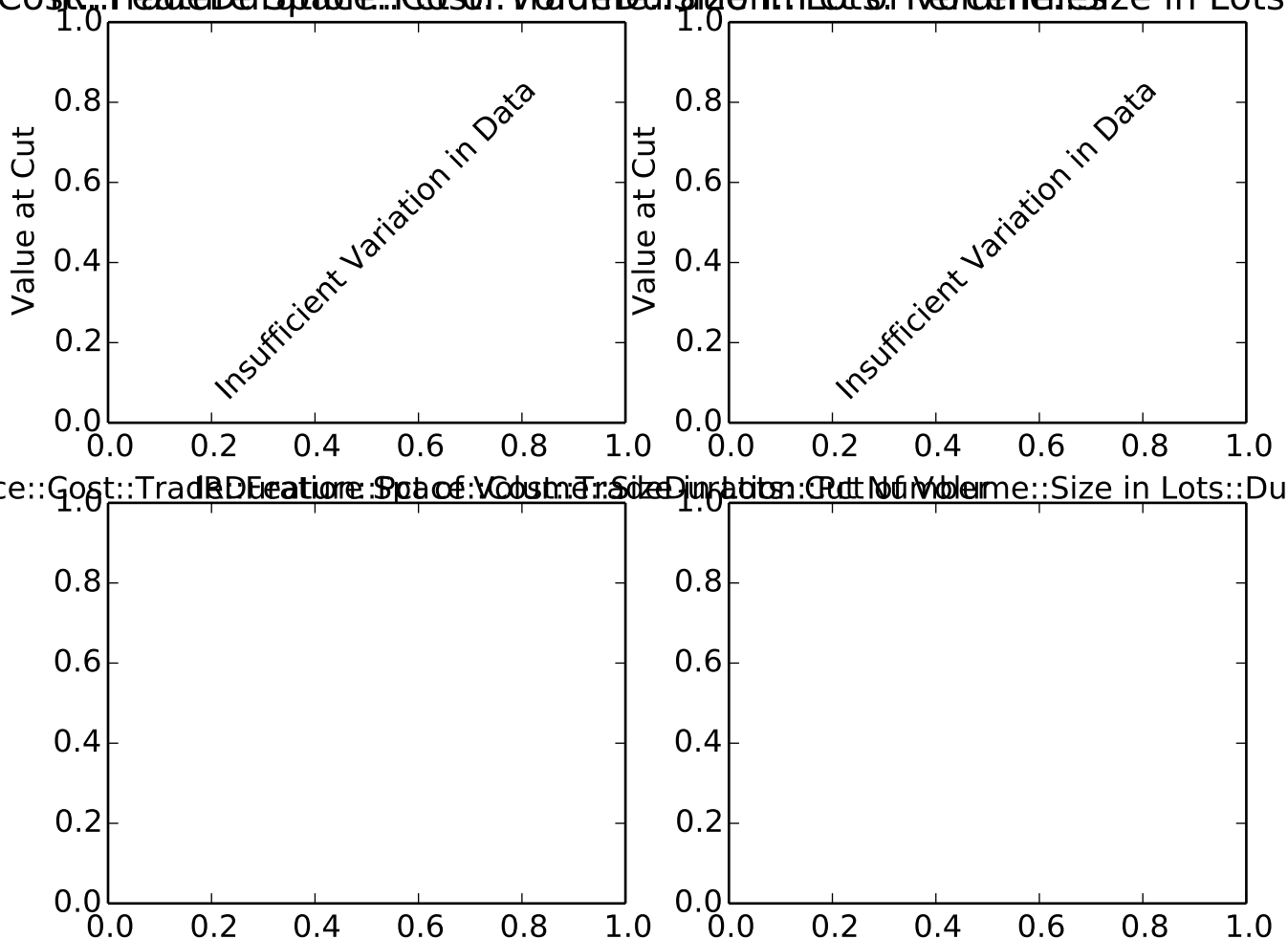

FX:: (Beta,Gamma) = (0.3202, 1.0854)
(num_cuts) = (20)
(num_cuts) = (30)
(num_cuts) = (40)
Model Cost
Empirical Cost
Cost in Bps
Feature

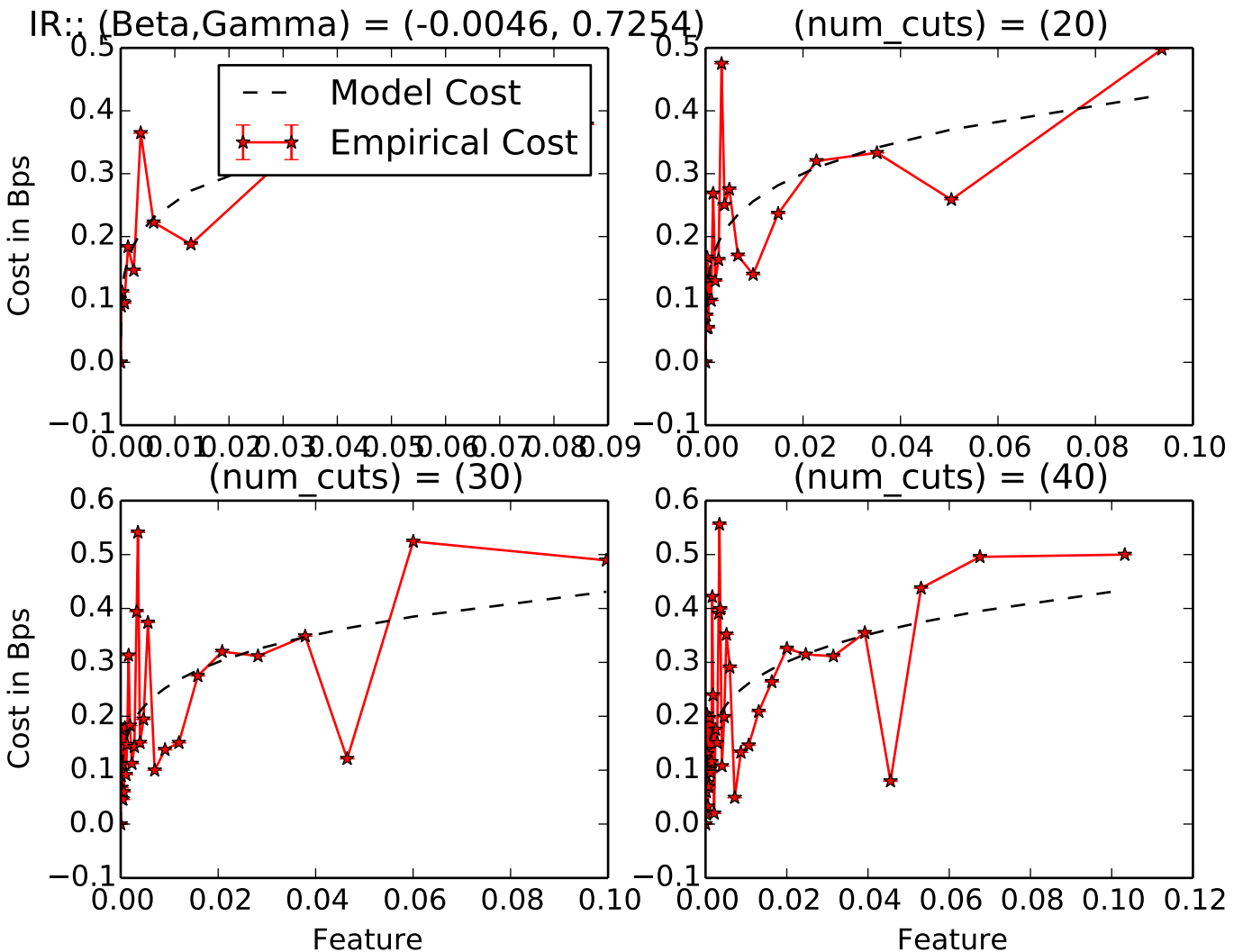

FX:: (Beta,Gamma) = (0.3202, 1.0854)
(num_cuts) = (60)
(num_cuts) = (70)
(num_cuts) = (80)
Model Cost
Empirical Cost
Cost in Bps
Feature

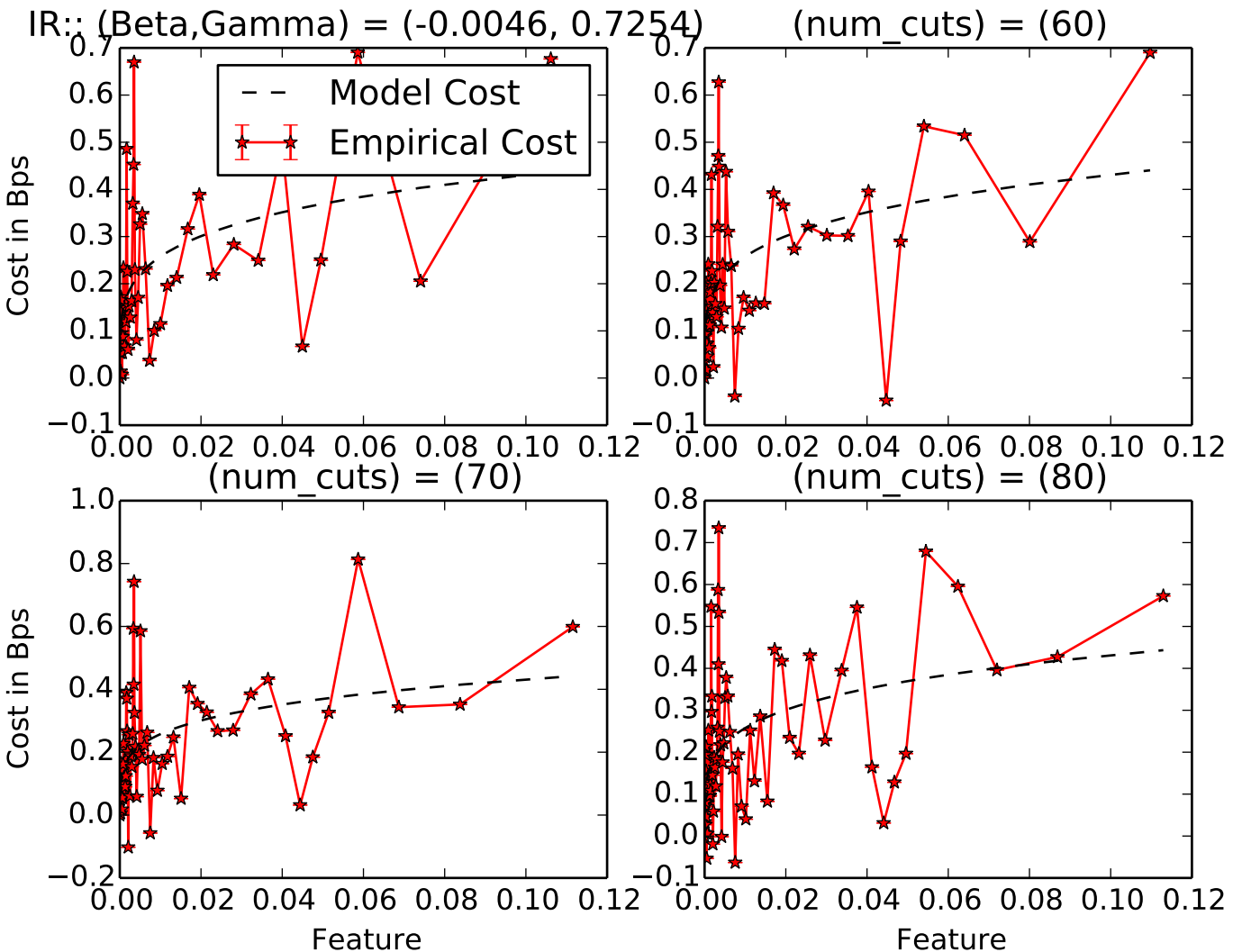

FX:: (Beta,Gamma) = (0.3202, 1.0854)
(num_cuts) = (100)
(num_cuts) = (125)
(num_cuts) = (150)
Model Cost
Empirical Cost
Cost in Bps
Feature

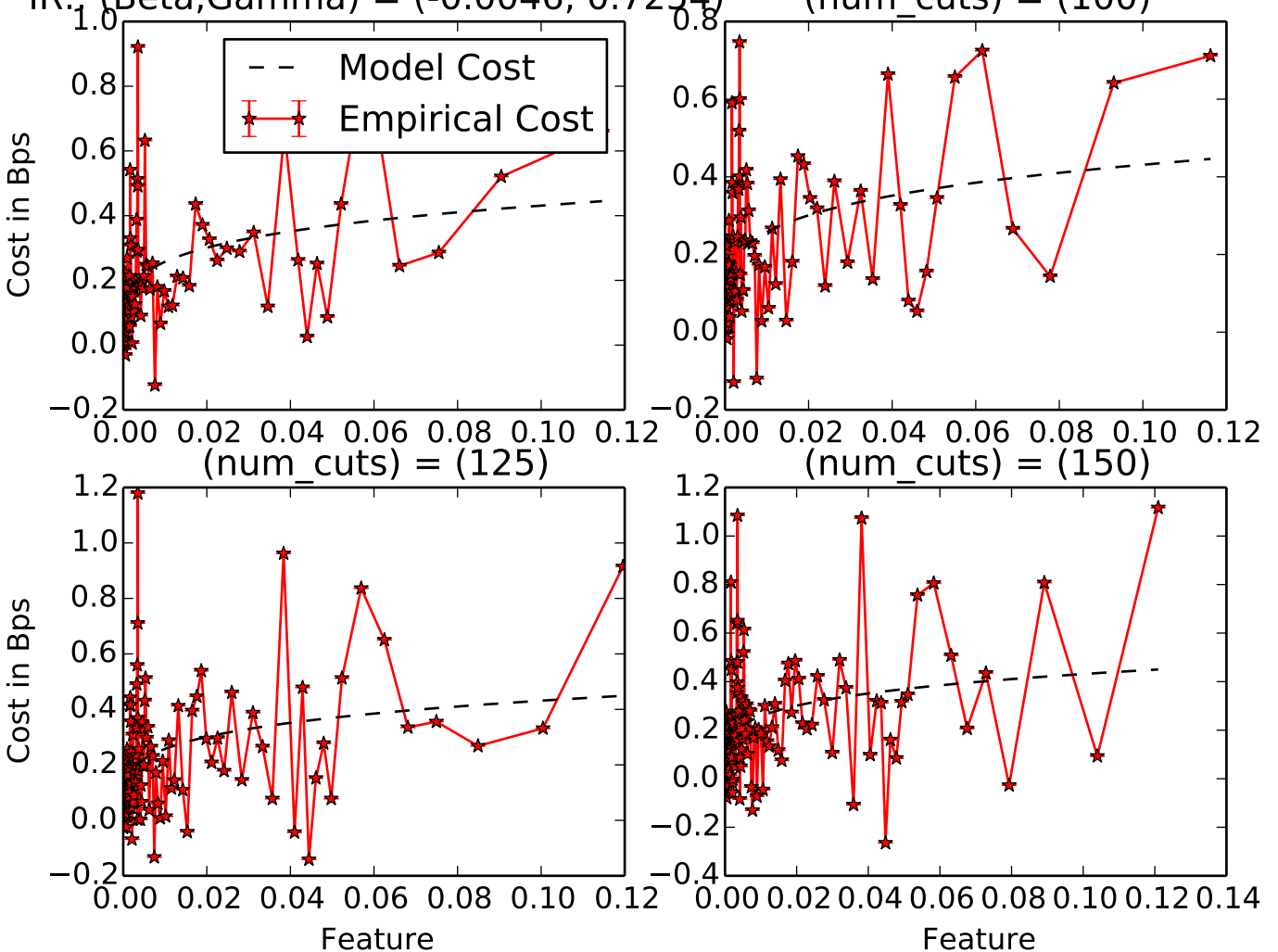

IR:: x
5000
4000
3000
2000
1000
0
Scatter y on x
IR::y
20
15
10
5
0
−5
−10
−0.02
0.00
0.02
0.04
0.06
0.08
0.10
0.12
0.14
0
500
1000
1500
2000
2500
3000

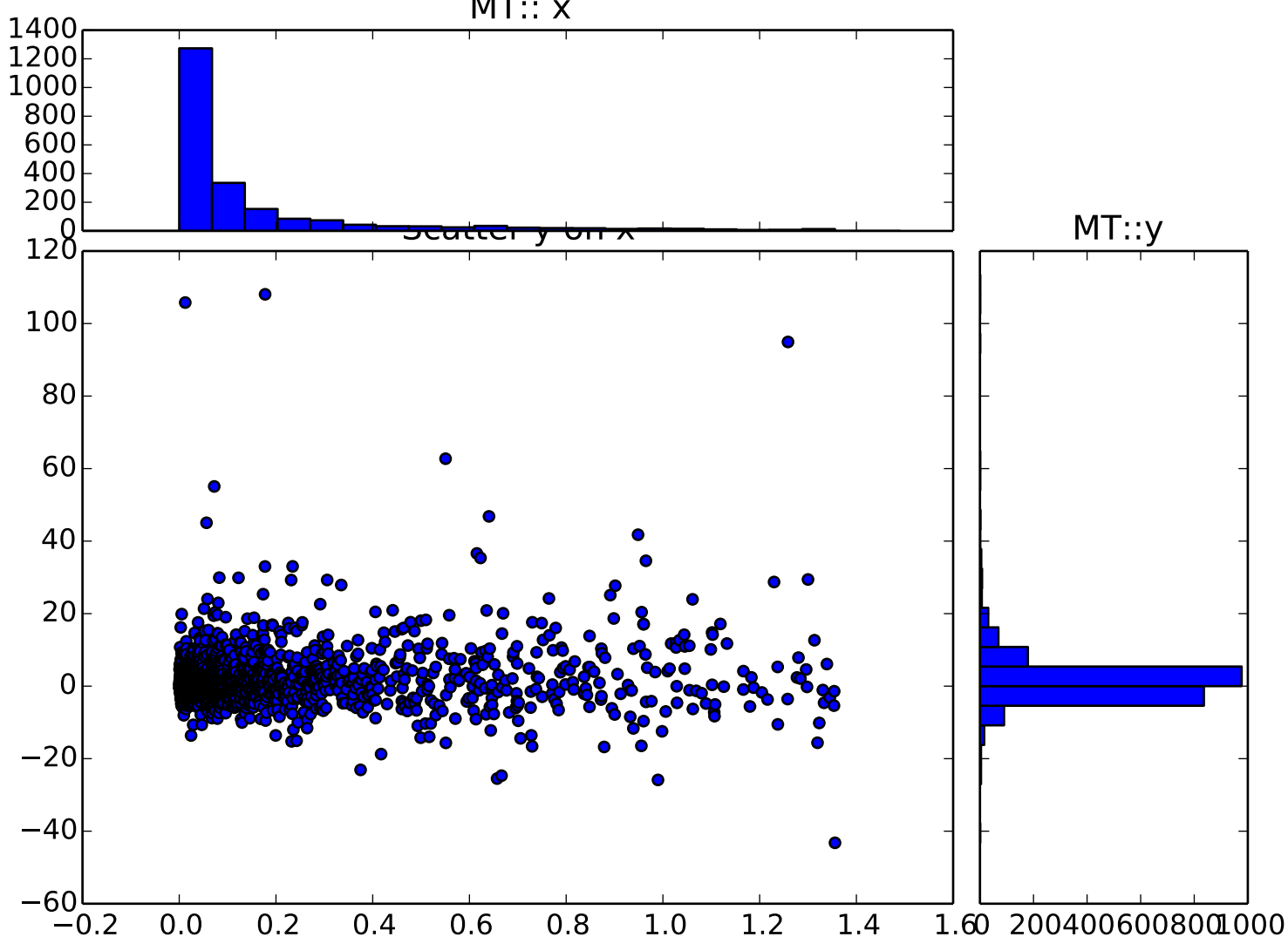

IR::Feature Space: Percentiles
Value at Cut
IR::Feature Space: Cut Number
IR::Feature Space::Cost: Percentiles
Value at Cut
IR::Feature Space::Cost: Cut Number
IR::Feature Space::Cost::TradeDuration: Percentiles
Value at Cut
Insufficient Variation in Data
IR::Feature Space::Cost::TradeDuration: Cut Number
IR::Feature Space::Cost::TradeDuration::Pct of Volume:
Value at Cut
IR::Feature Space::Cost::TradeDuration::Pct of Volume: Cut

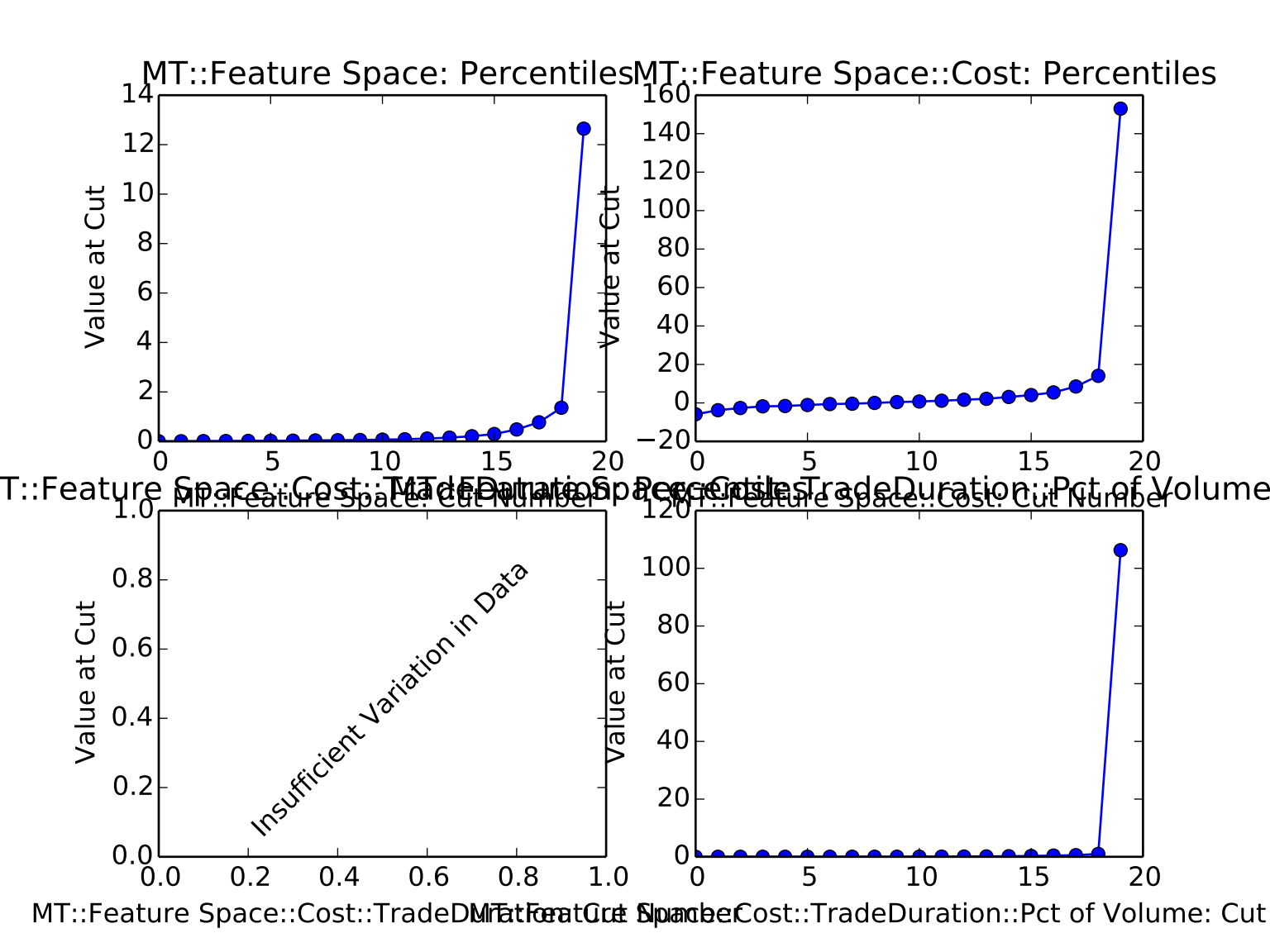

Value at Cut
Insufficient Variation in Data
Value at Cut
Insufficient Variation in Data

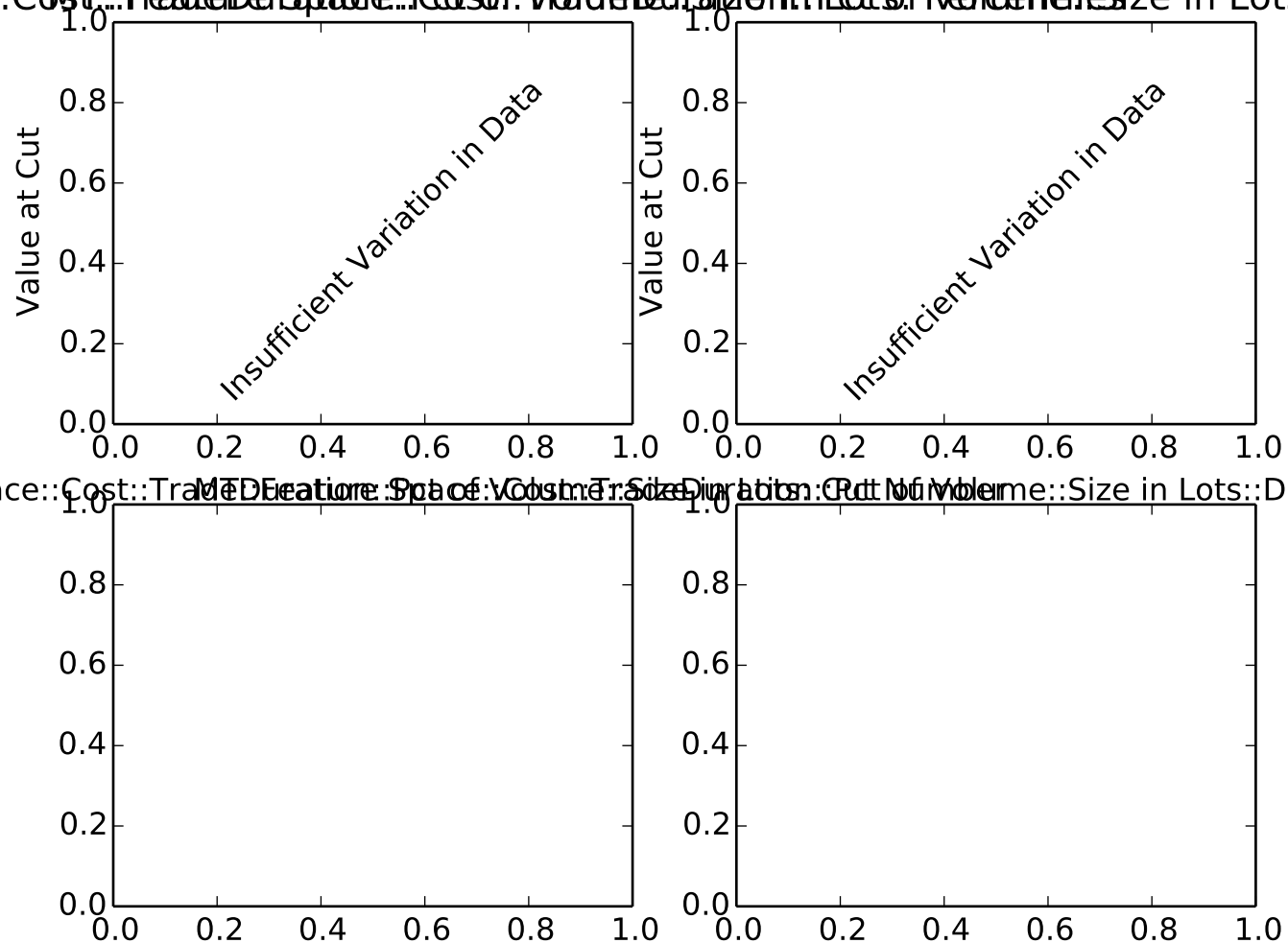

IR:: (Beta,Gamma) = (-0.0046, 0.7254)
(num_cuts) = (20)
(num_cuts) = (30)
(num_cuts) = (40)
Model Cost
Empirical Cost
Cost in Bps
Feature

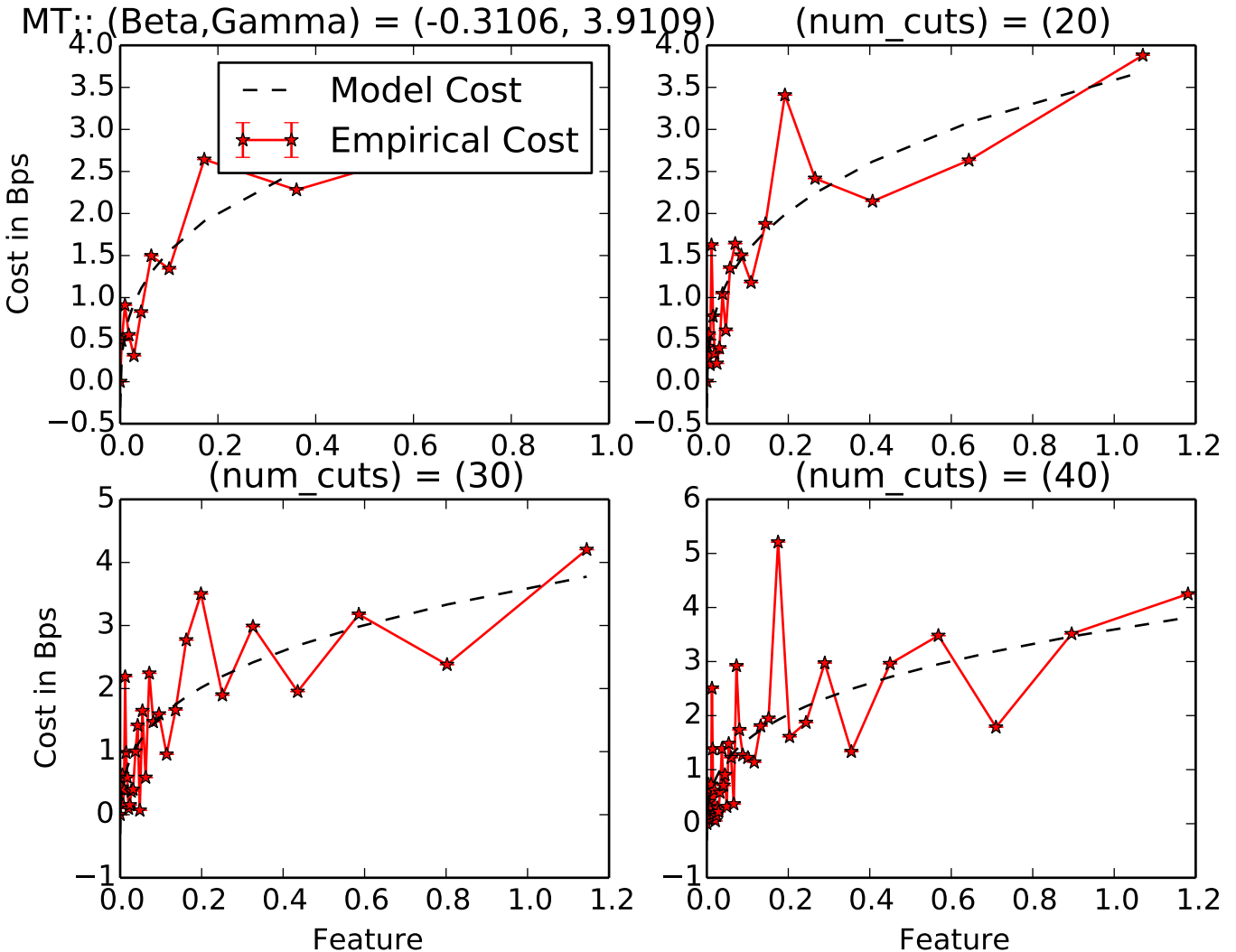

IR:: (Beta,Gamma) = (-0.0046, 0.7254)
(num_cuts) = (60)
(num_cuts) = (70)
(num_cuts) = (80)
Model Cost
Empirical Cost
Cost in Bps
Feature

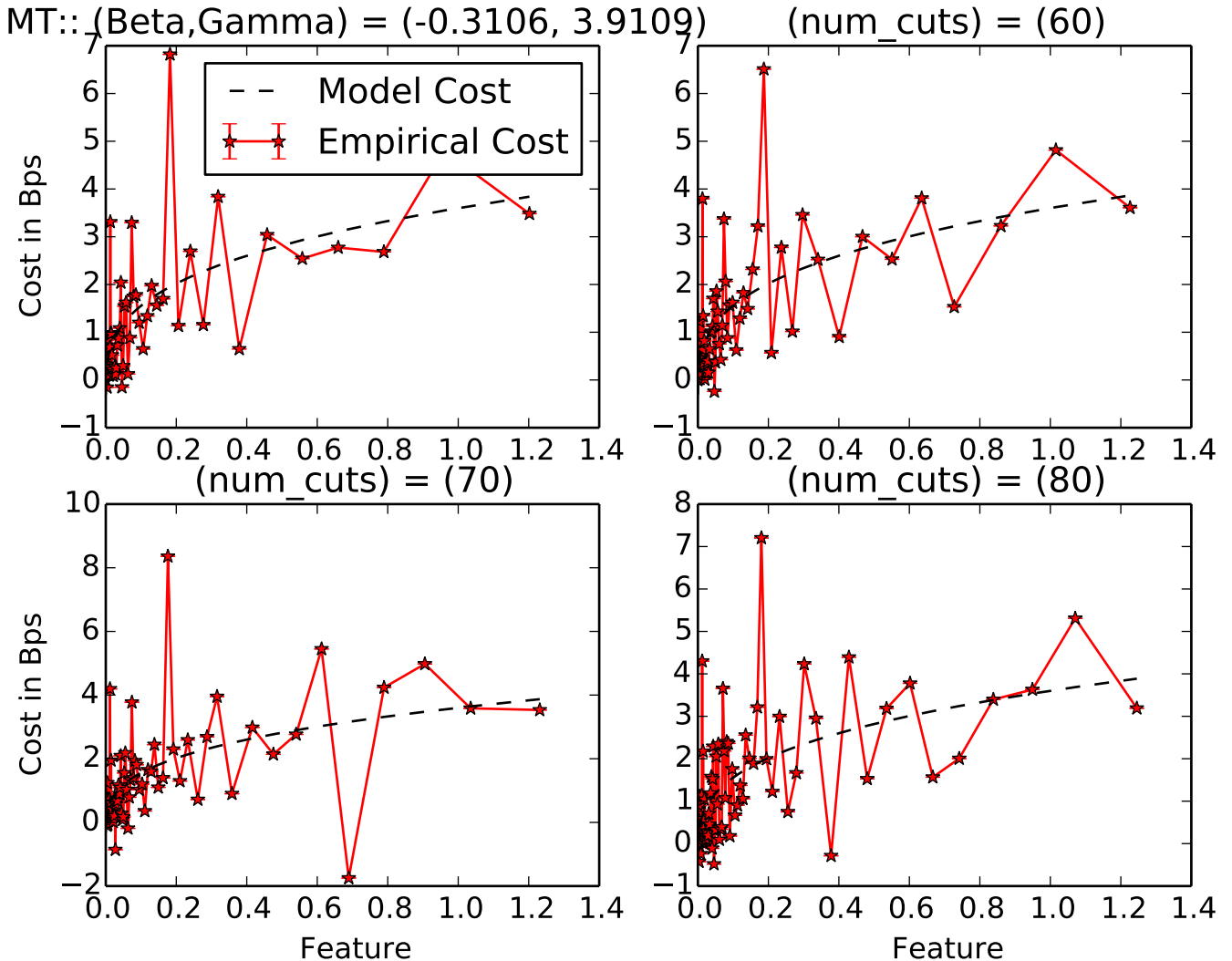

IR:: (Beta,Gamma) = (-0.0046, 0.7254)
(num_cuts) = (100)
(num_cuts) = (125)
(num_cuts) = (150)
Model Cost
Empirical Cost
Cost in Bps
Feature

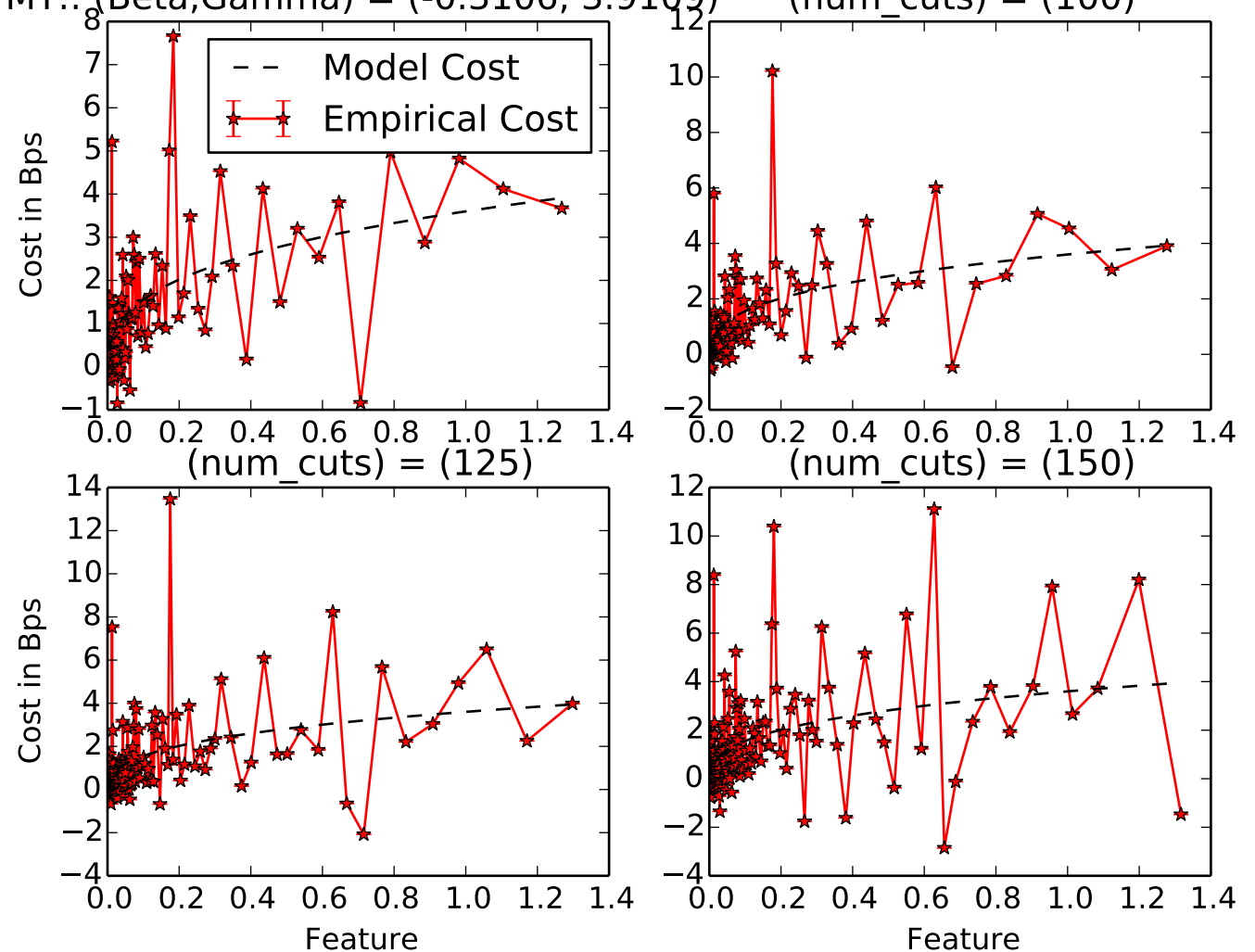

MT:: x
MT::y
1400
1200
1000
800
600
400
200
0
120
100
80
60
40
20
0
−20
−40
−60
−0.2
0.0
0.2
0.4
0.6
0.8
1.0
1.2
1.4
1.6
0
200
400
600
800
1000


MT::Feature Space: Percentiles
Value at Cut
MT::Feature Space: Cut Number
MT::Feature Space::Cost: Percentiles
Value at Cut
MT::Feature Space::Cost: Cut Number
MT::Feature Space::Cost::TradeDuration: Percentiles
Value at Cut
Insufficient Variation in Data
MT::Feature Space::Cost::TradeDuration: Cut Number
MT::Feature Space::Cost::TradeDuration::Pct of Volume: Percentiles
Value at Cut
MT::Feature Space::Cost::TradeDuration::Pct of Volume: Cut Number


Value at Cut
Insufficient Variation in Data
Value at Cut
Insufficient Variation in Data


MT:: (Beta,Gamma) = (-0.3106, 3.9109)
(num_cuts) = (20)
(num_cuts) = (30)
(num_cuts) = (40)
Model Cost
Empirical Cost
Cost in Bps
Feature


MT:: (Beta,Gamma) = (-0.3106, 3.9109)
(num_cuts) = (60)
(num_cuts) = (70)
(num_cuts) = (80)
Model Cost
Empirical Cost
Cost in Bps
Feature


MT:: (Beta,Gamma) = (-0.3106, 3.9109)
(num_cuts) = (100)
(num_cuts) = (125)
(num_cuts) = (150)
Model Cost
Empirical Cost
Cost in Bps
Feature