TYPE	MARKET CAP	SIDE	MARKET	SIZE	MOMENTUM
ALL	ALL (A)	ALL (A)	ALL (A)	ALL	ALL
GROWTH	LARGE (L)	BUY (B)	LISTED (N)	≤ 1%	≤ - 0.1
VALUE	MID (M)	SELL (S)	OTC (Q)	(1,5]%	(- 0.1,- 0.02]
MICRO-CAP	SMALL (S)			(5,10]%	(- 0.02,0.02]
				(10,25]%	(- 0.02,0.1]
				(25,50]%	> 0.1
				> 50%	

FIG. 1

SUBSTITUTE SHEET (RULE 26)

CATEGORY	NO. TRADES (IN MILL.)	NO. ORDERS (IN MILL.)	DOLLAR VALUE (IN BILL.)	NO. SHARES (IN BILL.)	NO. STOCKS
ALL	14.6	6.4	2,105	82.7	11,288
TYPE					
GROWTH	10.0	4.3	1,484	58.0	4,686
VALUE	9.1	4.1	1,307	51.4	5,104
MICRO CAP	0.2	0.1	9.3	1.2	5,658
MARKET CAP					
LARGE CAP	4.2	2.2	1,116	33.2	500
MID CAP	5.3	2.3	698	28.6	1,842
SMALL CAP	5.1	1.9	289	20.9	9,998
SIDE					
BUY	7.8	3.5	1,050	41.1	10,722
SELL	6.8	2.9	1,054	41.6	10,004
MARKET					
LISTED	9.1	4.5	1,625	55.7	4,838
OTC	5.5	2.0	479	27.0	6,524
SIZE					
≤1%	12.7	5.2	706	25.4	8,486
(1,5]%	1.2	0.7	610	23.0	9,582
(5,10]%	0.3	0.2	286	11.2	9,402
(10,25]%	0.2	0.2	294	12.1	9,622
(25,50]%	0.07	0.07	113	5.2	8,758
>50%	0.05	0.05	95	5.8	8,006
MOMENTUM					
≤-0.1	1.1	0.5	103	5.5	10,136
(-0.1,-0.02]	4.3	1.9	643	26.1	8,708
(-0.02,0.02]	4.5	2.0	712	26.4	8,368
(0.02,0.1]	3.8	1.7	565	20.9	8,656
>0.1	0.9	0.4	81.7	3.7	9,906

FIG. 2

CATEGORY	C_{T-1}	V_T	C_{T+1}	C_{T+20}	O_T	M_T
ALL	-39 (-22)	-7 (-4)	2 (6)	-11 (-22)	-31 (-20)	-5 (-4)
TYPE						
GROWTH	-42 (-24)	-7 (-4)	1 (8)	-11.6 (-20)	-33 (-20)	-5 (-3)
VALUE	-37 (-16)	-8 (-3)	4 (2)	1 (-24)	-29 (-16)	-5 (-4)
MICRO CAP	-87 (-78)	-14 (-19)	7 (2)	5 (-68)	-68 (-78)	-20 (-31)
MARKET CAP						
LARGE CAP	-31 (-17)	-6 (-3)	-1 (1)	1 (-11)	-25 (-14)	-4(-1)
MID CAP	-44 (-13)	-8 (-3)	2 (7)	-14 (-5)	-33 (-11)	-6 (-2)
SMALL CAP	-55 (-36)	-9 (-6)	11 (8)	-46 (-50)	-46 (-33)	-4 (-7)
SIDE						
BUY	23 (6)	-7 (-7)	-21 (-19)	-356 (-384)	0 (-3)	-3 (-5)
SELL	-100 (-54)	-8 (-1)	24 (33)	333 (388)	-61 (-39)	-6 (-2)
MARKET						
LISTED	-29 (-13)	-7 (-2)	0 (3)	-8 (-22)	-24 (-13)	-5 (-2)
OTC	-70 (-36)	-10 (-7)	5 (9)	-20 (-22)	-52 (-31)	-4(-5)
SIZE						
≤ 1%	-30 (-21)	-5 (-4)	2 (5)	-20 (-23)	-22 (-18)	-4 (-3)
(1,5]%	-36 (-25)	-7 (-6)	4 (8)	8 (-19)	-27 (-24)	-6 (-11)
(5,10]%	-41 (-30)	-8 (-8)	0 (7)	5 (-11)	-31 (-29)	-7 (-13)
(10,25]%	-46 (-35)	-8 (-10)	0 (4)	-5 (-11)	-35 (-34)	-5 (-14)
(25,50]%	-72 (-46)	-14 (-12)	5 (9)	-65 (-14)	-58 (-43)	2 (-14)
> 50%	-54 (-65)	-17 (-24)	-11 (2)	-71 (33)	-74 (-65)	-6 (-22)
MOMENTUM						
≤ -0.1	-32 (-32)	-7 (-7)	2 (11)	-29 (-48)	-28 (-34)	-4 (-9)
(-0.1,-0.02]	-47 (-31)	-7 (-4)	1 (11)	30 (-15)	-35 (-24)	-6 (-3)
(-0.02,0.02]	-37 (-17)	-7 (-4)	0 (4)	-31 (-13)	-29 (-16)	-5 (-3)
(0.02,0.1]	-34 (-15)	-8 (-3)	3 (1)	-25 (-30)	-30 (-14)	-4 (-4)
> 0.1	-33 (-22)	-8 (-5)	5 (0)	-40 (-42)	-26 (-23)	-6 (-7)

FIG. 3

CATEGORY	C_{T-1}	V_T	C_{T+1}	C_{T+20}	O_T	M_T
ALL	-70 (-22)	-27 (-13)	9 (0)	-3 (-26)	-58 (-22)	-75 (-34)
TYPE						
GROWTH	-74 (-22)	-26 (-13)	12 (0)	-3 (-26)	-59 (-21)	-72 (-35)
VALUE	-68 (-19)	-27 (-11)	1 (-2)	6 (-27)	-58 (-19)	-75 (-28)
MICRO CAP	-216 (-134)	-105 (-69)	17 (-24)	27 (-32)	-182 (-134)	-190 (-152)
MARKET CAP						
LARGE CAP	-44 (-9)	-13 (-4)	6 (2)	7 (2)	-37 (-8)	-48 (-13)
MID CAP	-79 (-8)	-33 (-7)	19 (2)	-15 (-21)	-66 (-9)	-83 (-26)
SMALL CAP	-79 (-8)	-33 (-7)	19 (2)	-15 (-21)	-66 (-9)	-83 (-26)
SIDE						
BUY	41 (8)	16 (-12)	-107 (-34)	-335 (-328)	21 (-3)	-51 (-29)
SELL	-181 (-57)	-69 (-14)	124 (39)	327 (332)	-137 (-44)	-98 (-40)
MARKET						
LISTED	-54 (-15)	-20 (-9)	1 (-1)	1 (-23)	-47 (-15)	-63 (-22)
OTC	-125 (-37)	-48 (-23)	35 (0)	-14 (-33)	-97 (-36)	-101 (-57)
SIZE						
≤1%	-32 (-11)	-11 (-8)	2 (-1)	-18 (-30)	-26 (-12)	-32 (-22)
(1,5]%	-56 (-58)	-20 (-29)	6 (0)	13 (-24)	-46 (-54)	-52 (-72)
(5,10]%	-71 (-73)	-26 (-36)	11 (5)	32 (8)	-59 (-69)	-67 (-94)
(10,25]%	-78 (-83)	-30 (-40)	4 (0)	14 (6)	-67 (-78)	-85 (-110)
(25,50]%	-76 (-98)	-16 (-47)	-12 (-8)	-28 (7)	-61 (-91)	-106 (-146)
>50%	-139 (-132)	-68 (-77)	47 (-1)	-44 (41)	-115 (-125)	-150 (-210)
MOMENTUM						
≤-0.1	-102 (-51)	-62 (-32)	11 (-6)	-38 (-94)	-99 (-55)	-131 (-70)
(-0.1,-0.02]	-80 (-26)	-29 (-13)	0 (-2)	11 (-18)	-67 (-23)	-78 (-34)
(-0.02,0.02]	-67 (-13)	-21 (-8)	24 (1)	-16 (-10)	-49 (-13)	-66 (-25)
(0.02,0.1]	-57 (-18)	-24 (-11)	0 (1)	7 (-31)	-52 (-18)	-70 (-31)
>0.1	-84 (-34)	-37(-22)	11 (2)	-15 (-51)	-71 (-36)	-106 (-60)

FIG. 4

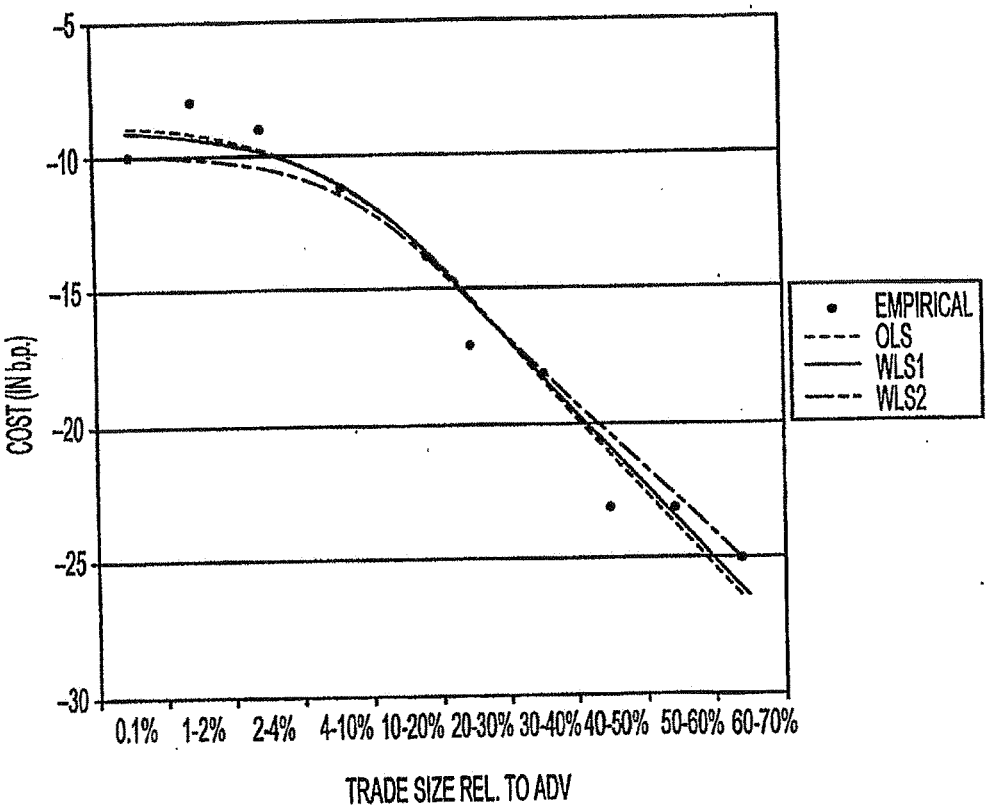

-5
-10
-15
-20
-25
-30
COST (IN b.p.)
0.1%
1-2%
2-4%
4-10%
10-20%
20-30%
30-40%
40-50%
50-60%
60-70%
TRADE SIZE REL. TO ADV
EMPIRICAL
OLS
WLS1
WLS2

FIG. 5

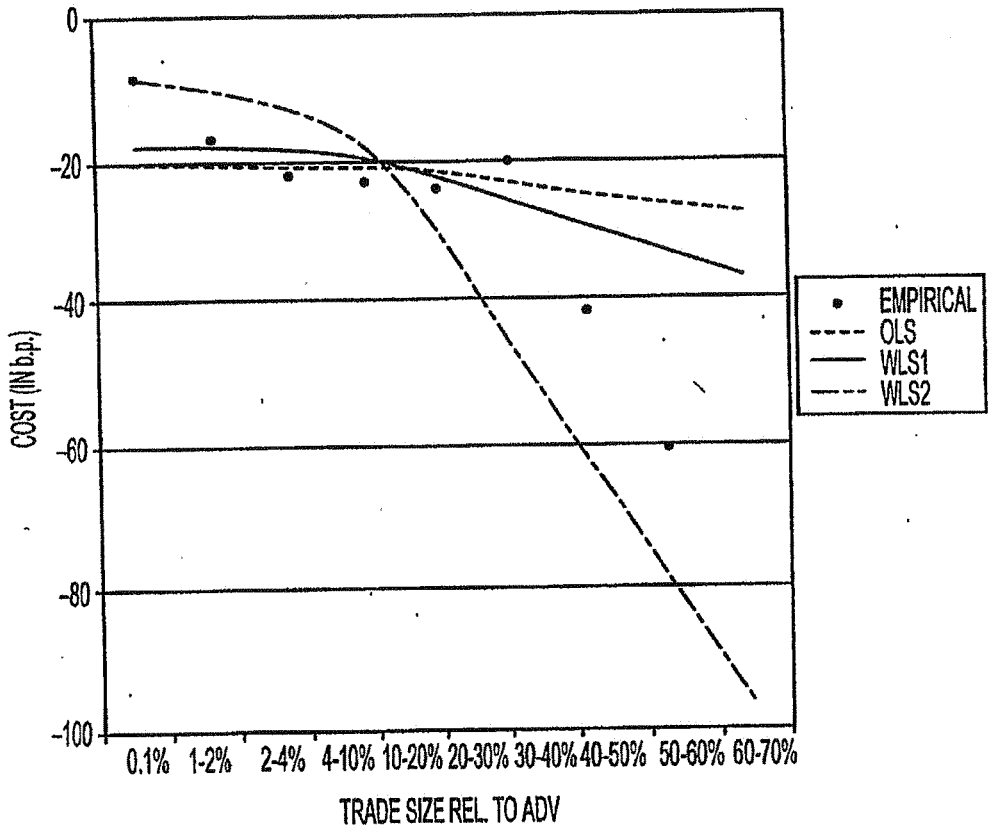

0
-20
-40
-60
-80
-100
COST (INb.p.)
0.1% 1-2% 2-4% 4-10% 10-20% 20-30% 30-40% 40-50% 50-60% 60-70%
TRADE SIZE REL. TO ADV
EMPIRICAL
OLS
WLS1
WLS2

FIG. 6

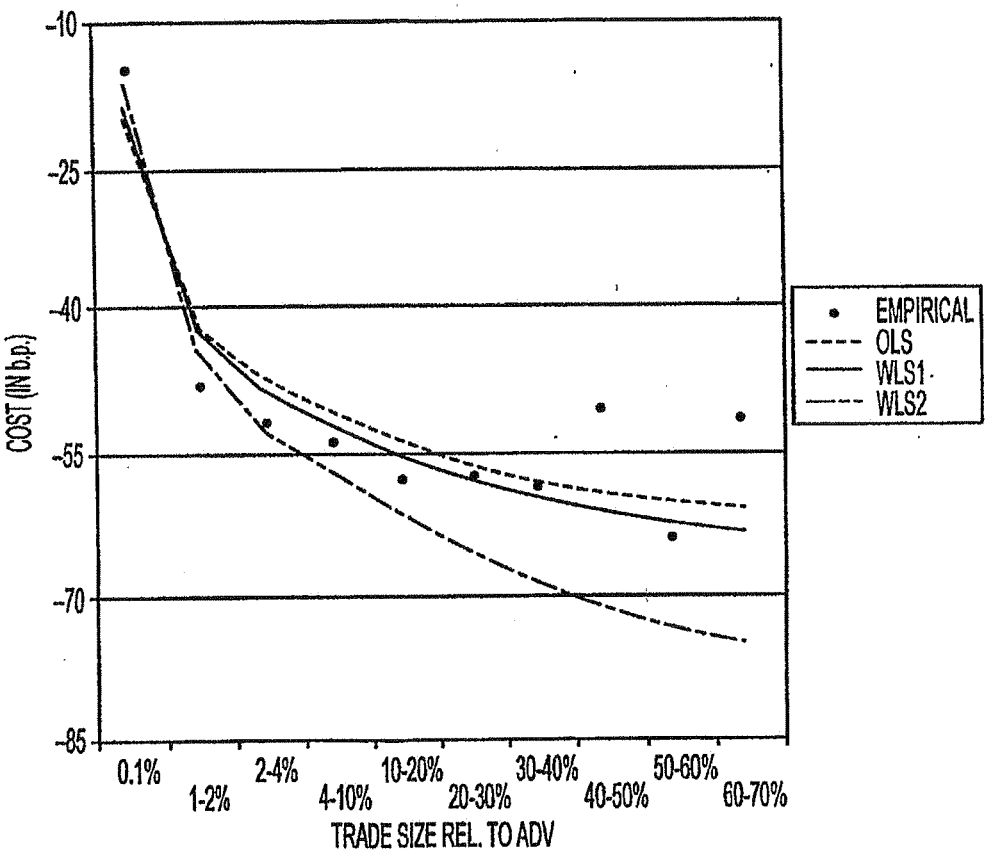

-10
-25
-40
-55
-70
-85
COST (IN b.p.)
0.1%
1-2%
2-4%
4-10%
10-20%
20-30%
30-40%
40-50%
50-60%
60-70%
TRADE SIZE REL. TO ADV
EMPIRICAL
OLS
WLS1
WLS2

FIG. 7

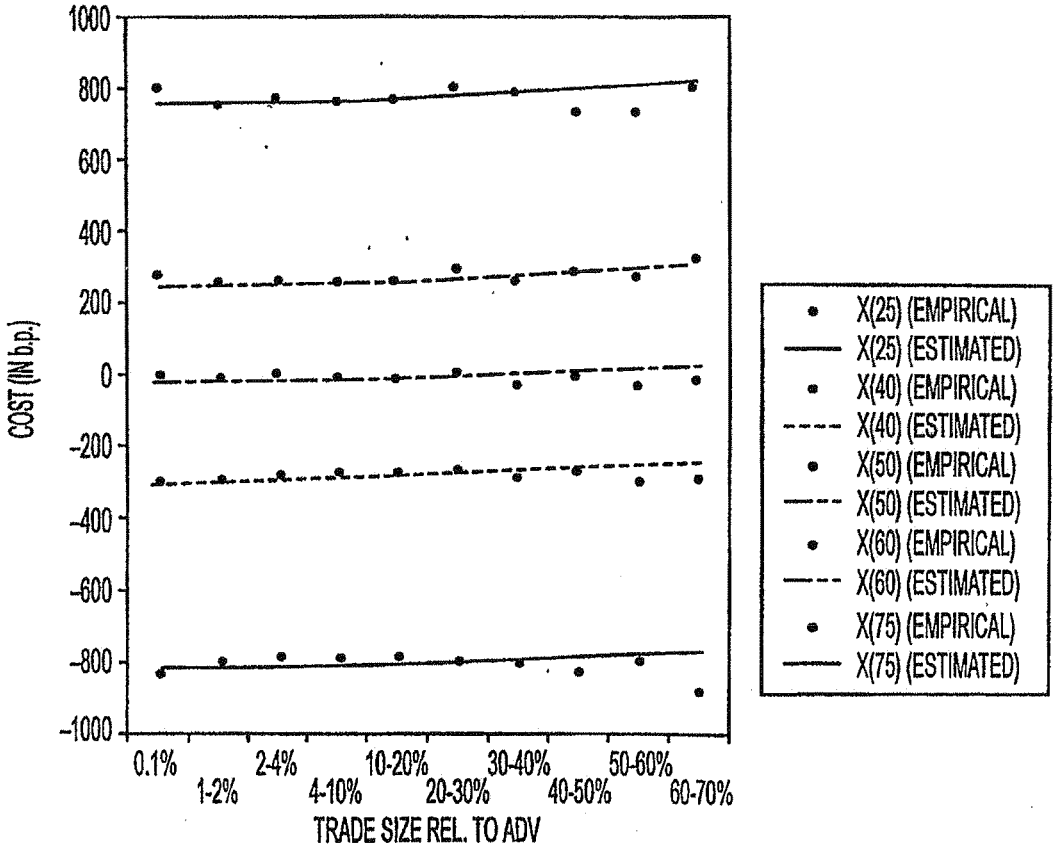

1000
800
600
400
200
0
-200
-400
-600
-800
-1000
COST (IN b.p.)
0.1%
1-2%
2-4%
4-10%
10-20%
20-30%
30-40%
40-50%
50-60%
60-70%
TRADE SIZE REL. TO ADV
X(25) (EMPIRICAL)
X(25) (ESTIMATED)
X(40) (EMPIRICAL)
X(40) (ESTIMATED)
X(50) (EMPIRICAL)
X(50) (ESTIMATED)
X(60) (EMPIRICAL)
X(60) (ESTIMATED)
X(75) (EMPIRICAL)
X(75) (ESTIMATED)

FIG. 8

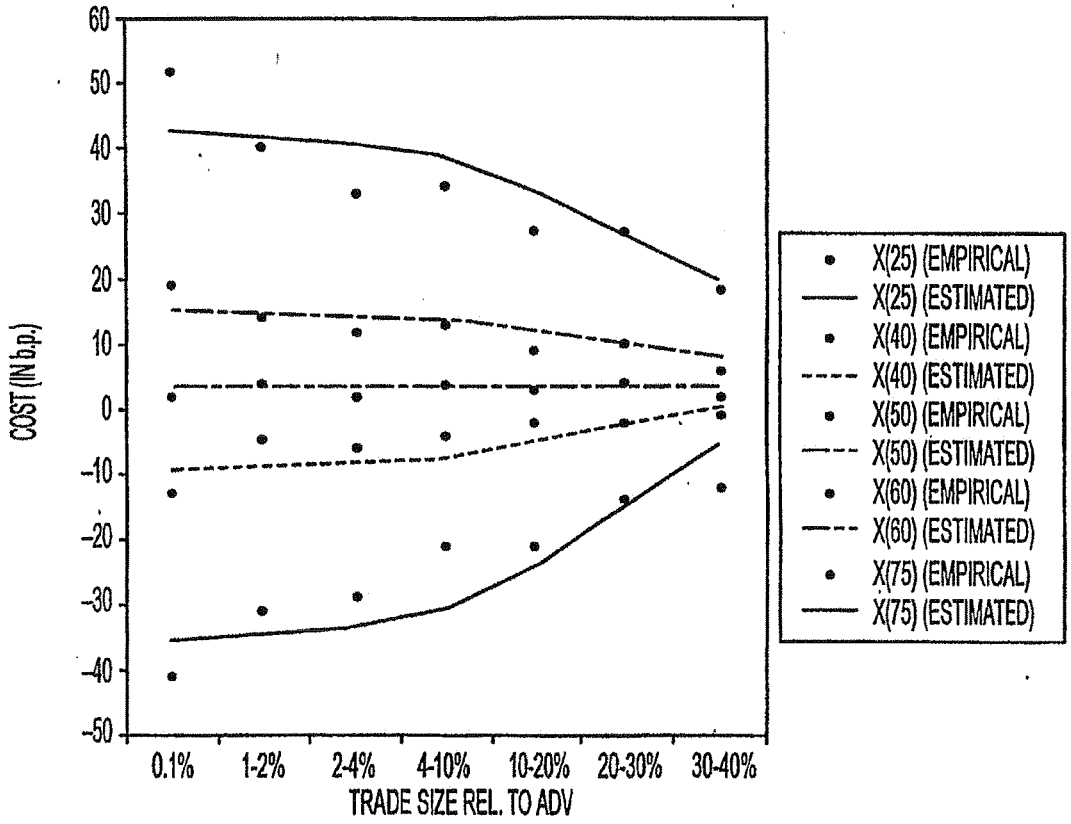

60
50
40
30
20
10
0
-10
-20
-30
-40
-50
COST (IN b.p.)
0.1%
1-2%
2-4%
4-10%
10-20%
20-30%
30-40%
TRADE SIZE REL. TO ADV
X(25) (EMPIRICAL)
X(25) (ESTIMATED)
X(40) (EMPIRICAL)
X(40) (ESTIMATED)
X(50) (EMPIRICAL)
X(50) (ESTIMATED)
X(60) (EMPIRICAL)
X(60) (ESTIMATED)
X(75) (EMPIRICAL)
X(75) (ESTIMATED)

FIG. 9

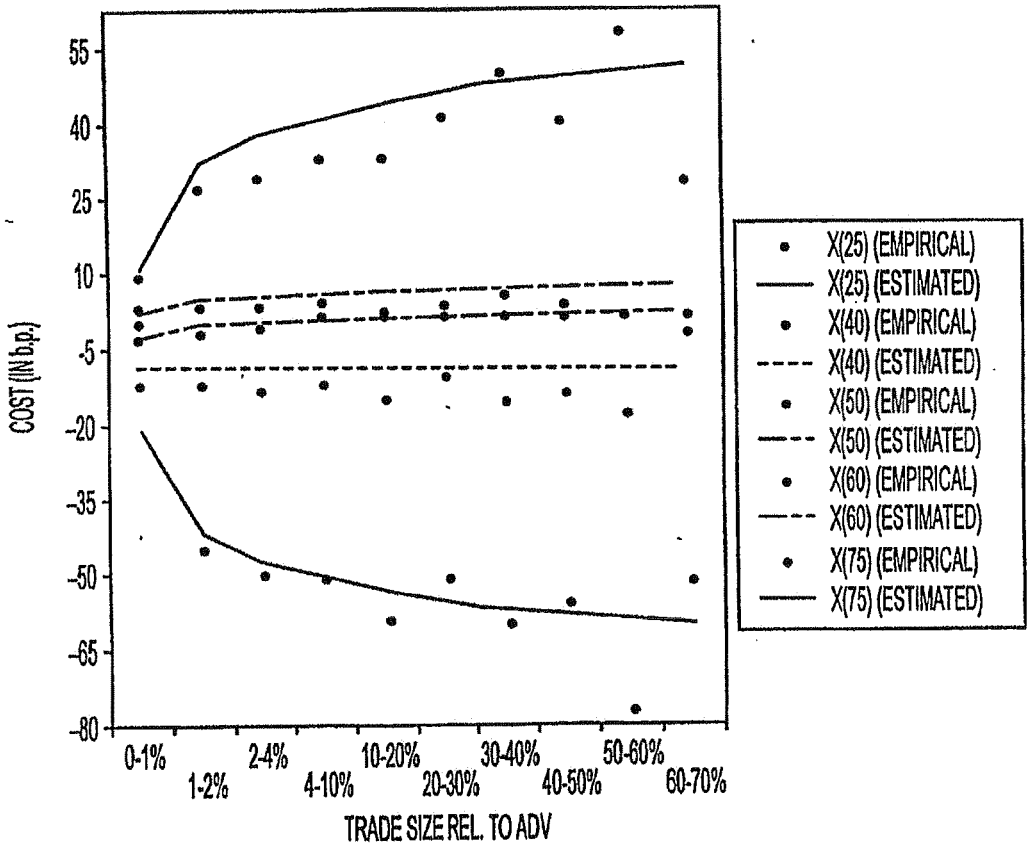

55
40
25
10
-5
-20
-35
-50
-65
-80
COST (IN b.p.)
0-1%
1-2%
2-4%
4-10%
10-20%
20-30%
30-40%
40-50%
50-60%
60-70%
TRADE SIZE REL. TO ADV
X(25) (EMPIRICAL)
X(25) (ESTIMATED)
X(40) (EMPIRICAL)
X(40) (ESTIMATED)
X(50) (EMPIRICAL)
X(50) (ESTIMATED)
X(60) (EMPIRICAL)
X(60) (ESTIMATED)
X(75) (EMPIRICAL)
X(75) (ESTIMATED)

FIG. 10

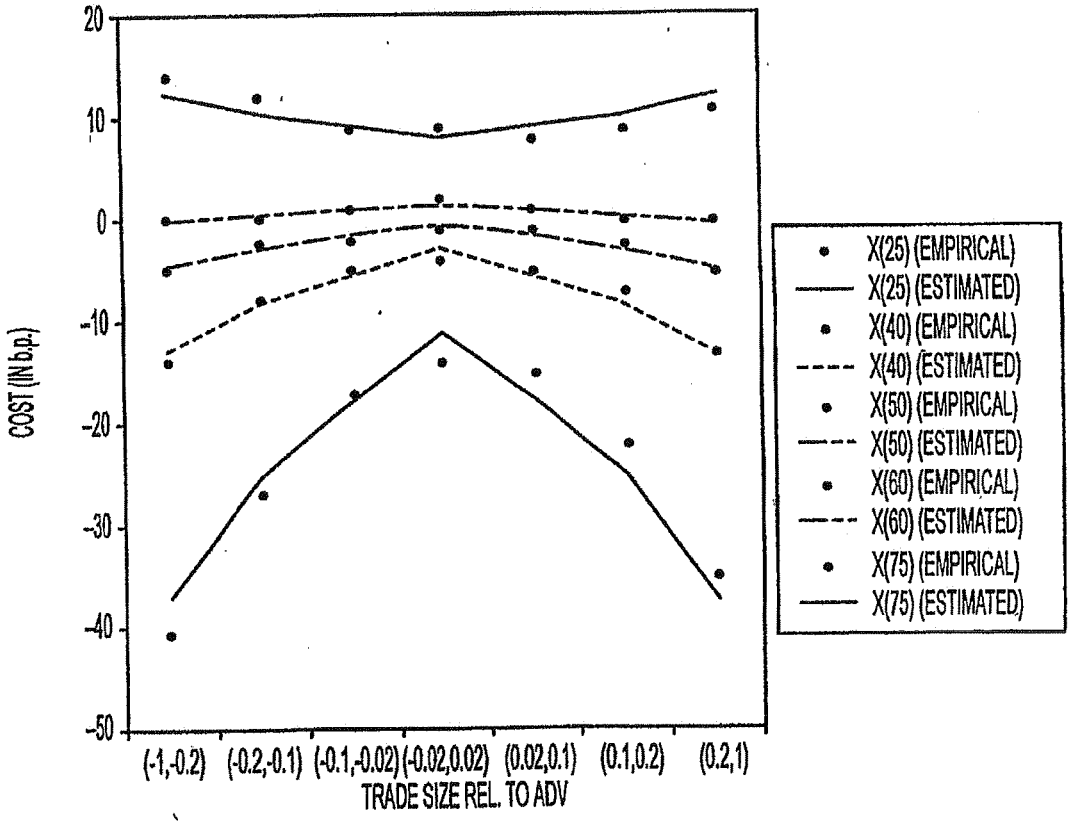

20
10
0
-10
-20
-30
-40
-50
COST (IN b.p.)
(-1,-0.2)
(-0.2,-0.1)
(-0.1,-0.02)
(-0.02,0.02)
(0.02,0.1)
(0.1,0.2)
(0.2,1)
TRADE SIZE REL. TO ADV
X(25) (EMPIRICAL)
X(25) (ESTIMATED)
X(40) (EMPIRICAL)
X(40) (ESTIMATED)
X(50) (EMPIRICAL)
X(50) (ESTIMATED)
X(60) (EMPIRICAL)
X(60) (ESTIMATED)
X(75) (EMPIRICAL)
X(75) (ESTIMATED)

FIG. 11

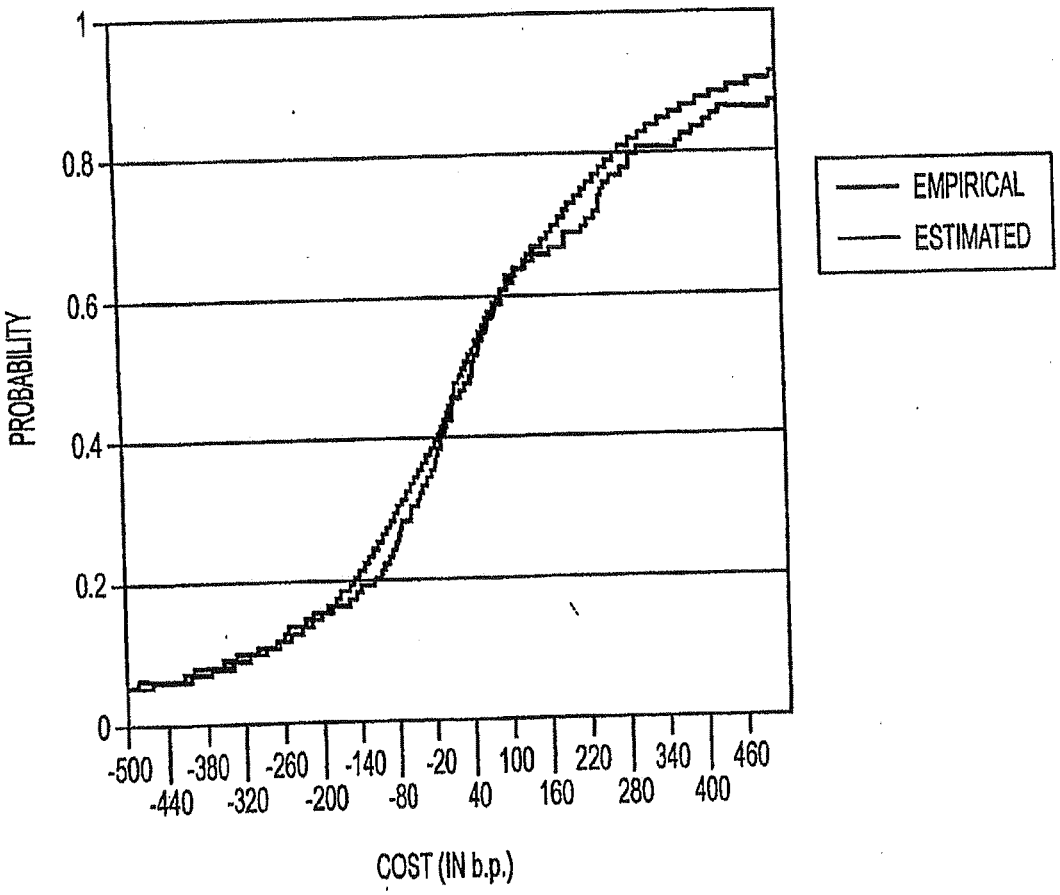

1
0.8
0.6
0.4
0.2
0
PROBABILITY
-500
-440
-380
-320
-260
-200
-140
-80
-20
40
100
160
220
280
340
400
460
COST (IN b.p.)
EMPIRICAL
ESTIMATED

FIG. 12

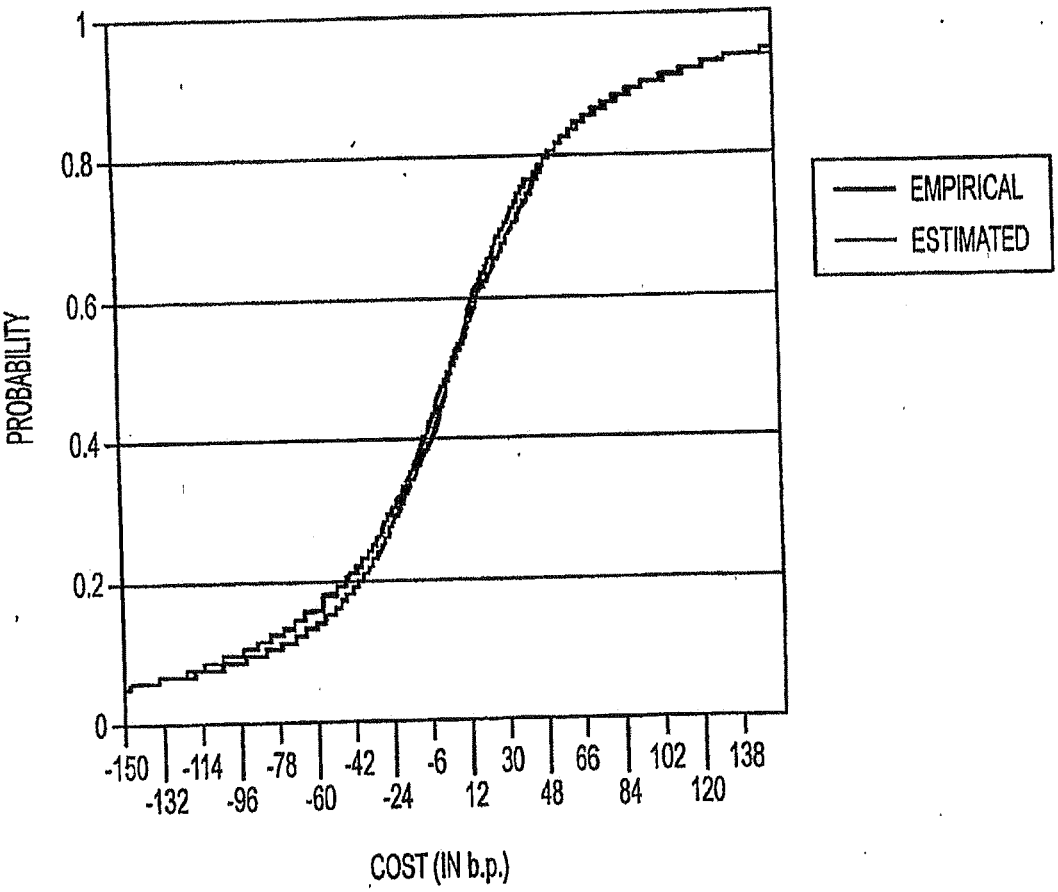

1
0.8
0.6
0.4
0.2
0
PROBABILITY
-150
-132
-114
-96
-78
-60
-42
-24
-6
12
30
48
66
84
102
120
138
COST (IN b.p.)
EMPIRICAL
ESTIMATED

FIG. 13

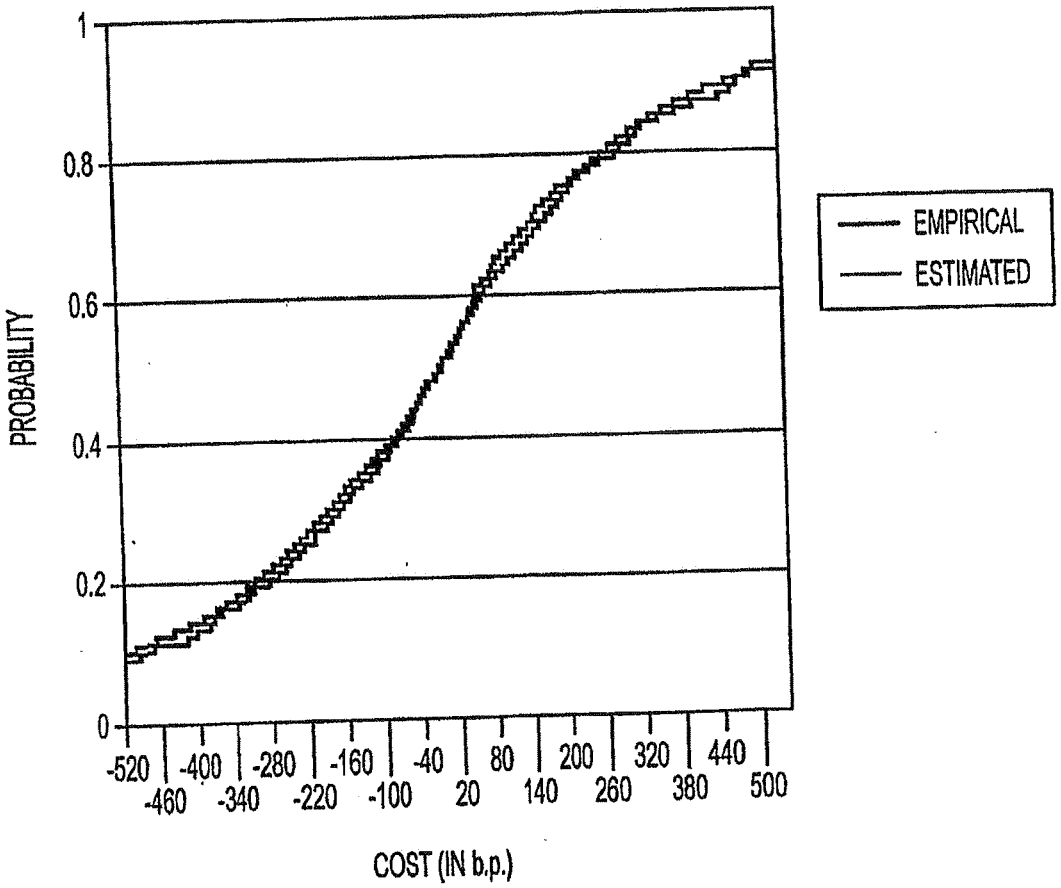

1
0.8
0.6
0.4
0.2
0
PROBABILITY
-520
-460
-400
-340
-280
-220
-160
-100
-40
20
80
140
200
260
320
380
440
500
COST (IN b.p.)
EMPIRICAL
ESTIMATED

FIG. 14

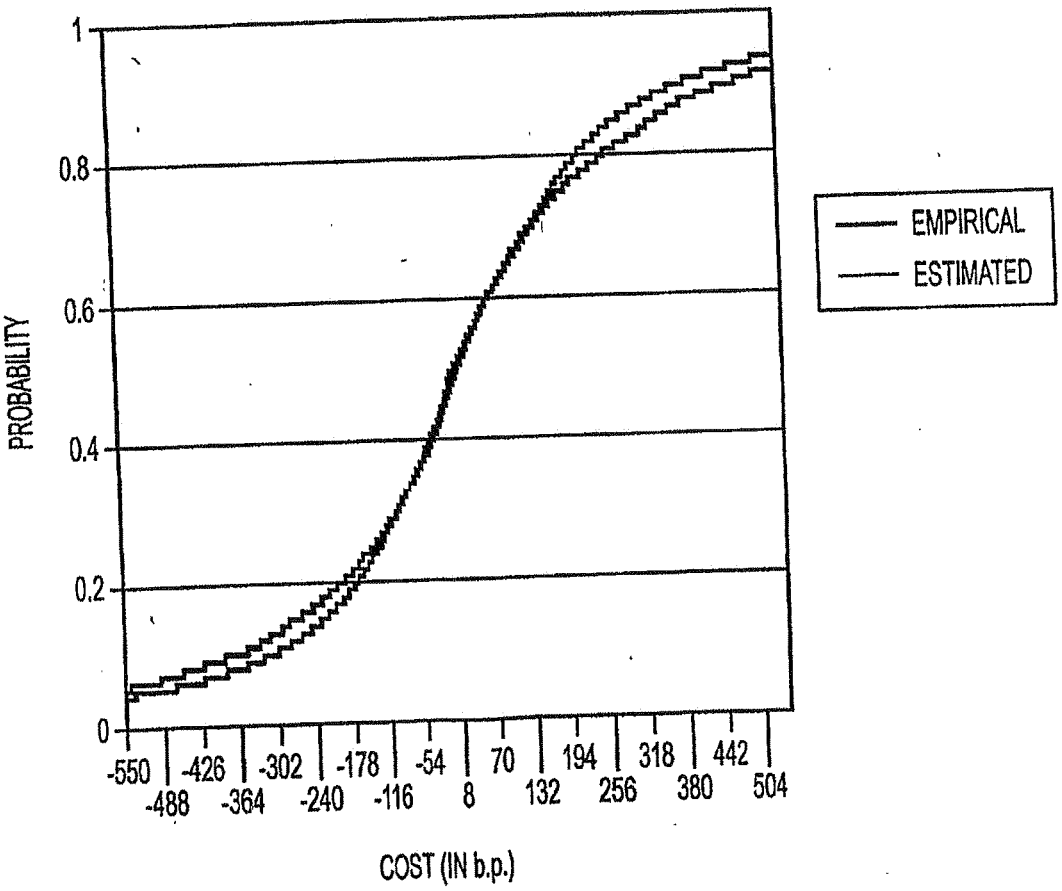

1
0.8
0.6
0.4
0.2
0
PROBABILITY
-550
-488
-426
-364
-302
-240
-178
-116
-54
8
70
132
194
256
318
380
442
504
COST (IN b.p.)
EMPIRICAL
ESTIMATED

FIG. 15

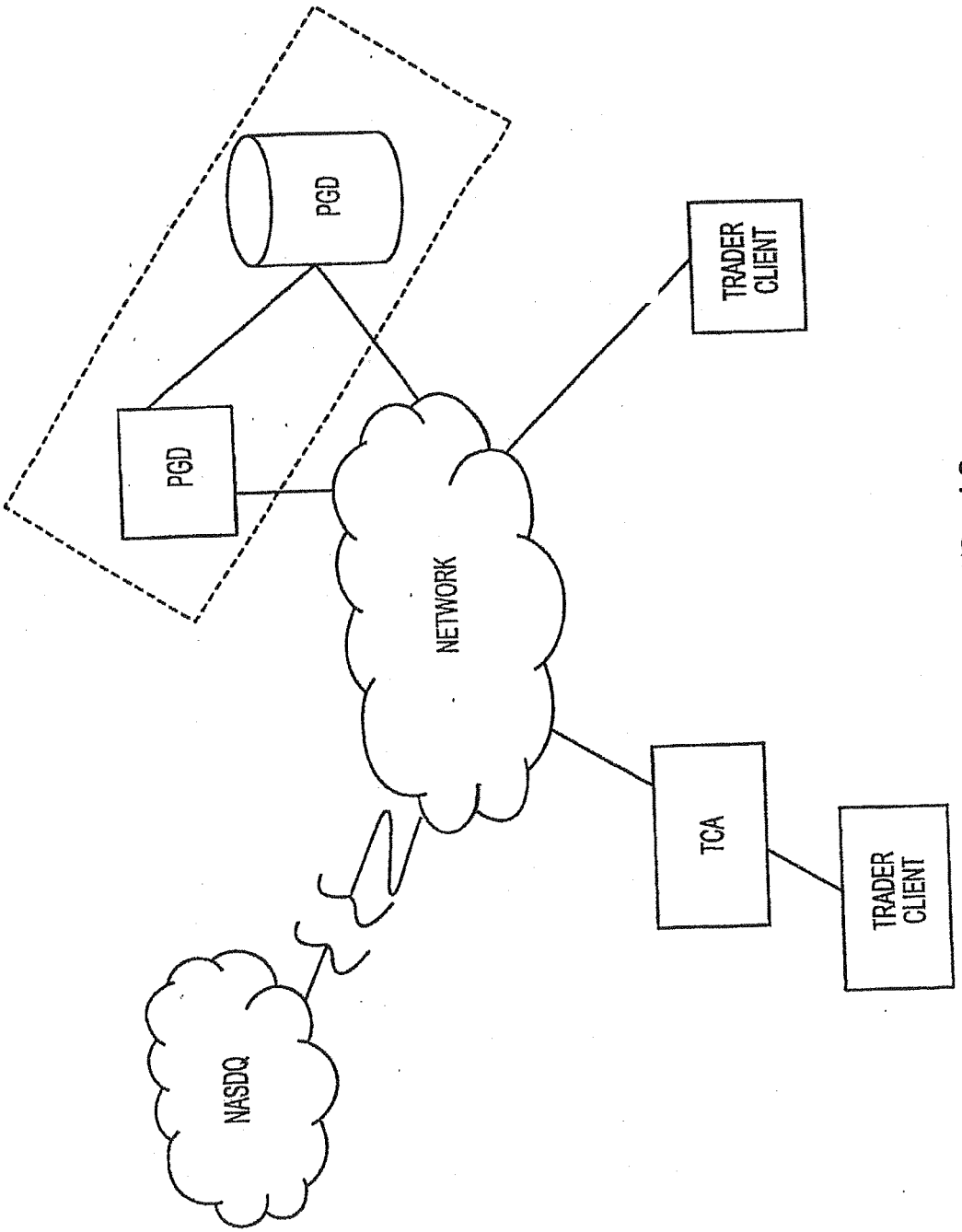


FIG. 16

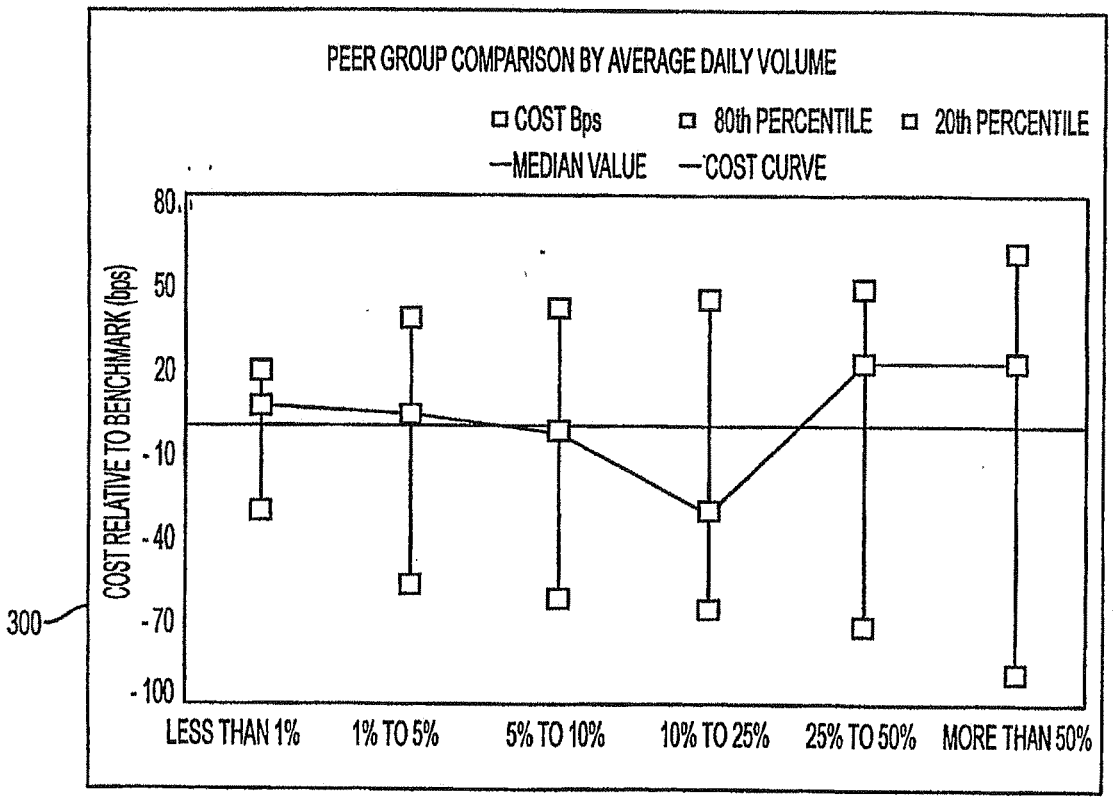

PEER GROUP COMPARISON BY AVERAGE DAILY VOLUME
COST Bps
80th PERCENTILE
20th PERCENTILE
MEDIAN VALUE
COST CURVE
COST RELATIVE TO BENCHMARK (bps)
80
50
20
-10
-40
-70
-100
LESS THAN 1%
1% TO 5%
5% TO 10%
10% TO 25%
25% TO 50%
MORE THAN 50%
300

FIG. 17