

Supplementary Tables to Accompany PowerPoint Presentation:
A Study of Managed Money Traders' (MMTs) Participation in the Energy Futures
Markets

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The views expressed in this paper are those of the authors and do not, in any way, reflect the views or opinions of the U.S. Commodity Futures Trading Commission.

Table 1. Grouping of Participants in Commercial and Non-Commercial Categories.

	Commercial		Non-Commercial
Code	Description	Code	Description
18	Co-Operative	AP	Associated Person
AD	Dealer/Merchant	CPO	Commodity Pool Operator
AM	Manufacturer	CTA	Commodity Trading Advisor
AO	Agricultural/Natural Resources – Other	FB	Floor Broker
AP	Producer	FCM	Futures Commission Merchant
AS	Commodity Swaps/Derivatives Dealer	FT	Floor Trader
FA	Arbitrageur or Broker/Dealer	IB	Introducing Broker
FB	Non U.S. Commercial Bank	MM	Managed Money
FC	U.S. Commercial Bank		
FD	Endowment or Trust	NR	No Registration
FE	Mutual Fund		
FF	Pension Fund		
FG	Insurance Company		
FH	Hedge Fund		
FM	Mortgage Originator		
FO	Financial – Other		
FP	Managed Account or Pool		
FS	Financial Swaps/Derivatives Dealer		
FT	Corporate Treasurer		
LF	Livestock Feeder		
LO	Livestock – Other		
LS	Livestock Slaughterer		
Managed Money Traders			
	CPO		Commodity Pool Operator
	CTA		Commodity Trading Advisor
	AP		Associated Person
	HF		Hedge Fund

Table 2. Percent of Open Interest Held by Participant Categories for Natural Gas

Trader Category	As % of Total Open Interest				Average Futures Daily Open Interest	Average Options Daily Open Interest
	Futures		Options			
	Long	Short	Long	Short		
AD	28.57	24.60	30.58	30.78	47867.34	46243.27
	35.49	41.52	34.62	33.93	302588.26	199413.92
	<i>34.42</i>	<i>38.98</i>	<i>33.67</i>	<i>33.15</i>	<i>350455.60</i>	<i>245657.19</i>
AM	2.87	3.35	3.70	5.05	47867.34	46243.27
	3.99	2.64	3.02	3.32	302588.26	199413.92
	<i>3.79</i>	<i>2.78</i>	<i>3.12</i>	<i>3.64</i>	<i>350455.60</i>	<i>245657.19</i>
AO	8.07	2.89	2.00	0.93	47867.34	46243.27
	8.85	3.43	2.35	0.77	302588.26	199413.92
	<i>8.67</i>	<i>3.34</i>	<i>2.30</i>	<i>0.82</i>	<i>350455.60</i>	<i>245657.19</i>
AP	2.38	3.57	0.44	0.61	47867.34	46243.27
	2.95	2.39	0.16	0.23	302588.26	199413.92
	<i>2.83</i>	<i>2.58</i>	<i>0.20</i>	<i>0.29</i>	<i>350455.60</i>	<i>245657.19</i>
AS	9.15	12.33	15.74	14.75	47867.34	46243.27
	10.23	12.81	18.11	17.71	302588.26	199413.92
	<i>10.17</i>	<i>12.73</i>	<i>17.71</i>	<i>17.26</i>	<i>350455.60</i>	<i>245657.19</i>
FA	0.25	0.29	0	0	47867.34	46243.27
	0.73	0.22	0	0	302588.26	199413.92
	<i>0.66</i>	<i>0.23</i>	<i>0</i>	<i>0</i>	<i>350455.60</i>	<i>245657.19</i>
FBT	4.44	3.69	22.00	23.41	47867.34	46243.27
	7.95	8.78	18.34	20.33	302588.26	199413.92
	<i>7.40</i>	<i>8.04</i>	<i>19.08</i>	<i>20.90</i>	<i>350455.60</i>	<i>245657.19</i>
FS	0.89	0.17	0.27	0.30	47867.34	46243.27
	0.33	0.28	0.67	0.77	302588.26	199413.92
	<i>0.44</i>	<i>0.26</i>	<i>0.61</i>	<i>0.70</i>	<i>350455.60</i>	<i>245657.19</i>
LF	0.11	0.01	0.05	0.02	47867.34	46243.27
	0.05	0	0.01	0.01	302588.26	199413.92
	<i>0.06</i>	<i>0</i>	<i>0.02</i>	<i>0.01</i>	<i>350455.60</i>	<i>245657.19</i>
MMT	18.17	29.84	9.61	9.53	47867.34	46243.27
	12.91	17.77	8.96	9.19	302588.26	199413.92
	<i>13.91</i>	<i>19.72</i>	<i>9.11</i>	<i>9.23</i>	<i>350455.60</i>	<i>245657.19</i>
NRP	6.39	5.19	12.40	11.96	47867.34	46243.27
	4.60	4.25	12.12	12.58	302588.26	199413.92
	<i>4.91</i>	<i>4.36</i>	<i>12.27</i>	<i>12.57</i>	<i>350455.60</i>	<i>245657.19</i>

Note: Upper figure represents shares based on the nearby contract, the middle figure (bold) based on all other contracts (except the nearby), and the lower (italic) figure includes all contracts combined. ^a Options are Delta Adjusted Option Positions. AD = Dealer/Merchant, AM = Manufacturer, AO = Agricultural and Natural Resource, AP = Producer, AS = Commodity Swaps/Derivatives Dealer, FA = Arbitrageur or Broker/Dealer, FBT = Floor Broker or Floor Trader, FS = Financial Swaps/Derivatives Dealer, LF = Livestock Feeder, MMT = Managed Money Trader, NRP = No Registration.

Table 3. Percent of Open Interest Held by Participant Categories for Crude Oil

Trader Category	As % of Total Open Interest				Average Futures Daily Open Interest	Average Options Daily Open Interest
	Futures		Options			
	Long	Short	Long	Short		
AD	18.69	24.04	15.94	22.98	148236.50	56107.33
	34.96	21.72	21.31	28.92	477637.40	211693.43
	<i>30.79</i>	<i>22.21</i>	<i>20.24</i>	<i>27.85</i>	<i>625873.91</i>	<i>267800.76</i>
AM	7.21	21.46	2.94	7.09	148236.50	56107.33
	7.75	8.89	1.34	2.43	477637.40	211693.43
	<i>6.84</i>	<i>12.77</i>	<i>1.67</i>	<i>3.19</i>	<i>625873.91</i>	<i>267800.76</i>
AO	0.70	0.28	0.20	0.34	148236.50	56107.33
	0.49	0.21	0.08	0.15	477637.40	211693.43
	<i>0.56</i>	<i>0.23</i>	<i>0.10</i>	<i>0.19</i>	<i>625873.91</i>	<i>267800.76</i>
AP	9.32	11.84	10.02	14.33	148236.50	56107.33
	12.80	12.39	14.72	15.89	477637.40	211693.43
	<i>11.98</i>	<i>11.87</i>	<i>13.84</i>	<i>15.70</i>	<i>625873.91</i>	<i>267800.76</i>
AS	12.00	4.46	12.77	16.01	148236.50	56107.33
	12.62	28.75	17.35	21.39	477637.40	211693.43
	<i>12.85</i>	<i>22.79</i>	<i>16.28</i>	<i>20.32</i>	<i>625873.91</i>	<i>267800.76</i>
FA	0.20	0.06	0.10	0.15	148236.50	56107.33
	0.18	0.09	0.05	0.03	477637.40	211693.43
	<i>0.19</i>	<i>0.08</i>	<i>0.06</i>	<i>0.06</i>	<i>625873.91</i>	<i>267800.76</i>
FBT	2.33	6.78	33.00	18.07	148236.50	56107.33
	6.73	9.26	25.14	16.61	477637.40	211693.43
	<i>5.45</i>	<i>8.73</i>	<i>26.98</i>	<i>16.94</i>	<i>625873.91</i>	<i>267800.76</i>
FS	0.11	0	0.05	0.16	148236.50	56107.33
	0.49	0.13	0.17	0.40	477637.40	211693.43
	<i>0.40</i>	<i>0.10</i>	<i>0.14</i>	<i>0.36</i>	<i>625873.91</i>	<i>267800.76</i>
MMT	27.35	7.34	7.18	5.42	148236.50	56107.33
	12.76	6.16	6.08	4.12	477637.40	211693.43
	<i>17.26</i>	<i>6.57</i>	<i>6.37</i>	<i>4.40</i>	<i>625873.91</i>	<i>267800.76</i>
NRP	6.58	7.11	13.26	10.70	148236.50	56107.33
	4.04	5.80	11.61	7.93	477637.40	211693.43
	<i>4.81</i>	<i>6.07</i>	<i>12.01</i>	<i>8.50</i>	<i>625873.91</i>	<i>267800.76</i>

Note: Upper figure represents shares based on the nearby contract, the middle figure (bold) based on all other contracts (except the nearby), and the lower (italic) figure includes all contracts combined. ^a Options are Delta Adjusted Option Positions. AD = Dealer/Merchant, AM = Manufacturer, AO = Agricultural and Natural Resource, AP = Producer, AS = Commodity Swaps/Derivatives Dealer, FA = Arbitrageur or Broker/Dealer, FBT = Floor Broker or Floor Trader, FS = Financial Swaps/Derivatives Dealer, LF = Livestock Feeder, MMT = Managed Money Trader, NRP = No Registration.

Table 4. Number of Participants Holding Positions**Natural Gas**

Participant Category	Total number of 'Unique' Participants Over the Time Period	Number of Participants Holding Positions on any given day		
		Average (St Dev)	Minimum	Maximum
AD	106	70.56 (5.13)	57	81
AM	13	6.00 (1.28)	4	9
AO	42	28.06 (2.10)	22	32
AP	21	11.49 (1.03)	8	14
AS	21	16.60 (1.08)	14	18
FA	3	1.96 (0.99)	1	3
FBT	85	37.92 (3.50)	31	47
FS	2	2.00 (0.00)	2	2
LF	1	1.00 (0.00)	1	1
MMT	147	65.66 (7.24)	47	81
NRP	192	44.77 (6.38)	25	57

Crude Oil

Trader Category	Total number of 'Unique' Traders Over the Time Period	Number of Trader Category's Holding Positions on any given day		
		Average (St Dev)	Minimum	Maximum
AD	106	61.03 (4.50)	52	70
AM	30	16.88 (1.80)	13	21
AO	17	5.24 (1.82)	2	9
AP	18	12.53 (2.11)	8	16
AS	25	15.76 (2.07)	12	20
FA	1	1.00 (0.00)	1	1
FBT	89	40.00 (4.37)	32	53
FS	1	1.00 (0.00)	1	1
MMT	172	79.70 (14.14)	52	100
NRP	276	55.75 (20.44)	29	114

Note: Number of unique participants counts the total number of unique traders within each category that were observed over the time period, whilst the average gives an idea of the typical presence of that category on an average day. AD = Dealer/Merchant, AM = Manufacturer, AO = Agricultural and Natural Resource, AP = Producer, AS = Commodity Swaps/Derivatives Dealer, FA = Arbitrageur or Broker/Dealer, FBT = Floor Broker or Floor Trader, FS = Financial Swaps/Derivatives Dealer, LF = Livestock Feeder, MMT = Managed Money Trader, NRP = No Registration.

Table 5. Participation in the Market**Natural Gas**

Participant category	# of participants		# active days		% active days	
	active	very active	active	very active	active	very active
AD	81 (76%)	39 (37%)	152.9	215.1	69.9	91.4
AM	5 (38%)	3 (23%)	159.6	217.3	73.0	97.1
AO	29 (69%)	7 (17%)	105.2	213.6	47.6	90.8
AP	15 (71%)	5 (24%)	106.9	156.4	57.3	86.6
AS	20 (95%)	8 (38%)	159.1	229.5	67.5	91.2
FA	3 (100%)	1 (33%)	105.0	107.0	62.8	82.3
FBT	41 (48%)	24 (28%)	167.4	226.9	71.9	90.8
FS	2 (100%)	1 (50%)	182.5	254.0	67.6	94.1
LF	1 (100%)	-	134	-	74.0	-
MMT	68 (46%)	22 (15%)	104.8	172.4	55.1	88.6
NRP	42 (22%)	18 (9.4%)	93.8	136.0	65.8	91.7

Crude Oil

Participant category	# of participants		# active days		% active days	
	active	very active	active	very active	active	very active
AD	74 (70%)	35 (33%)	150	217	69	92
AM	20 (67%)	12 (40%)	151	200	77	96
AO	8 (47%)	2 (12%)	74	107	54	85
AP	13 (72%)	9 (50%)	177	219	78	96
AS	20 (75%)	15 (60%)	171	206	81	94
FA	1 (100%)	1 (100%)	119	119	99	99
FBT	58 (65%)	42 (47%)	139	162	80	92
FS	1 (100%)	1 (100%)	254	254	94	94
MMT	85 (49%)	28 (16%)	104	168	55	86
NRP	48 (17%)	17 (6%)	83	131	60	92

Notes: active = participants that actively traded for more than 25 days, very active = participants that also traded more than 75% of their total days in the market. For example, a participant may be in the active group because he changed his positions on 25 days, but if he held passive large positions in the market for an additional 75 days (thus was in the market for a total of 100 days), he will not qualify as a very active trader as his active days constitute only 25% of the total days. Figures in parenthesis represent percent of active and very active traders of the total number of unique traders (from Table 4). # active days and % active days represent averages across participants in each trading category. Total number of days in the sample is 270. % active days is the number of active days as percent of total number of days in the market. AD = Dealer/Merchant, AM = Manufacturer, AO = Agricultural and Natural Resource, AP = Producer, AS = Commodity Swaps/Derivatives Dealer, FA = Arbitrageur or Broker/Dealer, FBT = Floor Broker or Floor Trader, FS = Financial Swaps/Derivatives Dealer, LF = Livestock Feeder, MMT = Managed Money Trader, NRP = No Registration.

Table 6. Correlations of Changes in Positions for Natural Gas Participants (upper: Futures, lower: Delta Adj. Options)

	AD	AM	AO	AP	AS	FA	FBT	FS	MMT	NRP
AD	-	0.37*** -0.22***	0.23*** -0.17***	0.31*** 0.30***	0.38*** -0.40***	0.19*** 0.14**	0 -0.33***	0.18*** 0.06	-0.84*** -0.09	0.01 -0.09
AM		-	0.05 -0.33***	0.19*** 0.23***	0.20*** -0.17***	0.15** 0.01	0.01 -0.04	0.05 0.08	-0.51*** 0.21***	0 -0.16**
AO			-	0.11* -0.32***	0.15** 0.41***	0.01 -0.30***	-0.16*** -0.05	0.15** -0.30***	-0.28*** -0.36***	-0.20*** -0.31***
AP				-	0.12** -0.61***	0.10 -0.01	0 -0.12*	0.13** -0.01	-0.43*** 0.20***	0.06 0.23***
AS					-	0.13** -0.26***	-0.05 -0.09	0.15** -0.16**	-0.56*** -0.38***	0.03 -0.41***
FA						-	0.06 0.04	0.02 0.18***	-0.19*** 0.19***	-0.04 0.18***
FBT							-	0.11* -0.03	-0.13** -0.27***	0.18*** 0.11*
FS								-	-0.25*** 0.21***	0.02 0.16***
MMT									-	-0.15** -0.09
NRP										-

*, **, *** indicates significance at the 1%, 5% and 10%, respectively. AD = Dealer/Merchant, AM = Manufacturer, AO = Agricultural and Natural Resource, AP = Producer, AS = Commodity Swaps/Derivatives Dealer, FA = Arbitrageur or Broker/Dealer, FBT = Floor Broker or Floor Trader, FS = Financial Swaps/Derivatives Dealer, MMT = Managed Money Trader, NRP = No Registration.

Table 6. cont. Correlations of Changes in Positions for Crude Oil Participants (upper: Futures, lower: Delta Adj. Options)

	AD	AM	AO	AP	AS	FA	FBT	FS	MMT	NRP
AD	-	-0.03 0.48***	0.15*** 0.66***	0.17*** -0.50***	0.27*** 0.63***	0.07 0.49***	0.06 -0.60***	-0.03 0.45***	-0.68*** -0.43***	0.12* -0.66***
AM		-	0.08 0.27***	-0.22*** -0.17	0.12** 0.39***	0.04 0.50***	-0.16*** -0.52***	-0.03 0.23***	-0.41*** -0.25***	0.01 -0.50***
AO			-	0.06 -0.27***	0.02 0.35***	0-07 0.10	-0.07 -0.38***	-0.04 0.25***	-0.17*** -0.42***	-0.04 -0.55***
AP				-	0.14** -0.43***	0.11 -0.12	0.07 -0.06	0 -0.24***	-0.37*** 0.11**	-0.05 0.05
AS					-	0.11** 0.41***	-0.04 -0.60***	-0.51*** 0.51***	0.16*** -0.31***	0.16*** -0.46***
FA						-	-0.11 -0.49***	0.08 0	-0.09 -0.42***	0-05 0.31***
FBT							-	-0.46*** -0.21***	-1.17*** 0.07	0.12* 0.55***
FS								-	0.06 -0.11**	-0.13** -0.22***
MMT									-	-0.27*** 0.23***
NRP										-

*, **, *** indicates significance at the 1%, 5% and 10%, respectively. AD = Dealer/Merchant, AM = Manufacturer, AO = Agricultural and Natural Resource, AP = Producer, AS = Commodity Swaps/Derivatives Dealer, FA = Arbitrageur or Broker/Dealer, FBT = Floor Broker or Floor Trader, FS = Financial Swaps/Derivatives Dealer, MMT = Managed Money Trader, NRP = No Registration.

Figure 1. Comparing Changes in Position between the Rest of Non-Commercial & Commercial Categories (upper figure) & Dealer & Managed Money Categories (lower figure): Natural Gas

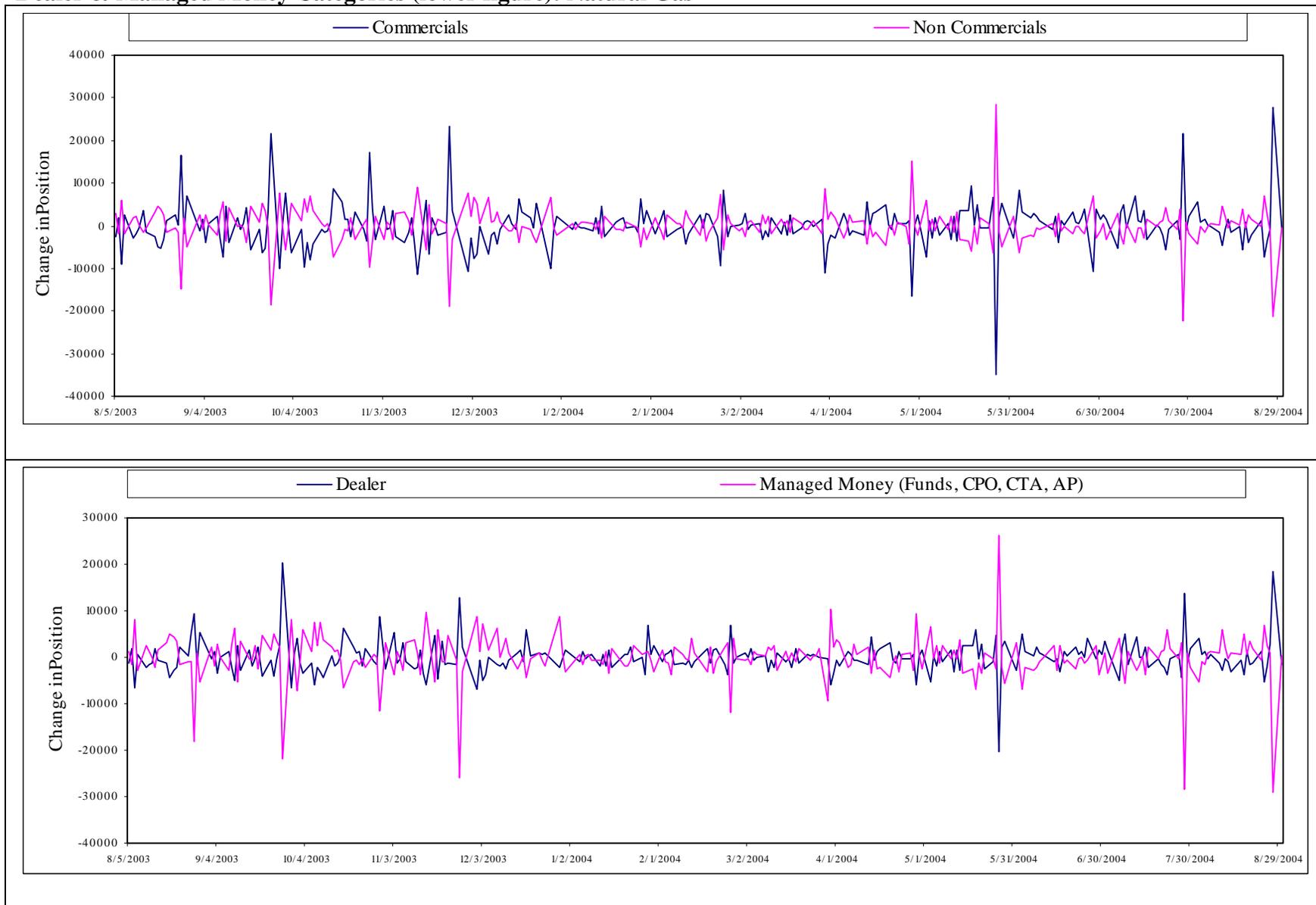


Figure 2. Comparing Changes in Positions between the Rest of Non-Commercial & Commercial Categories (upper figure) & Dealer & Manufacturer & Managed Money Categories (lower figure): Crude Oil

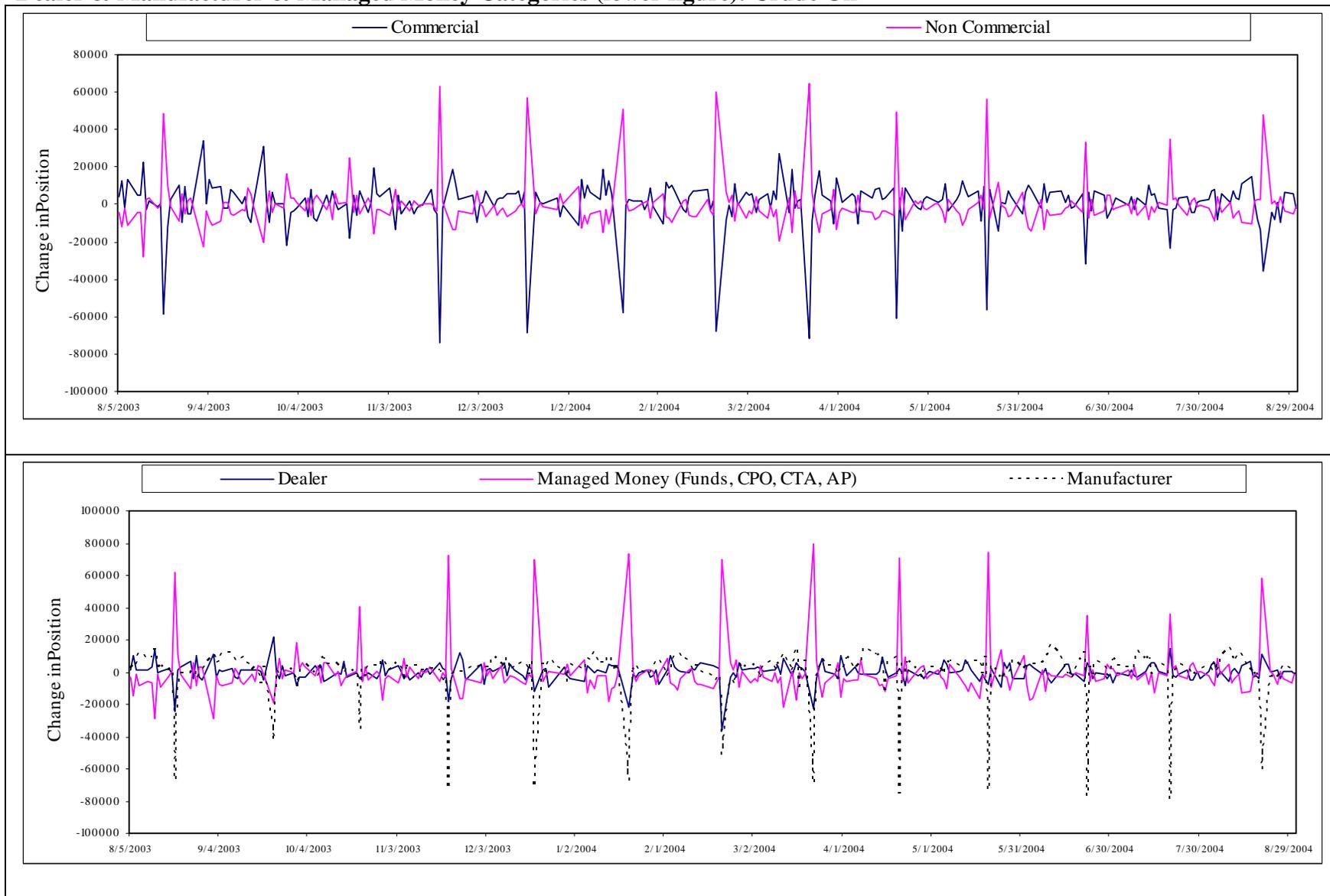


Figure 3a. Undirected Edges in the Natural Gas Market

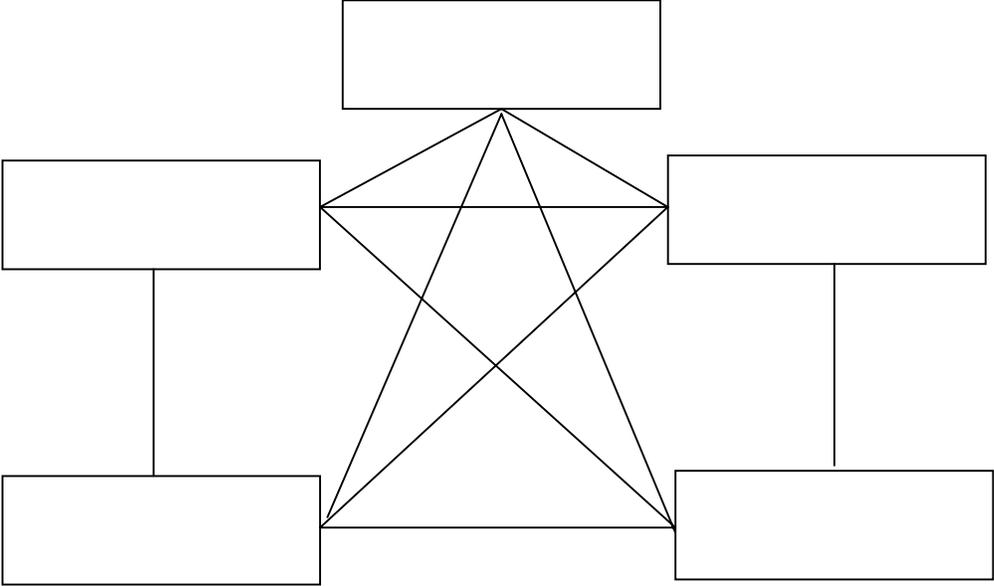


Figure 3b. Directed Edges in the Natural Gas Market

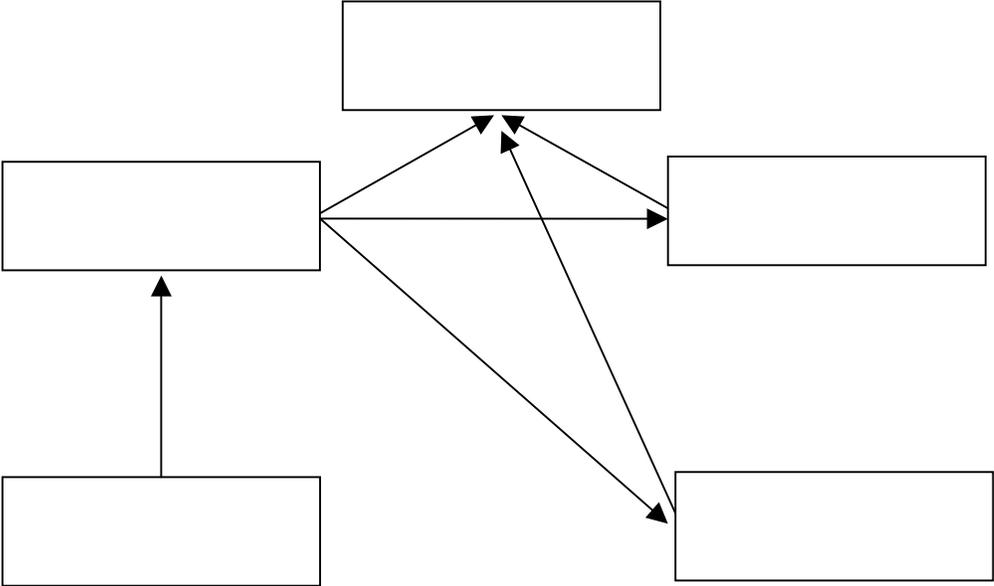


Figure 4a. Undirected Edges in the Crude Oil Futures Market

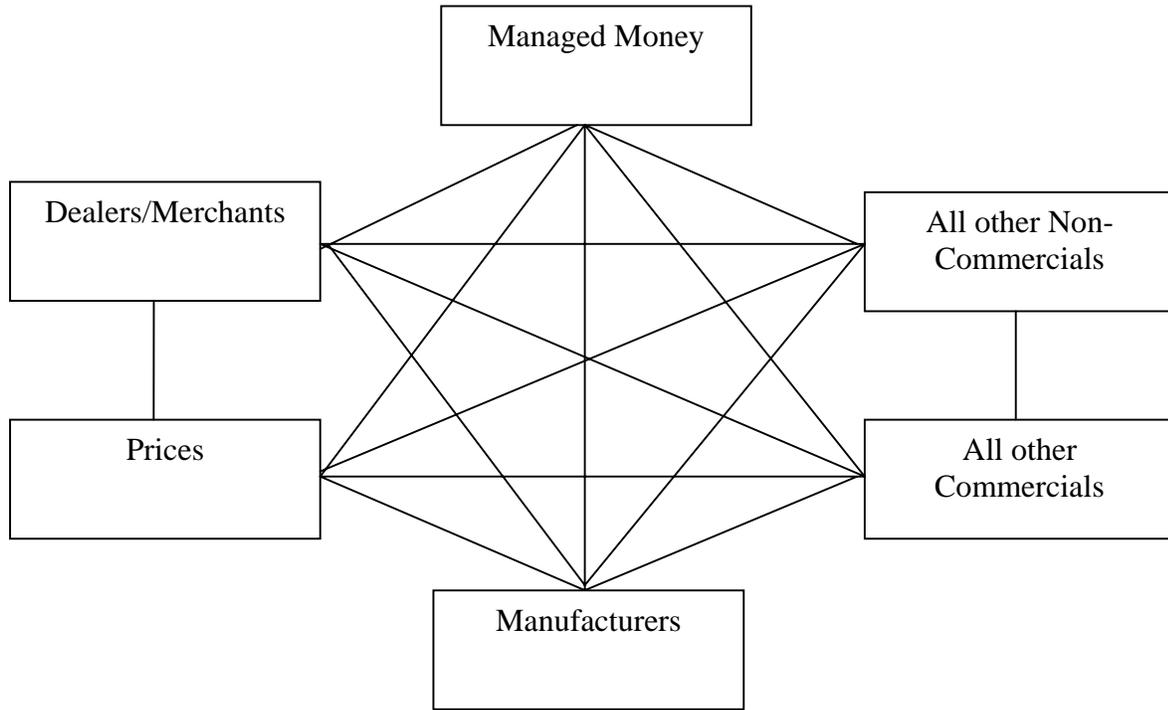


Figure 4b. Directed Edges in the Crude Oil Futures Market

