0.51

(992)

0.47

(985)

0.44

(970)

0.39

(929)

0.36

(901)

0.31

(813)

<u>-1</u>

0.25 -

0.2 -

0.15 -

0.1 -

0.05 -

0.52

(993)

0.52

(988)

0.46

(969)

0.44

(938)

0.4

(904)

0.33

(823)

-0.9

0.57

(987)

0.54

(982)

0.49

(969)

0.41

(950)

0.41

(900)

0.37

(826)

-0.8

0.59

(989)

0.54

(985)

0.52

(975)

0.5

(940)

0.43

(898)

0.4

(841)

-0.7

0.61

(990)

0.56

(977)

0.55

(966)

0.52

(934)

0.46

(924)

0.39

(834)

-0.6

M1 Level Shock Mean

0.64

(988)

0.61

(983)

0.56

(975)

0.56

(945)

0.51

(883)

0.48

(800)

-0.5

0.64

(987)

0.62

(982)

0.58

(971)

0.49

(934)

0.51

(884)

0.48

(828)

-0.4

0.67

(991)

0.69

(980)

0.59

(970)

0.57

(929)

0.52

(900)

0.48

(859)

-0.3

0.71

(992)

0.66

(964)

0.6

(969)

0.56

(940)

0.53

(909)

0.5

(807)

-0.2

0.69

(989)

0.66

(977)

0.6

(966)

0.6

(941)

0.54

(889)

0.48

(823)

-0.1

### Number of Extra Measurement Days = 0 0.72 0.69 0.73 0.79 0.78 0.82 0.81 0.85 0.84 0.87 0.5 -(995)(994)(996) (1000) (996) (994) (1000) (993) (996)(998)0.69 0.74 8.0 0.82 0.84 0.68 0.72 0.76 0.81 0.84 0.45 -(998)(996)(995)(995)(993)(998)(995)(996)(996)(997)0.63 0.65 0.72 0.73 0.77 0.68 0.73 0.79 0.79 0.79 0.4 -(999)(992)(995)(996)(995)(999)(993)(992)(996)(995)0.62 0.61 0.63 0.66 0.69 0.72 0.72 0.74 0.77 0.74 0.35 -(994)(996)(998)(995)(993)(994)(996)(995)(994)(993)M21 Volatility Shock Mean **Success Proportion** 0.56 0.62 0.62 0.68 0.66 0.72 0.73 0.73 0.57 0.71 0.3 -(994)(993)(993)(991)(990)(993)(997)(992)(991)(993)

8.0 0.7

0.6

0.5

0.4

Inthetic Volatility Forecast Outperformance of Unadjusted GARCH Forecast

Inthetic Volatility Forecast Outperformance of Unadjusted GARCH Forecast

0.84

8.0

(998) (998)

0.84

0.84

(995) (993) (995)

0.86

0.83

### Number of Extra Measurement Days = 1

8.0

(997)

0.69 0.71 0.74 0.76 0.79 0.82 0.82 0.83

0.76

(996)

0.69

(994)

0.5 -

(995) 0.66 0.75

(996)

0.45 -	(997)	(993)	(994)	(993)	(994)	(994)	(997)	(996)	(993)	(996)			
0.4 -	0.65 (998)	0.64 (993)	0.68 (992)	0.72 (993)	0.73 (993)	0.76 (996)	0.77 (996)	0.78 (993)	0.79 (997)	0.78 (992)			
- 28.0 <b>au</b>	0.57 (998)	0.61 (994)	0.67 (993)	0.67 (993)	0.71 (997)	0.72 (993)	0.71 (996)	0.75 (993)	0.73 (994)	0.76 (995)			
ock Me	0.55 (993)	0.56 (996)	0.59 (996)	0.64 (990)	0.68 (987)	0.69 (995)	0.72 (994)	0.71 (996)	0.72 (992)	0.74 (992)	S	uccess Pro	portion
Volatility Shock Mean	0.5 (987)	0.53 (989)	0.57 (986)	0.6 (989)	0.63 (992)	0.65 (994)	0.66 (990)	0.68 (990)	0.69 (993)	0.68 (994)		0.7	
M21 Vola	0.48 (973)	0.5 (983)	0.55 (979)	0.56 (982)	0.58 (974)	0.6 (979)	0.62 (982)	0.64 (985)	0.64 (980)	0.68 (978)		0.5	
<b>∑</b> 0.15 <b>-</b>	0.44 (970)	0.47 (964)	0.46 (964)	0.51 (970)	0.54 (967)	0.57 (966)	0.58 (974)	0.57 (973)	0.6 (964)	0.6 (966)			
0.1 -	0.41 (951)	0.43 (946)	0.45 (932)	0.46 (939)	0.47 (949)	0.51 (937)	0.52 (947)	0.56 (943)	0.58 (935)	0.56 (940)			
0.05 -	0.35 (876)	0.39 (887)	0.44 (907)	0.44 (901)	0.46 (902)	0.47 (902)	0.49 (912)	0.52 (904)	0.53 (914)	0.54 (902)			
0 -	0.34 (841)	0.35 (845)	0.37 (837)	0.38 (818)	0.46 (825)	0.43 (824)	0.49 (822)	0.51 (837)	0.49 (836)	0.51 (805)			
	<b>–</b> 1	-0.9	-0.8	−0.7 <b>M1</b> l	_0.6 _evel S	-0.5 hock M	-0.4 1ean	-0.3	-0.2	-0.1			

Inthetic Volatility Forecast Outperformance of Unadjusted GARCH Forecast

## Number of Extra Measurement Days = 2

0.73	0.76	0.78	8.0	0.82	0.85	0.84	0.86	0.85	
(996)	(995)	(997)	(998)	(995)	(997)	(994)	(994)	(998)	
0.69	0.73	0.75	0.76	0.78	0.82	0.83	0.85	0.83	
(992)	(995)	(990)	(993)	(994)	(998)	(995)	(998)	(996)	
0.67	0.69	0.7	0.73	0.77	0.76	0.79	0.79	0.81	
(994)	(990)	(996)	(997)	(994)	(993)	(994)	(991)	(995)	
0.61	0.62	0.67	0.67	0.74	0.74	0.78	0.76	0.77	
(992)	(996)	(997)	(996)	(990)	(997)	(993)	(991)	(993)	
0.59	0.6	0.64	0.67	0.69	0.69	0.7	0.71	0.75	Success Proportion
(992)	(993)	(991)	(994)	(990)	(994)	(992)	(995)	(998)	0.8
0.52	0.58	0.6	0.62	0.66	0.67	0.68	0.68	0.69	0.7

0.6

0.5

0.4

M21 Volatility Shock Mean 0.3 -0.25 -

0.2 -

0.15 -

0.1 -

0.05 -

0.69

(995)0.67

(994)0.6

(997)0.6

(989)

0.57

(991)

0.5

(989)

0.47

(989)

0.43

(964)

0.4

(925)

0.36

(892)

0.32

(817)

-1

(991)

0.49

(983)

0.45

(961)

0.42

(948)

0.39

(900)

0.37

(800)

-0.9

(992)

0.52

(977)

0.47

(977)

0.46

(944)

0.41

(891)

0.41

(833)

-0.8

(981)

0.54

(985)

0.52

(964)

0.46

(947)

0.45

(899)

0.38

(801)

-0.7

(994)

0.59

(981)

0.58

(972)

0.48

(948)

0.46

(893)

0.45

(811)

-0.6

M1 Level Shock Mean

(990)

0.63

(977)

0.54

(970)

0.54

(952)

0.5

(900)

0.47

(823)

-0.5

(985)

0.62

(980)

0.62

(964)

0.55

(948)

0.51

(887)

0.46

(811)

(993)

0.63

(978)

0.59

(977)

0.57

(941)

0.5

(894)

0.49

(835)

-0.3

(990)

0.66

(984)

0.62

(973)

0.57

(944)

0.55

(920)

0.49

(812)

-0.2

(990)

0.68

(980)

0.64

(971)

0.55

(943)

0.53

(907)

0.51

(830)

-0.1

0.5 -

0.45 -

0.4 -

0.35 -

### Number of Extra Measurement Days = 3 0.86 0.67 0.7 0.74 0.78 8.0 0.82 0.85 0.83 0.84 0.5 -(998)(996)(993)(993)(998)(992)(996)(998)(995)0.67 0.7 0.75 0.78 0.79 0.81 0.83 0.83 0.73 0.79 0.45 -

Inthetic Volatility Forecast Outperformance of Unadjusted GARCH Forecast

(999)(996)(995)(997)(995)(997)(996)(999)(994)(993)0.66 0.7 0.69 0.73 0.76 0.75 0.79 0.64 8.0 8.0 0.4 -(994)(995)(995)(999)(996)(995)(997)(997)(993)(992)0.69 0.59 0.62 0.64 0.65 0.71 0.73 0.73 0.76 0.77 0.35 -(998)(997)(997)(992)(995)(998)(994)(994)(993)(994)M21 Volatility Shock Mean 0.59 0.59 0.65 0.64 0.69 0.71 0.68 0.73 0.71 0.55 0.3 -(991)(999)(993)(997)(993)(994)(987)(993)(992)(990)0.51 0.52 0.57 0.62 0.63 0.65 0.66 0.69 0.69 0.73 0.25 -(996)(995)(992)(991)(990)(989)(995)(994)(987)(992)0.46 0.5 0.5 0.56 0.58 0.6 0.62 0.64 0.65 0.64 0.2 -(981)(982)(977)(979)(987)(985)(982)(981)(981)(985)0.43 0.46 0.52 0.55 0.54 0.57 0.51 0.6 0.63 0.63 0.15 -(964)(964)(979)(978)(974)(961)(973)(971)(965)(972)0.39 0.46 0.44 0.46 0.5 0.52 0.56 0.54 0.57 0.6 0.1 -

(933)

0.5

(912)

0.44

(813)

-0.5

(943)

0.51

(886)

0.46

(834)

-0.4

(928)

0.52

(885)

0.5

(815)

-0.3

(940)

0.52

(897)

0.5

(816)

-0.2

(943)

0.57

(901)

0.51

(829)

-0.1

(939)

0.45

(909)

0.44

(817)

-0.6

M1 Level Shock Mean

(955)

0.35

(896)

0.33

(817)

-1

0.05 -

(949)

0.39

(896)

0.34

(813)

-0.9

(938)

0.41

(902)

0.38

(841)

-0.8

(946)

0.42

(916)

0.38

(808)

-0.7

**Success Proportion** 0.8 0.7 0.6 0.5 0.4

Inthetic Volatility Forecast Outperformance of Unadjusted GARCH Forecast

(990)

0.77

(993)

0.81

0.46

(825)

0.49

(828)

-0.3

0.51

(809)

-0.2

0.51

(822)

-0.1

(993)

0.82

(996)

0.83

0.88

(997)

0.83

# Number of Extra Measurement Days = 4 0.72 0.72 0.77 0.75 0.8 0.81 0.86 0.84 0.83

(997)

0.74

(994)

0.74

0.5 -

(995)

0.66

0.31

(815)

0.35

(826)

-0.9

0.38

(819)

-0.8

(833)

-0.7

(997)

0.68

(994)

0.72

0.45	(997)	(994)	(994)	(995)	(996)	(997)	(997)	(996)	(995)	(997)				
0.4 -	0.64 (996)	0.67 (998)	0.67 (996)	0.71 (996)	0.74 (993)	0.74 (993)	0.76 (999)	0.78 (995)	0.78 (993)	0.79 (994)				
- 28.0 <b>a</b>	0.59 (996)	0.62 (998)	0.63 (994)	0.69 (997)	0.69 (991)	0.73 (995)	0.73 (994)	0.76 (997)	0.76 (995)	0.77 (995)				
Shock Mean	0.58 (999)	0.59 (988)	0.58 (996)	0.63 (992)	0.66 (995)	0.71 (991)	0.69 (994)	0.69 (991)	0.73 (996)	0.74 (992)	S		cess Propor <sub>0.8</sub>	tion
	0.52 (994)	0.54 (989)	0.57 (993)	0.58 (991)	0.62 (991)	0.66 (985)	0.66 (990)	0.69 (985)	0.69 (990)	0.71 (989)		-	0.7 0.6	
M21 Volatility	0.47 (981)	0.51 (987)	0.51 (984)	0.57 (985)	0.57 (986)	0.58 (983)	0.61 (982)	0.62 (986)	0.63 (986)	0.61 (985)			0.5 0.4	
<b>∑</b> 0.15 <b>-</b>	0.43 (964)	0.42 (966)	0.47 (976)	0.51 (965)	0.53 (966)	0.56 (964)	0.55 (970)	0.58 (960)	0.63 (965)	0.62 (958)				
0.1 -	0.41 (942)	0.41 (936)	0.47 (946)	0.46 (937)	0.51 (948)	0.51 (955)	0.56 (942)	0.55 (936)	0.56 (945)	0.57 (944)				
0.05 -	0.34 (907)	0.38 (904)	0.38 (891)	0.44 (893)	0.46 (903)	0.47 (893)	0.5 (909)	0.54 (882)	0.51 (909)	0.54 (897)				

0.39 0.42 0.46

-0.6

(828) (841)

M1 Level Shock Mean

-0.5