

**FORECASTING OUTPUT AND INFLATION:
THE ROLE OF ASSET PRICES**

APPENDIX

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A. Data Appendix
Table A1. Series Descriptions
(Table 1 in Paper)

Series Label	Sampling Frequency	Description
Asset Prices		
rovnght	M	Interest Rate: overnight
rtbill	M	Interest Rate: short term Gov. Bills
rbnds	M	Interest Rate: short term Gov. Bonds
rbndm	M	Interest Rate: medium term Gov. Bonds
rbndl	M	Interest Rate: long term Gov. Bonds
rrovnght	Q	Real overnight rate: rovnght – CPI Inflation
rrtbill	Q	Real short term bill rate: rtbill – CPI Inflation
rrbnds	Q	Real short term bond rate: rtbnds – CPI Inflation
rrbndm	Q	Real med. term bond rate: rtbndm – CPI Inflation
rrbndl	Q	Real long term bond rate: rtbndl – CPI Inflationw
rspread	M	Term Spread: rbndl – rovnght
exrate	M	Nominal Exchange Rate
rexrate	M	Real Exchange Rate (exrate × relative CPIs)
stockp	M	Stock Price Index
rstockp	M	Real Stock Price Index: stockp
divpr	Q	Dividend Price Index
house	Q	House Price Index
rhouse	Q	Real House Price Index
gold	M	Gold Prices
rgold	M	Real Gold Prices
silver	M	Silver Prices
rsilver	M	Real Silver Prices
Activity		
rgdp	M	Real GDP
ip	M	Index of Industrial Production
capu	M&Q	Index of Capacity Utilization
emp	M&Q	Employment
unemp	M&Q	Unemployment Rate
Wages, Goods and Commodity Prices		
pgdp	Q	GDP Deflator
cpi	M	Consumer Price Index
ppi	M	Producer Price Index
earn	M	Wages
commod	M	Commodity Price Index
oil	M	Oil prices
roil	M	Real Oil Prices
rcommod	M	Real Commodity Price Index
Money		
m0	M	Money: M0 or Monetary Base
m1	M	Money: M1
m2	M	Money: M2
m3	M	Money: M3
rm0	M	Real Money: M0
rm1	M	Real Money: M1
rm2	M	Real Money: M2
rm3	M	Real Money: M3

Notes: M indicates that the original data are monthly, Q indicates that they are quarterly, M&Q indicates that monthly data were available for some countries but quarterly data were available for others. All forecasts and regressions use quarterly data, which were aggregated from monthly data by averaging (for CPI and IP) or by using the last monthly value (all other series). See the data appendix.

A.2 Series by County

Real variables (*rstockp*, *rhouse*, *rmon1* etc.) were formed by the dividing the nominal price by the CPI. Nominal values of oil, gold, silver and the commodity price index were formed as the product of the price in U.S. \$'s and the exchange rate. For all countries except the U.S., *pgdp* was constructed as the ratio of nominal to real gdp.

eries	Canada	France	Germany	Italy	Japan	U.K.	U.S.
rgdp	I 99bv&r@c156	I 99bv&r@c132	I 99bv&r@c134	I 99bv&r@c136	I 99bv&r@c158	I 99bv&r@c112	D gdpfc
ngdp	L 99B&C@c156	L 99B&C@c132	L 99B&C@c134	L 99B&C@c136	L 99B&C@c158	L 99B&C@c112	
pgdp	I 66&c@c156	I 66&c@c132	I 66&c@c134	I 66&c@c136	I 66&c@c158	I 66&c@c112	D gdpd
ip	I 64@c156	I 64@c132	I 64@c134	I 64@c136	I 64@c158	I 64@c112	D ip
cpi	I 63@c156		I 63@c134	I 63@c136	I 63@c158	I 63@c112	D punew
ppi	O cnocutile	DI rkm@fr	DI rkm@gy	DI rkm@gy	DI rkm@jp		D ipxmca
emp	O cnocetof	DI e@fr	O bdocemane	O itocempif	DI e@jp	O ukocetof	D lhern
unemp	O cnocune%e	DI ru@fr	O bdocune%e	O itocune%e	DI ru@jp	O ukocune%e	D lhur
earn	I 65ey@c156	O frocwagef	DI jahe@w@gy		I 65@c158	I 65&c@c112	D le6gp
extrate	I lae@c156	I lae@c132	I lae@c134	I lae@c136	I lae@c158	I lae@c112	D extrus
stockp	I 62@c156	I 62@c132	D fps6wg	I 62@c136	I 62@c158	I 62@c112	D fspcom
divpr	C	C	C	C	C	C	C
mon0					DI mbase@jp		D fmbase
mon1	O cnocm1mna	O frocm1mna	O bdocm1mna	O itocm1mna	DI m1@jp		D fm1
mon2	O cnocm2mna		O bdocm2mna	O itocm2mna	DI m2@jp		D fm2
mon3	O cnocbrdme	O frocbrdme	I 39mc&c@c134	O itocbrdme	DI m3ns@jp		D fm3
rovnght	I 60b@c156	I 60b@c132	I 60b@c134	I 60b@c136	I 60b@c158	I 60b@c112	D fyff
rtbill	I 60c@c156	I 60c@c132	I 60c@c134	DI rmgs3@it		I 60c@c112	D fygm3
rbnds				DI rmgs12@it		I 61a@c112	D fygt1
rbndm				I 61b@c136			D fygt5
rbndl	I 61@c156	I 61@c132	I 61@c134	I 61@c136	I 61@c158	I 61@c112	D fygt10
house	GH			GH	GH	GH	GH
gold	US:xexrate	US:xexrate	US:xexrate	US:xexrate	US:xexrate	US:xexrate	I lc@c112
silver	US:xexrate	US:xexrate	US:xexrate	US:xexrate	US:xexrate	US:xexrate	DS usi76yza
oil	US:xexrate	US:xexrate	US:xexrate	US:xexrate	US:xexrate	US:xexrate	I 176aa&z@c001
commod	US:xexrate	US:xexrate	US:xexrate	US:xexrate	US:xexrate	US:xexrate	I 176ax&d@c001

Notes: Each cell shows the data source followed by the series mnemonic. Data sources are the International Monetary Fund's IFS database (I), the OECD database (O), the DRI Basic Economics Database (D), and the DRI International Database (DI), Datastream (DS). Housing data are from Goodhart and Hoffman (2000) (GH), and the dividend price ratio is from Campbell (1999) (C).

A.3 Transformation Descriptions

Transformation Label	Description
lev	Level (no transformation)
1d	1 st difference
ln	Logarithm
ln1d	1 st difference of logarithm
ln2d	2 nd difference of logarithm
gap	1-sided HP detrending (see text for description)

A.4 Series Included in Combined Forecasts

Activity		G&C Prices		Money		Asset Prices	
Series	Trans	Series	Trans	Series	Trans	Series	Trans
rgdp	ln1d	pgdp	ln1d	mon0	ln1d	rovnght	lev
rgdp	gap	cpi	ln1d	mon1	ln1d	rtbill	lev
ip	ln1d	ppi	ln1d	mon2	ln1d	rbnds	lev
ip	gap	earn	ln1d	mon3	ln1d	rbndm	lev
capu	lev	oil	ln1d	mon0	ln2d	rbndl	lev
emp	ln1d	roil	ln1d	mon1	ln2d	rovnght	1d
emp	gap	commod	ln1d	mon2	ln2d	rtbill	1d
unemp	lev	rcomod	ln1d	mon3	ln2d	rbnds	1d
unemp	1d	pgdp	ln2d	rmon0	ln1d	rbndm	1d
unemp	gap	cpi	ln2d	rmon1	ln1d	rbndl	1d
		ppi	ln2d	rmon2	ln1d	rrovnght	lev
		earn	ln2d	rmon3	ln1d	rrtbill	lev
		oil	ln2d			rrbnds	lev
		commod	ln2d			rrbndm	lev
						rrbndl	lev
						rrovnght	1d
						rrtbill	1d
						rrbnds	1d
						rrbndm	1d
						rrbndl	1d
						rspread	lev
						exrate	ln1d
						rexrate	ln1d
						stockp	ln1d
						rstockp	ln1d
						divpr	ln
						house	ln1d
						rhouse	ln
						rhouse	ln1d
						gold	ln1d
						gold	ln2d
						rgold	ln
						rgold	ln1d
						silver	ln1d
						silver	ln2d

						rsilver	ln
						rsilver	ln1d

Appendix B Detailed Empirical Results

Additional abbreviations used in tables

Indicator Names

rw: for price inflation $(1-L)^2 p_t = \varepsilon_t$; for output $(1-L)y_t = \alpha + \varepsilon_t$

rw4: for price inflation $(1-l^4)^2 p_t = \varepsilon_t$

activity: combined forecast using activity variables

pr_earnings: combined forecast using prices and earnings

money: combined forecast using money variables

ap: combined forecast using asset prices

all: combined forecasts using all variables

Transformations

lev: level

1d: first difference

ln1d: first difference of logarithm

ln2d: second difference of logarithm

gap: deviation from one-sided HP trend

tr. mean: trimmed mean (combined forecasts)

median: median (combined forecasts)

mean: mean (combined forecasts)

Table B.1
Summary of Pseudo Out-of-Sample Forecast Accuracy for Two Periods:
Asset Price Predictors, 4 Quarter Horizon
Models with Fixed Lag Length
(Fixed Lag version of text Table 4)

A. Inflation (N=211)

		1971-1984 Out of Sample Period		
		Relative MSFE < 1	Relative MSFE > 1	Total
1985-1999 Out of Sample Period	Relative MSFE < 1	0.05	0.26	0.30
	Relative MSFE > 1	0.19	0.51	0.70
Total		0.24	0.76	1.00

B. Output (N=211)

		1971-1984 Out of Sample Period		
		Relative MSFE < 1	Relative MSFE > 1	Total
1985-1999 Out of Sample Period	Relative MSFE < 1	0.08	0.10	0.18
	Relative MSFE > 1	0.25	0.56	0.82
Total		0.33	0.67	1.00

Notes: Each table shows the fraction of relative means square forecast errors (MSFE) less than 1 or greater than 1 for each sample period, relative to the univariate autoregressive benchmark. Results shown are pooled for all pairs of asset price predictors and inflation measures (part A) or output measures (part B) for all countries and horizons ($h = 2, 4,$ and 8).

Table B.2
Summary of Pseudo Out-of-Sample Forecast Accuracy for Two Periods:
All Predictors, 4 Quarter Horizon
Fixed Lag Length Models
(Fixed Lag version of text Table 5)

Country	Inflation					Output				
	1st	2nd	1&2	1x2	N	1st	2nd	1&2	1x2	N
Canada										
2Q Ahead	0.34	0.20	0.04	0.07	80	0.20	0.55	0.15	0.11	80
4Q Ahead	0.46	0.33	0.10	0.15	80	0.31	0.66	0.24	0.21	80
8Q Ahead	0.34	0.38	0.14	0.13	80	0.31	0.47	0.20	0.15	80
France										
2Q Ahead	0.28	0.14	0.03	0.04	29	0.14	0.17	0.00	0.02	29
4Q Ahead	0.34	0.31	0.14	0.11	29	0.28	0.38	0.14	0.10	29
8Q Ahead	0.31	0.41	0.14	0.13	29	0.14	0.21	0.00	0.03	29
Germany										
2Q Ahead	0.47	0.06	0.03	0.03	86	0.24	0.36	0.08	0.09	86
4Q Ahead	0.47	0.24	0.12	0.11	86	0.36	0.31	0.14	0.11	86
8Q Ahead	0.45	0.27	0.15	0.12	86	0.40	0.40	0.17	0.16	86
Italy										
2Q Ahead	0.22	0.32	0.15	0.07	72	0.25	0.18	0.03	0.05	72
4Q Ahead	0.35	0.32	0.21	0.11	72	0.32	0.29	0.11	0.09	72
8Q Ahead	0.35	0.39	0.17	0.14	72	0.28	0.38	0.17	0.10	72
Japan										
2Q Ahead	0.24	0.33	0.11	0.08	70	0.31	0.17	0.01	0.05	70
4Q Ahead	0.17	0.30	0.09	0.05	70	0.23	0.16	0.04	0.04	70
8Q Ahead	0.31	0.27	0.17	0.09	70	0.19	0.13	0.03	0.02	70
United Kingdom										
2Q Ahead	0.10	0.18	0.03	0.02	72	0.28	0.25	0.03	0.07	72
4Q Ahead	0.24	0.35	0.14	0.08	72	0.43	0.39	0.14	0.17	72
8Q Ahead	0.36	0.36	0.17	0.13	72	0.56	0.29	0.17	0.16	72
United States										
2Q Ahead	0.30	0.10	0.01	0.03	132	0.38	0.25	0.08	0.09	132
4Q Ahead	0.38	0.17	0.05	0.07	132	0.33	0.35	0.10	0.12	132
8Q Ahead	0.39	0.18	0.07	0.07	132	0.52	0.33	0.17	0.17	132
Total										
2Q Ahead	0.28	0.18	0.05	0.05	541	0.28	0.29	0.06	0.08	541
4Q Ahead	0.35	0.27	0.11	0.10	541	0.33	0.36	0.13	0.12	541
8Q Ahead	0.37	0.30	0.13	0.11	541	0.38	0.33	0.15	0.12	541

Notes: The four numbers in each cell show the fraction of relative MSFEs less than 1 in the first out-of-sample period (column label 1st), in the second out-of-sample period (column label 2nd), in both the first and second periods (column label 1&2), and the product of the first and the second (column label 1x2). Results are pooled for all predictors; the inflation results are the pooled results for the GDP deflator and CPI inflation; the output results are the pooled results for IP growth and real GDP growth.

Tables B.1 – B.12 show the root mean square forecast error over the pseudo out of sample period for the univariate AR models in the row labeled AR RMSE. All other entries are the MSFE relative the MSFE for the univariate autoregression.

All models are estimated using BIC recursively selected lags.

The final entries in the tables include results for the combined forecasts.

Table B.3
Out-of-Sample Results
Bivariate Models
Series = Inflation, GDP Deflator
Forecast Horizon = 2 Quarters

Indicator	Trans.	CN		FR		GY		IT		JP		UK		US	
		71-84 85-99	71-84 85-99	71-84 85-99	71-84 85-99	71-84 85-99	71-84 85-99	71-84 85-99	71-84 85-99	71-84 85-99	71-84 85-99	71-84 85-99	71-84 85-99	71-84 85-99	71-84 85-99
AR RMSE		2.61	1.76	3.27	1.41	1.76	1.16	4.94	1.74	3.64	1.69	5.30	1.89	1.58	0.64
rw	lev	0.92	1.45	1.85		2.95	1.63	0.92	1.29	0.80	1.52	1.07	1.63	0.93	1.46
rw4	lev	4.69	2.12	3.05		2.67	3.25	3.94	4.05	5.90	2.21	4.48	2.85	5.55	3.50
rovnght	lev		1.11	1.41		1.13	0.92	1.50		0.99	1.48	1.22		1.55	1.06
rtbill	lev	1.06	1.01	1.31		0.87		1.45				1.86	1.12	1.66	1.02
rbnds	lev							1.43				1.13		1.58	1.05
rbndm	lev							1.24	1.10					1.24	0.95
rbndl	lev	1.09	0.97	1.45		1.16	1.15	1.19	1.11	1.35		1.40	0.91	1.16	0.94
rovnght	1d		1.14	1.19		0.97	0.88	1.75		1.01	0.97	1.17		1.55	1.03
rtbill	1d	1.04	0.96	1.12		0.83		1.15				0.90	1.10	1.51	1.00
rbnds	1d							1.07				1.07		1.39	1.02
rbndm	1d							1.02	0.94					1.32	1.03
rbndl	1d	1.10	0.99	1.22		1.02	1.07	1.01	0.91	1.09		0.99	0.95	1.21	1.02
rrovnght	lev		1.16	1.01		1.04	1.03	1.18		1.02	1.00	1.16		1.24	0.99
rrtbill	lev	1.18	1.07	1.02		1.08		1.16				1.37	1.29	1.27	0.98
rrbnds	lev							1.24				1.23		1.25	0.97
rrbndm	lev							1.15	1.00					1.33	0.93
rrbndl	lev	1.29	1.02	1.28		1.11	1.03	1.13	1.00	1.21		1.24	1.21	1.29	0.94
rrovnght	1d		1.11	1.08		1.00	1.05	1.16		0.97	1.06	1.11		1.02	1.06
rrtbill	1d	1.07	1.00	1.06		1.06		1.10				1.10	1.09	1.06	1.01
rrbnds	1d							1.03				1.11		1.07	1.00
rrbndm	1d							0.98	0.99					1.22	1.20
rrbndl	1d	1.01	1.00	1.07		1.02	1.01	1.00	0.99	1.10		1.08	0.98	1.08	1.35
rspread	lev		1.18	1.48		1.20	1.05	1.81		1.16		1.32		1.44	1.03
exrate	ln1d		1.20	1.25		1.10		1.17		1.56		1.51		1.26	
rexrate	ln1d		1.21	1.36		1.12		1.25		1.59		1.52		1.26	
stockp	ln1d	1.10	1.06	0.98		1.13	0.97	1.03	1.05	1.16	1.27	0.90	1.28	1.12	0.95
rstockp	ln1d	1.11	1.05	0.96		1.13	0.97	1.02	1.08	1.14	1.64	0.94	1.25	1.12	1.17
divpr	ln		1.37	1.36		1.58		1.18		1.37		1.76		1.13	1.12
house	ln1d		1.18							2.83		1.15		1.09	1.11
rhouse	ln		1.28							1.85		1.71		1.41	1.08
rhouse	ln1d		1.20							1.66		1.15		1.10	1.18
gold	ln1d	1.33	1.01	1.16		1.30	1.00	1.03	0.97	1.15	1.00	1.02	0.97	1.28	0.85
gold	ln2d	1.14	1.00	1.12		1.25	0.98	1.05	1.03	1.05	0.98	1.02	1.07	1.19	1.00
rgold	ln	1.70	1.02	1.15		1.38	1.05	1.27	1.01	1.21	1.03	1.48	1.06	1.60	0.89
rgold	ln1d	1.26	0.99	1.14		1.26	1.00	1.03	1.00	1.15	1.01	0.99	1.02	1.22	0.83
silver	ln1d		1.09	1.12		1.13		1.33		1.07		1.14		1.03	
silver	ln2d		1.09	1.01		1.04		1.19		1.17		1.14		1.11	
rsilver	ln		1.13	1.25		1.04		1.66		1.12		1.21		1.16	
rsilver	ln1d		1.09	1.14		1.14		1.38		1.08		1.13		1.01	
rgdp	ln1d	0.92	0.94	1.14		0.79	0.88	0.74	1.46	1.05	0.97	1.05	0.90	1.10	0.90
rgdp	gap	0.94	0.94	1.13		0.84	0.76	0.88	1.38	1.11	0.98	1.05	1.00	0.96	1.06
ip	ln1d	0.95	0.94	1.14		0.83	0.98	0.99	1.17	1.38	0.98	1.00	1.00	1.11	1.03
ip	gap	1.02	1.02	1.17		0.82	0.95	1.04	1.24	1.35	0.93	0.94	1.08	0.90	1.05
capu	lev	1.06	0.85	1.41		0.87		1.19		1.28				0.86	0.92

emp	ln1d	0.97 0.98	1.50	0.87 1.75		1.02 1.00	0.98 1.37	1.09 0.98
emp	gap	1.01 0.92	1.62	1.02 1.76		1.07 1.02	0.98 1.28	0.83 1.14
unemp	lev	1.00 1.01	1.17	1.33 1.00	1.37 1.02	1.12 1.05	1.01 1.63	0.98 1.06
unemp	1d	0.93 1.02	1.00	1.06 0.97	1.29 1.63	1.02 1.04	0.89 1.71	1.10 1.03
unemp	gap	1.03 0.93	1.13	1.04 0.98	1.24 1.28	1.04 1.04	0.88 1.17	0.94 1.15
pgdp	ln1d							
pgdp	ln2d							
cpi	ln1d	1.25 1.01	1.29	1.24 1.03	1.19 1.12	1.21 1.26	1.33 1.15	1.22 1.09
cpi	ln2d	1.04 0.99	1.34	0.97 1.06	0.99 0.90	0.96 1.05	1.04 0.95	1.14 1.24
ppi	ln1d	1.65 0.92		1.27 1.42		1.73 1.30	1.21 0.92	1.31 1.09
ppi	ln2d	1.13 0.93		0.99 1.41		1.03 1.28	0.93 0.90	1.10 1.43
earn	ln1d	1.06 1.06	1.03	1.03 1.00		1.30 1.04	1.18 1.28	1.08 1.15
earn	ln2d	1.05 1.07	1.01	1.21 1.00		1.09 0.98	1.02 1.19	1.10 1.07
oil	ln1d	3.74 0.90	0.84	3.02 1.18	1.05 0.99	1.80 1.01	1.15 2.14	1.84 1.27
oil	ln2d	2.17 0.99	0.98	1.97 1.01	1.14 1.03	1.35 1.08	1.03 1.08	1.32 1.67
roil	ln	1.80 0.95	0.86	1.98 1.09	1.17 1.08	1.14 1.20	1.09 2.45	1.52 1.51
roil	ln1d	3.48 0.92	0.84	2.92 1.19	1.06 1.02	1.81 1.00	1.20 2.53	2.21 1.28
comod	ln1d	0.98 0.97	1.33	1.19 1.10	1.05 1.39	1.12 1.14	1.21 1.14	0.97 1.25
comod	ln2d	1.34 1.00	1.19	1.55 1.02	1.25 1.14	1.40 1.01	1.03 1.13	1.36 1.01
rcomod	ln	1.33 1.01	1.42	1.46 1.18	1.19 1.78	1.15 1.32	0.99 2.21	1.22 1.43
rcomod	ln1d	1.08 0.95	1.34	1.23 1.11	0.95 1.60	1.00 1.19	1.08 1.35	0.94 1.36
mon0	ln1d					1.36		1.07 1.04
mon0	ln2d					1.26		1.02 1.00
mon1	ln1d	1.02 1.07	1.02	0.97 0.97	0.99 1.01	1.23 1.04		1.12 1.02
mon1	ln2d	1.07 0.99	1.06	1.00 1.00	0.93 1.02	1.31 0.99		1.03 1.04
mon2	ln1d	1.20		1.20 1.31	1.22	1.47		1.16 1.07
mon2	ln2d	1.09		1.05 1.00	1.14	1.16		1.03 1.07
mon3	ln1d	1.19	1.04	0.96	0.98 1.03	1.49		1.07 0.99
mon3	ln2d	1.15	1.00	1.05	0.92 0.98	1.32		1.03 1.00
rmon0	ln1d					1.61		1.19 1.08
rmon1	ln1d	0.96 1.17	1.04	0.98 0.97	0.99 1.18	1.28 1.22		1.32 1.03
rmon2	ln1d	1.16		1.18 1.26	1.46	1.40		1.34 1.00
rmon3	ln1d	1.17	1.01	0.99	0.96 0.97	1.26		1.04 1.02
activity	Median	0.90 0.93	1.08	0.82 0.86	0.87 1.08	1.05 0.99	0.94 1.05	0.94 0.96
activity	Tr.Mean	0.92 0.92	1.08	0.82 0.90	0.89 1.03	1.06 0.94	0.93 1.05	0.94 0.95
pr_earn	Median	1.05 0.92	0.96	0.94 1.01	0.98 0.94	0.97 0.99	0.92 0.97	1.01 0.98
pr_earn	Tr.Mean	1.14 0.88	0.93	0.81 1.04	0.97 0.94	0.93 0.98	0.94 1.02	1.01 1.03
money	Median	0.95 1.12	1.01	0.97 0.98	0.95 0.98	1.23 1.06		1.05 1.00
money	Tr.Mean	0.96 1.07	1.01	0.98 0.96	0.95 0.99	1.23 1.04		1.07 1.00
ap	Median	1.00 1.03	0.96	0.99 0.99	1.00 0.98	1.03 1.04	1.02 1.09	1.04 0.96
ap	Tr.Mean	1.04 1.02	0.93	0.97 0.97	1.00 0.98	1.02 1.07	1.01 1.04	1.10 0.94
all	Median	0.95 0.98	0.95	0.96 0.97	0.97 0.96	1.02 1.01	0.98 1.02	1.01 0.96
all	Tr.Mean	1.00 0.96	0.92	0.88 0.95	0.95 0.96	0.99 0.99	0.95 0.99	1.03 0.94

Table B.4
Out-of-Sample Results
Bivariate Models
Series = CPI Inflation
Forecast Horizon = 2 Quarters

Indicator	Trans.	CN	FR	GY	IT	JP	UK	US
		71-84 85-99	71-84 85-99	71-84 85-99	71-84 85-99	71-84 85-99	71-84 85-99	71-84 85-99
AR RMSE		1.78 1.71	2.16 0.92	1.33 2.04	4.06 1.12	4.23 1.49	4.82 1.97	2.25 1.29
rw	lev	0.99 1.10	0.92 1.14	1.06 1.40	0.92 0.93	0.89 1.69	0.92 1.05	1.05 1.20
rw4	lev	6.57 2.83	4.92 5.43	3.89 2.35	5.19 6.16	4.97 2.83	4.34 4.27	5.97 3.05
rovnght	lev	1.15	0.96 1.35	1.02 1.02	1.97	1.08 1.27	1.02	0.84 0.98
rtbill	lev	1.03 1.04	1.64	1.20	1.51		1.76 0.90	0.85 0.98
rbnds	lev				1.53		0.82	0.93 0.98
rbndm	lev				1.37 0.96			1.03 0.92
rbndl	lev	1.40 1.02	1.20 1.01	0.92 1.06	1.15 1.02	2.54	1.26 0.91	1.02 0.94
rovnght	1d	1.13	1.21 1.08	1.00 1.00	1.35	1.06 0.99	1.15	0.87 0.97
rtbill	1d	1.07 1.00	1.11	1.08	1.28		1.16 0.94	0.88 0.97
rbnds	1d				1.10		0.84	0.93 0.97
rbndm	1d				1.09 1.02			1.02 1.06
rbndl	1d	1.23 0.98	1.03 1.03	0.92 1.01	1.10 1.01	1.39	1.17 0.94	0.99 0.99
rrovnght	lev	1.03	1.06 1.05	1.10 0.99	0.97	1.09 1.00	1.20	0.91 0.99
rrtbill	lev	1.17 0.99	1.17	1.26	1.50		0.81 1.40	1.03 0.95
rrbnds	lev				1.25		1.17	1.12 0.96
rrbndm	lev				1.22 1.08			1.29 0.94
rrbndl	lev	1.21 0.94	1.11 1.45	0.96 0.90	1.28 1.09	1.32	1.03 1.13	1.22 0.98
rrovnght	1d	0.96	0.88 1.00	1.00 1.00	1.08	1.03 0.91	1.02	0.84 0.96
rrtbill	1d	1.06 0.89	1.08	1.21	1.24		1.12 0.88	0.87 0.96
rrbnds	1d				1.08		0.90	0.93 0.97
rrbndm	1d				1.11 1.02			0.89 0.94
rrbndl	1d	1.21 0.91	0.97 1.04	0.90 1.05	1.09 1.06	1.02	1.11 0.93	0.95 0.92
rsread	lev	1.14	1.03 1.22	1.07 1.03	1.93	1.12	1.25	0.97 1.31
exrate	ln1d	1.02	1.10	1.09	1.01	1.21	1.11	2.04
rexrate	ln1d	1.02	1.06	1.04	0.93	1.32	1.05	2.04
stockp	ln1d	0.99 1.07	1.10 1.02	1.01 1.01	1.06 1.01	0.99 1.07	1.07 1.24	0.98 1.13
rstockp	ln1d	0.97 1.09	1.11 1.00	1.01 1.01	1.11 1.05	0.94 1.15	1.19 1.20	0.97 1.14
divpr	ln	1.28	1.32	1.09	1.03	1.31	1.60	1.02 1.15
house	ln1d	1.12				2.73	1.07	0.96 1.09
rhouse	ln	1.20				1.81	1.69	0.97 1.11
rhouse	ln1d	1.10				1.50	1.09	0.88 1.11
gold	ln1d	1.10 1.01	0.96 0.82	1.18 1.01	1.34 0.94	1.66 0.99	1.11 1.01	1.17 1.00
gold	ln2d	1.25 1.00	1.06 0.97	1.05 1.02	1.05 0.99	1.13 0.99	1.10 1.00	1.03 1.04
rgold	ln	1.29 0.97	1.26 0.86	1.11 1.01	1.52 0.96	1.47 1.09	1.36 1.07	1.28 0.96
rgold	ln1d	1.06 1.00	1.04 0.82	1.16 1.01	1.29 0.95	1.50 0.96	1.06 0.94	1.13 0.99
silver	ln1d	1.01	1.13	1.05	1.07	0.96	1.00	1.03
silver	ln2d	1.01	1.14	1.04	1.04	0.99	1.06	1.11
rsilver	ln	1.04	1.30	1.09	1.61	1.47	1.12	1.14
rsilver	ln1d	1.01	1.14	1.05	1.12	0.95	0.99	1.03
rgdp	ln1d	1.00 0.99	1.16	0.95 0.97	0.97 0.97	1.08 0.97	1.26 0.93	1.00 1.00
rgdp	gap	1.02 0.97	1.21	0.91 0.96	1.02 1.06	1.04 0.92	0.96 1.00	0.84 0.94
ip	ln1d	1.09 1.03	1.07 1.01	0.99 1.03	0.99 0.79	1.02 1.00	1.12 1.02	0.85 0.97
ip	gap	1.03 0.97	1.01 1.00	0.95 1.04	0.98 1.10	1.02 0.87	1.03 1.01	0.80 1.03
capu	lev	1.17 0.67	1.18	1.04	1.69	1.59		0.70 0.81
emp	ln1d	1.00 0.94	1.41	0.90 1.22		1.04 1.38	0.99 0.87	0.79 0.93
emp	gap	0.97 0.84	1.47	0.93 1.06		0.96 1.10	1.00 1.05	0.71 1.04
unemp	lev	1.03 1.00	1.66	1.04 1.01	1.01 1.33	1.09 1.55	1.22 0.83	0.77 0.82
unemp	1d	0.95 1.09	1.03	0.94 1.03	0.94 1.49	1.00 1.51	1.01 0.98	0.79 0.87
unemp	gap	0.96 0.86	1.11	0.91 0.96	1.00 1.26	1.03 1.12	0.99 0.84	0.75 1.00
pgdp	ln1d	1.04 1.01	1.84	1.01 1.00	1.09 1.01	1.15 1.07	1.21 1.03	1.06 1.08
pgdp	ln2d	1.02 1.00	1.17	0.99 1.01	1.02 1.00	1.04 1.05	1.06 1.05	1.00 1.00
cpi	ln1d							
cpi	ln2d							
ppi	ln1d	1.10 0.97		1.38 1.00		1.05 1.09	1.22 0.99	0.98 0.90
ppi	ln2d	0.99 0.92		1.27 0.96		0.69 1.12	0.90 1.01	0.92 0.86
earn	ln1d	1.07 1.01	1.19 1.07	1.00 0.96		1.27 1.02	1.37 1.04	1.05 1.03

earn	ln2d	1.03 1.01	1.04 1.02	0.96 1.02		1.00 1.00	1.07 0.97	1.01 0.95
oil	ln1d	1.22 0.85	1.07 0.98	1.45 1.02	0.98 1.57	1.25 1.07	1.57 1.12	1.15 0.97
oil	ln2d	1.15 0.95	1.01 0.94	2.06 0.99	1.11 2.36	1.05 0.96	1.92 1.03	1.02 1.18
roil	ln	1.20 0.88	1.27 0.84	1.09 0.96	1.44 1.45	1.11 1.31	2.13 1.10	1.50 0.84
roil	ln1d	1.21 0.84	1.26 0.99	1.46 1.02	1.01 1.78	1.91 0.99	1.72 1.16	1.06 0.97
comod	ln1d	1.06 0.99	1.05 1.14	1.08 0.99	1.06 0.93	0.92 1.41	1.06 0.95	0.78 1.35
comod	ln2d	1.00 1.00	1.13 1.14	1.02 1.01	1.07 1.30	1.13 1.44	1.09 1.01	1.10 1.15
rcomod	ln	1.12 1.01	1.19 1.27	1.21 1.12	1.20 1.27	0.92 1.83	1.14 1.35	0.81 1.45
rcomod	ln1d	1.01 0.98	1.01 1.16	1.06 0.98	1.07 1.34	0.78 1.71	1.00 0.89	0.72 1.35
mon0	ln1d					1.07		1.00 1.00
mon0	ln2d					1.18		1.00 0.99
mon1	ln1d	1.29 1.04	1.33	1.23 1.07	1.00 0.96	1.34 1.02		0.96 1.00
mon1	ln2d	1.00 1.01	1.29	1.15 1.04	1.01 0.97	1.07 1.05		1.04 0.96
mon2	ln1d	1.24		0.86 1.09	1.79	1.98		1.03 1.00
mon2	ln2d	1.14		0.99 1.03	1.41	1.48		1.06 1.00
mon3	ln1d	1.21	0.99 1.02	1.04	1.18 0.96	1.94		1.02 1.01
mon3	ln2d	1.14	1.03 1.02	1.03	1.04 0.97	1.72		1.02 1.00
rmon0	ln1d					1.59		0.97 1.06
rmon1	ln1d	1.06 1.11	1.56	1.22 1.05	0.94 0.92	1.00 1.21		0.99 1.08
rmon2	ln1d	1.16		0.78 1.09	1.79	1.77		1.04 0.94
rmon3	ln1d	1.13	0.99 1.07	1.04	1.10 1.22	1.54		0.98 1.04
activity	Median	0.97 0.92	1.01	0.92 1.00	0.99 0.96	0.99 0.94	0.98 0.81	0.76 0.92
activity	Tr.Mean	0.97 0.91	1.00	0.91 1.00	0.94 0.91	0.99 0.94	0.97 0.81	0.75 0.89
pr_earn	Median	0.99 0.97	1.03 0.96	1.01 0.99	0.99 0.69	0.95 0.93	1.00 0.92	0.97 0.97
pr_earn	Tr.Mean	0.97 0.94	0.98 0.97	1.08 0.99	0.96 0.72	0.85 0.80	1.00 0.91	0.92 0.95
money	Median	1.02 1.04	1.01 1.02	0.98 1.01	1.02 0.94	1.09 0.94		0.96 0.96
money	Tr.Mean	0.99 1.04	1.01 1.00	0.96 1.02	1.00 0.92	1.08 0.91		0.95 0.90
ap	Median	0.98 1.00	0.96 0.92	1.01 1.01	1.05 0.95	1.02 0.95	1.01 0.90	0.89 0.94
ap	Tr.Mean	0.93 0.99	0.93 0.89	1.01 1.02	1.09 0.90	1.09 0.90	0.99 0.90	0.86 0.93
all	Median	0.97 0.99	0.99 0.93	0.98 1.00	1.02 0.89	0.98 0.89	0.98 0.88	0.89 0.90
all	Tr.Mean	0.93 0.95	0.94 0.90	0.97 1.00	0.99 0.78	0.92 0.82	0.96 0.85	0.83 0.89

Table B.5
Out-of-Sample Results
Bivariate Models
Series = Inflation, GDP Deflator
Forecast Horizon = 4 Quarters

Indicator	Trans.	CN 71-84 85-99	FR 71-84 85-99	GY 71-84 85-99	IT 71-84 85-99	JP 71-84 85-99	UK 71-84 85-99	US 71-84 85-99
AR RMSE		2.73 1.58	2.97 1.17	1.35 1.06	5.10 1.78	4.54 1.32	5.58 1.84	1.76 0.64
rw	lev	1.05 1.66	2.38	3.68 1.82	0.97 1.16	0.78 1.87	1.03 1.51	0.88 1.26
rw4	lev	1.06 0.68	1.08	0.96 0.99	0.94 0.98	0.94 0.91	1.01 0.77	1.12 0.86
rovnght	lev	1.10	2.01	1.15 0.93	2.33	0.89 3.14	1.29	1.23 1.09
rtbill	lev	1.01 0.99	1.72	1.00	1.42		3.52 1.22	1.28 1.11
rbnds	lev				1.33		1.08	1.21 1.06
rbndm	lev				1.43 1.14			1.08 0.99
rbndl	lev	1.10 0.89	1.58	1.27 1.22	1.17 1.18	2.88	1.59 0.95	1.16 0.98
rovnght	1d	1.06	1.17	0.89 0.87	1.97	1.14 1.06	1.07	1.36 1.01
rtbill	1d	1.04 0.97	1.15	0.92	0.91		1.69 1.11	1.15 0.99
rbnds	1d				0.90		1.03	1.17 0.99
rbndm	1d				1.01 0.91			1.09 1.00
rbndl	1d	1.10 0.99	1.12	0.89 1.03	1.04 0.93	1.29	1.02 1.00	1.05 1.00
rrovnght	lev	1.07	1.08	1.02 1.08	1.01	1.26 1.27	1.10	1.39 1.08
rrtbill	lev	1.22 1.06	1.09	1.81	1.13		1.20 1.47	1.38 1.03
rrbnds	lev				1.20		1.35	1.39 1.03
rrbndm	lev				1.43 1.00			1.40 1.30
rrbndl	lev	1.39 0.99	1.49	1.21 1.04	1.38 1.02	1.33	1.53 1.34	1.37 1.55
rrovnght	1d	1.07	0.98	1.01 1.02	1.08	1.00 1.01	1.03	1.01 1.01
rrtbill	1d	1.05 1.01	1.00	1.08	1.00		0.96 1.04	1.00 1.00
rrbnds	1d				1.18		1.05	0.99 1.01
rrbndm	1d				0.95 1.02			1.03 1.70
rrbndl	1d	1.04 1.04	1.14	1.02 1.01	0.95 1.03	1.29	1.05 1.02	1.07 1.77
rsread	lev	1.04	1.66	1.43 0.95	2.27	1.52	1.35	1.26 1.35
exrate	ln1d	1.25	0.94	1.10	0.97	1.96	1.46	1.12
rexrate	ln1d	1.46	1.04	1.11	1.01	1.98	1.15	1.12
stockp	ln1d	0.91 1.22	1.11	1.21 1.00	1.08 1.14	0.80 3.17	0.85 1.27	1.04 1.02
rstockp	ln1d	0.92 1.22	1.09	1.21 1.00	1.08 1.23	0.76 3.18	0.91 1.14	1.03 1.19
divpr	ln	1.65	2.30	1.94	1.18	5.26	2.41	1.06 1.51
house	ln1d	1.12				5.87	1.07	1.11 1.12
rhouse	ln	1.44				3.31	2.50	1.52 1.11
rhouse	ln1d	1.15				3.06	1.11	1.10 1.00
gold	ln1d	1.33 0.81	1.21	1.08 1.02	1.06 0.94	1.58 1.01	1.18 0.92	1.09 0.73
gold	ln2d	0.98 1.00	1.00	1.03 1.00	1.02 1.01	0.92 0.99	1.00 1.01	1.04 0.99
rgold	ln	2.13 0.85	1.17	1.96 1.08	1.92 1.02	1.41 1.21	2.03 1.05	1.76 0.91
rgold	ln1d	1.34 0.74	1.15	1.04 1.02	0.99 0.97	1.27 1.02	1.14 0.91	1.01 0.72
silver	ln1d	1.10	1.32	1.09	1.14	1.31	1.10	1.08
silver	ln2d	1.09	1.13	1.06	1.34	1.43	1.06	1.10
rsilver	ln	1.22	1.67	1.14	2.64	1.80	1.39	1.47
rsilver	ln1d	1.10	1.41	1.09	1.22	1.32	1.12	1.00
rgdp	ln1d	0.88 0.96	1.29	0.90 0.84	0.87 1.13	1.05 0.99	1.22 0.85	1.02 0.78
rgdp	gap	0.95 0.92	1.44	0.98 0.73	1.05 1.20	1.15 0.91	1.04 0.90	0.95 1.05
ip	ln1d	0.92 0.98	1.44	0.73 0.94	0.91 0.97	1.14 1.20	1.10 0.97	0.99 0.94
ip	gap	1.08 1.01	1.49	1.13 1.01	1.08 1.12	1.23 1.03	0.97 0.96	0.86 1.05
capu	lev	1.13 0.83	2.29	0.87	1.16	1.76		0.87 0.91
emp	ln1d	0.92 0.94	1.91	0.56 1.77		1.04 1.20	0.95 1.16	0.85 0.92
emp	gap	0.98 0.90	2.54	0.90 2.06		1.09 0.98	1.00 1.46	0.80 1.19
unemp	lev	1.07 0.89	1.66	1.99 1.09	1.79 1.02	1.12 1.15	0.99 1.95	1.07 1.03
unemp	1d	0.95 0.91	1.03	0.87 1.03	1.27 1.15	0.99 0.90	0.85 2.08	1.03 1.16
unemp	gap	1.00 0.85	1.12	0.94 0.97	1.28 1.23	1.12 1.06	1.00 1.13	0.87 1.19
pgdp	ln1d							
pgdp	ln2d							
cpi	ln1d	1.45 0.97	1.47	2.10 1.35	1.45 1.32	1.18 2.06	1.64 1.24	1.24 1.32
cpi	ln2d	1.05 1.01	1.20	0.98 1.05	0.95 0.91	1.02 0.98	1.03 0.94	1.02 1.45
ppi	ln1d	1.75 1.05		1.13 1.28		2.15 1.86	1.46 0.71	1.14 1.05
ppi	ln2d	1.11 1.04		1.03 1.09		0.90 1.56	0.93 0.83	0.98 1.34
earn	ln1d	1.10 1.08	1.03	1.34 1.00		1.34 1.20	1.32 1.39	1.14 1.27

earn	ln2d	1.00 1.02	0.99	1.08 1.00		1.10 1.04	1.09 1.08	1.01 1.03
oil	ln1d	1.70 0.89	0.76	5.20 1.11	1.02 0.97	2.98 2.43	1.15 2.47	3.57 1.20
oil	ln2d	1.02 1.02	1.15	1.17 1.05	1.09 1.08	1.25 1.15	1.12 2.11	1.12 1.59
roil	ln	2.31 0.86	0.86	1.71 1.19	1.12 1.13	1.22 1.70	1.85 3.22	4.52 1.12
roil	ln1d	1.39 0.91	0.76	3.52 1.12	1.00 1.01	2.13 1.07	1.03 2.93	3.69 1.22
comod	ln1d	1.20 0.89	1.30	1.04 1.16	1.05 1.25	1.17 1.23	1.05 1.56	0.72 1.48
comod	ln2d	1.07 1.00	1.00	1.28 1.03	1.05 2.09	1.27 1.38	0.97 1.15	1.05 1.01
rcomod	ln	1.33 0.98	1.81	1.73 1.37	1.03 2.16	1.16 1.57	0.97 2.60	0.98 1.67
rcomod	ln1d	1.20 0.89	1.36	1.17 1.16	0.88 1.53	1.04 1.47	0.83 1.71	0.64 1.59
mon0	ln1d					1.87		1.06 1.07
mon0	ln2d					1.68		1.00 1.00
mon1	ln1d	1.02 1.16	0.88	1.01 1.04	0.91 1.09	0.99 1.29		1.09 1.01
mon1	ln2d	0.98 0.98	0.95	1.05 1.01	0.97 0.95	1.12 1.25		1.02 1.02
mon2	ln1d	1.14		0.79 1.22	1.66	2.75		1.11 0.98
mon2	ln2d	1.17		0.98 1.05	1.13	1.39		1.02 1.05
mon3	ln1d	1.16	1.08	1.07	1.02 0.95	2.35		1.08 0.97
mon3	ln2d	1.08	0.98	1.08	0.97 0.95	2.36		1.01 1.00
rmon0	ln1d					2.84		1.11 1.18
rmon1	ln1d	0.86 1.17	0.94	1.08 1.03	0.85 1.22	1.74 1.32		1.23 1.05
rmon2	ln1d	1.16		0.72 1.16	1.66	2.30		1.09 1.09
rmon3	ln1d	1.22	1.46	1.06	1.04 1.48	1.87		1.02 0.95
activity	Median	0.91 0.87	1.23	0.79 0.86	1.01 0.94	1.05 0.83	0.96 0.92	0.88 0.90
activity	Tr.Mean	0.92 0.86	1.21	0.76 0.86	1.01 0.94	1.05 0.77	0.95 0.94	0.88 0.89
pr_earn	Median	1.01 0.91	0.77	0.94 1.00	0.95 0.90	0.96 1.01	0.97 0.91	0.96 0.96
pr_earn	Tr.Mean	1.03 0.88	0.76	0.82 1.01	0.91 0.92	0.93 1.02	0.96 1.03	0.95 0.96
money	Median	0.90 1.09	0.92	0.92 1.04	0.93 1.00	1.19 1.27		1.02 0.98
money	Tr.Mean	0.89 1.07	0.93	0.91 0.98	0.92 0.98	1.25 1.16		1.02 0.97
ap	Median	0.96 0.97	0.90	1.00 1.01	0.99 0.93	0.95 1.07	1.04 1.00	1.02 0.94
ap	Tr.Mean	0.98 0.97	0.89	0.98 1.01	1.00 0.92	0.98 1.09	1.07 0.96	0.97 0.90
all	Median	0.95 0.93	0.86	0.91 0.99	0.96 0.91	0.98 0.97	0.99 0.94	0.97 0.94
all	Tr.Mean	0.94 0.91	0.83	0.80 0.95	0.94 0.89	0.91 0.93	1.00 0.89	0.94 0.87

Table B.6
Out-of-Sample Results
Bivariate Models
Series = CPI Inflation
Forecast Horizon = 4 Quarters

Indicator	Trans.	CN 71-84 85-99	FR 71-84 85-99	GY 71-84 85-99	IT 71-84 85-99	JP 71-84 85-99	UK 71-84 85-99	US 71-84 85-99
AR RMSE		2.10 1.67	2.37 1.02	1.28 1.73	4.65 1.38	4.95 1.32	5.25 2.06	2.50 1.28
rw	lev	0.92 1.20	0.97 1.09	1.17 1.74	0.94 0.89	0.77 1.91	0.97 1.14	0.92 1.20
rw4	lev	1.17 0.76	1.04 1.06	0.97 0.85	0.99 1.03	0.90 0.92	0.91 1.01	1.19 0.79
rovnght	lev	1.12	0.68 1.47	1.01 1.03	2.76	1.01 2.03	0.98	0.99 1.07
rtbill	lev	1.08 1.07	2.12	1.15	1.80		1.71 0.90	0.92 1.03
rbnds	lev				1.86		0.90	0.99 1.03
rbndm	lev				1.65 0.94			1.01 0.96
rbndl	lev	1.24 0.99	1.26 1.00	0.82 1.11	1.37 1.02	5.34	1.08 1.00	1.06 0.98
rovnght	1d	1.03	1.07 1.05	0.99 0.97	2.10	1.00 0.97	1.15	1.05 0.99
rtbill	1d	1.03 0.99	1.00	1.02	1.12		1.07 0.92	1.13 0.98
rbnds	1d				1.04		0.90	1.02 0.99
rbndm	1d				1.16 1.53			1.02 1.18
rbndl	1d	1.27 0.98	1.07 1.05	0.94 1.02	1.20 1.15	2.41	1.06 1.09	0.98 1.17
rrovnght	lev	1.06	1.16 0.97	1.21 0.97	1.46	1.54 1.30	1.43	1.30 1.07
rrtbill	lev	1.49 1.01	1.22	1.24	1.16		0.89 1.74	1.38 0.96
rrbnds	lev				0.96		1.48	1.27 0.98
rrbndm	lev				1.26 1.62			1.35 1.11
rrbndl	lev	1.24 0.93	1.30 1.48	1.12 0.82	1.33 1.74	1.26	0.96 1.34	1.32 1.12
rrovnght	1d	0.89	1.06 0.87	0.99 0.97	0.92	1.01 1.03	1.18	1.14 0.98
rrtbill	1d	1.04 0.87	0.98	1.10	1.08		0.88 0.97	1.10 0.97
rrbnds	1d				0.90		0.88	0.99 0.98
rrbndm	1d				1.15 1.06			0.96 1.02
rrbndl	1d	1.18 0.88	0.92 1.04	0.93 1.04	1.18 1.16	1.17	1.00 1.06	0.97 1.05
rsread	lev	1.07	1.10 1.46	1.13 1.01	2.55	1.24	1.06	0.91 1.40
exrate	ln1d	0.98	1.24	1.21	1.03	1.77	1.23	2.12
rexrate	ln1d	0.93	1.32	1.08	0.92	1.88	1.06	2.12
stockp	ln1d	0.99 1.12	1.18 1.01	1.02 1.01	1.35 1.07	0.86 2.64	0.85 1.21	0.95 1.20
rstockp	ln1d	1.00 1.14	1.11 1.01	1.01 1.01	1.26 1.14	0.83 2.83	0.93 1.17	0.94 1.22
divpr	ln	1.54	1.96	1.20	1.05	4.33	2.01	1.09 1.22
house	ln1d	1.16				6.60	0.97	0.86 1.11
rhouse	ln	1.26				4.53	2.02	0.91 1.11
rhouse	ln1d	1.20				3.91	1.08	0.70 1.04
gold	ln1d	1.02 0.95	1.06 0.91	1.19 0.99	1.14 0.95	2.02 0.93	0.90 0.92	1.43 1.03
gold	ln2d	1.30 1.01	1.00 0.99	1.05 1.00	0.95 1.01	1.01 0.99	1.03 1.00	1.02 1.10
rgold	ln	1.19 0.93	2.03 0.98	1.16 1.02	1.54 1.05	1.51 1.26	1.18 1.00	2.20 0.93
rgold	ln1d	0.94 0.91	1.24 0.92	1.17 0.98	1.06 1.18	1.67 0.89	0.94 0.92	1.31 0.90
silver	ln1d	1.06	1.09	1.06	1.08	1.11	0.96	1.13
silver	ln2d	1.05	1.03	1.06	0.98	1.17	1.08	1.17
rsilver	ln	1.11	1.65	1.11	2.93	2.47	1.45	1.39
rsilver	ln1d	1.01	1.10	1.06	1.15	1.09	0.95	1.12
rgdp	ln1d	1.00 0.89	1.00	0.94 0.99	0.90 0.89	1.03 1.77	1.04 0.91	0.82 0.84
rgdp	gap	0.99 0.84	1.30	0.82 0.94	0.92 1.13	1.07 0.84	1.06 0.88	0.85 0.94
ip	ln1d	0.99 0.84	1.00 1.04	0.95 1.07	0.94 0.81	0.95 1.43	1.05 0.96	0.83 0.86
ip	gap	1.00 0.91	1.00 1.07	0.85 1.06	0.98 1.16	1.05 1.00	0.92 0.91	0.77 0.97
capu	lev	1.03 0.70	2.21	1.03	1.96	2.55		0.74 0.80
emp	ln1d	0.98 0.95	1.63	0.81 1.06		1.00 1.86	0.85 0.90	0.74 0.89
emp	gap	0.89 0.78	2.53	0.82 1.05		1.04 1.19	0.91 1.38	0.65 1.04
unemp	lev	1.16 0.81	3.69	1.02 0.98	1.15 1.30	1.19 2.32	1.06 0.88	0.76 0.89
unemp	1d	0.97 0.91	0.83	0.82 0.98	1.01 1.26	0.98 2.06	0.89 1.14	0.78 0.97
unemp	gap	0.92 0.76	1.14	0.83 0.96	1.08 1.13	1.13 1.17	0.88 0.88	0.75 1.02
pgdp	ln1d	1.08 1.02	2.36	1.00 0.99	1.10 1.02	1.16 1.49	0.99 1.19	1.06 1.08
pgdp	ln2d	1.02 1.00	1.02	0.98 1.00	1.03 0.99	0.98 1.10	0.99 1.01	1.00 0.98
cpi	ln1d							
cpi	ln2d							
ppi	ln1d	1.36 0.92		1.82 0.98		1.34 1.39	1.03 1.02	1.22 0.91
ppi	ln2d	1.00 0.91		1.06 0.98		0.75 1.29	0.90 0.99	1.05 0.93
earn	ln1d	1.09 1.03	1.07 1.11	1.03 0.95		1.29 1.05	1.28 0.95	1.10 1.03

earn	ln2d	1.03 1.00	1.00 0.99	0.99 1.00		1.03 1.03	1.05 0.99	1.00 0.99
oil	ln1d	1.16 0.93	2.04 1.01	1.23 1.00	0.91 1.62	2.40 1.47	0.99 1.08	1.09 0.99
oil	ln2d	1.22 0.96	1.49 0.99	1.29 0.98	0.92 1.60	0.97 0.98	1.05 1.00	1.03 0.89
roil	ln	1.57 0.95	1.14 0.71	1.10 0.99	1.78 0.96	1.44 1.77	1.11 1.66	2.81 0.86
roil	ln1d	1.11 0.92	1.89 1.04	1.05 1.00	1.08 1.47	2.06 1.23	0.95 1.38	1.01 0.99
comod	ln1d	1.12 0.91	1.20 1.02	1.05 0.99	1.03 0.97	1.36 1.98	1.02 0.84	0.79 1.26
comod	ln2d	1.00 1.01	1.13 1.34	1.02 1.00	0.99 1.48	1.05 2.06	1.05 1.00	0.99 1.64
rcomod	ln	1.23 0.89	1.28 1.12	1.21 1.14	1.08 1.38	1.13 2.26	0.96 1.60	0.79 1.44
rcomod	ln1d	1.03 0.85	1.14 1.07	1.03 0.97	0.90 1.18	0.97 2.05	0.94 0.82	0.68 1.34
mon0	ln1d					1.49		1.05 1.12
mon0	ln2d					2.81		1.00 1.05
mon1	ln1d	1.28 1.03	1.23	1.06 1.08	0.95 0.96	1.31 1.39		0.95 1.20
mon1	ln2d	1.09 1.02	1.23	1.01 1.05	1.01 0.94	1.03 1.32		1.01 1.05
mon2	ln1d	1.24		0.75 1.22	2.37	3.20		1.04 1.01
mon2	ln2d	1.30		0.99 1.05	1.61	1.78		1.02 1.03
mon3	ln1d	1.24	0.99 0.97	1.08	1.01 0.90	3.17		1.03 1.02
mon3	ln2d	1.18	0.98 1.00	1.03	1.07 0.94	3.09		1.00 0.96
rmon0	ln1d					2.71		0.80 1.39
rmon1	ln1d	1.14 1.12	1.79	1.05 1.01	0.90 1.02	1.36 1.44		0.83 1.65
rmon2	ln1d	1.23		0.65 1.22	2.32	2.73		0.97 0.95
rmon3	ln1d	1.30	0.92 1.07	0.95	0.92 1.45	2.20		0.89 1.13
activity	Median	0.96 0.77	0.95	0.84 0.96	0.95 0.92	1.00 1.06	0.86 0.76	0.74 0.84
activity	Tr.Mean	0.96 0.77	0.95	0.83 0.97	0.93 0.90	0.99 1.07	0.86 0.74	0.72 0.82
pr_earn	Median	0.99 0.96	1.00 0.98	1.01 0.99	0.93 0.80	0.97 0.97	0.95 0.90	0.99 0.94
pr_earn	Tr.Mean	0.99 0.91	1.08 0.97	1.02 0.98	0.89 0.78	0.86 0.86	0.91 0.88	0.93 0.95
money	Median	0.99 1.06	0.97 0.96	0.89 1.01	0.97 0.97	0.81 1.16		0.94 0.93
money	Tr.Mean	0.93 1.03	0.97 0.95	0.86 1.01	0.94 0.94	0.84 1.07		0.92 0.91
ap	Median	0.91 0.99	0.90 0.89	1.01 1.00	0.98 0.93	0.97 0.97	0.81 0.90	0.89 0.93
ap	Tr.Mean	0.85 0.96	0.92 0.88	1.01 1.01	1.02 0.89	1.06 0.91	0.84 0.86	0.89 0.94
all	Median	0.95 0.97	0.95 0.87	0.97 0.99	0.96 0.85	0.95 0.89	0.87 0.84	0.89 0.92
all	Tr.Mean	0.90 0.89	0.93 0.86	0.92 0.99	0.93 0.80	0.91 0.78	0.84 0.78	0.84 0.88

Table B.7
Out-of-Sample Results
Bivariate Models
Series = Inflation, GDP Deflator
Forecast Horizon = 8 Quarters

Indicator	Trans.	CN	FR	GY	IT	JP	UK	US
		71-84 85-99	71-84 85-99	71-84 85-99	71-84 85-99	71-84 85-99	71-84 85-99	71-84 85-99
AR RMSE		3.39 1.50	3.22 1.24	1.38 1.17	4.50 1.90	4.44 1.29	6.72 1.83	2.15 0.69
rw	lev	0.90 1.55	2.08	3.06 1.74	1.08 1.25	1.02 2.03	1.00 1.56	1.01 1.21
rw4	lev	0.95 0.69	0.92	0.92 0.99	0.85 0.90	1.05 0.86	0.85 0.95	1.14 0.84
rovnght	lev	1.59	2.51	0.75 0.87	2.52	1.03 3.89	1.88	1.30 1.62
rtbill	lev	1.08 1.15	2.19	0.83			2.28 1.65	0.99 1.55
rbnds	lev				1.59		1.31	1.12 1.44
rbndm	lev				1.11 0.91			0.92 1.17
rbndl	lev	1.12 0.97	1.94	0.83 1.25	0.69 0.98	7.51	1.63 0.92	0.97 1.12
rovnght	1d	0.84	1.03	0.83 0.86	1.80	1.22 1.38	1.18	1.74 0.99
rtbill	1d	1.07 0.99	0.96	0.90			1.97 1.24	1.48 0.98
rbnds	1d				0.83		1.13	1.21 0.99
rbndm	1d				1.26 1.07			1.03 1.00
rbndl	1d	1.11 1.03	1.03	0.85 0.92	1.75 1.08	1.33	1.14 1.04	1.02 1.00
rrovnght	lev	1.03	1.34	0.99 1.11	1.16	1.42 1.48	1.25	1.62 1.21
rrtbill	lev	1.45 1.16	1.26	2.17			1.32 2.02	1.67 1.03
rrbnds	lev				1.02		1.87	1.84 1.05
rrbndm	lev				3.32 1.14			1.39 2.20
rrbndl	lev	1.33 1.02	1.31	1.22 1.00	2.38 1.13	1.77	1.13 1.74	1.36 2.21
rrovnght	1d	0.86	1.01	0.99 1.04	1.08	0.97 1.03	1.15	1.04 1.06
rrtbill	1d	1.04 1.08	1.00	1.13			1.16 1.13	0.99 1.00
rrbnds	1d				0.96		1.12	0.99 1.01
rrbndm	1d				0.96 1.02			0.95 2.05
rrbndl	1d	0.96 1.11	1.20	1.00 1.00	0.97 1.02	1.37	1.01 0.99	0.92 2.07
rspread	lev	0.98	1.96	1.11 0.90	2.54	1.52	2.19	0.94 2.45
exrate	ln1d	1.71	1.43	1.02	1.90	2.19	1.80	1.52
rexrate	ln1d	2.20	0.86	1.01	0.97	2.21	1.64	1.52
stockp	ln1d	0.94 1.11	1.02	1.81 0.99	1.84 1.19	0.93 4.29	0.96 1.31	1.09 1.14
rstockp	ln1d	0.93 1.13	1.10	1.75 1.32	1.63 1.32	0.86 4.50	0.98 1.23	1.06 1.48
divpr	ln	2.13	7.09	2.83	1.57	10.75	5.15	1.31 2.49
house	ln1d	1.02				9.02	1.61	1.08 1.17
rhouse	ln	1.91				3.88	3.26	0.97 1.00
rhouse	ln1d	1.04				3.62	1.78	0.80 0.89
gold	ln1d	1.10 0.90	0.96	1.38 1.01	1.11 0.92	1.25 1.01	1.06 0.98	0.82 0.78
gold	ln2d	1.04 1.00	1.01	1.31 0.99	0.98 1.01	0.80 1.00	0.95 1.00	1.03 1.00
rgold	ln	1.01 1.06	1.00	4.90 1.11	1.92 1.08	1.67 1.58	1.92 1.95	2.51 1.51
rgold	ln1d	0.98 0.77	1.07	3.62 1.01	1.04 0.96	1.13 1.01	1.07 1.02	0.89 0.67
silver	ln1d	1.01	1.10	1.06	1.05	1.28	1.16	1.20
silver	ln2d	1.01	1.01	1.06	1.03	1.38	1.14	1.41
rsilver	ln	1.80	2.47	1.27	5.32	4.11	6.08	3.40
rsilver	ln1d	1.01	1.13	1.06	1.17	1.26	1.22	1.19
rgdp	ln1d	0.92 0.86	1.36	0.69 0.75	0.95 1.02	1.09 1.09	0.65 0.73	0.85 0.73
rgdp	gap	1.01 0.86	2.00	1.67 0.81	1.20 1.22	1.24 0.98	0.84 0.86	0.85 1.09
ip	ln1d	0.92 0.94	1.40	0.50 0.88	1.13 0.87	1.66 1.06	0.67 0.85	0.87 0.96
ip	gap	1.15 1.07	1.58	1.47 1.16	1.37 1.08	1.57 1.03	0.71 0.82	0.84 1.11
capu	lev	1.47 0.79	3.91	0.90	1.60	1.97		0.67 0.95
emp	ln1d	0.97 0.89	1.78	0.48 1.50		1.44 1.00	0.84 1.87	0.76 0.86
emp	gap	1.17 0.86	3.36	1.16 2.27		1.37 1.21	0.96 2.24	0.67 1.39
unemp	lev	1.46 0.84	2.84	9.25 1.04	3.94 1.15	2.30 1.31	0.76 3.85	0.78 1.27
unemp	1d	0.95 0.87	0.82	0.56 1.07	1.31 1.12	1.21 0.90	0.72 4.33	0.99 1.13
unemp	gap	1.03 0.77	1.07	1.17 0.93	1.36 1.15	1.17 1.44	0.81 1.15	0.80 1.33
pgdp	ln1d							
pgdp	ln2d							
cpi	ln1d	1.35 1.40	2.58	2.40 1.62	2.38 1.59	1.07 2.47	1.25 1.38	0.98 1.65
cpi	ln2d	0.96 1.06	0.88	0.98 1.01	0.97 0.95	1.08 1.00	0.97 0.96	1.05 1.09
ppi	ln1d	1.69 1.28		1.99 1.46		1.60 2.27	1.46 1.09	1.19 1.63
ppi	ln2d	0.97 1.01		1.09 0.95		0.70 1.16	0.92 1.06	0.91 1.66
earn	ln1d	1.12 1.46	2.81	1.94 1.37		1.31 1.13	0.86 1.67	1.08 1.75

earn	ln2d	1.02 1.04	0.99	1.16 1.02		0.97 1.00	0.98 1.07	0.99 1.01
oil	ln1d	6.90 1.01	0.77	12.37 1.00	0.99 0.97	1.47 1.93	1.20 1.67	1.95 1.06
oil	ln2d	1.38 1.02	1.00	1.22 1.03	1.71 1.03	1.30 1.03	1.13 2.20	4.20 1.08
roil	ln	6.30 0.96	1.27	1.68 1.16	1.26 1.07	1.41 1.89	2.24 3.11	3.94 0.95
roil	ln1d	6.83 1.01	0.86	7.26 1.00	1.89 0.97	1.56 1.26	1.10 1.90	1.79 1.09
comod	ln1d	1.03 0.90	1.16	1.03 1.06	1.66 0.95	1.34 0.93	1.02 1.52	0.97 1.45
comod	ln2d	1.21 1.00	1.05	1.08 1.03	1.11 1.36	1.55 1.40	0.95 1.03	1.08 1.40
rcomod	ln	1.11 1.63	1.31	1.05 1.45	1.25 3.13	1.63 1.37	0.79 3.35	1.07 1.97
rcomod	ln1d	1.00 0.88	1.19	1.17 1.08	1.05 1.10	1.39 1.06	0.77 2.03	0.81 1.77
mon0	ln1d					1.94		1.08 1.05
mon0	ln2d					3.42		1.00 0.99
mon1	ln1d	1.18 1.16		1.02 1.06	0.83 1.14	3.77 1.63		1.11 0.93
mon1	ln2d	1.05 1.00		1.04 0.99	0.97 0.97	1.50 1.11		1.01 1.01
mon2	ln1d	1.07		0.84 1.08	2.16	4.96		1.08 0.94
mon2	ln2d	1.01		0.98 1.01	1.08	2.43		1.07 1.09
mon3	ln1d	1.08	1.28	1.24	1.90 0.89	3.06		1.02 0.91
mon3	ln2d	1.02	1.00	1.10	0.96 0.93	2.50		1.01 1.00
rmon0	ln1d					3.29		0.97 2.11
rmon1	ln1d	0.91 1.71		1.06 1.01	0.54 0.98	3.99 1.61		0.97 2.88
rmon2	ln1d	1.49		0.93 1.33	1.62	2.80		0.90 1.34
rmon3	ln1d	1.39	1.48	1.24	1.04 1.77	2.02		0.88 1.69
activity	Median	1.00 0.79	1.19	0.84 0.82	1.11 0.94	1.21 0.84	0.68 0.91	0.78 0.84
activity	Tr.Mean	1.01 0.75	1.22	0.80 0.78	1.09 0.94	1.30 0.78	0.67 1.00	0.76 0.83
pr_earn	Median	1.03 0.92	0.92	0.80 0.97	0.93 0.99	1.00 0.96	0.99 0.91	0.94 0.97
pr_earn	Tr.Mean	1.31 0.93	0.91	0.74 0.98	1.01 0.98	0.93 0.94	0.97 0.97	0.95 0.92
money	Median	1.05 1.01	0.91	0.91 1.05	0.80 0.92	1.93 1.29		0.92 0.94
money	Tr.Mean	1.04 1.02	0.91	0.83 1.00	0.69 0.90	1.66 1.21		0.90 0.85
ap	Median	0.95 0.94	0.85	0.95 0.99	0.89 0.94	0.91 1.03	0.95 0.96	0.89 0.90
ap	Tr.Mean	0.88 0.92	0.81	0.96 0.98	0.83 0.91	0.90 1.02	0.97 0.84	0.83 0.86
all	Median	0.98 0.90	0.87	0.86 0.97	0.89 0.91	0.99 0.92	0.88 0.80	0.87 0.88
all	Tr.Mean	1.04 0.86	0.81	0.71 0.92	0.82 0.89	0.95 0.85	0.86 0.69	0.82 0.77

Table B.8
Out-of-Sample Results
Bivariate Models
Series = CPI Inflation
Forecast Horizon = 8 Quarters

Indicator	Trans.	CN	FR	GY	IT	JP	UK	US
		71-84 85-99	71-84 85-99	71-84 85-99	71-84 85-99	71-84 85-99	71-84 85-99	71-84 85-99
AR RMSE		2.84 1.60	2.82 0.98	1.67 1.76	5.04 1.66	4.94 1.39	5.93 2.27	3.40 1.32
rw	lev	0.82 1.19	0.99 1.06	0.93 1.75	0.96 0.85	1.15 1.70	0.93 1.06	0.91 1.11
rw4	lev	0.96 0.71	1.05 1.04	0.89 0.88	0.90 0.89	1.11 0.96	0.86 1.01	1.05 0.68
rovnght	lev	1.30	0.44 2.50	0.95 1.05	2.82	0.99 3.35	0.99	0.86 1.21
rtbill	lev	1.02 1.04	4.39	1.32			0.88 1.09	0.93 1.15
rbnds	lev				2.97		1.09	0.95 1.15
rbndm	lev				1.50 1.36			1.02 1.09
rbndl	lev	1.25 1.01	1.10 1.12	0.65 1.22	1.43 0.88	10.68	1.43 1.00	1.09 1.20
rovnght	1d	1.06	1.12 1.01	0.99 0.97	1.85	1.04 1.03	1.11	1.11 0.86
rtbill	1d	1.06 0.96	0.97	1.07			0.84 1.04	1.13 0.87
rbnds	1d				0.87		1.01	1.08 0.95
rbndm	1d				1.14 2.55			1.02 1.26
rbndl	1d	1.08 1.01	1.10 1.40	0.96 1.01	1.42 1.71	3.35	0.99 1.12	1.04 1.25
rrovnght	lev	1.18	1.47 1.33	1.24 1.01	1.58	1.17 1.53	1.36	1.48 1.07
rrtbill	lev	1.75 1.02	1.47	1.43			0.96 1.94	1.23 0.85
rrbnds	lev				0.84		1.64	1.32 0.97
rrbndm	lev				1.43 1.86			1.39 1.12
rrbndl	lev	1.11 1.05	1.61 1.72	1.19 0.72	1.39 1.86	1.62	0.80 1.36	1.42 1.32
rrovnght	1d	0.97	1.05 1.00	0.99 0.97	0.91	1.14 1.06	1.12	1.06 0.86
rrtbill	1d	1.06 0.93	0.95	1.20			0.69 1.06	1.27 0.86
rrbnds	1d				0.78		0.99	0.96 0.88
rrbndm	1d				1.29 2.17			0.99 0.91
rrbndl	1d	1.06 0.96	1.05 0.96	0.96 1.01	1.42 1.73	1.18	0.90 1.00	0.99 0.92
rsread	lev	1.03	1.32 2.25	1.14 1.01	2.96	1.33	1.25	0.68 2.18
exrate	ln1d	1.13	2.65	1.04	4.73	2.90	1.55	2.48
rexrate	ln1d	1.13	2.88	1.08	1.94	2.73	1.53	2.48
stockp	ln1d	0.88 1.17	1.20 1.44	1.04 1.01	1.27 1.20	1.06 3.72	0.95 1.15	1.00 1.24
rstockp	ln1d	0.87 1.13	1.15 1.56	1.03 1.02	1.18 1.31	0.96 4.02	0.98 1.06	0.97 1.30
divpr	ln	2.31	6.53	1.56	1.36	9.80	3.02	1.21 1.64
house	ln1d	1.22				9.49	1.36	0.88 1.14
rhouse	ln	1.64				3.98	1.46	0.82 1.04
rhouse	ln1d	1.34				3.83	0.75	0.56 0.89
gold	ln1d	0.97 0.97	1.03 1.01	1.11 0.99	1.17 0.96	1.21 1.02	1.18 0.93	1.06 0.98
gold	ln2d	1.10 1.00	1.01 1.02	1.00 1.00	1.00 0.98	0.94 0.99	1.05 1.01	0.85 1.11
rgold	ln	1.33 1.07	0.84 1.51	1.34 1.12	1.02 1.09	1.40 1.76	1.66 1.50	1.96 1.10
rgold	ln1d	1.04 0.91	1.09 1.05	1.06 0.98	1.11 0.95	1.01 0.95	1.03 0.95	1.08 0.92
silver	ln1d	1.11	1.02	1.21	0.96	1.18	1.00	1.14
silver	ln2d	1.12	1.01	1.19	1.06	1.19	1.04	1.14
rsilver	ln	1.51	4.61	1.61	5.80	6.13	3.92	2.69
rsilver	ln1d	1.04	1.04	1.20	1.04	1.12	1.01	1.13
rgdp	ln1d	0.91 0.67	2.13	0.79 0.93	0.96 0.90	1.05 1.72	0.77 0.66	0.80 0.71
rgdp	gap	0.94 0.67	2.56	0.71 0.87	1.25 1.04	1.21 0.95	0.83 0.76	0.84 0.83
ip	ln1d	0.82 0.67	0.97 1.01	0.82 1.11	0.98 0.88	0.94 1.57	0.92 0.75	0.75 0.92
ip	gap	0.89 0.86	1.08 1.19	0.74 1.04	1.05 1.16	1.22 0.89	0.72 0.79	0.79 0.84
capu	lev	1.10 0.64	5.03	0.86	2.22	3.35		0.71 0.77
emp	ln1d	0.94 0.67	2.60	0.68 1.04		1.04 1.50	0.82 1.00	0.74 0.69
emp	gap	0.93 0.62	4.87	0.67 1.00		1.17 1.15	0.90 1.74	0.67 1.12
unemp	lev	1.09 0.61	7.35	1.05 1.00	1.60 1.62	1.83 2.00	1.01 1.40	0.79 0.92
unemp	1d	0.86 0.80	1.02	0.72 0.85	1.14 1.15	1.05 1.60	0.71 1.79	0.77 0.85
unemp	gap	0.92 0.68	1.77	0.78 0.91	1.08 1.12	1.15 1.08	0.85 0.98	0.73 0.99
pgdp	ln1d	1.07 1.10	5.03	1.01 1.01	1.00 1.02	1.18 1.86	0.90 1.21	0.99 1.28
pgdp	ln2d	1.00 1.00	0.98	0.97 1.00	1.03 0.99	0.99 1.13	1.02 0.98	1.01 1.09
cpi	ln1d							
cpi	ln2d							
ppi	ln1d	1.47 1.13		1.64 1.00		1.14 1.82	1.28 1.18	1.08 1.02
ppi	ln2d	0.91 0.93		1.17 0.97		0.84 1.32	0.89 0.99	0.95 0.97
earn	ln1d	1.12 1.16	1.11 1.25	0.99 0.95		1.14 1.04	1.04 1.07	1.08 1.10

earn	ln2d	1.01 1.00	1.03 0.95	1.01 1.00		0.95 1.01	1.14 1.01	0.99 1.06
oil	ln1d	1.98 0.92	1.13 1.02	1.03 1.00	1.55 1.47	1.35 2.80	1.06 1.05	1.05 1.16
oil	ln2d	1.06 0.95	1.07 0.98	1.38 0.98	1.00 1.07	1.33 0.97	1.03 1.03	1.39 0.96
roil	ln	2.87 0.94	1.20 0.69	1.29 1.03	4.13 0.90	1.49 2.36	1.35 1.21	4.00 0.77
roil	ln1d	1.81 0.91	1.16 1.01	1.06 1.00	4.83 0.98	1.57 1.50	0.98 1.10	2.84 1.07
comod	ln1d	1.00 0.86	1.35 0.96	1.03 1.00	1.28 1.76	1.30 2.58	1.26 0.90	0.99 1.20
comod	ln2d	1.01 1.00	1.08 1.29	1.05 0.98	0.94 1.51	1.31 1.99	1.14 0.99	1.12 1.43
rcomod	ln	1.06 1.08	1.37 1.44	1.31 1.23	1.10 2.52	1.49 1.70	0.93 1.96	1.00 1.58
rcomod	ln1d	0.99 0.80	1.26 1.01	1.03 0.98	1.13 1.10	1.28 1.53	1.01 0.81	0.89 1.22
mon0	ln1d					2.29		0.99 1.15
mon0	ln2d					3.23		0.98 1.10
mon1	ln1d	1.19 1.10		1.06 1.12	0.93 0.88	1.95 1.84		0.95 1.18
mon1	ln2d	1.03 1.04		1.01 0.99	1.09 1.00	1.00 1.11		0.99 1.05
mon2	ln1d	1.50		0.73 1.24	3.47	4.86		0.92 1.20
mon2	ln2d	1.56		0.96 1.03	1.43	2.78		1.00 1.05
mon3	ln1d	1.49	1.01 0.97	1.31	0.96 0.92	3.54		0.97 1.18
mon3	ln2d	1.52	1.03 0.95	1.15	1.12 0.87	2.91		1.00 1.07
rmon0	ln1d					3.73		0.78 1.83
rmon1	ln1d	0.88 1.28		0.94 0.84	0.77 0.81	1.16 1.69		0.69 2.62
rmon2	ln1d	1.62		0.53 1.06	2.80	3.34		0.67 1.19
rmon3	ln1d	1.69	0.88 1.22	1.02	0.71 1.36	2.35		0.63 1.64
activity	Median	0.92 0.59	1.34	0.69 0.90	1.00 0.95	1.04 0.96	0.70 0.69	0.73 0.71
activity	Tr.Mean	0.90 0.59	1.31	0.68 0.88	1.04 0.93	1.07 0.97	0.69 0.67	0.72 0.69
pr_earn	Median	0.98 0.94	1.02 1.01	1.02 0.99	0.97 0.91	0.97 0.94	0.98 0.89	0.99 0.95
pr_earn	Tr.Mean	0.99 0.91	1.04 0.98	1.05 0.98	1.00 0.89	0.92 0.92	0.94 0.88	0.98 0.96
money	Median	0.88 1.13	0.98 0.86	0.86 0.96	0.94 0.86	0.82 1.13		0.88 0.90
money	Tr.Mean	0.81 1.09	0.98 0.86	0.81 0.92	0.89 0.86	0.81 1.04		0.79 0.83
ap	Median	0.86 0.97	0.92 0.88	1.00 1.01	0.88 0.99	0.94 0.93	0.87 0.86	0.89 0.81
ap	Tr.Mean	0.80 0.94	0.88 0.93	0.98 1.00	0.94 0.95	0.91 0.81	0.89 0.74	0.84 0.85
all	Median	0.92 0.92	0.95 0.85	0.95 0.98	0.95 0.87	0.97 0.81	0.88 0.75	0.88 0.81
all	Tr.Mean	0.87 0.83	0.93 0.88	0.88 0.94	0.93 0.85	0.91 0.65	0.81 0.66	0.81 0.78

Table B.9
Out-of-Sample Results
Bivariate Models
Series = Real GDP
Forecast Horizon = 2 Quarters

Indicator	Trans.	CN 71-84 85-99	FR 71-84 85-99	GY 71-84 85-99	IT 71-84 85-99	JP 71-84 85-99	UK 71-84 85-99	US 71-84 85-99
AR RMSE		3.64 2.67	1.68 1.73	3.38 2.42	3.66 2.04	3.81 2.78	3.91 2.05	3.75 1.54
rw	lev	0.99 1.06	1.20	1.04 1.03	1.28 1.38	1.49 2.50	1.01 0.99	1.05 1.12
rovngh	lev	0.70	1.53	0.55 1.49	1.27	1.08 1.01	0.99	0.79 1.09
rtbill	lev	0.75 0.79	1.50	1.37	1.04		0.88 0.80	0.87 1.00
rbnds	lev				1.13		0.88	0.92 1.02
rbndm	lev				1.55 1.04			1.09 0.99
rbndl	lev	0.86 0.95	1.47	0.71 1.78	1.52 1.11	1.03	1.02 0.93	1.17 1.18
rovngh	1d	0.59	0.93	1.03 0.98	1.00	0.93 0.98	1.16	1.07 1.23
rtbill	1d	1.22 1.10	0.95	1.17	0.66		1.03 1.03	1.37 1.19
rbnds	1d				0.90		1.03	1.33 1.18
rbndm	1d				1.27 1.16			1.13 1.35
rbndl	1d	1.34 1.13	1.02	1.05 0.95	1.14 1.18	1.01	1.15 1.10	1.00 1.43
rrovngh	lev	0.41	0.89	0.61 1.32	1.04	1.14 1.02	1.09	1.12 1.01
rrtbill	lev	1.02 0.68	0.93	1.17	0.68		1.05 1.03	1.24 1.02
rrbnds	lev				0.75		0.95	1.33 1.02
rrbndm	lev				1.24 1.16			1.17 1.08
rrbndl	lev	1.06 0.94	0.99	1.02 1.13	1.19 1.21	0.93	1.25 0.88	1.14 1.12
rrovngh	1d	0.65	0.99	0.99 1.04	1.08	1.01 0.99	1.17	1.03 1.10
rrtbill	1d	1.05 1.02	1.00	1.40	0.77		1.05 1.03	1.02 1.00
rrbnds	1d				0.74		1.04	1.20 1.00
rrbndm	1d				1.04 1.00			1.13 1.01
rrbndl	1d	1.03 1.03	0.99	0.98 1.36	1.03 0.99	0.92	1.04 1.02	1.12 1.01
rspread	lev	0.69	1.07	0.68 1.17	1.14	0.92	1.18	0.59 2.28
exrate	ln1d	0.66	1.21	0.99	1.01	1.05	1.23	1.33
rexrate	ln1d	0.66	1.22	0.99	1.01	1.00	1.23	1.33
stockp	ln1d	0.98 1.03	0.93	1.08 1.51	1.11 1.02	0.96 1.04	1.07 1.00	0.88 1.33
rstockp	ln1d	0.92 1.12	0.92	1.05 1.56	1.22 1.08	0.93 1.06	0.99 0.95	0.76 1.65
divpr	ln	1.02	1.08	1.34	1.40	1.41	1.09	1.01 1.52
house	ln1d	0.77				1.20	1.30	1.01 0.93
rhouse	ln	0.86				1.01	1.24	1.20 0.97
rhouse	ln1d	0.94				1.16	0.85	1.03 0.84
gold	ln1d	1.24 0.90	1.12	1.19 1.00	1.16 0.99	1.21 1.02	1.26 1.02	1.09 1.00
gold	ln2d	1.02 0.96	1.01	1.05 1.01	1.07 1.04	1.13 1.01	1.13 1.00	1.04 1.00
rgold	ln	1.25 0.91	1.79	1.14 1.18	1.28 1.08	0.97 1.25	1.36 1.20	1.29 0.98
rgold	ln1d	1.26 0.88	1.09	1.17 1.00	1.18 0.99	1.04 1.02	1.35 1.00	1.11 1.00
silver	ln1d	0.81	1.22	0.97	0.96	0.91	1.02	1.02
silver	ln2d	0.84	1.01	0.98	0.96	0.95	1.05	1.01
rsilver	ln	1.01	2.05	1.28	1.06	0.97	1.62	1.12
rsilver	ln1d	0.81	1.19	0.98	0.97	0.91	1.00	1.01
rgdp	ln1d							
rgdp	gap							
ip	ln1d	0.89 0.85	1.01	1.14 0.99	1.06 0.97	1.03 0.97	1.06 1.01	0.99 0.97
ip	gap	1.00 0.97	1.08	1.12 0.99	1.08 1.09	1.11 1.00	1.04 0.97	1.05 1.06
capu	lev	1.11 1.02	1.38	0.99	0.83	0.97		0.88 1.16
emp	ln1d	1.03 0.83	1.07	1.09 1.00		0.99 0.99	1.02 0.85	1.00 0.99
emp	gap	1.07 0.91	1.12	1.22 1.25		1.00 1.01	1.03 0.90	1.07 0.97
unemp	lev	1.03 0.93	1.35	1.19 1.11	1.27 1.13	1.05 0.98	1.11 0.92	1.03 1.15
unemp	1d	0.92 1.01	1.10	1.04 1.23	1.21 1.18	1.01 1.02	1.25 0.99	0.92 1.09
unemp	gap	0.96 0.99	1.33	1.19 1.03	1.00 1.03	0.98 1.02	1.05 0.99	0.91 1.21
pgdp	ln1d	0.97 1.17	1.31	1.02 1.00	1.11 1.23	1.06 1.08	0.96 0.92	0.99 1.20
pgdp	ln2d	1.01 0.95	1.01	1.01 1.00	1.03 0.98	1.02 1.00	1.01 1.00	1.14 1.01
cpi	ln1d	0.88 1.24	1.63	1.10 1.56	1.19 1.48	1.08 1.06	1.28 0.83	0.84 1.22
cpi	ln2d	1.02 1.02	1.00	0.98 1.18	1.06 1.00	1.01 1.00	1.04 1.02	1.06 1.04
ppi	ln1d	0.97 1.17		0.67 1.85		1.35 1.15	1.09 0.95	0.89 1.32
ppi	ln2d	1.02 1.03		0.99 1.01		1.30 1.03	1.17 1.00	1.02 1.02
earn	ln1d	1.06 1.18	1.08	1.16 1.00		1.12 0.97	0.96 1.00	0.94 1.40
earn	ln2d	1.08 1.00	0.97	1.01 0.99		0.98 1.03	0.97 1.03	1.00 1.01

oil	ln1d	3.75 1.02	1.53	1.99 1.01	1.54 1.00	1.71 1.00	1.12 1.12	1.78 1.23
oil	ln2d	3.41 1.02	1.21	1.12 1.02	1.05 1.01	1.07 1.01	1.03 1.03	4.24 1.02
roil	ln	4.71 1.02	1.70	1.14 1.21	1.27 1.19	1.57 1.15	1.10 1.06	3.39 0.98
roil	ln1d	4.11 1.02	1.51	1.81 1.01	1.67 0.98	1.16 1.00	1.11 1.06	2.86 1.07
comod	ln1d	1.07 0.99	1.25	1.57 1.02	1.20 0.95	1.29 1.09	1.16 1.00	1.15 1.39
comod	ln2d	1.02 1.01	1.01	1.42 1.11	1.07 1.00	0.99 1.00	1.02 1.03	0.95 1.32
rcomod	ln	1.05 1.13	1.12	1.21 0.96	1.42 1.12	1.11 0.98	1.44 1.25	1.03 1.68
rcomod	ln1d	1.05 1.02	1.20	1.39 1.02	1.15 1.00	1.07 1.06	1.11 0.98	1.22 1.10
mon0	ln1d					1.14		1.06 1.06
mon0	ln2d					1.05		1.01 1.01
mon1	ln1d	0.93 0.81	1.17	0.94 1.36	0.95 0.75	1.20 0.99		1.01 1.33
mon1	ln2d	1.08 0.90	0.98	1.01 1.08	1.03 1.00	0.80 1.03		0.98 1.35
mon2	ln1d	0.85		1.02 0.92	0.89	0.75		1.06 1.45
mon2	ln2d	0.79		1.02 1.00	0.79	0.99		1.11 1.01
mon3	ln1d	0.84	1.60	1.07	1.13 0.70	1.02		1.30 0.99
mon3	ln2d	0.85	1.00	0.97	1.06 0.93	1.17		1.01 1.13
rmon0	ln1d					1.21		0.77 2.46
rmon1	ln1d	0.62 1.20	0.80	0.82 1.69	0.80 0.94	0.66 1.12		0.65 3.37
rmon2	ln1d	0.96		1.02 0.95	0.89	0.86		0.69 1.49
rmon3	ln1d	0.91	1.85	1.31	0.81 0.80	0.99		0.83 1.34
activity	Median	0.96 0.87	1.03	1.08 0.95	1.04 0.83	1.00 0.99	1.01 0.88	0.97 1.00
activity	Tr.Mean	0.94 0.88	1.03	1.02 0.93	1.00 0.83	0.98 0.97	1.01 0.88	0.95 1.00
pr_earn	Median	0.99 1.02	1.06	1.01 1.00	1.03 1.01	0.96 1.00	1.02 0.96	0.94 1.08
pr_earn	Tr.Mean	1.07 1.03	1.09	1.01 1.02	1.09 0.99	0.95 1.02	1.02 0.95	0.92 1.06
money	Median	0.92 0.83	0.92	0.95 0.96	0.95 0.74	0.64 0.93		0.95 0.98
money	Tr.Mean	0.91 0.79	0.97	0.93 0.99	0.92 0.73	0.64 0.93		0.84 1.02
ap	Median	0.95 0.77	0.98	0.86 0.98	0.94 0.94	0.90 0.95	0.99 0.97	0.88 0.97
ap	Tr.Mean	0.92 0.75	0.98	0.78 0.98	0.93 0.92	0.92 0.94	1.04 0.95	0.84 0.96
all	Median	0.96 0.87	0.99	0.95 0.99	0.97 0.92	0.93 0.96	0.99 0.97	0.93 0.99
all	Tr.Mean	0.96 0.83	0.99	0.86 0.97	0.95 0.87	0.91 0.94	1.01 0.93	0.86 0.97

Table B.10
Out-of-Sample Results
Bivariate Models
Series = IP
Forecast Horizon = 2 Quarters

Indicator	Trans.	CN 71-84 85-99	FR 71-84 85-99	GY 71-84 85-99	IT 71-84 85-99	JP 71-84 85-99	UK 71-84 85-99	US 71-84 85-99
AR RMSE		7.69 4.28	6.67 3.48	6.68 4.62	9.46 5.24	7.80 5.31	7.75 2.81	7.46 2.56
rw	lev	1.07 1.20	1.02 1.18	1.02 1.05	1.03 1.05	1.80 2.30	1.02 1.02	1.11 1.22
rovngh	lev	1.04	0.99 1.15	0.53 0.92	1.17	0.97 1.26	0.95	1.05 0.80
rtbill	lev	0.92 0.78	1.18	0.96	0.97		1.11 0.94	1.11 0.76
rbnds	lev				1.05		1.06	1.17 0.83
rbndm	lev				1.35 0.97			1.18 0.83
rbndl	lev	0.92 1.31	1.14 1.16	0.62 1.32	1.14 1.06	1.43	1.10 1.04	1.22 0.85
rovngh	1d	1.00	1.08 0.85	0.97 0.99	0.91	0.96 1.07	1.09	1.29 1.18
rtbill	1d	1.05 1.14	0.86	0.95	0.79		1.03 0.98	1.27 1.28
rbnds	1d				0.94		0.98	1.06 1.67
rbndm	1d				1.20 1.55			1.05 2.15
rbndl	1d	1.00 1.58	1.21 1.26	1.17 0.97	1.20 1.23	1.21	1.21 1.16	1.11 1.99
rrovngh	lev	0.80	1.05 0.83	0.73 0.83	0.90	1.11 1.07	1.04	1.13 0.99
rrtbill	lev	1.08 0.82	0.89	0.85	0.88		1.08 1.07	1.32 1.02
rrbnds	lev				0.87		0.99	1.36 1.02
rrbndm	lev				1.13 1.20			1.41 1.08
rrbndl	lev	1.08 1.26	1.19 1.02	0.99 0.95	1.14 1.21	1.04	1.19 0.97	1.49 1.12
rrovngh	1d	0.98	1.01 0.95	0.96 0.94	0.92	0.97 1.03	1.07	1.06 1.16
rrtbill	1d	0.99 1.03	0.93	0.96	0.83		0.99 1.01	1.30 0.99
rrbnds	1d				0.87		1.01	1.13 0.99
rrbndm	1d				0.99 1.00			1.20 0.96
rrbndl	1d	0.99 1.06	1.01 1.01	0.97 0.96	0.99 0.99	0.98	1.04 1.01	1.24 0.95
rspread	lev	1.27	1.05 0.91	0.61 0.96	1.29	0.97	1.13	0.68 2.02
exrate	ln1d	1.04	1.09	0.98	0.98	0.99	1.36	1.91
rexrate	ln1d	1.03	1.08	0.97	0.92	0.95	1.36	1.91
stockp	ln1d	0.84 1.13	1.11 1.18	0.92 1.18	1.09 1.05	0.93 1.06	1.16 1.20	0.67 2.11
rstockp	ln1d	0.71 1.16	1.02 1.33	0.85 1.21	1.10 1.10	0.88 1.12	1.12 1.18	0.55 2.70
divpr	ln	1.24	1.11	1.21	1.24	1.34	1.33	0.82 2.37
house	ln1d	1.75				1.37	1.05	1.08 1.03
rhouse	ln	1.62				0.98	1.35	0.98 1.39
rhouse	ln1d	1.33				1.12	0.99	0.98 1.03
gold	ln1d	1.24 1.00	1.03 1.29	1.05 1.01	1.56 1.00	1.12 1.10	1.13 1.17	1.08 1.01
gold	ln2d	1.00 1.00	1.02 1.04	1.03 1.00	1.03 1.09	1.07 1.06	1.09 1.08	1.10 1.01
rgold	ln	1.49 0.92	1.23 1.25	1.11 1.12	1.27 1.09	1.11 1.16	1.23 1.19	1.65 1.01
rgold	ln1d	1.21 1.00	1.06 1.14	1.06 1.00	1.38 1.02	1.17 1.07	1.10 0.94	1.19 1.01
silver	ln1d	0.92	1.15	1.00	0.97	1.05	0.98	0.98
silver	ln2d	0.96	1.07	1.04	1.05	1.03	1.07	1.01
rsilver	ln	1.08	1.62	1.17	1.25	1.12	1.72	1.04
rsilver	ln1d	0.91	1.09	0.96	1.00	1.02	0.96	0.96
rgdp	ln1d	1.01 1.00	0.95	0.91 1.00	0.90 0.86	0.96 0.85	1.04 0.93	1.05 1.05
rgdp	gap	1.01 1.02	0.90	0.92 0.99	0.97 0.93	1.08 0.99	1.03 0.89	1.08 0.96
ip	ln1d							
ip	gap							
capu	lev	0.96 1.19	1.21	0.96	0.85	1.05		0.84 1.15
emp	ln1d	1.08 1.01	0.71	0.79 1.24		0.98 1.01	1.02 1.43	0.99 0.99
emp	gap	1.07 1.03	0.82	0.87 1.25		1.02 1.02	1.04 1.22	1.17 1.00
unemp	lev	1.07 1.04	1.30	1.23 1.22	1.04 0.97	1.13 1.07	1.22 0.99	1.00 1.07
unemp	1d	0.94 1.00	1.04	0.83 1.23	1.15 0.99	0.96 1.06	1.25 0.79	0.94 1.05
unemp	gap	1.01 1.00	1.16	0.84 0.98	0.99 0.86	0.88 1.01	1.03 0.98	0.88 1.03
pgdp	ln1d	0.86 1.36	1.52	0.86 1.06	0.92 1.09	0.92 1.33	0.89 1.09	1.03 1.33
pgdp	ln2d	1.00 1.00	1.07	0.97 0.98	1.00 0.97	0.99 0.94	0.99 0.98	1.14 1.12
cpi	ln1d	0.89 1.34	1.08 1.64	0.80 1.38	0.95 1.35	0.90 1.32	1.15 1.02	1.14 1.07
cpi	ln2d	1.02 1.01	1.01 1.00	0.96 0.98	1.04 0.99	0.74 1.02	1.02 1.13	1.18 0.99
ppi	ln1d	0.92 1.31		0.40 1.61		1.18 1.34	1.25 1.22	1.10 1.26
ppi	ln2d	1.03 1.02		0.96 1.03		1.59 1.00	1.05 0.99	1.10 1.02
earn	ln1d	0.88 1.45	1.01 1.22	0.97 1.11		1.04 1.09	1.02 1.26	0.97 1.57
earn	ln2d	1.01 1.03	1.00 0.99	0.99 0.97		0.98 1.00	1.00 1.00	1.14 1.12

oil	ln1d	1.75 1.15	0.99 2.36	1.05 1.49	1.54 1.32	1.15 1.31	1.20 1.75	2.22 2.66
oil	ln2d	1.11 1.03	1.79 1.51	1.05 1.02	1.50 1.12	1.36 1.02	1.02 1.43	2.31 2.31
roil	ln	2.06 0.94	1.32 1.96	1.51 1.12	1.63 1.12	1.31 1.15	1.24 1.50	3.88 1.11
roil	ln1d	1.89 1.07	0.99 2.29	1.13 1.45	1.59 1.03	1.28 1.20	1.06 1.58	2.84 2.62
comod	ln1d	1.01 1.01	1.12 1.65	1.03 1.41	1.07 1.13	1.00 1.35	1.10 1.06	1.16 1.30
comod	ln2d	1.03 1.02	1.14 1.50	1.02 1.20	1.03 1.46	1.05 0.99	0.99 1.39	1.06 1.50
rcomod	ln	0.93 1.48	1.09 1.31	1.07 0.95	1.23 1.25	1.05 0.93	1.19 1.33	1.20 1.79
rcomod	ln1d	1.01 1.00	1.31 1.46	1.04 1.28	0.99 1.10	1.12 1.16	1.03 1.11	1.14 1.05
mon0	ln1d					1.02		1.09 1.05
mon0	ln2d					1.07		1.05 1.00
mon1	ln1d	1.02 0.83	1.25	0.97 1.20	0.88 0.90	1.03 0.93		0.96 1.55
mon1	ln2d	1.03 1.12	1.05	0.99 1.04	0.94 0.94	1.04 0.98		0.99 1.72
mon2	ln1d	1.35		0.99 1.00	1.01	0.79		0.99 2.56
mon2	ln2d	1.13		1.01 0.97	0.90	1.12		1.08 1.15
mon3	ln1d	1.30	0.97 1.12	0.96	1.00 0.89	0.98		1.28 1.36
mon3	ln2d	0.99	1.00 0.99	0.94	0.95 0.93	1.11		1.07 1.05
rmon0	ln1d					1.06		0.96 2.47
rmon1	ln1d	0.81 1.04	0.88	0.72 1.66	0.74 0.91	0.87 0.99		0.80 4.18
rmon2	ln1d	1.10		1.29 1.04	1.11	0.77		0.70 2.47
rmon3	ln1d	1.06	0.82 1.59	0.97	0.81 1.01	0.87		0.86 1.98
activity	Median	1.02 0.98	0.84	0.84 0.98	1.00 0.86	0.97 1.00	1.01 0.81	0.95 0.93
activity	Tr.Mean	1.01 0.94	0.84	0.84 0.97	0.98 0.86	0.96 0.96	1.01 0.82	0.94 0.91
pr_earn	Median	0.99 1.02	0.94 1.16	0.87 1.02	0.94 1.00	0.90 1.06	0.98 0.92	0.99 1.05
pr_earn	Tr.Mean	0.99 1.07	0.90 1.20	0.80 1.07	0.97 1.02	0.84 1.09	0.97 0.94	0.94 1.09
money	Median	0.98 0.91	0.95 1.01	0.92 0.99	0.89 0.87	0.99 0.88		0.88 0.96
money	Tr.Mean	0.96 0.93	0.95 1.00	0.90 0.99	0.87 0.88	0.99 0.86		0.83 1.03
ap	Median	0.95 0.93	0.85 0.95	0.88 0.92	0.87 0.96	0.90 0.96	0.96 0.94	0.93 0.93
ap	Tr.Mean	0.88 0.93	0.80 0.93	0.79 0.89	0.91 0.94	0.90 0.96	0.98 0.92	0.87 0.93
all	Median	0.98 0.96	0.90 0.95	0.89 0.95	0.93 0.93	0.92 0.97	0.96 0.91	0.94 0.94
all	Tr.Mean	0.93 0.94	0.83 0.94	0.80 0.94	0.91 0.92	0.86 0.94	0.96 0.90	0.86 0.93

Table B.11
Out-of-Sample Results
Bivariate Models
Series = Real GDP
Forecast Horizon = 4 Quarters

Indicator	Trans.	CN		FR		GY		IT		JP		UK		US	
		71-84	85-99	71-84	85-99	71-84	85-99	71-84	85-99	71-84	85-99	71-84	85-99	71-84	85-99
AR RMSE		2.91	2.55	1.90	1.56	2.83	1.84	3.47	1.88	3.59	2.46	2.96	1.89	3.19	1.31
rw	lev	0.97	0.99		1.13	1.04	1.04	1.05	1.37	1.51	2.88	1.03	0.98	0.98	1.09
rovngh	lev		0.74		1.57	0.30	1.48		1.48	1.21	0.89		1.13	0.78	1.42
rtbill	lev	0.59	0.72		1.63		1.28		0.86			1.19	0.79	0.85	1.06
rbnds	lev								0.92				0.87	0.92	1.29
rbndm	lev							1.56	1.40					1.11	1.47
rbndl	lev	0.80	0.94		1.59	0.46	2.12	1.16	1.55		0.88	1.00	0.96	1.18	1.66
rovngh	1d		0.68		0.91	1.09	1.17		0.85	1.05	0.98		1.21	1.11	1.57
rtbill	1d	1.05	1.03		0.98		1.37		0.48			1.24	1.11	1.32	1.63
rbnds	1d								0.59				1.04	1.19	1.85
rbndm	1d							1.11	1.42					1.01	2.17
rbndl	1d	1.08	1.25		1.12	0.91	1.64	1.24	1.26		0.89	0.97	0.92	0.90	2.38
rrovngh	lev		0.56		0.99	0.64	1.42		0.78	1.27	1.07		1.18	1.29	1.00
rrtbill	lev	1.09	0.64		0.99		1.34		0.57			0.98	1.07	1.35	1.11
rrbnds	lev								0.60				0.95	1.38	1.10
rrbndm	lev							1.26	1.37					1.27	1.41
rrbndl	lev	1.06	0.99		1.04	1.09	1.29	1.23	1.45		0.87	1.18	0.84	1.38	1.50
rrovngh	1d		0.77		0.98	1.00	1.16		0.92	1.03	1.02		1.21	1.05	1.01
rrtbill	1d	1.06	1.03		0.99		1.20		0.66			1.31	1.03	1.50	1.01
rrbnds	1d								0.60				1.04	1.50	1.01
rrbndm	1d							1.03	1.00					1.54	1.02
rrbndl	1d	1.03	1.02		1.01	1.08	1.20	1.03	1.00		0.84	1.37	1.00	1.52	1.02
rspread	lev		0.67		1.04	0.51	1.09		1.11		0.83		1.35	0.48	2.51
exrate	ln1d		0.72		1.08		0.95		0.83		0.95		1.31		1.24
rexrate	ln1d		0.72		1.08		1.15		0.77		0.94		1.27		1.24
stockp	ln1d	0.96	1.02		0.99	0.92	1.50	1.11	1.04	0.98	1.01	0.98	1.00	0.90	1.27
rstockp	ln1d	0.91	1.05		1.00	0.87	1.62	1.06	1.14	0.97	1.03	0.91	0.88	0.82	1.65
divpr	ln		0.83		1.15		1.44		1.54		1.41		1.10	1.01	1.47
house	ln1d		0.84								1.19		1.34	1.06	0.93
rhouse	ln		0.69								1.00		1.76	1.47	1.33
rhouse	ln1d		0.81								1.17		1.23	0.98	0.93
gold	ln1d	1.27	0.96		1.12	1.28	1.04	1.09	1.05	1.56	1.05	1.21	1.24	1.39	1.01
gold	ln2d	1.09	1.01		1.00	1.04	1.00	1.01	1.01	1.09	1.03	1.10	1.00	1.10	1.01
rgold	ln	1.25	0.73		2.12	1.24	1.30	1.33	1.31	1.23	1.52	1.02	1.25	1.61	1.05
rgold	ln1d	1.28	0.95		1.08	1.24	1.03	1.08	1.01	1.47	1.04	1.18	1.15	1.32	1.01
silver	ln1d		0.79		1.35		0.91		0.77		0.97		1.33		1.00
silver	ln2d		0.82		1.00		0.90		0.72		1.02		1.08		0.97
rsilver	ln		1.15		2.88		1.66		1.24		0.96		2.02		1.35
rsilver	ln1d		0.78		1.33		0.91		0.80		0.97		1.37		1.01
rgdp	ln1d														
rgdp	gap														
ip	ln1d	0.97	0.89		1.04	0.96	0.93	0.98	1.11	0.99	1.02	1.15	1.00	1.00	1.00
ip	gap	1.03	0.99		1.20	1.04	1.00	0.97	1.01	1.09	0.95	1.08	1.08	1.12	1.07
capu	lev	1.22	1.00		1.29		1.06		0.55		0.92			0.87	1.13
emp	ln1d	1.17	0.95		0.97	0.98	0.82			1.02	1.01	1.20	0.99	1.00	1.00
emp	gap	1.10	1.04		1.20	1.09	1.36			1.00	1.01	1.10	1.04	1.52	1.06
unemp	lev	1.28	0.96		1.49	1.47	0.97	1.17	0.97	1.09	0.84	1.52	0.93	1.14	1.06
unemp	1d	1.08	1.03		1.08	0.92	1.12	1.09	1.05	1.05	1.01	1.39	1.07	0.97	1.05
unemp	gap	1.05	1.07		1.39	0.96	1.00	0.88	1.09	1.02	0.96	1.01	1.19	1.01	1.22
pgdp	ln1d	0.81	1.34		1.39	1.00	1.07	0.76	1.89	1.35	1.10	0.95	0.89	0.84	1.60
pgdp	ln2d	1.01	1.01		1.00	1.01	0.99	0.99	0.98	1.01	0.98	1.02	1.00	1.27	1.02
cpi	ln1d	0.77	1.31		1.98	1.21	1.95	0.87	2.08	1.13	1.10	1.18	0.82	0.85	1.41
cpi	ln2d	1.03	1.01		1.04	1.00	1.03	1.05	1.01	1.02	1.03	1.23	1.04	1.29	1.22
ppi	ln1d	0.92	1.31			0.43	2.15			1.51	1.22	1.03	0.94	0.90	1.78
ppi	ln2d	1.03	1.02			1.03	0.99			1.14	1.01	1.13	1.00	1.02	1.01

earn	ln1d	0.91 1.24	1.13	1.14 0.98		1.23 0.97	0.86 0.95	0.94 2.04
earn	ln2d	1.02 1.02	1.00	0.99 0.95		0.98 1.03	0.98 1.03	1.04 1.01
oil	ln1d	2.23 1.02	1.42	1.27 1.75	0.99 1.65	1.74 1.01	1.65 1.14	1.90 1.54
oil	ln2d	1.61 1.02	1.01	1.41 1.00	1.06 1.01	2.04 1.02	1.71 1.04	1.86 1.02
roil	ln	1.92 0.98	1.86	1.48 1.30	1.46 1.55	1.75 1.30	1.39 1.16	5.07 1.38
roil	ln1d	2.42 1.01	1.38	1.55 1.51	1.00 1.53	1.64 1.01	1.89 1.15	3.79 1.37
comod	ln1d	1.04 1.00	1.50	1.21 1.69	1.15 1.59	1.62 1.16	1.29 1.22	1.24 1.45
comod	ln2d	1.02 1.02	1.02	1.02 1.02	0.99 1.04	1.02 1.02	1.03 1.01	1.07 1.06
rcomod	ln	0.90 1.37	1.36	1.14 0.96	1.44 1.56	1.29 1.19	1.40 1.51	1.19 2.34
rcomod	ln1d	1.02 1.00	1.38	1.27 1.35	1.13 1.03	1.64 1.09	1.23 0.99	1.32 1.01
mon0	ln1d					1.05		1.05 1.02
mon0	ln2d					1.04		1.05 1.03
mon1	ln1d	0.99 0.85	1.76	0.80 1.64	0.91 0.75	1.25 0.98		1.01 1.08
mon1	ln2d	1.02 0.97	0.85	1.04 1.01	0.94 0.89	0.80 0.95		1.03 1.18
mon2	ln1d	0.87		1.02 0.90	0.68	0.67		0.98 1.33
mon2	ln2d	0.82		1.01 0.99	0.63	0.87		1.14 0.99
mon3	ln1d	0.84	1.80	1.05	1.01 0.55	1.02		1.20 0.91
mon3	ln2d	0.82	1.04	0.90	0.95 0.91	1.09		1.15 1.00
rmon0	ln1d					1.14		0.65 2.81
rmon1	ln1d	0.65 1.13	0.74	0.58 1.96	0.69 0.93	0.68 1.14		0.62 3.51
rmon2	ln1d	0.89		1.18 0.91	0.82	0.80		0.57 1.41
rmon3	ln1d	0.89	1.67	1.23	0.58 0.68	0.91		0.79 1.06
activity	Median	1.03 0.95	1.10	0.99 0.95	1.03 0.70	1.02 0.99	1.06 0.98	0.99 1.00
activity	Tr.Mean	1.06 0.96	1.13	0.96 0.92	0.94 0.68	1.01 0.94	1.07 0.99	0.98 1.02
pr_earn	Median	1.00 1.02	1.09	0.96 1.01	0.94 1.05	1.00 1.02	0.95 0.95	0.93 1.06
pr_earn	Tr.Mean	1.01 1.06	1.13	0.92 1.15	0.89 1.13	1.03 1.03	0.96 0.94	0.91 1.11
money	Median	0.94 0.82	0.91	0.90 0.96	0.90 0.62	0.66 0.90		0.98 0.95
money	Tr.Mean	0.94 0.81	0.99	0.87 0.96	0.86 0.60	0.67 0.86		0.82 0.93
ap	Median	0.97 0.79	0.99	0.83 1.04	0.88 0.88	1.01 0.89	0.84 1.01	0.84 0.98
ap	Tr.Mean	0.89 0.76	1.01	0.71 1.04	0.83 0.83	1.04 0.90	0.83 0.98	0.76 1.01
all	Median	0.98 0.91	1.01	0.93 1.00	0.92 0.90	0.98 0.94	0.92 0.99	0.94 0.99
all	Tr.Mean	0.94 0.87	1.04	0.80 1.02	0.84 0.82	1.01 0.90	0.87 0.97	0.82 1.01

Table B.12
Out-of-Sample Results
Bivariate Models
Series = IP
Forecast Horizon = 4 Quarters

Indicator	Trans.	CN		FR		GY		IT		JP		UK		US	
		71-84 85-99	71-84 85-99	71-84 85-99	71-84 85-99	71-84 85-99	71-84 85-99	71-84 85-99	71-84 85-99	71-84 85-99	71-84 85-99	71-84 85-99	71-84 85-99	71-84 85-99	
AR RMSE		7.00	3.97	5.56	3.19	5.30	3.62	7.47	3.84	8.13	5.46	5.64	2.36	6.41	2.28
rw	lev	0.93	1.08	1.04	1.04	1.11	1.15	1.07	1.10	1.41	1.96	1.03	1.02	0.99	1.12
rovnght	lev		0.86	0.82	1.01	0.35	0.89	1.24		1.08	1.03		1.02	0.80	0.75
rtbill	lev	0.87	0.58		0.90		0.75		0.99			1.28	1.00	0.97	0.69
rbnds	lev								0.99				1.16	0.95	0.77
rbndm	lev							1.40	1.40					1.14	1.57
rbndl	lev	0.94	1.20	1.06	1.30	0.61	1.46	1.53	1.12	1.64		1.11	1.16	1.18	1.77
rovnght	1d		0.91	1.08	0.88	0.97	1.02	0.65		1.02	1.07		1.02	0.77	1.51
rtbill	1d	0.84	1.12		0.72		1.18		0.33			1.07	0.95	1.03	1.62
rbnds	1d								0.45				1.10	0.83	2.13
rbndm	1d							1.04	1.66					0.83	2.81
rbndl	1d	0.84	1.65	1.14	1.38	0.98	1.19	1.15	1.32	1.26		0.97	0.99	0.92	3.03
rrovnght	lev		0.89	1.09	0.78	0.71	0.97	0.84		1.29	1.17		1.08	1.34	0.93
rrtbill	lev	1.23	0.84		0.79		0.97		0.76			1.33	1.08	1.38	1.25
rrbnds	lev								0.74				0.97	1.43	1.22
rrbndm	lev							1.30	1.42					1.22	1.46
rrbndl	lev	1.02	1.47	1.38	1.10	1.06	1.16	1.32	1.46	1.03		1.27	0.90	1.38	1.60
rrovnght	1d		1.08	0.91	0.91	0.98	1.20	0.80		1.03	1.10		1.11	0.99	0.98
rrtbill	1d	0.99	1.03		0.83		1.09		0.77			0.92	1.16	1.51	0.98
rrbnds	1d								0.70				1.14	1.42	0.97
rrbndm	1d							1.02	0.98					1.36	0.97
rrbndl	1d	0.99	1.05	0.99	0.98	0.98	1.03	1.02	0.98	0.85		1.17	1.11	1.43	0.96
rspread	lev		1.08	1.12	0.84	0.53	0.93	1.38		0.92		1.23		0.49	2.63
exrate	ln1d		0.92		1.10		0.96	1.09		1.01		1.59		1.34	
rexrate	ln1d		0.91		1.13		0.96	1.08		0.92		1.54		1.34	
stockp	ln1d	0.91	1.13	1.20	1.15	0.84	1.35	1.04	1.01	0.93	0.92	0.96	0.99	0.72	1.91
rstockp	ln1d	0.82	1.18	1.16	1.38	0.79	1.40	1.17	1.04	0.92	0.98	0.90	1.00	0.57	2.39
divpr	ln		0.83		1.13		1.56		1.60		1.20		1.42	0.71	2.05
house	ln1d		1.80							1.78		1.16		1.22	0.99
rhouse	ln		1.58							1.08		1.89		1.55	1.91
rhouse	ln1d		1.50							1.37		1.43		1.14	1.09
gold	ln1d	1.19	0.96	1.15	1.36	1.20	1.05	1.38	1.05	1.36	1.12	1.16	1.43	1.30	1.02
gold	ln2d	0.96	1.08	1.01	0.98	1.02	0.99	1.21	0.99	1.10	1.01	1.07	1.01	1.00	0.98
rgold	ln	1.81	0.95	1.22	1.34	1.49	1.21	1.71	1.17	1.40	1.36	1.51	1.29	2.78	1.14
rgold	ln1d	1.17	0.95	1.16	1.16	1.19	1.04	1.26	1.00	1.14	1.08	1.19	1.22	1.36	0.99
silver	ln1d		0.87		1.24		1.03		0.81		0.97		1.62		1.02
silver	ln2d		0.94		0.85		0.95		0.83		0.92		1.08		1.00
rsilver	ln		1.26		2.04		1.47		1.43		1.15		2.29		1.16
rsilver	ln1d		0.87		1.15		0.97		0.81		0.93		1.69		1.00
rgdp	ln1d	0.97	0.99	0.83		0.95	1.06	0.96	0.87	0.96	0.78	1.02	0.94	0.92	1.08
rgdp	gap	0.95	1.06	0.89		1.00	0.99	1.03	0.98	1.16	1.01	1.04	0.94	1.01	0.98
ip	ln1d														
ip	gap														
capu	lev	0.97	1.17		1.04		1.05		0.72		0.89			0.87	1.05
emp	ln1d	0.98	1.10		0.85		0.97	1.05		1.11	1.02	1.08	1.07	0.99	1.09
emp	gap	1.00	1.14		0.86		1.05	1.37		1.03	1.02	1.12	1.43	1.39	1.05
unemp	lev	1.18	1.25		1.14		1.85	1.23	1.07	1.08	1.38	0.95	1.31	0.94	1.12
unemp	1d	1.04	1.07		0.93		0.90	1.30	1.19	0.73	0.99	0.98	1.27	1.20	0.94
unemp	gap	0.94	1.14		0.91		1.00	1.03	0.89	0.81	0.93	0.99	0.88	1.23	0.88
pgdp	ln1d	0.64	1.77		1.28		0.96	1.07	0.82	1.27	1.06	1.53	1.09	1.08	0.96
pgdp	ln2d	1.00	1.00		0.86		0.99	0.99	0.96	0.94	1.41	0.90	0.94	1.15	1.26
cpi	ln1d	0.77	1.54	1.15	1.84	1.04	1.88	0.94	1.57	0.76	1.60	1.26	1.03	0.77	1.35
cpi	ln2d	1.00	1.01	1.06	0.98	0.98	0.99	1.09	0.99	1.10	0.95	1.03	1.06	0.99	1.22
ppi	ln1d	0.83	1.81			0.36	2.09			2.09	1.54	1.08	1.21	0.83	1.78
ppi	ln2d	1.02	1.03			1.00	1.14			1.38	1.12	0.89	1.11	1.09	0.98

earn	ln1d	0.75 1.72	1.04 1.30	1.19 1.07		1.29 1.17	1.00 1.22	1.04 1.86
earn	ln2d	0.97 1.06	0.99 0.95	0.97 0.97		1.01 1.00	1.00 1.00	1.05 1.00
oil	ln1d	1.47 1.26	0.92 2.43	0.89 1.55	0.99 1.94	1.95 1.45	0.93 1.87	3.11 2.07
oil	ln2d	1.07 1.02	1.03 1.01	1.23 1.01	0.94 1.03	1.63 1.01	0.97 1.24	1.61 1.61
roil	ln	2.53 0.98	1.14 1.90	1.63 1.43	2.09 1.21	1.73 1.43	1.72 1.69	6.03 1.74
roil	ln1d	1.60 1.18	0.92 2.26	1.15 1.51	1.08 1.71	1.18 1.36	1.01 1.88	5.88 1.92
comod	ln1d	1.12 1.02	1.06 2.16	1.10 1.82	1.09 2.01	1.20 1.54	1.10 0.95	1.14 1.82
comod	ln2d	1.03 1.02	0.98 1.10	0.96 1.04	1.03 1.31	1.05 0.99	1.05 1.07	1.05 1.04
rcomod	ln	0.76 2.25	1.13 1.70	1.23 1.16	1.39 1.83	1.41 1.24	1.17 1.63	1.21 2.59
rcomod	ln1d	1.13 1.04	1.25 1.80	1.15 1.56	1.15 1.51	1.30 1.29	1.08 0.95	1.27 1.20
mon0	ln1d					0.93		1.07 1.04
mon0	ln2d					0.99		0.98 0.99
mon1	ln1d	0.97 0.87	1.42	0.90 1.65	0.88 0.83	1.40 0.83		0.99 1.32
mon1	ln2d	0.98 0.99	0.79	1.01 1.00	0.90 0.91	1.18 0.91		0.94 1.30
mon2	ln1d	1.43		1.02 1.04	1.05	0.70		0.91 2.56
mon2	ln2d	0.98		1.00 0.98	0.81	0.86		0.95 1.04
mon3	ln1d	1.33	0.96 1.30	0.98	0.92 0.79	0.98		1.19 1.21
mon3	ln2d	0.96	0.98 0.96	0.95	0.92 0.88	0.91		1.08 0.94
rmon0	ln1d					0.95		0.80 2.84
rmon1	ln1d	0.74 1.08	0.74	0.65 2.22	0.74 0.87	1.02 1.00		0.64 4.37
rmon2	ln1d	1.06		1.25 1.20	0.93	0.60		0.48 2.51
rmon3	ln1d	1.06	0.73 1.44	0.96	0.60 0.77	0.63		0.76 2.06
activity	Median	0.99 1.09	0.84	0.97 1.04	1.03 0.72	0.99 0.94	1.01 1.05	0.95 0.99
activity	Tr.Mean	0.98 1.06	0.83	0.96 1.01	1.00 0.70	0.98 0.92	0.94 0.98	0.92 0.99
pr_earn	Median	0.94 1.04	0.92 1.16	0.90 1.08	0.93 1.11	0.93 1.08	0.88 0.93	0.90 1.08
pr_earn	Tr.Mean	0.92 1.13	0.88 1.23	0.80 1.15	0.85 1.15	0.81 1.14	0.84 0.95	0.90 1.11
money	Median	0.88 0.88	0.95 0.95	0.94 1.01	0.87 0.77	1.12 0.75		0.86 0.91
money	Tr.Mean	0.89 0.92	0.95 0.99	0.90 1.01	0.84 0.75	1.13 0.70		0.72 1.00
ap	Median	0.93 0.85	0.82 0.92	0.83 0.94	0.90 0.86	0.95 0.96	0.86 0.95	0.76 0.93
ap	Tr.Mean	0.83 0.84	0.81 0.89	0.72 0.90	0.89 0.83	0.94 0.91	0.85 0.91	0.66 0.95
all	Median	0.95 0.96	0.87 0.93	0.91 0.98	0.92 0.86	0.95 0.94	0.89 0.95	0.85 0.96
all	Tr.Mean	0.87 0.94	0.81 0.94	0.78 0.98	0.88 0.83	0.87 0.89	0.83 0.91	0.74 0.96

Table B.13
Out-of-Sample Results
Bivariate Models
Series = Real GDP
Forecast Horizon = 8 Quarters

Indicator	Trans.	CN		FR		GY		IT		JP		UK		US	
		71-84	85-99	71-84	85-99	71-84	85-99	71-84	85-99	71-84	85-99	71-84	85-99	71-84	85-99
AR RMSE		2.36	2.43	1.26	1.34	2.44	1.57	2.49	1.96	3.77	2.46	2.26	1.74	2.47	1.18
rw	lev	0.90	0.94	1.07		1.08	1.07	1.14	1.14	1.39	2.64	1.02	0.97	0.97	0.97
rovngh	lev		0.60	1.21		0.41	1.18		0.79	1.11	0.80		1.44	0.85	1.15
rtbill	lev	0.40	0.75	1.29			1.13					1.09	0.86	0.96	1.12
rbnds	lev							0.51				0.85		1.19	1.28
rbndm	lev							1.41	0.89					1.45	1.49
rbndl	lev	0.80	0.85	1.43		0.70	1.68	0.68	1.02	0.88		0.87	0.90	1.32	1.73
rovngh	1d		0.53	0.86		0.97	1.32		0.50	0.98	1.01		1.21	0.70	1.43
rtbill	1d	0.90	0.97	0.92			1.32					0.73	1.00	0.81	1.53
rbnds	1d							0.41				0.87		0.79	1.80
rbndm	1d							1.09	1.18					0.68	2.21
rbndl	1d	1.15	1.16	0.94		0.96	1.59	1.07	1.13	0.92		0.94	0.93	0.76	2.46
rrovngh	lev		0.53	0.97		0.81	1.07		0.47	1.34	1.06		1.33	1.11	1.05
rrtbill	lev	1.15	0.74	1.09			1.02					0.99	1.14	1.07	1.23
rrbnds	lev							0.48				1.01		1.02	1.22
rrbndm	lev							1.11	1.24					1.48	1.45
rrbndl	lev	1.00	1.11	1.12		1.03	1.89	1.00	1.32	0.91		1.07	0.87	1.69	1.56
rrovngh	1d		0.59	0.87		0.93	1.35		0.45	1.00	1.00		1.23	1.01	1.01
rrtbill	1d	1.00	1.01	1.00			1.00					0.98	1.04	1.03	1.00
rrbnds	1d							0.34				1.06		1.01	1.00
rrbndm	1d							1.02	1.00					1.32	1.00
rrbndl	1d	1.01	1.01	1.00		0.99	1.06	1.03	1.00	0.91		0.98	1.00	1.40	1.01
rspread	lev		0.47	0.91		0.54	0.92		0.56	0.88		1.57		0.56	1.69
exrate	ln1d		0.65	1.06			0.96		0.48	0.95		1.78			0.96
rexrate	ln1d		0.66	1.01			0.97		0.46	0.94		1.47			0.96
stockp	ln1d	1.04	0.99	0.99		0.97	1.23	1.02	1.26	0.94	1.68	1.06	0.97	0.98	1.05
rstockp	ln1d	1.01	0.99	0.95		0.94	1.25	1.05	1.01	0.95	1.50	1.02	0.95	0.94	1.10
divpr	ln		0.80	1.31			1.31		1.26	1.49		1.26		1.78	0.95
house	ln1d		0.77							1.08		1.33		0.99	0.93
rhouse	ln		0.48							0.85		2.11		2.17	1.60
rhouse	ln1d		0.75							0.97		1.18		0.98	0.88
gold	ln1d	1.15	1.00	1.05		1.51	1.20	1.05	1.08	2.12	1.05	0.87	1.32	1.10	1.61
gold	ln2d	1.03	1.01	1.00		1.07	1.00	0.98	1.00	1.19	1.00	0.97	1.00	1.04	1.01
rgold	ln	0.58	0.76	1.77		1.51	1.38	0.39	1.03	2.13	1.72	1.09	1.41	1.70	0.86
rgold	ln1d	1.18	0.98	1.04		1.52	1.21	1.12	1.03	2.04	1.04	0.90	1.31	1.27	1.56
silver	ln1d		0.75	1.03			0.90		0.50	1.00		1.24			0.96
silver	ln2d		0.78	1.00			0.90		0.46	0.98		1.08			0.91
rsilver	ln		1.42	2.78			1.83		1.22	1.13		1.82			1.29
rsilver	ln1d		0.75	1.02			0.89		0.50	1.00		1.23			0.95
rgdp	ln1d														
rgdp	gap														
ip	ln1d	1.03	0.95	1.00		1.00	0.96	1.01	0.97	1.02	1.03	1.10	1.03	1.00	0.98
ip	gap	1.06	1.02	1.38		1.08	1.02	1.05	1.01	1.07	1.04	0.97	1.16	1.15	1.01
capu	lev	1.17	1.02	0.73			1.19		0.35		0.93			0.93	0.97
emp	ln1d	1.05	1.02	0.94		1.04	0.85			0.95	1.01	1.25	1.15	1.14	1.03
emp	gap	1.03	1.02	1.03		1.22	1.26			1.02	1.02	1.22	1.34	1.26	1.07
unemp	lev	1.46	0.90	1.25		3.84	1.03	0.87	1.00	0.98	0.91	2.54	1.17	1.28	1.00
unemp	1d	1.01	0.99	0.88		0.94	0.93	1.24	1.08	1.00	0.98	1.17	1.16	1.01	0.99
unemp	gap	1.05	1.07	0.97		1.02	1.01	1.06	0.95	0.97	0.99	0.89	1.24	1.06	1.24
pgdp	ln1d	0.78	1.31	1.40		1.00	1.04	0.67	1.44	1.14	1.11	0.96	0.88	0.79	1.49
pgdp	ln2d	1.01	1.00	0.99		1.03	1.00	0.99	0.99	0.99	0.99	0.98	1.00	1.05	1.09
cpi	ln1d	0.68	1.34	1.72		0.77	1.79	0.51	1.65	1.19	1.03	1.11	0.87	0.80	1.33
cpi	ln2d	1.00	1.01	1.01		1.00	1.01	1.67	1.01	1.00	0.99	0.97	1.00	1.04	1.24
ppi	ln1d	1.02	1.42			0.46	1.80			1.05	1.21	1.04	0.94	0.86	1.78
ppi	ln2d	1.03	1.00			1.00	1.01			1.14	1.01	0.97	1.00	1.15	1.00

earn	ln1d	0.92 1.21	1.19	1.55 0.98		1.34 1.01	0.93 0.96	0.75 2.43
earn	ln2d	1.01 1.00	1.00	0.91 0.95		1.04 1.00	0.96 1.04	1.01 1.00
oil	ln1d	2.44 1.01	0.94	1.45 1.10	1.24 1.11	1.03 1.00	1.81 0.95	1.90 1.05
oil	ln2d	1.49 1.01	1.00	1.09 1.00	1.30 1.00	0.93 1.00	1.12 1.00	1.02 1.01
roil	ln	4.47 0.96	1.47	1.63 1.23	1.66 1.25	1.79 1.31	2.69 1.09	5.47 0.96
roil	ln1d	2.82 1.01	0.93	1.85 1.08	1.06 1.06	1.01 1.00	1.66 1.01	3.00 1.03
comod	ln1d	1.05 1.01	1.22	1.12 1.57	0.91 1.42	1.09 1.10	1.08 1.21	1.09 1.45
comod	ln2d	1.01 1.01	1.00	1.01 1.01	1.02 1.01	1.07 1.00	1.00 1.00	1.00 1.01
rcomod	ln	0.78 1.78	2.22	1.10 2.33	1.74 1.10	0.90 1.64	1.26 1.68	1.57 2.54
rcomod	ln1d	1.06 1.00	1.14	1.22 1.37	1.13 1.04	1.12 1.05	1.06 1.04	1.37 1.07
mon0	ln1d					0.96		1.11 1.04
mon0	ln2d					0.89		1.01 1.02
mon1	ln1d	1.00 0.94		0.95 1.32	1.03 0.82	1.77 1.01		1.15 1.16
mon1	ln2d	0.99 0.98		1.03 1.00	0.96 0.92	0.82 0.99		1.01 1.01
mon2	ln1d	0.86		1.05 1.04	0.33	0.59		0.99 1.04
mon2	ln2d	0.79		1.03 1.00	0.37	0.82		1.03 1.02
mon3	ln1d	0.85	2.27	0.98	0.97 0.66	0.96		1.15 1.05
mon3	ln2d	0.79	1.16	0.91	0.99 0.92	0.83		1.01 0.99
rmon0	ln1d					0.95		0.69 1.79
rmon1	ln1d	0.82 1.06		0.80 1.73	0.82 0.81	1.22 1.08		0.77 1.83
rmon2	ln1d	0.82		1.13 0.97	0.42	0.80		0.58 1.16
rmon3	ln1d	0.81	1.21	1.00	0.68 0.57	0.96		0.83 0.72
activity	Median	1.01 0.97	0.96	1.06 0.94	0.84 0.73	0.98 0.99	1.09 1.11	1.04 1.01
activity	Tr.Mean	1.03 0.98	0.96	1.05 0.93	0.87 0.67	0.98 0.96	1.07 1.13	1.02 1.00
pr_earn	Median	0.99 1.01	0.99	0.98 1.01	0.91 1.05	1.00 1.01	0.98 0.99	0.95 1.07
pr_earn	Tr.Mean	0.97 1.05	1.03	0.94 1.06	0.84 1.06	1.00 1.02	0.99 0.97	0.84 1.10
money	Median	0.95 0.83	0.84	1.00 0.96	0.92 0.66	0.93 0.83		0.93 0.98
money	Tr.Mean	0.95 0.83	0.90	0.99 0.94	0.90 0.58	0.91 0.84		0.88 0.89
ap	Median	0.98 0.78	0.98	0.84 0.97	0.84 0.64	1.04 0.93	0.87 1.05	0.77 0.95
ap	Tr.Mean	0.82 0.75	0.96	0.82 0.97	0.78 0.66	1.19 0.94	0.79 1.06	0.63 1.00
all	Median	0.99 0.95	0.98	0.97 0.98	0.90 0.82	0.99 0.97	0.92 1.03	0.91 0.99
all	Tr.Mean	0.90 0.87	0.98	0.90 0.98	0.78 0.70	1.03 0.91	0.89 1.04	0.76 0.99

Table B.14
Out-of-Sample Results
Bivariate Models
Series = IP
Forecast Horizon = 8 Quarters

Indicator	Trans.	CN		FR		GY		IT		JP		UK		US	
		71-84 85-99	71-84 85-99	71-84 85-99	71-84 85-99	71-84 85-99	71-84 85-99	71-84 85-99	71-84 85-99	71-84 85-99	71-84 85-99	71-84 85-99	71-84 85-99	71-84 85-99	
AR RMSE		5.31	3.48	4.26	2.52	4.17	2.87	5.06	3.10	7.69	5.73	3.68	2.06	4.80	2.10
rw	lev	0.95	0.98	1.09	1.11	1.27	1.19	1.20	1.21	1.24	1.50	1.10	1.03	0.97	0.97
rovngh	lev		0.52	0.62	0.87	0.35	0.61		0.89	1.14	0.71		1.29	0.76	0.81
rtbill	lev	0.74	0.61		0.65		0.44					1.21	1.17	1.00	0.77
rbnds	lev											1.03		1.03	0.94
rbndm	lev							1.28	0.95					1.39	1.16
rbndl	lev	1.03	0.89	0.95	1.15	0.77	1.12	0.99	1.06		1.01	1.23	1.17	1.35	1.37
rovngh	1d		0.55	1.02	0.91	0.90	1.01		0.71	1.02	1.01		1.03	0.71	1.32
rtbill	1d	0.73	1.06		0.70		0.95					0.75	0.91	0.84	1.40
rbnds	1d											0.78		0.80	1.79
rbndm	1d							0.97	1.26					0.81	2.16
rbndl	1d	0.75	1.37	1.12	1.17	1.04	1.31	1.04	1.16		0.93	1.12	0.90	0.89	2.36
rrovngh	lev		0.73	1.33	0.96	0.85	0.69		0.77	1.28	1.19		1.27	1.13	0.94
rrtbill	lev	1.32	1.05		0.85		0.71					1.07	1.09	1.29	1.17
rrbnds	lev											0.99		1.28	1.18
rrbndm	lev							1.12	1.44					1.97	1.40
rrbndl	lev	0.86	1.79	1.27	1.16	0.95	2.25	1.10	1.44		0.90	0.99	0.91	2.25	1.50
rrovngh	1d		0.81	0.89	0.87	0.97	1.24		0.74	0.98	1.02		1.16	1.02	1.01
rrtbill	1d	1.00	1.02		0.77		0.83					0.97	1.01	1.13	1.00
rrbnds	1d											1.02		1.40	1.00
rrbndm	1d							1.08	0.98					1.65	1.00
rrbndl	1d	1.01	1.00	1.00	0.99	0.99	1.01	1.11	0.98		0.67	1.01	1.00	1.67	1.01
rspread	lev		0.48	1.06	0.75	0.43	0.67		0.90		0.82		1.46	0.53	1.52
exrate	ln1d		0.79		0.94		0.90		0.90		0.66		2.20		1.12
rexrate	ln1d		0.83		0.95		0.94		0.80		0.66		1.27		1.12
stockp	ln1d	1.02	0.98	1.03	1.00	0.89	1.28	1.11	1.26	1.02	0.94	1.09	1.06	0.98	1.14
rstockp	ln1d	0.99	0.99	1.07	1.02	0.85	1.31	1.12	1.02	1.02	0.92	1.02	0.99	0.84	1.23
divpr	ln		0.75		0.91		1.10		2.27		1.20		1.19	1.62	0.92
house	ln1d		1.07							1.01			1.48	0.95	1.00
rhouse	ln		1.22							0.78			2.76	2.84	2.30
rhouse	ln1d		0.89							0.73			1.26	0.90	1.00
gold	ln1d	1.21	1.42	1.57	1.56	1.62	1.08	1.00	1.37	1.78	1.09	1.06	1.54	1.41	1.58
gold	ln2d	1.05	1.02	1.01	0.99	1.02	0.99	1.12	0.98	1.03	1.03	0.98	1.00	1.04	1.00
rgold	ln	0.95	0.83	0.88	1.40	1.88	1.13	1.35	1.23	1.26	1.80	2.19	1.59	1.74	0.93
rgold	ln1d	1.47	1.14	1.25	1.31	1.69	1.06	1.07	1.03	1.77	1.06	1.16	1.47	1.54	1.54
silver	ln1d		0.80		1.03		0.88		0.72		0.69		1.28		1.12
silver	ln2d		0.81		0.78		0.86		0.71		0.65		1.05		1.07
rsilver	ln		1.37		2.23		1.41		2.11		0.93		1.74		1.45
rsilver	ln1d		0.79		0.87		0.88		0.71		0.68		1.39		1.11
rgdp	ln1d	1.01	0.99		0.92	1.03	0.98	1.01	0.92	0.87	0.78	1.01	0.99	1.00	0.99
rgdp	gap	1.07	0.99		0.80	1.24	0.98	0.99	0.96	1.03	1.12	0.98	1.18	1.08	0.97
ip	ln1d														
ip	gap														
capu	lev		0.98	0.99		0.73	1.01		0.59		0.76			0.95	0.88
emp	ln1d		0.90	1.24		0.79	1.10	1.04		0.98	1.08	1.25	1.09	1.13	1.10
emp	gap		1.06	1.09		0.91	1.33	1.47		0.97	1.16	1.29	1.53	1.40	1.08
unemp	lev		1.36	1.00		0.90	7.57	0.97	0.96	1.63	1.09	0.84	2.09	2.20	1.36
unemp	1d		1.01	0.99		0.83	0.92	1.01	1.04	0.94	1.00	0.97	1.59	1.01	1.06
unemp	gap		1.00	1.12		0.92	0.92	0.96	0.93	0.86	0.95	1.00	0.73	1.32	0.98
pgdp	ln1d		0.51	1.59		1.02	0.95	1.01	0.72	1.41	1.16	1.38	0.98	0.98	0.81
pgdp	ln2d		1.05	1.01		0.80	0.99	0.98	0.94	0.91	0.96	0.87	1.01	0.99	1.07
cpi	ln1d		0.51	1.71		1.00	2.03		0.67	2.30	0.60	1.68	1.06	1.44	0.75
cpi	ln2d		1.05	1.05		1.01	1.00		0.99	1.00	1.30	0.98	0.99	0.92	0.98
ppi	ln1d		0.45	1.85			0.52	1.79				0.98	1.36	1.08	1.59
ppi	ln2d		1.16	1.00			1.02	1.00				1.21	1.01	1.03	1.00

earn	ln1d	0.76 1.59	1.02 1.46	1.85 0.97		1.20 1.10	0.93 1.34	0.92 2.14
earn	ln2d	1.01 1.01	1.00 0.97	0.89 0.93		1.00 1.02	0.97 1.00	1.01 1.00
oil	ln1d	1.94 1.04	1.10 1.30	1.01 1.10	1.05 1.17	1.01 1.11	1.11 1.02	2.55 1.06
oil	ln2d	1.11 1.01	1.07 0.99	0.99 0.99	1.49 0.98	0.95 1.03	1.04 1.01	1.08 1.01
roil	ln	6.55 0.94	0.67 1.33	1.76 1.07	2.85 1.31	1.45 1.55	1.95 1.11	9.80 0.90
roil	ln1d	2.20 1.02	1.06 1.09	1.34 1.09	1.03 1.01	0.98 1.08	1.33 1.03	5.72 1.04
comod	ln1d	1.06 1.04	1.00 2.10	1.12 1.83	0.74 2.02	1.23 1.32	1.21 1.23	1.08 1.53
comod	ln2d	1.03 1.01	1.05 0.99	1.00 0.99	1.03 0.97	1.04 1.02	1.02 1.00	0.97 1.01
rcomod	ln	0.70 2.96	1.46 1.79	1.44 2.05	1.70 1.82	1.15 1.07	1.41 1.82	1.77 2.49
rcomod	ln1d	1.16 0.99	1.26 1.55	1.20 1.44	1.00 1.48	1.29 1.17	1.23 1.02	1.35 1.30
mon0	ln1d					0.90		1.06 1.13
mon0	ln2d					0.75		1.01 1.04
mon1	ln1d	1.01 0.93		0.96 1.16	1.04 0.85	1.52 0.87		0.97 2.15
mon1	ln2d	0.99 0.98		1.00 0.97	1.03 0.86	0.75 0.99		1.01 1.04
mon2	ln1d	1.19		1.03 1.22	0.78	0.59		0.96 1.76
mon2	ln2d	0.82		0.99 0.97	0.54	0.65		0.86 1.24
mon3	ln1d	1.22	1.00 0.98	0.87	1.07 0.74	0.84		1.20 1.17
mon3	ln2d	0.82	0.99 0.98	0.87	1.02 0.86	0.57		1.06 0.98
rmon0	ln1d					0.69		0.75 1.57
rmon1	ln1d	0.85 0.96		0.79 1.65	0.90 0.81	0.55 1.00		0.92 1.91
rmon2	ln1d	0.80		1.23 1.10	0.67	0.49		0.50 2.01
rmon3	ln1d	0.81	0.80 1.16	0.82	0.64 0.62	0.51		0.80 1.40
activity	Median	1.00 0.99	0.81	1.15 0.96	0.90 0.79	0.97 0.96	0.94 1.16	1.05 0.99
activity	Tr.Mean	1.00 1.00	0.81	1.14 0.95	0.91 0.73	0.95 0.93	0.93 1.12	1.01 0.98
pr_earn	Median	0.98 1.03	1.00 1.06	0.96 1.01	0.90 1.06	0.96 1.05	0.98 0.97	0.92 1.08
pr_earn	Tr.Mean	0.89 1.09	0.95 1.12	0.86 1.06	0.83 1.09	0.94 1.08	0.96 0.97	0.79 1.06
money	Median	0.96 0.79	0.98 0.97	0.99 0.88	1.00 0.70	0.50 0.67		0.91 0.91
money	Tr.Mean	0.94 0.81	0.98 0.95	0.99 0.89	0.98 0.64	0.53 0.66		0.82 0.98
ap	Median	0.96 0.75	0.87 0.87	0.85 0.83	0.88 0.76	1.03 0.80	0.85 1.01	0.66 0.96
ap	Tr.Mean	0.80 0.75	0.85 0.86	0.82 0.82	0.82 0.78	1.07 0.79	0.76 1.00	0.55 0.90
all	Median	0.97 0.94	0.93 0.89	0.95 0.93	0.90 0.84	0.95 0.89	0.91 1.00	0.86 0.96
all	Tr.Mean	0.86 0.87	0.85 0.88	0.88 0.90	0.84 0.79	0.94 0.82	0.81 0.99	0.70 0.93

Tables B.13 – B.13 show the the MSFE relative the MSFE for the univariate autoregression over the pseudo out of sample forecast periods shown in the second row of the table. All models are estimated using BIC recursively selected lags.

The numbers in parentheses are p-values for tests that the population MSFE = 1 versus the alternative that MSFE < 1.

Following the framework in McCracken (1999) and Clark and McCracken (2001) the two competing models can be written as

$$\text{Model 1: } y_{t+h} = x_t' \beta + v_{1,t+h}$$

$$\text{Model 2: } y_{t+h} = x_t' \beta + q_t' \theta + v_{2,t+h} = w_t' \gamma + v_{2,t} =$$

where $\theta = 0$ under the null hypothesis. Let

$$\hat{v}_{1,t+h} = y_{t+h} - x_t' \hat{\beta}_{t-h}, \text{ and}$$

$$\hat{v}_{2,t+h} = y_{t+h} - w_t' \hat{\gamma}_{t-h}$$

where $\hat{\beta}_{t-h}$ and $\hat{\gamma}_{t-h}$ are OLS estimators based on observations through time $t-h$. We consider tests based in the difference of the pseudo of sample sum of squares:

$$\sum_{t=t_1}^T (\hat{v}_{1,t}^2 - \hat{v}_{2,t}^2).$$

Under the null hypothesis, it can be shown that

$$\begin{aligned} \sum_{t=t_1}^T (\hat{v}_{1,t}^2 - \hat{v}_{2,t}^2) &\Rightarrow 2 \int_{\tau}^1 s^{-1} W(s)' \Omega dW(s) - \int_{\tau}^1 s^{-2} W(s)' \Omega W(s) ds \\ &= \sum_{i=1}^k \{ \lambda_i(\Omega) [2 \int_{\tau}^1 s^{-1} W_i(s) dW_i(s) - \int_{\tau}^1 s^{-2} W_i(s)^2 ds] \} \end{aligned}$$

where Ω is the long-run covariance matrix of $r_t v_t$, where the $k \times 1$ vector $r_t = q_t - \Sigma_{qx} \Sigma_{xx}^{-1} x_t$, $\tau = t_1/T$, $W(s)$ is k dimensional standard Brownian motion, and $\lambda_i(\Omega)$ is the i 'th eigenvector of Ω .

Table B.15
MSFE of Bivariate Models Relative to Univariate AR Model and p-Values for Tests of Equal Forecast Accuracy
(Models with Fixed Lag Lengths)
Series = Inflation, GDP Deflator
Horizon = 2 quarters

Indicator	Trans.	CN	FR	GY	IT	JP	UK	US
		71-84 85-99	71-84 85-99	71-84 85-99	71-84 85-99	71-84 85-99	71-84 85-99	71-84 85-99
rovngh	lev	. (.) 0.96 (0.02)	. (.) 1.35 (0.98)	1.00 (0.13) 0.92 (0.07)	. (.) 1.53 (0.92)	0.85 (0.00) 1.58 (0.97)	. (.) 1.15 (0.31)	1.27 (0.99) 1.05 (0.25)
rtbill	lev	1.01 (0.33) 0.95 (0.03)	. (.) 1.26 (0.97)	. (.) 0.91 (0.01)	. (.) 1.23 (0.90)	. (.) . (.)	1.64 (1.00) 1.15 (0.58)	1.24 (1.00) 1.01 (0.20)
rbnds	lev	. (.) . (.)	. (.) . (.)	. (.) . (.)	. (.) 1.34 (0.99)	. (.) . (.)	1.21 (0.97) 1.03 (0.23)	1.22 (1.00) 1.00 (0.18)
rbndm	lev	. (.) . (.)	. (.) . (.)	. (.) . (.)	1.23 (0.99) 1.31 (0.74)	. (.) . (.)	. (.) . (.)	1.17 (1.00) 0.96 (0.13)
rbndl	lev	1.13 (1.00) 0.94 (0.02)	. (.) 1.36 (0.99)	0.84 (0.01) 1.23 (0.97)	1.05 (0.48) 1.23 (0.71)	. (.) 1.47 (0.99)	1.03 (0.39) 0.97 (0.17)	1.18 (1.00) 0.95 (0.11)
rovngh	1d	. (.) 1.00 (0.14)	. (.) 1.18 (0.96)	0.99 (0.10) 0.89 (0.04)	. (.) 1.68 (1.00)	0.95 (0.04) 0.92 (0.14)	. (.) 1.08 (0.23)	1.39 (1.00) 1.04 (0.26)
rtbill	1d	1.11 (1.00) 0.95 (0.07)	. (.) 1.12 (0.88)	. (.) 0.86 (0.00)	. (.) 1.43 (1.00)	. (.) . (.)	1.10 (0.92) 1.21 (0.77)	1.20 (0.99) 1.04 (0.24)
rbnds	1d	. (.) . (.)	. (.) . (.)	. (.) . (.)	. (.) 1.47 (1.00)	. (.) . (.)	. (.) 1.01 (0.20)	1.27 (1.00) 1.01 (0.21)
rbndm	1d	. (.) . (.)	. (.) . (.)	. (.) . (.)	1.07 (0.80) 1.86 (1.00)	. (.) . (.)	. (.) . (.)	1.32 (1.00) 1.00 (0.19)
rbndl	1d	1.22 (1.00) 1.02 (0.33)	. (.) 1.28 (1.00)	1.23 (0.99) 1.15 (0.95)	0.99 (0.09) 1.46 (0.98)	. (.) 1.31 (0.92)	1.01 (0.18) 1.01 (0.21)	1.31 (1.00) 1.02 (0.24)
rovngh	lev	. (.) 1.10 (0.65)	. (.) 1.24 (0.89)	1.01 (0.17) 1.23 (0.92)	. (.) 1.20 (0.39)	1.09 (0.62) 1.06 (0.25)	. (.) 1.01 (0.18)	1.24 (1.00) 1.15 (0.47)
rtbill	lev	1.10 (0.88) 1.13 (0.84)	. (.) 1.20 (0.89)	. (.) 1.73 (1.00)	. (.) 0.94 (0.08)	. (.) . (.)	1.20 (0.99) 1.25 (0.63)	1.13 (0.97) 1.18 (0.62)
rbnds	lev	. (.) . (.)	. (.) . (.)	. (.) . (.)	. (.) 1.37 (0.94)	. (.) . (.)	1.24 (0.94) 1.20 (0.47)	1.13 (0.98) 1.26 (0.75)
rbndm	lev	. (.) . (.)	. (.) . (.)	. (.) . (.)	1.07 (0.56) 1.35 (0.69)	. (.) . (.)	. (.) . (.)	1.07 (0.74) 1.34 (0.88)
rbndl	lev	1.09 (0.89) 1.25 (0.97)	. (.) 1.28 (0.94)	1.14 (0.87) 1.07 (0.61)	1.02 (0.23) 1.33 (0.68)	. (.) 1.07 (0.37)	1.11 (0.91) 1.23 (0.56)	1.02 (0.25) 1.37 (0.88)
rovngh	1d	. (.) 1.04 (0.42)	. (.) 1.06 (0.38)	1.01 (0.16) 1.18 (0.95)	. (.) 1.28 (0.64)	1.01 (0.17) 1.05 (0.29)	. (.) 1.02 (0.15)	1.25 (1.00) 1.13 (0.58)
rtbill	1d	1.07 (0.97) 1.11 (0.92)	. (.) 1.10 (0.61)	. (.) 1.65 (1.00)	. (.) 1.10 (0.57)	. (.) . (.)	1.38 (1.00) 1.02 (0.23)	1.07 (0.97) 1.22 (0.89)
rbnds	1d	. (.) . (.)	. (.) . (.)	. (.) . (.)	. (.) 1.33 (0.97)	. (.) . (.)	. (.) 1.00 (0.21)	1.05 (0.79) 1.35 (0.97)
rbndm	1d	. (.) . (.)	. (.) . (.)	. (.) . (.)	1.03 (0.23) 1.21 (0.39)	. (.) . (.)	. (.) . (.)	0.95 (0.02) 1.52 (0.98)
rbndl	1d	1.02 (0.45) 1.25 (1.00)	. (.) 1.29 (0.96)	1.08 (0.70) 1.19 (0.99)	1.09 (0.55) 1.19 (0.39)	. (.) 1.10 (0.52)	1.20 (0.99) 0.99 (0.21)	0.90 (0.02) 1.53 (0.99)
rsprad	lev	. (.) 1.04 (0.47)	. (.) 1.43 (0.99)	1.14 (0.85) 0.95 (0.07)	. (.) 1.72 (0.99)	. (.) 0.95 (0.15)	. (.) 1.16 (0.33)	1.28 (0.99) 1.16 (0.40)
exrate	ln1d	. (.) 1.11 (0.75)	. (.) 1.60 (1.00)	. (.) 1.21 (0.98)	. (.) 1.40 (0.98)	. (.) 1.13 (0.88)	. (.) 1.59 (0.99)	. (.) 1.11 (0.55)
rexrate	ln1d	. (.) . (.)	. (.) . (.)	. (.) . (.)	. (.) . (.)	. (.) . (.)	. (.) . (.)	. (.) . (.)
stockp	ln1d	1.00 (0.12) 1.25 (1.00)	. (.) 1.04 (0.25)	1.35 (1.00) 1.03 (0.30)	1.11 (0.82) 1.35 (0.89)	0.97 (0.04) 1.62 (0.99)	0.88 (0.00) 1.23 (0.78)	1.12 (0.96) 1.19 (0.72)
rstockp	ln1d	0.99 (0.12) 1.25 (1.00)	. (.) 1.03 (0.25)	1.35 (1.00) 1.04 (0.44)	1.06 (0.36) 1.58 (0.97)	0.92 (0.02) 1.63 (0.99)	0.96 (0.01) 1.25 (0.80)	1.10 (0.94) 1.21 (0.75)
divpr	ln	. (.) 1.25 (0.93)	. (.) 1.29 (0.96)	. (.) 1.69 (1.00)	. (.) 1.15 (0.44)	. (.) 1.25 (0.87)	. (.) 1.62 (0.96)	0.98 (0.07) 1.10 (0.43)
house	ln1d	. (.) 1.19 (0.89)	. (.) . (.)	. (.) . (.)	. (.) . (.)	. (.) 1.67 (1.00)	. (.) 1.13 (0.40)	0.99 (0.08) 1.11 (0.62)
rhouse	ln	. (.) 1.12 (0.77)	. (.) . (.)	. (.) . (.)	. (.) . (.)	. (.) 1.21 (0.82)	. (.) 1.55 (0.95)	1.10 (0.97) 1.13 (0.63)
rhouse	ln1d	. (.) 1.10 (0.71)	. (.) . (.)	. (.) . (.)	. (.) . (.)	. (.) 1.15 (0.76)	. (.) 1.08 (0.27)	0.93 (0.02) 1.11 (0.56)
gold	ln1d	1.46 (1.00) 0.97 (0.13)	. (.) 1.17 (0.90)	1.83 (1.00) 1.02 (0.29)	1.32 (1.00) 0.95 (0.12)	1.79 (1.00) 1.02 (0.22)	1.19 (0.99) 0.89 (0.09)	1.18 (1.00) 0.83 (0.04)
rgold	ln2d	1.60 (1.00) 1.03 (0.44)	. (.) 1.14 (0.75)	1.89 (1.00) 1.03 (0.29)	1.36 (1.00) 1.00 (0.18)	1.88 (1.00) 1.02 (0.27)	1.26 (1.00) 0.93 (0.11)	1.49 (1.00) 1.01 (0.23)
rgold	ln	1.43 (1.00) 0.97 (0.13)	. (.) 1.15 (0.79)	1.83 (1.00) 1.09 (0.55)	1.28 (0.98) 1.00 (0.19)	1.50 (1.00) 1.06 (0.35)	1.14 (0.98) 0.94 (0.11)	1.04 (0.63) 0.89 (0.08)
rgold	ln1d	1.41 (1.00) 0.95 (0.08)	. (.) 1.13 (0.80)	1.81 (1.00) 1.02 (0.23)	1.27 (1.00) 0.94 (0.14)	1.64 (1.00) 0.99 (0.20)	1.16 (0.99) 0.89 (0.10)	1.13 (0.99) 0.81 (0.05)
silver	ln1d	. (.) 1.01 (0.17)	. (.) 1.17 (0.84)	. (.) 1.17 (0.92)	. (.) 1.13 (0.61)	. (.) 1.17 (0.57)	. (.) 1.09 (0.32)	. (.) 0.92 (0.11)
silver	ln2d	. (.) 1.01 (0.21)	. (.) 1.13 (0.72)	. (.) 1.27 (0.98)	. (.) 1.13 (0.60)	. (.) 1.18 (0.86)	. (.) 1.11 (0.42)	. (.) 1.07 (0.23)
rsilver	ln	. (.) 1.10 (0.73)	. (.) 1.27 (0.95)	. (.) 1.18 (0.90)	. (.) 1.64 (1.00)	. (.) 1.22 (0.88)	. (.) 1.25 (0.76)	. (.) 1.14 (0.41)

rsilver	ln1d	. (.) 1.00 (0.19)	. (.) 1.18 (0.88)	. (.) 1.17 (0.92)	. (.) 1.18 (0.77)	. (.) 1.16 (0.67)	. (.) 1.11 (0.36)	. (.) 0.91 (0.08)
rgdp	ln1d	0.91 (0.00) 0.97 (0.07)	. (.) 1.08 (0.40)	0.76 (0.00) 0.90 (0.03)	0.80 (0.00) 1.52 (0.92)	0.98 (0.09) 1.18 (0.70)	1.12 (0.86) 0.95 (0.16)	1.01 (0.20) 0.88 (0.07)
rgdp	gap	0.93 (0.01) 0.97 (0.06)	. (.) 1.19 (0.83)	0.85 (0.00) 0.85 (0.01)	0.74 (0.00) 1.36 (0.66)	1.06 (0.40) 1.03 (0.25)	1.06 (0.60) 0.99 (0.17)	0.95 (0.03) 1.08 (0.45)
ip	ln1d	1.01 (0.33) 0.98 (0.09)	. (.) 1.15 (0.91)	0.82 (0.00) 0.99 (0.16)	0.96 (0.04) 1.18 (0.53)	1.14 (0.95) 0.99 (0.18)	1.10 (0.91) 1.06 (0.25)	0.93 (0.02) 1.01 (0.24)
ip	gap	0.99 (0.11) 1.01 (0.27)	. (.) 1.18 (0.91)	0.87 (0.00) 1.04 (0.36)	0.98 (0.10) 1.28 (0.60)	1.18 (0.95) 0.91 (0.17)	1.03 (0.36) 1.03 (0.24)	0.89 (0.00) 1.17 (0.60)
capu	lev	0.99 (0.05) 0.91 (0.02)	. (.) 1.34 (1.00)	. (.) 0.87 (0.01)	. (.) 1.24 (0.66)	. (.) 1.03 (0.22)	. (.) . (.)	0.79 (0.00) 0.91 (0.09)
emp	ln1d	0.98 (0.04) 0.95 (0.07)	. (.) 1.52 (1.00)	0.83 (0.00) 1.92 (1.00)	. (.) . (.)	1.04 (0.34) 1.32 (0.84)	0.94 (0.00) 1.35 (0.97)	0.85 (0.00) 0.98 (0.16)
emp	gap	0.97 (0.03) 0.97 (0.07)	. (.) 1.51 (1.00)	0.93 (0.02) 1.93 (1.00)	. (.) . (.)	1.08 (0.62) 1.06 (0.33)	0.98 (0.06) 1.31 (0.91)	0.76 (0.00) 1.37 (0.95)
unemp	lev	1.01 (0.25) 0.98 (0.11)	. (.) 1.17 (0.83)	1.19 (0.95) 1.00 (0.19)	1.57 (0.98) 1.73 (0.79)	1.08 (0.81) 1.23 (0.83)	0.95 (0.00) 1.63 (1.00)	0.86 (0.00) 1.04 (0.33)
unemp	1d	1.02 (0.37) 1.01 (0.26)	. (.) 1.12 (0.71)	1.19 (0.94) 1.07 (0.52)	1.38 (0.95) 2.01 (0.92)	1.08 (0.80) 1.23 (0.88)	0.91 (0.00) 1.74 (1.00)	0.87 (0.00) 1.11 (0.46)
unemp	gap	0.99 (0.09) 0.96 (0.09)	. (.) 1.08 (0.55)	1.09 (0.58) 0.98 (0.21)	1.26 (0.71) 1.34 (0.27)	0.95 (0.02) 1.07 (0.27)	0.96 (0.05) 1.12 (0.52)	0.83 (0.00) 1.31 (0.89)
pgdp	ln1d	. (.) . (.)	. (.) . (.)	. (.) . (.)	. (.) . (.)	. (.) . (.)	. (.) . (.)	. (.) . (.)
pgdp	ln2d	. (.) . (.)	. (.) . (.)	. (.) . (.)	. (.) . (.)	. (.) . (.)	. (.) . (.)	. (.) . (.)
cpi	ln1d	1.10 (0.96) 1.15 (0.91)	. (.) 1.25 (0.96)	1.15 (0.89) 1.31 (0.98)	1.04 (0.26) 1.01 (0.21)	0.89 (0.01) 1.23 (0.68)	1.18 (0.99) 1.04 (0.27)	1.01 (0.20) 1.30 (0.81)
cpi	ln2d	1.05 (0.79) 1.17 (0.96)	. (.) 1.33 (1.00)	0.94 (0.02) 1.33 (1.00)	1.13 (0.75) 0.82 (0.12)	1.03 (0.28) 1.02 (0.20)	1.18 (0.99) 0.96 (0.15)	0.93 (0.01) 1.33 (0.91)
ppi	ln1d	1.35 (1.00) 0.89 (0.04)	. (.) . (.)	1.14 (0.98) 1.39 (1.00)	. (.) . (.)	1.15 (0.96) 1.33 (0.84)	0.95 (0.02) 0.74 (0.05)	1.01 (0.21) 1.47 (0.95)
ppi	ln2d	1.15 (0.99) 0.89 (0.01)	. (.) . (.)	0.97 (0.03) 1.44 (1.00)	. (.) . (.)	0.90 (0.01) 1.29 (0.87)	0.90 (0.01) 0.72 (0.01)	0.93 (0.00) 1.56 (0.98)
earn	ln1d	1.05 (0.73) 1.14 (0.87)	. (.) 1.05 (0.36)	1.09 (0.55) 1.06 (0.41)	. (.) . (.)	1.55 (1.00) 1.06 (0.26)	0.93 (0.01) 1.20 (0.63)	0.94 (0.02) 1.25 (0.84)
earn	ln2d	1.10 (0.94) 1.13 (0.92)	. (.) 1.01 (0.18)	1.25 (0.95) 1.07 (0.47)	. (.) . (.)	1.51 (1.00) 0.99 (0.17)	0.83 (0.00) 1.13 (0.63)	0.92 (0.01) 1.23 (0.84)
oil	ln1d	7.33 (1.00) 0.84 (0.00)	. (.) 0.84 (0.00)	11.05 (1.00) 1.27 (0.97)	2.38 (1.00) 0.91 (0.07)	1.93 (1.00) 1.51 (0.83)	1.61 (1.00) 2.11 (0.99)	2.58 (1.00) 1.44 (0.98)
oil	ln2d	4.40 (1.00) 0.95 (0.04)	. (.) 1.07 (0.41)	4.59 (1.00) 1.60 (1.00)	2.19 (1.00) 1.40 (1.00)	4.08 (1.00) 1.11 (0.42)	3.23 (1.00) 1.42 (0.88)	2.10 (1.00) 1.71 (0.98)
roil	ln	6.11 (1.00) 0.91 (0.04)	. (.) 0.83 (0.01)	6.43 (1.00) 1.35 (1.00)	2.03 (1.00) 0.99 (0.20)	1.73 (1.00) 1.32 (0.91)	1.29 (1.00) 2.26 (1.00)	2.44 (1.00) 1.42 (0.94)
roil	ln1d	5.86 (1.00) 0.84 (0.00)	. (.) 0.83 (0.00)	7.92 (1.00) 1.27 (0.96)	2.47 (1.00) 0.89 (0.08)	1.65 (1.00) 1.45 (0.80)	1.43 (1.00) 2.56 (1.00)	3.11 (1.00) 1.46 (0.98)
comod	ln1d	1.07 (0.91) 1.03 (0.35)	. (.) 1.33 (0.95)	1.12 (0.86) 1.21 (0.97)	0.88 (0.01) 1.79 (0.99)	1.22 (1.00) 1.24 (0.85)	1.01 (0.17) 1.26 (0.92)	0.83 (0.00) 1.29 (0.98)
comod	ln2d	1.20 (1.00) 1.04 (0.50)	. (.) 1.35 (0.99)	1.53 (1.00) 1.22 (0.96)	0.91 (0.01) 1.82 (0.99)	1.16 (0.98) 1.33 (0.95)	1.14 (0.98) 1.27 (0.90)	1.31 (1.00) 1.06 (0.33)
rcomod	ln	1.02 (0.32) 1.02 (0.30)	. (.) 1.48 (1.00)	1.24 (0.98) 1.35 (0.98)	0.86 (0.00) 2.04 (1.00)	1.01 (0.19) 1.31 (0.95)	0.94 (0.01) 1.75 (1.00)	0.83 (0.00) 1.36 (0.95)
rcomod	ln1d	1.04 (0.60) 1.00 (0.24)	. (.) 1.34 (0.97)	1.09 (0.76) 1.24 (0.98)	0.93 (0.02) 1.92 (1.00)	1.08 (0.81) 1.25 (0.94)	0.92 (0.00) 1.35 (0.95)	0.78 (0.00) 1.28 (0.94)
mon0	ln1d	. (.) . (.)	. (.) . (.)	. (.) . (.)	. (.) . (.)	. (.) 1.04 (0.23)	. (.) . (.)	1.09 (0.96) 1.06 (0.51)
mon0	ln2d	. (.) . (.)	. (.) . (.)	. (.) . (.)	. (.) . (.)	. (.) 1.07 (0.43)	. (.) . (.)	1.04 (0.60) 1.11 (0.72)
mon1	ln1d	0.97 (0.03) 1.16 (0.96)	. (.) 1.05 (0.30)	1.11 (0.86) 1.07 (0.64)	0.86 (0.02) 1.38 (0.64)	1.16 (0.98) 1.12 (0.54)	. (.) . (.)	1.12 (1.00) 1.13 (0.87)
mon1	ln2d	1.04 (0.82) 1.18 (0.99)	. (.) 0.96 (0.08)	1.13 (0.96) 0.94 (0.05)	0.83 (0.04) 1.48 (0.65)	1.20 (0.99) 1.03 (0.26)	. (.) . (.)	1.16 (1.00) 1.12 (0.68)
mon2	ln1d	. (.) 1.09 (0.73)	. (.) . (.)	1.10 (0.79) 1.36 (1.00)	. (.) 1.81 (0.97)	. (.) 1.53 (1.00)	. (.) . (.)	1.16 (1.00) 1.12 (0.68)
mon2	ln2d	. (.) 1.06 (0.62)	. (.) . (.)	1.08 (0.68) 1.21 (0.98)	. (.) 1.44 (0.98)	. (.) 1.23 (0.93)	. (.) . (.)	1.13 (1.00) 1.14 (0.74)
mon3	ln1d	. (.) 1.13 (0.92)	. (.) 1.10 (0.51)	. (.) 1.03 (0.27)	1.08 (0.85) 1.27 (0.74)	. (.) 1.21 (0.83)	. (.) . (.)	1.07 (0.94) 1.02 (0.24)
mon3	ln2d	. (.) 1.10 (0.83)	. (.) 1.03 (0.23)	. (.) 1.01 (0.22)	1.14 (0.98) 1.15 (0.52)	. (.) 1.14 (0.84)	. (.) . (.)	1.05 (0.93) 1.00 (0.22)
rmon0	ln1d	. (.) . (.)	. (.) . (.)	. (.) . (.)	. (.) . (.)	. (.) 1.06 (0.36)	. (.) . (.)	1.03 (0.45) 1.31 (0.92)
rmon1	ln1d	0.91 (0.00) 1.19 (0.99)	. (.) 1.05 (0.42)	1.17 (0.99) 0.96 (0.10)	0.81 (0.02) 1.30 (0.56)	0.81 (0.00) 1.20 (0.65)	. (.) . (.)	1.13 (0.99) 1.29 (0.96)
rmon2	ln1d	. (.) 0.99 (0.15)	. (.) . (.)	1.05 (0.41) 1.29 (1.00)	. (.) 1.56 (0.98)	. (.) 1.26 (0.94)	. (.) . (.)	1.09 (0.94) 1.16 (0.68)
rmon3	ln1d	. (.) 1.04 (0.30)	. (.) 1.16 (0.84)	. (.) 1.04 (0.36)	0.76 (0.00) 1.40 (0.85)	. (.) 0.85 (0.02)	. (.) . (.)	1.01 (0.18) 1.07 (0.45)

Table B.16
MSFE of Bivariate Models Relative to Univariate AR Model and p-Values for Tests of Equal Forecast Accuracy
(Models with Fixed Lag Lengths)
Series = CPI Inflation
Horizon = 2 Quarters

Indicator	Trans.	CN	FR	GY	IT	JP	UK	US
		71-84 85-99	71-84 85-99	71-84 85-99	71-84 85-99	71-84 85-99	71-84 85-99	71-84 85-99
rovnght	lev	. (.) 0.99 (0.07)	0.73 (0.00) 1.30 (0.92)	1.03 (0.32) 0.98 (0.07)	. (.) 1.97 (1.00)	0.95 (0.03) 1.58 (0.86)	. (.) 1.19 (0.46)	0.91 (0.00) 1.00 (0.25)
rtbill	lev	1.09 (0.84) 0.93 (0.05)	. (.) 1.59 (0.99)	. (.) 1.12 (0.99)	. (.) 0.84 (0.01)	. (.) . (.)	1.30 (1.00) 1.00 (0.17)	0.89 (0.00) 0.99 (0.15)
rbnds	lev	. (.) . (.)	. (.) . (.)	. (.) . (.)	. (.) 1.43 (0.97)	. (.) . (.)	1.03 (0.49) 0.92 (0.08)	1.01 (0.25) 0.97 (0.13)
rbndm	lev	. (.) . (.)	. (.) . (.)	. (.) . (.)	1.26 (1.00) 1.11 (0.55)	. (.) . (.)	. (.) . (.)	1.06 (0.90) 0.96 (0.08)
rbndl	lev	1.28 (1.00) 0.88 (0.00)	0.96 (0.02) 1.11 (0.68)	0.86 (0.00) 1.08 (0.98)	1.09 (0.98) 1.31 (0.92)	. (.) 2.32 (1.00)	1.03 (0.40) 1.07 (0.28)	1.06 (0.91) 0.95 (0.04)
rovnght	1d	. (.) 0.90 (0.01)	1.09 (0.81) 1.06 (0.31)	1.07 (0.81) 0.96 (0.01)	. (.) 1.33 (0.78)	1.08 (0.79) 0.96 (0.18)	. (.) 1.19 (0.36)	1.26 (1.00) 1.01 (0.25)
rtbill	1d	1.10 (0.91) 0.92 (0.04)	. (.) 1.12 (0.42)	. (.) 1.06 (0.98)	. (.) 1.15 (0.45)	. (.) . (.)	1.10 (0.97) 1.09 (0.49)	1.23 (1.00) 1.00 (0.20)
rbnds	1d	. (.) . (.)	. (.) . (.)	. (.) . (.)	. (.) 1.26 (0.80)	. (.) . (.)	. (.) 0.92 (0.07)	1.22 (1.00) 1.01 (0.26)
rbndm	1d	. (.) . (.)	. (.) . (.)	. (.) . (.)	1.18 (1.00) 1.54 (1.00)	. (.) . (.)	. (.) . (.)	1.09 (0.97) 1.08 (0.81)
rbndl	1d	1.37 (1.00) 0.93 (0.04)	0.91 (0.00) 1.48 (1.00)	0.97 (0.07) 1.04 (0.93)	1.08 (0.95) 1.49 (0.98)	. (.) 2.27 (1.00)	1.02 (0.34) 1.10 (0.40)	1.06 (0.84) 1.07 (0.72)
rovnght	lev	. (.) 0.98 (0.09)	1.09 (0.82) 1.05 (0.33)	1.16 (0.96) 0.95 (0.02)	. (.) 1.07 (0.19)	1.17 (0.93) 1.06 (0.22)	. (.) 1.25 (0.42)	1.13 (0.97) 0.99 (0.19)
rtbill	lev	1.18 (0.96) 0.97 (0.14)	. (.) 1.17 (0.56)	. (.) 1.09 (0.86)	. (.) 0.91 (0.08)	. (.) . (.)	1.06 (0.90) 1.26 (0.80)	1.05 (0.66) 0.97 (0.14)
rbnds	lev	. (.) . (.)	. (.) . (.)	. (.) . (.)	. (.) 1.19 (0.46)	. (.) . (.)	0.89 (0.01) 1.08 (0.34)	1.12 (0.96) 0.99 (0.19)
rbndm	lev	. (.) . (.)	. (.) . (.)	. (.) . (.)	1.25 (1.00) 1.37 (0.79)	. (.) . (.)	. (.) . (.)	1.11 (0.95) 1.08 (0.62)
rbndl	lev	1.38 (1.00) 0.94 (0.06)	1.11 (0.98) 1.18 (0.82)	0.98 (0.07) 0.94 (0.02)	1.15 (0.99) 1.45 (0.81)	. (.) 1.42 (0.93)	0.96 (0.04) 1.19 (0.75)	1.09 (0.97) 1.07 (0.67)
rovnght	1d	. (.) 0.90 (0.01)	1.09 (0.82) 1.06 (0.30)	1.07 (0.83) 0.96 (0.00)	. (.) 1.33 (0.79)	1.08 (0.76) 0.96 (0.20)	. (.) 1.19 (0.38)	1.26 (1.00) 1.01 (0.20)
rtbill	1d	1.10 (0.92) 0.92 (0.03)	. (.) 1.12 (0.38)	. (.) 1.06 (0.96)	. (.) 1.15 (0.48)	. (.) . (.)	1.10 (0.98) 1.09 (0.45)	1.23 (1.00) 1.00 (0.22)
rbnds	1d	. (.) . (.)	. (.) . (.)	. (.) . (.)	. (.) 1.26 (0.78)	. (.) . (.)	. (.) 0.92 (0.07)	1.22 (1.00) 1.01 (0.24)
rbndm	1d	. (.) . (.)	. (.) . (.)	. (.) . (.)	1.18 (1.00) 1.54 (0.99)	. (.) . (.)	. (.) . (.)	1.09 (0.97) 1.08 (0.81)
rbndl	1d	1.37 (1.00) 0.93 (0.04)	0.91 (0.00) 1.48 (0.99)	0.97 (0.05) 1.04 (0.94)	1.08 (0.92) 1.49 (0.99)	. (.) 2.27 (1.00)	1.02 (0.28) 1.10 (0.43)	1.06 (0.87) 1.07 (0.72)
rspread	lev	. (.) 1.04 (0.58)	0.94 (0.01) 1.26 (0.92)	1.13 (0.96) 0.99 (0.09)	. (.) 1.84 (0.99)	. (.) 1.03 (0.23)	. (.) 1.17 (0.34)	0.89 (0.00) 1.34 (1.00)
exrate	ln1d	. (.) 1.12 (0.90)	. (.) 1.02 (0.19)	. (.) 1.01 (0.18)	. (.) 1.31 (0.84)	. (.) 1.20 (0.89)	. (.) 1.42 (0.95)	. (.) 1.60 (1.00)
rexrate	ln1d	. (.) . (.)	. (.) . (.)	. (.) . (.)	. (.) . (.)	. (.) . (.)	. (.) . (.)	. (.) . (.)
stockp	ln1d	1.08 (0.77) 1.13 (0.94)	1.07 (0.84) 1.24 (0.93)	1.07 (0.69) 1.02 (0.34)	1.16 (0.98) 1.13 (0.42)	0.96 (0.04) 1.43 (0.91)	0.85 (0.00) 1.31 (0.86)	0.88 (0.00) 1.22 (0.98)
rstockp	ln1d	1.06 (0.63) 1.15 (0.94)	1.07 (0.82) 1.27 (0.96)	1.07 (0.75) 1.03 (0.49)	1.14 (0.95) 1.29 (0.66)	0.92 (0.01) 1.52 (0.95)	0.92 (0.01) 1.30 (0.84)	0.85 (0.00) 1.25 (0.99)
divpr	ln	. (.) 1.23 (0.99)	. (.) 1.70 (1.00)	. (.) 1.02 (0.32)	. (.) 1.43 (0.79)	. (.) 1.73 (0.98)	. (.) 1.74 (0.96)	0.88 (0.00) 1.20 (0.94)
house	ln1d	. (.) 1.11 (0.82)	. (.) . (.)	. (.) . (.)	. (.) . (.)	. (.) 2.43 (1.00)	. (.) 1.02 (0.21)	0.86 (0.00) 1.10 (0.90)
rhouse	ln	. (.) 1.11 (0.84)	. (.) . (.)	. (.) . (.)	. (.) . (.)	. (.) 2.04 (1.00)	. (.) 1.35 (0.94)	0.84 (0.00) 1.09 (0.80)
rhouse	ln1d	. (.) 1.09 (0.74)	. (.) . (.)	. (.) . (.)	. (.) . (.)	. (.) 1.76 (0.99)	. (.) 0.92 (0.09)	0.72 (0.00) 1.08 (0.79)
gold	ln1d	0.98 (0.08) 0.98 (0.10)	1.20 (1.00) 0.90 (0.05)	1.23 (1.00) 1.00 (0.16)	1.35 (1.00) 1.08 (0.29)	1.70 (1.00) 1.00 (0.17)	1.14 (0.99) 0.95 (0.15)	1.18 (0.96) 0.94 (0.14)
gold	ln2d	1.28 (1.00) 1.05 (0.59)	1.23 (1.00) 0.91 (0.04)	1.19 (0.98) 1.02 (0.65)	1.49 (1.00) 1.17 (0.36)	1.67 (1.00) 1.04 (0.31)	1.22 (1.00) 1.02 (0.26)	1.22 (1.00) 1.02 (0.32)
rgold	ln	0.94 (0.01) 1.01 (0.25)	1.18 (1.00) 0.92 (0.06)	1.16 (0.98) 0.98 (0.07)	1.27 (1.00) 1.00 (0.23)	1.43 (1.00) 1.08 (0.30)	1.12 (0.99) 1.03 (0.27)	1.10 (0.93) 0.96 (0.14)
rgold	ln1d	0.93 (0.01) 0.96 (0.07)	1.17 (1.00) 0.89 (0.06)	1.21 (0.98) 0.99 (0.12)	1.29 (1.00) 1.08 (0.27)	1.57 (1.00) 0.95 (0.19)	1.09 (0.93) 0.93 (0.14)	1.13 (0.93) 0.91 (0.09)
silver	ln1d	. (.) 0.97 (0.06)	. (.) 1.11 (0.55)	. (.) 1.01 (0.27)	. (.) 1.01 (0.19)	. (.) 1.08 (0.38)	. (.) 0.92 (0.10)	. (.) 0.99 (0.19)
silver	ln2d	. (.) 1.00 (0.19)	. (.) 1.13 (0.73)	. (.) 1.01 (0.23)	. (.) 1.22 (0.44)	. (.) 1.04 (0.29)	. (.) 0.99 (0.18)	. (.) 1.07 (0.37)
rsilver	ln	. (.) 1.05 (0.54)	. (.) 1.33 (0.97)	. (.) 1.01 (0.27)	. (.) 1.76 (0.97)	. (.) 1.36 (0.99)	. (.) 1.06 (0.28)	. (.) 1.08 (0.36)

rsilver	in1d	. (.) 0.97 (0.06)	. (.) 1.11 (0.56)	. (.) 1.01 (0.21)	. (.) 1.07 (0.22)	. (.) 1.05 (0.32)	. (.) 0.92 (0.08)	. (.) 0.97 (0.14)
rgdp	in1d	. (.) 1.11 (0.44)	. (.) 1.11 (0.44)	0.89 (0.00) 0.99 (0.13)	0.92 (0.01) 0.97 (0.17)	0.89 (0.00) 1.50 (0.97)	0.96 (0.02) 0.93 (0.12)	0.90 (0.00) 0.93 (0.02)
rgdp	gap	. (.) 0.03 (0.89) 0.02	. (.) 0.40 (0.93)	0.88 (0.00) 0.96 (0.01)	0.91 (0.00) 1.13 (0.42)	1.02 (0.26) 0.99 (0.19)	1.01 (0.23) 0.96 (0.17)	0.91 (0.00) 1.00 (0.19)
ip	in1d	0.89 (0.00) 1.00 (0.21)	1.04 (0.57) 0.99 (0.21)	0.94 (0.02) 1.05 (0.97)	0.91 (0.00) 0.78 (0.06)	0.88 (0.01) 1.41 (0.88)	1.05 (0.72) 1.02 (0.23)	0.78 (0.00) 0.99 (0.16)
ip	gap	0.88 (0.01) 1.00 (0.18)	1.03 (0.42) 1.07 (0.36)	0.90 (0.00) 1.02 (0.62)	0.92 (0.00) 1.03 (0.23)	0.93 (0.02) 1.13 (0.41)	1.05 (0.66) 0.99 (0.17)	0.67 (0.00) 1.01 (0.29)
capu	lev	. (.) 0.80 (0.00) 0.83 (0.00)	. (.) 1.56 (0.99)	. (.) 0.98 (0.05)	. (.) 1.94 (1.00)	. (.) 1.46 (0.97)	. (.) . (.)	0.75 (0.00) 0.83 (0.00)
emp	in1d	0.86 (0.00) 0.90 (0.01)	. (.) 1.49 (0.97)	0.82 (0.00) 1.12 (0.91)	. (.) . (.)	0.90 (0.01) 1.61 (0.92)	0.89 (0.00) 1.13 (0.79)	0.73 (0.00) 0.98 (0.16)
emp	gap	0.90 (0.00) 0.88 (0.00)	. (.) 1.83 (1.00)	0.87 (0.00) 1.10 (0.93)	. (.) . (.)	1.00 (0.13) 1.08 (0.29)	0.91 (0.00) 1.18 (0.90)	0.69 (0.00) 1.11 (0.87)
unemp	lev	0.96 (0.02) 0.87 (0.00)	. (.) 1.39 (0.97)	0.97 (0.04) 0.94 (0.00)	0.95 (0.03) 1.46 (0.88)	0.88 (0.00) 1.72 (0.99)	0.97 (0.04) 1.00 (0.19)	0.79 (0.00) 0.83 (0.00)
unemp	1d	0.95 (0.01) 0.93 (0.02)	. (.) 0.95 (0.09)	0.88 (0.00) 0.92 (0.00)	0.94 (0.01) 1.72 (0.96)	0.89 (0.00) 1.76 (1.00)	0.94 (0.01) 1.20 (0.96)	0.76 (0.00) 0.89 (0.01)
unemp	gap	0.88 (0.00) 0.93 (0.03)	. (.) 1.07 (0.24)	0.92 (0.01) 0.96 (0.02)	0.93 (0.02) 1.13 (0.37)	0.87 (0.00) 1.17 (0.50)	0.90 (0.00) 1.05 (0.38)	0.73 (0.00) 0.97 (0.10)
pgdp	in1d	1.09 (0.93) 1.00 (0.20)	. (.) 1.90 (1.00)	1.08 (0.84) 1.01 (0.33)	1.05 (0.95) 1.03 (0.26)	1.15 (0.94) 1.30 (0.56)	0.94 (0.01) 1.13 (0.53)	1.04 (0.36) 0.98 (0.16)
pgdp	in2d	1.06 (0.93) 1.00 (0.21)	. (.) 1.36 (0.91)	1.03 (0.32) 1.01 (0.41)	0.96 (0.01) 1.04 (0.31)	1.04 (0.62) 1.18 (0.62)	0.93 (0.00) 1.07 (0.40)	1.11 (0.90) 0.97 (0.16)
cpi	in1d	. (.) . (.)	. (.) . (.)	. (.) . (.)	. (.) . (.)	. (.) . (.)	. (.) . (.)	. (.) . (.)
cpi	in2d	. (.) . (.)	. (.) . (.)	. (.) . (.)	. (.) . (.)	. (.) . (.)	. (.) . (.)	. (.) . (.)
ppi	in1d	1.01 (0.19) 0.90 (0.00)	. (.) . (.)	1.46 (1.00) 0.96 (0.01)	. (.) . (.)	0.89 (0.00) 1.17 (0.56)	0.98 (0.06) 1.02 (0.24)	1.07 (0.83) 1.04 (0.37)
ppi	in2d	1.01 (0.23) 0.88 (0.00)	. (.) . (.)	1.32 (1.00) 0.96 (0.02)	. (.) . (.)	0.55 (0.00) 1.21 (0.81)	0.91 (0.00) 1.01 (0.26)	1.02 (0.29) 1.08 (0.70)
earn	in1d	1.15 (0.99) 1.05 (0.75)	1.05 (0.71) 1.17 (0.77)	1.17 (0.97) 0.92 (0.00)	. (.) . (.)	1.44 (1.00) 1.02 (0.20)	0.98 (0.07) 1.05 (0.28)	1.05 (0.72) 1.02 (0.29)
earn	in2d	1.04 (0.48) 1.11 (0.97)	1.03 (0.79) 1.01 (0.23)	1.14 (0.97) 0.94 (0.01)	. (.) . (.)	1.26 (1.00) 0.99 (0.18)	0.91 (0.00) 1.04 (0.34)	1.08 (0.88) 1.00 (0.20)
oil	in1d	2.17 (1.00) 0.91 (0.01)	2.19 (1.00) 1.13 (0.90)	2.96 (1.00) 1.04 (0.68)	2.25 (1.00) 1.71 (0.98)	2.54 (1.00) 1.24 (0.53)	2.10 (1.00) 1.36 (0.92)	1.51 (1.00) 1.11 (0.83)
oil	in2d	1.38 (1.00) 0.94 (0.03)	2.29 (1.00) 1.22 (0.98)	2.24 (1.00) 1.05 (0.78)	1.60 (1.00) 2.02 (1.00)	3.26 (1.00) 0.83 (0.05)	2.47 (1.00) 1.09 (0.38)	1.62 (1.00) 1.33 (1.00)
oil	in	2.49 (1.00) 0.87 (0.01)	2.55 (1.00) 1.05 (0.39)	2.00 (1.00) 0.97 (0.08)	2.11 (1.00) 1.42 (0.94)	2.54 (1.00) 1.26 (0.64)	2.22 (1.00) 1.36 (0.97)	1.90 (1.00) 1.05 (0.42)
roil	in1d	1.74 (1.00) 0.90 (0.02)	2.33 (1.00) 1.16 (0.93)	2.26 (1.00) 1.04 (0.69)	2.19 (1.00) 1.70 (0.99)	2.87 (1.00) 1.14 (0.37)	2.10 (1.00) 1.54 (0.99)	1.49 (1.00) 1.12 (0.86)
comod	in1d	1.08 (0.98) 0.93 (0.00)	1.11 (0.95) 1.06 (0.34)	1.30 (1.00) 1.00 (0.15)	1.20 (0.98) 1.24 (0.61)	1.01 (0.21) 1.64 (0.98)	1.13 (0.99) 0.93 (0.09)	0.79 (0.00) 1.34 (1.00)
comod	in2d	1.18 (1.00) 1.02 (0.46)	1.15 (1.00) 1.03 (0.31)	1.27 (1.00) 1.00 (0.20)	1.29 (1.00) 1.34 (0.95)	1.00 (0.11) 1.50 (1.00)	1.16 (0.98) 1.21 (0.77)	0.97 (0.07) 1.34 (1.00)
comod	in	1.01 (0.23) 0.95 (0.02)	0.97 (0.06) 1.20 (0.79)	1.33 (1.00) 1.01 (0.23)	1.07 (0.78) 1.36 (0.82)	0.75 (0.00) 1.79 (1.00)	1.03 (0.44) 1.26 (0.88)	0.67 (0.00) 1.38 (1.00)
recomod	in1d	1.00 (0.16) 0.91 (0.01)	1.03 (0.40) 1.11 (0.58)	1.29 (1.00) 0.98 (0.10)	1.10 (0.91) 1.39 (0.82)	0.81 (0.00) 1.74 (1.00)	1.09 (0.94) 0.87 (0.05)	0.70 (0.00) 1.33 (1.00)
mon0	in1d	. (.) . (.)	. (.) . (.)	. (.) . (.)	. (.) . (.)	. (.) 1.16 (0.41)	. (.) . (.)	1.04 (0.65) 1.05 (0.51)
mon0	in2d	. (.) . (.)	. (.) . (.)	. (.) . (.)	. (.) . (.)	. (.) 1.35 (0.95)	. (.) . (.)	1.02 (0.38) 1.13 (0.85)
mon1	in1d	1.23 (0.99) 1.14 (0.94)	. (.) 1.35 (0.56)	1.29 (1.00) 0.87 (0.01)	1.02 (0.44) 1.10 (0.44)	1.00 (0.15) 1.18 (0.50)	. (.) . (.)	0.96 (0.01) 1.06 (0.66)
mon1	in2d	1.15 (1.00) 1.10 (0.97)	. (.) 1.67 (0.98)	1.32 (1.00) 0.87 (0.01)	1.08 (1.00) 1.03 (0.22)	1.10 (0.68) 1.15 (0.48)	. (.) . (.)	0.99 (0.06) 1.06 (0.65)
mon2	in1d	. (.) 1.23 (1.00)	. (.) . (.)	0.90 (0.00) 1.07 (0.85)	. (.) 1.76 (0.94)	. (.) 1.92 (0.99)	. (.) . (.)	1.05 (0.85) 1.02 (0.32)
mon2	in2d	. (.) 1.19 (0.99)	. (.) . (.)	1.09 (0.91) 1.10 (0.91)	. (.) 1.65 (1.00)	. (.) 1.73 (0.98)	. (.) . (.)	1.10 (1.00) 0.95 (0.06)
mon3	in1d	. (.) 1.23 (1.00)	1.03 (0.48) 1.07 (0.41)	. (.) 1.08 (1.00)	1.13 (1.00) 1.20 (0.55)	. (.) 1.65 (0.90)	. (.) . (.)	1.02 (0.29) 1.04 (0.40)
mon3	in2d	. (.) 1.18 (1.00)	1.06 (0.72) 1.00 (0.20)	. (.) 1.06 (0.99)	1.12 (1.00) 1.03 (0.26)	. (.) 1.80 (0.99)	. (.) . (.)	1.02 (0.34) 1.06 (0.65)
rmon0	in1d	. (.) . (.)	. (.) . (.)	. (.) . (.)	. (.) . (.)	. (.) 1.52 (0.97)	. (.) . (.)	0.90 (0.00) 1.18 (0.94)
rmon1	in1d	1.10 (0.92) 1.16 (0.99)	. (.) 1.36 (0.85)	1.26 (1.00) 0.85 (0.01)	1.00 (0.16) 0.98 (0.15)	0.57 (0.00) 1.20 (0.55)	. (.) . (.)	0.84 (0.00) 1.23 (1.00)
rmon2	in1d	. (.) 1.13 (0.97)	. (.) . (.)	0.80 (0.00) 1.01 (0.29)	. (.) 1.58 (0.98)	. (.) 1.83 (1.00)	. (.) . (.)	0.94 (0.01) 0.94 (0.06)
rmon3	in1d	. (.) 1.13 (0.96)	0.99 (0.10) 0.97 (0.18)	. (.) 1.01 (0.32)	0.91 (0.00) 1.25 (0.74)	. (.) 1.47 (0.98)	. (.) . (.)	0.89 (0.00) 1.04 (0.44)

Table B.17
MSFE of Bivariate Models Relative to Univariate AR Model and p-Values for Tests of Equal Forecast Accuracy
(Models with Fixed Lag Lengths)
Series = Real GDP
Horizon = 2

Indicator	Trans.	CN	FR	GY	IT	JP	UK	US
		71-84 85-99	71-84 85-99	71-84 85-99	71-84 85-99	71-84 85-99	71-84 85-99	71-84 85-99
rovnght	lev	. (.) 1.17 (0.84)	. (.) 1.29 (0.96)	0.51 (0.00) 1.47 (1.00)	. (.) 1.29 (0.91)	1.03 (0.32) 0.97 (0.07)	. (.) 0.96 (0.09)	0.89 (0.00) 1.13 (0.60)
rtbill	lev	0.81 (0.00) 1.00 (0.21)	. (.) 1.32 (0.99)	. (.) 1.30 (1.00)	. (.) 1.43 (1.00)	. (.) . (.)	1.21 (0.92) 1.09 (0.44)	1.15 (0.99) 1.05 (0.33)
rbnds	lev	. (.) . (.)	. (.) . (.)	. (.) . (.)	. (.) 1.27 (1.00)	. (.) . (.)	1.45 (0.99) 1.07 (0.36)	1.03 (0.39) 1.15 (0.67)
rbndm	lev	. (.) . (.)	. (.) . (.)	. (.) . (.)	1.16 (0.94) 1.42 (1.00)	. (.) . (.)	. (.) . (.)	1.01 (0.16) 1.27 (0.88)
rbndl	lev	0.94 (0.02) 1.14 (0.92)	. (.) 1.40 (1.00)	0.69 (0.00) 1.75 (1.00)	1.09 (0.81) 1.53 (1.00)	. (.) 1.16 (0.97)	1.01 (0.32) 1.09 (0.66)	0.99 (0.08) 1.34 (0.90)
rovnght	1d	. (.) 0.87 (0.05)	. (.) 1.01 (0.20)	0.84 (0.00) 1.08 (0.85)	. (.) 0.99 (0.12)	0.91 (0.01) 0.99 (0.17)	. (.) 1.00 (0.15)	0.97 (0.04) 1.31 (0.96)
rtbill	1d	1.11 (0.85) 0.88 (0.03)	. (.) 1.03 (0.31)	. (.) 1.21 (0.98)	. (.) 0.91 (0.01)	. (.) . (.)	1.31 (0.98) 0.98 (0.16)	1.24 (1.00) 1.29 (0.90)
rbnds	1d	. (.) . (.)	. (.) . (.)	. (.) . (.)	. (.) 1.02 (0.27)	. (.) . (.)	. (.) 0.98 (0.15)	1.15 (1.00) 1.45 (0.96)
rbndm	1d	. (.) . (.)	. (.) . (.)	. (.) . (.)	1.32 (1.00) 1.37 (1.00)	. (.) . (.)	. (.) . (.)	1.16 (1.00) 1.57 (1.00)
rbndl	1d	1.12 (0.96) 1.19 (0.94)	. (.) 1.08 (0.71)	0.85 (0.00) 1.26 (1.00)	1.33 (1.00) 1.31 (1.00)	. (.) 1.21 (0.99)	1.16 (1.00) 0.93 (0.05)	1.14 (0.99) 1.64 (1.00)
rovnght	lev	. (.) 0.74 (0.00)	. (.) 0.85 (0.01)	0.62 (0.00) 1.35 (1.00)	. (.) 1.05 (0.24)	1.12 (0.81) 1.03 (0.37)	. (.) 1.00 (0.14)	1.28 (1.00) 1.17 (0.61)
rtbill	lev	1.13 (0.87) 0.67 (0.00)	. (.) 0.91 (0.04)	. (.) 1.32 (1.00)	. (.) 1.00 (0.14)	. (.) . (.)	1.43 (1.00) 1.06 (0.38)	1.22 (1.00) 1.09 (0.36)
rbnds	lev	. (.) . (.)	. (.) . (.)	. (.) . (.)	. (.) 1.02 (0.19)	. (.) . (.)	1.23 (0.95) 1.04 (0.25)	1.20 (0.98) 1.11 (0.47)
rbndm	lev	. (.) . (.)	. (.) . (.)	. (.) . (.)	1.11 (0.76) 1.12 (0.56)	. (.) . (.)	. (.) . (.)	1.19 (0.97) 1.17 (0.55)
rbndl	lev	1.04 (0.47) 1.07 (0.73)	. (.) 1.04 (0.19)	0.96 (0.04) 1.45 (1.00)	1.09 (0.64) 1.16 (0.68)	. (.) 1.03 (0.36)	1.19 (0.99) 1.02 (0.24)	1.21 (0.98) 1.21 (0.71)
rovnght	1d	. (.) 0.92 (0.04)	. (.) 0.89 (0.02)	0.82 (0.00) 1.28 (0.99)	. (.) 1.11 (0.72)	1.14 (0.81) 1.00 (0.24)	. (.) 1.06 (0.29)	1.22 (1.00) 1.17 (0.74)
rtbill	1d	1.11 (0.93) 0.94 (0.08)	. (.) 0.89 (0.02)	. (.) 1.39 (1.00)	. (.) 1.06 (0.59)	. (.) . (.)	1.63 (1.00) 1.08 (0.48)	1.23 (0.99) 1.06 (0.38)
rbnds	1d	. (.) . (.)	. (.) . (.)	. (.) . (.)	. (.) 1.08 (0.61)	. (.) . (.)	. (.) 1.10 (0.47)	1.21 (0.98) 1.11 (0.47)
rbndm	1d	. (.) . (.)	. (.) . (.)	. (.) . (.)	1.19 (0.96) 1.00 (0.22)	. (.) . (.)	. (.) . (.)	1.18 (0.96) 1.16 (0.60)
rbndl	1d	1.08 (0.91) 1.06 (0.75)	. (.) 1.09 (0.65)	0.96 (0.04) 1.55 (1.00)	1.18 (0.95) 0.98 (0.17)	. (.) 1.02 (0.25)	1.23 (1.00) 1.06 (0.40)	1.16 (0.97) 1.16 (0.59)
rspread	lev	. (.) 1.10 (0.72)	. (.) 1.13 (0.84)	0.61 (0.00) 1.21 (0.97)	. (.) 1.14 (0.67)	. (.) 0.95 (0.07)	. (.) 1.04 (0.28)	0.68 (0.00) 2.00 (1.00)
extrate	ln1d	. (.) 1.07 (0.68)	. (.) 1.25 (1.00)	. (.) 1.19 (0.99)	. (.) 1.18 (0.92)	. (.) 1.07 (0.86)	. (.) 1.34 (0.99)	. (.) 1.71 (1.00)
rexrate	ln1d	. (.) . (.)	. (.) . (.)	. (.) . (.)	. (.) . (.)	. (.) . (.)	. (.) . (.)	. (.) . (.)
stockp	ln1d	0.98 (0.09) 1.03 (0.40)	. (.) 0.96 (0.06)	0.97 (0.08) 1.68 (1.00)	1.15 (0.99) 1.02 (0.38)	1.03 (0.25) 1.04 (0.47)	0.98 (0.01) 0.98 (0.14)	0.81 (0.00) 1.47 (1.00)
rstockp	ln1d	0.91 (0.01) 1.10 (0.84)	. (.) 0.98 (0.10)	0.93 (0.02) 1.73 (1.00)	1.13 (0.93) 1.09 (0.78)	1.02 (0.17) 1.07 (0.62)	0.88 (0.00) 0.99 (0.14)	0.73 (0.00) 1.67 (1.00)
divpr	ln	. (.) 1.06 (0.57)	. (.) 0.97 (0.10)	. (.) 1.35 (1.00)	. (.) 1.36 (1.00)	. (.) 1.37 (1.00)	. (.) 1.23 (0.95)	0.82 (0.00) 1.50 (0.98)
house	ln1d	. (.) 1.27 (1.00)	. (.) . (.)	. (.) . (.)	. (.) . (.)	. (.) 1.22 (0.98)	. (.) 1.38 (0.91)	1.06 (0.55) 0.88 (0.11)
rhouse	ln	. (.) 1.06 (0.52)	. (.) . (.)	. (.) . (.)	. (.) . (.)	. (.) 1.06 (0.75)	. (.) 1.56 (0.98)	0.97 (0.08) 0.97 (0.16)
rhouse	ln1d	. (.) 1.24 (1.00)	. (.) . (.)	. (.) . (.)	. (.) . (.)	. (.) 1.14 (0.95)	. (.) 1.28 (0.86)	0.93 (0.03) 0.81 (0.07)
gold	ln1d	1.25 (0.96) 0.87 (0.05)	. (.) 1.34 (0.99)	1.32 (0.99) 1.12 (0.78)	1.42 (1.00) 1.13 (0.72)	1.95 (1.00) 1.05 (0.66)	1.45 (1.00) 1.24 (0.72)	1.32 (0.99) 1.01 (0.25)
rgold	ln2d	1.20 (1.00) 0.96 (0.11)	. (.) 1.11 (0.80)	1.38 (1.00) 1.04 (0.52)	1.45 (1.00) 1.04 (0.47)	1.72 (1.00) 1.00 (0.22)	1.58 (1.00) 1.05 (0.32)	1.42 (1.00) 0.99 (0.22)
rgold	ln	1.10 (0.84) 0.92 (0.04)	. (.) 1.90 (1.00)	1.21 (0.98) 1.26 (0.94)	1.16 (0.94) 1.19 (0.84)	1.71 (1.00) 1.18 (0.99)	1.35 (1.00) 1.35 (0.84)	1.25 (1.00) 0.99 (0.21)
rgold	ln1d	1.23 (0.95) 0.87 (0.05)	. (.) 1.28 (0.95)	1.36 (1.00) 1.10 (0.67)	1.44 (1.00) 1.07 (0.44)	1.94 (1.00) 1.04 (0.54)	1.49 (1.00) 1.19 (0.64)	1.36 (1.00) 1.00 (0.21)
silver	ln1d	. (.) 0.95 (0.11)	. (.) 1.31 (1.00)	. (.) 1.14 (0.86)	. (.) 1.05 (0.32)	. (.) 1.04 (0.64)	. (.) 1.15 (0.70)	. (.) 1.06 (0.20)
silver	ln2d	. (.) 1.04 (0.27)	. (.) 1.02 (0.25)	. (.) 1.10 (0.91)	. (.) 1.06 (0.53)	. (.) 1.00 (0.18)	. (.) 1.09 (0.54)	. (.) 1.06 (0.19)
rsilver	ln	. (.) 1.24 (0.82)	. (.) 1.95 (1.00)	. (.) 1.28 (0.94)	. (.) 1.24 (0.90)	. (.) 0.97 (0.06)	. (.) 1.76 (0.99)	. (.) 1.10 (0.25)

rsilver	. (.) 0.96 (0.12)	. (.) 1.28 (0.99)	. (.) 1.14 (0.85)	. (.) 1.06 (0.42)	. (.) 1.03 (0.47)	. (.) 1.14 (0.60)	. (.) 1.05 (0.22)
rgdp	. (.) . (.)	. (.) . (.)	. (.) . (.)	. (.) . (.)	. (.) . (.)	. (.) . (.)	. (.) . (.)
rgdp	. (.) . (.)	. (.) . (.)	. (.) . (.)	. (.) . (.)	. (.) . (.)	. (.) . (.)	. (.) . (.)
ip	0.90 (0.00) 1.19 (0.98)	. (.) 1.08 (0.66)	1.16 (0.91) 1.00 (0.15)	1.03 (0.25) 0.99 (0.14)	1.34 (1.00) 0.99 (0.17)	1.23 (1.00) 1.02 (0.25)	1.02 (0.23) 1.10 (0.44)
ip	0.91 (0.00) 1.22 (0.99)	. (.) 1.16 (0.94)	1.18 (0.94) 1.02 (0.29)	0.99 (0.09) 0.94 (0.09)	1.30 (1.00) 0.95 (0.07)	1.17 (0.99) 1.19 (0.73)	0.99 (0.81) 1.02 (0.21)
capu	1.07 (0.88) 1.23 (1.00)	. (.) 1.14 (0.95)	. (.) 1.48 (1.00)	. (.) 0.89 (0.02)	. (.) 1.01 (0.23)	. (.) . (.)	0.94 (0.02) 1.06 (0.30)
emp	1.01 (0.22) 0.97 (0.09)	. (.) 0.95 (0.05)	1.02 (0.19) 1.46 (1.00)	. (.) . (.)	1.04 (0.29) 0.91 (0.04)	0.95 (0.02) 1.06 (0.47)	1.03 (0.34) 1.02 (0.26)
emp	0.96 (0.04) 1.03 (0.35)	. (.) 1.03 (0.30)	1.19 (0.96) 1.49 (1.00)	. (.) . (.)	1.12 (0.82) 0.99 (0.17)	0.93 (0.01) 1.08 (0.51)	1.13 (0.85) 1.02 (0.25)
unemp	0.95 (0.02) 0.99 (0.19)	. (.) 1.16 (0.92)	1.23 (0.98) 1.14 (0.73)	1.05 (0.31) 1.01 (0.24)	1.14 (0.94) 0.98 (0.12)	1.03 (0.52) 0.91 (0.05)	0.98 (0.06) 1.13 (0.68)
unemp	0.93 (0.01) 0.98 (0.11)	. (.) 1.04 (0.29)	1.14 (0.91) 1.24 (0.94)	1.16 (0.81) 1.11 (0.60)	1.09 (0.79) 1.03 (0.53)	1.00 (0.12) 0.94 (0.08)	0.98 (0.06) 1.20 (0.85)
unemp	0.93 (0.01) 0.99 (0.14)	. (.) 1.02 (0.20)	1.07 (0.72) 1.06 (0.46)	0.97 (0.13) 1.02 (0.29)	1.05 (0.30) 1.00 (0.23)	0.91 (0.00) 1.22 (0.88)	0.97 (0.06) 1.16 (0.68)
pgdp	0.87 (0.00) 1.36 (1.00)	. (.) 1.24 (0.96)	0.95 (0.07) 1.12 (0.76)	0.68 (0.00) 1.66 (1.00)	1.07 (0.50) 1.08 (0.68)	1.08 (0.88) 1.14 (0.58)	1.01 (0.17) 1.31 (0.82)
pgdp	1.05 (0.82) 1.07 (0.78)	. (.) 1.11 (0.83)	1.14 (0.88) 1.02 (0.24)	0.95 (0.02) 1.12 (0.85)	1.12 (0.80) 1.03 (0.30)	1.20 (0.99) 1.01 (0.25)	1.16 (0.98) 1.09 (0.36)
cpi	0.87 (0.01) 1.38 (1.00)	. (.) 1.48 (1.00)	0.87 (0.01) 1.64 (1.00)	0.93 (0.03) 1.51 (0.98)	1.09 (0.73) 1.02 (0.30)	1.15 (0.98) 1.10 (0.43)	0.95 (0.02) 1.23 (0.79)
cpi	1.10 (0.96) 1.04 (0.48)	. (.) 1.19 (0.87)	1.09 (0.77) 1.14 (0.95)	1.21 (0.95) 0.98 (0.20)	1.07 (0.50) 1.00 (0.23)	1.19 (0.99) 1.05 (0.36)	1.00 (0.13) 1.26 (0.87)
ppi	1.00 (0.17) 1.32 (1.00)	. (.) . (.)	0.44 (0.00) 1.83 (1.00)	. (.) . (.)	1.37 (1.00) 1.21 (0.99)	1.12 (0.92) 1.17 (0.70)	0.88 (0.00) 1.41 (0.98)
ppi	1.12 (0.96) 1.08 (0.78)	. (.) . (.)	1.23 (0.99) 1.09 (0.68)	. (.) . (.)	1.58 (1.00) 1.06 (0.70)	1.24 (1.00) 1.00 (0.20)	1.10 (0.91) 1.12 (0.58)
earn	1.01 (0.25) 1.31 (1.00)	. (.) 1.08 (0.48)	1.18 (0.99) 1.13 (0.87)	. (.) . (.)	1.34 (1.00) 1.01 (0.28)	0.93 (0.03) 1.15 (0.78)	0.97 (0.05) 1.53 (0.96)
earn	1.05 (0.79) 1.09 (0.96)	. (.) 1.03 (0.20)	1.23 (1.00) 1.03 (0.32)	. (.) . (.)	1.40 (1.00) 1.01 (0.24)	1.17 (0.98) 1.02 (0.25)	1.04 (0.54) 1.06 (0.36)
oil	4.71 (1.00) 1.15 (0.99)	. (.) 1.53 (1.00)	2.60 (1.00) 1.56 (1.00)	3.24 (1.00) 1.55 (0.99)	3.88 (1.00) 1.04 (0.97)	1.63 (1.00) 1.45 (1.00)	5.88 (1.00) 1.50 (1.00)
oil	3.11 (1.00) 1.08 (0.95)	. (.) 1.36 (0.98)	3.95 (1.00) 1.12 (0.85)	5.52 (1.00) 1.14 (0.72)	3.52 (1.00) 1.02 (0.78)	2.28 (1.00) 1.31 (1.00)	5.85 (1.00) 1.22 (0.93)
oil	7.02 (1.00) 1.21 (0.98)	. (.) 1.74 (1.00)	3.45 (1.00) 1.43 (1.00)	1.83 (1.00) 1.49 (0.96)	2.47 (1.00) 1.11 (0.99)	1.77 (1.00) 1.31 (0.97)	5.94 (1.00) 1.28 (0.89)
roil	5.08 (1.00) 1.13 (0.99)	. (.) 1.51 (1.00)	4.40 (1.00) 1.52 (1.00)	2.66 (1.00) 1.43 (0.96)	3.01 (1.00) 1.04 (0.96)	1.71 (1.00) 1.41 (1.00)	7.99 (1.00) 1.44 (1.00)
comod	1.21 (1.00) 1.06 (0.73)	. (.) 1.36 (1.00)	1.00 (0.13) 1.47 (1.00)	1.35 (1.00) 1.29 (0.99)	1.23 (1.00) 1.18 (0.98)	1.10 (0.99) 1.15 (0.86)	0.94 (0.02) 1.50 (0.98)
comod	1.16 (1.00) 1.07 (0.87)	. (.) 1.07 (0.64)	1.17 (1.00) 1.20 (0.99)	1.41 (1.00) 1.22 (0.97)	1.51 (1.00) 1.05 (0.77)	1.06 (0.94) 1.12 (0.89)	1.04 (0.57) 1.41 (0.95)
comod	1.12 (0.99) 1.30 (1.00)	. (.) 1.19 (0.89)	1.44 (1.00) 1.14 (0.84)	1.40 (1.00) 1.01 (0.25)	1.00 (0.14) 1.02 (0.32)	1.16 (1.00) 1.25 (0.94)	0.95 (0.02) 1.66 (1.00)
recomod	1.18 (0.99) 1.08 (0.79)	. (.) 1.30 (0.99)	1.06 (0.80) 1.41 (1.00)	1.30 (1.00) 1.20 (0.96)	1.24 (1.00) 1.12 (0.97)	1.13 (1.00) 1.12 (0.79)	0.99 (0.12) 1.44 (0.95)
mon0	. (.) . (.)	. (.) . (.)	. (.) . (.)	. (.) . (.)	. (.) 1.10 (0.69)	. (.) . (.)	1.11 (0.92) 1.16 (0.58)
mon0	. (.) . (.)	. (.) . (.)	. (.) . (.)	. (.) . (.)	. (.) 1.10 (0.91)	. (.) . (.)	1.07 (0.84) 1.19 (0.78)
mon1	0.94 (0.02) 0.78 (0.00)	. (.) 1.30 (0.99)	0.85 (0.00) 1.58 (1.00)	0.94 (0.04) 0.77 (0.01)	2.17 (1.00) 0.99 (0.18)	. (.) . (.)	0.98 (0.10) 1.74 (1.00)
mon1	1.00 (0.13) 0.90 (0.02)	. (.) 1.19 (0.98)	1.21 (0.99) 1.09 (0.85)	0.91 (0.05) 0.93 (0.10)	1.29 (0.71) 1.02 (0.26)	. (.) . (.)	0.96 (0.03) 1.81 (1.00)
mon2	. (.) 1.10 (0.74)	. (.) . (.)	1.23 (0.99) 1.03 (0.37)	. (.) 1.34 (0.99)	. (.) 0.89 (0.04)	. (.) . (.)	1.17 (1.00) 1.42 (0.99)
mon2	. (.) 1.07 (0.69)	. (.) . (.)	1.05 (0.59) 1.04 (0.54)	. (.) 1.11 (0.82)	. (.) 1.04 (0.41)	. (.) . (.)	1.16 (0.99) 1.06 (0.39)
mon3	. (.) 1.03 (0.35)	. (.) 1.63 (1.00)	. (.) 1.16 (0.96)	1.15 (0.98) 0.69 (0.00)	. (.) 1.09 (0.80)	. (.) . (.)	1.32 (1.00) 1.06 (0.35)
mon3	. (.) 1.00 (0.16)	. (.) 1.34 (1.00)	. (.) 1.10 (0.89)	1.09 (0.91) 0.94 (0.06)	. (.) 1.10 (0.97)	. (.) . (.)	1.09 (0.96) 1.10 (0.60)
rmon0	. (.) . (.)	. (.) . (.)	. (.) . (.)	. (.) . (.)	. (.) 1.18 (0.97)	. (.) . (.)	0.86 (0.00) 2.62 (1.00)
rmon1	0.57 (0.00) 1.39 (1.00)	. (.) 1.00 (0.19)	0.68 (0.00) 1.95 (1.00)	0.74 (0.00) 0.88 (0.05)	1.98 (1.00) 1.02 (0.28)	. (.) . (.)	0.79 (0.00) 3.12 (1.00)
rmon2	. (.) 1.18 (0.92)	. (.) . (.)	1.30 (0.98) 1.07 (0.64)	. (.) 1.17 (0.93)	. (.) 0.90 (0.02)	. (.) . (.)	0.76 (0.00) 1.45 (1.00)
rmon3	. (.) 1.16 (0.86)	. (.) 1.62 (1.00)	. (.) 1.33 (1.00)	0.77 (0.00) 0.76 (0.00)	. (.) 1.04 (0.47)	. (.) . (.)	0.95 (0.01) 1.26 (0.92)

Table B.18
MSFE of Bivariate Models Relative to Univariate AR Model and p-Values for Tests of Equal Forecast Accuracy
(Models with Fixed Lag Lengths)
Series = IP
Horizon = 2

Indicator	Trans.	CN	FR	GY	IT	JP	UK	US
		71-84 85-99	71-84 85-99	71-84 85-99	71-84 85-99	71-84 85-99	71-84 85-99	71-84 85-99
rovnght	lev	. (.) 1.00 (0.13)	1.19 (0.99) 1.17 (0.84)	0.60 (0.00) 0.98 (0.11)	. (.) 1.18 (0.53)	0.94 (0.01) 1.01 (0.34)	. (.) 0.94 (0.12)	1.07 (0.81) 0.91 (0.11)
rtbill	lev	0.88 (0.00) 0.75 (0.00)	. (.) 1.17 (0.84)	. (.) 1.00 (0.10)	. (.) 1.24 (0.99)	. (.) . (.)	1.05 (0.36) 1.17 (0.47)	1.19 (1.00) 0.84 (0.06)
rbnds	lev	. (.) . (.)	. (.) . (.)	. (.) . (.)	. (.) 1.21 (0.98)	. (.) . (.)	1.39 (0.98) 1.16 (0.41)	1.10 (0.97) 1.05 (0.25)
rbndm	lev	. (.) . (.)	. (.) . (.)	. (.) . (.)	1.12 (0.94) 1.26 (0.94)	. (.) . (.)	. (.) . (.)	1.13 (0.98) 1.25 (0.69)
rbndl	lev	0.83 (0.00) 1.23 (0.94)	0.88 (0.00) 1.30 (0.97)	0.76 (0.00) 1.24 (1.00)	1.01 (0.23) 1.35 (0.98)	. (.) 1.36 (1.00)	1.06 (0.84) 1.12 (0.49)	1.09 (0.95) 1.39 (0.89)
rovnght	1d	. (.) 0.91 (0.09)	1.13 (0.93) 0.92 (0.06)	0.93 (0.00) 1.01 (0.29)	. (.) 0.99 (0.13)	0.86 (0.00) 1.00 (0.21)	. (.) 0.96 (0.17)	1.09 (0.96) 1.21 (0.70)
rtbill	1d	0.99 (0.10) 1.10 (0.73)	. (.) 0.87 (0.03)	. (.) 1.02 (0.29)	. (.) 0.86 (0.00)	. (.) . (.)	1.22 (0.93) 1.13 (0.35)	1.09 (0.95) 1.22 (0.75)
rbnds	1d	. (.) . (.)	. (.) . (.)	. (.) . (.)	. (.) 0.99 (0.10)	. (.) . (.)	. (.) 1.08 (0.31)	1.03 (0.46) 1.62 (0.97)
rbndm	1d	. (.) . (.)	. (.) . (.)	. (.) . (.)	1.13 (0.96) 1.41 (1.00)	. (.) . (.)	. (.) . (.)	1.11 (0.98) 2.01 (1.00)
rbndl	1d	0.88 (0.00) 1.56 (1.00)	1.00 (0.13) 1.24 (0.97)	0.95 (0.03) 0.99 (0.14)	1.09 (0.85) 1.34 (0.99)	. (.) 1.19 (0.99)	1.06 (0.90) 1.00 (0.22)	1.11 (0.98) 2.11 (1.00)
rovnght	lev	. (.) 0.83 (0.02)	1.22 (0.98) 0.88 (0.07)	0.78 (0.00) 0.89 (0.01)	. (.) 1.10 (0.36)	0.82 (0.00) 1.16 (0.94)	. (.) 1.02 (0.17)	1.33 (1.00) 1.17 (0.61)
rtbill	lev	1.11 (0.85) 0.95 (0.10)	. (.) 0.93 (0.07)	. (.) 1.00 (0.11)	. (.) 1.10 (0.71)	. (.) . (.)	1.38 (1.00) 1.17 (0.57)	1.32 (1.00) 1.15 (0.40)
rbnds	lev	. (.) . (.)	. (.) . (.)	. (.) . (.)	. (.) 1.06 (0.37)	. (.) . (.)	1.25 (0.97) 1.10 (0.29)	1.33 (1.00) 1.23 (0.57)
rbndm	lev	. (.) . (.)	. (.) . (.)	. (.) . (.)	1.11 (0.85) 1.24 (0.77)	. (.) . (.)	. (.) . (.)	1.30 (1.00) 1.31 (0.68)
rbndl	lev	1.01 (0.17) 1.43 (1.00)	1.17 (0.94) 1.11 (0.46)	0.97 (0.07) 1.07 (0.73)	1.10 (0.81) 1.26 (0.83)	. (.) 1.05 (0.61)	1.14 (0.99) 1.12 (0.35)	1.32 (1.00) 1.35 (0.70)
rovnght	1d	. (.) 0.95 (0.08)	1.09 (0.72) 0.94 (0.06)	0.92 (0.01) 1.05 (0.58)	. (.) 1.02 (0.19)	0.82 (0.00) 1.01 (0.28)	. (.) 1.07 (0.20)	1.19 (1.00) 1.29 (0.88)
rtbill	1d	1.04 (0.59) 1.04 (0.47)	. (.) 0.94 (0.07)	. (.) 1.24 (0.96)	. (.) 0.94 (0.04)	. (.) . (.)	1.34 (1.00) 1.13 (0.48)	1.22 (1.00) 1.14 (0.45)
rbnds	1d	. (.) . (.)	. (.) . (.)	. (.) . (.)	. (.) 1.01 (0.14)	. (.) . (.)	. (.) 1.07 (0.25)	1.24 (1.00) 1.21 (0.64)
rbndm	1d	. (.) . (.)	. (.) . (.)	. (.) . (.)	1.24 (0.98) 1.02 (0.26)	. (.) . (.)	. (.) . (.)	1.21 (1.00) 1.14 (0.46)
rbndl	1d	1.06 (0.90) 1.07 (0.71)	1.07 (0.78) 1.02 (0.23)	0.94 (0.03) 1.11 (0.85)	1.25 (0.99) 1.04 (0.29)	. (.) 1.01 (0.24)	1.19 (1.00) 1.05 (0.31)	1.21 (0.99) 1.12 (0.37)
rspread	lev	. (.) 1.13 (0.79)	1.10 (0.66) 1.03 (0.33)	0.70 (0.00) 1.01 (0.20)	. (.) 1.30 (0.85)	. (.) 0.97 (0.09)	. (.) 1.04 (0.18)	0.74 (0.00) 2.13 (1.00)
extrate	ln1d	. (.) 1.13 (0.81)	. (.) 1.35 (1.00)	. (.) 1.24 (0.99)	. (.) 1.21 (0.94)	. (.) 1.11 (0.96)	. (.) 1.57 (0.99)	. (.) 2.14 (1.00)
rexrate	ln1d	. (.) . (.)	. (.) . (.)	. (.) . (.)	. (.) . (.)	. (.) . (.)	. (.) . (.)	. (.) . (.)
stockp	ln1d	0.79 (0.00) 1.19 (0.97)	0.97 (0.09) 1.22 (0.88)	0.99 (0.11) 1.18 (0.99)	1.19 (0.97) 1.05 (0.46)	0.95 (0.01) 0.92 (0.01)	0.98 (0.02) 1.18 (0.82)	0.55 (0.00) 2.41 (1.00)
rstockp	ln1d	0.71 (0.00) 1.22 (0.99)	0.90 (0.03) 1.35 (0.97)	0.96 (0.04) 1.21 (0.99)	1.14 (0.87) 1.14 (0.81)	0.87 (0.00) 0.99 (0.12)	0.87 (0.00) 1.22 (0.91)	0.48 (0.00) 2.68 (1.00)
divpr	ln	. (.) 1.15 (0.97)	. (.) 1.18 (0.68)	. (.) 1.10 (0.82)	. (.) 1.53 (1.00)	. (.) 1.14 (0.94)	. (.) 1.27 (0.81)	0.57 (0.00) 2.39 (1.00)
house	ln1d	. (.) 1.67 (1.00)	. (.) . (.)	. (.) . (.)	. (.) . (.)	. (.) 1.20 (0.96)	. (.) 1.31 (0.74)	0.98 (0.07) 0.92 (0.14)
rhouse	ln	. (.) 1.68 (1.00)	. (.) . (.)	. (.) . (.)	. (.) . (.)	. (.) 0.98 (0.07)	. (.) 1.33 (0.83)	0.84 (0.00) 1.32 (0.93)
rhouse	ln1d	. (.) 1.53 (1.00)	. (.) . (.)	. (.) . (.)	. (.) . (.)	. (.) 1.17 (0.93)	. (.) 1.28 (0.76)	0.82 (0.00) 1.05 (0.28)
gold	ln1d	1.24 (0.99) 0.94 (0.09)	1.28 (1.00) 1.40 (0.96)	1.29 (1.00) 1.12 (0.84)	1.62 (1.00) 1.27 (0.94)	1.24 (1.00) 1.14 (0.94)	1.25 (1.00) 1.37 (0.77)	1.40 (1.00) 1.19 (0.44)
gold	ln2d	1.21 (1.00) 1.04 (0.34)	1.38 (1.00) 1.12 (0.68)	1.30 (1.00) 1.04 (0.53)	1.64 (1.00) 1.17 (0.90)	1.36 (1.00) 1.12 (0.93)	1.29 (1.00) 1.12 (0.47)	1.36 (1.00) 1.27 (0.50)
rgold	ln	1.05 (0.52) 0.84 (0.03)	1.10 (0.95) 1.34 (0.98)	1.25 (1.00) 1.10 (0.73)	1.29 (1.00) 1.29 (0.95)	1.29 (1.00) 1.25 (0.99)	1.12 (0.95) 1.39 (0.76)	1.37 (1.00) 1.13 (0.32)
rgold	ln1d	1.23 (0.98) 0.90 (0.06)	1.30 (1.00) 1.30 (0.89)	1.34 (1.00) 1.10 (0.72)	1.63 (1.00) 1.20 (0.82)	1.30 (1.00) 1.10 (0.82)	1.29 (1.00) 1.27 (0.61)	1.45 (1.00) 1.16 (0.35)
silver	ln1d	. (.) 0.95 (0.13)	. (.) 1.35 (0.91)	. (.) 1.17 (0.92)	. (.) 1.25 (0.85)	. (.) 1.12 (0.84)	. (.) 1.23 (0.57)	. (.) 1.04 (0.23)
silver	ln2d	. (.) 0.99 (0.16)	. (.) 1.21 (0.82)	. (.) 1.09 (0.89)	. (.) 1.25 (0.91)	. (.) 1.07 (0.68)	. (.) 1.22 (0.75)	. (.) 1.04 (0.17)
rsilver	ln	. (.) 1.09 (0.34)	. (.) 1.71 (1.00)	. (.) 1.22 (0.91)	. (.) 1.50 (0.98)	. (.) 1.10 (0.77)	. (.) 1.70 (0.90)	. (.) 0.97 (0.12)

rsilver	in1d	. (.) 0.93 (0.12)	. (.) 1.31 (0.87)	. (.) 1.17 (0.91)	. (.) 1.26 (0.86)	. (.) 1.10 (0.85)	. (.) 1.22 (0.51)	. (.) 1.02 (0.17)
rgdp	in1d	1.03 (0.56) 1.05 (0.55)	. (.) 1.06 (0.36)	1.11 (0.93) 1.02 (0.34)	0.90 (0.01) 0.74 (0.00)	0.72 (0.00) 0.79 (0.00)	1.05 (0.63) 0.88 (0.13)	0.85 (0.00) 1.63 (0.95)
rgdp	gap	1.01 (0.23) 1.09 (0.68)	. (.) 1.00 (0.18)	1.05 (0.41) 0.99 (0.22)	1.00 (0.16) 0.89 (0.05)	1.07 (0.60) 1.01 (0.21)	1.08 (0.89) 0.73 (0.04)	0.92 (0.01) 1.07 (0.28)
ip	in1d	. (.) . (.)	. (.) . (.)	. (.) . (.)	. (.) . (.)	. (.) . (.)	. (.) . (.)	. (.) . (.)
ip	gap	. (.) . (.)	. (.) . (.)	. (.) . (.)	. (.) . (.)	. (.) . (.)	. (.) . (.)	. (.) . (.)
capu	lev	1.09 (0.82) 1.20 (0.96)	. (.) 0.99 (0.09)	. (.) 0.90 (0.03)	. (.) 1.00 (0.19)	. (.) 1.01 (0.19)	. (.) . (.)	0.86 (0.00) 1.16 (0.52)
emp	in1d	1.00 (0.13) 1.09 (0.78)	. (.) 0.65 (0.01)	0.96 (0.04) 1.47 (1.00)	. (.) . (.)	1.09 (0.94) 1.07 (0.77)	0.94 (0.01) 1.32 (0.95)	1.01 (0.18) 0.97 (0.20)
emp	gap	1.04 (0.55) 0.99 (0.17)	. (.) 0.74 (0.01)	1.02 (0.21) 1.50 (1.00)	. (.) . (.)	1.07 (0.83) 1.01 (0.24)	0.92 (0.01) 1.32 (0.87)	1.11 (0.83) 0.99 (0.21)
unemp	lev	0.98 (0.05) 1.02 (0.29)	. (.) 1.05 (0.39)	1.36 (1.00) 1.08 (0.66)	1.02 (0.28) 0.85 (0.01)	1.15 (0.98) 0.92 (0.02)	1.03 (0.54) 0.94 (0.08)	1.02 (0.27) 0.98 (0.17)
unemp	1d	0.92 (0.00) 1.09 (0.80)	. (.) 0.98 (0.09)	1.09 (0.83) 1.09 (0.72)	1.03 (0.31) 0.86 (0.05)	1.02 (0.24) 1.06 (0.85)	1.04 (0.58) 0.98 (0.15)	0.95 (0.03) 1.07 (0.33)
unemp	gap	0.95 (0.02) 0.98 (0.12)	. (.) 0.93 (0.03)	1.13 (0.92) 1.02 (0.31)	0.99 (0.06) 0.87 (0.04)	0.97 (0.07) 0.93 (0.03)	0.86 (0.00) 1.00 (0.20)	0.91 (0.01) 1.10 (0.38)
pgdp	in1d	0.76 (0.00) 1.48 (1.00)	. (.) 1.64 (1.00)	0.94 (0.02) 1.09 (0.83)	0.85 (0.00) 1.32 (1.00)	0.92 (0.01) 1.30 (0.98)	0.95 (0.02) 1.28 (0.66)	0.91 (0.02) 1.42 (0.78)
pgdp	in2d	1.03 (0.48) 1.08 (0.85)	. (.) 1.15 (0.70)	1.00 (0.17) 1.04 (0.59)	1.03 (0.55) 1.00 (0.18)	0.91 (0.01) 0.92 (0.03)	1.02 (0.22) 1.05 (0.30)	1.03 (0.32) 1.10 (0.32)
cpi	in1d	0.81 (0.00) 1.36 (1.00)	0.92 (0.02) 1.81 (1.00)	0.88 (0.00) 1.30 (1.00)	0.92 (0.01) 1.45 (0.97)	0.82 (0.00) 1.31 (0.99)	1.12 (0.97) 1.19 (0.52)	1.09 (0.90) 1.21 (0.61)
cpi	in2d	1.03 (0.63) 1.09 (0.88)	1.04 (0.40) 1.04 (0.26)	1.02 (0.27) 0.94 (0.04)	1.19 (0.98) 1.04 (0.33)	0.67 (0.00) 0.96 (0.09)	1.10 (0.97) 1.04 (0.25)	1.07 (0.74) 1.17 (0.48)
ppi	in1d	0.95 (0.01) 1.40 (1.00)	. (.) . (.)	0.53 (0.00) 1.61 (1.00)	. (.) . (.)	0.79 (0.00) 1.34 (1.00)	1.06 (0.58) 1.29 (0.64)	1.04 (0.46) 1.44 (0.84)
ppi	in2d	1.15 (0.98) 1.09 (0.78)	. (.) . (.)	0.94 (0.03) 1.14 (0.95)	. (.) . (.)	1.32 (1.00) 1.07 (0.58)	1.19 (1.00) 0.97 (0.15)	1.20 (0.95) 1.25 (0.46)
earn	in1d	0.83 (0.00) 1.50 (1.00)	0.97 (0.07) 1.34 (0.96)	1.04 (0.45) 1.22 (0.98)	. (.) . (.)	1.20 (0.98) 1.02 (0.29)	0.90 (0.01) 1.47 (0.92)	0.92 (0.03) 1.67 (0.92)
earn	in2d	0.99 (0.10) 1.15 (1.00)	0.98 (0.10) 0.97 (0.14)	1.04 (0.49) 1.15 (0.96)	. (.) . (.)	1.24 (1.00) 0.97 (0.12)	1.18 (0.98) 1.03 (0.23)	1.00 (0.19) 1.24 (0.56)
oil	in1d	2.81 (1.00) 1.30 (1.00)	1.01 (0.50) 2.42 (1.00)	2.23 (1.00) 1.45 (1.00)	1.34 (1.00) 1.45 (0.97)	1.99 (1.00) 1.42 (1.00)	2.06 (1.00) 2.10 (1.00)	4.19 (1.00) 2.68 (0.99)
oil	in2d	3.15 (1.00) 1.18 (0.95)	3.30 (1.00) 1.75 (0.99)	3.29 (1.00) 1.12 (0.89)	3.84 (1.00) 1.23 (0.94)	3.68 (1.00) 1.25 (0.93)	2.24 (1.00) 1.88 (1.00)	4.33 (1.00) 3.00 (0.99)
oil	in	3.88 (1.00) 1.11 (0.73)	1.24 (1.00) 1.99 (1.00)	2.76 (1.00) 1.30 (0.98)	2.00 (1.00) 1.43 (0.96)	1.25 (1.00) 1.45 (1.00)	1.34 (1.00) 1.84 (0.99)	6.52 (1.00) 1.91 (0.94)
roil	in1d	3.11 (1.00) 1.26 (0.99)	0.95 (0.00) 2.33 (1.00)	3.84 (1.00) 1.43 (1.00)	1.32 (1.00) 1.36 (0.95)	1.36 (1.00) 1.37 (1.00)	2.10 (1.00) 2.07 (1.00)	6.51 (1.00) 2.62 (0.98)
comod	in1d	1.11 (0.98) 1.06 (0.61)	0.99 (0.08) 1.73 (1.00)	0.75 (0.00) 1.54 (1.00)	1.06 (0.75) 1.46 (1.00)	1.01 (0.19) 1.25 (1.00)	1.05 (0.80) 1.25 (0.90)	0.96 (0.03) 1.64 (0.98)
comod	in2d	1.07 (0.84) 1.04 (0.47)	1.12 (0.93) 1.34 (0.97)	1.02 (0.41) 1.16 (0.99)	1.02 (0.43) 1.39 (0.99)	1.21 (1.00) 0.98 (0.09)	0.98 (0.04) 1.30 (0.95)	1.04 (0.50) 1.49 (0.89)
comod	in	0.89 (0.00) 1.56 (1.00)	1.11 (0.84) 1.25 (0.93)	1.07 (0.70) 1.19 (0.94)	1.22 (1.00) 1.31 (0.95)	1.12 (0.97) 0.96 (0.11)	1.06 (0.73) 1.22 (0.77)	1.06 (0.63) 1.78 (0.98)
recomod	in1d	1.11 (0.96) 1.00 (0.17)	1.10 (0.91) 1.56 (0.99)	0.80 (0.00) 1.49 (1.00)	1.01 (0.28) 1.39 (0.99)	1.06 (0.80) 1.13 (0.96)	1.03 (0.54) 1.22 (0.81)	0.97 (0.06) 1.53 (0.92)
mon0	in1d	. (.) . (.)	. (.) . (.)	. (.) . (.)	. (.) . (.)	. (.) 1.05 (0.38)	. (.) . (.)	1.17 (0.98) 1.23 (0.70)
mon0	in2d	. (.) . (.)	. (.) . (.)	. (.) . (.)	. (.) . (.)	. (.) 1.09 (0.74)	. (.) . (.)	1.12 (0.97) 1.17 (0.65)
mon1	in1d	0.92 (0.00) 0.93 (0.05)	. (.) 1.04 (0.35)	1.00 (0.16) 1.37 (0.99)	0.92 (0.01) 0.95 (0.06)	1.26 (1.00) 0.95 (0.05)	. (.) . (.)	0.94 (0.02) 2.20 (1.00)
mon1	in2d	0.92 (0.00) 1.09 (0.82)	. (.) 0.95 (0.03)	1.19 (1.00) 1.07 (0.85)	0.91 (0.00) 1.05 (0.62)	1.18 (0.90) 1.05 (0.52)	. (.) . (.)	0.96 (0.02) 2.05 (1.00)
mon2	in1d	. (.) 1.29 (0.99)	. (.) . (.)	1.27 (1.00) 1.07 (0.68)	. (.) 1.45 (1.00)	. (.) 0.85 (0.00)	. (.) . (.)	0.98 (0.06) 2.29 (1.00)
mon2	in2d	. (.) 1.10 (0.69)	. (.) . (.)	1.13 (0.98) 1.07 (0.75)	. (.) 1.20 (0.98)	. (.) 1.04 (0.47)	. (.) . (.)	1.04 (0.68) 1.06 (0.32)
mon3	in1d	. (.) 1.22 (0.97)	0.97 (0.02) 1.15 (0.88)	. (.) 1.07 (0.74)	1.19 (0.99) 0.94 (0.09)	. (.) 0.98 (0.10)	. (.) . (.)	1.27 (1.00) 1.23 (0.69)
mon3	in2d	. (.) 1.01 (0.23)	0.99 (0.05) 1.10 (0.88)	. (.) 1.05 (0.53)	1.20 (1.00) 1.03 (0.34)	. (.) 1.05 (0.42)	. (.) . (.)	1.10 (0.94) 0.98 (0.20)
rmon0	in1d	. (.) . (.)	. (.) . (.)	. (.) . (.)	. (.) . (.)	. (.) 1.00 (0.15)	. (.) . (.)	0.97 (0.01) 2.71 (1.00)
rmon1	in1d	0.69 (0.00) 0.99 (0.18)	. (.) 0.88 (0.00)	0.84 (0.00) 1.60 (1.00)	0.75 (0.00) 0.98 (0.17)	0.92 (0.04) 1.05 (0.61)	. (.) . (.)	0.84 (0.00) 3.80 (1.00)
rmon2	in1d	. (.) 1.06 (0.47)	. (.) . (.)	1.32 (1.00) 1.16 (0.94)	. (.) 1.17 (0.93)	. (.) 0.73 (0.00)	. (.) . (.)	0.67 (0.00) 2.32 (1.00)
rmon3	in1d	. (.) 1.03 (0.25)	0.74 (0.00) 1.47 (1.00)	. (.) 1.06 (0.71)	0.86 (0.00) 1.01 (0.26)	. (.) 0.79 (0.00)	. (.) . (.)	0.90 (0.00) 2.04 (1.00)

Table B.19
MSFE of Bivariate Models Relative to Univariate AR Model and p-Values for Tests of Equal Forecast Accuracy
(Models with Fixed Lag Lengths)
Series = Inflation, GDP Deflator
Horizon = 4 Quarters

Indicator	Trans.	CN	FR	GY	IT	JP	UK	US
		71-84 85-99	71-84 85-99	71-84 85-99	71-84 85-99	71-84 85-99	71-84 85-99	71-84 85-99
rovnght	lev	. (.) 1.00 (0.14)	. (.) 1.92 (1.00)	0.84 (0.01) 0.91 (0.06)	. (.) 2.29 (0.99)	0.76 (0.00) 2.90 (0.99)	. (.) 1.37 (0.39)	1.09 (0.84) 1.13 (0.33)
rtbill	lev	0.90 (0.00) 0.95 (0.09)	. (.) 1.62 (0.98)	. (.) 0.93 (0.02)	. (.) 1.16 (0.88)	. (.) . (.)	1.57 (1.00) 1.34 (0.77)	1.03 (0.39) 1.08 (0.30)
rbnds	lev	. (.) . (.)	. (.) . (.)	. (.) . (.)	. (.) 1.36 (1.00)	. (.) . (.)	1.22 (0.95) 1.14 (0.37)	1.03 (0.35) 1.06 (0.32)
rbndm	lev	. (.) . (.)	. (.) . (.)	. (.) . (.)	1.21 (0.98) 1.28 (0.65)	. (.) . (.)	. (.) . (.)	1.02 (0.53) 0.97 (0.18)
rbndl	lev	1.04 (0.93) 0.88 (0.01)	. (.) 1.51 (0.99)	0.88 (0.01) 1.19 (0.95)	1.14 (0.88) 1.17 (0.54)	. (.) 2.44 (0.99)	0.99 (0.14) 1.03 (0.27)	1.03 (0.66) 0.95 (0.12)
rovnght	1d	. (.) 1.01 (0.18)	. (.) 1.31 (0.86)	0.93 (0.04) 0.87 (0.03)	. (.) 2.04 (1.00)	0.91 (0.02) 1.08 (0.28)	. (.) 1.09 (0.17)	1.39 (1.00) 0.94 (0.18)
rtbill	1d	1.11 (0.99) 0.96 (0.09)	. (.) 1.17 (0.82)	. (.) 0.85 (0.00)	. (.) 1.33 (1.00)	. (.) . (.)	1.12 (0.90) 1.43 (0.84)	1.18 (0.97) 1.01 (0.23)
rbnds	1d	. (.) . (.)	. (.) . (.)	. (.) . (.)	. (.) 1.33 (1.00)	. (.) . (.)	. (.) 1.10 (0.33)	1.23 (0.99) 0.98 (0.18)
rbndm	1d	. (.) . (.)	. (.) . (.)	. (.) . (.)	1.12 (0.94) 1.72 (0.98)	. (.) . (.)	. (.) . (.)	1.25 (1.00) 1.04 (0.27)
rbndl	1d	1.20 (1.00) 1.01 (0.28)	. (.) 1.24 (0.96)	1.25 (1.00) 1.04 (0.52)	1.10 (0.79) 1.32 (0.84)	. (.) 1.69 (0.89)	1.00 (0.16) 1.13 (0.39)	1.22 (1.00) 1.09 (0.46)
rovnght	lev	. (.) 1.17 (0.71)	. (.) 1.57 (0.98)	0.94 (0.06) 1.19 (0.86)	. (.) 1.14 (0.30)	1.18 (0.93) 1.13 (0.25)	. (.) 1.04 (0.11)	1.21 (0.99) 1.18 (0.45)
rtbill	lev	1.07 (0.55) 1.09 (0.41)	. (.) 1.32 (0.92)	. (.) 1.59 (0.98)	. (.) 0.95 (0.10)	. (.) . (.)	1.18 (0.99) 1.52 (0.86)	1.08 (0.81) 1.27 (0.64)
rbnds	lev	. (.) . (.)	. (.) . (.)	. (.) . (.)	. (.) 1.49 (0.98)	. (.) . (.)	1.14 (0.81) 1.48 (0.83)	1.04 (0.43) 1.45 (0.84)
rbndm	lev	. (.) . (.)	. (.) . (.)	. (.) . (.)	1.27 (0.99) 1.47 (0.77)	. (.) . (.)	. (.) . (.)	0.88 (0.00) 1.73 (0.97)
rbndl	lev	1.06 (0.78) 1.28 (0.93)	. (.) 1.46 (0.93)	1.17 (0.88) 1.06 (0.53)	1.19 (0.94) 1.43 (0.73)	. (.) 1.20 (0.52)	1.05 (0.71) 1.53 (0.86)	0.82 (0.00) 1.75 (0.95)
rovnght	1d	. (.) 0.98 (0.09)	. (.) 1.04 (0.28)	1.00 (0.14) 1.10 (0.86)	. (.) 1.30 (0.75)	1.06 (0.82) 1.06 (0.28)	. (.) 1.04 (0.17)	1.27 (1.00) 1.14 (0.51)
rtbill	1d	1.08 (0.98) 1.10 (0.87)	. (.) 1.04 (0.31)	. (.) 1.47 (1.00)	. (.) 1.16 (0.87)	. (.) . (.)	1.42 (1.00) 1.06 (0.25)	1.05 (0.92) 1.34 (0.95)
rbnds	1d	. (.) . (.)	. (.) . (.)	. (.) . (.)	. (.) 1.37 (0.99)	. (.) . (.)	. (.) 1.02 (0.18)	0.98 (0.05) 1.61 (0.99)
rbndm	1d	. (.) . (.)	. (.) . (.)	. (.) . (.)	1.06 (0.38) 1.18 (0.40)	. (.) . (.)	. (.) . (.)	0.76 (0.00) 1.95 (1.00)
rbndl	1d	1.02 (0.60) 1.27 (1.00)	. (.) 1.36 (0.93)	1.11 (0.90) 1.20 (0.99)	1.08 (0.59) 1.17 (0.36)	. (.) 1.29 (0.75)	1.19 (0.99) 1.01 (0.22)	0.71 (0.00) 1.95 (1.00)
rspread	lev	. (.) 1.10 (0.88)	. (.) 1.68 (0.98)	1.05 (0.31) 0.94 (0.07)	. (.) 2.23 (1.00)	. (.) 1.00 (0.22)	. (.) 1.28 (0.33)	1.20 (0.98) 1.42 (0.74)
exrate	ln1d	. (.) 1.22 (0.93)	. (.) 1.47 (0.96)	. (.) 1.09 (0.91)	. (.) 1.57 (1.00)	. (.) 1.15 (0.81)	. (.) 1.51 (0.93)	. (.) 1.05 (0.26)
rexrate	ln1d	. (.) . (.)	. (.) . (.)	. (.) . (.)	. (.) . (.)	. (.) . (.)	. (.) . (.)	. (.) . (.)
stockp	ln1d	0.95 (0.01) 1.30 (0.98)	. (.) 1.16 (0.76)	1.44 (1.00) 1.19 (0.97)	1.15 (0.96) 1.39 (0.95)	0.80 (0.00) 2.87 (1.00)	0.89 (0.00) 1.40 (0.80)	1.14 (0.99) 1.19 (0.70)
rstockp	ln1d	0.92 (0.00) 1.30 (0.99)	. (.) 1.16 (0.76)	1.43 (1.00) 1.21 (0.98)	1.10 (0.82) 1.71 (0.99)	0.72 (0.00) 2.92 (1.00)	0.97 (0.04) 1.41 (0.80)	1.10 (0.94) 1.24 (0.78)
divpr	ln	. (.) 1.65 (0.96)	. (.) 1.70 (1.00)	. (.) 1.57 (1.00)	. (.) 1.48 (0.89)	. (.) 2.29 (0.99)	. (.) 2.39 (0.99)	0.86 (0.00) 1.40 (0.81)
house	ln1d	. (.) 1.28 (0.92)	. (.) . (.)	. (.) . (.)	. (.) . (.)	. (.) 3.16 (1.00)	. (.) 1.18 (0.34)	0.98 (0.06) 0.98 (0.20)
rhouse	ln	. (.) 1.29 (0.89)	. (.) . (.)	. (.) . (.)	. (.) . (.)	. (.) 1.90 (0.95)	. (.) 1.67 (0.97)	1.03 (0.40) 1.03 (0.28)
rhouse	ln1d	. (.) 1.12 (0.62)	. (.) . (.)	. (.) . (.)	. (.) . (.)	. (.) 1.92 (0.97)	. (.) 1.12 (0.30)	0.82 (0.00) 1.02 (0.26)
gold	ln1d	1.26 (1.00) 0.83 (0.06)	. (.) 1.17 (0.72)	1.64 (1.00) 1.03 (0.44)	1.32 (0.99) 0.93 (0.15)	1.82 (1.00) 1.04 (0.23)	1.17 (0.94) 0.88 (0.14)	1.12 (0.99) 0.74 (0.04)
rgold	ln2d	1.43 (1.00) 1.06 (0.56)	. (.) 1.16 (0.69)	1.66 (1.00) 1.04 (0.51)	1.39 (1.00) 1.04 (0.32)	1.89 (1.00) 1.05 (0.31)	1.28 (1.00) 0.92 (0.12)	1.47 (1.00) 1.02 (0.26)
rgold	ln	1.12 (0.99) 0.90 (0.05)	. (.) 1.18 (0.72)	1.50 (1.00) 1.11 (0.75)	1.18 (0.93) 1.01 (0.20)	1.43 (1.00) 1.28 (0.57)	1.07 (0.74) 1.06 (0.27)	0.86 (0.00) 0.93 (0.14)
rgold	ln1d	1.18 (1.00) 0.80 (0.03)	. (.) 1.12 (0.58)	1.67 (1.00) 1.03 (0.39)	1.23 (0.98) 0.92 (0.16)	1.65 (1.00) 1.00 (0.22)	1.12 (0.92) 0.91 (0.16)	1.05 (0.72) 0.71 (0.04)
silver	ln1d	. (.) 0.98 (0.10)	. (.) 1.21 (0.82)	. (.) 1.12 (0.82)	. (.) 1.18 (0.72)	. (.) 1.16 (0.40)	. (.) 1.05 (0.20)	. (.) 0.93 (0.17)
silver	ln2d	. (.) 1.04 (0.44)	. (.) 1.30 (0.92)	. (.) 1.15 (0.95)	. (.) 1.36 (0.95)	. (.) 1.15 (0.66)	. (.) 1.10 (0.31)	. (.) 1.24 (0.57)
rsilver	ln	. (.) 1.20 (0.89)	. (.) 1.58 (0.97)	. (.) 1.14 (0.81)	. (.) 2.40 (1.00)	. (.) 1.57 (0.96)	. (.) 1.82 (0.88)	. (.) 1.40 (0.91)

rsilver	in1d	. (.) 0.96 (0.08)	. (.) 1.24 (0.85)	. (.) 1.13 (0.85)	. (.) 1.21 (0.80)	. (.) 1.14 (0.41)	. (.) 1.09 (0.28)	. (.) 0.90 (0.11)
rgdp	in1d	. (.) 0.87 (0.00) 0.97 (0.11)	. (.) 1.19 (0.83)	0.62 (0.00) 0.79 (0.01)	1.08 (0.60) 1.21 (0.45)	0.98 (0.11) 1.16 (0.43)	1.06 (0.65) 0.85 (0.12)	0.84 (0.00) 0.81 (0.04)
rgdp	gap	0.91 (0.00) 0.96 (0.09)	. (.) 1.52 (0.98)	0.90 (0.03) 0.77 (0.01)	0.91 (0.05) 1.16 (0.31)	1.04 (0.28) 0.83 (0.16)	0.99 (0.11) 0.96 (0.18)	0.85 (0.00) 1.12 (0.41)
ip	in1d	0.93 (0.00) 1.09 (0.75)	. (.) 1.36 (0.99)	0.66 (0.00) 0.92 (0.04)	1.15 (0.95) 0.88 (0.14)	0.99 (0.11) 1.18 (0.47)	1.05 (0.77) 1.03 (0.25)	0.77 (0.00) 0.99 (0.20)
ip	gap	0.93 (0.01) 1.14 (0.87)	. (.) 1.46 (0.99)	0.86 (0.01) 1.03 (0.31)	1.10 (0.70) 1.12 (0.29)	1.07 (0.47) 1.01 (0.26)	0.97 (0.03) 0.96 (0.20)	0.77 (0.00) 1.22 (0.60)
capu	lev	0.95 (0.03) 0.91 (0.05)	. (.) 1.80 (1.00)	. (.) 0.76 (0.00)	. (.) 1.20 (0.60)	. (.) 1.27 (0.68)	. (.) . (.)	0.68 (0.00) 0.89 (0.10)
emp	in1d	0.96 (0.01) 0.90 (0.05)	. (.) 1.87 (1.00)	0.59 (0.00) 1.61 (1.00)	. (.) . (.)	0.97 (0.09) 1.45 (0.73)	0.92 (0.00) 1.42 (0.92)	0.67 (0.00) 0.93 (0.14)
emp	gap	0.93 (0.01) 0.90 (0.03)	. (.) 2.06 (1.00)	0.72 (0.00) 1.82 (1.00)	. (.) . (.)	0.94 (0.05) 1.11 (0.30)	0.95 (0.03) 1.38 (0.88)	0.60 (0.00) 1.46 (0.88)
unemp	lev	0.97 (0.03) 0.89 (0.01)	. (.) 1.35 (0.96)	1.11 (0.80) 1.10 (0.59)	1.64 (1.00) 1.36 (0.58)	1.08 (0.85) 1.09 (0.29)	0.86 (0.00) 2.10 (1.00)	0.72 (0.00) 1.05 (0.31)
unemp	1d	0.97 (0.01) 0.92 (0.01)	. (.) 1.20 (0.84)	0.77 (0.00) 1.14 (0.81)	1.30 (0.97) 1.86 (0.92)	1.06 (0.79) 1.05 (0.30)	0.82 (0.00) 2.33 (1.00)	0.75 (0.00) 1.10 (0.42)
unemp	gap	0.93 (0.02) 0.86 (0.02)	. (.) 1.11 (0.55)	0.99 (0.18) 0.98 (0.18)	1.31 (0.82) 1.22 (0.30)	0.91 (0.03) 1.03 (0.19)	0.90 (0.01) 1.10 (0.34)	0.74 (0.00) 1.34 (0.78)
pgdp	in1d	. (.) . (.)	. (.) . (.)	. (.) . (.)	. (.) . (.)	. (.) . (.)	. (.) . (.)	. (.) . (.)
pgdp	in2d	. (.) . (.)	. (.) . (.)	. (.) . (.)	. (.) . (.)	. (.) . (.)	. (.) . (.)	. (.) . (.)
cpi	in1d	1.01 (0.24) 1.23 (0.95)	. (.) 1.30 (0.98)	1.21 (0.93) 1.37 (0.98)	1.28 (0.97) 1.22 (0.41)	0.87 (0.00) 1.88 (0.92)	1.10 (0.94) 1.18 (0.44)	0.80 (0.00) 1.54 (0.91)
cpi	in2d	1.05 (0.91) 1.19 (0.96)	. (.) 1.21 (0.99)	0.94 (0.01) 1.32 (0.99)	1.14 (0.77) 0.87 (0.17)	1.10 (0.97) 1.12 (0.39)	1.17 (1.00) 0.95 (0.17)	0.77 (0.00) 1.55 (0.97)
ppi	in1d	1.23 (0.99) 1.06 (0.44)	. (.) . (.)	0.91 (0.02) 1.21 (0.99)	. (.) . (.)	1.16 (0.97) 1.74 (0.84)	0.82 (0.00) 0.72 (0.07)	1.14 (0.97) 1.45 (0.84)
ppi	in2d	1.08 (0.94) 1.09 (0.79)	. (.) . (.)	0.91 (0.01) 1.09 (0.92)	. (.) . (.)	1.10 (0.96) 1.47 (0.87)	0.80 (0.00) 0.78 (0.06)	1.03 (0.67) 1.58 (0.99)
earn	in1d	1.00 (0.14) 1.19 (0.94)	. (.) 0.95 (0.10)	1.25 (0.97) 1.10 (0.70)	. (.) . (.)	1.50 (1.00) 1.28 (0.33)	1.00 (0.16) 1.37 (0.73)	0.95 (0.04) 1.36 (0.81)
earn	in2d	1.08 (0.97) 1.07 (0.78)	. (.) 0.94 (0.05)	1.30 (1.00) 1.06 (0.65)	. (.) . (.)	1.50 (1.00) 1.11 (0.33)	0.95 (0.01) 1.10 (0.35)	0.97 (0.06) 1.19 (0.75)
oil	in1d	6.04 (1.00) 0.84 (0.01)	. (.) 0.68 (0.00)	10.41 (1.00) 1.31 (0.95)	2.38 (1.00) 1.26 (0.82)	2.35 (1.00) 2.40 (0.85)	1.04 (0.81) 2.69 (0.98)	2.30 (1.00) 1.49 (0.93)
oil	in2d	4.26 (1.00) 1.13 (0.92)	. (.) 1.05 (0.35)	4.01 (1.00) 1.42 (1.00)	2.27 (1.00) 1.21 (0.98)	3.91 (1.00) 1.15 (0.41)	2.18 (1.00) 2.13 (1.00)	2.45 (1.00) 1.75 (0.95)
roil	in	5.37 (1.00) 0.82 (0.05)	. (.) 0.86 (0.06)	6.35 (1.00) 1.28 (0.96)	2.52 (1.00) 1.01 (0.24)	2.40 (1.00) 2.16 (0.88)	0.85 (0.00) 3.42 (1.00)	2.43 (1.00) 1.35 (0.86)
roil	in1d	4.95 (1.00) 0.84 (0.01)	. (.) 0.68 (0.00)	6.94 (1.00) 1.29 (0.96)	3.32 (1.00) 1.11 (0.43)	2.41 (1.00) 2.23 (0.83)	0.92 (0.00) 3.29 (1.00)	2.60 (1.00) 1.51 (0.94)
comod	in1d	1.02 (0.26) 0.97 (0.15)	. (.) 1.21 (0.68)	1.05 (0.50) 1.14 (0.92)	0.85 (0.01) 1.86 (0.98)	1.18 (0.97) 1.35 (0.75)	0.83 (0.00) 1.66 (0.94)	0.64 (0.00) 1.57 (0.99)
comod	in2d	1.07 (0.76) 0.99 (0.20)	. (.) 1.34 (1.00)	1.25 (0.99) 1.17 (0.94)	0.76 (0.00) 2.11 (1.00)	1.04 (0.47) 1.65 (0.88)	1.14 (0.99) 1.29 (0.85)	1.14 (1.00) 1.17 (0.78)
rcomod	in	0.89 (0.01) 1.04 (0.31)	. (.) 1.35 (0.82)	1.28 (0.99) 1.20 (0.90)	0.81 (0.00) 2.16 (0.99)	0.99 (0.16) 1.36 (0.85)	0.71 (0.00) 2.49 (1.00)	0.59 (0.00) 1.63 (0.96)
rcomod	in1d	0.97 (0.07) 0.97 (0.15)	. (.) 1.26 (0.79)	1.01 (0.20) 1.15 (0.95)	0.83 (0.00) 1.85 (0.98)	1.07 (0.83) 1.33 (0.85)	0.68 (0.00) 1.93 (0.99)	0.53 (0.00) 1.62 (0.97)
mon0	in1d	. (.) . (.)	. (.) . (.)	. (.) . (.)	. (.) . (.)	. (.) 1.27 (0.44)	. (.) . (.)	1.09 (0.99) 1.13 (0.73)
mon0	in2d	. (.) . (.)	. (.) . (.)	. (.) . (.)	. (.) . (.)	. (.) 1.46 (0.91)	. (.) . (.)	1.05 (0.89) 1.23 (0.94)
mon1	in1d	0.99 (0.12) 1.12 (0.78)	. (.) 0.96 (0.11)	1.16 (0.96) 1.09 (0.74)	0.88 (0.03) 1.25 (0.61)	1.15 (0.99) 1.28 (0.60)	. (.) . (.)	1.12 (1.00) 1.09 (0.76)
mon1	in2d	1.05 (0.99) 1.18 (1.00)	. (.) 0.96 (0.09)	1.19 (0.99) 1.03 (0.42)	0.92 (0.07) 1.20 (0.45)	1.25 (0.99) 1.14 (0.43)	. (.) . (.)	1.12 (1.00) 1.09 (0.82)
mon2	in1d	. (.) 1.05 (0.37)	. (.) . (.)	0.99 (0.11) 1.16 (0.97)	. (.) 1.96 (0.98)	. (.) 2.28 (0.99)	. (.) . (.)	1.12 (0.99) 1.14 (0.66)
mon2	in2d	. (.) 1.05 (0.46)	. (.) . (.)	1.08 (0.90) 1.11 (0.93)	. (.) 1.33 (0.95)	. (.) 1.51 (0.94)	. (.) . (.)	1.09 (0.97) 1.21 (0.83)
mon3	in1d	. (.) 1.09 (0.62)	. (.) 1.21 (0.80)	. (.) 1.04 (0.34)	1.05 (0.79) 1.33 (0.84)	. (.) 1.51 (0.85)	. (.) . (.)	1.05 (0.81) 1.01 (0.22)
mon3	in2d	. (.) 1.07 (0.63)	. (.) 1.01 (0.19)	. (.) 0.99 (0.07)	1.17 (0.98) 1.04 (0.28)	. (.) 1.46 (0.91)	. (.) . (.)	1.05 (0.96) 1.00 (0.24)
rmon0	in1d	. (.) . (.)	. (.) . (.)	. (.) . (.)	. (.) . (.)	. (.) 1.58 (0.92)	. (.) . (.)	0.92 (0.00) 1.62 (0.97)
rmon1	in1d	0.82 (0.00) 1.27 (0.99)	. (.) 1.07 (0.38)	1.22 (0.99) 0.91 (0.05)	0.78 (0.00) 1.18 (0.47)	0.68 (0.00) 1.40 (0.67)	. (.) . (.)	0.98 (0.04) 1.64 (1.00)
rmon2	in1d	. (.) 1.15 (0.70)	. (.) . (.)	0.89 (0.02) 1.15 (0.98)	. (.) 1.55 (0.98)	. (.) 1.74 (0.97)	. (.) . (.)	0.93 (0.01) 1.28 (0.82)
rmon3	in1d	. (.) 1.19 (0.78)	. (.) 1.24 (0.91)	. (.) 1.08 (0.71)	0.65 (0.00) 1.52 (0.91)	. (.) 1.08 (0.31)	. (.) . (.)	0.89 (0.00) 1.21 (0.70)

Table B.20
MSFE of Bivariate Models Relative to Univariate AR Model and p-Values for Tests of Equal Forecast Accuracy
(Models with Fixed Lag Lengths)
Series = CPI Inflation
Horizon = 4 Quarters

Indicator	Trans.	CN	FR	GY	IT	JP	UK	US
		71-84 85-99	71-84 85-99	71-84 85-99	71-84 85-99	71-84 85-99	71-84 85-99	71-84 85-99
rovnght	lev	. (.) 0.90 (0.01)	0.66 (0.00) 1.44 (0.94)	0.88 (0.00) 0.96 (0.03)	. (.) 2.49 (1.00)	0.86 (0.01) 2.46 (0.98)	. (.) 1.17 (0.29)	0.88 (0.00) 1.00 (0.21)
rtbill	lev	1.00 (0.18) 0.74 (0.00)	. (.) 2.06 (1.00)	. (.) 1.15 (0.98)	. (.) 0.93 (0.07)	. (.) . (.)	1.28 (1.00) 1.05 (0.29)	0.89 (0.00) 0.97 (0.15)
rbnds	lev	. (.) . (.)	. (.) . (.)	. (.) . (.)	. (.) 1.68 (0.99)	. (.) . (.)	1.06 (0.73) 0.92 (0.12)	0.97 (0.03) 0.98 (0.13)
rbndm	lev	. (.) . (.)	. (.) . (.)	. (.) . (.)	1.15 (1.00) 1.13 (0.55)	. (.) . (.)	. (.) . (.)	0.96 (0.01) 0.97 (0.13)
rbndl	lev	1.20 (1.00) 0.79 (0.00)	0.93 (0.01) 1.04 (0.31)	0.67 (0.00) 1.12 (0.99)	1.03 (0.56) 1.22 (0.81)	. (.) 3.68 (1.00)	0.92 (0.01) 1.10 (0.36)	0.95 (0.00) 0.97 (0.10)
rovnght	1d	. (.) 0.78 (0.00)	1.39 (0.99) 1.03 (0.24)	1.04 (0.43) 0.92 (0.00)	. (.) 1.67 (0.99)	1.04 (0.50) 0.97 (0.22)	. (.) 1.18 (0.30)	1.36 (1.00) 1.04 (0.34)
rtbill	1d	1.14 (0.98) 0.81 (0.02)	. (.) 1.07 (0.25)	. (.) 1.04 (0.81)	. (.) 1.09 (0.33)	. (.) . (.)	1.07 (0.94) 1.24 (0.83)	1.39 (1.00) 1.02 (0.27)
rbnds	1d	. (.) . (.)	. (.) . (.)	. (.) . (.)	. (.) 1.30 (0.87)	. (.) . (.)	. (.) 1.00 (0.21)	1.29 (1.00) 1.08 (0.55)
rbndm	1d	. (.) . (.)	. (.) . (.)	. (.) . (.)	1.07 (0.92) 1.68 (1.00)	. (.) . (.)	. (.) . (.)	1.05 (0.94) 1.21 (0.96)
rbndl	1d	1.41 (1.00) 0.90 (0.05)	0.97 (0.05) 1.46 (0.98)	1.00 (0.14) 1.00 (0.30)	1.05 (0.78) 1.46 (0.98)	. (.) 2.59 (0.98)	0.93 (0.01) 1.19 (0.74)	0.99 (0.06) 1.20 (0.97)
rrovnght	lev	. (.) 0.92 (0.02)	1.32 (0.99) 1.08 (0.27)	1.16 (0.90) 0.92 (0.04)	. (.) 1.11 (0.27)	1.13 (0.91) 1.14 (0.33)	. (.) 1.24 (0.32)	1.27 (1.00) 1.02 (0.28)
rtbill	lev	1.21 (0.92) 0.81 (0.04)	. (.) 1.28 (0.58)	. (.) 1.12 (0.88)	. (.) 0.84 (0.07)	. (.) . (.)	0.95 (0.01) 1.45 (0.96)	1.17 (0.98) 0.99 (0.20)
rbnds	lev	. (.) . (.)	. (.) . (.)	. (.) . (.)	. (.) 1.41 (0.69)	. (.) . (.)	0.99 (0.13) 1.20 (0.75)	1.16 (0.99) 1.06 (0.40)
rbndm	lev	. (.) . (.)	. (.) . (.)	. (.) . (.)	1.18 (0.99) 1.49 (0.93)	. (.) . (.)	. (.) . (.)	1.03 (0.37) 1.21 (0.88)
rbndl	lev	1.37 (1.00) 0.90 (0.04)	1.15 (0.93) 1.13 (0.58)	1.06 (0.44) 0.83 (0.00)	1.13 (0.97) 1.42 (0.86)	. (.) 1.42 (0.85)	0.71 (0.00) 1.31 (0.92)	0.98 (0.07) 1.22 (0.88)
rrovnght	1d	. (.) 0.78 (0.00)	1.39 (0.99) 1.03 (0.21)	1.04 (0.44) 0.92 (0.00)	. (.) 1.67 (1.00)	1.04 (0.54) 0.97 (0.19)	. (.) 1.18 (0.31)	1.39 (1.00) 1.04 (0.30)
rtbill	1d	1.14 (0.99) 0.81 (0.00)	. (.) 1.07 (0.22)	. (.) 1.04 (0.82)	. (.) 1.09 (0.36)	. (.) . (.)	1.07 (0.95) 1.24 (0.87)	1.36 (1.00) 1.02 (0.31)
rbnds	1d	. (.) . (.)	. (.) . (.)	. (.) . (.)	. (.) 1.30 (0.86)	. (.) . (.)	. (.) 1.00 (0.18)	1.29 (1.00) 1.08 (0.56)
rbndm	1d	. (.) . (.)	. (.) . (.)	. (.) . (.)	1.07 (0.89) 1.68 (1.00)	. (.) . (.)	. (.) . (.)	1.05 (0.93) 1.21 (0.96)
rbndl	1d	1.41 (1.00) 0.90 (0.04)	0.97 (0.05) 1.46 (0.98)	1.00 (0.13) 1.00 (0.23)	1.05 (0.79) 1.46 (0.98)	. (.) 2.59 (1.00)	0.93 (0.02) 1.19 (0.68)	0.99 (0.05) 1.20 (0.96)
rspread	lev	. (.) 1.00 (0.15)	1.16 (0.94) 1.44 (0.94)	1.11 (0.85) 0.96 (0.04)	. (.) 2.43 (1.00)	. (.) 1.02 (0.20)	. (.) 1.12 (0.18)	0.76 (0.00) 1.44 (0.98)
extrate	ln1d	. (.) 1.14 (0.96)	. (.) 1.00 (0.15)	. (.) 1.03 (0.51)	. (.) 1.54 (0.98)	. (.) 1.15 (0.75)	. (.) 1.36 (0.94)	. (.) 1.46 (1.00)
rexrate	ln1d	. (.) . (.)	. (.) . (.)	. (.) . (.)	. (.) . (.)	. (.) . (.)	. (.) . (.)	. (.) . (.)
stockp	ln1d	1.02 (0.29) 1.14 (0.92)	1.03 (0.36) 1.40 (0.96)	1.07 (0.85) 1.00 (0.19)	1.13 (0.92) 1.21 (0.59)	0.81 (0.00) 2.33 (0.98)	0.83 (0.00) 1.35 (0.93)	0.90 (0.00) 1.27 (0.99)
rstockp	ln1d	0.98 (0.05) 1.16 (0.91)	1.00 (0.18) 1.51 (0.99)	1.06 (0.81) 1.03 (0.54)	1.10 (0.85) 1.43 (0.90)	0.73 (0.00) 2.48 (0.98)	0.92 (0.00) 1.32 (0.86)	0.84 (0.00) 1.33 (1.00)
divpr	ln	. (.) 1.41 (0.99)	. (.) 1.81 (0.98)	. (.) 0.88 (0.01)	. (.) 1.73 (0.92)	. (.) 3.00 (0.99)	. (.) 2.10 (0.99)	0.85 (0.01) 1.36 (0.94)
house	ln1d	. (.) 1.14 (0.88)	. (.) . (.)	. (.) . (.)	. (.) . (.)	. (.) 4.47 (1.00)	. (.) 1.03 (0.24)	0.80 (0.00) 1.07 (0.74)
rhouse	ln	. (.) 1.15 (0.81)	. (.) . (.)	. (.) . (.)	. (.) . (.)	. (.) 3.58 (0.99)	. (.) 1.41 (0.95)	0.61 (0.00) 1.12 (0.79)
rhouse	ln1d	. (.) 1.10 (0.72)	. (.) . (.)	. (.) . (.)	. (.) . (.)	. (.) 3.08 (1.00)	. (.) 0.79 (0.04)	0.52 (0.00) 1.05 (0.56)
gold	ln1d	0.90 (0.01) 0.92 (0.02)	1.24 (1.00) 0.95 (0.17)	1.23 (0.99) 0.99 (0.12)	1.29 (1.00) 1.03 (0.25)	1.73 (1.00) 0.93 (0.20)	1.16 (0.98) 0.93 (0.15)	1.26 (0.98) 0.86 (0.10)
rgold	ln2d	1.21 (0.99) 1.07 (0.73)	1.28 (1.00) 0.99 (0.15)	1.18 (0.99) 1.00 (0.25)	1.48 (1.00) 1.14 (0.59)	1.70 (1.00) 1.01 (0.24)	1.21 (1.00) 1.03 (0.43)	1.28 (1.00) 1.01 (0.26)
rgold	ln	0.75 (0.00) 0.97 (0.09)	1.07 (0.94) 1.04 (0.34)	1.02 (0.21) 0.98 (0.09)	1.14 (0.99) 1.04 (0.23)	1.33 (1.00) 1.19 (0.39)	1.03 (0.49) 1.08 (0.37)	1.09 (0.84) 0.88 (0.10)
rgold	ln1d	0.82 (0.00) 0.90 (0.01)	1.18 (1.00) 0.96 (0.18)	1.19 (0.98) 0.97 (0.05)	1.20 (1.00) 1.05 (0.27)	1.59 (1.00) 0.87 (0.15)	1.08 (0.90) 0.91 (0.13)	1.19 (0.95) 0.81 (0.09)
silver	ln1d	. (.) 0.89 (0.00)	. (.) 1.10 (0.47)	. (.) 1.03 (0.73)	. (.) 1.04 (0.24)	. (.) 1.02 (0.22)	. (.) 0.91 (0.11)	. (.) 0.96 (0.14)
silver	ln2d	. (.) 1.00 (0.18)	. (.) 1.16 (0.84)	. (.) 1.03 (0.85)	. (.) 1.32 (0.77)	. (.) 0.99 (0.18)	. (.) 1.02 (0.25)	. (.) 1.10 (0.64)
rsilver	ln	. (.) 1.07 (0.57)	. (.) 1.77 (1.00)	. (.) 1.02 (0.36)	. (.) 2.45 (1.00)	. (.) 1.96 (1.00)	. (.) 1.43 (0.88)	. (.) 1.20 (0.79)

rsilver	in1d	. (.) 0.88 (0.00)	. (.) 1.10 (0.44)	. (.) 1.03 (0.70)	. (.) 1.08 (0.27)	. (.) 0.98 (0.12)	. (.) 0.90 (0.08)	. (.) 0.93 (0.09)
rgdp	in1d	. (.) 0.86 (0.00) 0.68 (0.00)	. (.) 1.09 (0.35)	0.81 (0.00) 0.90 (0.00)	0.89 (0.01) 0.91 (0.17)	0.79 (0.00) 1.82 (0.96)	0.94 (0.02) 0.82 (0.05)	0.77 (0.00) 0.83 (0.01)
rgdp	gap	0.93 (0.03) 0.76 (0.00)	. (.) 1.70 (0.96)	0.79 (0.00) 0.87 (0.00)	0.88 (0.01) 1.13 (0.33)	0.92 (0.01) 0.94 (0.20)	0.97 (0.05) 0.90 (0.09)	0.82 (0.00) 0.97 (0.14)
ip	in1d	0.76 (0.00) 0.84 (0.01)	0.94 (0.02) 0.92 (0.10)	0.85 (0.00) 1.03 (0.91)	0.90 (0.00) 0.78 (0.06)	0.78 (0.00) 1.65 (0.88)	1.01 (0.25) 0.94 (0.12)	0.73 (0.00) 0.92 (0.02)
ip	gap	0.83 (0.00) 0.89 (0.05)	0.97 (0.02) 1.09 (0.60)	0.81 (0.00) 0.99 (0.14)	0.91 (0.01) 1.05 (0.27)	0.86 (0.00) 1.07 (0.25)	0.99 (0.07) 0.89 (0.09)	0.71 (0.00) 0.96 (0.13)
capu	lev	0.83 (0.00) 0.64 (0.00)	. (.) 2.70 (1.00)	. (.) 0.90 (0.00)	. (.) 2.08 (0.99)	. (.) 2.07 (1.00)	. (.) . (.)	0.67 (0.00) 0.78 (0.00)
emp	in1d	0.80 (0.00) 0.71 (0.00)	. (.) 1.71 (0.96)	0.73 (0.00) 1.08 (0.87)	. (.) . (.)	0.81 (0.00) 1.95 (0.94)	0.84 (0.00) 1.06 (0.56)	0.66 (0.00) 0.80 (0.01)
emp	gap	0.84 (0.00) 0.73 (0.00)	. (.) 2.41 (1.00)	0.78 (0.00) 1.07 (0.86)	. (.) . (.)	0.87 (0.01) 1.07 (0.31)	0.83 (0.00) 1.16 (0.80)	0.61 (0.00) 0.99 (0.20)
unemp	lev	0.86 (0.00) 0.61 (0.00)	. (.) 2.13 (1.00)	0.70 (0.00) 0.84 (0.00)	1.00 (0.14) 1.28 (0.67)	0.88 (0.00) 1.99 (0.97)	0.89 (0.00) 0.99 (0.15)	0.75 (0.00) 0.82 (0.00)
unemp	1d	0.88 (0.00) 0.70 (0.00)	. (.) 1.04 (0.17)	0.68 (0.00) 0.84 (0.00)	0.99 (0.12) 1.45 (0.86)	0.87 (0.00) 1.98 (0.99)	0.84 (0.00) 1.35 (1.00)	0.72 (0.00) 0.86 (0.02)
unemp	gap	0.86 (0.00) 0.72 (0.00)	. (.) 1.12 (0.40)	0.81 (0.01) 0.90 (0.01)	0.98 (0.08) 1.09 (0.32)	0.83 (0.00) 1.16 (0.35)	0.83 (0.00) 1.06 (0.35)	0.67 (0.00) 0.95 (0.11)
pgdp	in1d	1.07 (0.83) 1.03 (0.43)	. (.) 2.24 (1.00)	1.10 (0.96) 1.01 (0.41)	1.02 (0.37) 1.08 (0.32)	1.13 (0.94) 1.43 (0.56)	0.92 (0.01) 1.22 (0.82)	0.97 (0.07) 1.04 (0.41)
pgdp	in2d	1.01 (0.29) 1.02 (0.69)	. (.) 1.23 (0.85)	1.07 (0.86) 1.01 (0.51)	0.95 (0.02) 1.04 (0.33)	1.02 (0.36) 1.20 (0.55)	1.00 (0.17) 1.06 (0.38)	1.11 (0.98) 1.01 (0.26)
cpi	in1d	. (.) . (.)	. (.) . (.)	. (.) . (.)	. (.) . (.)	. (.) . (.)	. (.) . (.)	. (.) . (.)
cpi	in2d	. (.) . (.)	. (.) . (.)	. (.) . (.)	. (.) . (.)	. (.) . (.)	. (.) . (.)	. (.) . (.)
ppi	in1d	0.94 (0.01) 0.85 (0.02)	. (.) . (.)	1.25 (1.00) 0.95 (0.02)	. (.) . (.)	1.07 (0.96) 1.29 (0.69)	0.89 (0.00) 1.08 (0.41)	1.08 (0.90) 1.13 (0.76)
ppi	in2d	0.86 (0.00) 0.86 (0.01)	. (.) . (.)	1.24 (0.99) 0.92 (0.01)	. (.) . (.)	0.76 (0.00) 1.24 (0.83)	0.89 (0.00) 1.04 (0.34)	1.06 (0.81) 1.19 (0.98)
earn	in1d	1.09 (0.91) 1.10 (0.86)	1.05 (0.76) 1.23 (0.82)	1.18 (0.98) 0.93 (0.00)	. (.) . (.)	1.49 (1.00) 1.13 (0.27)	0.93 (0.01) 1.11 (0.37)	1.04 (0.55) 1.05 (0.34)
earn	in2d	1.05 (0.81) 1.08 (0.94)	1.05 (0.98) 1.02 (0.27)	1.13 (0.99) 0.96 (0.01)	. (.) . (.)	1.36 (1.00) 1.05 (0.26)	0.90 (0.01) 1.08 (0.38)	1.10 (0.98) 0.99 (0.20)
oil	in1d	2.98 (1.00) 1.04 (0.67)	1.46 (1.00) 1.20 (0.91)	2.14 (1.00) 1.07 (0.96)	5.47 (1.00) 1.50 (0.97)	2.47 (1.00) 1.87 (0.79)	1.32 (1.00) 1.39 (0.92)	2.22 (1.00) 0.95 (0.05)
oil	in2d	1.45 (1.00) 1.06 (0.84)	1.49 (1.00) 1.27 (0.99)	1.96 (1.00) 1.06 (0.91)	2.80 (1.00) 1.48 (0.99)	2.81 (1.00) 0.86 (0.10)	1.98 (1.00) 1.24 (0.85)	2.32 (1.00) 1.27 (0.98)
roil	in	2.82 (1.00) 0.95 (0.11)	1.96 (1.00) 0.88 (0.10)	1.26 (0.98) 0.98 (0.07)	4.76 (1.00) 0.97 (0.18)	1.90 (1.00) 1.83 (0.76)	1.13 (0.99) 1.74 (1.00)	2.69 (1.00) 0.84 (0.03)
roil	in1d	2.23 (1.00) 1.04 (0.74)	1.76 (1.00) 1.19 (0.89)	1.47 (1.00) 1.07 (0.95)	5.04 (1.00) 1.40 (0.97)	2.57 (1.00) 1.68 (0.70)	1.23 (1.00) 1.61 (0.98)	2.31 (1.00) 0.96 (0.07)
comod	in1d	0.97 (0.01) 0.87 (0.00)	1.14 (0.95) 1.06 (0.33)	1.29 (1.00) 0.99 (0.13)	1.13 (0.81) 1.20 (0.43)	0.95 (0.03) 1.87 (0.96)	1.08 (0.82) 0.74 (0.06)	0.77 (0.00) 1.31 (1.00)
comod	in2d	1.16 (1.00) 1.01 (0.35)	1.07 (0.93) 1.09 (0.67)	1.28 (1.00) 0.94 (0.02)	1.14 (1.00) 1.35 (0.97)	0.84 (0.00) 1.95 (0.97)	1.20 (0.99) 1.04 (0.31)	0.82 (0.00) 1.56 (1.00)
rcomod	in	0.90 (0.01) 0.86 (0.01)	1.01 (0.19) 1.13 (0.47)	1.31 (0.98) 1.00 (0.17)	0.95 (0.04) 1.41 (0.76)	0.79 (0.00) 1.90 (0.98)	0.93 (0.03) 1.15 (0.67)	0.61 (0.00) 1.30 (0.96)
rcomod	in1d	0.85 (0.00) 0.86 (0.00)	1.05 (0.62) 1.11 (0.50)	1.28 (1.00) 0.97 (0.06)	0.98 (0.13) 1.34 (0.68)	0.79 (0.00) 1.95 (0.98)	0.96 (0.05) 0.69 (0.02)	0.64 (0.00) 1.25 (0.98)
mon0	in1d	. (.) . (.)	. (.) . (.)	. (.) . (.)	. (.) . (.)	. (.) 1.61 (0.73)	. (.) . (.)	1.05 (0.82) 1.08 (0.73)
mon0	in2d	. (.) . (.)	. (.) . (.)	. (.) . (.)	. (.) . (.)	. (.) 1.92 (0.95)	. (.) . (.)	1.05 (0.74) 1.15 (0.92)
mon1	in1d	1.28 (1.00) 1.05 (0.51)	. (.) 1.32 (0.30)	1.14 (0.95) 0.72 (0.00)	0.97 (0.06) 1.13 (0.40)	0.89 (0.04) 1.35 (0.63)	. (.) . (.)	0.99 (0.04) 1.16 (0.99)
mon1	in2d	1.20 (1.00) 1.02 (0.46)	. (.) 1.42 (0.88)	1.22 (1.00) 0.92 (0.04)	1.08 (0.99) 1.04 (0.31)	1.08 (0.63) 1.29 (0.67)	. (.) . (.)	1.02 (0.58) 1.13 (0.98)
mon2	in1d	. (.) 1.27 (1.00)	. (.) . (.)	0.80 (0.00) 0.96 (0.09)	. (.) 2.22 (0.99)	. (.) 2.79 (0.99)	. (.) . (.)	1.02 (0.56) 1.18 (0.95)
mon2	in2d	. (.) 1.23 (1.00)	. (.) . (.)	1.05 (0.72) 1.10 (0.92)	. (.) 1.55 (1.00)	. (.) 2.21 (0.97)	. (.) . (.)	1.15 (1.00) 0.99 (0.15)
mon3	in1d	. (.) 1.28 (1.00)	1.02 (0.36) 1.04 (0.29)	. (.) 1.08 (0.97)	1.15 (1.00) 1.28 (0.77)	. (.) 2.36 (0.94)	. (.) . (.)	1.03 (0.38) 1.06 (0.49)
mon3	in2d	. (.) 1.24 (1.00)	1.07 (0.93) 0.98 (0.19)	. (.) 1.05 (1.00)	1.11 (1.00) 1.01 (0.21)	. (.) 2.30 (0.96)	. (.) . (.)	1.05 (0.89) 1.03 (0.41)
rmon0	in1d	. (.) . (.)	. (.) . (.)	. (.) . (.)	. (.) . (.)	. (.) 2.03 (0.97)	. (.) . (.)	0.73 (0.00) 1.38 (1.00)
rmon1	in1d	1.06 (0.81) 1.12 (0.89)	. (.) 1.35 (0.80)	1.04 (0.60) 0.65 (0.00)	0.91 (0.00) 0.92 (0.12)	0.41 (0.00) 1.27 (0.51)	. (.) . (.)	0.68 (0.00) 1.61 (1.00)
rmon2	in1d	. (.) 1.25 (0.97)	. (.) . (.)	0.62 (0.00) 0.83 (0.00)	. (.) 1.72 (0.99)	. (.) 2.22 (0.99)	. (.) . (.)	0.77 (0.00) 1.05 (0.54)
rmon3	in1d	. (.) 1.26 (0.98)	0.93 (0.01) 0.98 (0.16)	. (.) 0.95 (0.01)	0.79 (0.00) 1.32 (0.84)	. (.) 1.63 (0.96)	. (.) . (.)	0.74 (0.00) 1.15 (0.90)

Table B.21
MSFE of Bivariate Models Relative to Univariate AR Model and p-Values for Tests of Equal Forecast Accuracy
(Models with Fixed Lag Lengths)
Series = Real GDP
Horizon = 4 Quarters

Indicator	Trans.	CN	FR	GY	IT	JP	UK	US
rovnrght	lev	71-84 85-99 . (.) 1.09 (0.60)	71-84 85-99 . (.) 1.19 (0.85)	71-84 85-99 0.33 (0.00) 1.50 (1.00)	71-84 85-99 . (.) 1.56 (1.00)	71-84 85-99 0.96 (0.08) 0.87 (0.03)	71-84 85-99 . (.) 0.96 (0.11)	71-84 85-99 0.66 (0.00) 1.26 (0.91)
rtbill	lev	0.45 (0.00) 0.87 (0.01)	. (.) 1.25 (0.95)	. (.) 1.30 (0.99)	. (.) 1.28 (1.00)	. (.) . (.)	0.98 (0.16) 1.00 (0.16)	0.81 (0.00) 1.16 (0.76)
rbnds	lev	. (.) . (.)	. (.) . (.)	. (.) . (.)	. (.) 1.26 (1.00)	. (.) . (.)	1.16 (0.83) 0.99 (0.18)	0.83 (0.00) 1.29 (0.91)
rbndm	lev	. (.) . (.)	. (.) . (.)	. (.) . (.)	1.06 (0.64) 1.58 (1.00)	. (.) . (.)	. (.) . (.)	0.90 (0.00) 1.38 (0.95)
rbndl	lev	0.63 (0.00) 1.11 (0.86)	. (.) 1.48 (1.00)	0.52 (0.00) 2.03 (1.00)	1.04 (0.50) 1.73 (1.00)	. (.) 1.04 (0.45)	0.89 (0.00) 1.09 (0.71)	0.90 (0.00) 1.49 (0.96)
rovnrght	1d	. (.) 0.78 (0.00)	. (.) 0.94 (0.09)	0.72 (0.00) 1.23 (1.00)	. (.) 0.99 (0.16)	0.89 (0.07) 1.02 (0.31)	. (.) 0.98 (0.11)	0.76 (0.00) 1.55 (1.00)
rtbill	1d	0.87 (0.01) 0.85 (0.01)	. (.) 1.00 (0.17)	. (.) 1.34 (0.97)	. (.) 0.78 (0.00)	. (.) . (.)	1.02 (0.25) 0.96 (0.10)	0.95 (0.01) 1.60 (1.00)
rbnds	1d	. (.) . (.)	. (.) . (.)	. (.) . (.)	. (.) 1.06 (0.75)	. (.) . (.)	. (.) 0.85 (0.01)	0.90 (0.00) 1.86 (1.00)
rbndm	1d	. (.) . (.)	. (.) . (.)	. (.) . (.)	1.29 (1.00) 1.46 (1.00)	. (.) . (.)	. (.) . (.)	0.93 (0.00) 1.97 (1.00)
rbndl	1d	0.90 (0.02) 1.25 (0.99)	. (.) 1.08 (0.66)	0.75 (0.00) 1.65 (1.00)	1.41 (1.00) 1.37 (1.00)	. (.) 1.24 (0.99)	0.94 (0.01) 0.93 (0.03)	0.95 (0.02) 2.08 (1.00)
rovnrght	lev	. (.) 0.77 (0.00)	. (.) 0.84 (0.03)	0.68 (0.00) 1.46 (1.00)	. (.) 0.99 (0.13)	1.04 (0.27) 1.08 (0.50)	. (.) 0.97 (0.13)	1.30 (1.00) 1.17 (0.59)
rtbill	lev	0.99 (0.10) 0.66 (0.00)	. (.) 0.86 (0.02)	. (.) 1.38 (1.00)	. (.) 0.86 (0.03)	. (.) . (.)	1.62 (1.00) 1.07 (0.43)	1.36 (0.98) 1.17 (0.46)
rbnds	lev	. (.) . (.)	. (.) . (.)	. (.) . (.)	. (.) 1.05 (0.26)	. (.) . (.)	1.23 (0.97) 1.03 (0.27)	1.27 (0.97) 1.17 (0.48)
rbndm	lev	. (.) . (.)	. (.) . (.)	. (.) . (.)	1.08 (0.55) 1.15 (0.61)	. (.) . (.)	. (.) . (.)	1.21 (0.94) 1.32 (0.79)
rbndl	lev	0.99 (0.11) 1.15 (0.97)	. (.) 1.08 (0.41)	0.93 (0.03) 1.72 (1.00)	1.05 (0.40) 1.23 (0.79)	. (.) 1.02 (0.23)	1.18 (0.97) 0.95 (0.15)	1.22 (0.96) 1.39 (0.84)
rovnrght	1d	. (.) 0.91 (0.01)	. (.) 0.91 (0.05)	0.82 (0.00) 1.54 (1.00)	. (.) 1.19 (0.82)	1.09 (0.74) 1.01 (0.24)	. (.) 1.07 (0.53)	1.23 (1.00) 1.23 (0.79)
rtbill	1d	0.98 (0.08) 1.00 (0.24)	. (.) 0.89 (0.03)	. (.) 1.50 (1.00)	. (.) 1.02 (0.33)	. (.) . (.)	1.73 (1.00) 1.07 (0.68)	1.35 (0.98) 1.02 (0.28)
rbnds	1d	. (.) . (.)	. (.) . (.)	. (.) . (.)	. (.) 1.00 (0.17)	. (.) . (.)	. (.) 1.09 (0.64)	1.34 (0.98) 1.02 (0.27)
rbndm	1d	. (.) . (.)	. (.) . (.)	. (.) . (.)	1.16 (0.93) 1.00 (0.23)	. (.) . (.)	. (.) . (.)	1.29 (0.98) 1.02 (0.23)
rbndl	1d	1.05 (0.74) 1.08 (0.94)	. (.) 1.17 (0.87)	1.02 (0.38) 1.60 (1.00)	1.15 (0.93) 0.99 (0.21)	. (.) 0.99 (0.17)	1.22 (0.99) 1.06 (0.49)	1.26 (0.96) 1.03 (0.24)
rspread	lev	. (.) 1.07 (0.43)	. (.) 1.10 (0.79)	0.48 (0.00) 1.21 (0.94)	. (.) 1.19 (0.74)	. (.) 0.99 (0.17)	. (.) 1.03 (0.19)	0.47 (0.00) 2.45 (1.00)
extrate	ln1d	. (.) 0.96 (0.03)	. (.) 1.28 (1.00)	. (.) 1.28 (0.99)	. (.) 1.37 (1.00)	. (.) 1.01 (0.29)	. (.) 1.36 (0.99)	. (.) 1.67 (0.99)
rexrate	ln1d	. (.) . (.)	. (.) . (.)	. (.) . (.)	. (.) . (.)	. (.) . (.)	. (.) . (.)	. (.) . (.)
stockp	ln1d	0.96 (0.04) 0.98 (0.09)	. (.) 1.10 (0.87)	0.83 (0.01) 1.65 (1.00)	1.15 (0.99) 1.09 (0.90)	0.99 (0.12) 1.14 (0.88)	0.90 (0.00) 0.91 (0.02)	0.92 (0.00) 1.26 (0.97)
rstockp	ln1d	0.90 (0.01) 1.02 (0.43)	. (.) 1.12 (0.92)	0.78 (0.00) 1.73 (1.00)	1.16 (0.98) 1.09 (0.88)	0.99 (0.14) 1.15 (0.90)	0.77 (0.00) 0.90 (0.02)	0.83 (0.00) 1.49 (1.00)
divpr	ln	. (.) 0.89 (0.02)	. (.) 1.03 (0.26)	. (.) 1.47 (1.00)	. (.) 1.89 (1.00)	. (.) 1.31 (0.97)	. (.) 1.04 (0.35)	0.93 (0.02) 1.34 (0.90)
house	ln1d	. (.) 1.34 (1.00)	. (.) . (.)	. (.) . (.)	. (.) . (.)	. (.) 1.24 (0.94)	. (.) 1.29 (0.87)	1.02 (0.28) 1.00 (0.21)
rhouse	ln	. (.) 0.90 (0.01)	. (.) . (.)	. (.) . (.)	. (.) . (.)	. (.) 0.96 (0.08)	. (.) 1.61 (0.99)	0.96 (0.02) 1.16 (0.65)
rhouse	ln1d	. (.) 1.22 (0.99)	. (.) . (.)	. (.) . (.)	. (.) . (.)	. (.) 1.14 (0.92)	. (.) 1.28 (0.95)	0.92 (0.01) 0.84 (0.07)
gold	ln1d	1.22 (0.93) 0.89 (0.03)	. (.) 1.43 (0.99)	1.33 (0.99) 1.19 (0.85)	1.46 (1.00) 1.19 (0.86)	1.89 (1.00) 1.09 (0.86)	1.08 (0.81) 1.41 (0.97)	1.27 (0.99) 1.15 (0.48)
gold	ln2d	1.11 (0.93) 0.99 (0.20)	. (.) 1.24 (0.99)	1.44 (1.00) 1.02 (0.30)	1.51 (1.00) 1.05 (0.66)	1.74 (1.00) 1.02 (0.68)	1.40 (1.00) 1.06 (0.50)	1.42 (1.00) 1.08 (0.48)
rgold	ln	0.76 (0.00) 0.88 (0.03)	. (.) 2.07 (1.00)	1.08 (0.64) 1.42 (0.98)	1.06 (0.35) 1.27 (0.92)	1.57 (1.00) 1.34 (1.00)	0.94 (0.04) 1.45 (0.96)	1.13 (0.82) 0.98 (0.19)
rgold	ln1d	1.19 (0.88) 0.87 (0.05)	. (.) 1.37 (0.97)	1.43 (1.00) 1.15 (0.80)	1.52 (1.00) 1.07 (0.50)	1.97 (1.00) 1.07 (0.79)	1.10 (0.86) 1.39 (0.98)	1.35 (0.98) 1.12 (0.37)
silver	ln1d	. (.) 0.91 (0.11)	. (.) 1.48 (1.00)	. (.) 1.13 (0.75)	. (.) 1.06 (0.56)	. (.) 1.08 (0.91)	. (.) 1.26 (0.92)	. (.) 1.03 (0.23)
silver	ln2d	. (.) 1.01 (0.21)	. (.) 1.14 (0.95)	. (.) 1.05 (0.53)	. (.) 1.08 (0.85)	. (.) 1.03 (0.87)	. (.) 1.05 (0.47)	. (.) 1.02 (0.22)
rsilver	ln	. (.) 1.43 (0.95)	. (.) 2.11 (1.00)	. (.) 1.41 (0.96)	. (.) 1.52 (0.96)	. (.) 0.87 (0.00)	. (.) 1.72 (0.99)	. (.) 1.19 (0.38)
rsilver	ln1d	. (.) 0.91 (0.10)	. (.) 1.44 (0.99)	. (.) 1.13 (0.76)	. (.) 1.07 (0.55)	. (.) 1.06 (0.83)	. (.) 1.28 (0.94)	. (.) 1.02 (0.23)

Table B.22
MSFE of Bivariate Models Relative to Univariate AR Model and p-Values for Tests of Equal Forecast Accuracy
(Models with Fixed Lag Lengths)
Series = IP
Horizon = 4 Quarters

Indicator	Trans.	CN	FR	GY	IT	JP	UK	US
		71-84 85-99	71-84 85-99	71-84 85-99	71-84 85-99	71-84 85-99	71-84 85-99	71-84 85-99
rovngh	lev	. (.) 0.94 (0.08)	1.18 (0.89) 1.12 (0.73)	0.39 (0.00) 0.90 (0.02)	. (.) 1.23 (1.00)	0.90 (0.02) 0.92 (0.06)	. (.) 0.89 (0.09)	0.80 (0.00) 0.92 (0.14)
rtbill	lev	0.68 (0.00) 0.63 (0.00)	. (.) 1.12 (0.64)	. (.) 0.83 (0.00)	. (.) 1.31 (0.87)	. (.) . (.)	0.96 (0.06) 1.06 (0.34)	0.99 (0.06) 0.81 (0.03)
rbnds	lev	. (.) . (.)	. (.) . (.)	. (.) . (.)	. (.) 1.15 (0.96)	. (.) . (.)	1.15 (0.83) 1.16 (0.54)	0.93 (0.01) 1.06 (0.33)
rbndm	lev	. (.) . (.)	. (.) . (.)	. (.) . (.)	0.80 (0.00) 1.38 (1.00)	. (.) . (.)	. (.) . (.)	0.96 (0.02) 1.38 (0.92)
rbndl	lev	0.76 (0.00) 1.10 (0.65)	0.67 (0.00) 1.46 (1.00)	0.61 (0.00) 1.33 (1.00)	0.75 (0.00) 1.43 (1.00)	. (.) 1.40 (0.99)	0.89 (0.00) 1.23 (0.78)	0.97 (0.03) 1.52 (0.97)
rovngh	1d	. (.) 0.80 (0.01)	1.13 (0.87) 0.87 (0.04)	0.81 (0.00) 1.06 (0.80)	. (.) 0.71 (0.00)	0.83 (0.00) 0.98 (0.19)	. (.) 0.88 (0.08)	0.85 (0.00) 1.44 (0.97)
rtbill	1d	0.83 (0.00) 1.17 (0.91)	. (.) 0.85 (0.03)	. (.) 1.06 (0.70)	. (.) 0.52 (0.00)	. (.) . (.)	1.01 (0.27) 0.84 (0.03)	0.97 (0.02) 1.52 (0.99)
rbnds	1d	. (.) . (.)	. (.) . (.)	. (.) . (.)	. (.) 0.82 (0.00)	. (.) . (.)	. (.) 0.84 (0.03)	0.85 (0.00) 2.02 (1.00)
rbndm	1d	. (.) . (.)	. (.) . (.)	. (.) . (.)	0.94 (0.01) 1.48 (1.00)	. (.) . (.)	. (.) . (.)	0.89 (0.00) 2.45 (1.00)
rbndl	1d	0.79 (0.00) 1.62 (1.00)	0.96 (0.06) 1.31 (0.98)	0.82 (0.01) 1.16 (0.97)	1.02 (0.25) 1.32 (0.99)	. (.) 1.30 (1.00)	0.85 (0.00) 0.96 (0.13)	0.94 (0.00) 2.55 (1.00)
rrovngh	lev	. (.) 0.84 (0.03)	1.34 (0.97) 0.85 (0.05)	0.73 (0.00) 1.06 (0.66)	. (.) 1.05 (0.22)	0.75 (0.00) 1.18 (0.93)	. (.) 1.01 (0.16)	1.37 (1.00) 1.08 (0.35)
rtbill	lev	1.08 (0.70) 1.01 (0.22)	. (.) 0.87 (0.07)	. (.) 1.23 (0.99)	. (.) 1.02 (0.22)	. (.) . (.)	1.37 (1.00) 1.13 (0.51)	1.34 (0.99) 1.13 (0.31)
rbnds	lev	. (.) . (.)	. (.) . (.)	. (.) . (.)	. (.) 1.00 (0.17)	. (.) . (.)	1.25 (0.97) 1.04 (0.24)	1.29 (0.97) 1.18 (0.37)
rbndm	lev	. (.) . (.)	. (.) . (.)	. (.) . (.)	1.07 (0.57) 1.39 (0.86)	. (.) . (.)	. (.) . (.)	1.24 (0.95) 1.34 (0.62)
rbndl	lev	0.91 (0.00) 1.64 (1.00)	1.15 (0.87) 1.11 (0.51)	0.88 (0.02) 1.51 (1.00)	1.07 (0.65) 1.41 (0.92)	. (.) 1.07 (0.71)	1.09 (0.85) 1.01 (0.24)	1.24 (0.95) 1.38 (0.67)
rrovngh	1d	. (.) 1.02 (0.19)	1.06 (0.44) 0.91 (0.07)	0.86 (0.00) 1.39 (1.00)	. (.) 0.98 (0.13)	0.96 (0.08) 0.97 (0.16)	. (.) 1.11 (0.47)	1.25 (1.00) 1.26 (0.83)
rtbill	1d	1.01 (0.24) 1.11 (0.86)	. (.) 0.92 (0.09)	. (.) 1.64 (1.00)	. (.) 0.86 (0.00)	. (.) . (.)	1.60 (1.00) 1.16 (0.80)	1.31 (0.99) 1.05 (0.30)
rbnds	1d	. (.) . (.)	. (.) . (.)	. (.) . (.)	. (.) 0.91 (0.02)	. (.) . (.)	. (.) 1.10 (0.52)	1.28 (0.95) 1.06 (0.31)
rbndm	1d	. (.) . (.)	. (.) . (.)	. (.) . (.)	1.16 (0.94) 1.05 (0.37)	. (.) . (.)	. (.) . (.)	1.25 (0.93) 1.02 (0.24)
rbndl	1d	1.06 (0.88) 1.06 (0.81)	1.07 (0.72) 1.05 (0.41)	0.96 (0.03) 1.39 (1.00)	1.16 (0.95) 1.06 (0.34)	. (.) 0.99 (0.14)	1.13 (0.97) 1.05 (0.34)	1.22 (0.91) 1.01 (0.23)
rspread	lev	. (.) 1.01 (0.12)	1.15 (0.72) 1.04 (0.29)	0.51 (0.00) 0.92 (0.05)	. (.) 1.31 (0.87)	. (.) 1.00 (0.20)	. (.) 1.01 (0.20)	0.44 (0.00) 2.63 (1.00)
extrate	ln1d	. (.) 1.02 (0.20)	. (.) 1.23 (0.97)	. (.) 1.27 (0.99)	. (.) 1.37 (0.99)	. (.) 1.14 (0.98)	. (.) 1.59 (1.00)	. (.) 1.72 (1.00)
rexrate	ln1d	. (.) . (.)	. (.) . (.)	. (.) . (.)	. (.) . (.)	. (.) . (.)	. (.) . (.)	. (.) . (.)
stockp	ln1d	0.92 (0.01) 1.12 (0.89)	1.00 (0.18) 1.23 (0.90)	0.80 (0.01) 1.30 (0.99)	1.16 (0.96) 1.09 (0.59)	1.02 (0.28) 0.83 (0.00)	0.74 (0.00) 1.00 (0.23)	0.71 (0.00) 1.90 (1.00)
rstockp	ln1d	0.88 (0.00) 1.12 (0.89)	0.92 (0.04) 1.37 (0.97)	0.75 (0.00) 1.34 (0.99)	1.13 (0.87) 1.12 (0.75)	0.94 (0.01) 0.92 (0.03)	0.61 (0.00) 1.06 (0.68)	0.60 (0.00) 2.24 (1.00)
divpr	ln	. (.) 0.93 (0.04)	. (.) 1.20 (0.68)	. (.) 1.24 (0.96)	. (.) 1.97 (1.00)	. (.) 1.03 (0.35)	. (.) 1.09 (0.49)	0.64 (0.00) 1.85 (0.99)
house	ln1d	. (.) 1.97 (1.00)	. (.) . (.)	. (.) . (.)	. (.) . (.)	. (.) 1.41 (0.97)	. (.) 1.26 (0.75)	0.98 (0.08) 1.05 (0.30)
rhouse	ln	. (.) 1.83 (1.00)	. (.) . (.)	. (.) . (.)	. (.) . (.)	. (.) 1.02 (0.22)	. (.) 1.51 (0.98)	0.81 (0.00) 1.72 (1.00)
rhouse	ln1d	. (.) 1.75 (1.00)	. (.) . (.)	. (.) . (.)	. (.) . (.)	. (.) 1.32 (0.99)	. (.) 1.30 (0.91)	0.83 (0.00) 1.08 (0.40)
gold	ln1d	1.21 (0.98) 0.98 (0.18)	1.28 (1.00) 1.53 (0.97)	1.40 (1.00) 1.19 (0.87)	1.50 (1.00) 1.26 (0.89)	1.45 (1.00) 1.15 (0.89)	1.14 (0.95) 1.61 (0.94)	1.42 (1.00) 1.18 (0.43)
gold	ln2d	1.08 (0.90) 1.07 (0.69)	1.50 (1.00) 1.06 (0.67)	1.41 (1.00) 1.03 (0.45)	1.66 (1.00) 1.04 (0.47)	1.61 (1.00) 1.05 (0.84)	1.28 (1.00) 1.06 (0.40)	1.56 (1.00) 1.09 (0.38)
rgold	ln	0.92 (0.05) 0.74 (0.01)	0.94 (0.02) 1.41 (0.98)	1.27 (0.99) 1.18 (0.83)	1.29 (1.00) 1.31 (0.94)	1.42 (1.00) 1.39 (1.00)	0.91 (0.03) 1.53 (0.87)	1.32 (1.00) 1.02 (0.24)
rgold	ln1d	1.21 (0.97) 0.92 (0.13)	1.32 (1.00) 1.38 (0.95)	1.49 (1.00) 1.16 (0.79)	1.56 (1.00) 1.09 (0.44)	1.54 (1.00) 1.09 (0.79)	1.20 (0.97) 1.50 (0.90)	1.53 (1.00) 1.12 (0.33)
silver	ln1d	. (.) 0.91 (0.12)	. (.) 1.48 (0.95)	. (.) 1.22 (0.91)	. (.) 1.13 (0.65)	. (.) 1.13 (0.86)	. (.) 1.40 (0.88)	. (.) 1.05 (0.22)
silver	ln2d	. (.) 1.00 (0.16)	. (.) 1.11 (0.64)	. (.) 1.09 (0.81)	. (.) 1.12 (0.82)	. (.) 1.05 (0.63)	. (.) 1.11 (0.51)	. (.) 1.01 (0.17)
rsilver	ln	. (.) 1.23 (0.72)	. (.) 2.22 (1.00)	. (.) 1.34 (0.93)	. (.) 1.74 (1.00)	. (.) 1.04 (0.41)	. (.) 1.91 (0.96)	. (.) 0.98 (0.18)

rsilver	ln1d	. (.) 0.88 (0.11)	. (.) 1.42 (0.93)	. (.) 1.22 (0.90)	. (.) 1.11 (0.49)	. (.) 1.10 (0.84)	. (.) 1.43 (0.88)	. (.) 1.03 (0.18)
rgdp	ln1d	1.05 (0.92) 1.06 (0.70)	. (.) 1.31 (0.99)	1.17 (0.96) 1.00 (0.22)	0.95 (0.02) 0.89 (0.04)	0.58 (0.00) 0.73 (0.00)	0.88 (0.00) 1.02 (0.28)	0.91 (0.00) 1.53 (0.96)
rgdp	gap	1.04 (0.57) 1.05 (0.41)	. (.) 1.12 (0.57)	1.11 (0.68) 0.98 (0.16)	1.03 (0.48) 0.99 (0.15)	1.06 (0.47) 1.05 (0.36)	0.93 (0.01) 0.68 (0.00)	0.96 (0.07) 1.10 (0.35)
ip	ln1d	. (.) . (.)	. (.) . (.)	. (.) . (.)	. (.) . (.)	. (.) . (.)	. (.) . (.)	. (.) . (.)
ip	gap	. (.) . (.)	. (.) . (.)	. (.) . (.)	. (.) . (.)	. (.) . (.)	. (.) . (.)	. (.) . (.)
capu	lev	0.95 (0.03) 1.26 (0.96)	. (.) 1.02 (0.21)	. (.) 1.04 (0.25)	. (.) 0.91 (0.08)	. (.) 0.98 (0.14)	. (.) . (.)	0.89 (0.01) 0.80 (0.07)
emp	ln1d	0.91 (0.00) 1.23 (0.99)	. (.) 0.82 (0.04)	1.07 (0.79) 1.43 (0.99)	. (.) . (.)	1.17 (0.99) 1.08 (0.76)	1.07 (0.87) 0.93 (0.09)	1.00 (0.12) 0.99 (0.24)
emp	gap	1.05 (0.75) 1.00 (0.25)	. (.) 0.79 (0.04)	1.13 (0.80) 1.40 (0.97)	. (.) . (.)	1.10 (0.91) 1.01 (0.34)	1.05 (0.52) 1.04 (0.28)	1.14 (0.91) 1.04 (0.24)
unemp	lev	0.94 (0.01) 1.07 (0.74)	. (.) 1.07 (0.46)	1.41 (1.00) 1.21 (0.90)	0.89 (0.01) 0.85 (0.06)	1.19 (0.99) 0.78 (0.00)	1.14 (0.99) 0.80 (0.03)	1.06 (0.67) 0.97 (0.18)
unemp	1d	0.89 (0.00) 1.11 (0.89)	. (.) 1.01 (0.20)	1.02 (0.30) 1.24 (0.96)	1.05 (0.41) 0.76 (0.04)	1.10 (0.94) 1.03 (0.53)	1.09 (0.94) 0.78 (0.01)	0.95 (0.01) 1.11 (0.55)
unemp	gap	0.92 (0.02) 1.05 (0.63)	. (.) 0.90 (0.03)	1.14 (0.77) 1.04 (0.30)	0.97 (0.06) 0.80 (0.03)	1.08 (0.78) 0.87 (0.02)	0.79 (0.00) 1.24 (0.81)	0.93 (0.02) 1.25 (0.69)
pgdp	ln1d	0.56 (0.00) 1.74 (1.00)	. (.) 1.81 (1.00)	1.00 (0.15) 1.08 (0.73)	0.63 (0.00) 1.62 (1.00)	0.81 (0.00) 1.29 (0.97)	0.79 (0.00) 1.31 (0.83)	0.82 (0.00) 1.60 (0.95)
pgdp	ln2d	1.01 (0.18) 1.11 (0.95)	. (.) 1.09 (0.69)	1.01 (0.19) 0.98 (0.09)	1.00 (0.14) 1.00 (0.19)	0.88 (0.00) 0.89 (0.02)	0.78 (0.00) 1.10 (0.73)	0.98 (0.10) 1.03 (0.31)
cpi	ln1d	0.62 (0.00) 1.56 (1.00)	0.68 (0.00) 2.16 (1.00)	0.75 (0.00) 1.73 (1.00)	0.72 (0.00) 1.76 (1.00)	0.70 (0.00) 1.24 (0.97)	0.92 (0.03) 1.12 (0.51)	0.81 (0.00) 1.39 (0.88)
cpi	ln2d	1.00 (0.16) 1.07 (0.85)	1.00 (0.17) 1.11 (0.59)	1.00 (0.13) 1.09 (0.84)	1.05 (0.66) 1.03 (0.26)	0.74 (0.00) 0.89 (0.05)	0.95 (0.03) 0.99 (0.20)	0.96 (0.08) 1.20 (0.67)
ppi	ln1d	0.75 (0.00) 1.64 (1.00)	. (.) . (.)	0.47 (0.00) 1.83 (1.00)	. (.) . (.)	0.55 (0.00) 1.46 (1.00)	0.85 (0.00) 1.33 (0.79)	0.87 (0.00) 1.72 (0.99)
ppi	ln2d	1.13 (0.99) 1.11 (0.95)	. (.) . (.)	0.80 (0.00) 1.36 (0.99)	. (.) . (.)	1.32 (1.00) 1.09 (0.69)	0.84 (0.00) 1.01 (0.24)	1.21 (0.98) 1.07 (0.31)
earn	ln1d	0.69 (0.00) 1.73 (1.00)	0.96 (0.05) 1.49 (0.98)	1.22 (0.99) 1.19 (0.99)	. (.) . (.)	1.19 (0.98) 1.02 (0.34)	0.75 (0.00) 1.46 (0.91)	0.94 (0.03) 1.94 (0.97)
earn	ln2d	0.92 (0.00) 1.20 (1.00)	1.01 (0.30) 0.98 (0.17)	1.14 (1.00) 1.10 (0.96)	. (.) . (.)	1.18 (1.00) 0.96 (0.05)	1.04 (0.59) 0.95 (0.15)	1.02 (0.28) 1.15 (0.56)
oil	ln1d	2.29 (1.00) 1.28 (1.00)	1.01 (0.84) 2.36 (1.00)	4.04 (1.00) 1.64 (1.00)	1.68 (1.00) 1.86 (1.00)	3.82 (1.00) 1.49 (1.00)	1.68 (1.00) 2.04 (1.00)	3.24 (1.00) 1.93 (0.99)
oil	ln2d	2.76 (1.00) 1.19 (1.00)	3.89 (1.00) 1.50 (0.98)	3.24 (1.00) 1.14 (0.91)	4.39 (1.00) 1.19 (0.87)	3.57 (1.00) 1.30 (0.95)	2.41 (1.00) 1.50 (0.99)	3.39 (1.00) 2.10 (0.99)
oil	ln	2.71 (1.00) 1.09 (0.58)	0.78 (0.00) 1.98 (1.00)	4.59 (1.00) 1.49 (1.00)	1.58 (1.00) 1.62 (0.99)	1.11 (0.84) 1.57 (1.00)	1.64 (1.00) 1.90 (0.99)	8.07 (1.00) 1.64 (0.91)
roil	ln1d	2.91 (1.00) 1.23 (0.99)	1.05 (1.00) 2.24 (1.00)	7.88 (1.00) 1.59 (1.00)	1.28 (1.00) 1.67 (1.00)	1.94 (1.00) 1.43 (1.00)	2.19 (1.00) 2.01 (1.00)	7.81 (1.00) 1.80 (0.98)
comod	ln1d	1.05 (0.66) 1.15 (0.92)	0.77 (0.00) 2.22 (1.00)	0.59 (0.00) 1.95 (1.00)	0.82 (0.00) 1.90 (1.00)	0.85 (0.01) 1.38 (1.00)	0.98 (0.05) 1.21 (0.95)	0.89 (0.00) 1.70 (0.97)
comod	ln2d	1.05 (0.82) 1.07 (0.78)	1.32 (1.00) 1.17 (0.98)	1.28 (1.00) 1.09 (0.99)	1.07 (0.97) 1.30 (0.99)	1.29 (1.00) 1.05 (0.94)	0.99 (0.11) 1.10 (0.69)	1.15 (0.96) 1.26 (0.77)
comod	ln	0.71 (0.00) 1.99 (1.00)	0.96 (0.07) 1.63 (1.00)	0.88 (0.01) 1.47 (0.99)	1.27 (1.00) 1.45 (0.98)	0.92 (0.03) 0.98 (0.19)	0.98 (0.07) 1.24 (0.85)	0.98 (0.09) 2.01 (0.99)
recomod	ln1d	1.07 (0.69) 1.04 (0.40)	0.99 (0.12) 1.94 (1.00)	0.67 (0.00) 1.84 (1.00)	0.96 (0.03) 1.60 (1.00)	0.91 (0.03) 1.20 (0.97)	0.97 (0.03) 1.16 (0.87)	0.94 (0.04) 1.49 (0.88)
mon0	ln1d	. (.) . (.)	. (.) . (.)	. (.) . (.)	. (.) . (.)	. (.) 1.05 (0.30)	. (.) . (.)	1.12 (0.95) 1.24 (0.81)
mon0	ln2d	. (.) . (.)	. (.) . (.)	. (.) . (.)	. (.) . (.)	. (.) 1.07 (0.67)	. (.) . (.)	1.11 (0.98) 1.34 (0.95)
mon1	ln1d	1.01 (0.23) 0.91 (0.03)	. (.) 1.37 (0.98)	0.91 (0.01) 1.49 (0.99)	0.97 (0.01) 0.95 (0.06)	1.45 (1.00) 0.91 (0.06)	. (.) . (.)	1.02 (0.37) 1.91 (1.00)
mon1	ln2d	1.00 (0.18) 1.01 (0.23)	. (.) 1.06 (0.85)	1.20 (1.00) 1.16 (0.99)	0.96 (0.00) 1.02 (0.36)	1.23 (0.88) 1.04 (0.53)	. (.) . (.)	1.03 (0.88) 1.88 (1.00)
mon2	ln1d	. (.) 1.47 (1.00)	. (.) . (.)	1.24 (1.00) 1.06 (0.67)	. (.) 1.78 (1.00)	. (.) 0.72 (0.01)	. (.) . (.)	0.95 (0.02) 1.98 (1.00)
mon2	ln2d	. (.) 1.07 (0.57)	. (.) . (.)	1.09 (0.87) 1.08 (0.86)	. (.) 1.22 (1.00)	. (.) 1.01 (0.20)	. (.) . (.)	1.04 (0.84) 1.05 (0.41)
mon3	ln1d	. (.) 1.44 (1.00)	0.97 (0.07) 1.12 (0.81)	. (.) 1.07 (0.74)	1.19 (1.00) 0.81 (0.02)	. (.) 1.01 (0.20)	. (.) . (.)	1.25 (1.00) 0.87 (0.07)
mon3	ln2d	. (.) 1.04 (0.42)	1.00 (0.18) 1.07 (0.89)	. (.) 1.06 (0.87)	1.13 (0.99) 0.99 (0.17)	. (.) 1.04 (0.43)	. (.) . (.)	1.11 (0.99) 0.79 (0.02)
rmon0	ln1d	. (.) . (.)	. (.) . (.)	. (.) . (.)	. (.) . (.)	. (.) 0.97 (0.07)	. (.) . (.)	0.73 (0.00) 3.03 (1.00)
rmon1	ln1d	0.73 (0.00) 1.00 (0.24)	. (.) 0.91 (0.01)	0.55 (0.00) 1.88 (1.00)	0.76 (0.00) 0.94 (0.11)	1.02 (0.21) 1.09 (0.79)	. (.) . (.)	0.72 (0.00) 3.71 (1.00)
rmon2	ln1d	. (.) 0.99 (0.15)	. (.) . (.)	1.32 (1.00) 1.19 (0.94)	. (.) 1.18 (0.99)	. (.) 0.65 (0.00)	. (.) . (.)	0.45 (0.00) 2.67 (1.00)
rmon3	ln1d	. (.) 0.99 (0.15)	0.63 (0.00) 1.51 (1.00)	. (.) 1.09 (0.90)	0.64 (0.00) 0.87 (0.00)	. (.) 0.69 (0.00)	. (.) . (.)	0.78 (0.00) 2.06 (1.00)

Table B.23
MSFE of Bivariate Models Relative to Univariate AR Model and p-Values for Tests of Equal Forecast Accuracy
(Models with Fixed Lag Lengths)
Series = Inflation, GDP Deflator
Horizon = 8 Quarters

Indicator	Trans.	CN	FR	GY	IT	JP	UK	US
		71-84 85-99	71-84 85-99	71-84 85-99	71-84 85-99	71-84 85-99	71-84 85-99	71-84 85-99
rovngh	lev	. (.) 1.33 (0.96)	. (.) 2.67 (1.00)	0.60 (0.01) 0.83 (0.05)	. (.) 2.36 (0.99)	0.68 (0.01) 3.13 (1.00)	. (.) 1.87 (0.77)	0.77 (0.00) 1.65 (0.86)
rtbill	lev	0.74 (0.00) 1.16 (0.77)	. (.) 2.25 (1.00)	. (.) 0.85 (0.00)	. (.) 1.23 (0.92)	. (.) . (.)	1.35 (1.00) 1.47 (0.73)	0.76 (0.00) 1.58 (0.81)
rbnds	lev	. (.) . (.)	. (.) . (.)	. (.) . (.)	. (.) 1.46 (0.99)	. (.) . (.)	1.28 (0.96) 1.22 (0.43)	0.78 (0.00) 1.59 (0.85)
rbndm	lev	. (.) . (.)	. (.) . (.)	. (.) . (.)	0.94 (0.08) 1.09 (0.28)	. (.) . (.)	. (.) . (.)	0.85 (0.00) 1.31 (0.77)
rbndl	lev	0.94 (0.01) 1.02 (0.31)	. (.) 2.02 (1.00)	0.86 (0.03) 1.18 (0.89)	0.92 (0.05) 1.14 (0.38)	. (.) 3.93 (1.00)	0.96 (0.05) 0.97 (0.22)	0.88 (0.01) 1.24 (0.72)
rovngh	1d	. (.) 0.99 (0.15)	. (.) 1.13 (0.53)	1.03 (0.25) 0.83 (0.02)	. (.) 1.62 (1.00)	0.87 (0.01) 1.32 (0.55)	. (.) 1.04 (0.21)	1.46 (1.00) 0.91 (0.18)
rtbill	1d	1.11 (0.98) 0.99 (0.23)	. (.) 1.02 (0.22)	. (.) 0.76 (0.00)	. (.) 1.43 (1.00)	. (.) . (.)	1.40 (0.99) 1.37 (0.59)	1.33 (1.00) 0.98 (0.21)
rbnds	1d	. (.) . (.)	. (.) . (.)	. (.) . (.)	. (.) 1.43 (0.99)	. (.) . (.)	. (.) 1.17 (0.35)	1.29 (1.00) 0.98 (0.22)
rbndm	1d	. (.) . (.)	. (.) . (.)	. (.) . (.)	0.95 (0.08) 1.63 (0.98)	. (.) . (.)	. (.) . (.)	1.23 (1.00) 1.18 (0.56)
rbndl	1d	1.21 (0.99) 1.07 (0.49)	. (.) 1.25 (0.88)	1.53 (1.00) 1.02 (0.28)	1.07 (0.47) 1.39 (0.90)	. (.) 1.94 (0.86)	1.07 (0.84) 1.11 (0.34)	1.19 (1.00) 1.30 (0.83)
rovngh	lev	. (.) 1.34 (0.78)	. (.) 2.13 (0.99)	0.76 (0.00) 1.22 (0.88)	. (.) 1.10 (0.32)	1.08 (0.77) 1.34 (0.49)	. (.) 1.00 (0.14)	1.14 (0.95) 1.45 (0.66)
rtbill	lev	1.05 (0.29) 1.23 (0.51)	. (.) 1.65 (0.96)	. (.) 1.38 (0.95)	. (.) 0.91 (0.07)	. (.) . (.)	1.13 (0.98) 1.65 (0.88)	1.09 (0.77) 1.38 (0.63)
rbnds	lev	. (.) . (.)	. (.) . (.)	. (.) . (.)	. (.) 1.34 (0.95)	. (.) . (.)	1.24 (0.99) 1.65 (0.93)	1.01 (0.19) 1.65 (0.84)
rbndm	lev	. (.) . (.)	. (.) . (.)	. (.) . (.)	1.53 (1.00) 1.48 (0.87)	. (.) . (.)	. (.) . (.)	0.80 (0.00) 2.15 (0.98)
rbndl	lev	0.98 (0.09) 1.61 (0.96)	. (.) 1.36 (0.85)	1.36 (0.92) 1.04 (0.42)	1.43 (1.00) 1.46 (0.83)	. (.) 1.42 (0.91)	0.95 (0.01) 1.68 (0.94)	0.76 (0.00) 2.14 (0.98)
rovngh	1d	. (.) 1.06 (0.38)	. (.) 1.08 (0.59)	0.98 (0.13) 1.10 (0.89)	. (.) 1.29 (0.79)	1.07 (1.00) 1.10 (0.45)	. (.) 1.00 (0.20)	1.23 (1.00) 1.26 (0.56)
rtbill	1d	1.03 (0.80) 1.34 (0.98)	. (.) 1.08 (0.68)	. (.) 1.18 (0.98)	. (.) 1.07 (0.63)	. (.) . (.)	1.46 (1.00) 1.07 (0.32)	1.08 (0.98) 1.49 (0.88)
rbnds	1d	. (.) . (.)	. (.) . (.)	. (.) . (.)	. (.) 1.17 (0.97)	. (.) . (.)	. (.) 1.03 (0.25)	1.01 (0.32) 1.83 (0.94)
rbndm	1d	. (.) . (.)	. (.) . (.)	. (.) . (.)	1.13 (0.89) 1.09 (0.31)	. (.) . (.)	. (.) . (.)	0.77 (0.00) 2.34 (1.00)
rbndl	1d	0.98 (0.01) 1.47 (0.99)	. (.) 1.26 (0.96)	1.07 (0.66) 1.16 (0.96)	1.21 (0.96) 1.07 (0.29)	. (.) 1.33 (0.65)	1.22 (1.00) 1.01 (0.26)	0.73 (0.00) 2.29 (1.00)
rspread	lev	. (.) 1.23 (0.95)	. (.) 1.90 (0.97)	0.84 (0.03) 0.89 (0.10)	. (.) 2.34 (0.99)	. (.) 1.02 (0.23)	. (.) 1.64 (0.42)	0.91 (0.02) 2.26 (0.95)
exrate	ln1d	. (.) 1.45 (0.97)	. (.) 1.74 (0.98)	. (.) 1.12 (0.96)	. (.) 1.90 (1.00)	. (.) 1.16 (0.85)	. (.) 1.31 (0.84)	. (.) 1.40 (0.97)
rexrate	ln1d	. (.) . (.)	. (.) . (.)	. (.) . (.)	. (.) . (.)	. (.) . (.)	. (.) . (.)	. (.) . (.)
stockp	ln1d	0.97 (0.03) 1.07 (0.67)	. (.) 1.21 (0.78)	1.66 (0.99) 1.48 (1.00)	1.44 (0.99) 1.30 (0.74)	0.68 (0.00) 3.81 (0.99)	0.99 (0.09) 1.49 (0.87)	1.06 (0.86) 1.28 (0.77)
rstockp	ln1d	0.92 (0.01) 1.11 (0.79)	. (.) 1.28 (0.85)	1.61 (0.99) 1.53 (1.00)	1.40 (0.99) 1.60 (0.93)	0.57 (0.00) 3.94 (0.98)	1.05 (0.77) 1.41 (0.78)	0.99 (0.10) 1.47 (0.90)
divpr	ln	. (.) 1.78 (0.93)	. (.) 2.17 (0.98)	. (.) 1.55 (1.00)	. (.) 1.92 (0.94)	. (.) 4.54 (0.99)	. (.) 3.97 (0.99)	0.70 (0.00) 2.41 (0.95)
house	ln1d	. (.) 1.61 (0.95)	. (.) . (.)	. (.) . (.)	. (.) . (.)	. (.) 3.92 (0.99)	. (.) 1.83 (0.68)	1.00 (0.13) 0.78 (0.06)
rhouse	ln	. (.) 1.57 (0.80)	. (.) . (.)	. (.) . (.)	. (.) . (.)	. (.) 2.66 (0.98)	. (.) 1.59 (0.80)	0.84 (0.00) 0.93 (0.19)
rhouse	ln1d	. (.) 1.16 (0.45)	. (.) . (.)	. (.) . (.)	. (.) . (.)	. (.) 2.71 (0.97)	. (.) 1.37 (0.50)	0.73 (0.00) 0.91 (0.15)
gold	ln1d	1.29 (1.00) 0.73 (0.04)	. (.) 1.11 (0.50)	2.27 (1.00) 1.02 (0.33)	1.37 (1.00) 0.89 (0.12)	1.74 (1.00) 1.08 (0.29)	1.11 (0.72) 1.02 (0.26)	1.08 (0.89) 0.78 (0.08)
rgold	ln2d	1.23 (1.00) 1.10 (0.67)	. (.) 1.23 (0.91)	1.87 (1.00) 1.03 (0.45)	1.36 (1.00) 1.11 (0.71)	1.73 (1.00) 1.05 (0.33)	1.29 (1.00) 1.04 (0.32)	1.29 (1.00) 1.11 (0.46)
rgold	ln	0.77 (0.00) 1.08 (0.43)	. (.) 1.23 (0.80)	1.74 (1.00) 1.15 (0.80)	1.00 (0.17) 1.04 (0.28)	1.25 (1.00) 1.57 (0.78)	0.90 (0.03) 1.76 (0.74)	0.66 (0.00) 1.42 (0.84)
rgold	ln1d	1.21 (1.00) 0.70 (0.03)	. (.) 1.07 (0.31)	2.37 (1.00) 1.02 (0.27)	1.30 (1.00) 0.82 (0.09)	1.64 (1.00) 1.04 (0.28)	1.02 (0.24) 1.12 (0.27)	1.00 (0.14) 0.73 (0.10)
silver	ln1d	. (.) 0.95 (0.14)	. (.) 1.01 (0.16)	. (.) 1.06 (0.54)	. (.) 1.10 (0.60)	. (.) 1.32 (0.58)	. (.) 1.09 (0.20)	. (.) 1.04 (0.24)
silver	ln2d	. (.) 1.02 (0.20)	. (.) 1.28 (0.94)	. (.) 1.09 (0.86)	. (.) 1.23 (0.92)	. (.) 1.14 (0.89)	. (.) 1.17 (0.56)	. (.) 1.27 (0.61)
rsilver	ln	. (.) 1.83 (0.98)	. (.) 2.16 (1.00)	. (.) 1.10 (0.60)	. (.) 3.46 (1.00)	. (.) 2.43 (0.99)	. (.) 3.88 (0.99)	. (.) 2.91 (0.99)

rsilver	In1d	. (.) 0.94 (0.11)	. (.) 1.04 (0.30)	. (.) 1.07 (0.61)	. (.) 1.03 (0.29)	. (.) 1.26 (0.63)	. (.) 1.12 (0.33)	. (.) 1.00 (0.20)
rgdp	In1d	0.88 (0.00) 0.82 (0.03)	. (.) 1.40 (0.93)	0.45 (0.00) 0.72 (0.00)	1.18 (0.88) 1.03 (0.25)	1.01 (0.19) 1.12 (0.34)	0.87 (0.00) 0.60 (0.01)	0.69 (0.00) 0.76 (0.11)
rgdp	gap	0.91 (0.00) 0.82 (0.03)	. (.) 2.07 (1.00)	1.09 (0.36) 0.79 (0.06)	1.06 (0.33) 1.13 (0.28)	1.10 (0.53) 0.80 (0.18)	0.92 (0.04) 0.79 (0.11)	0.77 (0.00) 1.06 (0.26)
ip	In1d	0.86 (0.00) 1.01 (0.26)	. (.) 1.35 (0.89)	0.45 (0.00) 0.85 (0.02)	1.31 (0.98) 0.80 (0.13)	1.05 (0.42) 1.05 (0.27)	0.88 (0.00) 0.79 (0.04)	0.64 (0.00) 1.03 (0.25)
ip	gap	0.91 (0.01) 1.09 (0.43)	. (.) 1.61 (1.00)	0.99 (0.11) 1.10 (0.57)	1.29 (0.97) 0.99 (0.26)	1.13 (0.66) 1.01 (0.27)	0.84 (0.00) 0.72 (0.05)	0.68 (0.00) 1.22 (0.49)
capu	lev	1.00 (0.14) 0.81 (0.07)	. (.) 2.31 (1.00)	. (.) 0.73 (0.00)	. (.) 1.49 (0.92)	. (.) 1.44 (0.63)	. (.) . (.)	0.56 (0.00) 0.93 (0.16)
emp	In1d	1.00 (0.15) 0.77 (0.01)	. (.) 1.95 (0.98)	0.48 (0.00) 1.57 (0.98)	. (.) . (.)	1.11 (0.68) 1.13 (0.34)	0.85 (0.01) 1.60 (0.91)	0.59 (0.00) 0.84 (0.11)
emp	gap	0.96 (0.04) 0.76 (0.05)	. (.) 2.69 (1.00)	0.77 (0.00) 1.91 (1.00)	. (.) . (.)	1.00 (0.20) 1.14 (0.29)	0.86 (0.01) 1.23 (0.52)	0.51 (0.00) 1.57 (0.88)
unemp	lev	0.98 (0.05) 0.86 (0.04)	. (.) 1.70 (1.00)	1.36 (0.99) 1.10 (0.54)	2.08 (0.99) 1.07 (0.28)	1.15 (0.97) 1.20 (0.39)	0.68 (0.00) 2.97 (1.00)	0.61 (0.00) 1.32 (0.75)
unemp	1d	0.98 (0.04) 0.86 (0.02)	. (.) 1.10 (0.70)	0.39 (0.00) 1.13 (0.81)	1.37 (0.97) 1.44 (0.72)	1.11 (0.97) 1.04 (0.29)	0.64 (0.00) 3.52 (1.00)	0.71 (0.00) 1.10 (0.30)
unemp	gap	0.93 (0.02) 0.75 (0.02)	. (.) 1.04 (0.27)	0.92 (0.08) 0.95 (0.18)	1.55 (0.96) 1.22 (0.33)	0.96 (0.07) 1.32 (0.57)	0.80 (0.01) 0.88 (0.14)	0.71 (0.00) 1.22 (0.42)
pgdp	In1d	. (.) . (.)	. (.) . (.)	. (.) . (.)	. (.) . (.)	. (.) . (.)	. (.) . (.)	. (.) . (.)
pgdp	In2d	. (.) . (.)	. (.) . (.)	. (.) . (.)	. (.) . (.)	. (.) . (.)	. (.) . (.)	. (.) . (.)
cpi	In1d	0.84 (0.00) 1.64 (0.98)	. (.) 1.74 (1.00)	1.55 (0.99) 1.38 (0.95)	1.42 (1.00) 1.47 (0.84)	0.71 (0.00) 2.37 (0.99)	0.97 (0.04) 1.29 (0.71)	0.67 (0.00) 1.82 (0.95)
cpi	In2d	1.03 (0.93) 1.27 (0.98)	. (.) 0.87 (0.00)	1.08 (0.86) 1.15 (0.96)	1.20 (0.96) 0.91 (0.14)	1.12 (0.96) 1.19 (0.45)	1.18 (1.00) 0.95 (0.20)	0.86 (0.00) 1.67 (0.98)
ppi	In1d	0.99 (0.11) 1.41 (0.97)	. (.) . (.)	1.18 (0.90) 1.36 (0.99)	. (.) . (.)	0.93 (0.03) 2.00 (0.90)	0.81 (0.00) 0.99 (0.18)	1.00 (0.16) 1.76 (0.94)
ppi	In2d	1.02 (0.82) 1.28 (0.99)	. (.) . (.)	1.15 (0.97) 0.95 (0.06)	. (.) . (.)	1.36 (1.00) 1.07 (0.33)	0.90 (0.02) 0.92 (0.15)	0.92 (0.00) 1.84 (1.00)
earn	In1d	0.93 (0.00) 1.65 (0.99)	. (.) 1.22 (0.72)	1.34 (0.96) 1.23 (0.97)	. (.) . (.)	1.47 (1.00) 1.19 (0.32)	1.06 (0.88) 1.51 (0.83)	0.97 (0.07) 1.65 (0.76)
earn	In2d	1.10 (1.00) 1.15 (0.92)	. (.) 0.94 (0.04)	1.29 (1.00) 1.04 (0.65)	. (.) . (.)	1.48 (1.00) 1.05 (0.29)	1.04 (0.84) 1.05 (0.32)	1.03 (0.77) 1.09 (0.42)
oil	In1d	6.06 (1.00) 0.93 (0.11)	. (.) 0.71 (0.00)	7.61 (1.00) 1.27 (0.94)	3.75 (1.00) 1.18 (0.85)	2.33 (1.00) 2.52 (0.88)	1.23 (1.00) 1.90 (0.95)	2.64 (1.00) 1.41 (0.88)
oil	In2d	2.96 (1.00) 1.12 (0.87)	. (.) 1.03 (0.33)	6.06 (1.00) 1.17 (0.98)	1.67 (1.00) 1.05 (0.74)	4.35 (1.00) 1.07 (0.30)	1.47 (1.00) 1.94 (1.00)	2.81 (1.00) 1.62 (0.97)
roil	In	4.47 (1.00) 0.97 (0.28)	. (.) 1.29 (0.73)	5.16 (1.00) 1.17 (0.83)	3.35 (1.00) 1.02 (0.25)	2.11 (1.00) 2.26 (0.87)	1.02 (0.60) 2.89 (0.99)	2.59 (1.00) 1.25 (0.56)
roil	In1d	5.60 (1.00) 0.91 (0.10)	. (.) 0.71 (0.00)	6.12 (1.00) 1.23 (0.88)	8.20 (1.00) 1.04 (0.33)	2.40 (1.00) 2.30 (0.88)	1.13 (1.00) 2.26 (0.98)	2.88 (1.00) 1.39 (0.84)
comod	In1d	1.13 (0.96) 0.99 (0.19)	. (.) 1.16 (0.41)	1.21 (0.98) 1.06 (0.75)	1.18 (0.97) 1.97 (0.99)	1.18 (0.93) 1.73 (0.82)	0.82 (0.01) 1.49 (0.66)	0.70 (0.00) 1.57 (0.93)
comod	In2d	1.11 (0.95) 1.00 (0.25)	. (.) 1.48 (0.99)	1.15 (0.93) 1.15 (0.94)	0.98 (0.08) 1.75 (0.98)	1.11 (0.88) 1.48 (0.79)	1.16 (1.00) 1.15 (0.53)	0.93 (0.01) 1.59 (0.93)
rcomod	In	0.88 (0.02) 1.60 (0.97)	. (.) 1.16 (0.38)	1.47 (1.00) 1.07 (0.40)	0.93 (0.04) 2.01 (1.00)	1.14 (0.97) 1.21 (0.66)	0.62 (0.00) 2.63 (0.97)	0.57 (0.00) 1.84 (0.93)
rcomod	In1d	1.09 (0.83) 1.02 (0.31)	. (.) 1.21 (0.66)	1.19 (0.99) 1.06 (0.80)	1.05 (0.66) 1.52 (0.95)	1.19 (0.97) 1.33 (0.66)	0.61 (0.00) 1.89 (0.89)	0.56 (0.00) 1.71 (0.96)
mon0	In1d	. (.) . (.)	. (.) . (.)	. (.) . (.)	. (.) . (.)	. (.) 1.94 (0.70)	. (.) . (.)	1.11 (1.00) 1.17 (0.77)
mon0	In2d	. (.) . (.)	. (.) . (.)	. (.) . (.)	. (.) . (.)	. (.) 2.16 (0.95)	. (.) . (.)	1.09 (1.00) 1.33 (0.99)
mon1	In1d	1.04 (0.32) 1.18 (0.62)	. (.) 1.00 (0.24)	1.13 (0.91) 1.06 (0.71)	0.97 (0.10) 1.43 (0.87)	1.09 (0.79) 1.47 (0.76)	. (.) . (.)	1.13 (0.99) 1.00 (0.25)
mon1	In2d	1.07 (1.00) 1.25 (1.00)	. (.) 1.11 (0.83)	1.13 (0.91) 1.12 (0.93)	1.03 (0.25) 1.11 (0.34)	1.26 (1.00) 1.23 (0.76)	. (.) . (.)	1.14 (1.00) 1.16 (0.97)
mon2	In1d	. (.) 1.31 (0.89)	. (.) . (.)	1.03 (0.27) 1.21 (0.99)	. (.) 2.19 (1.00)	. (.) 3.05 (0.98)	. (.) . (.)	1.04 (0.67) 1.29 (0.73)
mon2	In2d	. (.) 1.30 (0.98)	. (.) . (.)	0.91 (0.01) 1.18 (0.99)	. (.) 1.24 (0.99)	. (.) 1.85 (0.95)	. (.) . (.)	1.08 (0.97) 1.23 (0.80)
mon3	In1d	. (.) 1.31 (0.88)	. (.) 1.66 (0.95)	. (.) 1.10 (0.81)	1.48 (1.00) 1.69 (0.96)	. (.) 1.34 (0.69)	. (.) . (.)	1.03 (0.60) 0.97 (0.22)
mon3	In2d	. (.) 1.29 (0.99)	. (.) 1.09 (0.58)	. (.) 1.01 (0.28)	1.01 (0.19) 1.02 (0.27)	. (.) 1.19 (0.71)	. (.) . (.)	1.05 (1.00) 1.02 (0.30)
rmon0	In1d	. (.) . (.)	. (.) . (.)	. (.) . (.)	. (.) . (.)	. (.) 1.94 (0.92)	. (.) . (.)	0.76 (0.00) 2.44 (1.00)
rmon1	In1d	0.69 (0.00) 1.83 (0.98)	. (.) 1.15 (0.82)	1.09 (0.70) 0.92 (0.02)	0.78 (0.00) 1.02 (0.26)	0.48 (0.00) 1.58 (0.82)	. (.) . (.)	0.79 (0.00) 2.70 (1.00)
rmon2	In1d	. (.) 1.62 (0.94)	. (.) . (.)	0.91 (0.04) 1.33 (0.99)	. (.) 1.46 (0.98)	. (.) 2.09 (0.98)	. (.) . (.)	0.71 (0.00) 1.42 (0.81)
rmon3	In1d	. (.) 1.61 (0.94)	. (.) 1.46 (0.95)	. (.) 1.12 (0.91)	0.88 (0.01) 1.81 (0.99)	. (.) 1.05 (0.27)	. (.) . (.)	0.69 (0.00) 1.56 (0.91)

Table B.24
MSFE of Bivariate Models Relative to Univariate AR Model and p-Values for Tests of Equal Forecast Accuracy
(Models with Fixed Lag Lengths)
Series = CPI Inflation
Horizon = 8 Quarters

Indicator	Trans.	CN	FR	GY	IT	JP	UK	US
		71-84 85-99	71-84 85-99	71-84 85-99	71-84 85-99	71-84 85-99	71-84 85-99	71-84 85-99
rovngh	lev	. (.) 1.01 (0.18)	0.36 (0.00) 2.23 (1.00)	0.75 (0.00) 0.96 (0.07)	. (.) 2.74 (1.00)	0.74 (0.00) 3.00 (0.97)	. (.) 1.15 (0.27)	0.70 (0.00) 1.22 (0.69)
rtbill	lev	0.83 (0.00) 0.65 (0.01)	. (.) 4.08 (1.00)	. (.) 1.20 (0.97)	. (.) 1.59 (0.98)	. (.) . (.)	0.98 (0.09) 1.07 (0.34)	0.75 (0.00) 1.15 (0.60)
rbnds	lev	. (.) . (.)	. (.) . (.)	. (.) . (.)	. (.) 2.32 (1.00)	. (.) . (.)	0.89 (0.02) 1.00 (0.20)	0.82 (0.00) 1.17 (0.63)
rbndm	lev	. (.) . (.)	. (.) . (.)	. (.) . (.)	0.96 (0.07) 1.15 (0.49)	. (.) . (.)	. (.) . (.)	0.85 (0.00) 1.17 (0.74)
rbndl	lev	1.04 (0.59) 0.82 (0.05)	0.88 (0.00) 1.00 (0.24)	0.48 (0.00) 1.16 (0.99)	0.91 (0.02) 1.04 (0.29)	. (.) 5.86 (1.00)	0.88 (0.01) 1.08 (0.37)	0.84 (0.00) 1.18 (0.77)
rovngh	1d	. (.) 0.77 (0.01)	1.35 (1.00) 1.11 (0.38)	1.07 (0.72) 0.91 (0.02)	. (.) 2.10 (1.00)	1.01 (0.21) 0.96 (0.20)	. (.) 1.09 (0.24)	1.43 (1.00) 1.26 (0.59)
rtbill	1d	1.21 (1.00) 0.84 (0.03)	. (.) 1.15 (0.39)	. (.) 1.02 (0.35)	. (.) 1.21 (0.63)	. (.) . (.)	1.22 (1.00) 1.22 (0.81)	1.47 (1.00) 1.20 (0.55)
rbnds	1d	. (.) . (.)	. (.) . (.)	. (.) . (.)	. (.) 1.51 (0.94)	. (.) . (.)	. (.) 1.15 (0.56)	1.37 (1.00) 1.25 (0.69)
rbndm	1d	. (.) . (.)	. (.) . (.)	. (.) . (.)	0.98 (0.11) 1.82 (0.99)	. (.) . (.)	. (.) . (.)	1.05 (0.87) 1.56 (0.96)
rbndl	1d	1.40 (1.00) 1.05 (0.51)	1.02 (0.32) 1.45 (0.93)	1.08 (0.87) 0.97 (0.04)	1.02 (0.27) 1.42 (0.91)	. (.) 2.62 (0.98)	1.03 (0.63) 1.23 (0.82)	0.95 (0.03) 1.61 (0.97)
rovngh	lev	. (.) 0.95 (0.08)	1.37 (0.99) 1.45 (0.71)	1.16 (0.82) 0.95 (0.10)	. (.) 1.61 (0.85)	1.03 (0.33) 1.21 (0.39)	. (.) 1.10 (0.23)	1.31 (1.00) 1.18 (0.43)
rtbill	lev	1.21 (0.92) 0.76 (0.08)	. (.) 2.15 (0.92)	. (.) 1.33 (0.98)	. (.) 0.92 (0.11)	. (.) . (.)	0.98 (0.09) 1.47 (0.91)	1.29 (1.00) 1.08 (0.28)
rbnds	lev	. (.) . (.)	. (.) . (.)	. (.) . (.)	. (.) 2.19 (0.94)	. (.) . (.)	1.14 (0.94) 1.29 (0.80)	1.19 (0.97) 1.19 (0.52)
rbndm	lev	. (.) . (.)	. (.) . (.)	. (.) . (.)	1.08 (0.77) 1.70 (0.99)	. (.) . (.)	. (.) . (.)	0.98 (0.12) 1.56 (0.88)
rbndl	lev	1.29 (1.00) 1.06 (0.48)	1.25 (0.93) 1.04 (0.27)	1.15 (0.91) 0.68 (0.00)	1.07 (0.72) 1.40 (0.91)	. (.) 1.51 (0.92)	0.72 (0.00) 1.30 (0.90)	0.92 (0.01) 1.63 (0.93)
rovngh	1d	. (.) 0.77 (0.01)	1.35 (1.00) 1.11 (0.46)	1.07 (0.75) 0.91 (0.01)	. (.) 2.10 (0.99)	1.01 (0.22) 0.96 (0.24)	. (.) 1.09 (0.29)	1.43 (1.00) 1.26 (0.60)
rtbill	1d	1.21 (1.00) 0.84 (0.02)	. (.) 1.15 (0.40)	. (.) 1.02 (0.33)	. (.) 1.21 (0.58)	. (.) . (.)	1.22 (1.00) 1.22 (0.81)	1.47 (1.00) 1.20 (0.52)
rbnds	1d	. (.) . (.)	. (.) . (.)	. (.) . (.)	. (.) 1.51 (0.94)	. (.) . (.)	. (.) 1.15 (0.51)	1.37 (1.00) 1.25 (0.70)
rbndm	1d	. (.) . (.)	. (.) . (.)	. (.) . (.)	0.98 (0.12) 1.82 (0.99)	. (.) . (.)	. (.) . (.)	1.05 (0.90) 1.56 (0.94)
rbndl	1d	1.40 (1.00) 1.05 (0.42)	1.02 (0.36) 1.45 (0.91)	1.08 (0.87) 0.97 (0.07)	1.02 (0.31) 1.42 (0.92)	. (.) 2.62 (0.97)	1.03 (0.66) 1.23 (0.79)	0.95 (0.03) 1.61 (0.97)
rsprad	lev	. (.) 0.89 (0.02)	1.14 (0.94) 2.20 (0.98)	1.05 (0.39) 0.96 (0.10)	. (.) 2.94 (0.99)	. (.) 1.06 (0.22)	. (.) 1.18 (0.27)	0.53 (0.00) 2.11 (0.99)
exrate	ln1d	. (.) 1.09 (0.62)	. (.) 1.48 (0.97)	. (.) 1.05 (0.86)	. (.) 2.30 (1.00)	. (.) 1.12 (0.75)	. (.) 1.32 (0.92)	. (.) 1.85 (1.00)
rexrate	ln1d	. (.) . (.)	. (.) . (.)	. (.) . (.)	. (.) . (.)	. (.) . (.)	. (.) . (.)	. (.) . (.)
stockp	ln1d	0.95 (0.02) 1.09 (0.81)	1.06 (0.54) 1.38 (0.80)	1.08 (0.96) 1.10 (0.95)	1.12 (0.92) 1.17 (0.67)	0.67 (0.00) 3.15 (0.98)	0.94 (0.00) 1.26 (0.93)	0.96 (0.04) 1.32 (0.92)
rstockp	ln1d	0.88 (0.00) 1.13 (0.91)	1.01 (0.23) 1.62 (0.92)	1.06 (0.91) 1.14 (0.97)	1.08 (0.80) 1.39 (0.92)	0.55 (0.00) 3.29 (0.98)	1.00 (0.12) 1.23 (0.81)	0.88 (0.00) 1.48 (0.98)
divpr	ln	. (.) 1.81 (1.00)	. (.) 1.73 (0.73)	. (.) 0.84 (0.01)	. (.) 2.18 (0.95)	. (.) 5.05 (0.99)	. (.) 2.51 (1.00)	0.82 (0.01) 1.74 (0.89)
house	ln1d	. (.) 1.29 (0.91)	. (.) . (.)	. (.) . (.)	. (.) . (.)	. (.) 6.06 (1.00)	. (.) 1.24 (0.54)	0.92 (0.00) 0.89 (0.05)
rhouse	ln	. (.) 1.24 (0.76)	. (.) . (.)	. (.) . (.)	. (.) . (.)	. (.) 4.14 (0.99)	. (.) 0.86 (0.04)	0.56 (0.00) 1.05 (0.34)
rhouse	ln1d	. (.) 1.11 (0.56)	. (.) . (.)	. (.) . (.)	. (.) . (.)	. (.) 4.00 (0.99)	. (.) 0.73 (0.02)	0.56 (0.00) 0.90 (0.13)
gold	ln1d	0.96 (0.02) 0.90 (0.05)	1.22 (1.00) 0.96 (0.20)	1.19 (0.97) 0.99 (0.17)	1.22 (1.00) 0.89 (0.14)	1.65 (1.00) 0.97 (0.20)	1.14 (0.90) 0.95 (0.18)	1.24 (0.99) 0.98 (0.22)
rgold	ln2d	1.12 (0.99) 1.14 (0.88)	1.20 (1.00) 1.18 (0.96)	1.23 (1.00) 0.98 (0.10)	1.37 (1.00) 1.10 (0.64)	1.57 (1.00) 0.99 (0.22)	1.27 (1.00) 1.04 (0.50)	1.13 (1.00) 1.11 (0.66)
rgold	ln	0.63 (0.00) 1.07 (0.60)	0.75 (0.01) 1.56 (0.93)	0.75 (0.01) 1.09 (0.89)	0.90 (0.00) 1.05 (0.30)	1.15 (0.98) 1.62 (0.82)	0.84 (0.00) 1.40 (0.86)	0.90 (0.02) 1.18 (0.47)
rgold	ln1d	0.88 (0.00) 0.88 (0.02)	1.15 (1.00) 0.99 (0.16)	1.16 (0.97) 0.98 (0.09)	1.10 (0.97) 0.90 (0.16)	1.55 (1.00) 0.92 (0.18)	1.01 (0.20) 0.95 (0.20)	1.19 (0.98) 0.91 (0.13)
silver	ln1d	. (.) 0.84 (0.02)	. (.) 1.12 (0.52)	. (.) 1.01 (0.29)	. (.) 0.98 (0.17)	. (.) 1.14 (0.39)	. (.) 0.94 (0.15)	. (.) 1.04 (0.23)
silver	ln2d	. (.) 1.07 (0.64)	. (.) 1.26 (0.95)	. (.) 1.00 (0.14)	. (.) 1.17 (0.68)	. (.) 1.05 (0.47)	. (.) 1.06 (0.52)	. (.) 1.09 (0.49)
rsilver	ln	. (.) 1.37 (0.95)	. (.) 4.13 (1.00)	. (.) 1.08 (0.70)	. (.) 3.75 (1.00)	. (.) 3.42 (1.00)	. (.) 2.42 (1.00)	. (.) 2.12 (0.99)

rsilver	in1d	. (.) 0.81 (0.02)	. (.) 1.11 (0.52)	. (.) 1.01 (0.33)	. (.) 0.92 (0.08)	. (.) 1.09 (0.34)	. (.) 0.89 (0.10)	. (.) 0.98 (0.16)
rgdp	in1d	0.82 (0.00) 0.33 (0.00)	. (.) 2.16 (0.95)	0.73 (0.00) 0.79 (0.00)	0.96 (0.03) 0.89 (0.13)	0.79 (0.00) 1.84 (0.91)	0.78 (0.00) 0.64 (0.00)	0.73 (0.00) 0.74 (0.06)
rgdp	gap	0.92 (0.02) 0.50 (0.00)	. (.) 3.37 (0.99)	0.75 (0.00) 0.73 (0.00)	0.95 (0.09) 1.09 (0.28)	0.95 (0.06) 0.78 (0.17)	0.86 (0.00) 0.76 (0.04)	0.79 (0.00) 0.91 (0.16)
ip	in1d	0.72 (0.00) 0.59 (0.00)	0.86 (0.00) 0.90 (0.14)	0.80 (0.00) 0.99 (0.11)	0.99 (0.13) 0.80 (0.03)	0.76 (0.00) 1.59 (0.85)	0.90 (0.00) 0.79 (0.01)	0.72 (0.00) 0.88 (0.07)
ip	gap	0.83 (0.00) 0.76 (0.03)	0.97 (0.03) 1.12 (0.61)	0.77 (0.00) 0.89 (0.01)	1.02 (0.33) 1.03 (0.26)	0.89 (0.03) 0.92 (0.21)	0.87 (0.00) 0.75 (0.02)	0.72 (0.00) 0.92 (0.13)
capu	lev	0.82 (0.00) 0.43 (0.00)	. (.) 3.01 (1.00)	. (.) 0.71 (0.00)	. (.) 1.95 (0.99)	. (.) 2.60 (0.96)	. (.) . (.)	0.70 (0.00) 0.65 (0.01)
emp	in1d	0.83 (0.00) 0.39 (0.00)	. (.) 2.88 (0.99)	0.72 (0.00) 0.95 (0.05)	. (.) . (.)	0.93 (0.04) 1.59 (0.70)	0.78 (0.00) 1.04 (0.29)	0.64 (0.00) 0.74 (0.05)
emp	gap	0.85 (0.00) 0.47 (0.00)	. (.) 4.49 (1.00)	0.72 (0.00) 0.97 (0.11)	. (.) . (.)	0.92 (0.06) 0.88 (0.21)	0.77 (0.00) 0.87 (0.08)	0.58 (0.00) 1.01 (0.24)
unemp	lev	0.82 (0.00) 0.35 (0.00)	. (.) 3.65 (1.00)	0.56 (0.00) 0.73 (0.00)	1.07 (0.62) 1.22 (0.51)	1.01 (0.22) 1.70 (0.80)	0.69 (0.00) 1.35 (0.95)	0.77 (0.00) 0.81 (0.06)
unemp	1d	0.86 (0.00) 0.52 (0.00)	. (.) 1.71 (0.92)	0.55 (0.00) 0.68 (0.00)	1.06 (0.73) 1.17 (0.58)	0.95 (0.03) 1.50 (0.83)	0.63 (0.00) 1.77 (1.00)	0.77 (0.00) 0.83 (0.07)
unemp	gap	0.87 (0.01) 0.52 (0.00)	. (.) 1.02 (0.15)	0.69 (0.00) 0.78 (0.00)	1.04 (0.57) 1.09 (0.33)	0.91 (0.03) 0.98 (0.20)	0.75 (0.01) 0.91 (0.14)	0.72 (0.00) 0.86 (0.08)
pgdp	in1d	0.95 (0.02) 1.19 (0.83)	. (.) 4.06 (1.00)	1.07 (0.67) 1.01 (0.32)	0.95 (0.04) 1.20 (0.71)	0.93 (0.01) 1.47 (0.66)	0.84 (0.00) 1.18 (0.92)	0.92 (0.01) 1.27 (0.71)
pgdp	in2d	0.97 (0.01) 1.04 (0.79)	. (.) 1.16 (0.73)	1.06 (0.88) 0.99 (0.13)	0.99 (0.08) 1.02 (0.28)	1.00 (0.14) 1.14 (0.44)	1.07 (0.98) 1.01 (0.28)	1.13 (1.00) 1.08 (0.57)
cpi	in1d	. (.) . (.)	. (.) . (.)	. (.) . (.)	. (.) . (.)	. (.) . (.)	. (.) . (.)	. (.) . (.)
cpi	in2d	. (.) . (.)	. (.) . (.)	. (.) . (.)	. (.) . (.)	. (.) . (.)	. (.) . (.)	. (.) . (.)
ppi	in1d	0.92 (0.01) 1.16 (0.82)	. (.) . (.)	1.02 (0.33) 0.96 (0.04)	. (.) . (.)	0.88 (0.00) 1.51 (0.90)	0.83 (0.00) 1.12 (0.55)	0.96 (0.04) 1.31 (0.84)
ppi	in2d	0.88 (0.00) 1.04 (0.66)	. (.) . (.)	1.33 (1.00) 0.93 (0.02)	. (.) . (.)	0.90 (0.00) 1.09 (0.38)	1.00 (0.16) 1.03 (0.26)	1.05 (0.87) 1.23 (0.96)
earn	in1d	1.04 (0.65) 1.25 (0.93)	1.00 (0.14) 1.64 (0.93)	1.15 (0.89) 0.92 (0.06)	. (.) . (.)	1.46 (1.00) 1.08 (0.22)	0.93 (0.00) 1.14 (0.66)	1.05 (0.59) 1.17 (0.41)
earn	in2d	1.12 (1.00) 1.02 (0.48)	1.04 (0.99) 1.05 (0.55)	1.14 (1.00) 0.93 (0.00)	. (.) . (.)	1.40 (1.00) 1.03 (0.29)	0.93 (0.00) 1.05 (0.38)	1.12 (1.00) 1.01 (0.24)
oil	in1d	4.52 (1.00) 1.06 (0.53)	1.34 (1.00) 1.29 (0.85)	1.82 (1.00) 1.07 (0.94)	6.14 (1.00) 1.39 (0.96)	1.76 (1.00) 2.26 (0.87)	1.52 (1.00) 1.17 (0.84)	3.65 (1.00) 0.88 (0.01)
oil	in2d	1.99 (1.00) 1.06 (0.90)	2.06 (1.00) 1.12 (0.82)	2.19 (1.00) 1.05 (0.90)	2.91 (1.00) 1.09 (0.88)	3.00 (1.00) 0.94 (0.16)	1.32 (1.00) 1.17 (0.96)	2.54 (1.00) 1.30 (0.95)
roil	in	3.16 (1.00) 0.98 (0.19)	1.52 (1.00) 0.71 (0.10)	1.48 (1.00) 0.98 (0.19)	5.24 (1.00) 0.83 (0.15)	1.53 (1.00) 2.27 (0.86)	1.15 (1.00) 1.47 (0.98)	3.43 (1.00) 0.72 (0.09)
roil	in1d	3.69 (1.00) 1.06 (0.55)	1.51 (1.00) 1.19 (0.72)	2.14 (1.00) 1.07 (0.92)	6.91 (1.00) 1.20 (0.85)	1.62 (1.00) 2.01 (0.82)	1.39 (1.00) 1.27 (0.95)	4.04 (1.00) 0.89 (0.03)
comod	in1d	0.94 (0.01) 0.74 (0.00)	1.19 (0.97) 1.31 (0.72)	1.20 (1.00) 0.99 (0.17)	1.12 (0.84) 1.56 (0.89)	0.99 (0.14) 2.14 (0.97)	1.11 (0.74) 0.75 (0.10)	0.92 (0.00) 1.42 (0.98)
comod	in2d	1.10 (0.98) 1.02 (0.32)	1.11 (0.98) 1.21 (0.77)	1.28 (1.00) 0.92 (0.00)	1.01 (0.36) 1.34 (0.98)	0.91 (0.02) 1.78 (0.94)	1.19 (1.00) 1.03 (0.31)	0.87 (0.00) 1.77 (0.98)
recomod	in	0.82 (0.00) 0.86 (0.04)	1.10 (0.69) 1.09 (0.32)	1.36 (0.99) 1.07 (0.80)	0.98 (0.11) 1.29 (0.77)	1.03 (0.41) 1.53 (0.91)	0.89 (0.02) 1.06 (0.30)	0.78 (0.00) 1.40 (0.82)
recomod	in1d	0.81 (0.00) 0.76 (0.01)	1.15 (0.94) 1.18 (0.61)	1.23 (0.99) 0.99 (0.16)	1.04 (0.37) 1.25 (0.68)	0.99 (0.13) 1.79 (0.94)	0.91 (0.02) 0.67 (0.04)	0.81 (0.00) 1.28 (0.87)
mon0	in1d	. (.) . (.)	. (.) . (.)	. (.) . (.)	. (.) . (.)	. (.) 2.77 (0.86)	. (.) . (.)	1.08 (0.98) 1.19 (0.89)
mon0	in2d	. (.) . (.)	. (.) . (.)	. (.) . (.)	. (.) . (.)	. (.) 2.88 (0.96)	. (.) . (.)	1.06 (0.96) 1.41 (1.00)
mon1	in1d	1.15 (0.92) 0.94 (0.15)	. (.) 0.97 (0.18)	1.03 (0.33) 0.78 (0.00)	0.94 (0.02) 1.08 (0.41)	0.83 (0.01) 1.67 (0.87)	. (.) . (.)	1.07 (0.94) 1.24 (0.98)
mon1	in2d	1.14 (1.00) 1.01 (0.30)	. (.) 1.15 (0.53)	1.21 (1.00) 1.04 (0.83)	1.11 (1.00) 1.01 (0.29)	1.06 (0.84) 1.27 (0.79)	. (.) . (.)	1.08 (1.00) 1.39 (1.00)
mon2	in1d	. (.) 1.45 (1.00)	. (.) . (.)	0.82 (0.01) 0.99 (0.16)	. (.) 2.89 (0.98)	. (.) 3.91 (0.99)	. (.) . (.)	0.95 (0.01) 1.63 (0.98)
mon2	in2d	. (.) 1.43 (1.00)	. (.) . (.)	1.03 (0.66) 1.16 (0.99)	. (.) 1.35 (1.00)	. (.) 2.42 (0.98)	. (.) . (.)	1.14 (1.00) 1.03 (0.36)
mon3	in1d	. (.) 1.47 (1.00)	0.97 (0.09) 1.26 (0.76)	. (.) 1.16 (1.00)	1.15 (1.00) 1.25 (0.80)	. (.) 1.94 (0.90)	. (.) . (.)	1.02 (0.27) 1.16 (0.55)
mon3	in2d	. (.) 1.46 (1.00)	1.05 (0.95) 0.98 (0.17)	. (.) 1.06 (1.00)	1.09 (1.00) 1.03 (0.36)	. (.) 1.63 (0.90)	. (.) . (.)	1.05 (0.97) 1.03 (0.39)
rmon0	in1d	. (.) . (.)	. (.) . (.)	. (.) . (.)	. (.) . (.)	. (.) 2.71 (0.99)	. (.) . (.)	0.60 (0.00) 1.99 (1.00)
rmon1	in1d	0.78 (0.00) 1.29 (0.93)	. (.) 1.41 (0.85)	0.83 (0.00) 0.67 (0.00)	0.78 (0.00) 0.80 (0.10)	0.28 (0.00) 1.38 (0.72)	. (.) . (.)	0.59 (0.00) 2.66 (1.00)
rmon2	in1d	. (.) 1.55 (0.99)	. (.) . (.)	0.54 (0.00) 0.82 (0.00)	. (.) 1.58 (0.91)	. (.) 2.52 (0.99)	. (.) . (.)	0.56 (0.00) 1.30 (0.90)
rmon3	in1d	. (.) 1.56 (0.99)	0.79 (0.00) 1.30 (0.77)	. (.) 0.99 (0.11)	0.60 (0.00) 1.36 (0.88)	. (.) 1.42 (0.96)	. (.) . (.)	0.55 (0.00) 1.57 (0.97)

Table B.25
MSFE of Bivariate Models Relative to Univariate AR Model and p-Values for Tests of Equal Forecast Accuracy
(Models with Fixed Lag Lengths)
Series = Real GDP
Horizon = 8 Quarters

Indicator	Trans.	CN	FR	GY	IT	JP	UK	US
		71-84 85-99	71-84 85-99	71-84 85-99	71-84 85-99	71-84 85-99	71-84 85-99	71-84 85-99
rovngh	lev	. (.) 0.79 (0.00)	. (.) 1.07 (0.55)	0.42 (0.00) 1.25 (0.96)	. (.) 1.31 (0.96)	0.93 (0.04) 0.77 (0.01)	. (.) 0.95 (0.09)	0.63 (0.00) 1.11 (0.67)
rtbill	lev	0.39 (0.00) 0.76 (0.00)	. (.) 1.06 (0.54)	. (.) 1.08 (0.41)	. (.) 0.93 (0.05)	. (.) . (.)	0.86 (0.02) 0.83 (0.01)	0.64 (0.00) 1.08 (0.48)
rbnds	lev	. (.) . (.)	. (.) . (.)	. (.) . (.)	. (.) 1.32 (1.00)	. (.) . (.)	1.01 (0.21) 0.85 (0.01)	0.69 (0.00) 1.25 (0.88)
rbndm	lev	. (.) . (.)	. (.) . (.)	. (.) . (.)	0.92 (0.05) 1.23 (0.90)	. (.) . (.)	. (.) . (.)	0.80 (0.00) 1.40 (0.93)
rbndl	lev	0.55 (0.00) 0.98 (0.18)	. (.) 1.36 (1.00)	0.58 (0.00) 1.77 (1.00)	0.69 (0.00) 1.39 (0.99)	. (.) 0.94 (0.03)	0.78 (0.00) 1.03 (0.44)	0.80 (0.00) 1.54 (0.94)
rovngh	1d	. (.) 0.64 (0.00)	. (.) 0.97 (0.12)	0.75 (0.00) 1.26 (1.00)	. (.) 0.95 (0.07)	0.93 (0.01) 0.99 (0.19)	. (.) 0.95 (0.01)	0.65 (0.00) 1.38 (1.00)
rtbill	1d	0.84 (0.00) 0.75 (0.00)	. (.) 0.97 (0.05)	. (.) 1.41 (0.97)	. (.) 0.89 (0.02)	. (.) . (.)	0.85 (0.00) 0.91 (0.01)	0.77 (0.00) 1.44 (1.00)
rbnds	1d	. (.) . (.)	. (.) . (.)	. (.) . (.)	. (.) 1.27 (1.00)	. (.) . (.)	. (.) 0.80 (0.00)	0.68 (0.00) 1.76 (1.00)
rbndm	1d	. (.) . (.)	. (.) . (.)	. (.) . (.)	1.24 (0.99) 1.21 (1.00)	. (.) . (.)	. (.) . (.)	0.69 (0.00) 1.95 (1.00)
rbndl	1d	0.79 (0.00) 1.16 (1.00)	. (.) 1.05 (0.64)	0.83 (0.00) 1.63 (1.00)	1.18 (0.94) 1.15 (0.99)	. (.) 1.16 (0.99)	1.07 (0.98) 0.90 (0.01)	0.72 (0.00) 2.08 (1.00)
rrovngh	lev	. (.) 0.85 (0.02)	. (.) 0.85 (0.04)	0.80 (0.00) 1.28 (0.98)	. (.) 0.93 (0.09)	1.02 (0.26) 1.06 (0.60)	. (.) 0.97 (0.13)	1.10 (0.93) 1.30 (0.86)
rtbill	lev	1.05 (0.77) 0.70 (0.00)	. (.) 0.89 (0.05)	. (.) 1.44 (1.00)	. (.) 0.94 (0.11)	. (.) . (.)	1.17 (0.99) 1.03 (0.32)	1.24 (1.00) 1.40 (0.89)
rbnds	lev	. (.) . (.)	. (.) . (.)	. (.) . (.)	. (.) 1.25 (0.71)	. (.) . (.)	1.17 (0.98) 0.96 (0.12)	1.19 (0.99) 1.36 (0.89)
rbndm	lev	. (.) . (.)	. (.) . (.)	. (.) . (.)	1.08 (0.71) 1.00 (0.28)	. (.) . (.)	. (.) . (.)	1.14 (0.88) 1.51 (0.97)
rbndl	lev	0.94 (0.04) 1.16 (0.99)	. (.) 1.02 (0.25)	0.77 (0.00) 1.95 (0.99)	1.02 (0.27) 1.10 (0.79)	. (.) 0.95 (0.04)	1.09 (0.97) 0.90 (0.05)	1.12 (0.86) 1.57 (0.96)
rrovngh	1d	. (.) 0.91 (0.01)	. (.) 0.96 (0.05)	0.85 (0.00) 1.53 (1.00)	. (.) 1.06 (0.73)	1.09 (0.88) 1.00 (0.23)	. (.) 1.04 (0.73)	1.08 (0.95) 1.16 (0.89)
rtbill	1d	1.04 (0.82) 0.97 (0.05)	. (.) 0.94 (0.04)	. (.) 1.56 (1.00)	. (.) 1.03 (0.78)	. (.) . (.)	1.23 (1.00) 1.02 (0.67)	1.26 (0.99) 1.03 (0.25)
rbnds	1d	. (.) . (.)	. (.) . (.)	. (.) . (.)	. (.) 1.02 (0.25)	. (.) . (.)	. (.) 1.03 (0.63)	1.25 (0.99) 1.03 (0.30)
rbndm	1d	. (.) . (.)	. (.) . (.)	. (.) . (.)	1.27 (1.00) 0.99 (0.18)	. (.) . (.)	. (.) . (.)	1.23 (0.98) 1.04 (0.30)
rbndl	1d	1.06 (1.00) 1.05 (1.00)	. (.) 1.06 (0.81)	1.01 (0.30) 1.44 (1.00)	1.28 (1.00) 0.99 (0.18)	. (.) 0.97 (0.03)	1.17 (1.00) 1.01 (0.33)	1.20 (0.96) 1.04 (0.36)
rspread	lev	. (.) 0.85 (0.01)	. (.) 1.09 (0.71)	0.60 (0.00) 1.01 (0.28)	. (.) 1.02 (0.21)	. (.) 0.97 (0.10)	. (.) 1.01 (0.19)	0.60 (0.00) 1.82 (1.00)
extrate	ln1d	. (.) 0.88 (0.01)	. (.) 1.11 (0.89)	. (.) 1.13 (0.99)	. (.) 1.26 (0.98)	. (.) 0.97 (0.07)	. (.) 1.55 (1.00)	. (.) 1.65 (0.99)
rexrate	ln1d	. (.) . (.)	. (.) . (.)	. (.) . (.)	. (.) . (.)	. (.) . (.)	. (.) . (.)	. (.) . (.)
stockp	ln1d	1.00 (0.15) 0.99 (0.17)	. (.) 1.16 (0.94)	0.95 (0.07) 1.36 (0.99)	0.74 (0.00) 1.39 (1.00)	0.75 (0.00) 1.53 (1.00)	1.12 (1.00) 0.95 (0.03)	1.02 (0.35) 1.06 (0.68)
rstockp	ln1d	1.02 (0.21) 0.98 (0.08)	. (.) 1.15 (0.95)	0.91 (0.04) 1.42 (0.99)	0.90 (0.00) 1.21 (0.99)	0.78 (0.00) 1.44 (0.98)	1.02 (0.73) 0.92 (0.00)	0.94 (0.00) 1.22 (0.99)
divpr	ln	. (.) 0.84 (0.00)	. (.) 1.13 (0.64)	. (.) 1.24 (0.91)	. (.) 1.96 (1.00)	. (.) 1.08 (0.55)	. (.) 0.95 (0.10)	1.18 (0.92) 1.08 (0.38)
house	ln1d	. (.) 1.26 (0.98)	. (.) . (.)	. (.) . (.)	. (.) . (.)	. (.) 1.08 (0.71)	. (.) 1.00 (0.18)	1.04 (0.65) 1.10 (0.64)
rhouse	ln	. (.) 0.61 (0.00)	. (.) . (.)	. (.) . (.)	. (.) . (.)	. (.) 0.74 (0.00)	. (.) 1.19 (0.85)	1.19 (0.98) 1.35 (0.92)
rhouse	ln1d	. (.) 1.17 (0.93)	. (.) . (.)	. (.) . (.)	. (.) . (.)	. (.) 1.10 (0.86)	. (.) 0.95 (0.06)	1.03 (0.42) 0.93 (0.13)
gold	ln1d	1.01 (0.14) 1.07 (0.73)	. (.) 1.27 (0.98)	1.09 (0.91) 1.27 (0.99)	0.97 (0.11) 1.38 (0.99)	1.64 (1.00) 1.08 (0.91)	0.78 (0.00) 1.31 (0.99)	0.81 (0.00) 1.59 (0.99)
gold	ln2d	1.01 (0.22) 0.98 (0.13)	. (.) 1.17 (0.98)	1.40 (1.00) 1.03 (0.68)	1.44 (1.00) 1.03 (0.78)	1.82 (1.00) 1.02 (0.66)	1.33 (1.00) 1.03 (0.78)	1.44 (1.00) 1.09 (0.69)
rgold	ln	0.48 (0.00) 0.84 (0.00)	. (.) 1.92 (1.00)	0.70 (0.00) 1.65 (1.00)	0.45 (0.00) 1.30 (0.92)	1.50 (1.00) 1.28 (1.00)	0.63 (0.00) 1.36 (0.98)	0.84 (0.00) 1.53 (0.43)
rgold	ln1d	1.05 (0.43) 1.03 (0.40)	. (.) 1.23 (0.98)	1.19 (0.99) 1.24 (0.97)	1.10 (0.86) 1.22 (0.97)	1.68 (1.00) 1.06 (0.82)	0.84 (0.00) 1.30 (0.99)	0.89 (0.01) 1.53 (0.99)
silver	ln1d	. (.) 0.98 (0.13)	. (.) 1.26 (1.00)	. (.) 1.11 (0.85)	. (.) 1.05 (0.72)	. (.) 1.05 (0.88)	. (.) 1.12 (0.89)	. (.) 1.17 (0.69)
silver	ln2d	. (.) 0.97 (0.06)	. (.) 1.13 (0.99)	. (.) 1.05 (0.77)	. (.) 1.04 (0.74)	. (.) 1.02 (0.94)	. (.) 1.01 (0.34)	. (.) 1.01 (0.24)
rsilver	ln	. (.) 1.71 (1.00)	. (.) 1.74 (1.00)	. (.) 1.38 (0.94)	. (.) 1.53 (0.95)	. (.) 0.70 (0.00)	. (.) 1.29 (0.93)	. (.) 1.34 (0.73)

rsilver	in1d	. (.) 0.97 (0.11)	. (.) 1.24 (1.00)	. (.) 1.11 (0.87)	. (.) 1.03 (0.57)	. (.) 1.04 (0.77)	. (.) 1.15 (0.91)	. (.) 1.15 (0.63)
rgdp	in1d	. (.) . (.)	. (.) . (.)	. (.) . (.)	. (.) . (.)	. (.) . (.)	. (.) . (.)	. (.) . (.)
rgdp	gap	. (.) . (.)	. (.) . (.)	. (.) . (.)	. (.) . (.)	. (.) . (.)	. (.) . (.)	. (.) . (.)
ip	in1d	1.04 (0.93) 1.04 (0.88)	. (.) 1.22 (0.98)	1.08 (0.87) 1.02 (0.32)	1.10 (1.00) 0.96 (0.04)	1.08 (0.98) 1.04 (0.65)	1.10 (1.00) 0.98 (0.06)	1.04 (0.92) 1.07 (0.72)
ip	gap	1.12 (0.96) 1.03 (0.44)	. (.) 1.32 (0.98)	1.16 (0.86) 1.03 (0.29)	0.95 (0.07) 0.86 (0.07)	0.97 (0.13) 1.03 (0.34)	1.04 (0.70) 1.10 (0.90)	1.24 (0.99) 0.98 (0.20)
capu	lev	0.99 (0.09) 0.89 (0.00)	. (.) 1.00 (0.15)	. (.) 1.60 (1.00)	. (.) 0.76 (0.01)	. (.) 1.03 (0.38)	. (.) . (.)	0.88 (0.00) 0.88 (0.08)
emp	in1d	0.79 (0.00) 1.07 (0.91)	. (.) 1.05 (0.44)	1.05 (0.44) 1.10 (0.80)	. (.) . (.)	1.28 (0.99) 0.99 (0.21)	0.89 (0.03) 0.87 (0.01)	0.91 (0.00) 1.16 (0.95)
emp	gap	1.10 (0.83) 0.99 (0.16)	. (.) 1.22 (0.83)	1.08 (0.42) 1.30 (0.86)	. (.) . (.)	1.07 (0.84) 1.04 (0.49)	0.94 (0.03) 1.09 (0.70)	1.11 (0.96) 1.06 (0.41)
unemp	lev	1.08 (0.77) 0.81 (0.01)	. (.) 1.11 (0.70)	1.11 (0.83) 0.98 (0.17)	0.69 (0.00) 0.71 (0.02)	1.01 (0.19) 0.80 (0.01)	1.14 (0.92) 0.82 (0.01)	1.14 (1.00) 0.99 (0.19)
unemp	1d	1.04 (0.44) 0.78 (0.00)	. (.) 1.02 (0.22)	1.04 (0.34) 1.04 (0.50)	1.25 (0.97) 0.99 (0.23)	1.10 (0.98) 1.00 (0.28)	1.08 (0.97) 0.84 (0.01)	1.02 (0.51) 1.06 (0.56)
unemp	gap	1.01 (0.19) 0.94 (0.07)	. (.) 0.98 (0.13)	1.00 (0.17) 1.04 (0.29)	1.03 (0.20) 0.93 (0.14)	1.09 (0.71) 0.97 (0.19)	0.88 (0.01) 1.06 (0.66)	0.91 (0.01) 1.26 (0.96)
pgdp	in1d	0.65 (0.00) 1.38 (1.00)	. (.) 1.15 (0.81)	0.99 (0.16) 1.16 (0.78)	0.42 (0.00) 1.82 (1.00)	1.02 (0.26) 0.94 (0.06)	0.92 (0.03) 1.03 (0.37)	0.67 (0.00) 1.79 (0.99)
pgdp	in2d	1.05 (0.99) 1.03 (0.97)	. (.) 1.04 (0.83)	1.04 (0.97) 1.01 (0.33)	0.98 (0.11) 1.00 (0.26)	1.02 (0.28) 0.98 (0.13)	1.15 (1.00) 1.01 (0.36)	0.95 (0.01) 1.10 (0.88)
cpi	in1d	0.52 (0.00) 1.48 (1.00)	. (.) 1.26 (0.93)	0.63 (0.00) 2.08 (1.00)	0.70 (0.01) 1.67 (1.00)	1.11 (0.98) 0.88 (0.01)	0.90 (0.03) 0.98 (0.19)	0.54 (0.00) 1.57 (1.00)
cpi	in2d	0.98 (0.10) 1.05 (0.87)	. (.) 1.08 (0.84)	1.02 (0.37) 1.32 (1.00)	1.39 (1.00) 0.97 (0.10)	1.06 (0.86) 0.98 (0.10)	1.11 (1.00) 0.98 (0.10)	0.95 (0.02) 1.26 (0.97)
ppi	in1d	0.72 (0.01) 1.39 (1.00)	. (.) . (.)	0.61 (0.00) 1.85 (1.00)	. (.) . (.)	1.18 (1.00) 1.17 (1.00)	0.91 (0.02) 1.04 (0.44)	0.60 (0.00) 1.86 (0.99)
ppi	in2d	1.12 (1.00) 1.03 (0.92)	. (.) . (.)	0.96 (0.03) 1.17 (0.99)	. (.) . (.)	1.49 (1.00) 1.06 (0.87)	1.06 (0.98) 0.96 (0.04)	1.08 (0.99) 1.22 (0.98)
earn	in1d	0.89 (0.03) 1.28 (1.00)	. (.) 1.03 (0.30)	1.22 (0.97) 1.09 (0.82)	. (.) . (.)	1.21 (1.00) 0.92 (0.02)	0.73 (0.00) 1.02 (0.35)	0.74 (0.00) 2.44 (1.00)
earn	in2d	1.03 (0.59) 1.04 (0.94)	. (.) 1.00 (0.20)	1.15 (1.00) 1.06 (0.99)	. (.) . (.)	1.21 (1.00) 0.99 (0.08)	1.00 (0.11) 0.99 (0.04)	1.00 (0.19) 1.06 (0.79)
oil	in1d	2.40 (1.00) 1.06 (0.99)	. (.) 1.08 (0.89)	5.24 (1.00) 1.30 (1.00)	5.12 (1.00) 1.37 (1.00)	2.55 (1.00) 1.05 (0.88)	1.32 (1.00) 1.01 (0.28)	1.49 (1.00) 1.22 (1.00)
oil	in2d	1.40 (1.00) 1.04 (0.98)	. (.) 1.22 (0.99)	3.36 (1.00) 1.10 (0.98)	3.65 (1.00) 1.10 (0.95)	2.72 (1.00) 1.06 (1.00)	3.21 (1.00) 1.09 (0.99)	2.73 (1.00) 1.04 (0.84)
roil	in	3.15 (1.00) 1.19 (0.99)	. (.) 1.47 (1.00)	7.54 (1.00) 1.48 (0.99)	1.79 (1.00) 1.51 (0.99)	3.69 (1.00) 1.10 (0.91)	1.71 (1.00) 1.13 (0.82)	2.70 (1.00) 1.09 (0.41)
roil	in1d	3.71 (1.00) 1.04 (0.98)	. (.) 1.07 (0.88)	11.26 (1.00) 1.26 (1.00)	2.80 (1.00) 1.24 (1.00)	4.13 (1.00) 1.05 (0.86)	1.65 (1.00) 1.00 (0.20)	2.67 (1.00) 1.15 (1.00)
comod	in1d	1.08 (0.96) 1.06 (0.89)	. (.) 1.42 (1.00)	0.82 (0.00) 1.73 (1.00)	0.66 (0.00) 1.54 (1.00)	1.25 (0.99) 1.13 (0.95)	0.98 (0.07) 1.03 (0.45)	0.85 (0.00) 1.41 (0.95)
comod	in2d	1.10 (1.00) 1.07 (1.00)	. (.) 1.17 (0.98)	1.32 (1.00) 1.06 (0.96)	1.39 (1.00) 1.06 (0.98)	1.30 (1.00) 1.11 (0.95)	1.13 (1.00) 1.07 (0.97)	1.17 (0.99) 1.14 (0.81)
rcomod	in	0.67 (0.00) 1.55 (1.00)	. (.) 1.47 (1.00)	0.89 (0.03) 1.52 (0.99)	1.08 (0.80) 0.69 (0.00)	0.70 (0.00) 0.92 (0.07)	1.02 (0.31) 1.15 (0.83)	1.02 (0.24) 1.81 (0.97)
rcomod	in1d	1.15 (0.95) 1.06 (0.82)	. (.) 1.36 (1.00)	0.92 (0.00) 1.60 (1.00)	0.89 (0.00) 1.23 (0.99)	1.22 (0.98) 1.05 (0.75)	1.08 (0.88) 1.04 (0.50)	1.11 (0.90) 1.23 (0.77)
mon0	in1d	. (.) . (.)	. (.) . (.)	. (.) . (.)	. (.) . (.)	. (.) 0.95 (0.09)	. (.) . (.)	0.98 (0.12) 1.26 (0.91)
mon0	in2d	. (.) . (.)	. (.) . (.)	. (.) . (.)	. (.) . (.)	. (.) 1.03 (0.78)	. (.) . (.)	1.08 (0.98) 1.16 (0.95)
mon1	in1d	1.10 (0.97) 0.91 (0.01)	. (.) 2.17 (1.00)	0.98 (0.09) 1.41 (0.99)	1.01 (0.20) 1.26 (0.93)	4.78 (1.00) 1.03 (0.36)	. (.) . (.)	1.05 (0.45) 1.77 (1.00)
mon1	in2d	1.09 (0.97) 0.94 (0.02)	. (.) 1.16 (0.97)	1.02 (0.52) 1.26 (1.00)	1.02 (0.30) 0.99 (0.16)	1.13 (0.60) 1.04 (0.75)	. (.) . (.)	1.13 (1.00) 1.21 (1.00)
mon2	in1d	. (.) 1.21 (0.98)	. (.) . (.)	1.20 (0.98) 1.04 (0.40)	. (.) 1.15 (0.80)	. (.) 0.82 (0.04)	. (.) . (.)	1.07 (0.94) 1.00 (0.21)
mon2	in2d	. (.) 1.04 (0.79)	. (.) . (.)	1.08 (0.98) 0.96 (0.03)	. (.) 1.09 (0.95)	. (.) 0.96 (0.04)	. (.) . (.)	1.07 (0.99) 1.09 (0.87)
mon3	in1d	. (.) 1.20 (0.96)	. (.) 1.67 (1.00)	. (.) 1.13 (0.90)	1.09 (0.56) 0.80 (0.00)	. (.) 0.87 (0.03)	. (.) . (.)	1.05 (0.55) 1.02 (0.26)
mon3	in2d	. (.) 1.05 (0.82)	. (.) 1.21 (0.99)	. (.) 1.14 (1.00)	1.08 (0.83) 0.94 (0.07)	. (.) 1.03 (0.66)	. (.) . (.)	1.04 (0.95) 0.88 (0.02)
rmon0	in1d	. (.) . (.)	. (.) . (.)	. (.) . (.)	. (.) . (.)	. (.) 1.04 (0.46)	. (.) . (.)	0.66 (0.00) 2.27 (1.00)
rmon1	in1d	0.67 (0.00) 1.19 (0.99)	. (.) 0.70 (0.00)	0.72 (0.00) 1.86 (1.00)	1.13 (0.83) 0.93 (0.09)	4.80 (1.00) 1.00 (0.22)	. (.) . (.)	0.80 (0.00) 2.16 (1.00)
rmon2	in1d	. (.) 1.06 (0.46)	. (.) . (.)	1.23 (0.97) 1.02 (0.31)	. (.) 1.07 (0.67)	. (.) 0.93 (0.07)	. (.) . (.)	0.51 (0.00) 1.23 (0.94)
rmon3	in1d	. (.) 1.06 (0.52)	. (.) 1.38 (1.00)	. (.) 1.22 (1.00)	0.94 (0.07) 0.58 (0.00)	. (.) 0.95 (0.08)	. (.) . (.)	0.74 (0.00) 0.77 (0.02)

Table B.26
MSFE of Bivariate Models Relative to Univariate AR Model and p-Values for Tests of Equal Forecast Accuracy
(Models with Fixed Lag Lengths)
Series = IP
Horizon = 8 Quarters

Indicator	Trans.	CN	FR	GY	IT	JP	UK	US
rownght	lev	71-84 85-99 (.) 0.64 (0.00)	71-84 85-99 0.81 (0.01) 1.03 (0.31)	71-84 85-99 0.36 (0.00) 0.61 (0.00)	71-84 85-99 (.) 1.13 (0.65)	71-84 85-99 0.84 (0.00) 0.68 (0.00)	71-84 85-99 (.) 0.84 (0.05)	71-84 85-99 0.54 (0.00) 0.78 (0.02)
rtbill	lev	0.58 (0.00) 0.62 (0.00)	(.) 0.84 (0.03)	(.) 0.52 (0.00)	(.) 1.39 (1.00)	(.) (.)	1.06 (0.66) 0.89 (0.05)	0.60 (0.00) 0.76 (0.03)
rbnds	lev	(.) (.)	(.) (.)	(.) (.)	(.) 1.65 (1.00)	(.) (.)	1.00 (0.20) 0.94 (0.12)	0.69 (0.00) 0.90 (0.11)
rbndm	lev	(.) (.)	(.) (.)	(.) (.)	0.68 (0.00) 0.95 (0.11)	(.) (.)	(.) (.)	0.84 (0.00) 1.03 (0.35)
rbndl	lev	0.75 (0.00) 0.92 (0.08)	0.54 (0.00) 1.27 (1.00)	0.61 (0.00) 1.22 (0.99)	0.54 (0.00) 1.09 (0.91)	(.) 1.09 (0.87)	0.84 (0.01) 1.11 (0.71)	0.86 (0.00) 1.13 (0.62)
rownght	1d	(.) 0.62 (0.00)	1.13 (0.90) 0.99 (0.18)	0.75 (0.00) 1.01 (0.35)	(.) 0.81 (0.04)	0.81 (0.00) 0.93 (0.03)	(.) 0.83 (0.00)	0.68 (0.00) 1.19 (0.95)
rtbill	1d	0.71 (0.00) 0.97 (0.09)	(.) 0.90 (0.07)	(.) 1.09 (0.92)	(.) 0.86 (0.01)	(.) (.)	0.81 (0.00) 0.85 (0.02)	0.85 (0.00) 1.27 (0.99)
rbnds	1d	(.) (.)	(.) (.)	(.) (.)	(.) 1.30 (1.00)	(.) (.)	(.) 0.78 (0.00)	0.78 (0.00) 1.56 (1.00)
rbndm	1d	(.) (.)	(.) (.)	(.) (.)	0.97 (0.06) 1.14 (0.93)	(.) (.)	(.) (.)	0.77 (0.00) 1.77 (1.00)
rbndl	1d	0.75 (0.00) 1.42 (1.00)	0.98 (0.08) 1.19 (0.97)	0.86 (0.01) 1.24 (1.00)	0.99 (0.11) 1.08 (0.77)	(.) 1.24 (1.00)	0.96 (0.04) 0.90 (0.03)	0.83 (0.00) 1.88 (1.00)
rownght	lev	(.) 0.94 (0.05)	1.24 (0.91) 1.04 (0.28)	0.87 (0.00) 0.95 (0.12)	(.) 1.05 (0.31)	0.80 (0.00) 1.17 (0.92)	(.) 0.97 (0.16)	1.20 (1.00) 1.15 (0.65)
rtbill	lev	1.01 (0.25) 1.15 (0.85)	(.) 0.92 (0.08)	(.) 1.21 (0.91)	(.) 1.16 (0.79)	(.) (.)	1.45 (1.00) 1.03 (0.30)	1.41 (1.00) 1.25 (0.75)
rbnds	lev	(.) (.)	(.) (.)	(.) (.)	(.) 1.26 (0.80)	(.) (.)	1.21 (0.97) 0.97 (0.17)	1.36 (1.00) 1.23 (0.68)
rbndm	lev	(.) (.)	(.) (.)	(.) (.)	0.94 (0.03) 1.35 (0.97)	(.) (.)	(.) (.)	1.34 (0.98) 1.32 (0.75)
rbndl	lev	0.77 (0.00) 1.64 (1.00)	1.08 (0.72) 1.02 (0.32)	0.69 (0.00) 2.18 (1.00)	0.92 (0.02) 1.37 (0.98)	(.) 1.03 (0.35)	1.16 (0.99) 0.94 (0.12)	1.32 (0.99) 1.33 (0.77)
rownght	1d	(.) 0.93 (0.02)	0.92 (0.01) 0.95 (0.06)	0.88 (0.00) 1.46 (1.00)	(.) 1.03 (0.34)	1.07 (0.71) 0.96 (0.13)	(.) 1.04 (0.50)	1.11 (0.99) 1.21 (0.86)
rtbill	1d	1.05 (0.95) 1.01 (0.42)	(.) 0.94 (0.09)	(.) 1.84 (1.00)	(.) 1.05 (0.83)	(.) (.)	1.34 (1.00) 1.03 (0.50)	1.33 (0.99) 1.04 (0.28)
rbnds	1d	(.) (.)	(.) (.)	(.) (.)	(.) 1.02 (0.23)	(.) (.)	(.) 1.02 (0.33)	1.32 (0.98) 1.04 (0.33)
rbndm	1d	(.) (.)	(.) (.)	(.) (.)	1.12 (1.00) 1.04 (0.53)	(.) (.)	(.) (.)	1.31 (0.98) 1.05 (0.29)
rbndl	1d	1.06 (0.98) 1.03 (0.87)	1.13 (1.00) 1.01 (0.27)	1.03 (0.69) 1.36 (1.00)	1.11 (1.00) 1.05 (0.57)	(.) 0.93 (0.03)	1.22 (1.00) 0.99 (0.16)	1.27 (0.95) 1.05 (0.28)
rspread	lev	(.) 0.67 (0.00)	0.97 (0.11) 1.20 (0.82)	0.56 (0.00) 0.62 (0.00)	(.) 1.10 (0.57)	(.) 0.96 (0.12)	(.) 0.97 (0.16)	0.60 (0.00) 1.54 (1.00)
extrate	ln1d	(.) 0.76 (0.00)	(.) 1.09 (0.88)	(.) 1.18 (0.99)	(.) 1.33 (0.96)	(.) 0.97 (0.05)	(.) 1.86 (1.00)	(.) 1.41 (1.00)
rexrate	ln1d	(.) (.)	(.) (.)	(.) (.)	(.) (.)	(.) (.)	(.) (.)	(.) (.)
stockp	ln1d	0.98 (0.11) 1.10 (0.79)	1.09 (0.97) 1.11 (0.96)	0.93 (0.06) 1.32 (0.99)	0.97 (0.07) 1.40 (0.98)	0.93 (0.01) 1.18 (0.98)	0.95 (0.00) 0.97 (0.09)	0.98 (0.09) 1.10 (0.75)
rstockp	ln1d	1.02 (0.25) 1.03 (0.38)	1.09 (0.98) 1.10 (0.93)	0.89 (0.03) 1.37 (0.99)	1.08 (0.75) 1.20 (0.90)	0.94 (0.01) 1.13 (0.96)	0.86 (0.00) 0.97 (0.08)	0.89 (0.00) 1.26 (0.99)
divpr	ln	(.) 0.89 (0.03)	(.) 1.11 (0.57)	(.) 1.26 (0.95)	(.) 2.58 (1.00)	(.) 0.91 (0.05)	(.) 0.89 (0.05)	1.09 (0.82) 0.96 (0.17)
house	ln1d	(.) 1.41 (0.99)	(.) (.)	(.) (.)	(.) (.)	(.) 1.33 (0.98)	(.) 1.15 (0.74)	1.07 (0.83) 0.96 (0.13)
rhouse	ln	(.) 1.31 (0.95)	(.) (.)	(.) (.)	(.) (.)	(.) 0.77 (0.00)	(.) 1.42 (0.96)	1.07 (0.76) 1.94 (1.00)
rhouse	ln1d	(.) 1.26 (0.98)	(.) (.)	(.) (.)	(.) (.)	(.) 1.17 (0.92)	(.) 1.05 (0.37)	1.04 (0.62) 0.98 (0.20)
gold	ln1d	0.95 (0.04) 1.35 (0.99)	0.94 (0.02) 1.61 (1.00)	1.26 (1.00) 1.30 (0.98)	1.08 (0.92) 1.48 (1.00)	1.35 (1.00) 1.18 (0.98)	1.04 (0.50) 1.46 (0.98)	0.91 (0.03) 1.57 (0.98)
gold	ln2d	1.14 (0.98) 1.04 (0.52)	1.35 (1.00) 1.03 (0.72)	1.44 (1.00) 1.03 (0.65)	1.44 (1.00) 1.03 (0.59)	1.73 (1.00) 1.02 (0.71)	1.38 (1.00) 1.03 (0.47)	1.52 (1.00) 1.08 (0.65)
rgold	ln	0.66 (0.00) 0.84 (0.04)	0.41 (0.00) 1.37 (1.00)	1.06 (0.51) 1.28 (0.93)	0.78 (0.00) 1.29 (0.97)	1.24 (0.99) 1.49 (1.00)	0.86 (0.01) 1.47 (0.97)	0.83 (0.01) 1.15 (0.54)
rgold	ln1d	1.03 (0.39) 1.27 (0.97)	1.03 (0.51) 1.45 (1.00)	1.39 (1.00) 1.26 (0.95)	1.22 (0.99) 1.26 (0.95)	1.44 (1.00) 1.12 (0.95)	1.17 (0.98) 1.41 (0.97)	1.01 (0.22) 1.50 (0.95)
silver	ln1d	(.) 1.12 (0.72)	(.) 1.37 (0.99)	(.) 1.18 (0.93)	(.) 1.08 (0.67)	(.) 1.06 (0.76)	(.) 1.13 (0.78)	(.) 1.13 (0.65)
silver	ln2d	(.) 0.97 (0.13)	(.) 1.04 (0.68)	(.) 1.05 (0.79)	(.) 1.03 (0.43)	(.) 1.01 (0.54)	(.) 1.03 (0.40)	(.) 1.01 (0.20)
rsilver	ln	(.) 1.54 (0.95)	(.) 2.11 (1.00)	(.) 1.26 (0.79)	(.) 1.98 (0.99)	(.) 0.82 (0.03)	(.) 1.29 (0.86)	(.) 0.99 (0.15)
rsilver	ln1d	(.) 1.08 (0.56)	(.) 1.33 (0.98)	(.) 1.18 (0.96)	(.) 1.05 (0.37)	(.) 1.04 (0.53)	(.) 1.17 (0.81)	(.) 1.13 (0.62)

rgdp	in1d	1.03 (0.79) 1.07 (0.93)	1.12 (0.91) 0.91 (0.09)	0.98 (0.03) 0.90 (0.00)	0.76 (0.00) 0.84 (0.00)	1.08 (0.98) 0.96 (0.06)	1.08 (0.96) 1.16 (0.86)
rgdp	gap	1.04 (0.47) 1.07 (0.55)	1.15 (0.71) 0.98 (0.23)	1.12 (0.97) 1.02 (0.30)	1.02 (0.27) 1.09 (0.65)	0.99 (0.11) 0.77 (0.00)	1.17 (0.94) 1.00 (0.23)
ip	in1d	. (.) . (.)	. (.) . (.)	. (.) . (.)	. (.) . (.)	. (.) . (.)	. (.) . (.)
ip	gap	. (.) . (.)	. (.) . (.)	. (.) . (.)	. (.) . (.)	. (.) . (.)	. (.) . (.)
capu	lev	0.76 (0.00) 1.06 (0.49)	. (.) 0.85 (0.00)	. (.) 1.08 (0.40)	. (.) 0.93 (0.07)	. (.) . (.)	0.90 (0.02) 0.48 (0.01)
emp	in1d	0.76 (0.00) 1.26 (0.98)	. (.) 0.99 (0.13)	1.08 (0.74) 1.27 (0.98)	1.23 (0.99) 1.00 (0.23)	0.92 (0.03) 0.83 (0.01)	0.93 (0.01) 0.96 (0.13)
emp	gap	1.07 (0.76) 1.02 (0.30)	. (.) 0.81 (0.02)	1.12 (0.62) 1.24 (0.86)	1.11 (0.96) 1.01 (0.25)	1.04 (0.30) 1.08 (0.54)	1.16 (0.95) 0.99 (0.23)
unemp	lev	1.00 (0.16) 0.89 (0.05)	. (.) 1.00 (0.17)	1.45 (1.00) 1.05 (0.33)	0.70 (0.00) 1.02 (0.28)	1.18 (0.97) 0.83 (0.04)	1.21 (1.00) 0.85 (0.04)
unemp	1d	0.93 (0.04) 0.90 (0.06)	. (.) 1.04 (0.52)	1.04 (0.57) 1.04 (0.41)	1.15 (0.98) 0.91 (0.06)	1.06 (0.74) 0.71 (0.00)	0.98 (0.04) 0.99 (0.20)
unemp	gap	0.88 (0.03) 1.01 (0.25)	. (.) 0.94 (0.05)	1.10 (0.41) 1.01 (0.25)	1.02 (0.19) 0.86 (0.08)	0.96 (0.04) 0.81 (0.01)	0.92 (0.01) 1.28 (0.93)
pgdp	in1d	0.41 (0.00) 1.69 (1.00)	. (.) 1.46 (0.98)	0.92 (0.07) 1.14 (0.83)	0.47 (0.00) 1.09 (0.77)	1.02 (0.26) 1.09 (0.51)	0.66 (0.00) 1.54 (0.98)
pgdp	in2d	1.00 (0.10) 1.08 (0.99)	. (.) 1.04 (0.91)	1.05 (0.99) 0.95 (0.02)	0.89 (0.00) 0.86 (0.00)	1.11 (1.00) 0.98 (0.10)	0.95 (0.01) 1.01 (0.24)
cpi	in1d	0.39 (0.00) 1.68 (1.00)	0.52 (0.00) 2.22 (1.00)	0.46 (0.00) 2.30 (1.00)	0.53 (0.00) 1.73 (1.00)	0.87 (0.01) 1.03 (0.38)	0.58 (0.00) 1.34 (0.93)
cpi	in2d	0.92 (0.02) 1.10 (0.90)	1.12 (0.98) 1.04 (0.53)	1.00 (0.17) 1.33 (1.00)	1.09 (1.00) 0.99 (0.14)	0.92 (0.03) 0.87 (0.03)	0.98 (0.11) 1.19 (0.83)
ppi	in1d	0.44 (0.00) 1.80 (1.00)	. (.) . (.)	0.69 (0.00) 1.79 (1.00)	. (.) . (.)	0.70 (0.00) 1.34 (1.00)	0.58 (0.00) 1.70 (1.00)
ppi	in2d	1.12 (0.99) 1.09 (0.96)	. (.) . (.)	0.88 (0.00) 1.23 (1.00)	. (.) . (.)	1.36 (1.00) 1.01 (0.29)	1.08 (0.98) 1.23 (0.93)
earn	in1d	0.71 (0.00) 1.68 (1.00)	0.77 (0.00) 1.64 (1.00)	1.28 (0.99) 1.15 (0.96)	. (.) . (.)	1.10 (0.83) 0.90 (0.06)	0.85 (0.01) 2.05 (0.99)
earn	in2d	0.98 (0.11) 1.11 (0.97)	1.03 (0.88) 0.99 (0.19)	1.12 (1.00) 1.08 (1.00)	. (.) . (.)	1.15 (1.00) 0.97 (0.00)	1.04 (0.89) 1.03 (0.43)
oil	in1d	1.88 (1.00) 1.14 (1.00)	3.47 (1.00) 1.44 (1.00)	5.03 (1.00) 1.34 (1.00)	4.57 (1.00) 1.31 (1.00)	3.20 (1.00) 1.20 (1.00)	1.70 (1.00) 1.22 (1.00)
oil	in2d	2.38 (1.00) 1.02 (0.69)	2.69 (1.00) 1.21 (1.00)	3.69 (1.00) 1.16 (1.00)	3.61 (1.00) 1.10 (0.97)	3.57 (1.00) 1.16 (0.99)	2.45 (1.00) 1.13 (0.92)
roil	in	2.33 (1.00) 1.04 (0.43)	3.09 (1.00) 1.41 (1.00)	8.59 (1.00) 1.28 (0.93)	2.93 (1.00) 1.39 (0.99)	2.23 (1.00) 1.29 (1.00)	3.25 (1.00) 1.04 (0.33)
roil	in1d	2.88 (1.00) 1.09 (0.99)	4.27 (1.00) 1.34 (1.00)	12.40 (1.00) 1.30 (1.00)	3.11 (1.00) 1.18 (1.00)	3.92 (1.00) 1.16 (1.00)	3.28 (1.00) 1.15 (0.97)
comod	in1d	0.97 (0.03) 1.25 (0.99)	0.70 (0.00) 2.12 (1.00)	0.79 (0.00) 1.87 (1.00)	0.53 (0.00) 1.96 (1.00)	0.86 (0.02) 1.23 (0.98)	0.79 (0.00) 1.41 (0.94)
comod	in2d	1.14 (1.00) 1.07 (0.94)	1.28 (1.00) 1.11 (0.99)	1.28 (1.00) 1.13 (0.99)	1.27 (1.00) 1.07 (0.99)	1.31 (1.00) 1.09 (0.94)	1.25 (1.00) 1.13 (0.77)
rcomod	in	0.54 (0.00) 2.31 (1.00)	0.94 (0.05) 1.61 (0.99)	0.71 (0.00) 1.61 (0.99)	1.05 (0.85) 1.27 (0.89)	0.72 (0.00) 0.84 (0.05)	1.08 (0.58) 1.61 (0.93)
rcomod	in1d	1.11 (0.89) 1.13 (0.83)	0.97 (0.04) 1.83 (1.00)	0.90 (0.01) 1.72 (1.00)	0.79 (0.00) 1.57 (1.00)	0.92 (0.05) 1.06 (0.73)	1.10 (0.82) 1.25 (0.71)
rmon0	in1d	. (.) . (.)	. (.) . (.)	. (.) . (.)	. (.) . (.)	. (.) 1.13 (0.72)	0.94 (0.04) 1.60 (1.00)
rmon0	in2d	. (.) . (.)	. (.) . (.)	. (.) . (.)	. (.) . (.)	. (.) 1.04 (0.82)	1.11 (1.00) 1.24 (0.99)
rmon1	in1d	1.08 (0.96) 1.08 (0.82)	. (.) 1.48 (0.98)	1.12 (0.90) 1.38 (0.95)	1.00 (0.15) 1.08 (0.70)	2.81 (1.00) 0.93 (0.08)	0.96 (0.05) 2.27 (1.00)
rmon1	in2d	1.12 (1.00) 1.00 (0.20)	. (.) 1.08 (0.90)	1.09 (1.00) 1.26 (1.00)	1.01 (0.30) 1.01 (0.37)	1.17 (0.93) 1.06 (0.93)	1.10 (1.00) 1.40 (1.00)
rmon2	in1d	. (.) 1.42 (1.00)	. (.) . (.)	1.27 (1.00) 0.87 (0.06)	. (.) 1.62 (1.00)	. (.) 0.76 (0.01)	1.00 (0.18) 1.22 (0.87)
rmon2	in2d	. (.) 1.04 (0.68)	. (.) . (.)	1.10 (0.99) 1.04 (0.88)	. (.) 1.16 (1.00)	. (.) 0.94 (0.02)	0.97 (0.03) 1.15 (0.90)
rmon3	in1d	. (.) 1.42 (1.00)	0.98 (0.08) 1.01 (0.26)	. (.) 1.04 (0.37)	1.03 (0.38) 0.88 (0.04)	. (.) 1.10 (0.52)	1.10 (0.88) 0.90 (0.09)
rmon3	in2d	. (.) 1.03 (0.57)	0.99 (0.10) 1.07 (0.80)	. (.) 1.08 (0.96)	1.06 (0.93) 1.00 (0.18)	. (.) 0.98 (0.07)	1.06 (0.98) 0.79 (0.01)
rmon0	in1d	. (.) . (.)	. (.) . (.)	. (.) . (.)	. (.) . (.)	. (.) 0.95 (0.08)	0.79 (0.00) 1.90 (1.00)
rmon1	in1d	0.91 (0.00) 1.02 (0.41)	. (.) 0.69 (0.00)	0.80 (0.00) 1.87 (0.99)	0.91 (0.03) 0.87 (0.06)	2.22 (1.00) 1.08 (0.80)	0.85 (0.00) 2.02 (1.00)
rmon2	in1d	. (.) 0.89 (0.07)	. (.) . (.)	1.31 (0.99) 1.07 (0.55)	. (.) 1.01 (0.26)	. (.) 0.70 (0.00)	0.47 (0.00) 1.96 (1.00)
rmon3	in1d	. (.) 0.88 (0.07)	0.61 (0.00) 1.32 (1.00)	. (.) 0.99 (0.12)	0.81 (0.00) 0.64 (0.00)	. (.) 0.76 (0.00)	0.72 (0.00) 1.50 (0.95)

Table B.27
Out-of-Sample Results
Trivariate Models (Including IP Gap)
Series = Inflation, GDP Deflator
Forecast Horizon = 2 Quarters

Indicator	Trans.	CN		FR		GY		IT		JP		UK		US				
		71-84	85-99	71-84	85-99	71-84	85-99	71-84	85-99	71-84	85-99	71-84	85-99	71-84	85-99			
AR		2.61	1.76	3.27	1.41	1.76	1.16	4.94	1.74	3.64	1.69	5.30	1.89	1.58	0.64			
RMSE																		
IP	gap	1.02	1.02		1.17	0.82	0.95	1.04	1.24	1.35	0.93	0.94	1.08	0.90	1.05			
rovngh	lev		1.11		1.41		1.10		0.89		1.50		1.04	1.16	1.27	1.32	1.06	
rtbill	lev		1.11		1.04		1.31		0.98		2.25		1.80	1.16	1.14	1.05		
rbnds	lev										1.62		1.18	1.20	1.05			
rbndm	lev									1.57	1.26				1.22	1.00		
rbndl	lev		1.32		1.00		1.45		0.84	0.98	1.50	1.28	1.40	1.31	1.09	1.25	0.99	
rovngh	1d				1.14		1.19		0.87	0.88		1.75		1.12	0.90	1.36	1.29	1.07
rtbill	1d		1.05		0.99		1.12		0.83		1.15		0.92	1.14	1.15	1.05		
rbnds	1d									1.07			1.17	1.24	1.05			
rbndm	1d									1.06	1.19				1.20	1.06		
rbndl	1d		1.06		1.02		1.27		0.79	0.99	1.06	1.18	1.22	0.95	1.08	1.06	1.05	
rrovngh	lev				1.20		1.26		0.94	1.00		1.18	1.32	0.93	1.29	1.12	1.05	
rrtbill	lev		1.12		1.23		1.27		1.24		1.16		1.38	1.26	1.20	1.04		
rrbnds	lev									1.24			1.26	1.17	1.02			
rrbndm	lev									1.22	1.22				1.20	0.97		
rrbndl	lev		1.07		1.13		1.42		1.08	1.00	1.29	1.25	1.09	1.26	1.09	1.34	0.97	
rrovngh	1d				1.16		1.23		0.83	0.98		1.16	1.08	0.94	1.29	0.97	1.09	
rrtbill	1d		1.07		1.06		1.24		1.12		1.10		1.09	1.10	1.09	1.05		
rrbnds	1d									1.03			1.15	1.10	1.05			
rrbndm	1d									1.03	1.20				1.12	1.03		
rrbndl	1d		1.01		1.08		1.20		0.84	0.95	1.03	1.21	1.13	1.02	1.08	1.07	1.03	
rspread	lev				1.16		1.56		1.11	0.93		1.81	1.12	1.41	1.29	0.96		
exrate	ln1d				1.17		1.32		0.92		1.17		1.36	1.57	1.37			
rexrate	ln1d				1.19		1.43		0.93		1.25		1.36	1.62	1.37			
stockp	ln1d		1.00		1.11		1.13		0.98	0.92	1.06	1.24	1.19	1.10	0.90	1.22	1.00	1.02
rstockp	ln1d		1.02		1.09		1.11		0.99	0.93	1.06	1.25	1.16	1.32	0.92	1.31	0.99	1.01
divpr	ln				1.37		1.31		1.20		1.18		1.31	1.69	1.07	1.18		
house	ln1d				1.25								1.94	1.26	1.04	1.17		
rhouse	ln				1.28								1.80	1.66	1.35	1.12		
rhouse	ln1d				1.20								1.59	1.24	1.00	1.15		
gold	ln1d		1.46		1.02		1.22		1.27	0.97	1.07	1.15	1.27	0.93	1.13	1.03	1.13	0.87
gold	ln2d		1.23		1.02		1.27		1.20	0.94	1.13	1.29	1.15	0.92	0.98	1.09	1.11	1.04
rgold	ln		1.43		1.04		1.19		1.58	0.96	1.72	1.19	1.76	0.95	1.49	1.10	1.52	0.93
rgold	ln1d		1.48		1.02		1.18		1.25	0.97	1.04	1.17	1.12	1.00	1.07	1.02	1.07	0.87
silver	ln1d				1.20		1.20		1.11		1.33		1.10	1.16	1.16			
silver	ln2d				1.23		1.17		1.07		1.19		1.14	1.26	1.10			
rsilver	ln				1.24		1.43		1.18		1.66		1.16	1.26	1.28			
rsilver	ln1d				1.20		1.23		1.11		1.38		1.09	1.16	1.17			
rgdp	ln1d		0.97		0.94		1.23		0.79	0.88	0.74	1.46	1.40	1.08	1.05	1.07	1.02	1.09
rgdp	gap		1.07		0.94		1.13		0.85	0.94	0.88	1.38	1.42	1.08	1.06	1.10	0.97	1.17
ip	ln1d																	
ip	gap																	
capu	lev		1.06		0.85		1.41		0.93		1.19		1.48		0.90	0.92		
emp	ln1d		1.09		1.04		1.50		0.87	1.54		1.43	0.91	1.01	1.12	1.04	1.03	
emp	gap		1.16		0.94		1.58		1.04	1.25		1.20	0.91	1.06	1.22	0.83	1.14	
unemp	lev		1.14		1.08		1.27		1.65	1.06	1.43	1.16	1.27	1.09	1.03	1.42	0.97	1.06
unemp	1d		1.12		1.02		1.00		1.18	1.01	1.20	1.29	1.18	0.97	0.89	1.62	1.06	1.04
unemp	gap		1.12		0.93		1.13		0.98	1.06	1.31	1.24	1.62	0.84	0.88	1.17	1.19	1.15
pgdp	ln1d																	
pgdp	ln2d																	
cpi	ln1d		1.41		1.05		1.35		1.01	0.94	1.21	1.32	1.39	1.23	1.35	1.08	1.48	1.04
cpi	ln2d		1.04		1.05		1.34		0.83	0.96	1.05	1.12	1.06	0.92	0.97	1.06	1.10	1.02

ppi	ln1d	1.62	1.05			1.21	1.18			2.02	1.30	1.16	0.91	1.17	1.19
ppi	ln2d	1.22	0.96			1.00	1.17			1.12	1.28	0.96	0.91	1.03	1.32
earn	ln1d	1.42	1.08	1.25	0.97	0.99				1.38	1.00	1.01	1.20	1.11	1.08
earn	ln2d	1.01	1.23	1.19	0.90	1.03				1.26	0.87	1.00	1.18	0.95	1.11
oil	ln1d	3.30	0.91	0.92	2.42	1.23	1.08	1.23		1.97	0.92	1.04	2.37	2.02	1.31
oil	ln2d	1.63	0.93	1.15	3.41	0.97	1.13	1.35		1.45	0.99	0.99	1.21	1.29	1.44
roil	ln	1.16	0.99	0.86	2.46	1.05	2.55	1.29		1.40	1.10	1.18	2.26	1.74	1.50
roil	ln1d	1.03	0.91	0.90	2.39	1.23	1.12	1.25		1.85	0.92	1.08	2.60	2.34	1.54
comod	ln1d	1.11	1.02	1.33	0.88	0.97	1.09	1.54		1.09	1.00	1.18	1.07	0.99	1.24
comod	ln2d	1.25	1.01	1.31	1.26	0.97	1.18	1.89		1.43	0.91	1.05	1.15	1.31	1.06
rcomod	ln	1.33	1.12	1.50	1.03	1.05	2.13	2.14		1.40	0.99	1.03	1.88	1.22	1.43
rcomod	ln1d	1.31	1.05	1.34	0.97	0.97	1.00	1.71		1.17	1.02	1.17	1.34	0.94	1.36
mon0	ln1d									1.34				1.03	1.08
mon0	ln2d									1.11				0.97	1.04
mon1	ln1d	0.99	1.26	1.02	0.84	0.92	1.09	1.26		1.20	1.10			1.09	1.07
mon1	ln2d	1.14	1.01	1.06	0.83	0.96	1.23	1.35		1.25	1.05			0.98	1.06
mon2	ln1d		1.25		1.05	1.00		1.22		1.54				1.08	1.08
mon2	ln2d		1.09		0.97	1.00		1.14		1.22				0.95	1.07
mon3	ln1d		1.27	1.25		0.98	1.11	1.28		1.30				1.00	1.03
mon3	ln2d		1.20	1.16		1.01	1.20	1.33		1.16				0.97	1.05
rmon0	ln1d									1.60				1.12	1.07
rmon1	ln1d	1.03	1.18	1.04	0.86	0.91	1.08	1.33		1.56	1.22			1.15	1.08
rmon2	ln1d		1.08		1.04	0.97		1.61		1.32				1.20	1.11
rmon3	ln1d		1.10	1.16		0.98	1.12	1.29		1.32				1.00	1.05
activity	Median	1.05	0.94	1.11	0.87	0.99	0.90	1.13		1.19	0.90	0.94	1.15	0.92	1.05
activity	Tr.Mean	1.05	0.94	1.10	0.86	0.99	0.88	1.11		1.26	0.92	0.95	1.11	0.93	1.02
pr_earn	Median	1.04	0.98	1.01	0.78	0.97	1.01	1.17		1.03	0.85	0.93	1.05	0.96	1.04
pr_earn	Tr.Mean	1.08	0.95	0.97	0.76	0.99	0.99	1.17		1.00	0.86	0.91	1.06	0.97	1.05
money	Median	0.96	1.11	1.09	0.85	0.94	1.10	1.26		1.24	1.07			0.99	1.05
money	Tr.Mean	0.96	1.07	1.09	0.85	0.91	1.10	1.13		1.24	1.05			1.01	1.05
ap	Median	1.02	1.07	1.02	0.82	0.93	1.04	1.10		1.07	1.01	1.06	1.13	1.02	1.03
ap	Tr.Mean	1.07	1.04	0.99	0.84	0.91	1.06	1.02		1.11	0.99	1.02	1.12	1.02	1.00
all	Median	1.02	0.99	1.02	0.80	0.94	1.04	1.12		1.09	0.96	0.97	1.09	0.96	1.03
all	Tr.Mean	1.04	0.99	0.97	0.79	0.93	1.01	1.03		1.08	0.94	0.94	1.09	0.98	1.01

Table B.28
Out-of-Sample Results
Trivariate Models (Including IP Gap)
Series = CPI Inflation
Forecast Horizon = 2 Quarters

Indicator	Trans.	CN 71-84 85- 99	FR 71-84 85- 99	GY 71-84 85- 99	IT 71-84 85- 99	JP 71-84 85- 99	UK 71-84 85- 99	US 71-84 85- 99
AR RMSE		1.78 1.71	2.16 0.92	1.33 2.04	4.06 1.12	4.23 1.49	4.82 1.97	2.25 1.29
IP	gap	1.03 0.97	1.01 1.00	0.95 1.04	0.98 1.10	1.02 0.87	1.03 1.01	0.80 1.03
rovngh	lev	1.16	0.96 1.35	1.00 1.08	2.25	1.70 1.25	1.02	0.81 1.03
rtbill	lev	1.12 1.06	1.64	1.18	1.51		1.72 0.90	0.82 1.04
rbnds	lev				1.53		0.82	0.86 0.96
rbndm	lev				1.51 1.06			0.93 0.92
rbndl	lev	1.32 1.04	1.20 1.01	1.02 1.08	1.33 1.03	2.56	1.22 0.94	0.88 1.02
rovngh	1d	1.17	1.27 1.08	0.96 1.04	1.65	1.06 0.90	1.18	0.77 0.99
rtbill	1d	1.11 1.00	1.11	1.08	1.28		1.20 0.95	0.77 1.05
rbnds	1d				1.22		0.85	0.82 0.97
rbndm	1d				1.16 1.13			0.88 1.19
rbndl	1d	1.16 0.97	1.02 1.03	0.91 1.07	1.13 1.13	1.67	1.15 0.96	0.85 1.18
rrovnght	lev	1.13	1.06 1.05	1.16 1.06	1.74	1.38 1.00	1.20	0.79 1.15
rrtbill	lev	1.22 1.01	1.17	1.26	1.50		0.81 1.40	0.84 1.04
rrbnds	lev				1.29		1.17	0.92 1.15
rrbndm	lev				1.24 1.11			0.98 1.10
rrbndl	lev	1.36 0.99	1.11 1.45	0.97 0.92	1.32 1.16	1.51	1.04 1.13	0.94 1.03
rrovnght	1d	1.03	0.88 1.00	0.96 1.04	1.67	1.03 0.88	1.04	0.71 1.04
rrtbill	1d	1.01 0.92	1.08	1.21	1.24		1.20 0.90	0.74 1.04
rrbnds	1d				1.25		0.91	0.77 1.05
rrbndm	1d				1.15 1.13			0.84 1.04
rrbndl	1d	1.30 0.85	0.97 1.06	0.98 1.08	1.13 1.13	1.42	1.12 0.94	0.82 1.12
rsread	lev	1.15	1.12 1.22	1.01 1.09	1.82	1.24	1.26	0.87 1.05
exrate	ln1d	1.15	1.10	1.10	1.30	1.38	1.11	1.59
rexrate	ln1d	1.13	1.06	1.05	1.18	1.38	1.05	1.59
stockp	ln1d	1.07 1.02	1.10 1.03	0.95 1.09	1.08 1.08	1.01 0.99	1.14 1.11	0.74 1.12
rstockp	ln1d	1.02 1.02	1.12 1.03	0.95 1.09	1.09 1.10	0.96 1.07	1.16 1.08	0.74 1.13
divpr	ln	1.28	1.32	1.09	1.44	1.46	1.62	0.84 1.12
house	ln1d	1.17				2.27	1.07	0.79 1.17
rhouse	ln	1.39				2.04	1.69	0.96 1.26
rhouse	ln1d	1.32				1.83	1.09	0.76 1.16
gold	ln1d	1.02 0.97	0.97 0.81	1.08 1.07	1.35 1.01	1.67 0.87	1.21 0.89	0.92 0.96
gold	ln2d	1.19 0.97	1.06 0.97	0.98 1.09	1.07 1.11	1.15 0.92	1.21 1.06	0.88 1.00
rgold	ln	1.25 1.05	1.29 0.86	1.25 1.08	1.55 0.99	1.52 0.96	1.51 1.05	1.08 0.97
rgold	ln1d	0.99 1.00	1.04 0.84	1.07 1.06	1.27 1.01	1.51 0.83	1.16 0.98	0.98 0.95
silver	ln1d	1.06	1.13	1.07	1.41	1.23	1.01	1.12
silver	ln2d	1.05	1.20	1.07	1.54	1.35	1.07	1.15
rsilver	ln	1.08	1.30	1.11	2.36	1.57	1.13	1.31
rsilver	ln1d	1.06	1.14	1.07	1.50	1.22	0.99	1.13
rgdp	ln1d	1.04 1.03	1.16	0.95 0.98	0.99 0.97	1.10 1.20	1.31 0.93	0.86 1.00
rgdp	gap	1.10 1.01	1.21	0.91 0.96	1.07 1.06	1.06 0.92	1.05 1.00	0.83 1.07
ip	ln1d							
ip	gap							
capu	lev	1.30 0.67	1.18	1.04	1.69	1.57		0.69 0.84
emp	ln1d	1.11 1.04	1.41	0.90 1.23		1.08 1.26	0.99 0.87	0.73 1.02
emp	gap	1.14 0.84	1.47	0.94 1.31		1.02 1.17	1.02 1.05	0.76 1.04
unemp	lev	1.04 0.89	1.66	1.06 1.07	0.99 1.13	1.13 1.51	1.22 0.83	0.76 0.82
unemp	1d	0.95 1.09	1.03	1.01 1.04	0.94 1.39	1.01 1.51	1.01 0.98	0.79 0.93
unemp	gap	1.10 0.86	1.11	1.01 0.96	0.99 1.15	1.09 1.12	1.00 0.84	0.84 1.00
pgdp	ln1d	1.18 0.95	1.84	0.94 1.07	1.08 1.18	1.20 1.03	1.23 1.01	0.88 1.04
pgdp	ln2d	1.00 0.97	1.18	0.93 1.05	1.07 1.21	1.05 0.99	1.05 0.92	0.82 1.04
cpi	ln1d							
cpi	ln2d							
ppi	ln1d	1.11 0.95		1.19 1.06		1.28 1.22	1.32 0.94	0.78 1.10
ppi	ln2d	1.01 0.96		1.08 1.04		0.93 1.03	0.96 0.89	0.76 0.93
earn	ln1d	1.25 0.98	1.16 1.25	0.90 1.00		1.28 0.97	1.46 0.92	0.82 1.09

earn	ln2d	1.07 0.99	1.06 1.34	0.88 1.06		1.00 0.89	1.14 0.98	0.81 1.00
oil	ln1d	1.39 0.84	1.06 1.02	1.62 1.08	1.03 1.24	1.26 0.97	1.59 1.01	0.97 1.00
oil	ln2d	1.15 0.97	1.01 0.96	2.26 1.04	1.13 2.27	1.05 0.88	2.10 1.10	0.89 1.07
roil	ln	1.16 0.87	1.27 0.84	1.20 1.04	1.59 1.46	1.16 1.17	2.80 1.00	1.28 1.00
roil	ln1d	1.46 0.83	1.25 1.04	1.51 1.09	1.04 1.39	1.92 0.89	1.80 1.02	0.84 0.99
comod	ln1d	1.38 1.01	1.05 1.14	1.01 1.05	0.96 1.01	0.97 1.57	1.17 1.03	0.73 1.33
comod	ln2d	1.00 0.99	1.13 1.16	0.96 1.08	1.08 1.45	1.13 1.40	1.22 1.10	0.86 1.21
rcomod	ln	1.13 0.98	1.19 1.27	1.13 1.19	1.53 1.26	1.09 1.79	1.18 1.26	0.77 1.44
rcomod	ln1d	1.26 1.02	1.01 1.16	1.01 1.05	1.08 1.15	0.78 1.68	1.07 0.89	0.72 1.34
mon0	ln1d					1.60		0.80 1.02
mon0	ln2d					1.36		0.81 1.02
mon1	ln1d	1.13 1.11	1.33	1.12 1.15	1.06 1.12	1.22 1.34		0.80 1.03
mon1	ln2d	0.94 1.08	1.29	1.08 1.08	1.06 1.23	1.01 1.16		0.86 0.99
mon2	ln1d	1.17		0.89 1.14	1.79	2.36		0.83 1.01
mon2	ln2d	1.21		0.94 1.12	1.41	1.63		0.83 1.03
mon3	ln1d	1.16	0.94 1.20	1.06	1.17 1.17	1.96		0.81 1.06
mon3	ln2d	1.16	1.01 1.37	1.04	1.09 1.23	1.84		0.85 1.03
rmon0	ln1d					2.20		0.82 1.03
rmon1	ln1d	1.15 1.12	1.56	1.15 1.10	1.01 1.04	0.91 1.37		0.84 0.97
rmon2	ln1d	1.12		0.84 1.09	1.79	1.81		0.84 0.97
rmon3	ln1d	1.09	0.99 1.07	1.04	1.19 1.18	1.69		0.81 1.02
activity	Median	1.03 0.91	1.03	0.94 1.01	0.92 1.00	1.01 0.99	1.00 0.79	0.75 0.94
activity	Tr.Mean	1.03 0.91	1.01	0.93 1.02	0.93 1.00	1.01 1.01	0.98 0.80	0.73 0.93
pr_earn	Median	1.03 0.95	1.04 0.97	0.95 1.06	1.00 0.84	0.96 0.79	1.05 0.91	0.77 1.01
pr_earn	Tr.Mean	1.03 0.93	0.99 1.01	1.02 1.05	0.96 0.77	0.87 0.71	1.03 0.87	0.75 1.03
money	Median	1.01 1.01	0.99 1.21	0.93 1.04	1.05 1.01	0.99 1.17		0.81 0.98
money	Tr.Mean	1.00 1.00	0.99 1.20	0.93 1.05	1.05 1.02	0.98 1.18		0.80 0.96
ap	Median	0.91 1.02	0.97 0.92	0.97 1.06	1.10 1.11	1.02 0.95	1.02 0.93	0.76 1.00
ap	Tr.Mean	0.88 1.02	0.93 0.89	1.00 1.06	1.15 1.11	1.09 0.92	1.02 0.89	0.74 1.01
all	Median	0.96 0.97	0.99 0.94	0.95 1.06	1.05 1.07	0.97 0.84	1.03 0.89	0.76 0.99
all	Tr.Mean	0.93 0.96	0.93 0.91	0.96 1.04	1.05 0.93	0.92 0.83	0.99 0.83	0.73 0.98

Table B.29
Out-of-Sample Results
Trivariate Models (Including IP Gap)
Series = Inflation, GDP Deflator
Forecast Horizon = 4 Quarters

Indicator	Trans.	CN 71-84 85-99	FR 71-84 85-99	GY 71-84 85-99	IT 71-84 85-99	JP 71-84 85-99	UK 71-84 85-99	US 71-84 85-99
AR RMSE		2.73 1.58	2.97 1.17	1.35 1.06	5.10 1.78	4.54 1.32	5.58 1.84	1.76 0.64
IP	gap	1.08 1.01	1.49	1.13 1.01	1.08 1.12	1.23 1.03	0.97 0.96	0.86 1.05
rovngh	lev	1.21	2.01	1.18 1.00	2.68	0.95 2.35	1.36	1.17 1.11
rtbill	lev	1.08 1.02	1.72	0.98	2.41		3.39 1.20	1.11 1.09
rbnds	lev				1.60		1.26	1.05 1.09
rbndm	lev				2.47 1.15			1.08 1.02
rbndl	lev	1.24 0.91	1.78	1.16 0.91	1.75 1.19	3.61	1.34 1.11	1.15 1.00
rovngh	1d	1.04	1.34	1.06 1.03	1.97	1.25 1.03	1.35	1.26 1.06
rtbill	1d	1.04 1.03	1.15	0.96	0.91		1.37 1.21	1.02 1.05
rbnds	1d				0.99		1.22	0.98 1.05
rbndm	1d				1.13 1.10			0.97 1.05
rbndl	1d	1.09 1.06	1.36	1.08 1.06	1.11 1.16	2.05	0.91 1.16	0.99 1.06
rrovngh	lev	1.55	1.80	1.21 1.12	2.69	1.40 1.03	1.34	1.00 1.17
rrtbill	lev	1.17 1.19	1.84	1.31	1.13		1.22 1.38	1.04 1.14
rrbnds	lev				1.24		1.39	1.03 1.12
rrbndm	lev				1.44 1.21			0.98 1.05
rrbndl	lev	1.22 1.06	1.82	1.48 1.14	1.46 1.27	1.86	1.55 1.09	0.99 1.05
rrovngh	1d	1.05	1.53	1.11 1.02	1.08	1.20 1.02	1.35	0.87 1.05
rrtbill	1d	1.02 1.04	1.52	1.06	1.00		0.83 1.14	0.86 1.04
rrbnds	1d				1.21		1.19	0.93 1.04
rrbndm	1d				1.05 1.10			0.89 1.57
rrbndl	1d	0.99 1.07	1.61	1.08 1.02	1.05 1.11	1.89	0.98 0.97	0.95 1.55
rsread	lev	0.99	1.57	1.13 1.01	2.27	1.87	1.50	0.94 0.94
exrate	ln1d	1.23	1.26	0.98	2.00	1.94	1.45	1.27
rexrate	ln1d	1.45	1.34	0.97	1.50	2.42	1.28	1.27
stockp	ln1d	0.88 1.30	1.51	1.26 1.05	1.18 1.22	1.00 3.05	0.79 1.11	0.92 1.14
rstockp	ln1d	0.88 1.29	1.50	1.27 1.05	1.17 1.29	0.87 3.22	0.83 1.14	0.95 1.13
divpr	ln	1.65	2.00	1.28	1.18	2.61	1.98	1.14 1.44
house	ln1d	1.33				4.15	1.25	0.96 1.21
rhouse	ln	1.56				3.93	2.10	1.25 1.17
rhouse	ln1d	1.25				3.36	1.27	0.96 1.20
gold	ln1d	1.23 0.82	1.21	1.32 1.07	1.23 0.99	1.60 1.05	1.07 0.91	1.08 0.82
gold	ln2d	1.17 1.01	1.51	1.08 1.01	1.20 1.13	1.17 1.05	0.98 0.96	0.95 1.04
rgold	ln	2.22 0.81	1.25	1.33 1.04	3.25 1.03	2.80 1.56	2.11 0.94	1.94 0.91
rgold	ln1d	1.23 0.80	1.17	1.27 1.07	1.19 1.01	1.39 1.21	1.02 0.91	0.98 0.81
silver	ln1d	1.14	1.53	1.05	1.43	1.93	1.23	1.25
silver	ln2d	1.14	1.49	1.08	1.34	1.96	1.29	1.17
rsilver	ln	1.34	1.78	1.21	2.84	2.23	1.39	1.70
rsilver	ln1d	1.14	1.56	1.05	1.48	1.92	1.23	1.27
rgdp	ln1d	0.96 0.96	1.41	1.12 0.97	0.87 1.13	1.31 1.61	1.17 0.97	1.01 1.05
rgdp	gap	1.21 0.92	1.44	1.12 1.21	1.05 1.20	1.38 1.16	1.07 0.97	0.94 1.20
ip	ln1d							
ip	gap							
capu	lev	1.45 0.83	2.29	0.97	1.63	2.28		0.86 0.95
emp	ln1d	1.00 1.00	1.91	0.85 1.56		1.26 1.42	0.98 0.99	1.03 0.95
emp	gap	1.20 1.00	2.54	1.04 1.50		1.26 1.00	1.04 1.25	0.80 1.19
unemp	lev	1.14 0.94	1.95	4.21 1.05	1.85 1.02	1.69 1.55	0.99 1.65	0.87 1.15
unemp	1d	1.02 1.03	1.03	1.42 1.09	1.27 1.11	1.21 1.47	0.84 1.84	1.06 1.03
unemp	gap	1.03 1.03	1.12	1.01 1.14	1.26 1.15	1.55 0.95	1.01 1.13	1.02 1.19
pgdp	ln1d							
pgdp	ln2d							
cpi	ln1d	1.42 1.01	1.60	1.83 1.02	1.44 1.41	1.64 2.56	1.61 1.04	1.14 1.05
cpi	ln2d	1.06 1.03	1.25	1.05 1.05	1.05 1.01	1.17 1.02	0.96 0.97	1.00 1.33
ppi	ln1d	2.15 1.01		1.04 0.98		1.82 1.86	1.35 0.66	0.93 1.14
ppi	ln2d	1.15 0.98		1.02 0.88		0.88 1.61	0.88 0.65	0.92 1.14
earn	ln1d	1.39 1.06	1.49	1.11 1.06		1.43 1.03	1.07 1.07	0.96 1.06

earn	ln2d	1.02 1.04	1.46	0.99 1.06		1.29 1.05	0.95 1.02	0.91 1.08
oil	ln1d	1.09 1.03	0.92	6.84 1.15	1.45 1.06	4.81 1.06	1.03 2.46	3.37 1.29
oil	ln2d	1.13 1.01	1.58	4.00 1.09	1.54 1.26	1.88 1.07	1.00 1.85	1.00 1.07
roil	ln	1.39 0.84	1.10	1.69 1.24	4.95 1.18	1.17 1.91	1.99 2.89	2.74 1.39
roil	ln1d	1.02 1.05	0.93	1.22 1.15	1.27 1.08	5.04 1.05	0.88 2.97	3.47 1.30
comod	ln1d	1.44 0.99	1.50	1.10 1.01	1.12 1.20	1.23 1.19	1.03 1.17	0.68 1.42
comod	ln2d	1.04 1.10	1.51	1.17 1.02	1.13 2.04	1.33 1.02	0.91 1.01	0.97 1.05
rcomod	ln	1.28 1.05	1.83	1.29 1.16	2.61 3.44	1.34 1.80	1.04 2.48	0.97 1.61
rcomod	ln1d	1.45 0.96	1.60	1.16 1.00	0.96 1.43	1.10 1.48	0.84 1.60	0.64 1.57
mon0	ln1d					2.47		0.97 1.12
mon0	ln2d					1.97		0.93 1.04
mon1	ln1d	0.85 1.44	0.88	1.26 1.07	1.15 1.14	2.15 1.65		0.96 1.06
mon1	ln2d	1.04 1.17	0.95	1.14 1.09	1.25 1.17	2.63 1.52		0.95 1.04
mon2	ln1d	1.15		1.14 0.97	1.66	3.71		1.11 0.98
mon2	ln2d	1.18		1.15 1.03	1.13	2.08		0.93 1.05
mon3	ln1d	1.16	1.99	1.03	1.20 1.06	2.62		1.18 0.99
mon3	ln2d	1.15	1.46	1.01	1.25 1.16	1.86		0.90 1.06
rmon0	ln1d					3.03		1.10 1.09
rmon1	ln1d	0.81 1.38	0.94	1.21 1.06	1.04 1.28	1.20 1.79		1.09 1.06
rmon2	ln1d	1.16		1.11 0.94	1.71	2.36		0.97 1.04
rmon3	ln1d	1.16	1.65	0.99	1.16 1.72	2.30		1.05 1.02
activity	Median	1.04 0.94	1.25	0.98 1.04	1.11 1.01	1.27 1.09	0.94 1.05	0.84 1.01
activity	Tr.Mean	1.05 0.93	1.29	1.01 1.06	1.08 0.99	1.29 1.10	0.96 1.01	0.86 0.98
pr_earn	Median	1.04 0.99	1.11	0.99 0.98	1.05 1.01	1.11 1.02	0.88 0.81	0.83 1.05
pr_earn	Tr.Mean	1.06 0.96	1.06	0.99 0.96	1.04 1.02	1.04 1.00	0.86 0.92	0.88 1.04
money	Median	1.10 1.12	1.16	1.05 0.94	1.17 1.09	2.02 1.68		0.99 1.02
money	Tr.Mean	1.05 1.10	1.17	1.07 0.91	1.15 1.07	1.93 1.58		0.98 1.02
ap	Median	0.98 1.02	1.19	1.11 1.00	1.10 1.01	1.21 1.38	0.98 1.12	0.89 1.01
ap	Tr.Mean	0.99 0.99	1.19	1.13 0.98	1.21 0.95	1.13 1.35	1.01 1.09	0.88 1.00
all	Median	1.01 0.99	1.13	1.05 0.99	1.08 1.02	1.19 1.18	0.95 1.02	0.89 1.03
all	Tr.Mean	1.02 0.97	1.09	1.01 0.97	1.10 0.95	1.02 1.17	0.94 1.00	0.89 0.99

Table B.30
Out-of-Sample Results
Trivariate Models (Including IP Gap)
Series = CPI Inflation
Forecast Horizon = 4 Quarters

Indicator	Trans.	CN 71-84 85-99	FR 71-84 85-99	GY 71-84 85-99	IT 71-84 85-99	JP 71-84 85-99	UK 71-84 85-99	US 71-84 85-99
AR RMSE		2.10 1.67	2.37 1.02	1.28 1.73	4.65 1.38	4.95 1.32	5.25 2.06	2.50 1.28
IP	gap	1.00 0.91	1.00 1.07	0.85 1.06	0.98 1.16	1.05 1.00	0.92 0.91	0.77 0.97
rovngh	lev	1.07	0.77 1.54	0.93 1.07	3.11	1.18 1.75	1.04	0.84 1.07
rtbill	lev	1.13 0.96	2.12	1.19	1.80		1.93 0.91	0.89 1.06
rbnds	lev				1.86		0.94	0.94 0.98
rbndm	lev				1.68 1.05			0.91 1.15
rbndl	lev	1.41 0.89	1.29 1.00	0.90 1.13	1.90 1.11	5.45	1.01 0.99	0.91 1.22
rovngh	1d	0.87	1.09 1.21	0.88 1.05	2.89	1.05 1.00	1.08	0.79 1.04
rtbill	1d	1.00 0.95	1.34	1.02	1.26		1.29 0.94	0.78 1.03
rbnds	1d				1.25		0.90	0.78 0.99
rbndm	1d				1.15 1.27			0.71 1.25
rbndl	1d	1.17 0.92	0.93 1.11	0.84 1.07	1.23 1.33	1.93	1.02 1.04	0.71 1.22
rrovngh	lev	0.85	1.14 1.93	1.10 1.03	2.13	1.83 1.21	1.61	0.92 1.10
rrtbill	lev	1.30 1.03	2.06	1.24	1.16		0.89 1.65	1.01 1.13
rrbnds	lev				1.29		1.48	1.06 0.93
rrbndm	lev				1.31 1.26			1.09 1.15
rrbndl	lev	1.43 0.91	1.30 1.63	1.16 0.94	1.47 1.51	1.71	0.97 1.36	1.07 1.21
rrovngh	1d	0.81	1.11 0.87	0.88 1.05	1.28	1.03 1.09	1.28	0.70 1.07
rrtbill	1d	1.00 0.91	0.98	1.10	1.23		0.92 1.04	0.70 1.10
rrbnds	1d				1.15		0.91	0.74 1.06
rrbndm	1d				1.22 1.27			0.77 1.15
rrbndl	1d	1.08 0.86	0.93 1.17	0.87 1.10	1.18 1.33	1.58	0.96 0.94	0.78 1.04
rspread	lev	0.81	1.06 1.67	0.97 1.07	3.29	1.35	1.04	0.78 1.26
exrate	ln1d	0.88	1.57	1.31	1.51	2.16	1.19	1.40
rexrate	ln1d	0.90	1.51	1.18	1.33	2.31	1.05	1.40
stockp	ln1d	0.94 0.99	1.16 1.10	0.85 1.08	1.31 1.19	0.98 1.40	0.91 1.13	0.73 1.17
rstockp	ln1d	0.93 1.01	1.12 1.09	0.85 1.09	1.21 1.24	0.98 2.57	0.96 1.08	0.72 1.12
divpr	ln	1.46	2.04	1.25	1.54	2.91	2.10	0.81 1.24
house	ln1d	1.13				5.11	0.95	0.70 1.06
rhouse	ln	1.36				3.29	2.21	0.84 1.04
rhouse	ln1d	1.15				3.30	1.08	0.64 1.02
gold	ln1d	0.95 0.86	1.05 0.90	1.00 1.04	1.17 1.08	1.91 0.92	0.97 0.87	0.99 0.94
gold	ln2d	1.16 0.91	0.97 1.09	0.88 1.06	0.97 1.18	1.11 1.01	1.02 0.91	0.79 0.97
rgold	ln	1.16 0.83	2.50 0.97	1.38 1.07	1.78 0.94	2.27 1.21	1.29 0.98	1.77 0.98
rgold	ln1d	0.87 0.85	1.20 0.89	0.99 1.03	1.07 1.25	1.61 0.89	0.85 0.87	0.96 0.90
silver	ln1d	1.08	1.39	1.09	1.55	1.42	0.91	1.15
silver	ln2d	1.03	1.23	1.11	1.71	1.62	1.00	1.10
rsilver	ln	1.10	1.67	1.25	4.04	2.60	1.28	1.62
rsilver	ln1d	1.08	1.40	1.09	1.63	1.40	0.91	1.15
rgdp	ln1d	0.99 0.88	1.00	0.86 1.05	0.96 0.89	1.09 2.11	1.09 0.89	0.81 0.94
rgdp	gap	0.90 0.99	1.30	0.89 0.94	0.94 1.13	1.28 0.89	1.13 0.88	0.89 0.99
ip	ln1d							
ip	gap							
capu	lev	1.04 0.79	2.21	1.03	2.07	2.46		0.75 0.87
emp	ln1d	0.98 0.85	1.63	0.81 1.06		1.07 1.58	0.97 0.90	0.78 1.00
emp	gap	1.06 0.83	2.53	0.82 1.05		1.10 0.97	0.97 1.38	0.66 1.04
unemp	lev	1.04 0.70	4.50	1.00 1.06	1.08 1.43	1.29 1.45	1.06 0.88	0.83 0.88
unemp	1d	0.98 0.91	0.83	0.81 1.02	0.97 1.29	1.03 1.38	0.89 1.14	0.80 0.85
unemp	gap	1.16 0.81	1.14	0.84 1.01	1.07 1.25	1.22 0.98	0.89 0.88	0.79 1.02
pgdp	ln1d	1.11 0.92	2.36	0.87 1.06	1.14 1.26	1.42 1.10	1.14 0.96	0.96 0.99
pgdp	ln2d	1.00 0.91	1.28	0.84 1.06	1.00 1.28	1.07 1.00	1.03 0.91	0.81 0.96
cpi	ln1d							
cpi	ln2d							
ppi	ln1d	1.32 0.90		1.36 1.07		1.53 1.30	1.03 0.99	0.96 1.02
ppi	ln2d	0.96 0.93		0.89 1.04		1.10 1.07	0.73 0.89	0.76 0.95
earn	ln1d	1.22 0.91	1.02 1.18	0.80 1.03		1.33 1.09	1.27 0.94	0.87 1.00

earn	ln2d	1.02 0.91	0.96 1.17	0.80 1.08		1.13 1.04	1.11 0.96	0.80 0.96
oil	ln1d	1.23 0.85	2.02 1.11	0.88 1.06	0.97 1.13	2.42 1.14	0.90 1.09	1.03 1.00
oil	ln2d	1.13 0.92	1.45 1.06	1.14 1.05	1.06 1.50	1.07 1.00	0.95 0.96	0.76 0.93
roil	ln	1.49 0.84	1.14 0.71	1.62 1.04	1.92 1.19	1.35 1.73	2.34 1.32	1.75 0.90
roil	ln1d	1.17 0.85	1.88 1.11	0.85 1.06	1.19 1.17	1.98 1.08	0.83 1.29	0.80 1.00
comod	ln1d	2.56 0.88	1.21 0.98	0.88 1.03	1.00 1.09	1.44 1.68	0.99 0.85	0.77 1.35
comod	ln2d	0.97 0.92	1.13 1.30	0.86 1.06	0.95 1.48	1.12 1.83	1.03 0.91	0.76 1.37
rcomod	ln	1.16 0.86	1.28 1.08	1.03 1.23	1.40 1.84	1.28 2.13	1.09 1.47	0.71 1.39
rcomod	ln1d	2.32 0.88	1.14 1.07	0.87 1.02	0.93 1.20	1.09 1.98	0.93 0.81	0.71 1.25
mon0	ln1d					2.50		0.80 1.07
mon0	ln2d					2.52		0.81 0.96
mon1	ln1d	1.12 1.03	1.23	0.87 1.12	0.97 1.18	1.54 1.83		0.65 1.09
mon1	ln2d	1.04 0.96	1.23	0.87 1.12	0.99 1.28	1.99 1.49		0.78 1.12
mon2	ln1d	1.04		0.73 1.20	2.37	4.18		0.87 0.89
mon2	ln2d	1.10		0.86 1.18	1.61	2.18		0.80 0.97
mon3	ln1d	1.04	0.94 1.20	1.16	1.06 1.22	3.34		0.88 0.96
mon3	ln2d	1.09	0.97 1.18	1.15	1.08 1.31	2.22		0.80 0.99
rmon0	ln1d					3.16		0.75 1.12
rmon1	ln1d	1.05 1.03	1.79	0.89 1.15	1.00 0.96	1.36 1.63		0.69 1.07
rmon2	ln1d	0.96		0.72 1.23	2.32	2.73		0.79 0.84
rmon3	ln1d	0.99	0.97 1.07	1.08	0.89 1.27	2.84		0.77 0.94
activity	Median	1.00 0.82	0.98	0.85 0.99	0.91 0.99	1.04 1.06	0.90 0.80	0.71 0.91
activity	Tr.Mean	1.00 0.81	0.98	0.85 0.99	0.94 0.98	1.06 1.11	0.90 0.77	0.72 0.90
pr_earn	Median	0.98 0.89	1.00 1.06	0.85 1.06	0.97 0.96	1.08 0.95	0.87 0.85	0.77 0.95
pr_earn	Tr.Mean	1.03 0.87	1.08 1.05	0.86 1.05	0.94 0.88	0.97 0.79	0.85 0.84	0.75 0.99
money	Median	0.90 0.90	0.96 1.04	0.78 1.07	0.95 1.18	0.94 1.64		0.74 0.90
money	Tr.Mean	0.88 0.87	0.96 1.03	0.77 1.08	0.95 1.12	0.93 1.48		0.73 0.89
ap	Median	0.88 0.93	0.92 0.93	0.87 1.06	1.04 1.17	1.06 1.08	0.88 0.86	0.75 0.93
ap	Tr.Mean	0.85 0.92	0.93 0.95	0.89 1.06	1.07 1.08	1.11 1.09	0.86 0.86	0.74 0.98
all	Median	0.95 0.89	0.94 0.93	0.85 1.05	0.98 1.10	1.04 0.99	0.90 0.84	0.74 0.94
all	Tr.Mean	0.92 0.87	0.94 0.92	0.84 1.04	0.99 0.96	0.95 0.98	0.85 0.80	0.72 0.94

Table B.31
Out-of-Sample Results
Trivariate Models (Including IP Gap)
Series = Inflation, GDP Deflator
Forecast Horizon = 8 Quarters

Indicator	Trans.	CN 71-84 85-99	FR 71-84 85-99	GY 71-84 85-99	IT 71-84 85-99	JP 71-84 85-99	UK 71-84 85-99	US 71-84 85-99
AR RMSE		3.39 1.50	3.22 1.24	1.38 1.17	4.50 1.90	4.44 1.29	6.72 1.83	2.15 0.69
IP	gap	1.15 1.07	1.58	1.47 1.16	1.37 1.08	1.57 1.03	0.71 0.82	0.84 1.11
rovngh	lev	2.16	2.52	1.44 1.06	2.83	1.58 3.89	1.74	1.10 1.59
rtbill	lev	1.11 1.19	2.22	0.91			1.60 1.50	1.16 1.49
rbnds	lev				2.58		2.02	1.15 1.43
rbndm	lev				2.68 0.88			1.05 1.24
rbndl	lev	1.08 0.90	2.27	1.35 1.34	1.20 0.98	9.41	1.30 0.86	1.05 1.19
rovngh	1d	0.82	1.38	1.44 1.08	1.80	1.70 1.04	1.30	1.02 1.11
rtbill	1d	1.22 1.07	1.42	0.76			1.16 1.24	0.96 1.11
rbnds	1d				0.87		1.20	0.89 1.11
rbndm	1d				1.51 1.24			0.88 1.12
rbndl	1d	1.14 1.12	1.40	1.58 1.16	1.91 1.32	1.77	0.87 0.94	0.88 1.14
rrovngh	lev	2.03	2.71	1.54 1.23	2.98	1.75 2.34	1.46	1.00 1.38
rrtbill	lev	1.24 1.45	2.48	1.63			1.14 1.43	1.09 1.22
rrbnds	lev				1.11		1.53	1.07 1.33
rrbndm	lev				3.08 1.41			1.01 1.44
rrbndl	lev	1.33 1.08	1.78	1.51 1.24	5.22 1.42	2.22	0.89 1.17	1.02 1.46
rrovngh	1d	0.83	1.54	1.48 1.19	1.32	1.57 1.05	1.33	0.87 1.10
rrtbill	1d	0.98 1.26	1.65	0.96			0.95 1.10	0.87 1.09
rrbnds	1d				0.97		1.22	0.85 1.35
rrbndm	1d				1.55 1.07			0.85 1.73
rrbndl	1d	1.01 1.18	1.63	1.46 1.15	1.59 1.07	1.76	0.69 0.83	0.76 1.65
rsread	lev	1.01	2.05	1.53 1.17	2.54	2.31	1.97	0.97 1.66
exrate	ln1d	1.67	2.20	0.93	2.73	1.92	0.89	1.33
rexrate	ln1d	1.78	1.94	0.91	1.13	2.64	0.85	1.33
stockp	ln1d	0.99 1.17	1.55	1.51 1.18	2.19 1.28	1.17 4.29	0.65 0.97	0.83 1.30
rstockp	ln1d	0.93 1.18	1.55	1.50 1.18	2.01 1.40	1.02 4.50	0.66 0.92	0.82 1.53
divpr	ln	2.73	6.23	1.11	1.57	11.18	3.59	0.82 2.38
house	ln1d	2.65				6.21	1.38	1.08 1.36
rhouse	ln	3.47				4.71	3.34	1.57 1.41
rhouse	ln1d	2.66				4.04	1.61	1.08 1.30
gold	ln1d	1.02 0.94	1.42	2.06 1.17	1.46 0.94	1.57 1.04	0.98 0.79	0.76 0.85
gold	ln2d	1.14 1.07	1.59	2.14 1.16	1.64 1.10	1.42 1.05	0.70 0.83	0.79 1.06
rgold	ln	1.82 0.92	0.94	2.56 1.22	10.29 0.96	3.09 2.30	2.07 0.85	2.29 1.32
rgold	ln1d	1.06 0.92	1.46	1.97 1.17	1.39 0.95	1.38 1.05	0.93 0.81	0.70 0.85
silver	ln1d	1.66	1.51	0.97	1.05	1.85	1.17	1.41
silver	ln2d	1.78	1.59	0.97	1.03	1.90	1.28	1.30
rsilver	ln	2.53	2.88	1.11	5.32	3.66	3.81	3.80
rsilver	ln1d	1.65	1.53	0.97	1.17	1.84	1.17	1.50
rgdp	ln1d	1.07 0.94	1.44	1.46 1.13	0.95 1.02	1.68 1.48	0.68 0.80	0.84 1.05
rgdp	gap	1.24 1.25	2.00	1.54 1.13	1.20 1.22	1.61 1.15	0.81 0.84	0.92 1.22
ip	ln1d							
ip	gap							
capu	lev	1.95 1.28	3.91	0.87	2.33	3.05		0.66 1.08
emp	ln1d	1.11 1.01	1.83	1.39 1.44		1.79 0.94	0.69 0.86	0.65 0.96
emp	gap	1.46 1.18	3.50	1.32 1.98		1.56 1.16	0.83 1.58	0.70 1.39
unemp	lev	1.31 1.09	3.60	9.95 1.24	4.04 1.16	3.11 1.83	0.80 3.26	0.65 1.49
unemp	1d	1.21 1.05	0.82	1.99 1.25	1.61 1.09	1.63 0.98	0.68 3.84	0.89 1.07
unemp	gap	1.19 1.15	1.22	1.29 1.13	1.67 1.11	1.84 1.38	0.79 1.06	0.79 1.31
pgdp	ln1d							
pgdp	ln2d							
cpi	ln1d	1.34 1.31	2.73	1.76 1.48	2.30 1.89	1.94 4.95	1.13 0.98	1.10 1.24
cpi	ln2d	1.05 1.10	1.38	1.45 1.15	1.58 1.02	1.62 1.04	0.67 0.83	0.85 1.09
ppi	ln1d	1.45 1.07		1.22 1.31		1.55 3.83	1.25 0.66	1.04 1.10
ppi	ln2d	1.08 1.02		1.57 1.09		0.99 1.37	0.65 0.67	0.80 1.19

earn	ln1d	1.20 1.30	1.85	1.96 1.23		1.97 1.14	0.78 1.00	0.91 1.17
earn	ln2d	1.06 1.05	1.58	2.09 1.21		1.55 1.05	0.80 0.96	0.85 1.13
oil	ln1d	5.80 1.12	1.40	8.39 1.18	3.87 1.07	2.26 1.25	0.87 1.87	1.69 1.19
oil	ln2d	1.32 1.08	1.58	5.02 1.20	1.49 1.14	1.78 1.04	0.82 1.89	2.40 1.14
roil	ln	3.33 0.80	1.82	2.07 1.32	19.99 1.09	2.04 2.46	0.83 2.23	3.55 1.00
roil	ln1d	4.98 1.05	1.41	7.80 1.18	8.05 1.05	2.40 1.20	0.78 2.00	1.47 1.21
comod	ln1d	1.26 1.05	1.57	1.46 1.14	1.90 2.01	1.84 0.97	0.92 0.77	0.78 1.45
comod	ln2d	1.20 1.01	1.59	1.47 1.19	1.43 1.84	2.09 1.01	0.70 0.83	0.96 1.44
rcomod	ln	1.14 1.68	1.71	1.53 1.39	6.80 7.07	2.25 1.21	0.87 2.33	0.96 1.63
rcomod	ln1d	1.21 1.05	1.57	1.46 1.14	1.37 1.08	2.00 1.06	0.75 1.08	0.75 1.53
mon0	ln1d					2.16		0.86 1.19
mon0	ln2d					2.14		0.87 1.10
mon1	ln1d	0.93 1.59		1.55 1.20	1.31 1.14	5.62 1.59		0.89 1.07
mon1	ln2d	1.08 1.08		1.51 1.17	1.34 0.97	3.61 1.33		0.86 1.11
mon2	ln1d	2.33		1.54 1.02	2.16	5.60		0.82 0.88
mon2	ln2d	1.77		1.56 1.16	1.08	2.40		0.88 1.12
mon3	ln1d	2.23	4.05	1.01	1.89 1.00	2.32		0.84 0.96
mon3	ln2d	1.79	1.57	0.93	1.33 1.00	1.76		0.86 1.11
rmon0	ln1d					3.24		0.81 1.39
rmon1	ln1d	0.81 1.74		1.47 1.18	1.16 0.98	5.51 1.77		0.78 1.20
rmon2	ln1d	1.63		1.15 1.10	1.62	2.69		0.80 0.93
rmon3	ln1d	1.65	1.89	0.95	1.04 1.78	2.02		0.74 1.04
activity	Median	1.17 1.07	1.42	1.41 1.04	1.37 1.02	1.63 1.01	0.70 0.88	0.70 1.05
activity	Tr.Mean	1.19 1.07	1.38	1.44 1.04	1.35 1.01	1.67 1.01	0.66 0.95	0.70 1.04
pr_earn	Median	1.11 0.99	1.49	1.40 1.13	1.40 1.09	1.57 1.03	0.77 0.66	0.84 1.11
pr_earn	Tr.Mean	1.28 0.98	1.45	1.59 1.15	1.53 1.15	1.49 1.06	0.74 0.72	0.86 1.11
money	Median	1.28 1.51	1.50	1.37 1.05	1.17 0.92	3.39 1.42		0.80 1.02
money	Tr.Mean	1.24 1.50	1.49	1.34 0.94	1.01 0.91	3.12 1.24		0.79 0.99
ap	Median	1.00 1.07	1.35	1.44 1.10	1.24 0.95	1.47 1.31	0.73 0.95	0.84 1.10
ap	Tr.Mean	0.95 1.22	1.29	1.41 1.01	1.30 0.95	1.39 1.19	0.74 0.94	0.79 1.09
all	Median	1.06 1.05	1.36	1.44 1.12	1.34 0.98	1.56 1.08	0.69 0.81	0.83 1.08
all	Tr.Mean	1.11 1.14	1.28	1.36 1.02	1.34 0.95	1.46 0.97	0.70 0.80	0.78 1.04

Table B.32
Out-of-Sample Results
Trivariate Models (Including IP Gap)
Series = CPI Inflation
Forecast Horizon = 8 Quarters

Indicator	Trans.	CN 71-84 85- 99	FR 71-84 85- 99	GY 71-84 85- 99	IT 71-84 85- 99	JP 71-84 85- 99	UK 71-84 85- 99	US 71-84 85- 99
AR RMSE		2.84 1.60	2.82 0.98	1.67 1.76	5.04 1.66	4.94 1.39	5.93 2.27	3.40 1.32
IP	gap	0.89 0.86	1.08 1.19	0.74 1.04	1.05 1.16	1.22 0.89	0.72 0.79	0.79 0.84
rovngh	lev	1.32	0.50 2.84	0.80 1.08	2.82	1.14 2.57	1.00	0.69 1.21
rtbill	lev	1.03 0.94	5.09	1.50			1.17 1.11	1.20 1.15
rbnds	lev				2.97		1.35	1.18 1.03
rbndm	lev				1.92 1.36			1.19 1.10
rbndl	lev	1.47 0.77	1.16 1.12	0.92 1.25	1.84 0.88	15.02	1.62 0.87	1.22 1.17
rovngh	1d	0.73	1.23 1.73	0.71 1.04	2.24	1.19 0.89	1.11	0.94 1.18
rtbill	1d	1.00 0.96	2.01	1.10			0.63 0.95	0.96 1.05
rbnds	1d				1.40		0.92	0.84 1.16
rbndm	1d				1.17 2.51			0.82 1.33
rbndl	1d	0.97 0.94	1.08 1.54	0.76 1.06	1.45 1.75	1.41	0.82 0.95	0.78 1.37
rrovnght	lev	0.94	1.24 4.45	0.88 1.06	1.87	1.38 1.43	1.39	0.85 1.08
rrtbill	lev	1.38 1.16	4.93	1.45			1.04 1.92	0.96 0.91
rrbnds	lev				1.36		1.97	1.07 0.91
rrbndm	lev				1.52 1.80			1.07 1.06
rrbndl	lev	0.94 0.90	1.63 1.78	1.03 0.83	1.58 1.86	1.80	0.82 1.57	1.07 1.12
rrovnght	1d	0.70	1.35 1.70	0.71 1.04	0.91	1.42 0.89	1.19	0.82 0.91
rrtbill	1d	1.00 0.96	1.64	1.22			0.55 1.05	1.10 0.99
rrbnds	1d				1.39		0.93	0.87 0.86
rrbndm	1d				1.34 2.23			0.84 1.00
rrbndl	1d	0.91 0.94	1.05 1.06	0.80 1.08	1.45 1.59	1.48	0.73 0.79	0.79 1.02
rsread	lev	0.78	1.36 3.39	0.99 1.07	3.58	1.33	1.27	0.65 2.04
exrate	ln1d	0.64	5.66	0.95	4.73	2.96	1.28	1.87
rexrate	ln1d	0.67	5.49	1.07	1.94	2.92	0.96	1.87
stockp	ln1d	0.82 1.02	1.18 1.43	0.75 1.08	1.29 1.40	1.17 3.54	0.76 0.93	0.78 1.19
rstockp	ln1d	0.76 1.03	1.15 1.56	0.75 1.09	1.19 1.49	1.07 4.07	0.76 0.82	0.77 1.23
divpr	ln	2.55	7.46	1.90	1.36	9.61	2.45	1.04 1.56
house	ln1d	1.85				7.05	1.16	0.89 0.94
rhouse	ln	2.10				4.50	1.59	1.41 1.00
rhouse	ln1d	1.67				4.20	0.74	0.73 0.90
gold	ln1d	0.92 0.75	1.03 1.07	0.76 1.02	1.27 1.07	1.28 0.85	1.13 0.74	1.02 0.92
gold	ln2d	0.93 1.04	1.05 1.19	0.73 1.04	1.08 1.27	1.23 0.89	0.81 0.79	0.73 0.85
rgold	ln	2.98 0.70	2.11 1.53	3.19 1.17	1.04 1.10	1.56 2.05	1.65 0.95	1.76 1.06
rgold	ln1d	0.94 0.74	1.06 1.07	0.74 1.03	1.26 1.23	1.38 0.83	0.99 0.86	0.96 0.76
silver	ln1d	1.40	1.58	1.13	0.96	1.36	0.84	1.19
silver	ln2d	1.54	1.55	1.13	1.06	1.43	0.97	1.08
rsilver	ln	2.00	4.97	1.38	6.75	5.33	2.58	3.22
rsilver	ln1d	1.38	1.60	1.13	1.04	1.33	0.84	1.21
rgdp	ln1d	0.90 0.75	2.90	0.67 1.01	0.98 0.90	1.39 1.90	0.79 0.66	0.79 0.79
rgdp	gap	1.08 1.11	2.67	0.79 0.91	1.17 1.10	1.26 0.84	0.84 0.76	0.86 0.87
ip	ln1d							
ip	gap							
capu	lev	1.40 0.98	5.03	0.92	2.22	4.26		0.67 0.71
emp	ln1d	0.96 0.70	3.15	0.70 1.13		1.28 0.85	0.81 0.96	0.79 0.72
emp	gap	1.10 0.76	4.95	0.68 0.98		1.24 0.86	0.90 1.51	0.69 0.99
unemp	lev	1.16 0.49	9.49	1.84 1.24	1.64 1.82	2.52 2.15	1.02 1.40	0.77 0.82
unemp	1d	0.93 0.80	1.02	0.74 0.93	1.20 1.26	1.30 1.08	0.68 1.79	0.80 0.77
unemp	gap	1.11 0.86	1.77	0.73 1.02	1.14 1.34	1.37 0.83	0.86 0.98	0.78 0.99
pgdp	ln1d	1.00 0.90	4.94	0.70 1.05	0.98 1.02	1.48 1.43	0.78 0.92	1.05 1.00
pgdp	ln2d	0.95 0.86	1.85	0.68 1.05	1.04 1.10	1.26 0.88	0.78 0.79	0.83 0.84
cpi	ln1d							
cpi	ln2d							
ppi	ln1d	1.40 0.89		1.16 1.03		3.08 1.82	1.33 0.91	0.94 0.88
ppi	ln2d	0.82 0.83		0.72 1.03		1.25 0.97	0.68 0.76	0.77 0.84
earn	ln1d	1.08 0.87	1.11 1.47	0.73 1.02		1.37 1.07	0.98 0.82	0.99 0.87

earn	ln2d	0.94 0.86	1.09 1.31	0.76 1.07		1.22 0.89	0.92 0.85	0.80 0.84
oil	ln1d	1.92 0.80	1.17 1.15	0.80 1.04	4.54 1.50	1.61 1.27	1.02 0.87	0.86 0.85
oil	ln2d	0.98 0.84	1.15 1.19	1.15 1.03	1.03 1.29	1.70 0.89	0.80 0.90	1.10 0.82
roil	ln	4.37 0.71	1.20 0.69	3.20 1.04	3.87 0.97	1.34 2.31	1.03 0.86	3.45 0.73
roil	ln1d	1.76 0.79	1.20 1.20	0.97 1.05	5.92 1.15	1.86 1.13	0.75 0.92	0.82 0.85
comod	ln1d	0.96 0.82	1.38 1.03	0.78 1.04	1.26 2.01	1.61 1.53	1.15 0.72	1.21 1.05
comod	ln2d	0.92 0.88	1.09 1.53	0.77 1.03	1.00 1.65	1.43 1.63	0.95 0.78	0.75 1.35
rcomod	ln	1.05 0.89	1.35 2.09	1.22 1.34	1.71 3.77	2.20 1.26	1.15 1.26	0.83 1.44
rcomod	ln1d	0.91 0.81	1.28 1.19	0.77 1.01	1.13 1.17	1.37 1.17	0.98 0.72	0.99 1.10
mon0	ln1d					3.24		0.79 0.93
mon0	ln2d					3.23		0.79 0.85
mon1	ln1d	1.00 1.14		0.73 1.04	0.93 0.88	3.17 1.82		0.77 0.91
mon1	ln2d	0.99 0.88		0.72 1.04	1.15 1.00	2.01 1.10		0.78 1.04
mon2	ln1d	1.18		0.57 1.14	3.52	6.23		0.72 0.99
mon2	ln2d	1.67		0.68 1.08	1.43	1.53		0.78 0.84
mon3	ln1d	1.19	1.02 1.27	1.04	0.97 0.92	3.33		0.74 0.85
mon3	ln2d	1.69	1.14 1.30	1.13	1.18 0.87	2.54		0.78 0.84
rmon0	ln1d					3.42		0.65 1.64
rmon1	ln1d	0.74 1.24		0.66 0.98	0.77 0.81	1.49 1.54		0.57 1.84
rmon2	ln1d	0.93		0.47 1.03	2.80	3.31		0.68 0.81
rmon3	ln1d	1.00	0.88 1.22	0.79	0.71 1.36	2.84		0.62 1.09
activity	Median	0.98 0.76	1.94	0.68 0.93	1.09 1.05	1.26 0.86	0.73 0.77	0.72 0.75
activity	Tr.Mean	1.02 0.77	1.99	0.68 0.93	1.12 1.03	1.28 0.96	0.71 0.78	0.71 0.74
pr_earn	Median	0.93 0.84	1.09 1.21	0.75 1.04	1.01 1.04	1.21 0.88	0.77 0.74	0.81 0.85
pr_earn	Tr.Mean	0.93 0.82	1.10 1.23	0.79 1.03	1.16 1.00	1.16 0.79	0.77 0.72	0.80 0.87
money	Median	0.86 0.83	1.03 1.35	0.60 0.93	0.95 0.85	1.70 1.19		0.68 0.69
money	Tr.Mean	0.86 0.86	1.03 1.28	0.58 0.90	0.90 0.85	1.70 1.10		0.66 0.67
ap	Median	0.76 0.97	0.98 1.35	0.74 1.05	0.95 1.09	1.07 0.93	0.70 0.77	0.81 0.84
ap	Tr.Mean	0.79 1.00	0.94 1.32	0.76 1.05	0.99 1.02	0.99 0.81	0.73 0.72	0.76 0.85
all	Median	0.90 0.85	1.02 1.21	0.74 1.03	0.98 0.96	1.20 0.81	0.73 0.71	0.77 0.79
all	Tr.Mean	0.87 0.86	0.98 1.25	0.70 0.99	0.98 0.92	1.06 0.70	0.71 0.65	0.73 0.77

Table B.33
Out-of-Sample Results
Trivariate Models (Including Rspread)
Series = Real GDP
Forecast Horizon = 2 Quarters

Indicator	Trans.	CN 71-84 85- 99	FR 71-84 85- 99	GY 71-84 85- 99	IT 71-84 85- 99	JP 71-84 85- 99	UK 71-84 85- 99	US 71-84 85- 99
AR RMSE		3.64 2.67	1.68 1.73	3.38 2.42	3.66 2.04	3.81 2.78	3.91 2.05	3.75 1.54
rspread	lev	0.69	1.07	0.68 1.17	1.14	0.92	1.18	0.59 2.28
rovngh	lev	0.74	1.53	0.72 1.49	1.31	1.00	0.98	0.65 2.08
rtbill	lev	0.82	1.69	1.40	1.08		0.91	0.77 2.11
rbnds	lev				1.30		0.95	0.78 2.13
rbndm	lev				1.26			0.70 2.11
rbndl	lev	0.80	1.48	0.71 1.64	1.27	1.03	1.08	0.65 2.07
rovngh	1d	0.64	1.01	0.77 1.06	1.21	0.90	1.16	0.57 2.29
rtbill	1d	0.68	1.04	1.39	0.66		1.14	0.74 2.24
rbnds	1d				0.96		1.14	0.74 2.26
rbndm	1d				1.15			0.76 2.26
rbndl	1d	0.67	1.08	0.79 1.03	1.13	1.01	1.07	0.68 2.26
rrovngh	lev	0.58	1.05	0.61 1.34	1.17	0.95	1.00	0.69 2.31
rrtbill	lev	0.55	1.05	1.37	0.68		1.08	0.65 2.31
rrbnds	lev				0.81		0.97	0.67 2.35
rrbndm	lev				1.17			0.69 2.33
rrbndl	lev	0.58	1.05	0.76 1.34	1.17	0.93	0.90	0.72 2.31
rrovngh	1d	0.65	1.03	0.86 1.33	1.17	0.91	1.17	0.60 2.23
rrtbill	1d	0.74	1.08	1.45	0.77		1.13	0.61 2.23
rrbnds	1d				0.74		1.13	0.60 2.28
rrbndm	1d				1.14			0.60 2.28
rrbndl	1d	0.75	1.07	0.79 1.39	1.13	0.92	1.13	0.60 2.28
rspread	lev							
exrate	ln1d	0.75	1.11	1.17	1.09	1.06	1.23	2.05
rexrate	ln1d	0.79	1.10	1.20	1.08	1.02	1.23	2.05
stockp	ln1d	0.71	1.04	1.03 1.26	1.08	1.07	1.11	0.54 2.10
rstockp	ln1d	0.73	1.04	1.02 1.36	1.08	1.13	0.99	0.56 2.04
divpr	ln	0.62	1.17	1.16	1.41	1.37	0.97	0.68 2.47
house	ln1d	0.83				1.21	1.43	0.64 2.26
rhouse	ln	0.73				1.04	1.71	0.66 2.02
rhouse	ln1d	0.89				1.17	1.08	0.63 2.18
gold	ln1d	0.67	1.17	0.96 1.19	1.13	0.92	1.23	0.60 2.28
gold	ln2d	0.71	1.08	0.84 1.20	1.14	0.93	1.14	0.61 2.17
rgold	ln	0.68	1.69	1.11 1.20	1.23	1.08	1.49	0.65 2.07
rgold	ln1d	0.68	1.14	0.94 1.19	1.13	0.92	1.18	0.60 2.28
silver	ln1d	0.68	1.26	1.01	1.14	0.91	1.12	1.97
silver	ln2d	0.69	1.10	1.14	1.15	0.98	1.13	1.99
rsilver	ln	0.63	1.95	1.18	1.26	0.97	1.53	1.93
rsilver	ln1d	0.68	1.25	1.00	1.14	0.91	1.10	1.97
rgdp	ln1d							
rgdp	gap							
ip	ln1d	0.67	1.31	0.88 1.21	1.12	0.94	1.10	0.58 1.99
ip	gap	0.70	1.08	0.91 1.22	1.17	0.92	0.99	0.59 2.29
capu	lev	0.74	1.38	1.03	1.11	1.03		0.64 1.96
emp	ln1d	0.50	1.13	0.65 1.68		0.91	1.18	0.59 2.17
emp	gap	0.65	1.15	0.98 1.42		0.98	1.14	0.61 2.20
unemp	lev	0.75	1.38	0.97 1.11	1.16	0.93	0.78	0.64 2.21
unemp	1d	0.76	1.37	0.93 1.20	1.13	0.93	0.92	0.55 2.08
unemp	gap	0.71	1.38	0.96 1.13	1.06	0.96	1.00	0.61 2.26
pgdp	ln1d	0.61	1.19	0.78 1.21	1.47	1.00	0.92	0.63 2.25
pgdp	ln2d	0.63	1.02	0.82 1.20	1.27	0.92	1.12	0.65 2.32
cpi	ln1d	0.72	1.43	1.00 1.54	1.24	0.96	0.83	0.63 2.07
cpi	ln2d	0.72	1.07	0.74 1.41	1.14	0.93	1.13	0.64 2.25
ppi	ln1d	0.74		0.67 1.59		1.04	0.85	0.61 2.27
ppi	ln2d	0.66		0.77 1.10		0.97	1.13	0.58 2.26
earn	ln1d	0.71	1.11	0.85 1.11		0.89	1.05	0.60 2.31

earn	ln2d	0.70	1.09	0.77	1.06		0.94	1.14	0.57	2.26
oil	ln1d	0.74	1.32	1.79	1.19	1.11	0.91	1.22	1.35	2.31
oil	ln2d	0.69	1.29	0.90	1.21	1.10	0.91	1.14	3.92	2.27
roil	ln	0.76	1.56	1.08	1.22	1.26	0.99	1.18	1.21	2.14
roil	ln1d	0.74	1.31	1.61	1.19	1.11	0.92	1.23	1.95	2.31
comod	ln1d	0.68	1.07	1.32	1.22	1.19	1.00	1.16	0.61	2.36
comod	ln2d	0.69	1.08	1.16	1.26	1.40	0.92	1.14	0.58	2.29
rcomod	ln	0.72	1.19	1.06	1.21	1.28	1.05	1.45	0.63	2.24
rcomod	ln1d	0.66	1.06	1.08	1.22	1.22	0.98	1.12	0.60	2.35
mon0	ln1d						1.14		0.67	2.33
mon0	ln2d						1.09		0.57	2.28
mon1	ln1d	0.61	1.27	0.82	1.20	1.03	0.94		0.61	2.53
mon1	ln2d	0.79	1.16	0.80	1.30	1.18	0.97		0.62	2.27
mon2	ln1d	0.62		0.82	0.95	0.89	0.75		0.76	1.50
mon2	ln2d	0.68		0.80	1.18	0.79	0.99		0.63	2.27
mon3	ln1d	0.63	1.61		1.09	0.99	1.02		0.82	1.49
mon3	ln2d	0.68	1.21		1.02	1.13	1.18		0.58	2.27
rmon0	ln1d						1.22		0.61	2.60
rmon1	ln1d	0.81	1.03	0.82	1.68	1.01	1.01		0.52	3.14
rmon2	ln1d	0.64		0.86	1.01	0.89	1.01		0.67	1.18
rmon3	ln1d	0.64	1.55		1.19	0.89	0.99		0.64	1.12
activity	Median	0.63	1.21	0.76	1.05	1.10	0.91	0.87	0.59	2.16
activity	Tr.Mean	0.65	1.17	0.76	1.09	1.09	0.92	0.86	0.58	2.15
pr_earn	Median	0.68	1.08	0.78	1.17	1.13	0.91	1.09	0.59	2.28
pr_earn	Tr.Mean	0.67	1.11	0.80	1.15	1.09	0.93	1.01	0.59	2.26
money	Median	0.62	1.04	0.79	1.05	0.87	0.92		0.60	2.19
money	Tr.Mean	0.61	1.04	0.78	1.04	0.84	0.91		0.58	1.95
ap	Median	0.66	1.06	0.69	1.07	1.13	0.92	1.05	0.58	2.17
ap	Tr.Mean	0.63	1.08	0.67	1.07	1.07	0.92	0.97	0.56	2.12
all	Median	0.66	1.08	0.74	1.09	1.10	0.90	1.07	0.58	2.22
all	Tr.Mean	0.63	1.07	0.70	1.07	1.01	0.90	0.95	0.57	2.10

Table B.34
Out-of-Sample Results
Trivariate Models (Including Rspread)
Series = IP
Forecast Horizon = 2 Quarters

Indicator	Trans.	CN 71-84 85- 99	FR 71-84 85- 99	GY 71-84 85- 99	IT 71-84 85- 99	JP 71-84 85- 99	UK 71-84 85- 99	US 71-84 85- 99
AR RMSE		7.69 4.28	6.67 3.48	6.68 4.62	9.46 5.24	7.80 5.31	7.75 2.81	7.46 2.56
rspread	lev	1.27	1.05 0.91	0.61 0.96	1.29	0.97	1.13	0.68 2.02
rovngh	lev	1.52	1.00 1.28	0.57 0.92	1.38	1.29	1.16	0.90 1.79
rtbill	lev	1.50	1.37	0.95	0.97		1.05	0.76 1.79
rbnds	lev				1.09		1.08	0.80 1.80
rbndm	lev				1.31			0.89 1.71
rbndl	lev	1.43	1.16 1.27	0.62 0.90	1.34	1.44	1.29	0.82 1.69
rovngh	1d	1.52	1.45 1.01	0.55 0.86	1.24	1.11	1.09	0.78 2.08
rtbill	1d	1.37	1.06	0.95	0.79		1.05	0.83 2.01
rbnds	1d				0.94		1.05	0.81 2.03
rbndm	1d				1.39			0.85 2.01
rbndl	1d	1.41	1.44 0.94	0.63 0.85	1.35	1.16	1.15	0.87 2.01
rrovngh	lev	1.30	1.49 0.94	0.68 0.87	1.33	1.05	0.84	0.82 2.17
rrtbill	lev	1.28	1.35	0.86	0.88		0.88	0.77 2.13
rrbnds	lev				0.87		0.94	0.81 2.19
rrbndm	lev				1.33			0.79 2.20
rrbndl	lev	1.30	1.72 0.94	0.64 0.87	1.33	1.04	0.86	0.81 2.17
rrovngh	1d	1.53	1.03 0.94	0.63 0.96	1.30	0.96	1.07	0.83 1.86
rrtbill	1d	1.26	1.35	0.95	0.83		1.05	0.81 1.85
rrbnds	1d				0.87		1.05	0.86 1.90
rrbndm	1d				1.26			0.84 1.88
rrbndl	1d	1.33	1.03 0.92	0.67 0.96	1.24	0.99	1.05	0.84 1.88
rspread	lev							
exrate	ln1d	1.67	1.36	0.97	1.27	1.16	1.36	2.07
rexrate	ln1d	1.70	1.36	0.97	1.36	1.13	1.56	2.07
stockp	ln1d	1.36	1.67 0.93	0.78 0.97	1.27	1.00	1.24	0.55 2.17
rstockp	ln1d	1.37	1.56 1.21	0.75 0.95	1.27	1.02	1.28	0.55 2.37
divpr	ln	1.01	1.34	0.93	1.71	1.21	1.31	0.64 2.48
house	ln1d	1.38				1.07	1.10	0.89 1.82
rhouse	ln	1.49				0.98	1.70	0.88 1.44
rhouse	ln1d	1.51				1.07	0.98	0.76 1.67
gold	ln1d	1.24	1.34 1.14	0.68 0.96	1.32	1.02	1.50	0.70 2.09
gold	ln2d	1.28	1.10 0.98	0.66 0.97	1.31	1.03	1.16	0.88 1.83
rgold	ln	1.27	1.91 1.27	0.82 0.98	1.43	1.12	1.45	0.85 1.90
rgold	ln1d	1.24	1.43 1.05	0.69 0.96	1.34	1.00	1.37	0.70 2.05
silver	ln1d	1.29	1.06	1.01	1.31	1.04	1.02	1.80
silver	ln2d	1.28	1.02	1.04	1.28	1.05	1.12	1.92
rsilver	ln	1.22	1.65	1.03	1.51	1.06	1.73	1.91
rsilver	ln1d	1.29	0.99	0.99	1.31	1.04	1.00	1.78
rgdp	ln1d	1.22	1.23	0.63 0.97	1.11	0.73	0.96	0.71 1.96
rgdp	gap	1.43	1.30	0.67 0.95	1.05	0.95	0.92	0.76 2.09
ip	ln1d							
ip	gap							
capu	lev	1.39	1.25	0.93	1.27	1.13		0.61 2.11
emp	ln1d	1.10	1.19	0.61 1.04		1.01	1.65	0.65 1.95
emp	gap	1.27	1.28	0.74 1.13		1.00	1.78	0.90 2.03
unemp	lev	1.61	1.14	1.04 1.06	1.38	1.07	1.11	0.80 1.91
unemp	1d	1.61	1.16	0.69 0.99	1.25	1.06	1.01	0.72 1.90
unemp	gap	1.40	1.15	0.70 0.90	1.10	1.01	2.35	0.78 1.90
pgdp	ln1d	1.34	1.45	0.64 0.96	1.60	1.28	0.98	0.74 2.02
pgdp	ln2d	1.27	1.30	0.69 0.95	1.28	1.01	1.06	0.88 1.85
cpi	ln1d	1.52	1.18 1.62	0.88 1.02	1.39	1.21	0.87	0.81 1.86
cpi	ln2d	1.28	1.04 0.92	0.65 0.95	1.31	1.00	1.05	0.83 1.87
ppi	ln1d	1.40		0.40 1.26		1.29	1.02	0.72 1.96
ppi	ln2d	1.30		0.64 0.96		1.13	1.04	0.78 1.89
earn	ln1d	1.39	1.09 1.12	0.83 0.96		0.89	1.37	0.68 2.17

earn	ln2d	1.30	1.10 0.91	0.63 0.93		0.93	1.27	0.83 1.72
oil	ln1d	1.68	0.86 2.68	0.73 1.25	1.46	1.19	1.92	2.02 2.37
oil	ln2d	1.34	2.67 1.58	0.84 0.95	1.32	1.21	1.56	8.10 2.43
roil	ln	1.35	1.51 1.77	0.76 0.95	1.40	1.19	1.57	2.29 1.85
roil	ln1d	1.66	0.90 2.57	0.75 1.24	1.37	1.13	1.53	5.63 2.44
comod	ln1d	1.32	1.84 1.39	0.78 0.95	1.48	1.18	1.16	0.66 2.21
comod	ln2d	1.27	1.58 1.30	0.80 1.07	1.60	0.98	1.11	0.79 1.89
rcomod	ln	1.35	1.99 1.08	0.96 1.05	1.69	0.88	1.64	0.74 2.11
rcomod	ln1d	1.29	2.34 0.90	0.68 0.94	1.55	1.03	1.11	0.66 2.23
mon0	ln1d					1.09		0.94 2.06
mon0	ln2d					1.15		0.75 1.93
mon1	ln1d	1.41	1.29	0.64 0.96	1.27	0.88		0.79 2.56
mon1	ln2d	1.46	1.07	0.63 0.96	1.30	0.94		0.80 1.90
mon2	ln1d	1.17		0.63 0.89	1.01	0.71		0.86 1.47
mon2	ln2d	1.31		0.71 0.93	0.90	1.01		0.78 1.88
mon3	ln1d	1.19	1.05 0.95	0.89	1.31	0.93		1.00 1.27
mon3	ln2d	1.30	1.05 0.90	0.89	1.31	1.21		0.77 1.87
rmon0	ln1d					1.10		0.88 2.30
rmon1	ln1d	1.61	1.07	0.67 0.97	1.11	1.00		0.78 3.24
rmon2	ln1d	1.17		0.91 0.91	1.11	0.77		0.73 1.57
rmon3	ln1d	1.17	0.70 1.54	0.94	1.23	0.91		0.85 1.02
activity	Median	1.27	1.06	0.65 0.95	1.17	0.93	0.90	0.70 1.90
activity	Tr.Mean	1.25	1.07	0.66 0.94	1.11	0.91	0.82	0.70 1.90
pr_earn	Median	1.29	0.89 1.01	0.62 0.95	1.31	1.03	0.96	0.74 1.92
pr_earn	Tr.Mean	1.33	0.83 1.10	0.60 0.96	1.25	1.03	0.92	0.85 1.93
money	Median	1.22	1.04 0.98	0.61 0.92	1.07	0.89		0.71 1.76
money	Tr.Mean	1.22	1.04 0.93	0.62 0.92	1.07	0.86		0.70 1.54
ap	Median	1.24	0.76 0.91	0.61 0.88	1.23	0.97	0.99	0.69 1.87
ap	Tr.Mean	1.25	0.70 0.94	0.59 0.87	1.19	0.96	0.93	0.70 1.81
all	Median	1.25	0.79 0.91	0.62 0.93	1.20	0.94	0.97	0.70 1.88
all	Tr.Mean	1.25	0.68 0.96	0.59 0.91	1.14	0.92	0.90	0.71 1.77

Table B.35
Out-of-Sample Results
Trivariate Models (Including Rspread)
Series = Real GDP
Forecast Horizon = 4 Quarters

Indicator	Trans.	CN 71-84 85- 99	FR 71-84 85- 99	GY 71-84 85- 99	IT 71-84 85- 99	JP 71-84 85- 99	UK 71-84 85- 99	US 71-84 85- 99
AR RMSE		2.91 2.55	1.90 1.56	2.83 1.84	3.47 1.88	3.59 2.46	2.96 1.89	3.19 1.31
rspread	lev	0.67	1.04	0.51 1.09	1.11	0.83	1.35	0.48 2.51
rovnght	lev	0.75	1.60	0.41 1.48	1.59	0.81	1.21	0.55 2.28
rtbill	lev	0.80	1.76	1.49	0.95		0.95	0.49 2.30
rbnds	lev				1.06		0.92	0.64 2.33
rbndm	lev				1.38			0.54 2.24
rbndl	lev	0.75	1.51	0.41 1.55	1.43	0.88	1.13	0.54 2.20
rovnght	1d	0.65	0.98	0.49 1.06	1.09	0.84	1.21	0.46 2.53
rtbill	1d	0.74	1.12	1.24	0.48		1.38	0.44 2.51
rbnds	1d				0.67		1.16	0.46 2.54
rbndm	1d				1.20			0.48 2.54
rbndl	1d	0.71	0.98	0.61 1.11	1.14	0.89	1.03	0.49 2.54
rrovnght	lev	0.65	1.03	0.61 1.18	1.20	0.90	1.06	0.55 2.57
rrtbill	lev	0.61	1.04	1.45	0.57		1.17	0.53 2.55
rrbnds	lev				0.66		1.02	0.54 2.57
rrbndm	lev				1.21			0.54 2.57
rrbndl	lev	0.65	1.03	0.57 1.19	1.20	0.87	0.92	0.56 2.57
rrovnght	1d	0.69	1.01	0.55 1.13	1.14	0.85	1.21	0.45 2.58
rrtbill	1d	0.77	1.07	1.30	0.66		1.20	0.55 2.57
rrbnds	1d				0.60		1.20	0.58 2.58
rrbndm	1d				1.12			0.50 2.58
rrbndl	1d	0.71	1.03	0.47 1.27	1.12	0.84	1.20	0.50 2.58
rspread	lev							
exrate	ln1d	0.71	0.96	1.19	0.97	0.95	1.31	1.92
rexrate	ln1d	0.70	0.97	1.18	0.97	0.95	1.27	1.92
stockp	ln1d	0.69	1.03	0.65 1.12	1.09	1.04	1.07	0.49 2.37
rstockp	ln1d	0.70	1.02	0.62 1.13	1.09	1.06	0.94	0.48 2.35
divpr	ln	0.49	1.12	1.36	1.92	1.41	1.05	0.53 2.57
house	ln1d	0.67				1.18	1.63	0.71 2.37
rhouse	ln	0.45				1.01	2.20	0.67 1.96
rhouse	ln1d	0.70				1.21	1.41	0.71 2.29
gold	ln1d	0.62	1.11	0.75 1.09	1.13	0.86	1.44	0.51 2.52
gold	ln2d	0.68	1.13	0.52 1.08	1.12	0.84	1.20	0.49 2.62
rgold	ln	0.65	1.78	0.91 1.14	1.58	1.15	1.70	0.54 2.12
rgold	ln1d	0.63	1.07	0.76 1.09	1.12	0.85	1.41	0.52 2.55
silver	ln1d	0.66	1.28	1.12	1.12	0.97	1.36	2.05
silver	ln2d	0.69	1.08	1.00	1.11	1.02	1.21	2.09
rsilver	ln	0.54	2.36	1.40	1.75	0.96	2.05	1.99
rsilver	ln1d	0.67	1.30	1.10	1.12	0.97	1.42	2.05
rgdp	ln1d							
rgdp	gap							
ip	ln1d	0.70	1.25	0.57 1.06	1.09	0.85	1.18	0.48 2.51
ip	gap	0.77	1.39	0.50 1.12	1.22	0.81	1.14	0.48 2.62
capu	lev	0.76	1.24	1.15	0.96	0.92		0.53 2.50
emp	ln1d	0.62	1.01	0.43 1.20		0.88	1.23	0.49 2.60
emp	gap	0.79	1.09	0.79 1.21		0.91	1.96	0.63 2.60
unemp	lev	0.72	1.43	1.03 1.15	1.23	0.79	0.74	0.53 2.54
unemp	1d	0.77	1.11	0.55 1.06	1.04	0.85	1.42	0.49 2.59
unemp	gap	0.81	1.37	0.71 1.09	1.01	0.88	1.50	0.50 2.71
pgdp	ln1d	0.68	1.23	0.50 1.10	1.73	0.91	0.94	0.47 2.47
pgdp	ln2d	0.70	1.02	0.51 1.07	1.11	0.80	1.19	0.49 2.58
cpi	ln1d	0.73	1.59	0.95 1.47	1.42	0.93	0.84	0.43 2.15
cpi	ln2d	0.70	1.04	0.58 1.13	1.12	0.86	1.20	0.52 2.58
ppi	ln1d	0.75		0.46 1.57		1.00	0.94	0.46 2.48
ppi	ln2d	0.71		0.54 1.08		0.85	1.19	0.49 2.58
earn	ln1d	0.71	1.11	0.61 1.11		0.79	1.00	0.47 2.74

earn	ln2d	0.68	1.05	0.57	1.08		0.83	1.23	0.49	2.57
oil	ln1d	0.69	1.07	0.52	1.40	1.12	0.83	1.10	0.68	2.54
oil	ln2d	0.70	1.01	0.65	1.10	1.12	0.83	1.23	1.31	2.67
roil	ln	0.71	1.55	0.46	1.15	1.51	0.94	1.43	1.93	2.33
roil	ln1d	0.70	1.07	0.56	1.36	1.11	0.83	1.16	1.08	2.54
comod	ln1d	0.70	1.21	0.68	1.34	1.38	0.96	1.23	0.49	2.57
comod	ln2d	0.68	1.03	0.53	1.09	1.23	0.82	1.20	0.52	2.57
rcomod	ln	0.68	1.90	1.05	1.25	1.44	1.15	1.81	0.58	2.72
rcomod	ln1d	0.69	1.12	0.62	1.10	1.35	0.92	1.21	0.51	2.58
mon0	ln1d						1.05		0.51	2.45
mon0	ln2d						1.06		0.49	2.58
mon1	ln1d	0.66	1.82	0.50	1.05	0.84	0.90		0.50	2.55
mon1	ln2d	0.69	1.25	0.52	1.10	1.09	0.86		0.48	2.60
mon2	ln1d	0.57		0.54	0.87	0.68	0.67		0.57	1.69
mon2	ln2d	0.67		0.53	1.10	0.63	0.87		0.49	2.56
mon3	ln1d	0.57	1.76		1.06	0.89	1.04		0.55	1.94
mon3	ln2d	0.67	1.09		1.02	1.11	1.09		0.49	2.58
rmon0	ln1d						1.15		0.44	3.03
rmon1	ln1d	0.72	1.05	0.51	1.23	1.00	0.92		0.45	3.17
rmon2	ln1d	0.63		0.55	0.88	0.84	0.79		0.55	1.07
rmon3	ln1d	0.63	1.34		1.12	0.71	0.92		0.60	1.15
activity	Median	0.73	1.12	0.55	1.11	1.02	0.83	1.13	0.49	2.57
activity	Tr.Mean	0.73	1.14	0.57	1.09	1.02	0.83	1.15	0.50	2.57
pr_earn	Median	0.69	1.05	0.49	1.09	1.14	0.83	1.16	0.47	2.57
pr_earn	Tr.Mean	0.69	1.06	0.48	1.13	1.06	0.84	1.04	0.47	2.54
money	Median	0.65	1.00	0.49	1.03	0.74	0.87		0.48	2.45
money	Tr.Mean	0.62	1.06	0.49	0.99	0.72	0.83		0.47	2.18
ap	Median	0.66	1.04	0.50	1.09	1.09	0.84	1.13	0.47	2.45
ap	Tr.Mean	0.65	1.05	0.47	1.11	1.02	0.85	1.08	0.47	2.33
all	Median	0.67	1.03	0.49	1.08	1.08	0.83	1.16	0.48	2.51
all	Tr.Mean	0.67	1.04	0.46	1.08	0.95	0.83	1.06	0.47	2.36

Table B.36
Out-of-Sample Results
Trivariate Models (Including Rspread)
Series = IP
Forecast Horizon = 4 Quarters

Indicator	Trans.	CN 71-84 85- 99	FR 71-84 85- 99	GY 71-84 85- 99	IT 71-84 85- 99	JP 71-84 85- 99	UK 71-84 85- 99	US 71-84 85- 99
AR RMSE		7.00 3.97	5.56 3.19	5.30 3.62	7.47 3.84	8.13 5.46	5.64 2.36	6.41 2.28
rspread	lev	1.08	1.12 0.84	0.53 0.93	1.38	0.92	1.23	0.49 2.63
rovngh	lev	1.12	0.82 1.06	0.39 0.89	1.36	1.38	1.38	0.66 2.10
rtbill	lev	1.18	1.17	1.04	0.99		1.19	0.59 2.21
rbnds	lev				1.04		1.13	0.60 2.28
rbndm	lev				1.45			0.58 2.13
rbndl	lev	1.12	0.89 1.06	0.58 0.97	1.40	1.41	1.19	0.57 2.07
rovngh	1d	1.07	1.56 0.81	0.64 0.92	0.85	1.04	1.02	0.43 2.57
rtbill	1d	1.03	1.03	1.09	0.33		1.05	0.49 2.59
rbnds	1d				0.45		1.11	0.51 2.65
rbndm	1d				1.20			0.49 2.66
rbndl	1d	1.06	1.45 0.87	0.80 0.97	1.33	1.05	0.96	0.50 2.67
rrovnght	lev	1.15	1.61 0.93	0.56 0.92	1.56	1.07	0.75	0.60 2.69
rrtbill	lev	1.18	1.09	1.07	0.76		1.03	0.57 2.71
rrbnds	lev				0.74		0.92	0.60 2.74
rrbndm	lev				1.57			0.61 2.71
rrbndl	lev	1.15	1.70 0.93	0.60 0.91	1.56	1.03	0.81	0.60 2.69
rrovnght	1d	1.17	1.25 0.79	0.55 0.95	1.38	0.90	1.11	0.52 2.46
rrtbill	1d	1.11	1.09	1.08	0.77		1.21	0.51 2.50
rrbnds	1d				0.70		1.24	0.54 2.69
rrbndm	1d				1.39			0.48 2.64
rrbndl	1d	1.11	1.16 0.79	0.53 0.93	1.39	0.91	1.21	0.48 2.65
rspread	lev							
exrate	ln1d	1.17	1.11	1.03	1.35	1.22	1.59	2.92
rexrate	ln1d	1.11	1.11	1.03	1.35	1.16	1.67	2.92
stockp	ln1d	1.12	1.79 0.84	0.55 0.96	1.36	0.86	1.15	0.44 2.54
rstockp	ln1d	1.14	1.65 0.93	0.55 1.02	1.33	0.89	1.10	0.40 2.65
divpr	ln	0.78	1.10	1.10	2.36	1.16	0.97	0.49 2.69
house	ln1d	1.09				1.49	1.41	0.86 2.33
rhouse	ln	0.72				0.99	2.70	1.00 1.81
rhouse	ln1d	1.11				1.43	1.54	0.87 2.22
gold	ln1d	0.93	1.27 1.06	0.55 0.94	1.40	0.95	1.93	0.50 2.61
gold	ln2d	1.08	1.13 0.84	0.54 0.93	1.39	0.93	1.10	0.48 2.50
rgold	ln	0.97	2.01 1.03	0.70 0.96	1.71	1.10	1.82	0.66 2.24
rgold	ln1d	0.94	1.82 0.85	0.56 0.94	1.39	0.93	1.72	0.52 2.65
silver	ln1d	1.04	0.97	1.11	1.40	1.05	1.70	2.27
silver	ln2d	1.08	0.77	0.93	1.39	1.04	1.14	2.14
rsilver	ln	0.94	1.77	1.12	1.93	0.99	2.63	2.26
rsilver	ln1d	1.05	0.94	1.11	1.39	1.04	1.72	2.26
rgdp	ln1d	1.03	1.57	0.53 0.94	1.35	0.70	1.09	0.52 2.42
rgdp	gap	1.38	1.17	0.57 0.95	1.35	0.90	1.11	0.53 2.76
ip	ln1d							
ip	gap							
capu	lev	1.19	0.98	1.01	1.36	1.03		0.60 2.39
emp	ln1d	1.10	1.16	0.47 1.03		0.93	1.39	0.53 2.61
emp	gap	1.30	1.12	0.78 1.17		1.04	1.74	0.70 2.77
unemp	lev	1.12	1.04	1.32 0.97	1.57	0.88	0.77	0.54 2.64
unemp	1d	1.17	0.91	0.53 1.02	1.14	0.97	1.61	0.50 2.60
unemp	gap	1.33	1.04	0.74 0.99	1.24	1.00	2.76	0.55 2.82
pgdp	ln1d	1.21	1.15	0.53 0.94	1.86	1.30	1.14	0.51 2.56
pgdp	ln2d	1.22	1.10	0.53 0.93	1.39	0.87	1.37	0.46 2.55
cpi	ln1d	1.26	0.60 1.79	0.92 1.20	1.54	1.32	0.88	0.50 2.27
cpi	ln2d	1.25	1.43 0.84	0.52 0.93	1.39	0.84	1.20	0.46 2.61
ppi	ln1d	1.11		0.34 1.49		1.32	1.14	0.46 2.62
ppi	ln2d	1.09		0.53 0.92		1.09	1.24	0.45 2.70
earn	ln1d	1.12	1.15 1.01	0.65 0.94		0.97	1.25	0.49 2.85

earn	ln2d	1.10	1.13 0.83	0.61 0.94		0.92	1.18	0.44 2.68
oil	ln1d	1.10	0.81 2.01	1.81 1.23	1.34	1.12	1.72	0.89 2.76
oil	ln2d	1.11	1.16 0.88	0.58 0.96	1.40	1.26	1.34	1.41 2.90
roil	ln	1.08	0.87 1.49	0.61 1.16	1.59	1.24	1.72	2.27 2.31
roil	ln1d	1.10	0.89 1.86	0.48 1.24	1.33	1.10	1.66	1.14 2.70
comod	ln1d	1.07	1.15 1.51	0.57 1.18	1.57	1.37	1.13	0.48 2.68
comod	ln2d	1.07	1.23 0.86	0.53 0.95	1.56	0.93	1.14	0.46 2.67
rcomod	ln	1.06	2.33 1.12	1.27 1.13	1.86	1.18	2.42	0.58 2.81
rcomod	ln1d	1.08	1.35 1.23	0.59 1.11	1.68	1.17	1.08	0.50 2.67
mon0	ln1d					1.11		0.55 2.53
mon0	ln2d					1.26		0.45 2.68
mon1	ln1d	1.12	1.35	0.53 0.95	1.35	0.90		0.51 2.78
mon1	ln2d	1.14	0.82	0.54 0.94	1.39	0.93		0.45 2.68
mon2	ln1d	1.08		0.51 0.94	1.05	0.68		0.61 1.59
mon2	ln2d	1.19		0.54 0.94	0.81	0.90		0.51 2.65
mon3	ln1d	0.93	1.19 0.89	0.91	1.45	1.05		0.65 1.74
mon3	ln2d	1.08	1.13 0.84	0.91	1.38	1.13		0.45 2.69
rmon0	ln1d					1.15		0.62 3.04
rmon1	ln1d	1.08	0.78	0.54 0.96	1.10	1.01		0.57 3.42
rmon2	ln1d	0.95		0.66 0.94	0.96	0.60		0.45 1.33
rmon3	ln1d	0.95	0.76 1.26	0.88	0.92	0.63		0.68 1.14
activity	Median	1.19	1.01	0.58 0.97	1.24	0.84	1.26	0.53 2.63
activity	Tr.Mean	1.17	1.01	0.59 0.98	1.21	0.82	1.11	0.53 2.61
pr_earn	Median	1.09	0.94 0.87	0.51 0.94	1.33	0.95	0.94	0.45 2.64
pr_earn	Tr.Mean	1.10	0.83 0.97	0.46 0.98	1.28	0.98	0.89	0.45 2.63
money	Median	1.06	1.12 0.87	0.52 0.91	1.18	0.76		0.47 2.52
money	Tr.Mean	1.02	1.12 0.84	0.52 0.92	1.10	0.77		0.45 2.08
ap	Median	1.06	0.84 0.83	0.51 0.92	1.34	0.91	1.01	0.46 2.44
ap	Tr.Mean	1.04	0.65 0.82	0.48 0.92	1.23	0.91	0.95	0.47 2.33
all	Median	1.07	0.92 0.83	0.52 0.93	1.34	0.86	1.01	0.46 2.56
all	Tr.Mean	1.06	0.68 0.83	0.47 0.94	1.17	0.85	0.92	0.46 2.36

Table B.37
Out-of-Sample Results
Trivariate Models (Including Rspread)
Series = Real GDP
Forecast Horizon = 8 Quarters

Indicator	Trans.	CN 71-84 85- 99	FR 71-84 85- 99	GY 71-84 85- 99	IT 71-84 85- 99	JP 71-84 85- 99	UK 71-84 85- 99	US 71-84 85- 99
AR RMSE		2.36 2.43	1.26 1.34	2.44 1.57	2.49 1.96	3.77 2.46	2.26 1.74	2.47 1.18
rspread	lev	0.47	0.91	0.54 0.92	0.56	0.88	1.57	0.56 1.69
rovngh	lev	0.62	1.21	0.44 1.18	0.79	0.97	1.85	1.07 1.45
rtbill	lev	0.64	1.27	1.32			1.15	0.92 1.60
rbnds	lev				0.57		1.39	0.91 1.84
rbndm	lev				0.79			0.96 1.81
rbndl	lev	0.58	1.35	0.60 1.26	0.82	1.00	1.71	0.97 1.87
rrovngh	1d	0.50	1.08	0.55 1.04	0.50	0.96	1.60	0.76 1.87
rtbill	1d	0.47	0.90	1.19			1.44	0.77 1.77
rbnds	1d				0.44		0.98	0.66 1.90
rbndm	1d				0.52			0.57 2.00
rbndl	1d	0.54	0.88	0.68 1.04	0.52	0.92	1.12	0.77 2.13
rrovngh	lev	0.52	0.94	0.72 0.97	0.58	0.95	1.26	0.83 1.93
rrtbill	lev	0.46	0.98	1.16			1.33	0.73 1.92
rrbnds	lev				0.57		1.11	0.59 1.84
rrbndm	lev				0.58			0.74 1.90
rrbndl	lev	0.52	0.89	0.77 1.34	0.57	1.02	0.98	1.05 1.93
rrovngh	1d	0.48	0.90	0.72 0.92	0.49	0.89	1.38	0.57 1.72
rrtbill	1d	0.48	0.91	1.25			1.41	0.58 1.70
rrbnds	1d				0.34		1.41	0.59 1.70
rrbndm	1d				0.54			0.61 1.69
rrbndl	1d	0.48	0.91	0.72 0.96	0.54	0.91	1.44	0.61 1.69
rspread	lev							
exrate	ln1d	0.51	0.99	1.14	0.48	0.96	1.78	1.47
rexrate	ln1d	0.52	1.06	1.15	0.46	0.95	1.92	1.47
stockp	ln1d	0.46	0.87	0.69 0.95	1.17	1.62	1.19	0.58 1.71
rstockp	ln1d	0.46	0.90	0.68 0.95	1.17	1.47	1.15	0.58 1.66
divpr	ln	0.33	1.34	1.59	1.39	1.58	1.66	0.77 1.76
house	ln1d	0.48				1.08	2.21	0.51 1.59
rhouse	ln	0.15				0.85	3.74	2.02 1.15
rhouse	ln1d	0.49				1.00	2.37	0.53 1.47
gold	ln1d	0.52	0.93	1.31 1.05	0.55	0.92	1.46	0.64 1.79
gold	ln2d	0.47	0.91	0.80 0.92	0.54	0.89	1.44	0.56 1.70
rgold	ln	0.63	1.63	1.44 1.18	1.31	1.80	1.74	1.30 1.37
rgold	ln1d	0.52	0.94	1.31 1.02	0.55	0.91	1.65	0.77 1.78
silver	ln1d	0.46	0.98	0.91	0.55	1.00	1.44	1.83
silver	ln2d	0.47	0.91	0.87	0.55	0.98	1.44	1.81
rsilver	ln	0.93	2.49	1.47	1.61	1.13	2.85	2.22
rsilver	ln1d	0.46	0.97	0.92	0.55	1.00	1.45	1.82
rgdp	ln1d							
rgdp	gap							
ip	ln1d	0.48	0.91	0.73 0.93	0.55	0.92	1.43	0.56 1.86
ip	gap	0.52	1.07	0.81 0.92	0.59	0.95	1.61	0.60 1.77
capu	lev	0.48	0.76	1.18	0.35	0.96		0.54 1.64
emp	ln1d	0.50	0.83	0.76 0.90		0.90	2.04	0.53 1.90
emp	gap	0.52	0.98	0.96 0.95		0.96	3.30	0.60 1.94
unemp	lev	0.50	1.21	2.47 1.10	0.77	0.88	0.78	0.88 1.70
unemp	1d	0.48	0.98	0.55 0.93	0.52	0.90	2.10	0.55 1.87
unemp	gap	0.57	1.17	0.59 0.92	0.48	0.94	2.14	0.54 2.11
pgdp	ln1d	0.68	1.44	0.71 0.94	0.94	1.05	1.07	0.58 2.23
pgdp	ln2d	0.48	0.85	0.75 0.92	0.56	0.83	1.37	0.58 1.68
cpi	ln1d	0.80	1.71	0.57 1.17	1.00	1.04	1.01	0.61 1.83
cpi	ln2d	0.48	0.91	0.73 0.92	0.53	0.89	1.44	0.66 1.82
ppi	ln1d	0.76		0.72 1.18		1.08	1.20	0.61 2.01
ppi	ln2d	0.47		0.74 0.92		0.92	1.33	0.61 1.70
earn	ln1d	0.48	1.16	0.55 0.92		0.84	1.11	0.47 2.59

earn	ln2d	0.47	0.91	0.50 0.90		0.89	1.41	0.57 1.69
oil	ln1d	0.47	0.89	1.11 0.93	0.54	0.89	1.18	0.58 1.70
oil	ln2d	0.48	0.90	0.73 0.92	0.54	0.89	1.45	0.82 1.70
roil	ln	0.72	1.28	0.64 1.05	0.97	1.34	1.62	2.22 1.65
roil	ln1d	0.47	0.88	1.54 0.93	0.53	0.89	1.24	0.68 1.70
comod	ln1d	0.48	1.00	0.76 1.00	0.74	0.94	1.28	2.04 1.92
comod	ln2d	0.47	0.92	0.74 0.92	0.55	0.89	1.42	0.73 1.84
rcomod	ln	0.93	3.46	0.71 1.83	0.82	1.13	1.88	0.95 2.21
rcomod	ln1d	0.48	0.94	0.78 0.99	0.61	0.89	1.30	1.96 1.88
mon0	ln1d					1.02		0.56 1.54
mon0	ln2d					1.05		0.58 1.68
mon1	ln1d	0.47		0.73 0.90	0.45	0.91		0.51 1.88
mon1	ln2d	0.48		0.75 0.92	0.52	0.89		0.57 1.78
mon2	ln1d	0.52		0.80 0.90	0.37	0.59		0.58 1.54
mon2	ln2d	0.47		0.75 0.93	0.37	0.82		0.58 1.71
mon3	ln1d	0.52	2.25	1.03	0.38	1.10		0.57 1.90
mon3	ln2d	0.47	1.15	0.91	0.54	0.93		0.57 1.70
rmon0	ln1d					1.21		0.54 2.21
rmon1	ln1d	0.49		0.68 0.93	0.60	1.02		0.58 2.15
rmon2	ln1d	0.50		0.89 0.83	0.42	0.65		0.48 0.89
rmon3	ln1d	0.50	1.30	0.97	0.41	0.97		0.57 0.73
activity	Median	0.51	0.92	0.79 0.92	0.40	0.90	1.72	0.55 1.80
activity	Tr.Mean	0.50	0.93	0.79 0.94	0.42	0.89	1.68	0.55 1.81
pr_earn	Median	0.48	0.87	0.71 0.92	0.56	0.89	1.33	0.56 1.75
pr_earn	Tr.Mean	0.51	0.91	0.67 0.92	0.54	0.90	1.25	0.55 1.80
money	Median	0.48	0.84	0.74 0.89	0.40	0.82		0.56 1.64
money	Tr.Mean	0.48	0.84	0.74 0.88	0.38	0.85		0.55 1.53
ap	Median	0.47	0.91	0.64 0.94	0.55	0.92	1.38	0.51 1.68
ap	Tr.Mean	0.49	0.90	0.67 0.98	0.54	0.93	1.39	0.45 1.67
all	Median	0.48	0.89	0.72 0.92	0.53	0.88	1.37	0.54 1.71
all	Tr.Mean	0.50	0.89	0.66 0.94	0.49	0.89	1.36	0.49 1.69

Table B.38
Out-of-Sample Results
Trivariate Models (Including Rspread)
Series = IP
Forecast Horizon = 8 Quarters

Indicator	Trans.	CN 71-84 85-99	FR 71-84 85-99	GY 71-84 85-99	IT 71-84 85-99	JP 71-84 85-99	UK 71-84 85-99	US 71-84 85-99
AR RMSE		5.31 3.48	4.26 2.52	4.17 2.87	5.06 3.10	7.69 5.73	3.68 2.06	4.80 2.10
rspread	lev	0.48	1.06 0.75	0.43 0.67	0.90	0.82	1.46	0.53 1.52
rovnght	lev	0.50	0.98 0.98	0.33 0.61	0.89	1.02	1.62	0.79 1.03
rtbill	lev	0.50	0.81	0.64			1.25	0.75 1.40
rbnds	lev						1.11	0.75 1.50
rbndm	lev				0.87			0.76 1.40
rbndl	lev	0.40	0.87 1.02	0.57 0.68	0.89	1.17	2.01	0.85 1.34
rovnght	1d	0.55	1.03 0.92	0.52 0.71	0.71	0.84	1.03	0.68 1.48
rtbill	1d	0.48	0.77	0.83			0.99	0.76 1.51
rbnds	1d						0.81	0.67 1.70
rbndm	1d				0.72			0.56 1.80
rbndl	1d	0.46	1.31 1.04	0.63 0.70	0.73	0.87	1.04	0.57 1.88
rrovnght	lev	0.58	2.08 0.93	0.46 1.03	0.97	0.94	1.23	0.74 1.70
rrtbill	lev	0.50	0.75	0.80			1.31	0.94 1.70
rrbnds	lev						1.11	0.66 1.67
rrbndm	lev				0.82			0.76 1.69
rrbndl	lev	0.58	1.71 1.05	0.40 1.28	0.82	0.90	0.97	0.90 1.70
rrovnght	1d	0.47	1.11 0.75	0.42 0.65	0.88	0.75	1.16	0.53 1.57
rrtbill	1d	0.49	0.75	0.72			1.16	0.56 1.51
rrbnds	1d						1.16	0.58 1.50
rrbndm	1d				0.89			0.67 1.58
rrbndl	1d	0.49	1.05 0.76	0.42 0.66	0.88	0.67	1.16	0.66 1.58
rspread	lev							
exrate	ln1d	0.55	0.75	0.73	0.90	0.82	2.61	0.99
rexrate	ln1d	0.61	0.75	0.72	0.80	0.79	2.01	0.99
stockp	ln1d	0.47	1.12 0.75	0.44 0.68	2.16	0.65	1.20	0.53 1.46
rstockp	ln1d	0.46	1.12 0.80	0.44 0.69	2.37	0.67	1.14	0.52 1.45
divpr	ln	0.26	0.78	0.71	2.40	1.20	1.83	0.69 1.65
house	ln1d	0.48				1.13	1.77	0.69 1.35
rhouse	ln	0.41				0.84	4.17	2.38 1.22
rhouse	ln1d	0.46				1.02	2.48	0.71 1.30
gold	ln1d	0.52	0.98 1.26	0.68 0.68	0.89	0.82	1.65	0.65 1.63
gold	ln2d	0.49	1.06 0.76	0.46 0.68	0.88	0.77	1.15	0.53 1.54
rgold	ln	0.64	0.36 1.03	0.52 0.72	1.58	1.12	2.10	1.32 1.09
rgold	ln1d	0.51	1.34 0.90	0.71 0.68	0.87	0.80	1.70	0.63 1.63
silver	ln1d	0.48	0.82	0.69	0.88	0.74	1.41	1.44
silver	ln2d	0.48	0.81	0.65	0.86	0.81	1.15	1.40
rsilver	ln	1.15	1.91	0.82	2.29	0.84	2.22	1.69
rsilver	ln1d	0.48	0.81	0.68	0.86	0.73	1.45	1.43
rgdp	ln1d	0.48	1.05	0.42 0.65	0.94	0.67	1.17	0.56 1.68
rgdp	gap	0.45	0.94	0.61 0.61	0.89	0.82	2.44	0.80 1.78
ip	ln1d							
ip	gap							
capu	lev	0.38	0.85	0.77	0.61	0.78		0.53 1.55
emp	ln1d	0.53	0.75	0.84 0.67		0.84	2.47	0.54 2.03
emp	gap	0.41	0.87	1.13 0.66		0.83	4.43	0.58 1.94
unemp	lev	0.27	0.90	5.19 0.69	1.81	0.71	1.53	0.80 1.70
unemp	1d	0.39	0.97	0.45 0.64	0.75	0.81	2.49	0.53 1.73
unemp	gap	0.49	1.00	0.54 0.65	0.69	0.86	2.56	0.46 2.08
pgdp	ln1d	0.88	0.88	0.44 0.67	1.62	1.10	1.08	0.67 1.99
pgdp	ln2d	0.50	0.72	0.41 0.67	0.88	0.66	1.14	0.54 1.51
cpi	ln1d	1.05	0.48 2.09	0.42 1.13	1.29	1.05	1.20	0.64 1.74
cpi	ln2d	0.62	1.14 0.77	0.43 0.65	0.85	0.66	1.15	0.60 1.57
ppi	ln1d	0.88		1.36 0.96		1.08	1.36	0.61 1.76
ppi	ln2d	0.48		0.44 0.67		0.82	1.10	0.62 1.55
earn	ln1d	0.64	1.00 1.28	0.59 0.66		0.88	1.07	0.67 2.25

earn	ln2d	0.51	1.06 0.75	0.43 0.66		0.77	1.15	0.54 1.53
oil	ln1d	0.49	1.02 0.82	0.65 0.68	0.81	0.84	1.09	0.59 1.54
oil	ln2d	0.50	1.06 0.75	0.49 0.67	0.89	0.77	1.16	1.34 1.55
roil	ln	1.02	2.63 1.01	0.66 0.66	1.15	0.89	2.32	1.70 1.47
roil	ln1d	0.48	1.02 0.80	0.93 0.68	0.82	0.83	0.99	0.61 1.53
comod	ln1d	0.49	0.84 2.12	0.42 0.87	1.25	0.95	1.20	1.28 1.79
comod	ln2d	0.49	1.05 0.75	0.44 0.67	0.87	0.77	1.15	0.77 1.73
rcomod	ln	1.39	1.85 1.85	0.96 1.26	1.59	1.16	2.12	0.90 2.05
rcomod	ln1d	0.49	1.03 1.43	0.45 0.75	1.05	0.82	1.17	1.45 1.77
mon0	ln1d					1.00		0.51 1.45
mon0	ln2d					0.95		0.54 1.52
mon1	ln1d	0.49		0.44 0.70	0.89	0.71		0.50 1.97
mon1	ln2d	0.47		0.40 0.66	0.84	0.77		0.54 1.57
mon2	ln1d	0.76		0.46 0.72	0.78	0.59		0.56 1.23
mon2	ln2d	0.48		0.41 0.67	0.54	0.65		0.54 1.54
mon3	ln1d	0.77	1.09 0.79	0.70	1.00	1.01		0.58 1.47
mon3	ln2d	0.48	1.06 0.76	0.68	0.88	0.78		0.54 1.50
rmon0	ln1d					0.92		0.74 1.70
rmon1	ln1d	0.48		0.42 0.75	0.88	0.76		0.54 1.62
rmon2	ln1d	0.52		0.81 0.70	0.82	0.49		0.51 1.19
rmon3	ln1d	0.52	0.77 1.61	0.62	0.72	0.77		0.75 0.81
activity	Median	0.39	0.76	0.67 0.65	0.75	0.77	2.21	0.52 1.78
activity	Tr.Mean	0.38	0.80	0.68 0.65	0.75	0.75	1.95	0.52 1.77
pr_earn	Median	0.50	0.98 0.81	0.41 0.67	0.84	0.80	1.12	0.52 1.58
pr_earn	Tr.Mean	0.54	0.90 0.90	0.37 0.67	0.77	0.80	1.10	0.54 1.62
money	Median	0.48	1.04 0.93	0.44 0.65	0.78	0.68		0.53 1.45
money	Tr.Mean	0.52	1.04 0.89	0.44 0.65	0.76	0.70		0.54 1.33
ap	Median	0.48	0.84 0.76	0.40 0.65	0.85	0.77	1.14	0.48 1.44
ap	Tr.Mean	0.45	0.66 0.73	0.38 0.64	0.79	0.76	1.21	0.44 1.40
all	Median	0.48	0.94 0.76	0.43 0.65	0.84	0.76	1.13	0.51 1.51
all	Tr.Mean	0.47	0.73 0.76	0.40 0.65	0.75	0.74	1.21	0.48 1.45

Table B.39
Granger Causality and QLR P-Values
Bivariate Models
Series = Inflation, GDP Deflator

Indicator	Trans.	CN		FR		GY		IT		JP		UK		US	
		GC	QLR	GC	QLR	GC	QLR	GC	QLR	GC	QLR	GC	QLR	GC	QLR
rovnght	lev	0.03	0.48	0.00	0.06	0.01	0.49	0.00	0.23	0.10	0.06	0.28	0.01	0.05	0.04
rtbill	lev	0.01	0.65	0.00	0.18	0.01	1.00	0.05	0.00			0.41	0.00	0.11	0.32
rbnds	lev							0.12	0.00			0.57	0.06	0.06	0.18
rbndm	lev							0.18	0.99					0.01	0.26
rbndl	lev	0.02	0.93	0.00	0.04	0.03	0.05	0.09	1.00	0.56	0.00	0.01	0.13	0.01	0.55
rovnght	1d	0.03	0.25	0.00	0.03	0.01	0.41	0.00	0.12	0.05	1.00	0.47	0.40	0.11	0.07
rtbill	1d	0.11	0.88	0.00	0.04	0.00	1.00	0.16	0.08			0.56	0.14	0.17	0.40
rbnds	1d							0.32	0.03			0.58	0.89	0.17	0.09
rbndm	1d							0.05	0.78					0.22	0.01
rbndl	1d	0.48	0.25	0.00	0.11	0.03	0.00	0.01	0.86	0.67	0.01	0.02	0.10	0.43	0.08
rrovnght	lev	0.90	0.41	0.03	0.11	0.47	0.76	0.16	0.11	0.01	0.25	0.76	0.08	0.60	0.18
rrtbill	lev	0.76	0.03	0.04	0.04	0.97	0.20	0.54	0.28			0.47	0.07	0.53	0.07
rrbnds	lev							0.80	0.12			0.20	0.08	0.51	0.19
rrbndm	lev							0.08	0.77					0.11	0.17
rrbndl	lev	0.39	0.05	0.04	0.69	0.44	0.69	0.07	0.96	0.00	0.08	0.13	0.15	0.05	0.10
rrovnght	1d	0.89	0.37	0.19	0.03	0.46	0.62	0.22	0.05	0.01	0.17	0.64	0.07	0.84	0.62
rrtbill	1d	0.81	0.13	0.22	0.03	0.96	0.30	0.62	0.37			0.90	0.12	0.65	0.44
rrbnds	1d							0.67	0.82			0.92	0.05	0.58	0.53
rrbndm	1d							0.08	0.94					0.25	0.15
rrbndl	1d	0.26	0.06	0.06	0.07	0.52	0.58	0.07	0.96	0.00	0.10	0.74	0.49	0.20	0.10
rspread	lev	0.11	0.59	0.00	0.04	0.12	0.23	0.00	0.00	0.10	0.00	0.45	0.55	0.16	0.02
exrate_a	ln1d	0.15	0.73	0.75	0.00	0.35	0.19	0.26	0.00	0.86	0.33	0.14	0.02	0.01	0.42
rexrate_a	ln1d	0.14	0.61	0.68	0.00	0.27	0.14	0.12	0.00	0.55	0.53	0.12	0.09	0.01	0.42
stockp	ln1d	0.09	0.05	0.02	0.65	0.88	0.27	0.66	0.70	0.08	0.41	0.00	0.00	0.55	0.51
rstockp	ln1d	0.06	0.15	0.03	0.79	0.89	0.30	0.45	0.71	0.04	0.28	0.00	0.01	0.47	0.48
divpr	ln	0.04	0.02	0.02	0.02	0.88	0.00	0.95	0.00	0.10	0.42	0.00	0.11	0.05	0.22
house	ln1d	0.18	0.01							0.00	0.00	0.64	0.65	0.08	0.82
rhouse	ln	0.04	0.01							0.01	0.00	0.42	0.00	0.07	0.00
rhouse	ln1d	0.07	0.01							0.01	0.00	0.56	0.07	0.07	0.67
gold	ln1d	0.22	0.02	0.01	0.22	0.60	0.00	0.08	0.28	0.93	0.13	0.13	0.01	0.00	0.30
gold	ln2d	0.69	0.12	0.08	0.49	0.51	0.00	0.10	0.14	0.90	0.07	0.20	0.02	0.64	0.20
rgold	ln	0.04	0.25	0.01	0.53	0.70	0.22	0.10	0.92	0.56	0.06	0.10	0.01	0.00	0.10
rgold	ln1d	0.11	0.01	0.01	0.24	0.55	0.00	0.05	1.00	0.79	0.06	0.10	0.02	0.00	0.30
silver	ln1d	0.78	0.09	0.24	0.03	0.28	0.05	0.11	0.02	0.74	0.05	0.61	0.37	0.01	0.01
silver	ln2d	0.81	0.05	0.97	0.01	0.15	0.12	0.15	0.08	0.43	0.18	0.81	0.67	0.52	0.00
rsilver	ln	0.53	0.15	0.40	0.58	0.46	0.00	0.06	0.11	0.46	0.01	0.55	0.05	0.04	0.03
rsilver	ln1d	0.69	0.10	0.27	0.03	0.27	0.05	0.06	0.01	0.65	0.05	0.47	0.31	0.01	0.01
rgdp	ln1d	0.00	0.27	0.00	0.08	0.00	0.25	0.00	0.65	0.11	0.21	0.35	0.01	0.06	0.15
rgdp	gap	0.00	0.41	0.09	0.04	0.00	0.15	0.00	0.10	0.42	0.01	0.29	0.03	0.07	0.23
ip	ln1d	0.00	0.17	0.02	0.12	0.00	0.82	0.00	0.72	0.01	0.01	0.16	0.04	0.06	0.33
ip	gap	0.00	0.43	0.50	0.01	0.00	0.16	0.00	0.68	0.01	0.07	0.06	0.24	0.04	0.30
capu	lev	0.00	0.12	0.34	0.02	0.00	0.72	0.02	0.02	0.00	0.02			0.00	0.26
emp	ln1d	0.00	0.29	0.01	0.02	0.01	0.00			0.76	0.41	0.07	0.57	0.04	0.72
emp	gap	0.00	0.25	0.02	0.01	0.10	0.00			0.79	0.33	0.10	0.49	0.00	0.19
unemp	lev	0.00	0.17	0.24	0.21	0.01	0.65	0.24	0.00	0.42	0.09	0.04	0.44	0.00	0.82
unemp	1d	0.00	0.16	0.60	0.83	0.01	0.32	0.27	0.00	0.41	0.11	0.04	0.23	0.00	0.36
unemp	gap	0.00	0.31	0.30	0.72	0.03	0.41	0.06	0.04	0.08	0.08	0.07	0.18	0.00	0.10
pgdp	ln1d														
pgdp	ln2d														
cpi	ln1d	0.07	0.03	0.00	0.21	0.22	0.34	0.00	0.77	0.00	0.23	0.15	0.01	0.07	0.06
cpi	ln2d	0.08	0.11	0.00	0.35	0.25	0.84	0.01	0.90	0.00	0.32	0.48	0.91	0.05	0.12
ppi	ln1d	0.00	0.07			0.00	0.00	0.01	0.01	0.00	0.00	0.00	0.01	0.01	0.06
ppi	ln2d	0.00	0.21			0.00	0.00	0.00	0.42	0.00	0.00	0.00	0.21	0.00	0.07
earn	ln1d	0.31	0.09	0.00	0.45	0.04	0.47			0.08	0.04	0.01	0.08	0.00	0.15
earn	ln2d	0.47	0.40	0.00	0.30	0.02	0.07			0.11	0.17	0.00	0.57	0.00	0.41
oil	ln1d	0.00	0.02	0.00	0.52	0.19	0.00	0.00	1.00	0.65	0.01	0.17	0.03	0.04	0.42
oil	ln2d	0.01	0.08	0.03	0.30	0.75	0.00	0.00	1.00	0.67	0.02	0.92	0.01	0.02	0.00
roil	ln	0.00	0.11	0.00	0.80	0.14	0.02	0.00	1.00	0.64	0.00	0.05	0.05	0.04	0.02
roil	ln1d	0.00	0.04	0.00	0.52	0.13	0.00	0.00	1.00	0.73	0.01	0.07	0.01	0.04	0.47
comod	ln1d	0.01	0.02	0.30	0.00	0.04	0.28	0.03	0.17	0.18	0.20	0.12	0.02	0.00	0.63

comod	ln2d	0.45 0.12	0.84 0.00	0.73 0.40	0.00 0.32	0.35 0.00	0.45 0.06	0.60 0.29
rcomod	ln	0.00 0.04	0.29 0.00	0.28 0.30	0.01 0.68	0.08 0.08	0.04 0.02	0.00 0.31
rcomod	ln1d	0.00 0.03	0.31 0.00	0.02 0.16	0.01 0.06	0.03 0.13	0.03 0.04	0.00 0.62
mon0	ln1d					0.21 0.16		0.76 0.08
mon0	ln2d					0.40 0.27		0.58 0.25
mon1	ln1d	0.27 0.27	0.44 0.22	0.02 0.18	0.13 0.97	0.51 0.44		0.85 0.23
mon1	ln2d	0.51 0.26	0.34 0.48	0.08 0.29	0.33 0.98	0.90 0.83		0.60 0.42
mon2	ln1d	0.00 0.02		0.00 0.01	0.63 0.04	0.12 0.00		0.56 0.21
mon2	ln2d	0.00 0.53		0.00 0.03	0.73 0.88	0.34 0.01		0.29 0.16
mon3	ln1d	0.03 0.03	0.66 0.21	0.00 0.01	0.10 1.00	0.76 0.00		0.71 0.59
mon3	ln2d	0.02 0.69	0.66 0.27	0.01 0.01	0.17 1.00	0.47 0.52		0.30 0.95
rmon0	ln1d					0.01 0.00		0.59 0.12
rmon1	ln1d	0.05 0.46	0.06 0.93	0.04 0.28	0.02 0.99	0.01 0.00		0.62 0.31
rmon2	ln1d	0.00 0.58		0.00 0.03	0.14 0.00	0.00 0.00		0.27 0.16
rmon3	ln1d	0.05 0.53	0.26 0.19	0.01 0.00	0.00 1.00	0.00 0.01		0.31 0.95

Table B.40
Granger Causality and QLR P-Values
Bivariate Models
Series = Inflation, CPI

Indicator	Trans.	CN		FR		GY		IT		JP		UK		US	
		GC	QLR	GC	QLR	GC	QLR	GC	QLR	GC	QLR	GC	QLR	GC	QLR
rovnght	lev	0.01	0.35	0.00	0.33	0.15	0.86	0.00	0.00	0.05	0.00	0.08	0.12	0.00	0.03
rtbill	lev	0.35	0.12	0.00	0.01	0.26	0.43	0.00	0.05			0.02	0.01	0.00	0.14
rbnds	lev							0.05	0.00			0.01	0.00	0.00	0.07
rbndm	lev							0.13	0.08					0.00	0.19
rbndl	lev	0.19	0.33	0.01	0.71	0.19	0.48	0.13	0.51	0.01	0.00	0.00	0.03	0.00	0.21
rovnght	1d	0.02	0.42	0.01	0.06	0.33	0.98	0.07	0.00	0.09	0.01	0.32	0.04	0.00	0.01
rtbill	1d	0.09	0.11	0.06	0.01	0.22	0.58	0.84	0.60			0.02	0.63	0.00	0.03
rbnds	1d							0.24	0.00			0.01	0.19	0.00	0.05
rbndm	1d							0.31	0.00					0.00	0.22
rbndl	1d	0.19	0.18	0.02	0.65	0.22	0.16	0.25	0.00	0.04	0.00	0.00	0.07	0.00	0.24
rrovnght	lev	0.08	0.17	0.01	0.13	0.29	0.02	0.43	0.41	0.02	0.03	0.39	0.00	0.00	0.52
rrtbill	lev	0.65	0.20	0.07	0.01	0.16	0.00	0.30	0.79			0.02	0.00	0.00	0.49
rrbnds	lev							0.27	0.07			0.00	0.00	0.00	0.54
rrbndm	lev							1.00	0.20					0.00	0.40
rrbndl	lev	0.68	0.25	0.05	0.16	0.01	0.00	0.88	0.08	0.00	0.00	0.00	0.11	0.00	0.45
rrovnght	1d	0.02	0.16	0.01	0.05	0.33	0.19	0.07	0.25	0.09	0.00	0.32	0.07	0.00	0.34
rrtbill	1d	0.09	0.26	0.06	0.03	0.22	0.12	0.84	0.05			0.02	0.01	0.00	0.61
rrbnds	1d							0.24	0.02			0.01	0.04	0.00	0.61
rrbndm	1d							0.31	0.10					0.00	0.39
rrbndl	1d	0.19	0.65	0.02	0.80	0.22	0.13	0.25	0.05	0.04	0.00	0.00	0.15	0.00	0.38
rspread	lev	0.07	0.80	0.02	0.03	0.57	0.91	0.01	0.00	0.14	0.00	0.28	0.55	0.00	0.04
exrate_a	ln1d	0.10	0.84	0.70	0.27	0.18	0.46	0.01	0.00	0.08	0.00	0.17	0.20	0.01	0.00
rexrate_a	ln1d	0.03	0.96	0.75	0.34	0.10	0.52	0.02	0.00	0.01	0.00	0.20	0.51	0.01	0.00
stockp	ln1d	0.76	0.13	0.60	0.85	0.43	0.58	0.71	0.18	0.46	0.48	0.00	0.11	0.03	0.80
rstockp	ln1d	0.73	0.21	0.59	0.77	0.49	0.58	0.69	0.18	0.29	0.36	0.01	0.11	0.02	0.69
divpr	ln	0.18	0.03	0.29	0.10	0.14	0.44	0.49	0.02	0.17	0.00	0.00	0.01	0.01	0.40
house	ln1d	0.10	0.15							0.01	0.00	0.32	0.51	0.01	0.65
rhouse	ln	0.03	0.51							0.00	0.00	0.19	0.00	0.02	0.03
rhouse	ln1d	0.03	0.26							0.00	0.00	0.21	0.02	0.00	0.34
gold	ln1d	0.00	0.02	0.00	0.16	0.30	0.30	0.05	0.21	0.68	0.00	0.41	0.76	0.28	0.01
gold	ln2d	0.93	0.00	0.01	0.34	0.30	0.39	0.08	0.14	0.72	0.07	0.86	0.62	0.33	0.04
rgold	ln	0.01	0.01	0.00	0.60	0.11	0.16	0.02	0.04	0.05	0.00	0.11	0.13	0.04	0.00
rgold	ln1d	0.00	0.01	0.00	0.22	0.24	0.27	0.03	0.38	0.35	0.00	0.12	0.81	0.17	0.02
silver	ln1d	0.11	0.11	0.00	0.59	0.61	0.85	0.19	0.00	0.16	0.01	0.31	0.24	0.15	0.00
silver	ln2d	0.71	0.01	0.00	0.53	0.38	0.38	0.28	0.00	0.11	0.02	0.40	0.12	0.20	0.00
rsilver	ln	0.46	0.14	0.00	0.18	0.50	0.66	0.12	0.00	0.11	0.00	0.25	0.05	0.08	0.01
rsilver	ln1d	0.09	0.10	0.00	0.52	0.60	0.81	0.14	0.00	0.09	0.02	0.23	0.28	0.08	0.00
rgdp	ln1d	0.07	0.57	0.24	0.73	0.09	0.34	0.14	0.04	0.14	0.14	0.03	0.00	0.01	0.33
rgdp	gap	0.05	0.39	0.13	0.67	0.07	0.41	0.19	0.17	0.51	0.16	0.06	0.00	0.03	0.20
ip	ln1d	0.01	0.29	0.30	0.78	0.31	0.49	0.02	0.48	0.00	0.00	0.12	0.00	0.00	0.27
ip	gap	0.02	0.31	0.71	0.51	0.02	0.52	0.05	0.24	0.00	0.11	0.19	0.02	0.00	0.17
capu	lev	0.00	0.28	0.14	0.10	0.41	0.85	0.13	0.00	0.00	0.35			0.00	0.06
emp	ln1d	0.03	0.83	0.00	0.10	0.21	0.02			0.08	0.19	0.00	0.24	0.00	0.19
emp	gap	0.02	0.87	0.01	0.18	0.13	0.04			0.28	0.11	0.00	0.20	0.00	0.01
unemp	lev	0.03	0.16	0.57	0.45	0.01	0.92	0.20	0.05	0.07	0.33	0.00	0.13	0.00	0.67
unemp	1d	0.11	0.17	0.04	0.41	0.03	0.98	0.26	0.03	0.06	0.27	0.01	0.13	0.00	0.04
unemp	gap	0.06	0.08	0.42	0.60	0.05	0.71	0.23	0.19	0.03	0.14	0.00	0.18	0.00	0.11
pgdp	ln1d	0.69	0.17	0.37	0.03	0.96	0.03	0.95	0.15	0.09	0.00	0.11	0.04	0.37	0.01
pgdp	ln2d	0.69	0.50	0.35	0.92	0.82	0.03	0.12	0.84	0.14	0.02	0.10	0.75	0.45	0.03
cpi	ln1d														
cpi	ln2d														
ppi	ln1d	0.00	0.56			0.02	0.18	0.00	0.29	0.00	0.00	0.00	0.02	0.00	0.05
ppi	ln2d	0.00	0.49			0.04	0.18	0.01	0.05	0.00	0.00	0.00	0.31	0.00	0.21
earn	ln1d	0.86	0.26	0.53	0.08	0.05	0.24			0.02	0.00	0.10	0.02	0.37	0.19
earn	ln2d	0.25	0.77	0.45	0.23	0.09	0.46			0.04	0.51	0.06	0.13	0.38	0.90
oil	ln1d	0.00	0.12	0.06	0.27	0.18	0.00	0.00	0.16	0.22	0.00	0.17	0.70	0.11	0.16
oil	ln2d	0.00	0.01	0.03	0.12	0.18	0.00	0.00	0.00	0.30	0.00	0.10	0.21	0.02	0.01
roil	ln	0.00	0.08	0.00	0.10	0.05	0.00	0.00	0.02	0.05	0.00	0.05	0.01	0.05	0.12
roil	ln1d	0.00	0.11	0.04	0.20	0.17	0.00	0.00	0.16	0.28	0.00	0.13	0.77	0.13	0.14
comod	ln1d	0.04	0.05	0.04	0.10	0.24	0.44	0.00	0.00	0.00	0.00	0.09	0.78	0.00	0.09

comod	ln2d	0.62 0.02	0.08 0.06	0.09 0.37	0.00 0.00	0.00 0.00	0.50 0.31	0.14 0.71
rcomod	ln	0.11 0.31	0.01 0.04	0.17 0.38	0.02 0.00	0.00 0.00	0.01 0.08	0.00 0.07
rcomod	ln1d	0.01 0.03	0.01 0.11	0.17 0.42	0.00 0.00	0.00 0.00	0.02 0.71	0.00 0.09
mon0	ln1d					0.01 0.00		0.14 0.70
mon0	ln2d					0.00 0.25		0.05 0.70
mon1	ln1d	0.99 0.16	0.59 0.02	0.01 0.02	0.42 0.86	0.11 0.03		0.05 0.82
mon1	ln2d	0.87 0.09	0.23 0.11	0.09 0.03	0.66 0.53	0.26 0.00		0.03 0.83
mon2	ln1d	0.05 0.18		0.00 0.01	0.94 0.02	0.21 0.00		0.25 0.67
mon2	ln2d	0.07 0.13		0.26 0.03	0.96 0.93	0.10 0.00		0.31 0.53
mon3	ln1d	0.01 0.23	0.31 0.69	0.56 1.00	0.46 0.45	0.21 0.00		0.30 0.65
mon3	ln2d	0.04 0.40	0.99 0.44	0.67 1.00	0.57 0.13	0.03 0.00		0.54 0.80
rmon0	ln1d					0.00 0.00		0.01 0.62
rmon1	ln1d	0.71 0.34	0.46 0.11	0.00 0.04	0.15 0.12	0.00 0.01		0.02 0.61
rmon2	ln1d	0.00 0.08		0.00 0.03	0.24 0.01	0.00 0.01		0.03 0.35
rmon3	ln1d	0.00 0.13	0.01 0.89	0.02 1.00	0.01 0.53	0.00 0.10		0.02 0.52

Table B.41
Granger Causality and QLR P-Values
Bivariate Models
Series = Real GDP

Indicator	Trans.	CN	FR	GY	IT	JP	UK	US
rovnght	lev	0.00 0.03	0.00 0.01	0.00 0.41	0.25 0.28	0.00 0.01	0.05 0.03	0.00 0.17
rtbill	lev	0.00 0.09	0.00 0.01	0.03 0.02	0.08 0.04		0.00 0.01	0.00 0.17
rbnds	lev				0.11 0.02		0.04 0.00	0.00 0.04
rbndm	lev				0.03 0.30			0.02 0.11
rbndl	lev	0.00 0.29	0.04 0.00	0.00 0.02	0.02 0.05	0.68 0.00	0.13 0.92	0.04 0.19
rovnght	1d	0.03 0.91	0.00 0.16	0.01 0.78	0.08 0.57	0.00 0.04	0.07 0.01	0.00 0.01
rtbill	1d	0.01 0.50	0.00 0.12	0.07 0.37	0.00 0.98		0.69 0.00	0.00 0.00
rbnds	1d				0.00 0.18		0.83 0.00	0.00 0.01
rbndm	1d				0.09 0.04			0.04 0.06
rbndl	1d	0.06 0.27	0.16 0.00	0.01 0.42	0.18 0.01	0.94 0.00	0.16 0.79	0.06 0.12
rrovnght	lev	0.00 0.79	0.01 0.46	0.00 0.34	0.31 0.59	0.18 0.00	0.28 0.23	0.08 0.16
rrtbill	lev	0.00 0.02	0.04 0.38	0.01 0.65	0.49 0.39		0.63 0.40	0.32 0.11
rrbnds	lev				0.29 0.00		0.35 0.06	0.48 0.06
rrbndm	lev				0.48 0.08			0.37 0.02
rrbndl	lev	0.57 0.32	0.57 0.00	0.21 0.08	0.42 0.05	0.13 0.00	0.19 0.08	0.27 0.01
rrovnght	1d	0.00 0.99	0.06 0.09	0.09 0.57	0.61 0.32	0.23 0.00	0.42 0.00	0.04 0.44
rrtbill	1d	0.11 0.05	0.05 0.06	0.01 0.45	0.77 0.26		0.67 0.69	0.10 0.14
rrbnds	1d				0.19 0.00		0.58 0.47	0.17 0.09
rrbndm	1d				0.35 0.23			0.19 0.09
rrbndl	1d	0.61 0.11	0.69 0.00	0.22 0.09	0.22 0.19	0.05 0.19	0.75 0.21	0.18 0.08
rspread	lev	0.00 0.54	0.00 0.12	0.00 0.62	0.32 0.02	0.15 0.06	0.42 0.12	0.00 0.02
exrate_a	ln1d	0.16 0.90	0.13 0.49	1.00 0.89	0.77 0.84	0.24 0.02	0.19 0.67	0.59 0.02
rexrate_a	ln1d	0.26 0.83	0.10 0.34	0.98 0.84	0.80 0.86	0.26 0.05	0.10 0.81	0.59 0.02
stockp	ln1d	0.01 0.04	0.33 0.01	0.01 0.00	0.31 0.02	0.04 0.00	0.00 0.21	0.00 0.48
rstockp	ln1d	0.00 0.04	0.33 0.00	0.01 0.00	0.32 0.00	0.05 0.01	0.00 0.13	0.00 0.23
divpr	ln	0.00 0.08	0.77 0.00	0.04 0.22	0.19 0.36	0.05 0.00	0.00 0.07	0.00 0.73
house	ln1d	0.09 0.30				0.53 0.00	0.09 0.90	0.34 0.02
rhouse	ln	0.00 0.59				0.02 0.01	0.13 0.19	0.02 0.00
rhouse	ln1d	0.10 0.34				0.33 0.00	0.07 0.87	0.08 0.01
gold	ln1d	0.08 0.03	0.73 0.08	0.18 0.04	0.67 0.12	0.37 0.00	0.34 0.00	0.62 0.09
gold	ln2d	0.06 0.16	0.32 0.62	0.30 0.07	0.35 0.18	0.21 0.00	0.43 0.02	0.67 0.04
rgold	ln	0.00 0.17	0.18 0.00	0.47 0.04	0.11 0.36	0.43 0.00	0.66 0.01	0.51 0.28
rgold	ln1d	0.07 0.04	0.73 0.12	0.23 0.08	0.73 0.12	0.35 0.00	0.48 0.00	0.75 0.10
silver	ln1d	0.76 0.00	0.03 0.00	0.14 0.21	0.34 0.00	0.07 0.27	0.08 0.31	0.84 0.00
silver	ln2d	0.98 0.25	0.11 0.06	0.18 0.92	0.22 0.03	0.18 0.87	0.04 0.41	0.75 0.22
rsilver	ln	0.71 0.00	0.98 0.00	0.83 0.13	0.68 0.03	0.02 0.19	0.15 0.07	0.82 0.00
rsilver	ln1d	0.72 0.00	0.02 0.00	0.16 0.21	0.31 0.00	0.07 0.44	0.10 0.31	0.77 0.00
rgdp	ln1d							
rgdp	gap							
ip	ln1d	0.00 0.02	0.11 0.35	0.01 0.74	0.05 0.08	0.30 0.01	0.23 0.45	0.01 0.87
ip	gap	0.07 0.04	0.05 0.53	0.11 0.31	0.04 0.00	0.25 0.01	0.63 0.03	0.02 0.89
capu	lev	0.00 0.02	0.62 0.01	0.22 0.03	0.03 0.13	0.23 0.08		0.00 0.50
emp	ln1d	0.03 0.00	0.01 0.02	0.00 0.01		0.05 0.01	0.00 0.71	0.38 0.36
emp	gap	0.04 0.00	0.03 0.00	0.02 0.01		0.69 0.00	0.00 0.29	0.44 0.02
unemp	lev	0.00 0.00	0.00 0.27	0.00 0.15	0.05 0.00	0.23 0.05	0.00 0.01	0.00 0.39
unemp	1d	0.00 0.02	0.04 0.12	0.00 0.01	0.36 0.00	0.61 0.02	0.00 0.36	0.00 0.66
unemp	gap	0.00 0.00	0.00 0.21	0.00 0.04	0.26 0.00	0.34 0.09	0.01 0.03	0.00 0.82
pgdp	ln1d	0.02 0.20	0.62 0.02	0.40 0.57	0.03 0.17	1.00 0.00	0.07 0.08	0.08 0.03
pgdp	ln2d	0.01 0.02	0.26 0.21	0.47 0.43	0.13 0.06	0.78 0.03	0.46 0.47	0.48 0.01
cpi	ln1d	0.68 0.09	0.62 0.01	0.14 0.14	0.16 0.22	0.38 0.03	0.11 0.26	0.01 0.26
cpi	ln2d	0.99 0.16	0.54 0.01	0.29 0.21	0.17 0.17	0.36 0.01	0.52 0.24	0.03 0.30
ppi	ln1d	0.82 0.65		0.00 0.07	0.64 0.70	0.59 0.00	0.27 0.52	0.09 0.78
ppi	ln2d	0.83 0.37		0.12 0.56	0.67 0.74	0.52 0.01	1.00 0.59	0.94 0.77
earn	ln1d	0.13 0.08	0.73 0.02	0.52 0.02		0.03 0.01	0.02 0.16	0.33 0.85
earn	ln2d	0.11 0.12	0.75 0.16	0.25 0.00		0.12 0.00	0.27 0.15	0.77 0.69
oil	ln1d	0.23 0.02	0.13 0.00	0.51 0.65	0.01 0.02	0.03 0.03	0.17 0.02	0.00 0.19
oil	ln2d	0.38 0.01	0.51 0.01	0.94 0.51	0.74 0.04	0.02 0.02	0.17 0.05	0.03 0.10
roil	ln	0.16 0.05	0.02 0.00	0.43 0.65	0.06 0.12	0.04 0.01	0.24 0.07	0.39 0.10
roil	ln1d	0.29 0.02	0.12 0.00	0.54 0.13	0.01 0.02	0.04 0.03	0.27 0.06	0.00 0.12
comod	ln1d	0.78 0.25	0.27 0.05	0.21 0.12	0.04 0.01	0.38 0.00	0.21 0.03	0.14 0.42
comod	ln2d	0.71 0.09	0.20 0.31	0.00 0.11	0.01 0.05	0.73 0.00	0.24 0.11	0.23 0.34

rcomod	ln	0.62 0.24	0.40 0.00	0.82 0.11	0.03 0.06	0.02 0.04	0.22 0.00	0.10 0.33
rcomod	ln1d	0.70 0.22	0.28 0.05	0.27 0.15	0.04 0.02	0.31 0.00	0.19 0.04	0.17 0.46
mon0	ln1d					0.76 0.00		0.89 0.11
mon0	ln2d					0.75 0.61		0.82 0.24
mon1	ln1d	0.00 0.00	0.00 0.39	0.00 0.51	0.03 0.01	0.42 0.00		0.20 0.11
mon1	ln2d	0.02 0.02	0.00 0.51	0.07 0.47	0.14 0.37	0.60 0.00		0.10 0.09
mon2	ln1d	0.02 0.13		0.50 0.29	0.01 0.35	0.00 0.10		0.01 0.24
mon2	ln2d	0.02 0.11		0.46 0.26	0.33 0.22	0.06 0.24		0.24 0.69
mon3	ln1d	0.06 0.49	0.04 0.03	0.39 0.79	0.00 0.01	0.09 0.00		0.26 0.18
mon3	ln2d	0.03 0.85	0.15 0.09	0.61 0.42	0.12 0.53	0.42 0.00		0.54 0.66
rmon0	ln1d					0.72 0.23		0.00 0.00
rmon1	ln1d	0.00 0.00	0.00 1.00	0.00 0.17	0.00 0.13	0.22 0.00		0.02 0.00
rmon2	ln1d	0.04 0.19		0.42 0.15	0.00 0.13	0.00 0.24		0.00 0.46
rmon3	ln1d	0.11 0.28	0.00 0.00	0.03 0.52	0.00 0.34	0.13 0.00		0.00 0.28

Table B.42
Granger Causality and QLR P-Values
Bivariate Models
Series = IP

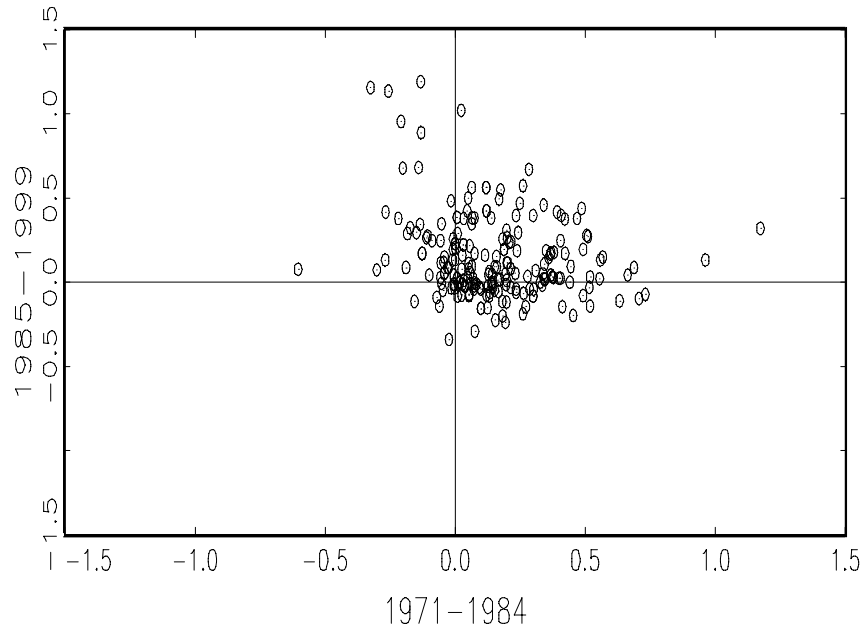
Indicator	Trans.	CN		FR		GY		IT		JP		UK		US	
		GC	QLR	GC	QLR	GC	QLR	GC	QLR	GC	QLR	GC	QLR	GC	QLR
rovnght	lev	0.00	0.27	0.00	0.07	0.00	0.47	0.26	0.10	0.04	0.07	0.09	0.06	0.00	0.00
rtbill	lev	0.00	0.59	0.00	0.00	0.00	0.50	0.05	0.21			0.06	0.00	0.00	0.00
rbnds	lev							0.37	0.00			0.23	0.00	0.00	0.00
rbndm	lev							0.04	0.07					0.00	0.02
rbndl	lev	0.00	0.13	0.00	0.00	0.00	0.12	0.04	0.04	0.01	0.00	0.03	0.89	0.00	0.06
rovnght	1d	0.19	0.28	0.06	0.03	0.00	0.77	0.00	0.34	0.04	0.18	0.12	0.03	0.00	0.02
rtbill	1d	0.13	0.23	0.03	0.02	0.14	0.04	0.03	0.79			0.40	0.00	0.00	0.00
rbnds	1d							0.00	0.03			0.91	0.01	0.01	0.01
rbndm	1d							0.00	0.00					0.02	0.01
rbndl	1d	0.04	0.05	0.09	0.00	0.00	0.34	0.14	0.00	0.01	0.00	0.06	0.76	0.03	0.05
rrovnght	lev	0.06	0.11	0.39	0.36	0.00	1.00	0.36	0.87	0.01	0.01	0.77	0.19	0.19	0.02
rrtbill	lev	0.14	0.74	0.43	0.94	0.00	0.37	0.96	0.90			0.51	0.20	0.67	0.00
rrbnds	lev							0.91	0.32			0.16	0.04	0.72	0.02
rrbndm	lev							0.65	0.20					0.70	0.00
rrbndl	lev	0.48	0.37	0.88	0.07	0.01	0.88	0.49	0.17	0.00	0.00	0.06	0.09	0.65	0.00
rrovnght	1d	0.13	0.97	0.43	0.30	0.00	0.99	0.22	0.92	0.00	0.01	0.97	0.77	0.11	0.13
rrtbill	1d	0.21	0.62	0.32	0.99	0.00	0.46	0.68	0.82			0.58	0.64	0.29	0.05
rrbnds	1d							0.72	0.13			0.42	0.31	0.27	0.04
rrbndm	1d							0.59	0.15					0.43	0.02
rrbndl	1d	0.60	0.56	0.88	0.19	0.00	0.95	0.48	0.10	0.00	0.15	0.48	0.29	0.42	0.01
rspread	lev	0.00	0.13	0.05	0.00	0.00	0.17	0.11	0.20	0.00	0.02	0.77	0.84	0.00	0.02
exrate_a	ln1d	0.09	0.93	0.45	0.04	0.96	0.21	0.54	0.52	0.18	0.06	0.12	0.01	0.49	0.01
rexrate_a	ln1d	0.09	0.91	0.44	0.07	0.99	0.18	0.69	0.28	0.09	0.36	0.04	0.01	0.49	0.01
stockp	ln1d	0.00	0.38	0.33	0.00	0.00	0.01	0.37	0.02	0.00	0.01	0.02	0.15	0.00	0.08
rstockp	ln1d	0.00	0.32	0.28	0.00	0.00	0.01	0.26	0.01	0.00	0.00	0.00	0.26	0.00	0.02
divpr	ln	0.00	0.20	0.47	0.00	0.04	0.33	0.26	0.03	0.03	0.17	0.05	0.32	0.00	0.07
house	ln1d	0.00	0.32							0.10	0.44	0.12	0.22	0.11	0.56
rhouse	ln	0.00	0.37							0.00	0.16	0.12	0.16	0.00	0.00
rhouse	ln1d	0.00	0.59							0.05	0.23	0.03	0.38	0.00	0.50
gold	ln1d	0.44	0.10	0.56	0.01	0.89	0.11	0.40	0.00	0.45	0.00	0.33	0.04	0.54	0.00
gold	ln2d	0.08	0.27	0.46	0.08	0.89	0.31	0.47	0.00	0.49	0.00	0.44	0.14	0.50	0.11
rgold	ln	0.02	0.27	0.00	0.03	0.69	0.10	0.09	0.06	0.39	0.00	0.34	0.07	0.18	0.00
rgold	ln1d	0.30	0.12	0.62	0.02	0.92	0.09	0.47	0.00	0.44	0.00	0.44	0.06	0.38	0.00
silver	ln1d	0.80	0.01	0.13	0.00	0.11	0.13	0.05	0.42	0.20	0.00	0.03	0.02	0.77	0.00
silver	ln2d	0.65	0.53	0.11	0.00	0.03	0.87	0.10	0.30	0.36	0.37	0.03	0.02	0.81	0.00
rsilver	ln	0.65	0.01	0.17	0.00	0.40	0.16	0.04	0.31	0.16	0.13	0.20	0.06	0.39	0.00
rsilver	ln1d	0.69	0.02	0.14	0.00	0.14	0.11	0.04	0.41	0.22	0.01	0.04	0.02	0.68	0.00
rgdp	ln1d	0.18	0.53	0.07	0.11	0.51	0.66	0.00	0.03	0.00	0.07	0.14	0.73	0.03	0.89
rgdp	gap	0.18	0.05	0.10	0.00	0.15	0.35	0.03	0.00	0.23	0.00	0.12	0.59	0.12	0.73
ip	ln1d														
ip	gap														
capu	lev	0.23	0.32	0.00	0.01	0.11	0.20	0.57	0.00	0.22	0.07			0.00	0.16
emp	ln1d	0.02	0.04	0.00	0.06	0.00	0.07			0.16	0.03	0.01	0.66	0.24	0.05
emp	gap	0.01	0.00	0.00	0.00	0.01	0.05			0.14	0.00	0.01	0.07	0.23	0.00
unemp	lev	0.01	0.00	0.03	0.08	0.00	0.00	0.01	0.31	0.01	0.05	0.00	0.02	0.03	0.18
unemp	1d	0.01	0.08	0.02	0.08	0.00	0.01	0.02	0.07	0.02	0.08	0.00	0.00	0.03	0.51
unemp	gap	0.08	0.00	0.01	0.43	0.00	0.04	0.03	0.08	0.01	0.18	0.00	0.02	0.01	0.35
pgdp	ln1d	0.01	0.25	0.53	0.00	0.00	0.43	0.07	0.06	0.58	0.00	0.00	0.17	0.07	0.00
pgdp	ln2d	0.13	0.35	0.59	0.10	0.36	0.19	0.53	0.03	0.00	0.00	0.02	0.08	0.31	0.00
cpi	ln1d	0.02	0.03	0.60	0.07	0.00	0.63	0.12	0.30	0.27	0.00	0.02	0.42	0.03	0.00
cpi	ln2d	0.68	0.63	0.97	0.05	0.01	0.96	0.45	0.05	0.00	0.01	0.24	0.31	0.25	0.01
ppi	ln1d	0.31	0.53			0.00	0.03	0.94	0.39	0.02	0.00	0.05	0.40	0.10	0.26
ppi	ln2d	0.92	0.58			0.01	0.89	0.65	0.27	0.18	0.01	0.45	0.35	0.24	0.01
earn	ln1d	0.01	0.09	0.04	0.03	0.12	0.03			0.17	0.00	0.03	0.46	0.17	0.05
earn	ln2d	0.02	0.25	0.04	0.09	0.35	0.65			0.08	0.00	0.19	0.14	0.31	0.02
oil	ln1d	0.05	0.42	0.21	0.00	0.53	0.56	0.17	0.03	0.39	0.00	0.01	0.00	0.03	0.00
oil	ln2d	0.74	0.11	0.27	0.00	0.78	0.34	0.46	0.01	0.87	0.00	0.12	0.00	0.28	0.00
roil	ln	0.04	0.42	0.00	0.00	0.50	0.79	0.28	0.14	0.49	0.00	0.07	0.00	0.26	0.00
roil	ln1d	0.12	0.35	0.23	0.00	0.58	0.62	0.24	0.02	0.42	0.00	0.02	0.00	0.04	0.00
comod	ln1d	0.01	0.44	0.01	0.00	0.13	0.03	0.01	0.04	0.52	0.00	0.01	0.04	0.02	0.59

comod	ln2d	0.01 0.43	0.00 0.00	0.00 0.27	0.01 0.01	0.05 0.02	0.01 0.78	0.02 0.61
rcomod	ln	0.01 0.19	0.01 0.00	0.23 0.36	0.10 0.12	0.21 0.43	0.02 0.00	0.01 0.03
rcomod	ln1d	0.01 0.41	0.01 0.00	0.14 0.04	0.01 0.02	0.57 0.00	0.01 0.07	0.01 0.56
mon0	ln1d					0.53 0.61		0.79 0.15
mon0	ln2d					0.61 0.28		0.80 0.42
mon1	ln1d	0.01 0.04	0.00 0.25	0.53 0.46	0.03 0.58	0.11 0.30		0.15 0.10
mon1	ln2d	0.02 0.50	0.00 0.38	0.91 0.35	0.07 0.81	0.22 0.16		0.21 0.13
mon2	ln1d	0.00 0.03		0.53 0.35	0.67 0.04	0.03 0.28		0.00 0.02
mon2	ln2d	0.00 0.11		0.41 0.41	0.99 0.90	0.12 0.13		0.05 0.37
mon3	ln1d	0.00 0.02	0.32 0.04	0.16 0.97	0.32 0.51	0.01 0.06		0.05 0.01
mon3	ln2d	0.00 0.12	0.37 0.05	0.21 1.00	0.98 0.68	0.16 0.05		0.40 0.11
rmon0	ln1d					0.02 0.37		0.01 0.00
rmon1	ln1d	0.00 0.11	0.00 0.44	0.29 0.20	0.00 0.91	0.00 0.26		0.01 0.00
rmon2	ln1d	0.01 0.11		0.42 0.31	0.04 0.72	0.00 0.48		0.00 0.00
rmon3	ln1d	0.02 0.03	0.05 0.08	0.01 0.97	0.00 0.63	0.00 0.59		0.00 0.02

Figure B.1

Pseudo Out-of-Sample Log Relative MSFE, Asset Prices
4-Quarter Ahead Forecasts, Fixed Lag Length

a. Inflation



b. Output

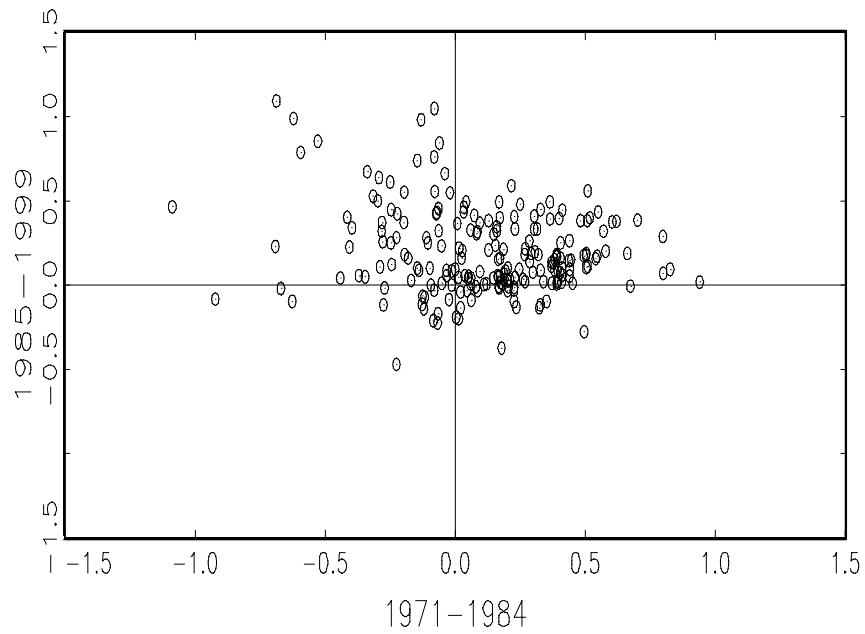


Figure B.2

Pseudo Out-of-Sample Log Relative MSFE, All Predictors
4-Quarter Ahead Forecasts, Fixed Lag Length Models

