

Model: $GDP_t \sim t$

Metric	Value
Adjusted R^2	0.83
MAE	5166.41
RMSE	6290.19
MAPE	12.45
sMAPE	12.28
MASE	0.72

Model: $\log GDP_t / GDP_0 \sim t$

Metric	Value
Adjusted R^2	0.85
MAE	0.12
RMSE	0.14
MAPE	Inf
sMAPE	27.92
MASE	0.67

Model: $GDP_t \sim GT_{i,t}$

Metric	1	2	3	4	5	6	7	8	9	10
Adjusted R^2	0.80	0.28	0.03	0.19	0.57	0.46	0.53	0.25	0.59	0.04
MAE	5481.95	10587.66	12506.46	11025.00	7840.32	9622.30	8406.76	10952.22	7395.82	12426.30
RMSE	6771.15	12965.49	15029.07	13785.95	9963.05	11260.80	10445.43	13207.86	9747.90	14932.37
MAPE	13.14	28.50	32.71	29.53	20.08	24.52	21.18	28.60	17.42	32.93
sMAPE	13.05	25.34	29.00	26.12	18.49	22.77	19.84	25.93	16.59	28.86
MASE	0.76	1.47	1.73	1.53	1.09	1.33	1.17	1.52	1.02	1.72

$$\text{Model: } GDP_t \sim GT_{i,t} + GT_{i,t-1}$$

Metric	1	2	3	4	5	6	7	8	9	10
Adjusted R^2	0.80	0.29	0.07	0.23	0.60	0.46	0.56	0.28	0.65	0.07
MAE	5438.52	10179.79	12043.96	10821.19	7902.38	9350.44	8034.33	10673.19	6903.26	12043.47
RMSE	6662.67	12650.03	14509.07	13146.31	9543.68	11053.91	9964.94	12769.80	8829.13	14492.01
MAPE	12.77	26.66	30.66	27.98	19.96	23.30	19.92	27.18	15.97	30.92
sMAPE	12.58	23.95	27.51	25.22	18.53	21.84	18.78	24.88	15.51	27.52
MASE	0.75	1.40	1.65	1.48	1.08	1.28	1.10	1.46	0.95	1.65

$$\text{Model: } GDP_t \sim GT_{i,t} + GT_{i,t-4}$$

Metric	1	2	3	4	5	6	7	8	9	10
Adjusted R^2	0.84	0.31	0.03	0.20	0.57	0.46	0.55	0.24	0.65	0.12
MAE	4836.46	10130.40	12358.51	10858.91	7741.92	9270.64	7941.17	10616.67	6836.82	11570.52
RMSE	6037.88	12369.60	14704.17	13354.53	9780.36	10975.08	10008.61	12962.80	8787.17	13995.83
MAPE	10.93	26.20	30.98	27.42	19.11	22.85	19.52	26.64	15.61	28.93
sMAPE	10.90	23.43	27.59	24.60	17.71	21.38	18.36	24.10	14.99	25.78
MASE	0.65	1.37	1.67	1.47	1.04	1.25	1.07	1.43	0.92	1.56

$$\text{Model: } GDP_t \sim GT_{i,t} + GT_{i,t-1} + GT_{i,t-2} + GT_{i,t-3} + GT_{i,t-4}$$

Metric	1	2	3	4	5	6	7	8	9	10
Adjusted R^2	0.86	0.53	0.34	0.61	0.78	0.71	0.75	0.51	0.81	0.37
MAE	4460.63	8501.75	10155.84	8156.49	5950.47	6596.15	6447.31	8913.01	5538.73	9782.19
RMSE	5654.67	10232.05	12068.95	9356.25	7054.58	7998.73	7464.47	10385.32	6576.17	11831.82
MAPE	10.29	22.27	26.17	21.58	14.59	15.87	15.48	23.09	13.12	25.64
sMAPE	10.39	20.47	23.55	20.06	14.03	15.40	15.14	21.44	12.73	22.68
MASE	0.60	1.15	1.37	1.10	0.80	0.89	0.87	1.20	0.75	1.32

$$\text{Model: } \log GDP_t / GDP_0 \sim \log GT_{i,t} / GT_{i,0}$$

Metric	1	2	3	4	5	6	7	8	9	10
Adjusted R^2	0.91	0.22	0.03	0.13	0.55	0.43	0.51	0.22	0.64	0.02
MAE	0.09	0.26	0.29	0.26	0.19	0.22	0.20	0.26	0.16	0.30
RMSE	0.11	0.31	0.35	0.33	0.24	0.27	0.25	0.31	0.21	0.35
MAPE	Inf	Inf	Inf	Inf	Inf	Inf	Inf	Inf	Inf	Inf
sMAPE	22.75	44.88	48.62	45.04	37.19	41.30	37.76	45.52	31.87	48.95
MASE	0.50	1.48	1.70	1.52	1.08	1.30	1.14	1.49	0.95	1.72

$$\text{Model: } \log GDP_t / GDP_0 \sim \log GT_{i,t} / GT_{i,0} + \log GT_{i,t-1} / GT_{i,0}$$

Metric	1	2	3	4	5	6	7	8	9	10
Adjusted R^2	0.91	0.24	0.06	0.18	0.55	0.43	0.54	0.24	0.69	0.05
MAE	0.08	0.24	0.28	0.25	0.19	0.21	0.19	0.25	0.15	0.28
RMSE	0.10	0.30	0.33	0.31	0.23	0.26	0.23	0.30	0.19	0.33
MAPE	20.08	99.35	104.32	102.09	74.09	83.80	78.00	97.02	55.39	105.72
sMAPE	16.55	40.34	43.91	41.48	33.28	37.15	33.93	41.78	27.93	44.81
MASE	0.48	1.41	1.61	1.47	1.08	1.25	1.10	1.46	0.89	1.65

$$\text{Model: } \log GDP_t / GDP_0 \sim \log GT_{i,t} / GT_{i,0} + \log GT_{i,t-4} / GT_{i,0}$$

Metric	1	2	3	4	5	6	7	8	9	10
Adjusted R^2	0.93	0.24	0.02	0.16	0.53	0.41	0.50	0.20	0.67	0.11
MAE	0.07	0.23	0.28	0.24	0.18	0.21	0.18	0.24	0.15	0.26
RMSE	0.09	0.29	0.33	0.31	0.23	0.26	0.24	0.30	0.19	0.32
MAPE	17.72	100.21	106.89	99.70	62.42	84.13	76.89	98.03	55.88	103.91
sMAPE	13.84	37.63	42.25	38.58	30.98	35.36	31.53	38.56	26.59	40.42
MASE	0.41	1.39	1.66	1.46	1.06	1.25	1.09	1.44	0.91	1.57

Model:

$$\log GDP_t / GDP_0 \sim \log GT_{i,t} / GT_{i,0} + \log GT_{i,t-1} / GT_{i,0} + \log GT_{i,t-2} / GT_{i,0} + \log GT_{i,t-3} / GT_{i,0} + \log GT_{i,t-4} / GT_{i,0}$$

Metric	1	2	3	4	5	6	7	8	9	10
Adjusted R^2	0.96	0.47	0.31	0.52	0.75	0.70	0.73	0.43	0.79	0.31
MAE	0.05	0.20	0.24	0.20	0.14	0.16	0.15	0.21	0.13	0.23
RMSE	0.07	0.24	0.28	0.23	0.17	0.18	0.17	0.25	0.16	0.28
MAPE	10.47	80.20	80.80	67.84	32.80	44.28	49.85	81.24	45.82	87.83
sMAPE	10.03	35.22	39.72	35.92	25.87	29.39	28.13	37.28	24.46	37.38
MASE	0.32	1.19	1.43	1.17	0.83	0.94	0.90	1.27	0.77	1.37

Model: PLS with 3 components

Metric	PLS
MAE	1567.19
RMSE	2121.58
MAPE	4.04
sMAPE	4.03
MASE	0.22