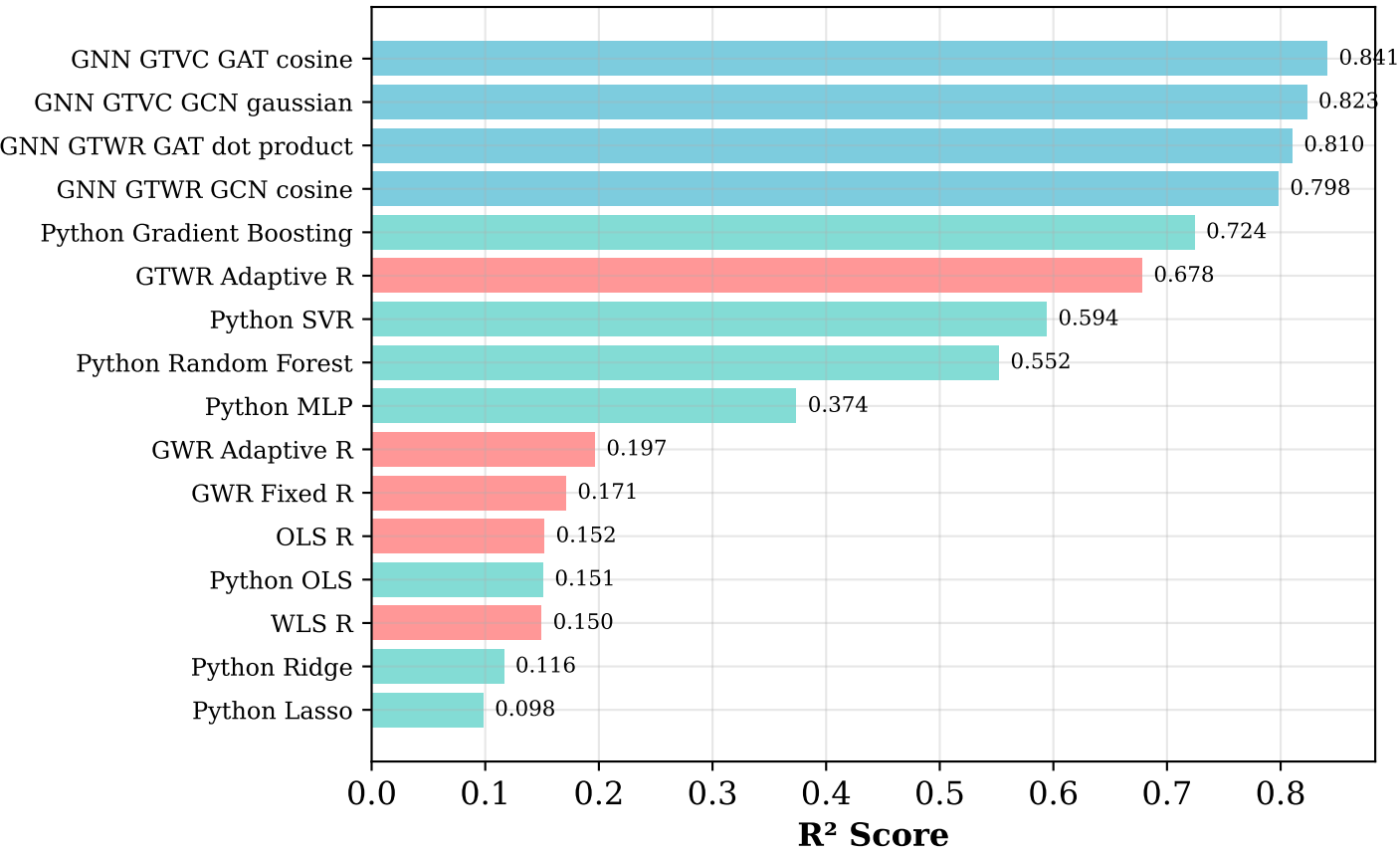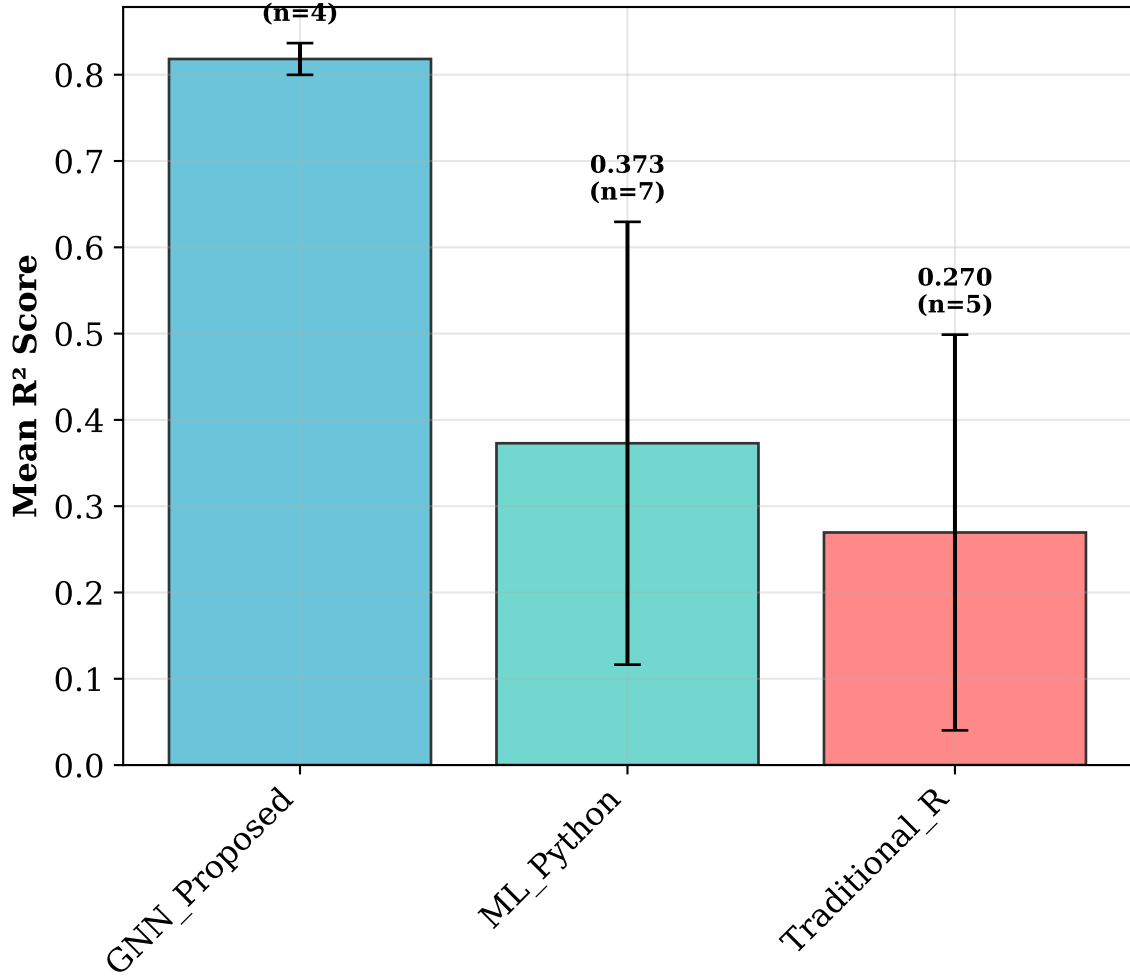**Comprehensive Methods Comparison: Traditional, ML, and Proposed GNN Methods**
(Indonesian Provincial Inflation Analysis)
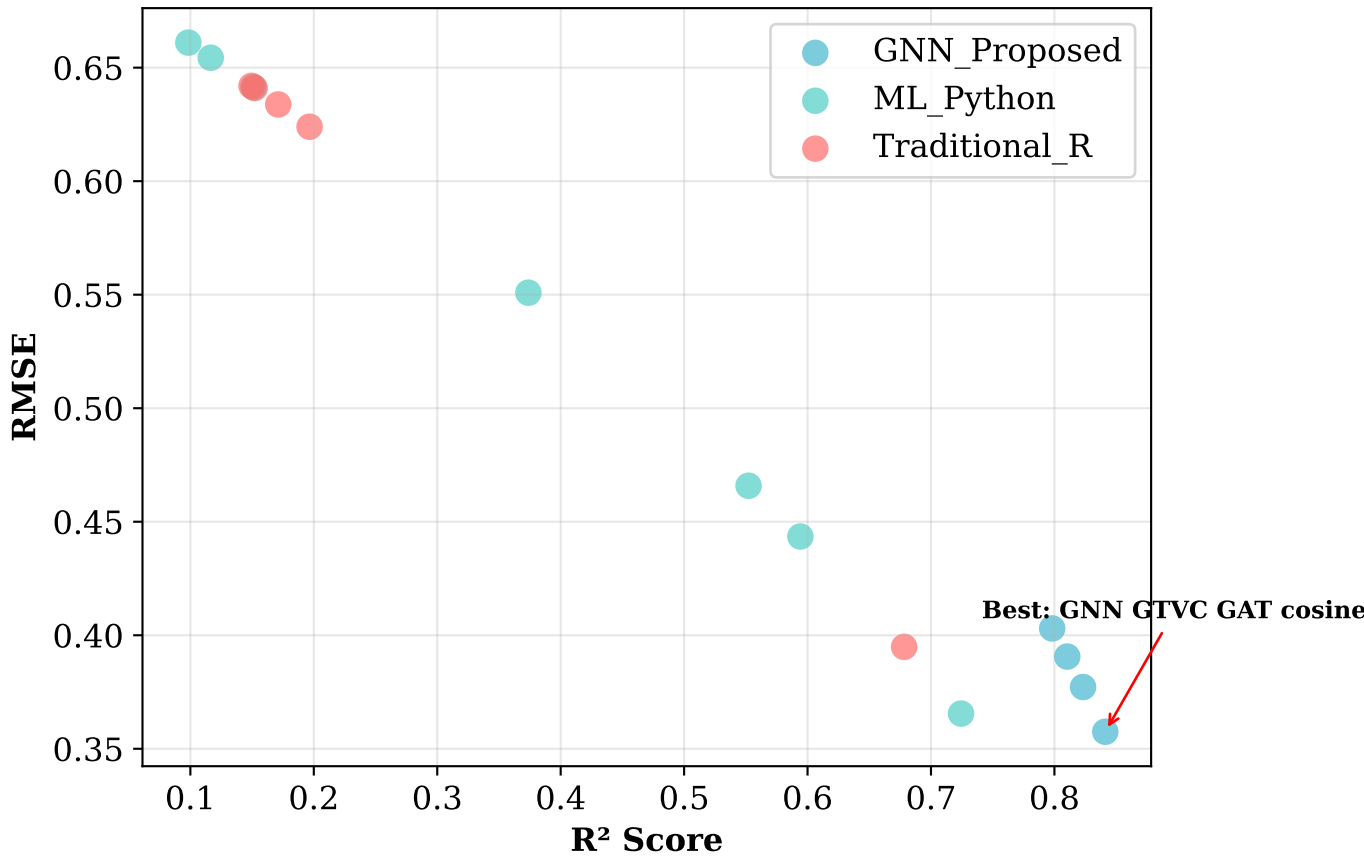
R² Performance by Method
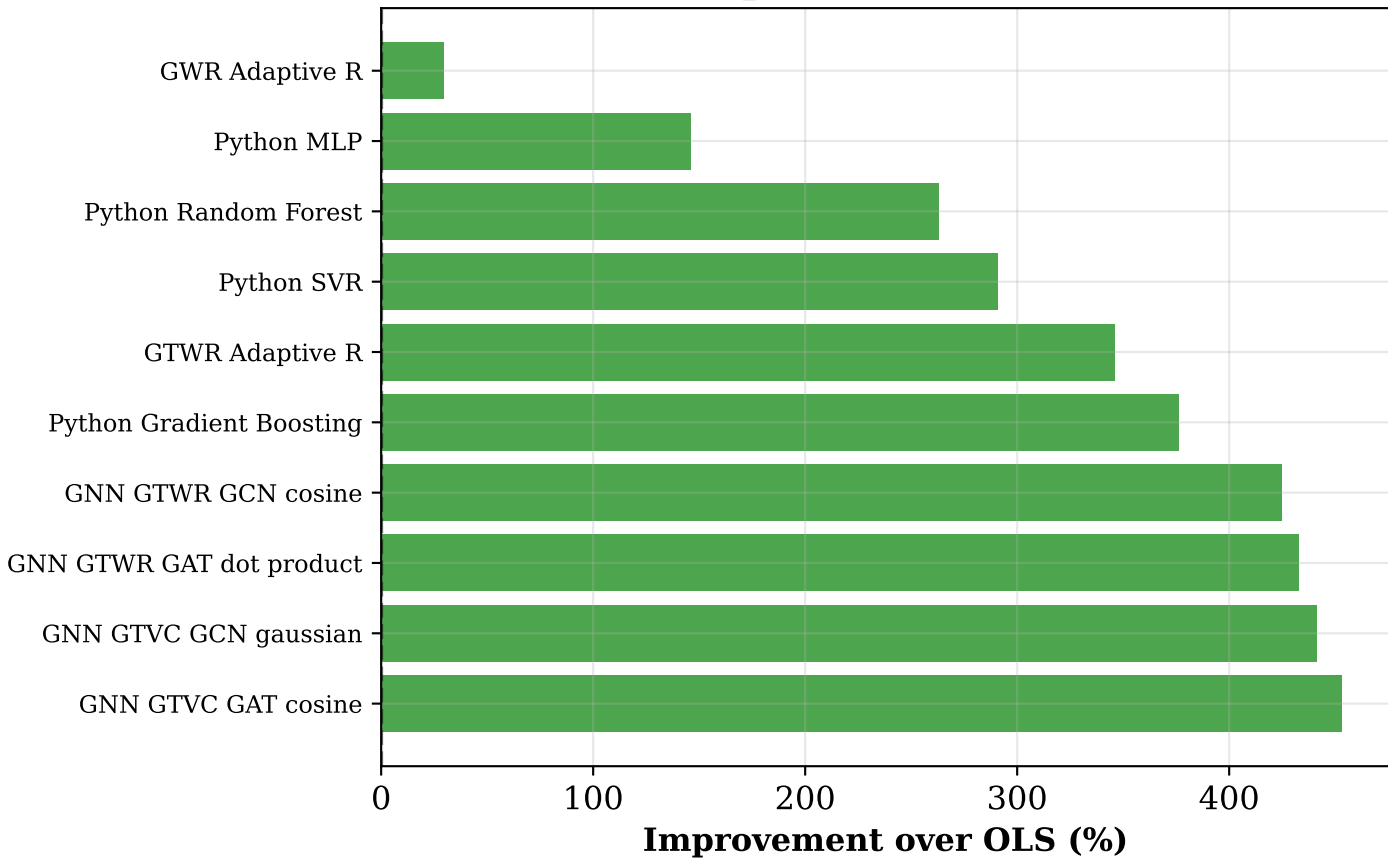
Method	R² Score
GNN GTVC GAT cosine	0.841
GNN GTVC GCN gaussian	0.823
GNN GTWR GAT dot product	0.810
GNN GTWR GCN cosine	0.798
Python Gradient Boosting	0.724
GTWR Adaptive R	0.678
Python SVR	0.594
Python Random Forest	0.552
Python MLP	0.374
GWR Adaptive R	0.197
GWR Fixed R	0.171
OLS R	0.152
Python OLS	0.151
WLS R	0.150
Python Ridge	0.116
Python Lasso	0.098

Performance by Method Category

- GNN_Proposed: 0.818 (n=4)
- ML_Python: 0.373 (n=7)
- Traditional_R: 0.270 (n=5)

RMSE vs R² Trade-off

Best: GNN GTVC GAT cosine

Performance Improvement over OLS Baseline

Method	Improvement over OLS (%)
GWR Adaptive R	
Python MLP	
Python Random Forest	
Python SVR	
GTWR Adaptive R	
Python Gradient Boosting	
GNN GTWR GCN cosine	
GNN GTWR GAT dot product	
GNN GTVC GCN gaussian	
GNN GTVC GAT cosine	

Detailed Metrics for Top 5 Methods

Performance vs Complexity Trade-off