Forcasting and nowcasting

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Plan

1. Data exploration
2. Data preperation
3. Feature manipulation
4. Model training

Feature manipulation

```
df = give_sliding_window_volatility(df, 4, "fx")
yoy_variables = ["bankCreditPnfs", "totalCreditPnfsLCY", "totalCreditPnfs2GDP"]
df = calculate_growth_rates(df, yoy_variables)
df = df.drop(yoy_variables, axis=1)

lag2_variables = [f"{col}_yoy" for col in ["bankCreditPnfs", "totalCreditPnfsLCY", "totalCreditPnfs2GDP"]]
df = get_lagged_variables(df, 2, lag2_variables)
df = df.drop(lag2_variables, axis=1)
lag1_variables = [f"{col}_yoy" for col in ["cpi"]]
df = get_lagged_variables(df, 1, lag1_variables)
df = df.drop(lag1_variables, axis=1)
if verbose:
    print("successful added lag")

df = add_missing_variables(df, country)
if verbose:
    print("Added missing values")
df['financialStressIndex_movingAverage'] = df['financialStressIndex'].rolling(12).mean()
if verbose:
    print("Imputed moving average")

df_dummies = pd.read_csv('dummy_final.csv')
if verbose:
    print("Successful read of dummy .csv")
df = add_systemic_risk_dummy_with_df(df, df_dummies, country)
if verbose:
    print("Added systemic risk dummy")
```