

DATA ANALYSIS BY RINZE, JULIA & MALON

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# WHAT FACTORS IMPACT THE UNEMPLOYMENT RATE IN EU28?

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# TOOLS & METHODS



PYTHON

## ➡ LINEAR REGRESSION

 **TABLEAU**

 **DESCRIPTIVE ANALYSIS**

```
for c in countries:
    print(f"+++++++{c}+++++++")
    y = combi[f"u_{c}"]
    X = combi[["const", f"g_{c}"]]
    model = sm.OLS(y, X).fit()
    print(model.summary(), end="\n\n")
```

++++++DE++++++

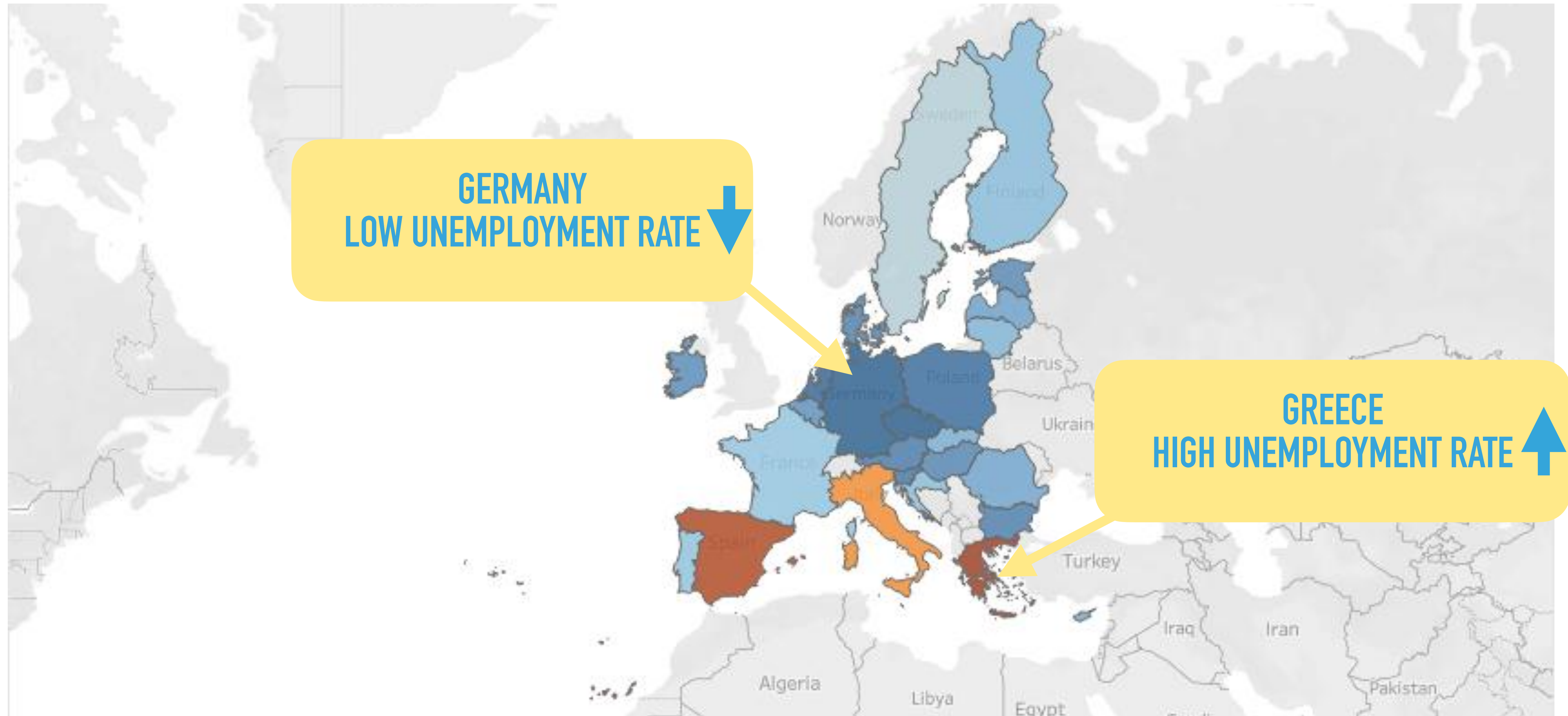
## OLS Regression Results

Dep. Variable:	u_DE	R-squared:	0.953
Model:	OLS	Adj. R-squared:	0.948
Method:	Least Squares	F-statistic:	203.5
Date:	Thu, 17 Sep 2020	Prob (F-statistic):	5.65e-08
Time:	16:04:20	Log-Likelihood:	-3.4104
No. Observations:	12	AIC:	10.82
Df Residuals:	10	BIC:	11.79
Df Model:	1		
Covariance Type:	nonrobust		

	coef	std err	t	P> t	[0.025	0.975]
const	16.2552	0.779	20.861	0.000	14.519	17.991
g_DE	-0.0002	1.67e-05	-14.267	0.000	-0.000	-0.000

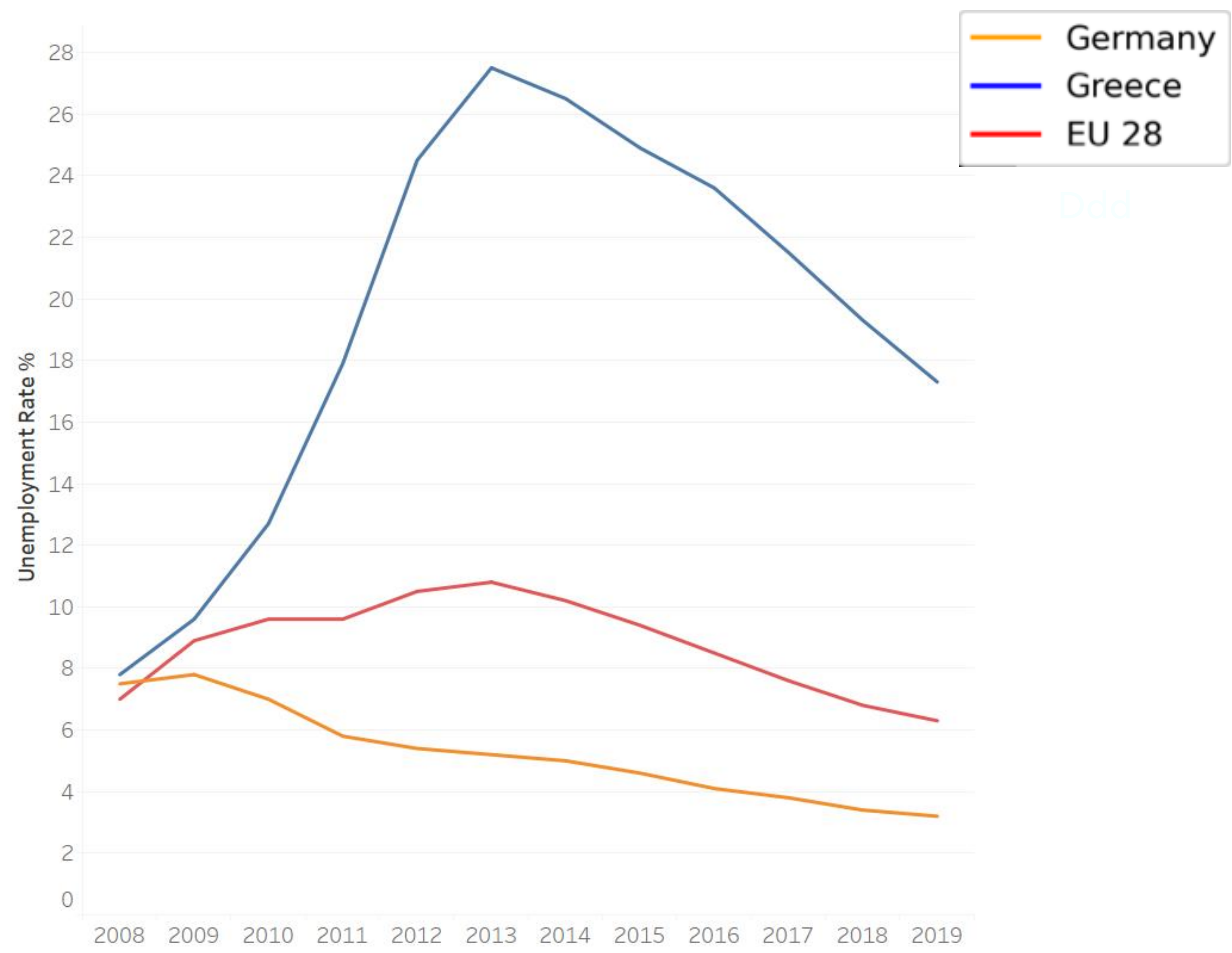
# WHAT FACTORS IMPACT THE UNEMPLOYMENT RATE IN EU28?

## DIFFERENCES IN UNEMPLOYMENT



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## RISE OF UNEMPLOYMENT IN GREECE AFTER FINANCIAL CRISIS

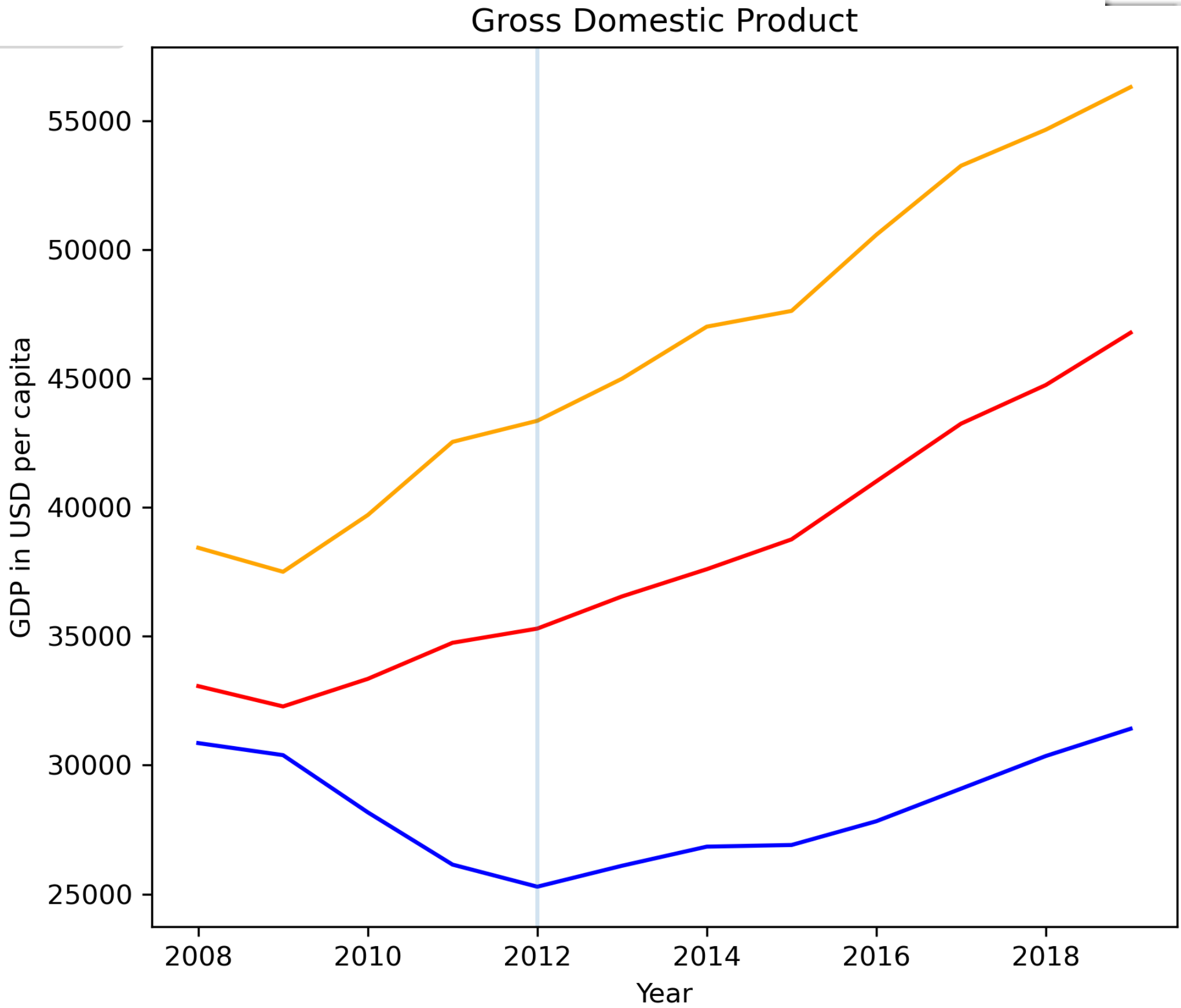
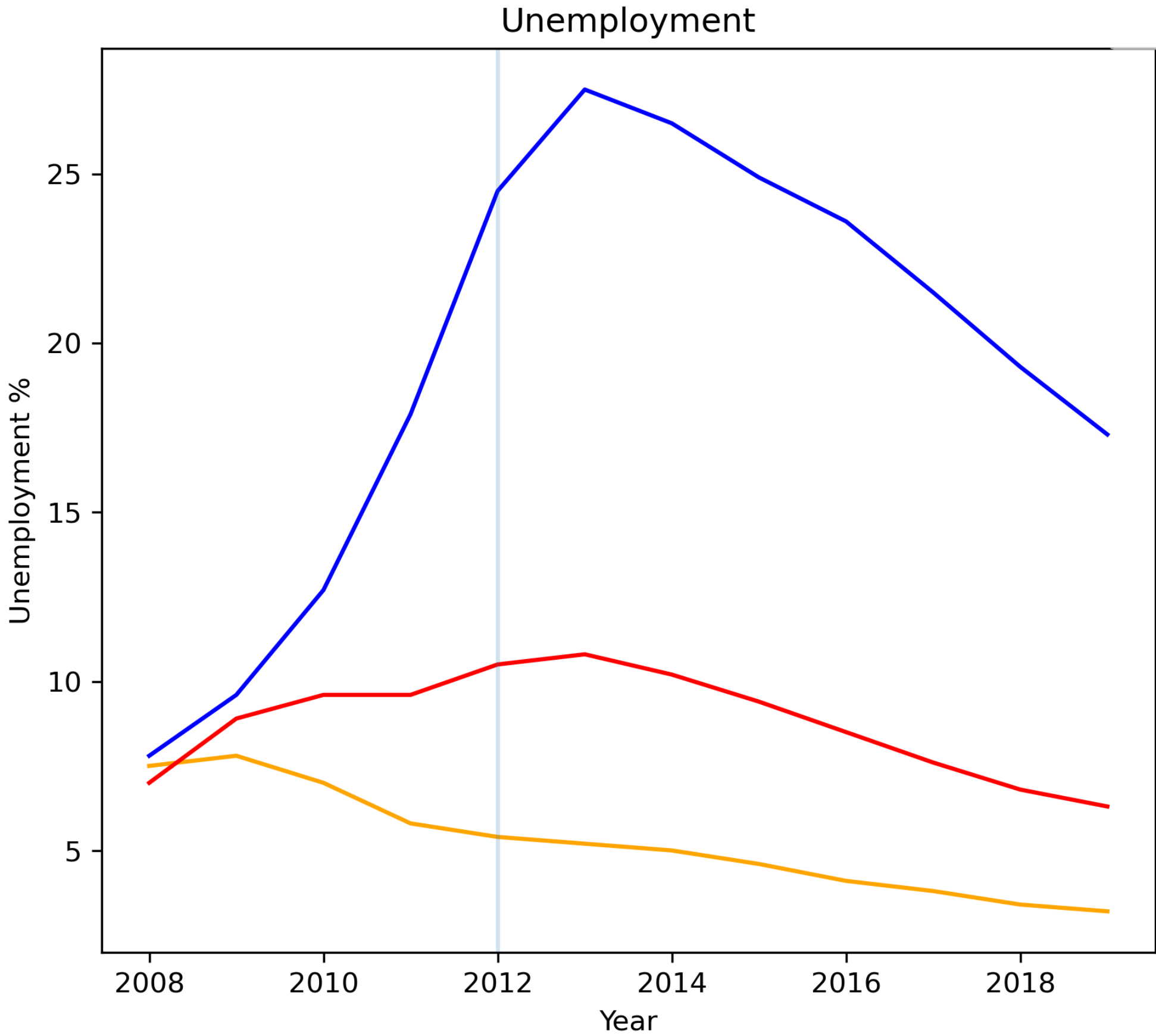




# WHAT FACTORS IMPACT THE UNEMPLOYMENT RATE IN EU28?

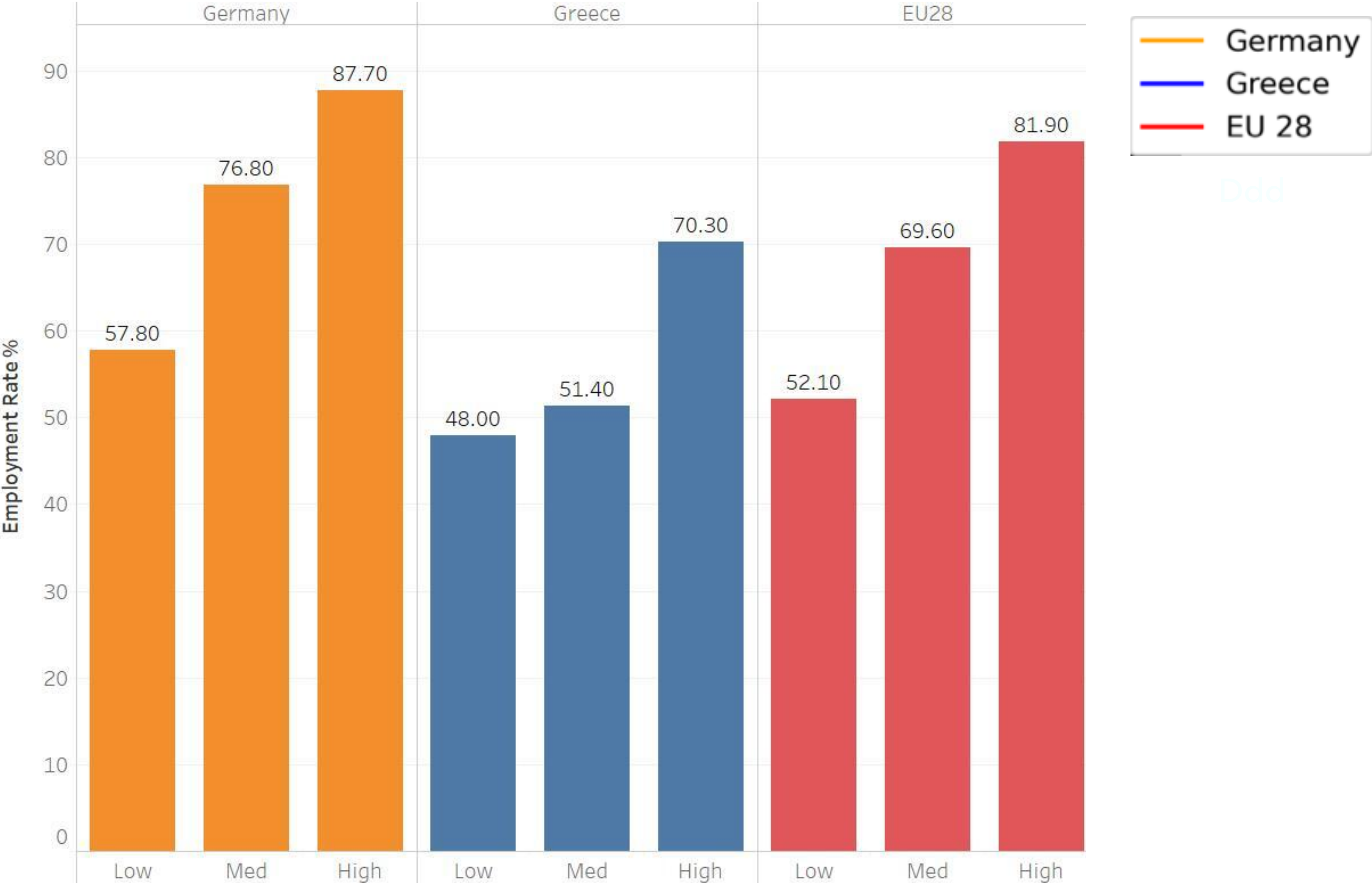
HIGHER GDP  LOWER UNEMPLOYMENT 

- Germany
- Greece
- EU 28



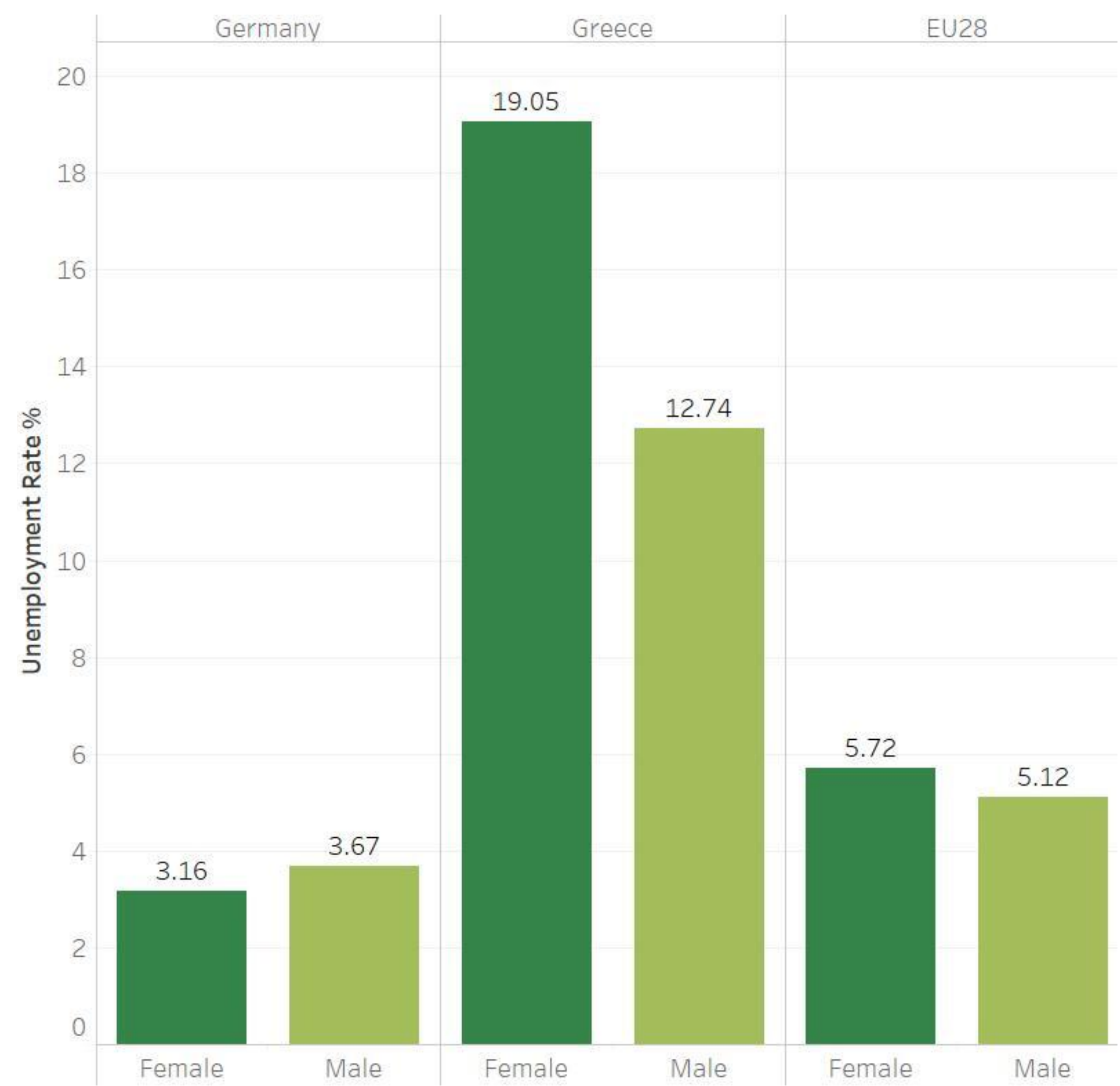
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HIGHER EDUCATION LEVEL  HIGHER EMPLOYMENT RATE 



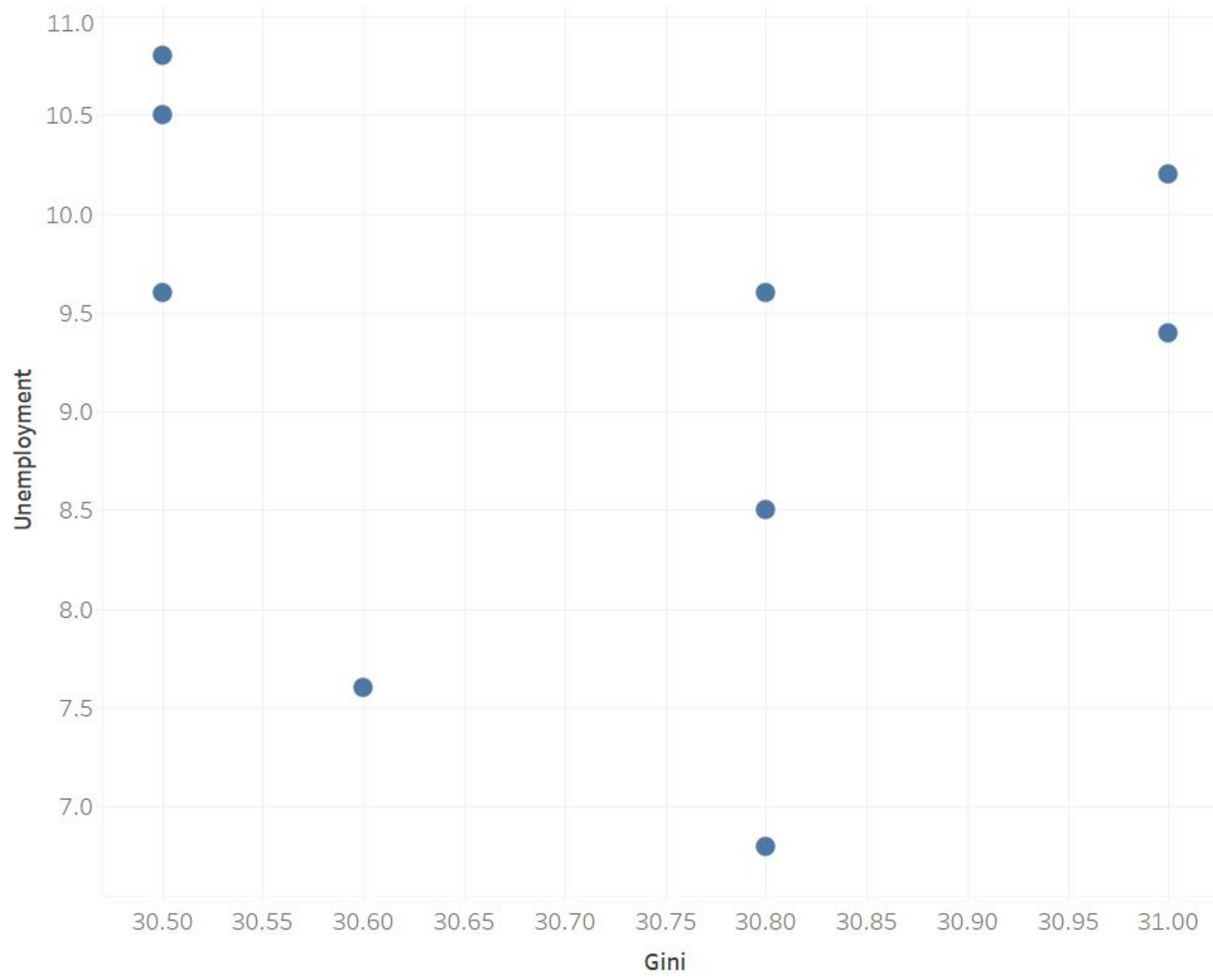
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HIGHER FEMALE UNEMPLOYMENT FOR GREECE, HIGHER MALE FOR GERMANY



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## NO CORRELATION BETWEEN INCOME INEQUALITY AND UNEMPLOYMENT





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## LIMITATIONS

- ➔ COMPLEX DATA STRUCTURES
- ➔ MAINLY PERCENTAGE DATA
- ➔ LIMITED TIME PERIOD OF 2008 – 2019
- ➔ DIFFERENT MEASUREMENTS: ACTIVE POPULATION AND WHOLE POPULATION

## NEXT STEPS

- ➔ FORECASTING THE FUTURE UNEMPLOYMENT RATE
- ➔ COLLECT MORE GRANULAR DATA (MORE YEARS, MONTHS, DAYS)
- ➔ NORMALISE MEASUREMENTS
- ➔ INVESTIGATE ADDITIONAL POTENTIAL IMPACT FACTORS



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## LIFE AS A DATA ANALYST

