**Modeli i performanse**

**ExtremeGradientBoosting\_births\_bestFeatures**

* # može se dodati Year za jos bolje(r2=0.985), sad ke r2=0.975, to za 'Age dependency ratio, young' kaj je cheating right??
* # za samo 'Net migration', 'Population in the largest city (% of urban population)' je r2 = 0.726 HAAAAAAAAA? (ni jedno zasebno ne dela dobro)
* 'Net migration',
* 'Population in the largest city (% of urban population)',
* BIRTH CRUDE:
  + R2 score: 0.7266777029828408
  + Mean Absolute Error (MAE): 1.0159420575593647
  + Mean Squared Error (MSE): 2.5596899623824685
  + Root Mean Squared Error (RMSE): 1.5999031103108927
  + Mean Absolute Percentage Error (MAPE): 9.136913473754618

JOŠ SA 'Rural population growth (annual %)',

* + R2 score: 0.788862170048829
  + Mean Absolute Error (MAE): 0.9783994734914676
  + Mean Squared Error (MSE): 1.97732636489331
  + Root Mean Squared Error (RMSE): 1.4061743721506625
  + Mean Absolute Percentage Error (MAPE): 8.744658520215049

**ExtremeGradientBoosting\_births\_noCollinearity**

'Birth rate, crude (per 1,000 people)'

* R2 score: 0.9777016688082288
* Mean Absolute Error (MAE): 0.35472300680060126
* Mean Squared Error (MSE): 0.19298618848288718
* Root Mean Squared Error (RMSE): 0.4393019331654337
* Mean Absolute Percentage Error (MAPE): 2.9589336409846716

'Births'

* R2 score: 0.9859002254116545
* Mean Absolute Error (MAE): 1395.1151315789473
* Mean Squared Error (MSE): 2614283.606263813
* Root Mean Squared Error (RMSE): 1616.8746414808456
* Mean Absolute Percentage Error (MAPE): 2.5596287830742406

**Smoothing & Holt**

* Births expSmoothing
  + R2 score: 0.22399912607132944
  + Mean Absolute Error (MAE): 0.5777827437901647
  + Mean Squared Error (MSE): 0.5283196922090229
  + Root Mean Squared Error (RMSE): 0.7268560326564146
  + Mean Absolute Percentage Error (MAPE): 5.9552616199170805

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* Births Holt
  + R2 score: 0.42157577728488105
  + Mean Absolute Error (MAE): 0.4254666659512124
  + Mean Squared Error (MSE): 0.39380484942493094
  + Root Mean Squared Error (RMSE): 0.6275387234465543
  + Mean Absolute Percentage Error (MAPE): 4.145618527670123

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* Deaths expSmoothing
  + R2 score: 0.2796332687882075
  + Mean Absolute Error (MAE): 0.45578927930362484
  + Mean Squared Error (MSE): 0.8467699305160958
  + Root Mean Squared Error (RMSE): 0.9202010272305154
  + Mean Absolute Percentage Error (MAPE): 3.333614784921748

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* Deaths Holt
  + R2 score: -0.21970997143107973
  + Mean Absolute Error (MAE): 1.0844798498229915
  + Mean Squared Error (MSE): 1.433733240319271
  + Root Mean Squared Error (RMSE): 1.1973860030580243
  + Mean Absolute Percentage Error (MAPE): 8.889329117451013

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**SARIMAX**

Births:

* R2 score: 0.8329941257985853
* Mean Absolute Error (MAE): 4148.727909135092
* Mean Squared Error (MSE): 28552808.481439535
* Root Mean Squared Error (RMSE): 5343.482804448755
* Mean Absolute Percentage Error (MAPE): 41.820042582226314

Deaths:

* R2 score: 0.6179816512621614
* Mean Absolute Error (MAE): 2784.6598734770546
* Mean Squared Error (MSE): 11840537.04893079
* Root Mean Squared Error (RMSE): 3441.008144269756
* Mean Absolute Percentage Error (MAPE): 5.811730590802436

**LinearRegression**

Births:

* R2 score: 0.9366760688604271
* Mean Absolute Error (MAE): 2664.168491906923
* Mean Squared Error (MSE): 12615423.292211384
* Root Mean Squared Error (RMSE): 3551.8197156121796
* Mean Absolute Percentage Error (MAPE): 5.201063950629862

Deaths:

* R2 score: 0.7098304607454708
* Mean Absolute Error (MAE): 2030.3857791434566
* Mean Squared Error (MSE): 5992468.997154197
* Root Mean Squared Error (RMSE): 2447.9520005821596
* Mean Absolute Percentage Error (MAPE): 4.221522447693225