## Covid Plots

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10/31/2020

## 1 Introduction

## Global Total =54,576,428 as at November 16, 2020

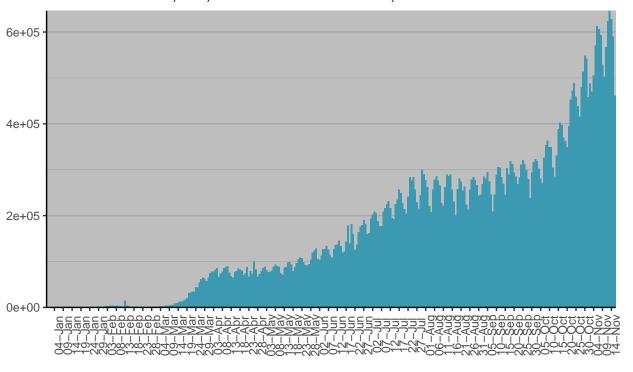


Figure 1: Daily cases Globally to date

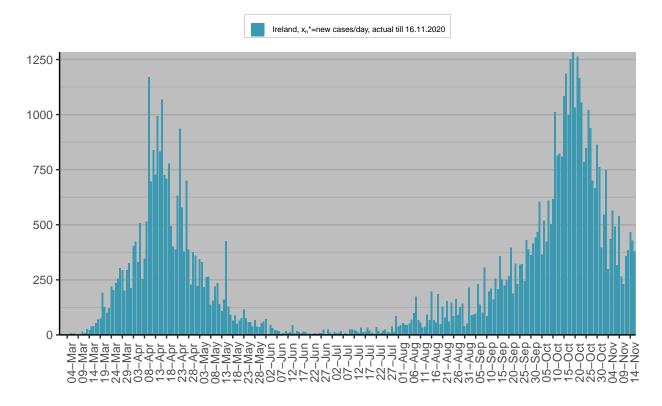


Figure 2: x-diagram for Ireland: the numbers of actually registered daily cases

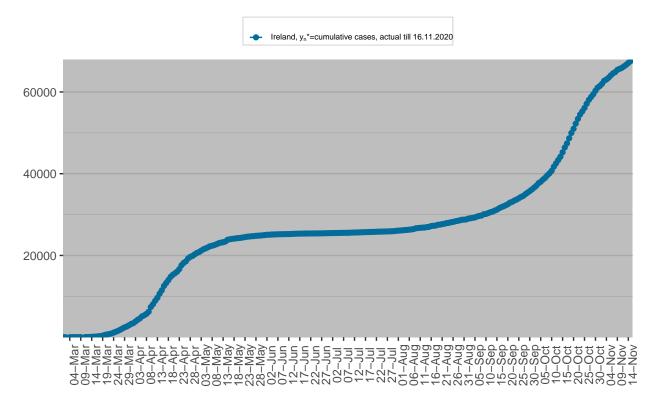


Figure 3: x-diagram for Ireland: the numbers of actually registered daily cases

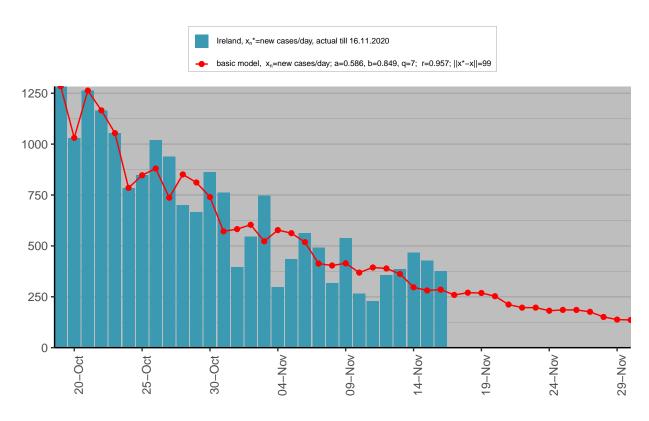


Figure 4: Comparison of the basic model with the actual data, Ireland (x-diagram)

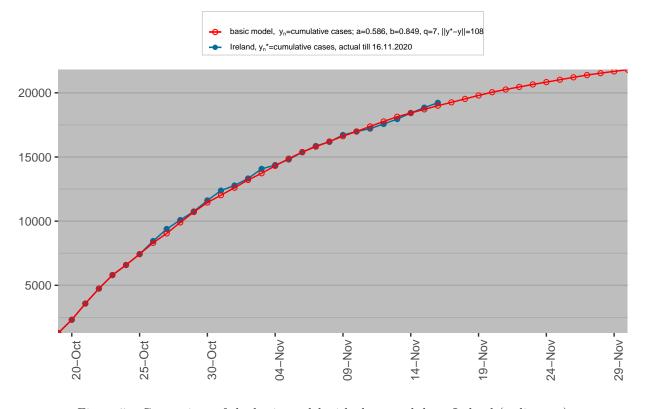


Figure 5: Comparison of the basic model with the actual data, Ireland (x-diagram)

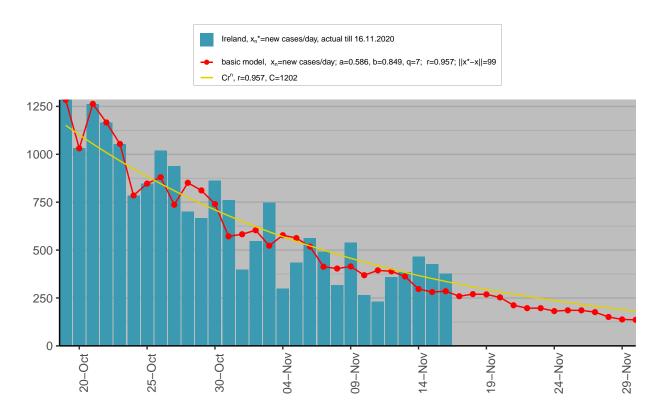


Figure 6: Comparison of  $x_n^*$ ,  $x_n$  and  $Cr^n$ , Ireland

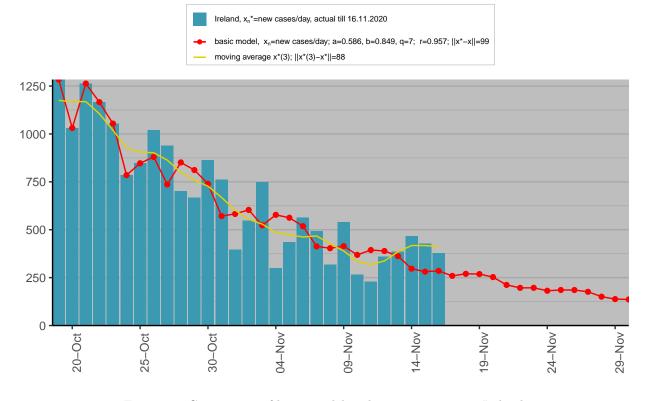


Figure 7: Comparison of basic model with moving averages, Ireland

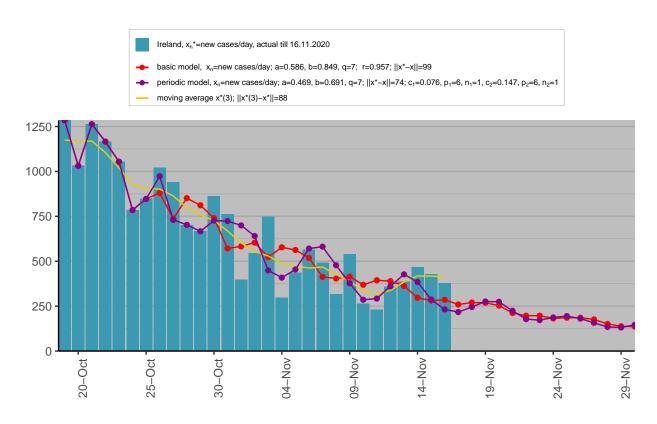


Figure 8: Comparison of basic and periodic models with moving averages, Ireland

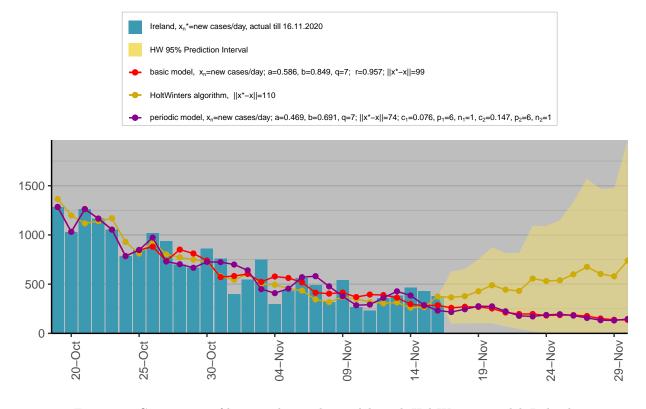


Figure 9: Comparison of basic and periodic models with HoltWinters model, Ireland

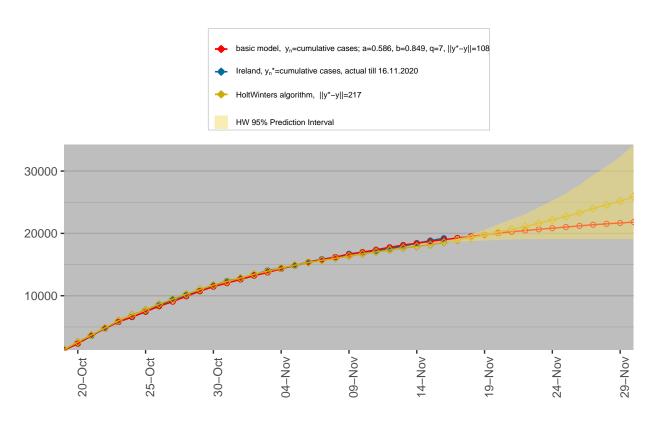


Figure 10: Comparison of Cumulative basic and periodic models with HoltWinters Prediction, Ireland

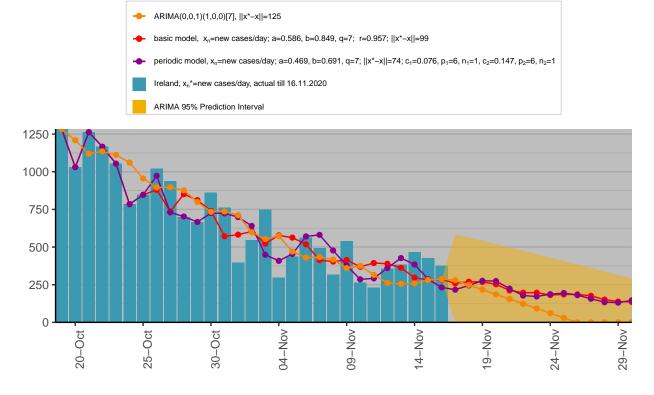


Figure 11: Comparison of basic and periodic models with ARIMA model, Ireland

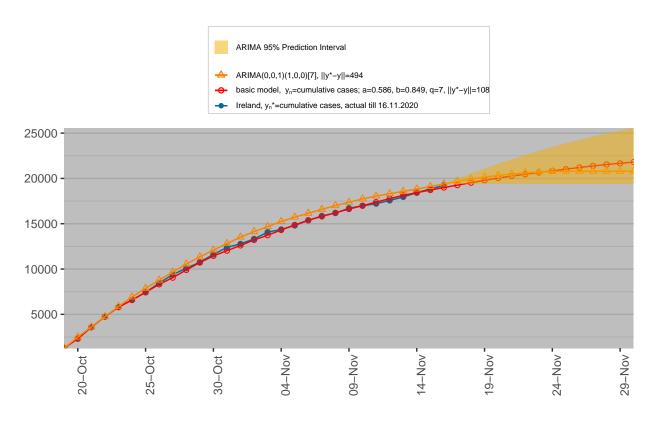


Figure 12: Comparison of Cumulative basic and periodic models with ARIMA model, Ireland

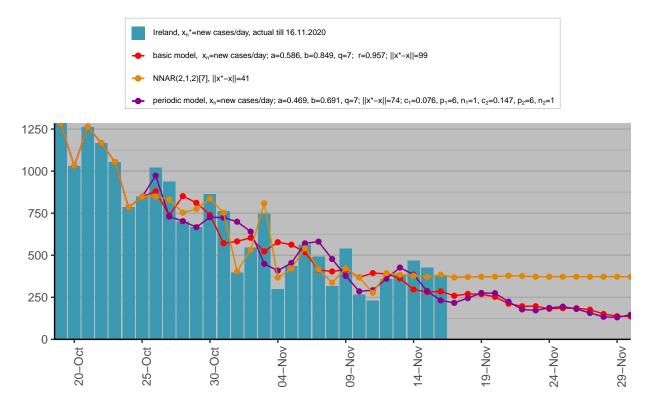


Figure 13: Comparison of basic and periodic models with Neural Network model, Ireland

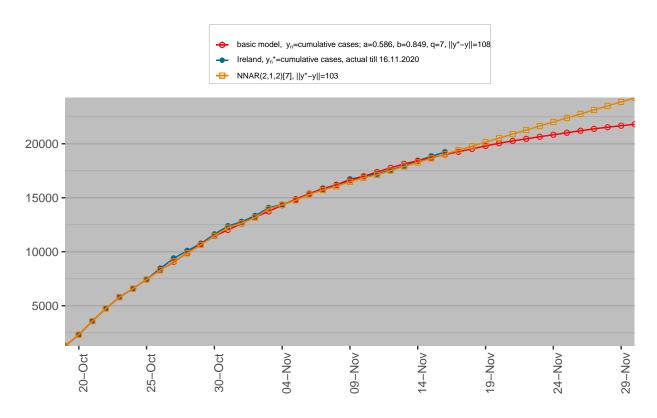


Figure 14: Comparison of Cumulative basic and periodic models with Neural Network model, Ireland

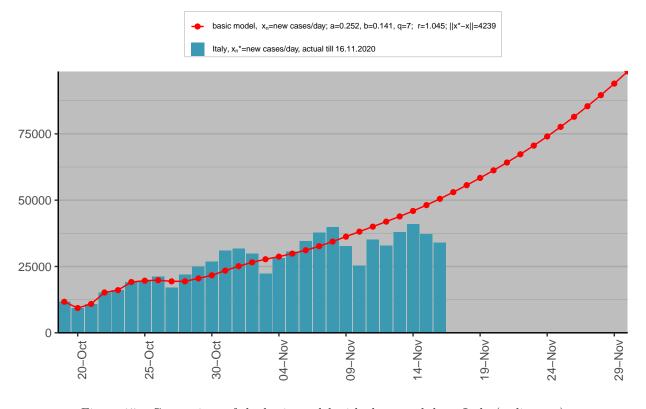


Figure 15: Comparison of the basic model with the actual data, Italy (x-diagram)

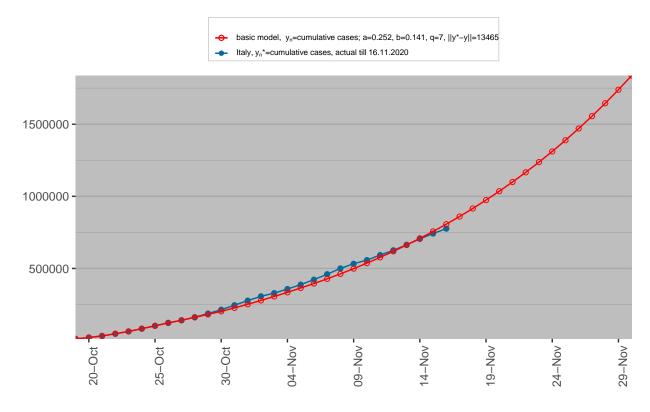


Figure 16: Comparison of the basic model with the actual data, Italy (x-diagram)

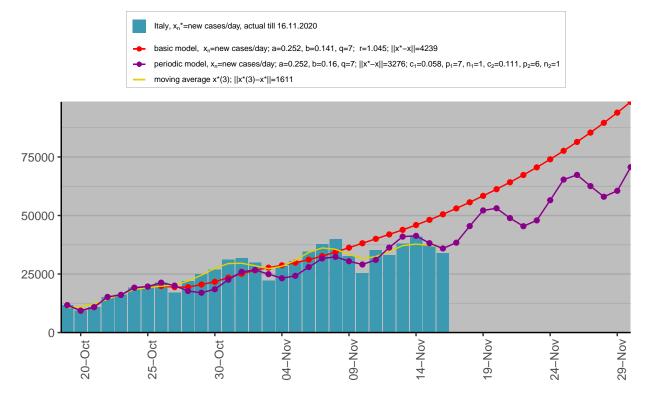


Figure 17: Comparison of basic and periodic models with moving averages, Italy

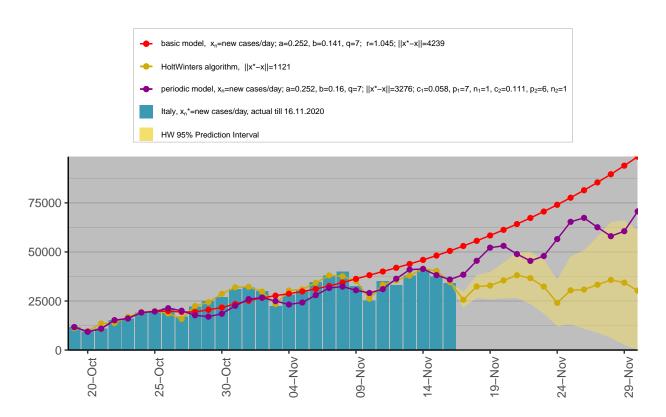


Figure 18: Comparison of basic and periodic models with HoltWinters model, Italy

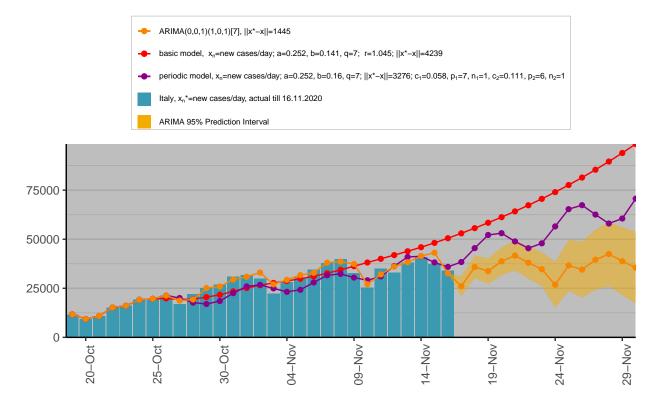


Figure 19: Comparison of basic and periodic models with ARIMA model, Italy

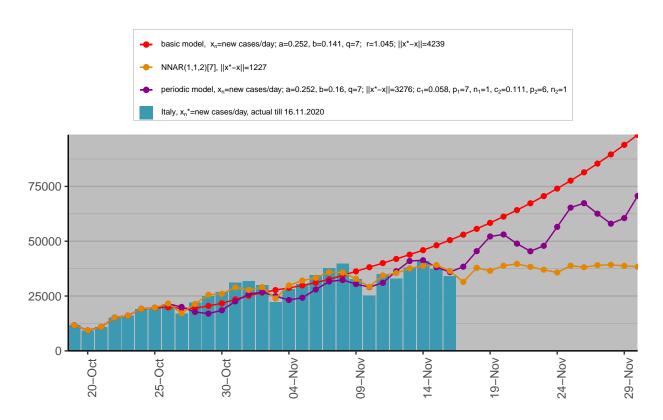


Figure 20: Comparison of basic and periodic models with Neural Network model, Italy

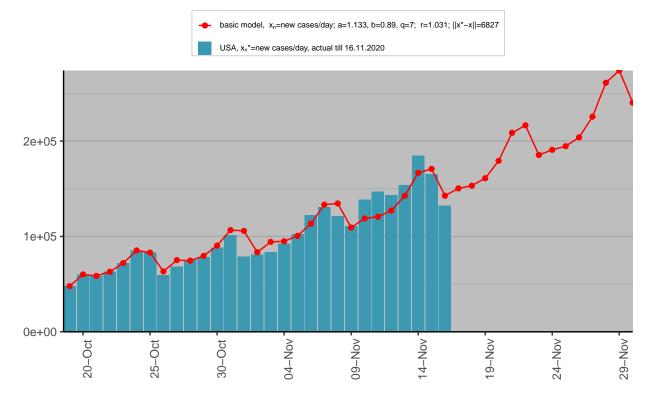


Figure 21: Comparison of the basic model with the actual data, USA (x-diagram)

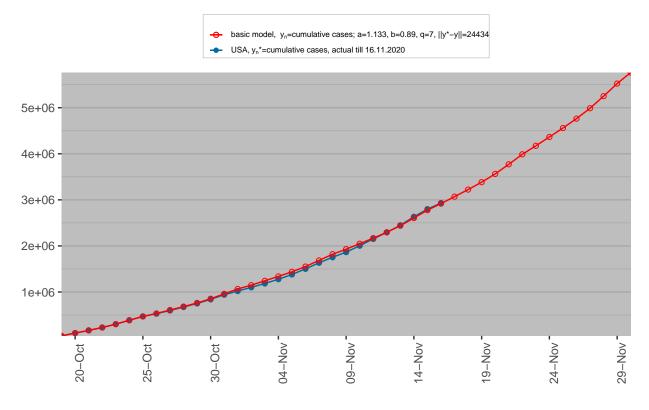


Figure 22: Comparison of the basic model with the actual data, USA (x-diagram)

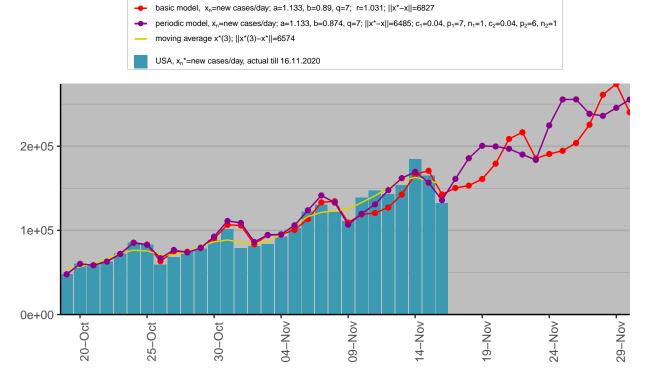


Figure 23: Comparison of basic and periodic models with moving averages, USA

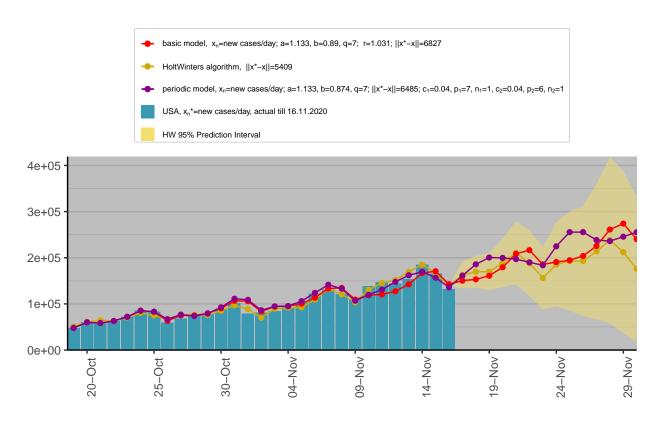


Figure 24: Comparison of basic and periodic models with HoltWinters model, USA

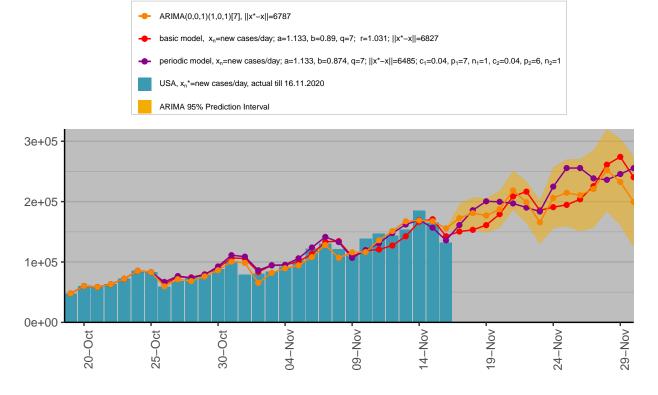


Figure 25: Comparison of basic and periodic models with ARIMA model, USA

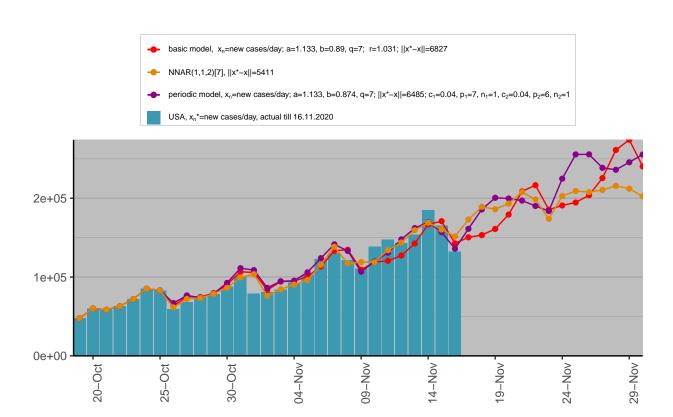


Figure 26: Comparison of basic and periodic models with Neural Network model, USA

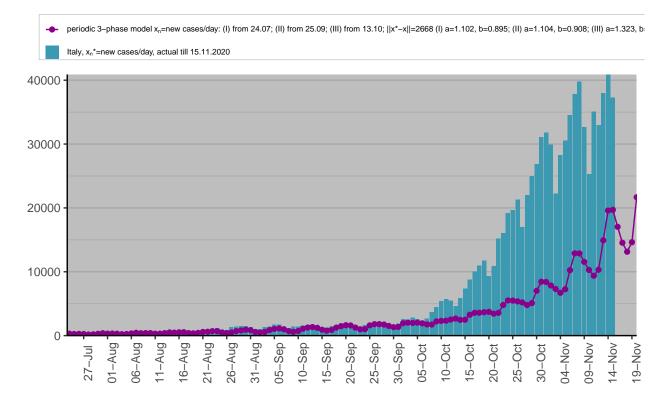
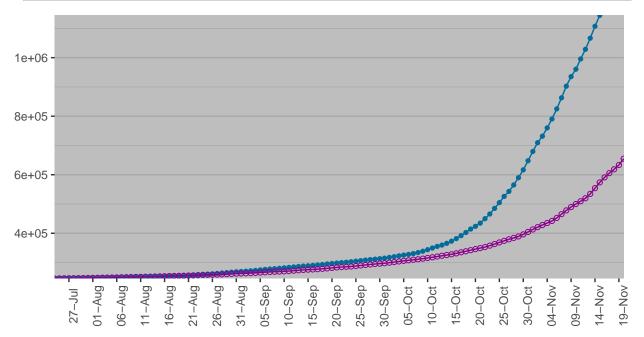


Figure 27: A multi-phase periodic model for Italy (x-diagram)





 $Figure \ 28: \ A \ multi-phase \ periodic \ model \ for \ Italy \ (y-diagram)$ 

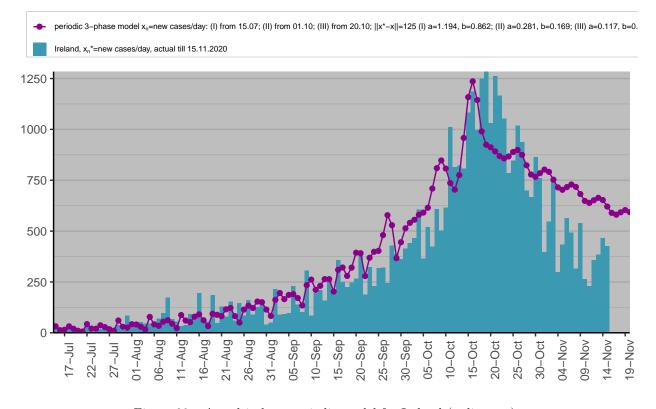
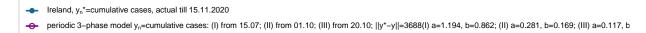


Figure 29: A multi-phase periodic model for Ireland (x-diagram)



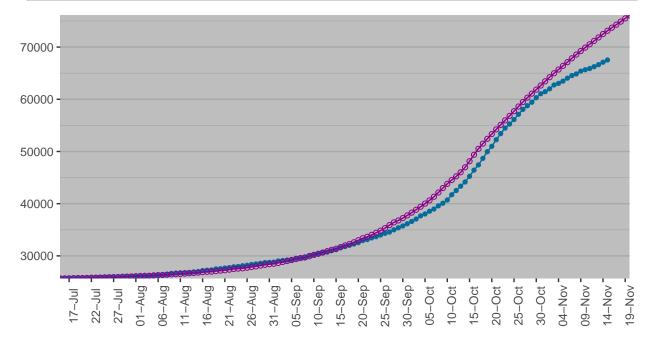


Figure 30: A multi-phase periodic model for Ireland (y-diagram)

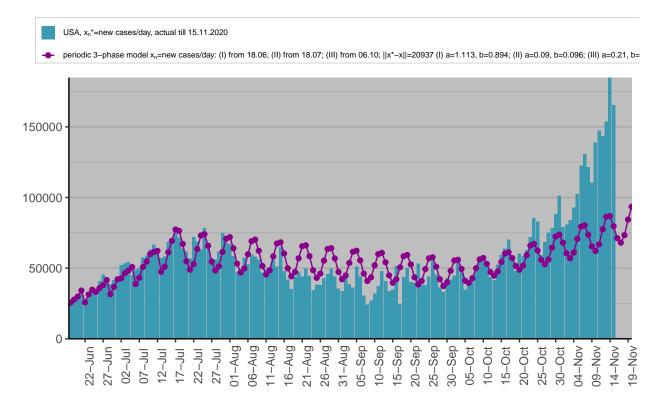


Figure 31: A multi-phase periodic model for the USA (x-diagram)

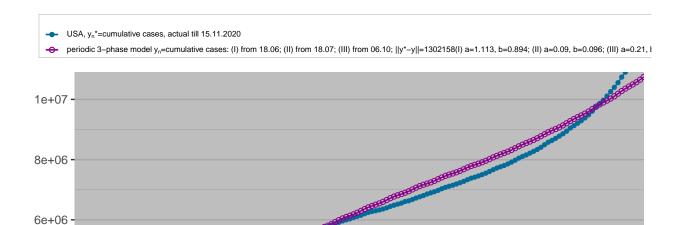


Figure 32: A multi-phase periodic model for the USA (y-diagram)

12-Jul | 17-Jul | 22-Jul | 22-Jul | 01-Aug | 06-Aug | 11-Aug | 21-Aug | 21-Aug | 26-Aug | 31-Aug | 05-Sep | 15-Sep | 25-Sep | 25-Sep | 30-Sep | 05-Oct | 15-Oct | 15-

4e+06

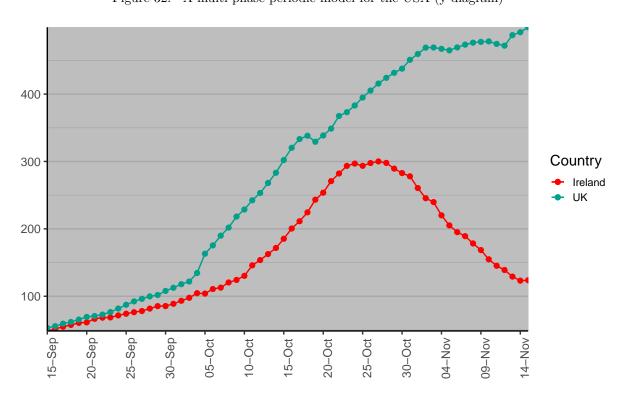


Figure 33: A Comparison of the cumulative number of cases for 14 days per 100,000 of the population - Ireland vs UK

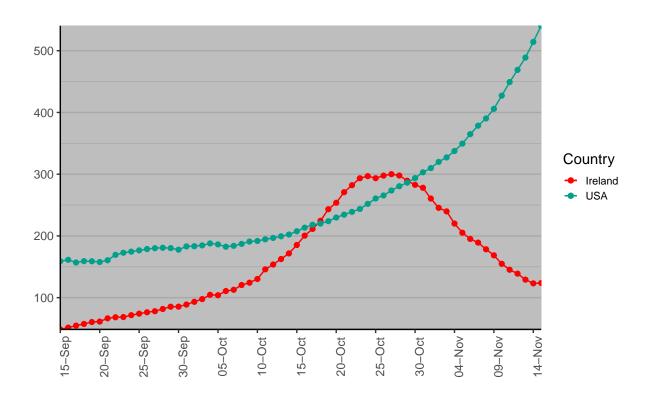


Figure 34: A Comparison of the cumulative number of cases for 14 days per 100,000 of the populaiton - Ireland vs USA

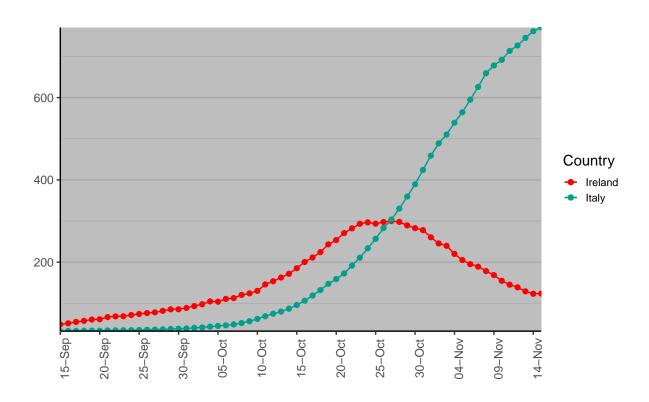


Figure 35: A Comparison of the cumulative number of cases for 14 days per 100,000 of the population - Ireland vs Italy

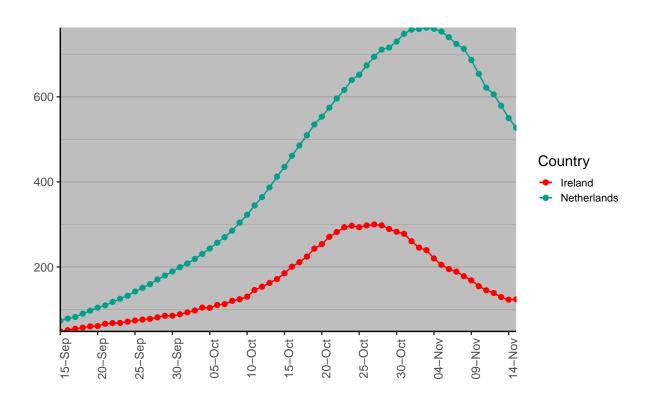


Figure 36: A Comparison of the cumulative number of cases for 14 days per 100,000 of the populaiton - Ireland vs Netherlands

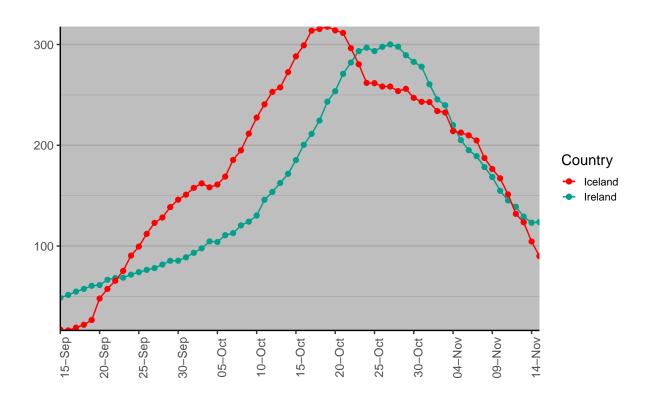


Figure 37: A Comparison of the cumulative number of cases for 14 days per 100,000 of the populaiton - Ireland vs Iceland