

01 April 2020

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# COVID-19 Projections

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Didier Darcet

# COVID-19 Cases' and Deaths' Projection Method

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At the beginning, epidemic processes are exponential by nature, in other words, the number of cases of infection or death accelerates.

Making projections therefore requires to capture the derivative of the acceleration, called 'the jolt' by mathematicians. In the following projections, we fit the accelerating or fading nature of the jolt, and project its dynamics over the subsequent four weeks.

The jolt is fitted with an exponential function over, respectively, the previous 5, 6, 7, 8 and 9 days. Large numbers are truncated to facilitate the reading of the charts.

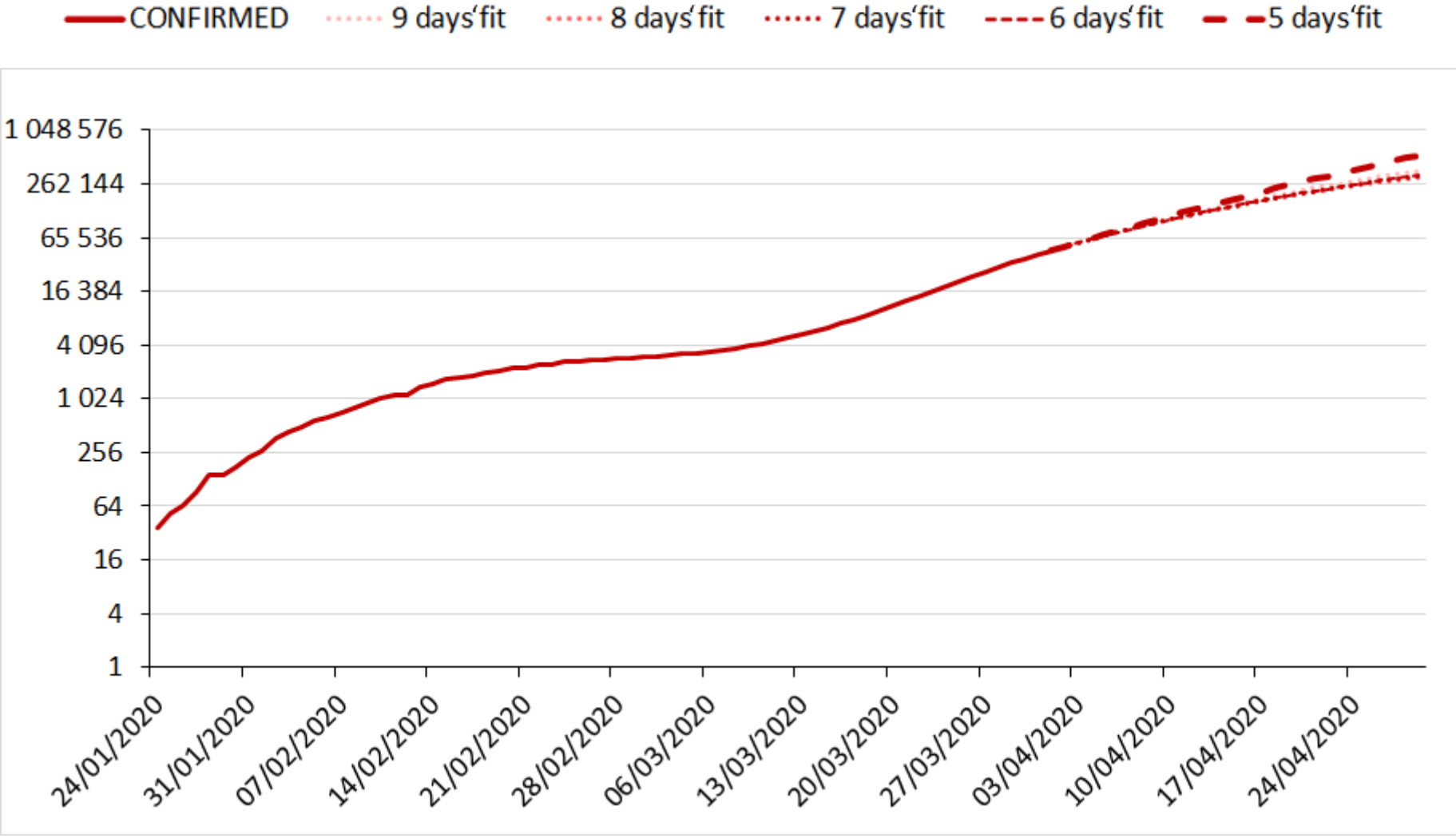
Fitting over various windows provides an information on the most recent dynamics of the COVID-19 diffusion. The thicker dotted red line is the shortest trend, i.e. calculated over the previous five days.

During the early days of an epidemic, projections can be extremely volatile, and it is therefore recommended not to draw black-and-white conclusions from a daily report, but to follow the evolution over many days.

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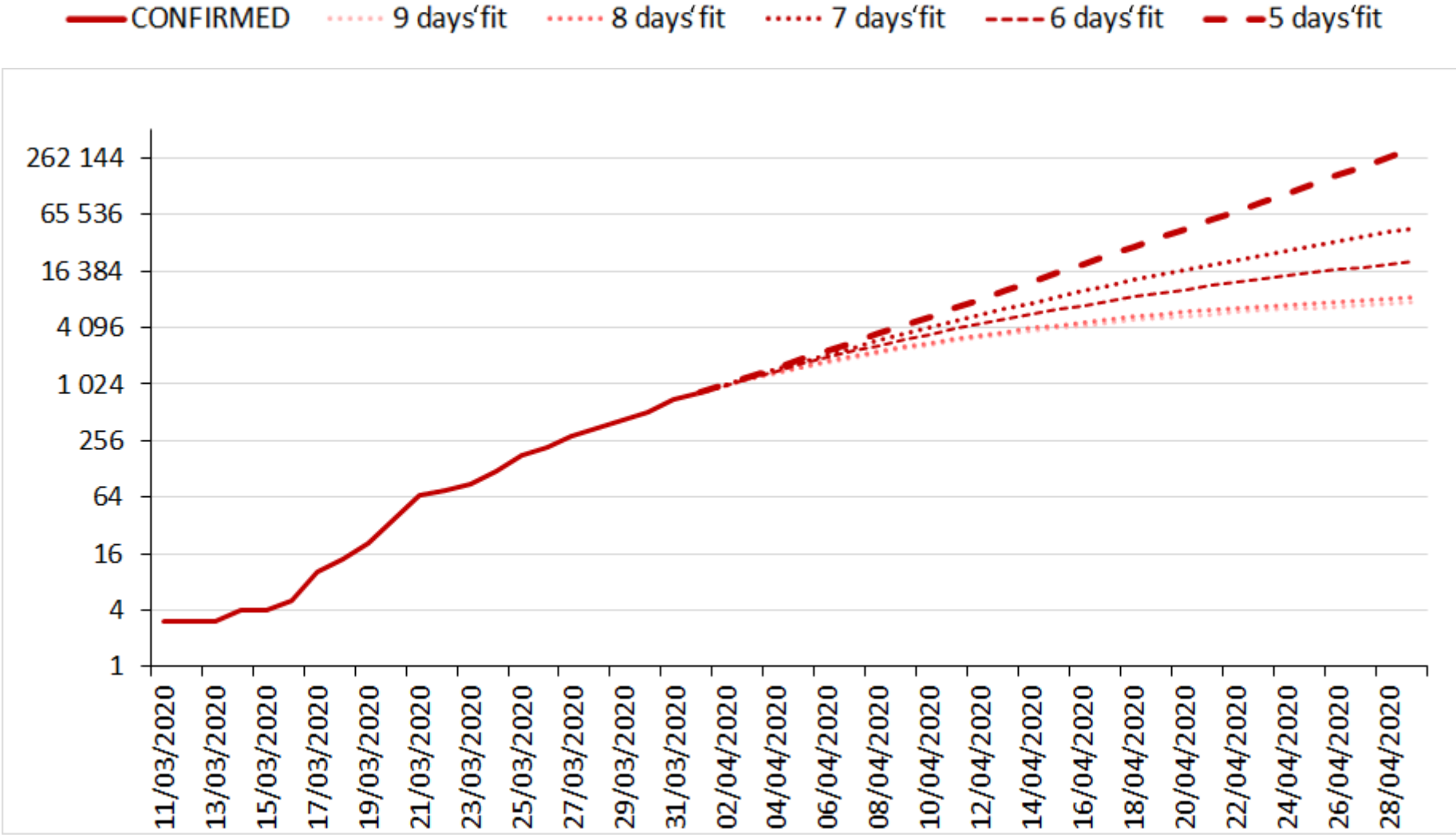
# DEATHS - PROJECTIONS

# World



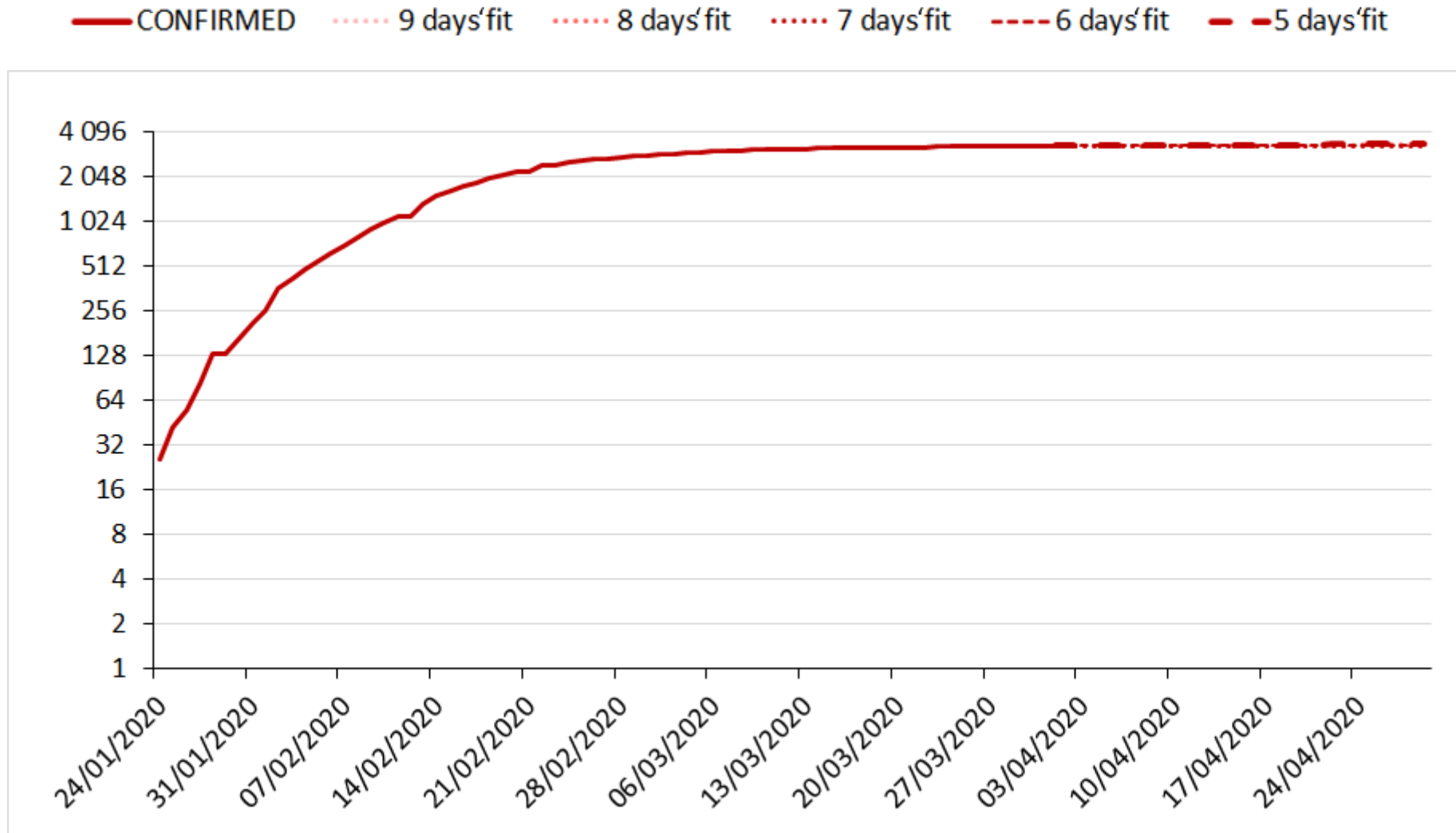
Data: The Johns Hopkins University, Politolog.com

# Belgium



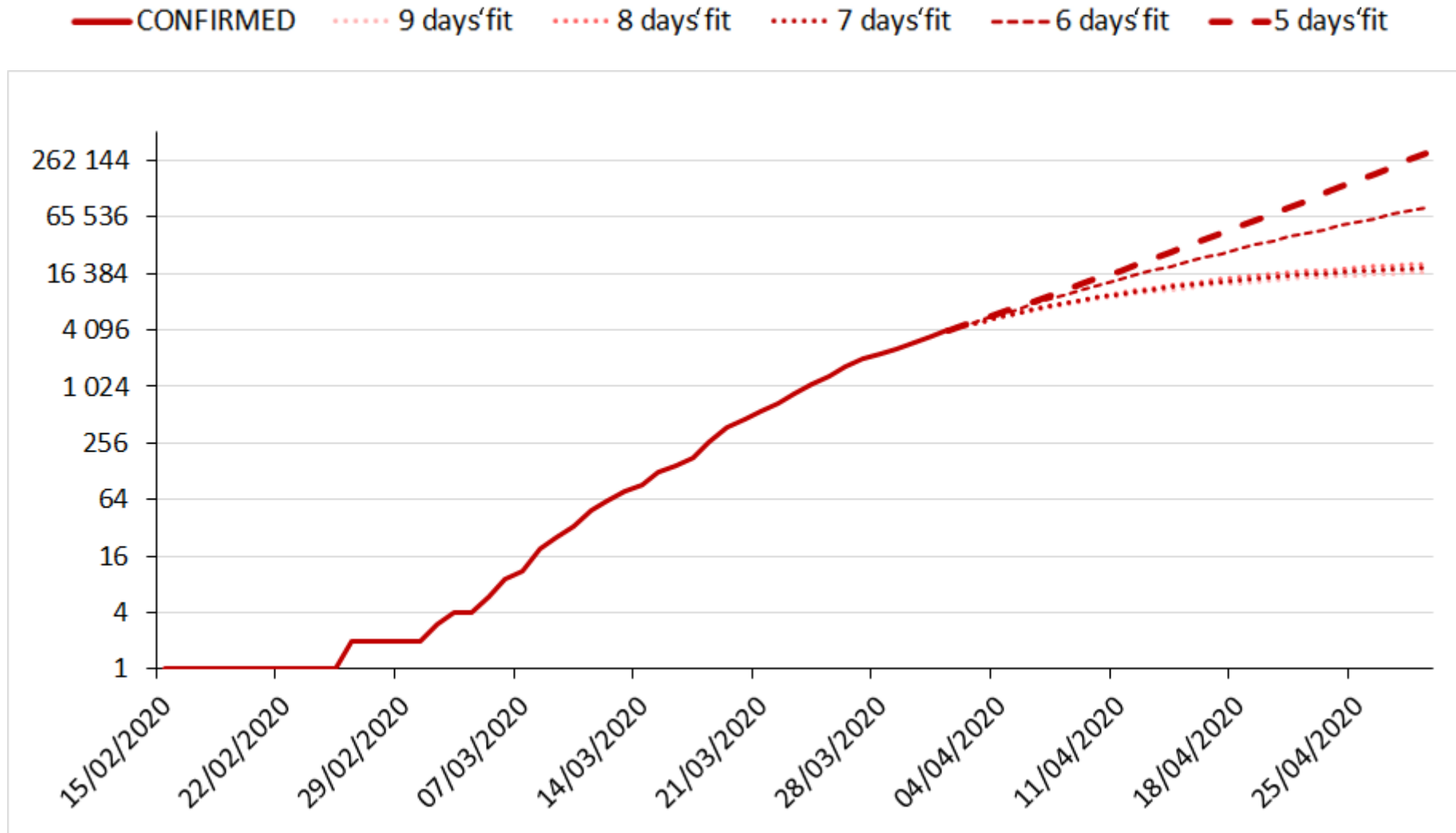
Data: The Johns Hopkins University, Politolog.com

# China



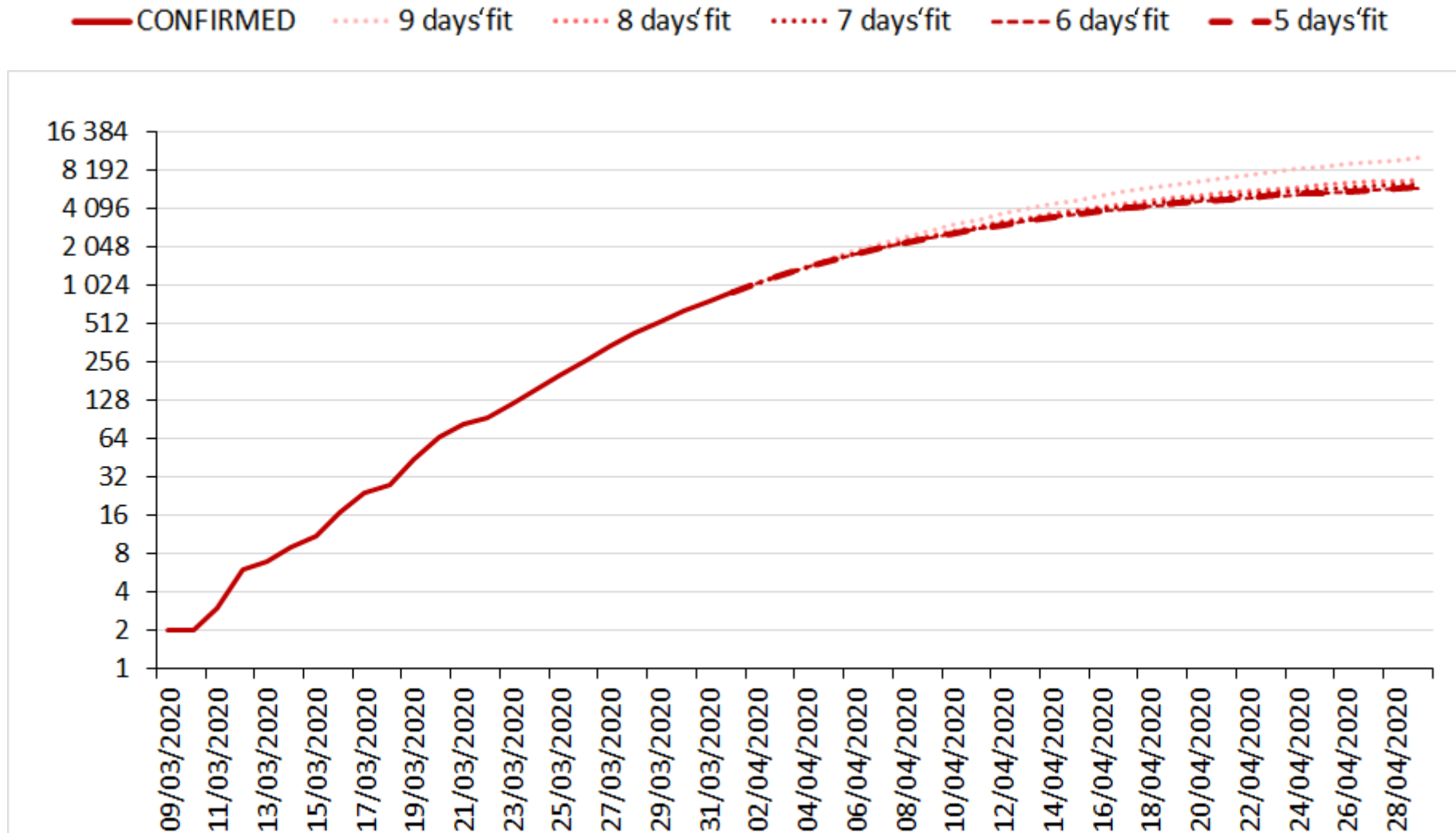
Data: The Johns Hopkins University, Politolog.com

# France



Data: The Johns Hopkins University, Politolog.com

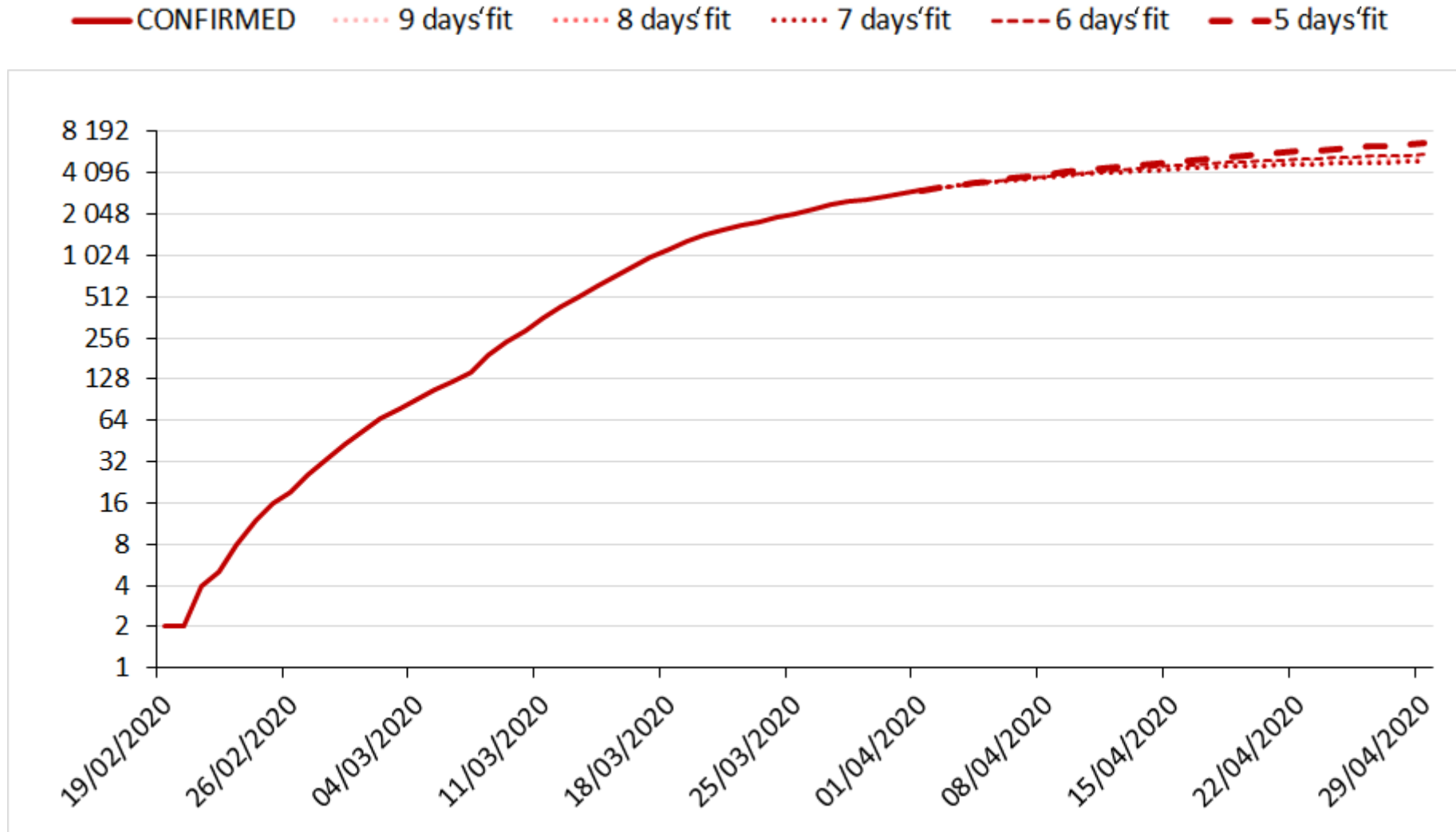
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Data: The Johns Hopkins University, Politolog.com



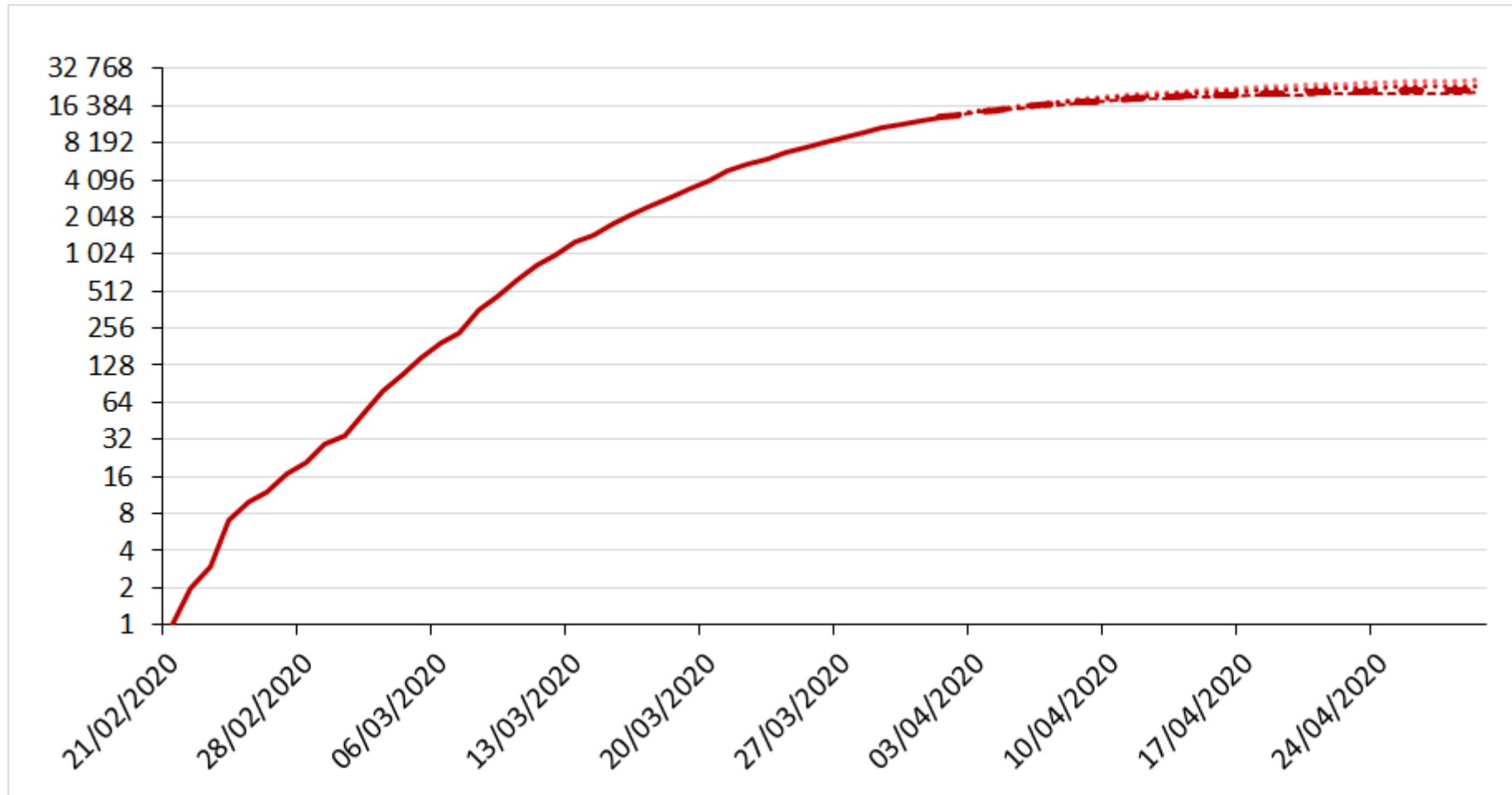
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Data: The Johns Hopkins University, Politolog.com

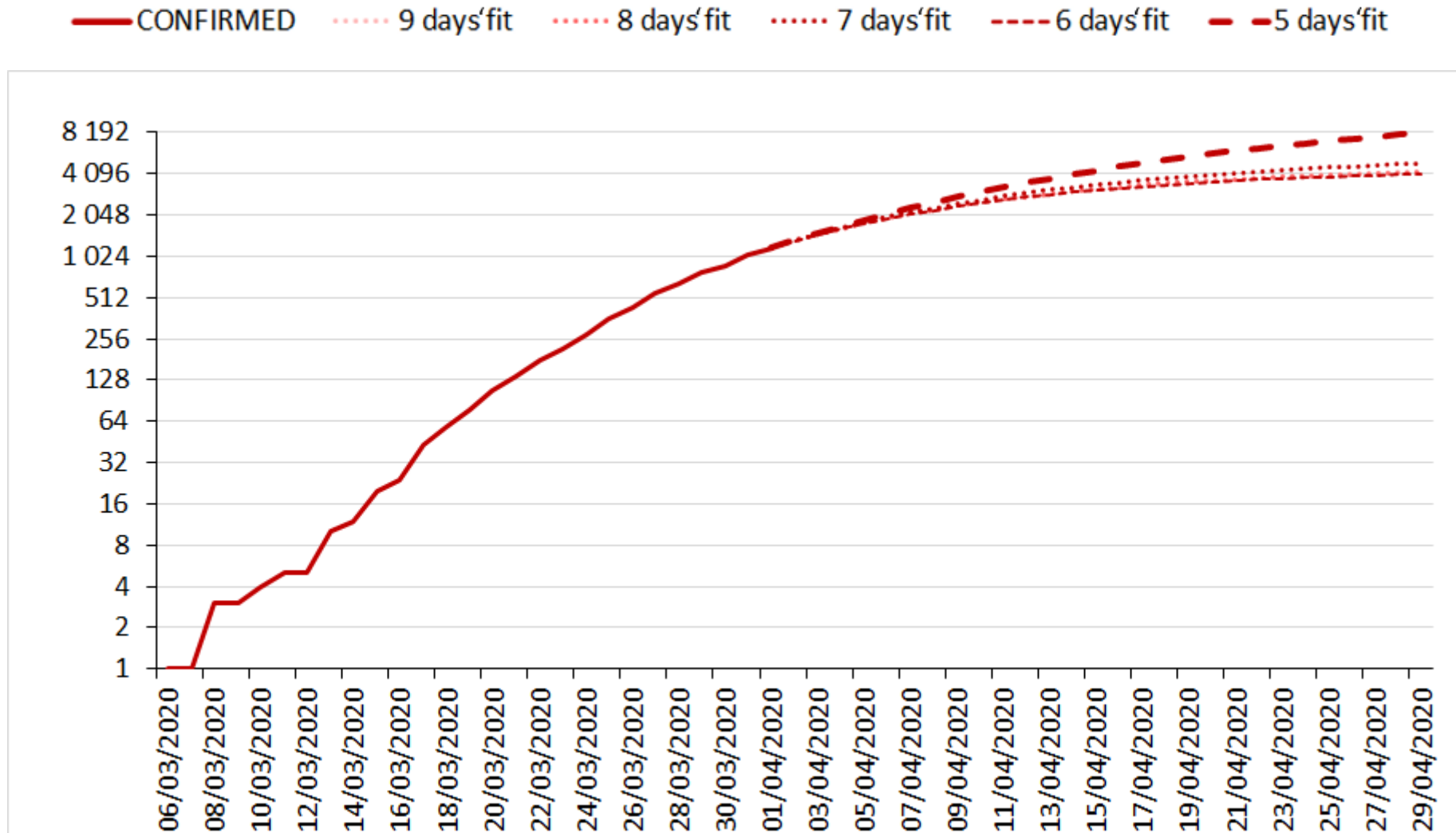
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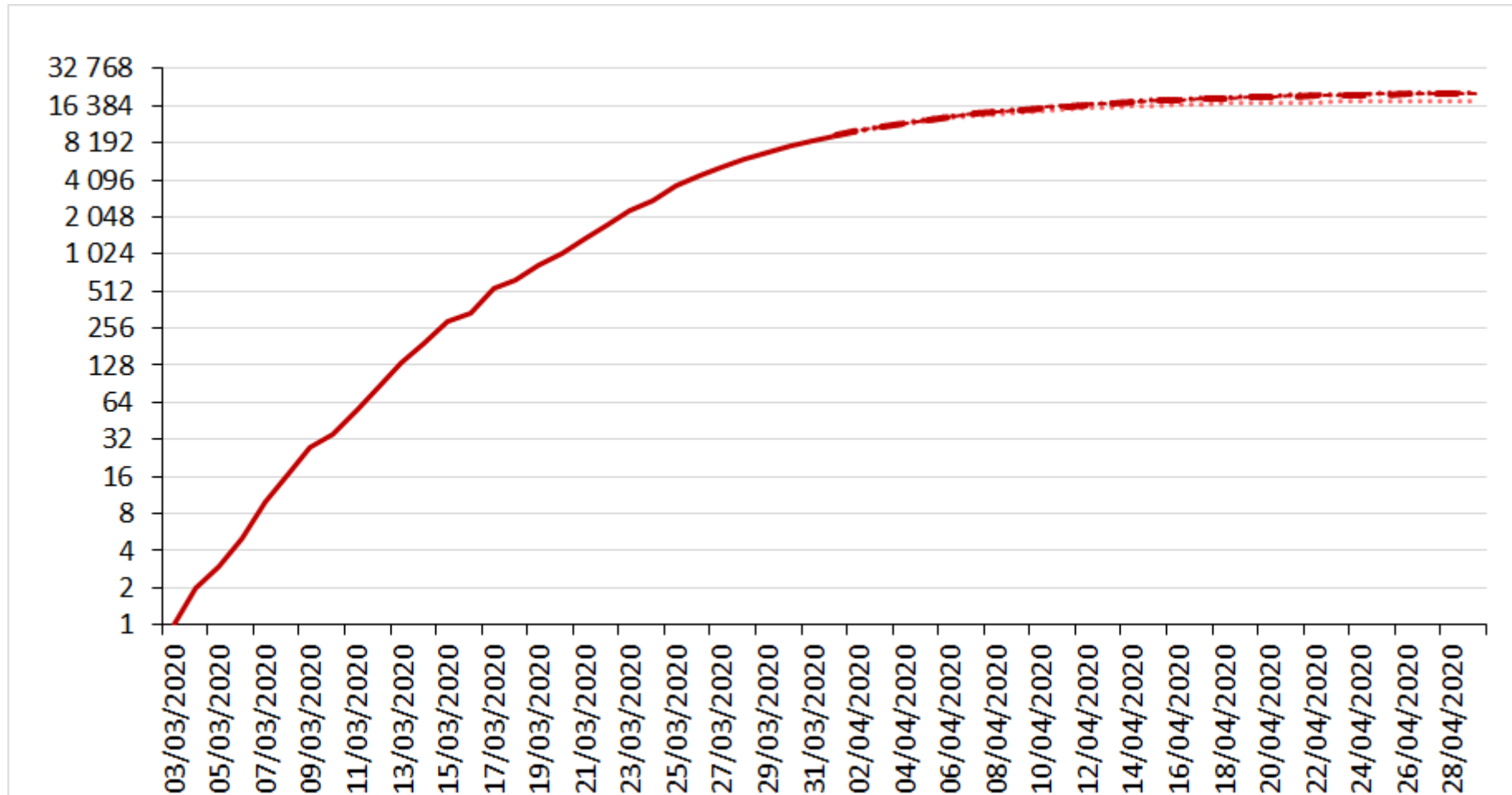
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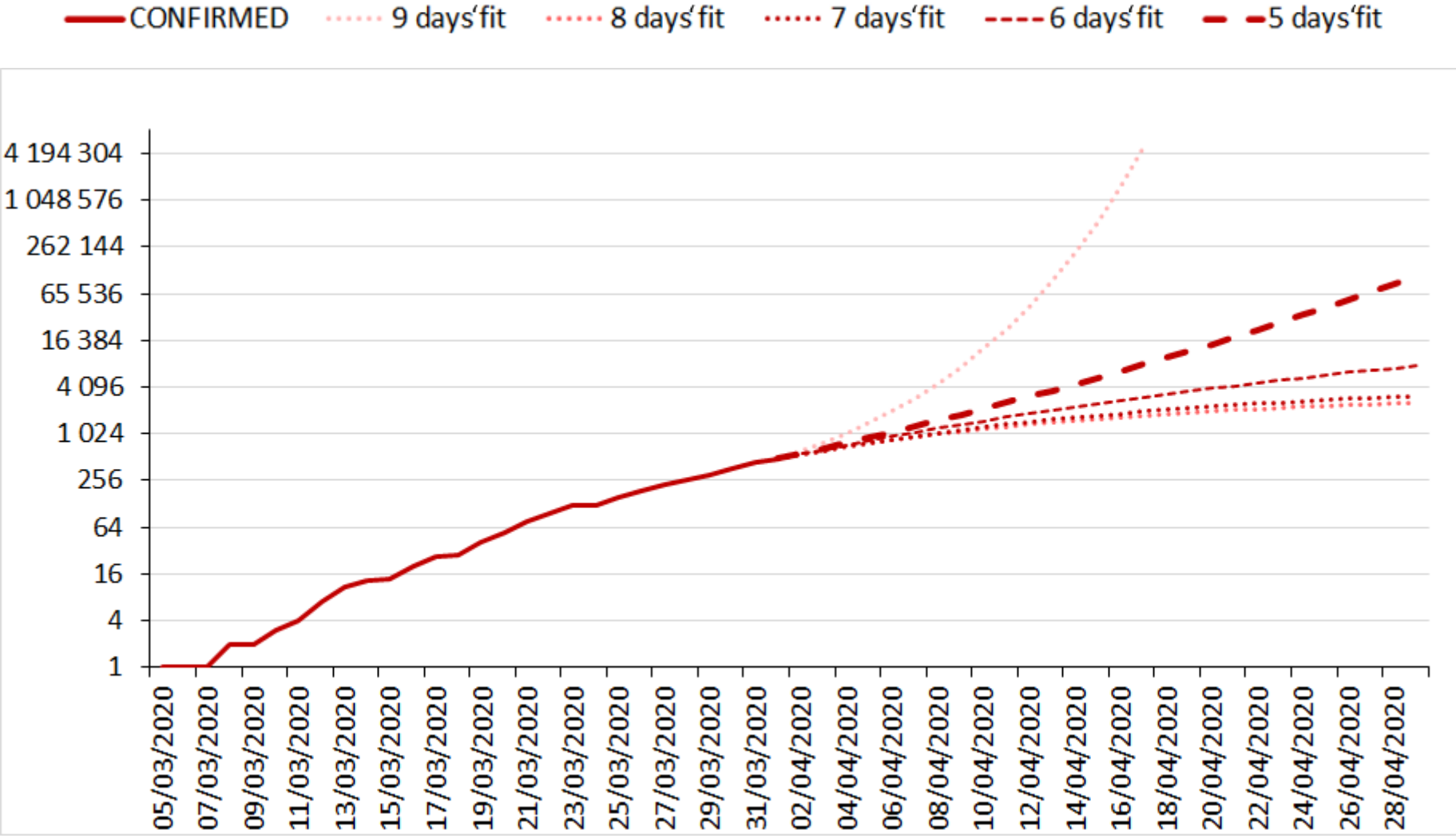
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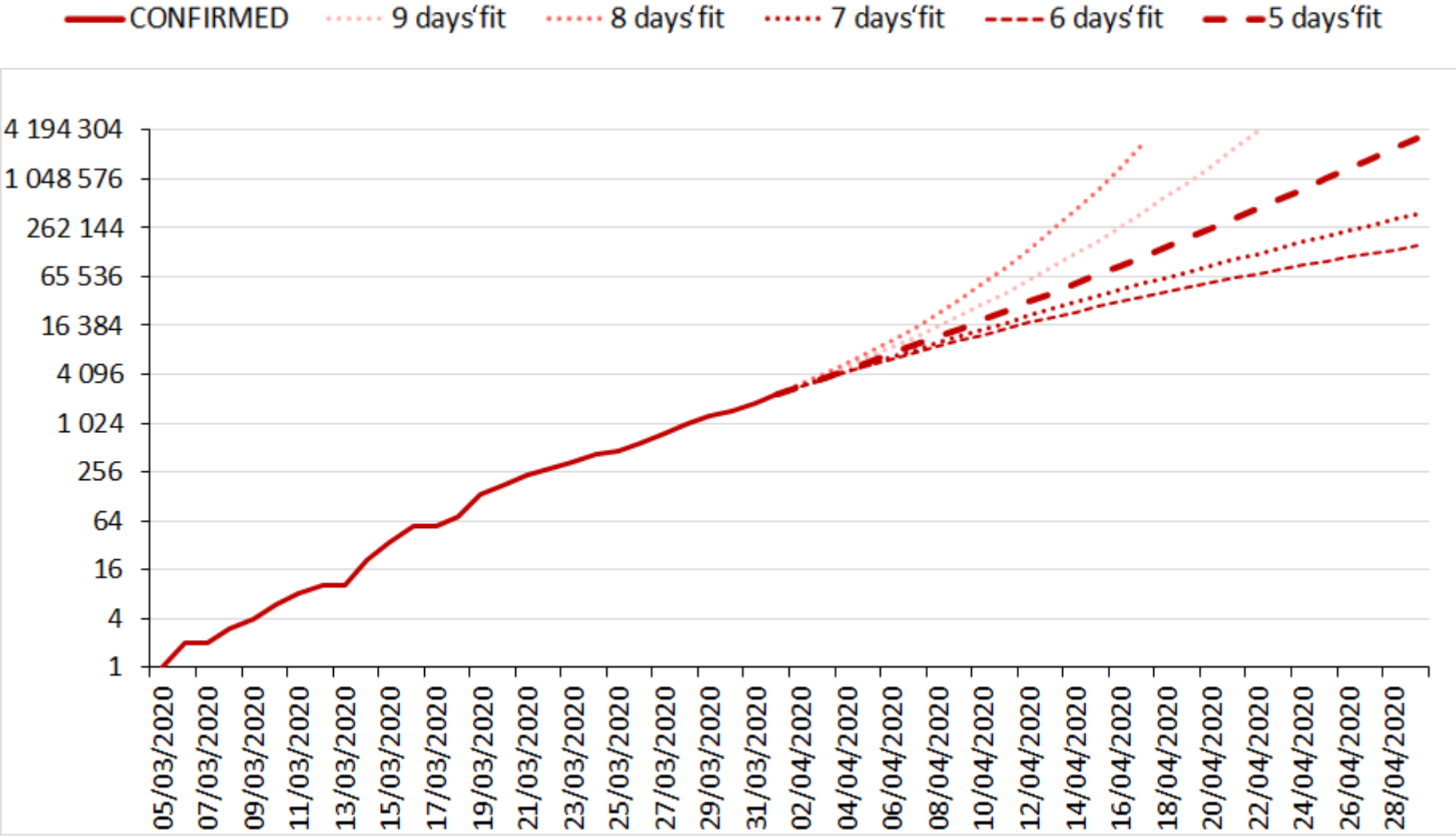
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# Switzerland



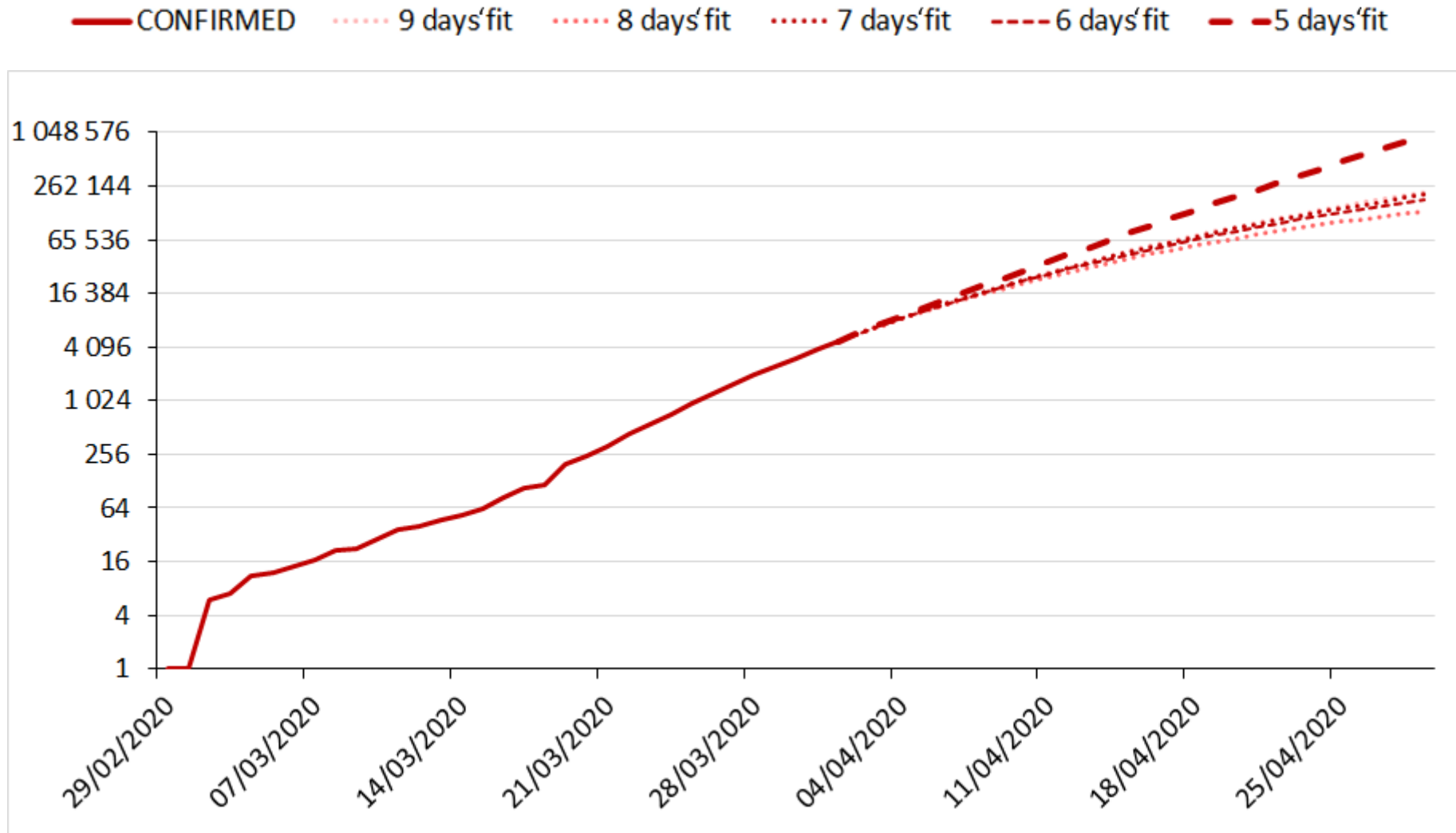
Data: The Johns Hopkins University, Politolog.com

# United Kingdom



Data: The Johns Hopkins University, Politolog.com

# USA



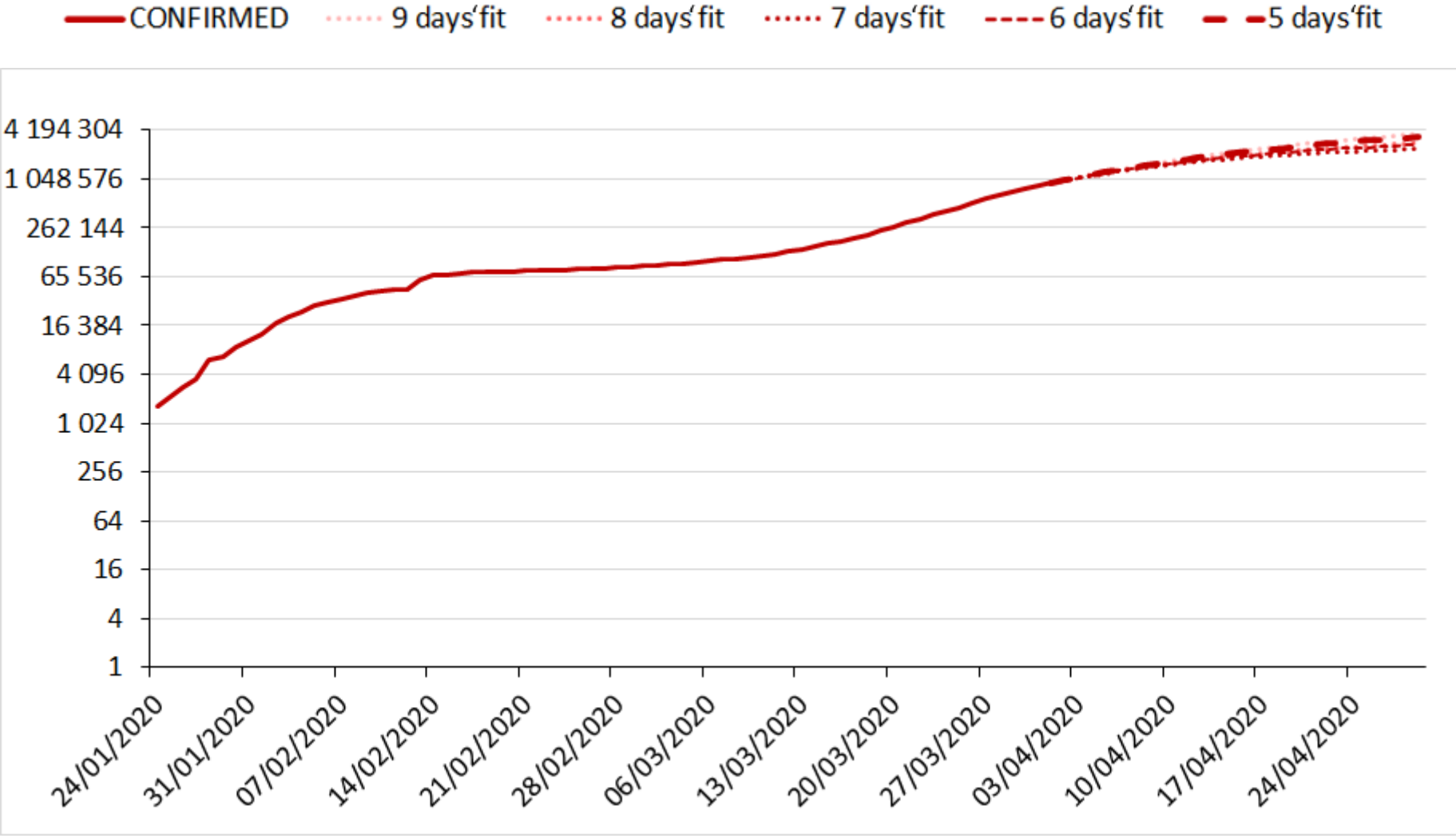
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# CUMULATED CASES - PROJECTIONS

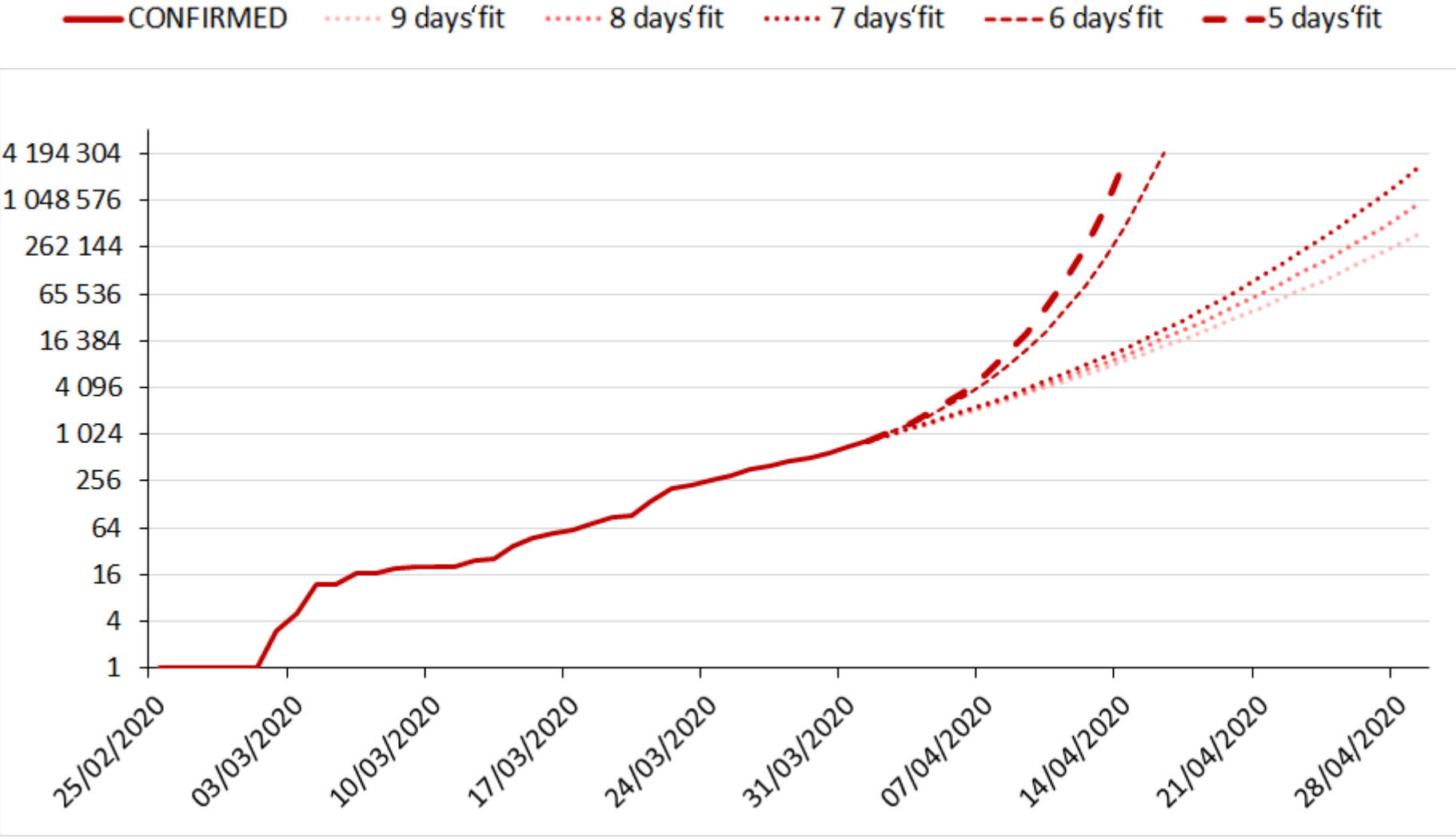


# World



Data: The Johns Hopkins University, Politolog.com

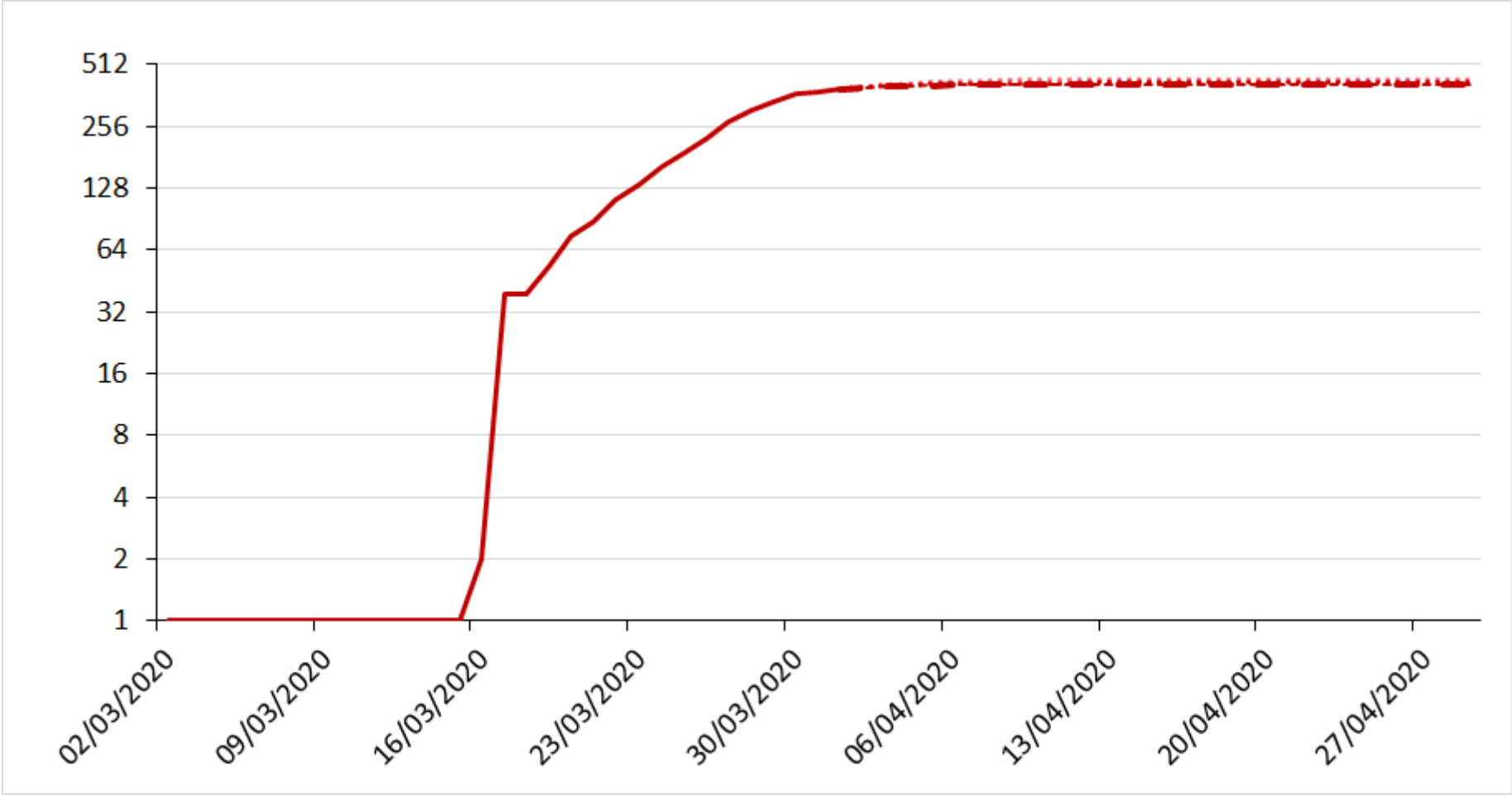
# Algeria



Data: The Johns Hopkins University, Politolog.com

# Andorra

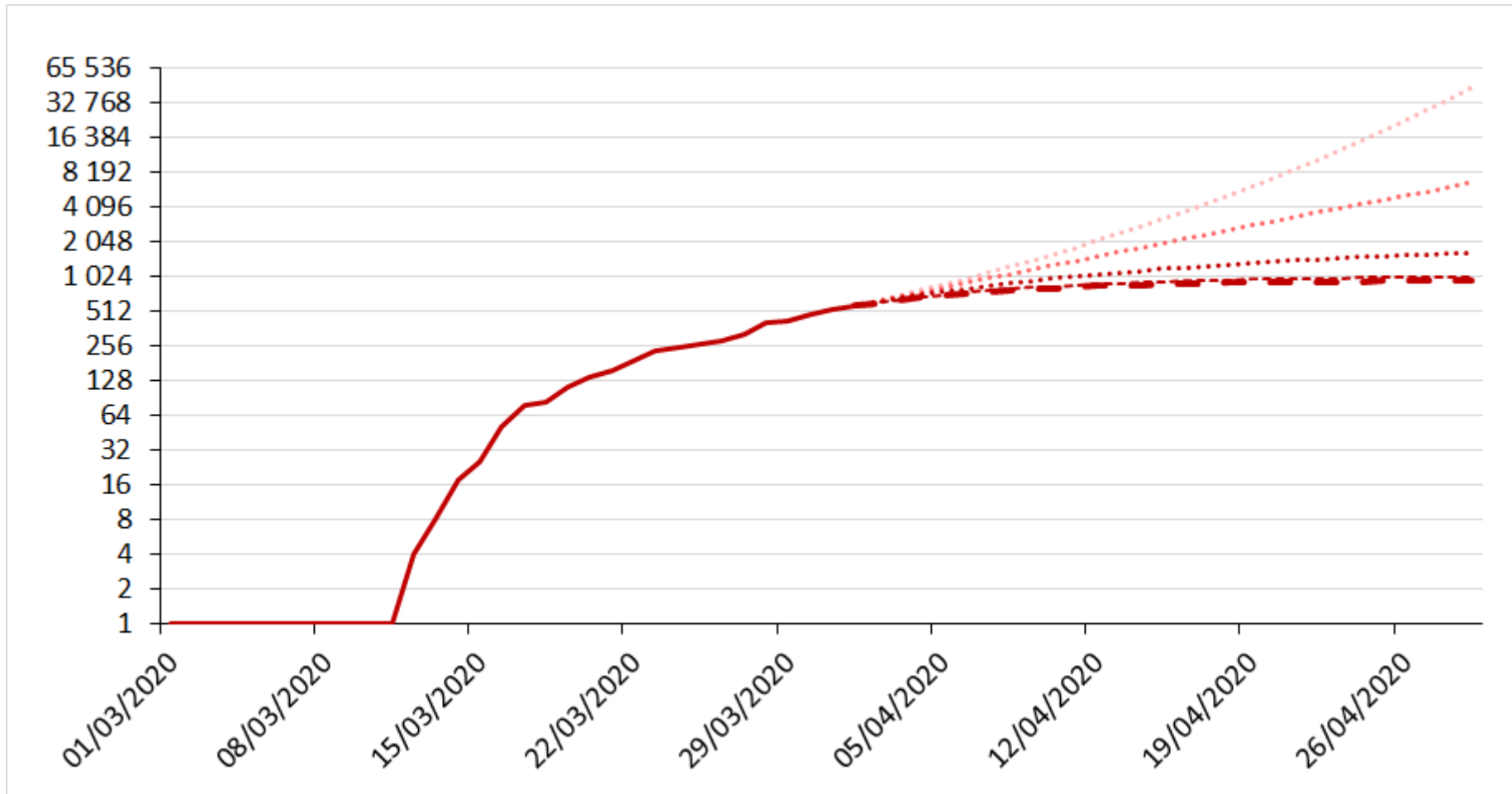
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Data: The Johns Hopkins University, Politolog.com

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Data: The Johns Hopkins University, Politolog.com

# Argentina

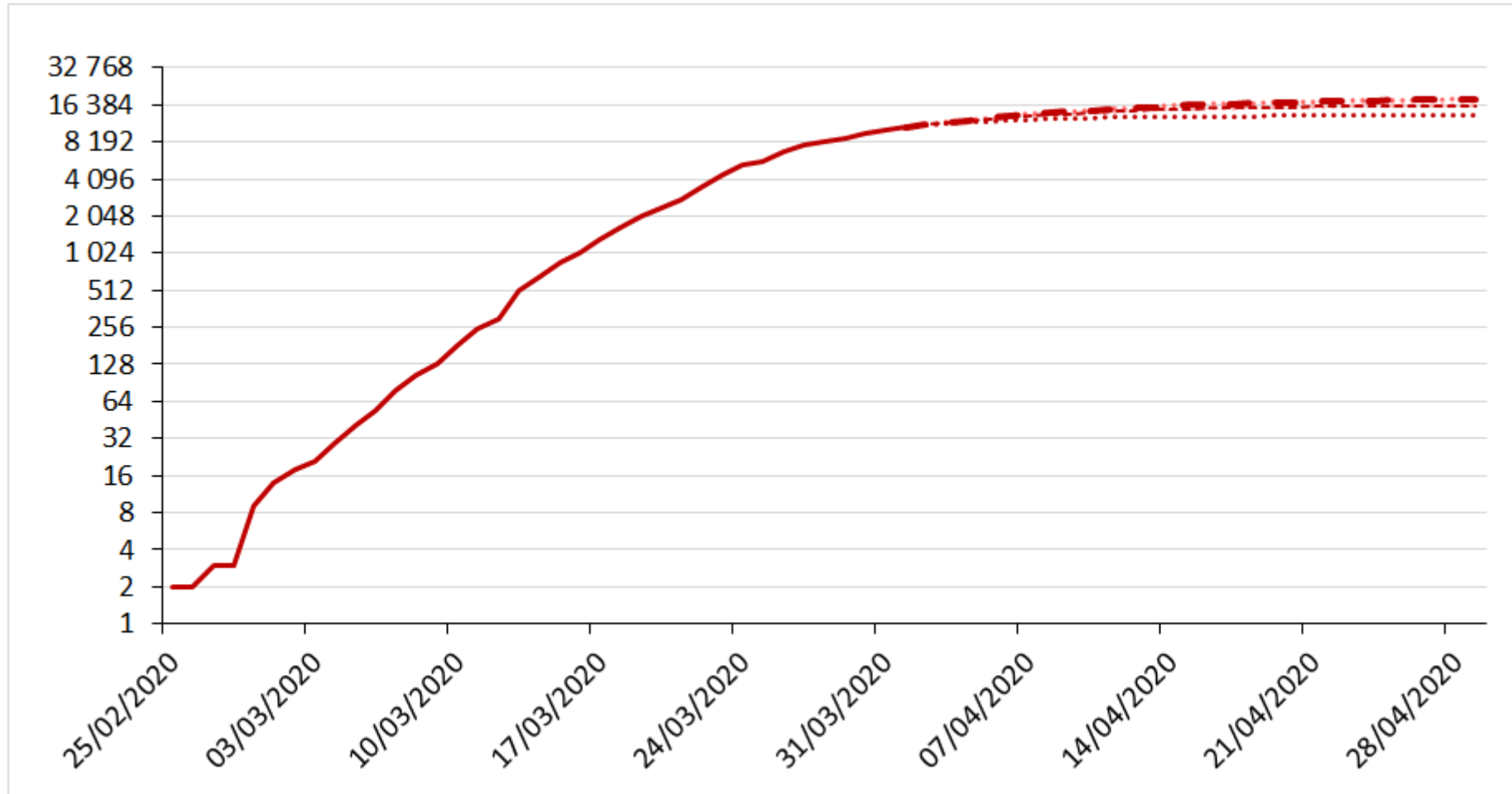
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Data error: No new case reported as at 01 April 2020.

Data: The Johns Hopkins University, Politolog.com

# Austria

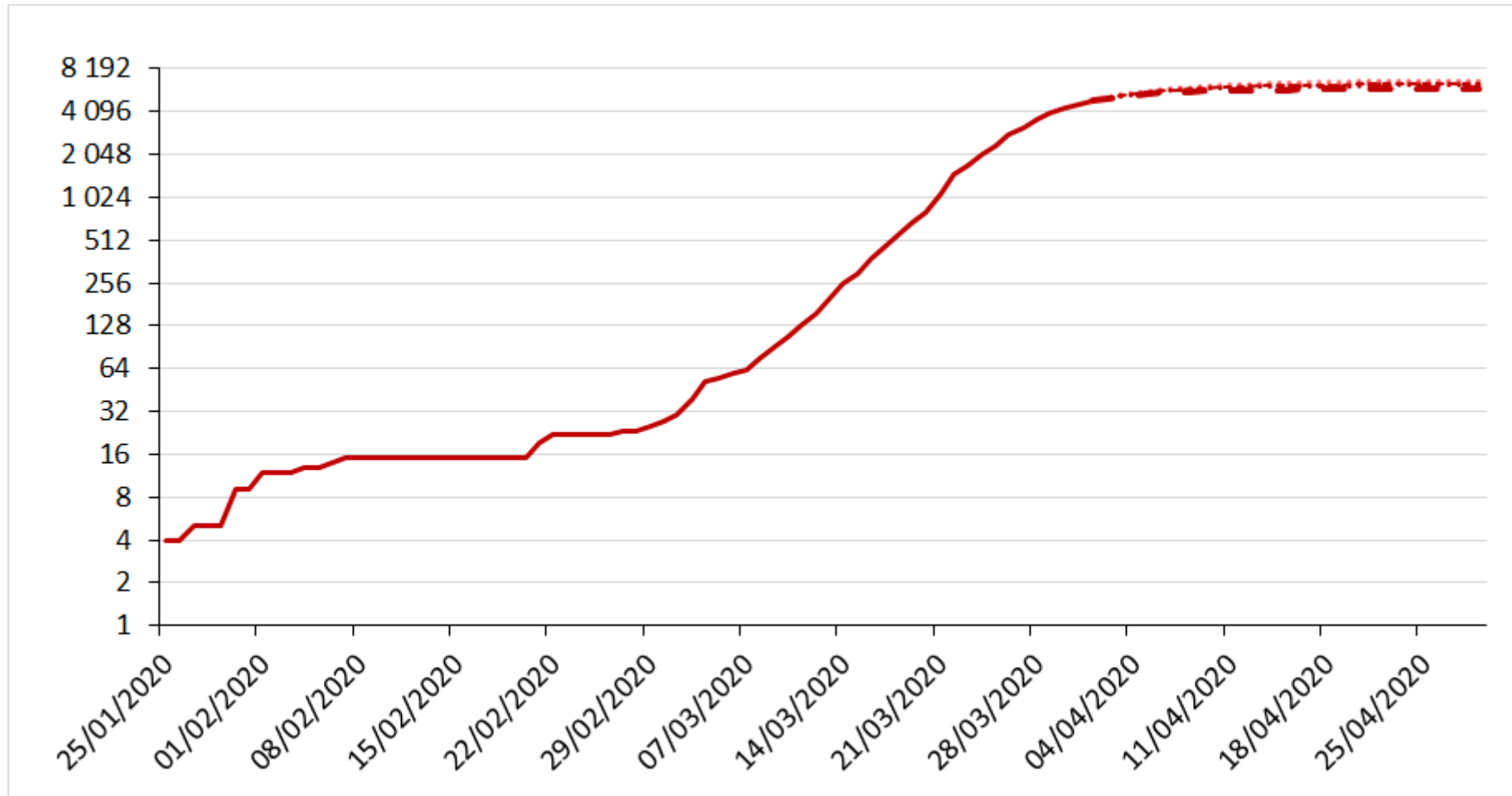
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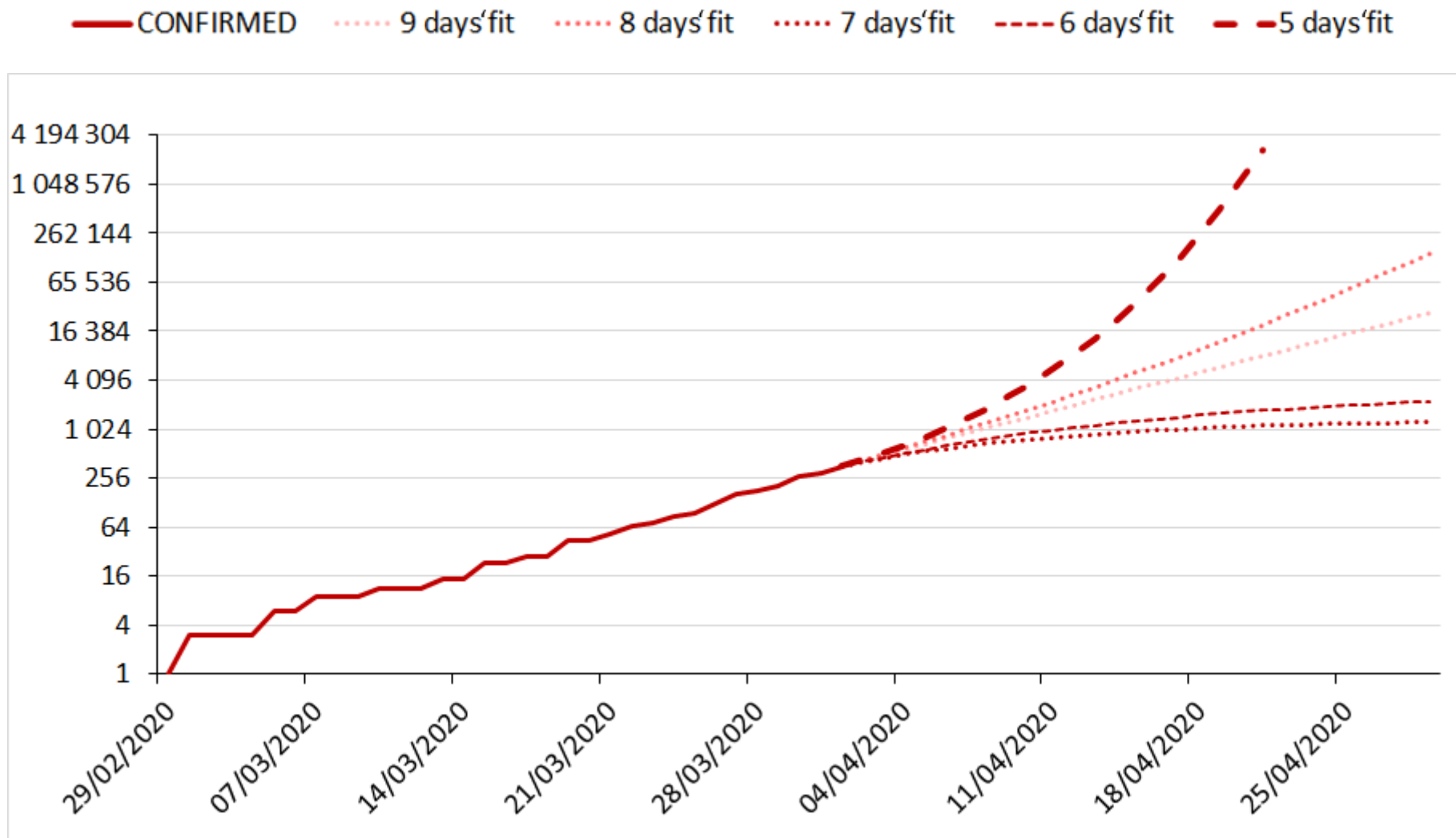
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Data: The Johns Hopkins University, Politolog.com

# Azerbaijan

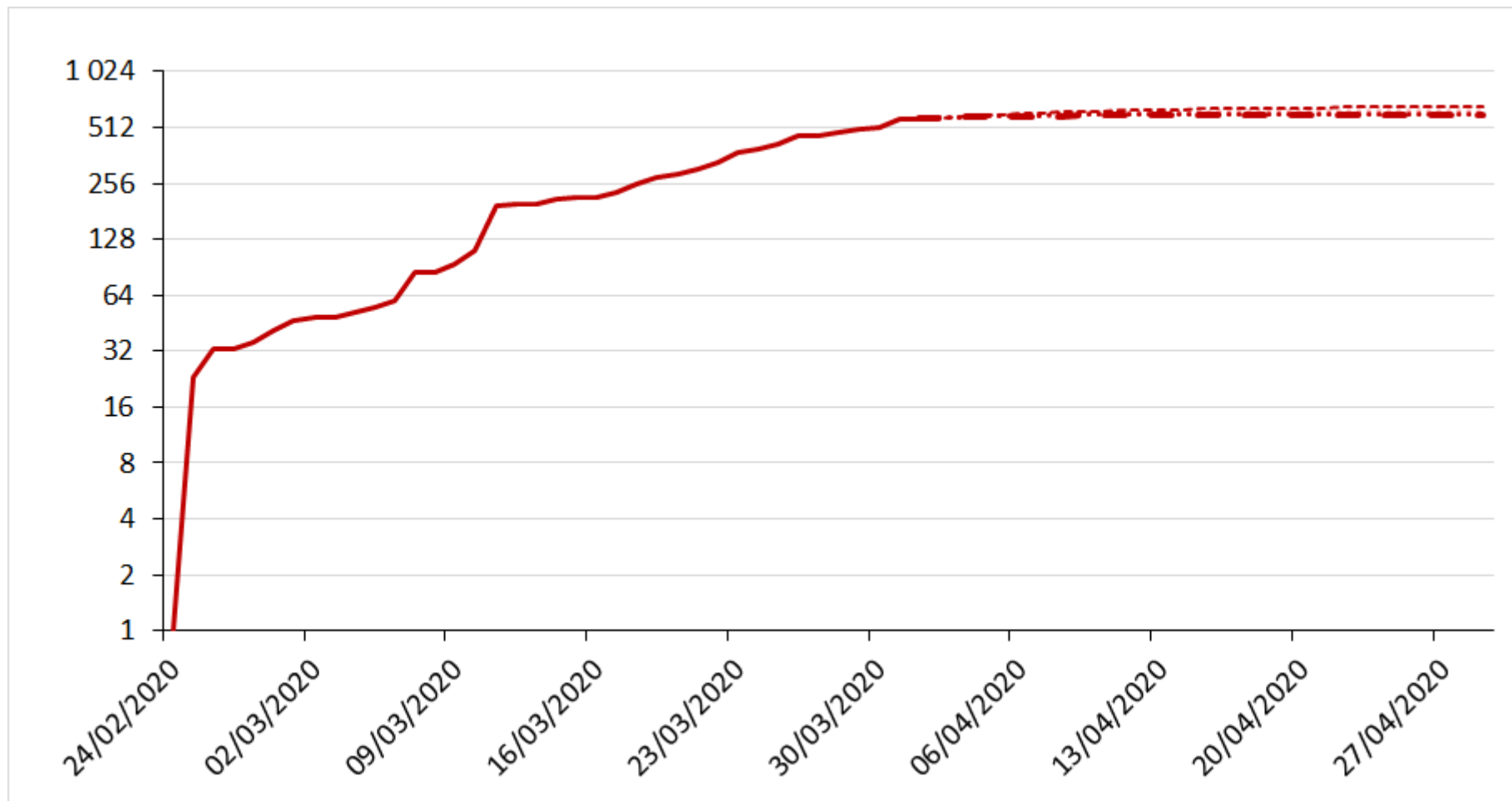


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# Bahrain

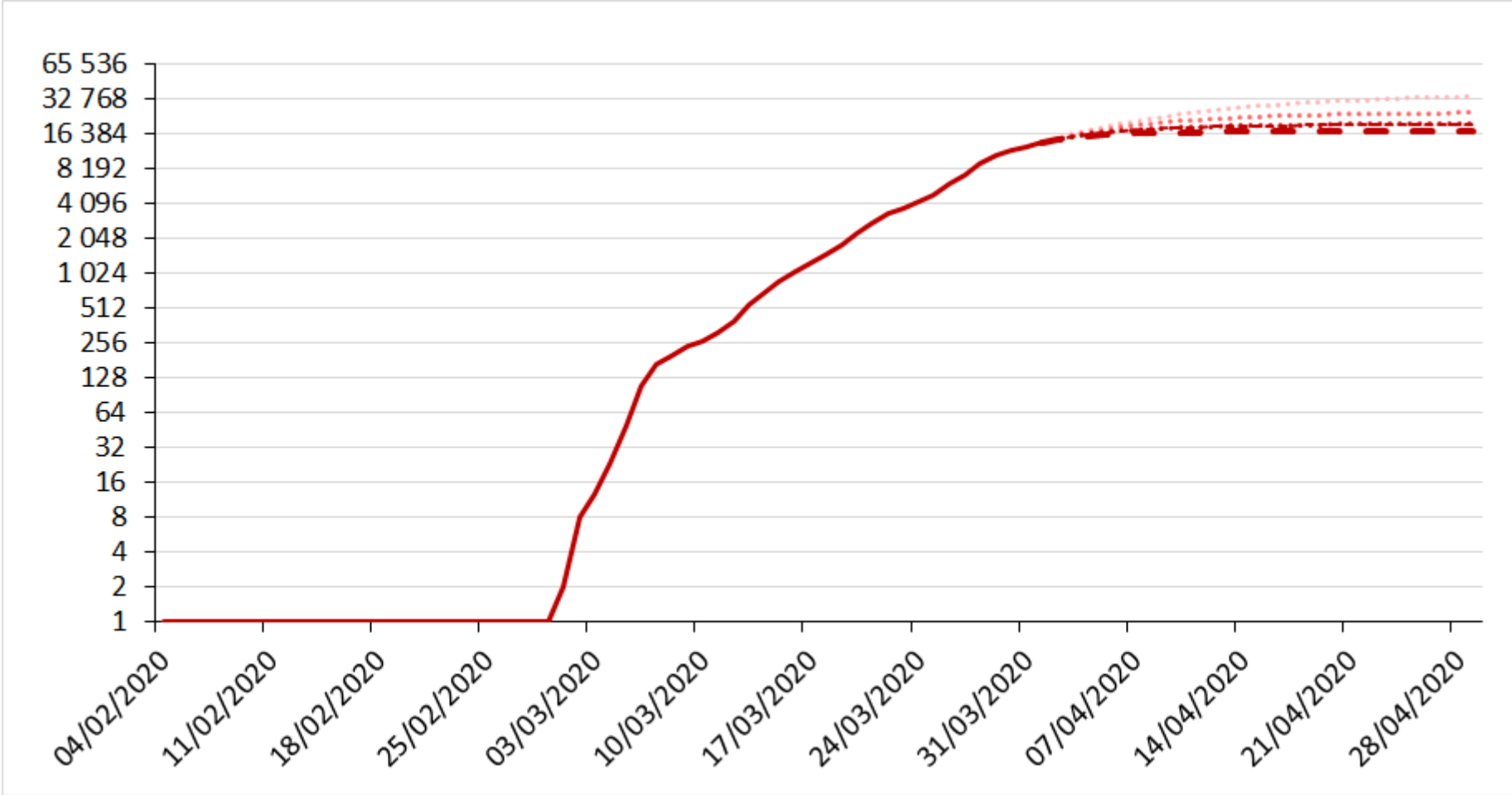
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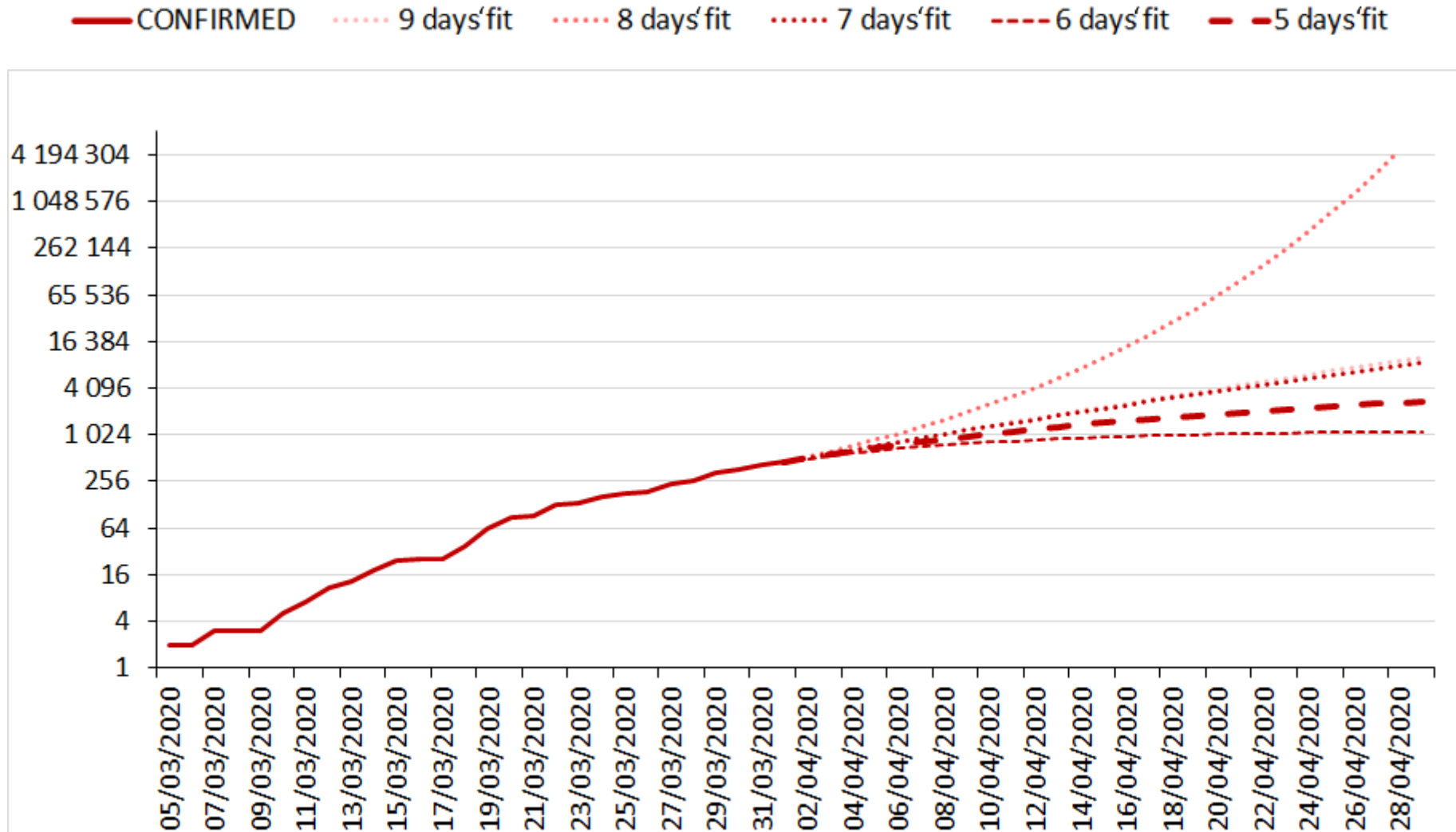
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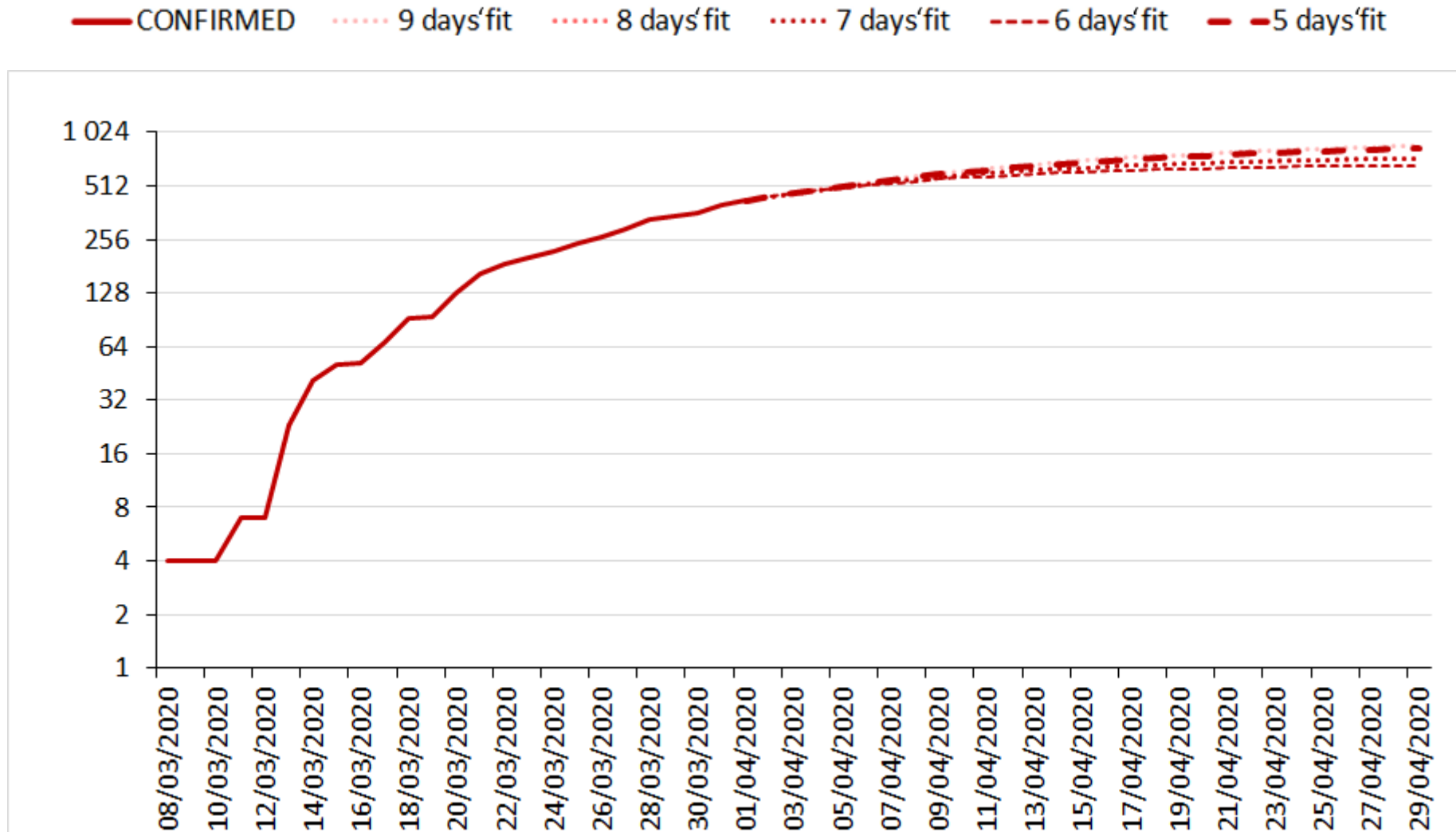
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# Bosnia and Herzegovina



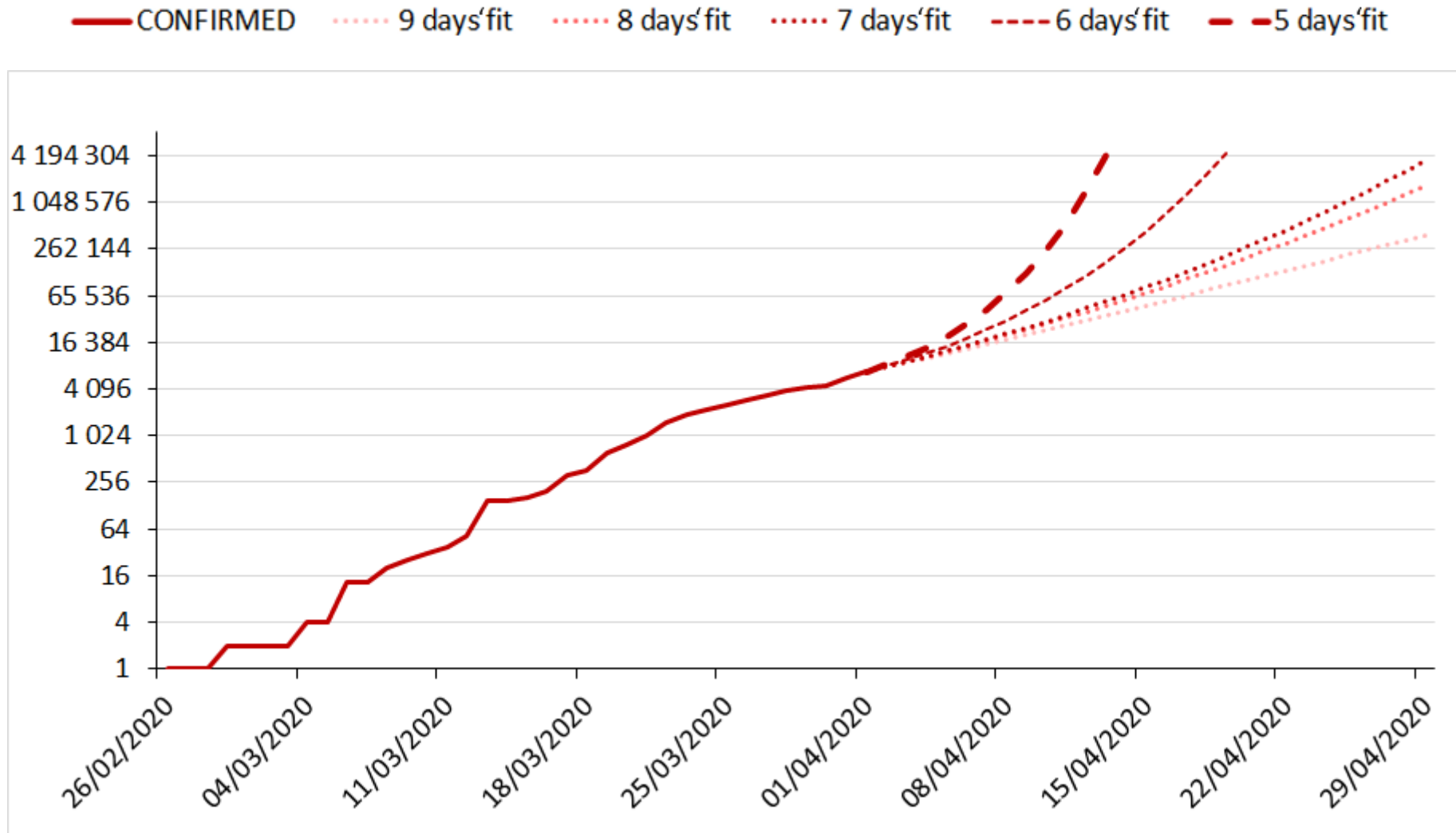
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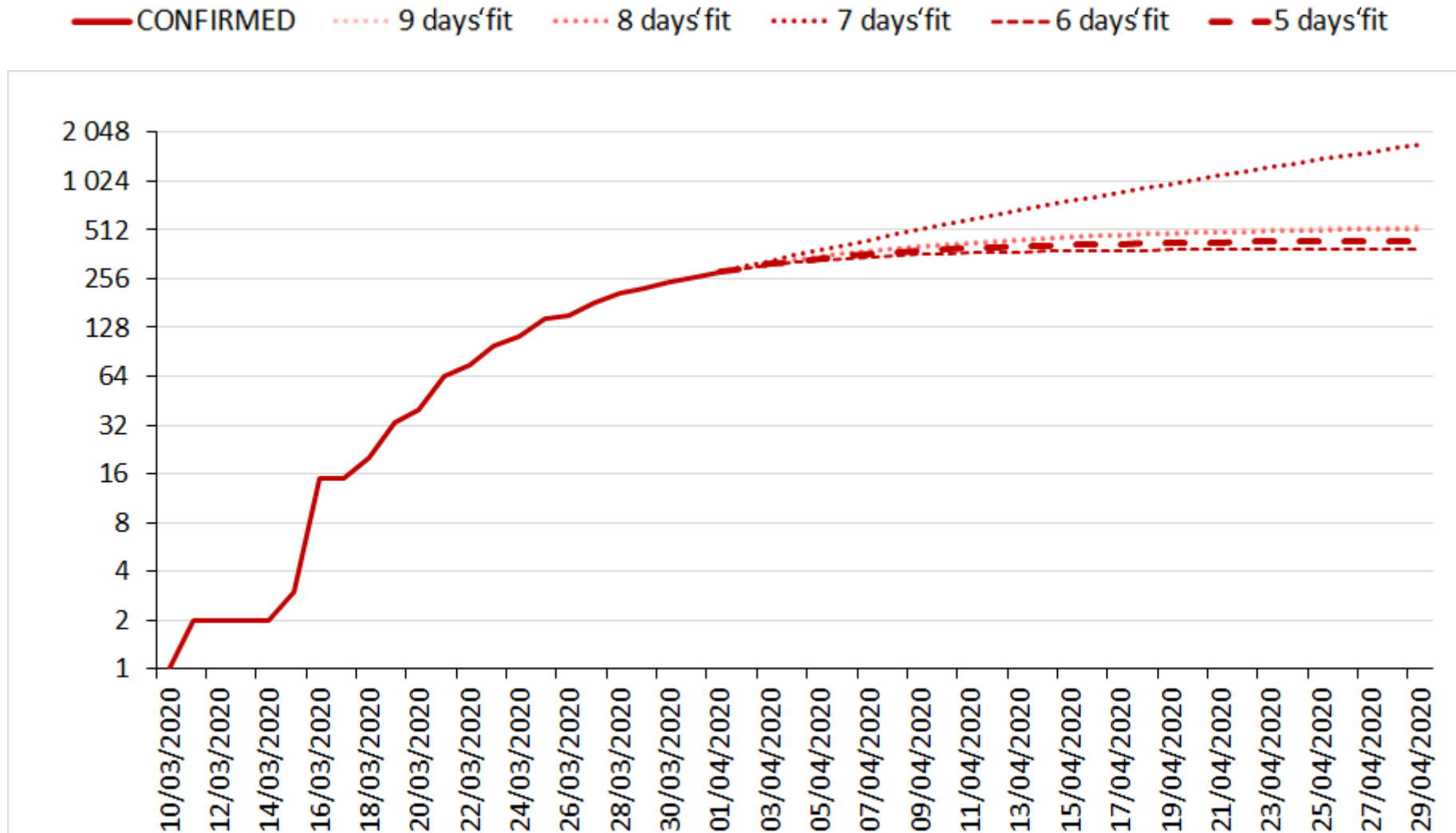
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# Brazil



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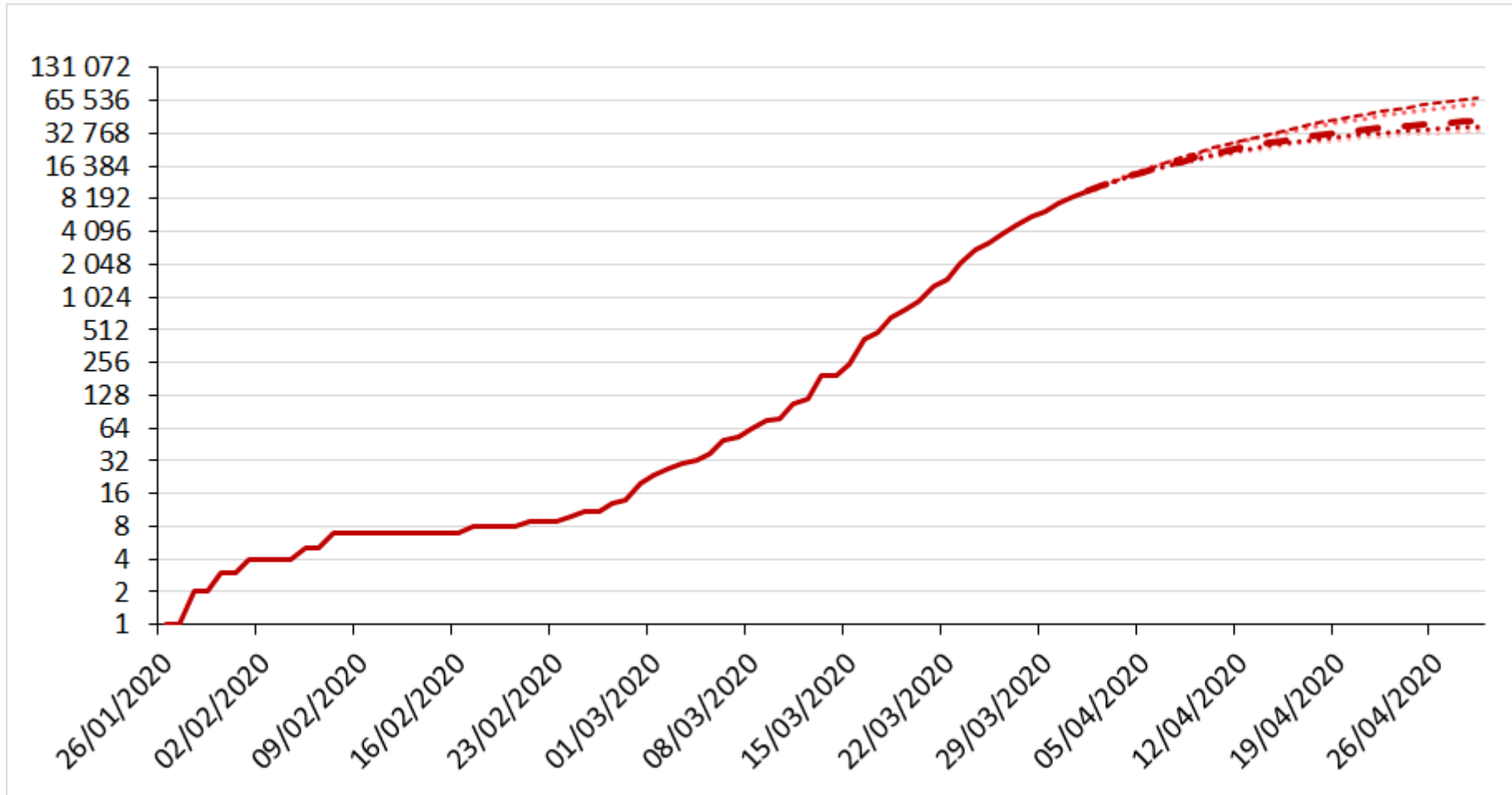
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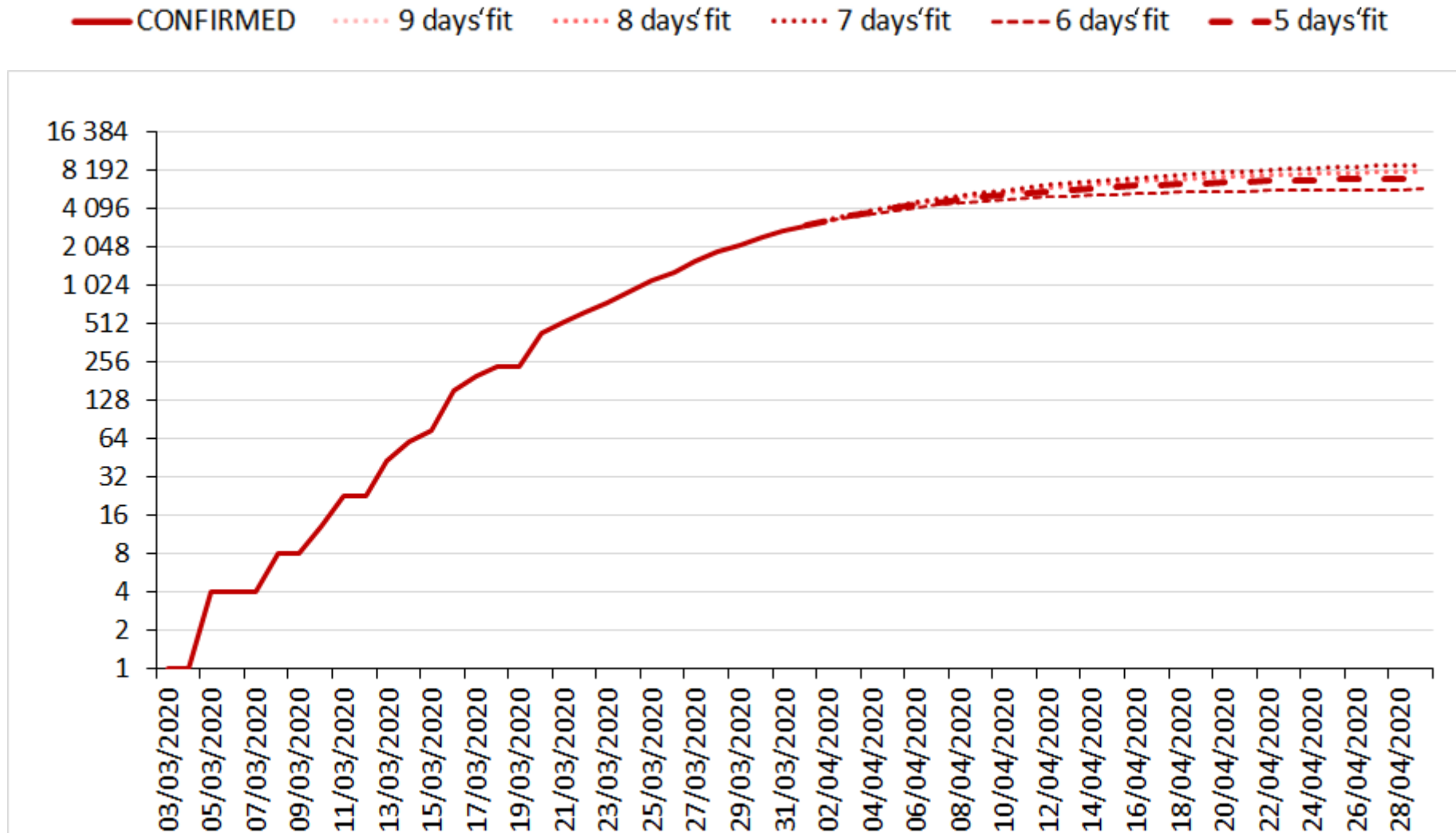
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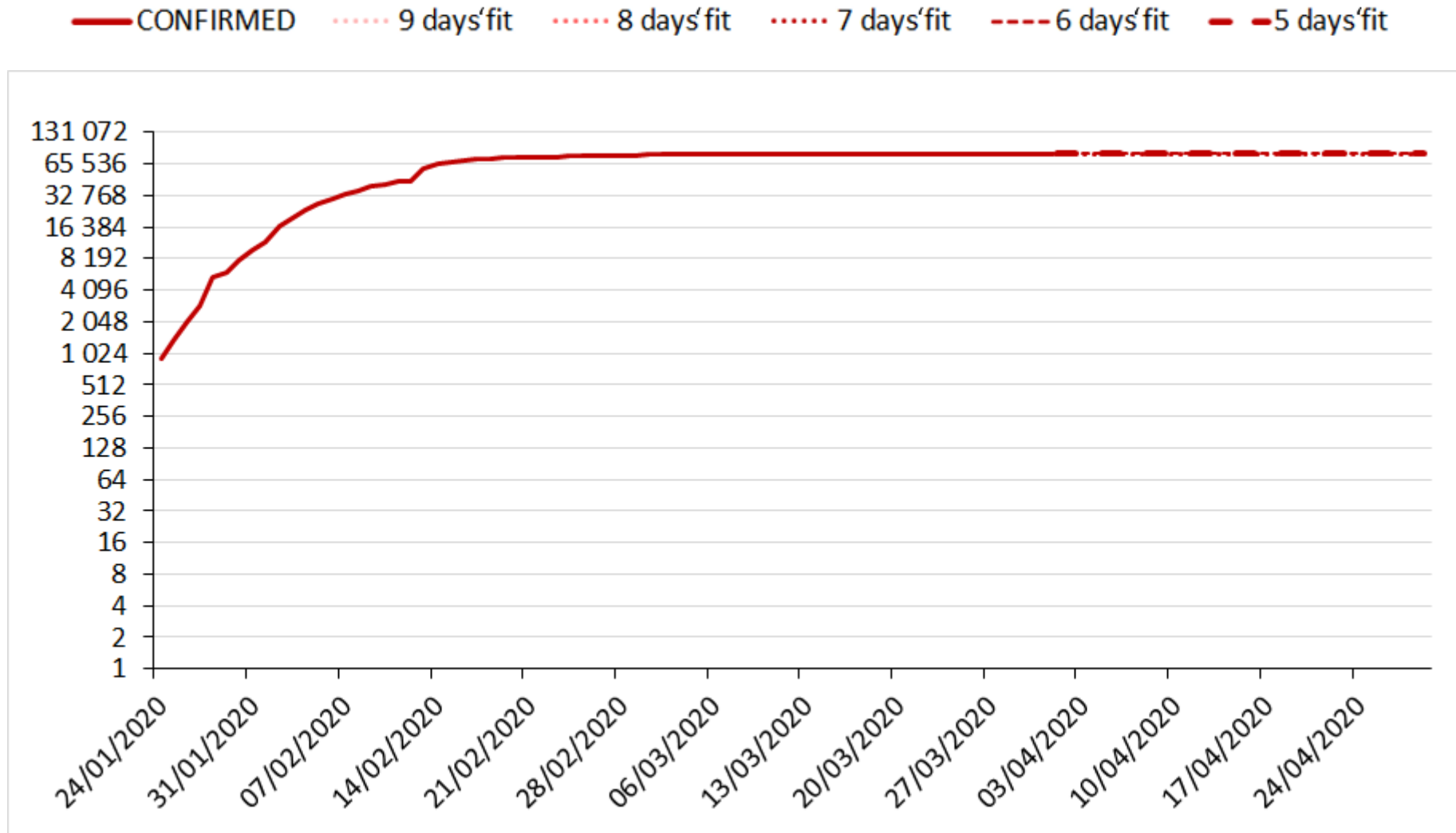
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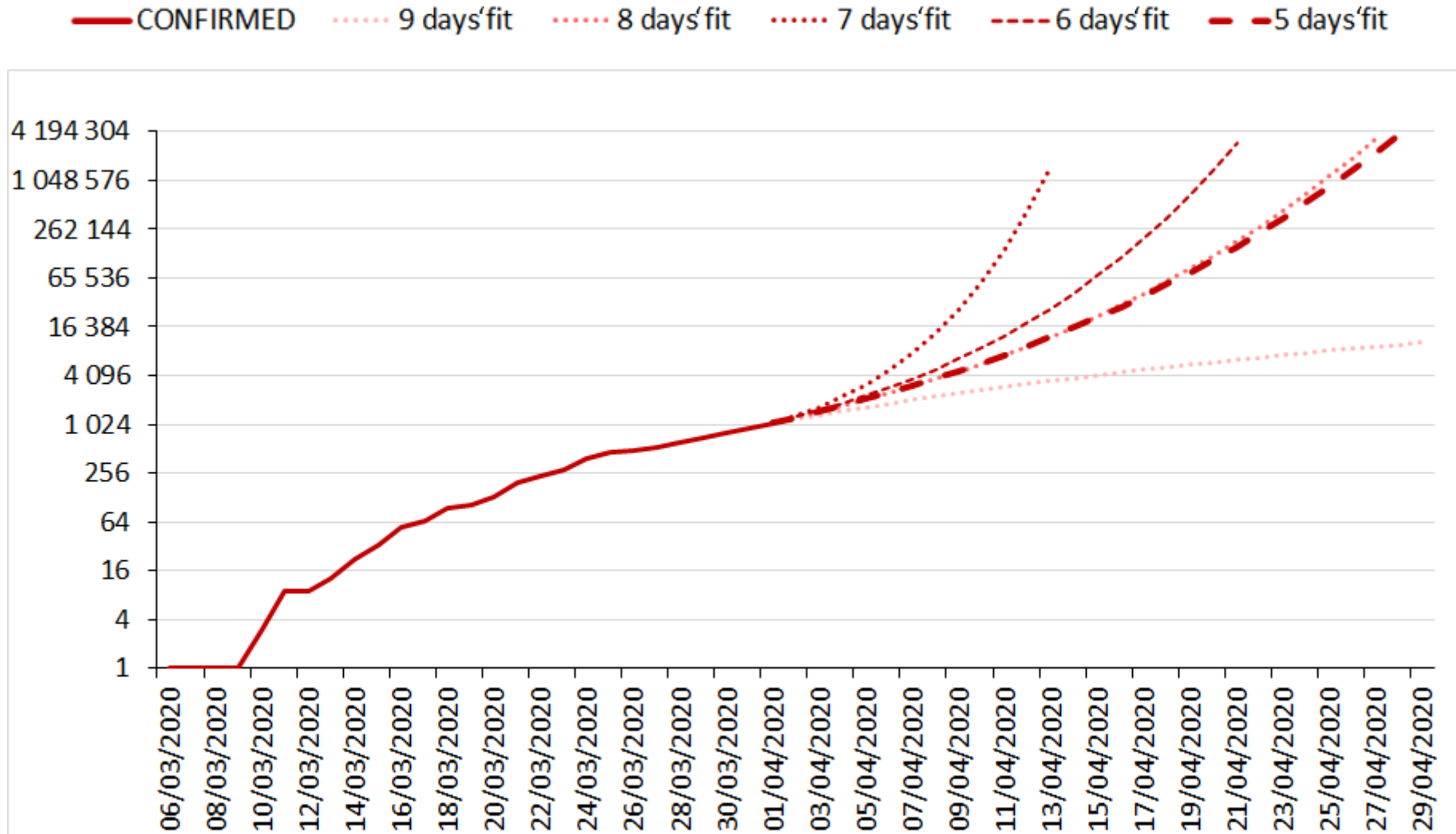


# China



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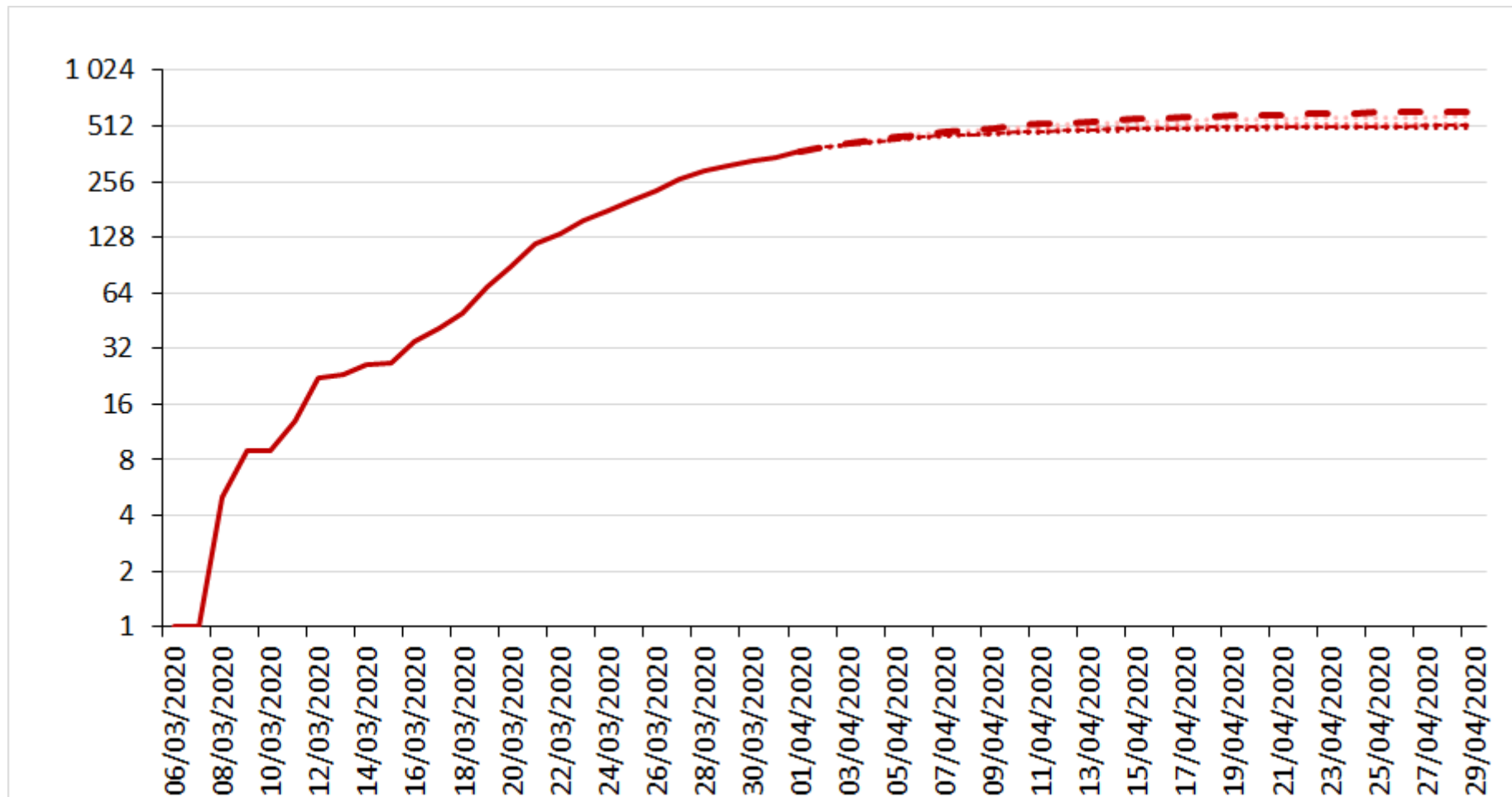
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Data: The Johns Hopkins University, Politolog.com

# Costa Rica

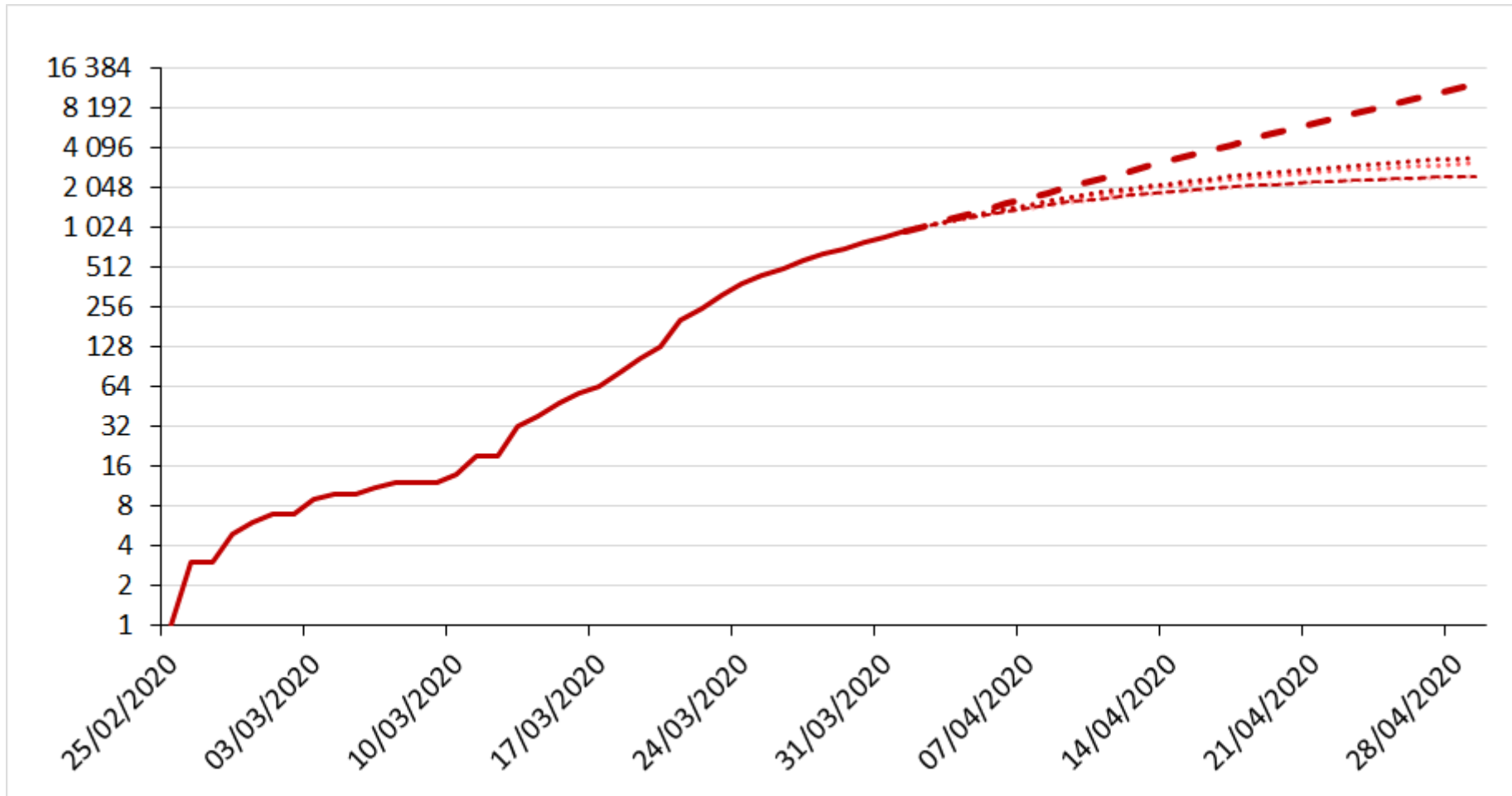
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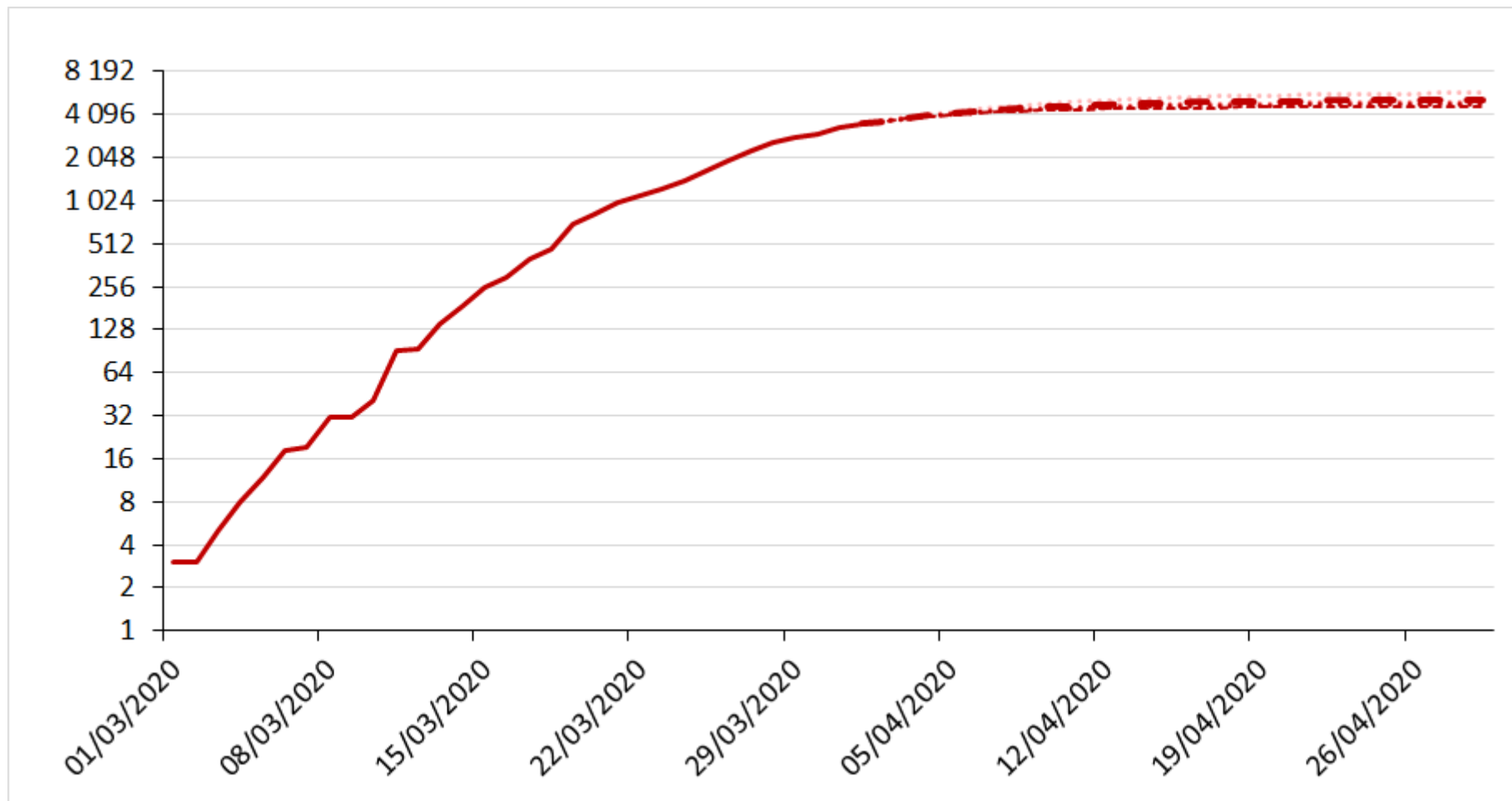
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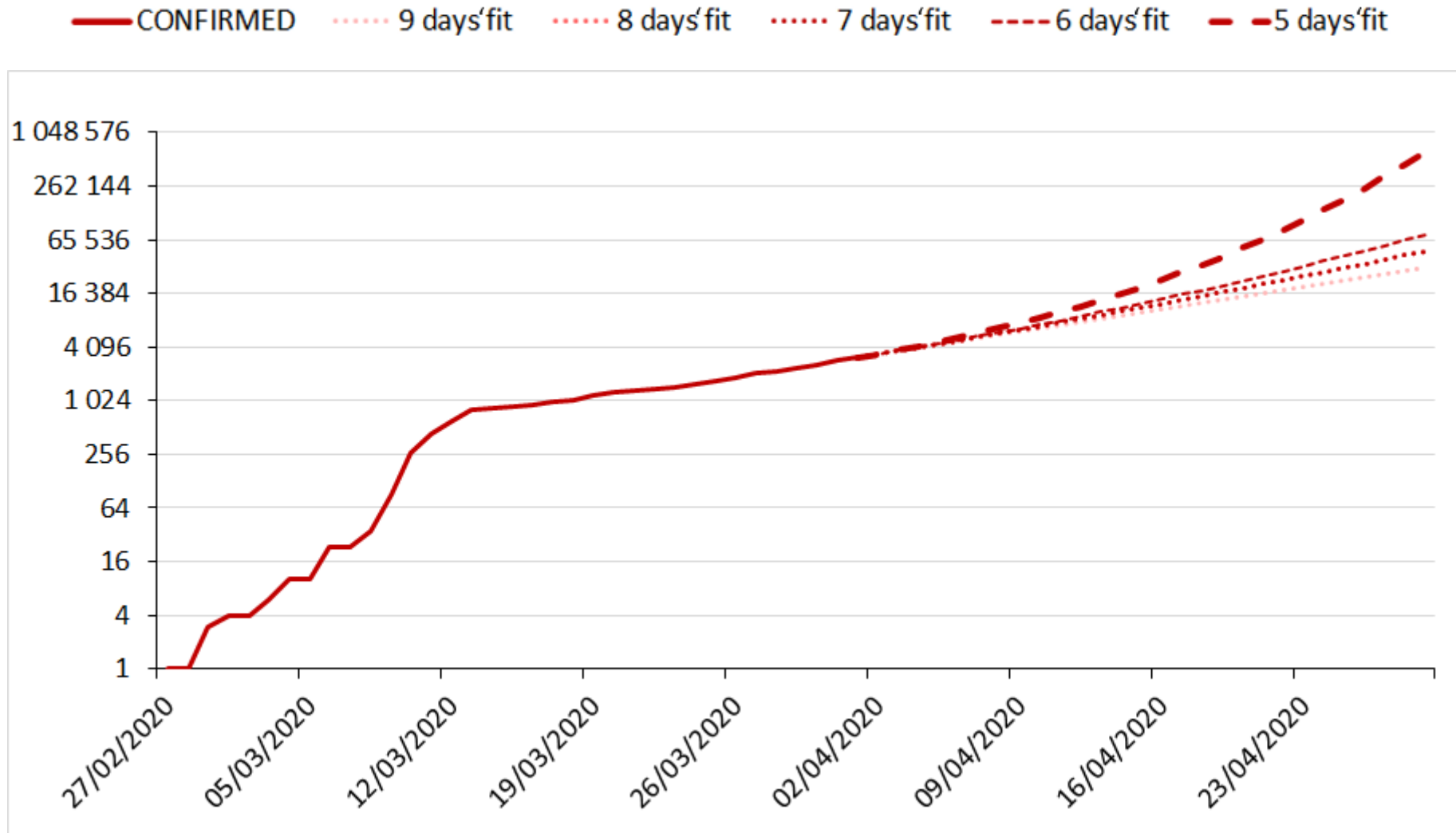
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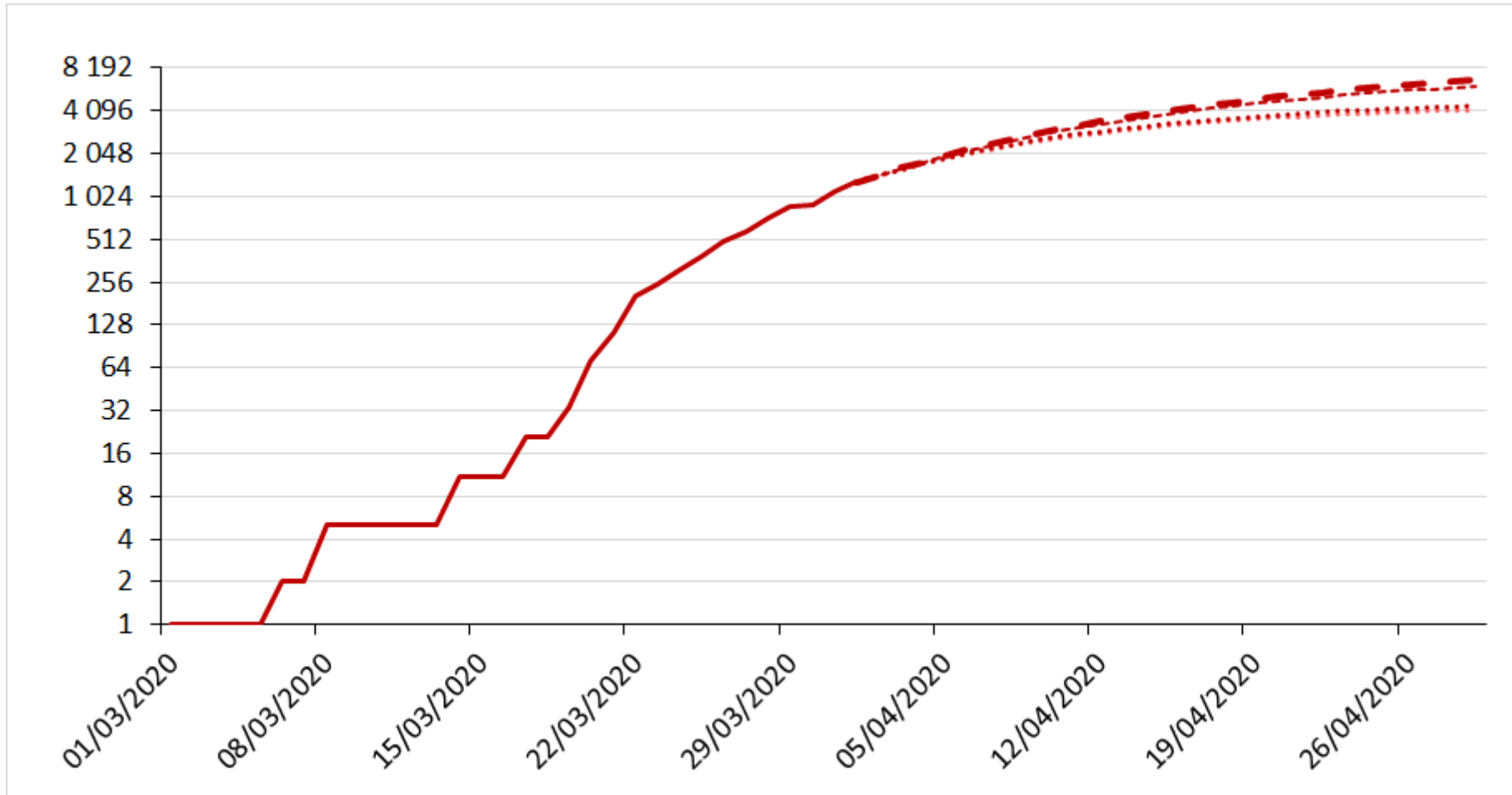
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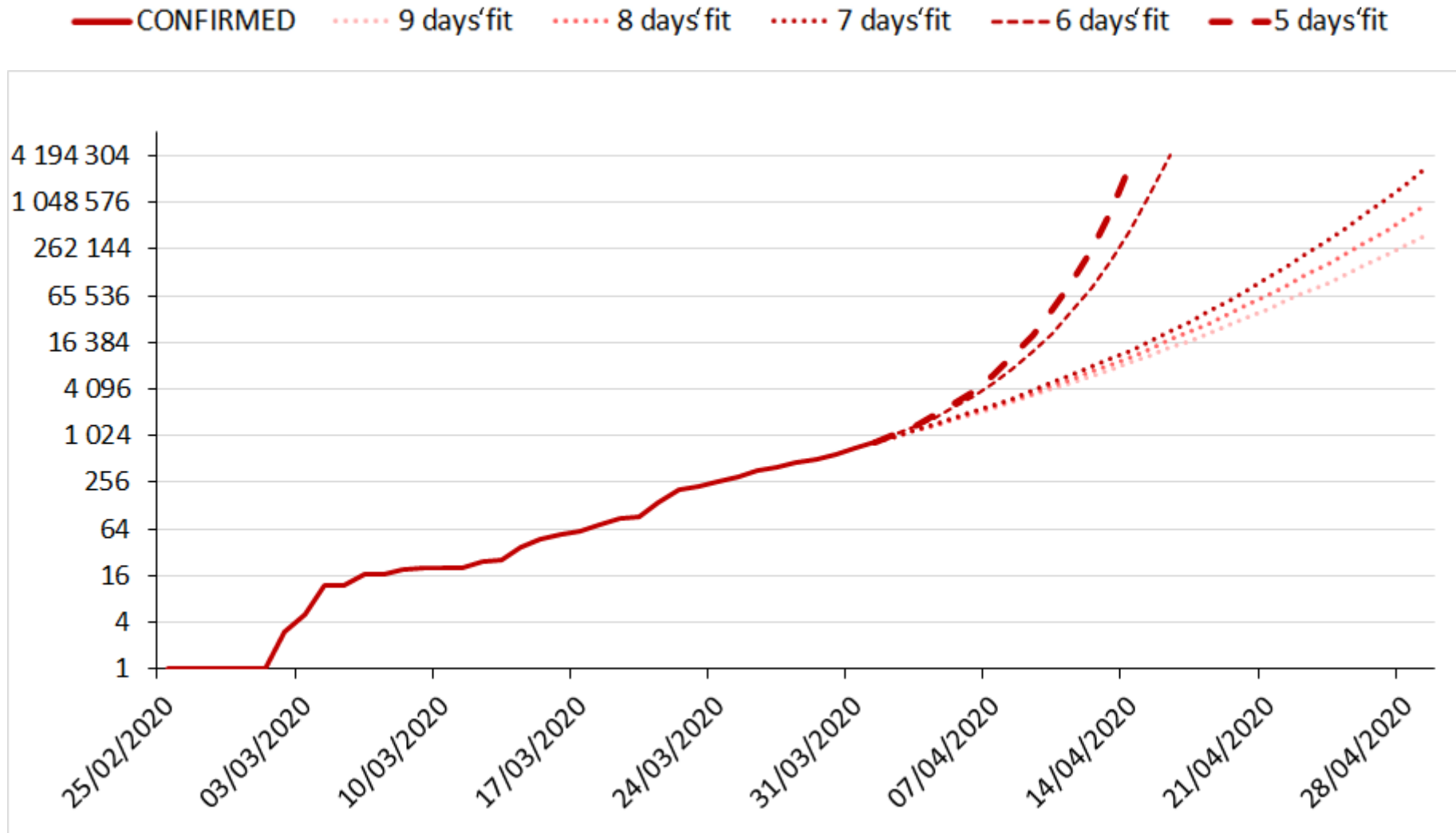
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CONFIRMED 9 days'fit 8 days'fit 7 days'fit 6 days'fit 5 days'fit



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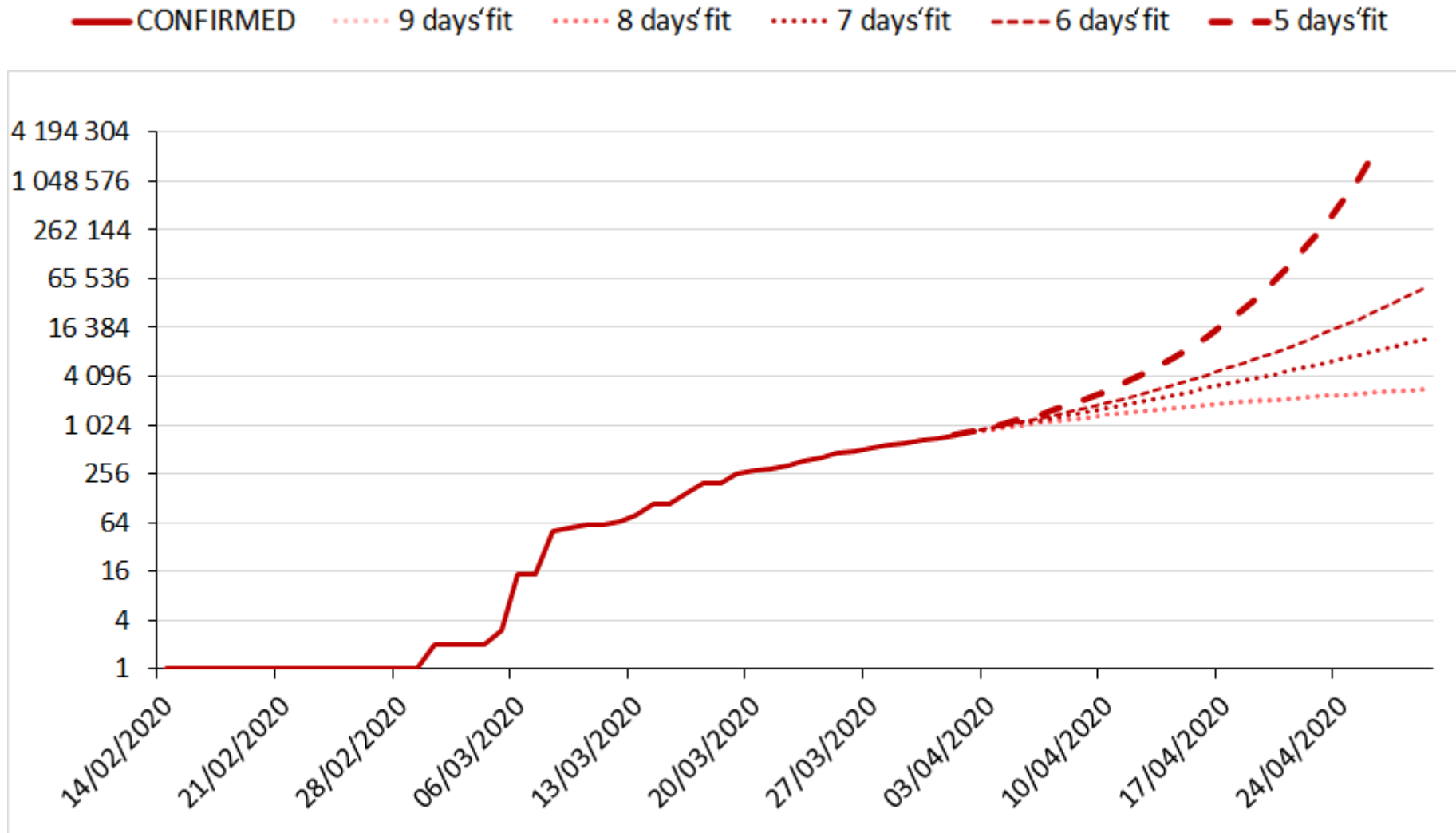
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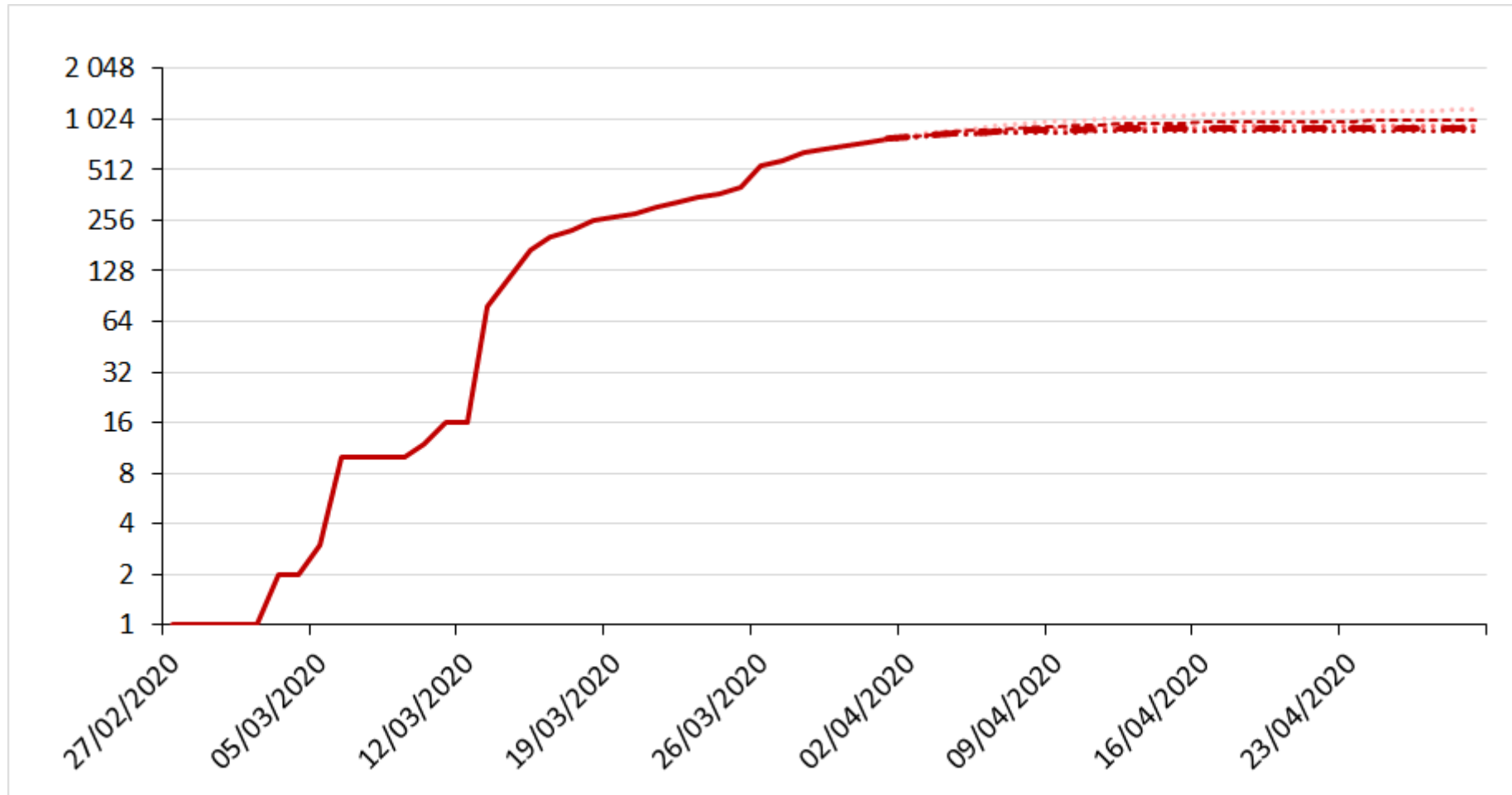
# Egypt



Data: The Johns Hopkins University, Politolog.com

# Estonia

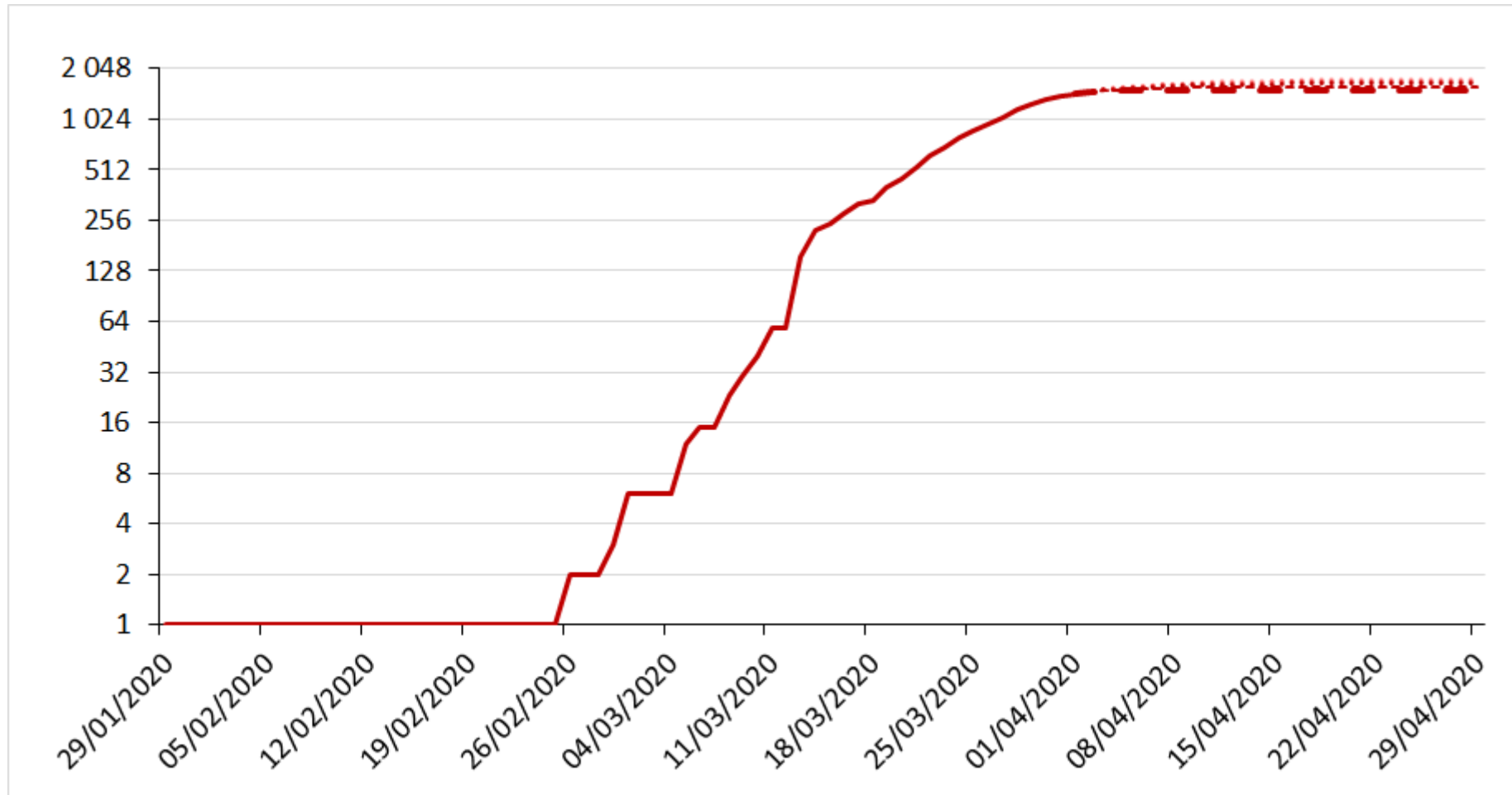
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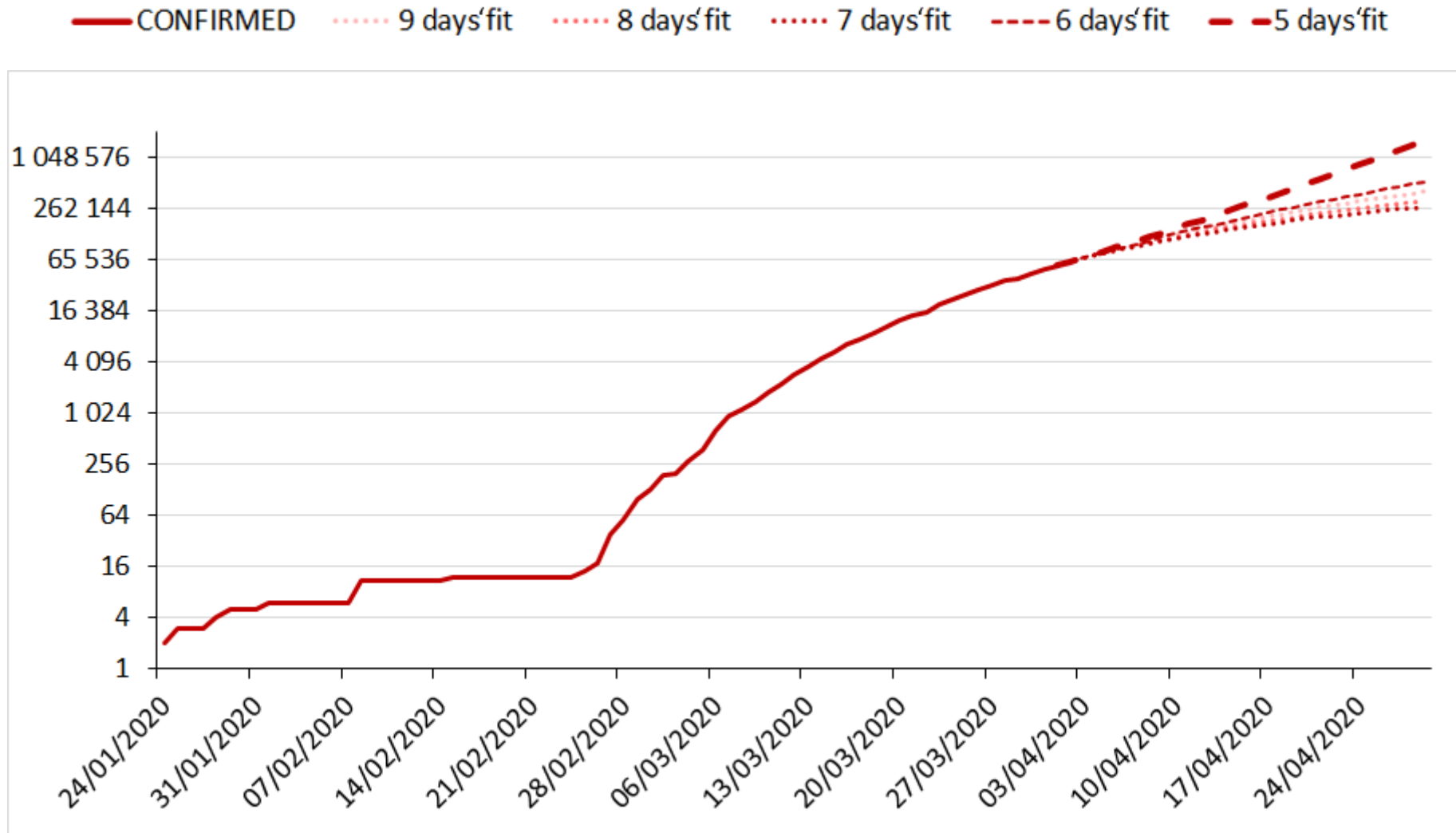
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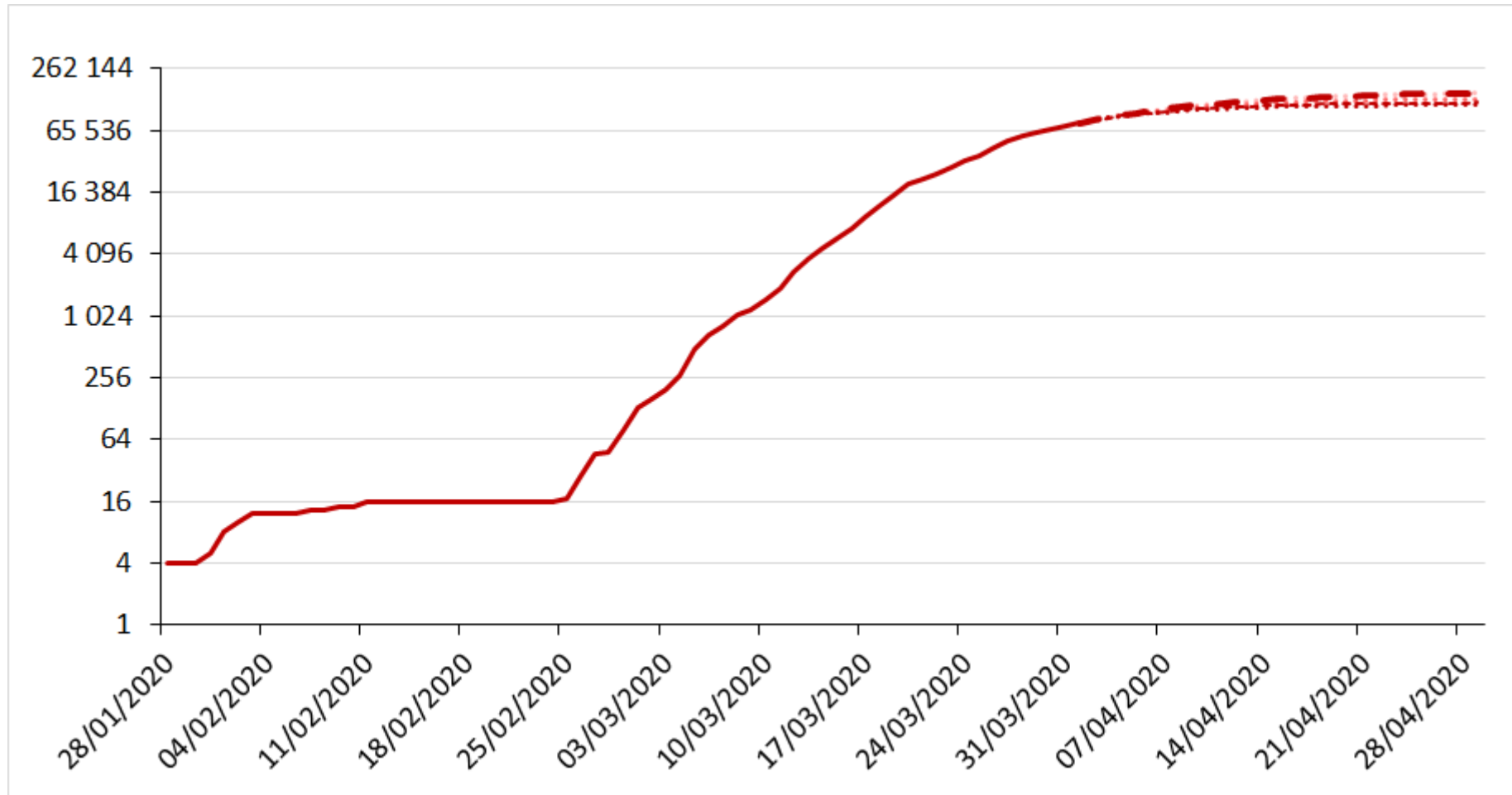
# France



Data: The Johns Hopkins University, Politolog.com

# Germany

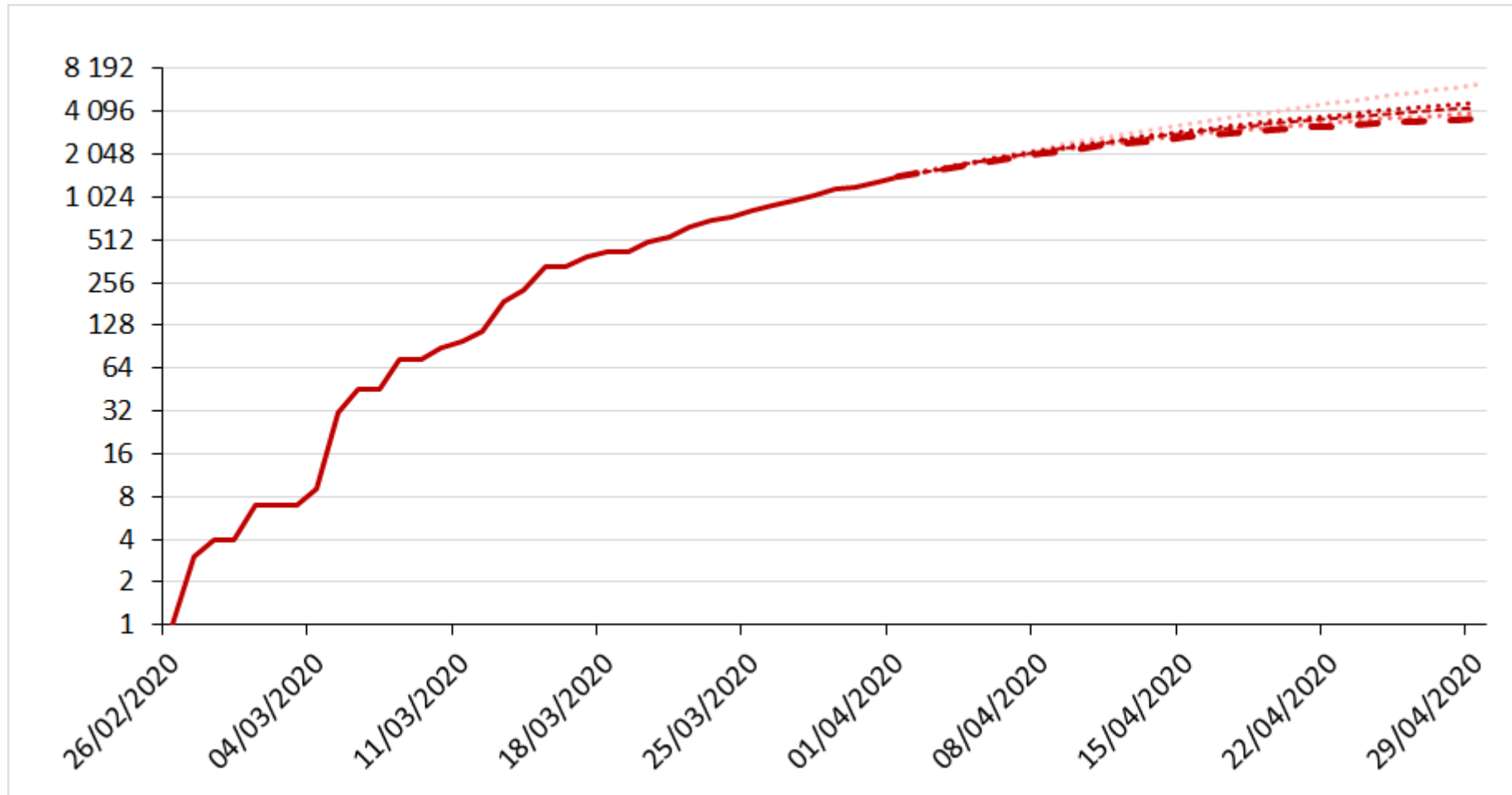
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# Greece

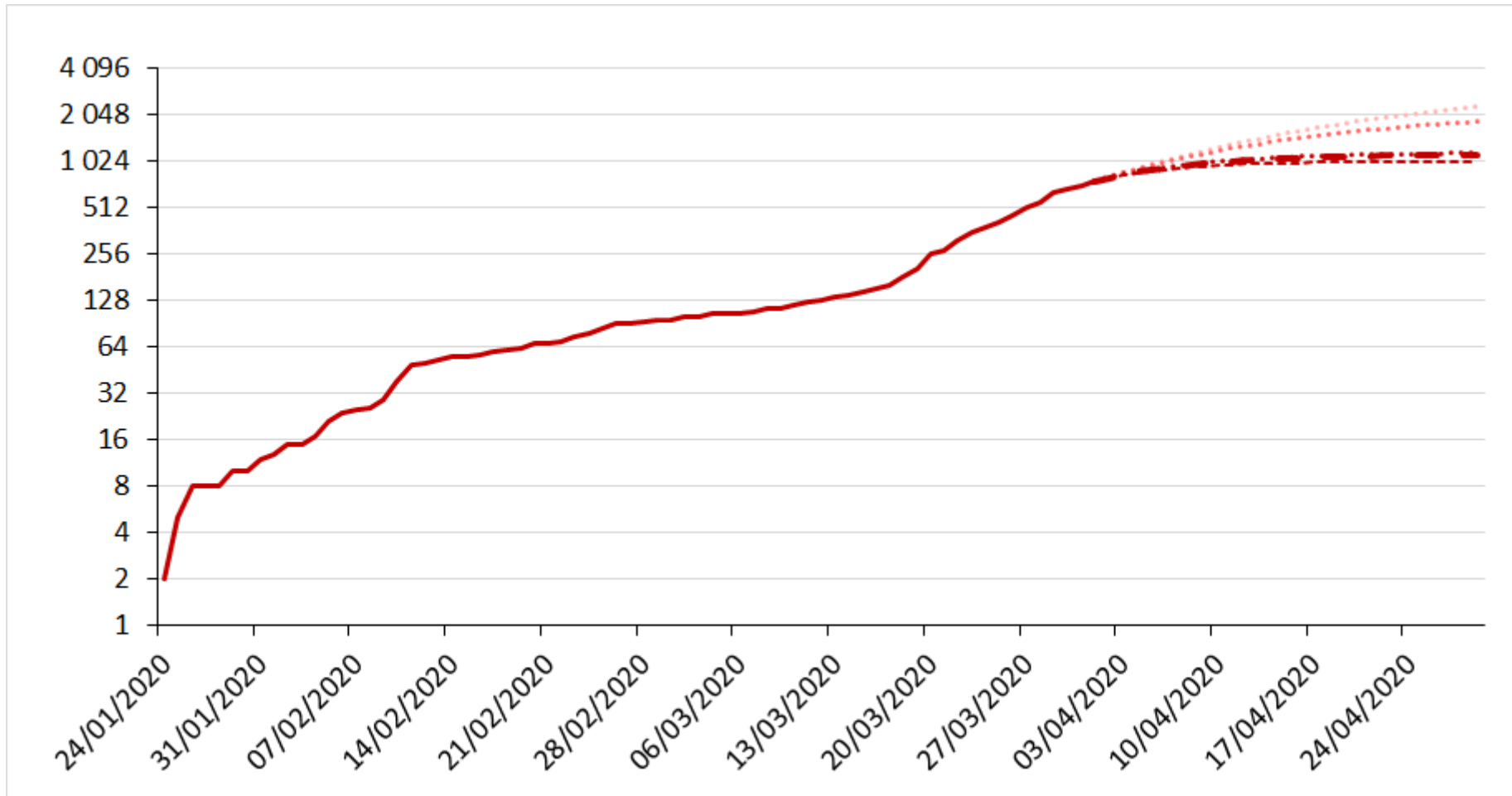
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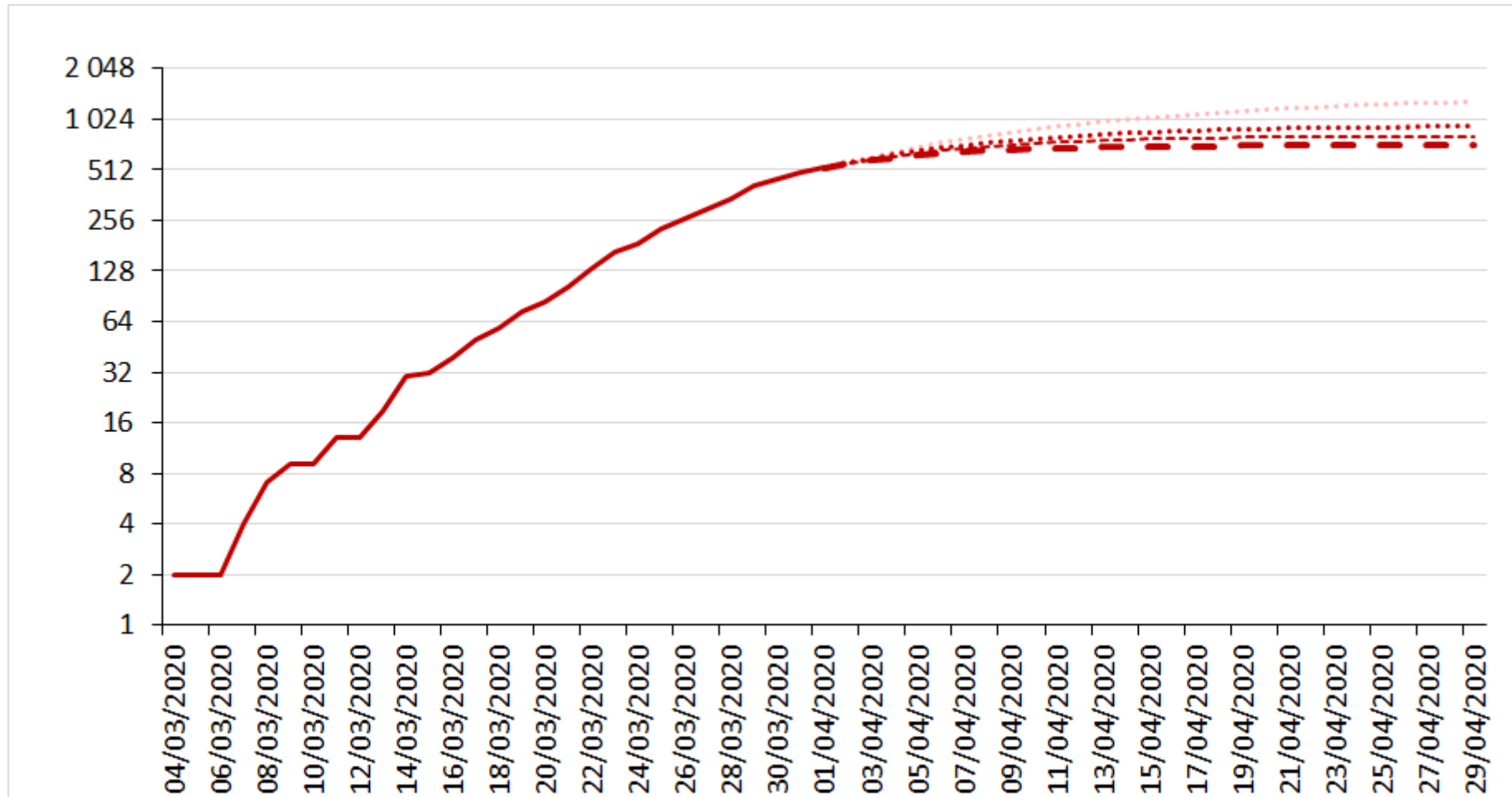
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Data: The Johns Hopkins University, Politolog.com

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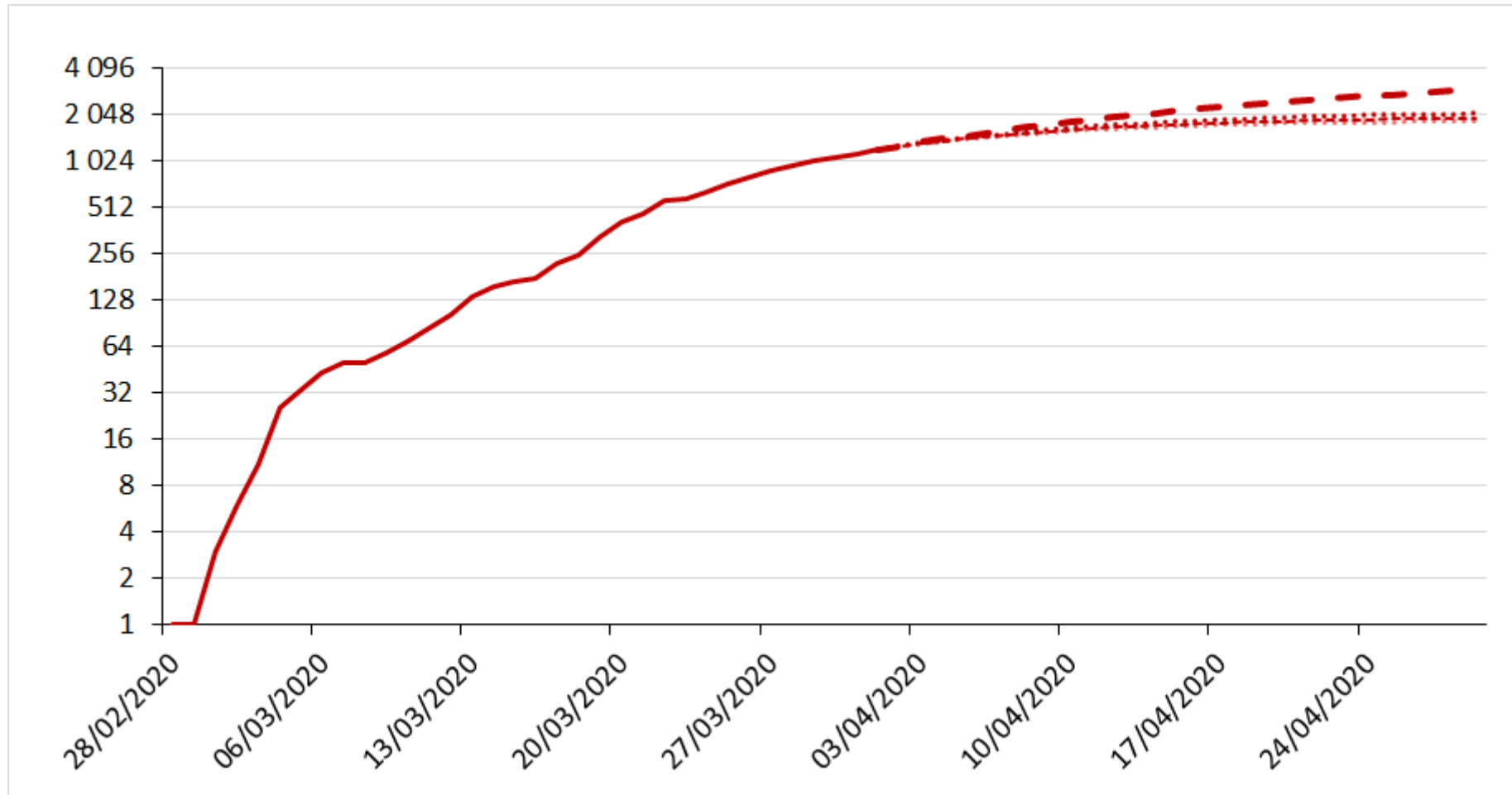


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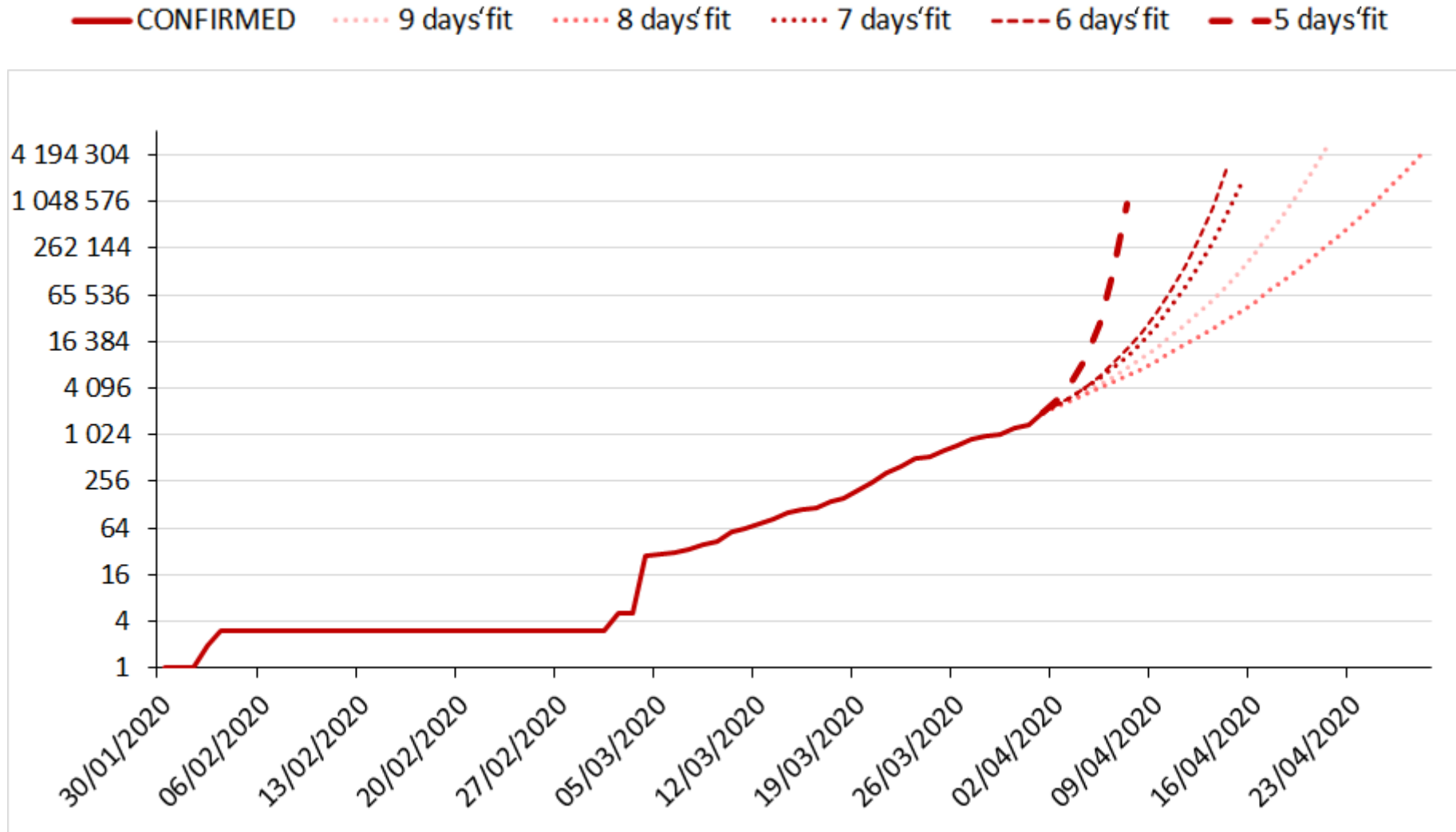
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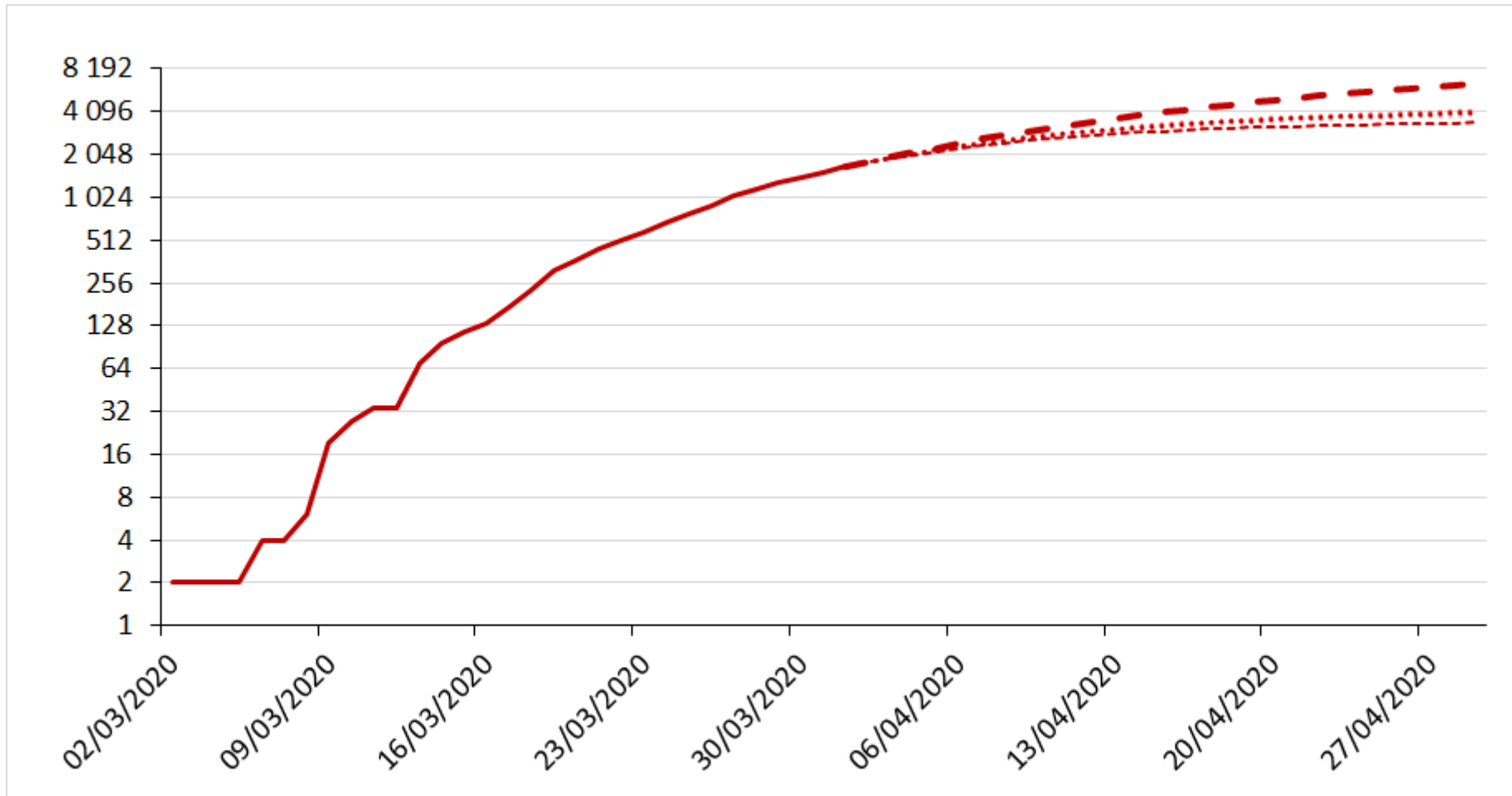
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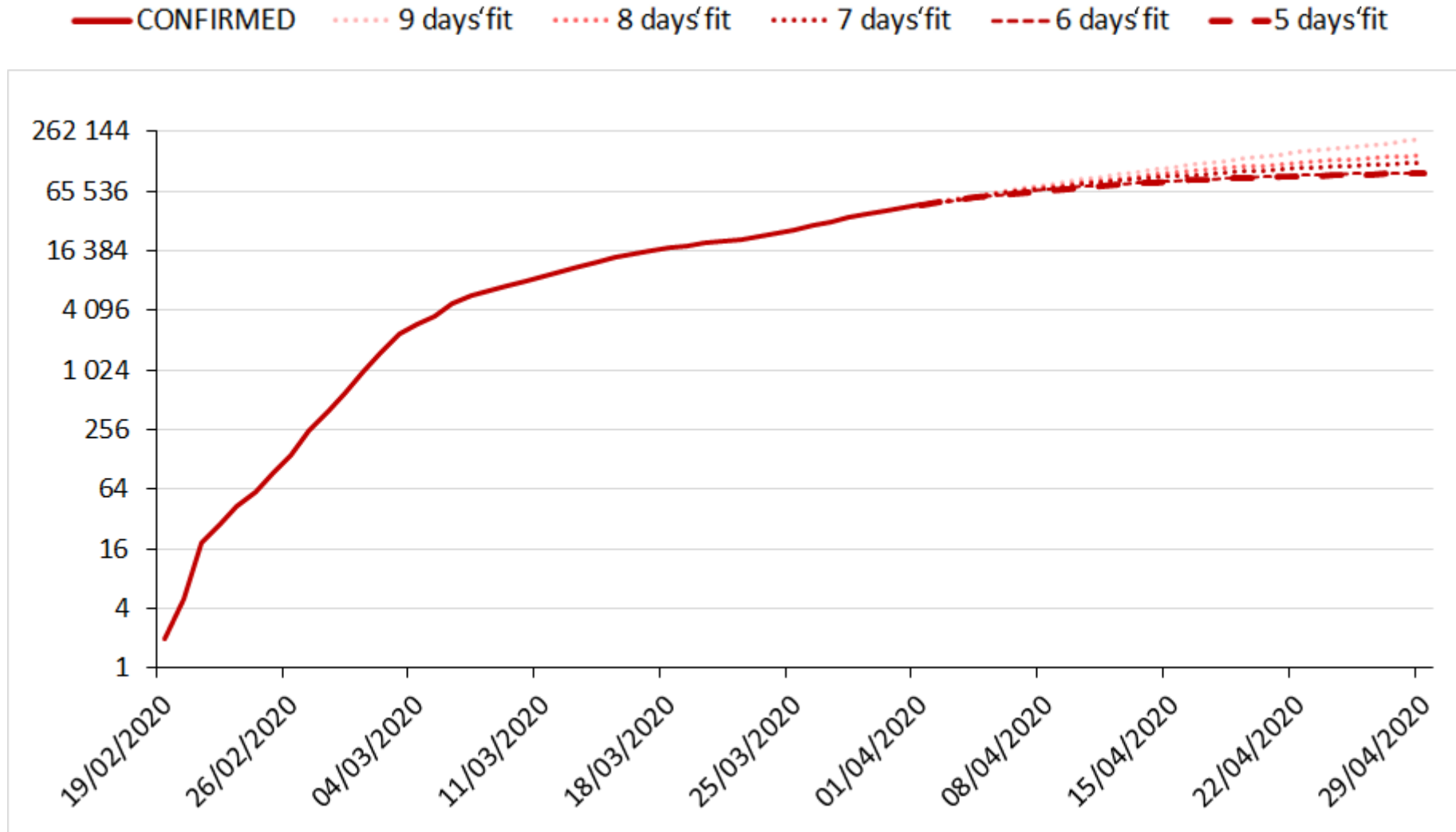
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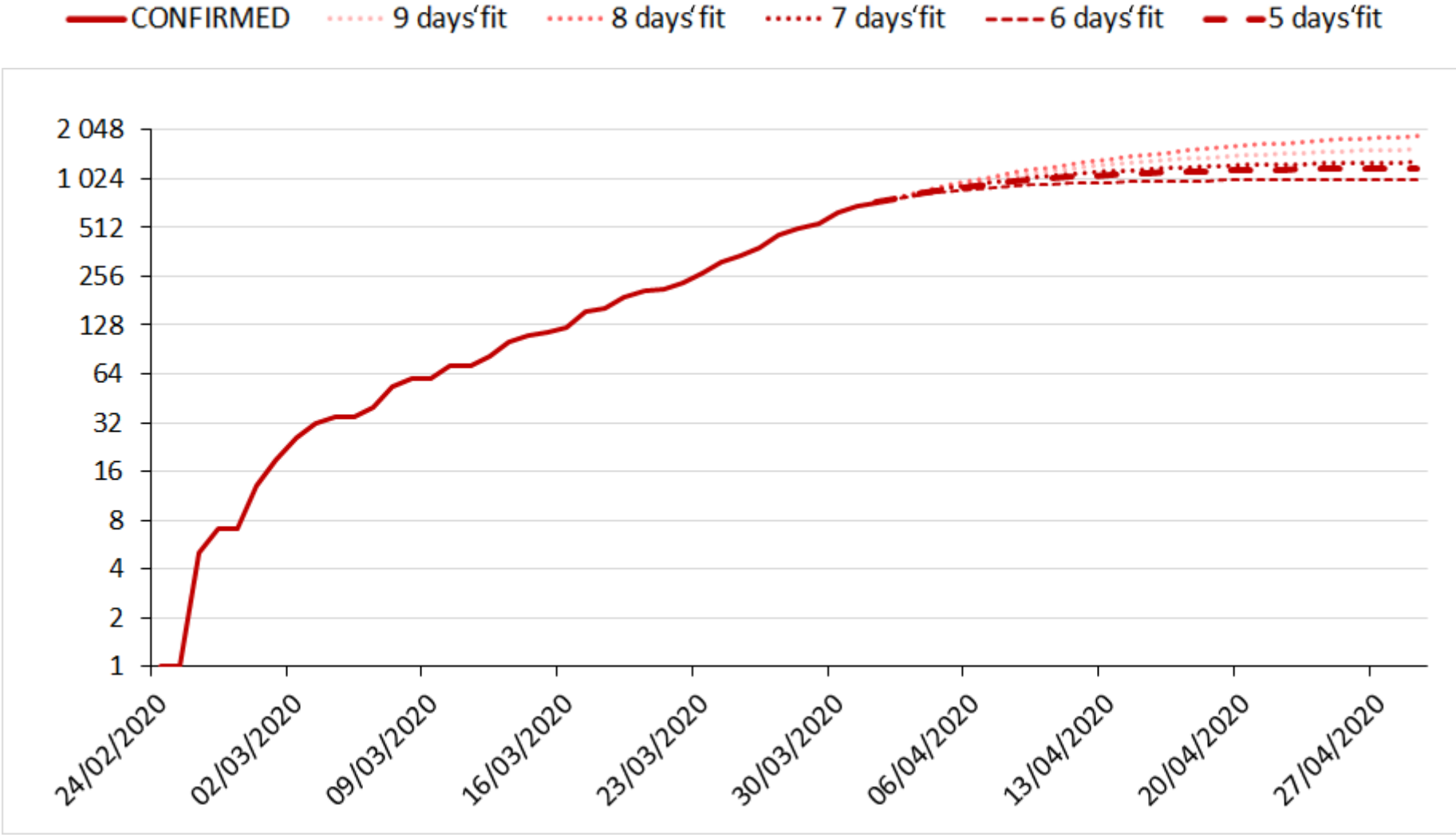
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# Iran



Data: The Johns Hopkins University, Politolog.com

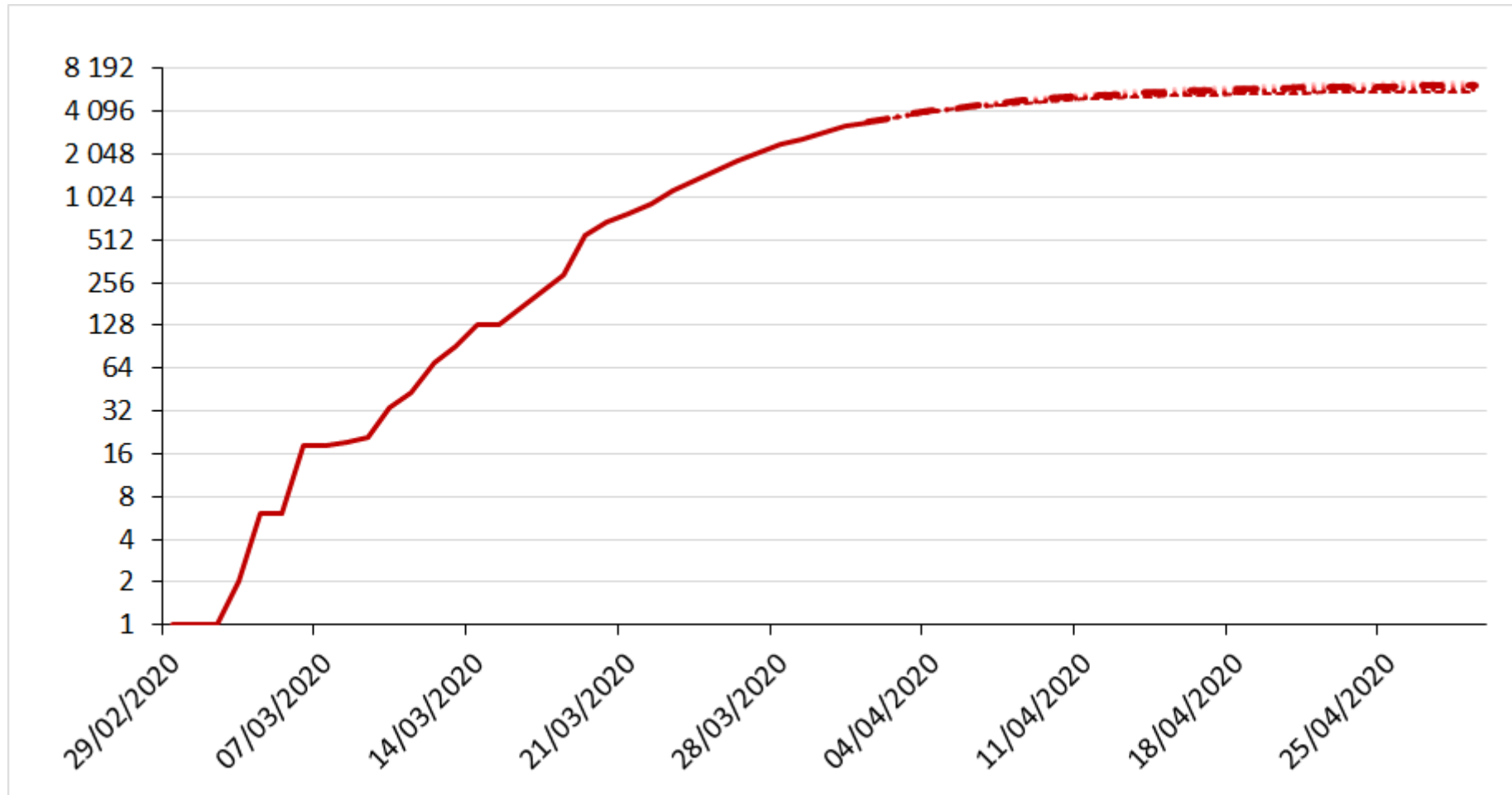
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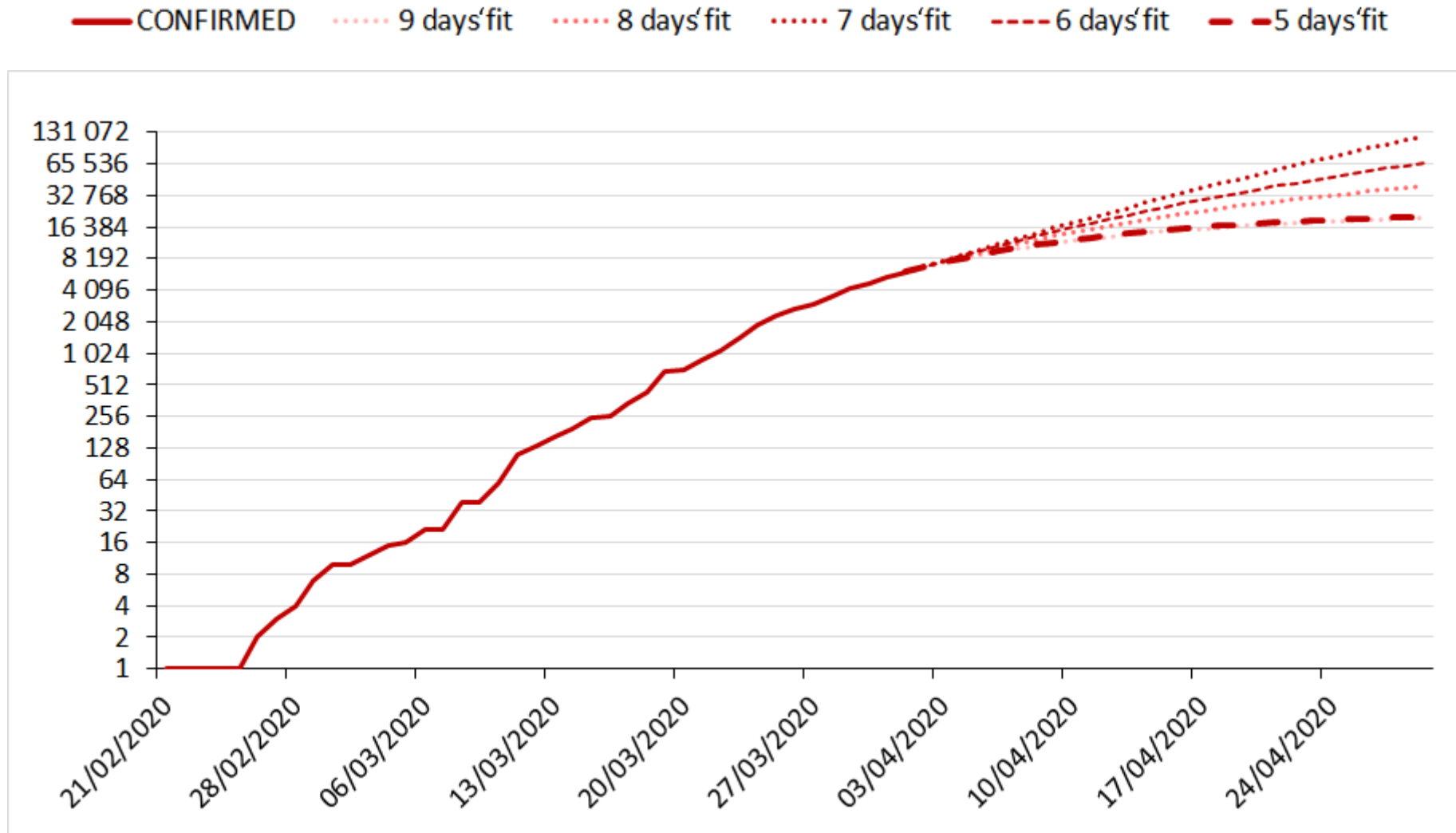
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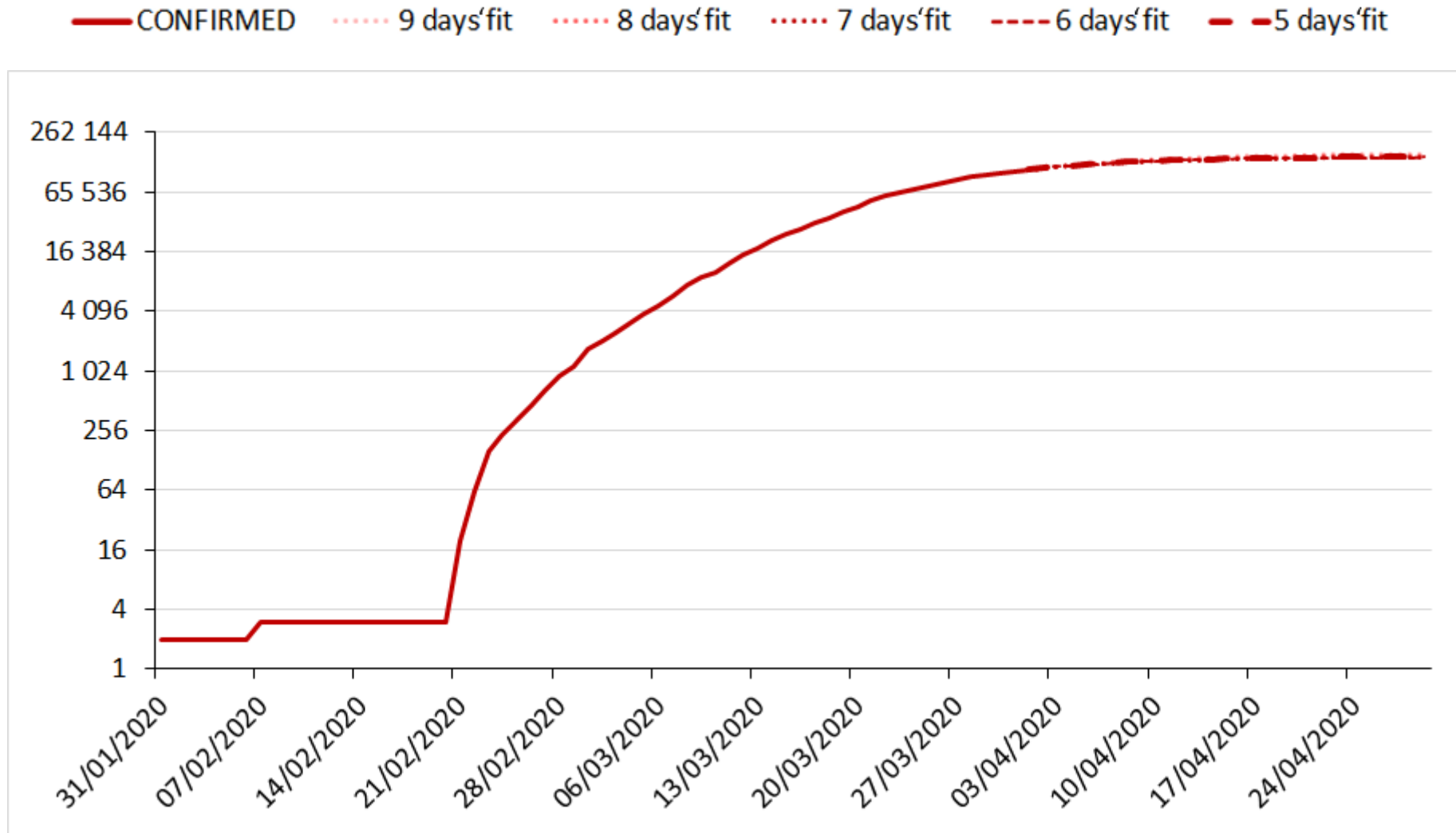
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# Israel



Data: The Johns Hopkins University, Politolog.com

# Italy

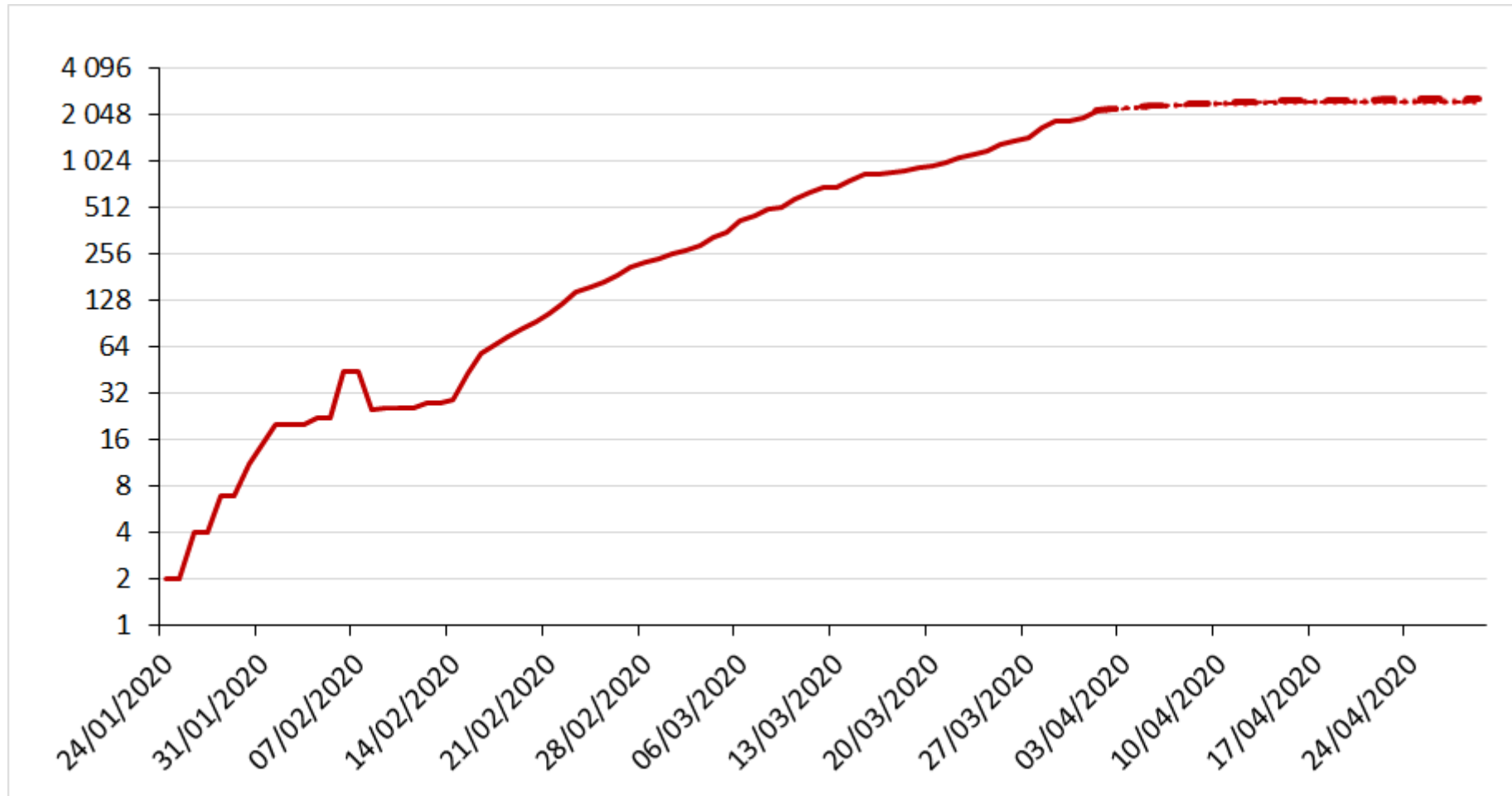


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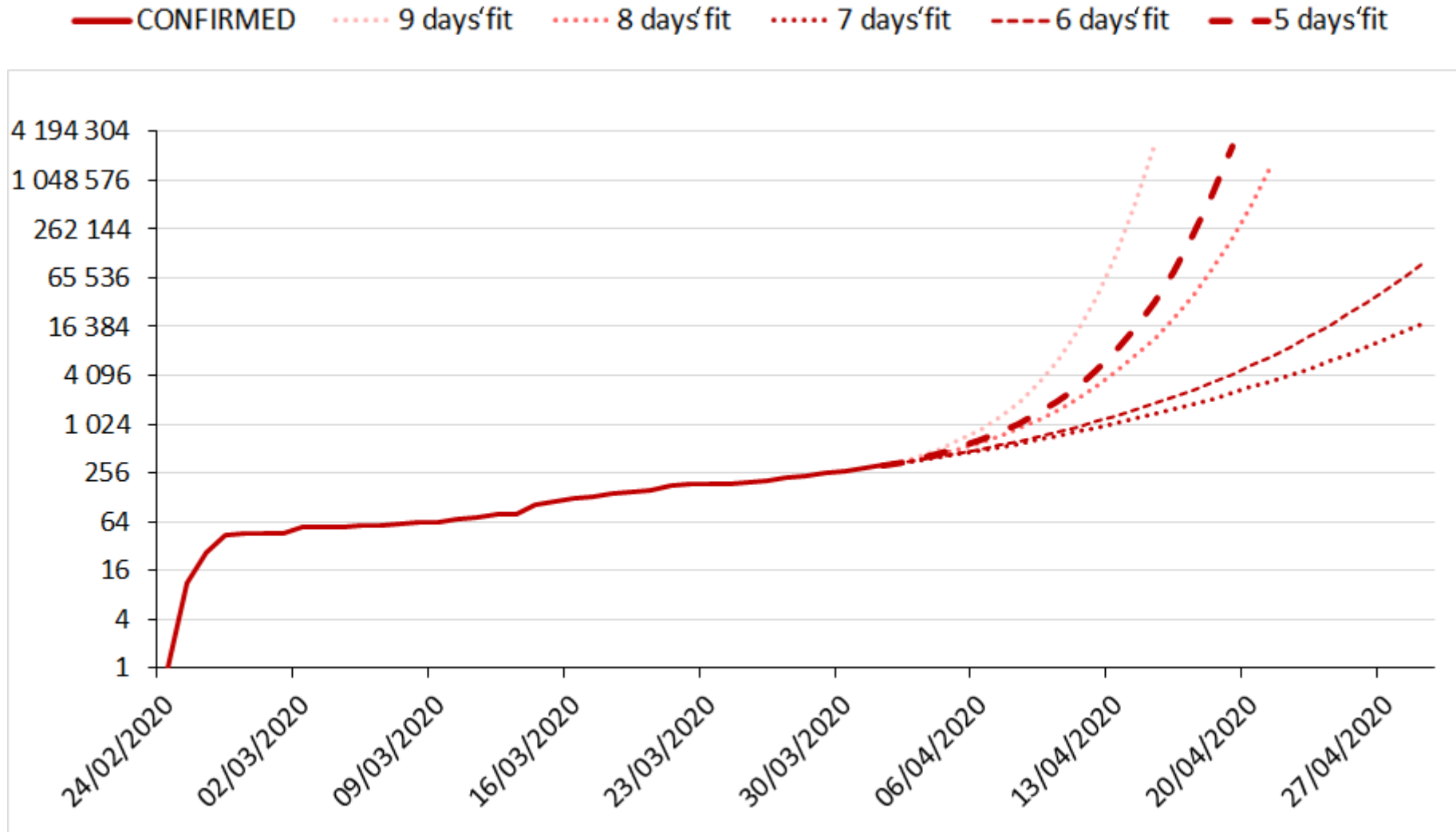
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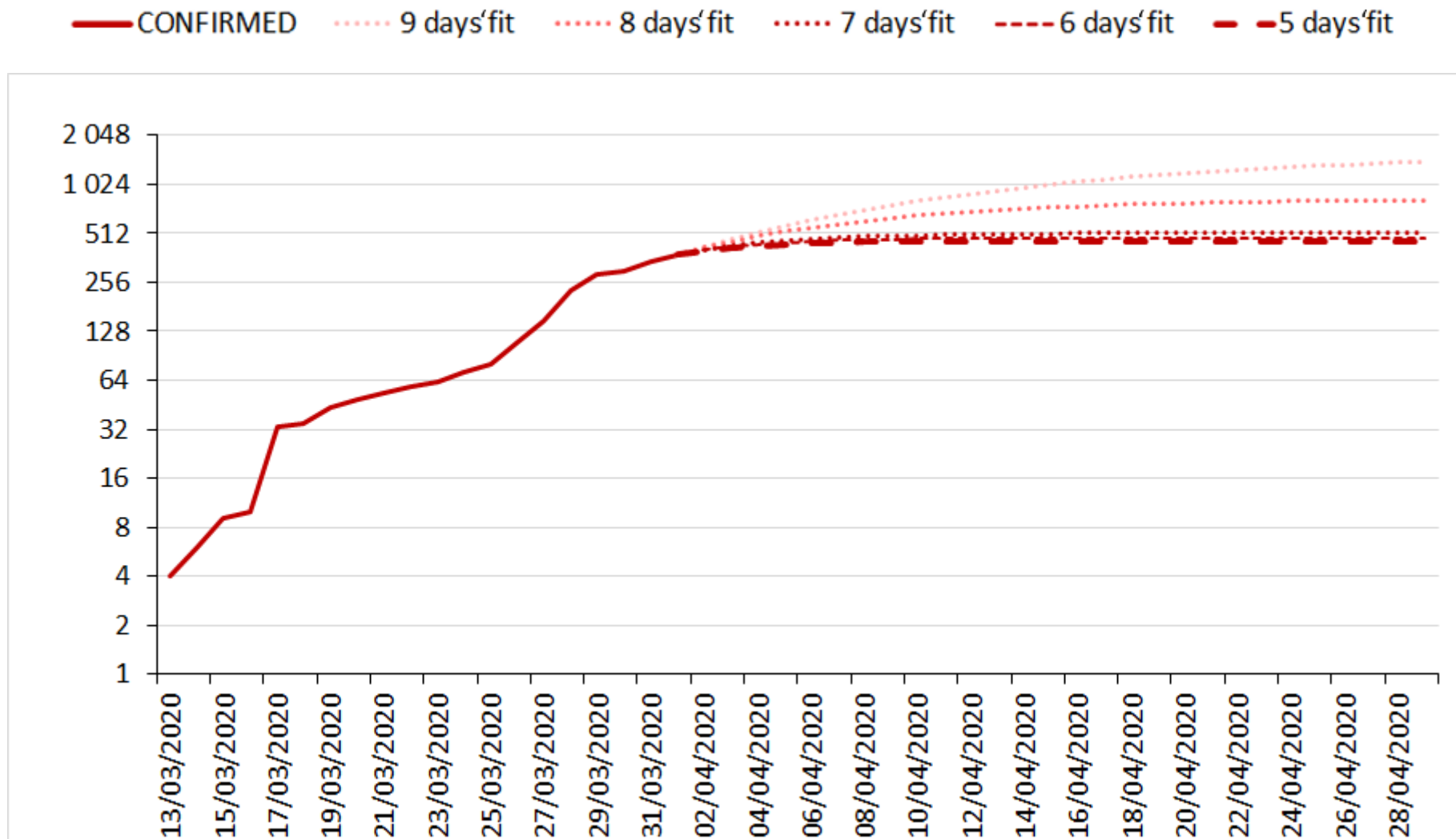
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# Kuwait



Data: The Johns Hopkins University, Politolog.com

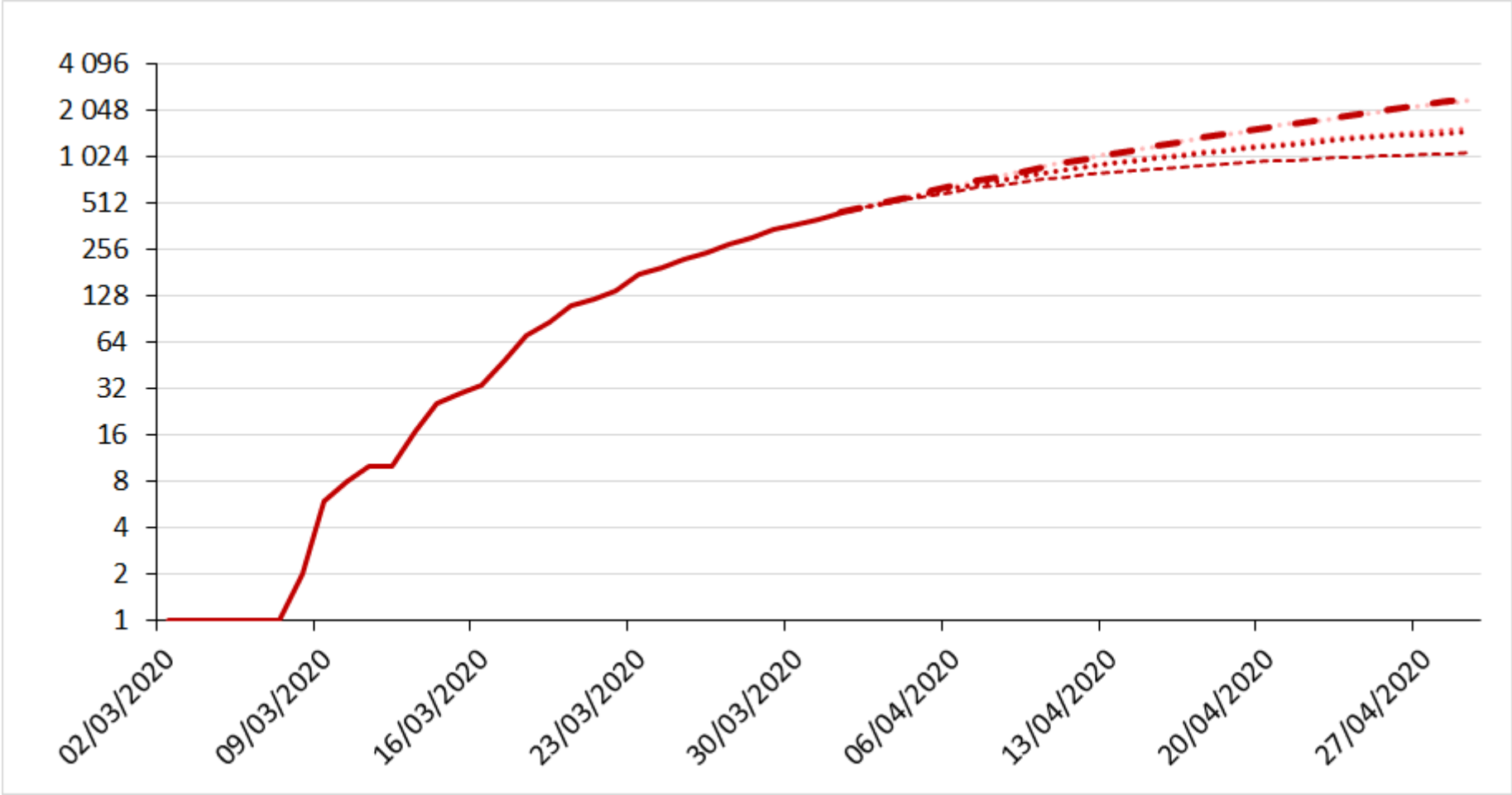
# Kazakhstan



Data: The Johns Hopkins University, Politolog.com

# Latvia

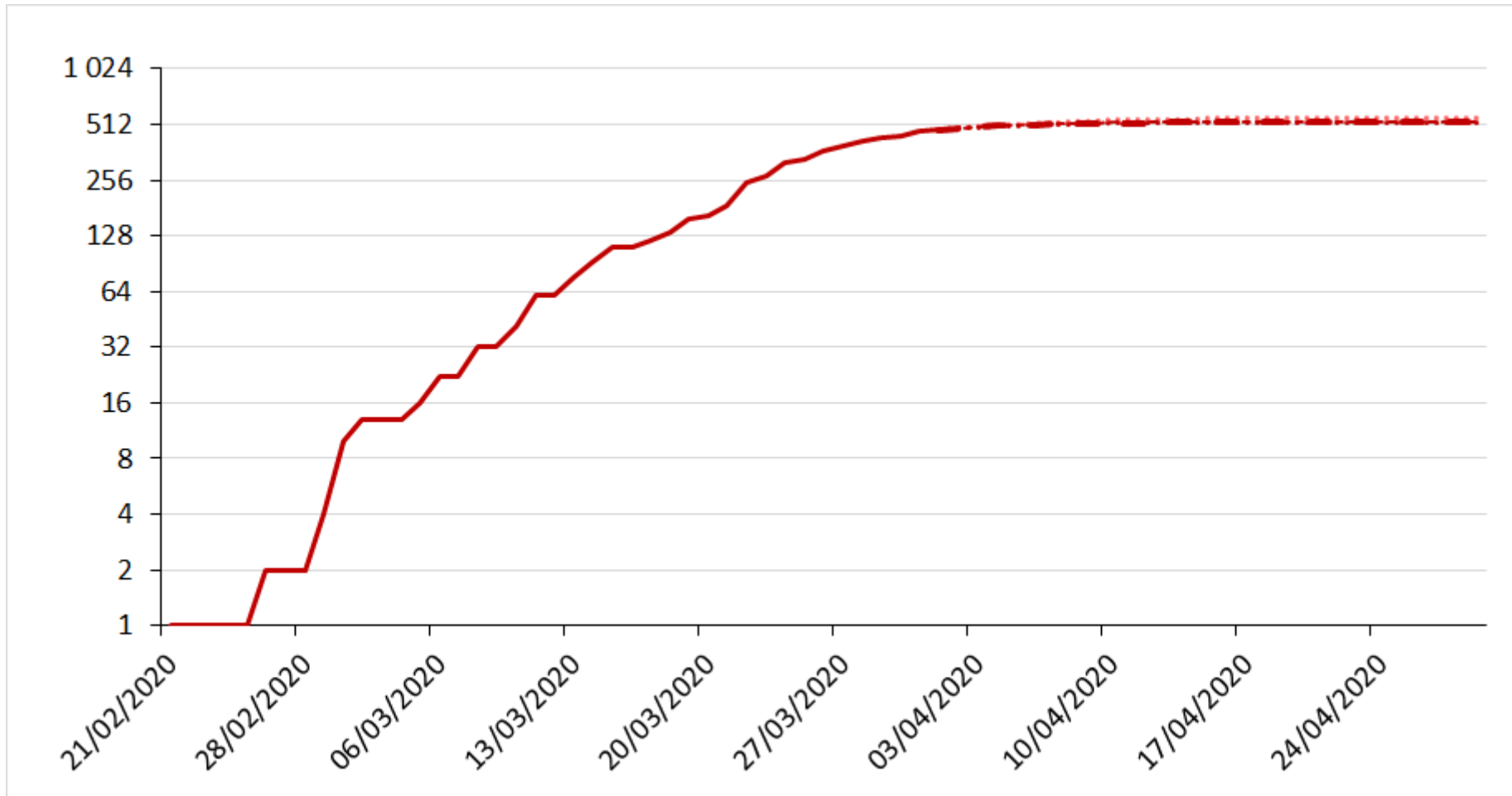
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Data: The Johns Hopkins University, Politolog.com

# Lebanon

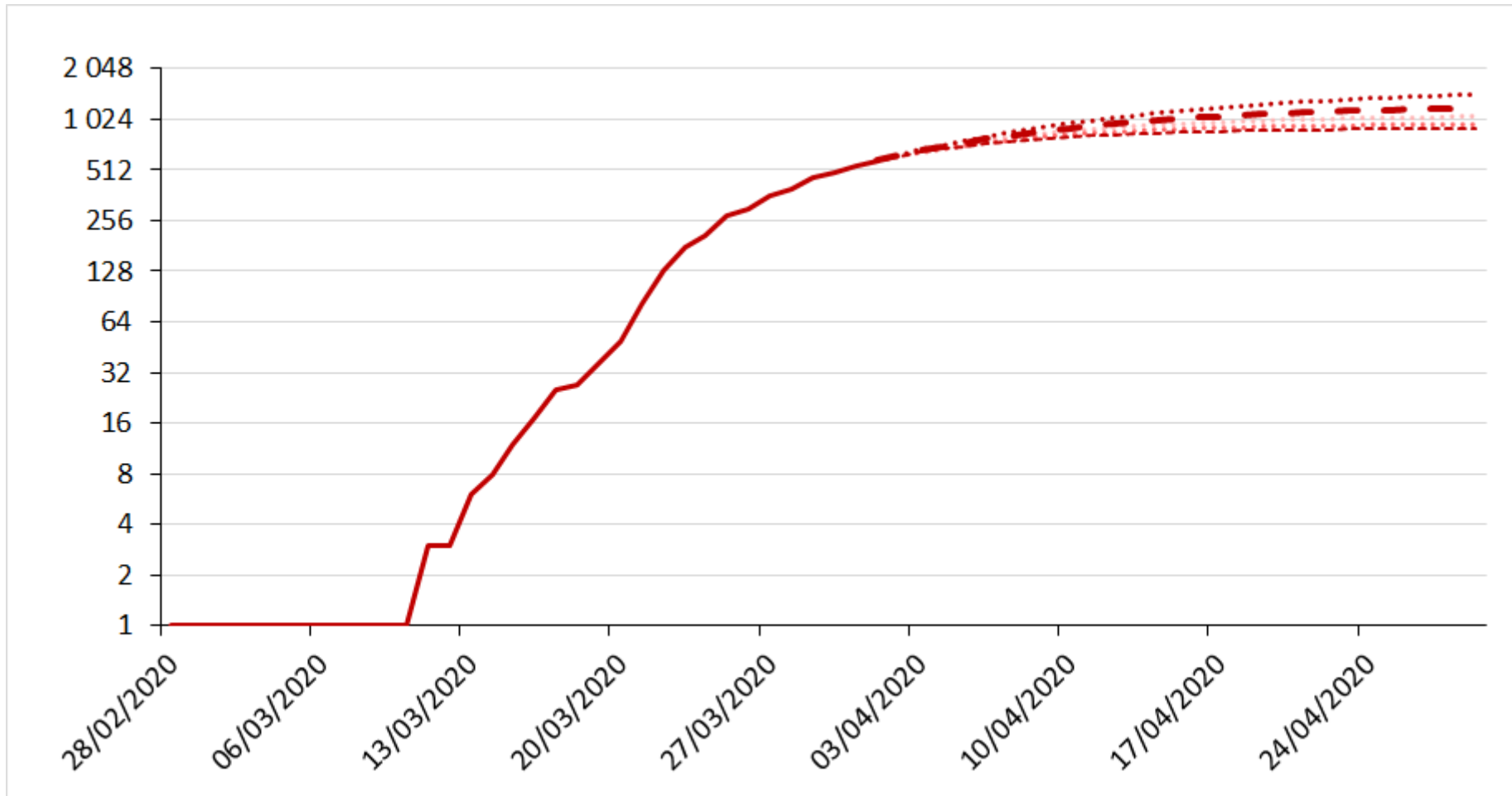
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Data: The Johns Hopkins University, Politolog.com

# Lithuania

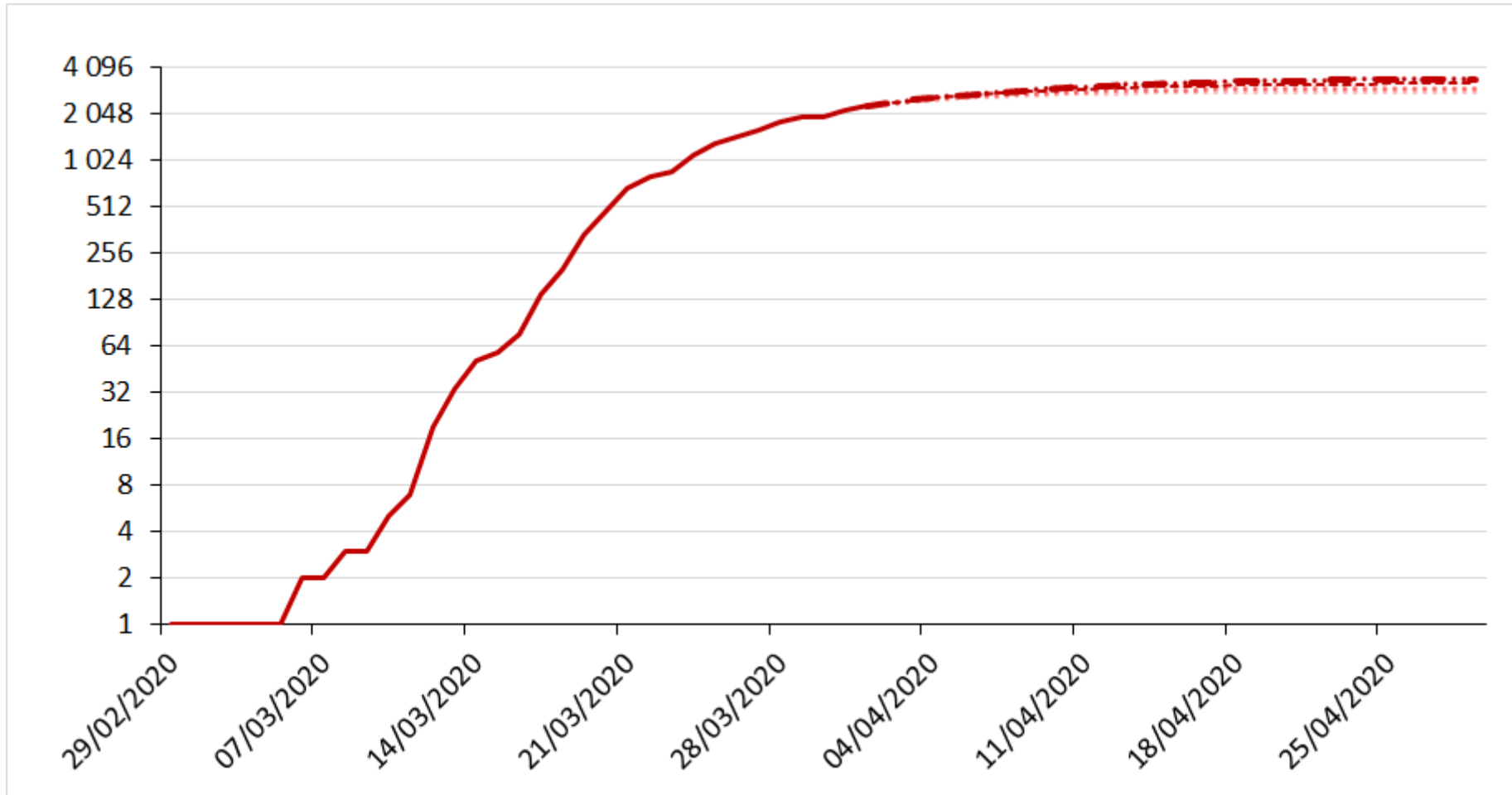
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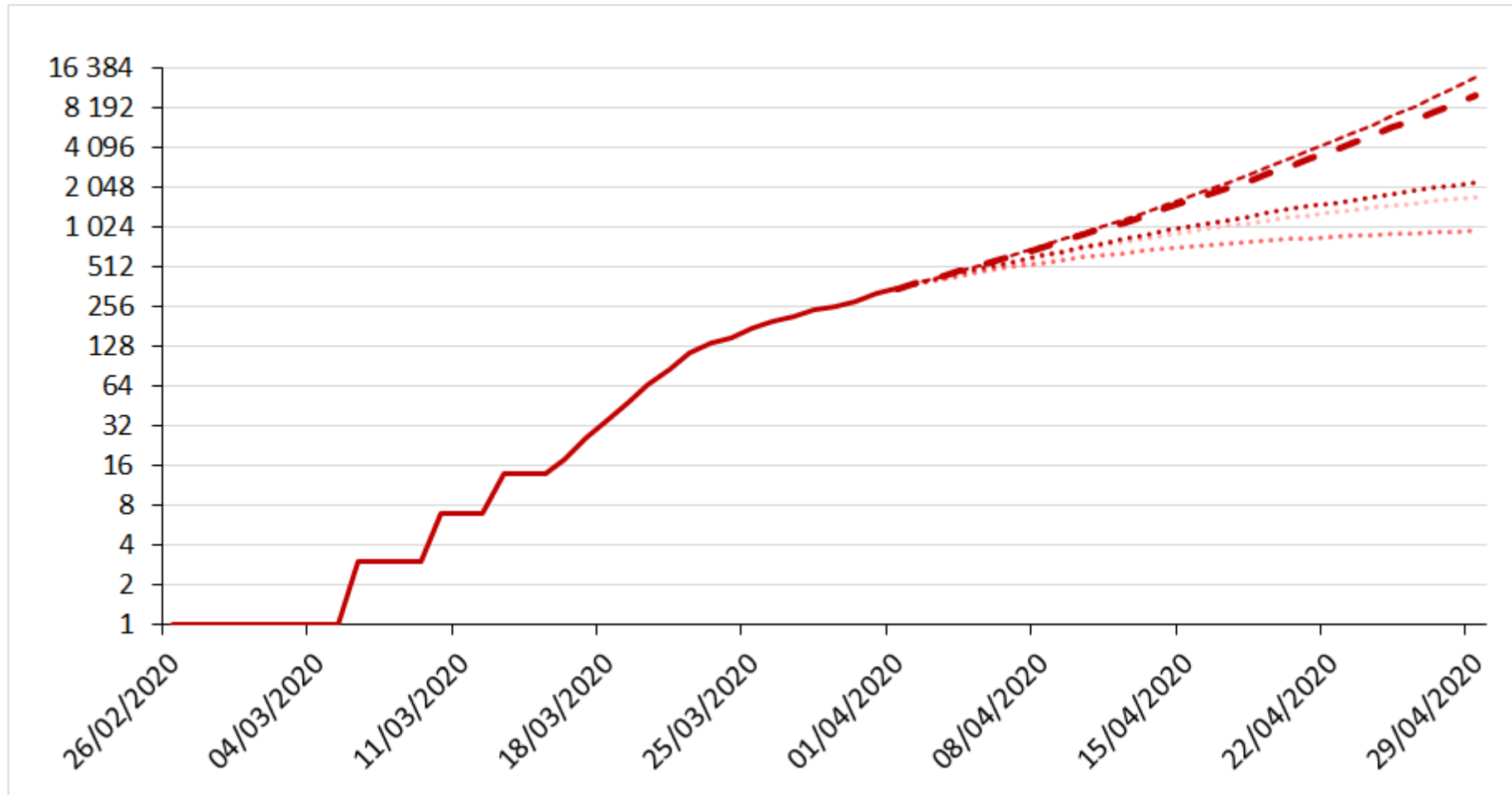
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Data: The Johns Hopkins University, Politolog.com

# Macedonia

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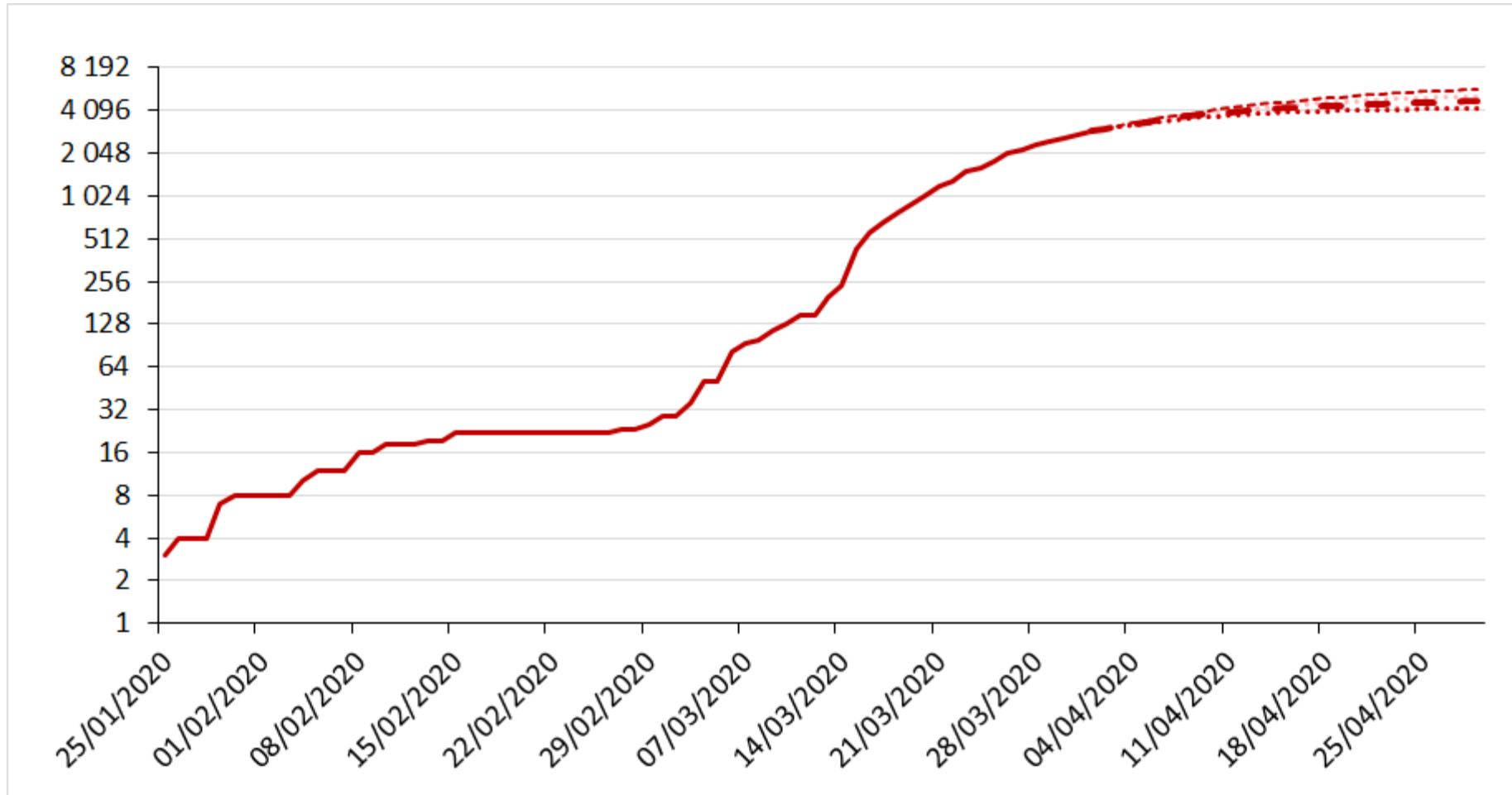


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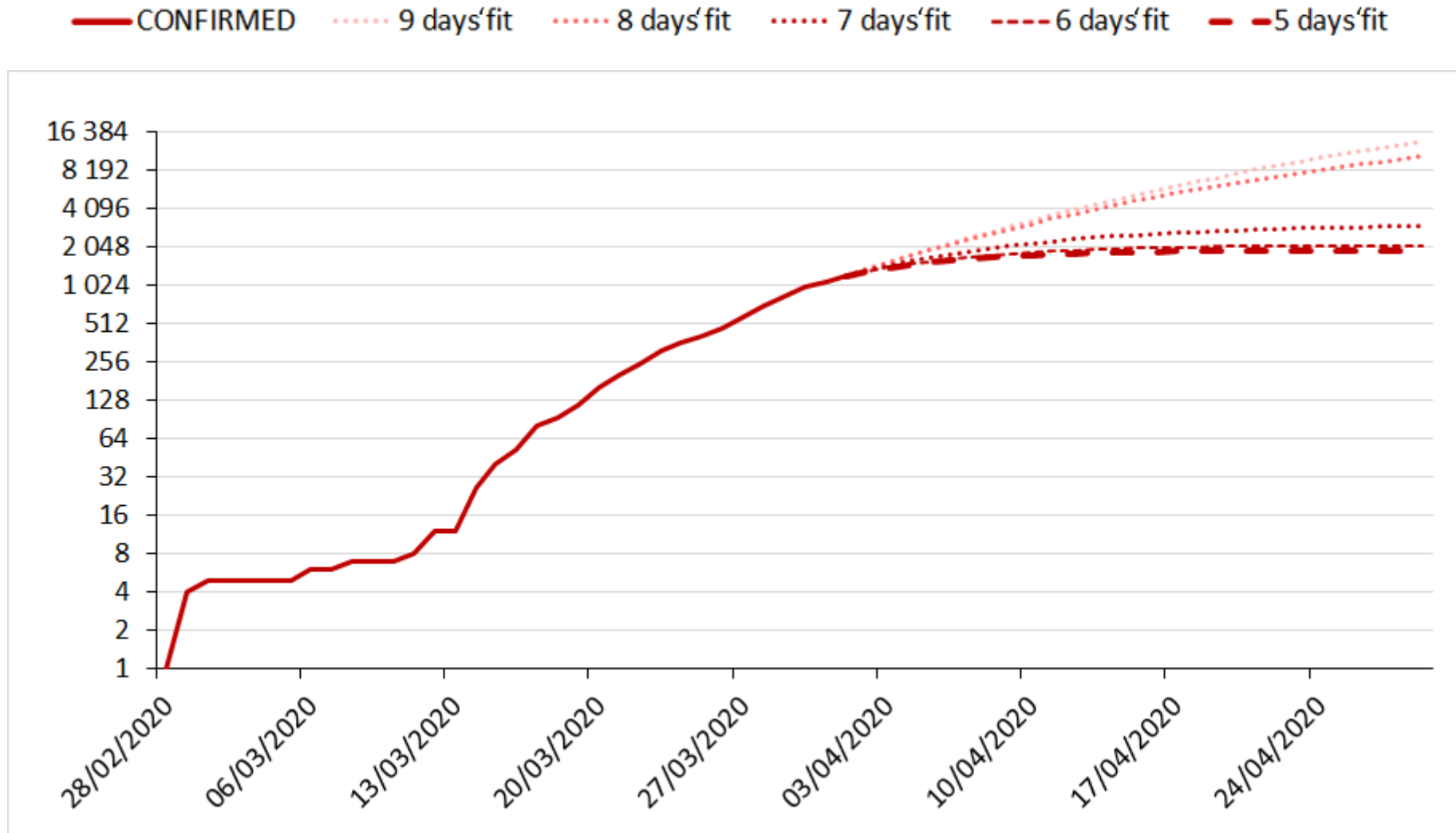
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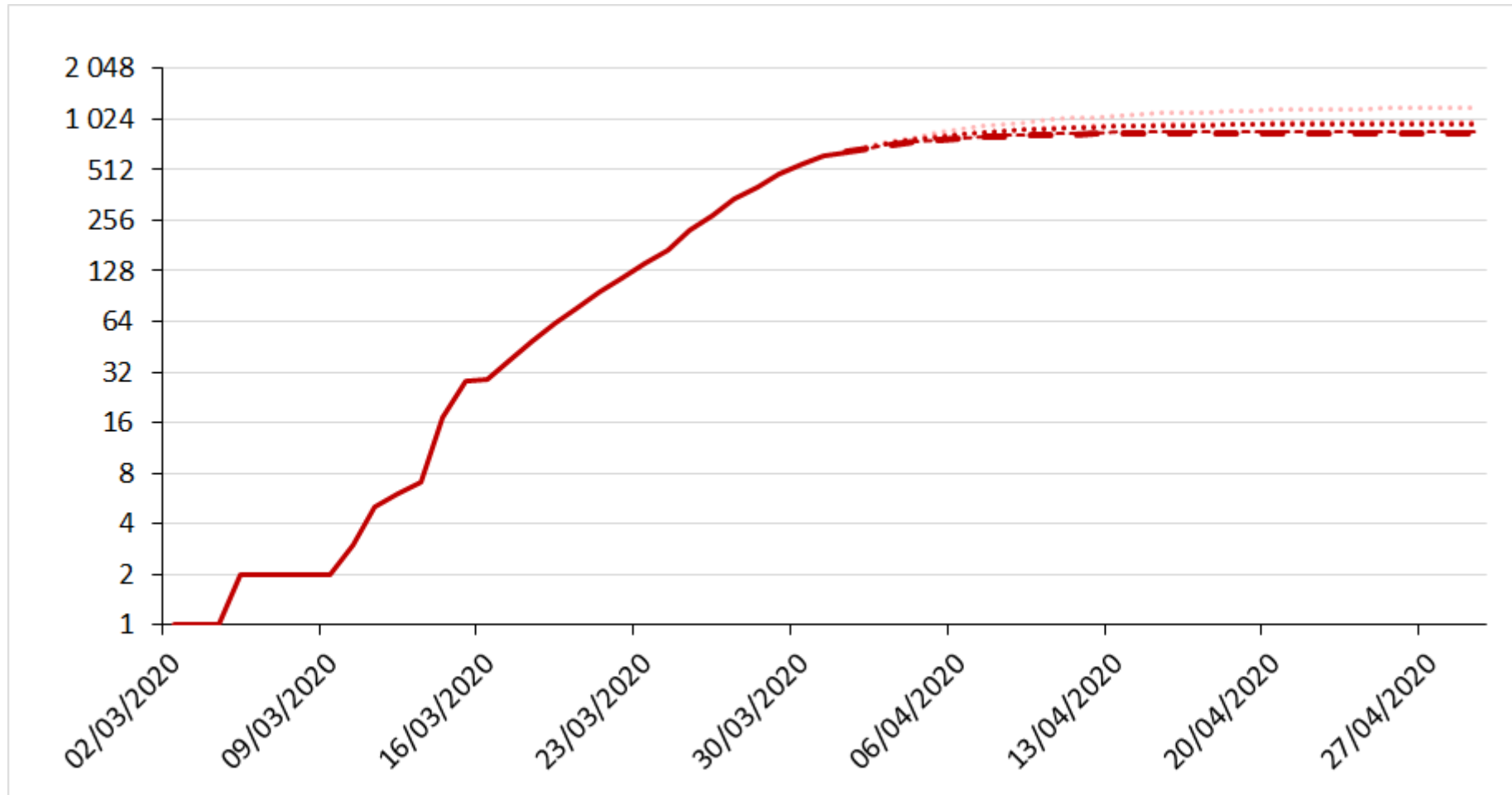
# Mexico



Data: The Johns Hopkins University, Politolog.com

# Morocco

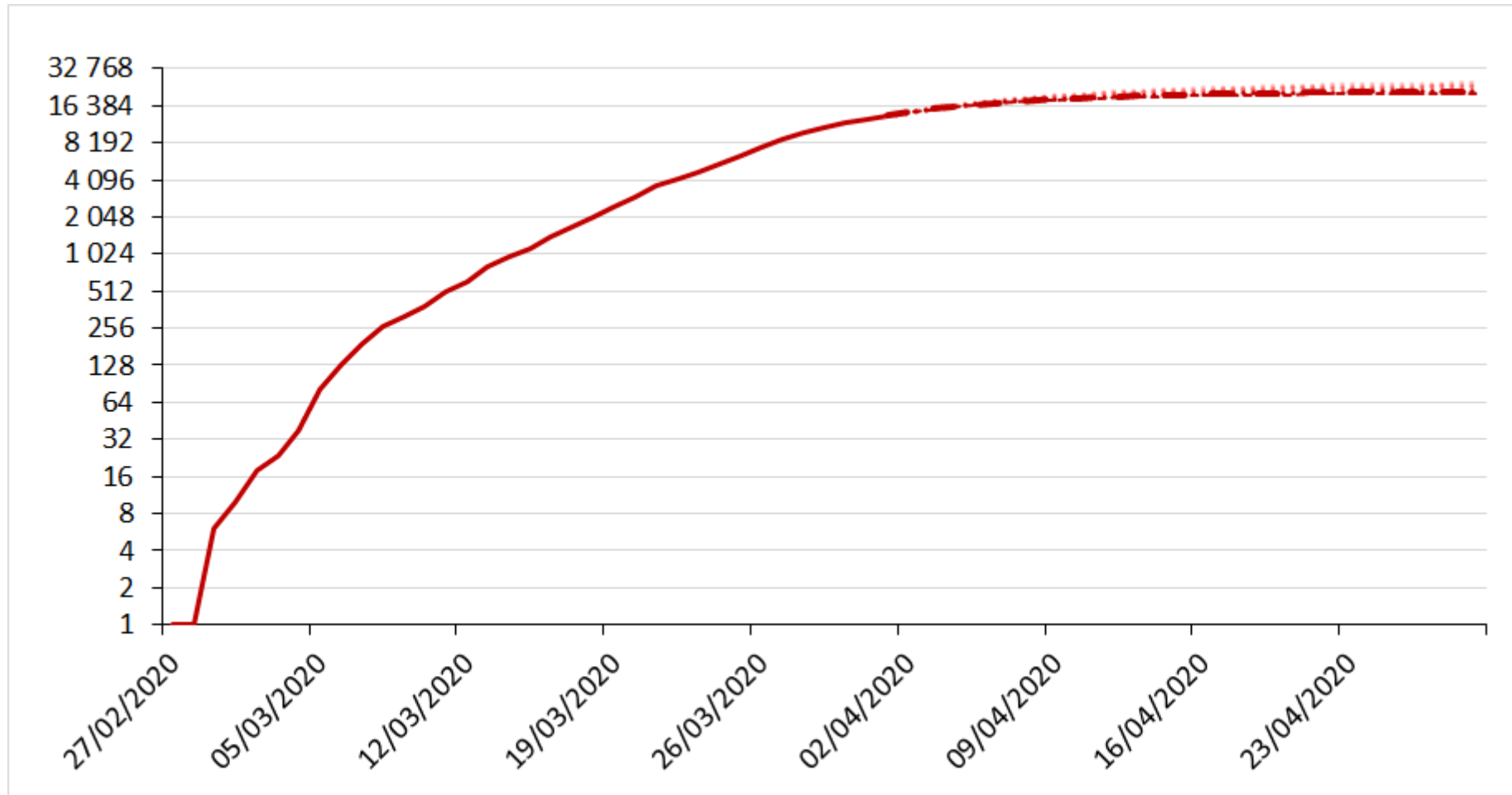
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Data: The Johns Hopkins University, Politolog.com

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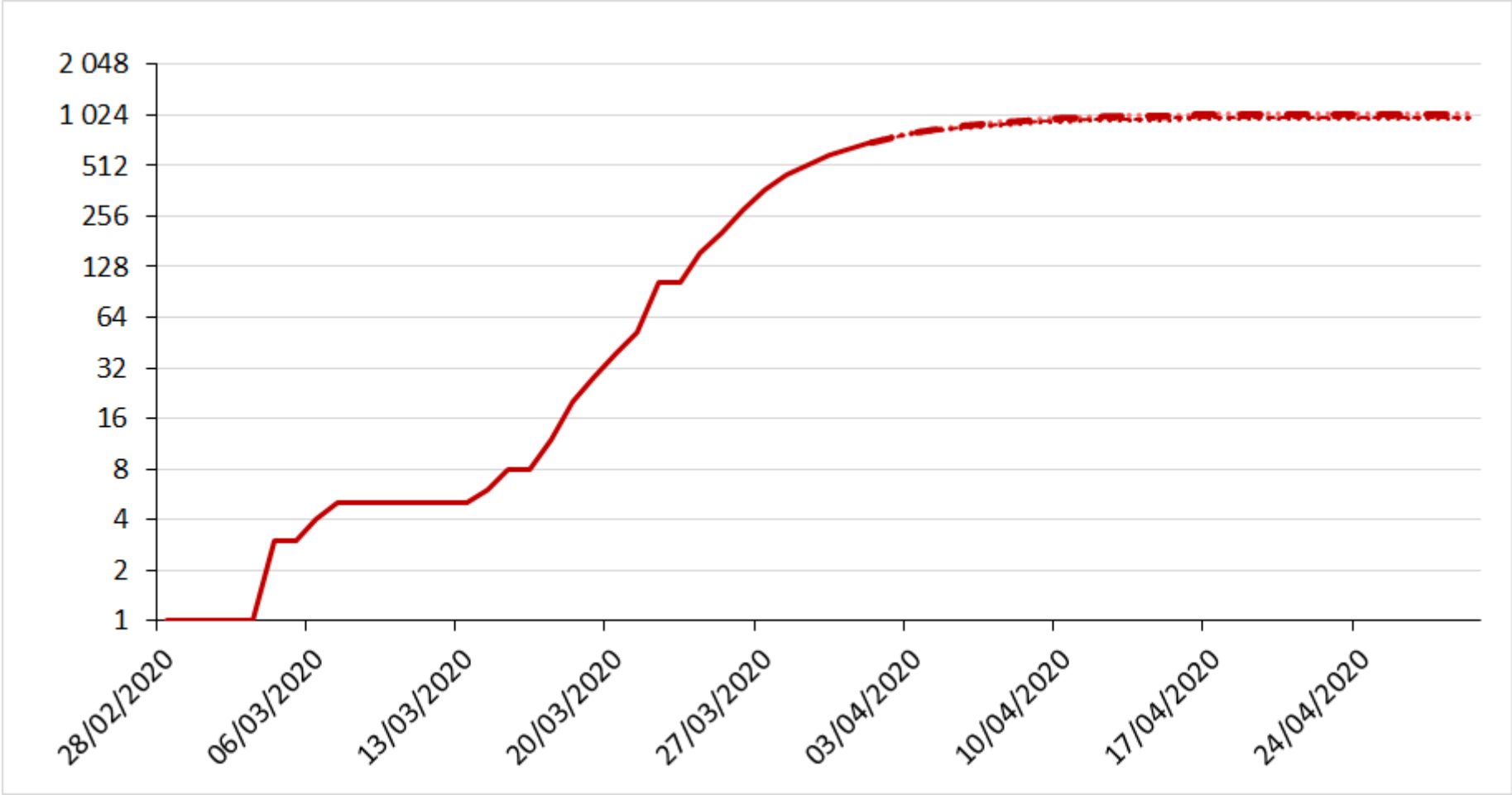
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Data: The Johns Hopkins University, Politolog.com

# New Zealand

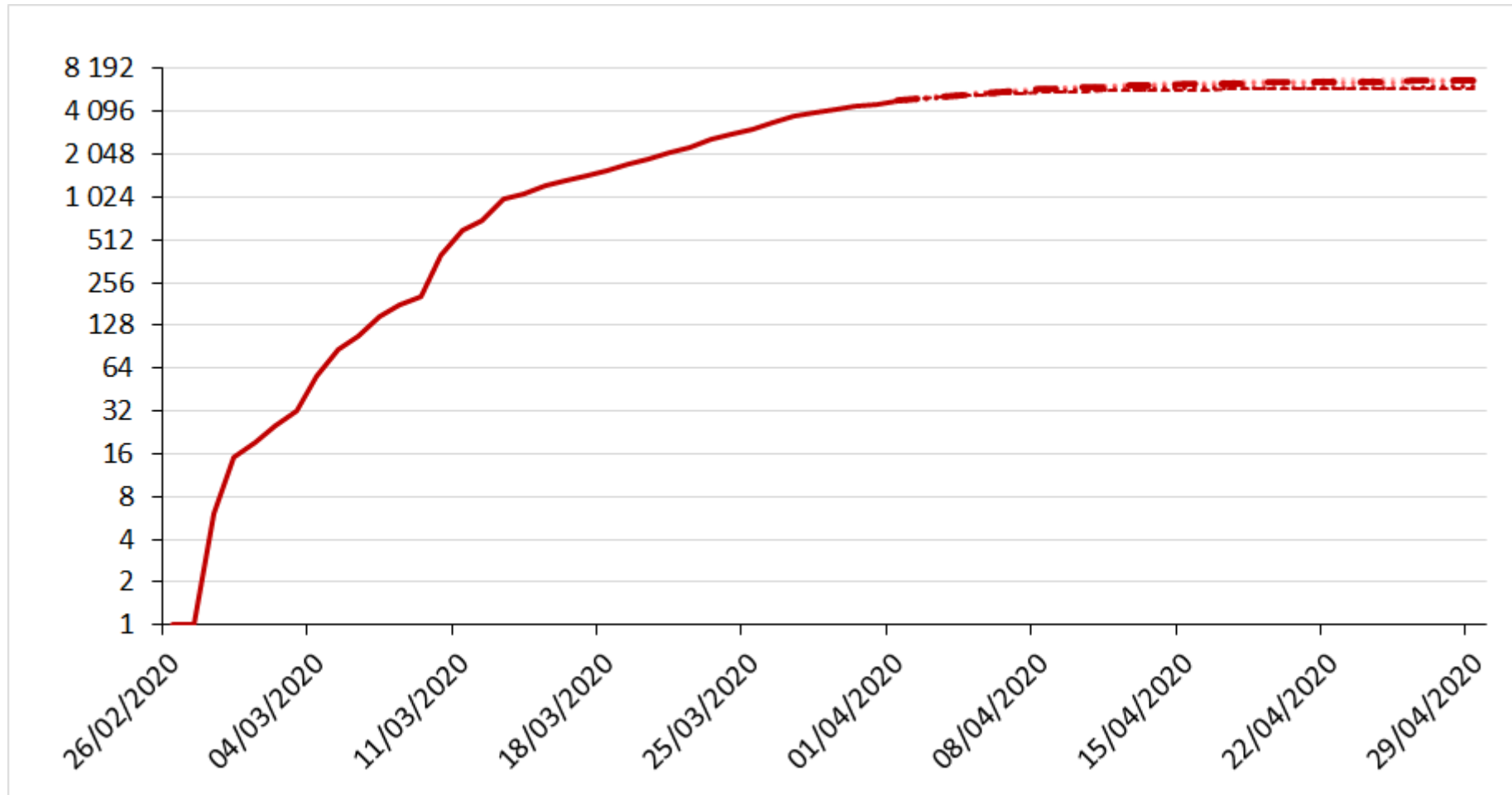
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Data: The Johns Hopkins University, Politolog.com

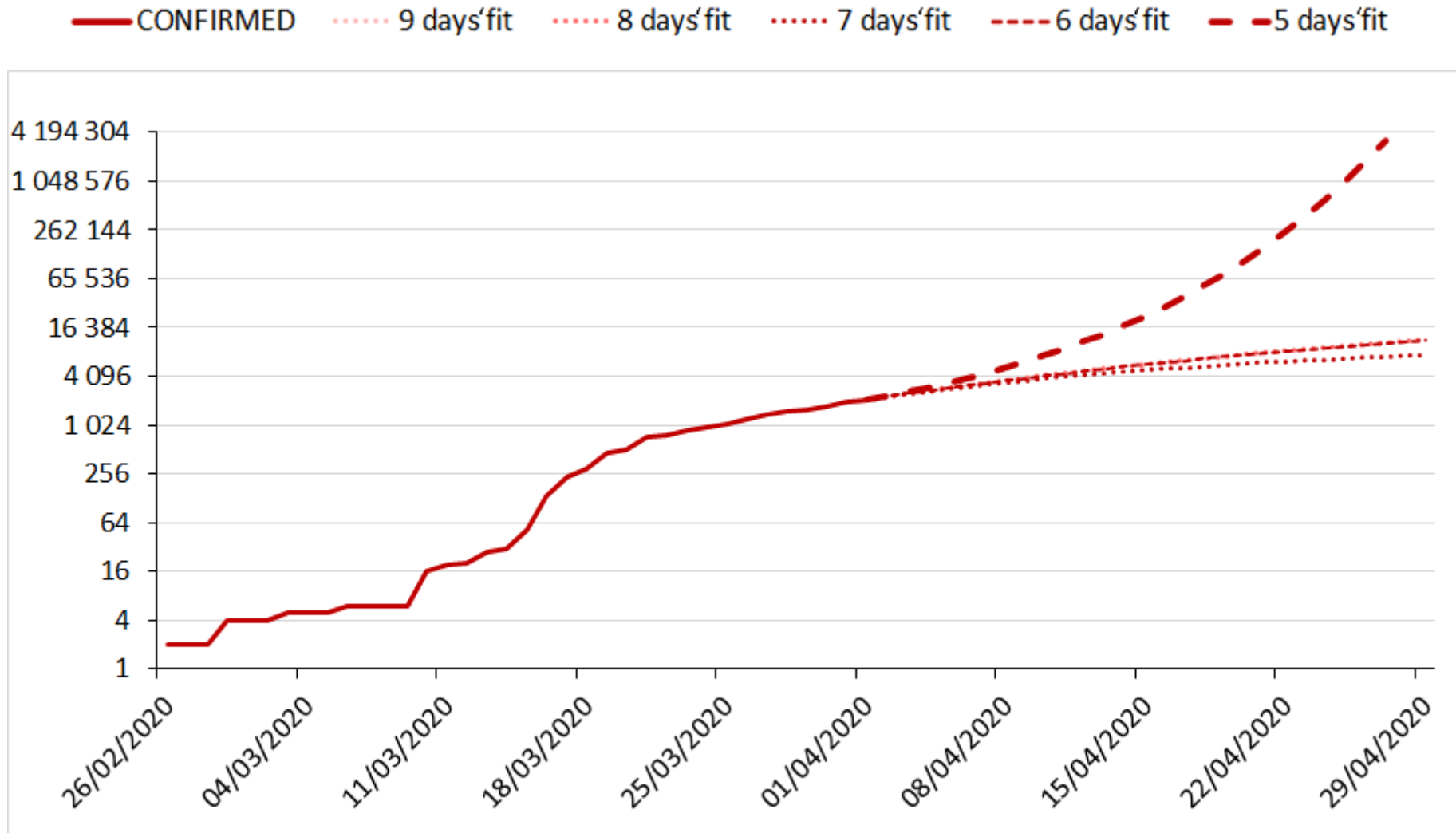
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CONFIRMED 9 days' fit 8 days' fit 7 days' fit 6 days' fit 5 days' fit



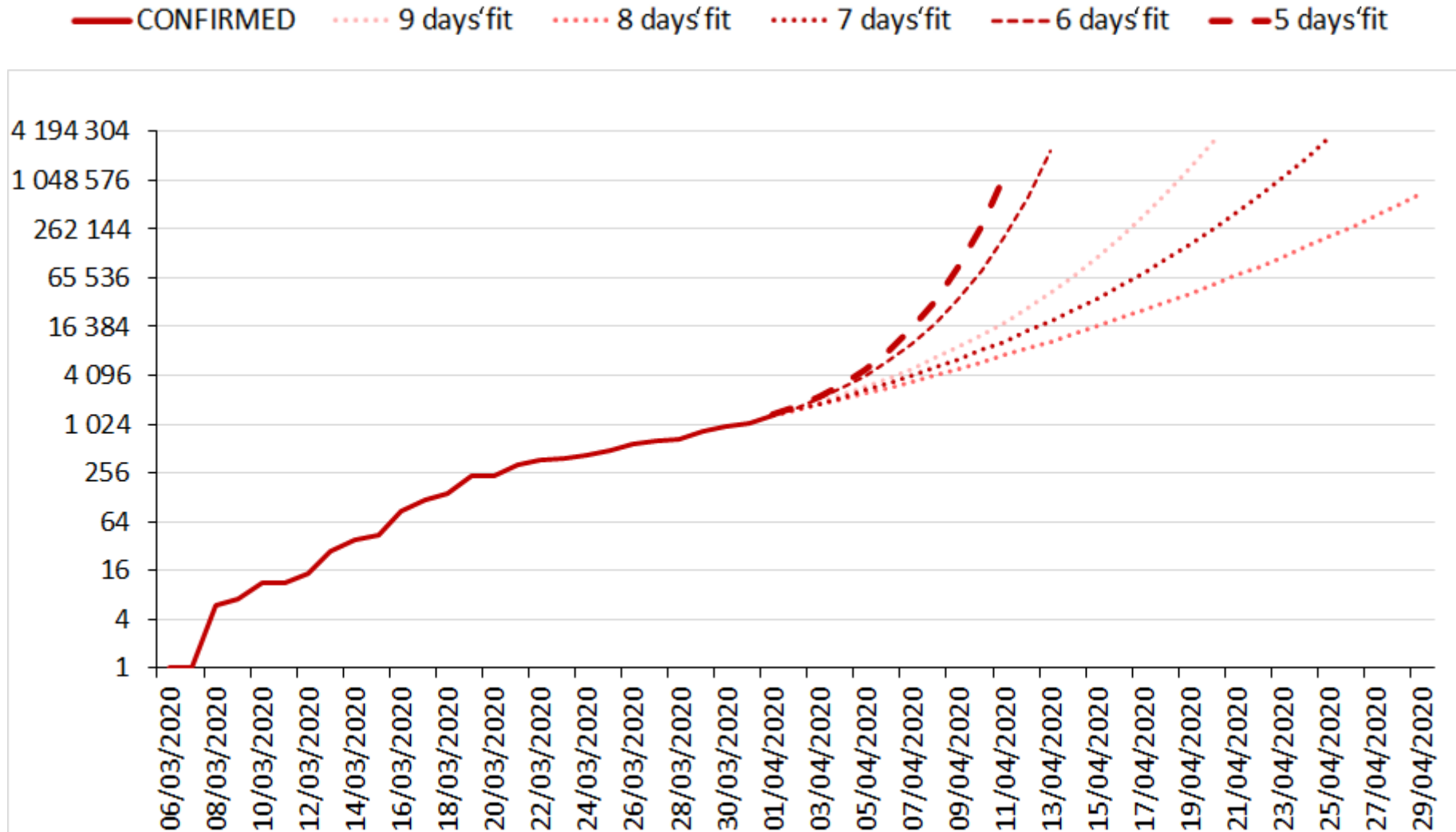
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# Pakistan



Data: The Johns Hopkins University, Politolog.com

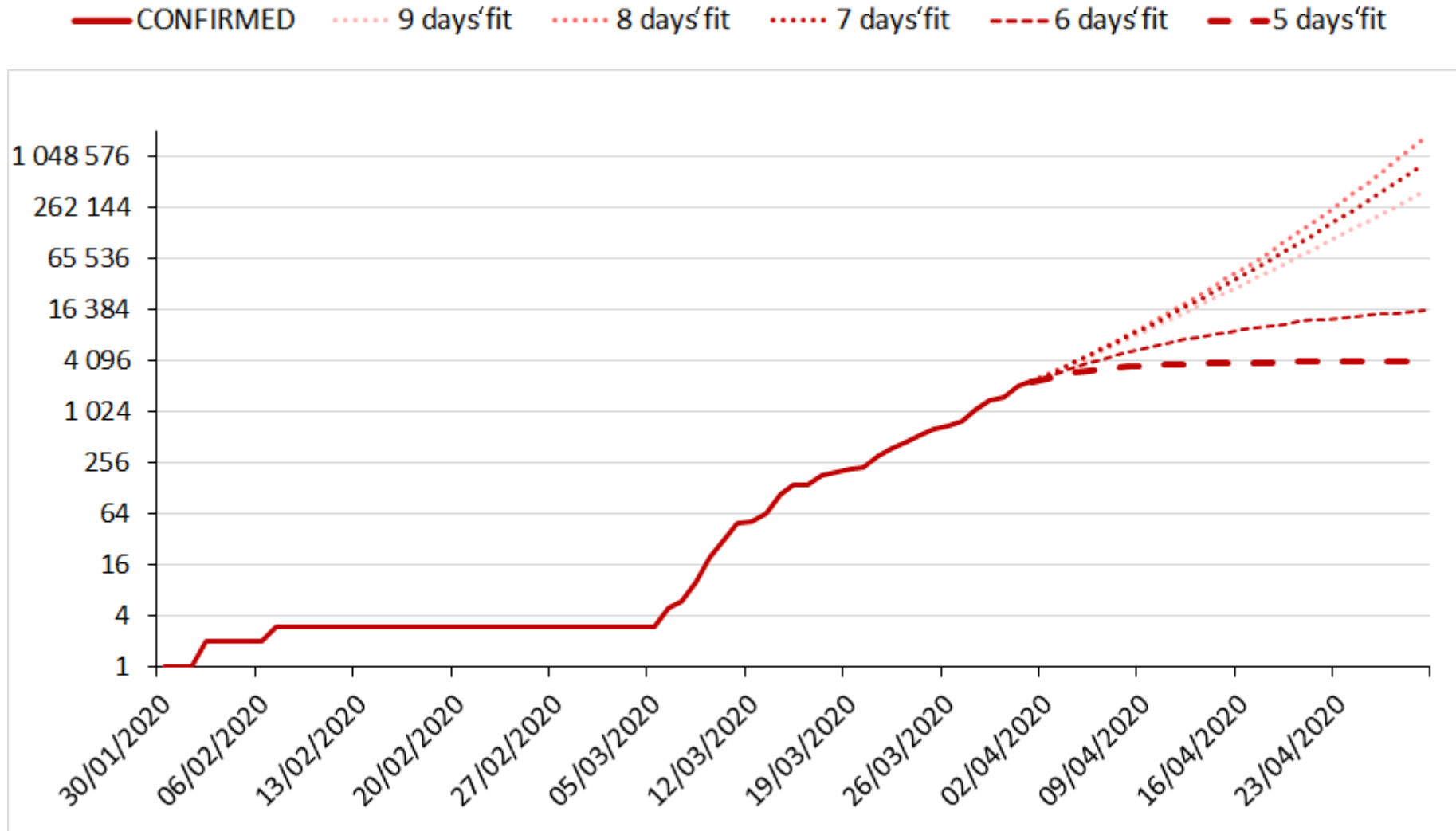
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Data: The Johns Hopkins University, Politolog.com

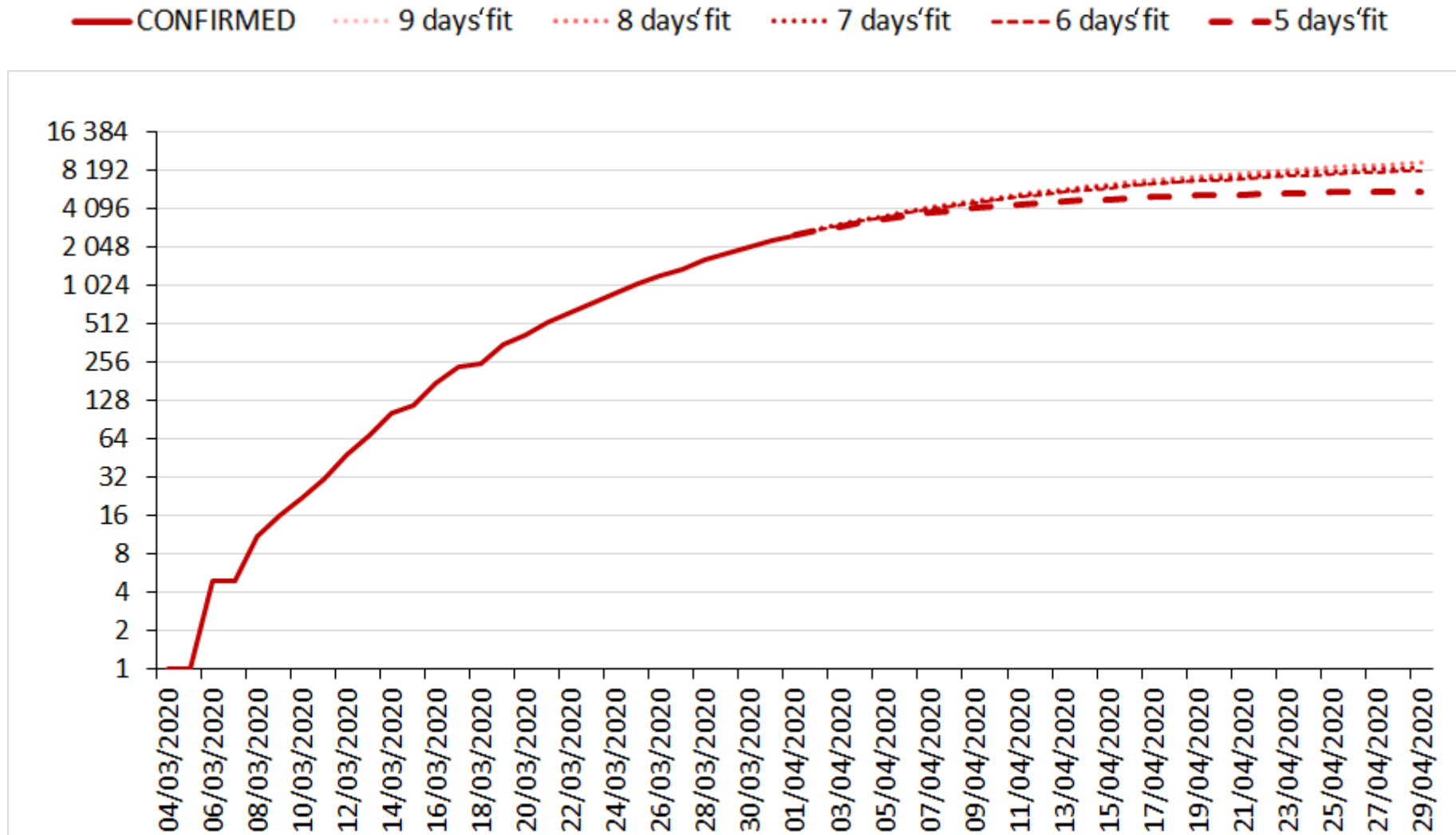


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Data: The Johns Hopkins University, Politolog.com

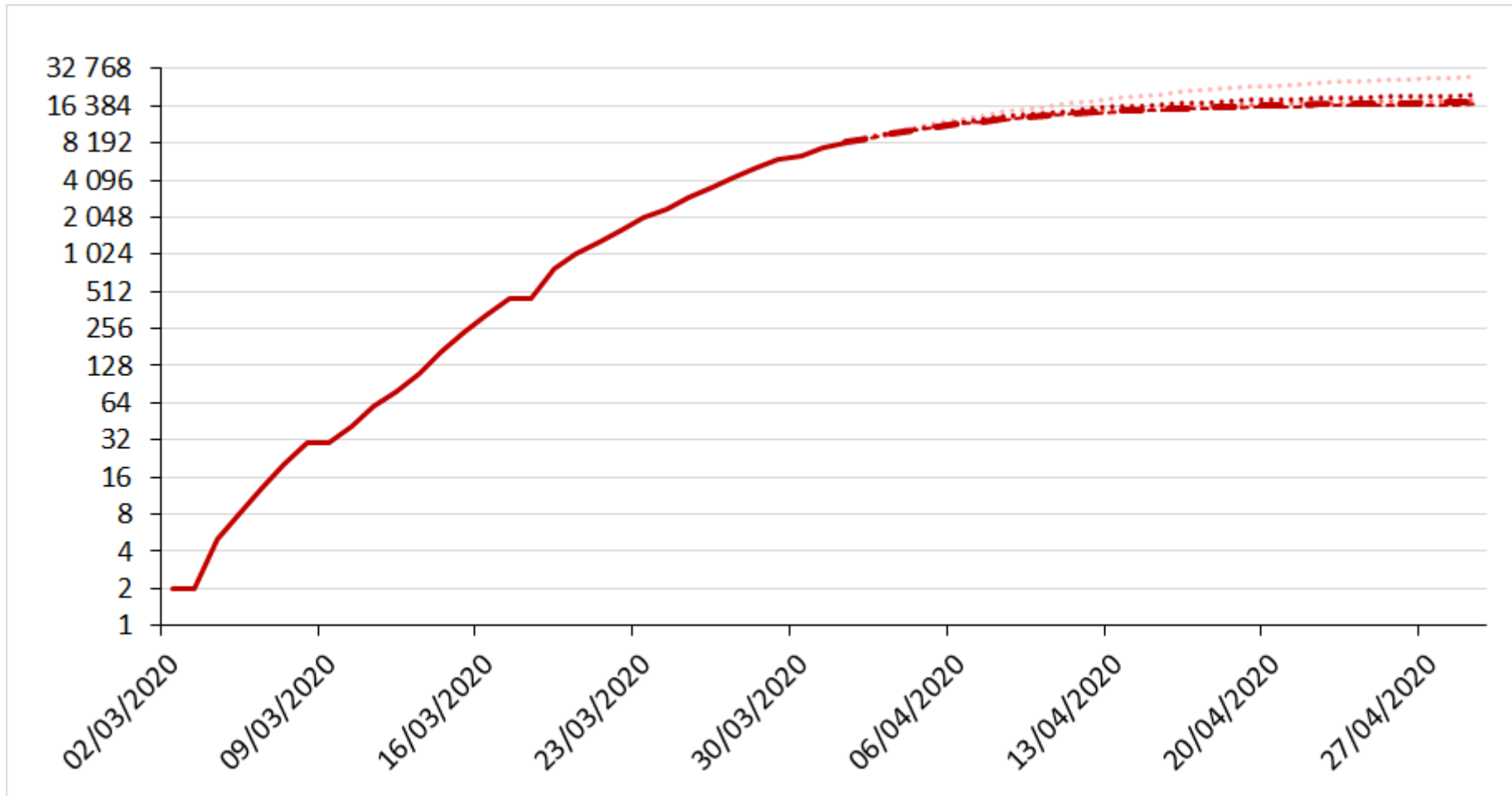
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Data: The Johns Hopkins University, Politolog.com

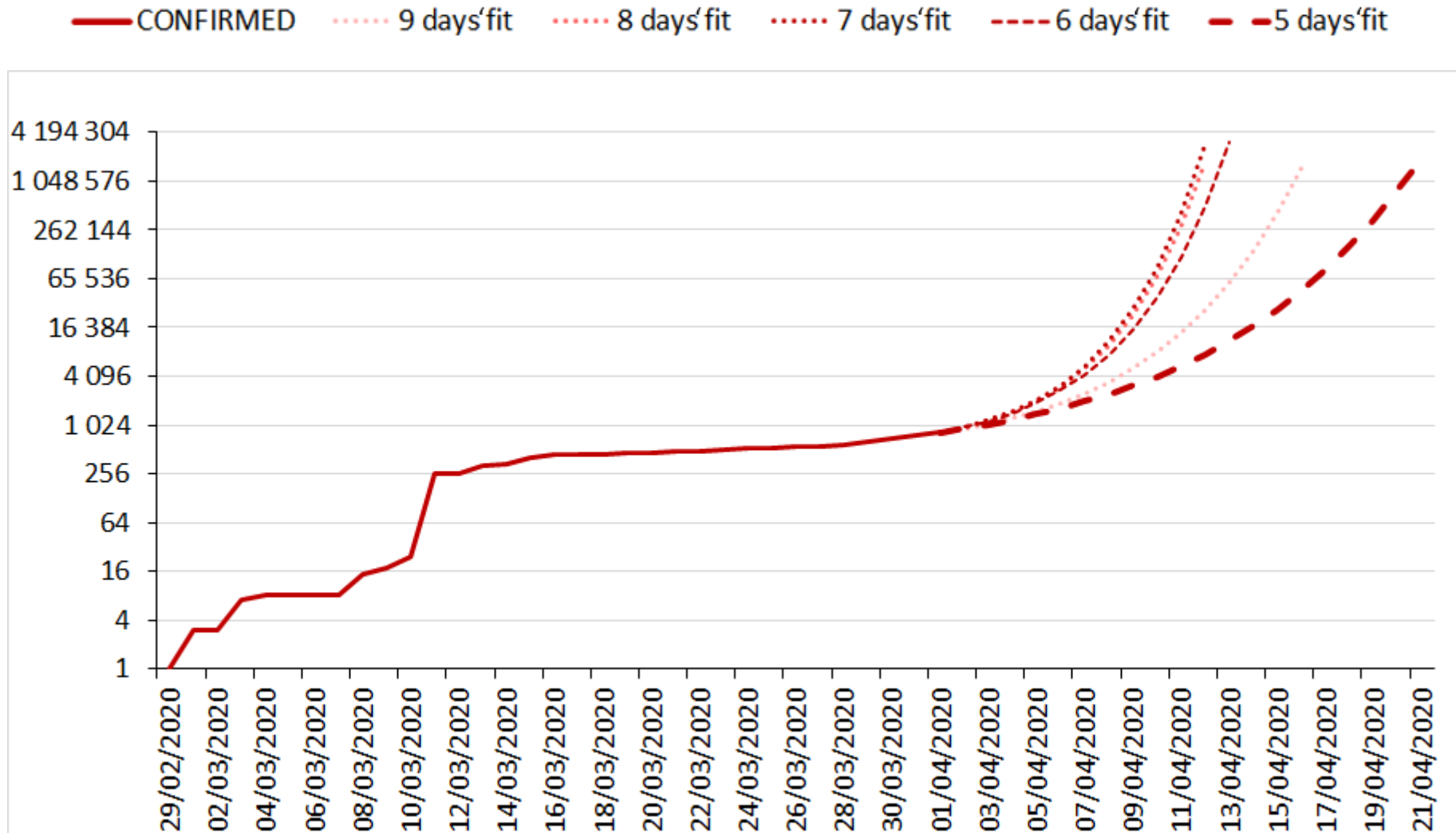
# Portugal

— CONFIRMED    ..... 9 days'fit    ..... 8 days'fit    ..... 7 days'fit    - - - 6 days'fit    - - - 5 days'fit



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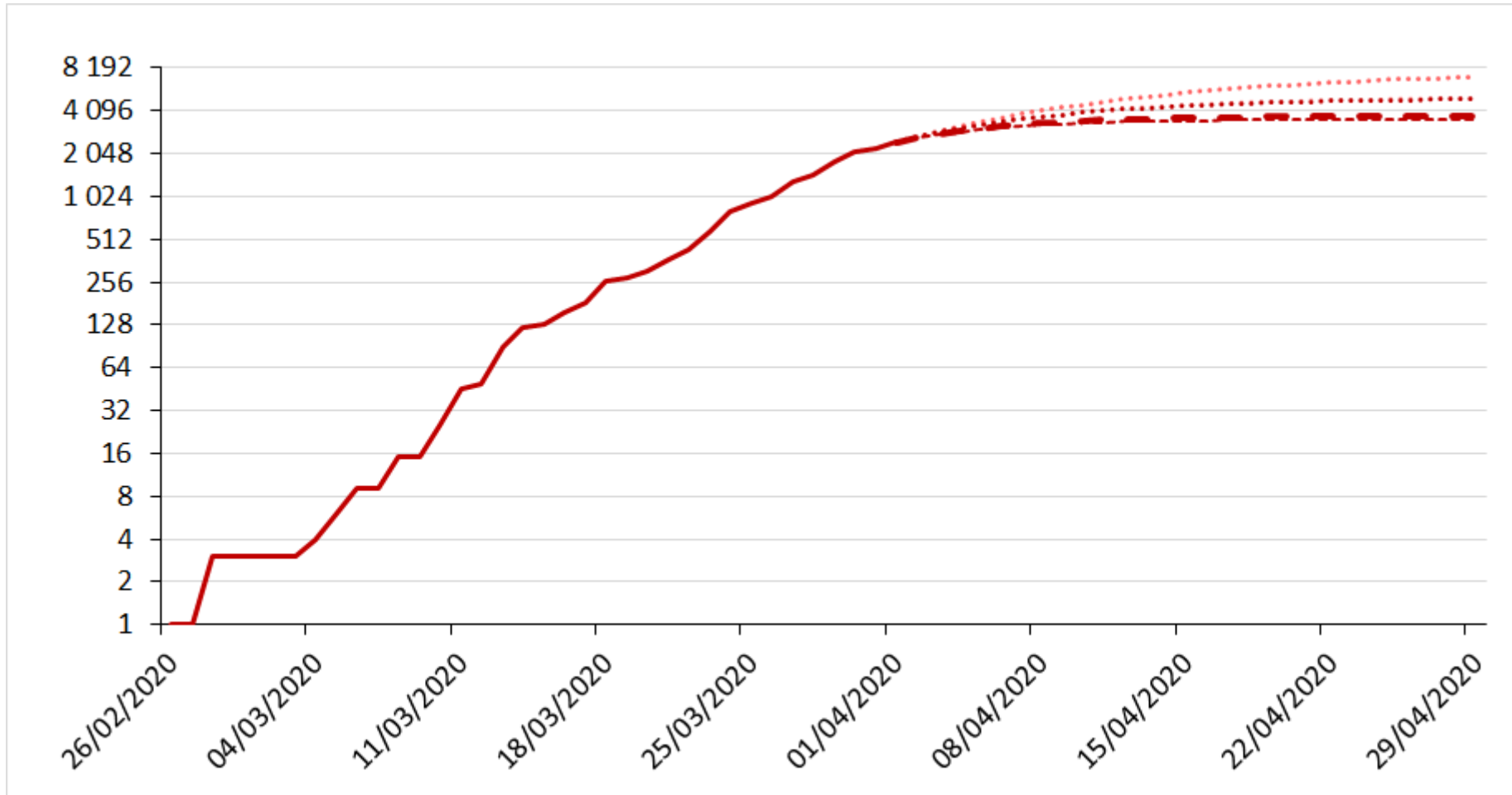
# Qatar



Data: The Johns Hopkins University, Politolog.com

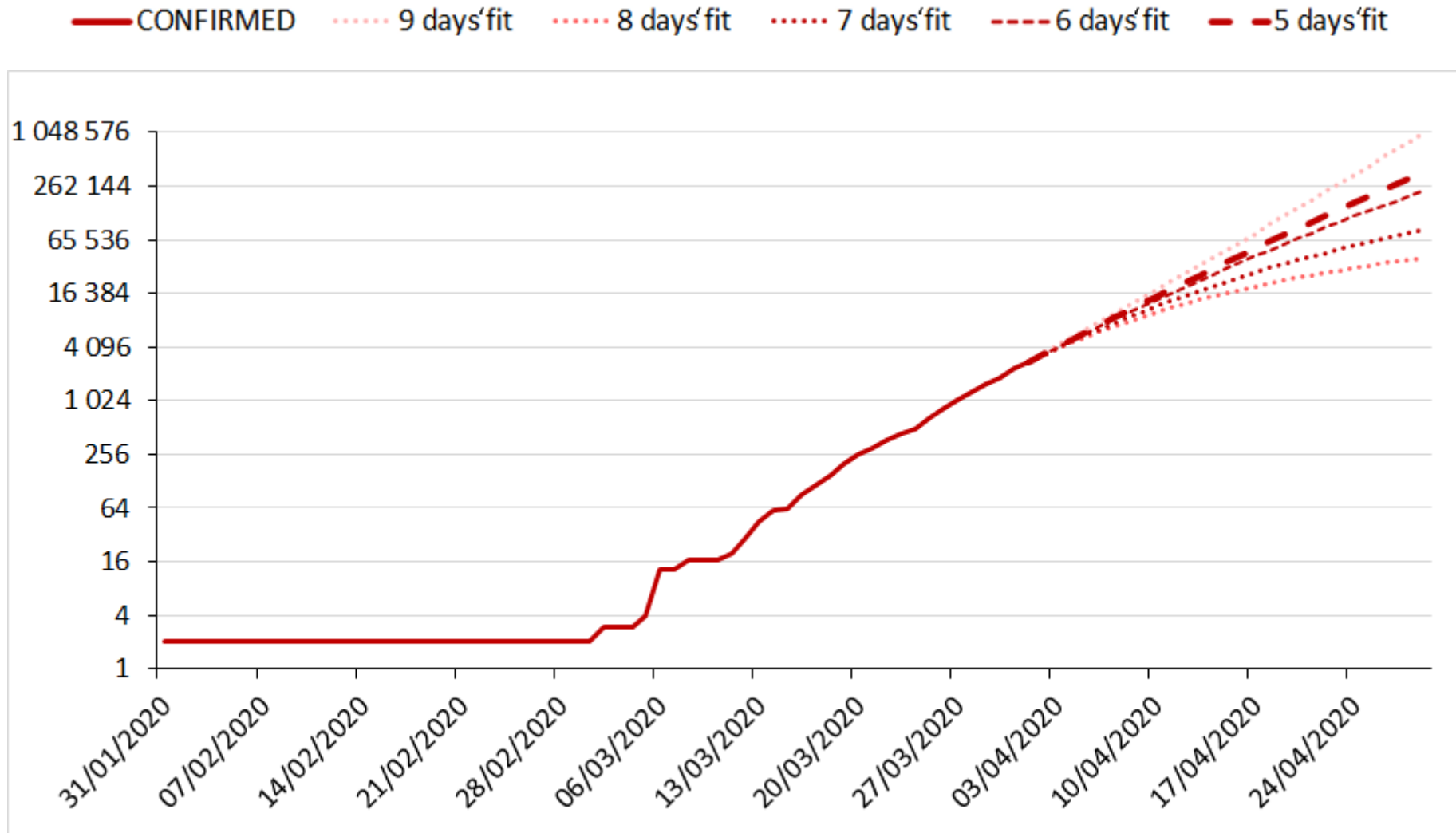
# Romania

CONFIRMED 9 days' fit 8 days' fit 7 days' fit 6 days' fit 5 days' fit



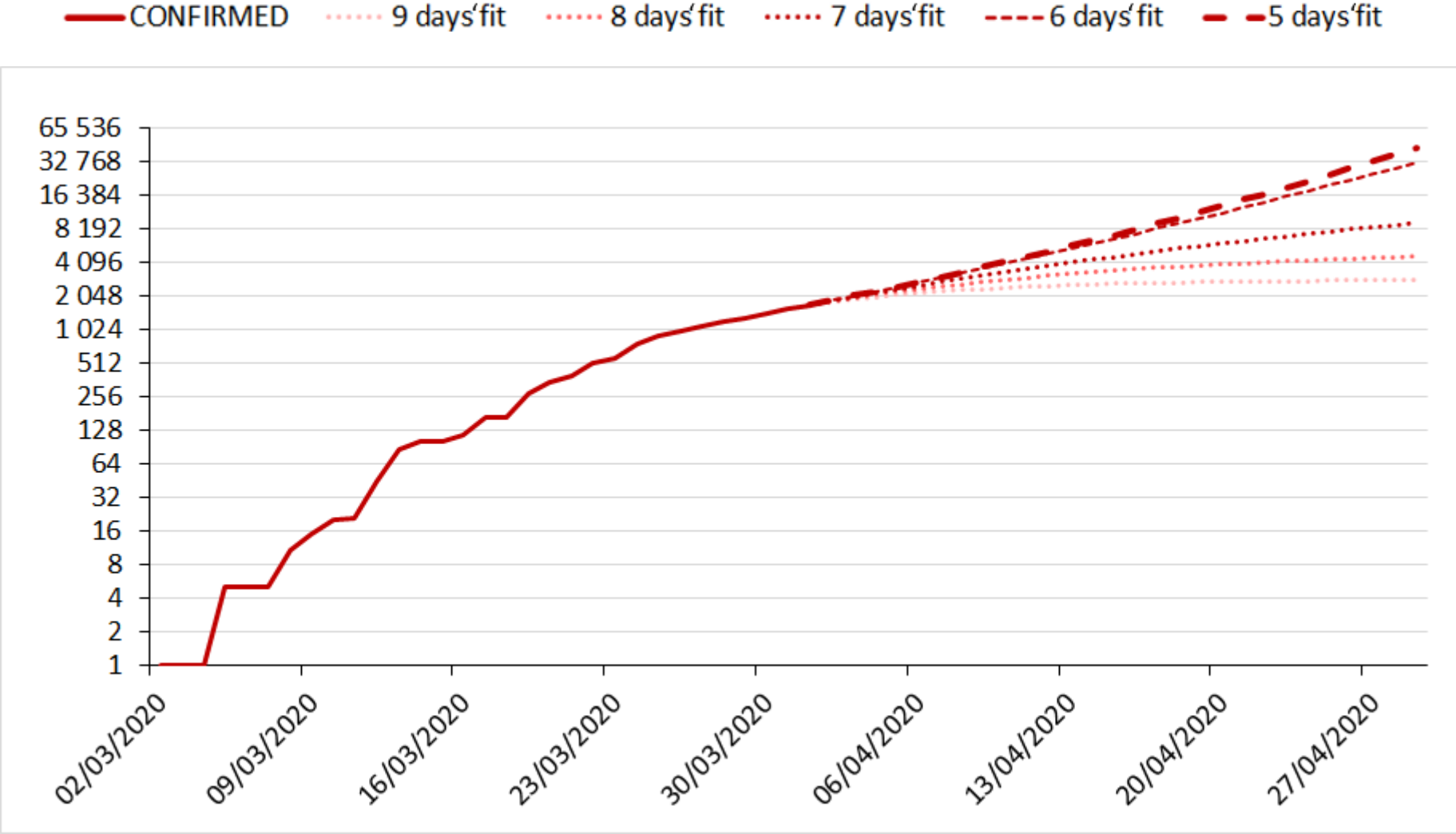
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# Russia



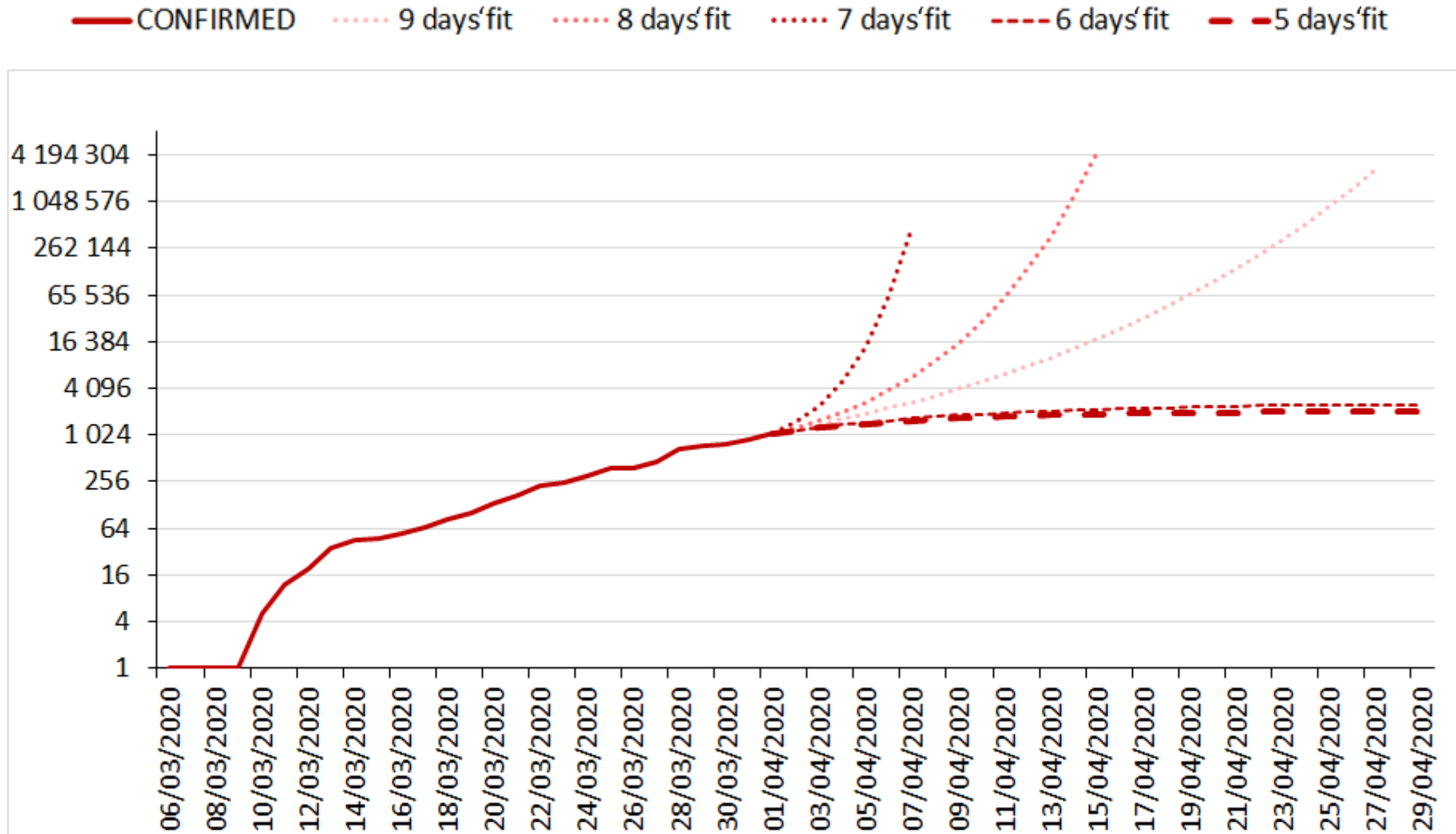
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# Saudi Arabia



Data: The Johns Hopkins University, Politolog.com

# Serbia

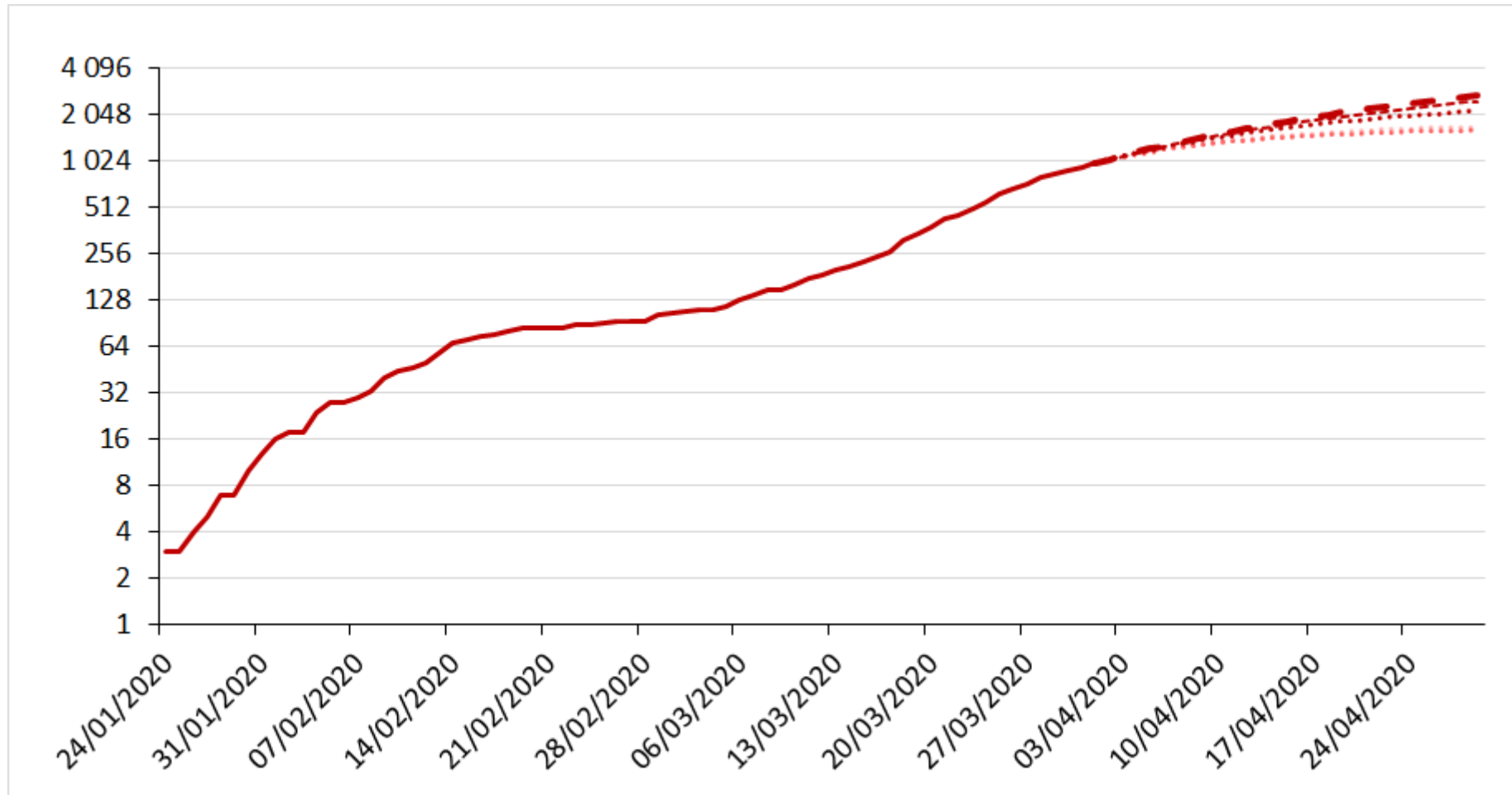


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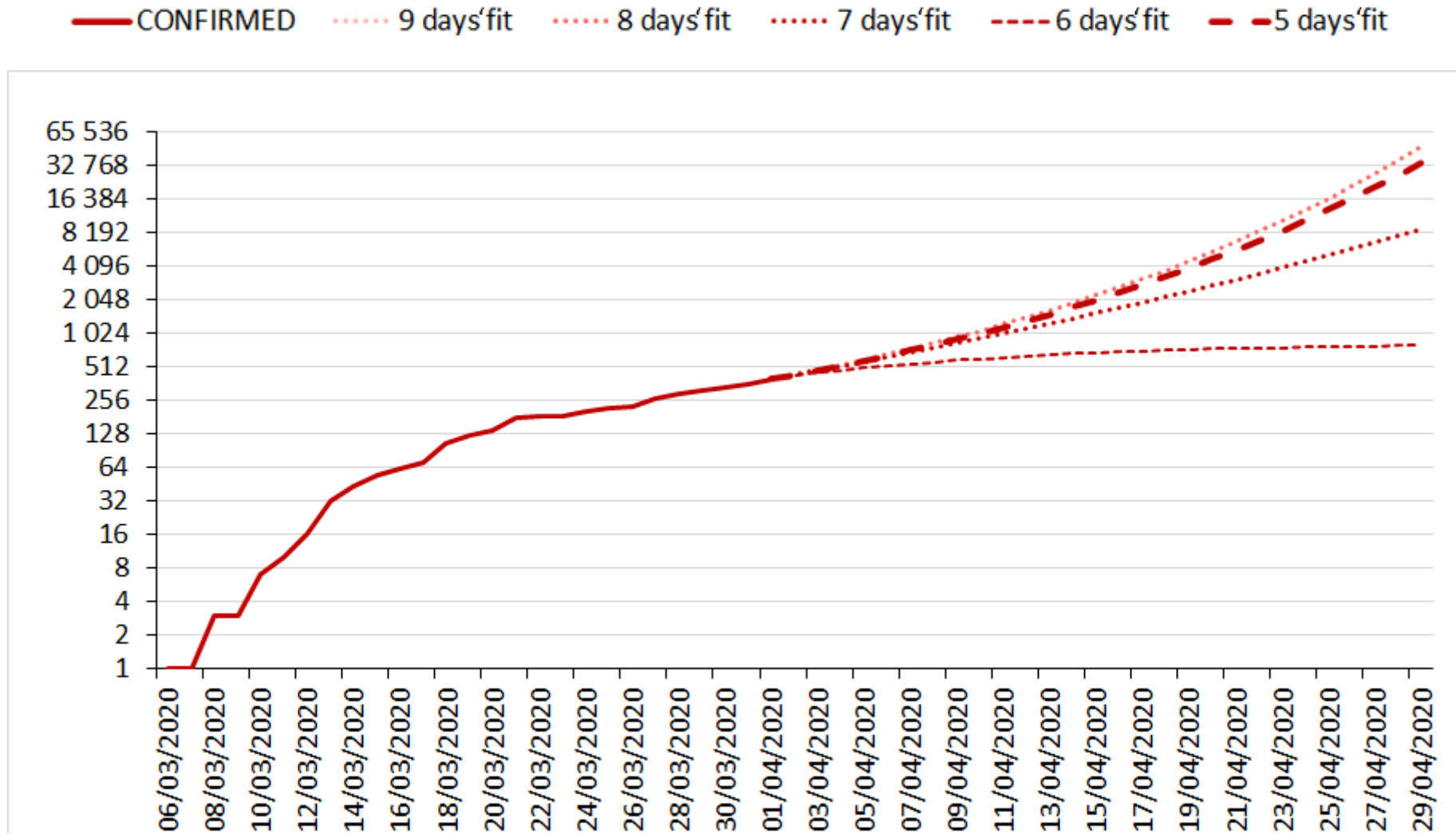
# Singapore

— CONFIRMED    ..... 9 days' fit    ..... 8 days' fit    ..... 7 days' fit    - - - 6 days' fit    - - - 5 days' fit



Data: The Johns Hopkins University, Politolog.com

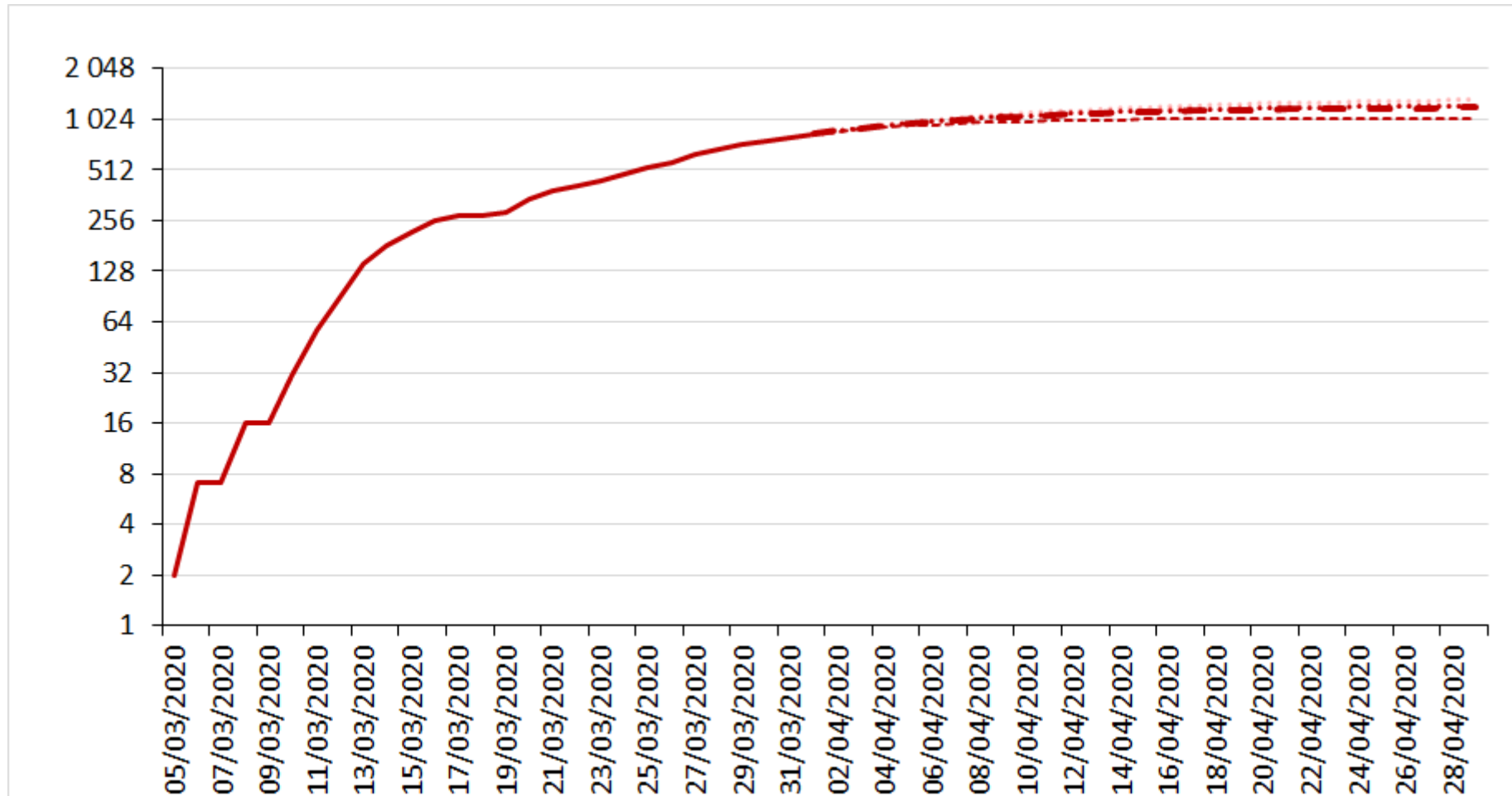
# Slovakia



Data: The Johns Hopkins University, Politolog.com

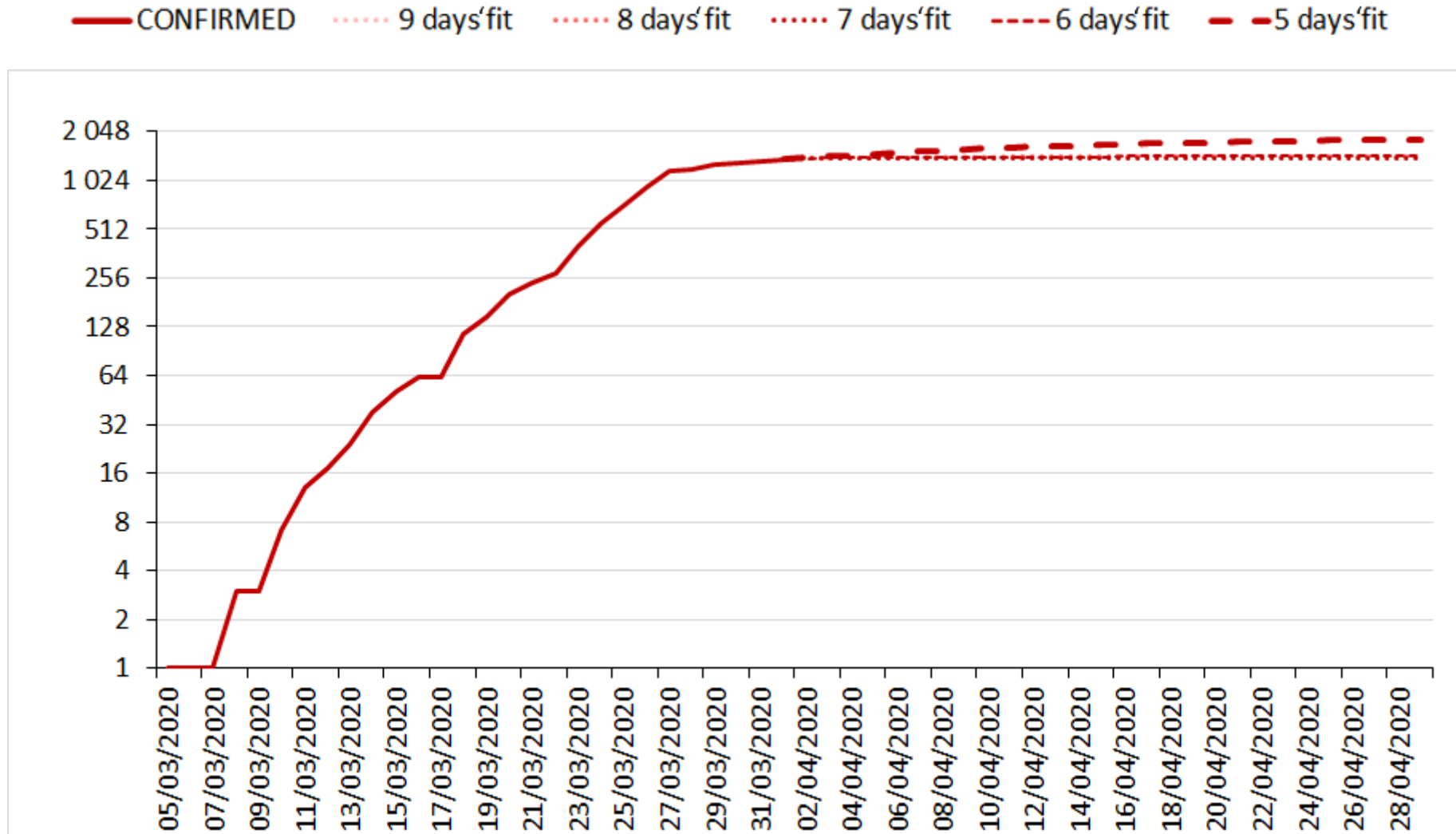
# Slovenia

CONFIRMED 9 days'fit 8 days'fit 7 days'fit 6 days'fit 5 days'fit



Data: The Johns Hopkins University, Politolog.com

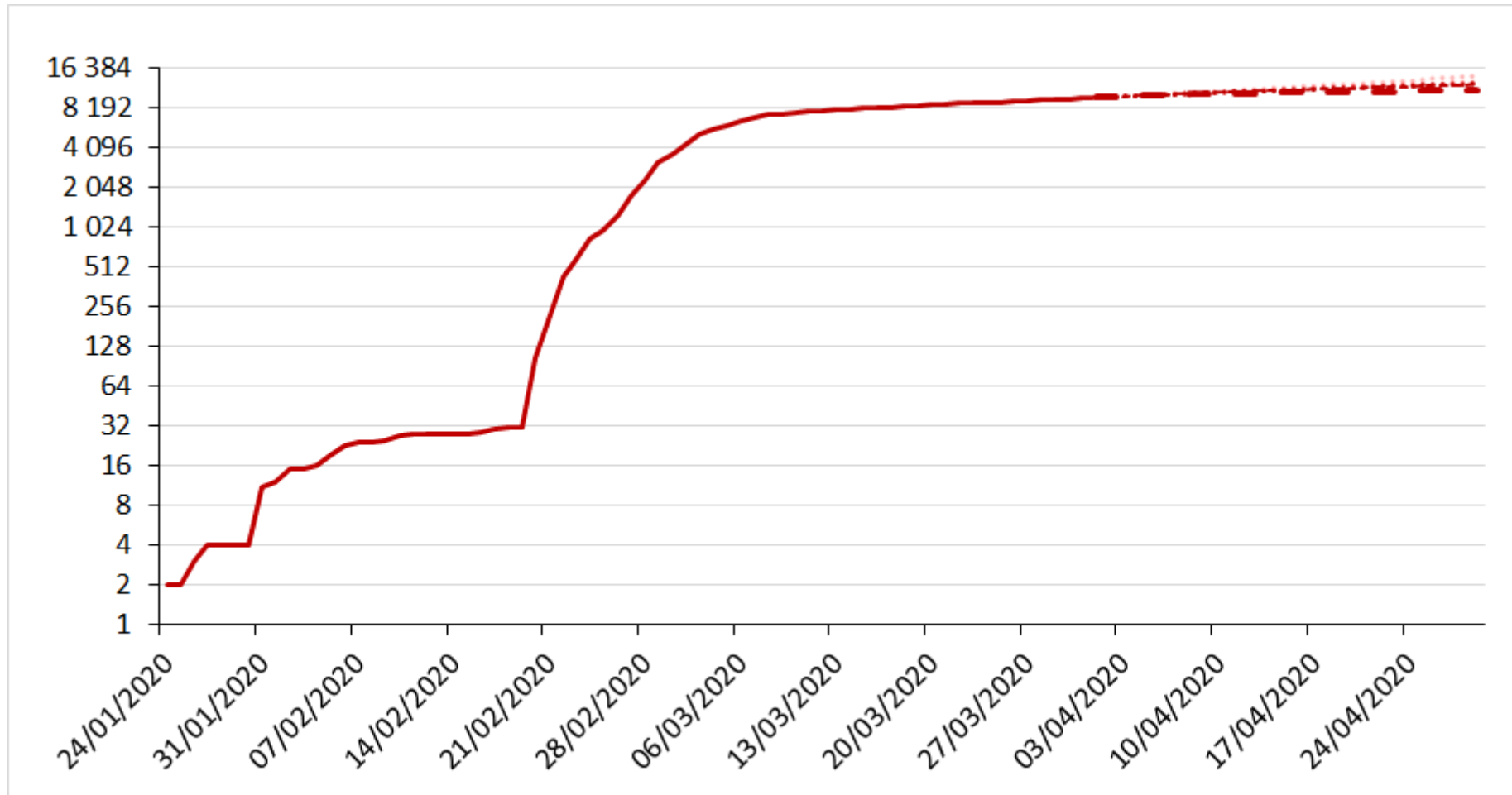
# South Africa



Data: The Johns Hopkins University, Politolog.com

# South Korea

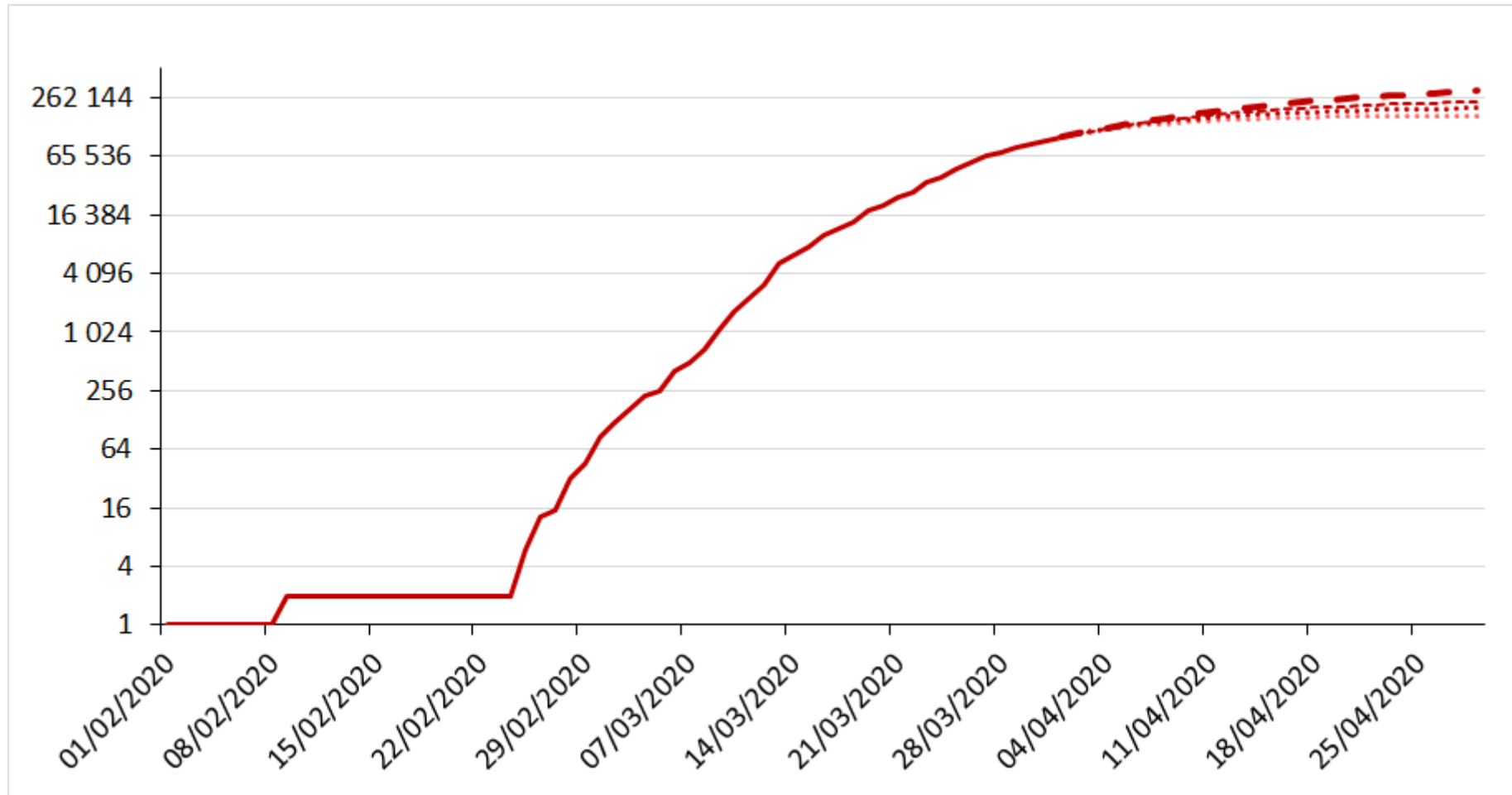
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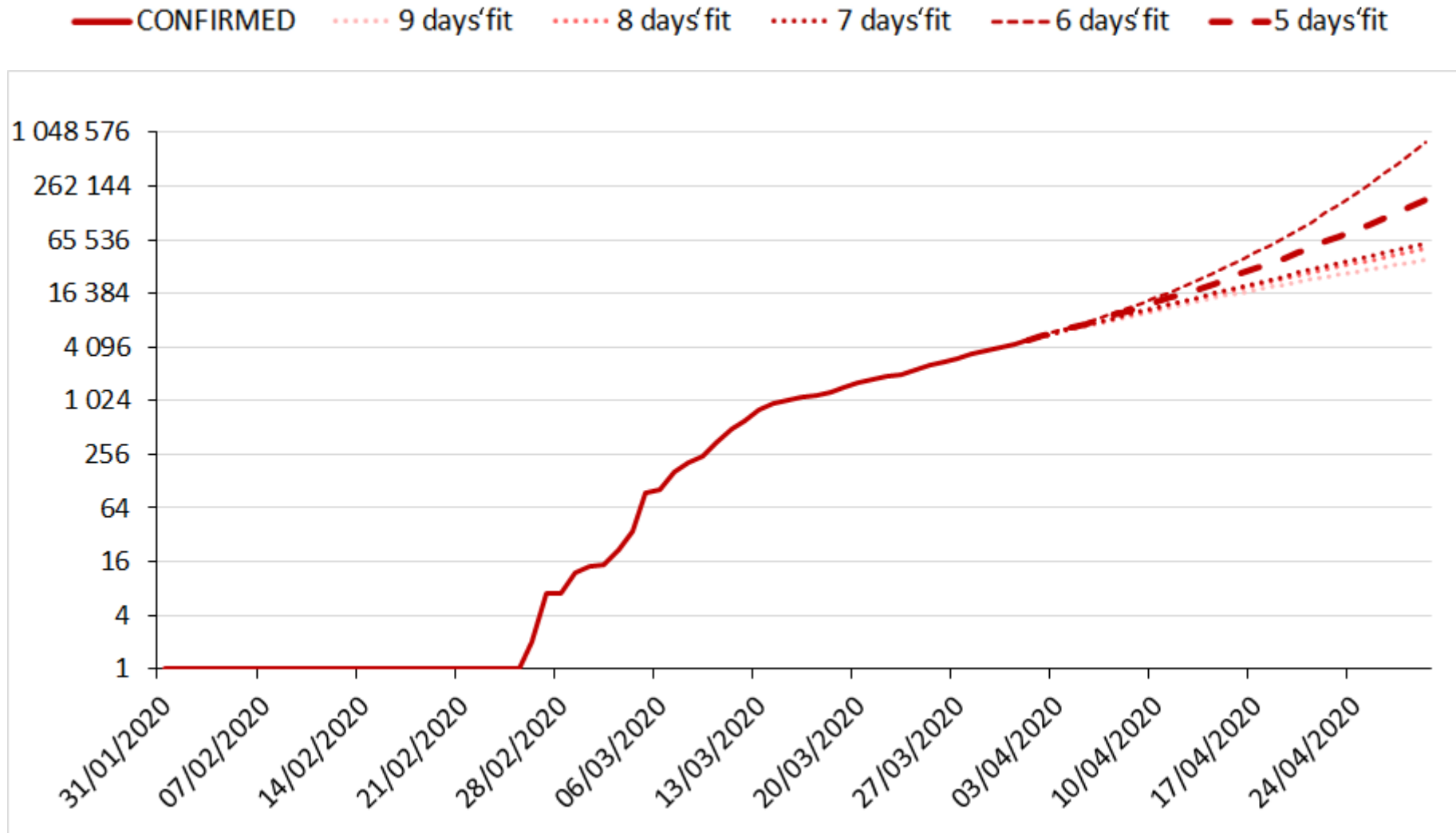
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— CONFIRMED    ..... 9 days' fit    ..... 8 days' fit    ..... 7 days' fit    - - - - 6 days' fit    - - - - 5 days' fit



Data: The Johns Hopkins University, Politolog.com

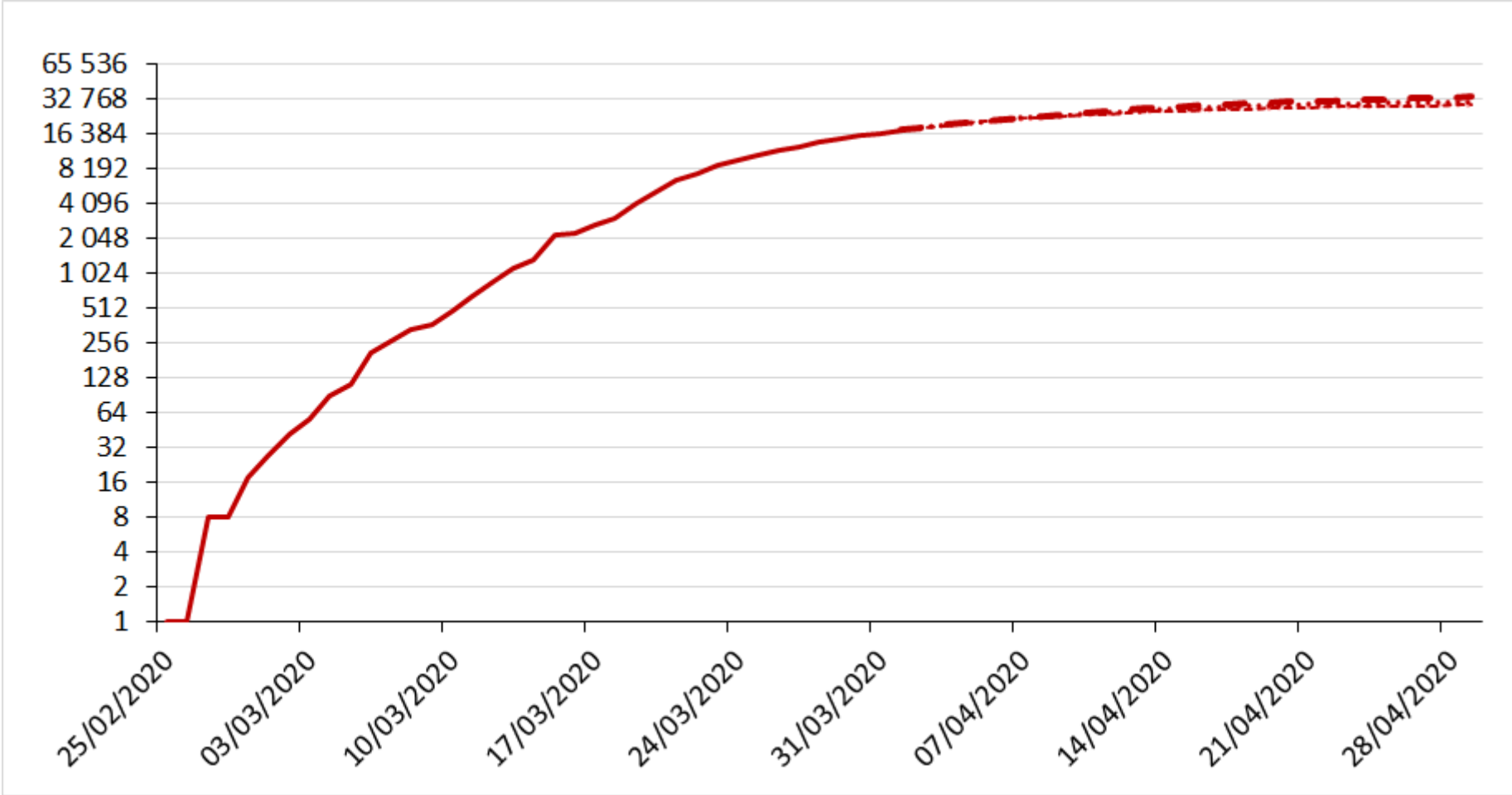
# Sweden



Data: The Johns Hopkins University, Politolog.com

# Switzerland

CONFIRMED 9 days'fit 8 days'fit 7 days'fit 6 days'fit 5 days'fit

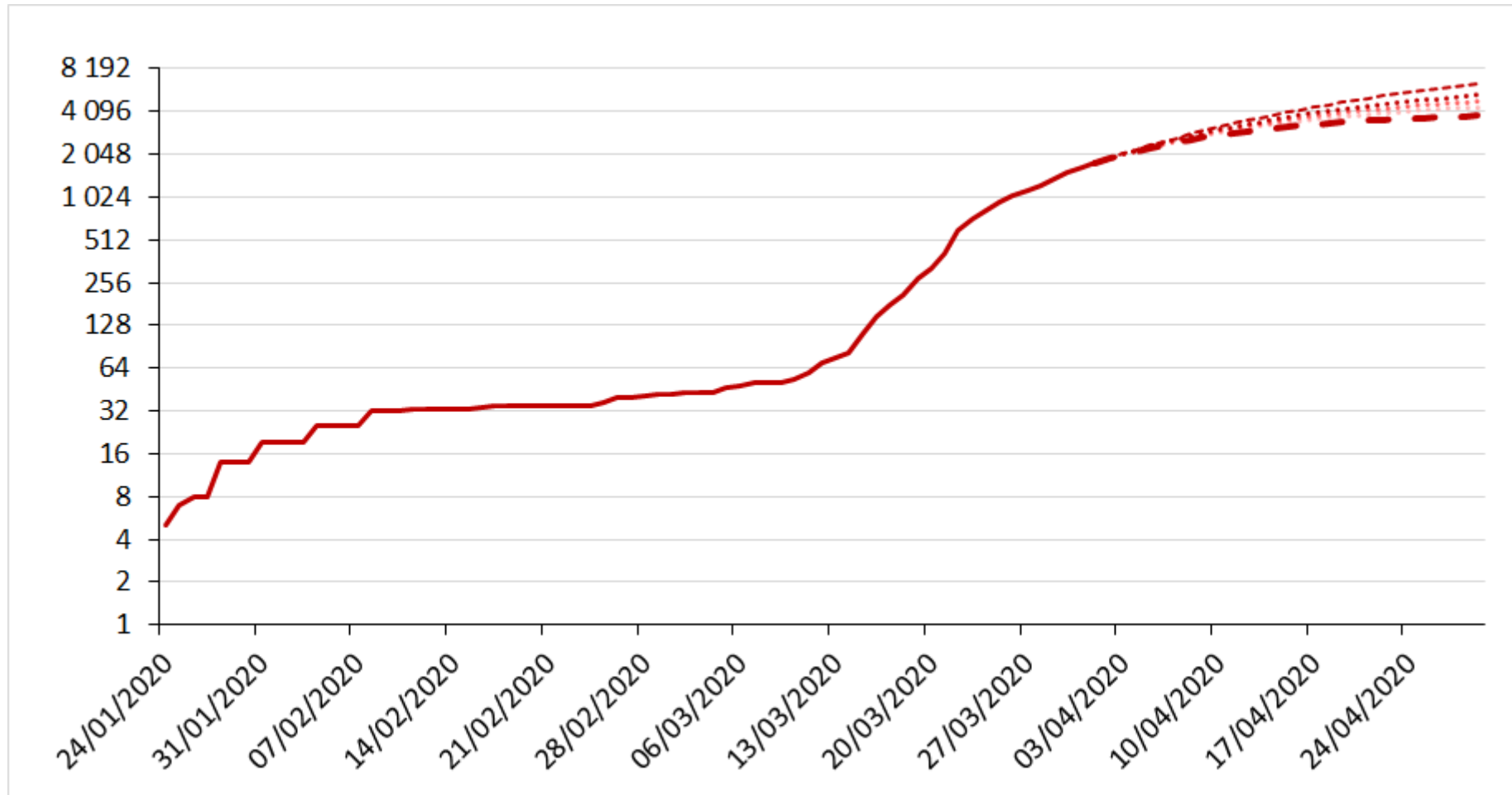


Data: The Johns Hopkins University, Politolog.com



# Thailand

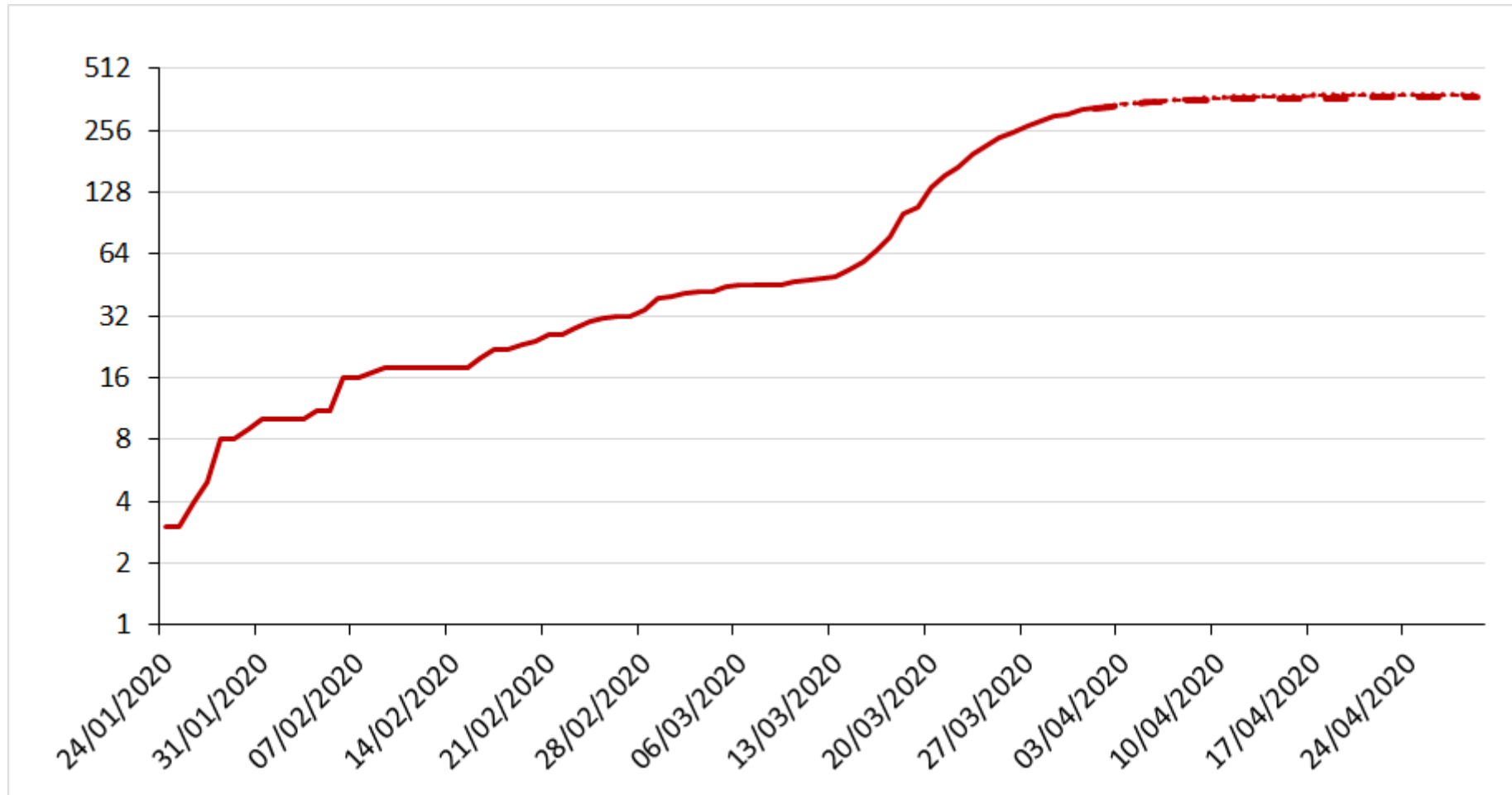
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Data: The Johns Hopkins University, Politolog.com

# Taiwan

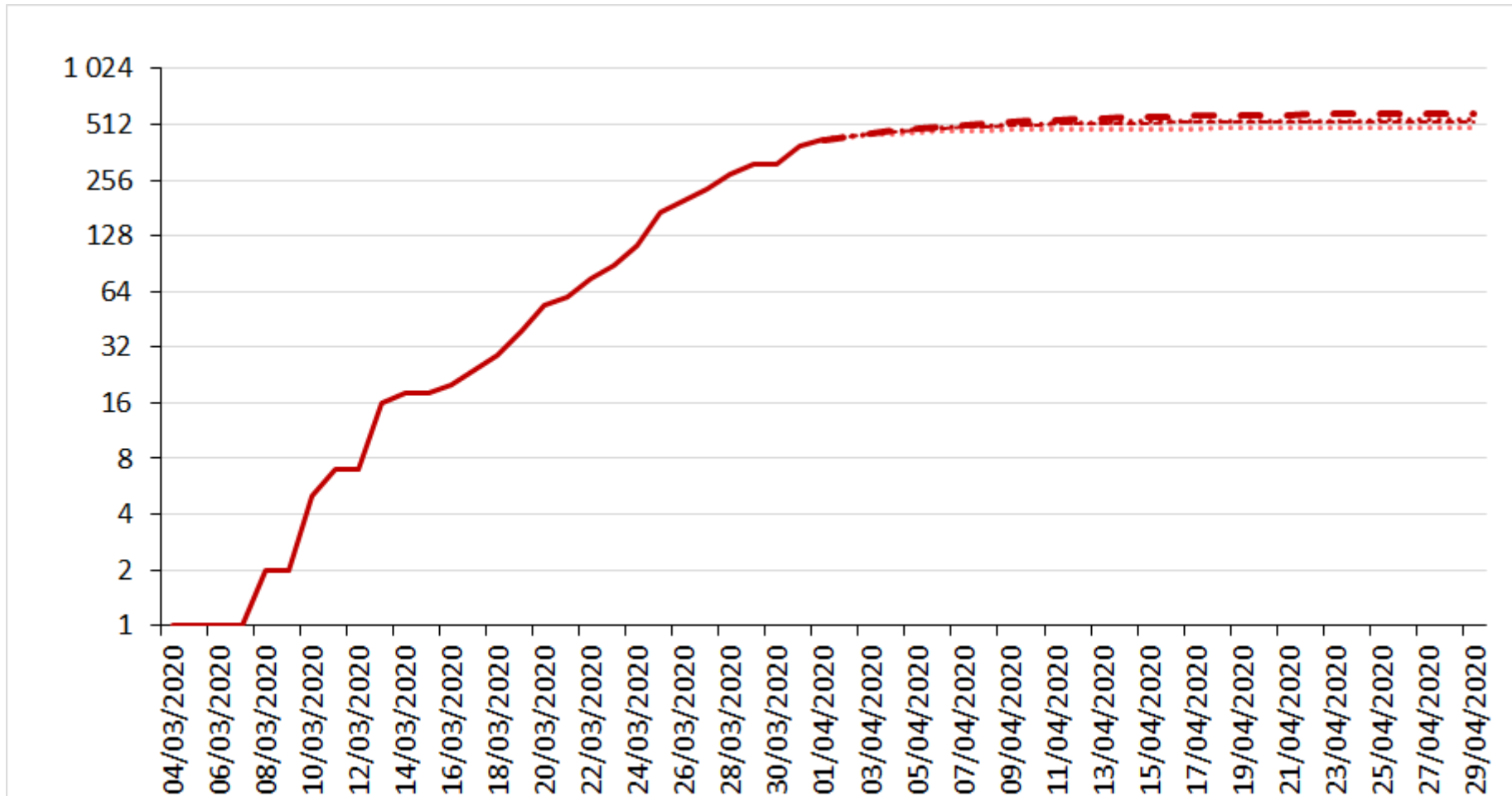
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Data: The Johns Hopkins University, Politolog.com

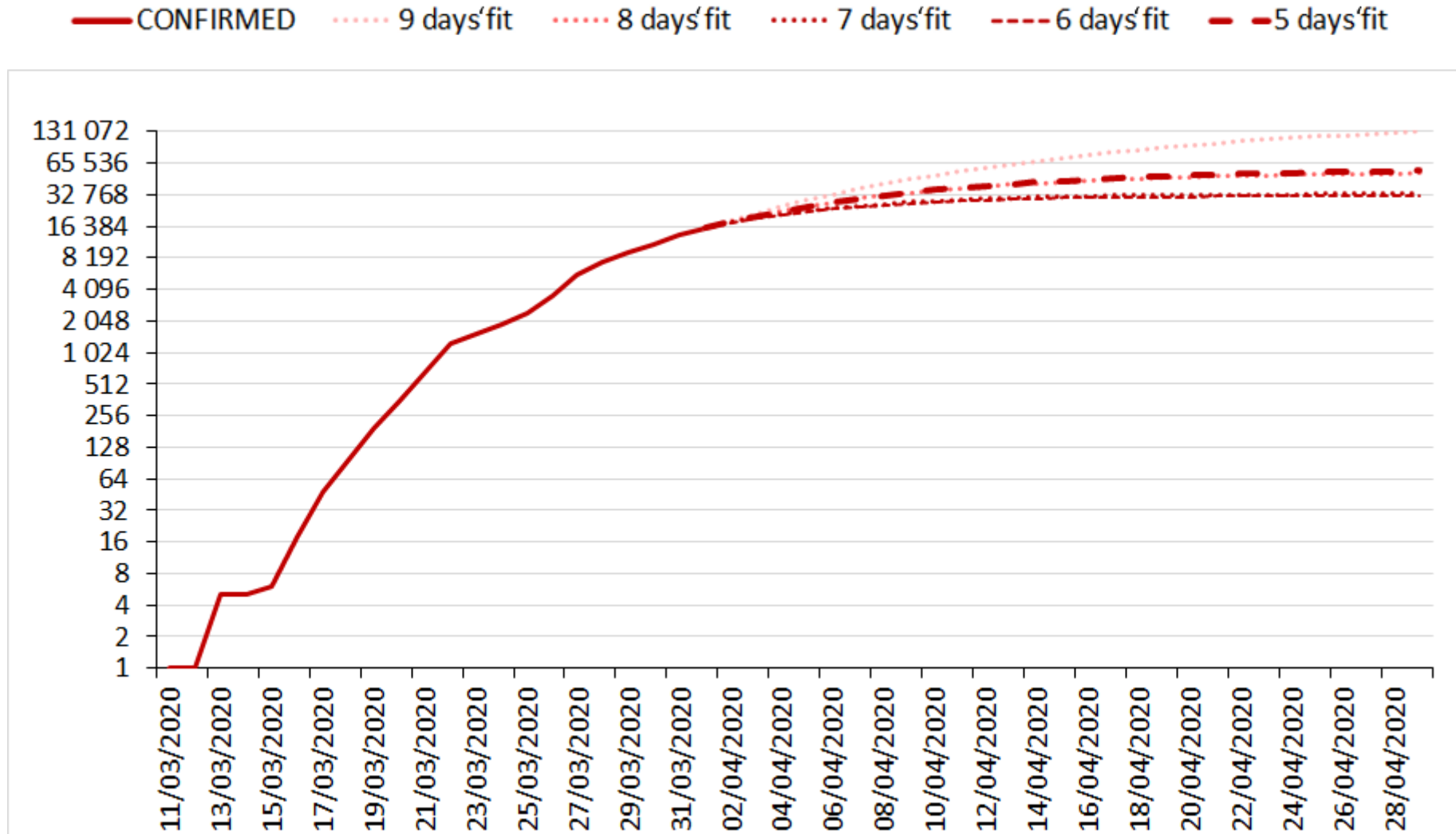
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CONFIRMED 9 days'fit 8 days'fit 7 days'fit 6 days'fit 5 days'fit



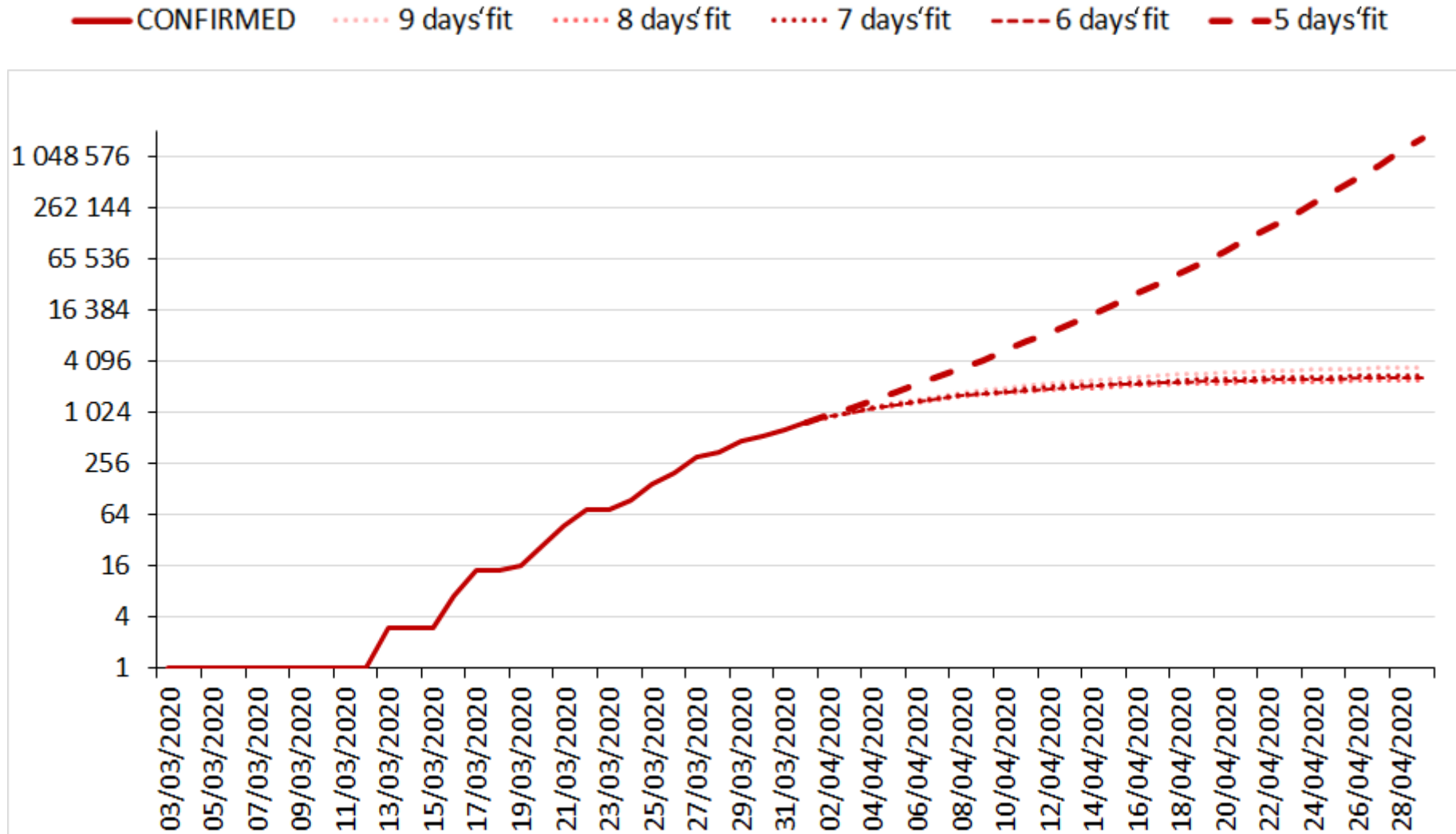
Data: The Johns Hopkins University, Politolog.com

# Turkey



Data: The Johns Hopkins University, Politolog.com

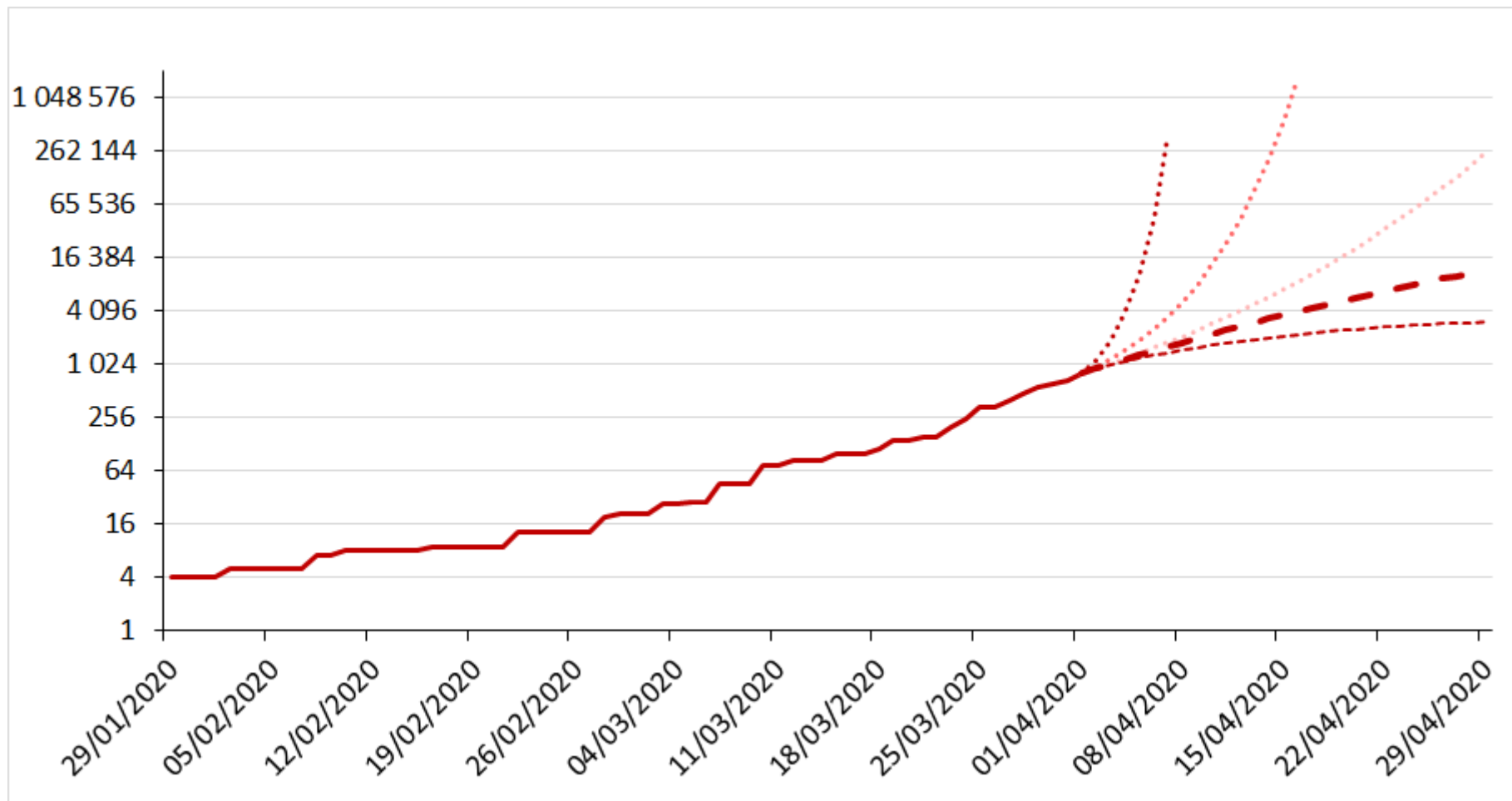
# Ukraine



Data: The Johns Hopkins University, Politolog.com

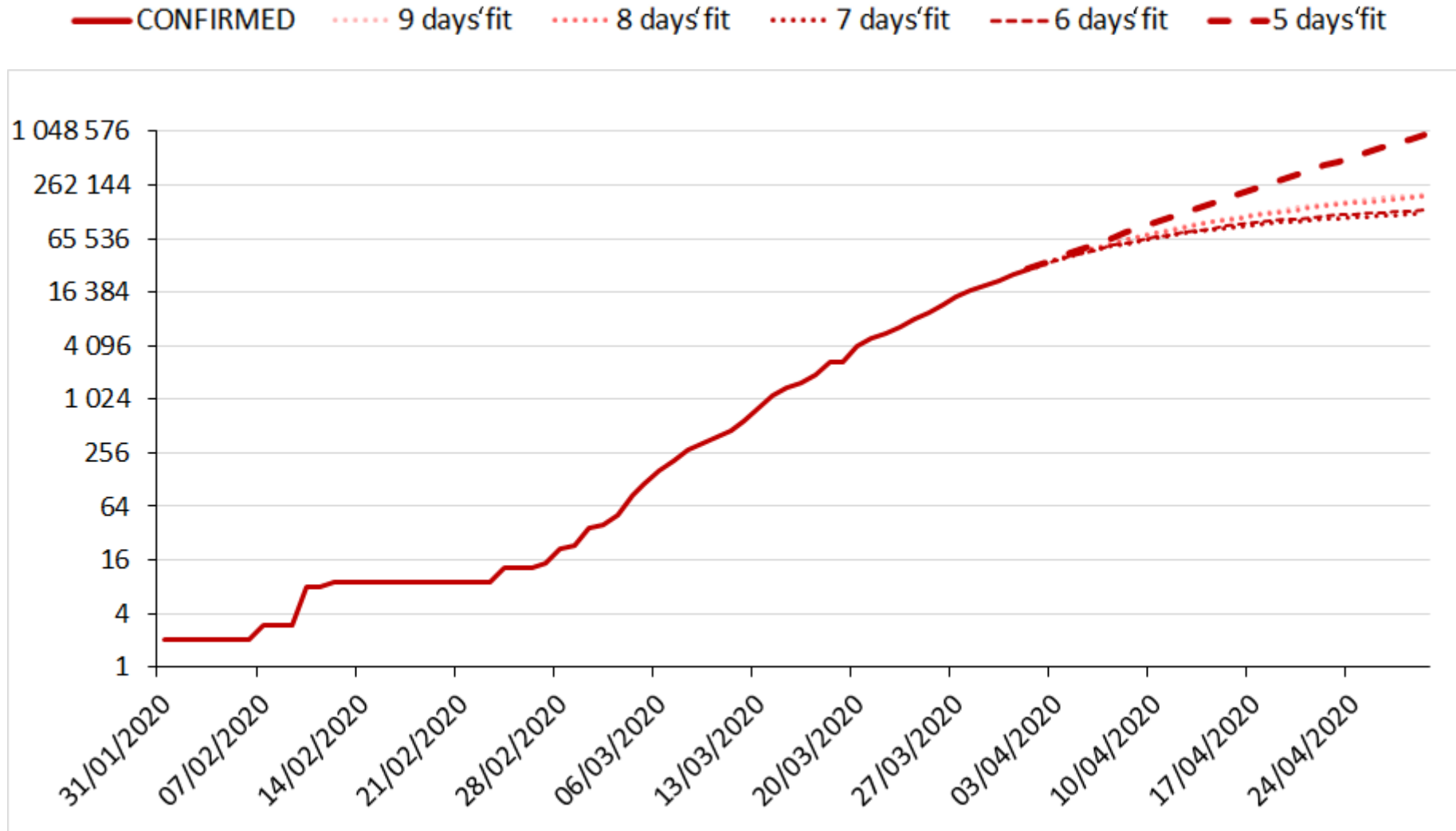
# United Arab Emirates

CONFIRMED 9 days' fit 8 days' fit 7 days' fit 6 days' fit 5 days' fit



Data: The Johns Hopkins University, Politolog.com

# United Kingdom



Data: The Johns Hopkins University, Politolog.com

# Uruguay

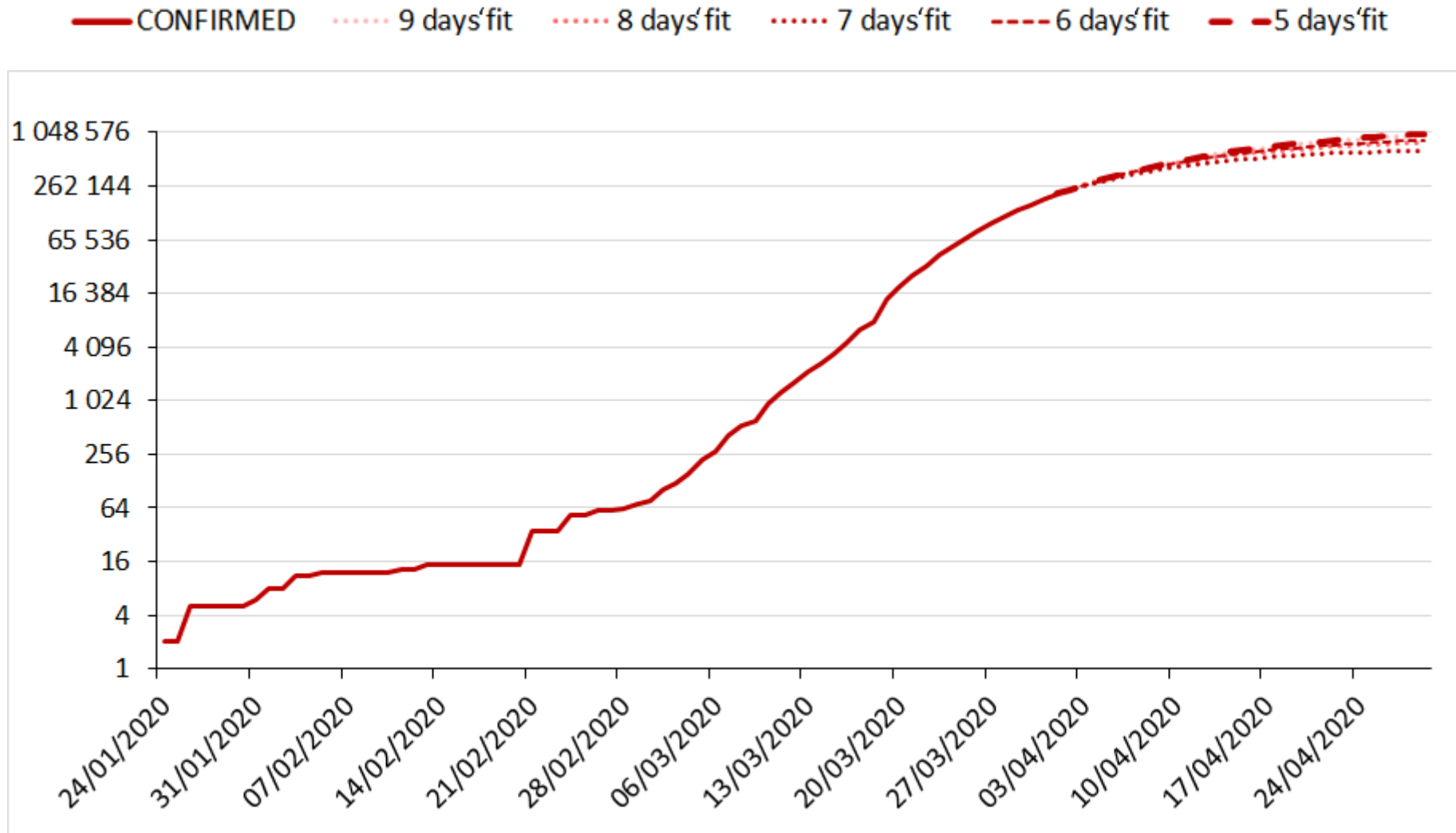
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Data error: No new case reported as at 01 April 2020.

Data: The Johns Hopkins University, Politolog.com



# USA



Data: The Johns Hopkins University, Politolog.com



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