```
                                          First-Order↙
Norm of
 Iteration  Func-count     Residual       optimality      Lambda↙
step
     0           4       0.0694079           0.316         0.01
     1           8      6.73034e-05          0.0176        0.001↙
0.243741
     2          12      4.64754e-10         4.13e-05       0.0001↙
0.00628919
     3          16      3.75398e-18         1.42e-09        1e-05↙
1.8289e-05
     4          20       4.6218e-28         1.42e-14        1e-06↙
2.04729e-09

Equation solved.

fsolve completed because the vector of function values is near zero
as measured by the value of the function tolerance, and
the problem appears regular as measured by the gradient.

<stopping criteria details>
Max. abs. error in calibration targets:1.6931e-14


pis1 =

   7.8215e-08


pis2 =

   1.2411e-04


pis3 =

    0.3892


RnotSIR =

    1.4998
```

Iteration	Func-count	Residual	First-Order optimality	Lambda	Norm of step
0	1751	6.80944e+06	2.25e+04	0.01	
1	3502	142662	4.77e+03	0.001	101.237
2	5253	343.89	669	0.0001	10.4577
3	7004	0.00230267	1.8	1e-05	0.739887
4	8756	0.00078922	0.0537	0.0001	0.638491
5	10507	0.000709873	0.0489	1e-05	0.607585
6	12259	0.000638333	0.0443	0.0001	0.577994
7	14010	0.000573868	0.0401	1e-05	0.549678
8	15762	0.000515784	0.0363	0.0001	0.522606
9	17513	0.000463465	0.0329	1e-05	0.496713
10	19265	0.000416355	0.0297	0.0001	0.471982
11	21016	0.000373948	0.0268	1e-05	0.448373
12	22768	0.000335784	0.0242	0.0001	0.425828
13	24519	0.000301449	0.0219	1e-05	0.404321
14	26271	0.000270568	0.0197	0.0001	0.383814
15	28022	0.0002428	0.0178	1e-05	0.364266
16	29774	0.000217839	0.016	0.0001	0.345636
17	31525	0.000195407	0.0144	1e-05	0.3279
18	33277	0.000175253	0.013	0.0001	0.311008
19	35028	0.00015715	0.0117	1e-05	0.294939

```
    20       36780     0.000140892          0.0105       0.0001↙
0.279652
    21       38531     0.000126295         0.00942        1e-05↙
0.265106
    22       40283     0.000113193         0.00846       0.0001↙
0.251281
    23       42034     0.000101436          0.0076        1e-05↙
0.238138
    24       43786     9.08864e-05         0.00682       0.0001↙
0.225651
    25       45537      8.1423e-05         0.00613        1e-05↙
0.213794
    26       47289     7.29357e-05          0.0055       0.0001↙
0.20253
    27       49040      6.5325e-05         0.00493        1e-05↙
0.191836
    28       50792     5.85018e-05         0.00442       0.0001↙
0.181686
    29       52543     5.23855e-05         0.00395        1e-05↙
0.172055
    30       54295     4.69037e-05         0.00355       0.0001↙
0.162919
    31       56046     4.19915e-05         0.00318        1e-05↙
0.154249
    32       57798     3.75904e-05         0.00284       0.0001↙
0.146028
    33       59549     3.36476e-05         0.00255        1e-05↙
0.138237
    34       61301      3.0116e-05         0.00228       0.0001↙
0.130848
    35       63052     2.69529e-05         0.00204        1e-05↙
0.123846
    36       64804     2.41204e-05         0.00182       0.0001↙
0.11721
    37       66555     2.15842e-05         0.00163        1e-05↙
0.110922
    38       68307     1.93134e-05         0.00146       0.0001↙
0.104965
    39       70058     1.72805e-05          0.0013        1e-05↙
0.0993214
    40       71810     1.54609e-05         0.00117       0.0001↙
0.093976
    41       73561     1.38322e-05         0.00104        1e-05↙
0.0889148
```

```
    42       75313     1.23745e-05        0.000932       0.0001↙
0.084121
    43       77064       1.107e-05        0.000832        1e-05↙
0.0795832
    44       78816     9.90262e-06        0.000745       0.0001↙
0.075287
    45       80567     8.85807e-06        0.000665        1e-05↙
0.0712202
    46       82318     8.54449e-06          0.0266        1e-06↙
0.452593
    47       84070     2.25715e-06          0.0106        1e-05↙
0.287793
    48       85821     7.15303e-07         0.00422        1e-06↙
0.182863
    49       87572     6.51515e-07         0.00895        1e-07↙
0.271556
    50       89323     5.48647e-10        0.000273        1e-08↙
0.0465177
    51       91074      6.2986e-17        1.02e-07        1e-09↙
0.000810237

Equation solved.

fsolve completed because the vector of function values is near zero
as measured by the value of the function tolerance, and
the problem appears regular as measured by the gradient.

<stopping criteria details>
Equation solved. First Order Optimality is Small
Max. abs. error in equilib. equations:2.0613e-09


aggCons_trough_percent =

  -24.9163


aggCons_avg_first_year_percent =

  -15.2415


terminal_one_minus_susceptibles_percent =
```

```
   46.0149


peak_infection_percent =

    3.8385


terminal_death_share_percent =

    0.1150


terminal_number_deaths_US_millions =

    0.3796

Elapsed time is 270.831126 seconds.
>>
```