

Zusammenfassung Neu

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Ausgangsmodell "pool" und transformierte "pool"-Modellle mit der Wurzelfunktion:

```
pool <- plm(inzidenz ~ lag(inzidenz, 1) + lag(weightednbins, 1)
            + I(log(density)*lag(inzidenz, 1)) + I(hotspot * lag(inzidenz, 1))
            + I(hotspotnb * lag(weightednbins, 1)) + I(rate_zweitimpf * hotspot)
            + A60.79.Anteil
            + factor(week)
            , data =df4_pan, model = "pooling")

pool.sqrt <- plm(sqrt(inzidenz) ~ sqrt(lag(inzidenz, 1)) + sqrt(lag(weightednbins, 1))
                  + sqrt(I(log(density)*lag(inzidenz, 1))) + sqrt(I(hotspot * lag(inzidenz, 1)))
                  + sqrt(I(hotspotnb * lag(weightednbins, 1))) + sqrt(I(rate_zweitimpf * hotspot))
                  + A60.79.Anteil
                  + factor(week)
                  , data =df4_pan, model = "pooling")
pool.sqrt2 <- plm(sqrt(inzidenz) ~ sqrt(lag(inzidenz, 1)) + sqrt(lag(weightednbins, 1))
                  + I(log(density)*sqrt(lag(inzidenz, 1))) + sqrt(I(hotspot * lag(inzidenz, 1)))
                  + sqrt(I(hotspotnb * lag(weightednbins, 1))) + sqrt(I(rate_zweitimpf * hotspot))
                  + A60.79.Anteil
                  + factor(week)
                  , data =df4_pan, model = "pooling")
pool.sqrt3 <- plm(sqrt(inzidenz) ~ sqrt(lag(inzidenz, 1)) + sqrt(lag(weightednbins, 1))
                  + sqrt(I(log(density)*lag(inzidenz, 1))) + sqrt(I(hotspot * lag(inzidenz, 1)))
                  + sqrt(I(hotspotnb * lag(weightednbins, 1))) + sqrt(I(rate_zweitimpf * hotspot))
                  + sqrt(A60.79.Anteil)
                  + factor(week)
                  , data =df4_pan, model = "pooling")
```

Modelle sind sehr ähnlich, als Beispiel, das AIC-Kriterium:

```
stats::AIC(pool.sqrt)
```

```
## [1] 57487.66
```

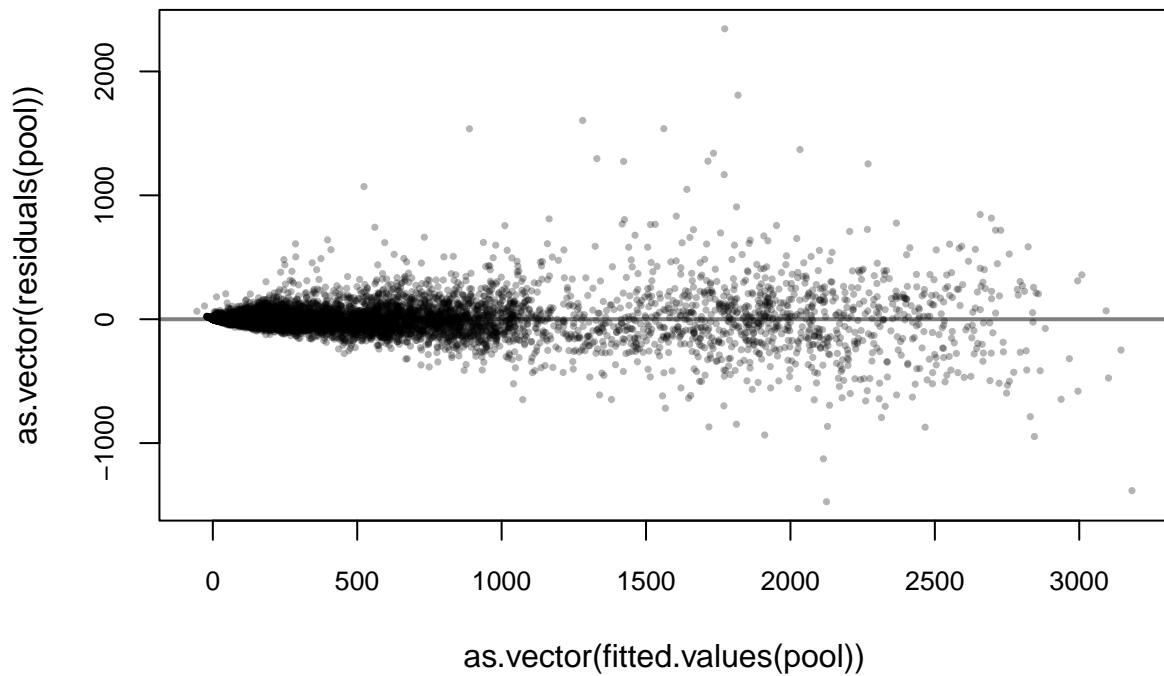
```
stats::AIC(pool.sqrt2)
```

```
## [1] 57488.35
```

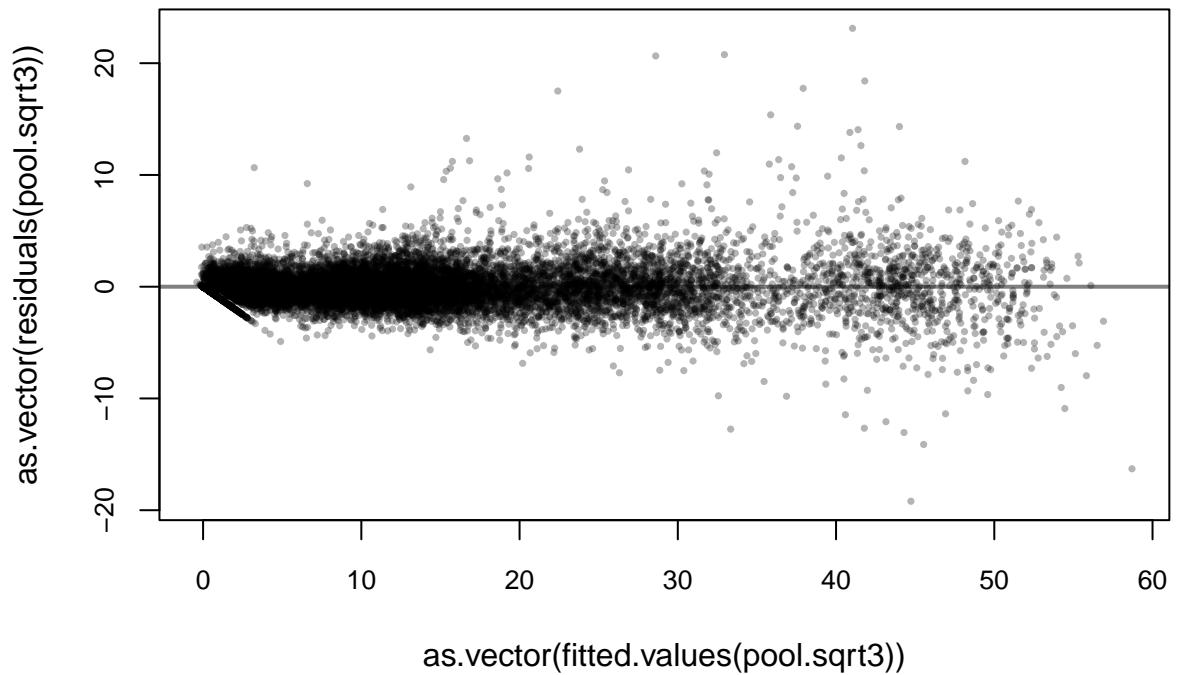
```
stats::AIC(pool.sqrt3)
```

```
## [1] 57486.79
```

Residuen und fitted values für “pool” und den dritten transformierten “pool”-Modell:

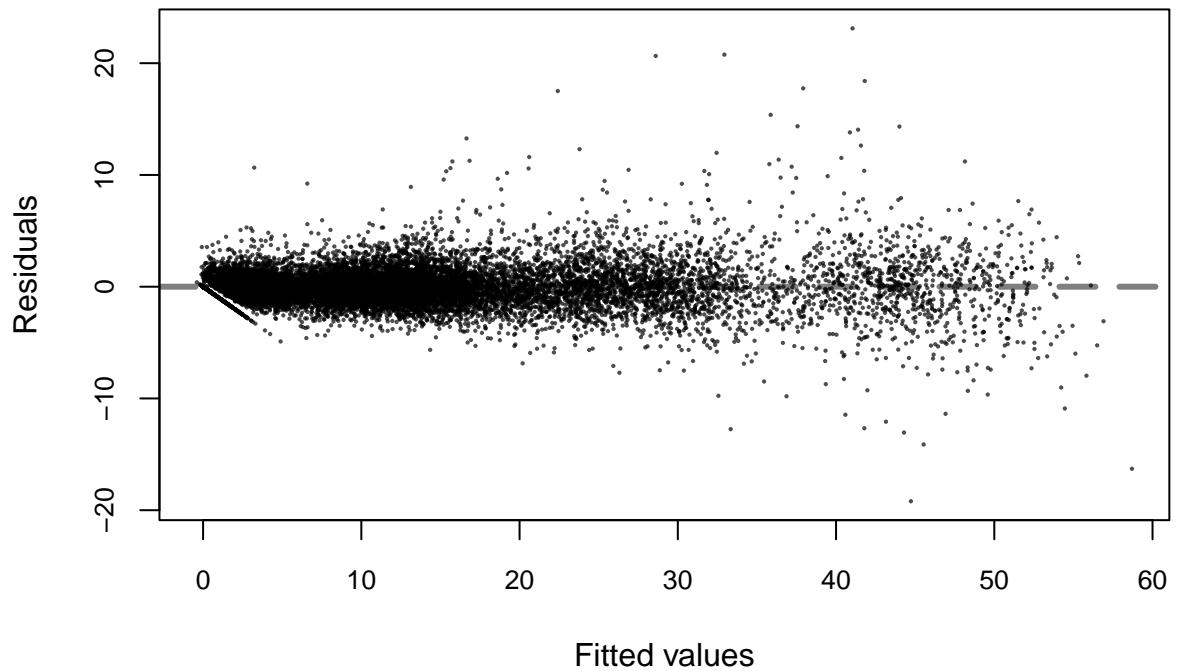


```
## integer(0)
```

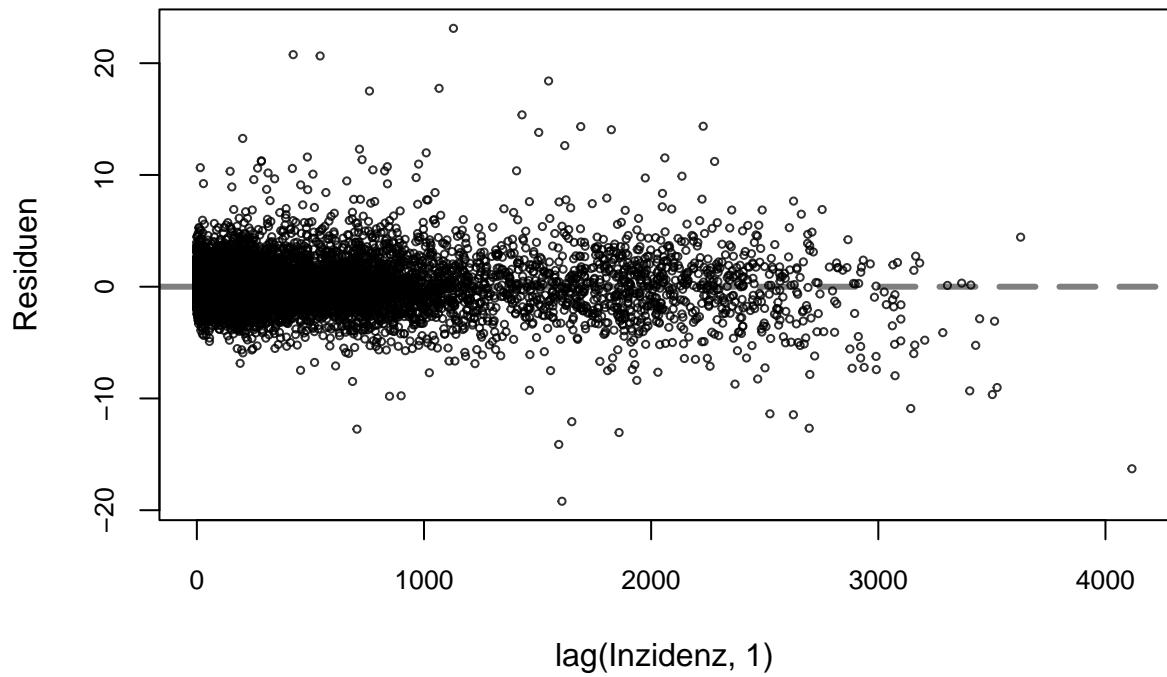


```
## integer(0)
```

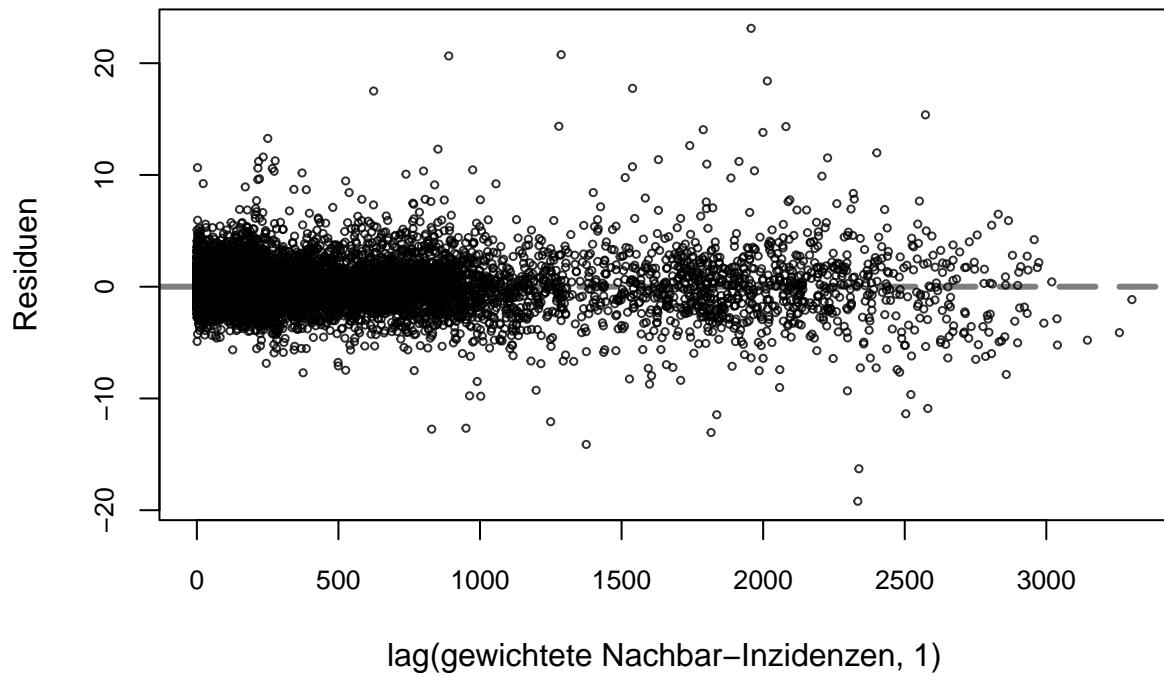
Die restlichen Residuen von dem transformierten Modell:



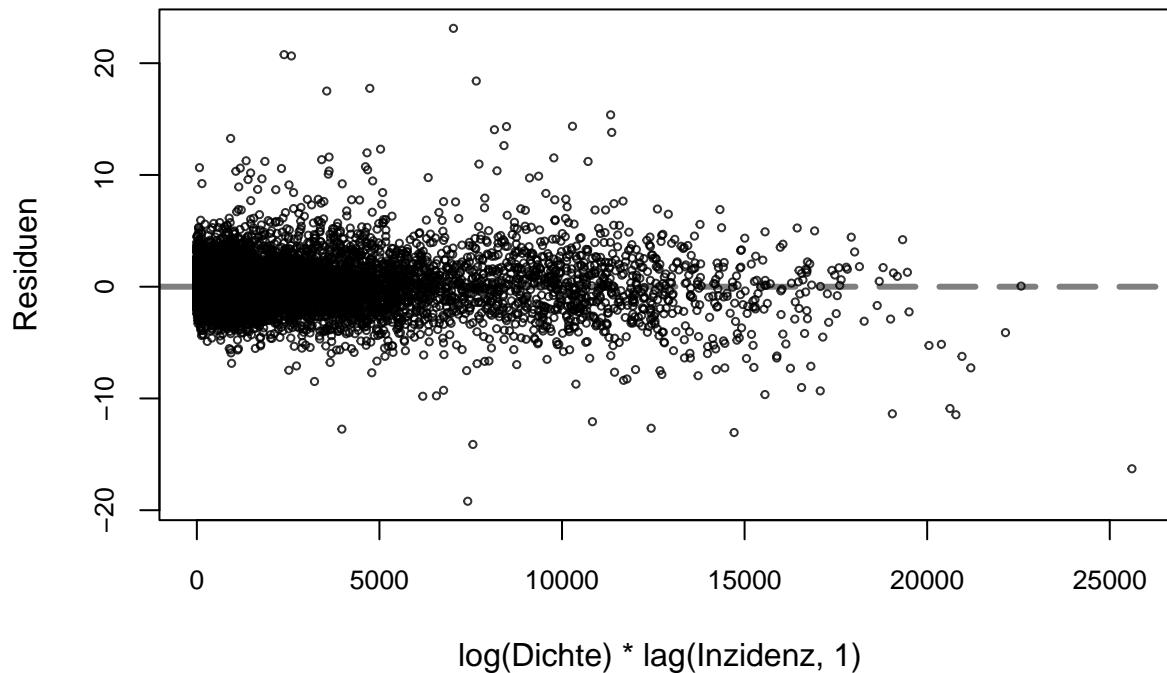
```
## integer(0)
```



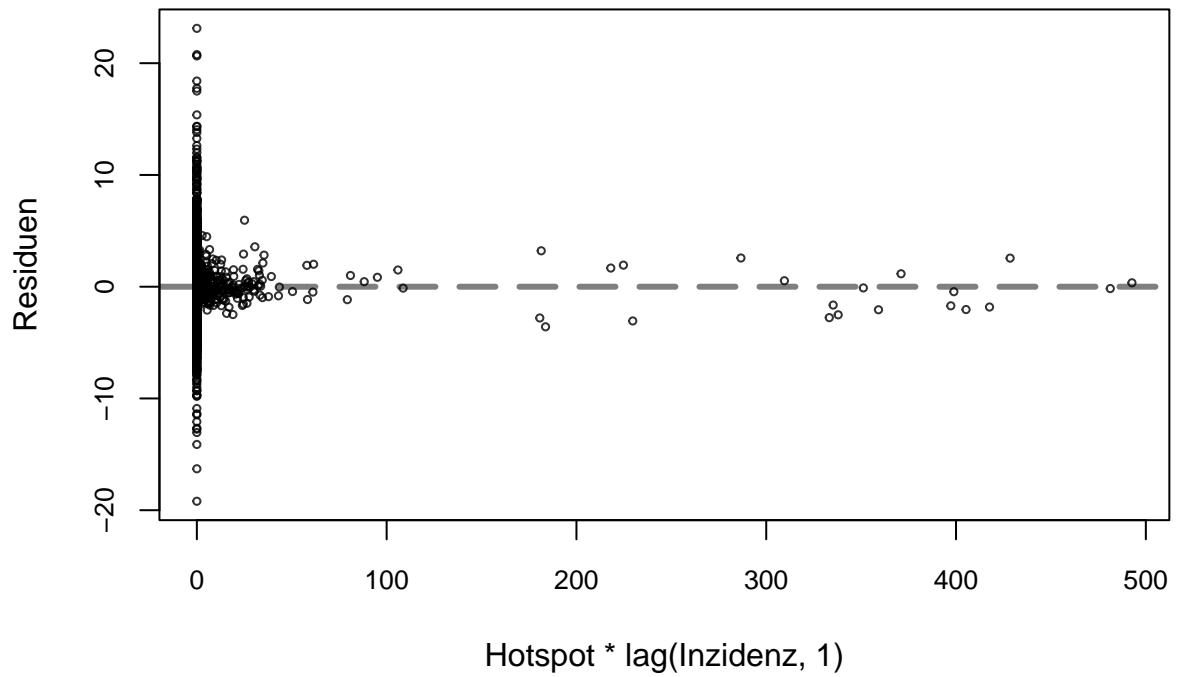
```
## integer(0)
```



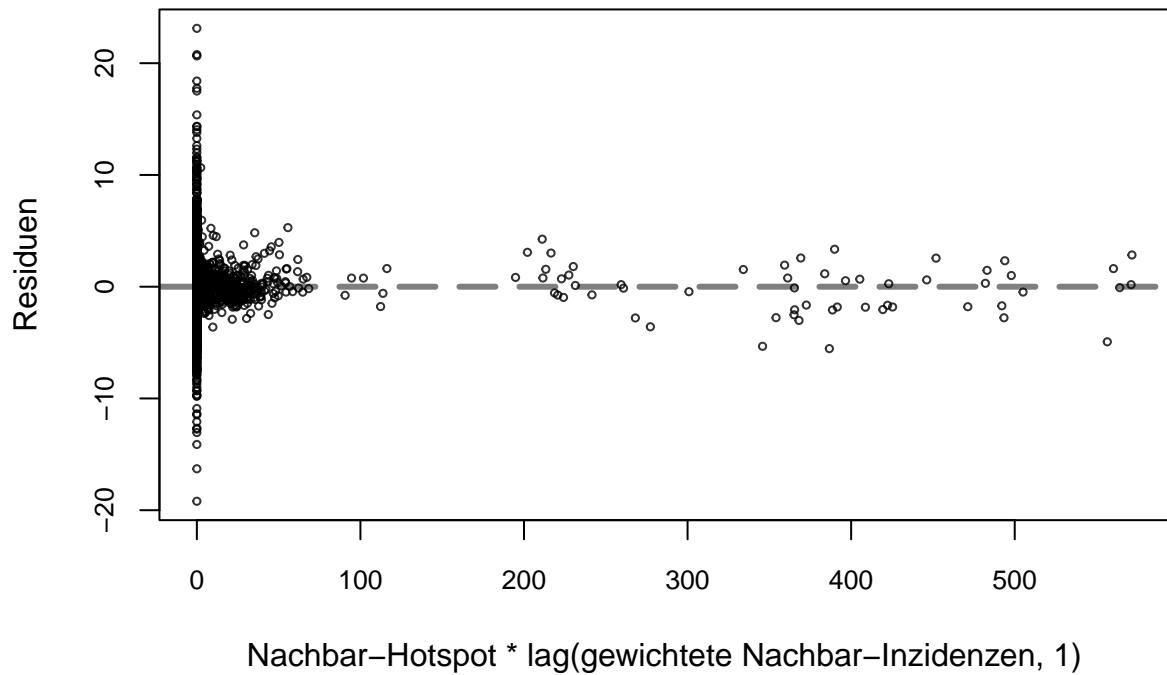
```
## integer(0)
```



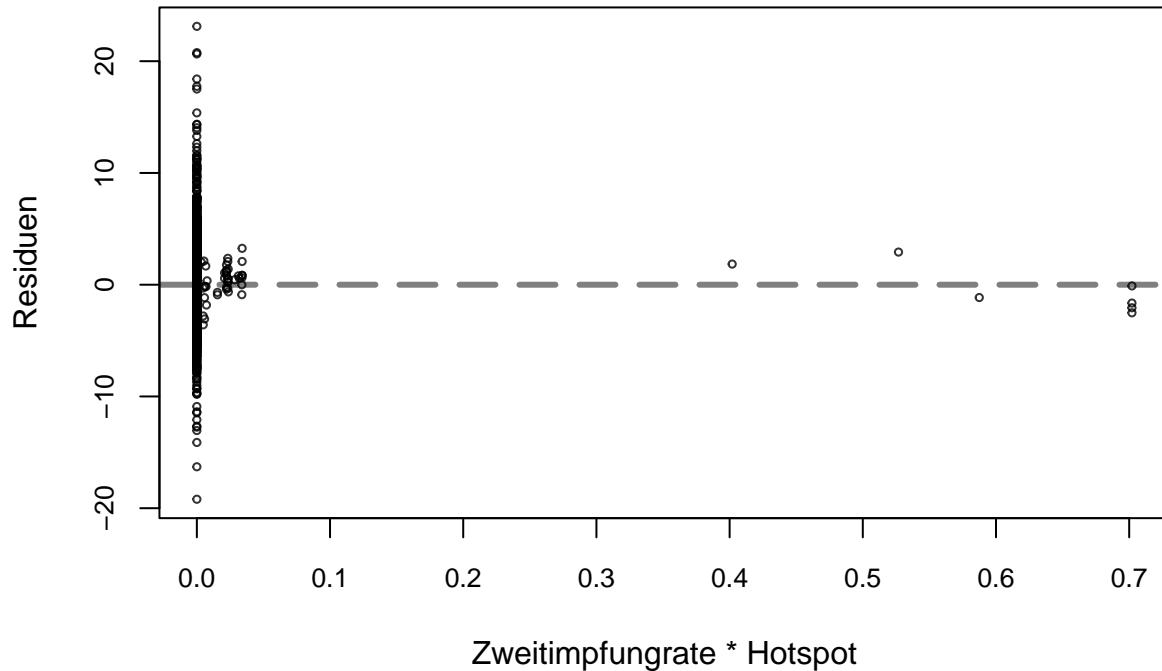
```
## integer(0)
```



```
## integer(0)
```



```
## integer(0)
```



```
## integer(0)
```

Unterschied zwischen den beiden Modellen sehr gering, bis auf Altersanteil 60-79 Jährige. Bei "pool.sqrt" negativ und bei "pool.sqrt3" positiv. Beide, statistisch gesehen, signifikant ($\alpha=0.01$), aber beide sehr nah an Null. Das liegt vermutlich auch am Zeiteffekt:

```
coeftest(pool.sqrt, vcovHC(pool.sqrt, type="HCO"))
```

```
##
## t test of coefficients:
##
##                               Estimate Std. Error t value
## (Intercept)                 -0.0089898  0.0139386 -0.6450
## sqrt(lag(inzidenz, 1))      0.6744596  0.0188019 35.8718
## sqrt(lag(weightednbinz, 1)) 0.2316856  0.0180829 12.8124
## sqrt(I(log(density) * lag(inzidenz, 1))) -0.0284347  0.0059396 -4.7873
## sqrt(I(hotspot * lag(inzidenz, 1)))        0.2275481  0.0215971 10.5361
## sqrt(I(hotspotnb * lag(weightednbinz, 1)))  0.0682300  0.0156258  4.3665
## sqrt(I(rate_zweitimpf * hotspot))          -1.8974017  0.7965462 -2.3820
## A60.79.Anteil                  -0.3125136  0.1198662 -2.6072
## factor(week)3                  -0.0203295  0.0282776 -0.7189
## factor(week)4                  -0.0051245  0.0165990 -0.3087
## factor(week)5                  0.0655308  0.0316638  2.0696
## factor(week)6                  0.3779991  0.0700954  5.3926
## factor(week)7                  1.9050515  0.1151363 16.5461
```

```

## factor(week)8      2.8134279  0.1624558 17.3181
## factor(week)9      2.7151316  0.1562057 17.3818
## factor(week)10     2.2087462  0.2161187 10.2201
## factor(week)11     0.0233477  0.1891310  0.1234
## factor(week)12     -0.3658727  0.1740832 -2.1017
## factor(week)13     -0.2482541  0.1755922 -1.4138
## factor(week)14     -0.5193667  0.1025785 -5.0631
## factor(week)15     0.0122722  0.1165963  0.1053
## factor(week)16     0.1859023  0.1420496  1.3087
## factor(week)17     -0.0613130  0.1310793 -0.4678
## factor(week)18     0.0487652  0.1151060  0.4237
## factor(week)19     -0.3146871  0.1036195 -3.0369
## factor(week)20     -0.1698709  0.0927593 -1.8313
## factor(week)21     0.2093218  0.1040734  2.0113
## factor(week)22     0.3578119  0.1116021  3.2061
## factor(week)23     0.2379555  0.1111813  2.1402
## factor(week)24     0.1961707  0.0986570  1.9884
## factor(week)25     0.3066494  0.1100773  2.7858
## factor(week)26     0.3935745  0.1583873  2.4849
## factor(week)27     0.2620765  0.1240914  2.1120
## factor(week)28     0.2889241  0.1035178  2.7911
## factor(week)29     0.9279531  0.1060969  8.7463
## factor(week)30     1.1210028  0.1192554  9.4000
## factor(week)31     0.5085730  0.1226435  4.1468
## factor(week)32     0.7738030  0.1167761  6.6264
## factor(week)33     0.9255759  0.1389446  6.6615
## factor(week)34     0.7498697  0.1174496  6.3846
## factor(week)35     0.2722508  0.1186340  2.2949
## factor(week)36     0.7248423  0.1109287  6.5343
## factor(week)37     1.4798960  0.1279049  11.5703
## factor(week)38     2.2273862  0.1683891  13.2276
## factor(week)39     3.1339147  0.1895590  16.5327
## factor(week)40     3.8245140  0.2170275  17.6223
## factor(week)41     3.1771820  0.2487291  12.7737
## factor(week)42     2.2808738  0.2540341  8.9786
## factor(week)43     2.1790093  0.2493505  8.7387
## factor(week)44     2.2574908  0.2503994  9.0156
## factor(week)45     2.0477699  0.2319068  8.8301
## factor(week)46     3.3383347  0.2489002  13.4123
## factor(week)47     2.4319439  0.2416004  10.0660
## factor(week)48     0.9380415  0.2626204  3.5719
## factor(week)49     1.8807040  0.2179618  8.6286
## factor(week)50     2.3693014  0.2626763  9.0199
## factor(week)51     0.9638105  0.2556243  3.7704
## factor(week)52     0.6169924  0.1954166  3.1573
## factor(week)53     1.1298785  0.2019559  5.5947
## factor(week)54     0.7300864  0.1863956  3.9169
## factor(week)55     0.2649711  0.1657982  1.5982
## factor(week)56     1.2805538  0.1575605  8.1274
## factor(week)57     1.7508133  0.1761473  9.9395
## factor(week)58     1.8679818  0.1848873  10.1034
## factor(week)59     2.3356226  0.2030417  11.5032
## factor(week)60     2.7210770  0.2104869  12.9275
## factor(week)61     2.9552938  0.2311770  12.7837

```

```

## factor(week)62      1.8173778  0.2171748  8.3683
## factor(week)63      2.7218203  0.2276713 11.9550
## factor(week)64      3.1306097  0.2816704 11.1144
## factor(week)65      2.0743820  0.2345315  8.8448
## factor(week)66      0.5462502  0.2593844  2.1059
## factor(week)67      0.8474219  0.2324405  3.6458
## factor(week)68      0.1191450  0.2022355  0.5891
## factor(week)69      -0.1125016  0.1847544 -0.6089
## factor(week)70      -0.5465701  0.1516137 -3.6050
## factor(week)71      -0.2090507  0.1402753 -1.4903
## factor(week)72      0.2834998  0.1514811  1.8715
## factor(week)73      -0.6560758  0.1154601 -5.6823
## factor(week)74      -0.1537873  0.1114690 -1.3796
## factor(week)75      -0.0132477  0.0944823 -0.1402
## factor(week)76      0.5606434  0.1130683  4.9585
## factor(week)77      0.9761297  0.1384595  7.0499
## factor(week)78      0.7641093  0.1125226  6.7907
## factor(week)79      0.6926114  0.1173504  5.9021
## factor(week)80      0.8753960  0.1098380  7.9699
## factor(week)81      1.8224620  0.1341897 13.5812
## factor(week)82      2.1964791  0.1495485 14.6874
## factor(week)83      2.8633708  0.1893141 15.1250
## factor(week)84      1.9964695  0.2043065  9.7719
## factor(week)85      1.8637815  0.1829857 10.1854
## factor(week)86      1.3984469  0.1893712  7.3847
## factor(week)87      1.1672600  0.1984715  5.8812
## factor(week)88      1.9168144  0.1735121 11.0472
## factor(week)89      1.6699450  0.2092376  7.9811
## factor(week)90      2.6205688  0.2184055 11.9986
## factor(week)91      4.6701877  0.2372804 19.6821
## factor(week)92      4.7946800  0.2707776 17.7071
## factor(week)93      4.9359188  0.2834125 17.4160
## factor(week)94      7.9509124  0.3448391 23.0569
## factor(week)95      5.5504080  0.4290699 12.9359
## factor(week)96      3.8683548  0.4221887  9.1626
## factor(week)97      1.9559357  0.4615930  4.2374
## factor(week)98      0.7392350  0.3588401  2.0601
## factor(week)99      0.1892585  0.3546612  0.5336
## factor(week)100     -0.4583377  0.3048154 -1.5037
## factor(week)101     2.0630501  0.2707822  7.6189
## factor(week)102     5.5314435  0.3099735 17.8449
## factor(week)103     8.1484250  0.3807564 21.4006
## factor(week)104     10.5855425 0.4859278 21.7842
## factor(week)105     12.1573929 0.6639726 18.3101
## factor(week)106     10.5386349 0.7216697 14.6031
## factor(week)107     8.8053408  0.7304468 12.0547
## factor(week)108     7.4015232  0.7642307  9.6849
## factor(week)109     5.8119672  0.7033810  8.2629
## factor(week)110     5.4003634  0.6437162  8.3894
## factor(week)111     12.5431056 0.6358091 19.7278
## factor(week)112     8.9978136  0.7903880 11.3840
## factor(week)113     8.3797120  0.8142216 10.2917
## factor(week)114     1.6565216  0.9017047  1.8371
## factor(week)115     0.2270659  0.7365632  0.3083

```

```

## factor(week)116          0.3938463  0.6207029  0.6345
## factor(week)117          2.8662102  0.5356025  5.3514
## factor(week)118          2.8707881  0.5152003  5.5722
## factor(week)119          2.1917604  0.4894480  4.4780
## factor(week)120          2.1286256  0.4503491  4.7266
## factor(week)121          -0.6992852  0.4153955 -1.6834
## factor(week)122          -1.4925881  0.3401620 -4.3879
## factor(week)123          4.3212783  0.3342663 12.9277
## factor(week)124          4.3977569  0.3662003 12.0092
## factor(week)125          4.7812959  0.3690974 12.9540
## factor(week)126          7.1809842  0.3931209 18.2666
## factor(week)127          5.6076081  0.4175655 13.4293
## factor(week)128          6.2831614  0.4337279 14.4864
## factor(week)129          7.4886473  0.4604811 16.2627
## factor(week)130          5.5513086  0.4999870 11.1029
## factor(week)131          1.0779162  0.5821562  1.8516
## factor(week)132          -1.2557117  0.4714827 -2.6633
## factor(week)133          -0.1720581  0.3509839 -0.4902
## factor(week)134          0.5526355  0.3256972  1.6968
## factor(week)135          2.2685183  0.4045176  5.6080
## factor(week)136          2.1272936  0.3350990  6.3483
## factor(week)137          2.7717171  0.3009511  9.2099
## factor(week)138          3.9827564  0.3310631 12.0302
## factor(week)139          5.5968986  0.2905678 19.2619
## factor(week)140          9.1187946  0.3412003 26.7256
## factor(week)141          7.1298739  0.4905859 14.5334
## factor(week)142          5.0715206  0.5312700  9.5460
## factor(week)143          -0.1097891  0.5318295 -0.2064
## factor(week)144          -1.4373722  0.4044579 -3.5538
## factor(week)145          -1.6965083  0.3379400 -5.0201
## factor(week)146          1.2360415  0.2612936  4.7305
## factor(week)147          -0.0324617  0.2346445 -0.1383
## factor(week)148          0.8131587  0.2311123  3.5185
##                                     Pr(>|t|)
## (Intercept)                      0.5189625
## sqrt(lag(inzidenz, 1))           < 2.2e-16 ***
## sqrt(lag(weightednbinz, 1))      < 2.2e-16 ***
## sqrt(I(log(density) * lag(inzidenz, 1))) 1.708e-06 ***
## sqrt(I(hotspot * lag(inzidenz, 1)))    < 2.2e-16 ***
## sqrt(I(hotspotnb * lag(weightednbinz, 1))) 1.272e-05 ***
## sqrt(I(rate_zweitimpf * hotspot))       0.0172305 *
## A60.79.Anteil                     0.0091386 **
## factor(week)3                      0.4721986
## factor(week)4                      0.7575389
## factor(week)5                      0.0385101 *
## factor(week)6                      7.056e-08 ***
## factor(week)7                      < 2.2e-16 ***
## factor(week)8                      < 2.2e-16 ***
## factor(week)9                      < 2.2e-16 ***
## factor(week)10                     < 2.2e-16 ***
## factor(week)11                     0.9017547
## factor(week)12                     0.0355964 *
## factor(week)13                     0.1574398
## factor(week)14                     4.177e-07 ***

```

```

## factor(week)15          0.9161762
## factor(week)16          0.1906528
## factor(week)17          0.6399675
## factor(week)18          0.6718241
## factor(week)19          0.0023943 **
## factor(week)20          0.0670757 .
## factor(week)21          0.0443141 *
## factor(week)22          0.0013483 **
## factor(week)23          0.0323520 *
## factor(week)24          0.0467857 *
## factor(week)25          0.0053474 **
## factor(week)26          0.0129709 *
## factor(week)27          0.0347073 *
## factor(week)28          0.0052608 **
## factor(week)29          < 2.2e-16 ***
## factor(week)30          < 2.2e-16 ***
## factor(week)31          3.392e-05 ***
## factor(week)32          3.566e-11 ***
## factor(week)33          2.812e-11 ***
## factor(week)34          1.773e-10 ***
## factor(week)35          0.0217547 *
## factor(week)36          6.612e-11 ***
## factor(week)37          < 2.2e-16 ***
## factor(week)38          < 2.2e-16 ***
## factor(week)39          < 2.2e-16 ***
## factor(week)40          < 2.2e-16 ***
## factor(week)41          < 2.2e-16 ***
## factor(week)42          < 2.2e-16 ***
## factor(week)43          < 2.2e-16 ***
## factor(week)44          < 2.2e-16 ***
## factor(week)45          < 2.2e-16 ***
## factor(week)46          < 2.2e-16 ***
## factor(week)47          < 2.2e-16 ***
## factor(week)48          0.0003557 ***
## factor(week)49          < 2.2e-16 ***
## factor(week)50          < 2.2e-16 ***
## factor(week)51          0.0001636 ***
## factor(week)52          0.0015957 **
## factor(week)53          2.252e-08 ***
## factor(week)54          9.014e-05 ***
## factor(week)55          0.1100314
## factor(week)56          4.753e-16 ***
## factor(week)57          < 2.2e-16 ***
## factor(week)58          < 2.2e-16 ***
## factor(week)59          < 2.2e-16 ***
## factor(week)60          < 2.2e-16 ***
## factor(week)61          < 2.2e-16 ***
## factor(week)62          < 2.2e-16 ***
## factor(week)63          < 2.2e-16 ***
## factor(week)64          < 2.2e-16 ***
## factor(week)65          < 2.2e-16 ***
## factor(week)66          0.0352267 *
## factor(week)67          0.0002676 ***
## factor(week)68          0.5557770

```

```

## factor(week)69          0.5425841
## factor(week)70          0.0003132 ***
## factor(week)71          0.1361709
## factor(week)72          0.0612941 .
## factor(week)73          1.356e-08 ***
## factor(week)74          0.1677188
## factor(week)75          0.8884935
## factor(week)76          7.189e-07 ***
## factor(week)77          1.874e-12 ***
## factor(week)78          1.161e-11 ***
## factor(week)79          3.673e-09 ***
## factor(week)80          1.711e-15 ***
## factor(week)81          < 2.2e-16 ***
## factor(week)82          < 2.2e-16 ***
## factor(week)83          < 2.2e-16 ***
## factor(week)84          < 2.2e-16 ***
## factor(week)85          < 2.2e-16 ***
## factor(week)86          1.615e-13 ***
## factor(week)87          4.165e-09 ***
## factor(week)88          < 2.2e-16 ***
## factor(week)89          1.563e-15 ***
## factor(week)90          < 2.2e-16 ***
## factor(week)91          < 2.2e-16 ***
## factor(week)92          < 2.2e-16 ***
## factor(week)93          < 2.2e-16 ***
## factor(week)94          < 2.2e-16 ***
## factor(week)95          < 2.2e-16 ***
## factor(week)96          < 2.2e-16 ***
## factor(week)97          2.276e-05 ***
## factor(week)98          0.0394105 *
## factor(week)99          0.5936047
## factor(week)100         0.1326924
## factor(week)101         2.724e-14 ***
## factor(week)102         < 2.2e-16 ***
## factor(week)103         < 2.2e-16 ***
## factor(week)104         < 2.2e-16 ***
## factor(week)105         < 2.2e-16 ***
## factor(week)106         < 2.2e-16 ***
## factor(week)107         < 2.2e-16 ***
## factor(week)108         < 2.2e-16 ***
## factor(week)109         < 2.2e-16 ***
## factor(week)110         < 2.2e-16 ***
## factor(week)111         < 2.2e-16 ***
## factor(week)112         < 2.2e-16 ***
## factor(week)113         < 2.2e-16 ***
## factor(week)114         0.0662164 .
## factor(week)115         0.7578758
## factor(week)116         0.5257541
## factor(week)117         8.867e-08 ***
## factor(week)118         2.562e-08 ***
## factor(week)119         7.593e-06 ***
## factor(week)120         2.305e-06 ***
## factor(week)121         0.0923161 .
## factor(week)122         1.153e-05 ***

```

```

## factor(week)123 < 2.2e-16 ***
## factor(week)124 < 2.2e-16 ***
## factor(week)125 < 2.2e-16 ***
## factor(week)126 < 2.2e-16 ***
## factor(week)127 < 2.2e-16 ***
## factor(week)128 < 2.2e-16 ***
## factor(week)129 < 2.2e-16 ***
## factor(week)130 < 2.2e-16 ***
## factor(week)131 0.0641054 .
## factor(week)132 0.0077461 **
## factor(week)133 0.6239884
## factor(week)134 0.0897612 .
## factor(week)135 2.086e-08 ***
## factor(week)136 2.245e-10 ***
## factor(week)137 < 2.2e-16 ***
## factor(week)138 < 2.2e-16 ***
## factor(week)139 < 2.2e-16 ***
## factor(week)140 < 2.2e-16 ***
## factor(week)141 < 2.2e-16 ***
## factor(week)142 < 2.2e-16 ***
## factor(week)143 0.8364528
## factor(week)144 0.0003809 ***
## factor(week)145 5.227e-07 ***
## factor(week)146 2.262e-06 ***
## factor(week)147 0.8899703
## factor(week)148 0.0004354 ***
## ---
## Signif. codes: 0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ',' 1
```

```
coeftest(pool.sqrt3,vcovHC(pool.sqrt3,type="HCO"))
```

```

##
## t test of coefficients:
##
##                               Estimate Std. Error t value
## (Intercept)                -0.0090037  0.0139398 -0.6459
## sqrt(lag(inzidenz, 1))      0.6716197  0.0187314 35.8553
## sqrt(lag(weightednbinz, 1)) 0.2320227  0.0180726 12.8384
## sqrt(I(log(density) * lag(inzidenz, 1))) -0.0273816  0.0059043 -4.6375
## sqrt(I(hotspot * lag(inzidenz, 1)))        0.2275885  0.0215225 10.5745
## sqrt(I(hotspotnb * lag(weightednbinz, 1)))   0.0684351  0.0156301  4.3784
## sqrt(I(rate_zweitimpf * hotspot))          -1.8639884  0.8045745 -2.3167
## sqrt(A60.79.Anteil)            0.2519421  0.0869777  2.8966
## factor(week)3                 -0.0203364  0.0282739 -0.7193
## factor(week)4                 -0.0051157  0.0165980 -0.3082
## factor(week)5                  0.0596600  0.0299148  1.9943
## factor(week)6                  0.3706132  0.0691050  5.3630
## factor(week)7                  1.8098911  0.1129229 16.0277
## factor(week)8                  2.6615388  0.1606138 16.5710
## factor(week)9                  2.5440780  0.1569351 16.2110
## factor(week)10                 2.0238437  0.2167224  9.3384
## factor(week)11                 -0.1578093  0.1900332 -0.8304
## factor(week)12                 -0.5316908  0.1730721 -3.0721
## factor(week)13                 -0.4028482  0.1778487 -2.2651
```

```

## factor(week)14 -0.6601660 0.1032537 -6.3936
## factor(week)15 -0.1263490 0.1166784 -1.0829
## factor(week)16 0.0606365 0.1400011 0.4331
## factor(week)17 -0.1671370 0.1300529 -1.2851
## factor(week)18 -0.0560709 0.1133577 -0.4946
## factor(week)19 -0.3855750 0.1010928 -3.8141
## factor(week)20 -0.2051196 0.0911345 -2.2507
## factor(week)21 0.1360619 0.1029096 1.3221
## factor(week)22 0.2918461 0.1069442 2.7290
## factor(week)23 0.1829929 0.1089016 1.6804
## factor(week)24 0.1456184 0.0965213 1.5087
## factor(week)25 0.2596220 0.1069018 2.4286
## factor(week)26 0.3382934 0.1564085 2.1629
## factor(week)27 0.2092323 0.1238461 1.6895
## factor(week)28 0.2310748 0.1022947 2.2589
## factor(week)29 0.8561132 0.1072440 7.9829
## factor(week)30 1.0768965 0.1186375 9.0772
## factor(week)31 0.4604796 0.1221960 3.7684
## factor(week)32 0.7189201 0.1158008 6.2082
## factor(week)33 0.8414321 0.1389475 6.0558
## factor(week)34 0.6407334 0.1183558 5.4136
## factor(week)35 0.1779981 0.1168264 1.5236
## factor(week)36 0.6043319 0.1096669 5.5106
## factor(week)37 1.3500156 0.1300800 10.3783
## factor(week)38 2.1010923 0.1690859 12.4262
## factor(week)39 2.9987678 0.1880286 15.9485
## factor(week)40 3.6862596 0.2178559 16.9206
## factor(week)41 3.0350199 0.2486233 12.2073
## factor(week)42 2.1336555 0.2518277 8.4727
## factor(week)43 2.0341763 0.2507187 8.1134
## factor(week)44 2.1159849 0.2475835 8.5465
## factor(week)45 1.9054112 0.2317559 8.2216
## factor(week)46 3.1947204 0.2479123 12.8865
## factor(week)47 2.2816013 0.2410252 9.4662
## factor(week)48 0.7865280 0.2607815 3.0160
## factor(week)49 1.7251458 0.2155554 8.0033
## factor(week)50 2.2196569 0.2626102 8.4523
## factor(week)51 0.8110690 0.2561136 3.1668
## factor(week)52 0.4655267 0.1952179 2.3847
## factor(week)53 0.9764289 0.2010069 4.8577
## factor(week)54 0.5852660 0.1876809 3.1184
## factor(week)55 0.1240603 0.1660514 0.7471
## factor(week)56 1.1433023 0.1561164 7.3234
## factor(week)57 1.6145524 0.1776111 9.0904
## factor(week)58 1.7375918 0.1857144 9.3563
## factor(week)59 2.2026012 0.2049364 10.7477
## factor(week)60 2.5889541 0.2107705 12.2833
## factor(week)61 2.8208467 0.2318247 12.1680
## factor(week)62 1.6838712 0.2184136 7.7096
## factor(week)63 2.5920040 0.2271942 11.4088
## factor(week)64 3.0029954 0.2811699 10.6804
## factor(week)65 1.9453831 0.2344223 8.2986
## factor(week)66 0.4209065 0.2590519 1.6248
## factor(week)67 0.7226782 0.2327895 3.1044

```

```

## factor(week)68 -0.0077082 0.2025430 -0.0381
## factor(week)69 -0.2307762 0.1850686 -1.2470
## factor(week)70 -0.6596155 0.1542313 -4.2768
## factor(week)71 -0.3132566 0.1407987 -2.2249
## factor(week)72 0.1984230 0.1520528 1.3050
## factor(week)73 -0.7304397 0.1168378 -6.2517
## factor(week)74 -0.2196061 0.1113709 -1.9718
## factor(week)75 -0.0633886 0.0931616 -0.6804
## factor(week)76 0.4937873 0.1134555 4.3523
## factor(week)77 0.9201976 0.1362014 6.7562
## factor(week)78 0.7114498 0.1133506 6.2765
## factor(week)79 0.6340317 0.1180359 5.3715
## factor(week)80 0.8023156 0.1103011 7.2739
## factor(week)81 1.7612005 0.1343276 13.1112
## factor(week)82 2.1286645 0.1491269 14.2742
## factor(week)83 2.7906332 0.1900599 14.6829
## factor(week)84 1.9131602 0.2055838 9.3060
## factor(week)85 1.7767422 0.1852936 9.5888
## factor(week)86 1.3087738 0.1872714 6.9886
## factor(week)87 1.0733273 0.1980387 5.4198
## factor(week)88 1.8191756 0.1725592 10.5423
## factor(week)89 1.5570389 0.2135368 7.2917
## factor(week)90 2.5153406 0.2206335 11.4005
## factor(week)91 4.5585890 0.2398333 19.0073
## factor(week)92 4.6738330 0.2709868 17.2475
## factor(week)93 4.8049974 0.2843813 16.8963
## factor(week)94 7.8205175 0.3450488 22.6650
## factor(week)95 5.4138780 0.4274990 12.6641
## factor(week)96 3.7353337 0.4214078 8.8639
## factor(week)97 1.8293830 0.4598052 3.9786
## factor(week)98 0.6173978 0.3572908 1.7280
## factor(week)99 0.0762843 0.3536208 0.2157
## factor(week)100 -0.5648331 0.3038874 -1.8587
## factor(week)101 1.9534222 0.2708218 7.2129
## factor(week)102 5.4362111 0.3084588 17.6238
## factor(week)103 8.0648359 0.3803165 21.2056
## factor(week)104 10.5005606 0.4843117 21.6814
## factor(week)105 12.0726041 0.6633020 18.2008
## factor(week)106 10.4488623 0.7202112 14.5081
## factor(week)107 8.7099689 0.7290523 11.9470
## factor(week)108 7.3024949 0.7623731 9.5786
## factor(week)109 5.7056916 0.7018813 8.1291
## factor(week)110 5.2875739 0.6417959 8.2387
## factor(week)111 12.4298243 0.6340874 19.6027
## factor(week)112 8.8785173 0.7893327 11.2481
## factor(week)113 8.2547022 0.8121090 10.1645
## factor(week)114 1.5264793 0.8998387 1.6964
## factor(week)115 0.0973191 0.7348411 0.1324
## factor(week)116 0.2542726 0.6188710 0.4109
## factor(week)117 2.7247240 0.5345871 5.0969
## factor(week)118 2.7312924 0.5141862 5.3119
## factor(week)119 2.0501221 0.4880471 4.2007
## factor(week)120 1.9868899 0.4490609 4.4245
## factor(week)121 -0.8449120 0.4145577 -2.0381

```

```

## factor(week)122          -1.6390077  0.3389147 -4.8360
## factor(week)123          4.1774460  0.3358901 12.4369
## factor(week)124          4.2508807  0.3674242 11.5694
## factor(week)125          4.6293378  0.3674792 12.5976
## factor(week)126          7.0334190  0.3922133 17.9326
## factor(week)127          5.4626519  0.4158729 13.1354
## factor(week)128          6.1396693  0.4318491 14.2172
## factor(week)129          7.3443747  0.4595377 15.9821
## factor(week)130          5.4027762  0.4979930 10.8491
## factor(week)131          0.9206741  0.5799606 1.5875
## factor(week)132          -1.4200439 0.4689505 -3.0281
## factor(week)133          -0.3471472 0.3494443 -0.9934
## factor(week)134          0.3759381  0.3254627 1.1551
## factor(week)135          2.0991699  0.4065351 5.1636
## factor(week)136          1.9583326  0.3335673 5.8709
## factor(week)137          2.6027927  0.3031120 8.5869
## factor(week)138          3.8126237  0.3338053 11.4217
## factor(week)139          5.4293937  0.2890941 18.7807
## factor(week)140          8.9396763  0.3387250 26.3921
## factor(week)141          6.9461325  0.4894678 14.1912
## factor(week)142          4.8716569  0.5296432 9.1980
## factor(week)143          -0.3117571 0.5287483 -0.5896
## factor(week)144          -1.6330579 0.4019150 -4.0632
## factor(week)145          -1.8832717 0.3368823 -5.5903
## factor(week)146          1.0586096  0.2600566 4.0707
## factor(week)147          -0.2086125 0.2347138 -0.8888
## factor(week)148          0.6315734  0.2323860 2.7178
##
## Pr(>|t|)
## (Intercept)          0.5183552
## sqrt(lag(inzidenz, 1)) < 2.2e-16 ***
## sqrt(lag(weightednbinz, 1)) < 2.2e-16 ***
## sqrt(I(log(density) * lag(inzidenz, 1))) 3.558e-06 ***
## sqrt(I(hotspot * lag(inzidenz, 1))) < 2.2e-16 ***
## sqrt(I(hotspotnb * lag(weightednbinz, 1))) 1.204e-05 ***
## sqrt(I(rate_zweitimpf * hotspot))          0.0205324 *
## sqrt(A60.79.Anteil)           0.0037778 **
## factor(week)3            0.4719905
## factor(week)4            0.7579239
## factor(week)5            0.0461351 *
## factor(week)6            8.313e-08 ***
## factor(week)7            < 2.2e-16 ***
## factor(week)8            < 2.2e-16 ***
## factor(week)9            < 2.2e-16 ***
## factor(week)10           < 2.2e-16 ***
## factor(week)11           0.4063098
## factor(week)12           0.0021298 **
## factor(week)13           0.0235207 *
## factor(week)14           1.671e-10 ***
## factor(week)15           0.2788792
## factor(week)16           0.6649384
## factor(week)17           0.1987625
## factor(week)18           0.6208640
## factor(week)19           0.0001373 ***
## factor(week)20           0.0244179 *

```

```

## factor(week)21          0.1861401
## factor(week)22          0.0063614 **
## factor(week)23          0.0929114 .
## factor(week)24          0.1314066
## factor(week)25          0.0151697 *
## factor(week)26          0.0305670 *
## factor(week)27          0.0911546 .
## factor(week)28          0.0239042 *
## factor(week)29          1.541e-15 ***
## factor(week)30          < 2.2e-16 ***
## factor(week)31          0.0001650 ***
## factor(week)32          5.510e-10 ***
## factor(week)33          1.433e-09 ***
## factor(week)34          6.278e-08 ***
## factor(week)35          0.1276282
## factor(week)36          3.639e-08 ***
## factor(week)37          < 2.2e-16 ***
## factor(week)38          < 2.2e-16 ***
## factor(week)39          < 2.2e-16 ***
## factor(week)40          < 2.2e-16 ***
## factor(week)41          < 2.2e-16 ***
## factor(week)42          < 2.2e-16 ***
## factor(week)43          5.332e-16 ***
## factor(week)44          < 2.2e-16 ***
## factor(week)45          < 2.2e-16 ***
## factor(week)46          < 2.2e-16 ***
## factor(week)47          < 2.2e-16 ***
## factor(week)48          0.0025656 **
## factor(week)49          1.307e-15 ***
## factor(week)50          < 2.2e-16 ***
## factor(week)51          0.0015444 **
## factor(week)52          0.0171086 *
## factor(week)53          1.201e-06 ***
## factor(week)54          0.0018220 **
## factor(week)55          0.4550037
## factor(week)56          2.550e-13 ***
## factor(week)57          < 2.2e-16 ***
## factor(week)58          < 2.2e-16 ***
## factor(week)59          < 2.2e-16 ***
## factor(week)60          < 2.2e-16 ***
## factor(week)61          < 2.2e-16 ***
## factor(week)62          1.348e-14 ***
## factor(week)63          < 2.2e-16 ***
## factor(week)64          < 2.2e-16 ***
## factor(week)65          < 2.2e-16 ***
## factor(week)66          0.1042287
## factor(week)67          0.0019103 **
## factor(week)68          0.9696426
## factor(week)69          0.2124270
## factor(week)70          1.909e-05 ***
## factor(week)71          0.0261069 *
## factor(week)72          0.1919276
## factor(week)73          4.177e-10 ***
## factor(week)74          0.0486471 *

```

```

## factor(week)75          0.4962527
## factor(week)76          1.357e-05 *** 
## factor(week)77          1.473e-11 *** 
## factor(week)78          3.564e-10 *** 
## factor(week)79          7.933e-08 *** 
## factor(week)80          3.679e-13 *** 
## factor(week)81          < 2.2e-16 *** 
## factor(week)82          < 2.2e-16 *** 
## factor(week)83          < 2.2e-16 *** 
## factor(week)84          < 2.2e-16 *** 
## factor(week)85          < 2.2e-16 *** 
## factor(week)86          2.901e-12 *** 
## factor(week)87          6.066e-08 *** 
## factor(week)88          < 2.2e-16 *** 
## factor(week)89          3.226e-13 *** 
## factor(week)90          < 2.2e-16 *** 
## factor(week)91          < 2.2e-16 *** 
## factor(week)92          < 2.2e-16 *** 
## factor(week)93          < 2.2e-16 *** 
## factor(week)94          < 2.2e-16 *** 
## factor(week)95          < 2.2e-16 *** 
## factor(week)96          < 2.2e-16 *** 
## factor(week)97          6.967e-05 *** 
## factor(week)98          0.0840107 .
## factor(week)99          0.8292066
## factor(week)100         0.0630918 .
## factor(week)101         5.757e-13 *** 
## factor(week)102         < 2.2e-16 *** 
## factor(week)103         < 2.2e-16 *** 
## factor(week)104         < 2.2e-16 *** 
## factor(week)105         < 2.2e-16 *** 
## factor(week)106         < 2.2e-16 *** 
## factor(week)107         < 2.2e-16 *** 
## factor(week)108         < 2.2e-16 *** 
## factor(week)109         4.685e-16 *** 
## factor(week)110         < 2.2e-16 *** 
## factor(week)111         < 2.2e-16 *** 
## factor(week)112         < 2.2e-16 *** 
## factor(week)113         < 2.2e-16 *** 
## factor(week)114         0.0898340 .
## factor(week)115         0.8946417
## factor(week)116         0.6811776
## factor(week)117         3.498e-07 *** 
## factor(week)118         1.102e-07 *** 
## factor(week)119         2.678e-05 *** 
## factor(week)120         9.738e-06 *** 
## factor(week)121         0.0415583 *
## factor(week)122         1.339e-06 *** 
## factor(week)123         < 2.2e-16 *** 
## factor(week)124         < 2.2e-16 *** 
## factor(week)125         < 2.2e-16 *** 
## factor(week)126         < 2.2e-16 *** 
## factor(week)127         < 2.2e-16 *** 
## factor(week)128         < 2.2e-16 ***

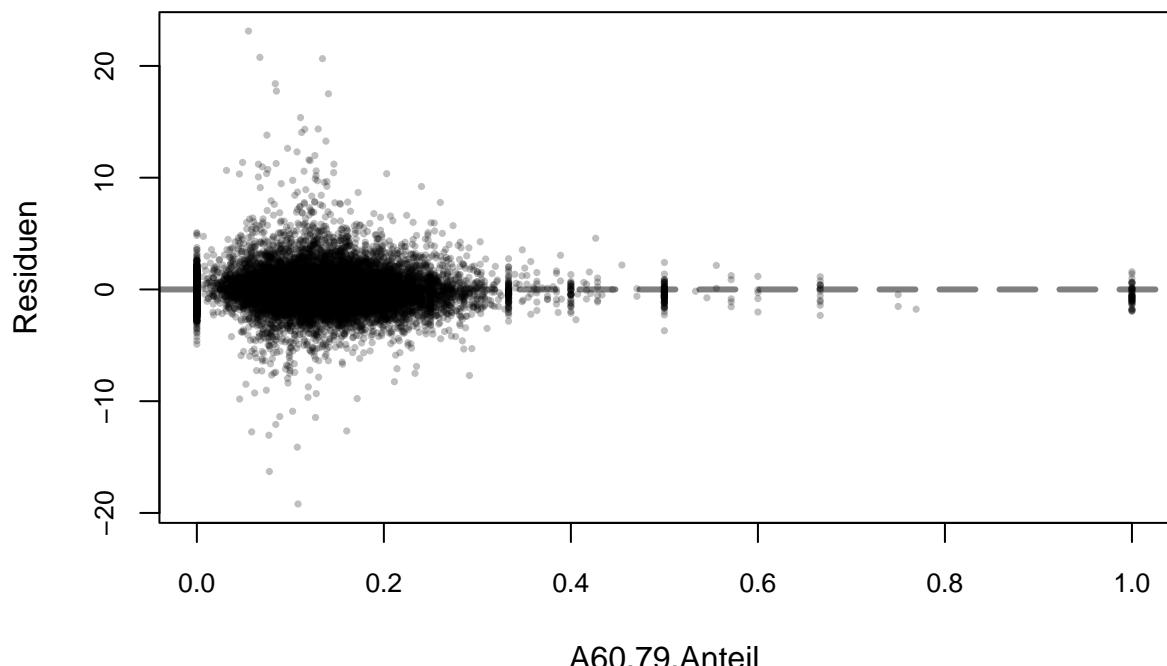
```

```

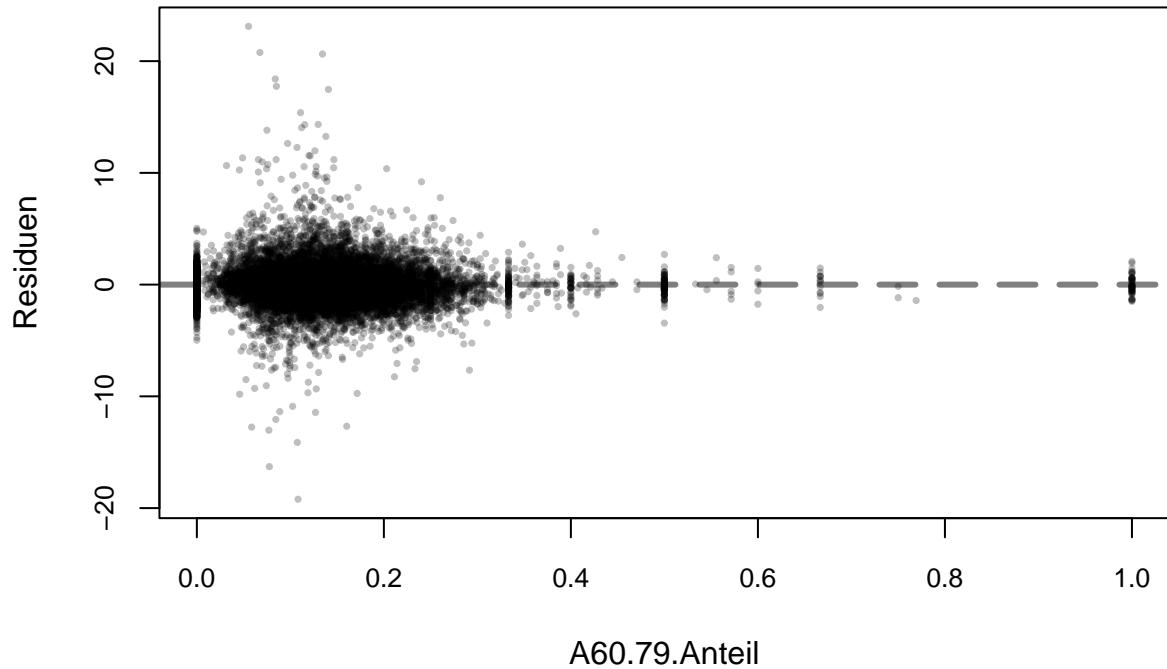
## factor(week)129 < 2.2e-16 ***
## factor(week)130 < 2.2e-16 ***
## factor(week)131 0.1124273
## factor(week)132 0.0024652 **
## factor(week)133 0.3205194
## factor(week)134 0.2480741
## factor(week)135 2.456e-07 ***
## factor(week)136 4.433e-09 ***
## factor(week)137 < 2.2e-16 ***
## factor(week)138 < 2.2e-16 ***
## factor(week)139 < 2.2e-16 ***
## factor(week)140 < 2.2e-16 ***
## factor(week)141 < 2.2e-16 ***
## factor(week)142 < 2.2e-16 ***
## factor(week)143 0.5554595
## factor(week)144 4.867e-05 ***
## factor(week)145 2.309e-08 ***
## factor(week)146 4.713e-05 ***
## factor(week)147 0.3741283
## factor(week)148 0.0065803 **
## ---
## Signif. codes: 0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1

```

Hier noch die Residuen-plots zu der Variable:



```
## integer(0)
```



```
## integer(0)
```

Hier ist nochmal das “pool”-Modell mit Gewicht = $1/\sqrt{\text{Inzidenz}+1}$:

```
pool.weighted <- plm(inzidenz ~ lag(inzidenz, 1) + lag(weightednbinz, 1)
+ I(log(density)*lag(inzidenz, 1)) + I(hotspot * lag(inzidenz, 1))
+ I(hotspotnb * lag(weightednbinz, 1)) + I(rate_zweitimpf * hotspot)
+ A60.79.Anteil
+ factor(week)
, data = df4_pan, weights = 1/(sqrt(inzidenz + 1)), model = "pooling")
summary(pool.weighted)
```

```
## Pooling Model
##
## Call:
## plm(formula = inzidenz ~ lag(inzidenz, 1) + lag(weightednbinz,
##     1) + I(log(density) * lag(inzidenz, 1)) + I(hotspot * lag(inzidenz,
##     1)) + I(hotspotnb * lag(weightednbinz, 1)) + I(rate_zweitimpf *
##     hotspot) + A60.79.Anteil + factor(week), data = df4_pan,
##     weights = 1/(sqrt(inzidenz + 1)), model = "pooling")
##
## Balanced Panel: n = 96, T = 147, N = 14112
##
## Residuals:
##      Min.   1st Qu.    Median     Mean   3rd Qu.    Max.
##
```

```

## -277.552   -4.848    0.008    0.841    5.281   301.285
##
## Coefficients:
##                               Estimate Std. Error t-value Pr(>|t|)
## (Intercept)                -4.9522e-03 1.9515e+00 -0.0025 0.9979753
## lag(inzidenz, 1)            6.2232e-01 1.0092e-02 61.6633 < 2.2e-16
## lag(weightednbinz, 1)      2.3487e-01 1.0728e-02 21.8939 < 2.2e-16
## I(log(density) * lag(inzidenz, 1)) -1.6002e-02 1.4645e-03 -10.9267 < 2.2e-16
## I(hotspot * lag(inzidenz, 1))      5.7458e-01 7.0987e-02  8.0942 6.238e-16
## I(hotspotnb * lag(weightednbinz, 1)) 1.4709e-01 3.8654e-02  3.8054 0.0001422
## I(rate_zweitimpf * hotspot)        -8.1715e+01 4.5891e+01 -1.7806 0.0749969
## A60.79.Anteil                  -2.1802e+00 2.5792e+00 -0.8453 0.3979525
## factor(week)3                  -1.1638e-02 2.7560e+00 -0.0042 0.9966308
## factor(week)4                  -2.9304e-03 2.7536e+00 -0.0011 0.9991509
## factor(week)5                  6.0807e-02 2.7646e+00  0.0220 0.9824520
## factor(week)6                  3.6834e-01 2.8443e+00  0.1295 0.8969647
## factor(week)7                  4.5690e+00 3.5133e+00  1.3005 0.1934586
## factor(week)8                  1.8492e+01 4.7893e+00  3.8611 0.0001134
## factor(week)9                  2.8651e+01 5.7498e+00  4.9830 6.334e-07
## factor(week)10                 2.5482e+01 5.9620e+00  4.2741 1.932e-05
## factor(week)11                 -7.2705e+00 5.5148e+00 -1.3184 0.1874051
## factor(week)12                 -9.8541e+00 4.9390e+00 -1.9951 0.0460473
## factor(week)13                 -6.1089e+00 4.3868e+00 -1.3926 0.1637768
## factor(week)14                 -5.4558e+00 3.8659e+00 -1.4113 0.1581850
## factor(week)15                 -1.2770e+00 3.6262e+00 -0.3522 0.7247305
## factor(week)16                 -4.3008e-01 3.4954e+00 -0.1230 0.9020750
## factor(week)17                 -1.5417e+00 3.3176e+00 -0.4647 0.6421458
## factor(week)18                 -6.5202e-01 3.2353e+00 -0.2015 0.8402835
## factor(week)19                 -1.1284e+00 3.0306e+00 -0.3723 0.7096508
## factor(week)20                 -5.1106e-01 2.9272e+00 -0.1746 0.8614063
## factor(week)21                 -9.0158e-02 2.9820e+00 -0.0302 0.9758811
## factor(week)22                 4.2618e-01 3.0430e+00  0.1401 0.8886220
## factor(week)23                 1.3181e-01 3.0729e+00  0.0429 0.9657878
## factor(week)24                 7.4671e-02 3.0840e+00  0.0242 0.9806837
## factor(week)25                 2.0753e-01 3.1421e+00  0.0660 0.9473392
## factor(week)26                 4.7173e-01 3.1863e+00  0.1481 0.8823047
## factor(week)27                 -4.2976e-01 3.2428e+00 -0.1325 0.8945683
## factor(week)28                 1.4214e-01 3.2817e+00  0.0433 0.9654527
## factor(week)29                 2.6369e+00 3.5761e+00  0.7374 0.4609082
## factor(week)30                 4.1688e+00 3.9575e+00  1.0534 0.2921853
## factor(week)31                 1.2618e+00 3.9276e+00  0.3213 0.7480184
## factor(week)32                 2.9130e+00 4.0240e+00  0.7239 0.4691288
## factor(week)33                 3.9208e+00 4.1846e+00  0.9370 0.3487999
## factor(week)34                 3.0794e+00 4.2325e+00  0.7276 0.4668894
## factor(week)35                 -1.5104e-01 4.0841e+00 -0.0370 0.9704995
## factor(week)36                 2.8949e+00 4.1461e+00  0.6982 0.4850500
## factor(week)37                 8.7666e+00 4.5077e+00  1.9448 0.0518162
## factor(week)38                 1.9061e+01 5.1844e+00  3.6767 0.0002372
## factor(week)39                 3.9646e+01 6.1721e+00  6.4235 1.375e-10
## factor(week)40                 6.3267e+01 6.8261e+00  9.2684 < 2.2e-16
## factor(week)41                 5.7684e+01 7.2498e+00  7.9567 1.902e-15
## factor(week)42                 3.8764e+01 7.3435e+00  5.2787 1.320e-07
## factor(week)43                 3.6115e+01 7.3698e+00  4.9004 9.673e-07
## factor(week)44                 3.8477e+01 7.3776e+00  5.2154 1.861e-07

```

```

## factor(week)45          3.3092e+01 7.3576e+00 4.4977 6.926e-06
## factor(week)46          6.8029e+01 7.6840e+00 8.8532 < 2.2e-16
## factor(week)47          4.5508e+01 7.7470e+00 5.8743 4.343e-09
## factor(week)48          5.3898e+00 7.4176e+00 0.7266 0.4674707
## factor(week)49          2.8440e+01 7.2270e+00 3.9353 8.351e-05
## factor(week)50          4.0473e+01 7.3291e+00 5.5222 3.408e-08
## factor(week)51          6.9298e+00 7.0451e+00 0.9836 0.3253108
## factor(week)52          -1.0696e-01 6.6307e+00 -0.0161 0.9871302
## factor(week)53          1.0765e+01 6.3720e+00 1.6894 0.0911631
## factor(week)54          3.0993e+00 6.0114e+00 0.5156 0.6061646
## factor(week)55          -3.6539e+00 5.5889e+00 -0.6538 0.5132625
## factor(week)56          1.1265e+01 5.5665e+00 2.0238 0.0430113
## factor(week)57          1.7978e+01 5.6915e+00 3.1588 0.0015875
## factor(week)58          2.0810e+01 5.8923e+00 3.5317 0.0004143
## factor(week)59          3.0284e+01 6.1944e+00 4.8890 1.025e-06
## factor(week)60          4.0543e+01 6.5735e+00 6.1677 7.120e-10
## factor(week)61          4.9425e+01 6.9633e+00 7.0979 1.328e-12
## factor(week)62          2.6740e+01 7.0085e+00 3.8153 0.0001366
## factor(week)63          4.8279e+01 7.2076e+00 6.6983 2.189e-11
## factor(week)64          6.0894e+01 7.5297e+00 8.0871 6.608e-16
## factor(week)65          3.6142e+01 7.5635e+00 4.7785 1.784e-06
## factor(week)66          -2.6188e+00 7.1042e+00 -0.3686 0.7124147
## factor(week)67          4.9981e+00 6.7249e+00 0.7432 0.4573607
## factor(week)68          -7.4099e+00 6.2264e+00 -1.1901 0.2340344
## factor(week)69          -8.9067e+00 5.6280e+00 -1.5826 0.1135433
## factor(week)70          -1.1483e+01 4.9518e+00 -2.3189 0.0204161
## factor(week)71          -5.4433e+00 4.5210e+00 -1.2040 0.2286041
## factor(week)72          -5.8329e-01 4.2598e+00 -0.1369 0.8910898
## factor(week)73          -6.1020e+00 3.7431e+00 -1.6302 0.1030808
## factor(week)74          -1.7638e+00 3.4510e+00 -0.5111 0.6092823
## factor(week)75          -9.4831e-01 3.3425e+00 -0.2837 0.7766359
## factor(week)76          1.3110e+00 3.4293e+00 0.3823 0.7022602
## factor(week)77          3.0772e+00 3.7129e+00 0.8288 0.4072360
## factor(week)78          2.4833e+00 3.8572e+00 0.6438 0.5197148
## factor(week)79          2.1510e+00 3.9441e+00 0.5454 0.5855103
## factor(week)80          3.8473e+00 4.1343e+00 0.9306 0.3520774
## factor(week)81          1.2160e+01 4.6737e+00 2.6018 0.0092834
## factor(week)82          1.9539e+01 5.1796e+00 3.7722 0.0001625
## factor(week)83          3.2240e+01 5.7163e+00 5.6400 1.734e-08
## factor(week)84          2.2948e+01 5.8927e+00 3.8944 9.890e-05
## factor(week)85          2.2376e+01 6.0663e+00 3.6886 0.0002263
## factor(week)86          1.4886e+01 6.0224e+00 2.4718 0.0134541
## factor(week)87          1.1119e+01 5.9440e+00 1.8706 0.0614215
## factor(week)88          2.3263e+01 6.1484e+00 3.7836 0.0001552
## factor(week)89          1.9352e+01 6.1722e+00 3.1354 0.0017200
## factor(week)90          3.7383e+01 6.4423e+00 5.8027 6.666e-09
## factor(week)91          8.9367e+01 7.2815e+00 12.2731 < 2.2e-16
## factor(week)92          1.1049e+02 8.0374e+00 13.7470 < 2.2e-16
## factor(week)93          1.3096e+02 8.7478e+00 14.9704 < 2.2e-16
## factor(week)94          2.7535e+02 1.0056e+01 27.3816 < 2.2e-16
## factor(week)95          2.0196e+02 1.1229e+01 17.9844 < 2.2e-16
## factor(week)96          1.2765e+02 1.1675e+01 10.9339 < 2.2e-16
## factor(week)97          3.7444e+01 1.1321e+01 3.3073 0.0009443
## factor(week)98          -1.1359e+01 1.0285e+01 -1.1044 0.2694334

```

```

## factor(week)99          -2.5441e+01  9.1254e+00  -2.7880  0.0053112
## factor(week)100         -3.5002e+01  7.9880e+00  -4.3818  1.185e-05
## factor(week)101          3.6514e+01  7.6618e+00   4.7657  1.901e-06
## factor(week)102          1.4162e+02  8.4561e+00  16.7477 < 2.2e-16
## factor(week)103          2.7300e+02  9.7357e+00  28.0409 < 2.2e-16
## factor(week)104          4.6397e+02  1.1873e+01  39.0790 < 2.2e-16
## factor(week)105          6.7349e+02  1.4539e+01  46.3241 < 2.2e-16
## factor(week)106          6.5301e+02  1.8139e+01  35.9997 < 2.2e-16
## factor(week)107          5.5727e+02  2.0921e+01  26.6373 < 2.2e-16
## factor(week)108          4.5447e+02  2.2206e+01  20.4665 < 2.2e-16
## factor(week)109          3.2440e+02  2.2404e+01  14.4796 < 2.2e-16
## factor(week)110          2.8569e+02  2.1295e+01  13.4159 < 2.2e-16
## factor(week)111          8.9618e+02  2.0979e+01  42.7186 < 2.2e-16
## factor(week)112          6.2530e+02  2.5276e+01  24.7386 < 2.2e-16
## factor(week)113          5.8211e+02  2.6291e+01  22.1412 < 2.2e-16
## factor(week)114          -4.0666e+01  2.6389e+01  -1.5410  0.1233309
## factor(week)115          -1.1970e+02  2.1422e+01  -5.5877  2.343e-08
## factor(week)116          -7.4196e+01  1.6783e+01  -4.4210  9.898e-06
## factor(week)117          8.3462e+01   1.4206e+01   5.8750  4.324e-09
## factor(week)118          8.3462e+01   1.3182e+01   6.3316  2.500e-10
## factor(week)119          4.8334e+01   1.2287e+01   3.9339  8.400e-05
## factor(week)120          4.5885e+01   1.1342e+01   4.0456  5.246e-05
## factor(week)121          -6.9042e+01   1.0125e+01  -6.8192  9.533e-12
## factor(week)122          -7.4262e+01   8.4123e+00  -8.8278 < 2.2e-16
## factor(week)123          1.0387e+02   8.3256e+00  12.4761 < 2.2e-16
## factor(week)124          1.1555e+02   8.8554e+00  13.0488 < 2.2e-16
## factor(week)125          1.4029e+02   9.4553e+00  14.8375 < 2.2e-16
## factor(week)126          2.6001e+02   1.0427e+01  24.9370 < 2.2e-16
## factor(week)127          2.1198e+02   1.1465e+01  18.4884 < 2.2e-16
## factor(week)128          2.6134e+02   1.2297e+01  21.2534 < 2.2e-16
## factor(week)129          3.4406e+02   1.3322e+01  25.8271 < 2.2e-16
## factor(week)130          2.4808e+02   1.4340e+01  17.3001 < 2.2e-16
## factor(week)131          -1.6074e+01   1.3990e+01  -1.1490  0.2505806
## factor(week)132          -1.1103e+02   1.1635e+01  -9.5422 < 2.2e-16
## factor(week)133          -4.2093e+01   9.5575e+00  -4.4042  1.070e-05
## factor(week)134          -8.9624e+00   8.4760e+00  -1.0574  0.2903509
## factor(week)135          4.0460e+01   8.1664e+00   4.9545  7.338e-07
## factor(week)136          3.8377e+01   8.0673e+00   4.7571  1.984e-06
## factor(week)137          5.5428e+01   8.0990e+00   6.8438  8.032e-12
## factor(week)138          9.3749e+01   8.3811e+00  11.1858 < 2.2e-16
## factor(week)139          1.6277e+02   9.1964e+00  17.6992 < 2.2e-16
## factor(week)140          3.5809e+02   1.1619e+01  30.8183 < 2.2e-16
## factor(week)141          3.1260e+02   1.2720e+01  24.5749 < 2.2e-16
## factor(week)142          2.0780e+02   1.3684e+01  15.1851 < 2.2e-16
## factor(week)143          -7.3789e+01   1.2987e+01  -5.6816  1.361e-08
## factor(week)144          -1.0375e+02   1.0516e+01  -9.8661 < 2.2e-16
## factor(week)145          -8.0609e+01   8.4330e+00  -9.5587 < 2.2e-16
## factor(week)146          1.4902e+01   7.6155e+00   1.9568  0.0503921
## factor(week)147          -1.4623e+01   6.9545e+00  -2.1026  0.0355156
## factor(week)148          5.3924e+00   6.5545e+00   0.8227  0.4106916
##
## (Intercept)                ***
## lag(inzidenz, 1)           ***
## lag(weightednbinz, 1)

```

```

## I(log(density) * lag(inzidenz, 1)) ***  

## I(hotspot * lag(inzidenz, 1)) ***  

## I(hotspotnb * lag(weightednbinz, 1)) ***  

## I(rate_zweitimpf * hotspot) .  

## A60.79.Anteil  

## factor(week)3  

## factor(week)4  

## factor(week)5  

## factor(week)6  

## factor(week)7  

## factor(week)8 ***  

## factor(week)9 ***  

## factor(week)10 ***  

## factor(week)11  

## factor(week)12 *  

## factor(week)13  

## factor(week)14  

## factor(week)15  

## factor(week)16  

## factor(week)17  

## factor(week)18  

## factor(week)19  

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## factor(week)34  

## factor(week)35  

## factor(week)36  

## factor(week)37 .  

## factor(week)38 ***  

## factor(week)39 ***  

## factor(week)40 ***  

## factor(week)41 ***  

## factor(week)42 ***  

## factor(week)43 ***  

## factor(week)44 ***  

## factor(week)45 ***  

## factor(week)46 ***  

## factor(week)47 ***  

## factor(week)48 ***  

## factor(week)49 ***  

## factor(week)50 ***  

## factor(week)51

```

```

## factor(week)52
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## factor(week)98
## factor(week)99
## factor(week)100
## factor(week)101
## factor(week)102
## factor(week)103
## factor(week)104
## factor(week)105

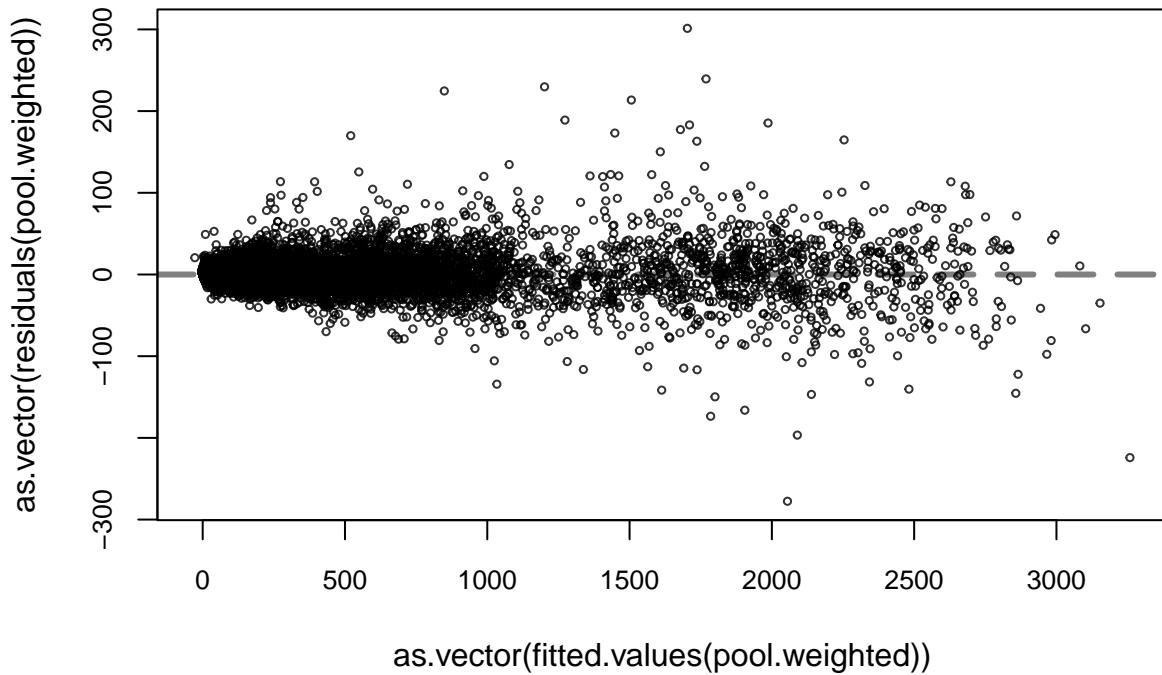
```

```

## factor(week)106      ***
## factor(week)107      ***
## factor(week)108      ***
## factor(week)109      ***
## factor(week)110      ***
## factor(week)111      ***
## factor(week)112      ***
## factor(week)113      ***
## factor(week)114      ***
## factor(week)115      ***
## factor(week)116      ***
## factor(week)117      ***
## factor(week)118      ***
## factor(week)119      ***
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## factor(week)121      ***
## factor(week)122      ***
## factor(week)123      ***
## factor(week)124      ***
## factor(week)125      ***
## factor(week)126      ***
## factor(week)127      ***
## factor(week)128      ***
## factor(week)129      ***
## factor(week)130      ***
## factor(week)131      ***
## factor(week)132      ***
## factor(week)133      ***
## factor(week)134      ***
## factor(week)135      ***
## factor(week)136      ***
## factor(week)137      ***
## factor(week)138      ***
## factor(week)139      ***
## factor(week)140      ***
## factor(week)141      ***
## factor(week)142      ***
## factor(week)143      ***
## factor(week)144      ***
## factor(week)145      ***
## factor(week)146      .
## factor(week)147      *
## factor(week)148      **
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
## Total Sum of Squares:    4132400000
## Residual Sum of Squares: 5044900
## R-Squared:        0.95751
## Adj. R-Squared:  0.95705
## F-statistic: 2437.9 on 153 and 13958 DF, p-value: < 2.22e-16

```

```
plot(as.vector(fitted.values(pool.weighted)), as.vector(residuals(pool.weighted)),cex.axis = 0.8,pch=21)
```



```
## integer(0)
```

Hier sind nochmal die Wellen geschätzt mit “pool”, “pool.sqrt” und “pool.weighted”:

```
r_squares<-cbind(weighted=weighted_r_squared,squareroot=sqrt_r_squared,pooled=pooled_r_squared)

r_squares

##          weighted squareroot     pooled
## nullte.adjrsq 0.3645280 0.4413429 0.3689052
## erste.adjrsq  0.7951259 0.8265020 0.7977094
## zweite.adjrsq 0.5240154 0.6426724 0.5353590
## dritte.adjrsq 0.7689552 0.8209038 0.7691873
## vierte.adjrsq 0.8383579 0.8793703 0.8388131
## fuenfte.adjrsq 0.3737959 0.4170231 0.3802326
## sechste.adjrsq 0.9327999 0.9552067 0.9332220
## siebte.adjrsq 0.9285425 0.9492431 0.9287879
## zweite_a.adjrsq 0.2829493 0.3478480 0.2980507
## zweite_b.adjrsq 0.5035753 0.5386395 0.5093895
## sechste_a.adjrsq 0.7646960 0.7971482 0.7657254
## sechste_b.adjrsq 0.8938526 0.9251365 0.8944070
```