# Zusammenfassung Neu

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Ausgangsmodell “pool” und transformierte “pool”-Modellle mit der Wurzelfunktion:

```
pool <- 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, model = "pooling")

pool.sqrt <- plm(sqrt(inzidenz) ~ sqrt(lag(inzidenz, 1)) + sqrt(lag(weightednbinz, 1))
                 + sqrt(I(log(density)*lag(inzidenz, 1))) + sqrt(I(hotspot * lag(inzidenz, 1)))
                 + sqrt(I(hotspotnb * lag(weightednbinz, 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(weightednbinz, 1))
                 + I(log(density)*sqrt(lag(inzidenz, 1))) + sqrt(I(hotspot * lag(inzidenz, 1)))
                 + sqrt(I(hotspotnb * lag(weightednbinz, 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(weightednbinz, 1))
                 + sqrt(I(log(density)*lag(inzidenz, 1))) + sqrt(I(hotspot * lag(inzidenz, 1)))
                 + sqrt(I(hotspotnb * lag(weightednbinz, 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
```

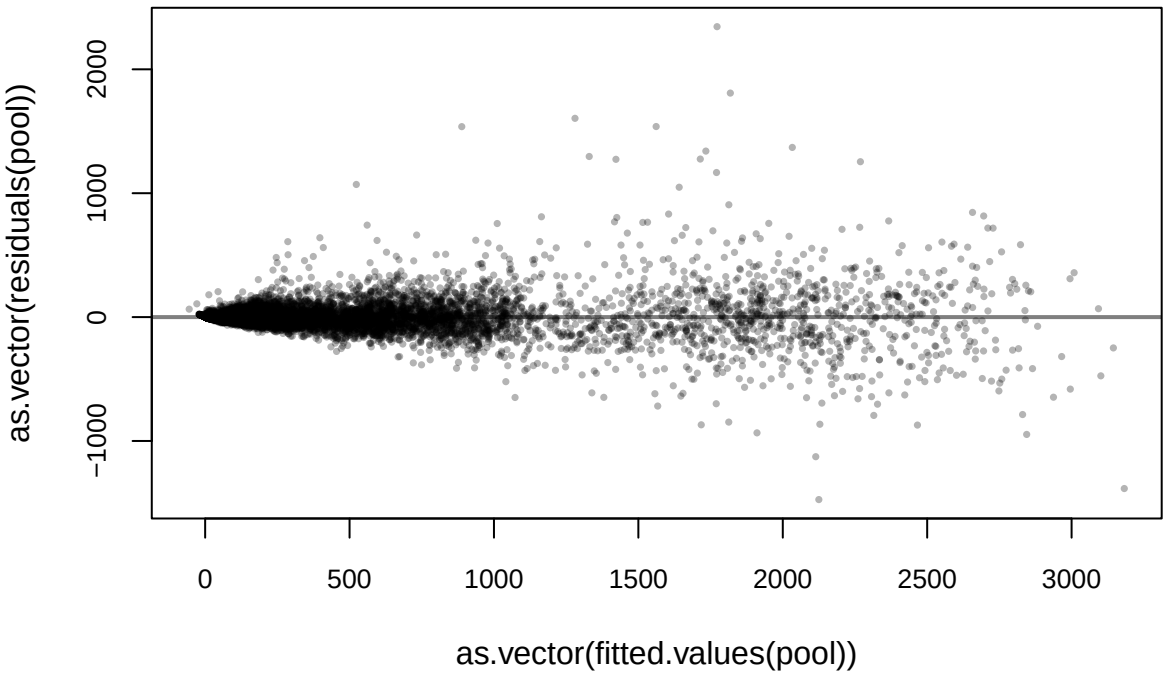
```
stats::AIC(pool.sqrt2)
```

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

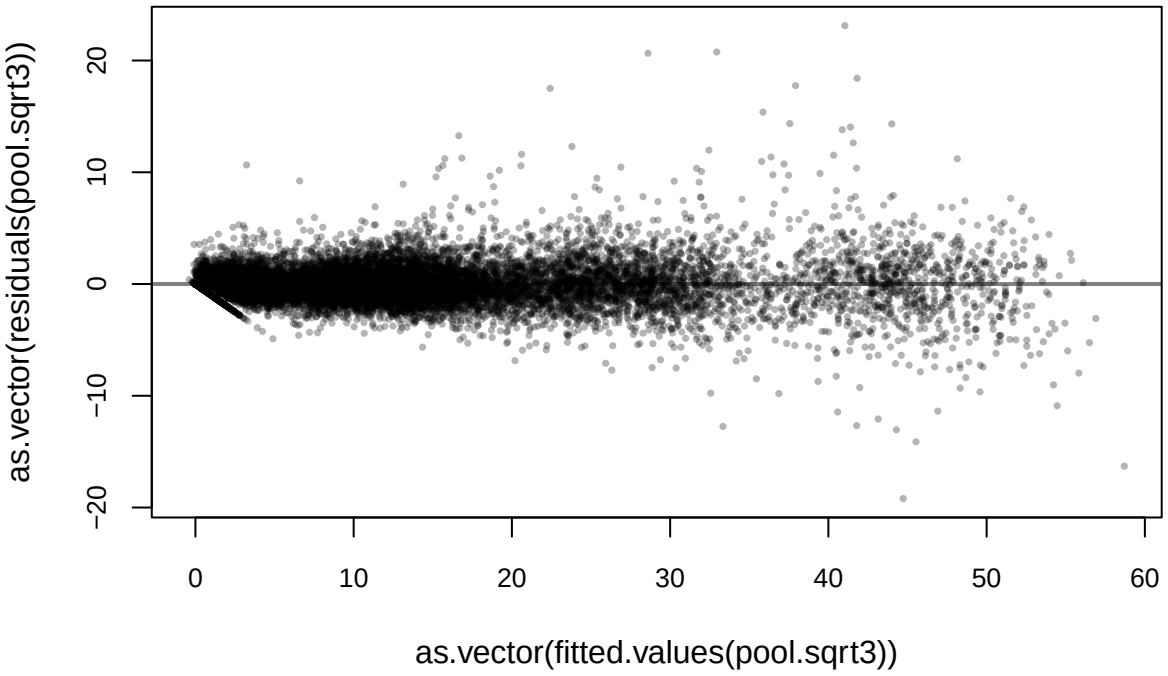
```
stats::AIC(pool.sqrt3)
```

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

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

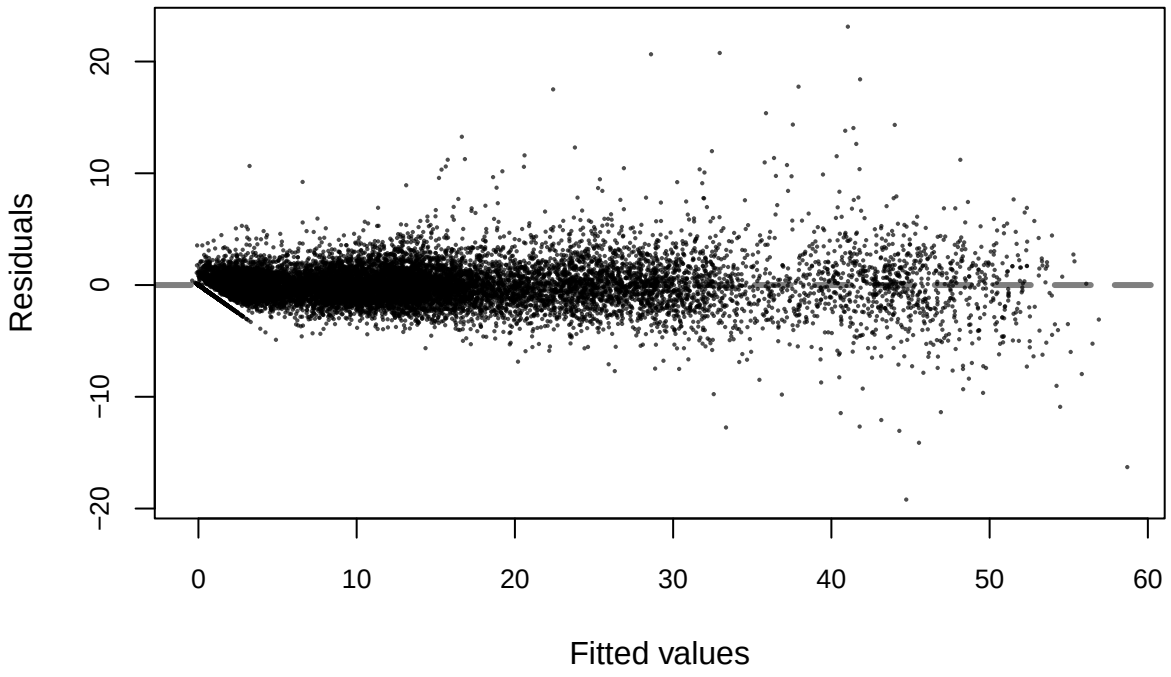



```
## integer(0)
```

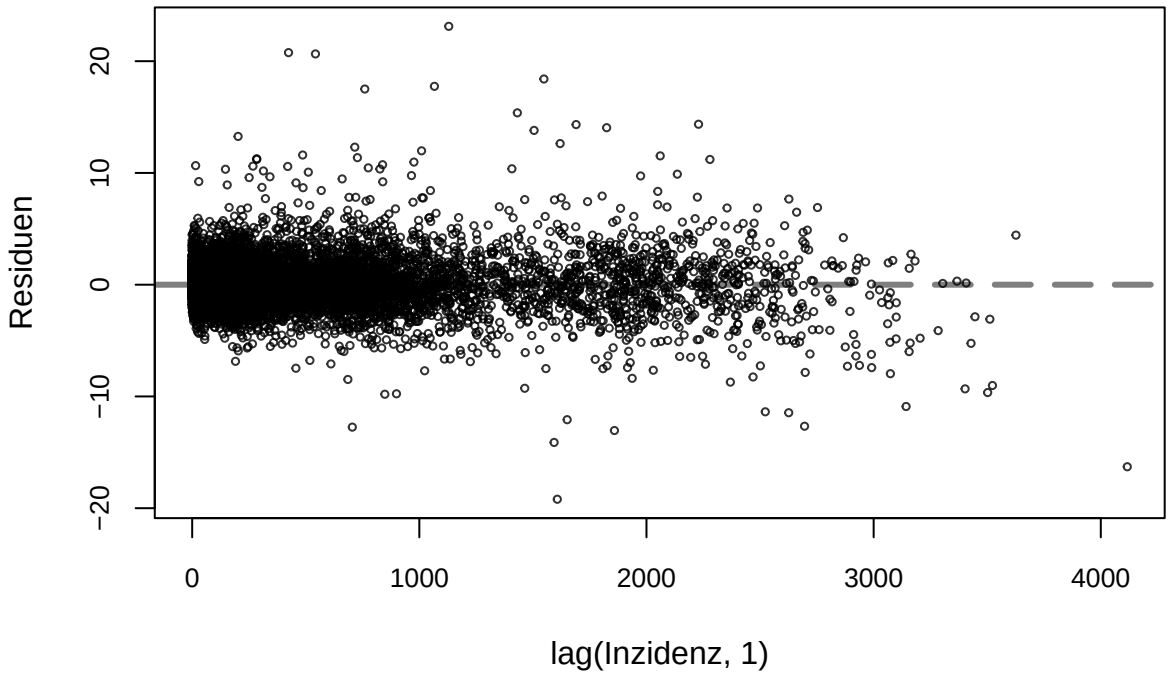



```
## integer(0)
```

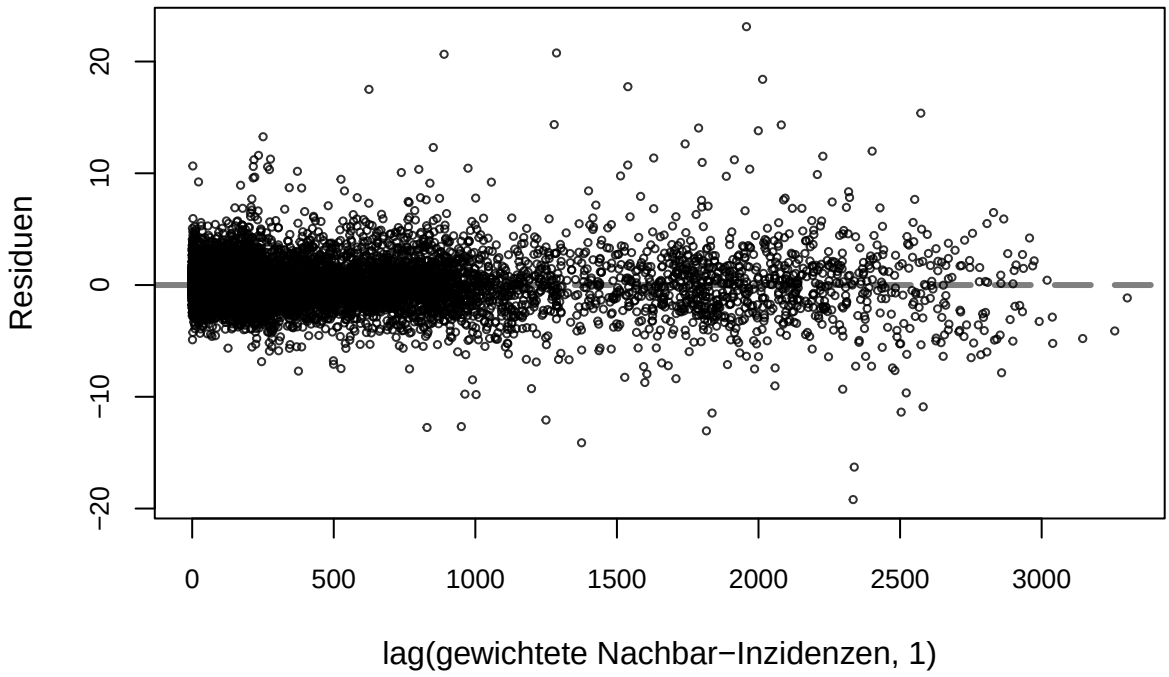
Die restlichen Residuen von dem transformierten Modell:



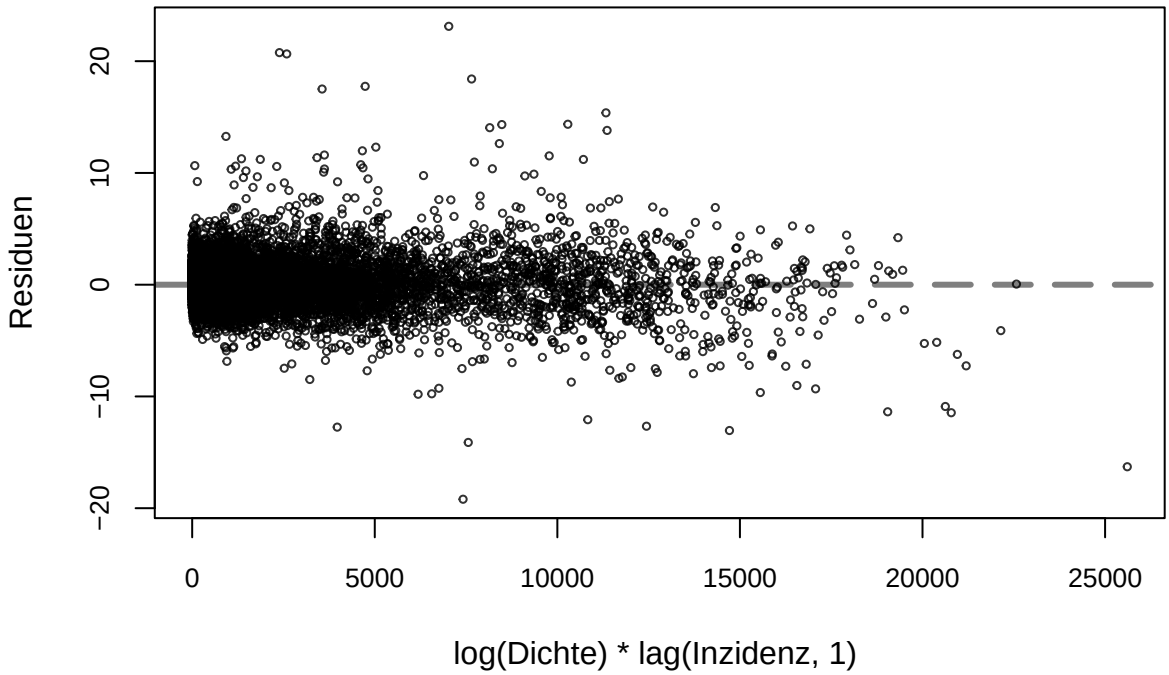

```
## integer(0)
```



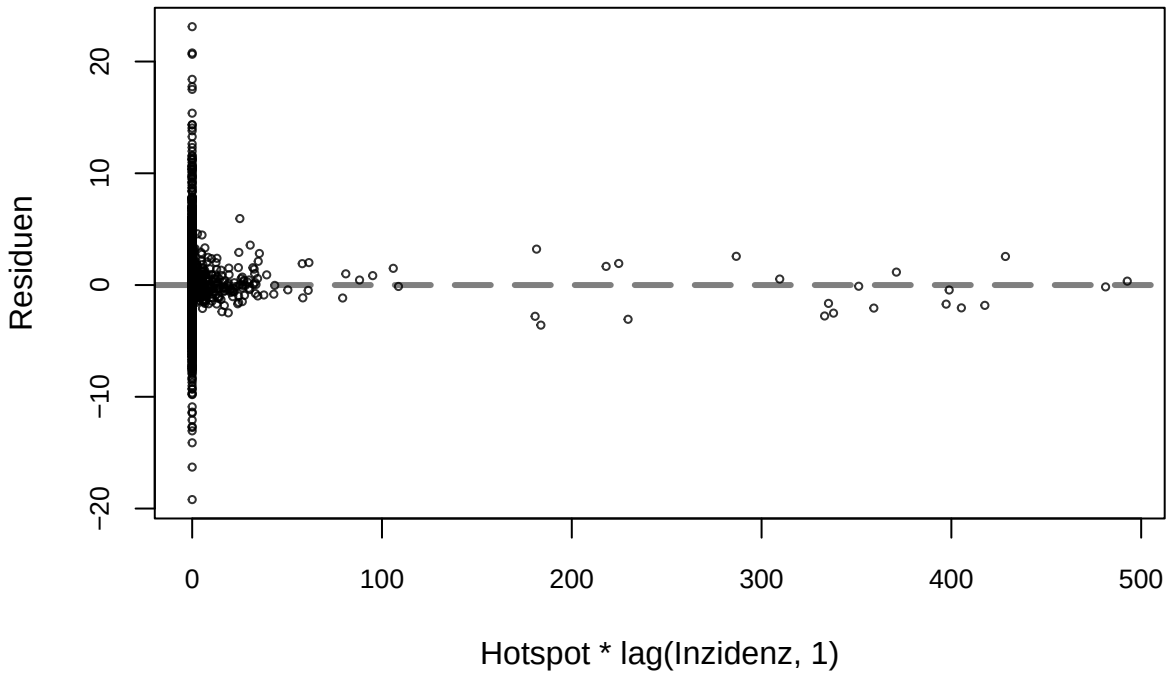

```
## integer(0)
```



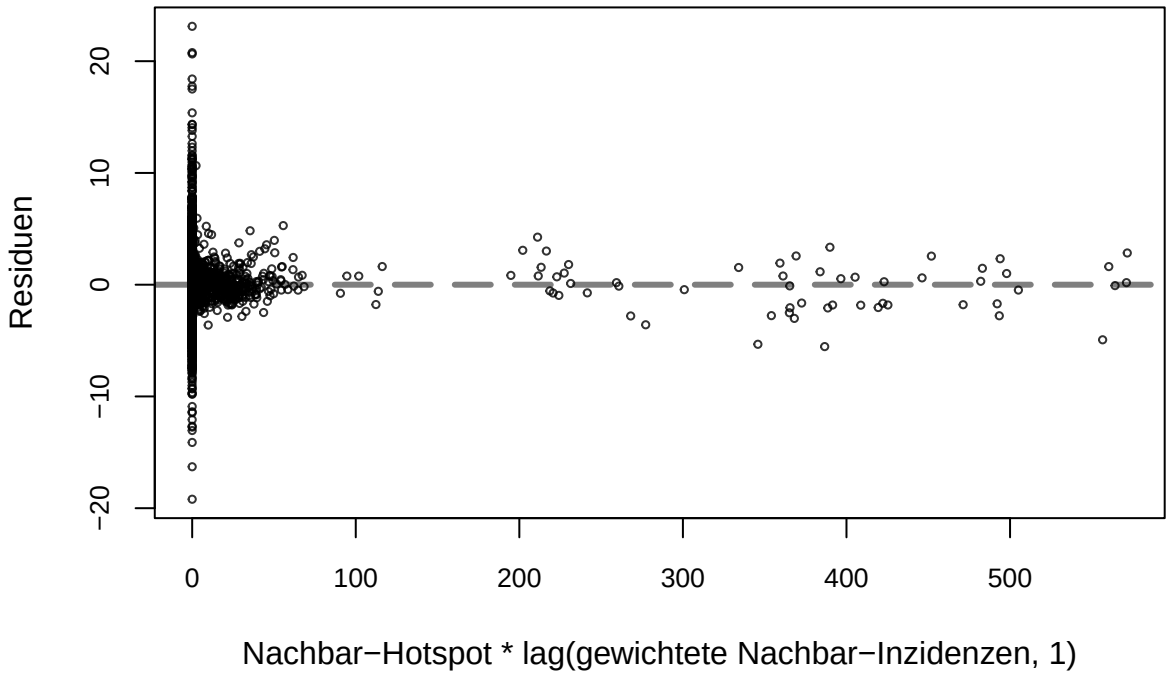

```
## integer(0)
```



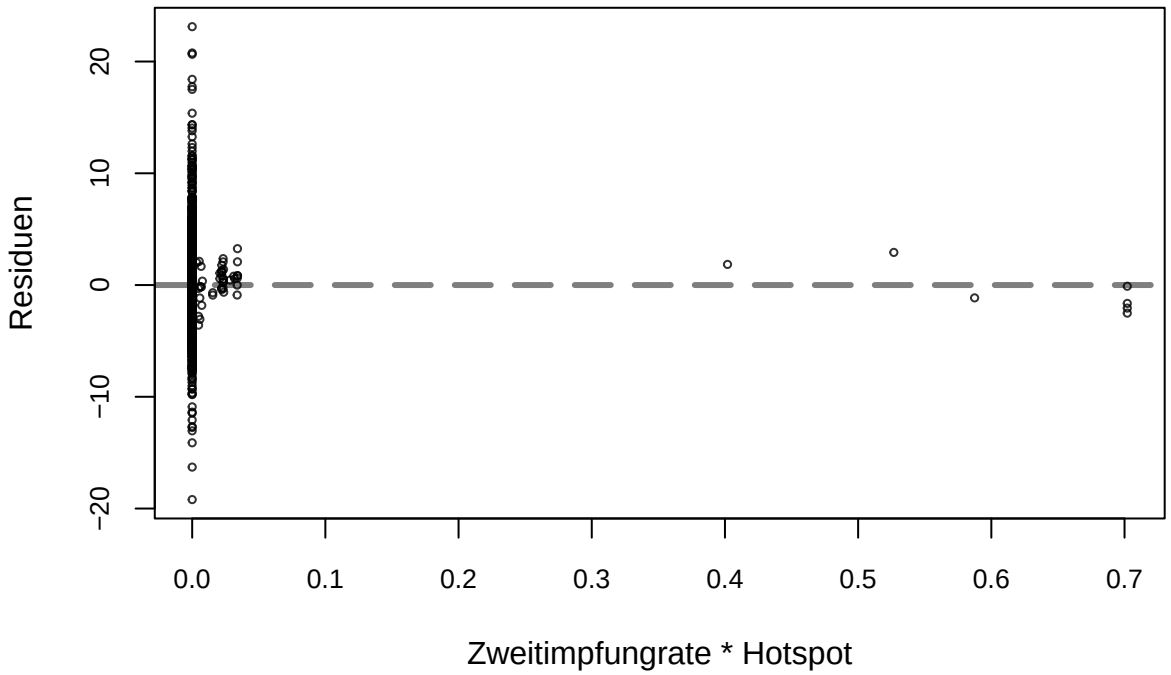

```
## integer(0)
```




```
## 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="HC0"))
```

```
##
## 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="HC0"))
```

```
##
## 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
```

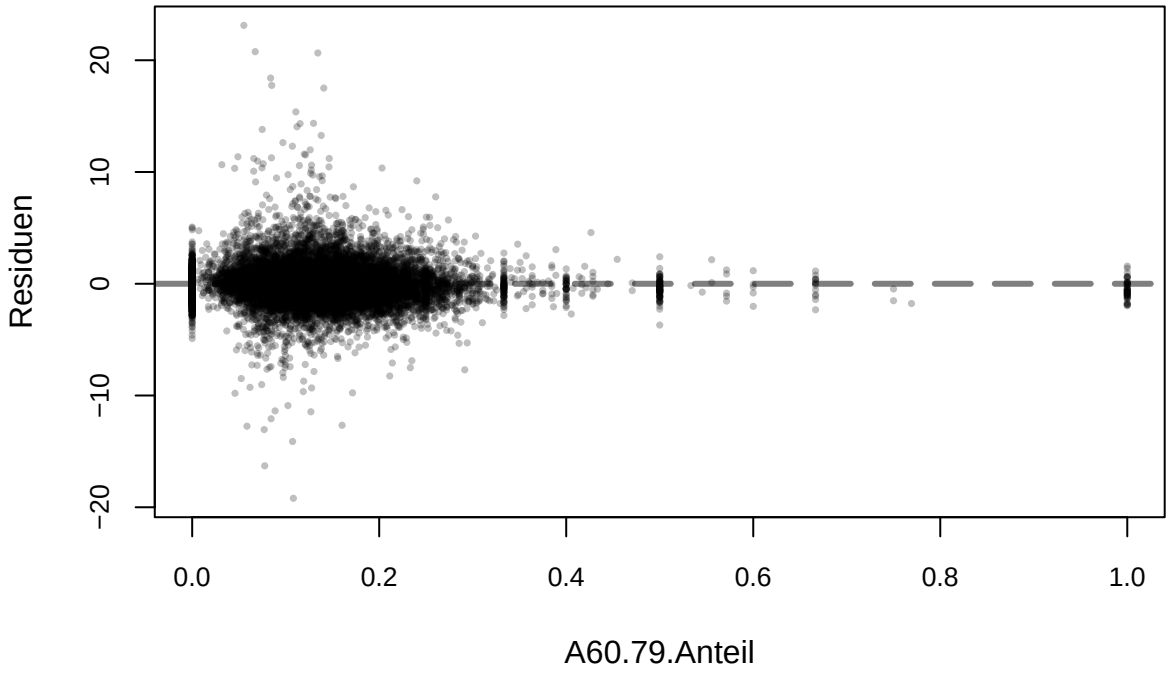
```
## factor(week)131                                0.9206741  0.5799606  1.5875
## factor(week)132                               -1.4200439  0.4689505 -3.0281
## factor(week)133                               -0.3471472  0.3494443 -0.9934
## factor(week)134                                0.3759381  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 ***
```

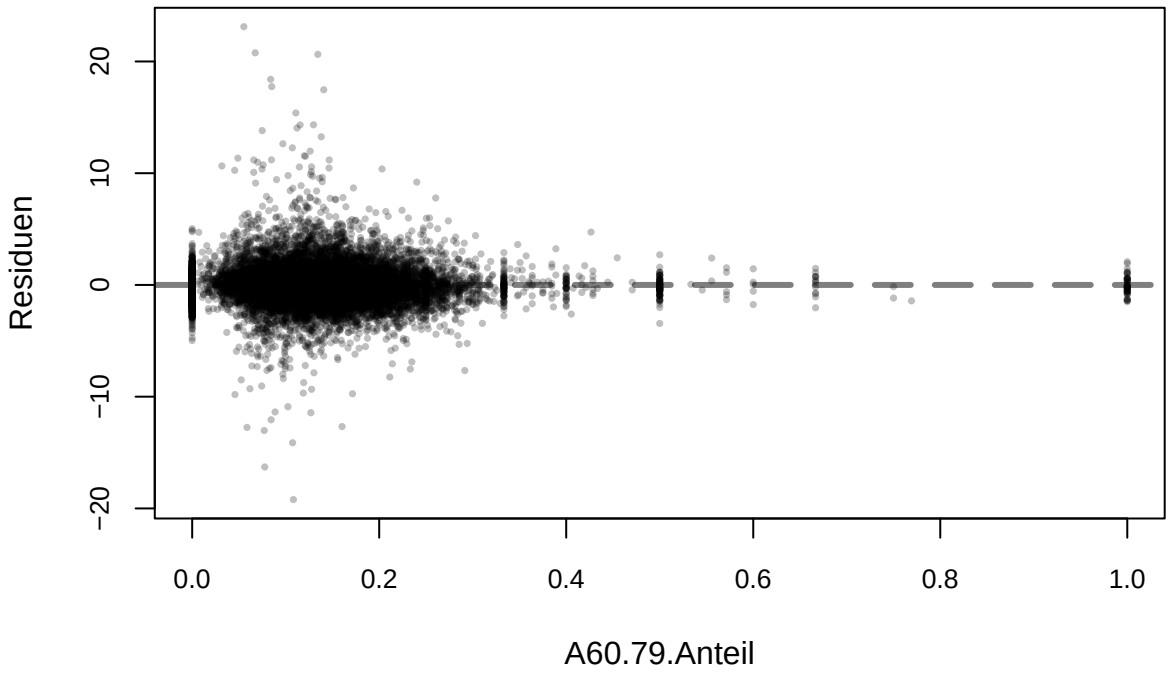
```
## factor(week)84                  < 2.2e-16 ***
## factor(week)85                  < 2.2e-16 ***
## factor(week)86                  2.901e-12 ***
## factor(week)87                  6.066e-08 ***
## factor(week)88                  < 2.2e-16 ***
## factor(week)89                  3.226e-13 ***
## 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(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
```

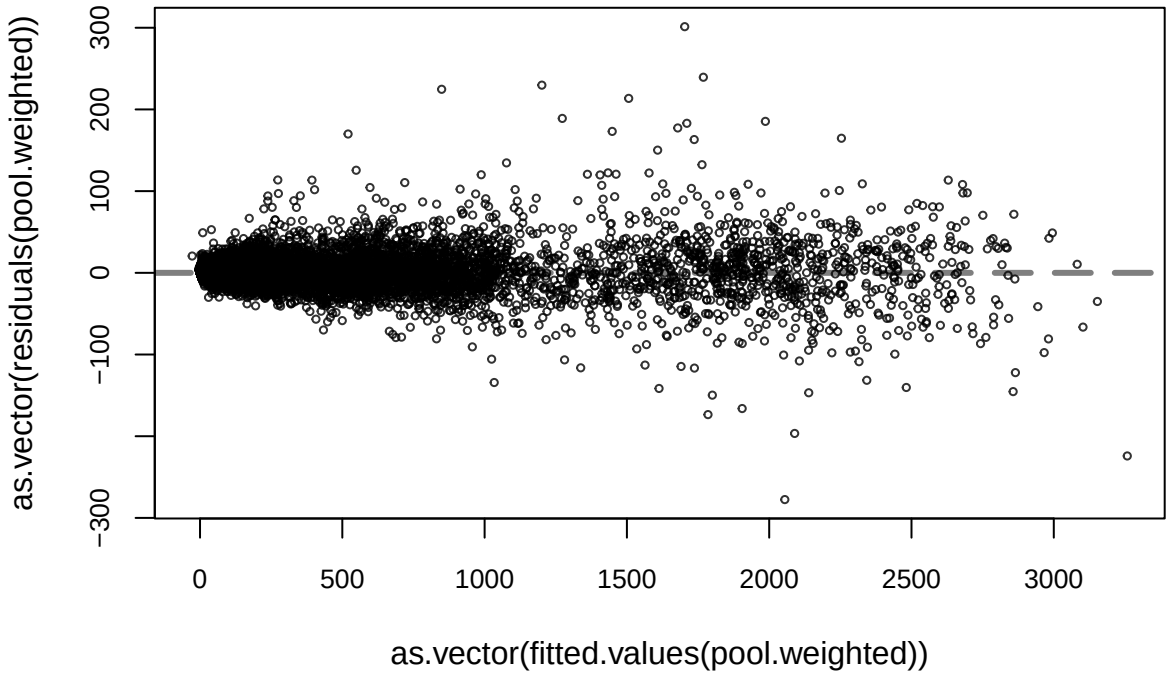
```
## factor(week)54                3.0993e+00  6.0114e+00   0.5156 0.6061646
## factor(week)55               -3.6539e+00  5.5889e+00  -0.6538 0.5132625
## factor(week)56                1.1265e+01  5.5665e+00   2.0238 0.0430113
## factor(week)57                1.7978e+01  5.6915e+00   3.1588 0.0015875
## 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
## factor(week)20
## factor(week)21
## factor(week)22
## factor(week)23
## factor(week)24
## factor(week)25
## factor(week)26
## factor(week)27
## factor(week)28
## factor(week)29
## factor(week)30
## factor(week)31
## factor(week)32
## factor(week)33
## 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
## factor(week)53                   .
## factor(week)54
## factor(week)55
## factor(week)56                   *
## factor(week)57                   **
## factor(week)58                   ***
## factor(week)59                   ***
## factor(week)60                   ***
```

```
## factor(week)61                    ***
## factor(week)62                    ***
## factor(week)63                    ***
## factor(week)64                    ***
## factor(week)65                    ***
## factor(week)66
## factor(week)67
## factor(week)68
## factor(week)69
## factor(week)70                    *
## factor(week)71
## factor(week)72
## factor(week)73
## factor(week)74
## factor(week)75
## factor(week)76
## factor(week)77
## factor(week)78
## factor(week)79
## factor(week)80
## factor(week)81                    **
## factor(week)82                    ***
## factor(week)83                    ***
## factor(week)84                    ***
## factor(week)85                    ***
## factor(week)86                    *
## factor(week)87                    .
## factor(week)88                    ***
## factor(week)89                    **
## factor(week)90                    ***
## factor(week)91                    ***
## factor(week)92                    ***
## factor(week)93                    ***
## factor(week)94                    ***
## factor(week)95                    ***
## factor(week)96                    ***
## factor(week)97                    ***
## 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                     ***
## factor(week)120                     ***
## 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
```