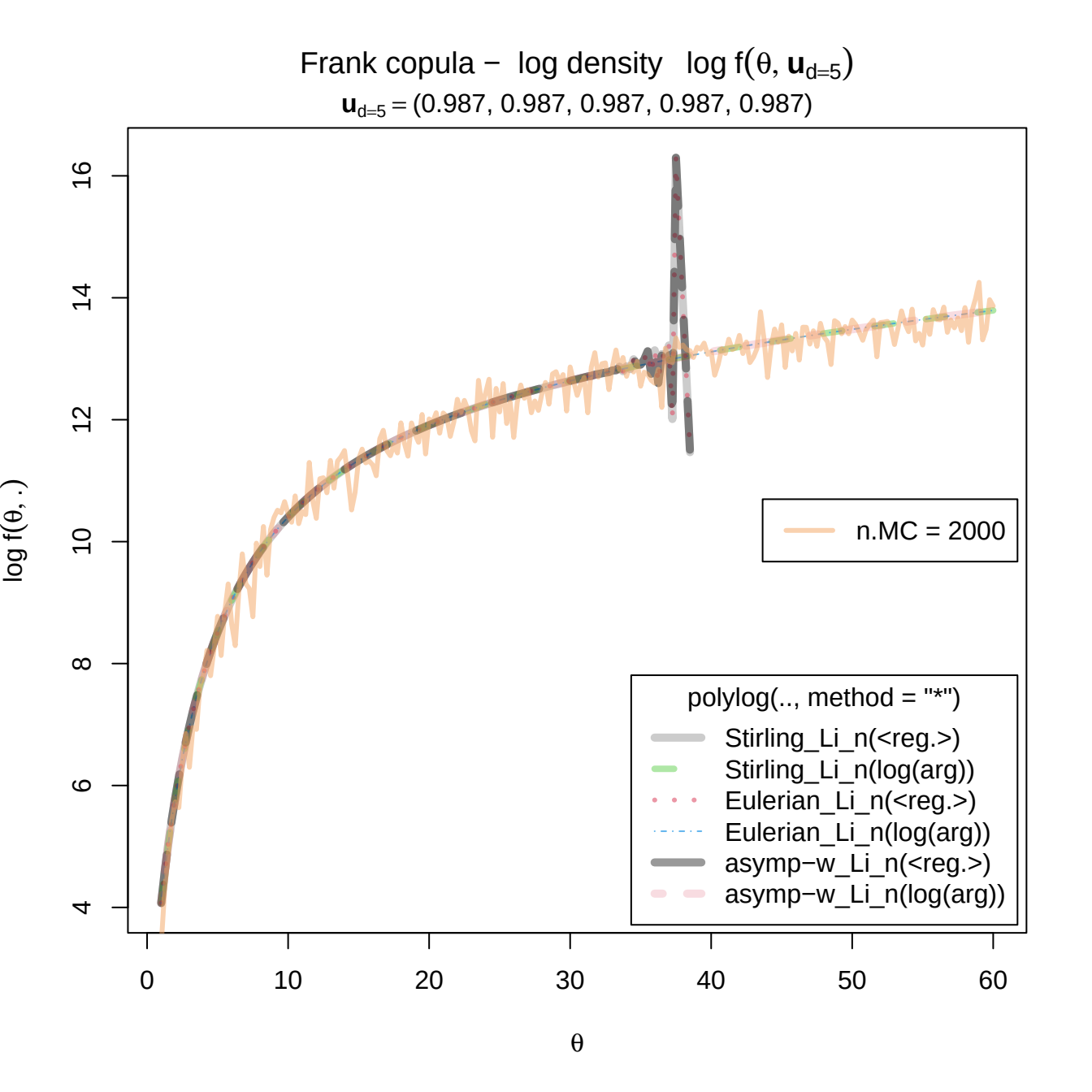
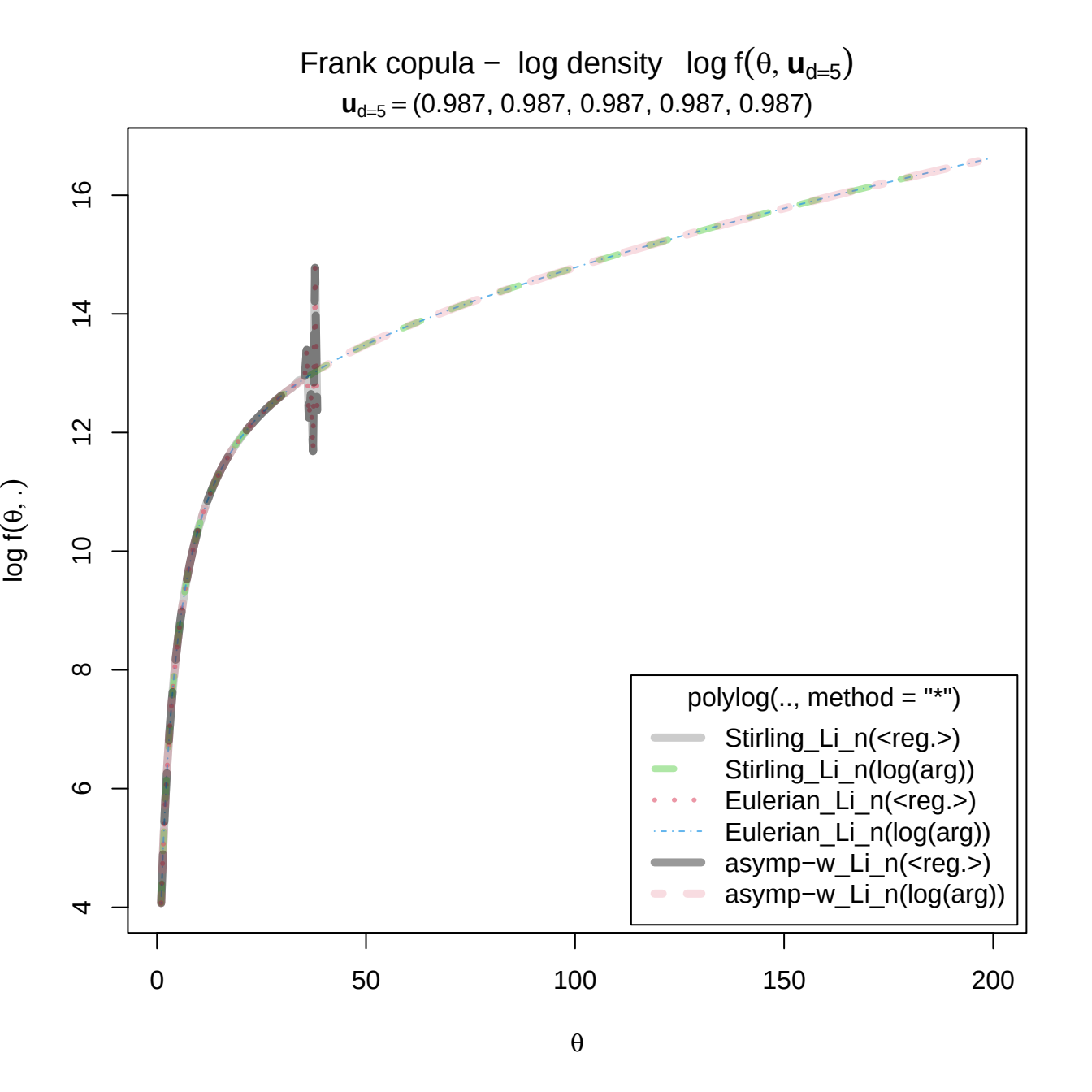
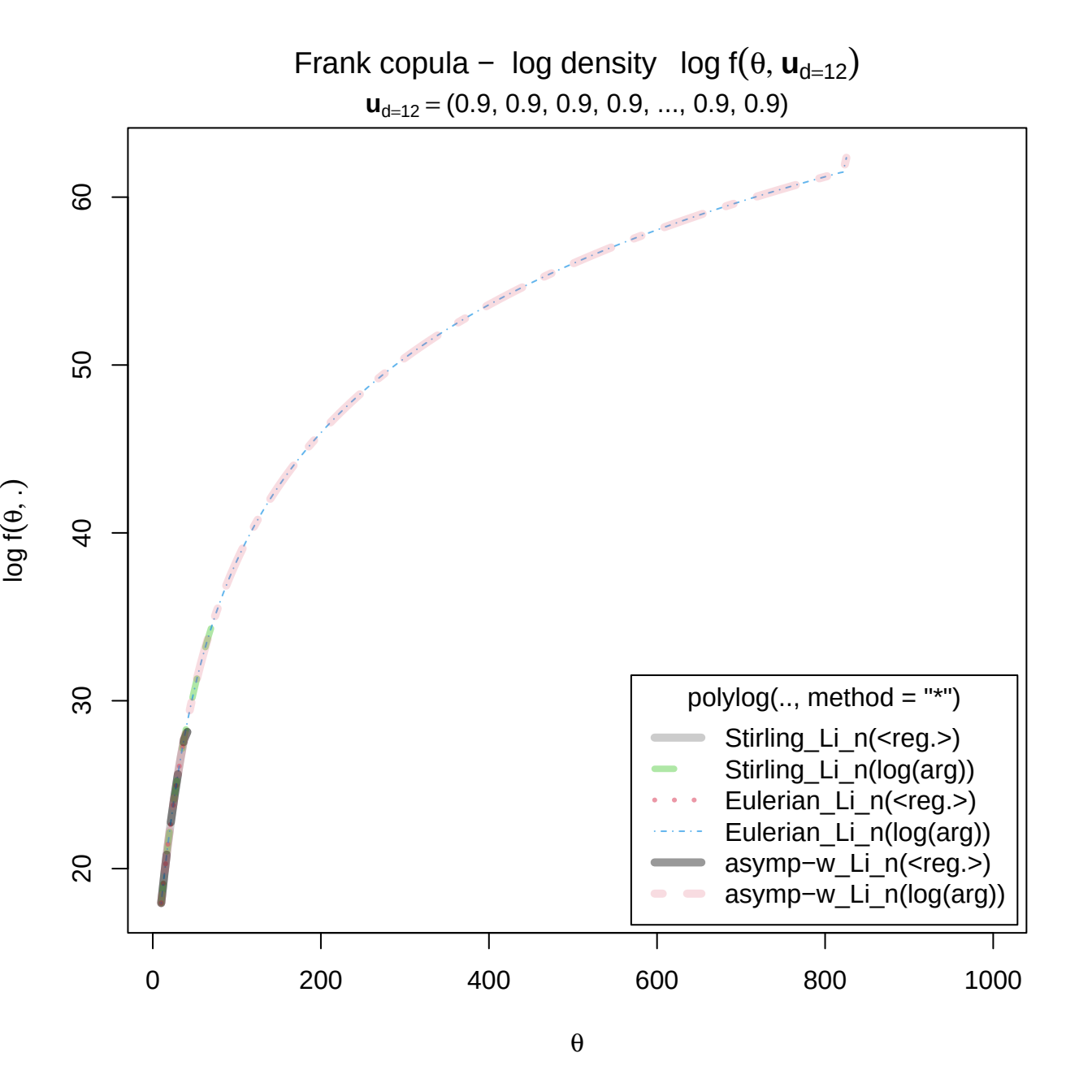
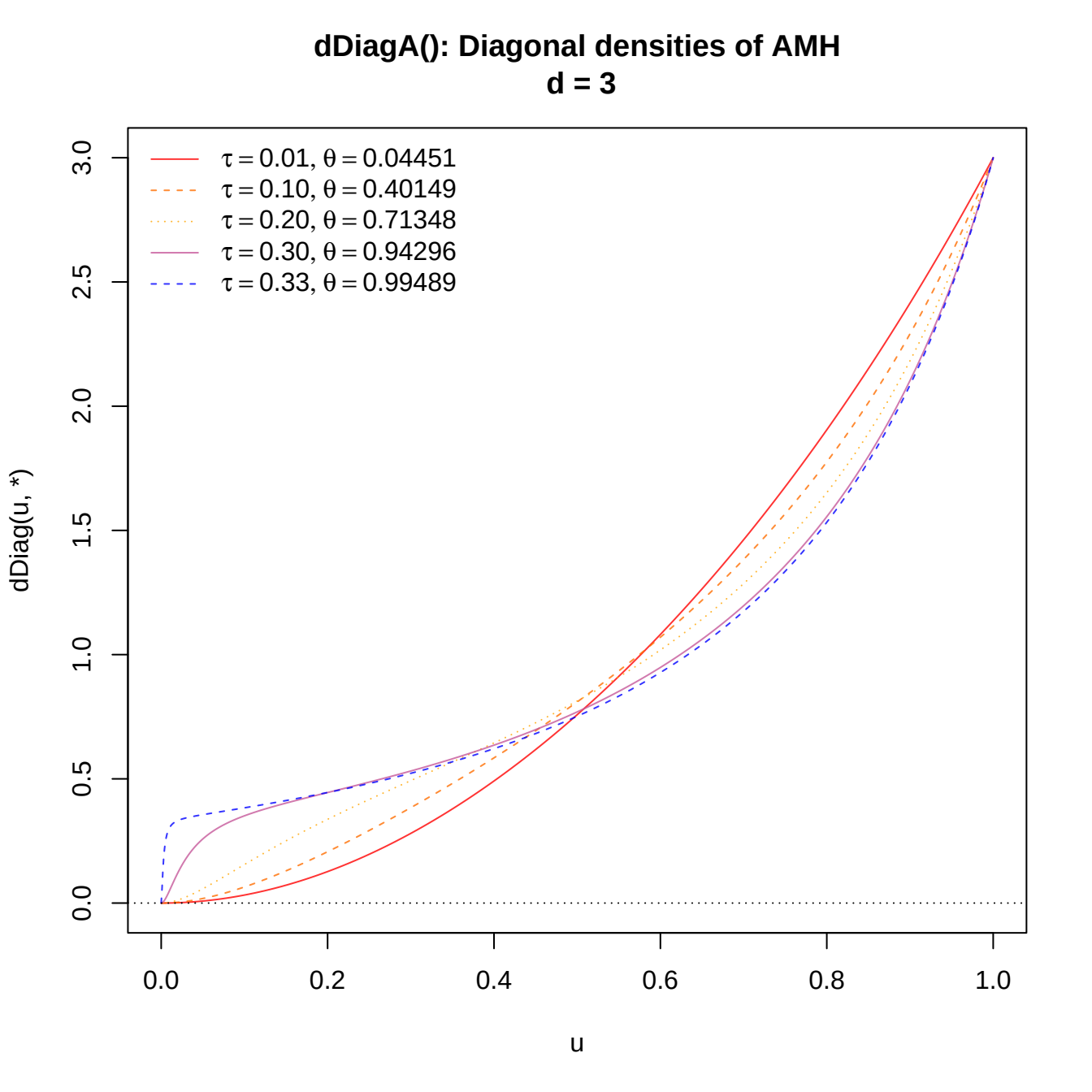
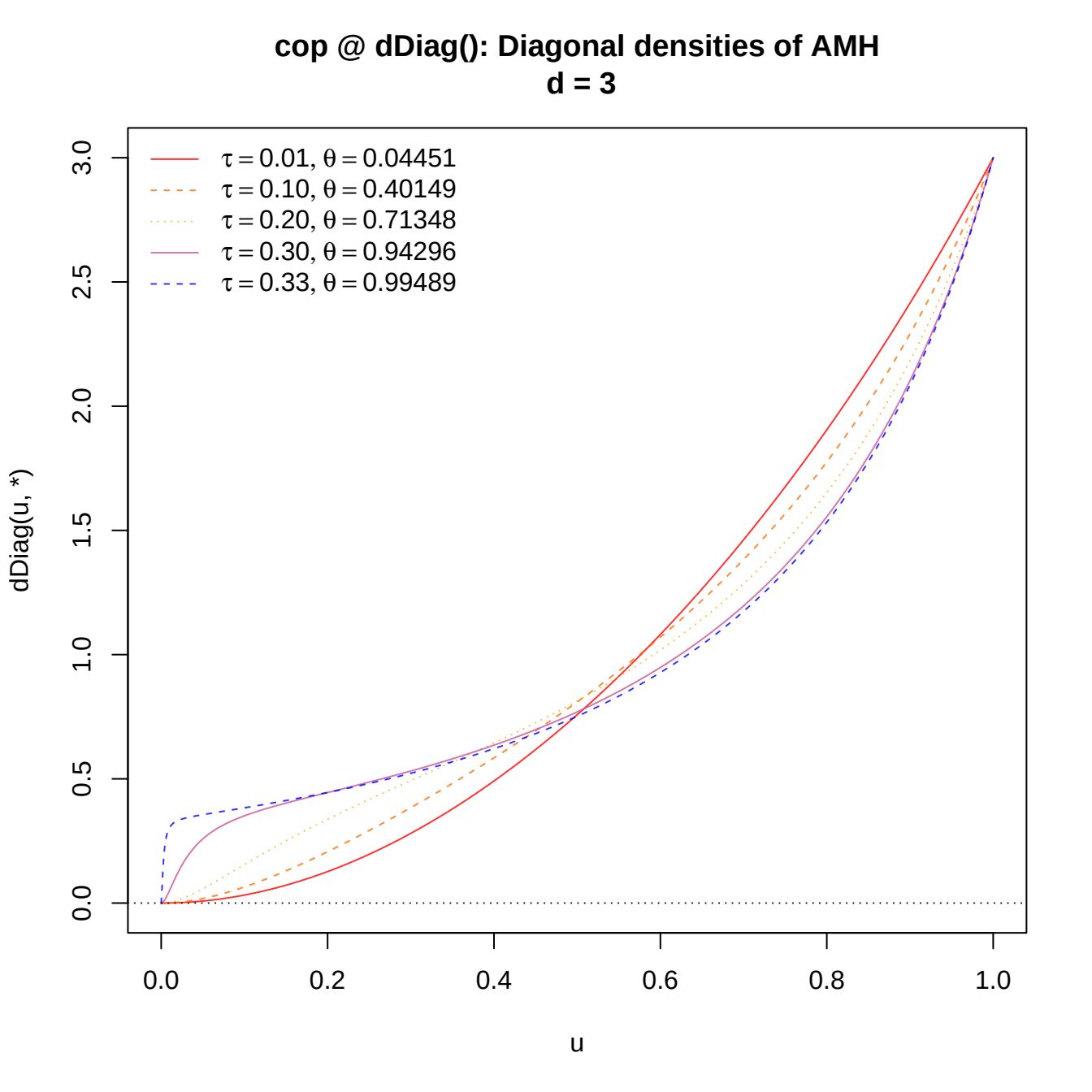
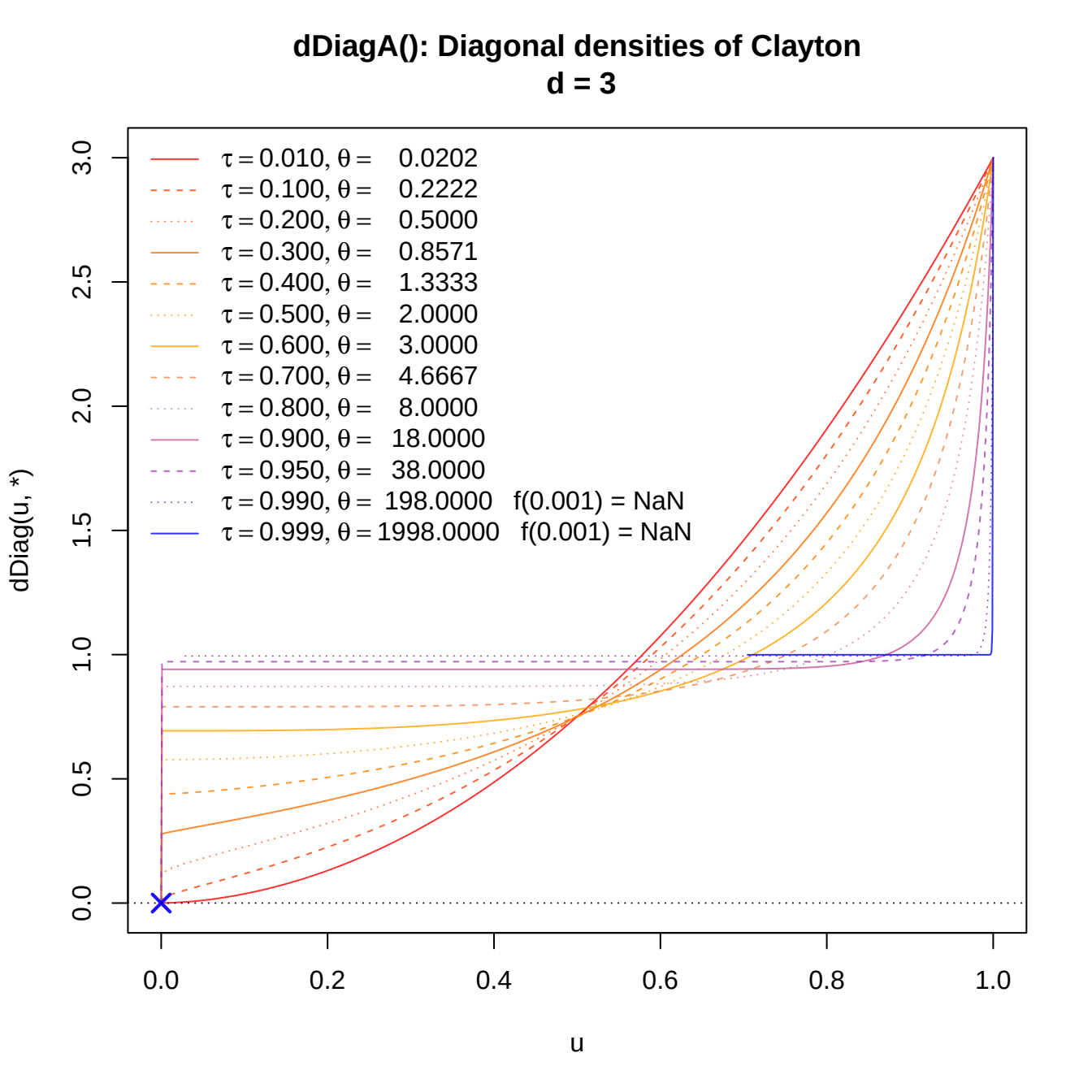

Frank copula − log density log f(θ, u_d=5)
u_d=5 = (0.987, 0.987, 0.987, 0.987, 0.987)
log f(θ, .)
θ
4
6
8
10
12
14
16
0
10
20
30
40
50
60
n.MC = 2000
polylog(.., method = "*")
Stirling_Li_n(<reg.>)
Stirling_Li_n(log(arg))
Eulerian_Li_n(<reg.>)
Eulerian_Li_n(log(arg))
asymp−w_Li_n(<reg.>)
asymp−w_Li_n(log(arg))

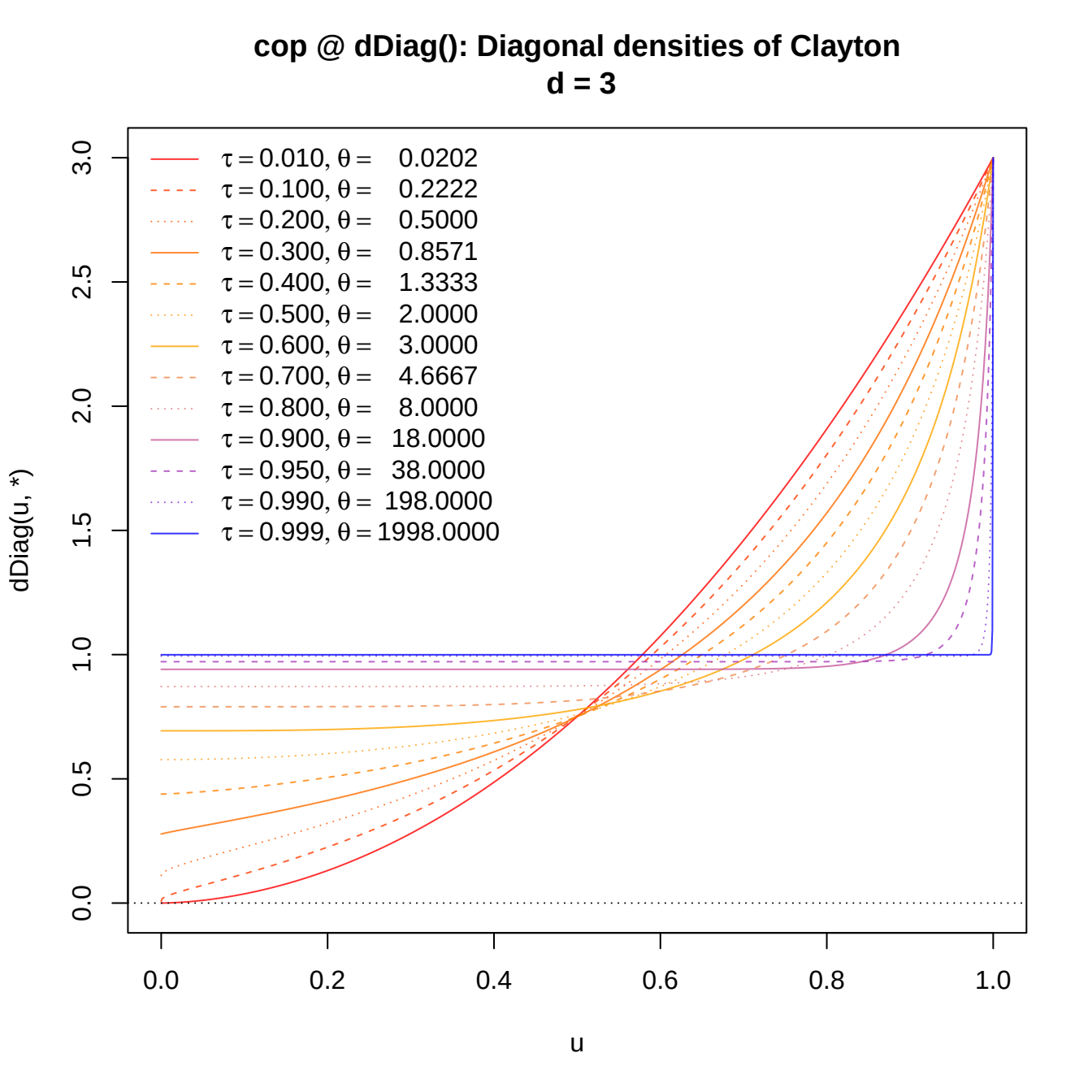

Frank copula − log density log f(θ, $\mathbf{u}_{d=5}$)
$\mathbf{u}_{d=5}$ = (0.987, 0.987, 0.987, 0.987, 0.987)
log f(θ, .)
θ
4
6
8
10
12
14
16
0
50
100
150
200
polylog(.., method = "*")
Stirling_Li_n(<reg.>)
Stirling_Li_n(log(arg))
Eulerian_Li_n(<reg.>)
Eulerian_Li_n(log(arg))
asymp−w_Li_n(<reg.>)
asymp−w_Li_n(log(arg))

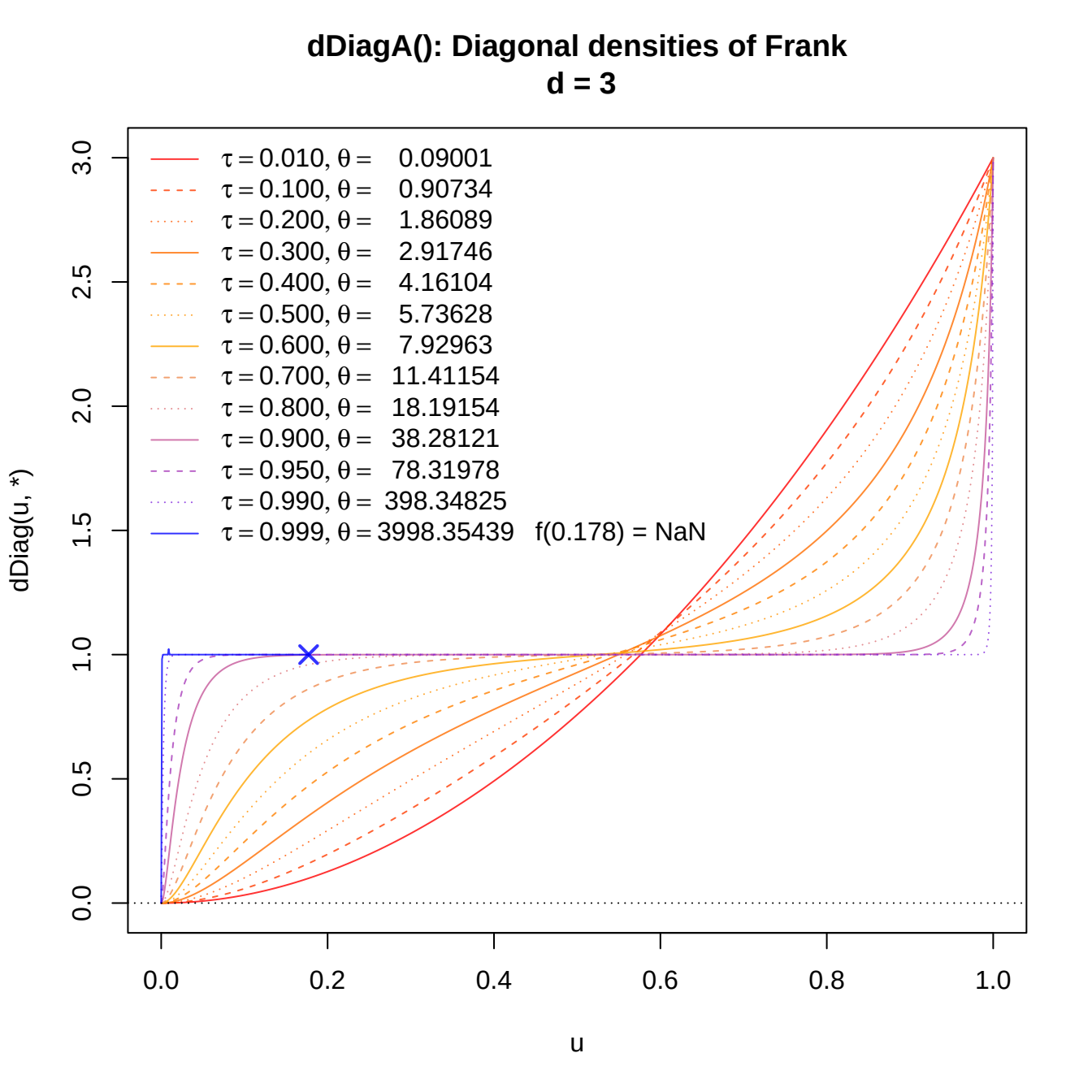

Frank copula − log density log f(θ, u_d=12)
u_d=12 = (0.9, 0.9, 0.9, 0.9, ..., 0.9, 0.9)
log f(θ, .)
θ
20
30
40
50
60
0
200
400
600
800
1000
polylog(.., method = "*")
Stirling_Li_n(<reg.>)
Stirling_Li_n(log(arg))
Eulerian_Li_n(<reg.>)
Eulerian_Li_n(log(arg))
asymp−w_Li_n(<reg.>)
asymp−w_Li_n(log(arg))

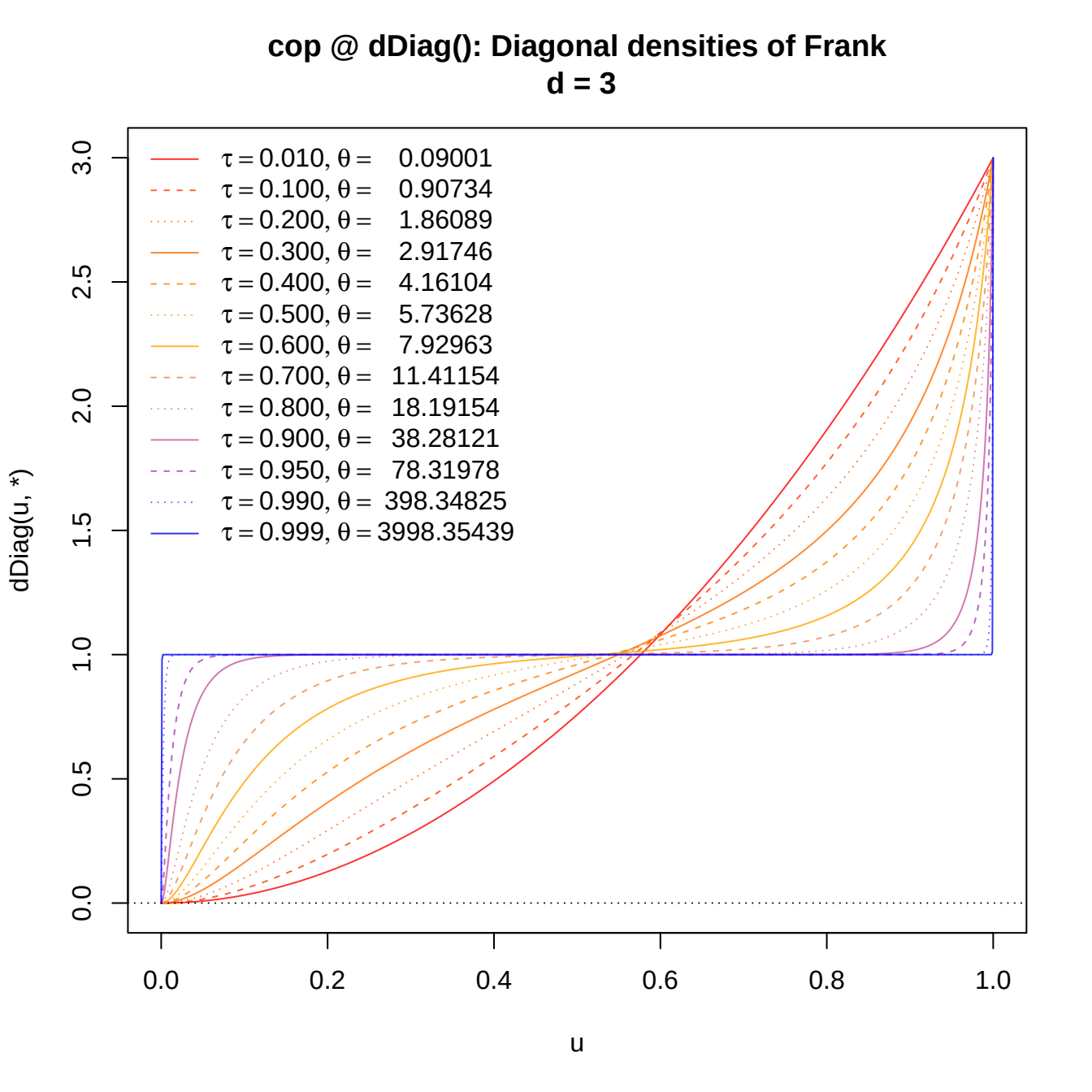

dDiagA(): Diagonal densities of AMH
d = 3
τ = 0.01, θ = 0.04451
τ = 0.10, θ = 0.40149
τ = 0.20, θ = 0.71348
τ = 0.30, θ = 0.94296
τ = 0.33, θ = 0.99489
dDiag(u, *)
0.0
0.5
1.0
1.5
2.0
2.5
3.0
0.0
0.2
0.4
0.6
0.8
1.0
u

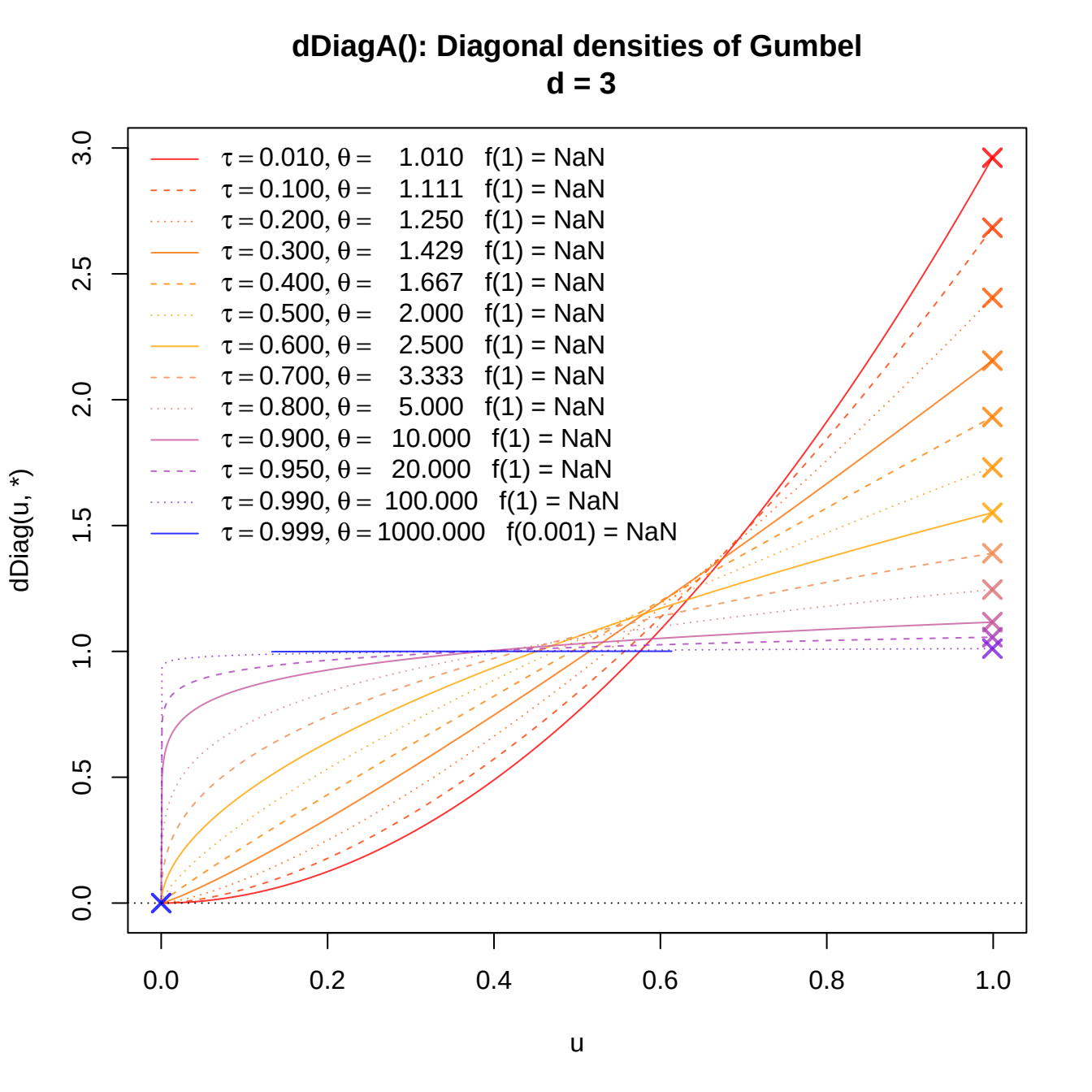

cop @ dDiag(): Diagonal densities of AMH
d = 3
τ = 0.01, θ = 0.04451
τ = 0.10, θ = 0.40149
τ = 0.20, θ = 0.71348
τ = 0.30, θ = 0.94296
τ = 0.33, θ = 0.99489
dDiag(u, *)
0.0
0.5
1.0
1.5
2.0
2.5
3.0
0.0
0.2
0.4
0.6
0.8
1.0
u

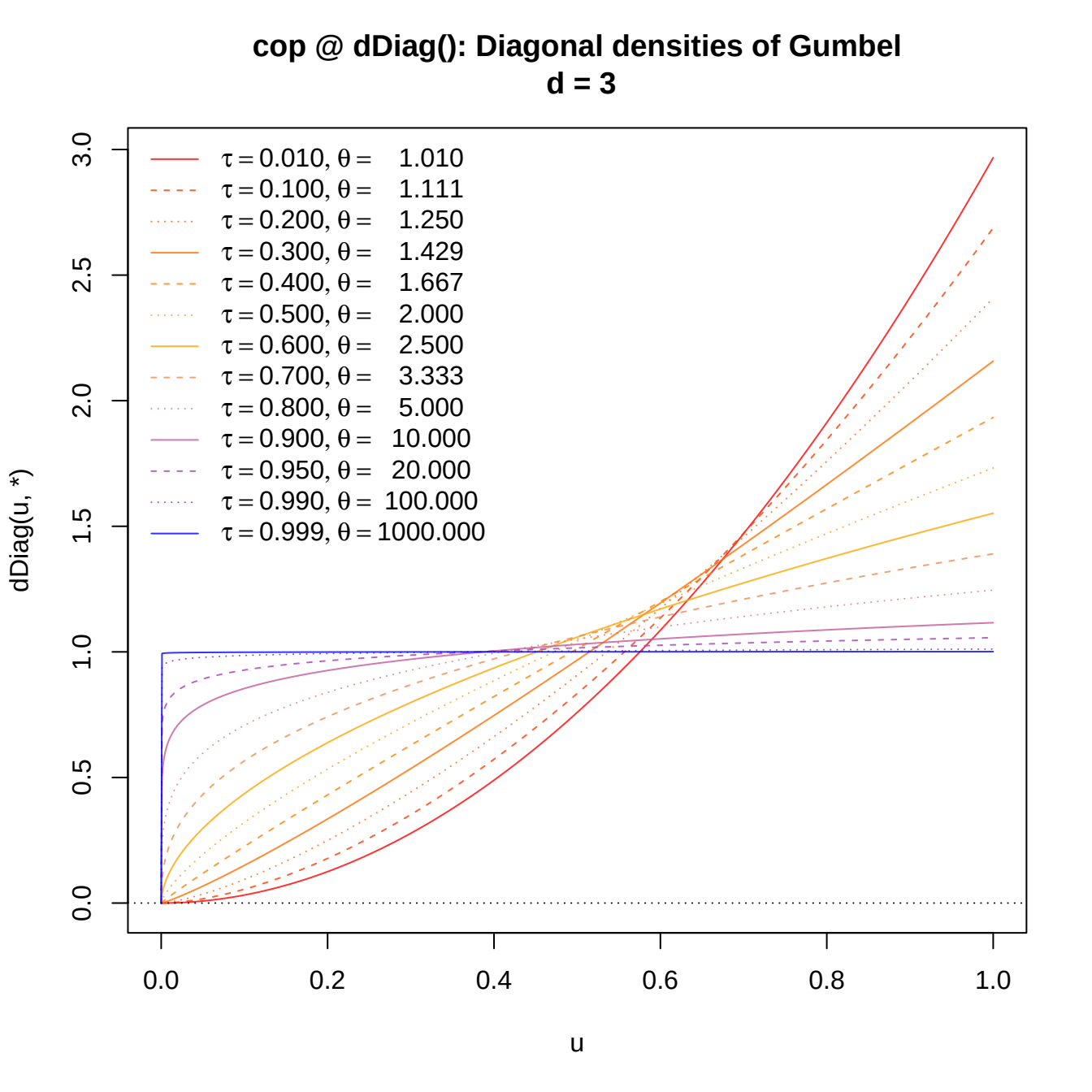

dDiagA(): Diagonal densities of Clayton
d = 3
τ = 0.010, θ = 0.0202
τ = 0.100, θ = 0.2222
τ = 0.200, θ = 0.5000
τ = 0.300, θ = 0.8571
τ = 0.400, θ = 1.3333
τ = 0.500, θ = 2.0000
τ = 0.600, θ = 3.0000
τ = 0.700, θ = 4.6667
τ = 0.800, θ = 8.0000
τ = 0.900, θ = 18.0000
τ = 0.950, θ = 38.0000
τ = 0.990, θ = 198.0000 f(0.001) = NaN
τ = 0.999, θ = 1998.0000 f(0.001) = NaN
dDiag(u, *)
u
0.0
0.5
1.0
1.5
2.0
2.5
3.0
0.0
0.2
0.4
0.6
0.8
1.0

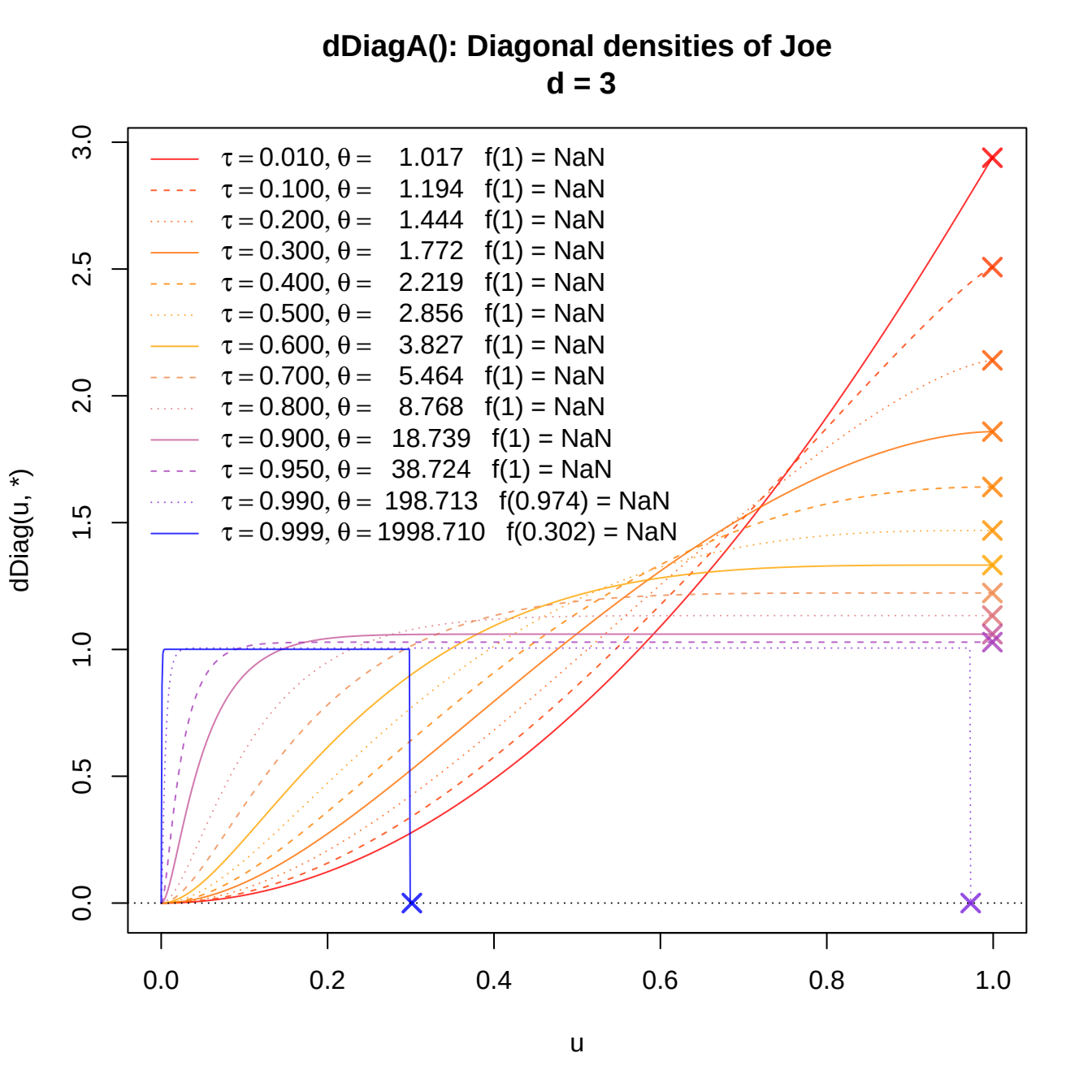

cop @ dDiag(): Diagonal densities of Clayton
d = 3
τ = 0.010, θ = 0.0202
τ = 0.100, θ = 0.2222
τ = 0.200, θ = 0.5000
τ = 0.300, θ = 0.8571
τ = 0.400, θ = 1.3333
τ = 0.500, θ = 2.0000
τ = 0.600, θ = 3.0000
τ = 0.700, θ = 4.6667
τ = 0.800, θ = 8.0000
τ = 0.900, θ = 18.0000
τ = 0.950, θ = 38.0000
τ = 0.990, θ = 198.0000
τ = 0.999, θ = 1998.0000
dDiag(u, *)
0.0
0.5
1.0
1.5
2.0
2.5
3.0
0.0
0.2
0.4
0.6
0.8
1.0
u

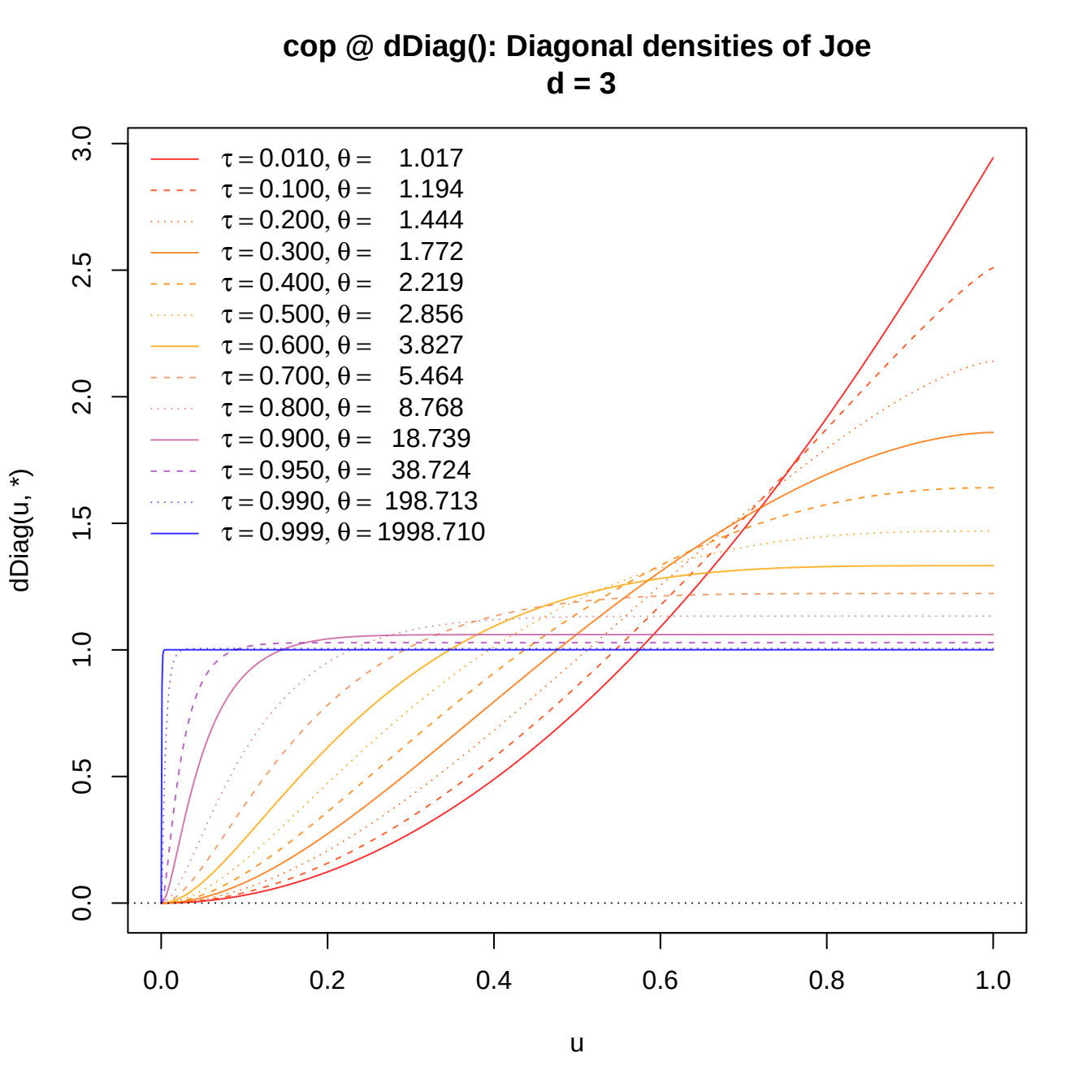

dDiagA(): Diagonal densities of Frank
d = 3
τ = 0.010, θ = 0.09001
τ = 0.100, θ = 0.90734
τ = 0.200, θ = 1.86089
τ = 0.300, θ = 2.91746
τ = 0.400, θ = 4.16104
τ = 0.500, θ = 5.73628
τ = 0.600, θ = 7.92963
τ = 0.700, θ = 11.41154
τ = 0.800, θ = 18.19154
τ = 0.900, θ = 38.28121
τ = 0.950, θ = 78.31978
τ = 0.990, θ = 398.34825
τ = 0.999, θ = 3998.35439 f(0.178) = NaN
dDiag(u, *)
0.0
0.5
1.0
1.5
2.0
2.5
3.0
0.0
0.2
0.4
0.6
0.8
1.0
u

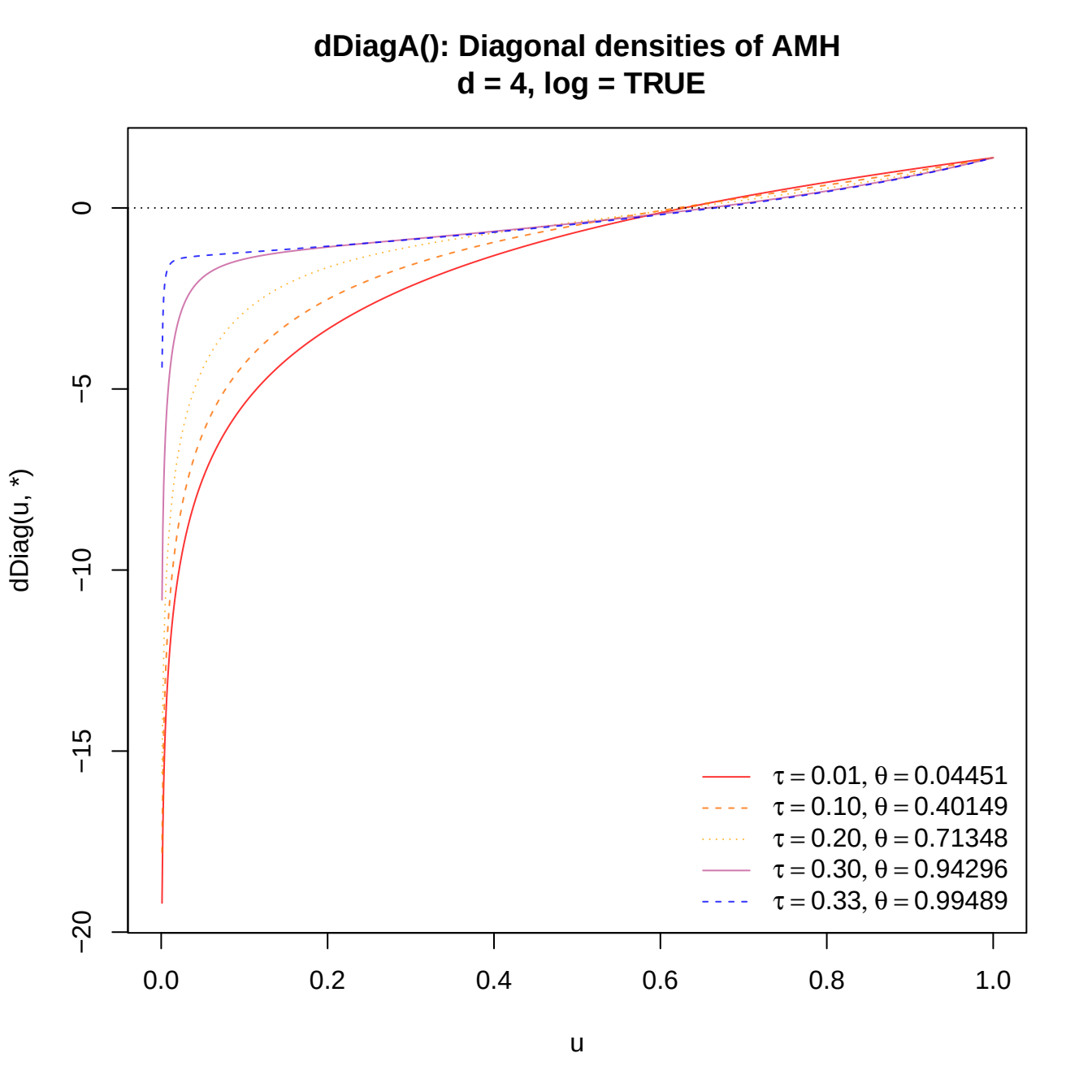

cop @ dDiag(): Diagonal densities of Frank
d = 3
τ = 0.010, θ = 0.09001
τ = 0.100, θ = 0.90734
τ = 0.200, θ = 1.86089
τ = 0.300, θ = 2.91746
τ = 0.400, θ = 4.16104
τ = 0.500, θ = 5.73628
τ = 0.600, θ = 7.92963
τ = 0.700, θ = 11.41154
τ = 0.800, θ = 18.19154
τ = 0.900, θ = 38.28121
τ = 0.950, θ = 78.31978
τ = 0.990, θ = 398.34825
τ = 0.999, θ = 3998.35439
dDiag(u, *)
0.0
0.5
1.0
1.5
2.0
2.5
3.0
0.0
0.2
0.4
0.6
0.8
1.0
u

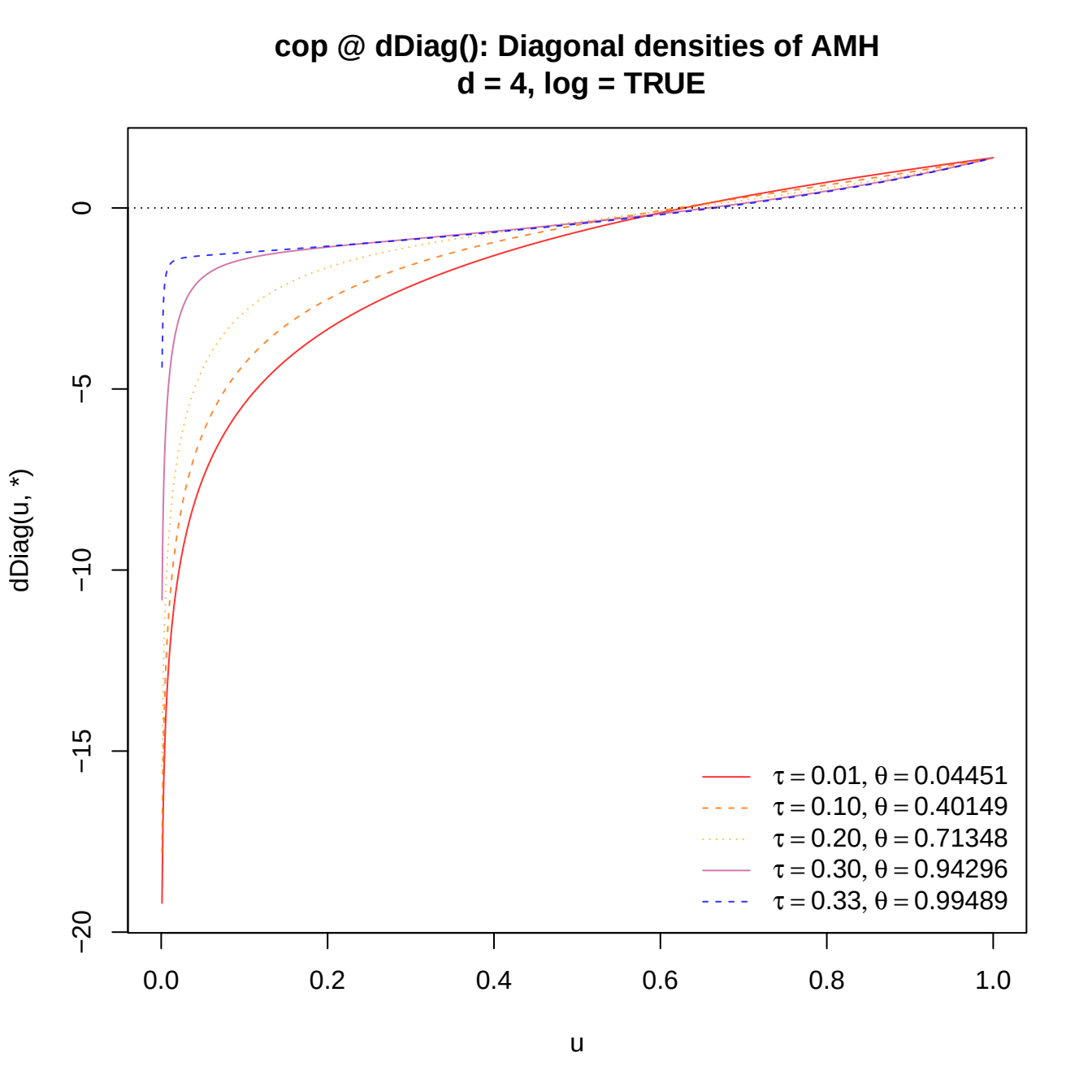

dDiagA(): Diagonal densities of Gumbel
d = 3
τ = 0.010, θ = 1.010 f(1) = NaN
τ = 0.100, θ = 1.111 f(1) = NaN
τ = 0.200, θ = 1.250 f(1) = NaN
τ = 0.300, θ = 1.429 f(1) = NaN
τ = 0.400, θ = 1.667 f(1) = NaN
τ = 0.500, θ = 2.000 f(1) = NaN
τ = 0.600, θ = 2.500 f(1) = NaN
τ = 0.700, θ = 3.333 f(1) = NaN
τ = 0.800, θ = 5.000 f(1) = NaN
τ = 0.900, θ = 10.000 f(1) = NaN
τ = 0.950, θ = 20.000 f(1) = NaN
τ = 0.990, θ = 100.000 f(1) = NaN
τ = 0.999, θ = 1000.000 f(0.001) = NaN
dDiag(u, *)
0.0
0.5
1.0
1.5
2.0
2.5
3.0
0.0
0.2
0.4
0.6
0.8
1.0
u

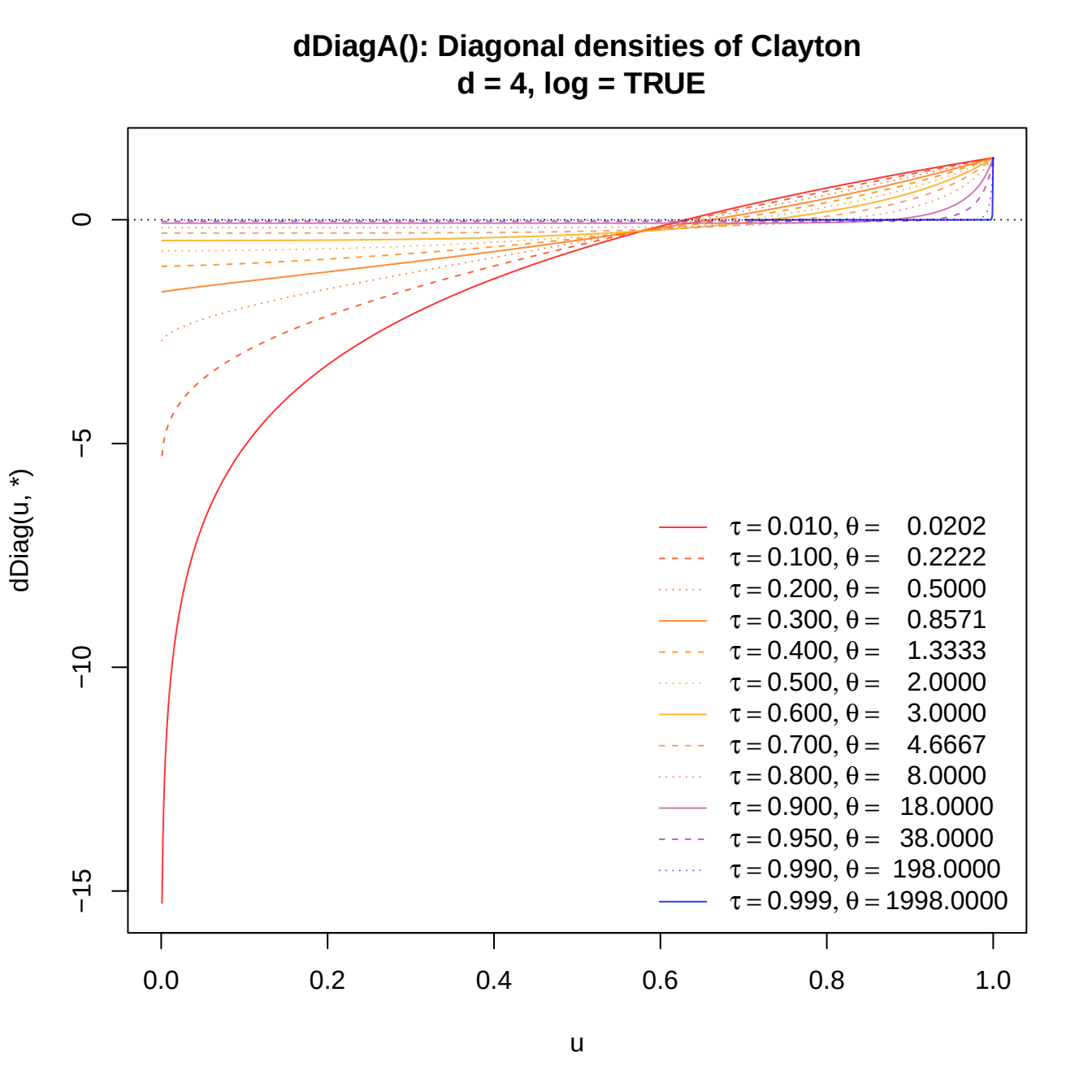

cop @ dDiag(): Diagonal densities of Gumbel
d = 3
τ = 0.010, θ = 1.010
τ = 0.100, θ = 1.111
τ = 0.200, θ = 1.250
τ = 0.300, θ = 1.429
τ = 0.400, θ = 1.667
τ = 0.500, θ = 2.000
τ = 0.600, θ = 2.500
τ = 0.700, θ = 3.333
τ = 0.800, θ = 5.000
τ = 0.900, θ = 10.000
τ = 0.950, θ = 20.000
τ = 0.990, θ = 100.000
τ = 0.999, θ = 1000.000
dDiag(u, *)
0.0
0.5
1.0
1.5
2.0
2.5
3.0
0.0
0.2
0.4
0.6
0.8
1.0
u

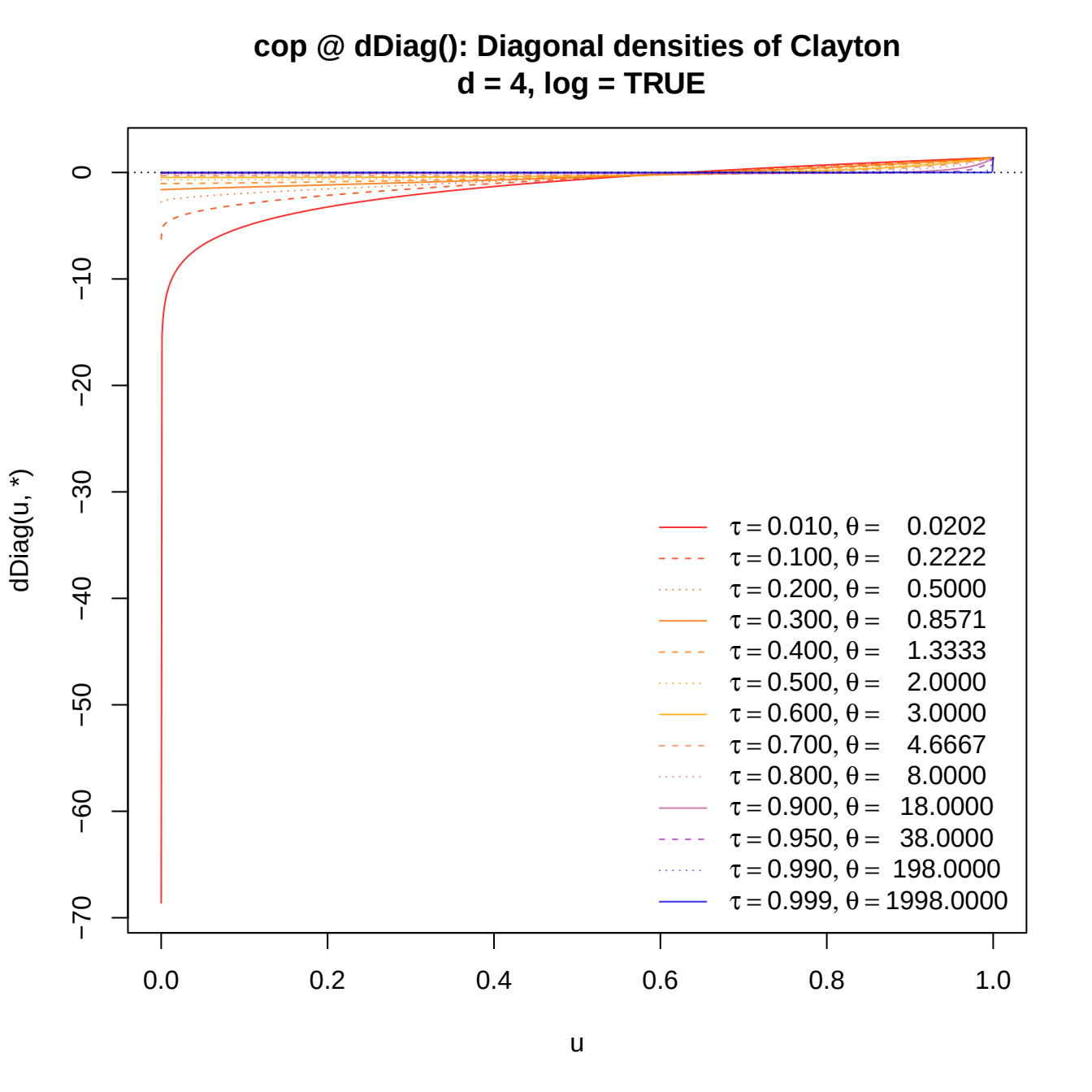

dDiagA(): Diagonal densities of Joe
d = 3
τ = 0.010, θ = 1.017 f(1) = NaN
τ = 0.100, θ = 1.194 f(1) = NaN
τ = 0.200, θ = 1.444 f(1) = NaN
τ = 0.300, θ = 1.772 f(1) = NaN
τ = 0.400, θ = 2.219 f(1) = NaN
τ = 0.500, θ = 2.856 f(1) = NaN
τ = 0.600, θ = 3.827 f(1) = NaN
τ = 0.700, θ = 5.464 f(1) = NaN
τ = 0.800, θ = 8.768 f(1) = NaN
τ = 0.900, θ = 18.739 f(1) = NaN
τ = 0.950, θ = 38.724 f(1) = NaN
τ = 0.990, θ = 198.713 f(0.974) = NaN
τ = 0.999, θ = 1998.710 f(0.302) = NaN
dDiag(u, *)
0.0
0.5
1.0
1.5
2.0
2.5
3.0
0.0
0.2
0.4
0.6
0.8
1.0
u

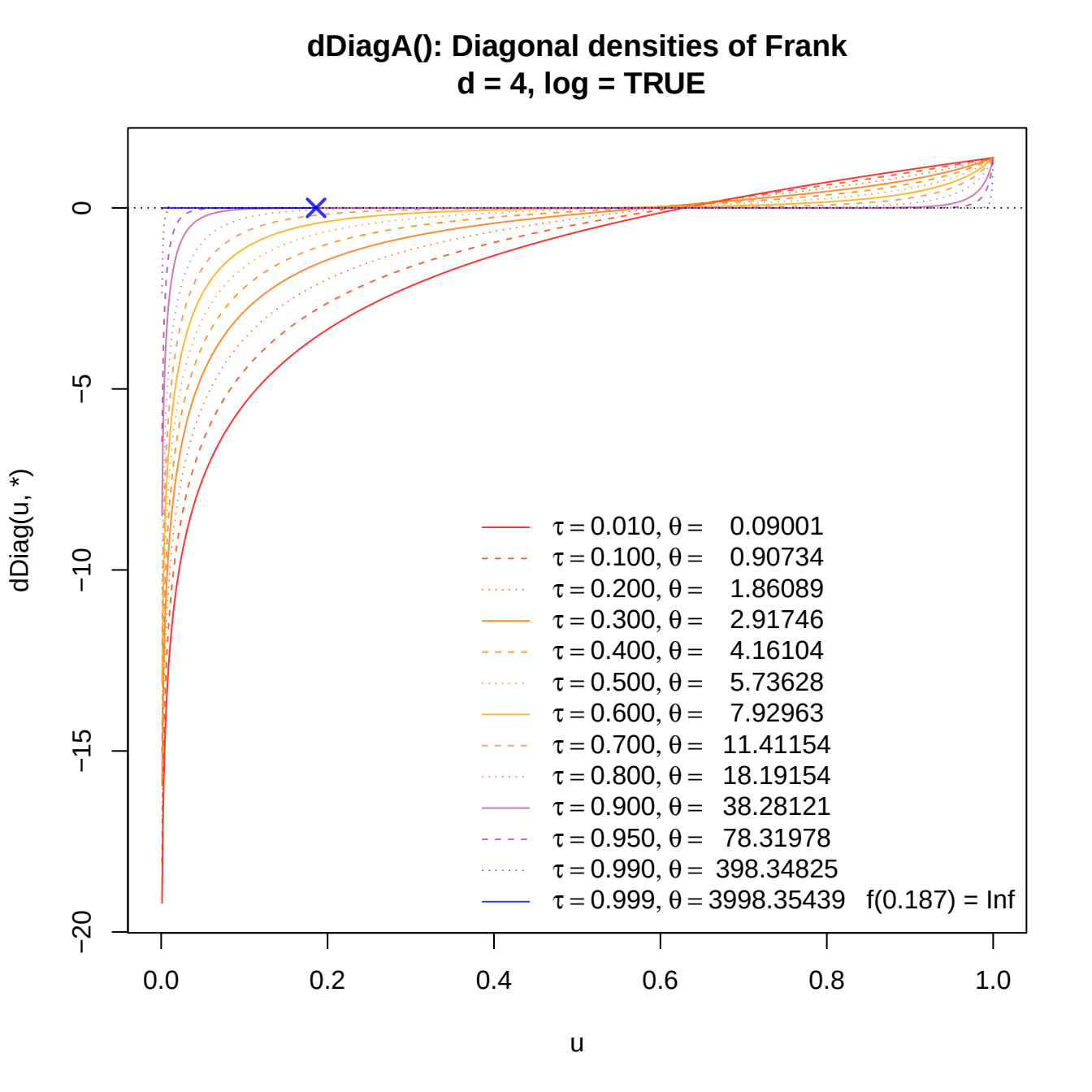

cop @ dDiag(): Diagonal densities of Joe
d = 3
τ = 0.010, θ = 1.017
τ = 0.100, θ = 1.194
τ = 0.200, θ = 1.444
τ = 0.300, θ = 1.772
τ = 0.400, θ = 2.219
τ = 0.500, θ = 2.856
τ = 0.600, θ = 3.827
τ = 0.700, θ = 5.464
τ = 0.800, θ = 8.768
τ = 0.900, θ = 18.739
τ = 0.950, θ = 38.724
τ = 0.990, θ = 198.713
τ = 0.999, θ = 1998.710
dDiag(u, *)
0.0
0.5
1.0
1.5
2.0
2.5
3.0
0.0
0.2
0.4
0.6
0.8
1.0
u

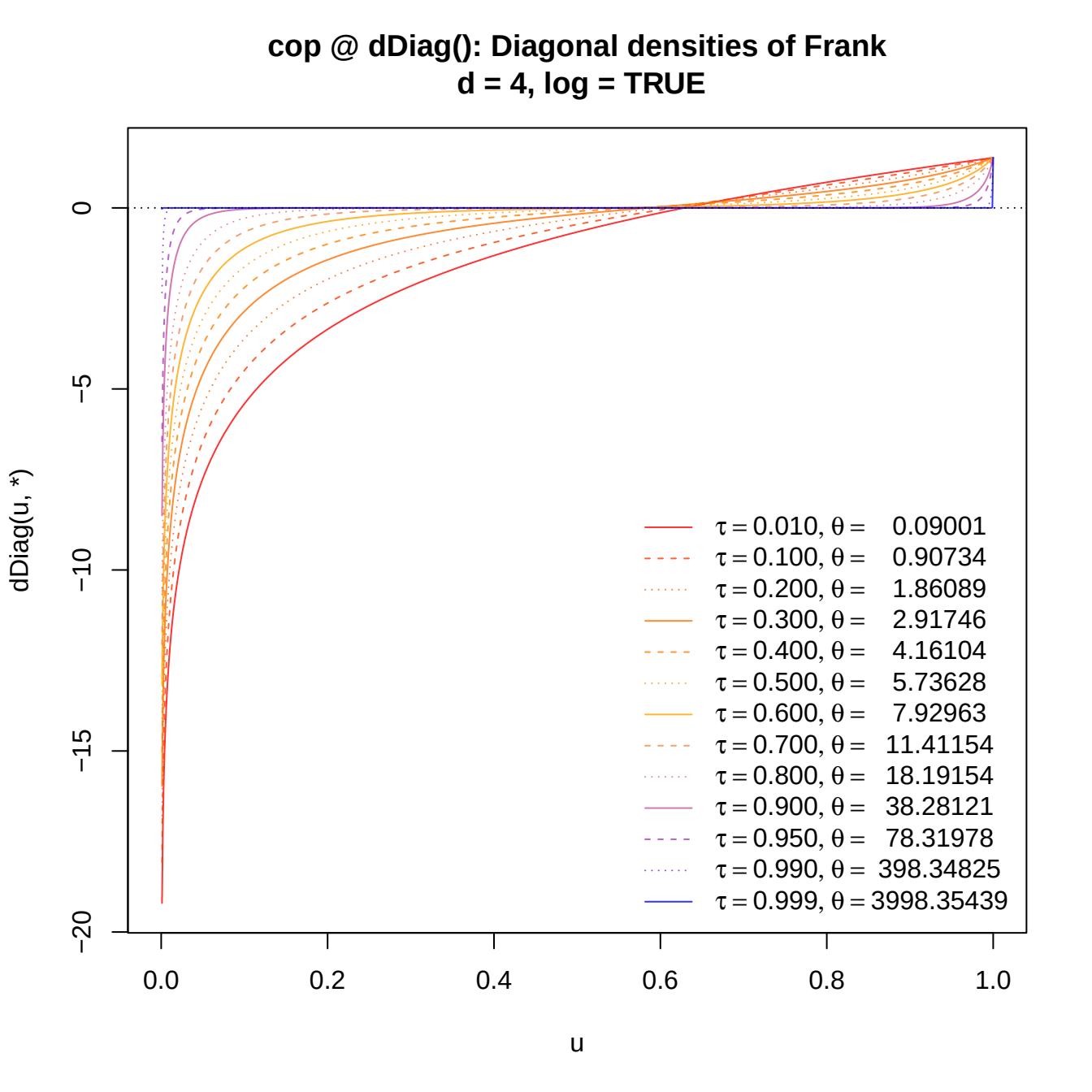

dDiagA(): Diagonal densities of AMH
d = 4, log = TRUE
dDiag(u, *)
0
−5
−10
−15
−20
0.0
0.2
0.4
0.6
0.8
1.0
u
τ = 0.01, θ = 0.04451
τ = 0.10, θ = 0.40149
τ = 0.20, θ = 0.71348
τ = 0.30, θ = 0.94296
τ = 0.33, θ = 0.99489

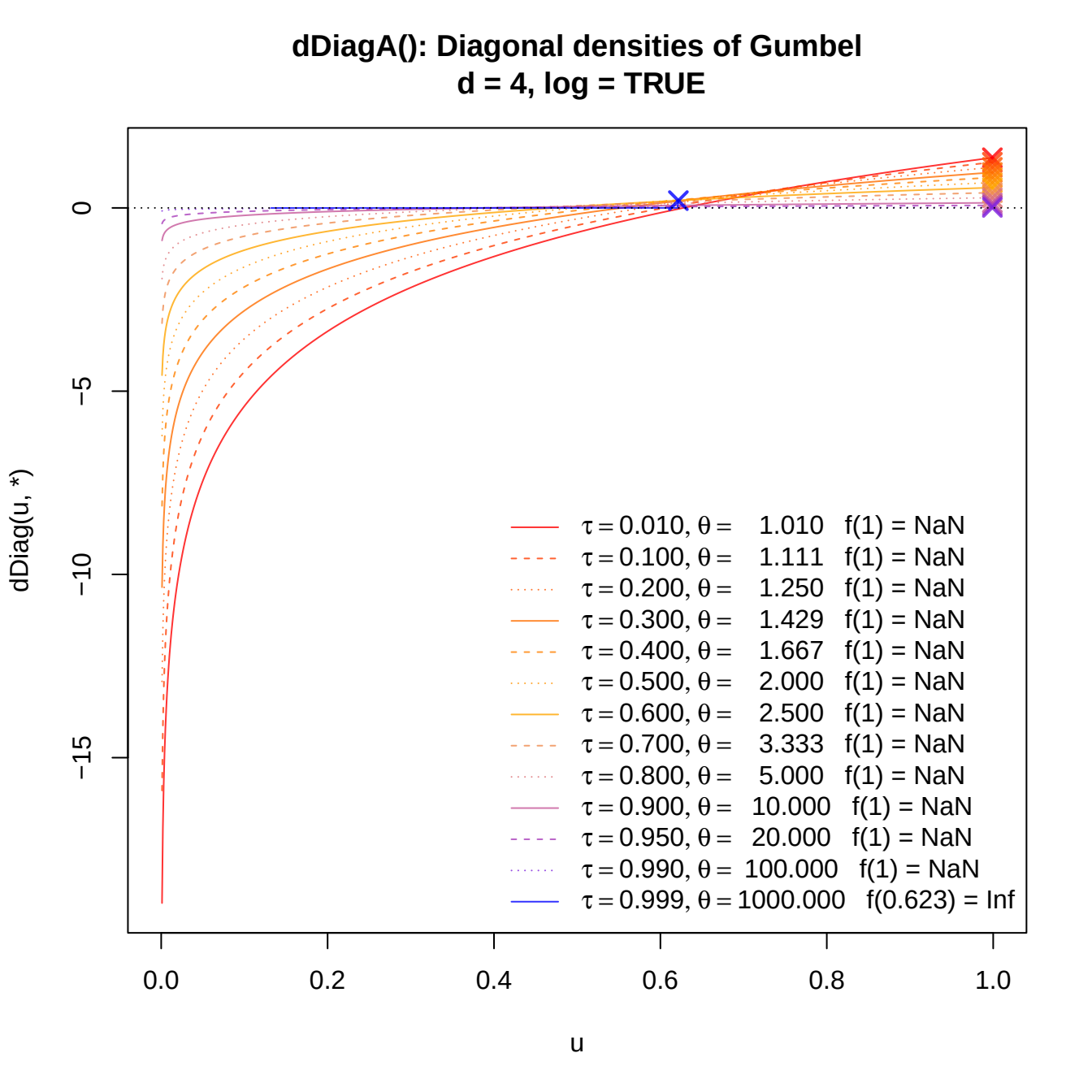

cop @ dDiag(): Diagonal densities of AMH
d = 4, log = TRUE
dDiag(u, *)
0
−5
−10
−15
−20
0.0
0.2
0.4
0.6
0.8
1.0
u
τ = 0.01, θ = 0.04451
τ = 0.10, θ = 0.40149
τ = 0.20, θ = 0.71348
τ = 0.30, θ = 0.94296
τ = 0.33, θ = 0.99489

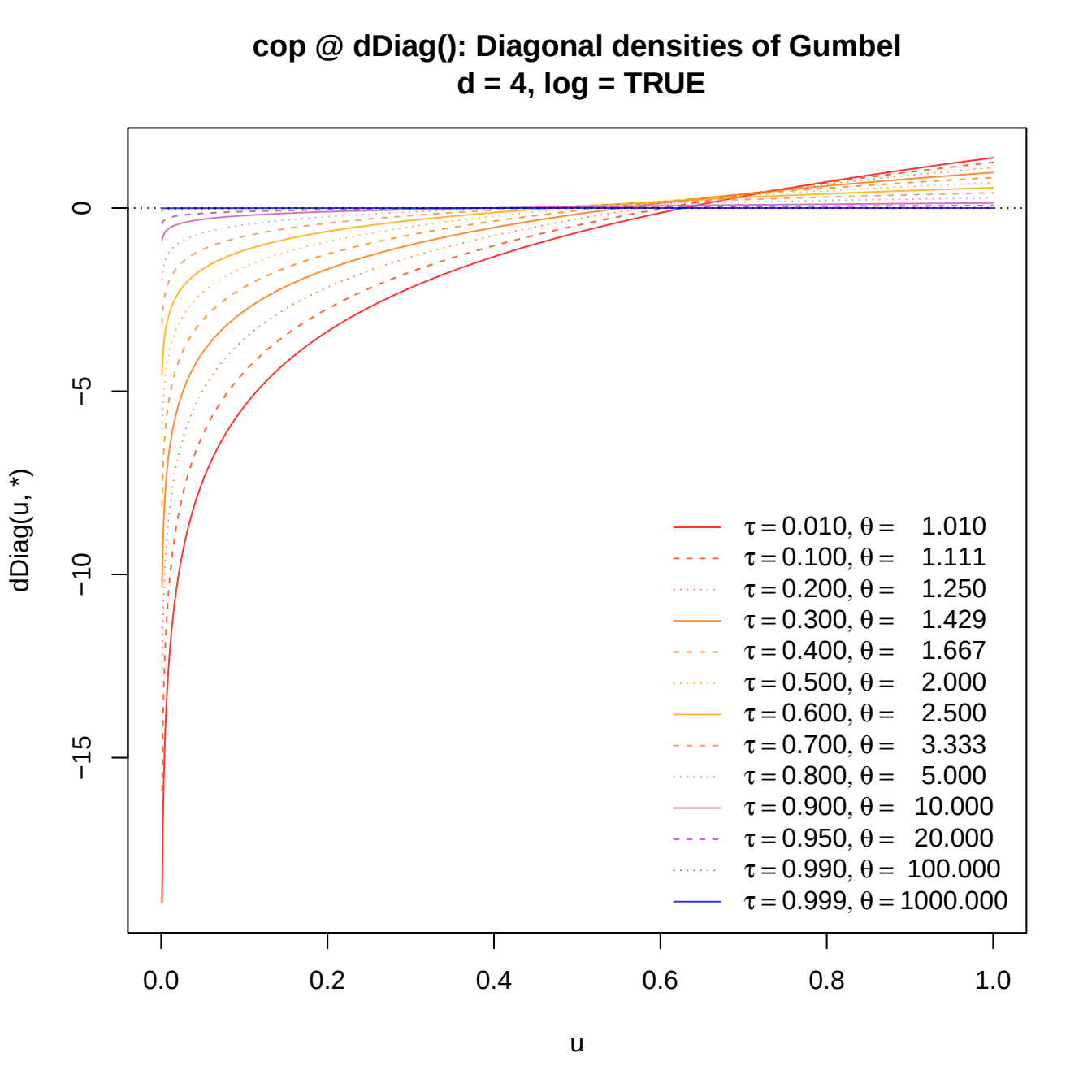

dDiagA(): Diagonal densities of Clayton
d = 4, log = TRUE
dDiag(u, *)
0
−5
−10
−15
0.0
0.2
0.4
0.6
0.8
1.0
u
τ = 0.010, θ = 0.0202
τ = 0.100, θ = 0.2222
τ = 0.200, θ = 0.5000
τ = 0.300, θ = 0.8571
τ = 0.400, θ = 1.3333
τ = 0.500, θ = 2.0000
τ = 0.600, θ = 3.0000
τ = 0.700, θ = 4.6667
τ = 0.800, θ = 8.0000
τ = 0.900, θ = 18.0000
τ = 0.950, θ = 38.0000
τ = 0.990, θ = 198.0000
τ = 0.999, θ = 1998.0000

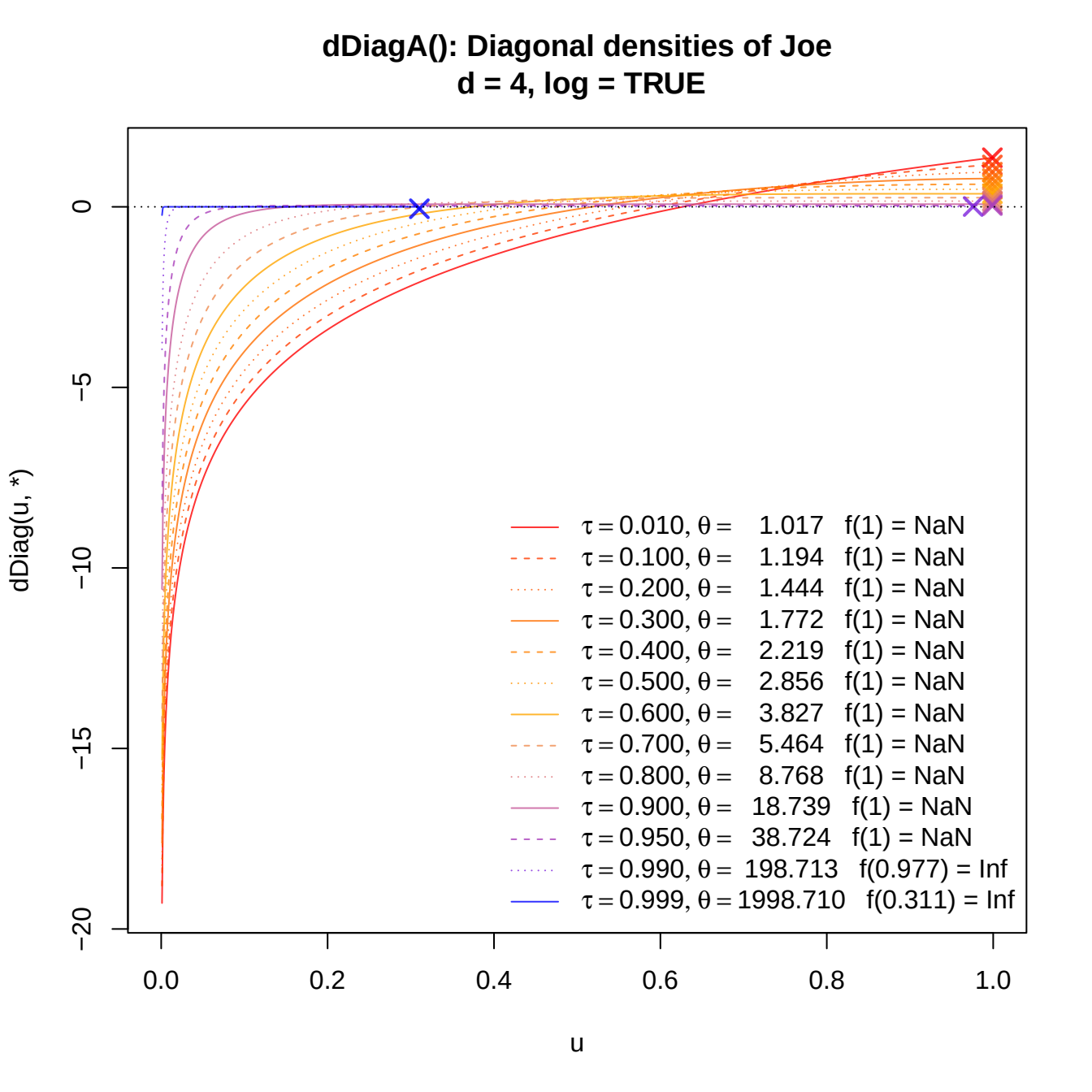

cop @ dDiag(): Diagonal densities of Clayton
d = 4, log = TRUE
dDiag(u, *)
u
0
−10
−20
−30
−40
−50
−60
−70
0.0
0.2
0.4
0.6
0.8
1.0
τ = 0.010, θ = 0.0202
τ = 0.100, θ = 0.2222
τ = 0.200, θ = 0.5000
τ = 0.300, θ = 0.8571
τ = 0.400, θ = 1.3333
τ = 0.500, θ = 2.0000
τ = 0.600, θ = 3.0000
τ = 0.700, θ = 4.6667
τ = 0.800, θ = 8.0000
τ = 0.900, θ = 18.0000
τ = 0.950, θ = 38.0000
τ = 0.990, θ = 198.0000
τ = 0.999, θ = 1998.0000

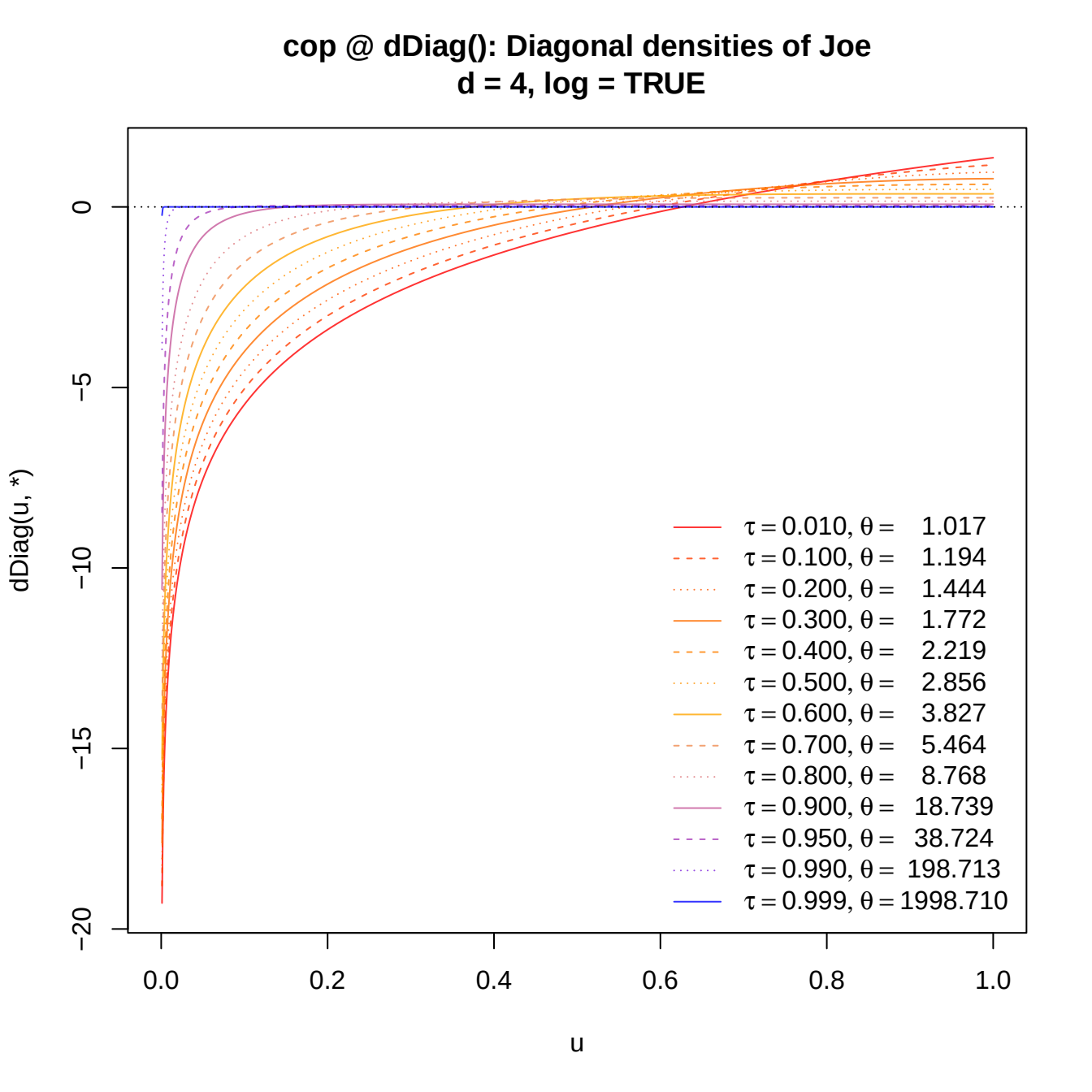

dDiagA(): Diagonal densities of Frank
d = 4, log = TRUE
dDiag(u, *)
0
−5
−10
−15
−20
0.0
0.2
0.4
0.6
0.8
1.0
u
τ = 0.010, θ = 0.09001
τ = 0.100, θ = 0.90734
τ = 0.200, θ = 1.86089
τ = 0.300, θ = 2.91746
τ = 0.400, θ = 4.16104
τ = 0.500, θ = 5.73628
τ = 0.600, θ = 7.92963
τ = 0.700, θ = 11.41154
τ = 0.800, θ = 18.19154
τ = 0.900, θ = 38.28121
τ = 0.950, θ = 78.31978
τ = 0.990, θ = 398.34825
τ = 0.999, θ = 3998.35439
f(0.187) = Inf

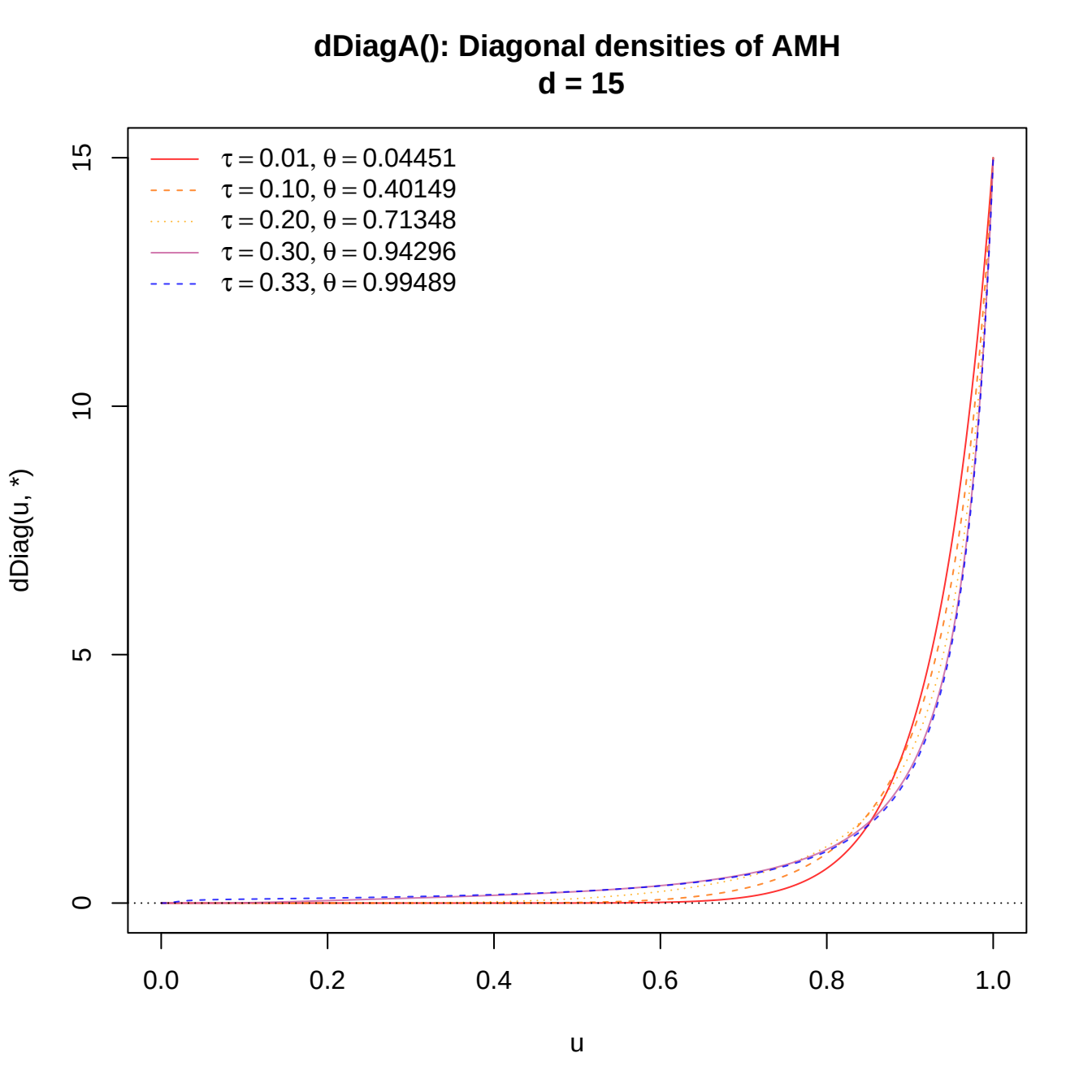

cop @ dDiag(): Diagonal densities of Frank
d = 4, log = TRUE
dDiag(u, *)
0
−5
−10
−15
−20
0.0
0.2
0.4
0.6
0.8
1.0
u
τ = 0.010, θ = 0.09001
τ = 0.100, θ = 0.90734
τ = 0.200, θ = 1.86089
τ = 0.300, θ = 2.91746
τ = 0.400, θ = 4.16104
τ = 0.500, θ = 5.73628
τ = 0.600, θ = 7.92963
τ = 0.700, θ = 11.41154
τ = 0.800, θ = 18.19154
τ = 0.900, θ = 38.28121
τ = 0.950, θ = 78.31978
τ = 0.990, θ = 398.34825
τ = 0.999, θ = 3998.35439

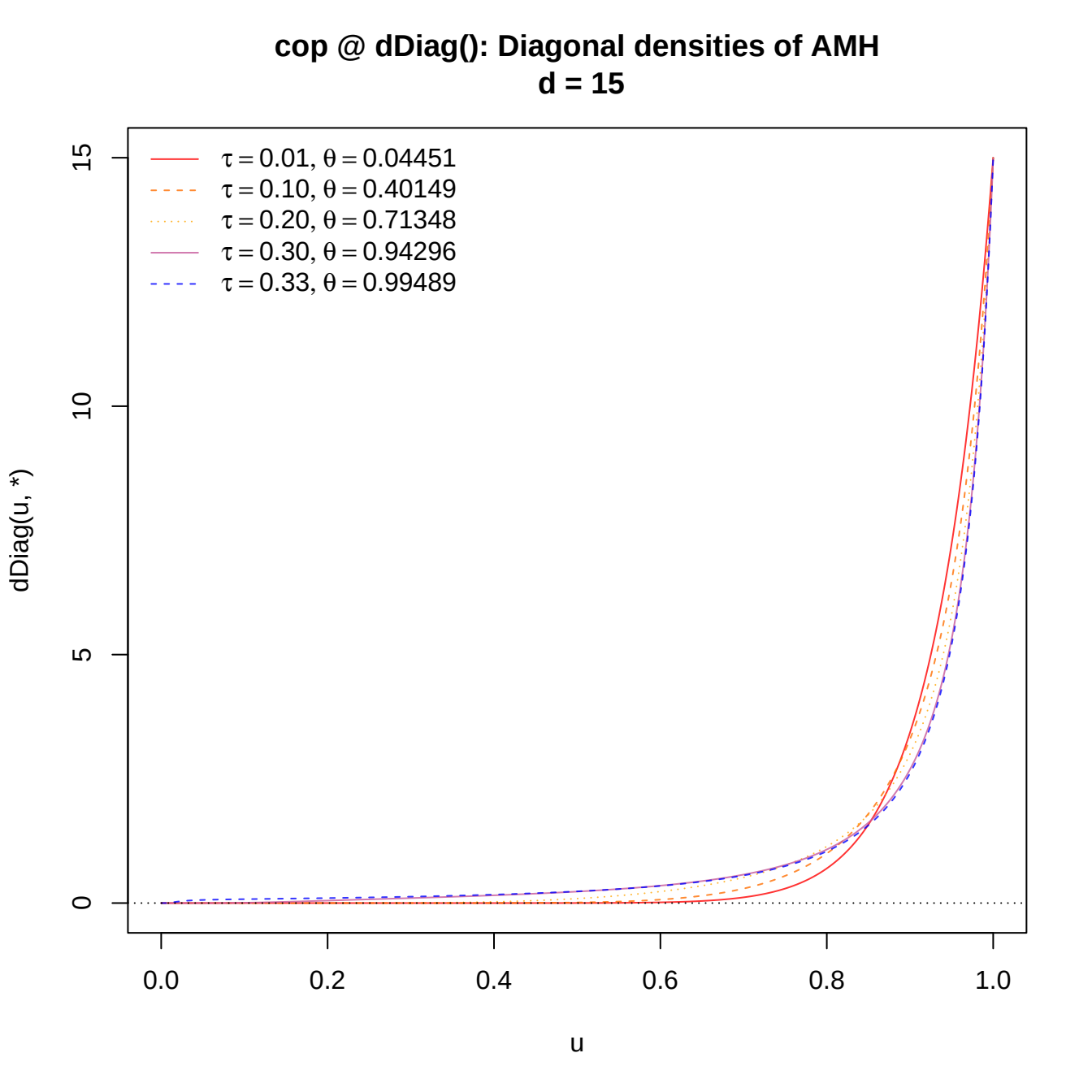

dDiagA(): Diagonal densities of Gumbel
d = 4, log = TRUE
dDiag(u, *)
0
−5
−10
−15
0.0
0.2
0.4
0.6
0.8
1.0
u
τ = 0.010, θ = 1.010 f(1) = NaN
τ = 0.100, θ = 1.111 f(1) = NaN
τ = 0.200, θ = 1.250 f(1) = NaN
τ = 0.300, θ = 1.429 f(1) = NaN
τ = 0.400, θ = 1.667 f(1) = NaN
τ = 0.500, θ = 2.000 f(1) = NaN
τ = 0.600, θ = 2.500 f(1) = NaN
τ = 0.700, θ = 3.333 f(1) = NaN
τ = 0.800, θ = 5.000 f(1) = NaN
τ = 0.900, θ = 10.000 f(1) = NaN
τ = 0.950, θ = 20.000 f(1) = NaN
τ = 0.990, θ = 100.000 f(1) = NaN
τ = 0.999, θ = 1000.000 f(0.623) = Inf

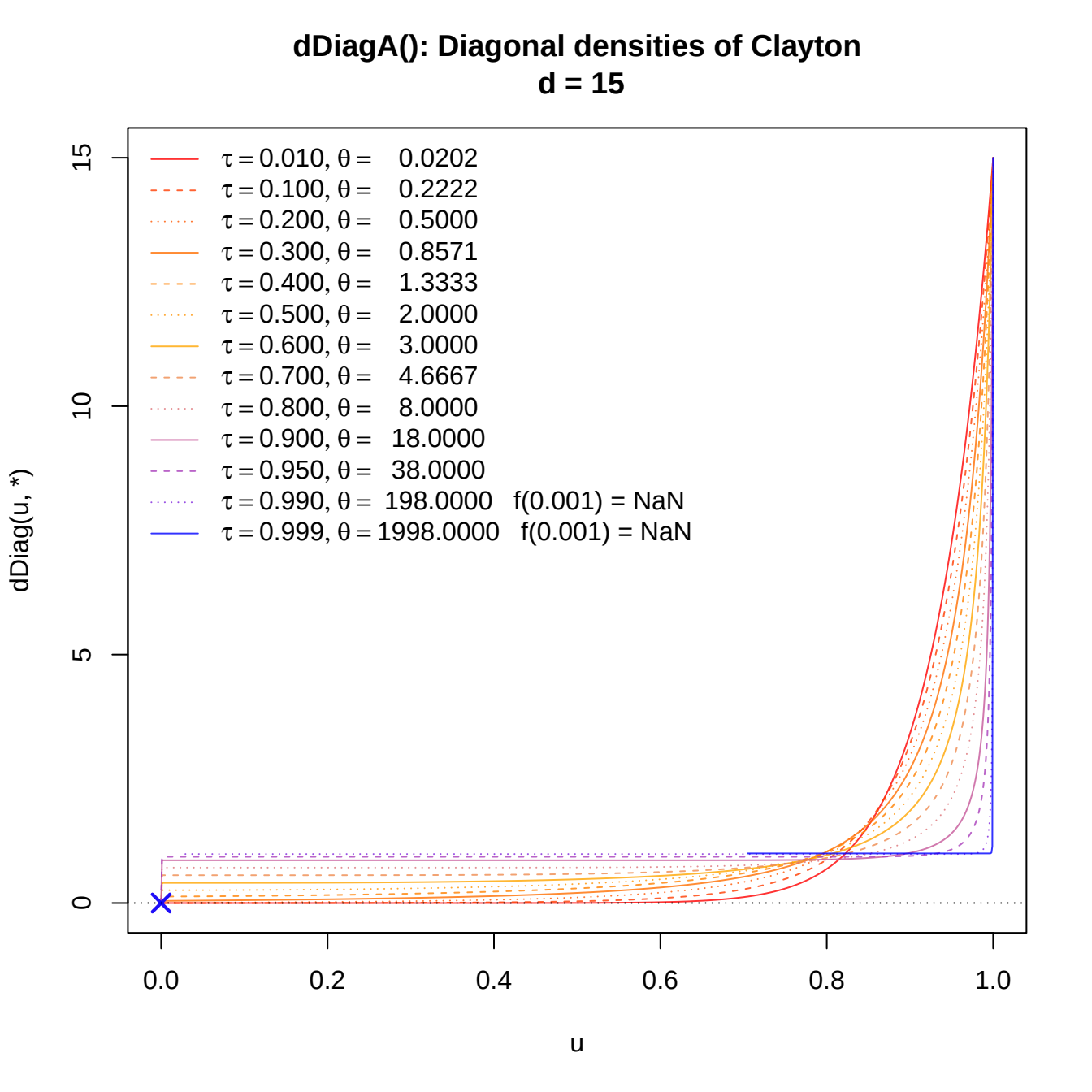

cop @ dDiag(): Diagonal densities of Gumbel
d = 4, log = TRUE
dDiag(u, *)
0
−5
−10
−15
0.0
0.2
0.4
0.6
0.8
1.0
u
τ = 0.010, θ = 1.010
τ = 0.100, θ = 1.111
τ = 0.200, θ = 1.250
τ = 0.300, θ = 1.429
τ = 0.400, θ = 1.667
τ = 0.500, θ = 2.000
τ = 0.600, θ = 2.500
τ = 0.700, θ = 3.333
τ = 0.800, θ = 5.000
τ = 0.900, θ = 10.000
τ = 0.950, θ = 20.000
τ = 0.990, θ = 100.000
τ = 0.999, θ = 1000.000

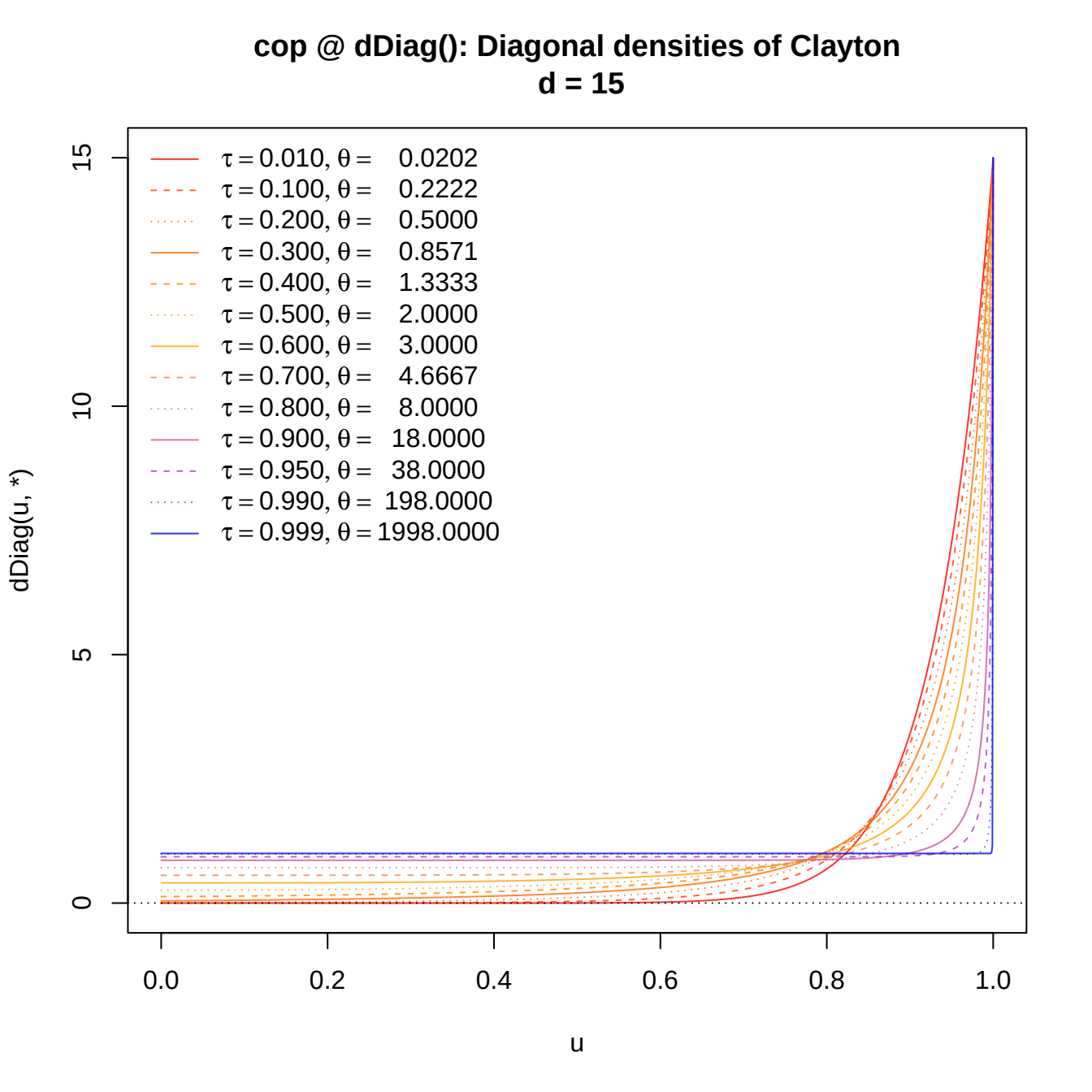

dDiagA(): Diagonal densities of Joe
d = 4, log = TRUE
dDiag(u, *)
0
−5
−10
−15
−20
0.0
0.2
0.4
0.6
0.8
1.0
u
τ = 0.010, θ = 1.017 f(1) = NaN
τ = 0.100, θ = 1.194 f(1) = NaN
τ = 0.200, θ = 1.444 f(1) = NaN
τ = 0.300, θ = 1.772 f(1) = NaN
τ = 0.400, θ = 2.219 f(1) = NaN
τ = 0.500, θ = 2.856 f(1) = NaN
τ = 0.600, θ = 3.827 f(1) = NaN
τ = 0.700, θ = 5.464 f(1) = NaN
τ = 0.800, θ = 8.768 f(1) = NaN
τ = 0.900, θ = 18.739 f(1) = NaN
τ = 0.950, θ = 38.724 f(1) = NaN
τ = 0.990, θ = 198.713 f(0.977) = Inf
τ = 0.999, θ = 1998.710 f(0.311) = Inf

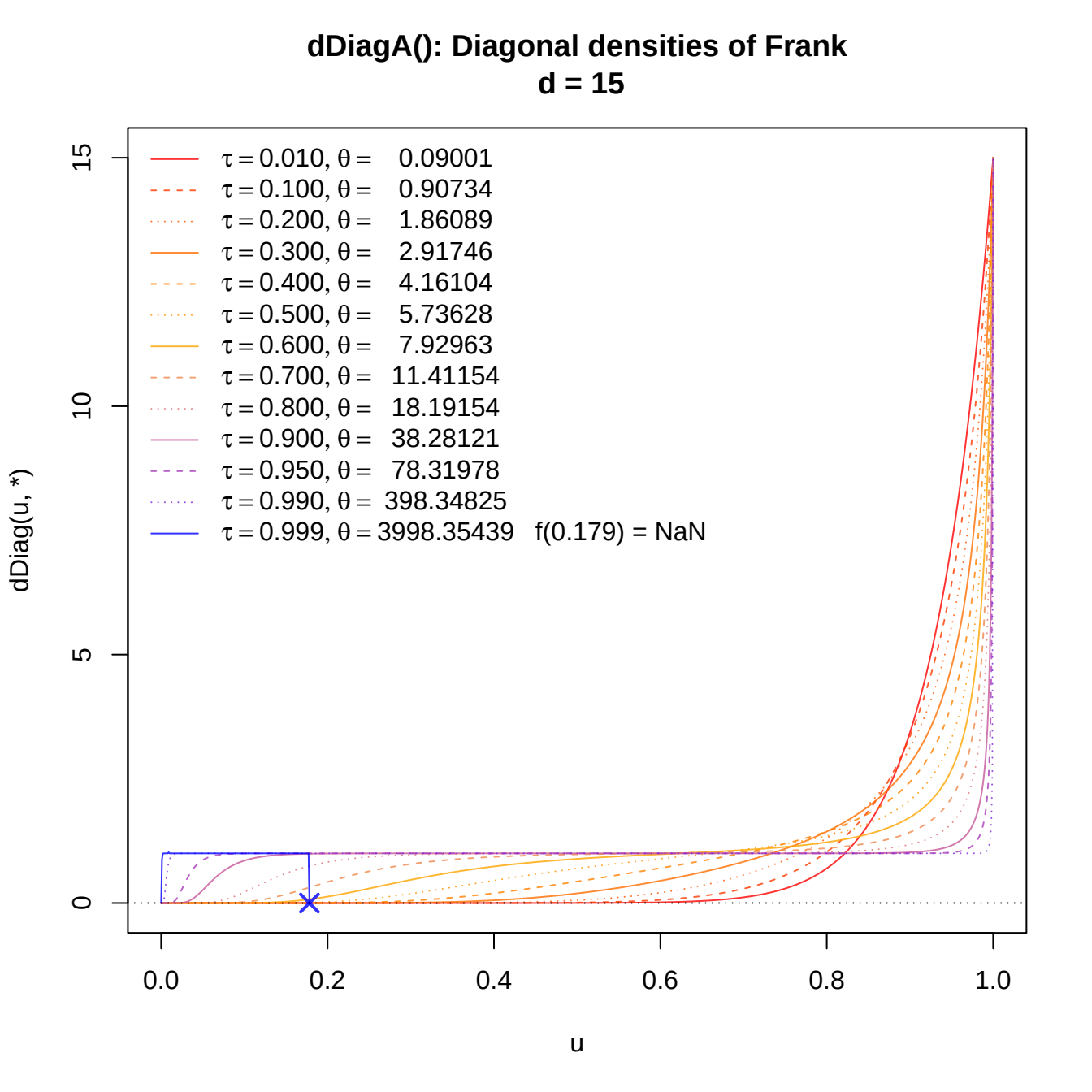

cop @ dDiag(): Diagonal densities of Joe
d = 4, log = TRUE
dDiag(u, *)
u
0
−5
−10
−15
−20
0.0
0.2
0.4
0.6
0.8
1.0
τ = 0.010, θ = 1.017
τ = 0.100, θ = 1.194
τ = 0.200, θ = 1.444
τ = 0.300, θ = 1.772
τ = 0.400, θ = 2.219
τ = 0.500, θ = 2.856
τ = 0.600, θ = 3.827
τ = 0.700, θ = 5.464
τ = 0.800, θ = 8.768
τ = 0.900, θ = 18.739
τ = 0.950, θ = 38.724
τ = 0.990, θ = 198.713
τ = 0.999, θ = 1998.710

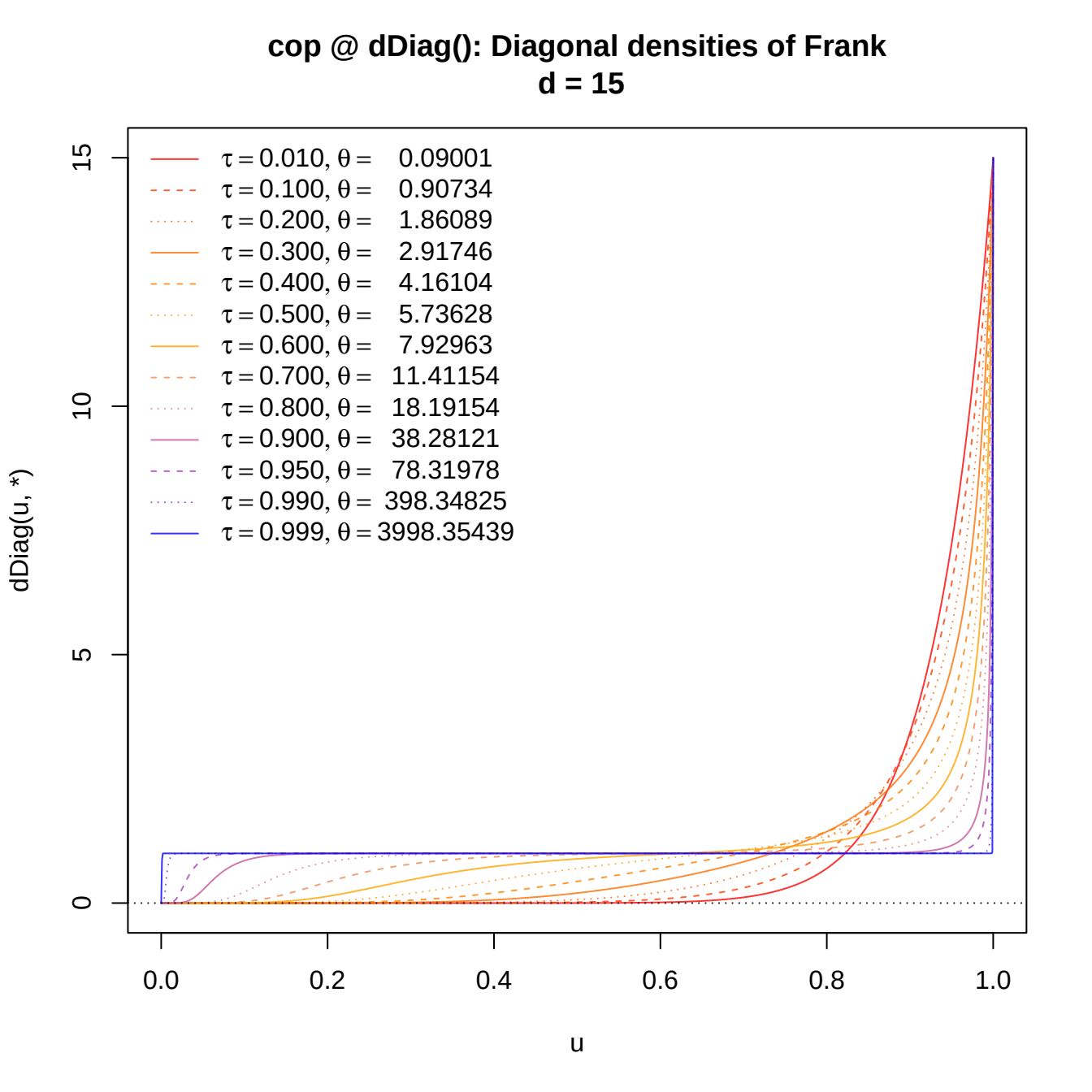

dDiagA(): Diagonal densities of AMH
d = 15
τ = 0.01, θ = 0.04451
τ = 0.10, θ = 0.40149
τ = 0.20, θ = 0.71348
τ = 0.30, θ = 0.94296
τ = 0.33, θ = 0.99489
dDiag(u, *)
0
5
10
15
0.0
0.2
0.4
0.6
0.8
1.0
u

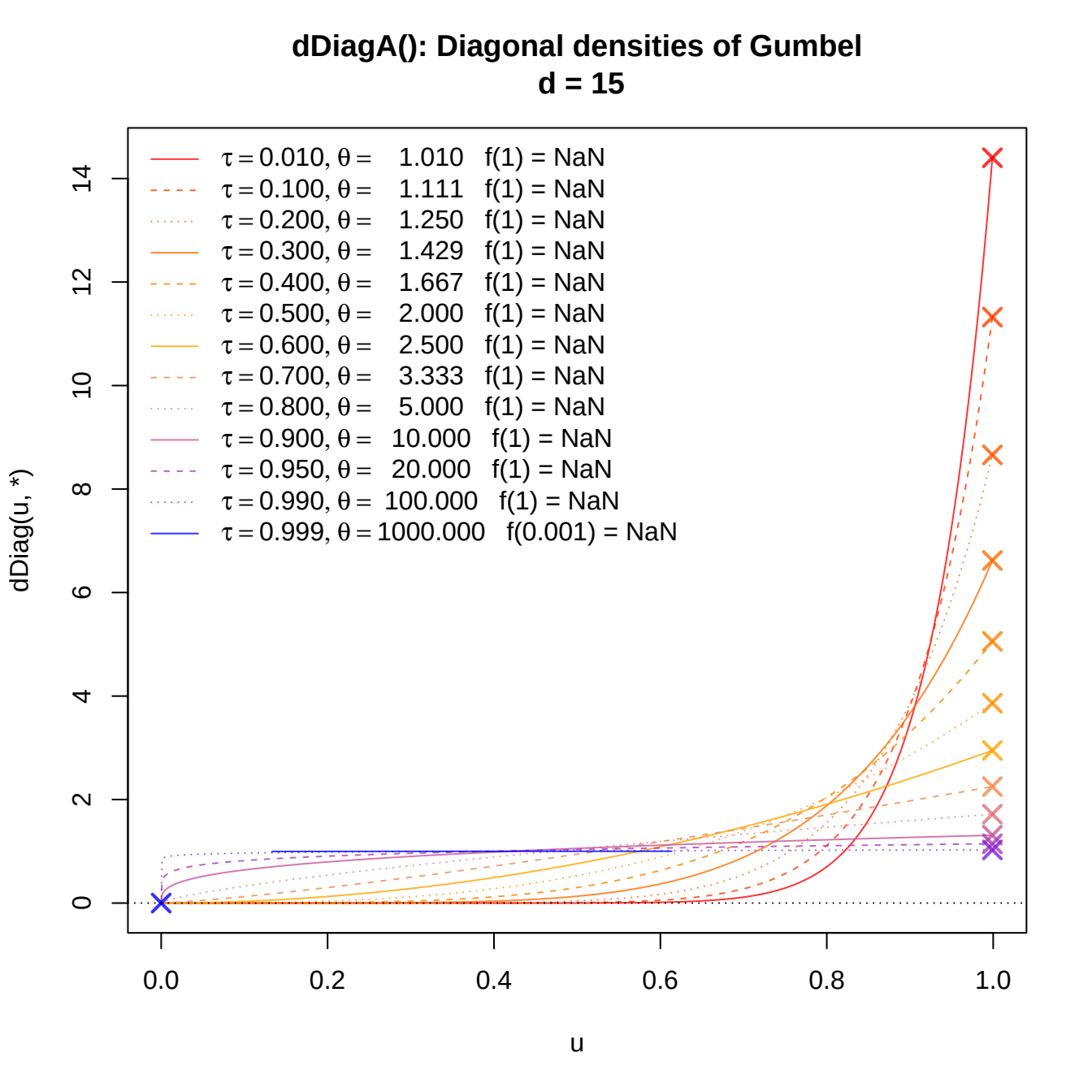

cop @ dDiag(): Diagonal densities of AMH
d = 15
τ = 0.01, θ = 0.04451
τ = 0.10, θ = 0.40149
τ = 0.20, θ = 0.71348
τ = 0.30, θ = 0.94296
τ = 0.33, θ = 0.99489
dDiag(u, *)
0
5
10
15
0.0
0.2
0.4
0.6
0.8
1.0
u

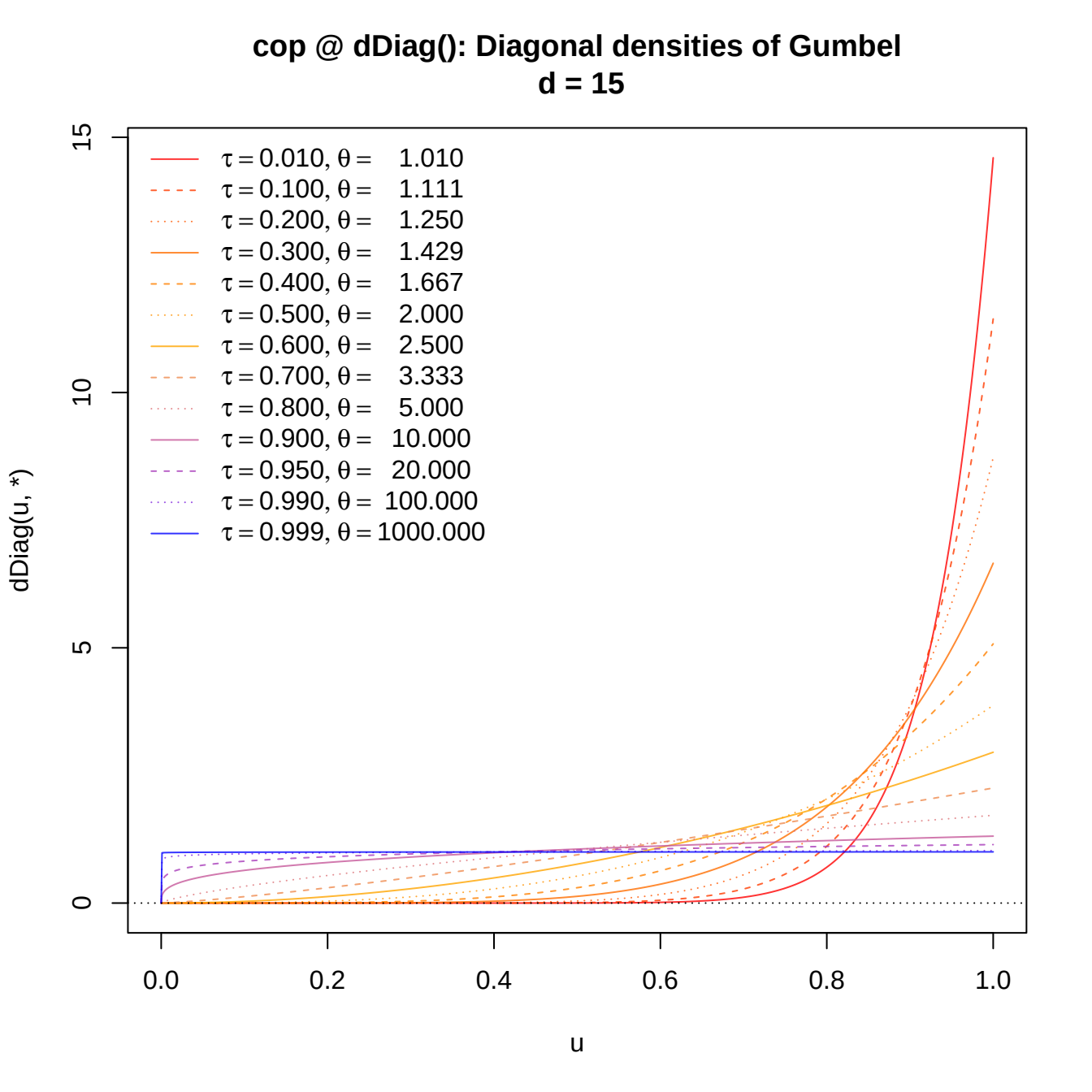

dDiagA(): Diagonal densities of Clayton
d = 15
τ = 0.010, θ = 0.0202
τ = 0.100, θ = 0.2222
τ = 0.200, θ = 0.5000
τ = 0.300, θ = 0.8571
τ = 0.400, θ = 1.3333
τ = 0.500, θ = 2.0000
τ = 0.600, θ = 3.0000
τ = 0.700, θ = 4.6667
τ = 0.800, θ = 8.0000
τ = 0.900, θ = 18.0000
τ = 0.950, θ = 38.0000
τ = 0.990, θ = 198.0000 f(0.001) = NaN
τ = 0.999, θ = 1998.0000 f(0.001) = NaN
dDiag(u, *)
0
5
10
15
0.0
0.2
0.4
0.6
0.8
1.0
u

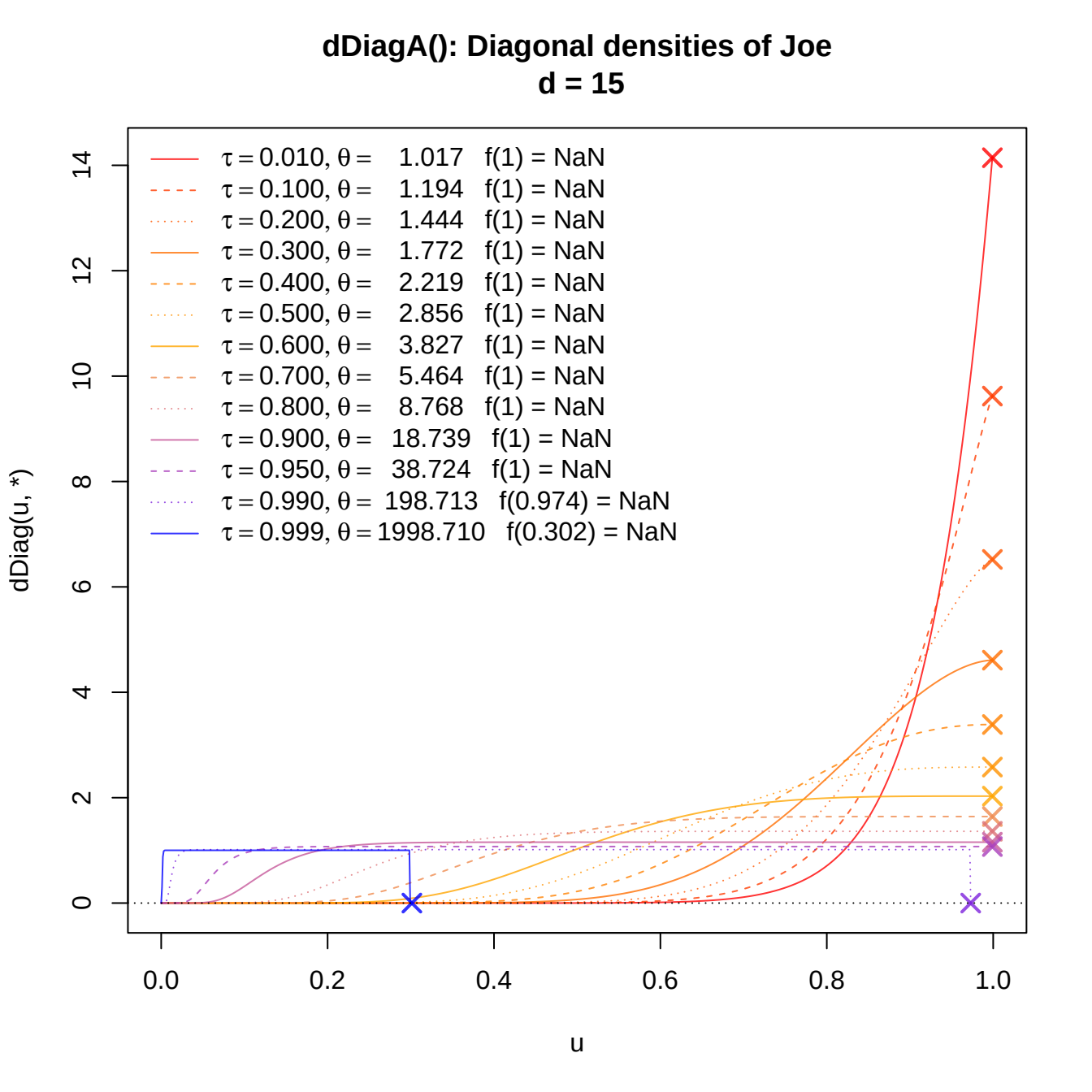

cop @ dDiag(): Diagonal densities of Clayton
d = 15
τ = 0.010, θ = 0.0202
τ = 0.100, θ = 0.2222
τ = 0.200, θ = 0.5000
τ = 0.300, θ = 0.8571
τ = 0.400, θ = 1.3333
τ = 0.500, θ = 2.0000
τ = 0.600, θ = 3.0000
τ = 0.700, θ = 4.6667
τ = 0.800, θ = 8.0000
τ = 0.900, θ = 18.0000
τ = 0.950, θ = 38.0000
τ = 0.990, θ = 198.0000
τ = 0.999, θ = 1998.0000
dDiag(u, *)
0
5
10
15
0.0
0.2
0.4
0.6
0.8
1.0
u

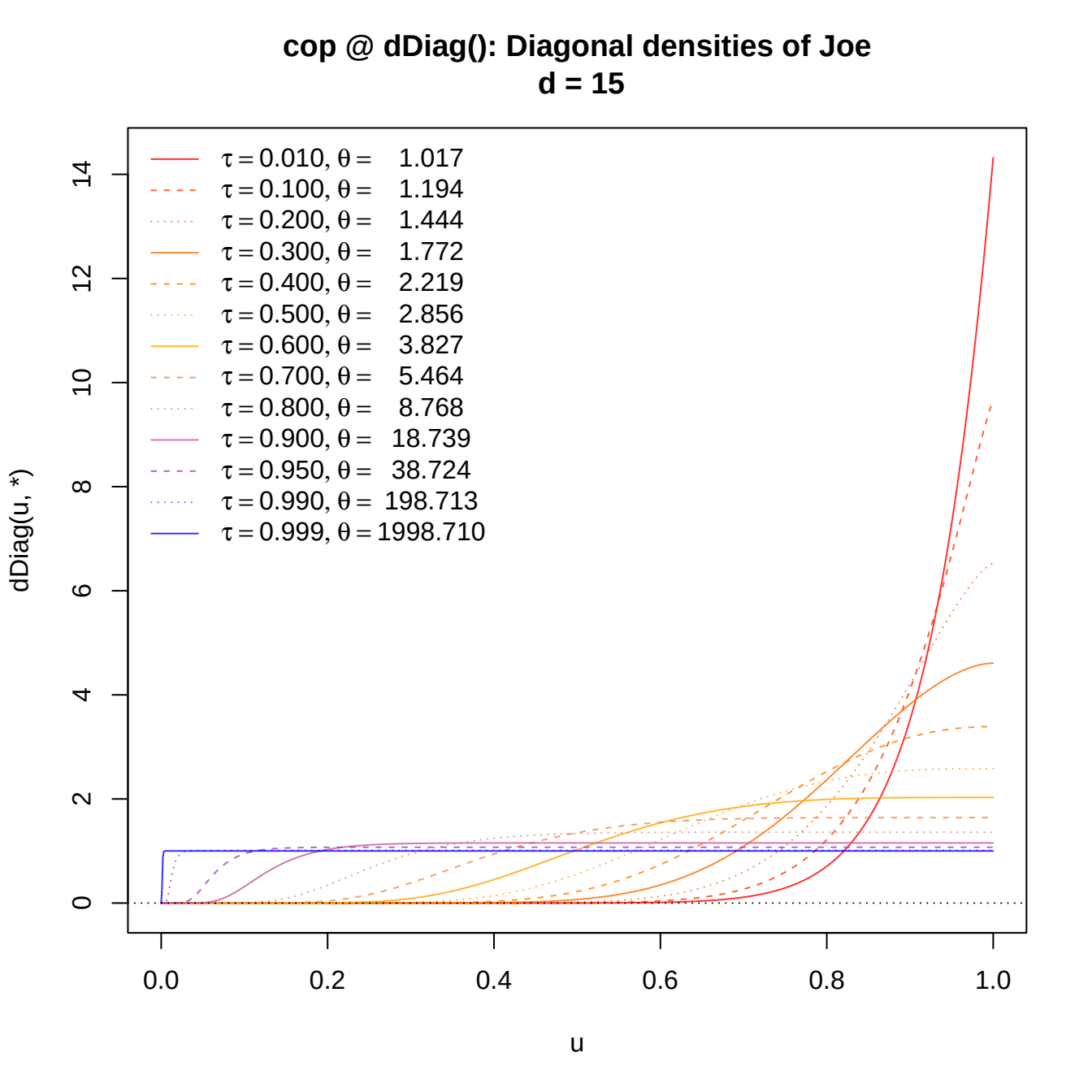

dDiagA(): Diagonal densities of Frank
d = 15
τ = 0.010, θ = 0.09001
τ = 0.100, θ = 0.90734
τ = 0.200, θ = 1.86089
τ = 0.300, θ = 2.91746
τ = 0.400, θ = 4.16104
τ = 0.500, θ = 5.73628
τ = 0.600, θ = 7.92963
τ = 0.700, θ = 11.41154
τ = 0.800, θ = 18.19154
τ = 0.900, θ = 38.28121
τ = 0.950, θ = 78.31978
τ = 0.990, θ = 398.34825
τ = 0.999, θ = 3998.35439 f(0.179) = NaN
dDiag(u, *)
0
5
10
15
0.0
0.2
0.4
0.6
0.8
1.0
u

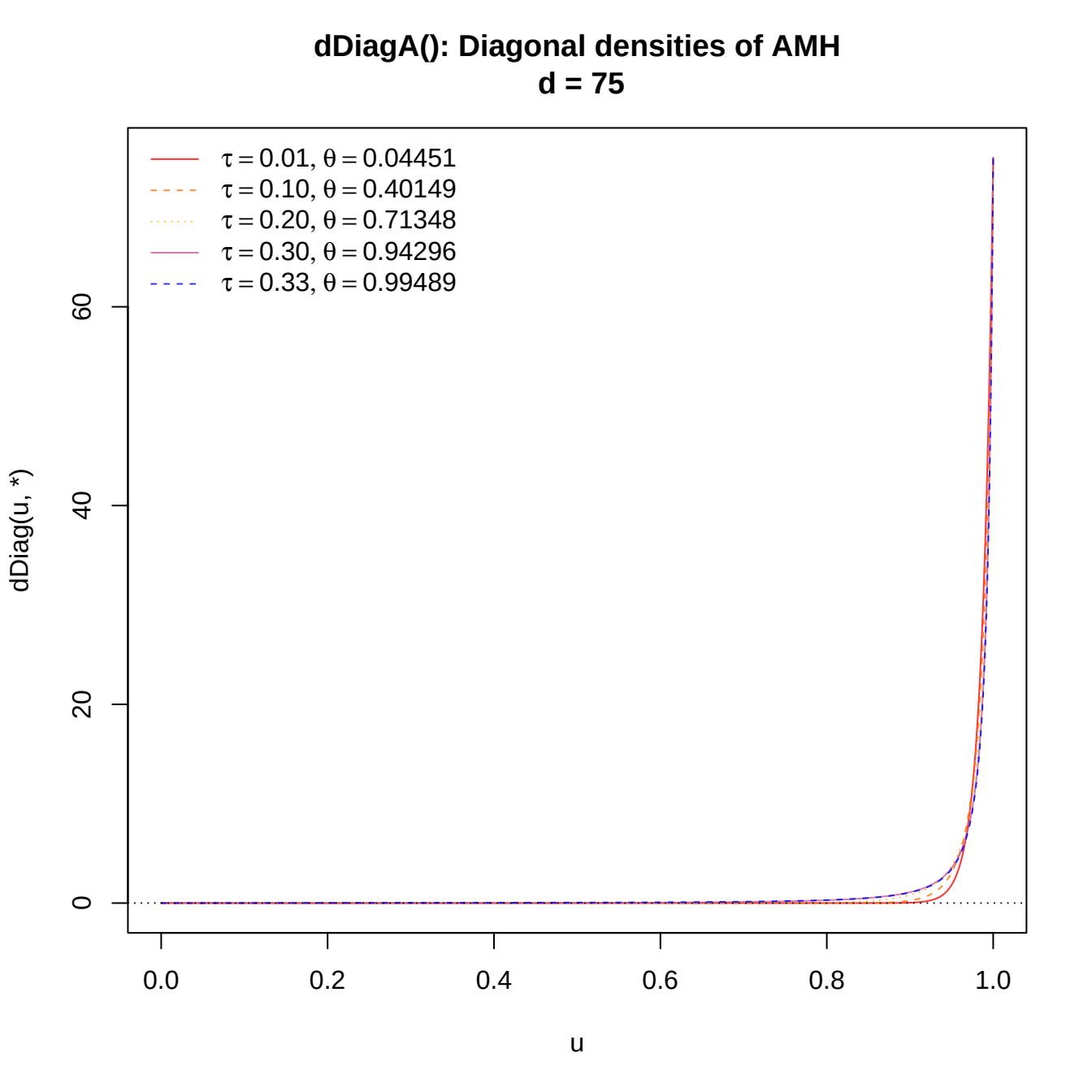

cop @ dDiag(): Diagonal densities of Frank
d = 15
τ = 0.010, θ = 0.09001
τ = 0.100, θ = 0.90734
τ = 0.200, θ = 1.86089
τ = 0.300, θ = 2.91746
τ = 0.400, θ = 4.16104
τ = 0.500, θ = 5.73628
τ = 0.600, θ = 7.92963
τ = 0.700, θ = 11.41154
τ = 0.800, θ = 18.19154
τ = 0.900, θ = 38.28121
τ = 0.950, θ = 78.31978
τ = 0.990, θ = 398.34825
τ = 0.999, θ = 3998.35439
dDiag(u, *)
0
5
10
15
0.0
0.2
0.4
0.6
0.8
1.0
u

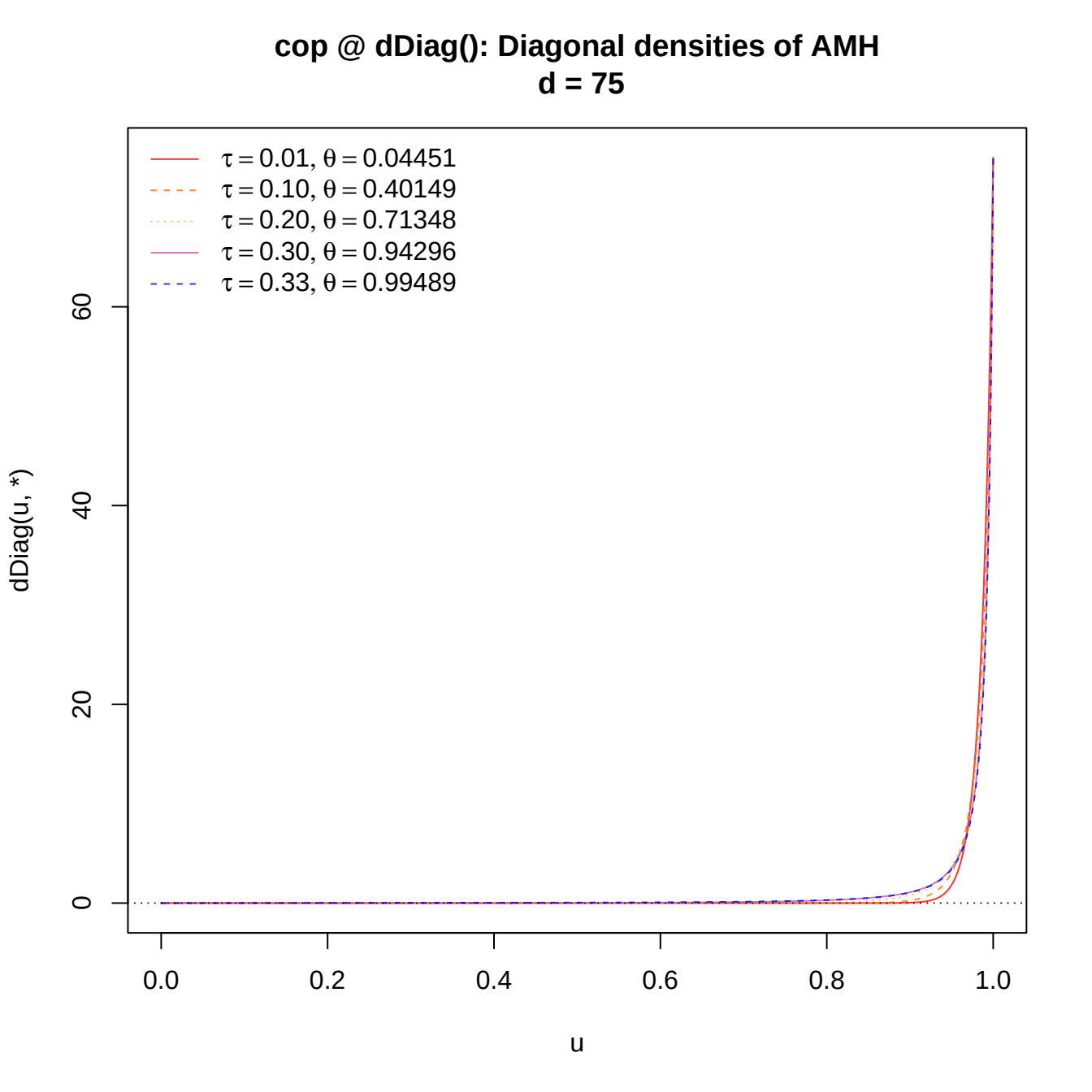

dDiagA(): Diagonal densities of Gumbel
d = 15
τ = 0.010, θ = 1.010 f(1) = NaN
τ = 0.100, θ = 1.111 f(1) = NaN
τ = 0.200, θ = 1.250 f(1) = NaN
τ = 0.300, θ = 1.429 f(1) = NaN
τ = 0.400, θ = 1.667 f(1) = NaN
τ = 0.500, θ = 2.000 f(1) = NaN
τ = 0.600, θ = 2.500 f(1) = NaN
τ = 0.700, θ = 3.333 f(1) = NaN
τ = 0.800, θ = 5.000 f(1) = NaN
τ = 0.900, θ = 10.000 f(1) = NaN
τ = 0.950, θ = 20.000 f(1) = NaN
τ = 0.990, θ = 100.000 f(1) = NaN
τ = 0.999, θ = 1000.000 f(0.001) = NaN
dDiag(u, *)
0
2
4
6
8
10
12
14
0.0
0.2
0.4
0.6
0.8
1.0
u

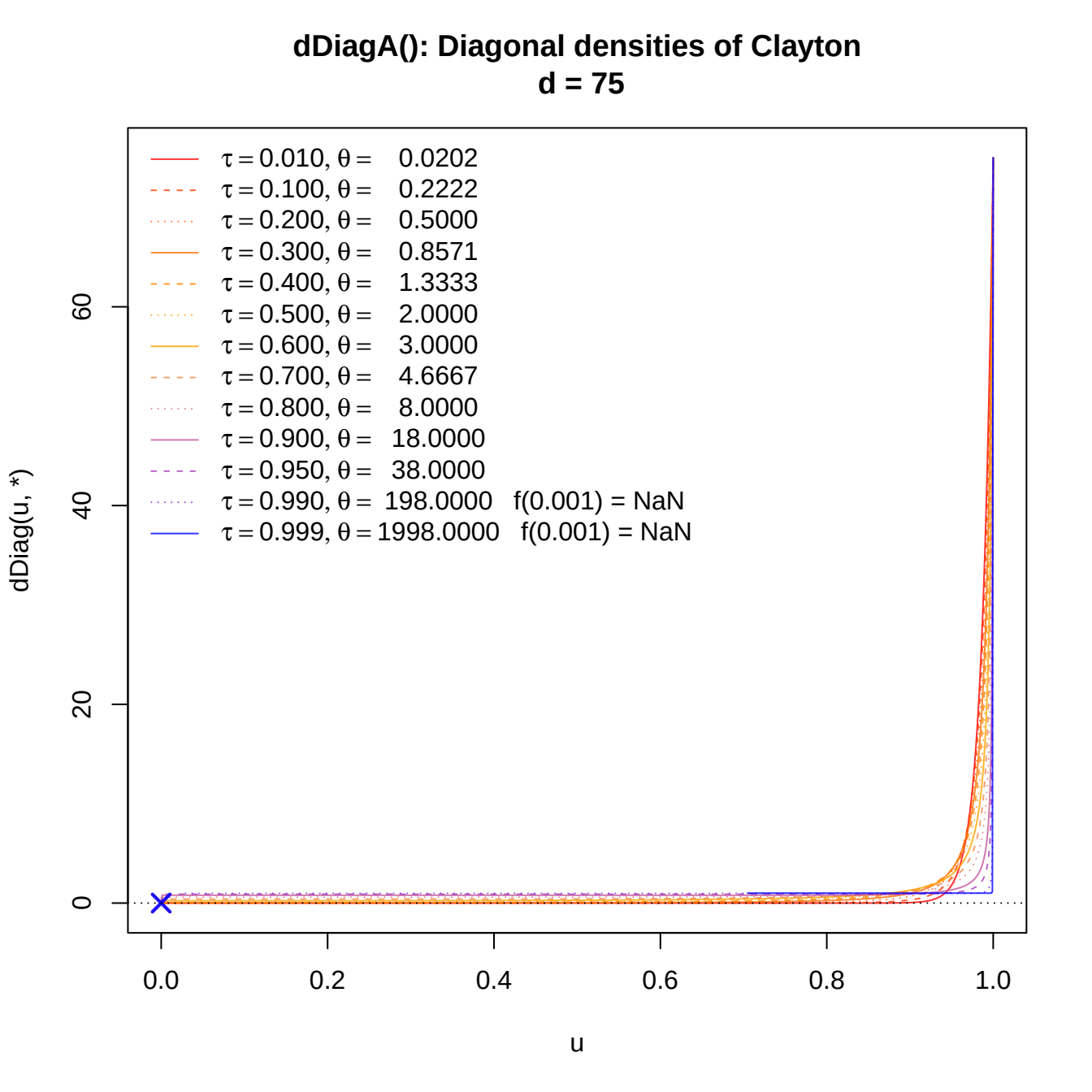

cop @ dDiag(): Diagonal densities of Gumbel
d = 15
τ = 0.010, θ = 1.010
τ = 0.100, θ = 1.111
τ = 0.200, θ = 1.250
τ = 0.300, θ = 1.429
τ = 0.400, θ = 1.667
τ = 0.500, θ = 2.000
τ = 0.600, θ = 2.500
τ = 0.700, θ = 3.333
τ = 0.800, θ = 5.000
τ = 0.900, θ = 10.000
τ = 0.950, θ = 20.000
τ = 0.990, θ = 100.000
τ = 0.999, θ = 1000.000
dDiag(u, *)
0
5
10
15
0.0
0.2
0.4
0.6
0.8
1.0
u

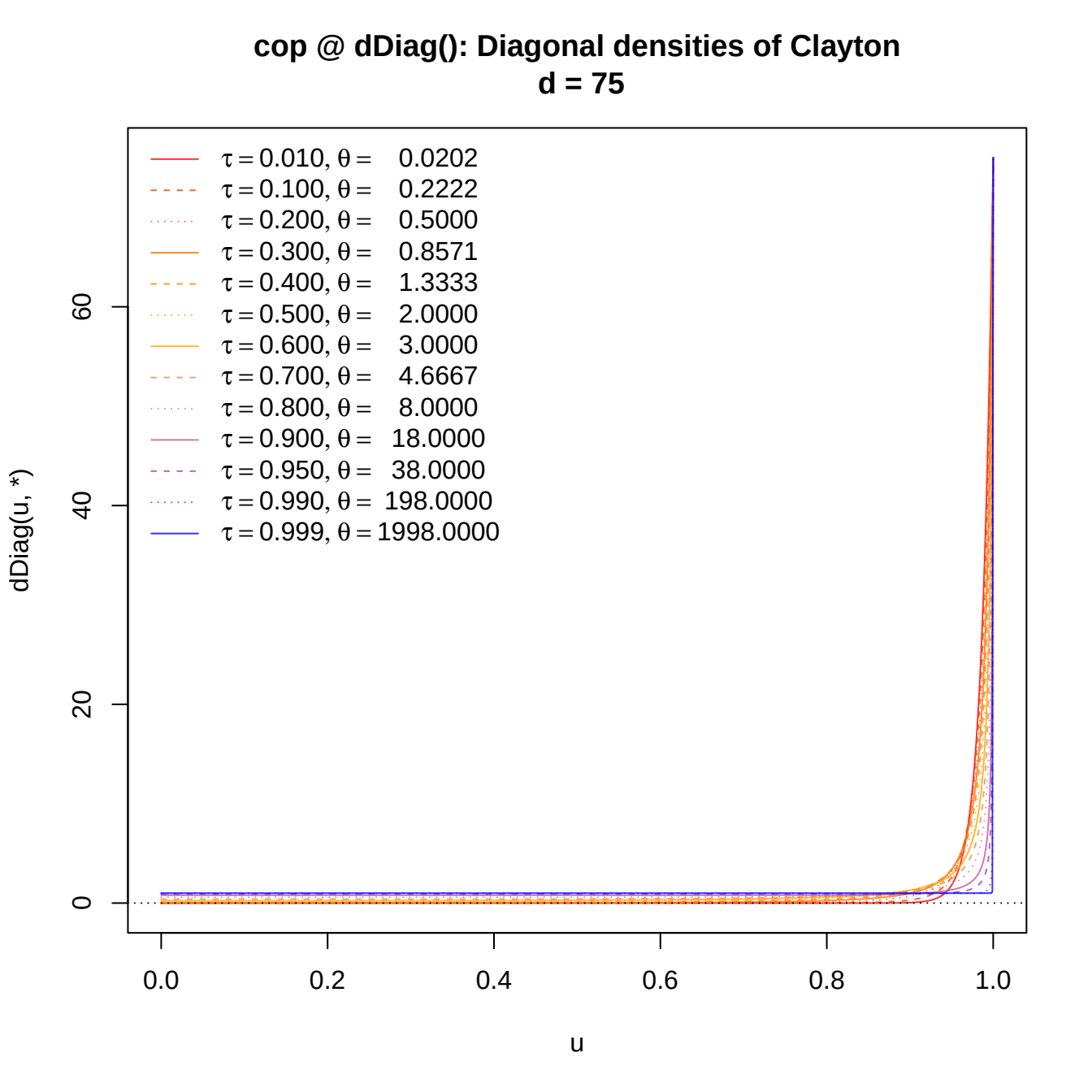

dDiagA(): Diagonal densities of Joe
d = 15
τ = 0.010, θ = 1.017 f(1) = NaN
τ = 0.100, θ = 1.194 f(1) = NaN
τ = 0.200, θ = 1.444 f(1) = NaN
τ = 0.300, θ = 1.772 f(1) = NaN
τ = 0.400, θ = 2.219 f(1) = NaN
τ = 0.500, θ = 2.856 f(1) = NaN
τ = 0.600, θ = 3.827 f(1) = NaN
τ = 0.700, θ = 5.464 f(1) = NaN
τ = 0.800, θ = 8.768 f(1) = NaN
τ = 0.900, θ = 18.739 f(1) = NaN
τ = 0.950, θ = 38.724 f(1) = NaN
τ = 0.990, θ = 198.713 f(0.974) = NaN
τ = 0.999, θ = 1998.710 f(0.302) = NaN
dDiag(u, *)
0
2
4
6
8
10
12
14
0.0
0.2
0.4
0.6
0.8
1.0
u

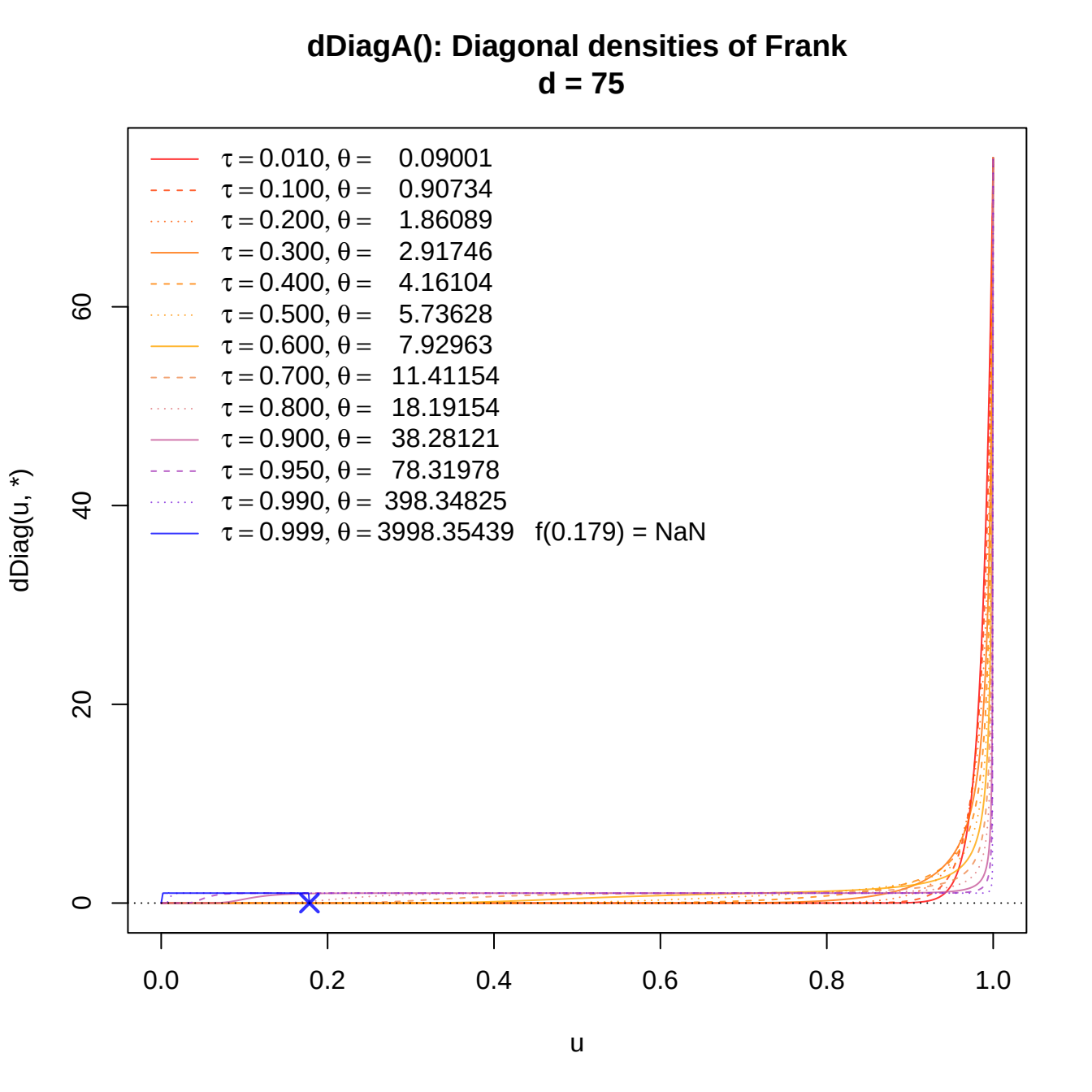

cop @ dDiag(): Diagonal densities of Joe
d = 15
τ = 0.010, θ = 1.017
τ = 0.100, θ = 1.194
τ = 0.200, θ = 1.444
τ = 0.300, θ = 1.772
τ = 0.400, θ = 2.219
τ = 0.500, θ = 2.856
τ = 0.600, θ = 3.827
τ = 0.700, θ = 5.464
τ = 0.800, θ = 8.768
τ = 0.900, θ = 18.739
τ = 0.950, θ = 38.724
τ = 0.990, θ = 198.713
τ = 0.999, θ = 1998.710
dDiag(u, *)
0
2
4
6
8
10
12
14
0.0
0.2
0.4
0.6
0.8
1.0
u

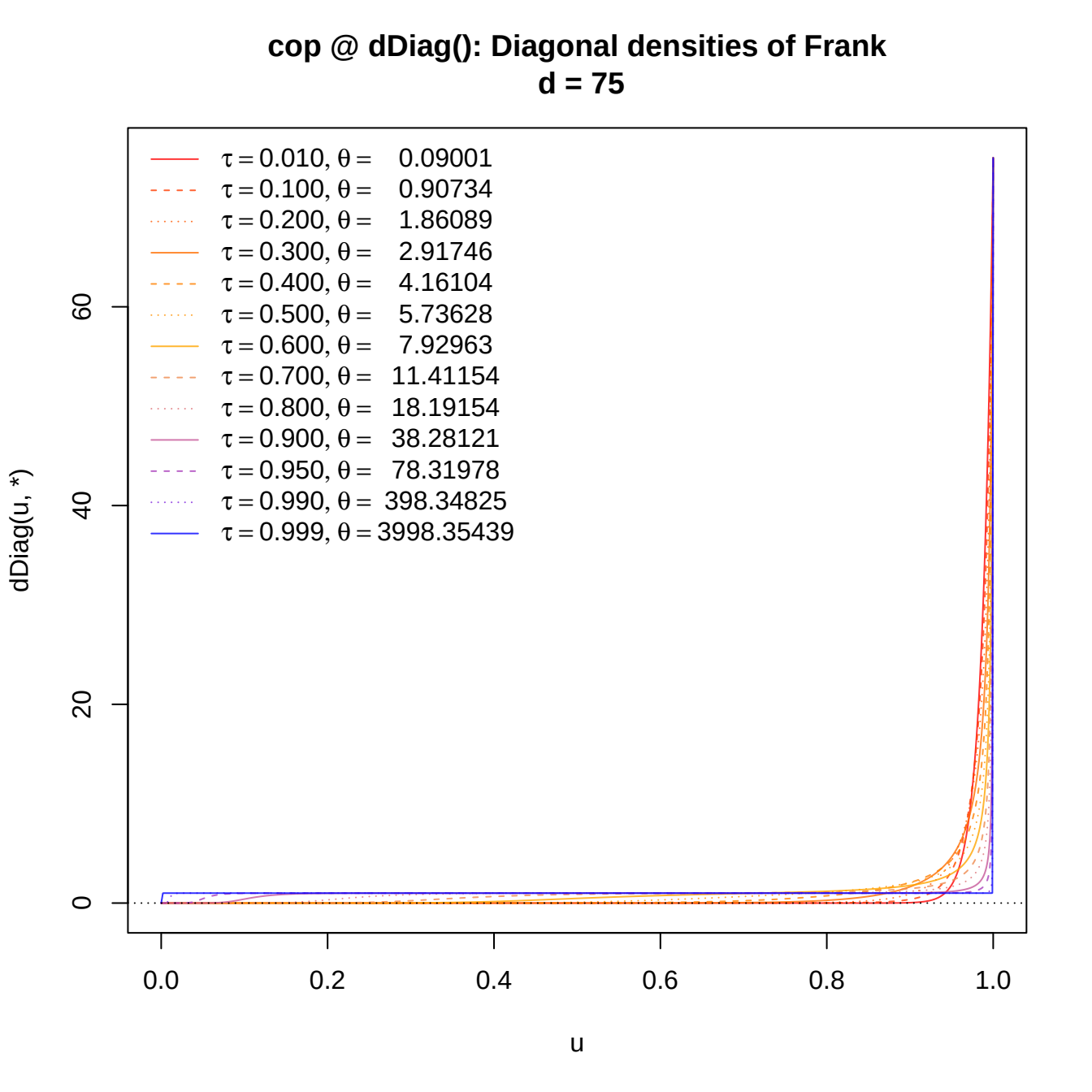

dDiagA(): Diagonal densities of AMH
d = 75
τ = 0.01, θ = 0.04451
τ = 0.10, θ = 0.40149
τ = 0.20, θ = 0.71348
τ = 0.30, θ = 0.94296
τ = 0.33, θ = 0.99489
dDiag(u, *)
0
20
40
60
0.0
0.2
0.4
0.6
0.8
1.0
u

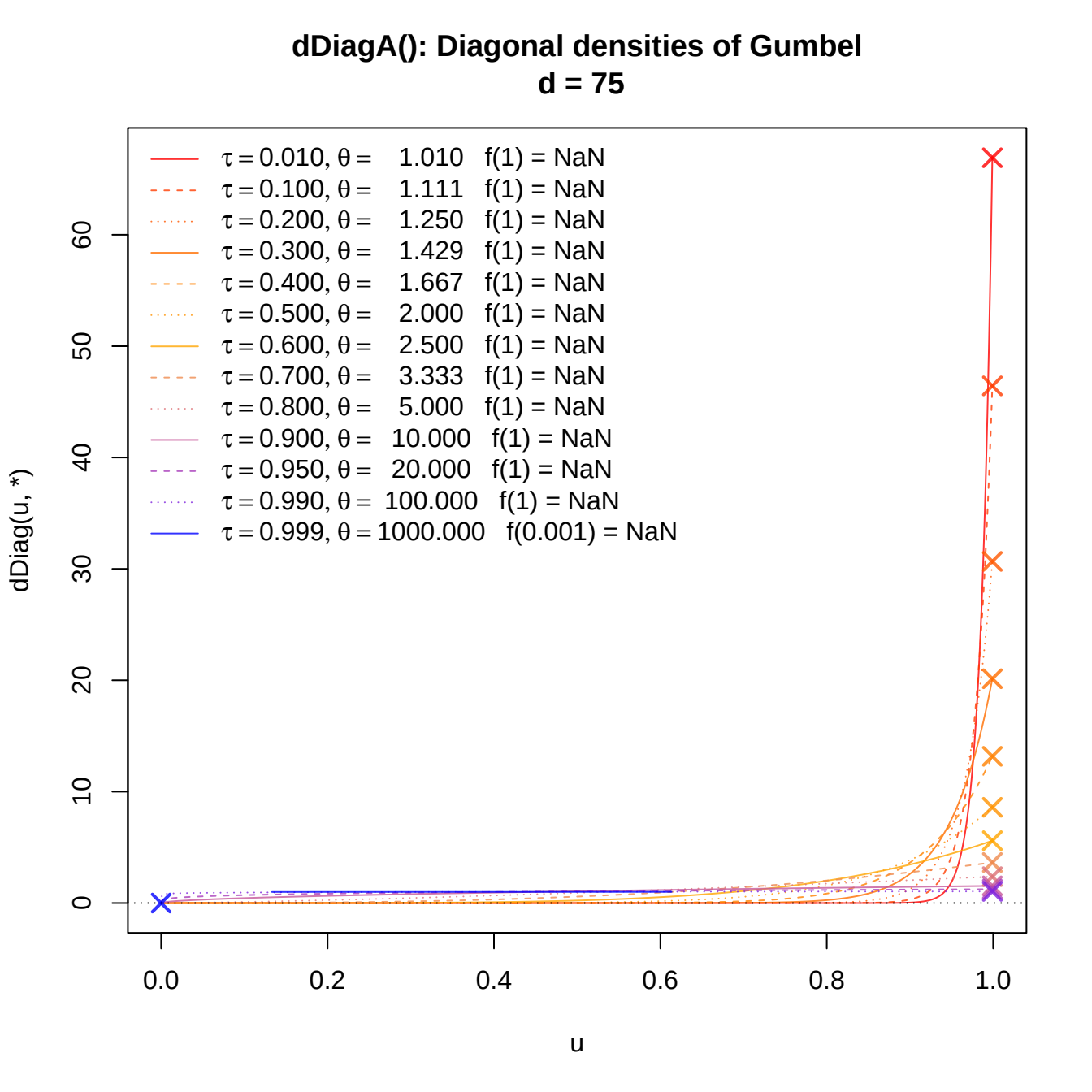

cop @ dDiag(): Diagonal densities of AMH
d = 75
τ = 0.01, θ = 0.04451
τ = 0.10, θ = 0.40149
τ = 0.20, θ = 0.71348
τ = 0.30, θ = 0.94296
τ = 0.33, θ = 0.99489
dDiag(u, *)
0
20
40
60
0.0
0.2
0.4
0.6
0.8
1.0
u

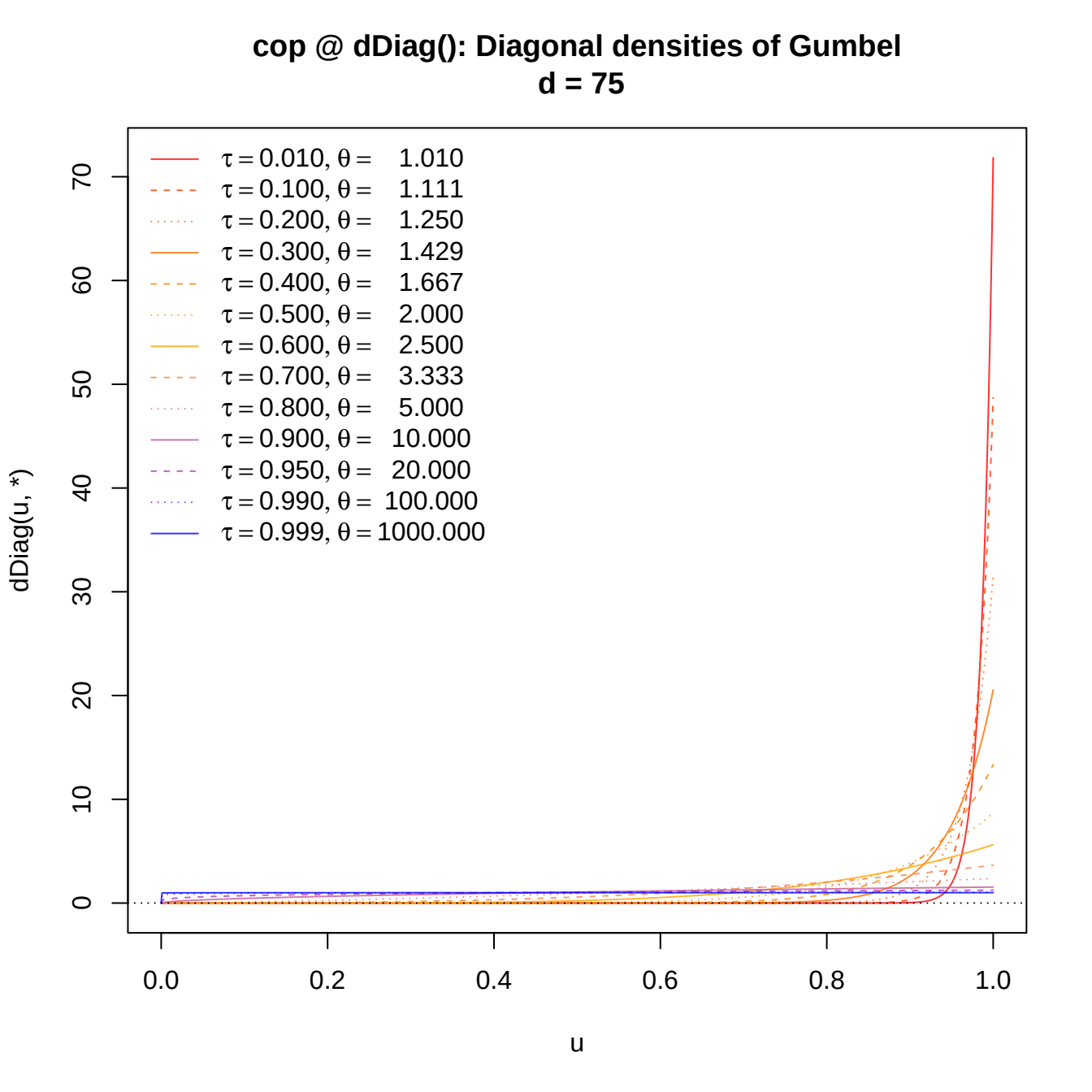

dDiagA(): Diagonal densities of Clayton
d = 75
τ = 0.010, θ = 0.0202
τ = 0.100, θ = 0.2222
τ = 0.200, θ = 0.5000
τ = 0.300, θ = 0.8571
τ = 0.400, θ = 1.3333
τ = 0.500, θ = 2.0000
τ = 0.600, θ = 3.0000
τ = 0.700, θ = 4.6667
τ = 0.800, θ = 8.0000
τ = 0.900, θ = 18.0000
τ = 0.950, θ = 38.0000
τ = 0.990, θ = 198.0000 f(0.001) = NaN
τ = 0.999, θ = 1998.0000 f(0.001) = NaN
dDiag(u, *)
0
20
40
60
0.0
0.2
0.4
0.6
0.8
1.0
u

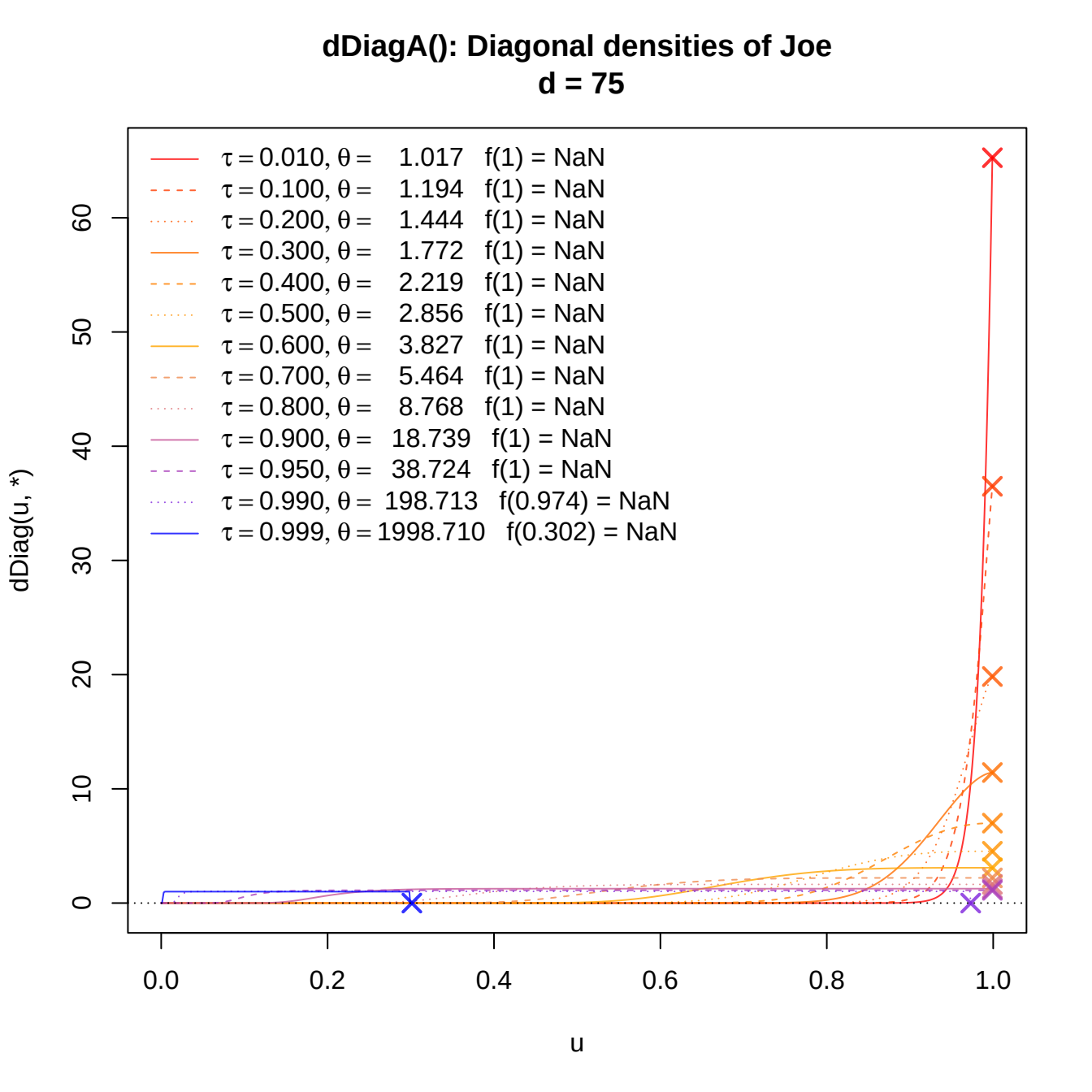

cop @ dDiag(): Diagonal densities of Clayton
d = 75
τ = 0.010, θ = 0.0202
τ = 0.100, θ = 0.2222
τ = 0.200, θ = 0.5000
τ = 0.300, θ = 0.8571
τ = 0.400, θ = 1.3333
τ = 0.500, θ = 2.0000
τ = 0.600, θ = 3.0000
τ = 0.700, θ = 4.6667
τ = 0.800, θ = 8.0000
τ = 0.900, θ = 18.0000
τ = 0.950, θ = 38.0000
τ = 0.990, θ = 198.0000
τ = 0.999, θ = 1998.0000
dDiag(u, *)
0
20
40
60
0.0
0.2
0.4
0.6
0.8
1.0
u

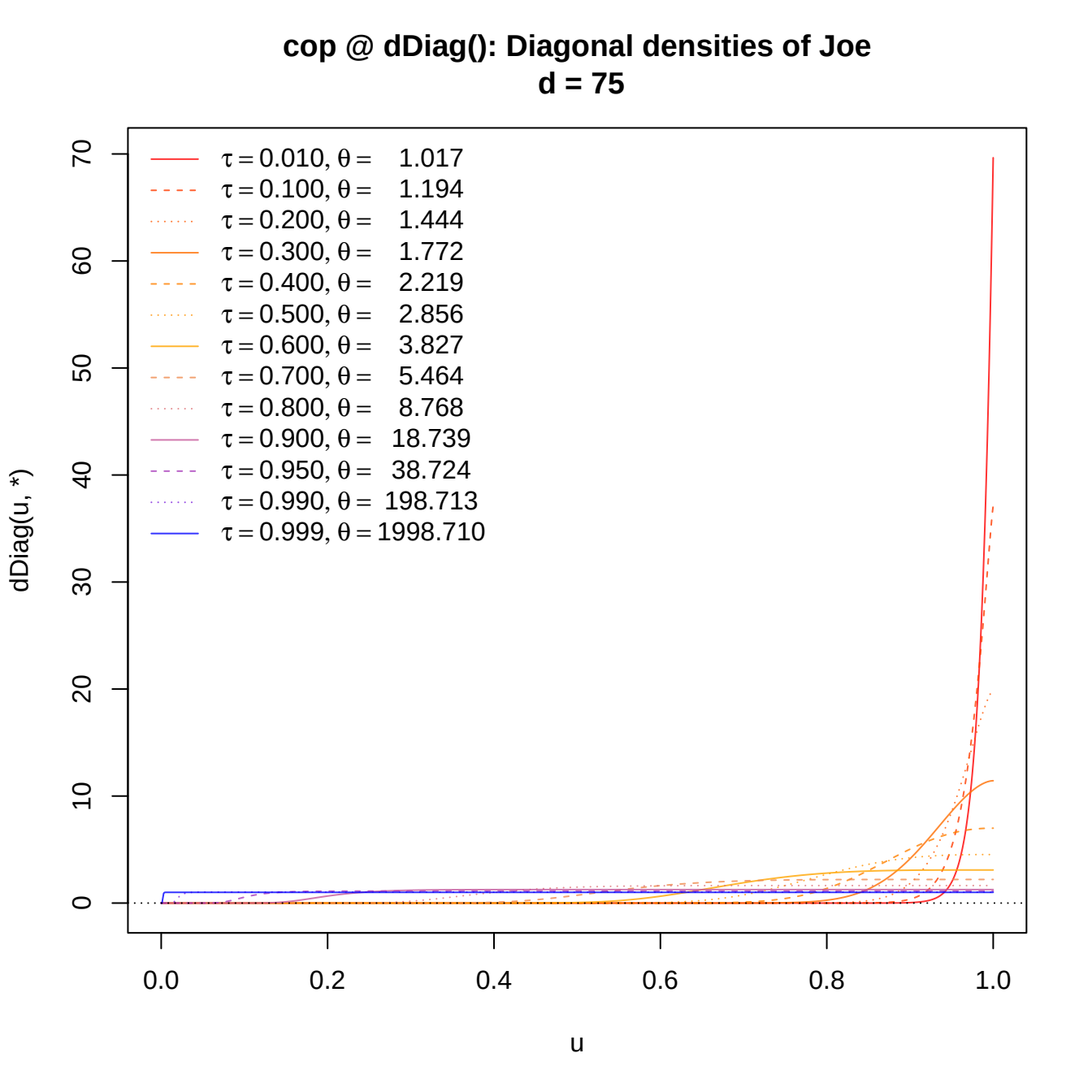

dDiagA(): Diagonal densities of Frank
d = 75
τ = 0.010, θ = 0.09001
τ = 0.100, θ = 0.90734
τ = 0.200, θ = 1.86089
τ = 0.300, θ = 2.91746
τ = 0.400, θ = 4.16104
τ = 0.500, θ = 5.73628
τ = 0.600, θ = 7.92963
τ = 0.700, θ = 11.41154
τ = 0.800, θ = 18.19154
τ = 0.900, θ = 38.28121
τ = 0.950, θ = 78.31978
τ = 0.990, θ = 398.34825
τ = 0.999, θ = 3998.35439 f(0.179) = NaN
dDiag(u, *)
0
20
40
60
0.0
0.2
0.4
0.6
0.8
1.0
u

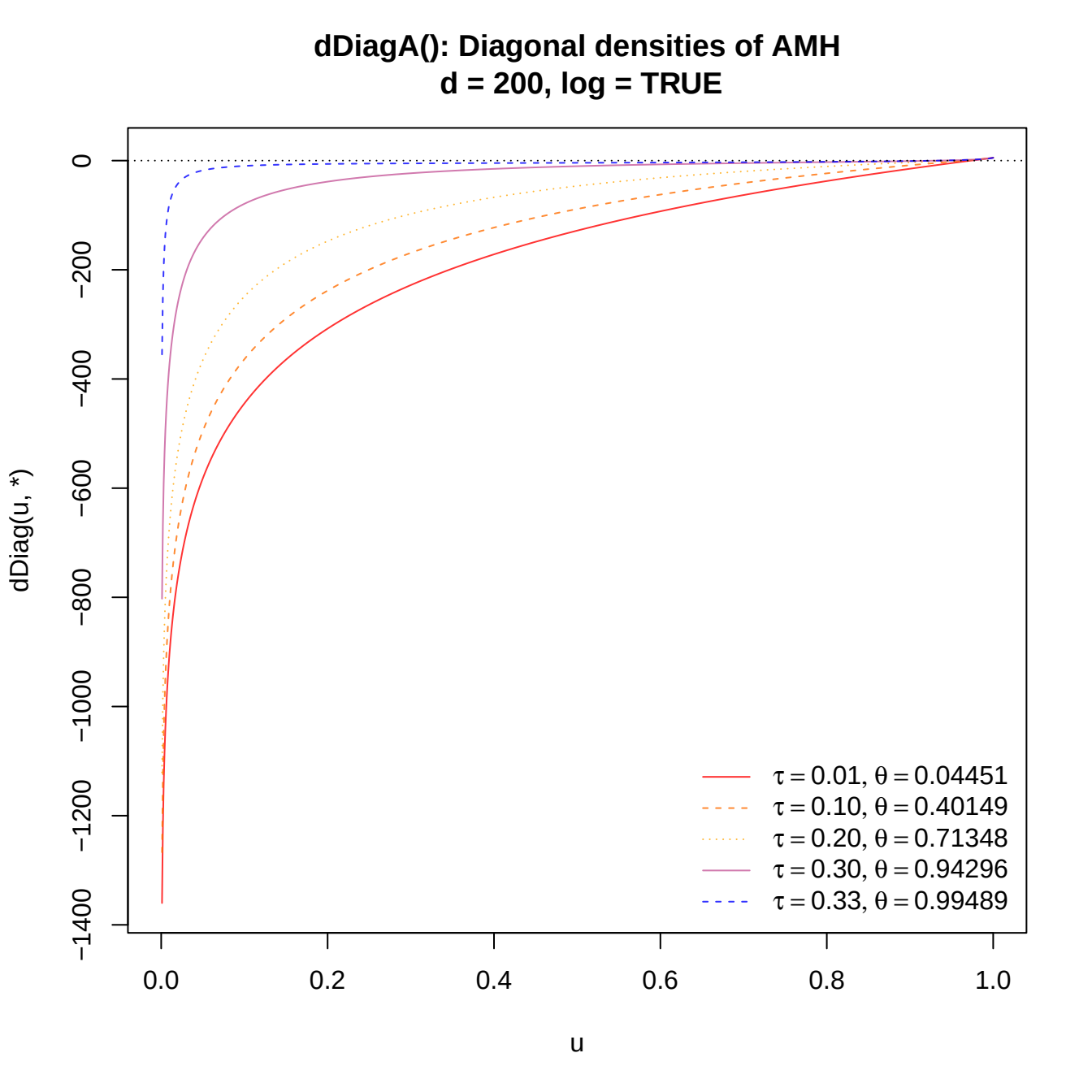

cop @ dDiag(): Diagonal densities of Frank
d = 75
τ = 0.010, θ = 0.09001
τ = 0.100, θ = 0.90734
τ = 0.200, θ = 1.86089
τ = 0.300, θ = 2.91746
τ = 0.400, θ = 4.16104
τ = 0.500, θ = 5.73628
τ = 0.600, θ = 7.92963
τ = 0.700, θ = 11.41154
τ = 0.800, θ = 18.19154
τ = 0.900, θ = 38.28121
τ = 0.950, θ = 78.31978
τ = 0.990, θ = 398.34825
τ = 0.999, θ = 3998.35439
dDiag(u, *)
0
20
40
60
0.0
0.2
0.4
0.6
0.8
1.0
u

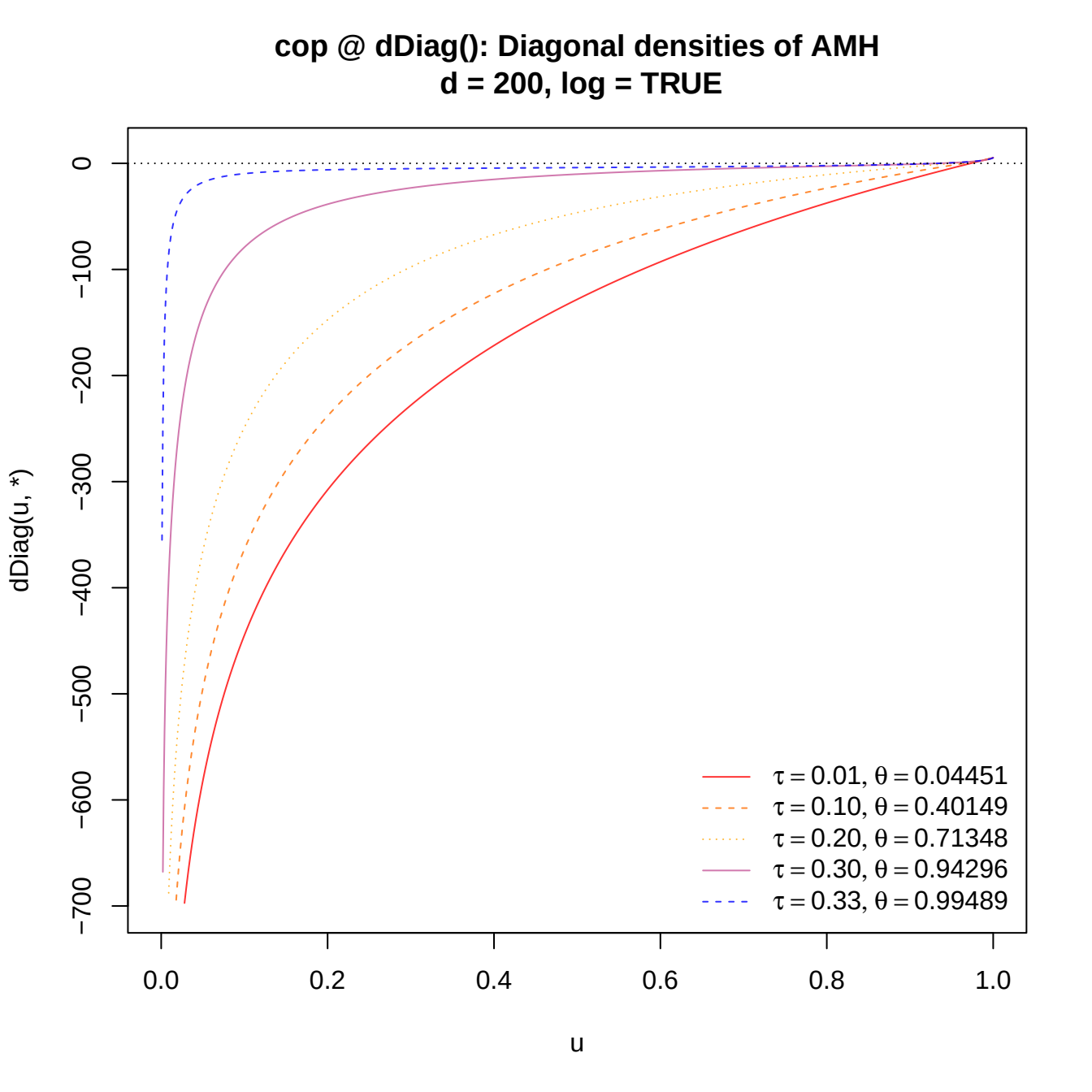

dDiagA(): Diagonal densities of Gumbel
d = 75
τ = 0.010, θ = 1.010 f(1) = NaN
τ = 0.100, θ = 1.111 f(1) = NaN
τ = 0.200, θ = 1.250 f(1) = NaN
τ = 0.300, θ = 1.429 f(1) = NaN
τ = 0.400, θ = 1.667 f(1) = NaN
τ = 0.500, θ = 2.000 f(1) = NaN
τ = 0.600, θ = 2.500 f(1) = NaN
τ = 0.700, θ = 3.333 f(1) = NaN
τ = 0.800, θ = 5.000 f(1) = NaN
τ = 0.900, θ = 10.000 f(1) = NaN
τ = 0.950, θ = 20.000 f(1) = NaN
τ = 0.990, θ = 100.000 f(1) = NaN
τ = 0.999, θ = 1000.000 f(0.001) = NaN
dDiag(u, *)
0
10
20
30
40
50
60
0.0
0.2
0.4
0.6
0.8
1.0
u

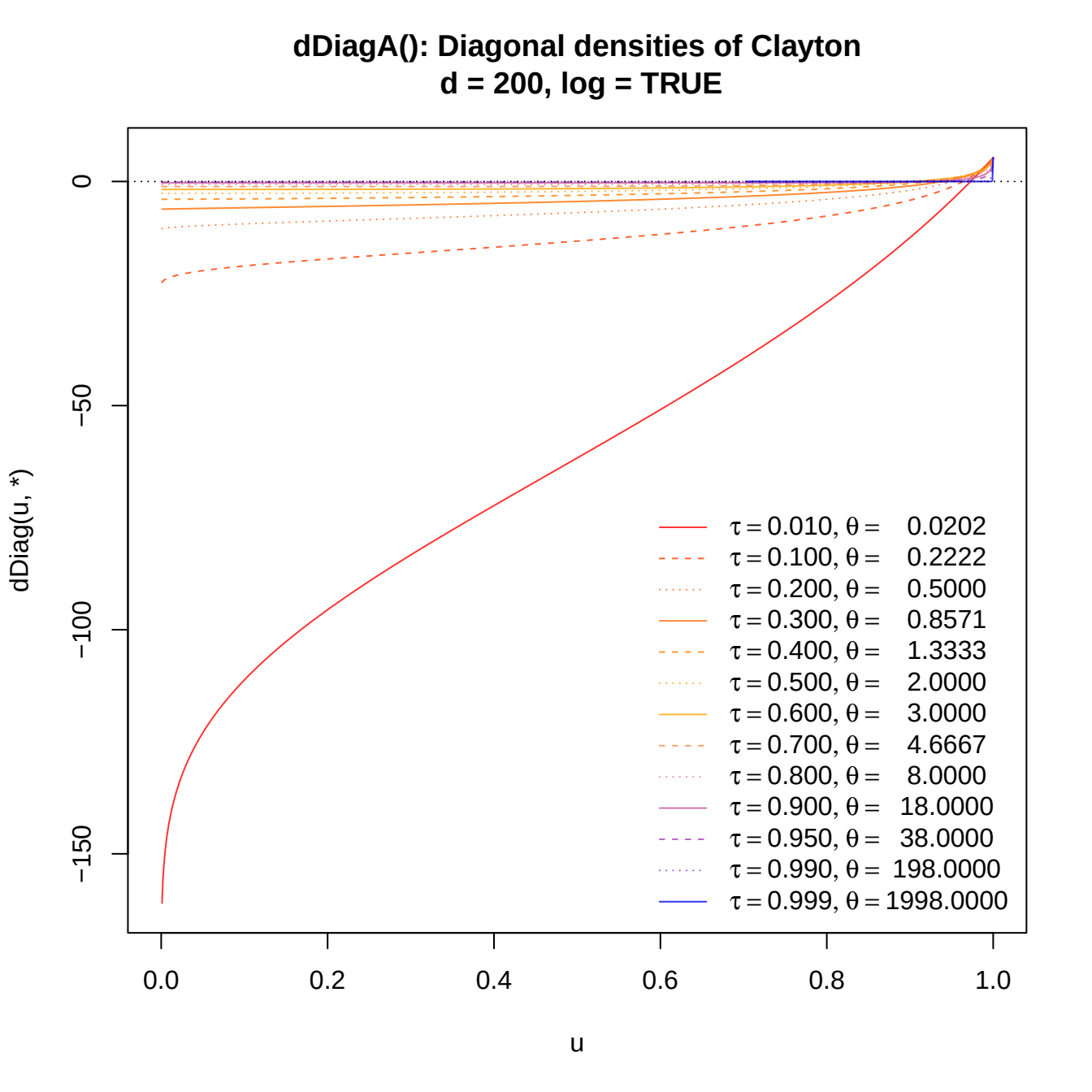

cop @ dDiag(): Diagonal densities of Gumbel
d = 75
τ = 0.010, θ = 1.010
τ = 0.100, θ = 1.111
τ = 0.200, θ = 1.250
τ = 0.300, θ = 1.429
τ = 0.400, θ = 1.667
τ = 0.500, θ = 2.000
τ = 0.600, θ = 2.500
τ = 0.700, θ = 3.333
τ = 0.800, θ = 5.000
τ = 0.900, θ = 10.000
τ = 0.950, θ = 20.000
τ = 0.990, θ = 100.000
τ = 0.999, θ = 1000.000
dDiag(u, *)
0
10
20
30
40
50
60
70
0.0
0.2
0.4
0.6
0.8
1.0
u

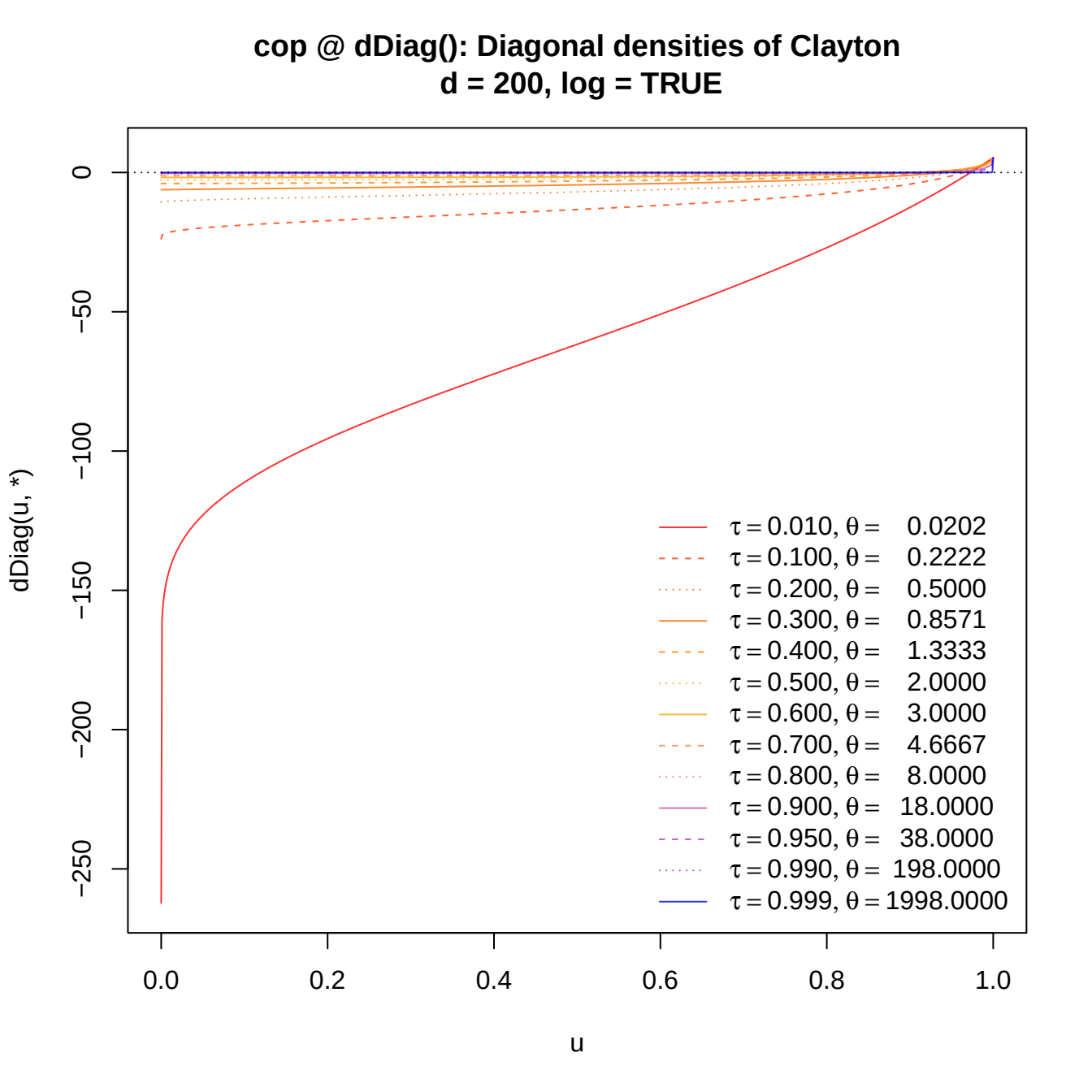

dDiagA(): Diagonal densities of Joe
d = 75
τ = 0.010, θ = 1.017 f(1) = NaN
τ = 0.100, θ = 1.194 f(1) = NaN
τ = 0.200, θ = 1.444 f(1) = NaN
τ = 0.300, θ = 1.772 f(1) = NaN
τ = 0.400, θ = 2.219 f(1) = NaN
τ = 0.500, θ = 2.856 f(1) = NaN
τ = 0.600, θ = 3.827 f(1) = NaN
τ = 0.700, θ = 5.464 f(1) = NaN
τ = 0.800, θ = 8.768 f(1) = NaN
τ = 0.900, θ = 18.739 f(1) = NaN
τ = 0.950, θ = 38.724 f(1) = NaN
τ = 0.990, θ = 198.713 f(0.974) = NaN
τ = 0.999, θ = 1998.710 f(0.302) = NaN
dDiag(u, *)
0
10
20
30
40
50
60
0.0
0.2
0.4
0.6
0.8
1.0
u

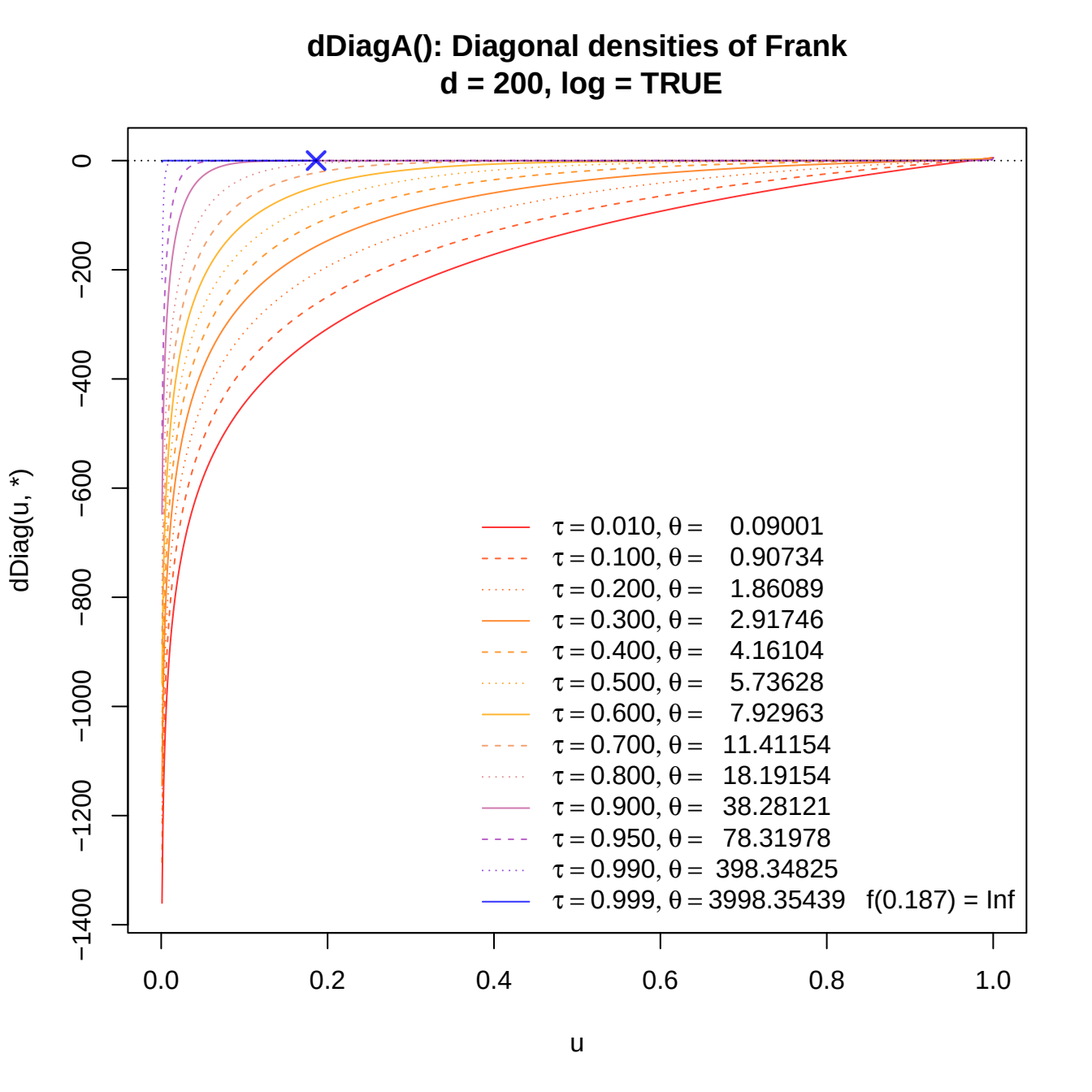

cop @ dDiag(): Diagonal densities of Joe
d = 75
τ = 0.010, θ = 1.017
τ = 0.100, θ = 1.194
τ = 0.200, θ = 1.444
τ = 0.300, θ = 1.772
τ = 0.400, θ = 2.219
τ = 0.500, θ = 2.856
τ = 0.600, θ = 3.827
τ = 0.700, θ = 5.464
τ = 0.800, θ = 8.768
τ = 0.900, θ = 18.739
τ = 0.950, θ = 38.724
τ = 0.990, θ = 198.713
τ = 0.999, θ = 1998.710
dDiag(u, *)
0
10
20
30
40
50
60
70
0.0
0.2
0.4
0.6
0.8
1.0
u

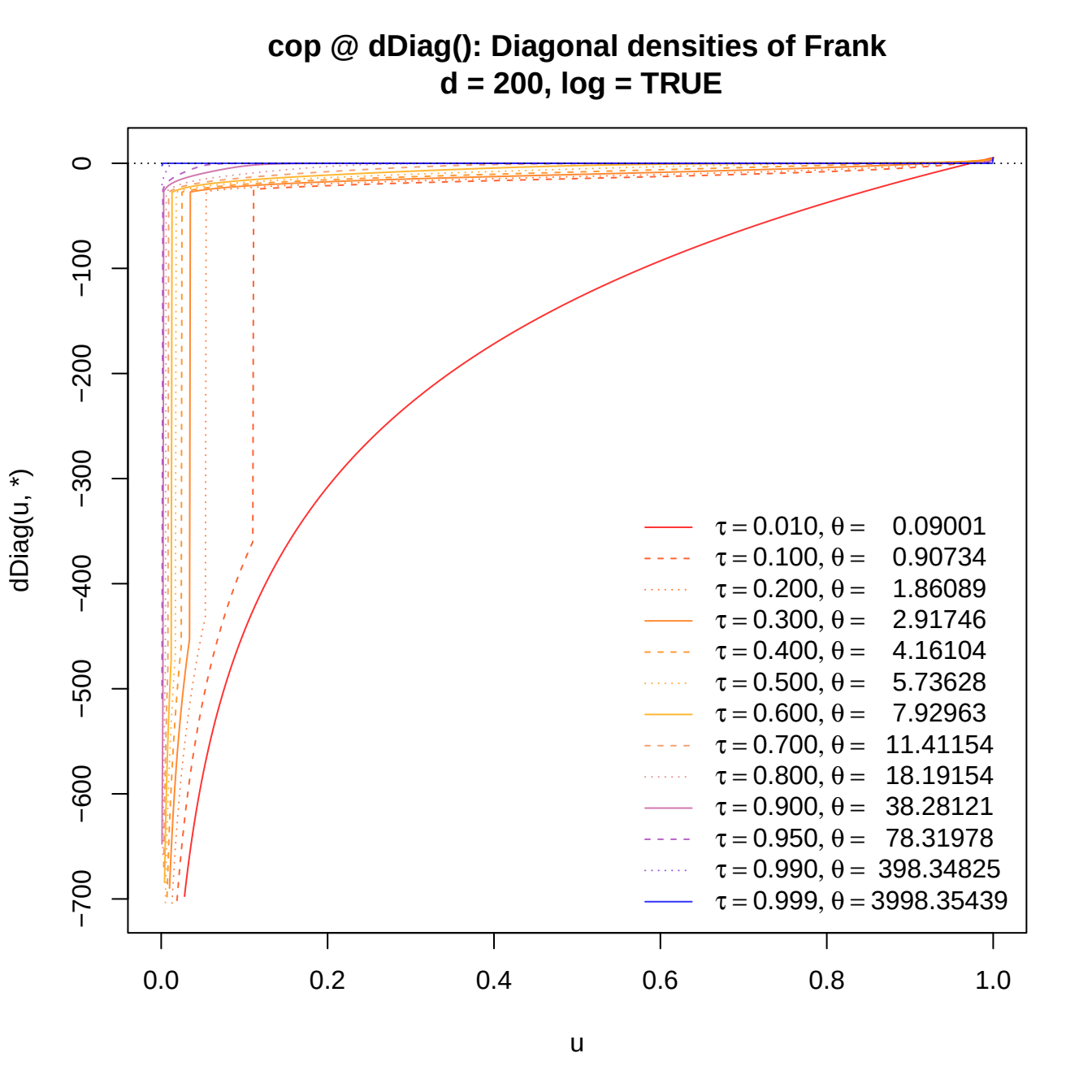

dDiagA(): Diagonal densities of AMH
d = 200, log = TRUE
dDiag(u, *)
0
−200
−400
−600
−800
−1000
−1200
−1400
0.0
0.2
0.4
0.6
0.8
1.0
u
τ = 0.01, θ = 0.04451
τ = 0.10, θ = 0.40149
τ = 0.20, θ = 0.71348
τ = 0.30, θ = 0.94296
τ = 0.33, θ = 0.99489

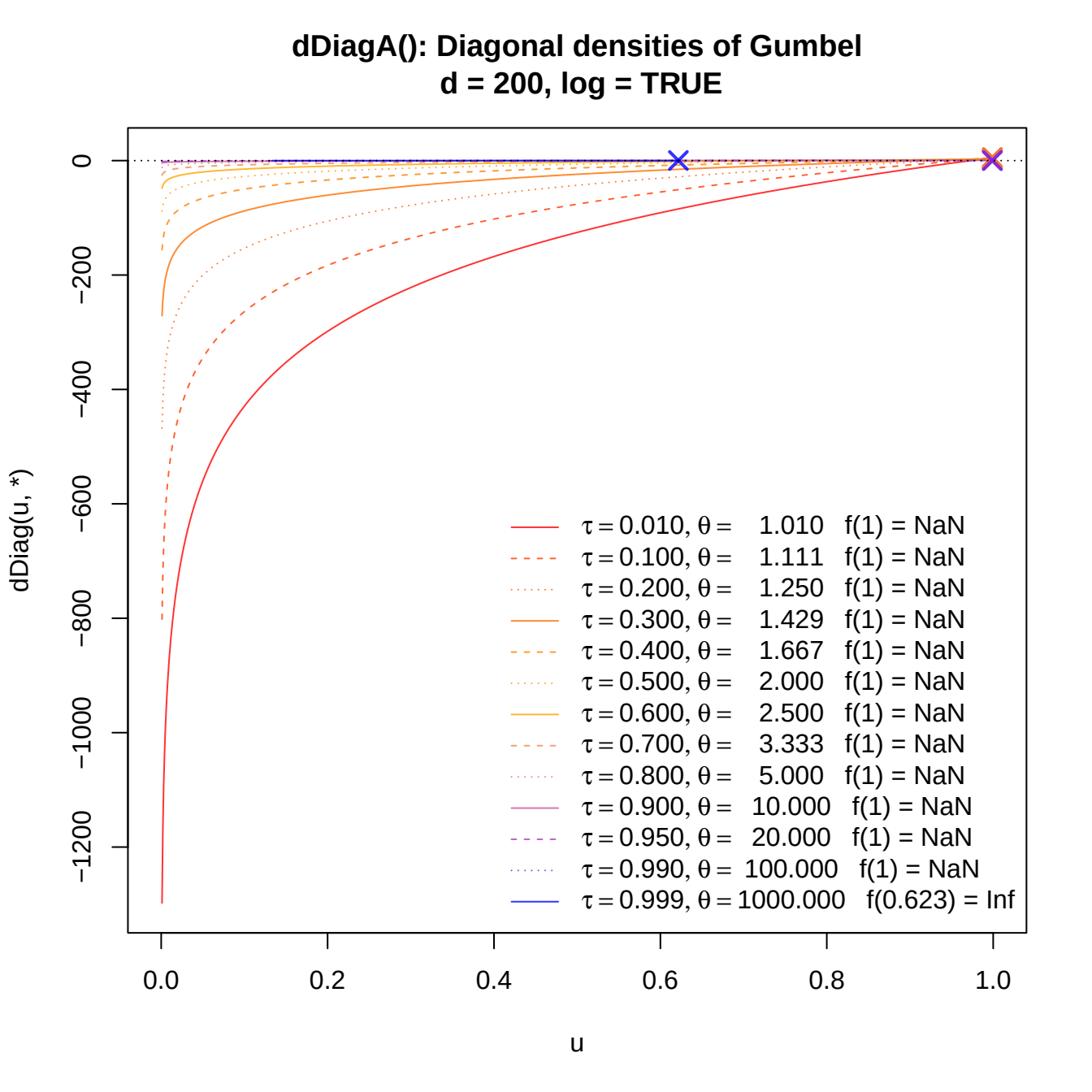

cop @ dDiag(): Diagonal densities of AMH
d = 200, log = TRUE
dDiag(u, *)
0
−100
−200
−300
−400
−500
−600
−700
0.0
0.2
0.4
0.6
0.8
1.0
u
τ = 0.01, θ = 0.04451
τ = 0.10, θ = 0.40149
τ = 0.20, θ = 0.71348
τ = 0.30, θ = 0.94296
τ = 0.33, θ = 0.99489

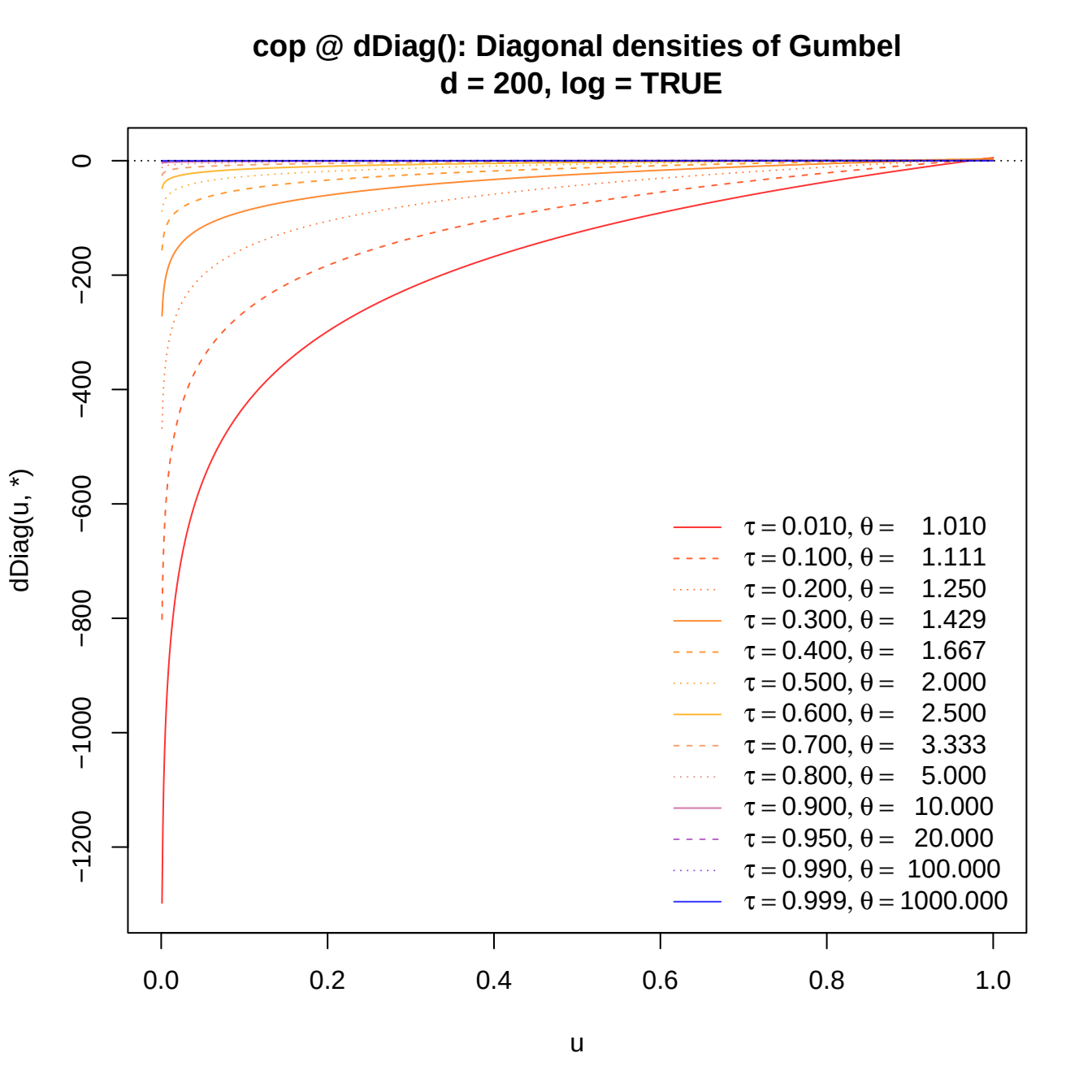

dDiagA(): Diagonal densities of Clayton
d = 200, log = TRUE
dDiag(u, *)
0
−50
−100
−150
0.0
0.2
0.4
0.6
0.8
1.0
u
τ = 0.010, θ = 0.0202
τ = 0.100, θ = 0.2222
τ = 0.200, θ = 0.5000
τ = 0.300, θ = 0.8571
τ = 0.400, θ = 1.3333
τ = 0.500, θ = 2.0000
τ = 0.600, θ = 3.0000
τ = 0.700, θ = 4.6667
τ = 0.800, θ = 8.0000
τ = 0.900, θ = 18.0000
τ = 0.950, θ = 38.0000
τ = 0.990, θ = 198.0000
τ = 0.999, θ = 1998.0000

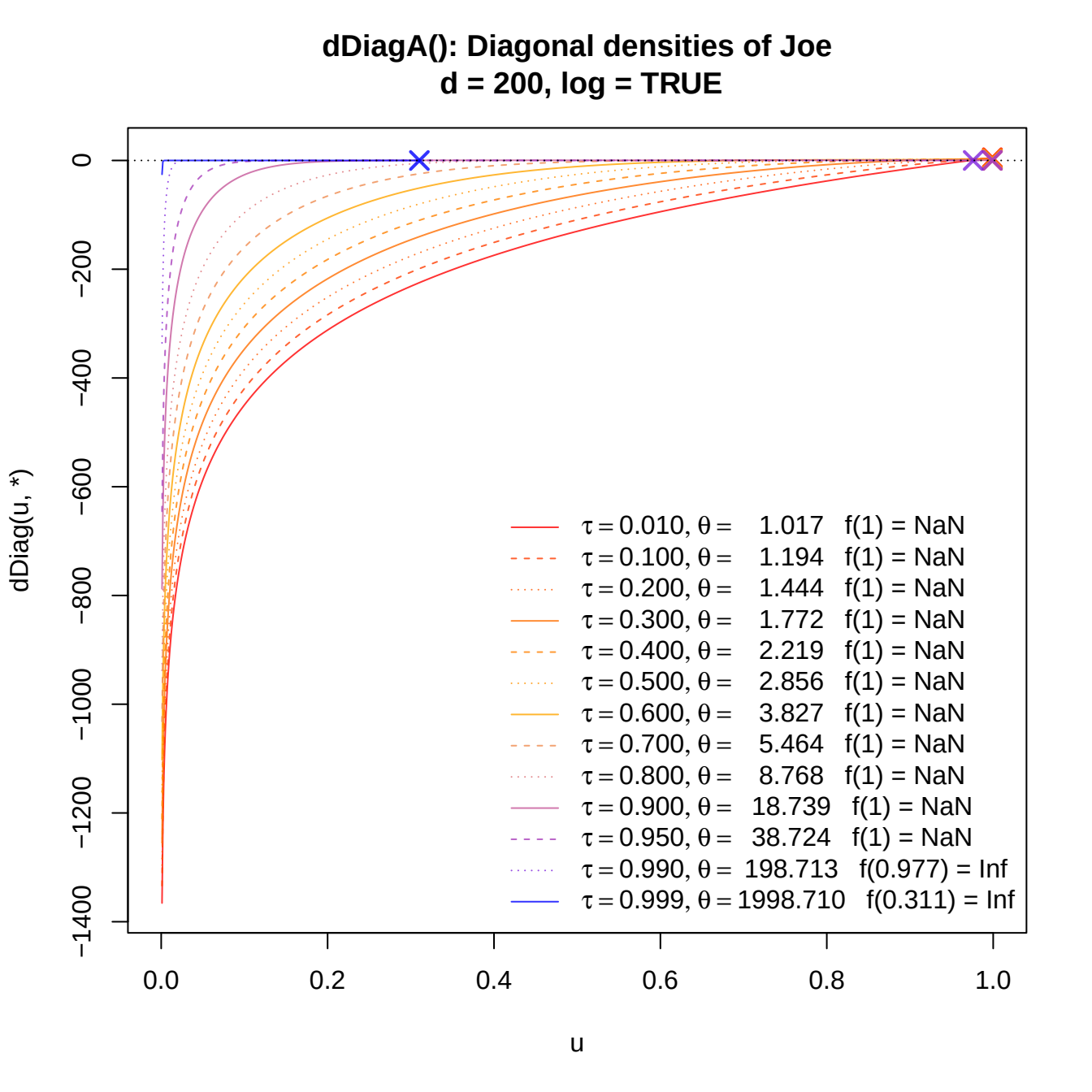

cop @ dDiag(): Diagonal densities of Clayton
d = 200, log = TRUE
dDiag(u, *)
0
−50
−100
−150
−200
−250
0.0
0.2
0.4
0.6
0.8
1.0
u
τ = 0.010, θ = 0.0202
τ = 0.100, θ = 0.2222
τ = 0.200, θ = 0.5000
τ = 0.300, θ = 0.8571
τ = 0.400, θ = 1.3333
τ = 0.500, θ = 2.0000
τ = 0.600, θ = 3.0000
τ = 0.700, θ = 4.6667
τ = 0.800, θ = 8.0000
τ = 0.900, θ = 18.0000
τ = 0.950, θ = 38.0000
τ = 0.990, θ = 198.0000
τ = 0.999, θ = 1998.0000

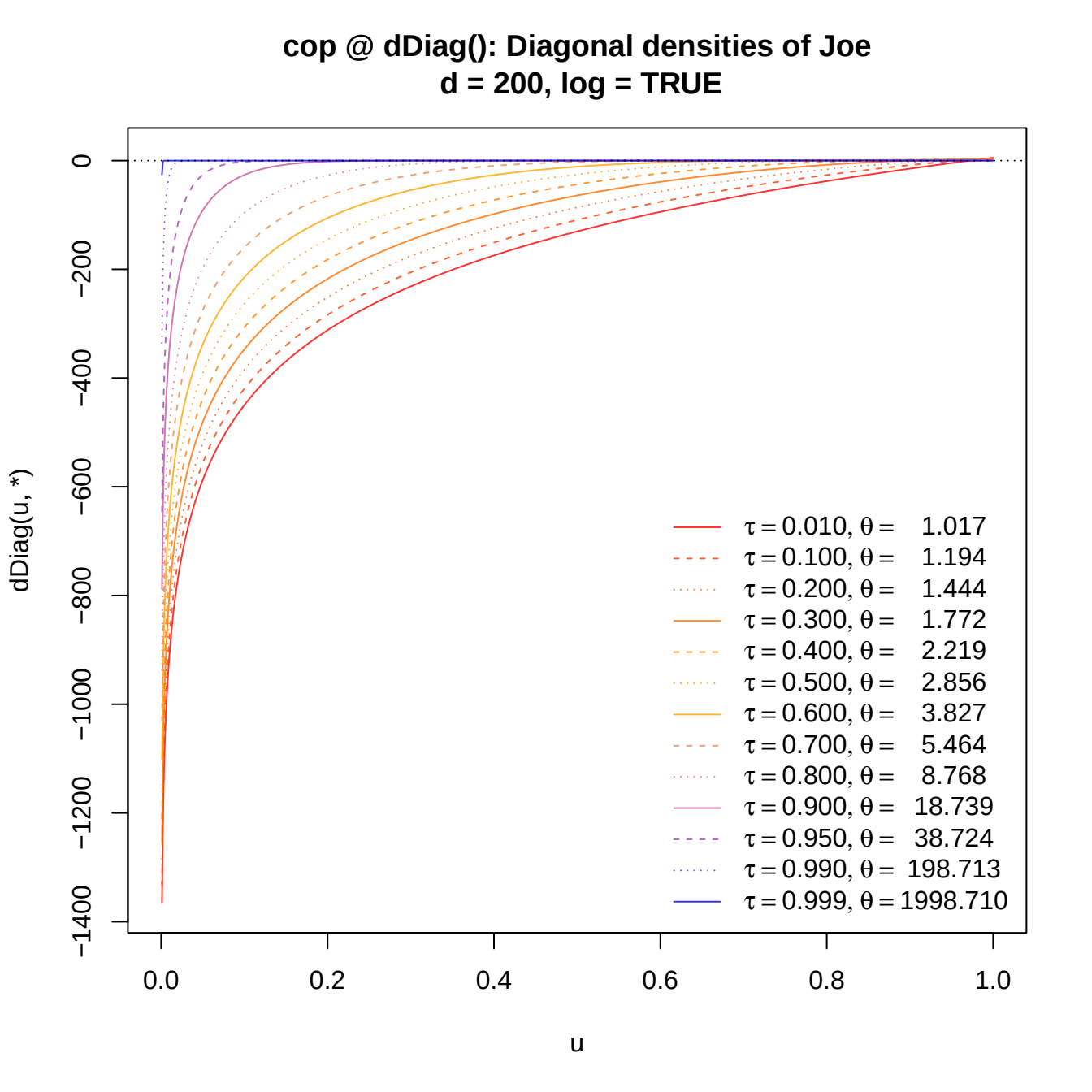

dDiagA(): Diagonal densities of Frank
d = 200, log = TRUE
dDiag(u, *)
0
−200
−400
−600
−800
−1000
−1200
−1400
0.0
0.2
0.4
0.6
0.8
1.0
u
τ = 0.010, θ = 0.09001
τ = 0.100, θ = 0.90734
τ = 0.200, θ = 1.86089
τ = 0.300, θ = 2.91746
τ = 0.400, θ = 4.16104
τ = 0.500, θ = 5.73628
τ = 0.600, θ = 7.92963
τ = 0.700, θ = 11.41154
τ = 0.800, θ = 18.19154
τ = 0.900, θ = 38.28121
τ = 0.950, θ = 78.31978
τ = 0.990, θ = 398.34825
τ = 0.999, θ = 3998.35439 f(0.187) = Inf

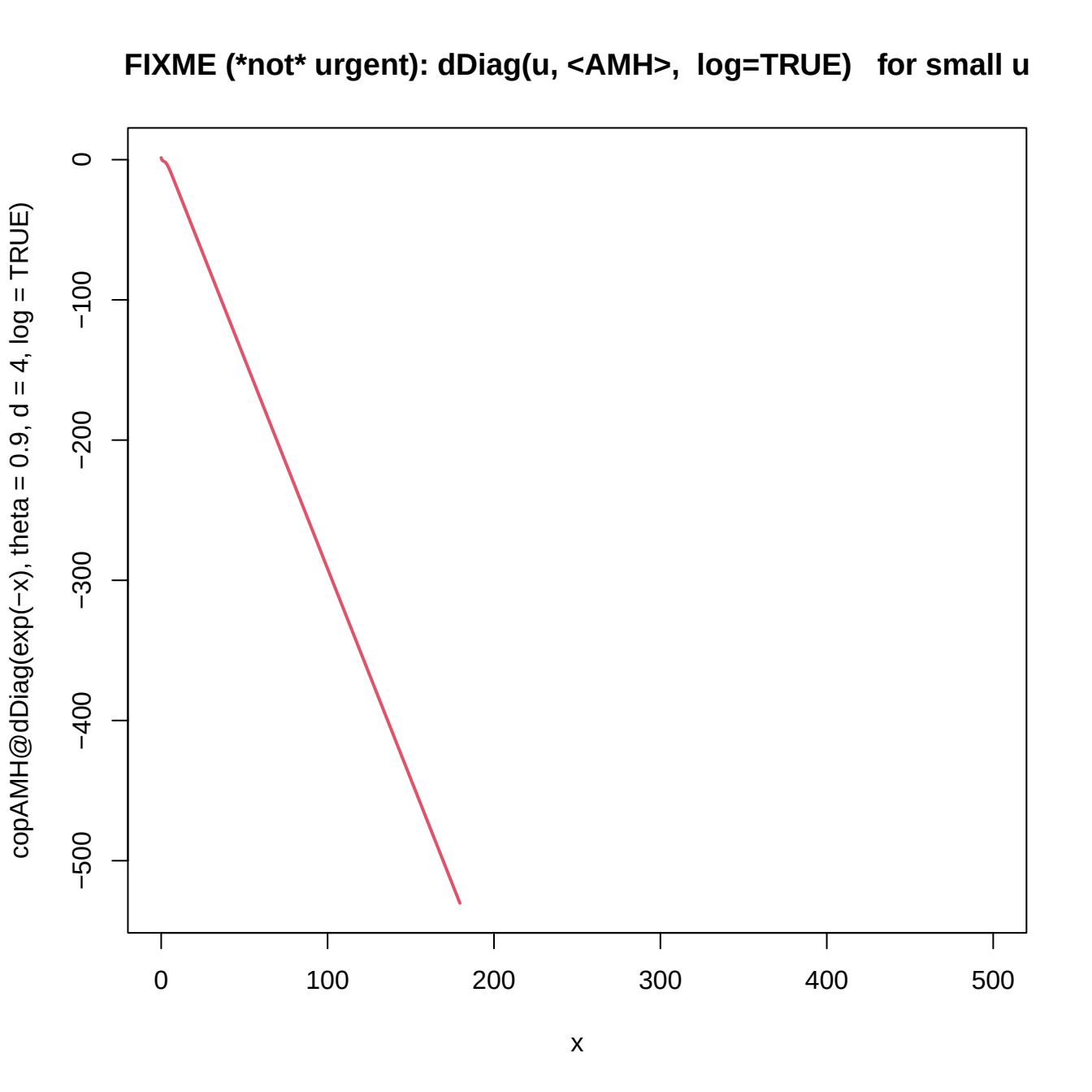

cop @ dDiag(): Diagonal densities of Frank
d = 200, log = TRUE
dDiag(u, *)
0
−100
−200
−300
−400
−500
−600
−700
0.0
0.2
0.4
0.6
0.8
1.0
u
τ = 0.010, θ = 0.09001
τ = 0.100, θ = 0.90734
τ = 0.200, θ = 1.86089
τ = 0.300, θ = 2.91746
τ = 0.400, θ = 4.16104
τ = 0.500, θ = 5.73628
τ = 0.600, θ = 7.92963
τ = 0.700, θ = 11.41154
τ = 0.800, θ = 18.19154
τ = 0.900, θ = 38.28121
τ = 0.950, θ = 78.31978
τ = 0.990, θ = 398.34825
τ = 0.999, θ = 3998.35439


dDiagA(): Diagonal densities of Gumbel
d = 200, log = TRUE
dDiag(u, *)
0
−200
−400
−600
−800
−1000
−1200
0.0
0.2
0.4
0.6
0.8
1.0
u
τ = 0.010, θ = 1.010 f(1) = NaN
τ = 0.100, θ = 1.111 f(1) = NaN
τ = 0.200, θ = 1.250 f(1) = NaN
τ = 0.300, θ = 1.429 f(1) = NaN
τ = 0.400, θ = 1.667 f(1) = NaN
τ = 0.500, θ = 2.000 f(1) = NaN
τ = 0.600, θ = 2.500 f(1) = NaN
τ = 0.700, θ = 3.333 f(1) = NaN
τ = 0.800, θ = 5.000 f(1) = NaN
τ = 0.900, θ = 10.000 f(1) = NaN
τ = 0.950, θ = 20.000 f(1) = NaN
τ = 0.990, θ = 100.000 f(1) = NaN
τ = 0.999, θ = 1000.000 f(0.623) = Inf


cop @ dDiag(): Diagonal densities of Gumbel
d = 200, log = TRUE
dDiag(u, *)
0
−200
−400
−600
−800
−1000
−1200
0.0
0.2
0.4
0.6
0.8
1.0
u
τ = 0.010, θ = 1.010
τ = 0.100, θ = 1.111
τ = 0.200, θ = 1.250
τ = 0.300, θ = 1.429
τ = 0.400, θ = 1.667
τ = 0.500, θ = 2.000
τ = 0.600, θ = 2.500
τ = 0.700, θ = 3.333
τ = 0.800, θ = 5.000
τ = 0.900, θ = 10.000
τ = 0.950, θ = 20.000
τ = 0.990, θ = 100.000
τ = 0.999, θ = 1000.000


dDiagA(): Diagonal densities of Joe
d = 200, log = TRUE
dDiag(u, *)
u
0
−200
−400
−600
−800
−1000
−1200
−1400
0.0
0.2
0.4
0.6
0.8
1.0
τ = 0.010, θ = 1.017 f(1) = NaN
τ = 0.100, θ = 1.194 f(1) = NaN
τ = 0.200, θ = 1.444 f(1) = NaN
τ = 0.300, θ = 1.772 f(1) = NaN
τ = 0.400, θ = 2.219 f(1) = NaN
τ = 0.500, θ = 2.856 f(1) = NaN
τ = 0.600, θ = 3.827 f(1) = NaN
τ = 0.700, θ = 5.464 f(1) = NaN
τ = 0.800, θ = 8.768 f(1) = NaN
τ = 0.900, θ = 18.739 f(1) = NaN
τ = 0.950, θ = 38.724 f(1) = NaN
τ = 0.990, θ = 198.713 f(0.977) = Inf
τ = 0.999, θ = 1998.710 f(0.311) = Inf


cop @ dDiag(): Diagonal densities of Joe
d = 200, log = TRUE
dDiag(u, *)
0
−200
−400
−600
−800
−1000
−1200
−1400
0.0
0.2
0.4
0.6
0.8
1.0
u
τ = 0.010, θ = 1.017
τ = 0.100, θ = 1.194
τ = 0.200, θ = 1.444
τ = 0.300, θ = 1.772
τ = 0.400, θ = 2.219
τ = 0.500, θ = 2.856
τ = 0.600, θ = 3.827
τ = 0.700, θ = 5.464
τ = 0.800, θ = 8.768
τ = 0.900, θ = 18.739
τ = 0.950, θ = 38.724
τ = 0.990, θ = 198.713
τ = 0.999, θ = 1998.710


FIXME (*not* urgent): dDiag(u, <AMH>, log=TRUE) for small u
copAMH@dDiag(exp(−x), theta = 0.9, d = 4, log = TRUE)
0
−100
−200
−300
−400
−500
0
100
200
300
400
500
x