Supplementary Materials

1 Country-specific parameter values used in MCMC.

Table 1 summarizes the country-specific fixed parameter values used in MCMC, with the total country population size N in 2020[1], reported COVID-19 case number C_{K0} on Day 0[1], the time period for each country with Country Stringency Index[2] $\leq$ 50. If the number of days of this period is less than 14, 14 days will be used instead.

Table 1. Table of country-specific parameter values used.

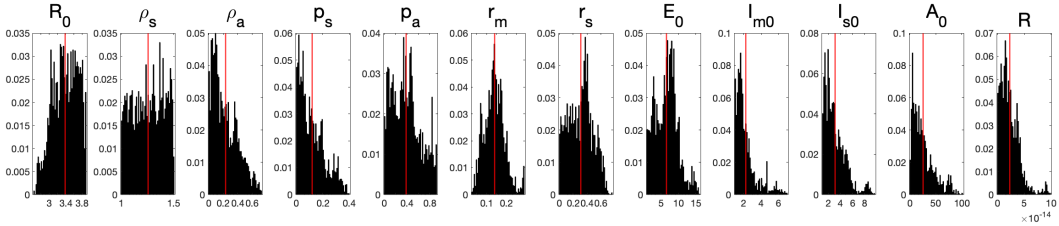
Country	N	C_{K0}	Start Date	End Date	Days	Country	N	C_{K0}	Start Date	End Date	Days
Algeria	43851043	1	02-25	03-22	27	Liberia	5057677	1	03-16	03-21	*6
Angola	32866268	1	03-20	03-26	*7	Libya	6871287	1	03-24	03-21	*0
Benin	12123198	1	03-16	03-29	14	Madagascar	27691019	3	03-20	03-20	*1
Botswana	2351625	3	03-30	03-18	*0	Malawi	19129955	3	04-02	03-22	*0
Burkina Faso	20903278	1	03-10	03-20	*11	Mali	20250834	2	03-25	03-24	*0
Burundi	11890781	2	03-31	NA	*NA	Mauritania	4649660	1	03-14	03-18	*5
Cameroon	26545864	1	03-06	03-17	*12	Mauritius	1271767	3	03-18	03-19	*2
Cape Verde	555988	1	03-20	03-22	*3	Morocco	36910558	1	03-02	03-15	14
Central African Republic	4829764	1	03-15	03-25	*11	Mozambique	31255435	1	03-22	03-31	*10
Chad	16425859	1	03-19	04-12	25	Namibia	2540916	2	03-14	03-16	*3
Comoros	869595	1	04-30	NA	*NA	Niger	24206636	1	03-20	03-19	*0
Congo	5518092	1	03-15	03-27	*13	Nigeria	206139587	1	02-28	03-25	27
Côte d'lvoire	26378275	1	03-11	03-18	*8	Rwanda	12952209	1	03-14	03-20	*7
Democratic Republic Of Congo	89561404	1	03-11	03-18	*8	São Tomé and Príncipe	219161	4	04-06	NA	*NA
Djibouti	988002	1	03-18	03-22	*5	Senegal	16743930	1	03-02	03-19	18
Egypt	102334403	1	02-14	03-23	39	Seychelles	98340	2	03-14	03-29	16
Equatorial Guinea	1402985	1	03-15	NA	*NA	Sierra Leone	7976985	1	03-31	03-30	*0
Eritrea	3546427	1	03-21	03-22	*2	Somalia	15893219	1	03-16	03-20	*5
Eswatini	1160164	1	03-14	03-16	*3	South Africa	59308690	1	03-05	03-17	*13
Ethiopia	114963583	1	03-13	03-24	*12	South Sudan	11193729	1	04-05	03-19	*0
Gabon	2225728	1	03-14	03-19	*6	Sudan	43849269	1	03-14	03-15	*2
Gambia	2416664	1	03-17	03-19	*3	Tanzania	59734213	1	03-16	04-11	27
Ghana	31072945	3	03-14	03-16	*3	Togo	8278737	1	03-06	03-19	14
Guinea	13132792	1	03-13	03-26	14	Tunisia	11818618	1	03-04	03-19	16
Guinea Bissau	1967998	2	03-25	NA	*NA	Uganda	45741000	1	03-21	03-24	*4
Kenya	53771300	1	03-13	03-14	*2	Zambia	18383956	2	03-18	04-08	22
Lesotho	2142252	1	05-13	03-17	*0	Zimbabwe	14862927	1	03-20	03-23	*4

Year is 2020. *If Days $<$ 14 or is NA (Not applicable), 14 will be used instead. All values are from[1].

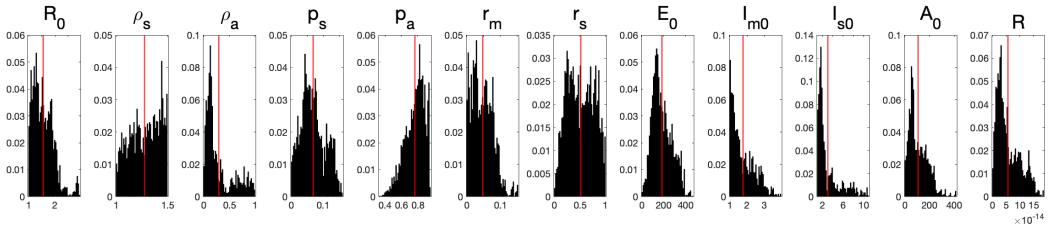
2 Posterior distributions of fitted parameters for each country.

Posterior distributions from MCMC of all fitted parameters for each country are shown with a vertical red line indicating the mean of the distribution.

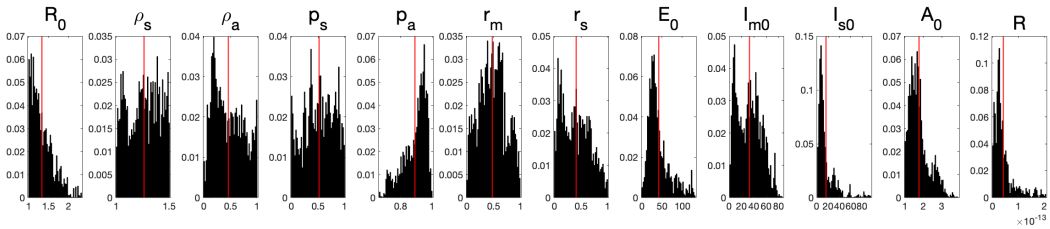
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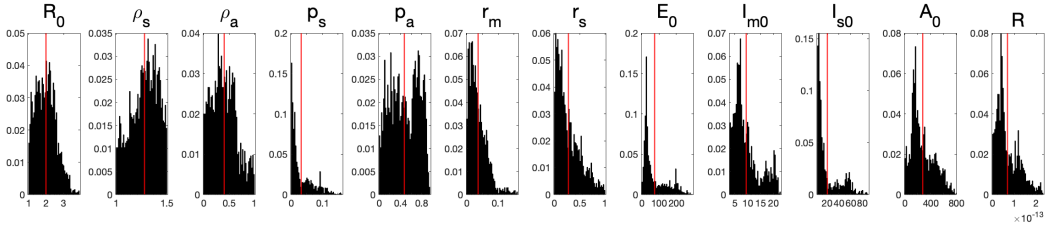
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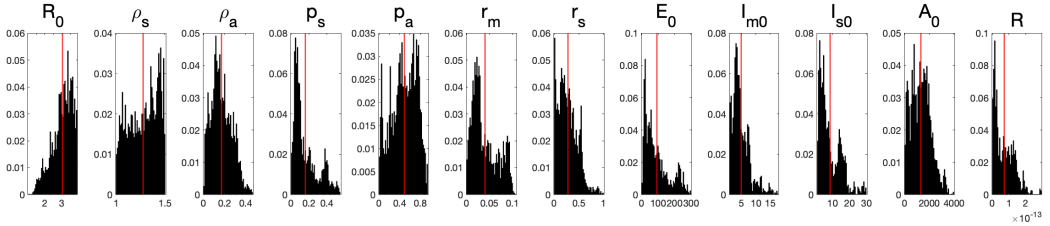
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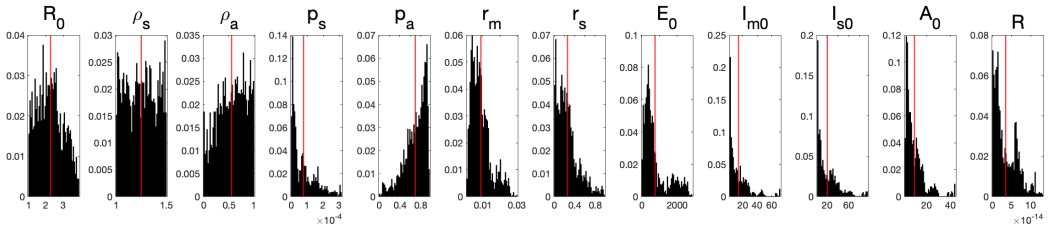
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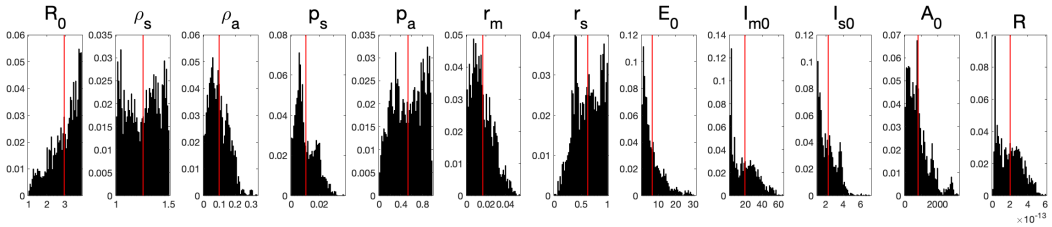
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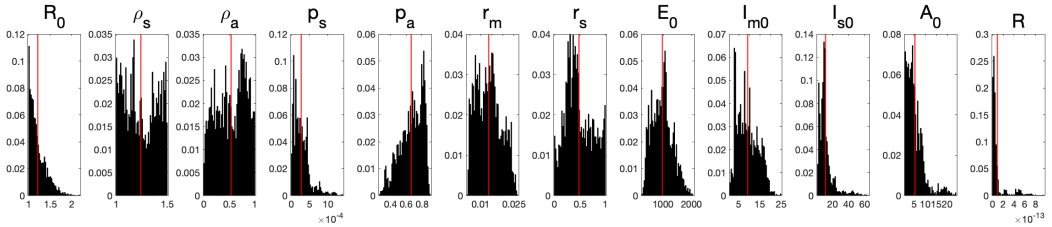
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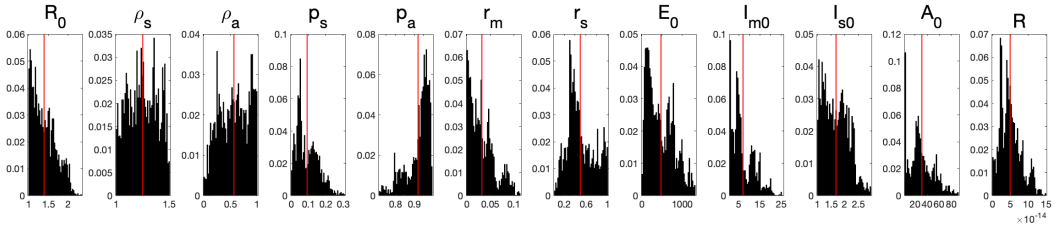
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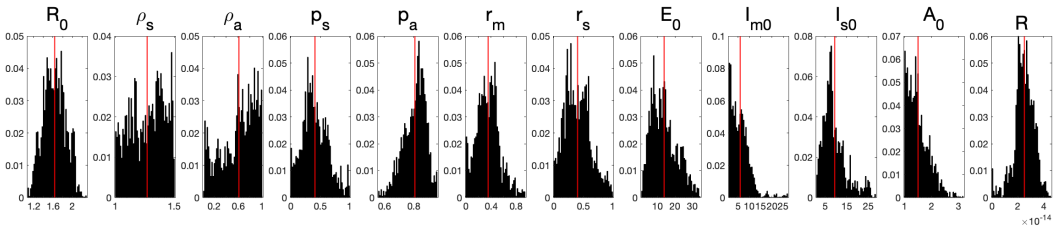
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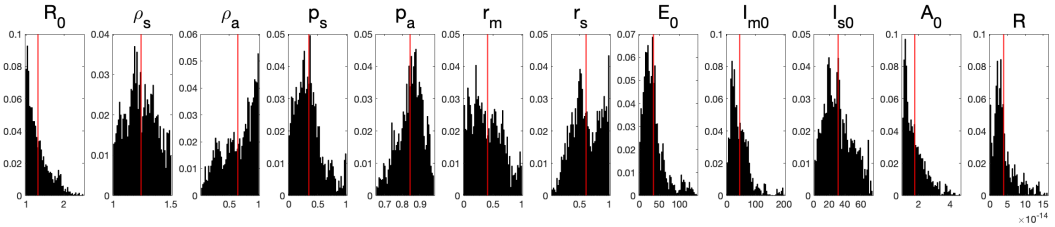
Central African Republic



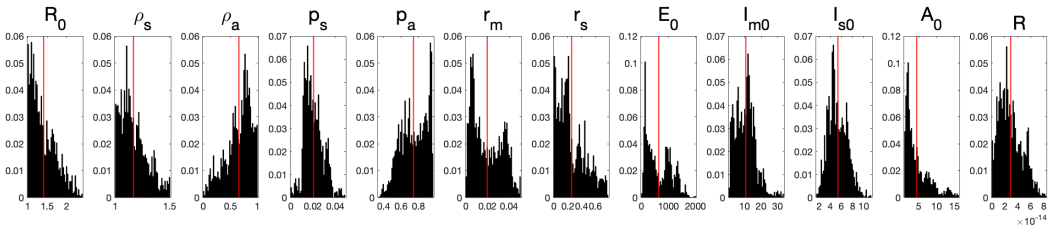
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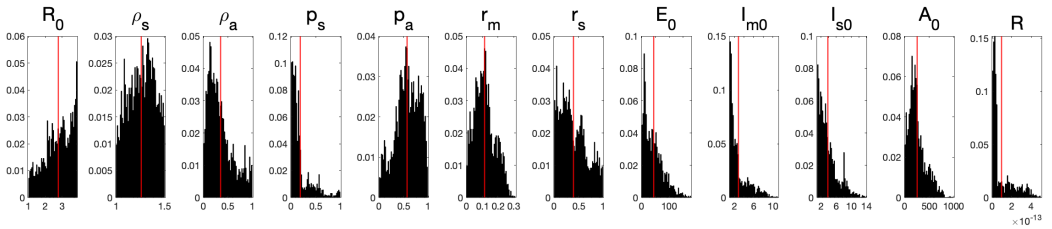
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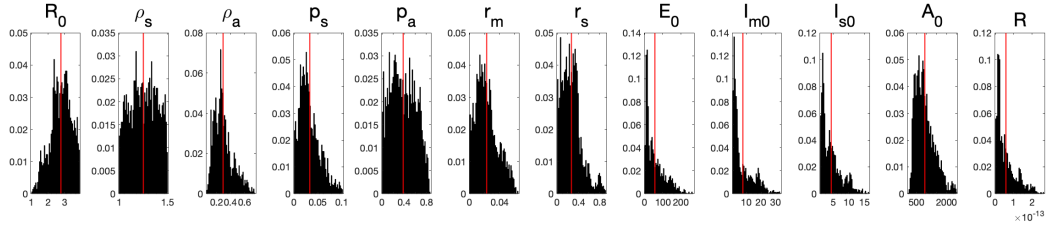
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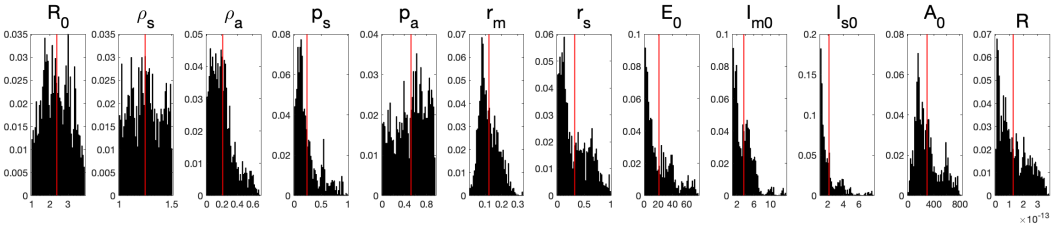
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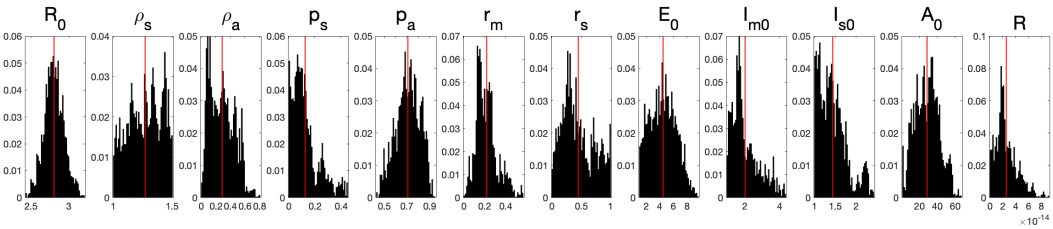
DR Congo



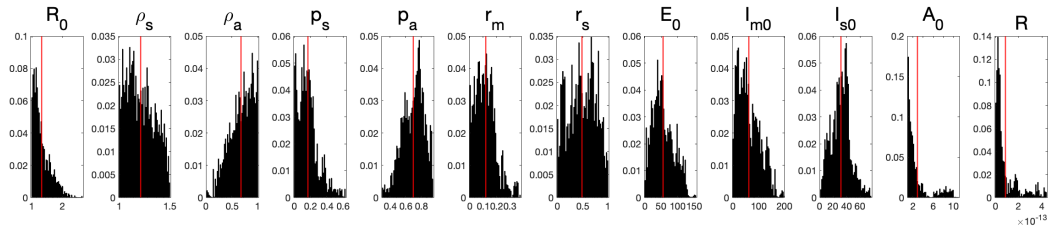
Djibouti



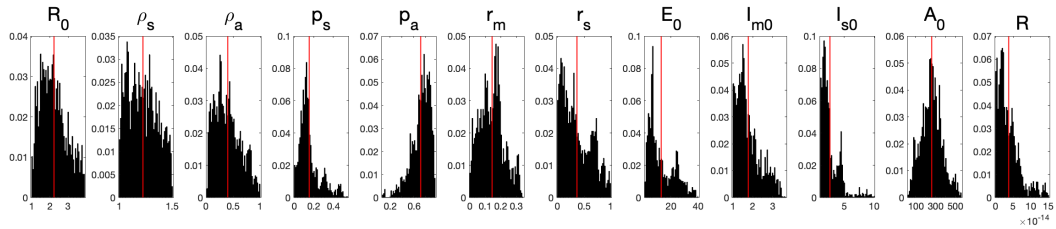
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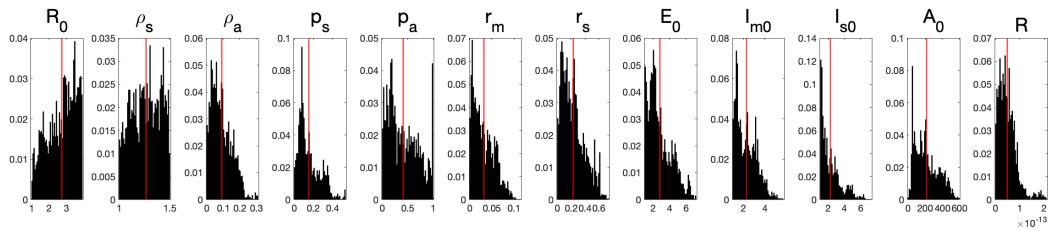
Equatorial Guinea



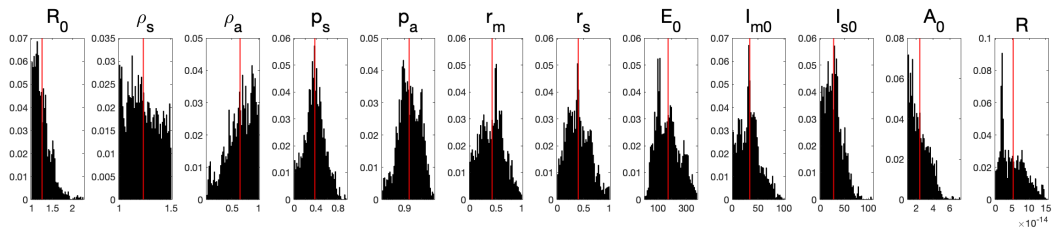
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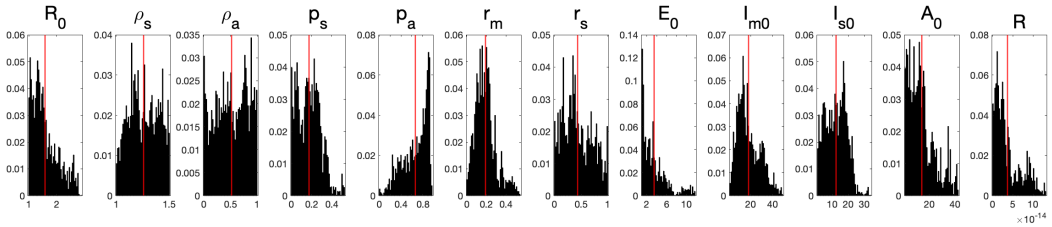
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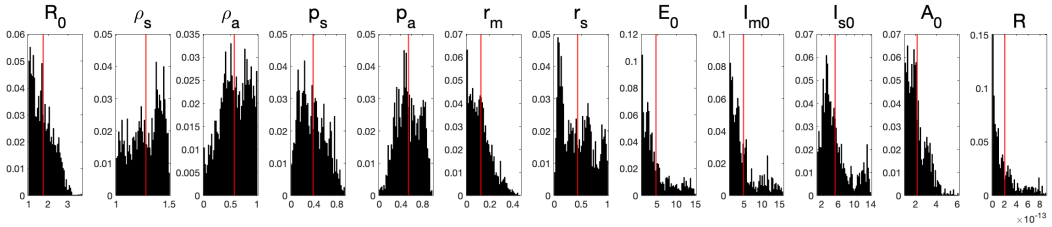
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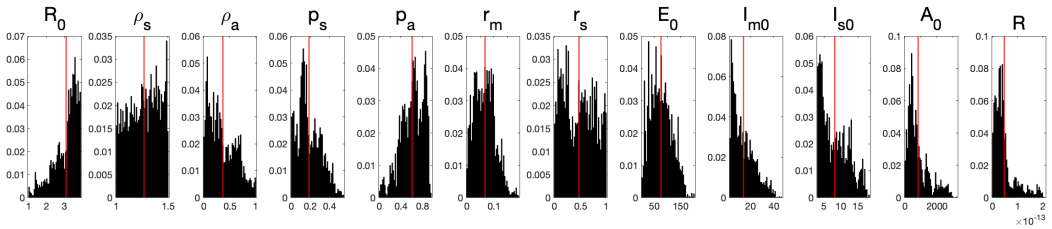
Gabon



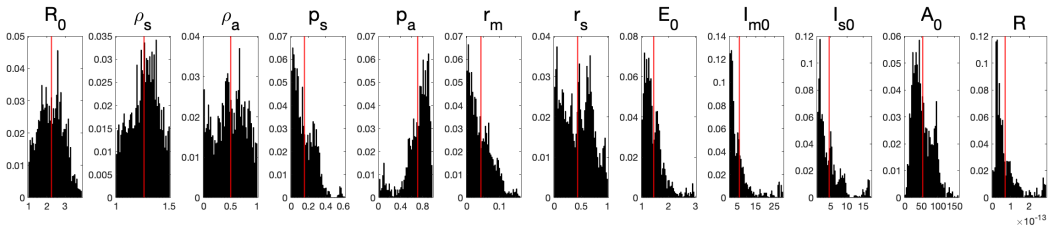
Gambia



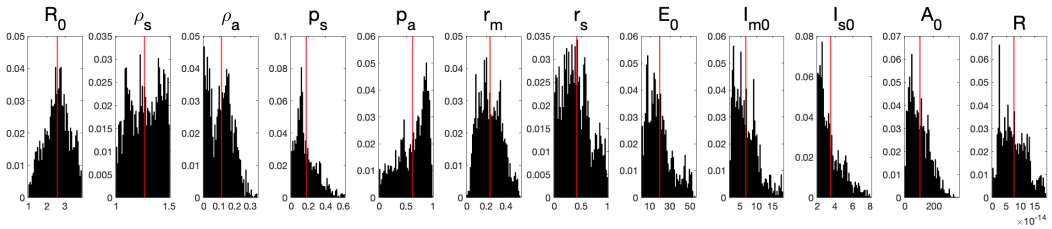
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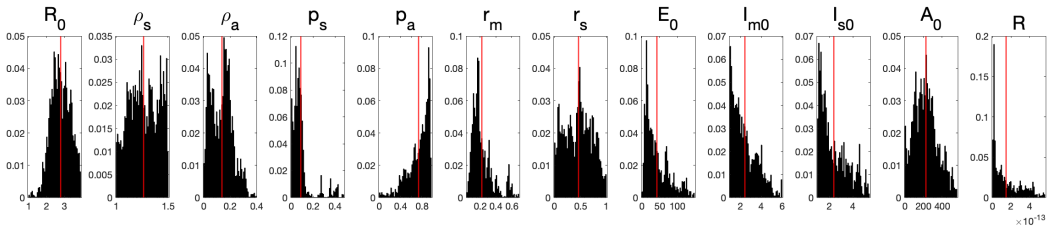
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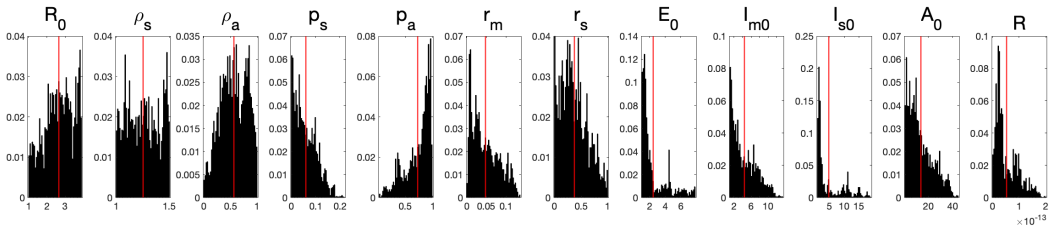
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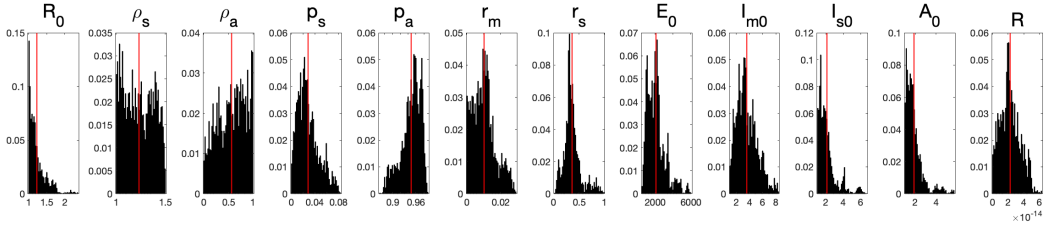
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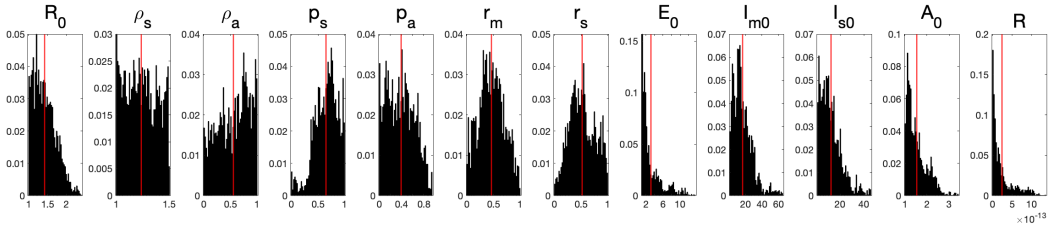
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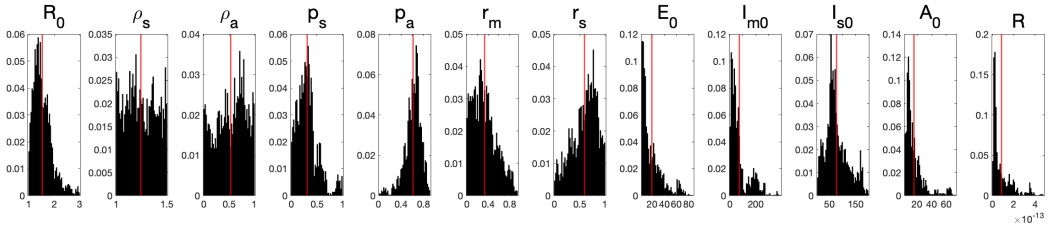
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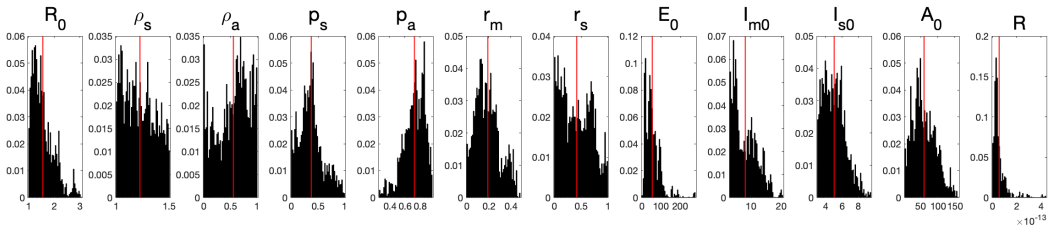
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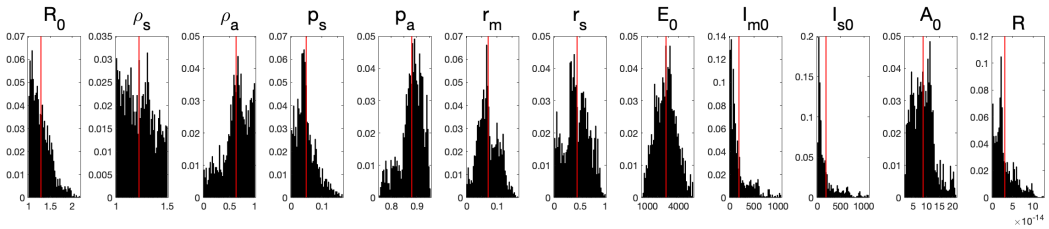
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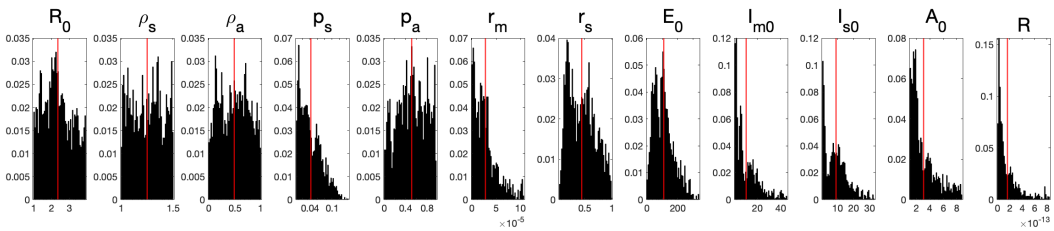
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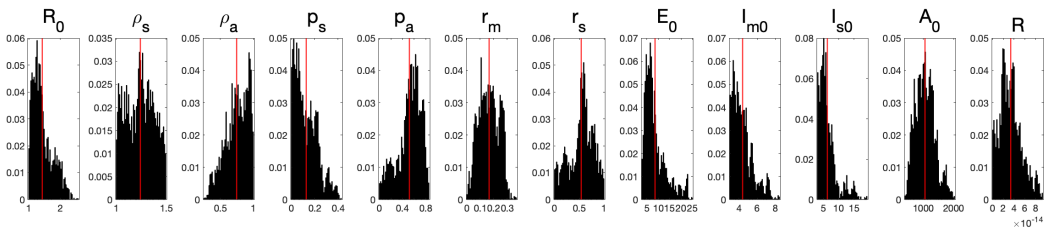
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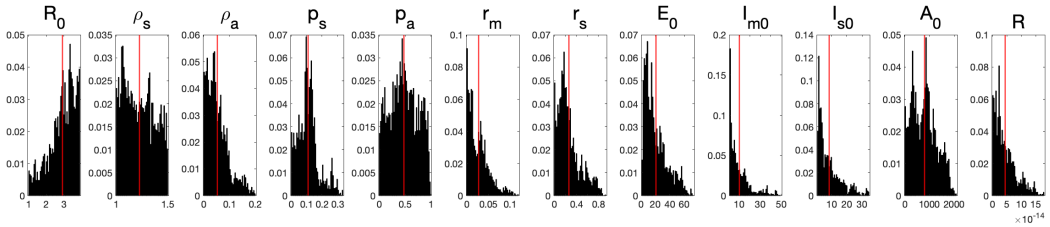
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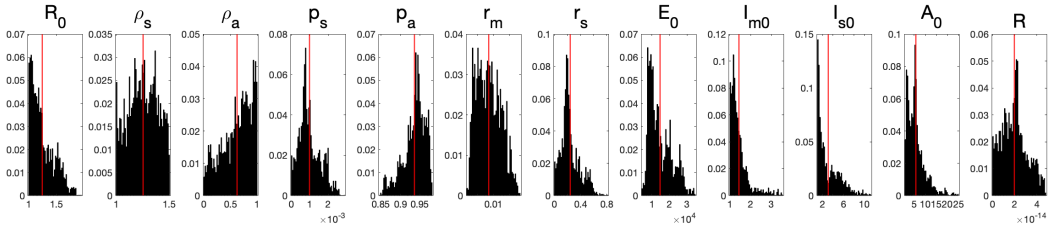
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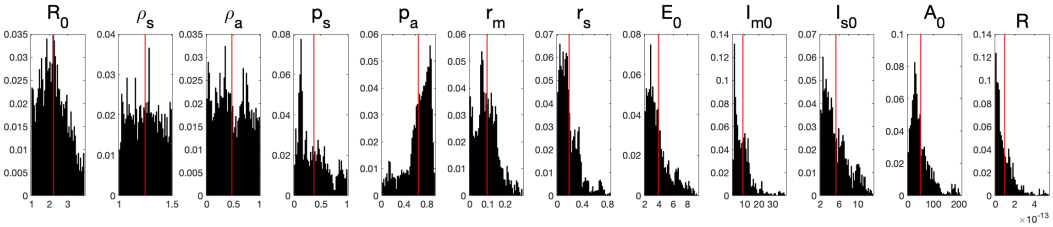
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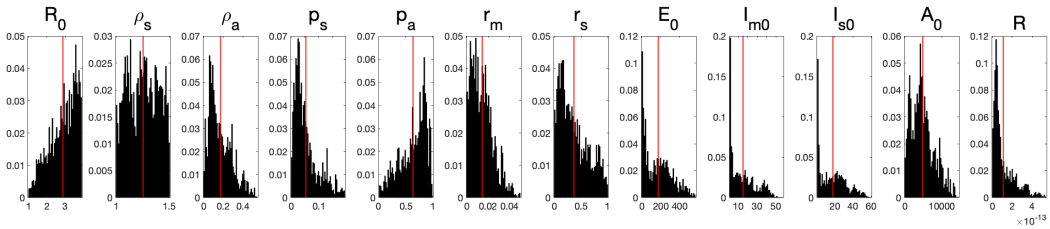
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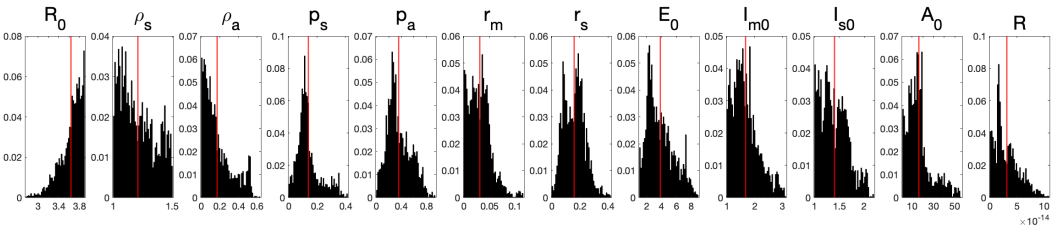
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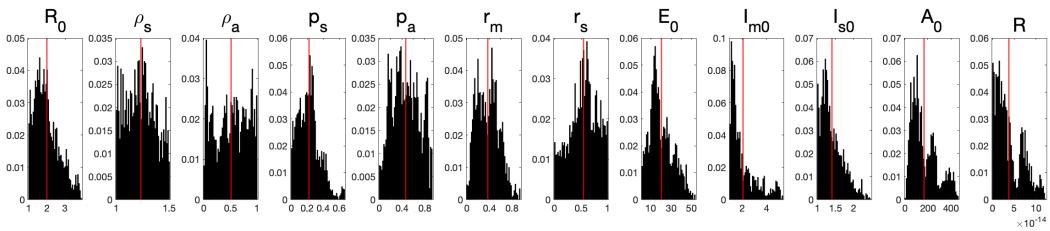
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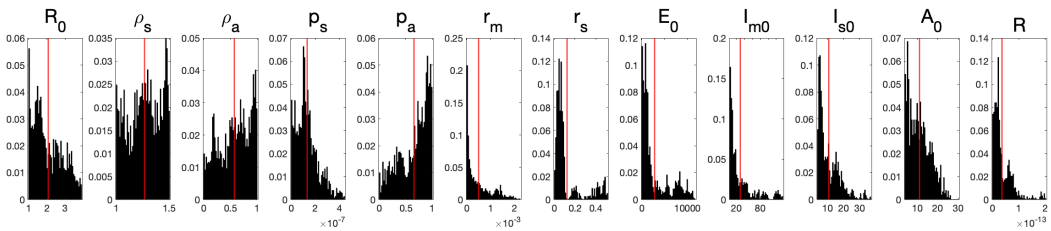
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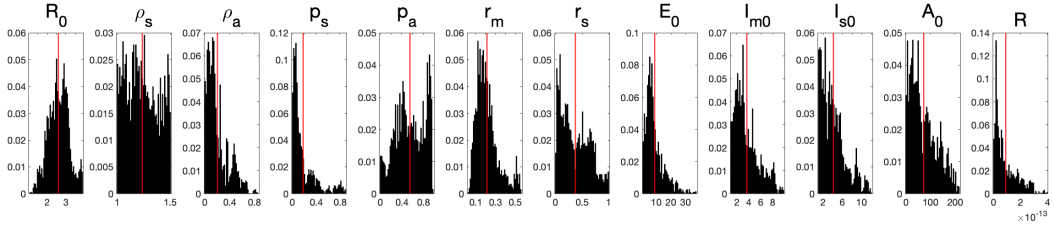
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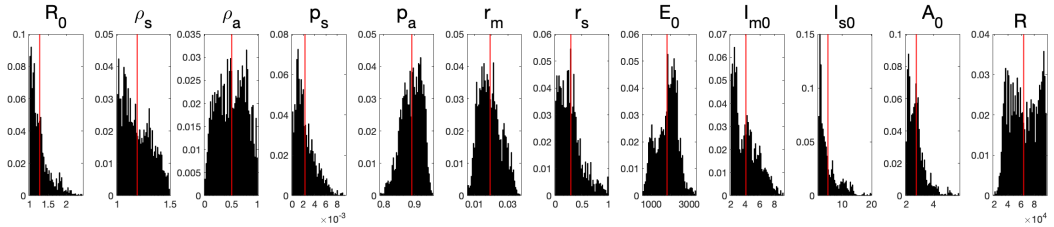
Sao Tome and Principe



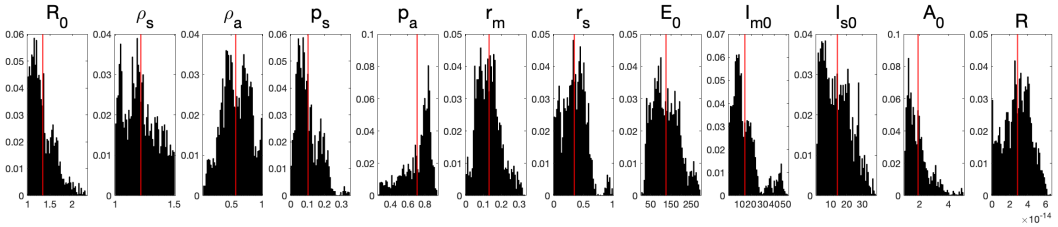
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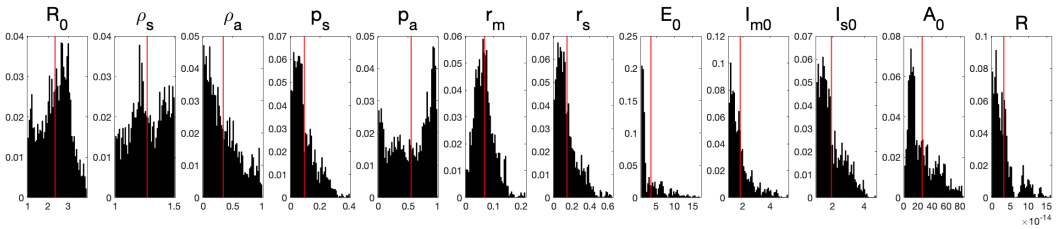
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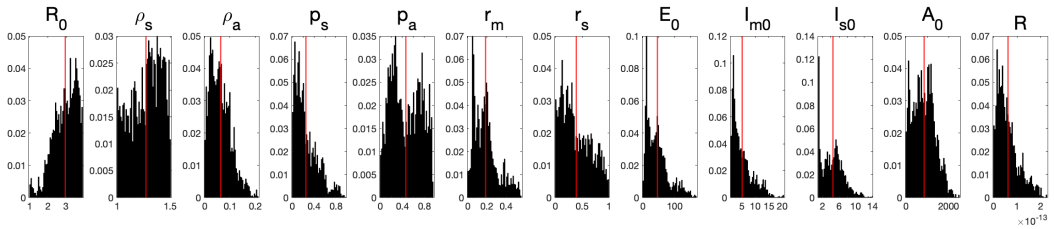
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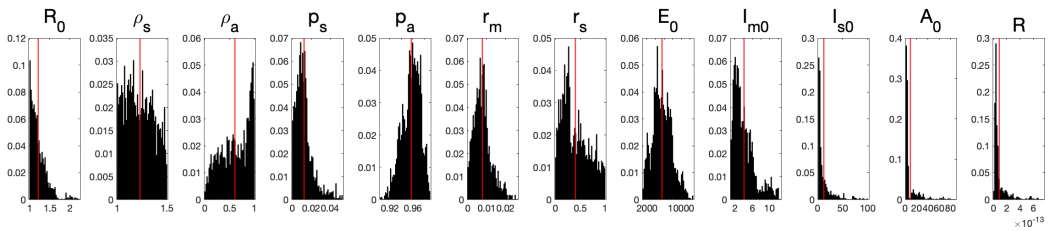
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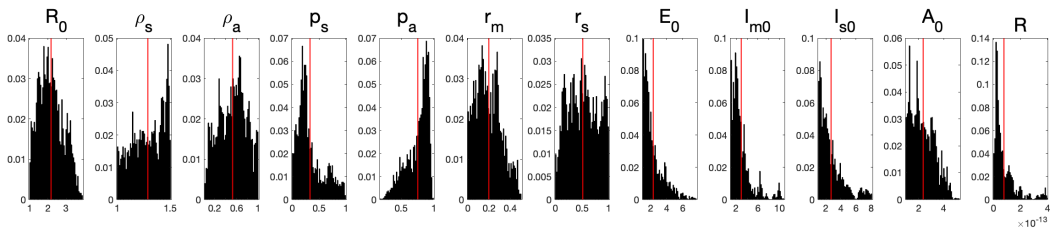
South Africa



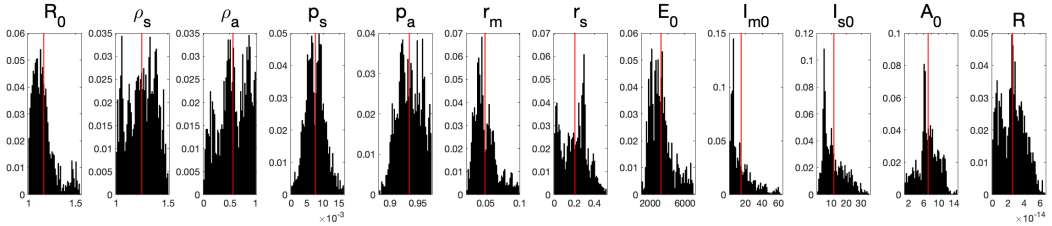
South Sudan



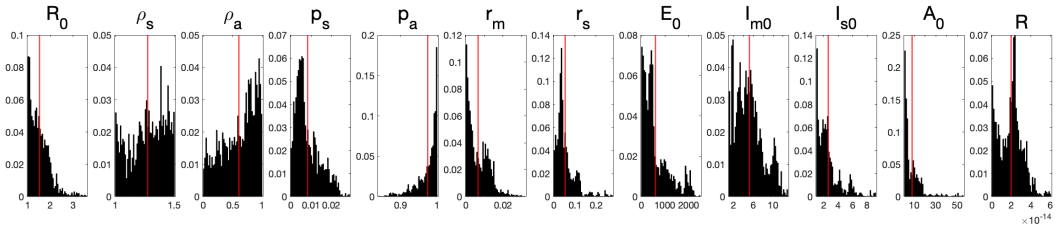
Sudan



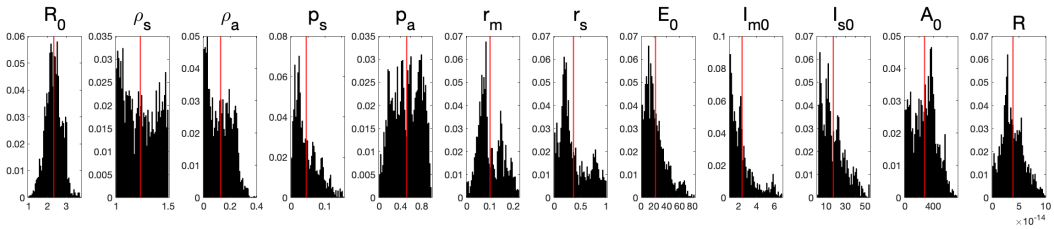
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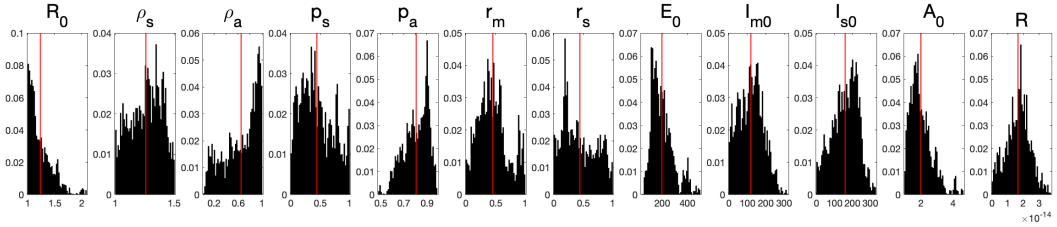
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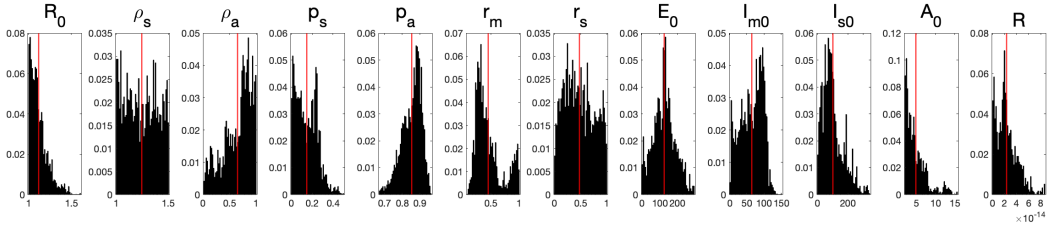
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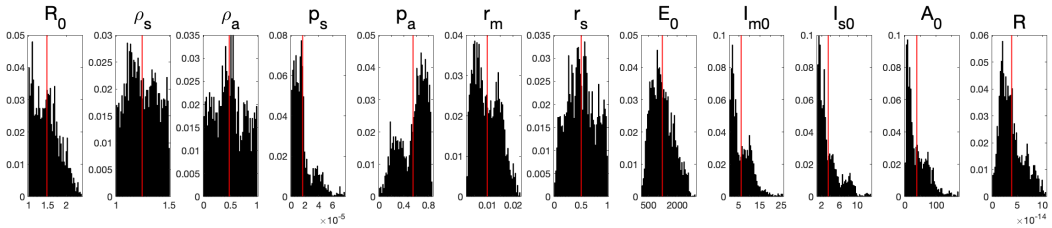
Uganda



Zambia



Zimbabwe



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