Table s7. Data quality rating from 0 to	5 stars, maximum percent well certified per 5-year inter	val and percent well certified across time series for 20	4 countries, 1980-2019.						
Country	Data Quality Rating	1980-1984 0.0	1965-1989 0.0	1990-1994 0.0	1995-1999	2000-2004 3.4	2005-2009	2010-2019	1980-2019 4.6
Albania	3	0.0	65.9	67.8	74.8	73.8	72.5	54.6	58.5
Algeria American Samon	3	0.0	0.0	0.0	0.0 65.9	0.0 72.6	15.8 69.7	66.2	2.3 39.2
Andorra	1	0.0	0.0	0.0	0.0	0.0	0.0	65.3	9.3
Albaria. Apprila Anasiran Saran. Anasiran Saran. Anasiran Saran. Anasiran A	4	0.0 48.9	0.0 69.6	0.0 76.0	0.0 29.3	0.0 81.3	0.0 79.6	2.8 78.6	0.4 73.3
Argentina	4	76.1 75.6	71.5 84.5	70.6 86.2	69.9 86.1	69.1 86.4	69.1 90.9	73.7 89.6	71.4 85.6
Ameria	5	933	93.7	93.6	91.5	97.5	91.8	91.1	83.6 92.8
Austria	5	92.3 69.7	937 932 99.1	92.7 68.0	92.3 65.4	94.8 72.1	93.6	91.1	92.8 92.8 55.3
Bahrain	3	0.0	75.2 3.4	0.0	62.9 3.9	61.8	42.7 58.8 6.3 78.0	54.9 53.3	55.3 44.8 16.9
Bangladesh	2	2.2 76.1	3.4	30.2	3.9	19.1	6.3	53.3	16.9
Belarus	1	85.0 80.3	87.9 80.8	80.0	80.7	77.2 82.6	83.4 86.4	76.8 83.7	83.3
Belgium	4	80.3 61.5	80.8 66.7	843 579	86.3 74.9	86.2 75.9	86.4 87.2	82.9 87.6	83.9 73.1
Benin	1	0.0	2.1	0.0	0.0	0.0	0.0	0.0	0.3
Berrin Berrmada Bhutan Venezasda Brossia and Herzegovina Brosevaza	5	92.5	90.9	90.4	95.0	93.0	88.8	90.4	91.6
Venezuela	5	0.0 78.9	72.9	832	88.5	90.7	91.1	91.3	85.2
Boszia and Herzegovina	2	0.0	65.1	66.5 0.0	0.0	0.0	0.0	75.4 0.0	29.6
Brazil	4	51.3 0.0	55.5 0.0	62.0 0.0	66.2	70.9 76.4	77.8 73.9	82.3 73.8	66.6 43.3
Brunci	3	0.0	0.0	0.0 813	78.9	76.4	73.9	73.8	43.3
Burkina Faso	1	3.7	81.4 0.0	0.0	78.6 4.6	6.3	2.4	68.1 0.3	2.5
Broadi Bronei Budgaria Burkim Faso Burandi Cambudia	1	0.0	0.0	2.9 0.0	0.0	0.0	0.0 4.2	0.0	0.4 0.7
Cameroon Canada Central African Republic Chud	0	0.0 90.5	0.0 90.7	0.0 89.9	0.0	0.0 90.0	0.0 50.5 0.0		
Canada Central African Republic	5	90.5	90.7	89.9	89.6 0.0	90.0	90.5	90.2	0.0 90.2 0.0 0.0
Chud	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Chile China	4 3	75.3 0.0	75.9 1.0	82.0 70.0	85.1 73.7	91.2 66.8	91.5 72.1	90.4 71.7	84.5 50.8
Colombia	4	69.2	72.0	76.3	88.3	89.7	88.5	90.8 82.5	82.1
The Bohumas Comoros	4 0	74.3 0.0	823 0.0	80.1	84.1	83.4	82.3 0.0	82.5 0.0	81.3 0.0
Congo (Brazzaville)	0	0.0 0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cook Islands Costa Rica	2 5	81.7	0.0 83.2	0.0 83.3	0.0 91.4	60.0 92.7	53.9 91.6	68.5 91.6	26.1 87.9
Croatia	4	0.0 85.9	84.9 87.2	85.9	84.9	88.2 91.3	89.9 92.2	93.7 92.3	75.4 89.4
Cypeus	2	0.0	0.0	86.8 0.0	89.9 32.2	60.7	40.7	78.4	94.4
Crech Republic	4	0.0	912	90.5 0.0	85.9	86.5	86.6 0.0 0.0	87.9	75.5 0.0 0.6
DR Congo	1	0.0	0.0	3.6	0.0 0.0	0.0	0.0	0.0	0.6
Denmark	5	83.6 0.0	823 0.0	85.7	87.3 0.0	87.8	87.0	85.1 0.0	85.6
Dominica	3	60.1	55.6	55.9	63.3	58.9	0.0 72.3	74.2	62.9
Dominican Republic	3	463 65.9	46.7	393	42.9 63.4	45.9 60.8	44.6 55.2 38.4 65.7	45.6 63.4	445
Egypt	2	25.0 57.4	65.3 30.8 0.0	35.4	0.0 62.7	39.1	38.4	46.6 65.4	30.8 53.4
El Salvador Formarial Guinea	3	57.4 0.0	0.0	55.8 0.0	62.7	66.8 0.0	65.7	65.4	53.4 0.0
Eritres	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Estoria Ethiopia	5	90.9	91.2 3.0	93.1 3.2	93.2 0.9	92.3 3.3	92.8 4.0	91.9	92.2 2.6
Federated States of Micronosia	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Finland	5	0.0 82.7	0.0 91.6	0.0 91.3	32.9 96.1	53.5 95.3	99.7 94.3	66.0 94.4	30.3 92.2
France	4	78.0 0.0	80.3 0.0	82.0 0.0	81.9 0.0	82.3 0.0	82.4 0.0	80.7	81.1
Georgia	4	78.3	76.5	71.1	67.3	69.6	48.3	58.9	67.1
Germany	4	80.5	83.1 0.4	86.1	86.1 0.9	85.4	85.7 21.4	85.6	84.7
Greece	4	83.6	840	78.8	79.6	9.1 80.2	82.3	82.7	81.6
Greenland	3	0.0	0.0 64.0	0.0 65.3	86.3 65.3	87.4 80.2	88.0 82.3	83.6 87.5	49.3 73.4
Guam	3	0.0	0.0	85.8	80.5	71.6	65.6 75.0	63.3	52.4 70.5
Guterula	4	68.8	66.1	66.1	69.7	ø9.9 0.0	75.0		70.5 0.5
Columbia The Balaness Chemical Columbia Chemical Columbia	1	0.0	0.0	0.4	2.3	0.0	0.0	0.0	0.4
Gayana Hairi	4	49.2 15.6	65.9 1.9	61.4 1.7	68.1 11.9	73.5 5.4	75.1 0.0	74.2 0.0	66.8 5.2
Hondarax	2	35.7	42.8	39.1	0.0	0.0	12.4	13.0	20.4
rrangary Iceland	5	91.2 91.7	90.4 93.3	90.5 96.0	91.6 95.0	93.3 94.3	93.9 92.6	94.2 91.3	92.1 93.5
lnúa laboria	2	91.7 2.6 1.7	93.3 4.6 0.0	2.7	4.8	63	92.6 49.7 53.9	91.3 46.0	93.5 16.7 17.4
fraq	2 2	0.0	0.0	1.8	0.6	0.3	39.2	63.4 46.2	12.2
Ireland Iron	5	91.4 0.0	92.2 0.0	92.6 0.0	92.0 0.0	91.6 57.5	92.7 66.1	92.9 80.0	92.2 29.1
Berael	4	80.8 89.6	82.5 89.6	83.5 90.1	83.5 89.2	82.3 89.7	81.0 90.1	82.3 89.8	82.3 89.7
Italy Jamaica	5	89.6 72.0	89.6 74.7	90.1	89.2 0.0	89.7 83.0	90.1 87.7	89.8 99.8	89.7 97.7
Japan	5	72.0 82.9	742 82.1	67.0 83.5	0.0 89.1	83.9 87.6	90.1 87.2 87.0 79.3 78.9 5.1 0.0	89.4 85.5	67.7 85.4
Jordan Kazakhetan	2 4	0.0 79.8	0.0 83.6	0.0 87.3	1.7 85.5	72.8 79.7	79.3 76.9	65.2 73.6	31.3 80.9
Kenya	1	82.9 0.0 79.8 0.0	0.0 83.6 3.4 0.0	0.0	1.7 85.5 2.4 0.0	43 0.5 0.7	5.1	23.4	31.3 80.9 5.5 0.1
eSwatini Kiribati	1 2	0.0	0.0	0.0 35.6	0.0 55.6	0.5 32.2	0.0	0.0	17.6
Kowait	4	74.8	76.9	71.9	71.7	69.9	67.7	68.5	71.7
Kyrgovian Laox	4	75.5 0.0	83.8 3.8	74.5	78.7 0.0	88.3 0.0	94.4 0.0	94.1	84.2 0.5
Latvia	5	913	91.3 3.6	88.8	92.0	91.3	89.2 0.0	93.8	91.1 0.6
Lebanon	0	0.0	0.0	0.0	0.0	0.3	0.0	0.0	0.0
Liberia	1	4.1	4.1	43	0.0	0.0	0.0	0.0	1.8
Libya Libunia	5	0.0	0.0 92.2	0.0 92.7	0.0 94.8	0.0 93.2	11.5 92.8	0.0 93.5	1.6 92.8
Laurenbourg	4	86.9	87.5	85.1	85.0 2.2	82.8 0.0	82.2	83.1	84.7
Malagascar Malawi	1	2.3 0.0	87.5 2.9 3.8	2.1 0.0	0.7	3.2	0.0 3.4	0.0	1.4
Malaysia	2	44.0	0.0	0.0	31.4	36.0	40.5	40.4	1.7 27.5 22.1
Maldives Mali	1	0.0 2.3	0.0	0.0	0.0	44.0	49.1 0.0	61.9 5.6	22.1 1.2
Malta	5	83.0	87.9	89.9	90.8	0.0 92.3	94.5	93.5	1.2 90.2
Marshall fislands Mauritania	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Macritics	4	73.5	77.2	76.8	77.4	82.4	84.4	87.0	79.9 77.1
MEMCO	•	64.0	71.4	73.0 59.1	78.8 0.0	80.6 19.5	82.4 20.9	89.4 79.4	77.1 25.6

Table S7. Data quality rating from 0 to 6	5 stars, maximum percent well certified per 5-year inter	seval and percent well certified across time series for 2	M. countries 1980, 2019						
Country	Data Quality Rating	1980-1984 0.0	1985-1989	1990-1994	1995-1999	2000-2004	2005-2009	2010-2019	1988-2019
Montenegro	2	0.0	0.0	0.0	0.0	62.0	62.6	0.0	17.8
Morocco	2	0.0	24.7	0.0	0.0	10.7	29.6	12.1	11.0
Morambique Myanmar Namibia Nepal	1	0.0	0.0	0.0	0.0	0.0	2.9	48.9	7.4
Namibia	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Nepal	1	3.3	3.2 88.0	0.0 86.5	1.2 86.0	1.0	16.4 84.5	0.0	3.6 86.0
Netherlands New Zealand		88.8 95.4	88.0 95.0	86.5 95.5	86.0 96.7	84.2 96.9	84.5 96.4	84.2 96.0	86.0 96.0
Nicaraga	3	0.0	49.0	50.4	64.6	66.8	68.6	29.5	54.1
Nicaragus Niger	1	0.0	0.0	0.0	0.0	0.0	42.6	0.0	6.1
Nigeria Northern Mariana Islands	1	0.0	0.0	43	0.0	0.0	0.0	40.4	6.4
Northern Mariana Islands Norway	2	0.0 91.0	0.0 91.5	91.0	59.2 90.8	54.2 88.4	61.2 86.1	64.9 85.7	34.2 89.2
Oran	2	0.0	0.0	0.0	0.0	0.0	63.3	32.4	13.7
Pakistan	2	0.0	31.5	2.1	0.0	13.8	23.4	21.6	13.2
Palestine	2	0.0	0.0	0.0	28.5	31.6	33.8	72.8	23.8
Paruma Papua New Guinea	4	74.1 6.3	77.1 3.6	0.0	83.3 0.0	86.7 0.0	86.5 0.0	81.6 29.5	70.3 5.6
Paramy Paramy	1	51.7	3.6 54.5	61.5	62.3	63.1	67.2	82.2	63.2
Paraguay Peru	3	51.6	34.4	34.5	45.8	55.4	56.2	52.1	47.1
Philippines	3	0.4	12.9	15.4	40.4	46.2	74.1	75.4	37.8
Bolivia	1	0.0 643	0.0 64.4	64.2	0.0	12.4 75.8	0.0 75.9	0.0 75.9	1.8
Potani Portuni		64.3 77.6	77.9	642 77.6	73.5	75.8 82.4	75.9	73.9 86.0	70.6
Philippines Bolivia Poland Portugal Monaco	2	0.0	76.8	0.0	0.0	0.0	0.0	80.3	22.4
Pacrto Rico	4	78.1	77.3	84.1	83.8	84.0	83.4	84.5	82.2
Quiar	2	12.2	16.0	0.0	49.0	43.6	50.2	38.9	30.0
Qutar Cape Vende Côte d'Ivoire	1	48.7	0.0 3.7	0.3 3.6	0.0	0.0	0.0	70.2 0.1	17.0
South Korea	3	0.0	53.0	72.1	34.2	83.9	82.8	84.0	64.3
Moldova Nazru	5	89.5	91.0	79.5	86.9	89.9	87.8	90.1	87.8
Naru	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Nine Palau	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0 51.0	0.0 7.3
San Marino	3	0.0	0.0	0.0	75.7	77.4	77.4	65.8	42.3
San Marino The Gambia	1	3.9	3.5	3.4	2.8	2.5	2.2	0.0	2.6
Romania Russia	4	77.3	79.0	83.8	86.1	87.2	87.5	86.8	84.0
Russia Rwanda	3	92.5 0.0	86.6	90.2 0.0	87.0 0.0	87.4 0.0	88.9 28.3	88.5	88.7 4.0
Saint Kits and Nevis	4	65.3	68.4	68.0	78.4	67.3	78.5	84.8	73.0
Saint Lucia	4	67.7	68.0	73.9	73.3	80.4	74.0	86.5	74.9
Saint Vincent and the Grenadines	4	69.7	60.8	59.1	85.7	83.4	84.8	87.2	75.8
Samoa São Tomé and PrÉncipe	0	0.0	0.0 60.1	0.0	0.0	0.0	0.0	0.0	0.0 8.6
Santi Arabia	2	0.0	0.0	0.0	19.2	20.7	21.8	20.6	11.8
Saudi Arabia Senegal	1	2.8	3.4	0.0 3.5	3.3	0.0	0.0	20.6	1.9
Serbia Seychelles	3	0.0	0.0	0.0	77.9	77.7	81.3	81.4	45.5
Seychelles	3	70.3	71.3 0.0	0.0 4.0	0.0	77.8	79.1 0.0	79.4 0.0	54.0 0.6
Signature Signature		91.1	91.6	90.6	92.5	93.4	92.2	93.8	92.2
Slovakia	3	0.0	0.0	83.8	83.7	85.3	88.5	92.0	61.9
Seyemine Simpone Simpone Simpone Siovakin Slovakin Slovakin Slovakin Slovakin Slovakin Slovakin Slovakin	4	0.0	86.2	85.4	81.5	85.0	86.1	87.0	73.0
Vietnen	2	0.0	1.3	0.9	1.2	1.5	62.0	4.8 38.0	10.3 5.4
Solomos Islands Somelia	1 0	0.0	0.0	0.0	0.0	0.0	0.0	38.0	5.4
South Africa South Subar	3	0.0	0.0	1.2	66.0	ø3	69.2	69.1	39.2
South Suban	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Spain	4	79.4 43.9	81.7 43.7	853 41.9	86.7 52.7	86.2 62.7	86.2 67.9	88.0 65.3	84.8 54.0
Sri Laska Sudan	9	0.0	43.7	0.0	0.0	0.0	0.0	0.0	0.0
Suriname	3	58.1	62.9	57.7	60.1	68.4	67.0	67.1	63.1
Surinane Sweden	5	88.4	90.5	90.1	89.7	88.9	88.1	86.0	88.8
Switzerland Syria	:	76.2	76.0	75.3 0.0	87.3 51.0	86.4	87.4	87.5 52.5	82.3
Taiwan (province of China)	3 4	29.5 75.7	18.0 79.4	0.0 78.5	51.0 83.5	54.8 84.9	64.3 85.2	52.5 85.6	38.6 81.8
Tajikistan Thailand	3	67.4	65.8	66.5	51.8	48.3	48.4	50.5	57.0
Thuiland	3	24.6	25.0	31.3	62.6	48.3	61.6	64.6	45.4
North Macedonia	3	0.0	0.0	75.9	75.5	77.1	71.9	63	52.7 0.0
Timor-Leste Togo	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Tokehu	0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Toketsu Tonga	1	0.0	0.0		0.0	52.9	0.0		0.0 7.6
Trinidad and Tobago		78.9	83.1	85.9	89.4	90.4	88.8	99.8	86.6
Tunisia Turkey		0.0 12.2	0.0	0.0 17.4	0.0	0.0 59.2	28.3 63.7	24.0 29.5	7.5 38.4
Turkay Turkasenistan Tuvala Uganda	4	86.9	88.0	862	79.7	85.9	79.9	82.0	84.1
Tuvala	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Ugarda	:	0.0 87.9	0.0 88.5	0.0 81.7	0.0 83.5	0.4	3.3	91.2	0.5 86.7
United Arab Emirates	,	87.9 0.0	88.5 0.0	81.7 0.0	83.5	84.1	89.8 35.8	91.2 0.0	86.7 5.1
TK .	5	93.7	93.7	93.6	92.1	91.6	91.5	91.6	92.5
Northern Ireland	5	93.8	94.0	94.5	94.3	92.4	92.7	92.8	93.5
Scotland		94.1	94.4	939	92.9	93.6	92.9	91.4	93.3
Wales		93.3 93.8	93.7	93.7	93.1	92.0 91.4	91.3 91.3	91.7	92.7 92.5
Wales England Tanzania Viroin Islands	1	93.8	93.7	93.6 3.3	91.9 2.3	91.4 6.3	91.3	91.6	92.5 2.7
Virgin Islands USA	3	76.3	0.0	79.3	82.3	71.3	67.9	61.2	62.6
USA	5	90.4	89.6	90.1	89.5	88.6	87.8	87.2	89.0
Uruguny Urbekistan Vanuntu Yenen		77.6	77.4	79.5	81.2	80.8	80.6	80.4 73.0	79.6
Vancata		818	86.4	77.7	60.9	63.5	69.7	73.0	74.6
Yemen	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Zurbia Zimbabwe	1	0.0	0.0	0.0	0.0	0.0	6.4	15.7	3.1
Zimbobwe	2	0.0	0.0	38.9	58.7	0.4	44.3	0.0	20.3