

PLSC 502 – Autumn 2016

Univariate Graphics

September 6, 2016

Why Plot?

- Know your data.
- Catch mistakes.
- Learn something...

Example: Africa, 2001

Data Browser

ccode[1] = 404

	ccode	ccabr	country	population	popthou	popden	polity	gdp PPP	trade/gdp	war	adrate	healthexp	sub-Saharan	musperc	literacy	internalwar	intensity
1	404	GNB	Guinea-Bissau	1227000	1227	.0434705	5	.9	11.25	0	2.8	5.9	Sub-Saharan	45	42	0	0
2	411	GNQ	Equatorial Guinea	470000	470	.0190626	-5	2.1	272.69	0	3.4	2	Sub-Saharan	0	75	1	1
3	420	GNB	Gambia, The	1337000	1337	.1335191	-5	1.77	51.06	0	1.6	6.4	Sub-Saharan	90	37	0	0
4	432	MLI	Mali	1.17e+07	11677	.0093464	6	.84	12.77	0	1.7	4.3	Sub-Saharan	90	28	0	0
5	433	SEN	Senegal	9662000	9662	.0457268	8	1.58	14.2	0	.5	4.8	Sub-Saharan	84	38	1	2
6	434	BEN	Benin	6446000	6446	.0555471	6	1.04	6.96	0	3.6	4.4	Sub-Saharan	20	39	0	0
7	435	MET	Mauritania	2747000	2747	.0026856	-6	1.8	13.88	0	1.8	3.6	Net. Sub-Saharan	100	41	0	0
8	436	NER	Niger	1.12e+07	11227	.0094965	4	.82	6.87	0	4	3.7	Sub-Saharan	80	17	0	0
9	437	CIV	Cote d'Ivoire	1.63e+07	16349	.052139	4	1.55	23.53	0	9.7	6.2	Sub-Saharan	37.5	50	0	0
10	438	LIB	Liberia	3100000	3100	.0341379	0	2.1	6.25	0	9	4.3	Sub-Saharan	40	81	1	1
11	451	SLE	Sierra Leone	4587000	4587	.0663841	2	.5	7.78	0	7	4.3	Sub-Saharan	60	36	0	0
12	452	GHA	Ghana	1.97e+07	19734	.0837905	6	1.98	13.56	0	3	4.7	Sub-Saharan	16	73	0	0
13	461	TGO	Togo	4657000	4657	.0772349	-2	1.5	9.55	0	6	2.8	Sub-Saharan	20	58	0	0
14	471	CMR	Cameroon	1.52e+07	15203	.0328354	-4	1.7	13.64	0	11.8	3.3	Sub-Saharan	20	68	0	0
15	475	NGA	Nigeria	1.17e+08	116929	.1287199	4	.84	32.11	0	5.8	3.4	Sub-Saharan	50	65	0	0
16	482	CAF	Central African Republic	8135000	8135	.0128782	5	1.3	6.96	0	12.9	4.5	Sub-Saharan	15	50	1	1
17	483	CHD	Chad	3782000	3782	.0029817	-2	1.03	4.44	1	12.9	2.6	Sub-Saharan	51	44	1	1
18	484	COG	Congo, Rep.	3.11e+06	3110	.0094481	-5	.9	133	0	7.2	2.1	Sub-Saharan	2	82	0	0
19	490	ZAR	Congo, Dem. Rep.	5.25e+07	52522	.0223847	0	.59	5.54	0	4.9	3.5	Sub-Saharan	10	66	1	3
20	500	UGA	Uganda	2.40e+07	24023	.0998912	-4	1.2	5.61	0	5	5.9	Sub-Saharan	16	68	1	2
21	501	KEN	Kenya	3.13e+07	31293	.0523917	-2	1	15.81	0	15	7.8	Sub-Saharan	10	83	0	0
22	510	TZA	Tanzania	3.00e+07	35965	.0380762	2	.61	10.76	0	7.8	4.4	Sub-Saharan	35	76	0	0
23	516	BUR	Burundi	6502000	6502	.0293557	0	.6	4.93	1	8.3	3.6	Sub-Saharan	10	49	1	3
24	517	RWA	Rwanda	7900000	7900	.0313449	-4	1	4.29	1	8.9	5.5	Sub-Saharan	10	68	1	3
25	520	SOM	Somalia	9157000	9157	.0143163	0	.55	12.2	0	1	2.6	Sub-Saharan	100	38	1	1
26	530	ETH	Ethiopia	6.45e+07	64459	.0567533	1	.7	4.31	0	6.4	3.6	Sub-Saharan	47.5	40	1	1
27	531	ERI	Eritrea	3816000	3816	.0296957	-7	.74	15.81	0	2.8	5.7	Net. Sub-Saharan	50	58	0	0
28	540	AGO	Angola	1.95e+07	19527	.0189529	-3	1.33	72.93	1	5.5	4.4	Sub-Saharan	0	42	1	3
29	541	MDZ	Mozambique	1.86e+07	18644	.0238697	6	.9	11.43	0	13	5.9	Sub-Saharan	20	45	0	0
30	551	ZMB	Zambia	1.00e+07	10049	.0140062	1	.87	152.07	0	21.5	5.7	Sub-Saharan	1	79	0	0

Example: Africa, 2001

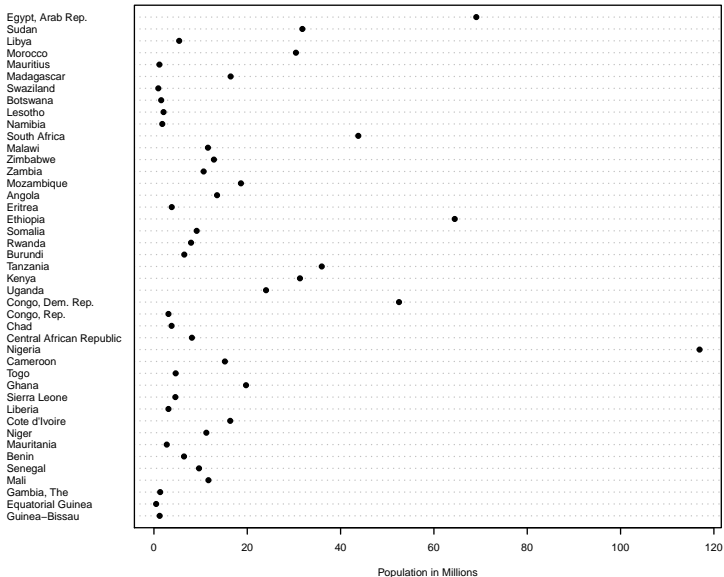
cocode	cabbr	country	population	pophou
Min. :404.0	AGO : 1	Angola	: 1 Min. : 470000	Min. : 470
1st Qu.:451.5	BDI : 1	Benin	: 1 1st Qu.: 3446000	1st Qu.: 3446
Median :510.0	BEN : 1	Botswana	: 1 Median : 9662000	Median : 9662
Mean :509.5	BWA : 1	Burundi	: 1 Mean : 17390256	Mean : 17390
3rd Qu.:556.5	CAF : 1	Cameroon	: 1 3rd Qu.: 19189000	3rd Qu.: 19189
Max. :651.0	CIV : 1	Central African Republic:	1 Max. :116929000	Max. :116929
	(Other):37	(Other)	:37	

popden	polity	gdppppd	tradegdp	war
Min. :0.002228	Min. : -9.0000	Min. : 0.500	Min. : 4.030	Min. :0.0000
1st Qu.:0.013442	1st Qu.: -4.5000	1st Qu.: 0.855	1st Qu.: 7.645	1st Qu.:0.0000
Median :0.035707	Median : 0.0000	Median : 1.200	Median : 13.560	Median :0.0000
Mean :0.064279	Mean : 0.5116	Mean : 2.159	Mean : 30.493	Mean :0.1163
3rd Qu.:0.068302	3rd Qu.: 5.5000	3rd Qu.: 2.040	3rd Qu.: 30.010	3rd Qu.:0.0000
Max. :0.574020	Max. :10.0000	Max. :10.800	Max. :272.690	Max. :1.0000

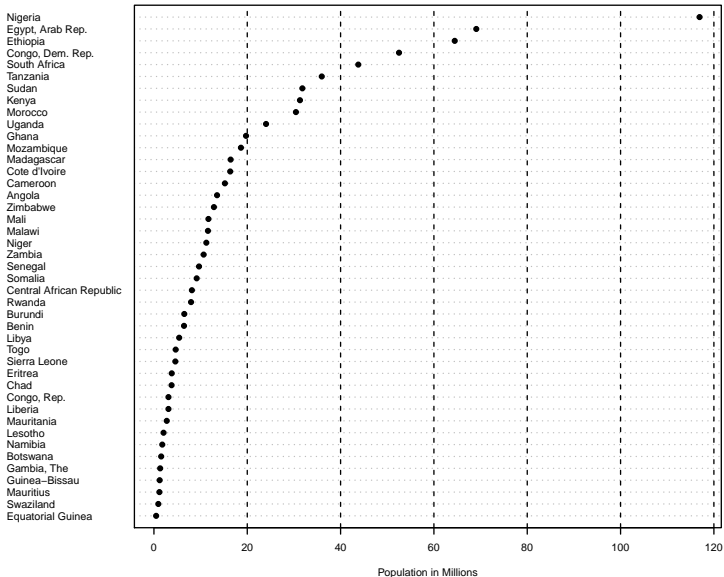
adrate	healthexp	subsaharan	muslperc	literacy
Min. : 0.100	Min. :2.000	Not Sub-Saharan: 6	Min. : 0.00	Min. :17.00
1st Qu.: 2.700	1st Qu.:3.450	Sub-Saharan :37	1st Qu.: 10.00	1st Qu.:43.00
Median : 6.000	Median :4.400		Median : 20.00	Median :61.00
Mean : 9.365	Mean :4.598		Mean : 35.96	Mean :60.07
3rd Qu.:12.900	3rd Qu.:5.800		3rd Qu.: 55.50	3rd Qu.:78.50
Max. :38.800	Max. :8.600		Max. :100.00	Max. :89.00

internalwar	intensity
Min. :0.0000	Min. :0.0000
1st Qu.:0.0000	1st Qu.:0.0000
Median :0.0000	Median :0.0000
Mean :0.3023	Mean :0.5814
3rd Qu.:1.0000	3rd Qu.:1.0000
Max. :1.0000	Max. :3.0000

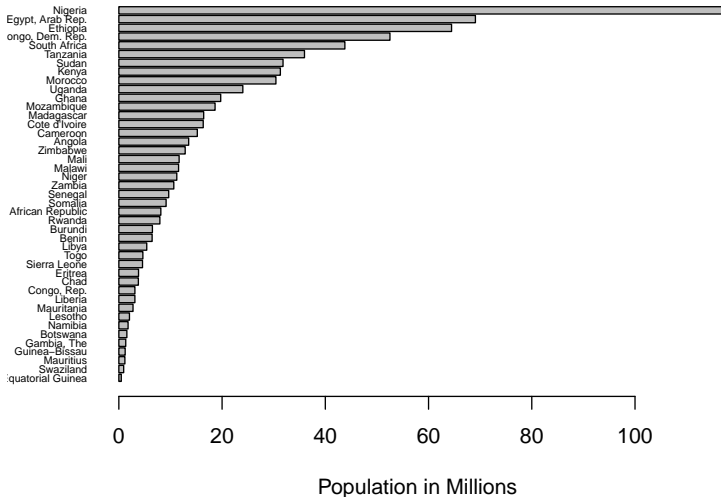
The Dotchart



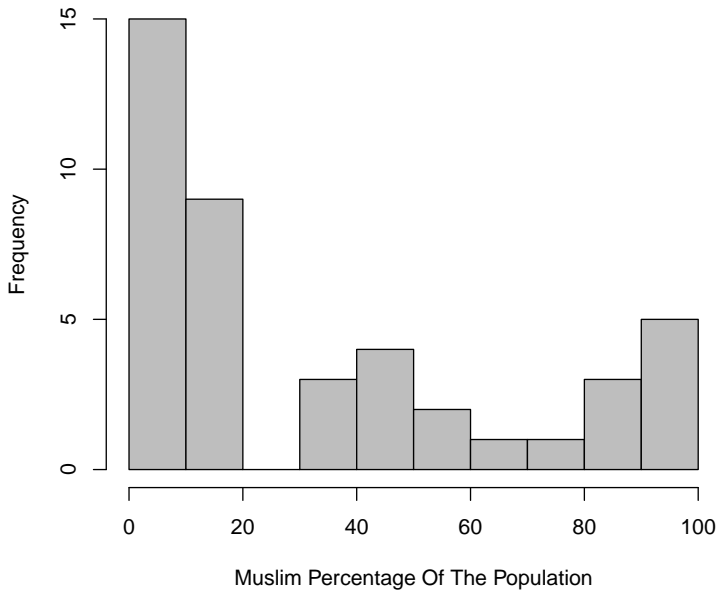
The Dotchart, Sorted



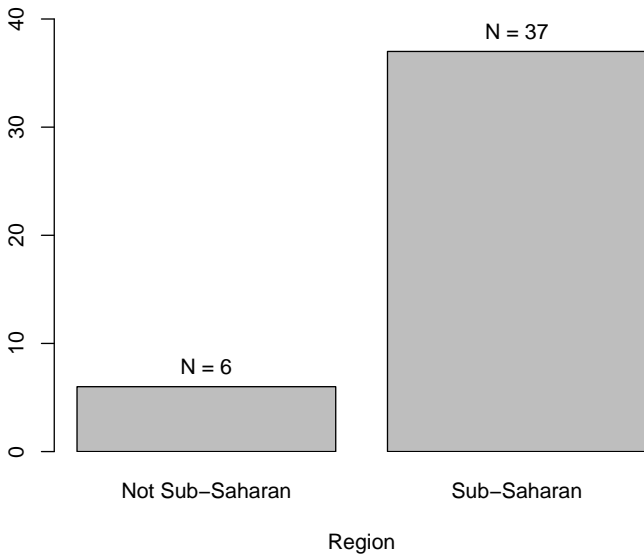
The Barchart, Sorted



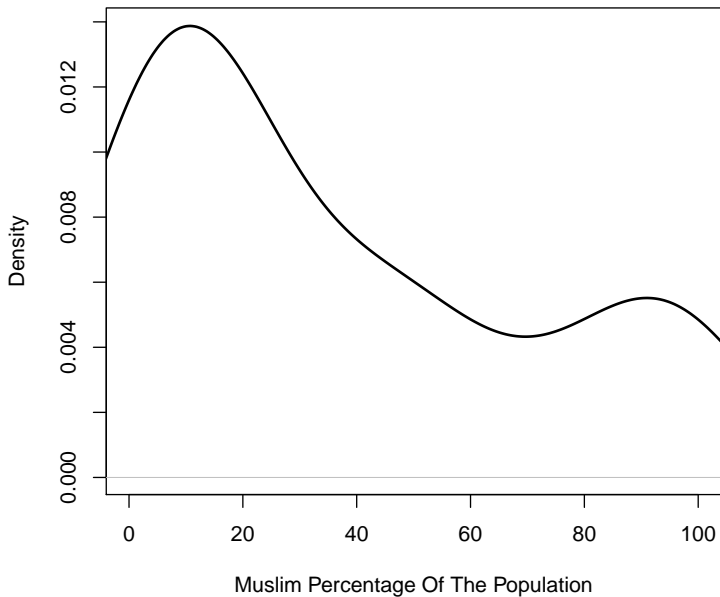
The Histogram



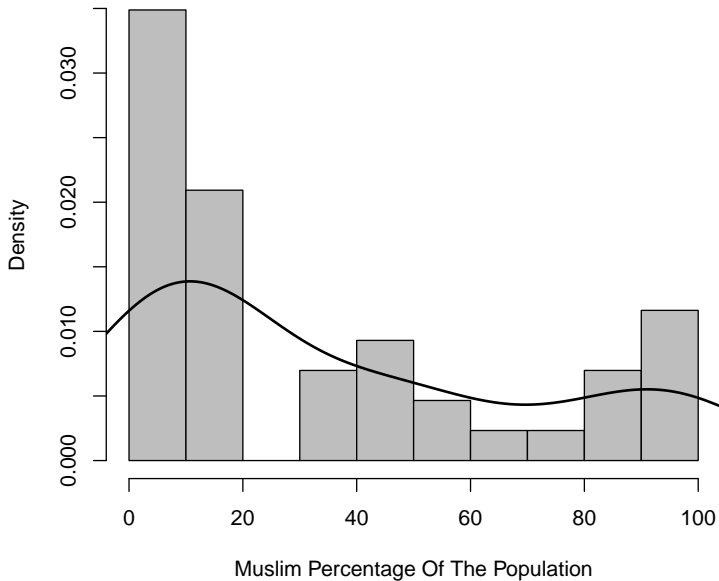
Another Histogram



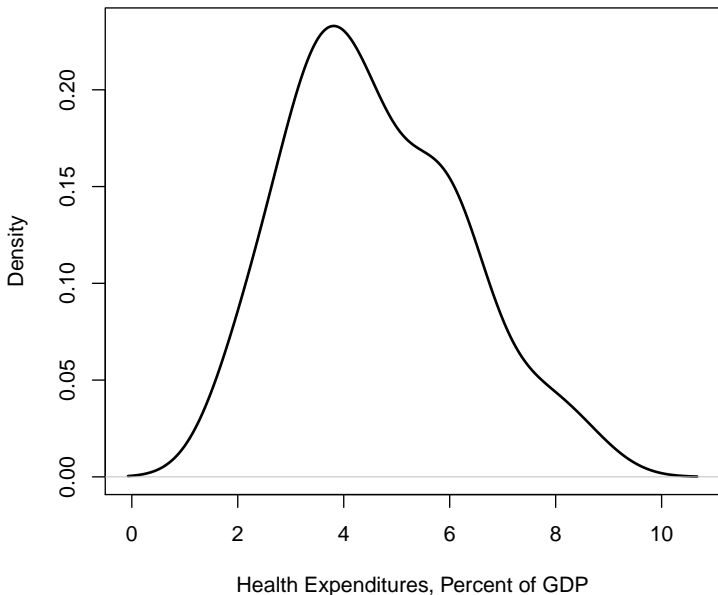
Kernel Density Plot



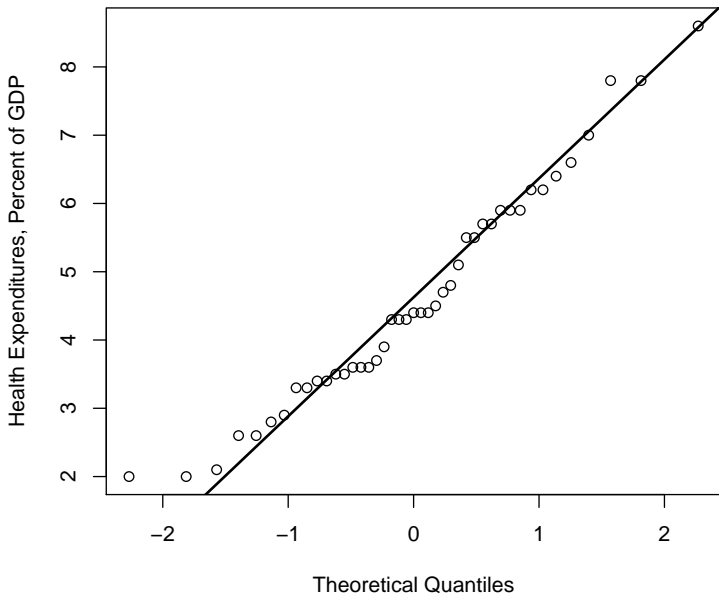
Combined Plot



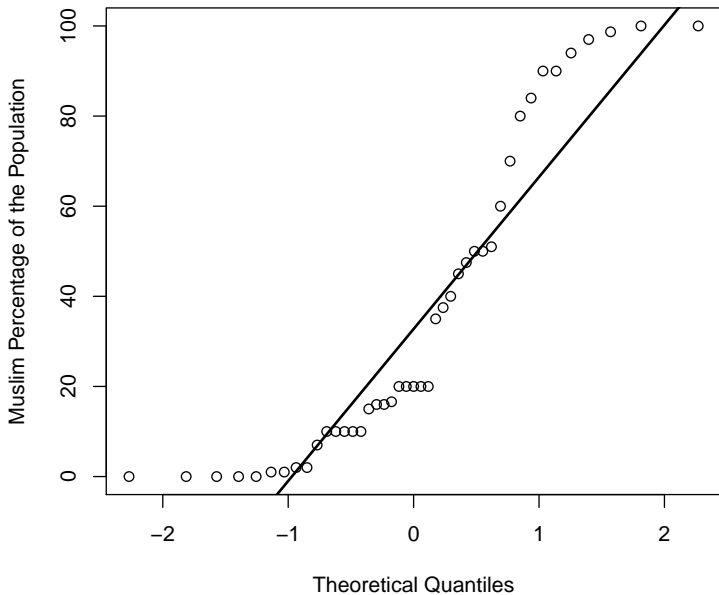
Density Plot: Health Expenditures



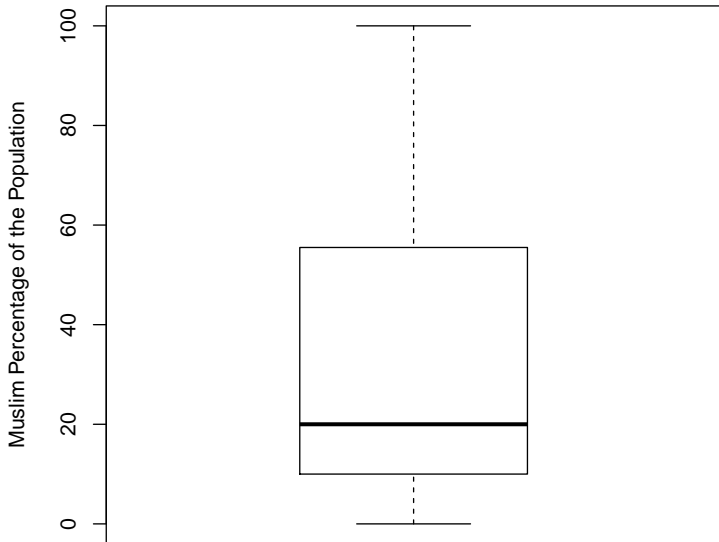
Q-Q Plot: Health Expenditures



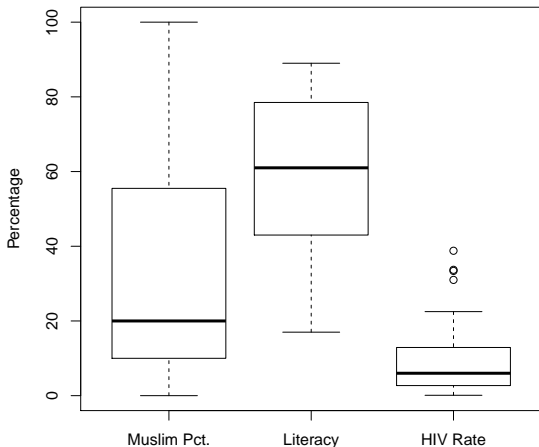
Q-Q Plot: Muslim Percentage



Boxplot: Muslim Percentage



Boxplot: Muslim Percentage, Literacy, and HIV Prevalence



Other Univariate Graphics

- *Stripplots* (or *stripcharts*)
- *Pie charts*
- “Donut” plots
- “Stem and leaf” plots