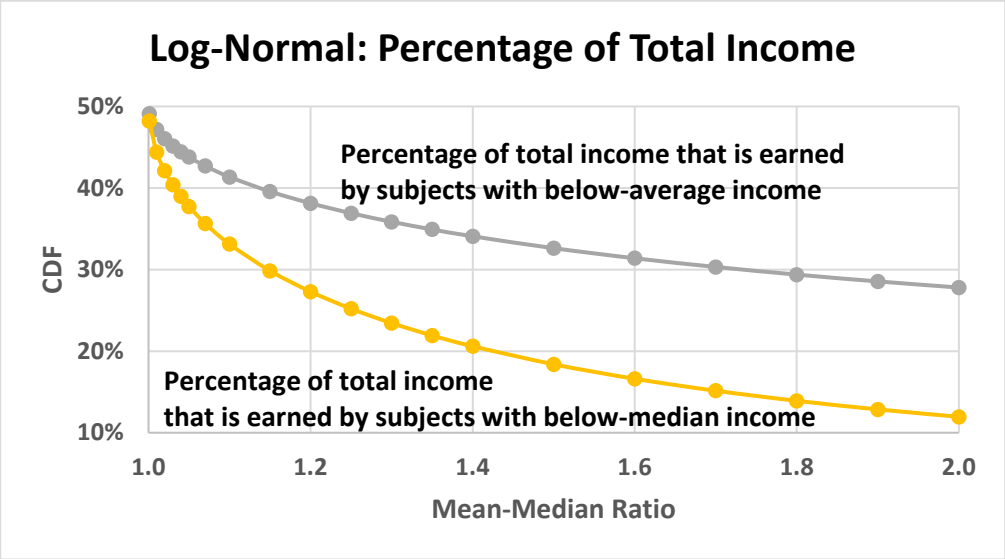
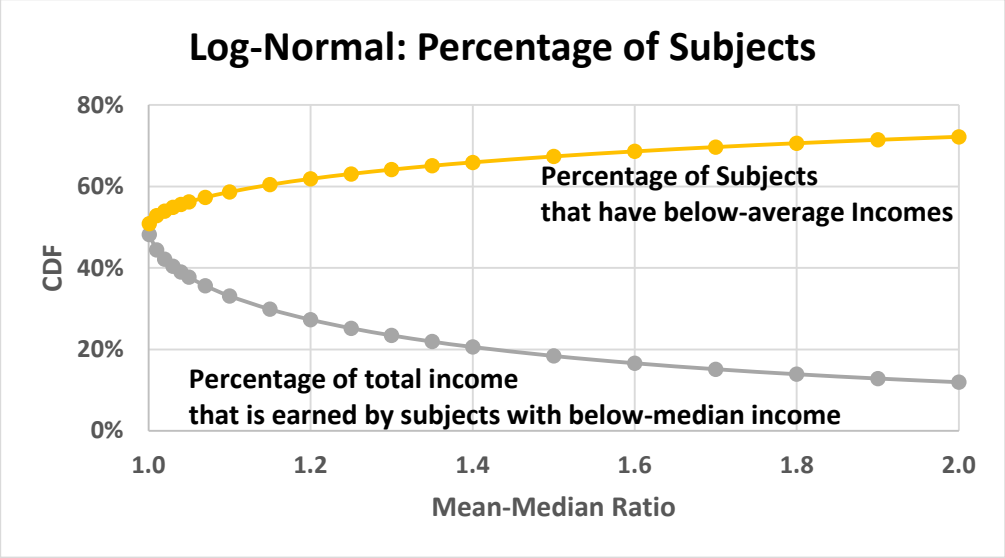
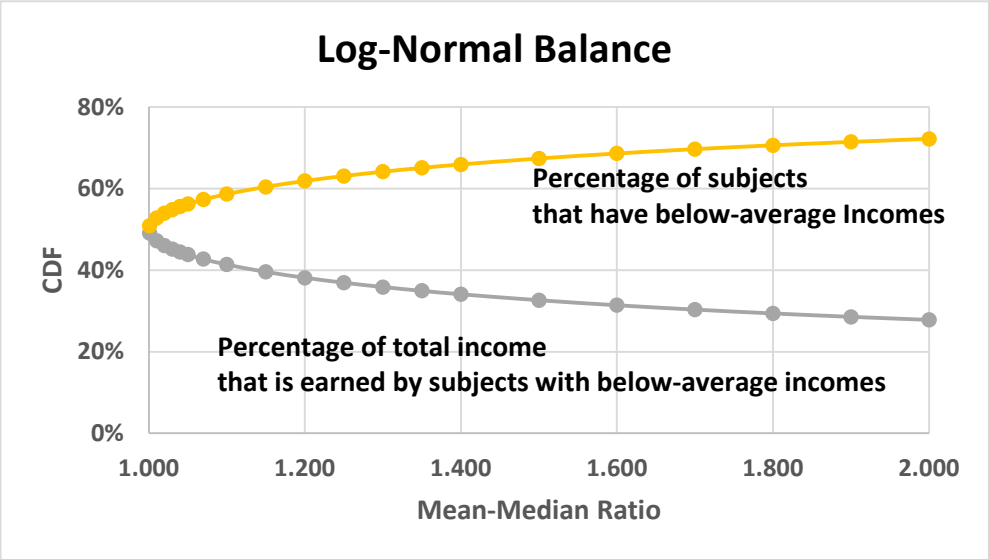
A	B	C	D	E	F	G	H	I	J	K	L
Model cdf(Median), cdf(Mean) and Gini as a function of the Mean-Median ratio											100
							Proxy1	Proxy2	Proxy3		
Mn/Md	Ln(Mn/Md)	Sqrt[()/2]	cdf#(Mn)	cdf$(Mn)	cdf$(Md)	Gini	Pcdf$(mn+)	Pcdf$(md+)	Half	Differ	%Diff
1.001	0.001	0.02236	50.9%	49.1%	48.2%	3%	1.8%	3.6%	2.7%	-0.002	-6.1%
1.01	0.010	0.07053	52.8%	47.2%	44.4%	8%	5.6%	11.2%	8.4%	-0.005	-6.0%
1.02	0.020	0.09951	54.0%	46.0%	42.1%	11%	7.9%	15.8%	11.9%	-0.007	-5.9%
1.03	0.030	0.12157	54.8%	45.2%	40.4%	14%	9.7%	19.2%	14.4%	-0.008	-5.8%
1.04	0.039	0.14004	55.6%	44.4%	39.0%	16%	11.1%	22.1%	16.6%	-0.009	-5.7%
1.05	0.049	0.15619	56.2%	43.8%	37.7%	17%	12.4%	24.5%	18.5%	-0.010	-5.6%
1.07	0.068	0.18393	57.3%	42.7%	35.6%	21%	14.6%	28.7%	21.6%	-0.011	-5.5%
1.10	0.095	0.2183	58.6%	41.4%	33.1%	24%	17.3%	33.8%	25.5%	-0.013	-5.3%
1.15	0.140	0.26435	60.4%	39.6%	29.9%	29%	20.8%	40.3%	30.6%	-0.014	-4.9%
1.20	0.182	0.30193	61.9%	38.1%	27.3%	33%	23.7%	45.4%	34.6%	-0.015	-4.6%
1.25	0.223	0.33402	63.1%	36.9%	25.2%	36%	26.2%	49.6%	37.9%	-0.015	-4.2%
1.30	0.262	0.36219	64.1%	35.9%	23.4%	39%	28.3%	53.1%	40.7%	-0.015	-4.0%
1.35	0.300	0.38737	65.1%	34.9%	21.9%	42%	30.2%	56.2%	43.2%	-0.015	-3.7%
1.40	0.336	0.41017	65.9%	34.1%	20.6%	44%	31.8%	58.8%	45.3%	-0.015	-3.4%
1.5	0.405	0.45026	67.4%	32.6%	18.4%	48%	34.7%	63.2%	49.0%	-0.014	-3.0%
1.6	0.470	0.48477	68.6%	31.4%	16.6%	51%	37.2%	66.8%	52.0%	-0.013	-2.5%
1.7	0.531	0.51509	69.7%	30.3%	15.1%	53%	39.4%	69.7%	54.5%	-0.012	-2.2%
1.8	0.588	0.54212	70.6%	29.4%	13.9%	56%	41.2%	72.2%	56.7%	-0.010	-1.8%
1.9	0.642	0.5665	71.4%	28.6%	12.9%	58%	42.9%	74.3%	58.6%	-0.009	-1.5%
2.0	0.693	0.58871	72.2%	27.8%	12.0%	59%	44.4%	76.1%	60.2%	-0.008	-1.3%
2.25	0.811	0.63676	73.8%	26.2%	10.1%	63%	47.6%	79.7%	63.6%	-0.004	-0.7%
2.50	0.916	0.67686	75.1%	24.9%	8.8%	66%	50.2%	82.4%	66.3%	-0.001	-0.2%
3.0	1.099	0.74115	77.1%	22.9%	6.9%	71%	54.1%	86.2%	70.2%	0.004	0.5%
3.5	1.253	0.79144	78.6%	21.4%	5.7%	74%	57.1%	88.7%	72.9%	0.008	1.1%
4.0	1.386	0.83255	79.7%	20.3%	4.8%	76%	59.5%	90.4%	75.0%	0.011	1.5%
4.5	1.504	0.8672	80.7%	19.3%	4.1%	78%	61.4%	91.7%	76.6%	0.014	1.8%
5	1.609	0.89706	81.5%	18.5%	3.6%	80%	63.0%	92.7%	77.9%	0.017	2.1%
6	1.792	0.94651	**82.8%**	17.2%	2.9%	**82%**	65.6%	94.2%	79.9%	0.020	2.5%
7	1.946	0.98638	**83.8%**	16.2%	2.4%	**84%**	67.6%	95.1%	81.4%	0.023	2.8%
8	2.079	1.01967	84.6%	15.4%	2.1%	85%	69.2%	95.9%	82.5%	0.025	3.0%
9	2.197	1.04815	85.3%	14.7%	1.8%	86%	70.5%	96.4%	83.5%	0.027	3.1%
10	2.303	1.07298	85.8%	14.2%	1.6%	87%	71.7%	96.8%	84.2%	0.028	3.3%
11	2.398	1.09496	86.3%	13.7%	1.4%	88%	72.6%	97.1%	84.9%	0.030	3.4%
12	2.485	1.11465	86.8%	13.2%	1.3%	89%	73.5%	97.4%	85.5%	0.030	3.4%
13	2.565	1.13246	87.1%	12.9%	1.2%	89%	74.3%	97.6%	86.0%	0.031	3.5%
14	2.639	1.14871	87.5%	12.5%	1.1%	90%	74.9%	97.8%	86.4%	0.032	3.6%
15	2.708	1.16363	87.8%	12.2%	1.0%	90%	75.5%	98.0%	86.8%	0.032	3.6%
16	2.773	1.17741	88.0%	12.0%	0.9%	90%	76.1%	98.1%	87.1%	0.033	3.6%
17	2.833	1.19021	88.3%	11.7%	0.9%	91%	76.6%	98.3%	87.4%	0.033	3.7%
18	2.890	1.20216	88.5%	11.5%	0.8%	91%	77.1%	98.4%	87.7%	0.034	3.7%
19	2.944	1.21335	88.8%	11.2%	0.8%	91%	77.5%	98.5%	88.0%	0.034	3.7%
20	2.996	1.22387	89.0%	11.0%	0.7%	92%	77.9%	98.6%	88.2%	0.034	3.7%
21	3.045	1.2338	89.1%	10.9%	0.7%	92%	78.3%	98.6%	88.5%	0.034	3.7%
22	3.091	1.24319	89.3%	10.7%	0.6%	92%	78.6%	98.7%	88.7%	0.035	3.8%
23	3.135	1.2521	89.5%	10.5%	0.6%	92%	78.9%	98.8%	88.9%	0.035	3.8%
24	3.178	1.26057	89.6%	10.4%	0.6%	93%	79.3%	98.8%	89.0%	0.035	3.8%
25	3.219	1.26864	89.8%	10.2%	0.6%	93%	79.5%	98.9%	89.2%	0.035	3.8%
26	3.258	1.27634	89.9%	10.1%	0.5%	93%	79.8%	98.9%	89.4%	0.035	3.8%

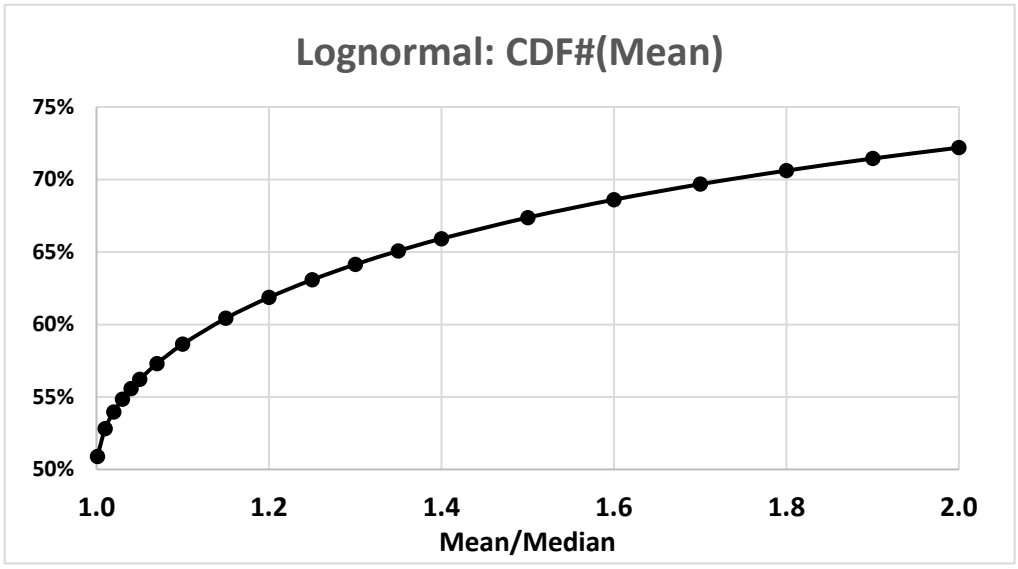

Log-Normal: Percentage of Total Income
50%
40%
30%
20%
10%
CDF
Percentage of total income that is earned by subjects with below-average income
Percentage of total income that is earned by subjects with below-median income
1.0
1.2
1.4
1.6
1.8
2.0
Mean-Median Ratio

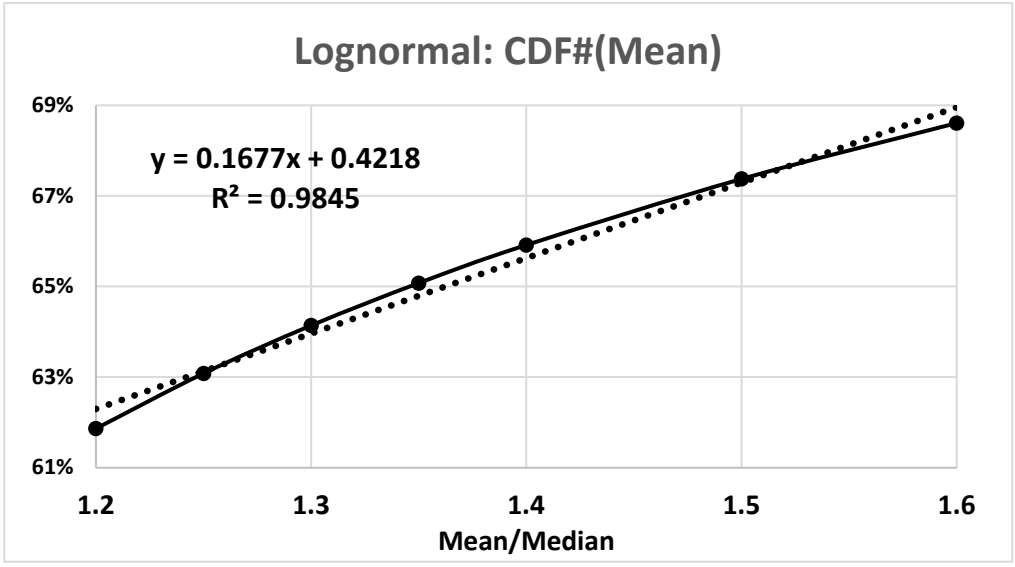

Log-Normal: Percentage of Subjects
80%
60%
40%
20%
0%
CDF
Percentage of Subjects that have below-average Incomes
Percentage of total income that is earned by subjects with below-median income
1.0
1.2
1.4
1.6
1.8
2.0
Mean-Median Ratio

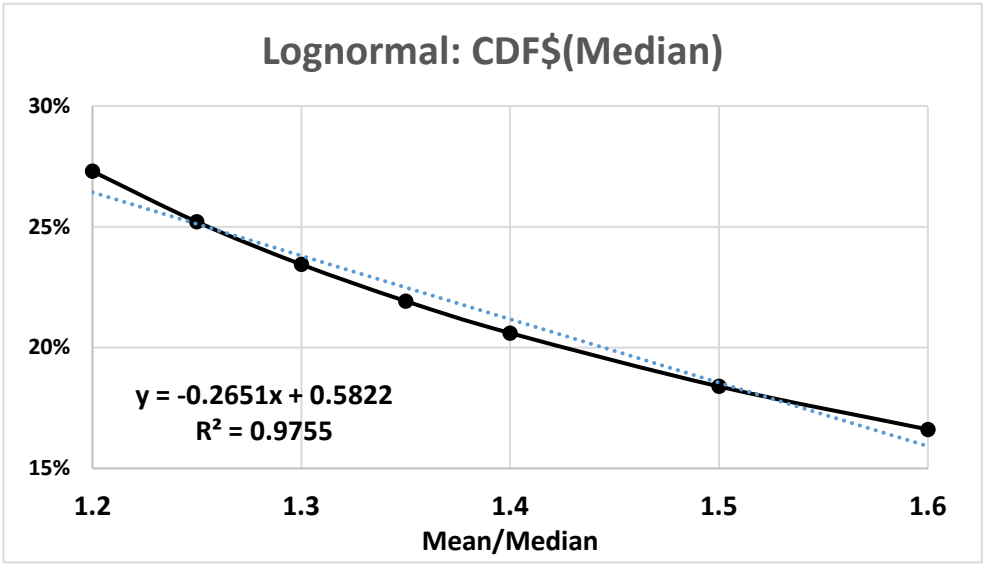

Log-Normal Balance
80%
60%
40%
20%
0%
CDF
Percentage of subjects that have below-average Incomes
Percentage of total income that is earned by subjects with below-average incomes
1.000
1.200
1.400
1.600
1.800
2.000
Mean-Median Ratio

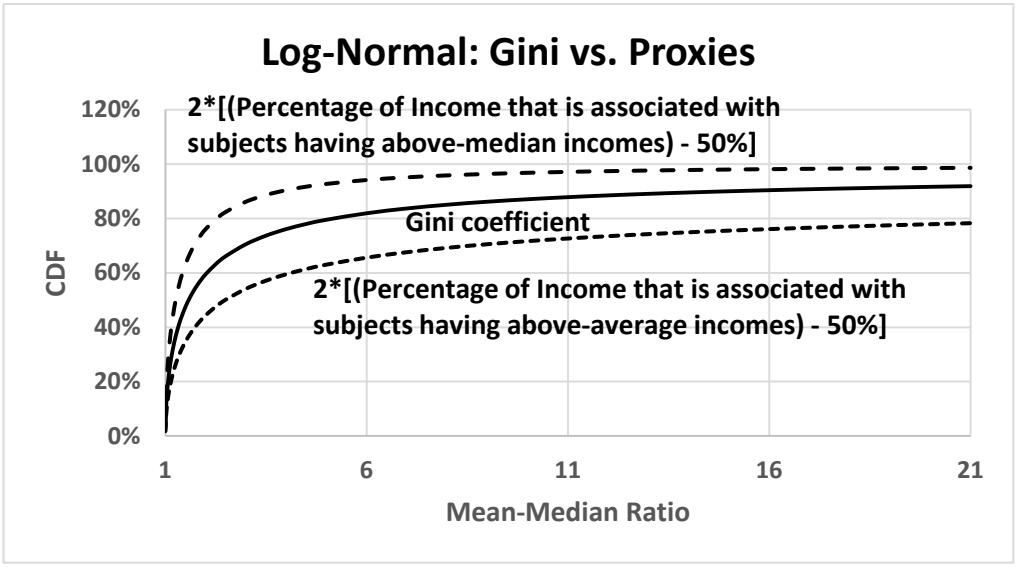
Note: CDFtop = 1 - CDFbottom
2*(CDFtop - 0.5) = 2*(0.5 - CDFbottom)

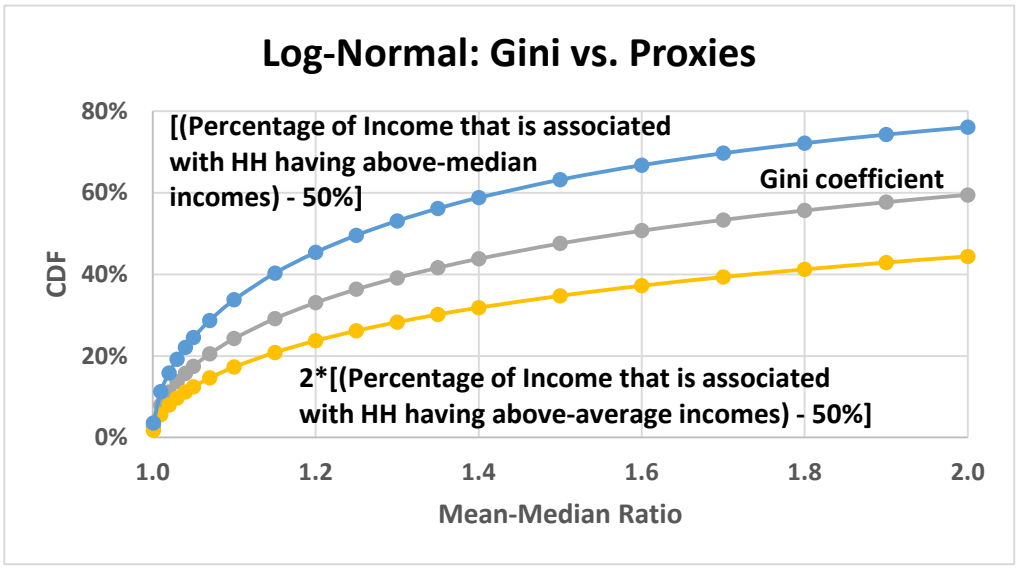
B5	Ln(Mn/Md)	=LN(A5)
C5	Sqrt[()/2]	=SQRT((B5)/2)
D5	cdf#(Mn)	=NORM.S.DIST(C5,1)
E5	cdf$(Mn)	=LOGNORM.DIST(L$2*A5, LN(L$2)+2*B5, SQRT(2*B5),1)
F5	cdf$(Md)	=LOGNORM.DIST(L$2, LN(L$2)+2*B5, SQRT(2*B5),1)
G5	Gini	=2*NORM.S.DIST(SQRT(LN(A5)),1) - 1
H5	Pcdf$(mn+)	=2*(D5-0.5)
I5	Pcdf$(md+)	=2*(0.5-F5)
J5	Half	=(H5+I5)/2
K5	Differ	=G5-J5
L5	%Diff	=K5/G5






Lognormal: CDF$(Median)
30%
25%
20%
15%
y = -0.2651x + 0.5822
R² = 0.9755
1.2
1.3
1.4
1.5
1.6
Mean/Median


Log-Normal: Gini vs. Proxies
120%
100%
80%
60%
40%
20%
0%
CDF
2*[(Percentage of Income that is associated with subjects having above-median incomes) - 50%]
Gini coefficient
2*[(Percentage of Income that is associated with subjects having above-average incomes) - 50%]
1
6
11
16
21
Mean-Median Ratio


Log-Normal: Gini vs. Proxies
80%
60%
40%
20%
0%
CDF
[(Percentage of Income that is associated with HH having above-median incomes) - 50%]
Gini coefficient
2*[(Percentage of Income that is associated with HH having above-average incomes) - 50%]
1.0
1.2
1.4
1.6
1.8
2.0
Mean-Median Ratio