

f4c Msng Conc.
Summaries, (methods)

7 Oct 87

D-3

Ford's estate in trust

The Associated Press

WEST PALM BEACH, Fla.

— The will of Henry Ford II, who reportedly shredded personal papers to protect his privacy, provided few details of the settlement of his immense estate.

Not a single dollar sign is included in the seven-page will filed Monday in a Palm Beach County probate court.

The Ford fortune was discreetly placed in a trust, established May 17, 1984, the day he signed his will. The trustees are not disclosed in the will.

"The purpose is privacy, to avoid publicity and avoid probate," said Ford's attorney,

L. Frank Chopin of Palm Beach. "It's a common procedure nowadays."

The wealth of the auto industrialist, who died of pneumonia last week in Detroit at age 70, was estimated at \$250 million last year by Forbes magazine.

In the only mention of personal property in the document, Ford bequeathed to his wife, Kathleen DuRoss Ford, all "clothing, jewelry, club memberships, automobiles and any insurance policies." Mrs. Ford and Edsel Ford are named as personal representatives of the will. As such, they and the unnamed trustees are empowered to handle Ford's business affairs.

	Net		Net
	Close Chg.		Close Chg.
ex	12%	FFP	1.50
s.40	313%- 1/4	Fidat	113%+ 1/8
ur E	312%- 1/4	Fiditly NH	634%+ 1/8
wt	4 + 1-16	FsAsftr .10	91%+ 1/8
.47b	1/4 - 1/8	FAP 1.06b	145%+ 1/8
ed	17-16+ 1/8	Fst Centr	834%+ 1/8
rcr	8	FsConn la	712%
.60	47%+ 1/8	FstCp .36	18
	2%	FsFed Am	11 - 1/8
et A	133%- 3/8	Ffd Bncp	1334%+ 1/4
et B	1212%- 3/8	FsWyo Bk	512%+ 1/8
.15d	10 + 1/8	FischP s5i	105%+ 1/8
.15d	1212%+ 1/8	Fch Gs pf4	133%+ 1/4
.16	463%-4	Flngan En	285%+ 7/8
s	3 1/2	FlukeRck .50	7 - 1/8
Hotel	12 - 1/8	Fluke jhn	253%+ 1/8
il wt	7%	Foodmra	29 - 1/2
Pt-I	7%-1-16	Foate Min	2512%+ 1/8
Rr s	83%	Foothall A	812%+ 1/8
n.20	181%- 3/8	FdMCR wt	67%
x .60	23 - 3/8	Forst A .34	33%+ 1/8
.40g	15%	ForsB .26b	40 - 1/4
	71%	ForstLb A	4034%+ 1/4
Cth	17%	Forsmn	265%+ 5/8
n.36	17 - 1/4	Forsmn	133%+ 1/8
rt2.84	193%+ 1/8	Frum 1.35	1012%
rt2.72	161%	Frkin .40b	123%+ 1/8
rt3.24	175%+ 1/8	Fredrks H	912%
rt3.12	163%	FreganEI s	205%+ 1/8
2.60	2712%+ 1/4	Friedm .36	x 95%+ 1/8
Co 3	33 - 1/4	FriesEnt s	31%+ 1/8
ny A	187%+ 3/8	Frsch .22g	3812%+ 1/4
on	u277%- 1/8	Fruit Lm	73%+ 1/8
s.24	81%+ 3/8	FurVlt .20	8 - 3/8
re	163%- 1/8	GlxvC 1.30	181%+ 1/4
th	p3 + 3/8	Galaxy MI	1914%+ 3/8
ph Md	81%+ 1/4	Garan .45b	225%+ 1/4
.15b	1512%+ 1/4	Gate Lear	7 - 1/8
rt .04	4 + 1/8	Gelman Sc	133%+ 3/8
to 10i	73%+ 1/2	Gemco Nil	3
1.10	107%+ 1/8	Gen Auto	5
	87%+ 1/8	Gempl	27%
	137%+ 1/8	GMicro .10	101%
	234%+ 1/8	Genisico T	5 - 1/8
	53%	Geoth Res	153%+ 1/4
	2 - 3/8	Geoth pf1	115%+ 3/8
D		Gny Dr .24	212%

	Net
	Close Chg.
HAL .15b	463%+ 1/4
Halifax .06	57%+ 1/4
HarRt .08b	103%+ 1/8
HarisT .96	93%+ 1/8
Harvey Gr	21%+ 1/4
Hasbr s.09	2014%+ 1/4
Hasbro pf2	4412%+ 1/2
HithC 1.68	167%+ 1/8
Hithcre Rt	712%+ 1/4
Hith Mngt	812%+ 1/8
Hlvt 1.11b	1912%+ 1/8
HeintW .25	123%+ 1/4
Heico .10	307%+ 1/8
Heldor	41%
Helm Resr	1 - 1/8
Heritage E	6 - 1/4
HrigeE 5	23%
Hershey O	p8
Hinderit	414%+ 1/8
Hipoltrn .24	161%+ 1/8
Hofmann	4 - 1/4
Holly	145%+ 1/8
Honeybe	10
Hornl s.30	26%
HomShp s	121%+ 1/8
HornHrd 5i	141%+ 1/4
HornHt wt	7%-1-16
HoltT wtA	612%+ 1/4
HoltT wtB	47%+ 1/4
HoOit .01h	p11%
Hvniat s	14 + 1/2
Howl .25d	263%+ 3/8

	Net
	Close Chg.
IntlgS .50b	73%
Int CGs .60	131%
Intmkt .10	131%+ 1/4
Intm pf.09	12 - 1/4
Int Bknot	512%+ 1/8
IntBkn wt	13-16-1-16
Int Hydron	10
Intl PwrM	73%+ 1/8
Intl Protein	18 - 1/8
Intl Recov	115%+ 3/8
Intl Seaw	12%
Intl Thrghb	u 5%
IGC .07b	81%
Ionics	167%+ 1/8
IPM Tech	33%+ 1/8
IRE Fnci	7%
IRT Corp	37%+ 1/8
ISI Sys .20	1512%+ 1/8
ISS Intl .16	83%+ 1/8

	Net
	Close Chg.
Jaclyn s.50	1212%+ 1/4
Jacobs En	183%+ 1/8
JmsM .30	77%
JanBell M	141%
Jewelinst	51%+ 1/8
Jetronic	5 - 1/8
Johnsn Pd	41%
Jhnstwn A	31%+ 1/8
Jhnston I	231%+ 1/4
Jnlntc .95b	133%+ 1/8
Joule	12 - 1/2
Jump Jck	35%+ 1/8
Kapok	51%+ 1/8
Kappa NW	73%+ 1/8
Kay .12	13
Kelly .45b	11
Kent Elec	93%+ 1/4
Kenwin	1312%+ 1/4
Ketchm 4i	1712%+ 1/4
Key B .05b	33%+ 1/8
Key A .05b	33%
Keys Cam	51%+ 1/8
KeyC Bwt	114%+ 1/8
Klira Prop	62%+ 1/8

	Net
	Close Chg.
Laurin Cap	51%
Lawson	133%+ 1/4
LearP1 LP	19%+ 1/8
Lee Phar s	5 + 1/8
P Leimr N	121%+ 1/8
Leisur Tec	712%+ 1/8
Leis pf21/4	30 - 3/4
LibFcl .50	433%+ 1/8
Lifetime	43%+ 1/4
Lillian Vrn	14%
LillyEli ut	114%+ 1/8
LinNC 1.48	113%+ 1/4
LincNC wt	7-16
Lnpno .62	51%+ 1/8
Lionel	p8
Lionel Bwt	1 1/2- 1/8
Lorm Tel	16 - 1/4
LSB	17%
LSB pf2.20	17 - 1/8
Lumex .08	1412%
Luria L	143%+ 1/8
Lyall	2012%+ 1/2
LynchC .20	18

	Net
	Close Chg.
McGegr	65%+ 1/4
McNIS .20	2012%
Magnet Bk	5 - 1/8
MePS 1.60	261%+ 1/8
Malric .20	1012%+ 1/8
Manuf Hm	151%+ 1/8
Mars Grph	534%+ 1/4
Matec	512%
Matri Res	834%+ 1/8
Matri Sci	233%+ 3/8
Mathew W	11%
Mathrix	8
Maxphar	4
MCO Resr	5%
MCO Hldg	1612%+ 1/4
McFaddn	5%+ 1/8
McR A.23b	67%
McRoe .35	67%+ 1/8
MediaGn s	421%+ 1/4
MerP 1.38	81%

	Net
	Close Chg.
Moog B .20	
Moore MD	
Morgans F	
MitGr 1.60	
MitGr .60b	
MitGr wt	
Moff's Sup	
Movie Star	
MSA .75b	
MSI Data	
Myers s.20	
Nantkt 15i	
Nasta Hl	
NHih .83b	
NIPDv .10	
NecoE 1.50	
Newcor .32	
Nwl Cine	
NMex Ariz	
NProc .50	
NWld Ent	
NY Tm .44	
NwmrkL s	
NMEx Ins	
Nichols SE	
Noel	
NoCdn Oil	
NthCar F	
NoIP pf41/4	
NeMI .20	
NRM .15b	
Nrm pf2.60	
NRM pf2	
NoHorz 5i	
NoHorz wt	
Nucir Dta	
Numac Oil	
NVR s.26b	

	Net
	Close Chg.
OBrien s	
Odetics A	
Odetics B	
OEA	

Measures of Concentration.

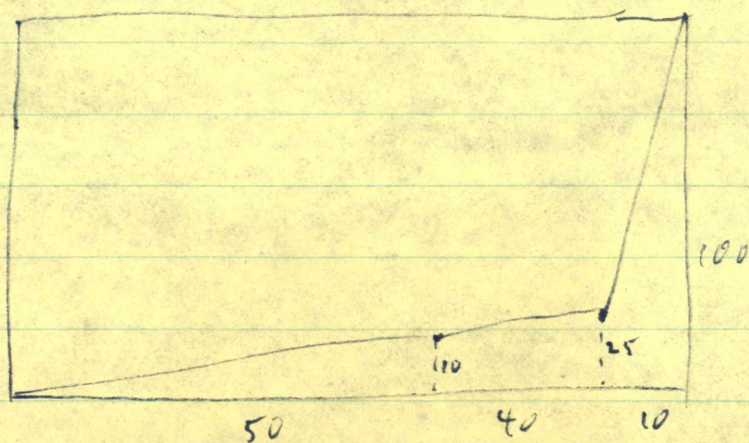
1. LCR

<u>Universe</u>	<u>Date</u>	<u>LCR</u>	<u>Top 20</u>	<u>LCR Ind</u>
Personal Inc. U.S.	1950	.40		
Farm output, U.S.	1950	.70	2.3	42.6
Farm sales, U.S.	1950	.68	1.9	26.0
Farm Op. Inc. U.S.	1950	.42	6.6	25.0
Farm Output Dk.	'51	.47		
" " Sw.	'19	.54		
" " Gy.	'13	.55		
" " Rumania	'41	.56		
" " N. Ireland	'40	.75		
" " Brazil	'40	.80		
" " Venez.	'36	.85		
" " Chile	'51	.93		
" " Iowa	'50	.35		
" " Calif.	'50	.86		

pp. 207, 214, my diss.

~~Class of Farm:~~

Class of Farm	I	II	III	IV	V	VI
Defn. (\$000)	> 25	10-25	5-10	2.5-5	1.2-2.5	< 1.2
% of land in farms	21.6	18.6	18.5	14.5	9.5	5.2
% of farm labor	7	11	17	18	16	11



$$h_1 = 10 \quad A_1 = 10$$

$$h_2 = 25 \quad A_2 = 15$$

$$h_3 = 100 \quad A_3 = 75$$

$$b_1 h_1$$

$$b_2 (h_1 + h_2)$$

$$b_3 (h_2 + h_3)$$

$$h_1 (b_1 + b_2)$$

$$h_2 (b_2 + b_3)$$

$$h_3 b_3$$

$$b_1 = 50$$

$$b_2 = 40$$

$$b_3 = 10$$

$$LCR = .69$$

$$10(50 + 40) = 900$$

$$25(40 + 10) = 1250$$

$$100(10 + 0) = 1000$$

$$\hline 3150$$

$$LCR = 1 - \frac{2B}{10,000} = 1 - .315 = .685$$

$$A_1 \quad 01$$

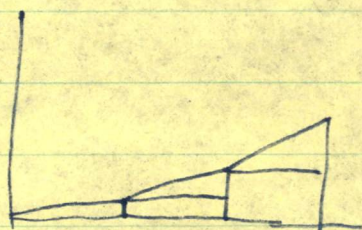
$$A_2 + A_1 \quad 02$$

$$A_3 + \Sigma \quad 03$$

$$A_4 + 03 \quad 04$$

$$B_1 \quad 11$$

$$B_2 \quad 12$$



$$01 \times 11$$

$$\cancel{02} \times (\cancel{11} + 12)$$

$$(01 + 02) \times 12$$

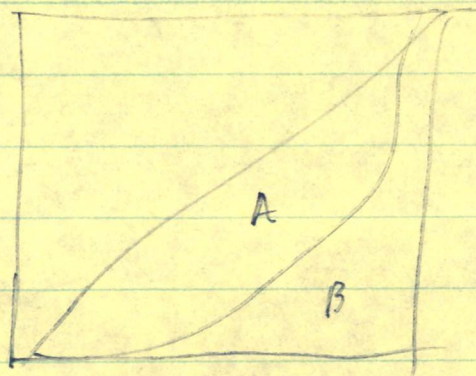
$$(02 + 03) \times 13$$

$$01 (11 + 12)$$

$$02 (12 + 13)$$

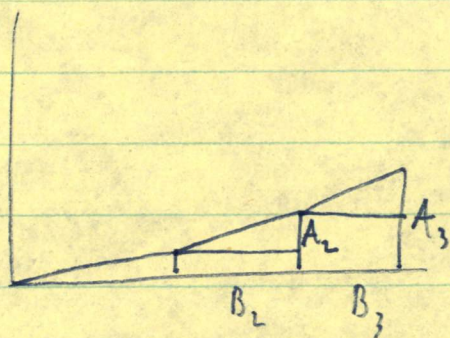
$$09 (19 + 20)$$

$$10 (20)$$



$$A = 5000 - B$$

$$\frac{A}{A+B} = \frac{5000 - B}{5000} = 1 - \frac{B}{5000} = 1 - \frac{2B}{10,000}$$



$$1. \frac{1}{2} A_1 B_1$$

$$2. \frac{1}{2} (A_1 + A_2) B_2$$

$$3. \frac{1}{2} (A_2 + A_3) B_3$$

...

$$10. \frac{1}{2} (A_9 + A_{10}) B_{10}$$

$$A_1 (B_1 + B_2)$$

$$A_2 (B_2 + B_3)$$

$$A_3 (B_3 + B_4)$$

$$A_{10} B_{10}$$

2 pt. LCRs

Top 10% Wave

LCR

10%

.00

25

.15

50

.40

70

.60

80

.70

90

.80

L C R

U.S. Farm land	1900	. 58	Top 2.6 had 32%
	1950	. 70	Top 2.3 had 43%
U.S. Nat. Inc.	1952	. 39	Top 10.0 had 30%
	1935	. 43	Top 10.0 had 36%
Inheritance, U.S., 1926		. 87	Top 1.2% have 50%
Timber, 1910		. 72	
Corp. Inc.,	1952		Top 1.2% have 71%

7 ^{Partial} ~~Fragmentary~~ data on concentration of income and various kinds of assets, in increasing order of concentration.

<u>Item</u>	<u>Lorenz Concentration Ratio</u>	<u>Top Bracket</u>	
		<u>% of individuals</u>	<u>% of item</u>
1. U.S. Income 1952	.40	10	30
2. G.B. Income 1954	.40	10	30
3. U.S. Farm operating income 1950 1946	.42	7	25
4. Tractors on U.S. farms ranked by gross sales, 1950	.43		
5. U.S. liquid assets of spending units, 1954		10	39
6. Denmark farm land ^{acres} 1951	.47	2	14 5
7. Denmark farm values, 1951	.52	1.3	14
8. U.S. net worth of spending units 1953		10	60
9. U.S. Farm acres operated, 1950	.70	2.3	43

Item

Lorenz Con-
centration Ratio

Top Bracket
% of | % of
individuals | item

10. U.S. value of
estates, 1912-23

.88

1.2

50

11. U.S. urban land
value

No recent published data

12. Ownership of farm
acres, Nile Delta,
1950

.05

37

Lorenz Data

<u>Series</u>	<u>LCR</u>	<u>% of individuals in top bracket</u>	<u>% of item in top bracket</u>	<u>Source</u>
1950 Farm opns, U.S.	.70	2.3	43	Census
✓ U.S. Nat. Inc. 1952	.35 .40	10.0	30	
✗ Corp. Inc., 1952		.190 1.6	4890 77	Patman
Inheritance, U.S., 1926 Probated estates (1912-23?)	.88	1.2	50	
Timber, 1910	.72			
Farms by gross sales, U.S., 1950	.68			
✓ Tractors on farms ranked by gross sales ^{sales} , '50	.43			
acre , same farms.	.53			
✓ Farm opg inc., 1950	.42			
✓ Ark. '51, land	.47			

Lorenz data, 2

<u>Series</u>	<u>LCR</u>	<u>Top Bracket</u> % of indivs % of objects		<u>Source</u>
U.S., 1900, ownership of rented farms				
<u>By area</u>	.53			
<u>By value</u>	.62			
Italy, 1930		0.6	35	Tcherkinsky p. 374 E
By, 1939		1.0	37	" p. 366 E
Egypt		.05	37	
"Net worth", of spending units U.S., '53		10%	60	<u>AER</u> 3-59 p. 61
G.B., '54		10%	72	}
Income				
U.S. '52		10%	30	
GB		10	30	
✓ Liquid assets, U.S., '54		10	39	Pearce & Krause

~~Chicago land~~

Urban land

No reliable study. (That in itself is a good sign it is highly concentrated.)

Large lndhldgs SC, 2

More conc.

p6: "Ownership, moreover, is in many ways disguised & can
not always be ascertained from the records." 5104

Income CR, US, 1952 -- check ch. 3 for error
1953 = .396

1935-6 = .434

Farm, inc., 1950 = .42
op.

(From 5136, p. 67)

Lorenz conc. ratios.

U.S. fm. op'ns, acreage

1900 .58 x 3 (CR = .331) (Rented fms alone)

1910 .56 x 9

1920 .600

1925 .616

'30 .632

'35 .651

'40 .667

'45 .699 (145, conc. of holdings, 78F)

'50 .703 (Sample, CR = .684)

Fm. countries, by acreage Chile, nd, c. .85; Chile, 1937, .88; Chile '51, .79

Egypt, 1940, 5176, p. 35. CR = .750

Palestine, 322 Arab villages, CR = .722

Rumania, 1941 CR = .564

Sweden, 1919 CR = .545

Denmark, 1951, CR = .47

1900, U.S., Ownership of rented farms, by acreage CR = .533

Denmark, 1951, by area, .47
'Properties' by value, .52

Same farms, ownership, by land value CR = .623

Same fms, by no. of fms, rather than owners. conc. by acreage. CR = .33. Discredits 78F?

Conc. by gross output, US, 1950; .677

Conc. of tractors, among fms ranked by value of gross output; 1950, 5138, Table I: .426
conc. of land acreage, among same fms: .532

Pa, 1945 CR = .35 - by acreage
Cal, 1950 CR = .86

Timber, c. 1911: .722

	Op Units	Ownership Units
Rumania:	.564	.564 .590
Sweden	.54512	.598
Kern, Tulare & Madera		.732

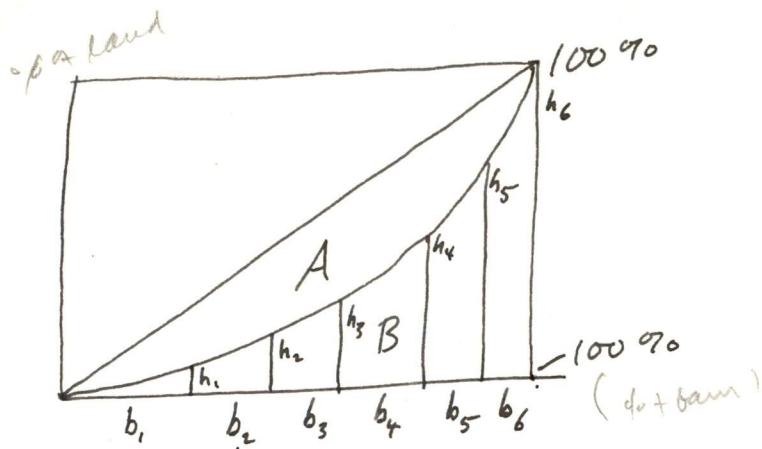
Only give 2 significant figures -- Heavens, consider all the errors & incomparabilities in the original data

Interpret'g figures: .39 means we are 39% of the way along the scale between complete equality & complete inequality
inc. dist. is
.703 means dist. of fm ~~from~~ op'ns is c. 70% of way ...

From .434 down to .396 has been a 'Revolution in Income Distrib.' What, then, is .583 up to .703?

Summary of LCR, p. 2

Gy, "pre-1914", op. units, .55 (Oppenheimer, § 350)
Brazil, 1940 .80
Chile, ~~1937~~ (s 203, p. 75) .88; Chile, ~~1937~~ .93 (s 400, p. 6, pub. 1951)
Venezuela, 1936. (s 309 p 24) .85 ++
Probated estates, U.S. .81
1912-23 incl. .88
all estates, " " .88

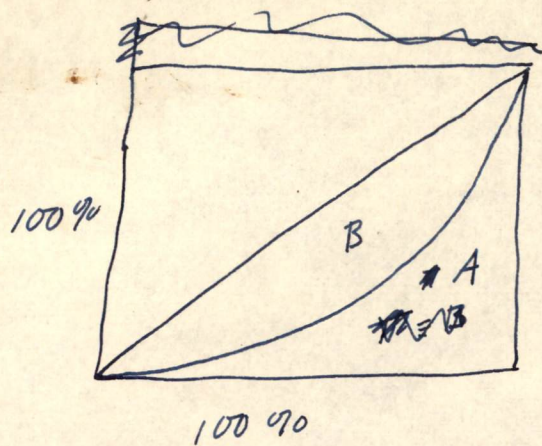


Check: products	Class	% of barns	% of land	Cumulation % of land	Products
	0-10	40			
	10-30	25			
	30-90	10			
	90-160	9			
	160-400	9			
	400 & over	7			

$$B = \frac{1}{2} \times \left[h_1 b_1 + (h_1 + h_2) b_2 + (h_2 + h_3) b_3 + (h_3 + h_4) b_4 + (h_4 + h_5) b_5 + (h_5 + h_6) b_6 \right]$$

check it & then

$$= \frac{1}{2} \left[h_1 (b_1 + b_2) + h_2 (b_2 + b_3) + h_3 (b_3 + b_4) + \dots + h_6 b_6 \right]$$



$$A + B = \frac{1}{2} 100 \times 100 = \frac{1}{2} 10,000 = 5,000$$

$$A = \frac{T}{2}$$

$$C.R. = \frac{B}{5,000} = \frac{5,000 - A}{5,000} = 1 - \frac{A}{5,000} = 1 - \frac{T}{10,000}$$

Trend of com., 1900-1950, U.S.,

"Farms"

h figs from 5136, p. 114. They are also on p. 67

b figs from p. 67 - They break down all over 1,000 more ^{by} 1920, more yet by 1930. But don't break down % of fms, tho that hardly rec.

1. 1900

		h	% of land (not cumulative)	b	b ₁ (h ₁ +h ₂) etc
-	<3a	0.7%	-	-	-
.8	3-9	3.9%	0.2	0.2	2.0
7.8	10-19	7.1	0.7	0.9	26.1
148.9	20-49	21.9	5.0	5.9	269.6
561.7	50-99	23.8	11.8	17.7	860.2
1448.3	100- 174 24.8 39.9	24.8 39.9	23.0	40.7	1355.3
796.4	175-259	8.5	12.3	53.0	800.3
801.9	260-499	6.6	15.5	68.5	575.4
261.2	500-999	1.8	8.1	76.6	199.2
141.4	1,000 & over	0.8	23.6	100.2	80.2
4168.4				4168.3	

$$C.R. = 1 - \frac{T}{10,000}$$

$$= 1 - .41683$$

$$= .58317$$

2. 1910

		h	% of land Not cumulated	b	
13.2	<3a	0.3			
	3-9	5.0	1.0	1.0	35.4
	10-19	7.9			
159.8	20-49	22.2	5.2	6.2	277.8
544.7	50-99	22.6	11.7	17.9	830.6
1409.0	100-174	23.8	23.4	41.3	1618.0 1329.9
1731.1	175-259	8.4	30.2	71.5	1244.1
	260-499	7.0			
305.0	500-999	2.0	9.5	81.0	226.8
144.8	1000 & over	0.8	19.0	100.0	80.0
4313.6				4024.6	
				4313.7	

$$C.R. = 1 - \frac{T}{10,000}$$

$$= .56863$$

If wd recheck Turner, it is 544

3. 1920

		h	q. of land Not cumulative	b	$b_i(h_i, h_2) =$	
-	>3a	0.3	-	0.3	0	
.8	3-9	4.2	0.2	0.2	2.4	
8.7	10-19	7.9	0.7	0.9	28.1	$CR = 1 - \frac{T}{10,000}$
160.1	20-49	23.3	5.1	6.0	277.2	
524.0	50-99	22.9	11.1	17.1	776.3	= .5997
1228.5	100-174	22.5	20.4	37.5	1151.2	
711.8	175-259	8.2	11.8	49.3	769.1	
856.9	260-499	7.4	17.2	66.5	645.0	
330.3	500-999	2.3	10.6	77.1	254.0	
177.3	1,000 & over	1.0	23.1	100.2	100.2	
4003.4					4003.5	

4. ¹⁹²⁵
~~1920~~

		h	q. of land Not cumulative	b	$b_i(h_i, h_2) =$	$C.R = 1 - \frac{T}{10,000}$
-	>3	0.2	-	-	-	
1.1	3-9	5.7	0.2	0.2	3.0	
12.0	10-19	9.2	0.9	1.1	35.2	= .61641
164.2	20-49	22.8	5.0	6.1	275.1	
517.4	50-99	22.3	11.0	17.1	752.4	
1178.3	100-174	21.7	20.1	37.2	1101.1 1845.1	
678.6	175-259	7.9	11.5	48.7	720.8	
785.2	260-499	6.9	16.4	65.1	598.9	
323.6	500-999	2.3	10.5	75.6	249.5	
175.5	1,000 & over	1.0	24.3	99.9	99.9	
3835.9					4579.9 3835.9	

5. 1930

		h	% of land Not cum.	b	
-	<3	0.1	-	-	-
1.0	3-9	5.0	0.2	0.2	2.8
10.7	10-19	8.9	0.8	1.0	31.8 3.2
153.4	20-49	22.9	4.7	5.7	255.4
468.7	50-99	21.9	10.0	15.7	679.8
1063.6	100-174	21.4	18.3	34.0	1009.8
657.4	175-289	8.3	11.2	45.2	700.6
765.4	260-499	7.2	15.9	61.1	592.7
333.0	500-999	2.5	11.0	72.1	274.0
223.9	1,000 & over	1.3	28.0	100.1	130.1
3677.1				3648.4 3677.0	

$$CR = 1 - \frac{T}{10,000}$$

$$= .6323$$

6. 1935. In this year, the figs are available in both sets of class limits. Get both, cf., as a check.

1935 a: Old class limits

		h	% of land Not cumulative	b	
-	<3	0.5 0.5	-	-	-
2.4	3-9	7.9	0.3	0.3	5.4
15.0	10-19	10.0 9.2	0.9	1.2	37.3
143.5	20-49	21.1	4.4	5.6	236.9
447.3	50-99	21.2	9.9	15.5	647.9
1007.3	100-174	20.6	17.9	33.4	951.9 1619.9
613.0	175-259	7.9	10.8	44.2	654.2
717.6	260-499	6.9	15.6	59.8	562.1
326.0	500-999	2.5 2.9	10.8	70.6	268.3
221.8	1,000 & over	1.3	29.4	100.0	130.0
3504.4 3493.9				4162.0 3494.0	

$$CR = 1 - \frac{T}{10,000}$$

$$= .6506$$

6, 1935 b. New class limits

		h	% of land Not cumulative	b	
	<3	0.5	—	—	—
2.4	3-9	7.9	0.3	0.3	7.8
49.1	10-29	18.2	2.1	2.4	74.6
103.2	30-49	12.9	3.2	5.6	190.1
447.3	50-99	21.2	9.9	15.5	655.6
1044.5	100-179	21.1	18.5	34.0	969.0
579.4	180-259	7.4	10.3	44.3	633.5
719.0	260-499	6.9	15.6	59.9	563.1
326.5	500-999	2.5	10.8	70.7	268.7
222.0	1,000 & over	1.3	29.4	100.1	130.1
3493.4				3492.5	

$$CR = 1 - \frac{T}{10,000}$$

$$= .65075$$

7. 1940. Both old & new class limits available. I use new -- I think change is negligible.

		h	% of land not cum.	b	
.1	<3	0.6	0.1	0.1	.8
3.1	3-9	7.7	0.2	0.3	7.3
38.2	10-29	16.6	1.7	2.0	58.4
85.7	30-49	12.6	2.8	4.8	162.2
390.1	50-99	21.2	8.8	13.6	580.7
943.8	100-179	21.5	16.7	30.3	893.8
563.2	180-259	8.0	9.8	40.1	621.6
714.0	260-499	7.5	15.0	55.1	562.0
326.2	500-999	2.7	10.6	65.7	282.5
265.1	1,000 & over	1.6	34.3	100.0	160.0
3329.5				3329.3	

$$CR = 1 - \frac{T}{10,000}$$

$$.66707$$

8 1945

		h	% of land Not cum	b	
-	< 3	1.7	-	-	-
1.7	3-9	8.5	0.2	0.2	4.9
30.6	10-29	16.1	1.5	1.7	47.9
70.2	30-49	12.1	2.4	4.1	130.8
306.9	50-99	19.8	7.3	11.4	459.4
766.7	100-179	20.5	14.6	26.0	751.4
514.9	180-259	8.4	9.3	35.3	582.4
688.5	260-499	8.1	14.4	49.7	551.7
329.4	500-999	3.0	10.4	60.1	294.5
304.9	1,000 & over	1.9	40.3	100.4	190.7
3013.8					3013.7

$$CR = 1 - \frac{T}{10,000}$$

$$= 1 - .30137$$

$$= .69863$$

1920 ~~X~~ already have
Conc. of op-ins, Census

$h_1 = 4.5$	$b_1 = 0.2$	$b_1(h_1 + h_2) =$
$h_2 = 31.2$	$b_2 = 6.0$	$b_2(h_2 + h_3) =$
$h_3 = 22.9$	$b_3 = 17.1$	$b_3(h_3 + h_4) =$
$h_4 = 22.5$	$b_4 = 37.5$	$b_4(h_4 + h_5) =$
$h_5 = 8.2$	$b_5 = 49.3$	$b_5(h_5 + h_6) =$
$h_6 = 7.4$	$b_6 = 66.5$	$b_6(h_6 + h_7) =$
$h_7 = 2.3$	$b_7 = 77.1$	$b_7(h_7 + h_8) =$
$h_8 = 1.0$	$b_8 = 100.2$	$b_8 h_8 =$
Total		$= 2A$

$$A =$$

$$B = 10,000 - A =$$

$$\text{Concentration ratio} = \frac{B}{10,000} = \frac{B}{10,000} = .598$$

1945, 5136 p 74, Conc. of fm op-ins

~~X~~ have already

	h	b	
1	$h_1 = 10$	.2	$b_1(h_1 + h_2) =$
2	16	1.7 (1.7)	$b_2(h_2 + h_3) =$
3	20	6.5	
4	22	17.6	
5	14	30.3	
6	12	49.1	
7	3	59.5	
8	1.9	99.8	$b_8 h_8 =$
Total			$=$

$$C.R. = 1 - \frac{T}{20,000} = .698$$

1950 ~~X~~ Farm op-ins, Census

$h_1 = 9.0$	$b_1 = 0.2$	$b_1(h_1 + h_2) =$
27.5	3.6	
19.5	10.1	
20.5	23.0	
9.1	32.1	
8.9	46.5	
3.4	57.4	
2.3	100.0	$b_8 h_8 =$
Total		$= 2A$

$$A =$$

$$B = 10,000 - A =$$

$$\text{Conc. ratio} = \frac{B}{10,000} = \frac{B}{10,000} = .704$$

1945, 5136, p. 66, Conc. of fm. op-ins, Figures broken down finer than those just to left. This should make the conc. ratio slightly higher, by making area under curve slightly smaller.

opt.	h	b	
1	1.7	-	$b_1(h_1 + h_2) =$
2	8.5	0.2	$b_2(h_2 + h_3) =$
3	16.1	1.7	
4	12.1	4.1	
5	8.1	6.5	
6	11.7	11.4	
7	10.8	17.8	
8	9.7	25.6	
9	4.8	30.5	
10	3.6	34.9	
11	5.7	43.9	
12	2.4	49.3	
13	1.8	54.8	
14	1.2	59.8	
15	1.1	75.7	
16	0.2	81.1	
17	0.1	100.1	$b_{17} h_{17} =$

$$\text{Total} =$$

$$C.R. = 1 - \frac{T}{20,000} = .704$$

1. 1950, fm op-ns. 1950 Census of Ag 2 (10): 775
5139, v. II ch. X p 775?

	h	b	
1.8	9.0	0.2	7.3
104.5	27.5	3.6	169.2
267.1	19.5	10.1	404.0
678.6	20.5	23.0	680.8
501.4	9.1	32.1	577.8
699.5	8.9	46.5	571.9
353.3	3.4	57.4	327.2
362.0	2.3	100.0	230.0
2968.2			2968.2

$$CR = 1 - .29682 = .70318$$

2. 1945, 5136^{1945 Census Ag 2} p. 66. A finer breakdown. I + makes some diff: other fig, using 10 points, was 3013.7, or c. 3% higher. (This has 17 pts)

	h	b	
	1.7	—	—
1.7	8.5	0.2	4.9
30.6	16.1	1.7	47.9
70.2	12.1	4.1	82.8
85.9	8.1	6.5	128.7
209.4	11.7	11.4	256.5
315.4	10.8	17.8	364.9
421.0	9.7	25.6	371.2
269.3	4.8	30.5	256.2
235.4	3.6	34.9	324.6
449.2	5.7	43.9	355.6
223.7	2.4	49.3	207.1
187.4	1.8	54.8	164.4
137.5	1.2	59.8	173.4
230.3	1.7	75.7	143.8
31.4	0.2	81.1	24.3
18.1	0.1	100.1	10.0
2916.5			2916.3

$$CR = 1 - .29163$$

$$= .70837$$

(CR for other '45 figs is .699
-- a difference of .009
on the index, or c. 1.1%)

Probated Estates, U.S.

Leg. 1873, Mass. Labor Bureau used prop. tax returns to classify prop. owned by $\frac{1}{2}$ prop. of Mass.

~~Admitt~~ (Similar study in Mich., 1880s, author not given)

1895, Mass. Labor Bureau, "exhaustive study" of probate records in Mass, 3 diff. pds.

In England, Porter, —, Progress of the Nation. 1838. p. 57 used probate records similarly.

~~In Mich., in 1880s, —~~

all cited in 5413, p. 56, n.

Lorenz data on estates probated in city cts, 1912-23 incl., in 24 cities, of 13 states. 43,512 estates, rep. \$671m total value. Rough effort to get rep. sample. But in these cities in this pd., 184,958 persons over 21 died. Those not probated were the majority. Reason presumed to be no estate, or very small. Value arbitrarily set at \$258, ave. of prob. ^{prob.} estates under \$500.

Lorenz data

5413, p. 58

% of total estates

% of probated estates

		Number	Value			Number	Value
(not probated):		76.5	5.2				
(probated!)		3.3	0.2			14.0	0.2
		2.6	.5			11.1	.5
		4.7	2.0			20.2	2.1
		4.1	3.8			17.4	4.0
		3.5	6.4			14.8	6.7
		3.0	12.0			12.7	12.7
		1.2	11.0			5.1	11.6
		.6	10.7			2.5	11.3
		.4	13.8			1.5	14.6
		.1	8.5			.4	9.0
		.05				.2	7.8
<.1		7.4				.1	19.5
.05							
<.1		18.5					

p. 59 In 1912 conc. was a good deal higher than in 1923. They give all figs.

p. 60 In cities, higher conc., & higher ave. value of estate, than ~~city~~ town or country.

U.S. Lorenz Data

% of Total Estates

check	% of Estates Estate	value % Assets (cum)	LCR
.041496	.765	.052	.039780
.003186	.033	.054	.003498
.004307	.026	.059	.002938
.006952	.047	.079	.006486
.008892	.041	.117	.008034
.011765	.035	.181	.010430
.012642	.030	.301	.014460
.007398	.012	.411	.008544
.005180	.006	.518	.005574
.003280	.004	.656	.004696
.004446	.001	.741	.001397
.008150	.005	.815	.007780
.005000	.005	1.000	.009075
Σ .122694			Σ .122694

1-Σ .877306 ✓

1-Σ .877306 ✓

% of Probated Estates

check	% of Estates estate	value % Assets (cum)	LCR
.000502	.140	.002	.000280
.002191	.111	.007	.000999
.010528	.202	.028	.007090
.021896	.174	.068	.016704
.037125	.148	.135	.030044
.046636	.127	.262	.050419
.028728	.051	.378	.032640
.019640	.025	.491	.021725
.012103	.015	.637	.016920
.004362	.004	.727	.005456
.002415	.002	.805	.003064
.001000	.001	1.000	.001805

Σ .187126

Σ .187126

1-Σ .812874 ✓

1-Σ .812874 ✓

Larger farms by gross output more
land intensive.

conc. by gross output almost as
great as by area.

Measuring by gross output, remember another
distortion: very large w-a ranches use
public land, adds to gross inc., not
land.

Save a step: $\text{Conc. ratio} = \frac{B}{10,000} = \frac{10,000 - A}{10,000} = 1 - \frac{A}{10,000}$

$A = \frac{1}{2} \text{ Total} = \frac{T}{2}$

$\text{C.R.} = 1 - \frac{T}{20,000}$

1945, Conc. of ~~7m~~ holders, 187 sample, U.S. (187 p. #20) (564, p. 19)

$h_1 = 8$	$b_1 = 1$	$b_1(h_1 + h_2) =$
$h_2 = 11$	2	$b_2(h_2 + h_3) =$
3	15	
4	26	
5	16	
6	13	
7	4	
1	1	
9	1	
$h_{10} = 1$	$b_{10} = 100$	

$\text{Total} = 2A$

$A =$

$B = 10,000 - A =$

$\text{Conc. ratio} = \frac{B}{10,000}$

Conc. of Tractors, among farms ranked by value of gross output, 1950. 5138, Table I

	h	b	
89.8	1	19.1	$b_1(h_1 + h_2) = 145.7$
182.1	2	11.9	267.1
340.5	3	13.3	451.5
712.3	4	16.8	909.7
1241.5	5	16.4	1439.3
1634.8	6	13.4	1510.8
1177.2	7	7.1	828.9
364.6	8	1.9	$b_8 h_8 = 189.6$

$\text{Total} = 5,742.6$

$\text{C.R.} = 1 - \frac{T}{10,000} = 1 - .57426$

$= .42574$

1950, Conc. of Gross Output, 5138 Table I

h	h	b	b	
7.6	1	19.1	0.4	$b_1(h_1 + h_2) = 12.4$
30.9	2	11.9	2.2	55.4
89.1	3	13.3	4.5	135.4
273.8	4	16.8	11.8	391.8
623.2	5	16.4	26.2	780.8
1006.3	6	13.4	48.9	1002.4
870.5	7	7.1	73.7	663.3
329.5	8	1.9	99.7	$b_8 h_8 = 189.4$

3230.9

$\text{Total} = 3230.9$

$\text{C.R.} = 1 - \frac{T}{10,000} = 1 - .32309$
 $= .67691$

1950, Conc. of Land ^{average} by Gross output classes 5138, Table I

	h	b	
84.0	1	19.1	$b_1(h_1 + h_2) = 136.4$
154.7	2	11.9	216.7
297.9	3	13.3	415.4
623.3	4	16.8	773.6
1002.4	5	16.4	1126.4
1260.9	6	13.4	1154.1
931.5	7	7.1	674.1
325.7	8	1.9	$b_8 h_8 = 183.3$

4680.4

$\text{Total} = 4680.0$

$\text{C.R.} = 1 - \frac{T}{10,000} = 1 - .468$

$= .532$

* The other average is in "abnormal farms, not grouped by size, which have 3.3% land, 0.4% gross output, are 0.1% of all farms.

Miscellaneous
(Larsen holdings, better land)

Schilling (Larsen holdg, better land)

Simpson

Timber

9a

Income dist. (6 farm inc.)

Egypt, Palestine, (Bolivia) ~~Philippines~~
Chile

987.

(Philippines - not worked out. Can do so now)

Cal. . . .86 ! (Fla. & Ariz wd probly be higher)

Schilling, 571, p 244-5, Chi, size groups defined by no. of front ft.

I. Frontage		h	b ^{frontage}			
111.3	1	21.03	5.32	$b_1(h_1 + h_2) =$	284.19	
784.1	2	32.39	18.94	$b_2(h_2 + h_3) =$	904.38	
753.1	3	15.36	30.00		753.60	
686.0	4	9.76	40.01		955.04	$CR = 1 - \frac{T}{10,000}$
1455.1	5	14.11	63.23		1103.36	
448.5	6	3.34	72.67		357.54	$= 1 - .491222$
243.4	7	1.58	79.36		199.19	
147.3	8	.93	84.33		204.92	$= .50878$
276.4	9	1.50	100.00	$b_9 h_9 =$	150.00	

4905.2 Total 4912.22

This discrepancy could come from rounding

II Assessed value on land

		h	b			
77.7	1	21.03	3.78	$b_1(h_1 + h_2) =$	201.9	
612.4	2	32.39	15.23		727.2	
611.4	3	15.36	24.46		614.4	
575.3	4	9.76	34.25		817.5	$CR = 1 - \frac{T}{10,000}$
1288.7	5	14.11	57.17		997.6	
409.5	6	3.34	66.95		329.4	$= 1 - .42171$
225.6	7	1.58	74.08		185.9	
138.2	8	.93	79.50		193.2	$= .57829$
269.2	9	1.50	100.00	$b_9 h_9 =$	150.0	

4208.0 discrepancy from rounding Total = 4,217.1

Showing land value more conc. than area. Also, in this case remarkable, as frontage was the thing whose conc. was being insured. (But watch it: improvement values were even more conc. than land!)

Gimprn, 597, p 79, Sample, 1927, ass. values ? think

		^h			^b	
	No. of hldgs	% hldgs	Value of hldgs	% of value	% value Cumulative	
1	2011	33.4	\$23 m	10.7%	10.7	$b_1(h_1 + h_2) =$
2	1923	32.0	35	16.4	27.1	
3	1177	19.6	41	19.2	46.3	
4	589	9.8	40	18.7	65.0	
5	257	4.3	38	17.8	82.8	
6	60	1.0	37	17.3	100	$b_6 h_6 =$
Total 6017		100	\$214 m	100		Total =

$$CR = \frac{1}{20,000} \frac{\sum h_i^2}{\sum h_i} =$$

	^h	^b		
357.4	33.4	10.7	699.8	
1209.6	32.0	27.1	1398.4	
1438.6	19.6	46.3	1361.2	$CR = 1 - .49147$
1090.7	9.8	65.0	916.5	
635.5	4.3	82.8	438.8	$= .50853$
182.8	1.0	100.0	100.0	
4914.6			4914.7	

Timber Conc. (550, p. 165)

	No. of No. of holders	% of holders	Total fee acres holding fee	% of all acres.
1	1069	59.39%	6.7 m	8.6
2	318	17.6	8.2	10.5
3	202	11.2	10.6	13.6
4	124	6.9	12.6	16.1
5	48	2.7	9.6	12.3
6	27	1.5	9.9	12.7
7	9	0.5	7.8	10.0
8	5	0.3	12.8	16.4
	1802	100	78.2	100

		h	b	
510.0	1	59.3	8.6	$b_1(h_1 + h_2) = 661.3$
487.5	2	17.6	19.1	550.1
580.2	3	11.2	32.7	591.8 918.9
562.3	4	6.9	48.8	468.5
296.7	5	2.7	61.1	256.6
202.3	6	1.5	73.8	147.6
78.8	7	0.5	83.8	67.0
55.0	8	0.3	100.2	$b_{10} h_{10} = 30.0$

$$C.R. = 1 - \frac{T}{10,000}$$

$$CR = 1 - .27729$$

2772.8

Total ~~3100.0~~
2772.9

= .722271

Iowa, Lorenz data, 1945. 5136, p. 82

	h	Land in fms acres	% Land in fms	b	b, (h, t _h) etc
L3	0.5	1.4t	.004%	—	—
3-9	4.6	50.0t	.15%	.1 20.8	.9
10-29	4.6	158.1t	0.5%	.6 226.7	4.1 4.9
30-49	3.6	295.4	0.9%	1.5	5.3 8.8
50-69	2.3	276.7	0.8	2.3	10.8 31.0
70-99	11.2	1,906.9	5.5%	7.8	147.3 200.5
100-139	14.5	3,576.1	10.4	18.2	399.4 698.9
140-179	23.9	7,936.5	23.0	41.2	797.2 1417.3
180-219	10.5	4,343.4	12.6	53.8	258.5 1086.7
220-259	9.7	4,832.3	14.0	67.8	284.2 1376.3
260-379	10.6	6,783.3	19.1	87.5	260.0 1155.0
380-499	2.6	2,307.2	6.7	94.2	24.1 339.1
500-699	1.0	1,178.2	3.4	97.6	4.4 126.9
700-999	0.3	479.6	1.4	99.0	0.6 39.6
1,000-4,999	0.1	322.5	0.9	99.9	0.1 10.0
5,000-9,999	—	6.4	0.02	100.0	—
10,000 & over	None				
		34,454.0 t			6495.9

See if Census doesn't give Total!

$$CR = 1 - .64959 = .35041$$

3.2	<i>Figures used to compute CR. $h_b + h_c (b_r + b_l) \text{ etc}$ </i>
1.6	
8.7	
113.1	
377.0	
1419.7	
997.5	
1179.5	
1646.2	
472.4	
191.8	<hr/>
59.0	
20.0	
6495.7	

Income distribution, Lorenz. figures. For 1952. From F.R.B.,
Survey of Consumer Finances, June 1953, p.10 (5381)

	h	b		
10	10	1	20	
50	10	4	80	
130	10	9	180	CR = 1 - .604
240	10	15	300	
380	10	23	460	= .396
550	10	32	640	
750	10	43	860	
980	10	55	1100	
1250	10	70	1400	
1700	10	100	1000	
6040			6040	

For 1935-36, from Nat. Res. Comm, Consumer Income in U.S., Wash, '38, p.96
(5382)

19	10	1.9	38.0	
67	10	4.8	96.0	
142 204	10	9.4	188.0	
241	10	14.1	294.0	CR = 1 - .5662
361	10	21.4	428.0	
504	10	29.0	580.0	= .4338
676	10	38.6	772.0	
879	10	49.3	986.0	
1133	10	64.0	1280.0	
1640.	10	100.0	1000.0	
5729 5662			5662.0	

Egypt S176, p. 35, 1940

		h	b		
876.7	1	10.7	12.4	$b_1(h_1, rh_2) =$	1159.40
1021.4	2	22.8	32.4		848.88
253.6	3	3.4	42.2	215.22	$CR = 1 - \frac{T}{\frac{10,000}{20,000}}$
159.8	4	1.7	51.8	113.96	
54.2	5	0.5	56.7	51.03	$= 1 - .249496$
47.8	6	0.4	62.8	56.52	
81.3	7	0.5	99.9	$b_7 h_7 =$	49.95
	8				$= .7505$
2494.8	9			Total	2494.96

S176, p. 63, 322 Arab villages in Palestine

		h	b		
38.3	1	31.9	1.2	$b_1(h_1, rh_2) =$	56.40
67.9	2	15.1	3.3		102.30
182.8	3	15.9	8.2	413.28	$CR = 1 - \frac{T}{\frac{10,000}{20,000}}$
2107.9	4	34.5	52.9 44.1	1930.85	
233.4	5	2.0	63.8	185.02	$= 1 - .277749$
147.1	6	0.9	99.6	b_6	$= 89.64$
2,777.4				Total	$= 2,777.49$
					$= .72225$

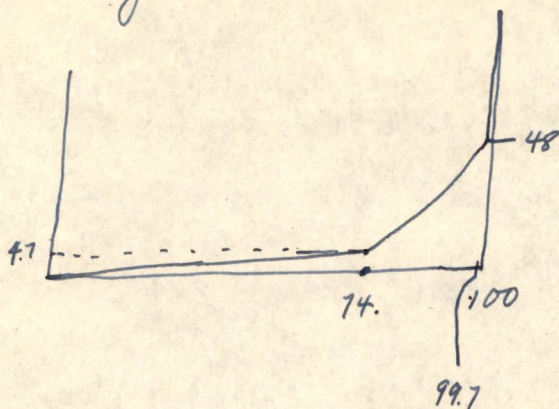
1. 1945, 987 (564, p. 39), sample of land holdings, farm

	h	b	
—	8	—	—
11	11	1	30
114	19	5	225
546	26	16	672
688	16	27	783
949	13	46	782
420	4	59	295
124	1	65	130
137	1	72	144
172	1	100	100
3161			3161

$$CR = 1 - .3161 = .6839$$

2.

Chile, rough C.R., from fragmentary data in
5148, p 260



	<i>h</i>	<i>b</i>	
347.8	74.0	4.7	468.6
1354.4	25.7	48.0	1248.0
44.4	0.3	100.0	30.0
<hr/>			<hr/>
1746.6			1746.0

$$CR = 1 - .1746 = .8254$$

Then should Δ , be so few figs.

Adjust to .85

$$\begin{array}{r} 99.7 \\ -74.0 \\ \hline 25.7 \end{array}$$

Bolivia: - 5182, p119
4.5% own 70%



Hardly need rest of curve to work out CR.

	h	b	
2895.	96.5	30.0	3000
<u>545</u>	<u>4.5</u>	<u>100.0</u>	<u>450</u>
5170			3450
3480			

on

$$CR = 1 - .345$$

$$= .655$$

Add some for
lack of points: .70.
Still not so hi;
cf. U.S.

$$A = \frac{1}{2} 96.5 \times 30$$

$$+ \frac{1}{2} 4.5 \times 100$$

$$= 15 \times 96.5 + 225$$

$$= \begin{array}{r} 1447.5 \\ 225.0 \\ \hline 1672.5 \end{array}$$

$$2A = 3345.0$$

$$\begin{array}{r} 96.5 \\ 15 \\ \hline 4825 \\ 965 \\ \hline 1447.5 \end{array}$$

$$\begin{array}{r} 4.5 \\ 13.9 \\ \hline 135 \\ 45 \\ \hline 275 \\ 585 \end{array}$$

Philippines 1939
 Lorenz data, ~~Philippines~~, 5166, pp A8 & A7 (Never worked them out)

h	b_c - % of cultivated land, cum.	b_t - % of all land in farms, cum.	
2.3	0.1	1.9	1.9
4.0	0.6	0.4	2.3
6.1	1.8	1.1	3.4
10.1	4.9	2.5	5.9
19.1	13.5	7.0	12.9
10.9	20.5	5.5	18.4
18.7	36.9	13.1	31.5
10.1	49.1	9.9	41.4
5.8	57.8	7.4	48.8
8.7	76.1	17.8	66.6
3.0	85.8	12.0	78.6
1.3	100.2	21.3	99.9

~~Some doubt if first figure is an error. - so state. Conclusions open to doubt~~

What they have evidently done is define farm size by area of cultivated land only. That I can ascertain quite certainly from original data (not ~~re~~ copied above)
 So figure LCR by % of all cultivated land.
 That gives a fairly low one.

Note, also: the given figs on % of idle land, by size of fm.
 But size is measured by cultivated land. If measured by all land, wd get even higher % of idle land in larger fms.

5179 p.83 Income Farm operator families 1946. note, if included labor, wd probly A conc.

Work out Loans, show how much less conc. than gross output. & from land. Thus show smaller holdings more intensive.

	% of families "h"	% of inc., cumulative	
40.0	14.3	2.8	110.3
421.7	25.1	14.0	630.0
853.7	19.9	28.9	976.8
1003.6	13.9	43.3	1026.2
976.1	9.8	56.3	1131.3
1365.5	10.4	75.0	1035.0
539.2	3.4	83.6	451.4
348.8	2.0	90.8	236.1
110.8	0.6	93.9	75.1
37.9	0.2	95.6	47.8
58.2	0.3	98.4	39.3
19.84	0.1	100.0	10.0
5775.3			5775.3

$$CR = 1 - .5775 = .4225$$

Note, this probly includes inc. from non-farm sources.

Loreng data. 5418

% of landholders

% of area.

p. 107, Uttar Pradesh

(Under $\frac{1}{2}$ acre)

21.5

2.2

16.3

3.8

18.0

8.1

11.6

8.7

8.1

8.4

5.7

7.6

4.2

6.8

3.0

5.9

2.3

5.1

1.8

4.4

1.4

3.9

1.7

5.5

1.1

4.3

0.8

3.4

0.6

2.8

0.4

2.4

0.6

3.8

(over 25 acres)

0.9

12.9

Below 1 acre

22.8

3.4

p. 178 Madras

55.1

37.3

15.6

27.2

3.8

10.2

1.9

8.3

0.6

6.2

Above 50 acres

0.2

6.9

But % of "wet" lands as w. acreage, from $\frac{7}{58}$ to $\frac{55}{134}$
(See file "Larger hld's better lands")

Chile

Brazil

Venezuela

Ey

Game: do new data on Chile.

$$CR = .86256$$

Cal, 1950, Loring data
p. 842

10.9	27.3	0.4	21.4
65.5	26.2	2.1	79.4
68.4	11.6	3.8	64.2
46.6	5.3	5.0	55.5
68.4	5.8	6.8	68.0
64.7	4.2	8.6	^{67.1} 153.1
69.5	3.6	10.7	57.8
41.0	1.8	12.1	39.9
38.2	1.5	13.4	84.4
159.8	4.8	19.9	165.2
172.2	3.5	29.3	231.5
<u>568.9</u>	<u>4.4</u>	<u>100.0</u>	<u>440.0</u>
1374.1			1460.4
			1374.4

Grebler, s163, p 104-5

thinks of "conc-n" in terms of
medium, not dispersion.

Cf. Black.

~~Argentina~~

Chile. 5203, p. 75. 1937

q. fms	% acres (cum)	
43.4	0.5	
31.1	4.7	LCR = .88
24.1	31.8	
1.1		
1.1 1.1	47.6	
0.3	100.0	
100.0		

Chile, 5400 p. 6 (Carroll). Source pub. 1951

A	B	
49.1	0.6	
23.2	2.5	LCR = .93
18.1	8.4	
6.9	18.9	
1.2	25.0	
1.5	100.1	

$$\begin{array}{r} 74.5 \\ - 43.4 \\ \hline 31.1 \end{array}$$

$$\begin{array}{r} 74.5 \\ 1.4 \\ \hline 75.9 \end{array}$$

H-2

chile
Lorenz Data

S#203, p.75

Gaffney
10-28-55

P. J. O.

Check	1937		LCR
	% of Farms	% Acres (cum)	
.003725	.434	.005	.002170
.025944	.311	.047	.016172
.080136	.241	.318	.087965
.006664	.011	.476	.008934
.003000	.003	1.000	.004428
Σ .119469			Σ .119469
1-2 .880531 ✓			1-Σ .880531 ✓

CHECK	Carroll 1951		LCR
	% OF FARMS A	% ACRES (cum) B	
.004338	.491	.006	.002946
.010325	.232	.025	.007192
.021000	.181	.084	.019729
.015309	.069	.189	.018837
.006750	.012	.250	.005268
.015015	.015	1.001	.018765
Σ .072737			Σ .072737
1-Σ .927263 ✓			1-Σ .927263 ✓

ILR data from 5203

Argentina p. 70. As of c. 1945

2,000 own $\frac{1}{5}$... 135m a. out of 690m a., Arg's total area.

This is richest $\frac{1}{5}$.

Buenos Aires Prov. ("country's wealthiest state"), pop. 3.5m,
320 aristo families own 39% land. ... 10.6m acres. & more
elsewhere. 15 of them own $\frac{1}{10}$.

Chile: 1937. p. 75

182 t. 'ag. establishments', 62 m. acres.

43.4% (0 - 12.3 a.) had 0.5%

74.5% (0 - 123.5 acres) of the "properties" had 4.7%

1.4% (2,470 - 12,350 a. & up) had 68.2% area, (& 33% value)

0.3% (12,350 a. & up) had 52.4%

Mexico, ~~1910~~

1910 1% "of Mexican people" held 70% arable land

By 1940,

H-1

Brazil, Lorenz Data, 1940

Gaffney
10-28-55
G

check

% of Farms

% acres (cum)

LCR

.032528

.510

.038

.019380

.083174

.346

.182

.076120

.052224

.111

.408

.065490

.017061

.017

.517

.015725

.016000

.016

1.000

.024272

Σ .200987

Σ .200987

1-Σ .799013✓

1-Σ .799013✓

Source: Braz-n Census of Ag. Cited in Facts for Farmers, Aug-Sept. '51, p. 2 (55?)

Brazil, Lorenz data, 1940

% of farms	% of acres <u>cumulative</u>
51.0 %	3.8
34.6	18.2
11.1	40.8
1.7	51.7
1.6	100.0

Source, ^{Braz-n} ~~Ag.~~ Census of ^{Ag.} ~~Brazil~~, Cited in Facts for Farmers, Aug-Sept '51, p. 2 (155?)

Venezuela

% fms % land, cum.

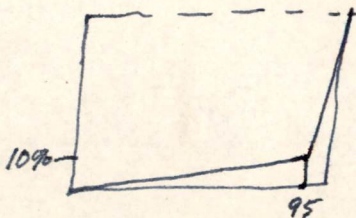
1000	95	10	.0950
<u>500</u>	5	100	<u>.0550</u>
1500			.1500

$$1 - .15 = .85 = LCR$$

LCR, Venezuela.

1936 Census, 5% holders had 90%.

G. Hill et al., "Agrarian Reform in
Venez.", Land Ec., 7-52. 5309
p. 24.



Loreny data, 1m fms, "pre-1914"

Size	% hld'g ^A	% area ^B
0-5 acres	18.8	1.4
5-50	69.7	42. (sic)
50-250	10.4	32 "
> 250	0.9	24 "

5350

~~Ownership~~ Op. units. Author indicates own-p units more com.

Land under cult'n only. - 72 m acres, & excepting some very small "auxiliary" hld'g.

NEW TRIER TOWNSHIP HIGH SCHOOL

WINNETKA, ILLINOIS

MATTHEW P. GAFFNEY, SUPERINTENDENT

H-4

Germany Lorenz Data
"pre-1914"

5350, Oppenheim

Gaffney
10-28-55
GJ

check	% of Farms	% Acres (cum.)	LCR
.012390	.188	.014	.002632
.347634	.697	.434	.312256
.085202	.104	.754	.123552
.008946	.009	.994	.015732
Σ .454172			Σ .454172
1- Σ .545828 ✓			1- Σ .545828 ✓

Skew computations, Farm.

Unfinished

For est. median & mode ~~mode~~, take some breakdowns they give w/in
50-99 ~~bracket~~ class, where median falls; ~~it~~ (When class limits are =,
mode falls in 3-9 a. class!)

1945. % of all fms in class

50-99 a. 19.8

50-69 8.1

70-99 11.7

('40 & '35 are similar. Others, n.d.)

(Incidentally, I cd. have gotten these
data for Long dist.s. Don't bother
now)

North est. is closely.

	No. of farms.	Land in frms.	Mean fm size	Median fm size	Mode
1900	5.7 m 5,737 t	839 m a.	146 a.	50-99 near bottom 84 top	Slightly over 20
1910	6.4 6,362 t	879	138		
1920	6.4 6,448	956	148		
1925	6.4 6,372	924	145		
1930	6.3 6,289	987	157		
1935	6.8 6,812	1,055	155		
1940	6.1 6,097	1,061	174		
1945	5.9 5,859	1,142 (In part due to new inclusions?)	195	79 a. 50-99	(3-9 a.) 1 a. upper 2, 1 a. to near top top
↓ 1950					
1880	4,009 t	n.d.	n.d.		
1890	4,565 t	n.d.	n.d.		

Mediam fm sizes.

1945

Class limits.	Range of class	% of fms in class	Cum.	% of fms in class per acre of range
2-3				
< 3	3	1.7	1.7	.56
3-9	87	8.5	10.2	1.21
10-29	20	16.1	26.3	.805
30-49	20	12.1	38.4	.605
50-69	20	8.1	<u>46.5</u>	.405
70-99	30	11.7	58.2	.390
100-179	80	20.5		.255

From 46.5, % of fms, at 69.9 acres, we must go 3.5 % points to get to 50.

at a rate of .39 per acre. ... Let us say .395, because this is lower part of range.

$$\begin{array}{r} \times 395 \overline{) 3 \times 500.} \\ \underline{3160} \\ 3400 \\ \underline{3160} \\ 2400 \end{array}$$

or roughly 9 acres.

So mediam is 79 acres.

(Mode is in 3-9 acre range)

Skew is $\frac{195 - 79}{\quad} =$

Median fm size, 1900

Cl. Limits	Range of Class	% of fms in class	Cum.	% of fms in cl. per acre of range.
< 3	3	0.7	0.7	.238
3-9	6	3.9	4.6	.650
10-19	10	7.1	11.7	.710
20-49	30	21.9	33.6	.730
50-99	50	23.8	<u>57.4</u>	.476
100-174	75	24.8		.33

From 100 a, must go down 7.4 % pts, at .476 an acre - or
some less, but in top of range. -- say .45

$$\begin{array}{r} 164. \\ \times 45. \sqrt{7400} \\ \underline{45} \\ 290 \\ \underline{270} \\ 200 \end{array}$$

$$100 - 16 = 84a$$

So median is 84a.

(Mode is slightly over 20a.)

Mean is 146.

$$\text{Skew is } \frac{146 - 84}{\quad} =$$

$$\begin{array}{r} 133 \\ 75 \sqrt{24.8} \\ \underline{225} \\ 230 \end{array}$$

Tncy tends to medium,

Ownership to extremes.

Rumania.

Sweden

Clawson

Rumania, from 5154, p 370-71. 1941 data

I. Conc. of fm "exploitations".

		h	b	$b_1(h_1 + h_2) =$	
37.1	1	20.6	1.8	$h_1(b_1 + b_2) =$	97.4
586.2	2	33.5	15.7	$b_2(h_2 + h_3) =$	832.1
932.1	3	19.5	32.1		1261.5
1855.3	4	19.8	61.6		1533.8
					2149.8
701.2	5	5.1	75.9		470.6
174.5	6	1.1	82.7		107.5
33.7	7	0.2	85.8		34.3
37.2	8	0.2	100.0	$b_8 h_8 =$	20.0
				$b_8 h_8 =$	
4357.3				Total =	4973.2 4357.2

$$C.R = 1 - \frac{T}{10,000}$$

$$= 1 - .43572$$

$$= .56428$$

II Conc. of fm. "properties".

		h	b	$b_1(h_1 + h_2) =$	
51.3	1	23.3	2.2		128.5
680.1	2	35.1	17.2		920.2
929.2	3	18.4	33.3		1175.5
1564.9	4	16.9	59.3		1269.0
591.7	5	4.5	72.2		426.0
214.1	6	1.4	80.7		129.1
32.9	7	0.2	83.7		33.5
36.7	8	0.2	100.0	$b_8 h_8 =$	20.0
4100.9				Total =	4101.8

$$C.R = 1 - \frac{T}{10,000}$$

$$= 1 - .41018$$

$$= .58982$$

No. of props, 2,257,050
 " " expls. 2,263,963
 Area 10.4 m ha.

Sveden, 1919, from S 152-a, pp 237-38

I. Conc. of holdings.

		h	b	
586.5	1	51.0	11.5	$b_1(h_1+h_2) = 1047.6$
2345.8	2	40.1	47.0	$b_2(h_2+h_3) = 2213.7$
793.8	3	7.0	66.4	544.8
168.0	4	1.2	73.6	139.8
121.8	5	0.7	100.4	$b_5 h_5 = 70.3$
<u>3945.9</u>				<u>4016.2</u>
4015.9				<u>3970.4</u>
			Total	<u>3970.4</u>

$$CR = 1 - \frac{T}{10,000}$$

$$= 1 - .40162 =$$

$$= .59838$$

II Conc. of Operations of cropland

		h	b	
793.4	1	55.1	14.4	$b_1(h_1+h_2) = 1,314.7$
2519.5	2	36.2	55.2	2379.1
922.5	3	6.9	78.5	635.8
200.0	4	1.2	88.2	158.8
112.9	5	0.6	100.0	$b_5 h_5 = 60.0$
<u>4548.3</u>				<u>4548.4</u>
			Total	<u>4548.4</u>

$$CR = 1 - \frac{T}{10,000}$$

$$= 1 - .45484$$

$$= .54516$$

? III Conc. of owner-operations - Can't figure it from the data

		h	b	
821.0	1	55.1	14.9	$b_1(h_1+h_2) = 1360.4$
2686.0	2	36.2	59.3	2555.8
966.7	3	6.9	80.8	654.5
1035.7			22.2	
203.4	4	1.2	88.1	159.7
113.2	5	0.6	99.9	$b_5 h_5 = 60.0$
<u>4859.3</u>				<u>4790.4</u>
			Total	<u>4790.4</u>

$$CR = 1 - \frac{T}{10,000}$$

$$= 1 - .47904$$

$$= .52096$$

4790.3

b

~~1. $14.4 - 23.2\% \times 14.4 = 76.8\% \times 14.4$

1.	$76.8\% \times 14.4 =$	11.1%	14.9
2.	$80.9\% \times 40.8 =$	33.0%	44.4
3.	$68.9\% \times 23.3 =$	16.0%	21.5
4.	$60.7\% \times 9.7 =$	5.9	7.9
5.	$70.6\% \times 11.8 =$	8.3%	11.2
		<hr/>	<hr/>
		Total = 74.3 (< 100)	

Then divide Total into ea. figure, thus get's % of o-op acreage in ea. group. Then aggregate them into 'b' column on attached yellow page.

What I forgot to do was change the % of the farmers. So, natch, got less conc. See if have data on % of farmers, who are tnts, by size groups.

Don't have it. Strip it.

Wilson & Clawson, 581, p. 29, Tables 3 & 5.
 Ownerships. Maclera, Kern, Tulare, ~~Franklin~~ Cities: just those 3, I'm quite sure.

		h	b		
1184	1	74	16	$b_1 (h_1 + h_2) =$	1392
559	2	13	27		540
455	3	7	38		342
164	4	2	44		132
92	5	1	48		144
210	6	2	57		116
1	7	<.05	61		4
1	8	<.05	64		3
1	9	<.05	71		2
1	10	<.05	103	$b_{10} h_{10} =$	5
		<div> <div>↑</div> <div>(due to rounding)</div> </div>		Total. 2680	
2668					

$$CR = 1 - \frac{T}{110,000}$$

$$= 1 - .268$$

$$= .732$$

$$CR = 1 - \frac{T}{110,000}$$

$$= 1 - .268$$

$$= .732$$

Discrepancy due to round's last 4 figures.

Recheck 581 for data on opig units. But hardly rec. -- gives other data that make it all clear.

Loreng data from 5107. pp 12-18
 conc. of rented fms, ~~by~~ ownership thereof, ~~by~~ ownership of rented
 land only - i.e. excluding owned portions. 1920.

I. By acreage

	h	b		
413.7	39.4	10.5	$b_1(h_1 + h_2) = 762.3$	
1567.0	33.2	36.7	2014.8	
2363.1	21.7	72.2	1877.2	CR = 1 - .52893
686.7	4.3	87.5	481.2	= .4711
219.7	1.2	95.6	133.8	
39.1	0.2	100.0	$b_6 h_6 = 20.0$	
5289.3	100.0		5289.3	

II By Value of "fms" (l.v. wd be more conc.)

	h	b		
53.9	24.5	2.2	91.7	
153.1	17.2	6.7	295.5	
796.2	26.9	22.9	1167.9	CR = 1 - .4202
2055.7	24.1	62.4	1921.9	= .5798
1028.4	6.7	91.1	665.0	
114.7	0.6	100.0	60.0	
4202.0	100.0		4202.0	

III By no. of fms per owner

	h	b		
3793.7	79.2	47.9	4358.9	
1298.0	11.8 91.0	62.1	1074.3	
743.0	5.5	73.0	562.1	CR = 1 - .64026
339.5	2.2	81.3	243.9	= .3597
134.8	0.8	87.2	113.4	
93.6	0.5	100.0	50.0	
6402.6			6402.6	

Comp. by
area &
by
value,
compare

5107, pp 12-18

Acres	% loads
< 100	39.4
100-199	37.2
200 or more	27.4
500 or more	5.7
1,000 " "	1.4
2,500 " "	0.2

% acres
10.5
26.2
63.3 (35.5)
27.8 (15.3)
12.5 (8.1)
4.4 (4.4)

Fm values.	% loads
< \$5,000	24.5
5 - 9,999	17.2
10,000 or more	58.3
25,000 " "	31.4
75,000 " "	7.3
250,000 " "	0.6

% value - of "fms".
2.2
4.5
93.3 (16.2)
77.1 (39.5)
37.6 (28.7)
8.9

Turner off.

p. 775.

[illegible]

Much more conc. than landholdings given in Turner. Turner must be away wrong.

1920

1950

Get exact figs, try again.

$$\frac{\% \text{ of land}}{\% \text{ of farms}} \times 10$$

1

1920	% of land	Height on graph	Ht. on graph	% of land	1950	
Percentiles					Percentiles	
0 - 4.5	0.2	4.5	.44	0.2	9.0	0 - 9.0
4.5 - 35.7	5.8	31.2	1.86	3.4	27.5	9.0 - 36.5
35.7 - 58.6	11.1	22.9	4.85	6.5	19.5	36.5 - 56.0
58.6 - 81.1	20.4	22.5	9.07	12.9	20.5	56.0 - 76.5
81.1 - 89.3	11.8	8.2	14.39	9.1	9.1	76.5 - 85.6
89.3 - 96.7	17.2	7.4	23.24	14.4	8.9	85.6 - 94.5
96.7 - 99.0	10.6	2.3	46.09	10.9	3.4	94.5 - 97.9
99.0 - 100.0	23.1	1.0	231.00	42.6	2.3	97.9 - 100.2
	Divisor: % of farms				Divisor: % of farms	

Above is not Lorenz. Lorenz is aggregative. That's advantage, as we then know just where to put point -- at ht. end of class interval

Lorenz

1920	% of land	1950	% of land
Percentile	Cumulative	Percentile	Cumulative
4.5	0.2	9.0	0.2
35.7	6.0	36.5	3.6
58.6	17.1	56.0	10.1
81.1	37.5	76.5	23.0
89.3	49.3	85.6	32.1
96.7	66.5	94.5	46.5
99.0	77.1	97.9	57.4
100.0	100.2	100.2	100.0

80

Lorenz distribution of farm acreage in farms, U.S.,
of different sizes according to size of farm, 1920 and 1950

70

(Next step: find out how to calculate Lorenz' index of
concentration, show gradual S's curve, from whenever
data begin)

60

Are now more part time farms? to what? That is
still the op'g unit. Is still a drift from medium
sizes -- give absolute acreage in medium size groups.

50

40

30

20

10

0

10

20

30

40

50

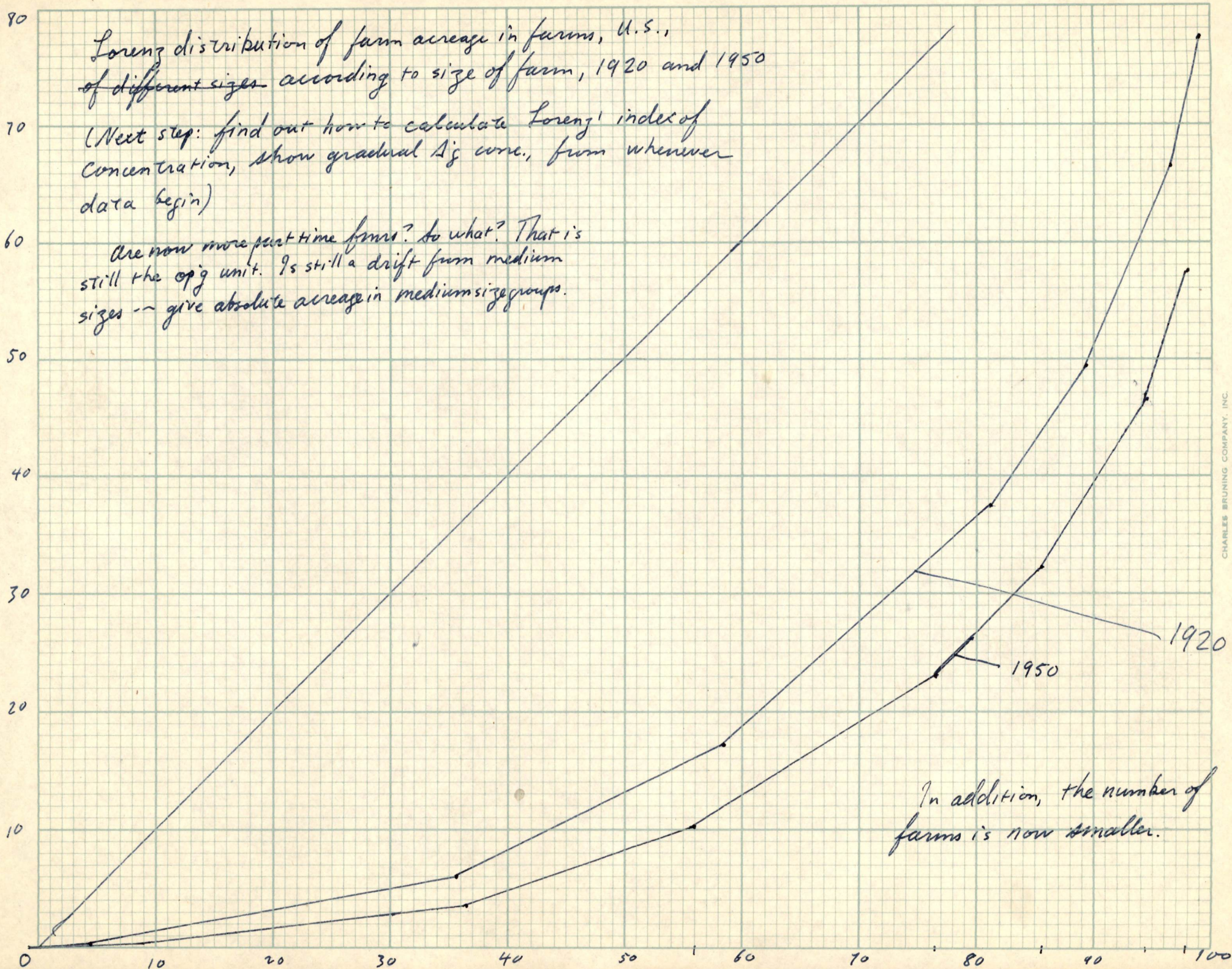
60

70

80

90

100



In addition, the number of
farms is now smaller.

Also figure shows, on fig. dist. of
no. of fm by size group

Distributions for which I could compute Lorenz conc. msres.

I. In ~~the~~ 'Large hld's on better land' file

a. 1950, US cens., grouped by gross output

x 1. Cf. conc. of land vs conc. of tractors? Not nec., is so obvious. But is a pt. to stress

x 2. Cf. conc. of land vs conc. of land where acreage is criterion of size.

x 3. Cf. conc. of gross output vs conc. of land, ...
Might show that where output is criterion of size, land is almost as conc. as output (& one particular valuable kind of land is more conc. than output). While, where acreage is criterion, land much more conc. than output (but we lack data on output by acreage size groups? Can show it indirectly?)

b. 1945 Sample Census, probly skip as too small sample, esp. in upper ranges. (& remember how sample's underestates conc.)

x c. Conc. of hld's, in 1927, for '45

x d. '45 conc. of opns.

Distrib. for which cd. get Lorenz.

II. In file on Op units tend to medium

a. 187 on conc. by 4 sections of US

x b. ~~Turner~~ & 1900 Census on conc. by value

x c. Conc. of timber holdings.

x d. Clawson area .. ~~spiral~~ ownership.

— e. 187, p. 57, 564, data by states ... cd. get 7a. here, if not in reg. census.
to show wide range on similar land.

x f. Swede Census 1919 figs.

x g. Rumania data

Districts for which I cd. get Loung.

III Urban file. Not much good available, but wd be nice to have something to say
cities worse.

a. Gubler on lower e. side, cd. get a very rough picture, of
extreme conc.

x b. Simpson, sample, 591, p 79, Chic., 1927

x c. Schillig rept.

Probbly wd show much more conc. than fm land op-ns of 1900.

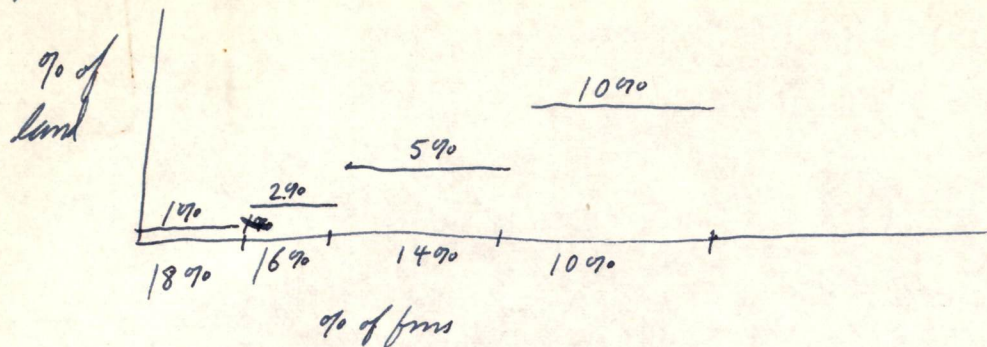
IV Fn file

a. Rumania

x b. Egypt

x c. Palestine

Gaffney's Index of Conc. (Look for precedents)

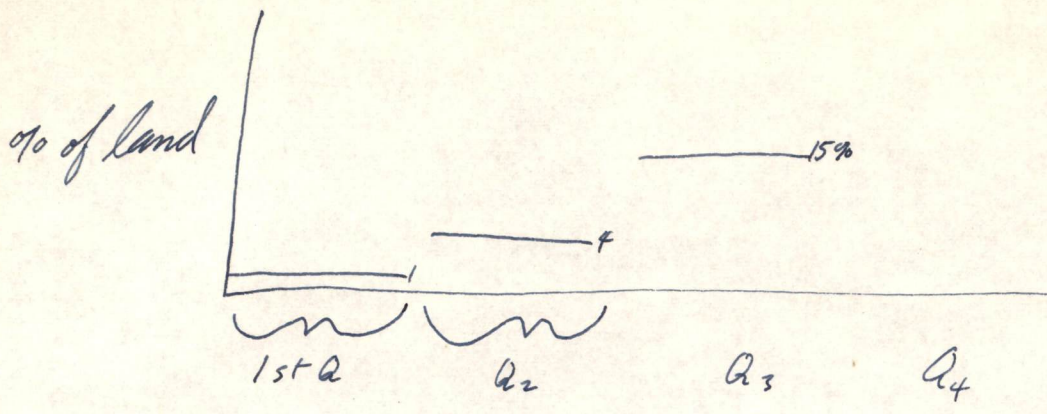


Take mid pt of class interval as wt. (or refine it, take ave fm ~~the~~ in class int. as weight). Thus weight them more, the larger they are. So the higher the result's figure, the more conc.

as index, take ratio to what you wd. get if distrib. exactly equal ... lowest 18% farms had 18% land, etc.

First, just try Lorenz curve, visually ... will probly show greater conc. later yrs, no crossg, no need to sweat.

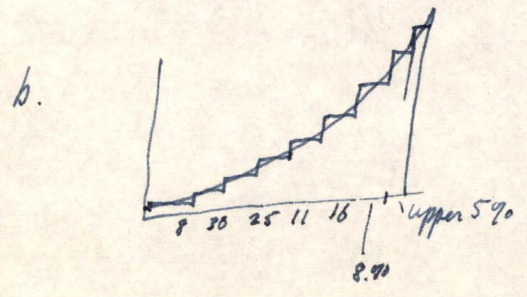
Good, Caramba, Ideal method of workg w data collected in odd categories.



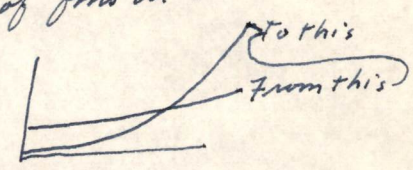
Want to show more land in Q_4 , less in Q_1 ,
as to Q_2 & Q_3 , just want to show Q_3 has gained more or lost
less than Q_2

Problem: data not collected in such a way that one can
set quartile, decile, or any such boundaries, accurately.

- 3 solutions:
- a. Use class intervals as given, figure changes in ave. fm
w/in ea. " " "
 - b. Find a good measure of dispersion
 - c. Fit a smooth curve to points you have, interpolate, then
use quartiles etc -- hardly seems worth effort.



On this, w 90s of fms on abs., want to show
drift to right.



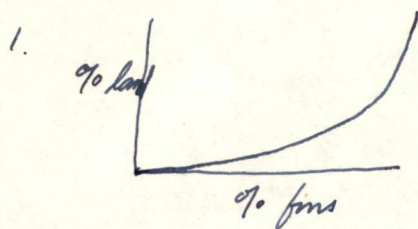
So if we take 0, ~~1~~ as base, ~~1~~ -- 0th percentile,
i.e. --- & figure deviations from it, there is a
good, good measure of conc.

Measures of Inc. Inequality. Early, the statisticians have provided us
w very little to go on -- which argues for using rules of common sense, no merit
technique.

1. Lorenz curve & "Concentration ratio" (RTID p. 81, but MfB isn't
very clear. See Lorenz' "Methods of Meas'g the Conc. of Wealth",
Publications of Am Stat. Ass., vol. 9 (New series 1905) pp 209-19.
NB, Lorenz was after wealth, not income.

2. Kuznet's' latest study

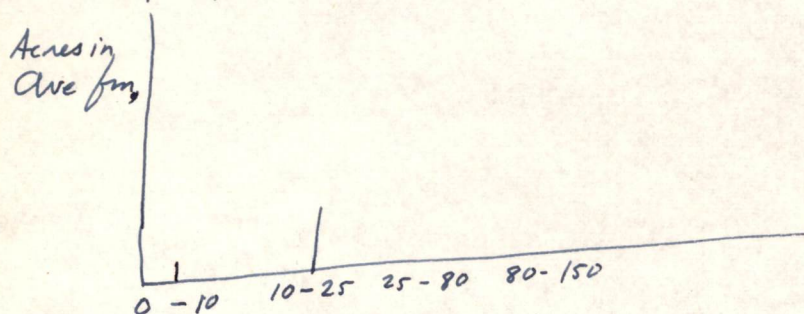
2 good ways to of conc.



Is there a standard measure for this curve? Ask Bob C. No.
 Lorenz put cumulative % of land on ordinate, thus got up to 100% at end. Why not put just % in ea class interval on ord. Then of. % of land in smallest & largest ~~farms~~ 25% of farms.

2. Take ave. fm. in each class interval.
 (or, perhaps, divide % of acres by % of farms)

Take A.D. of the averages.
 (from mean of all farms;? or from
 (mean of the averages?))



After big get bigger & small smaller, have larger ave in ~~large~~ hi cl. int.s, smaller in lower

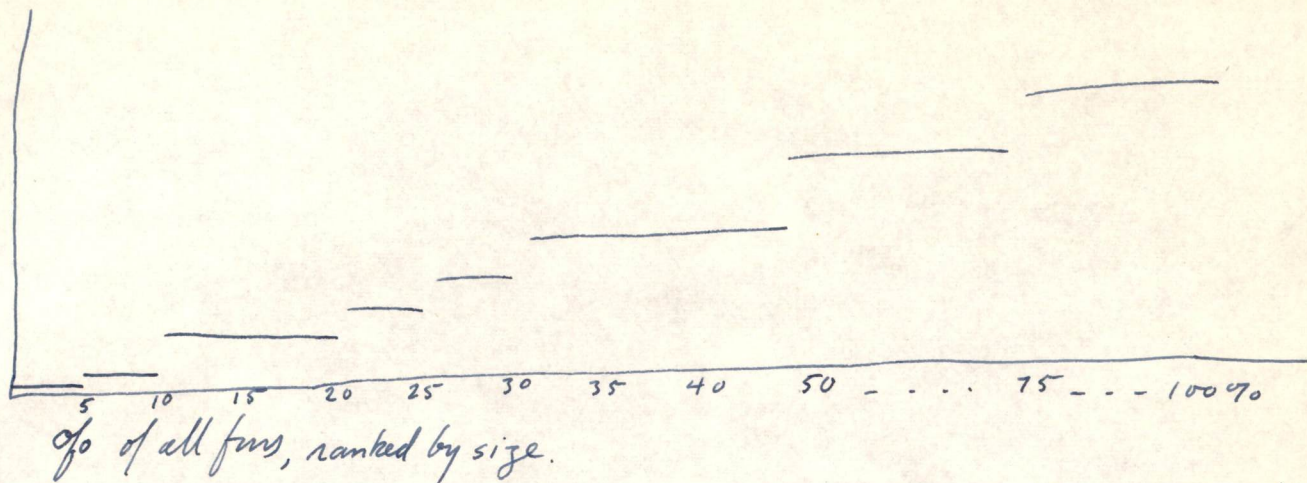
Shd allow some wt for numbers of farms ... one way is to take mean of all farms? No. Suppose no. of farms & total acres remain same, but small smaller etc. Same mean

1. Take quartiles.

a. of largest 50% vs smallest 50% of farms, note land mov'g from smaller to larger. (Better yet, find break'g pt, the size that is just hold'g its own, show farms larger than it have gained, smaller have lost.)

b. of 1st & 2d quartiles; & of 3d & 4th. or, take 2 & 3d together, cf to 1st & 4th?

% of
Ares in
Fms,



This is same as standard
insue of inc. conc: 
Good.

Mode: wd always be to extreme right

Mediam: wd " " 50

Mean: " " " to right of median

Deviation: take midpt of class interval -- e.g. 0-5%, take $2\frac{1}{2}\%$,
conc. all + here. (But that will understate, actually shd shift to right a
little - that will on balance Δ s.d., bcs larger figs are to right of 50

One advantage of this method is I don't know the upper
limit anyway, this way I don't need it

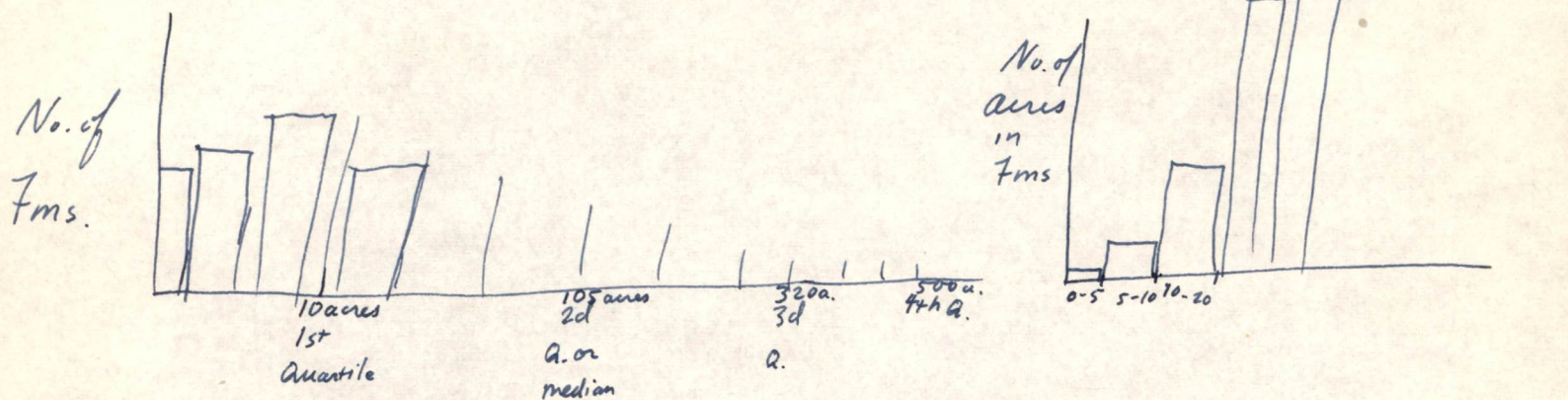
To save time, just compute Q.D. for ea. ~~the~~ freq. distrib.,
probly show trend amply?

I call this
only applies
to very
normal
distrib.

One reason for comput'g σ is to see how much of
distrib. lies farther than 1, 2, & 3 σ from mean. (But wd that
apply ~~in~~ if I use %s?) Normal curve, $\frac{2}{3}$ lie w/in 1 σ of mean,
95% w/in 2 σ , 99.9% w/in 3 σ
But: 51% will lie w/in 1 A.D.
50% " " " 1 Q.D.

These ~~fms~~ ~~scatter~~ sizes are spread over an extremely wide range.

Measures of variability.



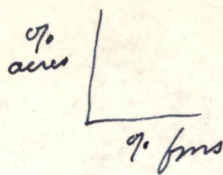
Unit of Land in the Fm.

Semi-interquartile ~~deviation~~ ~~range~~ (or "quartile deviation", Q.D.)
 from 1st - 3d quartiles, $\div 2$. i.e. $\frac{320 - 10}{2} = 155$

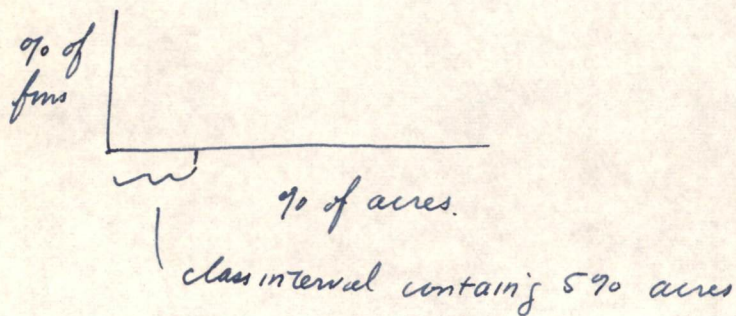
Ave. deviation: Find mean, & all deviations from mean. Take ave. of the deviations.

Wd. save me much trouble to use it, not s.d. - any special reason for using σ ? σ useful for higher purposes --- I can dispense.

But if I take



Will get a less ~~AD~~ A.D., at least on small side. For suppose in 0-5 acre class are now twice as many fms, same acreage. So smallest 5% of fms, being smaller, now contains less acreage than before.



Now: if get more very small fms, get wider dispersion, higher AD
... takes more fms to contain 5% of acres.

But what of upper end?