

Ec 148 S-01 Used Notes

1. Give several models; drill them some, w. 5 min. quizzes.

Lorenz Curve

Gini Ratio

Product curves.

Stages I-III

Dissip. of rent

AP vs. MP

Quoting inputs

Quantum leaps

Pooling - use C.V., or just mean deviation, numerical e.g.

Dim. rets. to size of dam.

B/C ratios.

E of prodn.

2. Give pairs of words, to distinguish.

2

Fund v. flow
Earned vs. unearned wealth
Profit vs. rent

3. Write outlines on blackboard

4. Leading court cases

5. Write out assignments
in easier format.
Schedule them better.

6. Survey what we have learned
& will learn.

7. State learning goals.

Mon 16 May

~~WW?~~ 4-6

1. Wtr. change not passed thru.
- a. STD

"price taken"

- b. Dim. vtr to wtr?

MP of wtr is $\Delta GR - \Delta CC$

Quantum leap to lower-valued crops

GR	CC	NR
1000	900	100
100	40	60

GR	Labor	Wtr	NR
1000	900 50	50 5	50 5
100	40	50 5	50 5
1000	900 50	0	100 50
100	60	0	40
1000	950	40	10
100	60	40	0

Case 1: Bear water

Remains alf.

GR	CC	Wtr	NR
1000	800 100	100 100	100
100	40	200	140

Case 2:

GR	CC	Wtr.	NR
1000	800	-	200
200	40	-	160

2

	<u>GR</u>	<u>CC</u>	<u>Net Rev.</u> <u>Before Wtr</u> (Free Water)	<u>Wtr</u>	<u>N. Rev.</u> <u>After Wtr.</u>
Berwin	1000	900	100	50	50
Alf.	200	50	150	150	0

Add wtr., $\Delta GR = -800$
 $\Delta CC = -850$
 $\Delta NR = 50 \quad (150 - 100)$

c. Case of Fresno & Kings ^{Future} _{Cuties}

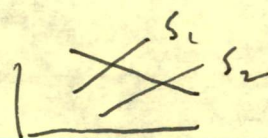
Pop. stopped growing

Farms large

Welfare grew

d. Can tax wtr. withdrawals.

Wed., May 16



0. S + D again, inclast. demand, Δ supply

1. WPWM ~~440-91~~ 476-78

Less wtr, higher yields!

Corollary: low wtr. withdrawals. (not delivery - the opposite of the bias in our cultural baggage)

2. Quantum

a. Epsilon was broken by software. ϵ

b. $\epsilon = \frac{mP}{aP} \left[\frac{\Delta P / \Delta F}{P/F} = \frac{\Delta P/P}{\Delta F/F} \right]$

c. ~~On poor land~~ ~~Which land is in high use,~~ $\epsilon \rightarrow 1$, $\text{rent} \rightarrow 0$

On rich land, ~~the~~, $\epsilon \rightarrow 0$, $\text{rent} \rightarrow aP \times F$

d. But if rich land is in ecotone, it's ^{often} better to shift it to higher use. For that use, it is poor land, ϵ ~~the~~ goes higher - but not up to 1.

Quantum leap.

(Beware Alfred Marshall, & internalization)

e. Charging for the land may induce a switch to berries. - as w. ~~W~~ Wright & Bennett Act.

Charging for water may have same effect.

3. Subsidies

Water is an "Ousting" input.

4. "PS" is "F.S." p.76, 2nd Fallacy

Over

Midterm, Economics 148, Wednesday, May 09, 2001

Note. We cannot afford the luxury of a post-midterm letdown, so be here Friday. Read the two items on Reserve about the Kaweah River service area. One is an excerpt from Bain, Caves and Margolis; the other is an article by M. Gaffney, "Diseconomies Inherent in Western Water Laws." Note the outline form; study the 9 points made, pp. 5-17. Be prepared to answer a short question about them on Friday.

Answer any THREE (no more, no less) of the ff. questions.

1. A census report ranks the farms in the valley of Utopia by acreage groups, and reports the ff.:

Group	No. of Farms	Acres
1-14.3	600	5,000
14.4-33.9	391	10,000
>33.9	9	85,000

No. of Farms
60
39.1
.9

No. of land, acres
5
10
85

Using the three points derived from those data, sketch a Lorenz Curve, with appropriate NUMBERS in place. A table would be useful, in addition or in lieu.

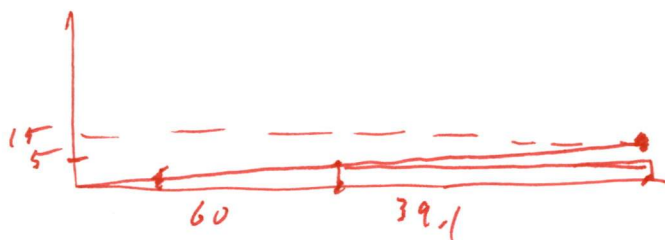
Show geometrically the meaning of a Gini Ratio derived from the Curve.

2. - From what 3 major external sources does southern California import water? In each case, name the natural source, the aqueduct name, and at least one of the agencies in charge.
- The Tulare Lake Basin region gets water from 3 major local rivers, and two external systems. Name the rivers, and who or what dams them. Name and describe the two systems.
3. You have a sheet showing, among other things, three pairs of "action and reaction" events in the history of California water law and institutions (rules of the game). Give the names and dates, with succinct descriptions of each event, and (if you find time) the economic effects of each.
4. From 1887-1935 or so, small family farms burgeoned in California, and in some regions of the state displaced vast ranches, intensified cropping, and raised yields. What were the trends before and after this era? What were some major causes of the differences?
5. a. How have farm towns been affected by the size of farms around them?
b. How have cities and towns contributed to the development of farming around them, via Irrigation District financing?
6. What are the key ingredients in the success of Irrigation Districts?
7. Marshal the arguments for and against making water sources "marketable."
8. Have you any value-judgments to assert AND SUPPORT concerning facts we have covered thus far in this course?

$$\text{Base} (\cancel{100} 15 + \frac{1}{2} \cdot 85) = B \cdot \cancel{85} \left[15 + \frac{1}{2} (100 - 15) \right] = B \frac{1}{2} (100 + 15)$$

$$\text{Base} \times \left(5 + \frac{1}{2} (15 - \cancel{5}) \right) = B \cdot \frac{1}{2} (15 + 5) = 10B$$

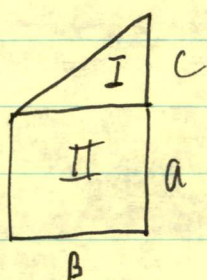
$$B \left(\frac{5 + 5}{2} \right) = 10B$$



<u>Area #</u>	<u>Base</u>	<u>Alt</u>	<u>Area</u>	<u>Cum. Area</u>
1	60	5	$\frac{1}{2} \times 300 = 150$	150
2	39.1	$\frac{1}{2} (15 + 5)$	$10 \times 39.1 = 391$	541
3	.9	$\frac{1}{2} (100 + 15)$	$.9 \times 57.5 = 51.75$	592.75

$$A = 5,000 - 592.75 = 4,407.25$$

$$\frac{A}{A+B} = \frac{4,407.25}{5,000} = .88$$



$$\text{Area I} = \frac{1}{2} B c$$

$$\text{" II} = B a$$

$$\begin{aligned} \text{Total} &= \frac{1}{2} B c + B a = \cancel{B} B \left(\frac{c}{2} + a \right) = \cancel{B} (c + a - \frac{c}{2}) \\ &= B \left(\frac{1}{2} (c + a + a) \right) \end{aligned}$$

Fri., May 18, 01

1. Quilibrium leaps over ecotones.
From ~~low~~ ϵ in lower use to ~~low~~ ϵ in higher use.
" low iq. " high iq. "
" high rent/TP in lower use to low rent/TP "

2. Gini data from Venezuela (Est 4/28/01 p.36)
a. 5020 have 1.6%
9920 " 54%
b. Cf. U.S.

> 1000 ac have 62% , 1987. GR = .76

3. Rent + value of wtr.
a. Sta. R. wtr. worth \$2,000/af². That's what state spends to avoid spreading it -
b. Lands rich wtr also yield rent. That's why they fight for wtr. ~~Evolution~~ Evolution of large ranch into Rancho Ca. into Rancho, Tuxtepec, Minieto, Meripec, etc.

4. Environmentalism
NPP - not in Renda. Just as well - no time.

5. On to wtr law. Matrix approach

Wed. May 30, 01 Ec. 148

1. Undermotivated sellers - no prop. tax.
(Lesson of - Pref. Assmt.)

2. Leaks

V.1 Unpriced withdrawals
Pumping, + free recharge: Gt. Wtr. Treadmill,
or Chingtown Syndrome, (1913).

Conservation in L.A., annex new lands. Keep prices
low during droughts.

"Excess" landowners set recharge wtr.

V.2 loss of elevation

2nd Law of Therm.

"Non-consumptive" - term of art, to trivialize
value of prev. drops.

V.3. Effluents

Kesterson

China - destroyed aquifer.

V.4. Unrep. demands

Upstream uses.

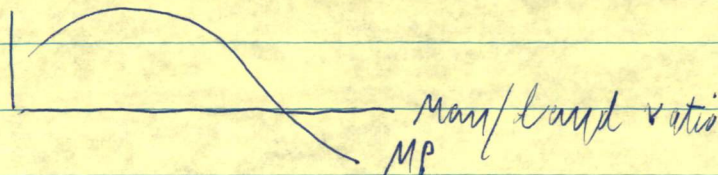
V.5 Eggs is consuming

V.6 ~~the~~ Subsidies + hydro-imperialism

Subsidy creates scarcity. Colo. R.

V.7 Fish - dammed bcs. overcrowded

Adding wtr + fish has same effect as
removing fishermen.



Entitlements & Allocation

VI.1 Win-win deals?

Win-win trades are often win-win-lose.
Trades reinforce prior maldistribution. - it is all loundered.

. So are subsidies. E.g. Westlands WD case.

Wahl, p. 487.

This does not "get govt. out of the mkt."

This is exploiting the good name of the mkt. to get something for nothing.

Stimulates future rent-seeking.

Solutions: charge permittees & contractors for what they get. Then let them trade.

VI.2 Wtr. as public domain.

Legal double talk, terms of art. p. 489

VI.3 Rent of wtr.

Opp. cost, avoided cost

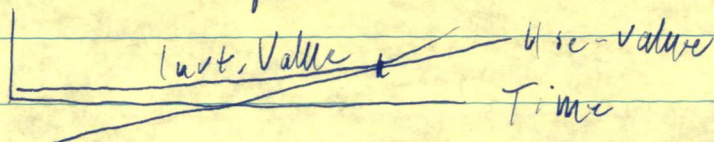
VII "Fundamental Ec. Ideas"

VII.1 Distrib. dominates Allocn - Coase is wrong.

WTA vs. WTP.

E.g. of Indians, Hispanics.

VII.2 Rent-seeking prevents free mkt.



3

The process of firming up prog. rts. is ignored.
"Waste today, waste not tomorrow."

VIII. 1 Bureaucracy. Optional.

When blaming bureaucrats, ask "Who pushed them?"

VIII. 2 Wtr. Dist. as pocket boroughs,

Free mkt. do not depend on those
who preach free mkt., but on radical democratic
reformers.

Priv Govt: 1849-86

Local govt int: 188~~8~~1 - 1935

Fed. int: 1936-60

State : 1960-

Empties

Some

influential people
the investment world
the economy.

jump - start

respected

liberal

ease

perk up

sputter on

profit

income

overheating

weakness

overall level of activity

productivity

powering a vibrant economy

when it comes rt, down to it

at the end of the day

Wtr. mkt. pp 6-14

1. \$ makes commensurable.

2. a. FOB at source, however priced wheeling
Demands submitted in form of schedules
(Madera does it)

b. Wheeling

$$P = MC$$

MC rises w. length, falls w. volume.

(Distance effect vs. volume effect)

Met deficits w. flat charges, as IDs do.

3. Obstacles 478-

Fri, Apr. 6

p. 1

1. pp 82-83, Transcript, Mendota - Fresno. (1969-72)

A. Dark brown patches are the most wtr: (deep blue)

" " is alf & pasture

" " is 5-7'

B. Subtrop. fruits use the least (citrus, olives, avoc.)

C. Hi-yield crops are mostly east of Fresno

D. W. of Fresno, slow xition to lower uses, (various, Armoniums) more wtr.

E. 10 mi e. of Kernan, wheret shift to non-irrd.

Indicates boundary of F.I.D.

F. Fresno Slough is htm, S of Valley - old overflow patch
Cold nights; alkali problem.

G. W. side, low uses, some w. heavy wtr use.

H. Farm sizes: small on e-side, vast on w. side
(Since '69, wtr. use on w. side went way up.)

2. p. 102

A. Methods of irrv.

1. Most conserving - drip. Very rare

2. " Wasteful - Surface, no furrows - most common

3. Next most " - furrow Next " "

4. " " " - o'head sprinkler " " "

B. Most acres irrd.

1. Kings - Kern - by far.

2. S of R ones

3. Sec. V, (Crites), pasture, decid. trees

C. Hi-valued crops.

KKTL has a lot, but low fraction

Sta Anna R. has high fraction - so does S of R

Fri., Apr. 6

p. 2

3. ~~Importing~~ regions

a. Tulare Basin

2. S. Coast

3. Sacto (minors from n. coast) (Misleading - it's passed on!)

4. S.F. Bay

Exporting regions

1. Delta - Central Sierra

2. N. Coast

3. S. Lahontan (Owens V.)

4. Colo.

Balance

1. S.F. Basin

4. City Systems

A. S.F.

B. L.A. (Little mention of Colo R., & MWD) (None of CWP)

(Other cities not covered)

No mention of excess claims, to valorize spec. lands.

Cities marketed great fuel, power.

Same time, so did agric. via rural districts

5. WS, Chap. 11

Mon. Apr. 9

The Great Valley: CWA 46-57.

p. 47 By 1930, L.D.s provided 92% of irra. wtr. in
SGV - until CVP came on line.

They understate this, then hurry on.

47 -

Marshall Plan

49

1928 Amendment, limited rps. to reasonable

use

48

Map of CVP as it worked out

Shows bulk of wtr going to giant farms.

Major Rivers, Reservoirs, and Controllers, Central Valley of Calif., for use in Econ. 148, Spring 01

Rivers are listed from north to south. Most are on the east side of the Central Valley.

Purpose is to give you an introductory overview of a complex system. Use in conjunction with a map. Reservoir capacity data are as of 1965 or so; some reservoirs have been enlarged since then, and some new ones built, so the data are not all 100% accurate as of 2001. "na" means "not available," but here that simply means that I have not had time to look up the latest information.

Suggestion for study. Remember three (3) things about each river: its name, the reservoir name, and the user organization. (It's feasible to remember three things at a time.)

Acronyms:

ACE = Army Corps of Engineers
 CVP = Central Valley Project
 CWP = California Water Plan
 DWP = Dpt. of Water and Power, City of L.A.
 DWR = Department of Water Resources, State of Cal.
 EBMUD = East Bay Muni. Utility District
 MID = Merced Irrigation District
 MTID = Modesto & Turlock Irrigation Districts
 PG&E = Pacific Gas and Electric Co.
 S.F. = City of San Francisco, Water Dept.
 SCE = Southern California Edison Co.
 SMUD = Sacramento Muni. Utility District
 USBR = U.S. Bureau of Reclamation

River	Dam(s)	Reservoir	Capacity	User Org.	Benefited Area or Project
			(maf)		
Trinity		Trinity	2.50	USBR	CVP
Sacto.	Shasta	Shasta	4.49	USBR	CVP
Feather	Oroville	Oroville	na	DWR	CWP
"	na	Lake Almanor	1.31	PG&E	Power grid
Yuba	na	na	na	Cnty	Local
Cache Cr. (w side)	na	Clear Lake	.53	USBR?	CVP?
American	Folsom	Folsom	2.00	USBR	CVP, Local

Major Calif. Rivers, etc., p.2

River	Dam(s)	Reservoir	Capacity	User Org.	Benefited Area or Project
Putah Cr. (w side)	na	Monticello	1.60	USBR	CVP
Mokelumne	Pardee	na	.21	EBMUD	Oakland, Berkeley
Calaveras	na	Hogan	.08		
Stanislaus		Melones	.11		
Tuolumne	Don Pedro	Don Pedro	.29	MTID	Local
"	Hetch Hetchy		.42	SF	SW of Bay Area
"	Cherry Valley	na	.27	na	na
San Luis Cr. (west side)	na	San Luis Reservoir	1.3?	DWR, USBR	CWP, CVP (joint)
Merced	Exchequer	Lake McClure	.29	Merced I.D.	Local
San Joaquin	Friant	Millerton Lake	.52		
Kings	Pine Flat	Pine Flat	1.00	USACE	Local
"		Huntington Lake	.09	SCE	Power Grid
"		Shaver Lake	.14	SCE	Power Grid
"		Edison Reservoir	.13	SCE	Power Grid
"		Mammoth Pool	.12	SCE	Power Grid
Kaweah		Terminus	.15	USACE	Local
Tule		Success	.08	USACE	Local
Kern	Isabella	Isabella	.55	USACE	Local

To thinking outside the box above, get or make yourself a blank table. Use it to add more rivers of your interest. There

are many more.

Below are some groupings to help you remember what's above - and a few odd items more. You can generally remember triads - a good way to master a subject.

3 big power companies: PG&E, SCE, SDG&E

Major Federal and State Agencies: USBR, USACE, CDWR

3 old established city systems: SF, EBMUD, LADWP

3 newer city systems: Sta. Clara Valley WCD, SMUD, MWDSC

3 most important rivers, northern Sierra: Sacramento, Feather, American - (and one neglected river, the Yuba)

3 major rivers of n.w. Coast Range: Trinity, Eel, Russian

3 major rivers, central Sierra: Stanislaus, Tuolumne, Merced.

One other, the Mokelumne, is important to Oakland and Berkeley.

3 major rivers, southern high Sierra: San Joaquin, Kings, Kern
(plus the smaller but valuable Kaweah and Tule Rivers, between Kings and Kern)

6 Coastal valley enclaves: Napa-Sonoma Valleys, ^{Sta. Clara,} Salinas Valley, Sta. Clara Valley of the South, Sta. Maria Valley, Sta. Ynez Valley

One Valley Sacrificed for L.A.: Owens, east of high Sierra

3 major rivers of southern Calif: Los Angeles, San Gabriel, Sta. Ana (and one lesser system, the San Jacinto)

3 major divisions of Central Valley: Sacramento Valley, San Joaquin Valley, and Tulare Lake Basin (s. of San Joaquin R.)

3 major California users of Colorado River: MWDSC, Imperial I.D., Coachella Valley (and the smaller Palo Verde I.D., with valuable priorities, high nuisance value)

3 rival claimants on reservoir storage space: water supply, power generation, flood control

3 water uses producing the least value and the fewest jobs per unit of water: rice, hay (including alfalfa), and irrigated pasture. (Golf courses and cemeteries may belong in this group, too, but it is hard to measure their output.)