

Ecs. 178, Used notes

BCM

Ch. 3, pp. 93-124 Laws Governing Fed. & State Water Agencies.

Bureau, Corps. & Dept (of WR). Being superimposed on complexes of local agencies, previously fully integrated (vertically.)

Interagency rivalry. Is agency specialization, but overlap.

1. Corps. '36, began Flood Control. Isabella.
 Ann of Congress - Pres. hardly controls, River & Harbor, traditional pork barrel.
 No social cause; logrolling

BR. controls x run & distr. from all dams. From '44

Navig. ~~is~~ made jr. to consumpt. use, 17 w.-n. states, '44,

No overall planing. Responds to local demands.

2. BR

Aspires to get repaid. Revolving fund -- never revolved.

Increased power of agric. to get wtr -- an anachronism ~~is~~ after 1938.

Previously, only cities could afford interregional transfers.

BR:

Multi-purpose, from 1906

Revolving fund. (Until '33, Cong. began making special approps.)

160 and loan

Repayment by landowners

Obverses state water loan

1939. Long term utility-type contracts

a. Less repayment

b. More reallocation possible. Continuing mgmt. fm. Possibility for integrated mgmt. of wtr.

'33, evolves from a developer of public lands, to a wholesaler to existing I.D.s.

C DWR.

Origly. for CVP, Marshall Plan.

Marshall plan blocked by wtr. loan. Cost became hi; became unrec. so called in Fed. So now DWR is doing FRP. also dreams of State Water Plan, (\$13b +, but will never get it.) Cal. aqueduct may never reach L.A.

Cal Wtr. Plan is an elastically defined, multi-billion \$ grab bag, that exceeds capacity of Oroville. It is a blue print, a dream, a vague & uncertain promise, perhaps to help sell r.e. Only what is funded exists. (Cogito, ergo sum; pagaro, ergo sum)

Depends on bond issues. FRP may never reach L.A. — much less all the spurs & branches.

Refer to history of state p.w. in U.S. — state bankruptcies under

old canal boom.

Calif. is proceeding in complete ignorance of history. And historians are piddling around w. trivia. 'Those who refuse to learn from history are doomed to repeat it.' 'Experience keeps a hard school, --' Study math, history, & English comp., get our educn.

Local agencies, Balkanized. I.e. each is vertically int. No inter. in row int.

BCM wistfully hint that horiz. integrn. wd. be good.

BR & CDWR each has a complete 'plan'. But are not ec. plans, including staging -- i.e. the dynamics. At first, one gets carried away, great possibilities for integrn. of systems. But then comes

staging or sequence problem. ^{Building's defn. of an engineer.} Must do smaller things first. And let some water "waste". They are dreams -- & competing ones at that. Come to realize that uppermost problem of ec. dev't. is

when to replace old system with new, & how to superimpose new on old. Political & social problems are tough. Old generation has to learn that what was modern, progressive and "the answer" in its day is no longer. But ec. problem is tough, too, & that is our area.

Summarized in problem of when to replace pot. wells by munic. water system.



"Authorization"

- 2 state of Calif. authorities regulate wtr. projects (besides P.W. Comm.)
 - a. a "board" -- Wtr. Rts. Board. Has latent power of making rules, but has not asserted them. Has tended to duck big issues. Line of least resistance.
 - b. a "commission" -- Cal. Wtr. Comm. Has filed on unapp. wtr. (~~It is also P.W. Comm.~~) Holds in trust. Duplicate Board, but in fact is agency for enforcing City of Origin rule.

- Fed.

Based on navigable wtrs
and

Property. per FPC

(FPC collects a rent for dammiter. But on balance, Congr. not only gives away the site, but also the money to develop it.)

[You wonder how the system works? There are several places in system where a person w. ideas can assert himself. Most are lazy and prefer the easy way. So whoever wants authority takes it. But he stir up resistance, & may get ejected.]

FPC has veto power. Pres. must approve, by issuing license, any dam on stream over which Congress has authority.

FPC has great latent authority — if it chooses to assert it. Hasn't been prone to do so. Had to be ordered into gas regulation, against its' will. But has great power, as in ~~El Paso~~ Permian Basin case, set whole pattern. Needs an economist in the worst way — so do dozens of Federal agencies. (Hitch showed what an economist can do, moving into a poorly administered

situation. So did McNamara, first at Ford, then at Pentagon.

Now, huge wkts. for ecsts. -- if you guys would just wake up, can make careers for yourselves and do the world a lot of good, same time -- nothing more satisfying.)

FPC, Fed. agency, paramount over State law. Pelton Dam case. PGE won, Ike won -- but States rights lost. (No don't fall for simplistic guff of Ayer Rand. Life much more complex & interesting than that.)

Misc.

BR subject to State wth. law; Corps not.

Ben. Cost Anal. Has some intra-agency value, but not much else, bes. Agencies evaluate their own projects. They are, however, subject to Congress & BB, and are becoming increasingly important.

160 acre law. Remarkably viable -- a good "square liberal" cause. Rallies churches, unions.

Provisions.

Problems.

Utility-type contracts. Originally, landowners paid less, didn't have to repay capl. costs, hence didn't get such firm rights. Now, by erosion of utility principle, original recipients are trying to get perpetual rights.

BCM Chap. 11, ~~pp~~ The Investment Decision

pp. 397-418, 'Investments by State & Federal Agencies.'

(IPBS -- people keep rediscovering economics. But it's more than a cycle -- it's spreading, invading military, engineers, business, etc.)

(Will distrib. evaln. of public goods.)

- Fed. agencies now calc. incl. ben. & costs. (altho. they ~~very~~ overvalue them, e.g. Army Engrs. re flood damages, probly use replacement cost of bldgs. like ins. co.s, & fire dept., etc.; e.g. Bk ests. primary inn. ben. Sacto. Canals at \$16./af + distribn. costs & ex. insn. losses; but users won't pay \$2.75. - p. 398.

- criticize inclusion of 2dary benefits, bes. of 2dary losses elsewhere. Invalid. Resources are drawn from margins else where, so they generate rents on new lands w/o destroying them elsewhere, (save by raising wages.)

Then, if there are primary benefits, there are 2dary ben.

(Leg. Yellow Bk Ch. 3)

Ec. 178. Nov. 28

Extractive Resources.

~~4.~~ I will put 3 copies ERT on reserve

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E. Justus.

1. Martin.

Vertical integration. Iron ore; moly; nickel; timber; gypsum.

Destroys free markets in raw mtl.

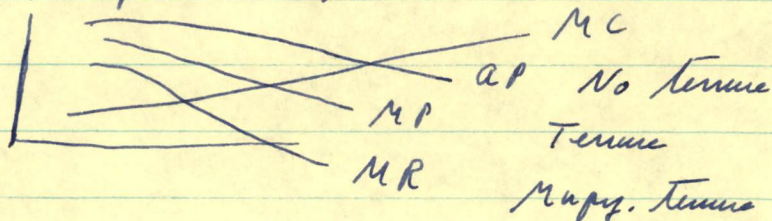
Requires staggering to maintain going concern. As scale of earlier look at inv. If we want compn. want market mechanism to work, need free mkt. at every level.

2. Mead

Bidding for timber. Collusion by big bidders.

Conclusion. Adm. of public domain leads to exploitation of public. Strategically placed priv. owners get gravy.

3. Pontecorvo. Open accen.



Concept of dissipation of rent.

There are other ways, that come out later in book:

- Extending p submarginally
- Advancing exploration

4. Gardner. Shale oil. No discovery cost.

How to assert public interest.

Taxn. & renting are 2 ways of doing same thing.

Counterparts:

Crop share	-	Sales tax
Cash rent	-	Land tax
X	-	Property tax
Lease bonus	-	Sale of land

Seeks to administer domain with ff. goals:

- Avoid hitting irreg. effort
- Defer tax payment, let little fellows on
- Get timely development

X - No counterpart. Shows what a bad tax it is?

Ec. 178. Tues, Nov. 7

1. I have their reports on study questions. (But I don't)

a. Comment on some

b. Entertain questions

c. Look at questions they didn't get to.

Me

2. Repeat & discuss basic exposition on differential tax capitalization

3. Speculation, when p.w. are projected

$$V = \frac{a}{i-g}$$

Adds to leverage of diff. i .

$$\Delta V = gV$$

(Perfect mkt. capital theory is based on ^{can substitute} "An i for an i " -- ~~no change~~ ^{no change}

(My theory is based on a "truth for a truth" -- i.e. the true insular i .)

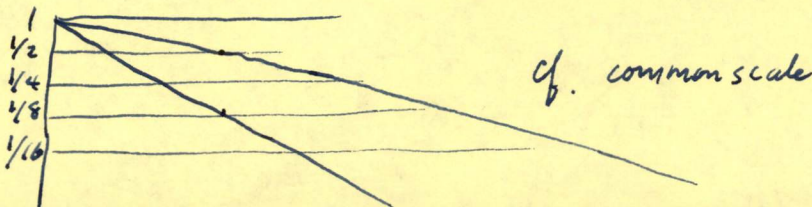
W. tax, dilutes instead of fortifies differentials. $V = \frac{a}{i-g+t}$

✓ Imposition of t not only dilutes i differential, it creates an a differential in favor of the innovator, who responds to new p.w. Penalizes

slow adapter.

✓ It is not just the absence of a tax on improvements, (Cities tax improvements) but the positive works of a tax on land that accelerates development. Conventional ec. theory neglects above kind of thing almost entirely.

Semi-log scale shows growing importance of i with futuring



More realistic model for land succession analysis is:

$$V = \frac{a[1 - (1+i)^{-15}]}{i} + (1+i)^{-15} \frac{b}{i} \quad (b > a)$$

✓ Another way of viewing I.D. is means of extending cheap credit to "settlers." -- and in any area of life, actual development is by small "settlers" -- little people -- who attend to small details.

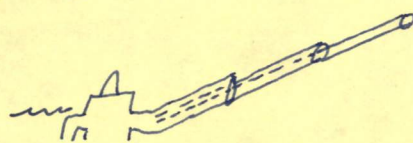
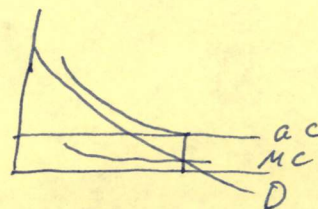
4. Pricing of distr. b. nets

We have seen that there is a role for land tax.

Some want it exclusive. That is too much. It's also a role for user charges.

a. If wtr. is scarce at land center. $P = MC$

b. Cost of conveyance



✓ 5. Does this mean more govt. in the economy?

On contrary, by inserting local govt. at this level, make competitive free enterprise and free market possible. Govt. does the things that are of large scale, thus makes niches for competitive free enterprise. Govt. creates a mkt. in vital raw mtrls, thus precludes vertical integration.

Analogy: Stone's analysis of urban density. Where you get decig costs, there is public sector; Δg costs, priv. sector.

But if we take giant enterprise as type of free enterprise, internalizing externalities by virtue of owning everything in sight, then we have a company town, might as well socialize the whole thing, else against socialism collapses.

Wed, March 8, 1961

1. Remake appmnts for Thurs.

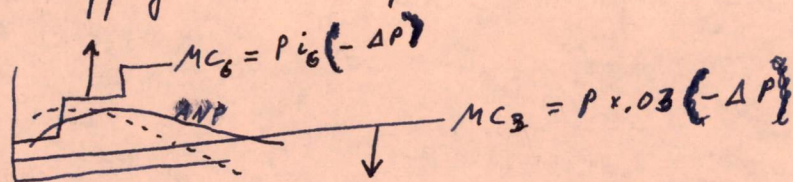
2. Another day on i.r. & land

$$\frac{MR}{P} = i - \% \Delta P. \quad \text{Leverage for i.r.: If } i = \% \Delta P,$$

$$MR = 0.$$

Does everyone expand holdings? Higher price discourages all, but in a i. If $(P_1 - P_0) i > \Delta P$, contract.

3. Now apply to ecs. of scale.



Now let antic. $\Delta R \rightarrow \Delta P$. MC_1 rises, MC_2 falls. Small get smaller, leave business. Large get larger. Result is concn. of fm. holdings of last 20 years.

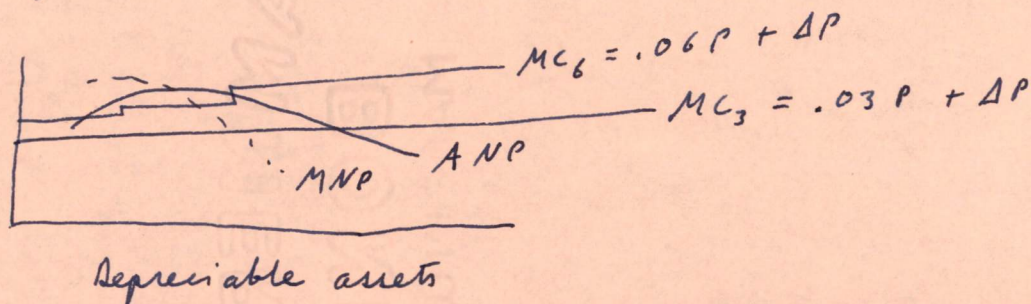
3½. Why doesn't 3% rent or lend to 6%

4. Now apply to depreciating assets.

$$\frac{MR}{P} = i + \% \Delta P. \quad \text{Usually } \% \Delta P \text{ swamps } i.$$

4. (cont.)

(or variable or dependent complement)
Take fixed land, add capital, see effect of divergent i s.



Not only does ΔP swamp P_i , but P is lower.

5. It follows that fuel power leads one to lay field to field more than house to house, so the wealthiest have higher ratio of land to other assets.

But not just the wealthiest. A man who is both wealthy & enterprising has very good invmt. opps., not open to smaller operators. Maybe he figures hi i.r.

Problem is inherited wealth in lazy hands.

6. One-shot fund resources, what is leverage of i ?

Use tables for e.g. E.g. 23 yrs 3 & 6%
17 yrs 4 & 8%

So ~~moves~~ of ore reserves now marginal move to low

i.r.

7. Another approach is via Turnover. Reciprocal of durability, same as depreciation.

Put \$100 in food inventory of restaurant, 200 times a year, gross sales \$20,000. ^(net of value added) Interest cost negligible. So anyone can go into that business.

Put in land, ~~put~~ never turns over, gross sales \$4.

Int. cost paramount.

Put in appreciating land, sales ~~\$2~~ \$2, int. effect even greater.

Note preference of monopolists for land. Key to market control, but least effect on sales. Hence m.v. looks high, cf. vs. other investments.

8. In between are durable capital items, int. cost appreciable.

Dams, roads, etc.

100-yr dam. Deprecn 1%, Interest 6%. But in later years, best future use of site is major cost. And usually don't wait 100 yrs. Don Pedro, 1923, already obsolete. 30-40 yrs is about par. Not but dam wears out, but site needed for higher use.

✓ Sacto valley many yrs behind SJ in technique. Res loss
measure. Bob Brown Jr.

CCID Buys Miller & Lux 263-Mile Canal System

The End of An Empire

THE Central California Irrigation District will open bids in the sale of its huge \$4,200,000 bond issue on December 2 to obtain funds to purchase the San Joaquin Canal Company from Miller & Lux, Inc. The District is located in the Los Banos-Dos Palos-Newman area in the heart of the San Joaquin Valley.

The facilities of the system to be acquired include two main canals and numerous ditches, together with operating structures and maintenance buildings. These are spread over a land area of some 5,000 acres.

Canals Total 263 Miles

The two main canals both head at the Mendota Dam. One travels 85 miles to Crows Landing; the other 65 miles to Gustine. Some 24 ditches and laterals, together with the two canals, total a distance of 263 miles.

The system will serve an average of 550,000 acre-feet of water annually to approximately 2,500 landowners over an area of some 144,000 acres of crop land within the District.

Improvements Planned

CCID will immediately embark on a general improvement and supplemental water program. The drilling of eight wells will start in December, four in the Newman-Crows Landing area and four near Dos Palos at a cost of \$8,000 to \$10,000 each. It also plans to lease some of the 250 private wells now pumping in the District.

According to C. W. Bates, secretary for CCID, "the District actually originated in 1945 when the Central California Mutual Water District was formed. This was a voluntary, non-profit association of water users who banded together to see if something could be done to protect their water rights; to prevent the dissipation of these rights through the bringing in of more land under the San Joaquin Canal Company; to deal with questions posed by the Bureau of Reclamation's entry into the picture; and to look into the inherent difficulties of the entire CVP. By 1949 approximately 40% of the landowners had enrolled in this mutual organization.

Action Begins

"An increase in rates granted to the Canal Company in 1948, together with less and less summer water and more and more land being served, resulted in a movement starting in late 1949 to form an irrigation district which would have the power to negotiate or condemn.

"After two years of legal and engineering work the matter was finally brought to a vote on October 9, 1951. This election, bitterly fought by the Miller & Lux interests and a number of landowners, barely won by 90 votes out of 2,800 cast in a 94% turnout. The opposition immediately threw the matter into the courts, and it was July, 1952, before the Superior Court in Hollister upheld the District's formation, and July, 1953, before the

Court of Appeals in Sacramento confirmed the lower court.

Agreement On Price

"Largely as a result of the foreseeable expense and time involved in protracted condemnation proceedings by both parties negotiations were started to arrive at an equitable price to both sides. A price of \$4,200,000 was agreed upon in February, 1953. This represented roughly \$30 an acre for the land involved in the District. The appraised valuation of the system by two independent engineers was in excess of \$8,000,000.

"Since February, the District has been involved in the red tape required to effect the actual transfer. The approval of both the California Public Utilities Commission and the California Districts Securities Commission has now been obtained. It is expected that the District will take over physical operations on or about January 1, 1954."

Officers of the District are: **Lawrence C. Wolfson**, Dos Palos, president; **Harry G. Fawcett**, Los Banos, vice-president. Directors: **Herman H. Willis**, Dos Palos; **Jack Bunker**, Gustine; and **Frank L. Cerutti**, Newman. **C. W. Bates**, Los Banos, secretary-manager; **Bill Razanoff**, chief engineer; and **Tom C. Mott**, consulting capacity.

Miller & Lux Empire Ends

Transfer of the canal assets of the Miller & Lux Company will just about mark the end of the once immense and still fabulous Miller & Lux empire, states the "Fresno Bee." It had its beginning in 1858 when a Bavarian immigrant, **Henry Miller**, entered into partnership with **Charles Lux**, an Alsatian. Lux was the banker, Miller the field manager, and both did their jobs well. By 1888 the Company owned more than 1,000,000 acres of land in California, Nevada and Oregon and reputedly had one head of livestock for each acre.

Miller obtained most of Lux's holdings from his late partner's heirs and continued the expansion of his domain until his death in 1916. Since then there has been a gradual liquidation until today the Company retains less than 20,000 acres in lush San Joaquin Valley which the old cattle baron once considered his private grazing grounds.

Sly Park Bids Let

The Engineering Constructors, Inc., Southgate, was low bidder (\$1,075,507) for installation of five and one-half miles of the Camino Conduit on the Sly Park, El Dorado County, unit of the CVP. T. E. Connolly, Inc., San Francisco, was the low bidder (\$322,910) for drilling 2,200 feet of seven-foot diameter tunnel as a separate part of the same project. The tunnel and conduit, scheduled for completion in 1955 at the time the Sly Park Dam will be finished, will carry water from the dam to the El Dorado Irrigation District facilities.

"The Vanishing American"

Senator Williams Reviews Water Committee Work—Considers That Cloyed Bill Provisions Would Safeguard Rights

"WE ARE now right back where we were two years ago, perhaps longer than that, I suspect. Our water laws and our water conservation program now



remain in the same advanced state of embryonic confusion," Senator J. Howard Williams of Tulare, chairman of the Joint Committee on Water Problems of the California Legislature, told delegates to the fall convention of the Irrigation Districts Association. In a review of the activities of the Committee and in pinpointing some of the complicated water problems which face the people of California.

Referring to the loss of the Cloyed Bill at the last session of the Legislature, which he charged aided in bringing this situation about, Williams said: "The temporary loss of this bill is the result of a combination of unfortunate circumstances. One contributing factor, not too obscure either, disturbs me not a little. That is the expanding reluctance of our people to stand up for their own individual constitutional rights because of fear of real or fancied reprisal.

Vanishing American

"... It seems to me that if we, as Californians, are afraid to stand up and fight to protect our own laws and constitutional rights, then it is not for us to moan any longer about the 'Vanishing Indian.' What we should worry about right now is the Vanishing American."

In reviewing the establishment of the present Legislative Committee in August of 1951 and the study of the laws on water in California which followed the activation of the group, the Senator stated: "The Committee's study of the substantive laws on water in California and of our existing machinery for methodical and practical development of our water resources revealed a disturbing and almost pathetic picture of easy vulnerability through inadequacy and obsolescence. Our water laws have not kept pace with modern conditions and the demands created by a vastly increasing population. Our outmoded Model T controlling mechanism no longer safeguards our natural resources against organized exploitation.

Should Protect Rights

"There must be forthcoming without delay the creation of a separate and independent body with responsibility and with authority to concentrate adequate regulation and control over our water resources, and to safeguard with equal justice the rights of the public and its rights to

the use of its own waters under the law."

The legislative history of the Cloyed Bill, which provided for reorganization of the water agencies in the State, was carefully reviewed by Williams, who also said that "this bill was not the child of any one group of legislators; it was not a special bill devised by any single clique of individuals nor by any independent pressure organization; neither was it a stop-gap measure hastily thrown together by selfish or special interests."

The measure which had the endorsement of Senate and House committees was sent to the floor of the Assembly with recommendations of do pass. However, it was withdrawn from the file the day before the Legislature adjourned as a result of a letter from former Governor Earl Warren to Assemblyman Ralph Cloyed, in which the Governor stated that he would not be able to sign the measure.

Water Laws Confirmed

Williams disagreed rather sharply with the Governor's contention that the measure included substantive changes in the Water Code which would limit the district's right to contract with the United States, preventing the execution of contracts essential in our Federal reclamation projects.

On this point the speaker said: "It could have been clearly discovered that the so-called substantive changes were mainly and primarily a clarification and restatement of existing State water law and the confirmation of decisions of both California and Federal courts and statutes requiring recognition of the permanency and the appurtenancy of water rights.

"These changes in the District-Federal Cooperation Act forthrightly provided that the government contracts for water and for distribution systems shall recognize State law and Federal reclamation law; that the maximum financial obligations of the contracting districts must be specifically set forth in the contract as well as the final time of repayment; and that the payments made by the districts must be set forth and credit therefor be specifically allocated to the writing off of the reimbursable costs of project works chargeable against irrigation service.

Law Needs Strengthening

"All of these so-called 'substantive changes' already are basic law and have for a long time past been so recognized.

"The reason and necessity for clarification and restatement of this principle of water law is by reason of the fact that the 9(e) contract—doggedly insisted upon heretofore by the Bureau of Reclamation in all of its

Re free enterprise ecs. & I.D.s.

What is the pot. enterprise vs. which
to msre. I.D.?

Not consum. co.

But big landowner who dev'd own
land — who wd. use $P = MC$, etc.

So I.D. was neeq. to make small
enterprise possible.

Relate to grad. gr. of vertical inter.

Makes farms larger

Solano Members Express Trust

Norman E. Balch, Collector, Solano Irrigation District, in referring to his District's operations, states: "We have no 'taxes' and there are no 'tax-payers' . . . we have 'members' and 'assessments.' The net result is the same . . . we take in money for the operation of the District, but I feel that they are not taxpayers, they are all members of a District formed for the common good, and as such they must pay their share of the cost in the form of an assessment. The word 'tax' is never used in our office.

"Our assessment for 1957 was \$66,-762.22 . . . only 8/10 of one per cent was delinquent on December 31, 1957. Taking into consideration that our District is in the formative stages and no water is being delivered at the present time, I feel this is a wonderful demonstration of trust and confidence on the part of our members."

4-58

successful completion of the service area studies is greatly dependent on cooperation and close coordination of the field work with water users organizations and with the city, county, State and other Federal agencies having water development interests in the area.

Local Needs Recognized

The water supply studies now in progress require the careful consideration of the present and future needs of the local service area and evaluation of existing rights before establishing the quantities of water which may be exported for use in the San Joaquin Valley. Close cooperation of the people in the local area will be required in order that sufficient and proper provision is made to fully meet the needs of the local area before export is made. All of the work involving establishment of water studies and storage and regulation reservoirs will be carried out in the Project Development Division in Sacramento.

The third part of the investigation

Productivity of AL invest. in wtr control. To deliver wtr just when needed.
Crude & obvious is seasonal storage. Beyond that is demand delivery, so
can "set" ~~crop~~ fruits by droughts, combat salinity etc.

—
Lvt means not only compact settlement, but area specialization, as forces much land
into highest crop

—
Net
gross : Lvt pushes toward ~~higher~~ lower. Means keep more capital on
farm. Use more inputs, widen mkt.

There may be room for argument that w/o lvt, remote future values of
given risk differentials get treated rougher by exponential fn of t .
Say risk (borrower) is 1% per yr, added to 3%. No effect on 1 yr.
large effect on 50 yr.

But a given dispersion around the mean expectation reps. a much lower
risk per annum the farther it is in future -- e.g. $\bar{X} \pm 10\%$.

(But lender's risk is a fn of time, is added to i . -- hence loan mkt of add
disprop. risk element)

So landowning is for people who want to minimize ~~long term~~ risk. Escape
into the future.

But w. low net
gross, real risk grows w. time. Escapees must $\therefore$

✓ use hi net
gross land uses. Also, must choose uses w/o permanent improvements like
orchards, for there risk is hi, risk of obsolescence etc. Annual costs, annual revenues, is best.

Value of tapping windfalls - spirit of unity, common interest & purpose

Some say is cheap wth that forced or allowed or caused intensive devmt, but not so. Cheap wth often has opposite effects, just as cheap labor. E.g.s. from F-K area today.

So it is paying for land that made intensive devmt.

Why intensive devmt? Oppy. not enough. Must be good instns.

Decreasing cost ces. equality of long & short run MC?

Contribution of I.D.s: flexibility within their boundaries

Sorts of things lvt shd force: needed standby capae. that nec. ly stands idle most of time. Flood control wd. be natch ... but U.S. gives it.

Wth not appurt. to land, freezes pattern of scattered settlement. Another importance of I.D. ... even if do begin scattered, have wth for whole area, can fill in.

(Is also another weakness of approp. law, appurtenance to land, freezing scattered settlement)

Why did cycle persist despite lvt? Bcs not applied universally; & bcs not applied to wth itself

Need is to synchronize. LVT is means of putting landholders on the spot simul. w. builders of utilities. (Too bad can't treat other utilities the same, esp. t-phone)

Now U.S. encourages I.D.s. by working thru them.

And wth mgmt --- need for larger I.D.s.

Fallacy of local I.D.: is no guarantee orgn will come first on lands best suited. With individs. is also no guarantee. I.D. guarantees it inside I.D., but not among I.D.s. Probly even less so than among individs. Both as to lands, & wth rts.

Thus when begin thinking in terms of Statewide plan, it all needs rationalizing, just as inside I.D.s., smaller cos. needed rationalizg. But at State level is a diff. political problem, rough.

Fu of I.D.s. was to rationalize preceding pvt., MWC., commercial orgns. On Kawaiihi etc. still not accomplished.

I.D.s. spoiled by success. Need continuing goads. Change for wth. On State prop'ty tax. Wth change wd not only cost M, but make them invest in wth conservation works to obviate paying more.

1

afraid to desert sinking ship, no hi level of patriotism.

Pig. furs lost out
to cattlemen

II. Brief history & explanation.

For social reform, a Bless'g in disguise. Now forces it. As in Japan,
Taiwan, India, Burma, Iran, Malaya, ... Cuba means, no longer need
be on Russ. border to be scared by Russ.

III. Anglo - Am. vs. Latin Am.

What have we done right that they did wrong? Is fair to ask it that way, w/o chauvinism. ^{Res ipsa loquitur.} Maybe we were just lucky, when look into historical antecedents, accidents of geog. & timing - intense interregional corrup., no chance for Hamiltonians to prevail.

1. Initial equal distr. of land
2. Use of land sales (& land taxes) to force developmental works.
3. Mixture of above patterns by heavy reliance on ~~ad~~ taxes on earning capacity of prop'ty. Egalitarian; & force soc.; and incentive effect, secure use of priv. lands; comprehensive, by cadastre; impersonal, in rem.
4. Lavish granting by states of munic. charters, i.e. right to tax, & org. on democratic lines at local level. - orgs. that grew more powerful than priv. police of big owners. Orgs., also, that fostered urban debt., necy. to a balanced ec.
5. Good credit mkt. Result of initial equality & tax factors, rather than result; but once started, cumulates.

demand for pub. schools

IV Resurrection of ~~Spanish~~ a Latin area.

Initial pattern is a handicap that can be overcome. Calif., ~~not~~ now considered quintessence of Anglo-Americanism. How done?

Brought into U.S. mkt -- not so vital, Lat. Am. countries suffer from overdependence on world mkt. Key in Calif. has been domat. of local mkt, national self-containment.

Homesteads? Only a sprinkling. Impt. seeds, for political orgn. Guadalupe - H. recognized sp. growth. Much land never in pub. domain. Anglos got most land, but in large chunks.

1870, Calif. resembled Lat. Am. in some impt. ways. In one way harder, bcs. wheat farms., nearer to a high use than pasture, stronger resistance to change. Cite Octopus type.

Xptn? Land grant system. But only built the trunk. Branches & twigs, more input, waited on local enterprise.

Answer to be found in grass roots orgn. Cities first. Seems strange, now, but cities weren't initially laid out; ^{nulle terre sans seigneur} ea. one was locally orgd., often vs. oppn. of large landowners. Brought roads, schools. Taxed property. (Some lands, Me., still not in towns; Kenedy Cty, Tx., an enclave)

Highest devmt. of rural local govt. in MWC & I.D.
 Commercial cos. failed. a. Lost c.s. b. Civil min. canal milesp. c. Civil accelerate comply. per. devmt.
 Desert Land Act philosophy, required big opns. to dev. imm.
 1870s-80s, MWC. Subdiv. of big ranches. Depended, tho, on preexistent co. equality.
 large no. of immigrants of moderate means.
 1887, I.D. Cite Henry, p. 3, and ff. paras.
 solved problem of comm. co.
 Means of extending credit to settlers - cheap land, hi taxes

Some lessons from I.D.s.
 Cumulative nature of devmt - read Benedict
 Complementary devmt. of town & country. Leadership role of towns.
 Commercial cos. fail. Devmt. of coops, food indies.

Models & strategies for Colombia & Panama. Colombia, token program.
 Facts accompli: Castro, w. all that implies; squatting.
 Strategies. Squatting, ff. by formal recognition. Or concurrently. But direct, inner-directed action by individ. & small groups is essential. Direct action. Gov. only plans, end-
 Next, demand enabling legislation for effective local govt.: tax, bond, include.

Altern. models.

1. Collectives. Not a new departure entirely.
 Irony. Bringing Am. grass roots devmt. to P & C. is more revolutionary than collectiviz.
 Physical symbol is network of roads
 also requires more capl. But gets more results.

2. Coops, Mexican Ejido model.

Mex. has 1st ag. output more than any.

But not from ejidos, rather from indiv. sector.

3. Equal division, morcellement, French model.

sacrifices eff'ic. to hyper equality.

4. Minifundia + lord's demesne.

Throw the dog a bone. Tie him down. Strategy of tyrants left & rt., old & new.

E-n En, transitional Comm. strategy, fms. two small, drive into collection.

5. Open new lands.

Depends on the lands. Can be diversionary tactic, submerge lands. Enormous capt. req.

Gurly, better to take good, prt., unused land.

6. Grass roots govt. model.

Medium fms. move in, as squatters (Parana) or homesteaders (Colombia).

Org. locally, demand tax power & inclusion power, bonding power.

Develop land appraisal professionally. Read yellow sheet.

I will be out of town today (Tuesday) and Thursday. Econ. 178 will meet as usual. Procedure as follows. Mr. Allison will preside at the start and lead discussion of questions 1-4. Mr. Wilczyuski will be the secretary. Then rotate in alphabetical order, each class member presiding over discussion of four questions.

The presiding officer who just retired will take summary minutes of the discussion under his successor. Try to reach a consensus on each point, but do not expect always to succeed. In event of non-consensus, try to pinpoint the source of disagreement in the minutes.

Submit the minutes to me next Tuesday. I should have one set of minutes (at least) from each class member.

Professor M. Gaffney

Study Questions: Econ. 178
Installment No. 1

1. Is the California doctrine of correlative rights to ground water compatible with unitized management of aquifers? How about "'conjunctive'" use of surface and ground storage?
2. Why was the appropriative doctrine once regarded as a reform movement in water rights? Has its application made for a more economical allocation of water?
3. What legal problems stand in the way of free transfer of appropriative licenses?
4. If the legal problems in (3) could be overcome, what physical and economic problems would stand in the way of an economical allocation of water?
5. Can an appropriative water right have a positive market value at a time when the cost of appropriating water exceeds the benefits?
6. How does the Federal income tax bear on (5)?
7. How may water be stored under the riparian doctrine?
8. From what rudimentary doctrine do the County-of-origin and Watershed-of-origin ideas take their inspiration?
9. Under what rudimentary doctrine is water prorated in dry years?
Is prorating an economical response to resource scarcity, using marginal analysis?
Is the "'junior-senior'" system better or worse?
How would an economical system respond to dry years?
10. Discuss safety factors, pooling, and vertical integration in relation to water rights systems. Could a free market in water be developed to pool risks, fructify intermittent supplies, and reduce the need for safety factors? Could a unified State Water Agency achieve these goals?
11. Explain how the "'utility'" agencies (municipalities, irrigation districts, mutual water companies, etc.) and the "'empire-building'" agencies are still affected by the appropriative, riparian and correlative rights rules.
12. What has been the operational content of the legal phrases "'due diligence'" and "'beneficial use'"?
13. On what basis is water allocated within municipalities, irrigation districts, and mutual water companies? What is the rationale for not relying solely on price?
14. On what basis is water allocated among rival customers of the Bureau of Reclamation, the Calif. Depart. of Water Resources, the MWDSC, the East Bay M.U.D., and the San Francisco Water Dept?
15. On what basis is water allocated among rival states? (Do not expect a simple answer!)
16. If water were allocated by market price, how could anyone invest capital under the jeopardy that his water might be bid away?

17. If water were allocated by price, how could a water master make quick decisions when faced with stochastic fluctuations in flow?
18. Riparian rights are not established by use nor lost by disuse. Thus the riparian needn't apply water wastefully to establish and maintain his history of use. Does the riparian system thus militate against waste of valuable water?
19. In the historical evolution and sequence of economic development in the West, the appropriative doctrine once played a positive and dynamic role.
 - a) What was the role?
 - b) What excesses did it lead to, and how might the developmental incentives have been supplied without the abuses?
 - c) How might this historical experience be applied to accelerate economic development in less developed regions (including large parts of the United States) today?
20. Irrigation Districts (I.D.s) like the Modesto, Turlock, or Merced, that serve free water, obviously waste water. But if they covered all costs from user charges, they would waste other resources.
 - a) What are these other resources, and how would they be wasted?
 - b) What criteria would you apply to strike an optimal balance among user charges, land taxes, standby charges, and other means of covering costs?
21. Should the State, as sovereign of Calif. waters, charge the I.D.s for water they withdraw? Or should the I.D.s, as public agencies, deriving their power from the State, be regarded as the sovereign's agents and the embodiment of the public interest, and pay nothing?
22. Who or what "owns" the water of Calif?
23. Water "rights" are an evolutionary stage in the development of private tenure of a natural resource. Evaluate the allegation that imperfection of tenure necessarily discourages the application of capital to develop the resource.
 Compare water rights with some other forms of inchoate title to natural resource property: grazing permits; mineral leases; offshore mineral leases; freedom of the high seas for fishing; TV frequencies; air routes (what resource is being appropriated?); the rule of capture applied to fugacious resources.
24. Where a submarginal resource that lacks tenure protection is subject to appropriation under some rule of capture, how does the Federal income tax affect the allocation of capital to the process of capture? What is the "process of capture" in the examples cited in No. 23?
25. What is a riparian's protection by declaratory judgment or injunction?
26. Correlative rights to ground water resemble riparian rights in one way, and appropriative rights in another. What are the similarities and differences?
27. Under appropriative law, the private marginal cost of withdrawing water is
 - a) exaggerated? b) understated? c) reversed? or d) truly represented?
 compared to the social cost. Explain.

28. Is it economically desirable that public agencies' filings with the State Water Rights Board should be exempt from due diligence?
29. Is premature appropriation desirable to provide for future growth?
30. Is seemingly excessive appropriation warranted by the need for safety factors?
31. Should water users ever pay more for water than the cost of developing it (storage, diversion, conveyance, treatment, distribution, drainage)?
If so, to whom should they make the payment, and why?
32. If an I.D. has surplus water, why is it necessary for it to ration water by any means whatever?
33. Is price-rationing of water, as practiced by municipalities, necessarily more economical overall than rationing by land area? Why, or why not? Under what conditions is it good social economics for a municipal water department to return a surplus to the treasury?
34. Do municipalities, in allocating water, override the rudimentary doctrines?
35. In what sense does "common treatment" of all landowners imply free transportation inside utility networks?
36. In what sense does a landowner inside an I.D. have a rudimentary water right?
37. How does the "empire-building" agency tend to develop a fragmented service area?
38. What major forms of price discrimination are practiced by the important interregional transfer agencies: municipal, State, and Federal. Are these economically desirable?
39. List and explain the several economic costs that should be covered by an economic price charged to the water user at the point of consumption.
40. Would it be economical to try to ration the withdrawal of ground water by taxing the use of electric power?
41. How does the ground water law limit the power of water districts to charge a price for surface water?
42. If appropriators are limited to beneficial use, and riparians to reasonable use, in their claims to water, why is there any waste by excess of claims?
43. May low-cost local water be used less sparingly than high-cost imported water?
44. If low-cost local water is priced the same as high-cost imported water, it must yield a surplus or rent. To whom should the rent be paid? Why?
45. It is expensive to recharge aquifers through percolation beds. If the overlying landowners form a District, such as the Santa Clara Valley Water Conservation District or the Tulare Irrigation District, to recharge their aquifer, can the District then prevent its members from treating ground water as a free good?

46. The Bureau of Reclamation limits the allocation of its heavily subsidized water to 320 acres per family. Can it control water, however, once it goes underground?
47. Why does the Calif. Water Plan feature so many premature and submarginal extensions? Is there a parallel in the development of State financed higher education in Calif? Highways?
48. Does the California doctrine of correlative rights to ground water distinguish between waters naturally occurring and those artificially replaced?
49. How may a riparian with surplus waters sell them?
50. What are the physical and economic causes leading to vertical integration in the water industry? What are the institutional causes? How does vertical integration affect the aggregate demand for raw water? How might a market in raw water be developed to pool risks?
51. How may appropriative licenses be sold? How is conveyability of the license limited?

Means of allocating wtr. →

	Pre-commercial Rip. app. Rip. Corr. app.	Utility Adm.	Empire bldg. Adm.	Whet.
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Criteria

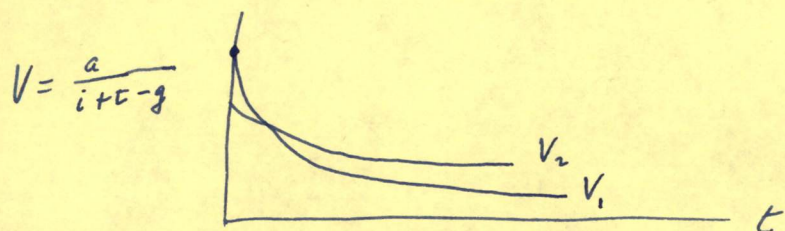
Initial allocn.

Constraints on unec. use

Flexibility (Transferability)
(Pooling)

Containment of service area

Distrib. equity



$$V_1 = \frac{a_1}{i_1 + t - g}$$

~~$a_1 > a_2$~~ $a_1 < a_2$
 $i_1 < i_2$

$$V_2 = \frac{a_2}{i_2 + t - g}$$

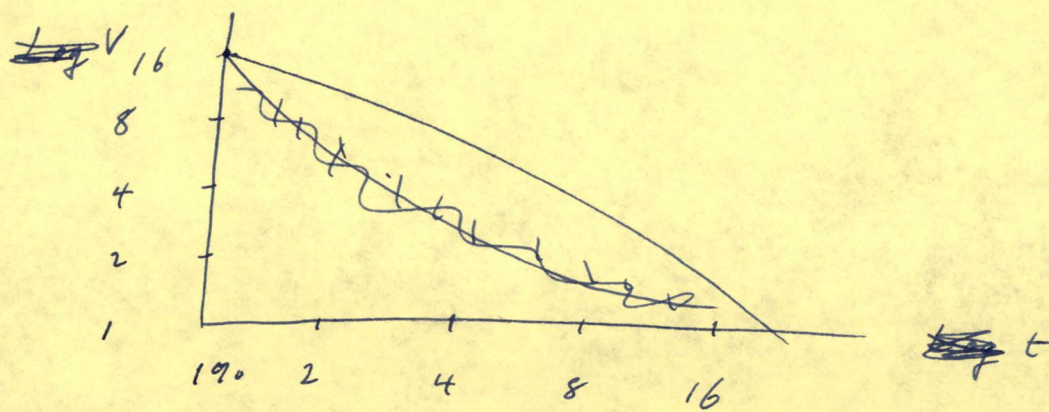
$V_1 = V_2$ when $\frac{a_1}{i_1 + t - g} = \frac{a_2}{i_2 + t - g}$

$$a_1 i_2 + a_1 (t - g) = a_2 i_1 + a_2 (t - g)$$

$$a_1 i_2 = a_2 i_1 + (t - g)(a_2 - a_1)$$

$$\begin{aligned} \frac{a_1}{a_2} &= \frac{i_1}{i_2} + \frac{1}{a_2 i_2} (t - g)(a_2 - a_1) \\ &= \frac{i_1}{i_2} + (t - g) \left(\frac{1}{i_2} - \frac{a_1}{a_2 \cdot i_2} \right) \end{aligned}$$

Log-log scale.



Bain, Ch. 3, Legal Frameworks

pp. 59 - 70, marked in book

p. 70 You can approp. ground wtr for use on foreign land. Only there is no formal procedure.

p. 71 An approp. ^{to either surface or ground wtr,} ~~at. r.~~ is only really firmly established after has bn. successfully defended vs. all actual & possible counterclaims! (Seems overstated). This reduces salability.

p. 71. Pueblo rights -- minor.

p. 71 Prescriptive rts., a 3d class of rts. They differ from approp. rts. in that 5 yrs. adverse use is required; and they are a transfer of another's rt., not an original rt.

Prescriptive rt. is to a fixed quantity of wtr, not a ^{correlative} share.

Before '28, prescriptive rt. was very important bcs. it held against a sleeping downstream ripr. As an approp. rt., a use cd. be recaptured by

" " " But a prescrip. rt. is superior to ripr. rts. it invaded.

(But downstream approp. cannot ripen into presc. rt. by adverse use.)

p. 76 ff. Water Agencies. Is too general. Give examples.