TESP, Chap. 1, MS

Book I, Market Mechanisms and Full Employment

Part A: Variable Proportions

The most ancient, basic and self-evident economic relationship is that between land and ~~job~~ opportunity. Tribes and nations have warred over rich land. The winners have spread out and prospered; the losers have crowded onto the ~~leftovers and scrabble to~~ gone to work for the winners. hardscrabble and scratched, Mercantilist ~~nation~~ empire-builders have sought to control raw materials to feed their war machines and industries, while resentful colonials countered by ~~demanding~~ resisting the export of unprocessed primary products. A generation of historians lived and died with the Turner thesis of the frontier as a safety-valve for ~~unem~~ jobless malcontents. (Next to Cover) Land reform movements promise land for the landless; ~~jobs~~; public works programs promise to open new regions for them. ~~Malthusians have~~ Neo-Malthusians may go overboard in attributing the misery of India to overpopulation, but few doubt that the man/land ratio is of some importance.

This relationship has been clear to employers, too. ~~Edward Gibbon~~ Our laws (Cover)
~~Wakefield who looked with dismay at~~
Throughout the expansion of European settlement, employers have looked with dismay at the ~~in~~ loss of work force to new lands and have sought, with intermittent success, to contain labor. Edward Gibbon Wakefield advanced ~~identified himself with~~ this philosophy in ~~the~~

the pressure of public opinion in the West, the labor movement in the East was the greatest factor in the agitation for reserving the public lands for settlers." [George Stephenson, The Political History of the Public Lands. (Boston: Richard G. Badger. (1917), p. 103.]

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against free immigration reflect an abiding belief in the importance of man/land ratios.

collapse of the Mongols and later the Turks left the ruling military gentry and the Muscovite state, with an embarrassment of empty land that threatened to drain their labor and weaken their control. Peter the Great imposed serfdom on the labor and freed his ~~gave his nobles vast lands~~ noble landlords ~~from~~ of their obligation to the state, thus ~~easing~~ easing their way to holding land with skeleton crews. ~~to border use.~~ The State, also held back much of the land directly. By 1860, ~~under Alex. II~~, the State owned 2/3 of it. ~~the land.~~ ~~Valuev~~ Alexander II's minister Valuev was the Wakefield of Moscow, blocking emigration and ~~guarding the~~ hoarding State lands. This was too much for the expansionists, so ~~Alex.~~ Alex. III hit on a compromise (which we will

~~of land policy was Valuev, Minister of~~ under

~~seeing the danger of losing control of men in the~~ eastward migration,

~~Valuev saw that maintained control of men by fencing off~~

~~withholding vast domains from use.~~

find has ~~parallels~~ ~~characteristics land settlement~~ everywhere) of withholding ~~some~~ (some 200 million acres, ~~of~~ 74 million desiatinas) ~~of~~ State lands in European Russia, thus compelling migration to the frontiers ~~but without~~ while maintaining ~~retaining~~ the artificial scarcity of land. Soviet Sovkhoz and Kolkhoz farms, with their vast areas and low yields, serve a similar role today. (Donald Treadgold, The Great Siberian Migration, (Princeton U. Press. 1957)) Inert land is of no value to labor, but of great value to owners of competing land which is kept clear by scarcity, and to imperialists who want their ~~nation to hold vast areas.~~ people spread ~~their~~ out to hold vast areas.

Adam Smith wrote,

"In the plenty of good land the English colonies of N. Am. --- are ... inferior to those of the Spaniards and Portuguese .... But ~~nobility vs. mobility~~ the political institutions of the English colonies (Sovkhoz - modern state lands ~~have~~ have been more favorable to the improvement and cultivation of this land, ... (Insert p. 2A)

~~founders~~

early Australia, ~~policing~~ containing labor by letting a few squatters ~~locking up the~~ engross the land, free from pressures to develop or sell. ~~empty~~ ~~turning over the empty lands in vast pieces to squatters~~ ~~who fenced it off and~~ ~~and~~ → He was so articulate ~~in support~~ and explicit ~~in his means and motives~~ that his name is synonymous ~~with such policies, later abandoned in Australia.~~ with control of labor by artificial scarcity of land, a policy Australia later abandoned. ~~to the time of Walter Raleigh~~. In Spanish colonies such policies were ~~so~~ standard, ~~it was hardly necessary to articulate them~~ and latifundismo prevails still over most of Latin America, ~~in the U.S., has written~~ In Czarist Russia the ~~serfdom~~ (over)

~~experienced~~ ~~the balance of power between~~ swung back and forth many times between scarcity and abundance, between containment and expansion. Even in the 17th century, English employers recruited ~~forcing~~ labor to the new world. ☆ George III tried in 1763 to contain the colonials east of the Proclamation Line along the Appalachian crest, but they ~~Revolution~~ rebelled and poured through the Cumberland Gap ~~into~~ to settle Ky. & Tenn. Next Alexander Hamilton assumed the role of George III, drawing a line at the Ohio River. ‡ ~~only~~ He rationalized his policy as befit ~~as~~ before the Age of Reason. The Hamiltonian formula is a textbook classic. ~~elegantly as any more ever has~~. He would promote manufactures by keeping settlers off the public lands, ~~the cheapness~~ availing employers of more cheap labor. He would valorize the public lands by selling only slowly, ~~at high prices, and take cash out of the~~ unsold ~~lands~~ ~~abandoned by~~ mortgaging unsold lands to a funded ~~them to the~~ public debt, rather than

‡ Merrill Jensen, The New Nation, N.Y.: a.a. Knopf, 1950

☆ Abbott E. Smith, "New Light on Some of America's First Families"; J. of Ec. History, May '42

"First, the engrossing of uncultivated land ... has been more restrained in the English colonies than in any other.

"... The plenty and cheapness of good land, ... are the principle causes of the rapid prosperity of new colonies. The engrossing of land, in effect, destroys this plenty and cheapness. The engrossing of uncultivated land, besides, is the greatest obstruction to its improvement."

(Adam Smith, Wealth of Nations, [N.Y.: Random House, 1937] pp. 538-40)

In these colonies and the U.S. the balance of power has (to p. 2) (lower half)

sell them to pay the debt. He would sell a small share of the lands but only in large blocks, to well-financed speculators, rather than encourage settlers.
He would raise money by a tariff to abate any financial

pressure ~~of urgency~~ to sell land.

But the voters elected Jefferson, who ~~[illegible]~~ opened the Northwest, bought La., and started the Cumberland Road. Eastern employers and farmholders (the Whigs) reunited again — the West, bid wages up and food prices down (note ~~took their labor and lowered food prices~~ the Lower) ~~inflation: wage-price spiral then!~~) (Stephenson, op. cit., p. 24). The employers lost out to ~~[illegible]~~ Old Hickory, preemption, state subsidy of internal improvements, easy money, revenue sharing (~~19th century style~~) ("distribution" in those days), and the canal boom. Next the Southern Democrats took the Wakefield role, but they reaped Abe Lincoln, Calif. & Oregon, the Homestead Act, western railroads, and landgrant colleges. ~~and the rest.~~ Generally, the

as FMP loses its magic, its language grows

absence of any "wage-price spiral" in this process.)

balance of political forces in the 19th century ~~tipped the balance of~~

~~economic forces so as to sup~~

~~gave labor~~

overcame artificial scarcities and gave labor access to

abundant land in the U.S., and activated the land,

minimizing ~~problems of~~ unemployment and poverty

that were standard ~~elsewhere~~ where the Wakefield - Valuer - Hamilton ~~spirit~~ doctrines prevailed. (over)

Classical economists formalized ~~this relationship in~~ the man - to - land ratio in

the law of diminishing returns, now generalized as the

law of variable proportions, ~~and~~ and modern texts

preserve it, ~~although it is of subordinary note, and popular~~

~~thinking overturned the matter economists~~

Most preserve it however in ~~its own sterile compartment~~ formaldehyde, and

fail to relate it to ~~the~~ the live issues like what

In recent American history, containment forces have rallied on industrial rather than regional bases. Farm policy, with up to 60 million acres in the soil banks, is the familiar prototype. Expansion forces have rallied around public works to develop submarginal land, ~~everywhere, creating the anomaly of~~ ~~=~~ symbolized by the Bureau of Reclamation. Similar anomalies characterize most industries, forming a complex pattern to be viewed closely in later chapters. Essentially, these patterns perpetuate the containment-expansion conflict that is so transparently obvious in the period of westward expansion.

~~determines employ~~

makes jobs. In other compartments they are capable of seriously entertaining models like the Harrod-Domar ~~those of Harrod and Domar which~~ growth model which assumes invariable proportions; and "wage-price spirals" which implicitly suggest that labor is the only factor in the mix. ~~It is~~ Variable proportions in economics today is perfunctory obeisance to tradition, ~~not~~ neglected in action and policy. It is to compensate for this neglect that this Part A on Variable Proportions is needed.

The relationship of abundant capital to ~~employment~~ jobs is also widely recognized, but in opposite ways by different viewers. ~~only in the vaguest ways.~~ Some employers run ads ~~Right wing publicists~~

~~buy~~

~~that pay for jobs~~ on how much capital it takes to create one job, but this ~~is generally dismissed as~~ has elements of self-serving propaganda, and it surely ~~lacks any~~ wants proof. ~~of~~

~~relativity.~~ ~~Foreign~~ It is widely believed that ~~foreign~~ imported capital helps raise wages, in LDCs, but this doctrine is suspect as self-serving too, both for recipients (over) ~~too~~ ~~has is suspect for its~~ imperialistic overtones, and ~~the self-serving banks and bureaucracies that promote it.~~ aid

Some Marxist and Keynesian models have cast ~~doubt~~ ~~have~~ ~~records~~ capital more as a threat, ~~and~~ ~~Marx and~~ and seen relief ~~salvation~~ only in "growth" that would absorb the glut ~~Keynes~~ of capital and its products. Luddites of every era have seen capital displacing labor, and partial examples are on every hand.

of the money and the agencies that convey it.

With capital as with land, the value of the resource to labor depends, much on how active it is.

Here again the classical economists had the principle in hand. Smith and Mill saw "circulating" capital as "setting labor in motion", and "fixed" capital as not. As Mill said "Capital may be temporarily unemployed, as in the case of unsold goods, ...; during this interval it does not set in motion any industry.

"... capital ... may be so employed as not to support laborers, being fixed in machinery, buildings, improvement of land, and the like."

"Capital is kept in existence from age to age not by preservation, but by perpetual reproductions: ..."

"To set free a capital which would otherwise be locked up in a form useless for the support of labor, is, no doubt, the same thing to the interests of laborers as the creation of a new capital."*

"... all increase of fixed capl., when taking place at the expense of circulating, must be, at least temporarily, prejudicial to the interests of laborers. --- Suppose ... a capital of 2,000 --- half ... effects a permanent improvement ... He (the capitalist) will employ, in the next and each following year, only half the number of laborers, ..."

(J.S. Mill, Principles of Political Ec. (Boston: Lee & Shepard, 1872) pp. 41₄-63 passim.) See also Mill's Essays on Some Unsettled Issues of Political Economy, ~~Essay II~~ (London: Longmans, Green, Reader, and Dyer, 1874) pp. 55-59.)

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Smith said " Any increase in the quantity of commodities annually circulated ... would, ... produce ... (these) effects .... The capl. of the country ... would really be augmented. ... ~~it would command a greater quantity of labor.~~ The quantity of productive labor which it could maintain and employ would be increased, and consequently the demand for that labor. Its wages would naturally rise with the demand .... The profits of stock would be diminished ...

" ... the quantity of that labor, which equal capitals are capable of putting in motion, varies extremely according to ... their employment; ...

" ... A capl., i., employed in the home trade will sometimes make 12 operations, or be sent out and

returned 12 times, before a capl. employed in the foreign trade of consumption has made one. ... the one will give 4 & 20 ~~times~~ times more encouragement and support to the industry of the country than the other." (Adam Smith, op. cit., pp. 338, 341, 349.)

Wicksell revived it. "... a true view of the favorous wage-fund theory — ...

"Capital in its free form is employed to advance both wages and rent; .. If ... a given capl. ... is employed year after year ... then each year about an equal part of that capl. will be set free. That part ... constitutes the whole production of finished commodities and services (of capl.) of the year. When the capl-ist ~~has~~ class has taken the surplus ...
it must, in order to maintain ~~this~~ its capl., reinvest the

remainder — which it does by hiring labor & land for new production. This part, therefore, is ... the annual wage-fund... .

"... the wage-fund may undergo considerable changes, in so far as the average period of turnover of capl. is lengthened or shortened. ...

"... it is only the part (of capl.) annually set free which can purchase labor (or land)."

Knut Wicksell, Lectures on Political Economy, Transl. E. Classen, (NY: The Macmillan Co., 1938) pp. 193-94

Demand for labor does not depend, then, solely on the land per man, but also on how actively the owners use the land, ~~its freedom from engrossment~~, as is evident in a country like Argentina. ~~with vast rich lands and a small, poor, rebellious population.~~ Use of land, This, as Adam Smith said, depends on its freedom from engrossment, a product of political institns.

~~But it is not always enough to tap and open the land. There have (over)~~

Demand for labor does not depend solely on capital per man, but also, as Smith and Mill and Wicksell said, on how actively the owners use the capital. Active capital moves labor, while stagnant capl. merely occupies land, (over) ~~and taps deactivate land, too~~. This also, depends on political institns., ~~but the classical economists~~

~~The process of~~ frontier expension is ambivalent in respect to labor. It taps new land and opens new fields for labor. Modern economists hence stressed, instead how frontiers create new investment outlets for (supposedly) excess capital. ~~It is~~ Here I believe they

↗ Something more than labor was needed to activate the land.

To be sure, in these land booms there were ~~bags~~ Hamiltons and Wakefields in every county and bank seeking to withhold land in cold storage, and asking prices ~~lagged~~ behind bidding prices on the downswing. ~~suppliers and maintain prices, and they were no help to labor.~~

But ~~labor needed more than denial of land was not the only~~ it is hard to see such engrossment as sufficient

↳ cause of idle men, considering the number of sellers seeking buyers. What about capital?

been land booms in America when land went begging without sufficing to absorb the jobless, at least right away. ↑ ~~More was needed.~~

~~presumably active capital.~~

~~(thus labor keeping land out of play along with itself.)~~

and may displace more labor than it complements.

mislead us. Frontiers do not activate capital; ~~but the terms~~, they sink ~~it~~ and freeze it, ~~locks it up~~ They dispose of capital all right, but not so as to help labor. Many Keynesians have misled us ~~still~~ further by seeing the benefits of frontiers in terms simply of recycling stagnant money, as though ~~that were something profound, and leads to activism~~ men have fought (over)

It is to specify these basic relationships ~~that~~ among labor, land and capital that Part A is devoted. How much does factor mix vary in fact? What are the mechanics or anatomy of substituting labor for capl. and land? How is it related to turnover? What determines turnover? We begin by addressing these questions.

Chap. 1. The range of factor proportions, and sensitivity to parameters.

Orthodox ~~macro~~ macro discourse today ~~identifies~~ ~~has~~ ~~not~~ presupposes a rigid, fixed relationship between employment and output. We make jobs by raising GNP. "Growth," ~~is the process~~ and only growth, makes jobs, ~~and only growth makes such jobs~~. Factor-mix does not change. ~~Not~~ Accordingly, income is distributed among factors in constant ~~ratios~~ proportions, too. ~~Or perhaps~~ Alternatively, every firm is marginal — in macro it leads to the same results.

The older Keynesians fought against any wage-cut, saying

and bled over land ~~for millenia simply~~ because they lacked ~~the~~ insight to see easier ways of stimulating ~~circulation~~ spending. In fact, favor towards spending lies deep in the cultural subconsciousness and is easy to evoke. Government debts and inflation are as ancient as ~~history~~ wars and frontiers; belief ~~in consumption as the engine of~~ that consuming powers prosperity is as ancient as belief in thrift. ~~and saving~~. We find Mill, for example, lamenting the popularity and dominance of a doctrine which is unmistakably the same as that now appearing in most economics texts as "the paradox of thrift". ~~The~~ "Big spenders ~~is~~ are folk heroes; ~~the savers are misers and skinflints.~~ "misers" are villains.

So It has not required frontiers to overcome inherent ~~bias~~ cultural biases against big spending. But frontiers ~~do~~ expansion does change the mix of labor with land and capital, adding land ~~and~~ ~~diss~~ at the cost of sequestering capital.

it would only reduce consuming power and touch off "vicious deflationary spirals." Modern FMP specialists, ~~perhaps~~ interpret wage boosts the same way — they can only touch off "vicious inflationary spirals." ~~Either way it's vicious spiral, and futile.~~ Redistribution and substitution are not entertained.

In fact, factor mix ranges from one extreme to another. Factor mix is demonstrably sensitive to relative costs. And factor mix is dynamic, shifting constantly. Thus there is wide scope to substitute labor for land and capital. I submit examples here ~~from farming~~ contrasting different farm products; ~~different~~ industries; ~~different~~ consumer goods; sizes of firms and wealth groups; sector (public and private); nations; and stages of production.

~~On the east side~~ In the San Joaquin Valley, ~~On the east side~~ land is versatile among many competing farm uses. These range from dryland grazing up to ~~citrus~~, fresh tomatoes, and beans. Grazing might gross ~~$50~~ $15 from the animal units; tomatoes might gross ~~$1,000~~ 1500 a year, a 100 ~~100~~ times as much. The specific prices are subject to secular and cyclical change, ~~and~~

reau of Reclamation
.orm 7-316
(Oct. 1956)

CROP PRODUCTION REPORT 19 58

Project and Subdivision CVP, Friant-Kern Canal Service Area State California Region 2

TYPE OF IRRIGATION SERVICE: Full ____ ; Supplemental X ; Temporary ____.

ACREAGE SUMMARY (Land Classes 1 - 5)

	Class 1 - 4	Class 5	Total
LANDS IN IRRIGATION ROTATION (Acres)			
21 Harvested cropland and pasture (From Line 194)			359,044
22 Cropland not harvested			8,964
23 Soil building			1,320
24 Acres Irrigated (Lines 21 + 22 + 23)			369,328
25 Fallow or idle			19,262
26 Area in Irrigation Rotation (Cultivation) (Lines 24 + 25)			388,590
LANDS NOT IN IRRIGATION ROTATION (Acres)			
27 Dry cropped			3,422
28 Idle, fallow or grazed			30,535
29 Farmsteads, roads, ditches, drains			19,573
30 Area Not in Irrigation Rotation (Lines 27 + 28 + 29)			53,530
31 Urban and Suburban Residential, Commercial, and Industrial Lands			9,069
32 TOTAL IRRIGABLE AREA FOR SERVICE (Lines 26 + 30 + 31)			451,189
33 CLASS 6 - TEMPORARILY IRRIGATED			410

CROP VALUE SUMMARY

	$
41 GROSS CROP VALUE (From Line 194)	127,453,728
42 ADDITIONAL REVENUE:	
43 Agricultural Conservation Practices: Total $ ____	
44 Sugar Program: Factory $ ____ Federal $ 62,850 Total $ 62,850	
45 Total Additional Revenue	62,850
46 TOTAL VALUE (Gross crop value plus additional revenue)	127,516,578
47 TOTAL IRRIGATED ACREAGE (From Line 24)	369,328
48 AVERAGE VALUE PER IRRIGATED ACRE (Line 46 ÷ Line 47)	345.27

GPO 844731

Project and Subdivision CVP, Friant-Kern Canal Service Area Type of Irrigation Service Supplemental

CROP PRODUCTION - LAND CLASSES 1 THROUGH 5

	CROPS HARVESTED IN IRRIGATION ROTATION	Acres	Unit	Yield		Value of Crops		
				Per Acre	Total	Per Unit	Per Acre	Total
CEREALS	51 Barley	15,696	Bu.	53	824,763	$ 0.97	$ 51.08	$ 801,711
	52 Corn	10,490	Bu.	68	713,639	1.42	96.68	1,014,159
	53 Oats	446	Bu.	66	29,557	0.76	50.43	22,494
	54 Rice	907	Bu.	94	84,934	1.79	167.66	152,072
	55 Rye		Bu.					
	56 Sorghums (sorgo, kaffir, etc.)	17,279	Bu.	66	1,142,463	1.13	74.77	1,291,974
	57 Wheat	3,176	Bu.	48	153,696	1.82	87.85	279,024
	58 Other cereals		Bu.					
	59 TOTAL CEREALS	47,994	TON				74.21	3,561,434
FORAGE	61 Alfalfa hay	63,460	Ton	7.0	442,673	20.66	144.11	9,145,311
	63 Other hay	198	Ton	1.1	222	15.99	17.92	3,549
	64 Irrigated pasture	17,388	AUM	13	221,025	6.11	77.66	1,350,407
	65 Corn fodder		Ton					
	66 Silage or Ensilage	78	Ton	20.0	1,560	4.50	90.00	7,020
	67 Crop residue: Beet tops		Ton					
	68 Stubble, stalks, etc.		AUM					
	69 Straw (all kinds)		Ton					
	70 Root crops (carrots, etc.)		Ton					
	71 Other forage	3,300	Ton	4.0	13,200	6.00	24.00	79,200
	72 TOTAL FORAGE	84,424	TON				125.38	10,585,487
MISC. FIELD CROPS	81 Beans, castor	2,095	Cwt.	32.2	67,460	6.01	193.51	405,398
	82 Beans, dry and edible	4,293	Cwt.	15.6	66,886	6.88	107.14	459,964
	83 Broomcorn		Ton					
	84 Cotton, lint (Upland)	108,928	Bale	2.05	223,774	171.73	352.80	38,429,658
	85 Cotton, seed (Upland)		Ton	0.8	89,509	42.86	35.22	3,836,536
	86 Cotton, lint (Am. Egypt.)		Bale					
	87 Cotton, seed (Am. Egypt.)		Ton					
	88 Hops		Ton					
	89 Peppermint		Lb.					
	90 Spearmint		Lb.					
	91 Sugar Beets	2,039	Ton	15.4	31,425	10.30	158.79	323,779
	92 Other misc. field crops	831	Ton	0.8	656	145.99	115.24	95,770
	93 TOTAL MISC. FIELD CROPS	118,186	TON				368.50	43,551,105

GPO 843069

Project and Subdivision CVP, Friant-Kern Canal Service Area State California Region 2

Type of Irrigation Service Supplemental

CROP PRODUCTION - LAND CLASSES 1 THROUGH 5

	CROPS HARVESTED IN IRRIGATION ROTATION	Acres	Unit	Yield		Value of Crops		
				Per Acre	Total	Per Unit	Per Acre	Total
VEGETABLES	101 Asparagus	1,383	Crate	112	154,446	$ 3.75	$ 418.70	$ 579,066
	102 Beans (processing)	27	Ton	5.0	135	180.00	900.00	24,300
	103 Beans (fresh market)	75	Bu.	297	22,300	3.28	975.33	73,150
	104 Broccoli		Crate					
	105 Cabbage	32	Ton	12.0	384	65.12	781.50	25,008
	106 Carrots		Ton					
	107 Cauliflower		Crate					
	108 Celery		Crate					
	109 Corn, sweet (processing)		Ton					
	110 Corn, sweet (fresh market)	254	Cwt.	47.5	12,053	4.34	205.91	52,301
	111 Cucumbers	67	Bu.	309	20,700	2.21	681.94	45,690
	112 Greens (kale, etc.)		Cwt.					
	113 Lettuce	423	Crate	115	48,585	2.93	336.51	142,342
	Melons:							
	114 Cantaloupes, etc.	507	Crate	194	98,410	2.82	547.02	277,340
	115 Honey Ball, honeydew, etc.	502	Crate	300	150,600	2.00	600.00	301,200
	116 Watermelons	591	Ton	9.0	5,327	27.71	249.76	147,606
	117 Onions, dry	686	Cwt.	300.0	205,800	1.65	495.70	340,050
	118 Onions, green		Crate					
	119 Peas, green (processing)		Ton					
	120 Peas, green (fresh market)	668	Bu.	142	95,140	3.10	440.92	294,535
	121 Peppers (all kinds)	29	Bu.	230	6,660	2.09	481.03	13,950
	122 Potatoes, early	12,711	Cwt.	201.7	2,563,555	1.81	366.04	4,652,753
	123 Potatoes, late	1,113	Cwt.	178.4	198,555	1.99	354.31	394,345
	124 Squash	136	Cwt.	100.0	13,600	5.48	548.09	74,540
	125 Sweet Potatoes	19	Bu.	125	2,375	4.00	500.00	9,500
	126 Tomatoes (canning)	36	Ton	8.0	288	20.00	160.00	5,760
	127 Tomatoes (fresh market)	1,343	Lug	439	590,200	2.01	881.16	1,183,400
	128 Other vegetables	41	Ton	7.6	311	86.69	657.56	26,960
	129 TOTAL VEGETABLES	20,643	TON				419.70	8,663,796
	137 TOTAL NURSERY	871	M.				2,000.00	1,742,000

Bureau of Reclamation
Form 16
(Oct. 56)

Project and Subdivision CVP, Friant-[illegible]rn Canal Service Area

Type of Irrigation Service Supplemental

CROP PRODUCTION - LAND CLASSES 1 THROUGH 5

	CROPS HARVESTED IN IRRIGATION ROTATION	Acres	Unit	Yield		Value of Crops		
				Per Acre	Total	Per Unit	Per Acre	Total
SEEDS	141 Alfalfa	1,279	Cwt.	5.1	6,515	29.80	151.79	194,132
	142 Clover (all kinds)		Cwt.					
	143 Corn		Cwt.					
	144 Flaxseed		Cwt.					
	145 Grass (all kinds)		Cwt.					
	146 Lettuce		Cwt.					
	147 Onion		Cwt.					
	148 Pea		Cwt.					
	149 Potato (all kinds)		Cwt.					
	150 Sugar beet		Cwt.					
	151 Other seed		Cwt.					
	152 TOTAL SEEDS	1,279	TON				151.79	194,132
FRUITS	161 Apples	10	Cwt.	95.0	950	8.00	760.00	7,600
	162 Apricots	145	Cwt.	14.2	2,060	7.33	104.14	15,100
	163 Berries (all kinds)	80	Cwt.	90.6	7,248	13.42	1,215.60	97,248
	164 Cherries		Cwt.					
	165 Citrus: Grapefruit	32	Cwt.	75.8	2,424	2.05	155.25	4,968
	166 Lemons and limes	435	Cwt.	224.3	97,572	2.50	560.02	243,608
	167 Oranges and tangerines	24,952	Cwt.	160.9	4,015,858	5.69	915.51	22,843,748
	168 Dates		Cwt.					
	169 Grapes, table	43,795	Cwt.	146.9	6,435,255	3.71	545.24	23,878,914
	170 Grapes, other	4,720	Cwt.	140.5	663,225	3.61	507.78	2,396,733
	171 Olives	7,172	Cwt.	63.7	456,847	5.14	327.45	2,348,485
	172 Peaches	6,371	Cwt.	193.4	1,232,301	3.33	644.38	4,105,316
	173 Pears		Cwt.					
	174 Prunes and plums	3,288	Cwt.	104.7	344,208	6.44	674.00	2,216,118
	175 Other fruits	934	Cwt.	80.8	75,480	5.81	469.37	438,388
	176 TOTAL FRUITS	91,934	TON				637.37	58,596,226
NUTS	181 Almonds	130	Cwt.	7.2	936	38.39	276.42	35,934
	182 Pecans	16	Cwt.	3.1	49	32.86	100.62	1,610
	183 Walnuts	1,374	Cwt.	17.7	24,315	19.11	338.14	464,604
	184 Other nuts	156	Cwt.	15.0	2,340	20.00	300.00	46,800
	185 TOTAL NUTS	1,676	TON				327.53	548,948
	191 FAMILY GARDENS AND ORCHARDS	106	Value				100.00	10,600
	192 TOTAL ALL CROPS	367,113						127,453,728
	193 Less Multiple Cropped	8,069						
	194 TOTAL HARVESTED CROPLAND & PASTURE	359,044					354.98	127,453,728

GPO 844734

~~fluctuation~~, but the basic principles are not: the same land yields a little or a lot, depending on what you mix with it. ~~Of course~~ To illustrate the diversity, Table 1 is a crop report (corn). ~~Of course~~ labor's share of gross rises with intensity. Let us tentatively define intensity simply as non-land inputs ÷ output.‡ For grazing, this is on the order of $6/$15 = 40% ~~$20/$50 = 50%~~. For tomatoes ~~tobacco~~ it is more like $1400/1500 = 93% ~~$450/$500 = 90%~~.

Of course the return to land from tomatoes is highly leveraged and volatile, as a short-run gamble, but that is not our concern here. ~~In the~~ Averaging out the good years and the bad, the returns to land from tomatoes ~~are~~ is very sensitive to wage rates. A slight raise of 7% ~~5%~~ nearly wipes out the rent; a drop of 7% ~~5%~~ nearly doubles it. But the same wage changes would ~~have~~ only slightly change the returns to land from grazing.* Thus a slight drop of labor ~~cheapening~~ cost of labor ~~creates great~~ applies great pressure to shift land to tomatoes and other high-yield, labor-intensive crops, making a very elastic demand for labor.

The scope for this kind of change is manifest in

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‡ This is ~~the general idea~~ simplified and introductory. Later I elaborate a more comprehensive definition

~~Each~~ from the ~~Edelmore~~ Friant-Kern Canal Service Area.‡

~~Table~~

Not all the land is versatile among all the options, but a close study of the area has shown that the margins between the uses are ragged.★ ~~So that at every~~ almost every acre has several options, and many of them are choices between the highest and the lowest gross.

Table 1: Crop Production, Friant-Kern Canal Service Area, 1958 ‡

Crop	Acres	Value per Acre (6)
Barley	15,696	51

(Green-highlighted data only)

‡ U.S. Bureau of Reclamation, 1958. Minor crops omitted.

★ M. Saffury, "Diseconomies Inherent in Western Water Laws," Economic analysis of Multiple Use, Proceedings of Western Ctg. Ecs. Research Council, Range & Water Section, 1961, ~~pp. 5-5-8~~ pp. 75 ~~pp. 48-49~~

~~M. Saffury.~~ Althouse, Irvin H., "Water Requirements of Tulare Cty;" Report to Tulare Cty. Board of Supervisors, Jan., 1942 (mimeo,) map in back pocket.

~~Water Resources of Tulare County and their Utilization, State of Cal., Dept. of P.W., Div. of Irrigation and Engineering, and Irrigation, Bull. 3,~~

Of the several million acres of irrigable land in Calif., ~~1960 acreage~~ there were in 1960 21,000 acres in plums, 36,000 in freestone, and 65,000 acres in nawels.

(Dean, F.W., and McCorkle, Chester O., Trends for Major Cal. Fruit Crops, Cal. A.E.S. Extension Service Circ. 448, 1960.)

the fact that most of Calif.'s farm output comes from a tiny fraction of her good farm land, that which is used intensively.

→ Insert p. 16A

Most of it is used at low intensities, using little labor to yield ~~ordinary crops~~ only a few dollars worth of ~~crops~~ forage, barley, alfalfa, ~~irrigated~~ pasture, ~~and~~ hay, sorghum, safflower, ~~rice~~ rice ~~and~~ or cotton.

~~Insert data, p. 16A~~

~~Use~~ In irrigated farming water is an indirect land input, ~~and one might then~~ since ~~it was~~ a water right is the right to the water yield of a vast ~~area~~ watershed. One might then think the tomatoes really use a lot of land in the form of irrigation water. But in fact the high-grossing crops such as tomatoes, citrus, ~~and deciduous~~ peaches and berries are modest users of water. ~~Grain~~ Pasture, alfalfa and rice are the ~~water hogs~~. thirsty crops, and they yield only ~~$100-300~~ $50-$200 per acre, not 1/10 of the high yielders.

The high-grossing crops use more labor per acre, not just in the fields, but in the packing houses, the railroads, the stores, and the kitchens. A ~~$5,000~~ $1,500 tomato crop will use more labor at every step to the consumer than a ~~$50~~ $15 weight gain on a ~~steer~~ calf, (and do it sooner ~~too~~.) Thus a ~~increasing~~ higher use of labor

in the field increases demand for labor beyond the field. ~~The~~ Reciprocally, lower costs between consumer and ~~factory~~ ~~the~~ farmer, raising field prices, by, say, ~~50~~ 100, would (in our example) double land returns from tomatoes and increase ~~labor~~ demand for labor in the farm.

In 1a., a more ~~homogeneous~~ uniform state, Shrader and Landgren have calculated ~~estimated~~ that if all farmers ~~knew~~ followed the standards already practiced by the most advanced farmers, 1a. alone could supply the ~~used the practices already in practice by what they called the~~ nation's output of feed grain. (Wm. Shrader and N. Landgren, "Land Use ~~best farmers~~ 1a. ~~would feed the world.~~ Implications of Ag. Production Potentials," in L. Fischer (ed.), Shifts in Land Use, Nebraska AES., 1964.)

~~Footnote. For parallel color see . . .~~

Farm land use in general varies so much from farm to farm that ~~it has been~~ "farm sprawl" and "horticultural sprawl" ~~have been likened to~~ are as common as urban sprawl. But this reminds us that all our cities are dominated by sprawl, which is essentially a condition of extremely different intensities on adjacent lands. Different mixes of land with non-land inputs are not the exception but the rule.

Large industrial corporations make another ~~interesting~~ contrast. Fortune ~~in~~ ranks its "500" by ~~5 [illegible] are ranked by company vary in~~ "assets per employee". In 1964 they ranged from $139,175 ~~000~~ (Superior Oil) down to $4602 (Ward Foods), or 3.3% as much. The ten highest were all oil companies, whose assets as measured by Fortune would tend to be "conservative", ~~radically understated~~ (~~this usually called "conservatively" estimated~~) owing to the custom of using book values based on historical costs of appreciating reserves. (" conservative" is (over) Medians for broad industry groups ranged from $13,139 (Petroleum Refining) down to $8778 (Apparel). (The Fortune Directory, Aug., 1964, p. 22; Later years are comparable).

~~Forbes (see [illegible] in corp. assets file)~~

a conventional way to say
~~code for~~ "radically understated.")

The mfg. plants of one city make another universe to study.

← Norbert Stefaniak gathered a base of data on the real estate of 950 mfg. plants in Milwaukee County, for his study Industrial Location within the Urban area (Madison: U. of Wis. School of Commerce, 1962)

He graciously availed me of raw data for the City of Milwaukee. (626 plants) I adjusted the land area reported by each firm for values prevailing in its neighborhood (using for this purpose a map of land values in Milwaukee which I had constructed from 2500 sales.) I then ranked the firms by employees to land value ratio, with these results. The top 10%, so ranked — i.e. the most labor-intensive — had 21.4% of the employees on 2.1% of the land value, or 7.2 men per $1,000 of land value. The bottom 10% had 1.3% of the employees on 10.9% of the land value, or .11 men per $1,000 of land value. Thus the top decile had 65 times more men per unit land value than the bottom decile.

I also ranked the 626 plants by employees per dollar of real estate value (land plus buildings) as assessed for local tax purposes. The

These data covered industry in a conventional sense. If we add the "parking lot industry" we find one whose gross income is about 80% land rent, according to field studies conducted by George Verheyen in Milwaukee.★ In this use, one man or two can handle a million dollar acre of downtown land.

Turning to consumer goods, clothing is labor-using, food is more land (over)

~~Turning to "housing" as an industry, it too is much more land and capital-using than manufacturing is.~~ On-site labor is only about 1/5 of ~~on site~~ building costs ~~for~~ to begin, and following that, interest (paid and imputed) ~~if a home be fully financed by loan, mortgage interest~~ far exceeds repayment of principal, both at first and over life.

Older ~~apartment~~ rented buildings become rather more labor-intensive. About 60% of gross rent goes for operation, ~~and~~ maintenance, and administration, ~~upkeep, services, utilities, or,~~ of ~~the~~ elevator ~~rate~~ apartments built before 1920 even ± They are also land-intensive --- the other 40% must go mainly to persuade the landowner it is too early to demolish the old building to salvage the site. ~~For~~ Some old

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± Inst. of Real Estate Management, Apt. Bldg. Income Expense Analysis (Inst. of Real Estate Mgmt. of the N.A.R.E.B., Chicago, 1961)

★ George Verheyen, "Parking Lot Net Income, 1968-69" ~~in Milwaukee, Jan., 1969~~, = research report in writer's files. See also table in Parking, Fall 1968, p. 44.

using, and housing more capital-using. Interest on short term consumer debt is ~~a~~ material, ~~and indicates the productivity of consumer capital~~ but not really large next to the spending financed. Interest on residential mortgages, on the other hand, is the lion's share of outlays for housing, and reveals a service flow much greater than the labor input.

slums on bad land or in bad ~~areas~~ neighborhoods yield little cash flow above expenses - they ~~are~~ have become labor-intensive at the end.

~~Accounting~~

¶ Thus new housing is capital-~~not~~ using; old housing is land and labor-using. But a large and growing class of ~~residence~~ is mainly land-using from the start. ~~I would say that~~

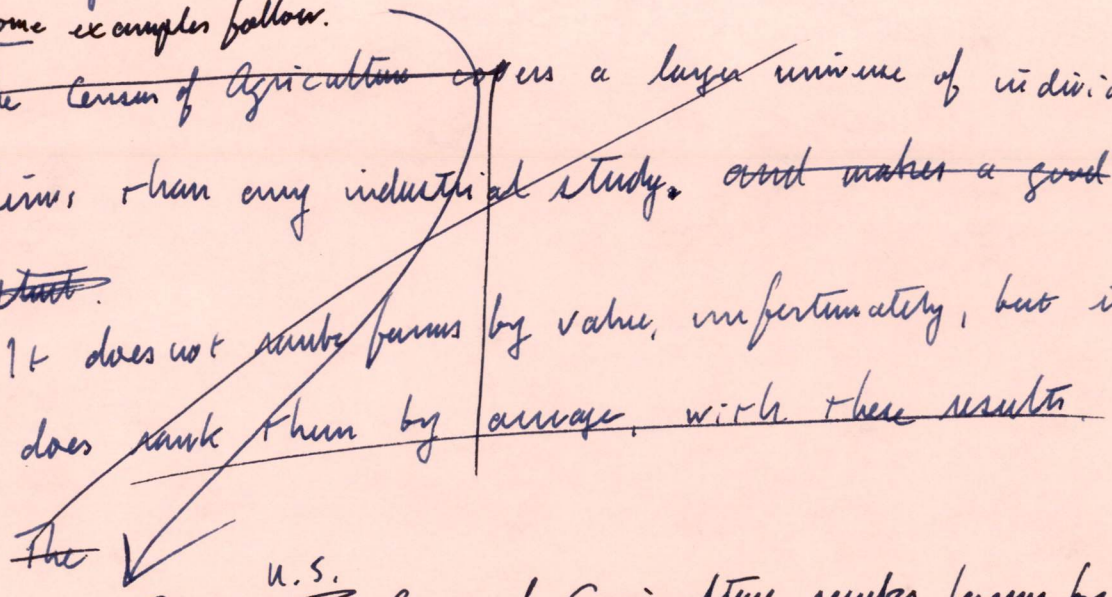
With rising wealth, people turn more to land as a source of direct consumption and pleasure. The ~~ratio of~~ land to building value ratio rises with value of ~~the best~~ residential real estate, even in cities.‡ But when we get out to country estates, gentleman farms, riding and hunting (over)

Factor-mix tends to change with size of firms and wealth of individuals. As a broad statistical truth, the application of labor to property tends to be regressive, that is the larger holdings use less labor per unit of property value.

~~some~~ examples follow.

¶ ~~The Census of Agriculture covers a larger universe of individual~~ firms than any industrial study. ~~It does not make a good study.~~

It does not rank farms by value, unfortunately, but it does rank them by acreage, with these results.



~~The~~ U.S. The ~~1950~~ Census of Agriculture reports farms by value of gross sales. In 1950, ~~for example~~, "Class I" farms, those grossing ~~over~~ $25,000 or more, used 22% of the ~~assets~~ land in farms, but 7% of the farm labor.

‡ Over for note

neighborhood, beach front sites, view sites, country club estates, 10 acre minimum zoning, Beverley Hills, Cal., New ~~Canaan~~ Potomac, Md., River Hills, Wis., Cuyahoga, Conn., & Burrington, Ill., & and the like, then we find ~~residences to be the input of~~ land to be the major ~~division share of the~~ input, and the residents to emphasize direct enjoyment of the service flow of land ~~cost~~ in their life-styles and philosophies.

‡ President's Committee on Urban Housing, ~~Report on Urban Housing~~, Technical Studies, Vol. II, (Wash. USGPO, 1968), p. 351, Table 47 (The Kaiser Committee Report)

The smaller producers of course then ~~want~~ made the figures balance by applying more labor per acre.

The use of labor on land ~~is positive~~ by and large increases with the ~~capital~~ improvements there — first in building them and then in using them. From Machines tend to displace labor, (over) From 1900 to 1940 the U.S. ~~United, 1940 the~~ after

Census of Ag. reported separately on land and buildings.

Table 2 ~~is the last available one~~ supports the thesis of regressive use of land.

Table 2 ~~(from p. 211, Land Speculation)~~
~~(combine p. 286~~

A & B .. next 2 pp.
Combine in table if convenient.

Source: 1940 Census of Ag., Vol. 3 pp. 80, 15

because they plow, harrow, plant, cultivate, harvest, and bind ~~store~~ -- they are active, like labor. Farm buildings shelter and store outputs and inputs and labor itself, complementing labor.

TABLE ~~14~~ 12 A

Land, Buildings, and Implements and Machinery;
Average Values Per Acre; by Size of Farm, 1940.[56]

Size Group	Land	Buildings	I & M	As %s of Land Value Bldgs	I & M
Total, U.S.	$ 21.90	$ 9.81	$ 2.88	44.8%	13.1%
Under 3	728.00	1,618.00	192.00	222.2	26.4
3-9	156.00	225.00	22.00	144.2	14.1
10-19	79.00	69.00	8.85	87.3	11.2
20-49	41.00	28.00	5.00	68.3	12.2
50-99	30.00	19.00	4.59	63.3	15.3
100-174	29.00	15.00	4.54	51.7	15.7
175-259	30.00	13.00	4.36	43.3	14.5
260-499	26.66	8.34	3.44	31.3	12.9
500-999	18.50	4.50	2.28	24.3	12.3
1,000 & over	8.29	1.13	0.64	13.6	7.7

TABLE ~~28~~ 2B

Land Available for Crops and Land Used for Crops, 163
By Acreage in Holding, 1940.

Acreage In Farm	Land Used For Crops (Million Acres)	Land Available For Crops (Million Acres)	Per Cent of Land Available for Crops Which is Used For Crops (Computed)
Under 3	.021,573	.024,695	87.4%
3-9	1.353	1.891	71.4
10-29	11.21	14.19	79.0
30-49	14.95	20.53	72.8
50-69	13.44	19.61	68.5
70-99	28.3	41.59	68.0
100-139	33.9	50.59	67.0
140-179	45.8	65.00	70.5
180-219	23.8	34.86	68.3
220-259	23.0	32.60	70.6
260-379	45.1	65.57	68.8
380-499	25.1	37.51	66.8
500-699	22.0	35.26	62.4
700-999	17.2	29.59	58.1
1,000-4,999	30.6	63.15	48.5
5,000-9,999	3.160	8.790	35.9
10,000 & over	2.775	9.343	29.7

Returning to Fortune's top 500 industrial firms, I tested the thesis by ranking them by "net worth" or invested capital, and calculating profits (after taxes) per employee. Table 2 shows the broad results.

Table 3: Profits per employee, large and small industrial firms,‡ ranked by Net Worth.

Group	Net worth	Profit after taxes	Employees	Profits/Employee
	$ m	$ m	(000)	$
Top 10	40,090.	5470.	1662.	3291.
All 500	133,660.	14,839.	9966.	1489.
Lowest 10 of 500	116	8.826	29.681	297.

‡ Calculated from data in The Fortune Directory, 1964.

Like any data, these might be massaged a good deal more. In particular I surmise that adding unrealized appreciation to profits would raise the profits per employee more for the top 10 than for others, since 6 of the top 10 are oil companies, and all 10 are major mineral owners. But this information is not available. The lowest 10 includes one net loser, without which the profits per employee would be $690 instead of $297. However, the 42 firms with net losses are almost all among the smallest 100, so it is $297 a representative fact datum.

~~(Ore. timber)~~

~~141,000 / 12,000,000,000.~~

~~The smaller producers, of course, then compensated by~~ ~~applying~~ more labor per acre.

~~Looking again at Fortune's top 500 industrial firms, I (over)~~
~~With Fortune's 500,~~ the largest ten firms ranked by net worth ~~(book value of assets)~~ had ~~$2,000~~ $3291 profit ~~assets~~ per employee, ~~while the smallest ten had $~~ ~~1,000~~.

The Milwaukee industrial firms described above make another case in point. Here, ~~as~~ the measure of assets is ~~not~~ value assessed for tax purpose, rather than book value, and while the measure is not necessarily less imperfect it ~~is~~ at least has different biases.

~~Table 5~~

~~A~~

~~-126-~~

However ~~there are~~ negative profits are also relevant, and there are 12 firms in the 500 with net losses. Most of these are in the lowest 100, so it is entirely representative to find one loser among any group of ten. Therefore $291. seems more representative than $690.

~~Ranking by~~

The choice of profits / employees to test the case premises that profits in general are the earnings of, and index to the real assets of a firm. Net worth ~~itself was not used for employee data not~~ was used for ranking ~~used because that would not work was the ranking criterion and that would~~ in order to reduce the bias of regression fallacy.‡ Although it is only partly successful in that ‡, ~~Besides, figures on net worth are suspect~~ the trends shown are strong enough to survive further purification.

A main problem with data based on corporate reports is the suspect nature of ~~the~~ ~~the~~ asset measures based on book values, which are partly but capriciously unadjusted for appreciation and general inflation.

‡ Had I ranked by profits, the top ten would not have changed much (cont.)

but the lowest ten would all have ~~had~~ been firms with negative profits. ~~and~~

Stefaniak's 626 manufacturing plants in ~~The~~ Milwaukee ~~industry~~ data provide another measure of asset values, ~~namely~~ tax assessment. The measure is not unbiased, but at least is differently biased. Ranking the plants by equalized assessed value of real estate, the top 10% have 89% of it, but only 69% of the employees. Table 4 shows what this means in terms of factor proportions in ten deciles.

Table 4: Employees per $1,000 of assessed, equalized real estate value, 626 manufacturing plants. City of Milw., 1960, plants ranked by value

A. By deciles

Decile:	1	2	3	4	5	6	7	8	9	10
Emp./Value:	.80	.99	.48	.60	.52	.48	.57	.42	.44	.14
% of value	.002	.003	.004	.005	.007	.010	.014	.022	.045	.888
% of employees	.007	.016	.011	.018	.021	.026	.044	.052	.112	.693

B. (from next p.)

Source: Stefaniak and Saffrey, see prior note.

Since the 10th or top decile has 89% of the value, the spotlight focuses there. Comparing ~~factor mix~~ it with

the other 9 deciles, the top one had .14 men per $1000 valuation, while the lower 90% had .49

Breaking the top 10% into ten parts, we find a similar pattern inside it. (Table 3B). The top 1% of the plants had 59% of the value with only 16% of the employees.

~~Table #3B.~~

B. By percentiles

To p. 24 Table #

Percentile:	91	92	93	94	95	96	97	98	99	100
% of value:	.01	.01	.01	.01	.02	.02	.04	.06	.12	.59
% of employees:	.02	.02	.03	.03	.02	.04	.10	.14	.12	.16
Emp/Value:	.37	.41	.56	.47	.23	.33	.45	.44	.18	.05

~~Material~~

Data ranked by one of the variables being investigated is subject to the ambiguity known as regression fallacy. If we ~~do~~ ranked the plants by number of employees, the top decile would consist in part of different plants, distinguished for their high employment rather than their high value, and the ~~top~~ finding above would be much muted. ~~less striking.~~ Choice of the ranking variable is a matter

of judgment, and data resources in each case, ~~There are~~ and in my judgment ~~this case~~ the ranking by value is legitimate here to ~~demonstrate~~ test the question if ~~capital~~ larger chunks of property employ ~~complement~~ less labor per unit value. Still, ~~However~~ The spectre of regression fallacy hangs over any inference from ~~a scatter of~~ data points. There are ways widely scattered, as there are, to purify the relationship, however.

According to Wallis and Roberts, a valid way to compare two variables, free of bias from choice of ranker, is simply to compare their ~~dispersions~~ variabilities, using any standard measure.‡ The one of higher variability is the one that increases faster as they increase together, a point which is visually (over) a Ranking the plants by employees, the distribution is less dispersed by several measures (Table 5)

‡ Allen Wallis and Harry Roberts, Statistics (Glencoe: The Free Press, 1956) ~~The classic~~ pp. 262-263.

obvious if one simply scatters points this way on a graph.

Table ~~X~~ 5: ~~Compar~~ Measures of dispersion of size of 626 manufacturing Plants, City of Ann., 1960.

Ranker	Gini Ratio	% in top decile	% in top percentile Coeff. of dispersion	Mean/Md
Employees	.87	.74	.26 3.5	5.5
Assessed Value	.93	.89	.59 7.5	12.4

Thus, by the test of Wallis and Robert, larger plants are still less labor-using, ~~regardless of~~ after ~~removing any correction for~~ regression bias. The mfg. plants vary more in value than they do in employees, so the largest ones (over)

Another neutral test is to rank data by the ratio of employees ~~per unit of~~ to value, and test ~~see~~ how size varies with the ratio. Visually, this is like drawing a sunburst of 9 radius vectors from the origin thru the data points, dividing ~~them~~ these points into ten sectors, each with 10% of the points. A data point ~~may fall~~ in the top sector gets there equally because of ~~many employees~~ large employment or small value, so the measure is unbiased ~~neutral~~ as to size.

If the top decile — the one with the fewest ~~employees per~~ unit value — is larger

This test ~~may be~~ gives ~~a conclu~~ the following result. The top half (5 deciles), which had 52.~~4~~% of the employees those with the more employees per unit value,

must have more value per man than the smaller ones.

Other evidence in my analysis of the data Stefanick gathered suggested that the assessor tended to overassess labor-intensive firms relative to others. That is, he was influenced, consciously or not, by the number of employees, in valuing real property. Thus the data are somewhat biased against showing the tendency they do show: that ~~larger plants of higher value hire fewer men per dollar of value.~~ the man-to-value ratio declines with size of firm.

and 14% of the value. The other half, those with more value per man, had 48.4% of the employees together with 86% of the value. Thus employees were about equally divided between the two halves, while the half with more property per worker had all but 1/7 of

Thus About half the employees worked with 14% of 1/7 of the property while the other half worked with 6/7, averaging 6 times as much property per employee. The firms with 6/7 of the property and half the labor of course are larger, in the sum of both inputs, than the firms with 1/7 of the property and half the labor. Table 6 gives data for all deciles.

Table 6. Employees and assessed value, 626 mfg. plants, City of Metw., 1960, plants ranked by ratio of employees to value.

Decile:	1	2	3	4	5	6	7	8	9	10
% of employees	.10	.02	.08	.11	.16	.08	.14	.07	.12	.11
% of value	.62	.03	.06	.02	.08	.03	.05	.02	.03	.01

The difference between deciles #1 & #10 is worth dwelling on. They have about the same number of employees, but #1, containing plants with the most real estate per employee,

had 62 times more real estate.

In timber culture, smaller owners use much more labor per unit of output. This follows from, inter alia, their shorter cutting cycles. Labor is applied to timber land in a peaks at the ~~beginning~~ ~~start~~ and ~~especially the end of growing cycles~~ harvest of one cycle and planting of its successor. The other years consume land and capital inputs. So longer cycles use less labor input. It has long been ~~is~~ our industry tradition that larger firms, by and large, hold more reserves behind each unit cut, and hold trees longer before cutting. The largest of all, the U.S.D.A. Forest Service, cuts slowest of all. ≠

Parallel findings in several mineral industries are reported by David Martin. ("Resource Control and Market Power," in M. Gaffney, ed., Extractive Resources and Taxation, (Madison: U.W. Press, 1967) pp. 119-38.)

~~≠ Read.~~

~~Bureau of Corporations~~

≠ ~~Timber Resource Review~~ Forest Service, USDA, Timber Resources for America's Future 1958, pp. 25 ff.

~~Macro-economists have on~~

Macro-economic specialists have, with a few ~~notable~~ exception, shared Keynes' ~~fatalistic~~ acceptance of monopoly and concentration, putting ~~down~~ ~~beginning~~ trust-busters ~~as~~ as ~~amiable~~ rustic eccentrics, ~~and atavistic populists.~~ ~~Henry Wallich~~ as Leon. Paul Douglas bowed to CEA Chmn. Gardner Ackley, "... the new economics has contributed to this comparative indifference to competition, ... anesthetizing people, ... the attempt to cure unemployment by fiscal means is apt to push into the background any emphasis upon ... increasing competition ... "Well how many front burners do you have? I have only seen two thus far, fiscal policy and monetary policy, but nothing for anti-trust policy." ‡

Henry Wallich today attributes Japan's success to its lack of competition, ~~and~~ aid to giant firms, and industrial control by bankers. ("Japan and the U.S.", Newsweek, 4/16/73, p. 95) (over) ~~This was also~~ the ~~German approach to things before World War II until defeat in 1945.~~ with Douglas, the TNEC specialists ~~these directors~~ ~~there~~ are overlooking something. ~~The data cited suggest, if there were~~ Smaller firms use much more labor per unit value. If one wants to make jobs, ~~more~~ ~~shares of property employ many fewer persons per unit value.~~ wider distribution of ownership and control of property would seem to be a top priority.

A direct study of this matter by Jon Udell found that ~~merger~~ mergers of Wisconsin firms have been followed by ~~resulted in~~ large payroll declines from the merged properties.

(Economic and Social Consequences of the Merger Movement in Wis., Madison: Bureau of Business Research, 1969)

‡ Fiscal Policy Issues of the Coming Decade, Hearings of Subcomm. on Fiscal Policy, Jt. Ec. Comm., 89th Cong., 1st sess., 1965, ~~II~~ p. 27

This ~~was~~ is the pattern of German industry, too, in the periods before Erhardt.

It ~~would~~ follows ~~from all that~~ that concentration of property ownership is one cause of unemployment. ~~Adam Smith's observation about engrossment and~~

Factor mix also varies among stages in production. ~~Primary Extraction~~ Labor-using activities tend to cluster in cities. The presence of labor is much of what makes a city. Mining uses very little labor so that mines ~~have surely also~~ do not create great cities, but only great fortunes. Mining contributes ___ % of GNP, but only ___ % of jobs. Refining primary products (over) Again with ~~timber~~ the lumber industry. timber culture absorbs ~~the~~ land and capital, while ~~&~~ milling is labor using, as are handling, moving, wholesaling, retailing, and building. In farming, the more extractive aspects like cash grain farming and cattle breeding are below par in labor's share. In Champaign Cty., Ill. the landlord's crop share is 50%, ~~But~~ ~~Later stages like fattening and~~ while returns to cattle breeders are also mainly returns to land. Feeders who put the steers and grain together

is again very ~~energy-min~~ resource-mining, being the main consumer of energy by far, and energy production is resource mining.

are heavier on labor, as are dairy farmers, and as we have seen, all the more intensive farmers. Even at that, 70% of the value (over)

Manufacturing, as its etymology suggests, is labor-using, and there is a tendency to overstate the share of labor in the scheme of things by focusing on manufacturing as a typical or basic economic activity. Retailing again is land using, requiring the highest valued land, and, Today vast parking lots. 40% of the retail area in Milwaukee is in gasoline stations. There are 324,000 gas stations in the U.S. A typical station pumps 20,000 gals./mo., marking up 5¢ each, for a gross value-added of $1,000 a month. Across the street an apartment on an identical half-acre site and 20 units renting at $250. each brings in $5,000 a month. ~~Clearly~~ Site rent ~~labor~~ is 5 times as great a share of value-added on the gas station in the example, and it is ~~not~~ based on fact.

Recycling as contrasted to extraction is extremely labor-using. The raw material, being waste, has almost no value at all, so the entire final value is added by men.

of a ~~hog~~ 200 lb. slaughter hog aged 6 mos. is, the ~~feed~~ corn it ate, whose value is 50% rent. ~~Labor~~ But if we look just at value added on site, feeding stock is labor-using.

Utilities are ~~is~~ capital-using. They require about $3 in assets for $1 in sales, compared to a 1/1 ratio for other non-financial corporations. (Forbes, 5/15/69, p. 91 "The 500 Biggest Corporations".) Much of this is due to the inflation of their distributive grids by urban sprawl and ~~the~~ political ~~power of farm~~ farmland ~~holders~~ forces that make them serve submarginal fringes lean ~~territories~~ at a loss.

Contrasting public and private sector, the public sector is ~~labor~~ property-using. ~~We have seen~~ To be sure it has a reputation for wasting labor, and in some cases conspicuously does. But it pays the market for labor, while it bonuses below the market. As to land, it

still holds much more than anyone, tax free and unmortgaged, with little concern for the foregone gains. The military ~~is hurting nothing by holding~~ alone holds 20% of San Francisco and Washington, D.C. virtually idle.

We have seen that the national forests ~~are~~ use more capital per man than private ones, especially small private ones. Richard Muth has ~~studied~~ concluded that the outstanding distinguishing trait of public housing is its higher capital-intensity. ~~Federal water~~ Civil Engineers, generally working for governments, have become notorious for ~~gold plating~~ producing white elephants, ~~their works~~ by treating capital ~~as~~ — not labor — as a free good, and for ~~justifying submarginal projects~~ overstating future benefits next to present costs by using low interest rates. (n. A collection of such cases

is documented in ~~JEC~~ The Analysis and Evaluation of Public Expenditures: the PPB System. Jt. Ec. Comm., Subcomm. on Economy in Govt., (Wash: US GPO, 1969)

~~As Sen. Proxmire said,~~ ~~any~~ ~~one~~ One can justify any project using a low enough interest rate, ~~because at a~~ and many agencies have, ~~to~~ and ~~do~~ ignoring land costs, because at zero interest the present value of future rents ~~is infinite~~ in perpetuity equals infinity.

We have seen that private utilities are capital-using. Governments supply ~~wrong~~ the most capital-using utilities, like water and sewer, which are increasingly costly because of urban sprawl. Above all they supply ~~although~~ roads. Governments are always called on to put up social front money,

to push back and invade frontiers, territorial and otherwise, where the ~~pay off~~ is too slow for private capital. Public buildings (other than schools) are often ~~tend to be~~ monumental, non functional, cavernous, marbled, and ~~centrally with~~ better-sited than their function warrants.

Few city governments have analyzed the costs and benefits of expansion carefully before plunging ahead. But the few studies that have been made suggest that the taxpayers ~~from~~ of older areas may finance the development of new ~~ones~~ areas for years and decades before the ~~tax yield from~~ newly serviced lands return enough taxes to pull their weight. ~~let alone return the cost~~ It is another long span of years before