

Talk, Rf 7, 12-8-71 ~~12-8-71~~
Used up Good Mtrl.

Very good stuff for speech

Orig. & Correction Copy

Relations Among Volume, Turnover, Capital, and Factor Shares

M. Gaffney 12/8/71

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Relations Among Volume, Turnover, Capital, and Factor Shares

M. Gaffney

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1. Simple model, inventory

- a. A storekeeper has \$100 capital. Each day he spends it on inputs and sells out.

Yearly volume (F) = \$36,500

Turnover (R) = 365 times a year

Capital (K) = \$100

Basic Relation:

$$F = K \cdot R$$

(Interest of \$5. is negligible, when R is so high.)

- b. At other extreme, he spends the \$100. planting trees, or finding unripe minerals. At 7%, money doubles every 10 years. In 60 years he sells for \$6400., thus making 7% yearly. Mean yearly volume is $\frac{6400}{60}$ or about \$107. $\frac{63}{64}$ of the volume is interest. Payroll of \$100. is negligible.

Between these extremes lie most cases.

2. Appreciating capital. The "Point-input point-output" model (PIPO).

Site is free.

a. Single Cycle

P = Payroll, time zero. (assumed only input)

m = period between payroll and sale of output, in years.

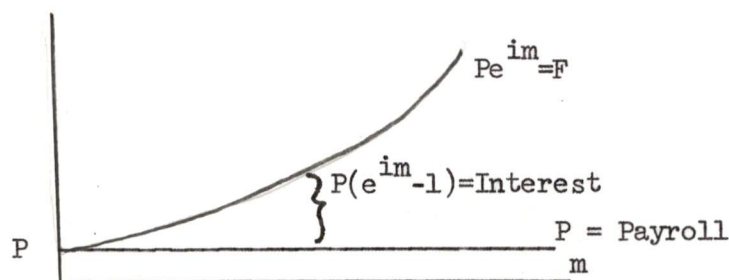
i = interest rate. (continuous)

In equilibrium, output after $\underline{m}$ years, (F):

$$F = P e^{im}$$

$$\text{Labor share} = \frac{P}{P e^{im}} = e^{-im}, \text{ a decreasing fn. of } \underline{m}.$$

$$\text{Capital share} = \frac{P(e^{im}-1)}{P e^{im}} = 1 - e^{-im}, \text{ the complement of labor share, and an increasing fn. of } \underline{m}.$$



b. Normalized or staggered operation

This is a mere matter of summation, but the Lutzes, Joan Robinson, Cassell, and many critics of Wicksell and Co. have thought there was something about normalization that changed basic implication of single cycle case, that longevity is the essence of capital-intensity.

Assume perfect normalization: plant and cut one tree yearly.

Number of trees growing equals $\underline{m}$: there is one of every age.

$$\text{Yearly output, } F = P e^{im}$$

$$\text{Yearly wage bill} = P$$

$$\text{Labor share} = \frac{P}{P e^{im}} = e^{-im}, \text{ as before}$$

$$\text{Capital, } K = \int_0^m P e^{in} dn = P \int_0^m e^{in} dn = P \frac{e^{im}-1}{i}$$

(Various proofs available for integral, but note it is simply the standard formula for the amount of an annuity.)

$$\text{Yearly interest} = Ki = P(e^{im} - 1)$$

$$\text{Capital share} = \frac{P(e^{im} - 1)}{Pe^{im}} = 1 - e^{-im}, \text{ as before.}$$

3. Depreciating Capital

Another summation, because PIPO is the math. building block from which all annuity formulae derive by summation. But many require convincing.

a. Single Cycle

A house yields steady service flow of \$1. over $\underline{m}$ years.

It depreciates because of declining future life rather than decaying service flow.

Sum of service flows = \$ $\underline{m}$ over $\underline{m}$ years.

Warranted initial payroll outlay is present value of annuity of \$1. over $\underline{m}$ years.

$$P = \frac{1 - e^{-im}}{i}$$

This is equilibrium outlay for constructing building to endure $\underline{m}$ years.

Assume perfect vertical integration, so there is no outlay but payroll. (In practice, most depreciating capital requires primary products or raw material, the latter resulting from PIPO-type cycles, and a full model will integrate the two.)

$$\text{Labor share} = \frac{P}{\underline{m}} = \frac{1 - e^{-im}}{im}$$

a decreasing fn. of $\underline{m}$, due to more powerful influence of $\underline{m}$ in the denominator. To prove, show derivative of

$$\frac{1 - e^{-im}}{m} < 0.$$

$$\frac{d}{dm} \frac{1-e^{-im}}{m} = \frac{m i e^{-im} - (1 - e^{-im})}{m^2}$$

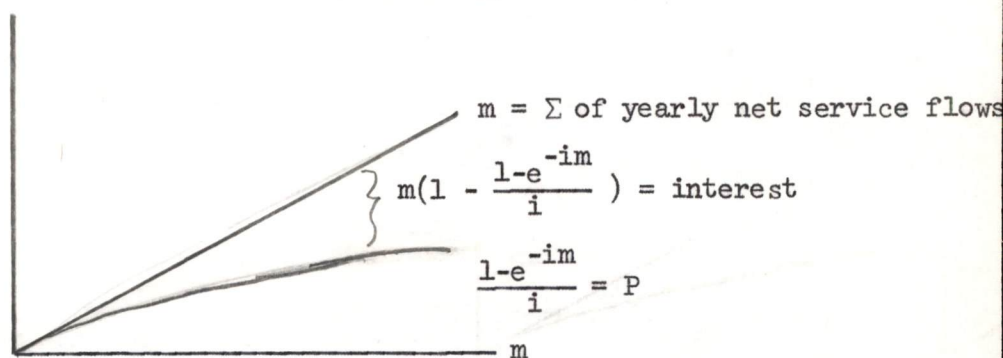
Derivative negative if

$$m i e^{-im} < 1 - e^{-im}$$

$$m < \frac{e^{im} - 1}{i} = \text{Amount of an annuity of one per annum,}$$

always greater than $\underline{m}$, if $i > 0$.

So labor share is a decreasing fn. of $\underline{m}$. Graphically,



$$\text{Interest is residual, } m - \frac{1-e^{-im}}{i} = m - P$$

$$\text{Capital share} = \frac{m-P}{m} = 1 - \frac{1-e^{-im}}{im}$$

This is the complement of labor's share, and is an increasing function of $\underline{m}$.

It so appears on the graph.

Note graphical demonstration that P/m is a decreasing fn. of $\underline{m}$.

As $\underline{m}$ doubles, P cannot double, because curve is concave downwards.

b. Normalized or staggered operation

Build and demolish one house yearly. Number of houses equals number of years of life (m). This entails double-summation of the PIPO building block, but may be simplified.

Yearly service flow = m (\$1 @ from m houses)

Yearly $P = \frac{1 - e^{-im}}{i}$ (cost of one house)

Labor share = $\frac{1 - e^{-im}}{im}$ as before, a decreasing function of m .

Yearly interest bill as residual = $m - \frac{1 - e^{-im}}{i}$

Capital share is $1 - \frac{1 - e^{-im}}{im}$, as before, the complement of labor's share and an increasing function of m .

To confirm, calculate interest bill directly by finding amount of capital, K .

$K = \int_0^m V_n$ where V_n is remaining present value of the house

whose remaining, unexhausted future life is n . (if n were elapsed life we would want $V_{(m-n)}$.)

$$V_n = \frac{1 - e^{-in}}{i}$$

$$K = \int_0^m \left[\frac{1 - e^{-in}}{i} \right] = \frac{1}{i} \left[m - \int_0^m e^{-in} \right] = \frac{1}{i} \left[m - \frac{1 - e^{-im}}{i} \right]$$

(Note the integral performed is merely the standard case of the present value of an annuity.)

Interest, yearly amount, = $Ki = m - \frac{1 - e^{-im}}{i}$

Share of capital = $\frac{Ki}{m} = 1 - \frac{1 - e^{-im}}{im}$ as before, an increasing function of m .

4. The Brems-Wicksell macro model.

Note in every case examined, $K = +f(m, P)$

Let $P = M \cdot W$

M = Man-hours (including females)

W = Wage-rate per man-hour (no discrimination)

$$M = f(K, \frac{1}{m}, \frac{1}{W})$$

Implication: to increase employment, increase capital, reduce $\underline{m}$ (speed turnover), and/or lower wage-rate.

In specific cases, sensitivity of M to m is very high, suggesting attention to this factor.

a. PIPO example.

$$K = P \frac{e^{im} - 1}{i}$$

$$P = M \cdot W = \frac{K \cdot i}{e^{im} - 1}$$

$$M = \frac{K \cdot i}{W[e^{im} - 1]}$$

b. In simple inventory model (p. 1), it is clearer, although oversimplified and omitting interest.

On p. 1, $F = KR$.

But $F \propto M$

$$\text{and } R = \frac{1}{m}$$

$$\therefore M \propto \frac{K}{m}$$

5. Effect of taxes on land use

Method: define effect of taxes on present value of site. PIPO case.

Begin with pretax equilibrium where

$$S = \frac{F - Pe^{im}}{e^{im} - 1}$$

S is independent of m for all $F = (P + S)e^{im} - S$ (an identity)

a. Income tax

π $\equiv$ Site value after income tax. Assume tax lodges 100% in lower

Site value, i remaining fixed.

$$\pi = \frac{F(1 - t) + tP - Pe^{im}}{e^{im} - 1} = \frac{S(e^{im} - 1)(1 - t) - tP(e^{im} - 1)}{e^{im} - 1} = S - t(S + P)$$

The percentage decline of S is:

$$\frac{S - \pi}{S} = t \frac{S + P}{S} = t \left(1 + \frac{P}{S}\right)$$

This is not a neutral tax. It favors low values of $\frac{P}{S}$, thus motivating less intensive use.

b. Property Tax on Capital

θ is site value after absorbing property tax on tree value. Tax on site value is not included, being assumed neutral.

Tax base is $F_n = (P + S)e^{in} - S$. [This is an idealized base, the investment value. In practice, base is usually lower.]

An error. $Base_n = (P + \theta)^{(i+t)n} - \theta$

$$\begin{aligned}
\theta &= S - t \int_{h=1}^m \frac{F_n}{e^{in}} dn \frac{1}{1-e^{-im}} \\
&= S - t \left[\int_0^m \frac{(P+S)e^{in}}{e^{in}} dn \frac{1}{1-e^{-im}} - \int_0^m \frac{S}{e^{in}} dn \frac{1}{1-e^{-im}} \right] \\
&= S - t \left[(P+S) \frac{m}{1-e^{-im}} - \frac{S}{i} \right]
\end{aligned}$$

The percentage decline of S is:

$$\frac{S - \theta}{S} = t \left[\left(1 + \frac{P}{S}\right) \frac{m}{1-e^{-im}} - \frac{1}{i} \right]$$

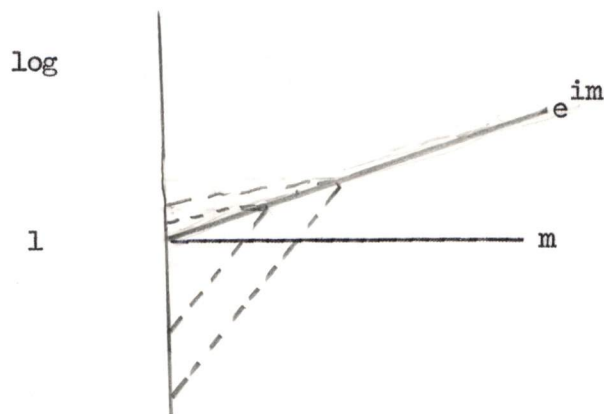
This is not a neutral tax either, under present assumption of the tax's lodging in lower site value (it is neutral if tax lodges in lower rate of return).

Direction of non-neutrality is different from usual emphasis, however. Sensitivity analysis shows the following:

1. $\frac{S - \theta}{S} > t$
2. $\frac{S - \theta}{S}$ is highly sensitive to P . To avoid tax, one holds down P -- i.e. fails to reforest. This is the paramount effect, rather than the one usually stressed, i.e. the tendency to hasten cutting of mature wood.
3. $\frac{S - \theta}{S}$ varies inversely with S , i.e. tax is harder on marginal land.
4. $\frac{S - \theta}{S}$ varies with m , but weakly, and at the lower level of stocking caused by (2).

6. Effect of changes in wage and interest rates on durability.

Graphical demonstration.

Figure 1

Let e^{im} be locus of future values having present value of unity at discount rate = i .

At a lower rate, $h < i$, present values from the locus curve are $\frac{e^{im}}{e^{hm}} = e^{(i-h)m}$, an increasing fn. of m ($i - h > 0$), shown by ascending y-intercepts above unity.

At a higher rate, $j > i$, present values from locus curve are $\frac{e^{im}}{e^{jm}} = e^{(i-j)m}$, a decreasing fn. of m ($i - j < 0$), shown by descending y-intercepts below unity.

So if capital is scarce, interest rates rise, causing shorter investments to look better. This speeds capital turnover, substituting labor for capital (cf 2, 3) and vice versa.

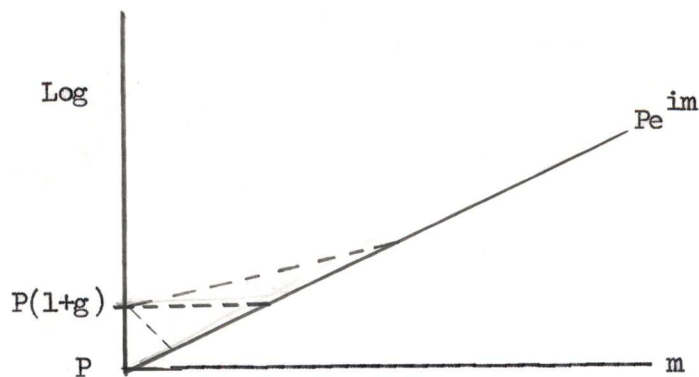


Figure 2

Figure 2 shows rise of wage rate with no change in value of product. Pe^{im} is locus of values yielding interest of i when payroll cost is P . Higher wage rates raise cost to $P(1+g)$. Dash lines show growth of investment at internal rate of return. Higher slopes mean higher rates.

Let r = internal rate

$$e^{rm} = \frac{Pe^{im}}{P(1+g)}$$

$$rm = im - \ln(1+g)$$

$$r = i - \frac{\ln(1+g)}{m}, \text{ an increasing fn. of } m.$$

So higher wage rates cause longer lives to be preferred, thus substituting capital for labor (cf 2, 3). And of course vice versa.

Thus lower wage rates and higher interest rates lead to full employment, in a free market (if we had one).

But it is the wage and interest rates as perceived and experienced by the entrepreneur that are controlling. Here is where institutional bias intercedes. Labor costs employers much more than labor takes home in pay. But capital and land cost employers less, at least comparatively.

R 77, Wed., Dec. 8 -- topics.

"Growth" & full empl.

a. Why is growth thought needed?

i. ~~the~~ Growth of what?

- Cap. i.e. cap. fruct. Why needed?

1. ^{Cons. &} Inv. to soak up savings. Keynes. Not prime worry today, but lurks in background. Esp. as war ending.

2. Savings to maintain fixed cap/labor ratio, as labor grows.

3. Territory, to replace exhausted land. Or desert land.

~~4. Cons.~~

- Pop., to Δ demand. Gone, like need for inv. to soak up S.

- $\$NP$, to employ
a. Same pop. as Δ techn. teachers to produce more.
(Δ use more land & cap., but techn. can also teach to use less, if get Earl Butres out of Ag. Dean jobs.)

b. Grow'g pop., same cap./man.

(Distribute: staggering models)

b. Turnover & residuals.

c. Will Δ cost ^{of abating poll.} a ^{destr.} indy. & empl.?

1. Take macro view. Like a general tax.

Answer comes from:

a. Fallacy of composition, or partial eq. approach.
Looking at what wd. happen to one indy., extending to all. Applying micro to macro, or partial to general.

b. Foreign comp.
But that's ok - export poll. if they want it.

c. Assuming hi price or something means reduced use. Magnifying tempering effects into forces greater than initial cause.

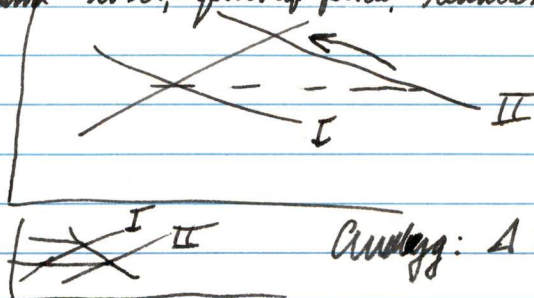
E.g. water. If price, some use less, from low uses, but releases water to higher uses. Total in use can remain same.

E.g. land value. You hear that hi l.v. drive indy. away. If so, Manhattan wd. be empty. It drives out lower use, reserves for higher.

Downtown parking.
Above is fallacy of "overpowering negative feedback" or "equilibrating effect overpowering cause"

E.g. if lighter furnace in house, Δ outflow of heat. Analyst who concludes furnace cools the house, commits fallacy of reversing causation by inflat's reaction; of 1 day came w/o prime cause

Analogy: If demand rises, forces up price, reduces Δ consumers can buy, & producers can sell.



Analogy: ΔS , lower price, reduce supply.

Ehrlich re Venezuela. A food prodn. lowered price, drove farmers out, caused starvation. Cary Brown on time-warp, - & can't suffer!

Apply to street congestion. Apply price. Total in use can remain same - i.e. street space. Productivity of space rises, just like water. Thus Δ use. So an efficient change can Δ density. E.g. more vfg. in same area.

They say parking fees keep people away from crowded areas. It is lack of space that keeps cars away.

Fees screen out unproductive ones; ~~at~~

- a, at any volume, changes composition
- b, may lower Σ volume, to Δ quality of experience for others.

Raising price, once tenure is established, is not same as establishing tenure, itself. ---

One might argue land price is irrelevant.

Regardless of price, mgr. makes by $MP = MC$.

But this ignores substn. If land is underpriced, one spreads out.

People underest. value of robot. No faith in macro-thermostats. Fallacy of blessing robot. when we never had a robot.

d. Fallacy of neglecting, dividing one solution into 2 problems, fretting about both - e.g. losing farmland & farmer surpluses

E.g. \$ shortage & \$ glut

E.g. doomsday from declining pop. & from 4g pop.

E.g. surplus supply & surplus demand,

E.g. automation disemploys all & creates surplus w/o work, & we all starve bc. can't produce enough food.

e. Fallacy of reifying abstractions. Career from threats of glut to threats of scarcity, & no eqm. The authority mind.

E.g. "the economy".

Cheap labor is needed for

"the economy".

f. Fallacy of universal marginality - & forward shifting results. Entails fallacy of labor & theory of value, often. No input can absorb a decline.

Must we produce less if we devote more res. to polln. control? Not necessarily. - if we use idle labor.

✓ If the ~~resource~~^{labor} requirements of producing a unit doesn't mean unemployment, but more employment to produce same thing. Instead of 2 problems there is one solution. Many attribute unempl. to Δ eff. or prody. But in fallacy of anagn. eff. is defined as substn. of cap. & land for labor. Underpricing land is cause, & overpricing labor.

Fighting polln. not hampered by real labor shortage - there is unempl. & crime, etc. Artif. labor shortage, due to

spread, or transp'n. tax, wage tax, inc. tax.

And real cap. shortage.

Reduce use of primary products. They are underpriced.

1. Ec. can Δ output w/o Δ cap. factor.

Micro model

Macro model

Cap. growth is nice, & probable. But is not the

motor or prime mover. R is. factor propns. See FMT.

Models showing flexib. of ec. — trees, houses.
Sub. labor for cap. and land. i.e., use land intensively.
Effluent charge is a price for land, too.

Points:

1. Labor / land ratio is highly variable.
2. Free mkt. tends to full empl. of labor.
 - a. Micro. Factor price changes bring about adjustment.
 - b. Macro
3. Instl. bias makes land & capt. look too cheap to those who have most discretion; & labor too dear.
4. New instns. needed, motivate sub. labor for capt. & land.
 - a. Effl. change. (Partly changes, congestion fees, MC pricing)
~~Same as putting a price on land~~ creating tenure of land.
 - b. Creation of tenure needs regulating
 Now, premature invasion to establish tenure.
 - c. P.W. - change full interest & rent
 - d. Undistrib. profits - force distrib.
 - e. ^{Spatial} ~~Settlement~~ spread: military frontier, mixed pastoral, mixed farming, irrig, urban (fringe, city, core.) All need to be overcome, reduce infrastructure.
 - f. Tax biases

5. Iatrogenic problem, cures worse than disease.
Height limits
Expanding frontiers
P.W. to employ men
Imperialism
Laws vs. non denables.

If require large & fixed or grow's complement of
land & cap. per man; and full empl.; then require much
land.

U.S. imperialism is correlative problem w. environment -
both reflect culture that subs. land for labor.

Does high Terram cause pollution, or a bad residual problem?

a. Even if it does, it wd. be fundamentalistic to
evaluate everything on this one base of ref. E.g., clericalism ~~and~~
and repressing slaves may mean resids, but spares people from liv'g in
those resids. - rats, lead poisoning, carbon monoxide, bad fumes,
fire risks, etc.

b. In forests, hi turnover means lower yearly growth.
More land in forests --- a good thing for watersheds!

U.S. F.S. policy results in piling forest cap. on too little land!

Or wd. if they reforested quickly.

✓ Process modifn. & product modifn. are good terms for changing factor propn.

c. Slow turnover subs. cap. for both labor and land, (if apprais. esply.) If land is scarce, we may want some slow turnover. (It will result from low i , and despite high $L.V.R.$ & low $W.R.$)

d. Fast turnover is a way of reducing needed fund of cap., for full empl.

If you of. it to full empl. w. slow turnover, i.e. more cap. complement, this wd. require:

a. Greater fund of cap. & intls.

b. Greater output.

Idea that $\Delta R \rightarrow \Delta \text{resids.}$ is from fallacy of holding wrong thing as fixed or const; fallacy of assuming full empl.

I begin assuming unempl. To cure, will be more output. To minimize results problem, sub. labor for capl.

To think of ΔR as Δg resid., one must implicitly assume one has the option of not Δg empl.

Return from symbolic to real analysis.

- materials balance
- environment
- disenchantment w. SNP
- recognition inc. is what you get after ~~tax~~ deductions & infln.
- now, time for a concept of real flow of values in ec.

Theme for Well.

Reysching is labor-using. Cleanliness the same.

No reason they shd. prejudice empl. They appear to only bes. fake notions of what causes empl.

approp. is land-using & cap.-using.

Scatological interp. of land capture. The way a dog
you shows ^{he} owns land is to raise his leg on it. ~~Arant~~

Polluting corps. are doing same. We must civilize them.

Wd. SST have created jobs? Only by the most partial thinking.

Heritage of waste school. Commit idolatry on GNP.
Fear peace, Waste on p.w.

Modified health school - need extended apprenticeship.

Benefit = local costs school -- a form of fallacy of composition.

Re rapid replacement, essential matter is bldg. new
fac., not scrapping old. Scrapping is useful also to avoid waste of
infra. structure.

A { i.e., we lengthen effective life of old
infrastructure by scrapping old houses. Just as we
get more from old car by replacing battery.

If can't build a BASF a.g. chem. complex at
Hilton Head, will it ~~cause~~ about jobs?

(The reason we entertain these gloomy thoughts is not
that problems are intrinsically hard, but every new
instr. we adopt threatens us w. having to rethink postulates
of how our society is orgd. That is the threat.

E.g. at Hilton Head, they resist BAST not bec. many people will be hurt, but bec. small no. of powerful rich may be. They resist rational appraisal of damages bec. they are underand, and now wish to magnify values affected.)

If don't build at HH., BAST can find many other sites

If BAST cannot find other sites, no plant, no jobs, this lowers wages & lowers demand for clean beaches until new equn. is found.

In minerals, their abundance hardly affects full empl. If they are short, we use more labor finding, recycling, etc. Same for env.

So full-empl. depends on other things: how flexible we are at changing factor prices, as men are cut loose.

✓ $\Delta R \approx \Delta \text{mats flow}$. Idea is to recover value fast; until remains until salvage site, & we do that to prolong useful life of infrastr.

Fallacy of selective consumerism. Replacement is all planned obsol.
Short life is all due to covert quality deterioration, a way of ~~to~~
raising price ~~now~~ on the sly.

Remember other aspect. Dead goods, due to desire to
prolong shelf life. And people induced to buy overly durable
goods at high prices, take on interest burdens

Brief Outline, Wed.

Used Up

Resources, Full Empl., & Env. Quality.

Theme: Full Empl. is attainable, & compatible w. clean env., reflecting econ. sovereignty; and w. hi cost primary inputs.

I. Full empl. is attainable.

A. Present leadership can't attain it, regardless.

B. Free mkt. could: micro. C. Free mkt. at: macro

Given this adjusting mechanism, can absorb new parameters, no problem.

C. Instus. stand in way, underprice land & cap., overprice labor, to entrap.

II. Needed change is sub. labor for land, and cap.

A. Aspects of substatn. New instus. needed.

B. Boogys, or illusory conflicts. Esp. vs. hi R.

C. Iatrogenic problems, from ill-advised cures.

I. Full Empl. is Attainable

A. Bankruptcy of present leadership (political, & intellectual)

They edict employ us all, regardless of environment.

the Pittsb. talk

Unempl. were then painted. Non fulfillment of human being, a more general malady.

Quoter, confession of impotence

By resort to govt., & now direct controls.

Heritage of waste school: idolatry on FNP, war, aimless activity, expand, explore, clear & ^{then} reforest, pioneer & then resettle, etc. etc. Waste on p.w., invade wildland. Allied w. advertisement (Turner & Anne Johnson). Allied w. local dev. types who see costs as benefits (bes. they share a share of local costs.)

B. How a free mkt. attains full empl.: micro.

1. Dim. rets, vble. propus, dems.

a. Lower wages, more labor. Cap. comply to labor - great
Payroll tax intervenes. dist. of prodn.

b. Inc. tax intervenes - timelier (distrib. in advance)

c. Higher int., less cap, more labor, MNP.

2. Hi wages hurt labor-intensive

Hi int. " cap. "

a. General

b. re time. i. ~~if~~ effect of $\pm \Delta i$.



d. Re maxig. S_c - see FMT.

e. Supplementing b, short life means labor-intensive.
H and out models. Staggering

Appurig

Depurig.

Inventories, no int., simplest of all.

Wicksell model (hurd out)

Need vertically intd. approach, even in micro. labor
producer capt.

3. Underpricing cap. & overpricing labor, effects

Employer has to pay much more than employee gets.

Re land, litterer pays much less than social
cost. And, in lesser degree, for tenured land.

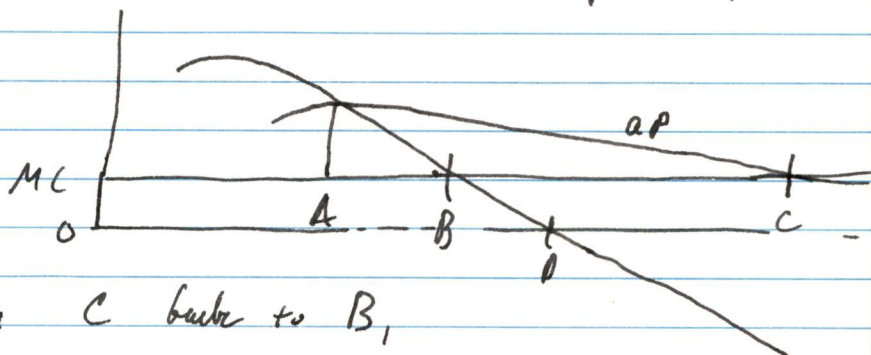
Re cap., big corp. plan's barbe pays < social cost.

4. How effluent charges et hoc genus omne (ehgo), MC pricing, fit into mkt. solution.

- Water tolls. Reduce waste. Δ labor/water, labor/land, and spread over more land.

- Congestion tolls. Get more use from streets ... Δ AP

- Tenure on open range: Δ AP & TP, up to a point.



Tenure moves us from C back to B,

and Δ s TP all the way back to D, & TNP all way back to B.

- Effluent charge, makes neighbor land more usable.
We just have to be sure eff. charge is applied equitably.
And don't confuse it w. snob zoning which might close down an employer of 1,000 poor to save the beach of a few rich.

In general, beware fallacy of interpreting ~~as~~ compensatory equilibration ~~into~~ as prime effect.

Effluent charges & c. "user" charges = MC are a way of creating tenure, orderly. Preventing substa. of land for labor. (? - broder)

Fallacy of universal marginality — forward shifting,
labor thg. of value. Must rise above that.

So must we produce less if apply $P = MSC$? Land
produces more service flow, we know. But it's not entirely a
matter of amenities. More util. goods from some land.
Reduced linkage costs, as we live closer. And put idle
labor to work.

Eff. charge doesn't force one to produce unit of output
using more res. Use less of the res. now priced — &
more of others, esp. labor.

5. Factor proportions are highly vble. in fact.
Mfg. indy., labor/land, rank by ratio.
Fortune, etc.
Housing

C. How free mkt. attains full empl.: macro, agg.

1. Trend today to challenge fallacy of reification re GNP, look behind symbol, ~~the~~ stop commodity idolatry.
also, to gen. power of spending to activate real econ.
also, to stop try'g to use money illusion to bamboozle people.

Good Trends: - - -

Now, time for a real macro.

2. Notes of early RFF talks.

3. Recycling, clean lines, are labor using, land-sav'g. No reason to cause unempl. - except false macro, bores.

4. Growth not needed. Indep. v'bles. lie elsewhere than in tension between S & I.

D. Instas. obstruct full empl.

II. Needed changes: sub. labor for land & capt.

A. Remedy (D), above

B. Specious but groundless objections to remedies.

1. Hi R As residuals.

2. Higher costs drive out firms

a. Few are unqul.

b. Preserv'g land creates new surplus & opps.

3. "Growth" needed.

A. Effect of land use on empl.

1. Need to subst. labor for land & capt.

Is man surplus and obsolete?

N. Senior said of Irish famine, 1846, should have let more starve, only way to raise welfare. Carlyle coined

'dismal science'.

Today, ZPG, same tack. ^{Neo-Malthusian.} Not ecsts., but not getting less gloomy. ~~much~~ different story from ecsts.

Can't cure infln. w/o unempl. — Friedman; Samuelson

" " " " controls — Nixon

" " unempl. " war — Connally. Iron Mt. School

" " " " infln — Okun

Come along children, & sing a happy song — Mr Cracker. (at least he's not dismal.)

Even expansionists settle for 4% msrd. unempl., yet

quality of full empl. is low.

~~Crime~~

~~Welfare costs~~

~~Draft; weapons constitutions, make work.~~

~~Idle suburban housewives~~

~~Poverty~~

~~Long apprenticeship.~~ Humm Cap. school. Man not usable in his natural state.

~~Early retirement~~

~~Short weeks~~

~~Partial unempl. by doing unimportant work, low wages.~~

Support for war to employ men:

George Meany

Connally

even Proxmire, in new job, Chmn. of Sen. Comm. on Space Techn. (?)

So modern ecs. is the new dismal science — man is surplus.

No shortage of demand for final products — CPI rising. But shortage of demand for labor input.

Same time, cap. & land seem to be scarce.

a. Cap. scarce.

Hi int. rates

Try dropping i, get crisis in balance of payments. Worldwide, beyond control of FRB.

b. Land, ~~scarce~~ picture is mixed. Signs of scarcity, but then we go out & get more, or convert to higher use. This is why cap. is scarce. Rising prices: urban (Manvel); farms.

Environment, pressing on limits of earth.

Primary products.

We have become importer.

Are running through ores & minerals previously ~~more widely used~~ relied on, turning to lower grade & remote sources, whose values in situ have $\therefore$ jumped, like suburban land. ~~Metals costs~~