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CAPITAL TURNOVER: A WAY OUT OF THE
INFLATION-UNEMPLOYMENT HANGUP*

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Outline

I. The I-U hangup and derivative crises

A. The hangup

When modern FMP first courted us, the promise was Δ spending -- either government or private -- would soak up unemployment at constant P. No inflation until full employment.

Then the Phillips curve era, trade-off.

Now, not even that comfort. ^Get both inflation and unemployment at unacceptably high levels. Only wishful thinking that we can spring out of trap. Record of failure all too clear, and growing more so.

FMP is overloaded. We ask too much from it.

B. Correlative crises

1. Along with unemployment go several perennial crises, derived from general anxious grasping for economic security.

a. Iron Mt. effect. Fear of peace.

FMP to blame - has fostered illusion
only government spending can employ us all.

Fear of reliance on selling to civilian consumer. Weapons constituencies.

b. Sacrifice of environmental quality for payrolls.

Constant pressure to use more resources, invade sanctuaries of peace and recreation.

Balance-of-payments variant. Wallich on SST

c. Crime among unemployed youth.

d. The generation gap. Increased barriers to employment,
as the old fence out the young.

- e. Inhibition on mobility among older, entrenched workers.
- f. Damper on confident, innovative spirit.

2. Shortage of ready capital.

There is plenty of capital sunk in the ground, hardened in concrete, mostly premised on yielding low rates of return that prevailed some years ago. Wouldn't it be nice to have it back today to reinvest at 10%? But it is not recoverable faster than a rate predetermined when it was built.

Recoveries are slow so supply of ready capital is short, but demands are long. Unsold state and local bonds. Deferred capital spending, denial of urgent needs. Very high interest rates.

Low liquidity of ^{corporations} measured by current assets $\div$ current liabilities.

Low liquidity of banks, measured by loan $\div$ deposit ratios (high ratio, low liquidity).

Zilch liquidity of S and Ls, caught borrowing short and lending long when interest rates rose, surviving by bail-out from U.S. Treasury.

Corollary paradox of excess capacity coupled with inability ⁱⁿ to increase output/ some industries. This is simply imbalance. Too much hard capital, too little soft. Too much advance capital, too little working capital for current needs. In public works, too many visionary developmental schemes for the 21st century; too little "resources for the present" (credit - A. Alchian) Too many miles of roads and utilities; too few matching square feet of floor space to take the edge off the housing shortage. *Too much R & D, too little pay-off (Du Pont; Buzgel)*

(water shortage, oil shortage)

We ward off imaginary dangers of the remote future, succumb to real and present dangers all around.

II. The inadequacy of the profession's macro framework

Our perception of these gross facts comes through a curious interpreter, the macro analysis inherited from the past. It contains several premises that do not fit present circumstances (and may never have fit any circumstances, but that needn't detain us now). Macro analysis has evolved and adapted to many current stimuli, and any evolved organism can be forgiven a few rudimentary appendages. But some of the vestigia are right at the heart.

A. Shortage of investment opportunities

Macro developed around the pessimistic premise of a stagnant, mature economy. Savings and sinking funds were abundant and redundant, but no one knew what to do with them except sink cash into an infinite liquidity trap. This could only get worse, leading to the "euthenasia of the rentier," zero interest rates. "Socialization of investment" was the solution, modified in practice as deficit finance.

This framework must be strained considerably to help us understand today's problem of 10% interest rates, declining business cash flow from capital recovery, and unsold, unsalable municipal bonds. It is the sources of investment funds -- capital recovery primarily -- that are inadequate, not the demand for them.

B. Inadequate propensity to consume

Too much saving was the prime worry. Even if savings were invested once, where would future consumption come from?

There was a replay of this in the great Automation - Cybernation science-fiction scare of 1964 when work was declared obsolete, nothing more than a Puritan twitch, and idleness and consumption exalted.

(The Hippies are still with us.) / They attribute high interest rates to a conspiracy of bankers.)

C. Depreciation and depletion not worth the trouble to put in national accounts.

The national income accounts do not estimate depletion at all. They stab at depreciation by accepting business records designed for tax avoidance and stock promotion. They recognize the results are inaccurate, but regard the matter as too unimportant to warrant the effort of overcoming the difficulties of estimate, and focus our attention on GNP as a measure of economic performance.

Of course, amortization of debt, and recovery of capital from direct investments, are the main source of new investment. But who cares? In the macro framework the sinews of investment never fail, only the opportunities to exercise them.

Or if the supply of investment fails, as in the classical range of the LM curve, it is due to demand for money, and not to failing recovery of capital from real goods.

Today, the transaction velocity of money is soaring. It is hard to attribute high interest rates to an upper limit reached on velocity.

D. Employment responds to spending

FMP uses spending to reach full employment. Faced with inflation before full employment, it is simply overloaded and unable to help us more. It may fine-tune, heat up, cool off, and walk a fine line, but it cannot make further headway in its basic function and may as well turn on, tune in, drop out. Liberals and conservatives ~~butt each other~~ *collide* head on in the same old ruts, debating whether they prefer more employment or less inflation, but they aren't coming up with new ways to get both. Meanwhile we no longer even have a choice, but get both inflation and unemployment.

E. Labor theory of value

In some macro rhetoric, wages are virtually the only cost of production. Cost-push inflation is the work of unions. Higher wages seldom cut into property income, but are passed on automatically in a wage-price spiral. (Curiously, they also stimulate substitution of capital for labor.) Demand-pull inflation may be useful because the money illusion lowers real wages and increases investment opportunities.

Income-creating expenditures are spent on payrolls, either in toto or in some fixed and ~~everlasting~~ *changing* proportion. (Harrod; Weintraub) There is no way to increase the share of labor in the value of output (and

thus raise the employment-generating efficiency of income-creating spending), other than regression to a primitive economy, make-work rules, breaking windows, and other boondoggling.

F. Substitution of metaphor for substance

"Cooling," "heating," "the economy," "the consumer," "productivity," other nonsense words. See recent quotes from Fed., CEA, et al. I draw the curtain of charity over chapter and verse, but warn against bamboozlement.

G. Confessions of impotence; counsels of despair

Some shocking recent articles, by Wallich, Burns, et al. Quotes to be selected.

H. Consignment of other policies to negligible role

Measures other than FMP are in another world, the 'structural.'

"Structural reform " is awkward, slow, impolitic, impractical, utopian, and too freighted with issues extraneous to controlling national income. FMP was a reaction against it. Let's accept price-fixing and go on from there, was the spirit. Sticky prices make more scope for FMP anyway, and are even therefore desirable. *'Bottlenecks' are useful scapegoats for failure of FMP, but are not to be attacked directly or even analyzed.*

The prototype is anti-trust policy; after 1969 many now feel the same about tax reform. Free trade, the traditional rallying point of economists, creates a leakage and sits badly with the neo-Mercantilist branch of New Economists. (Will Paul Douglas get 1028 signatures in 1970 as he did in 1930?) An uncontrolled free economy might be harder to regulate.

When structural problems do get out of hand they are blamed for the problems FMP cannot handle, pigeonholed as "cost-push" inflation, and blamed for touching off vicious "wage-price spirals." Direct assaults on the sources of cost-push are rare. There is a lingering tradition that higher costs mean higher incomes mean higher spending and this is after all a good thing. Every privileged group plays this to the hilt, and the profession all too often whistles along, especially farm and labor economists.

Thus macro has many defenses against getting out of its rut.

The matter of replacement frequency to which I now invite your attention may be labeled 'structural' by fiscalists who wish to ignore it, and 'fiscal' by structuralists of the same desire. It is in fact both at once and warrants ignoring by neither camp. It has been passed over by macro economists, and now constitutes a major source of the problems that are overwhelming them.

III. An explanation of recent events: slowdown in capital recovery and replacement due to increased longevity of real capital stock.

A. Evidence of slowdown

1. Corporate cash flow drying up.

Internal sources were relied on for years, now failing. Not because corporations have less capital--they have been plowing it back for years. They are recovering it slower.

So they are borrowing, and now even issuing new stock. They are trying to fund short-term debt, suggesting they got caught borrowing short to invest long.

2. Stretch-outs. Characterizes most capital expansion programs today. Unintended, ~~perhaps, but~~ result is to slow use and recovery of original capital.

Inability to find financing to supply matching and completing capital and operating capital to go with sunk investments in fixed capital. Examples: urban infrastructure is extended (roads and utilities) but housing lags; R & D gets years ahead of application, *infrastructure is unbalanced, too, shown by further needs.* exploration is way ahead of mineral extraction.

3. Banks and other lender portfolio assets tied up in long maturities. Only a small share is recovered for reinvestment each year. This is the financial reflection of what is happening to real assets. Although not a 100% true ~~one~~ ^{reflection,} it is of great expository value because the point may be perceived unambiguously, where our ability quickly to grasp the same point about real capital is weakened by the tradition of unresolved debate about the nature of real capital.

4. Essential bankruptcy of S&Ls (masked by Federal subsidy)

Slow recovery of capital the cause.

5. Low corporate liquidity (current assets divided by current liabilities).

Low banking liquidity (high loan/deposit ratio).

6. The arrested growth of half-finished universities. Heed the prophetic words of the 1955 U. of Pennsylvania Report of the Educational Survey: "The tendency is strong in most universities to expand in more directions than available finances make wise. The resulting poverty is shared by all."

B. Macro-economic relevance of slow capital recovery

Capital recovery represents both aggregate supply and aggregate demand, simultaneously.

As to supply, recovery of money from capital means the capital has been transferred to a consumer: sometimes in toto, as by sale of inventories; sometimes in part, as by the service flow of a truck or a building, ^(above int.) Thus capital recovery helps keep prices down.

As to demand, capital recovery means replacement demand. There are two reasons: there is the free capital to invest; and there is capital missing that needs replacement.

The demand and supply sides of replacement tend to work together. Investors who plan to maintain their real and money assets at a given level normally anticipate consumption of the ripe portion of their capital. Thus replacement investment anticipates the availability of ripe consumer goods, and supplies money income to buy them.

This is most obviously true for the merchant-investor in an inventory of retail goods. But the model equally applies to investors in durable buildings. A giant firm whose plants were so numerous it had them staggered and replaced one each year, using cash flow gleaned from all the others, would be rotating its plants like a huge inventory. Few firms are that large ⁻⁻⁻ (alas, all too many are nowadays)--but the sum of all plant owners rotate their stock that way, those with old buildings and large replacement reserves lending money to others who need to build immediately.

*Is plenty of demand from unemployed - once put to work, they consume all.
K-n. increase involves assuming Δ inc. will go in large part as Δ inc. to those already having inc., who save. Structural answer is, employ the unemployed.*

*flow of real goods
+ common
balanced by*

If the rotation of the national capital stock slows down for some reason there is less ripe capital to consume, less to replace, ^{There is a small loss} less replacement investment, [&] less income, ^{But this means} and less employment.

Another way to perceive this is in terms of meeting the national payroll. Economists are often asked if they know how to meet a payroll, so here is how. You produce only what you can sell before you exhaust your capital. If capital equals six month's payroll you plan to have sold out each month's output before the end of six, to meet payroll #7. If you don't make it, you lay off men.

The economy meets ^{the national} its payroll by delivering ripe goods to consumers ("subsistence" was the classical term). It needs to schedule maturities so that ripe goods equal factor payments high enough to cover income.

If it fails, it lacks the real ripe goods to meet the national payroll, ^{as well as the disposable capital for the necessary gross investment of money.} There are then three choices: lay off men; lower money wages; let prices rise to lower real wages.

Yet another way to perceive the point is to visualize national capital as a store of goods. Labor deposits green goods in the store when it works; and withdraws ripe goods from the other side of the store as its payment. The storekeeper can only offer labor the ripe goods--that is all there is to withdraw. The flow of ripe goods, the throughput of the economy, is the simple product of capital stock times capital rotation (R) or turnover rate during the period in question. If the rate of R falls, withdrawals have to fall. Withdrawals are the incentive for deposits, so ~~unless~~ [✓] ~~the storekeeper has some alchemy for making people deposit more than they~~ ~~withdraw,~~ falling withdrawals mean falling deposits and unemployment.

If Federal authorities choose to compensate for reduced gross investment by creating new money, running deficits, subsidizing certain long term investments, and so on, they are more likely to create demand than supply, and push up retail prices. This is roughly where we are today.

There are thermostats in the economy, when they aren't jammed. A macro-economic thermostat that should operate is the interest rate. *# If R is made too long, the resulting* shortage of ready capital *and substitution* raises interest rates, differentially damping long-term investments, redirecting resources into fast-ripening forms and curing the problem of slow rotation. *Wicksell worked this out in his* Lectures.

Another thermostat is ground rent. High ground rents (whether collected privately or publicly, explicitly or implicitly) penalize longevity just as interest does. This thermostat is badly jammed by imperfection of the land market. Its role is central, but too complex for this short paper.

The operation of the interest thermostat is observable currently as investable funds shun municipals and housing for the higher rates that shorter maturities can afford. But this thermostat is overloaded, like FMP. It is working almost alone against a massive weight of institutional structures biased against fast-turning capital. This paper will scan some of these biases.

C. Micro-economic relevance of slow capital recovery

Capital Rotation (R) is a link between macro and micro. Slow R, we have seen, means less aggregate output and income-creating investment.

In micro terms, slow R means substitution of capital and land for labor. It is not in the science-fiction world of Cybernation: The Silent Conquest that the Luddite nightmare is fulfilled; but in the stagnant real world of sluggish capital preempting inert land.

A lower share for labor in turn lowers the employment-generating efficiency of each dollar of the reduced flow of gross investment.

The displacement of labor by slow R shown by two models: trees; and buildings. (App. I)

The models show that the contribution of labor to value-added, and the share of labor in the factor payments, decline as R declines.

They also show there is a vast range of feasible input mixes, so that any amount of capital and land can employ any amount of labor, and will, in response to small changes in relative factor prices.

The Luddite fallacy that "machines" (or other deep mysteries from M.I.T.) disemploy labor has to contend with the obvious counter that men produce machines, and in competitive equilibrium the only claim a "machine" can make on total product is the labor cost plus interest and rent, the last two being functions of machine life.

IV. A way out of choice-between-evils: speed capital rotation (R)

This section follows from (III), and merely reverses it to accentuate the positive, showing the benefits of faster R, developing a general model and the concept and math. of 'staggering' which relates R to the ratio of capital to output.

A. The Wicksell model (App. II)

B. Staggering: the relation of R to the capital-output ratio.

(App. III) Faster R means less capital needed per unit of output.

✓ We can increase real output without growth of capital stock, ~~merely~~ by speeding replacement. *Most growth models follow multiplier lead of deriving growth from attempted cap. formation. Present model shows how growth comes w. fixed*

We can increase employment of labor without increasing output, by *cap.* producing same output with higher labor component. This sounds crazy until you recall pressing current need to employ everyone without making such great demands on nature. (Cf. App. I.) *Say rather we can Δ empl. w/o Δ use of land & nature, by sub's labor for land.*

V. How to accelerate capital rotation (R)

← A. Some blind alleys and misunderstandings to scout

1. Lowering wage rates. This will work. It was recognized long ago, as the Austrian's "Ricardo Effect." But it is not generally called for, because other causes of slow R are very great, depressing demand for labor and hence depressing equilibrium wage rates. There is no call to single out labor for reform when the mass of offending institutions are biased against labor.

2. Higher interest rates. Again, this helps, as already shown, and should not be obstructed. However it should not be regarded as a final solution. It is a second best adaptation to capital demands artificially inflated by institutional bias. It is the last that needs attention.

3. Higher land rents. This helps, but *aggreg. results depend on how rents are made to rise. If we raise rents of some land by locking up other land, net effect is to reduce empl. But if we raise rents by abstaining from developing submarginal land, we avoid freezing capl. and net results are good.*

3. The mistaken idea that injections of money and/or spending can increase real turnover. The block of existing capital ripens at a rate largely predetermined by its physical character, given it when produced. It is largely refractory to spending stimuli. Anticipated ripening and consumption cause spending on replacement, but not the other way around. This sharply limits what present FMP can control and achieve. Accelerating R must be 'autonomous' in terms of FMP, i.e. from causes other than the money supply and the Federal balance.

4. Accelerating R entails endorsement of planned obsolescence, waste, premature demolition, the broken window fallacy, make-work, et hoc genus omne.

Nonsense. It is not necessary or desirable to accelerate R by introducing biases in the market. The idea is to remove biases that artificially retard R. After that is done, if unemployment should remain, it would be time to push for lower wage rates, not make work.

5. Crabbed skepticism that will see no wonders. There are always dismal scientists who see iron laws binding us to suffering (just as there are always utopians who see the millenium of universal otiosity). These find it unrealistic to contemplate growth above a small percentage; to think labor might get a larger share of output; to find increasing returns from more intensive use of natural resources; to see an expansible wages fund unlimited by the amount of capital (because it is a flow, not a fund).

But there have been economic wonders: the Second World War; the German and Japanese revivals; the American westward expansion. The only iron limits are in our brains to figure out why and how.

6. Ancient reflexes against the Austrians

The old Pavlovian twitches -- there are so many. The Appendixes dispose of one, the notion that Austrian inferences from capital theory only apply to trees. The 'point' or tree case is the building block from which all the mathematics of finance is derived by summation.

I do not defend the Austrians, who had some good ideas but failed to score, as much through their own errors as their critics'. Let us leave them to history and begin fresh.

B. Tax policy and capital rotation (R)

There are numerous biases against R. A partial list includes subsidies to long-term loans; use of low interest rates in managing public assets and planning public works; ignoring opportunity cost of land in investments by government and by some giant landholding corporation; log-rolling, overcommitment, and resulting stretchout of public works; the rule of capture that actuates premature exploration, water development, and R & D; the effect of utility rate regulation on premature extensions to magnify rate base; laws against diversion of gas tax; the price-umbrella effect of cartels; aggrandizement of corporate management by non-distribution; and so on through a long and sordid list.

Here I will touch on only one bias: tax bias; and only one case of that: forest taxation.

1. The general bias of taxation against R I have treated elsewhere.^{1/}

^{1/} M. Mason Gaffney, "Tax-induced Slow Turnover of Capital," WEJ, 9-67. Reprinted, unabridged, with mathematical appendix by William Vickrey, AJES, Jan., April, July, and Oct., 1970.

Among other things this work establishes (in Vickrey's and my opinion, at least) that conclusions about simple tree cases are easily generalized to all cases.

2. The effect of taxes on forest rotations

a. The theoretical basis of bias in yield and income taxes. (App. IV)

There are two rival approaches to solving problems in replacement theory: maximize present value; and maximize internal rate of return. Whichever method you choose, someone will say you should have chosen the other, and he will be right, for there are circumstances appropriate to each. Fortunately the results are usually consistent and reconcilable, if you do it right. So I have done it both ways.

TISTOC (just cited) maximized internal rate of return, and concluded that yield and income taxes biased investors against fast R. App. IV maximizes present value and finds the same.