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Land Booms, Capital Stretch-Out, and Banking Collapse

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We need not fear that our topic has been preempted by others. At the 1993 AEA meetings in Anaheim, it was noted that in 1990, consumers slowed buying. None of the economists present knew why. "You cannot explain this one," said Robert Hall, Stanford, head of the AEA committee that dates turning points. He ran through eight traditional explanations of recession, from high interest rates to overstocked stores, and rejected all. Consumers just "got scared and stayed scared," said Oliver Blanchard, MIT. We may not do better, but we certainly can do no worse.

1. Land and capital are mutually exclusive categories.

Between them they include all assets with intrinsic value. Some of each is needed for all production (each is "limitational"), so both are always relevant.

As to formation, land (by definition) is what is given by nature. It is only capital that can and must be formed by man, by producing in excess of consuming. Propositions relevant to capital formation must always distinguish land from capital.

Capital formation involves spurts of sacrifice, self-restraint, self-discipline, and self-control. Capital maintenance, and avoiding dissaving, calls for *continuous* self-restraint, generation after generation, and throughout life cycles, not to "eat the seed corn." Land cannot be consumed, but capital must be maintained and replaced.

Implications:

Capital formation is not aided by, and may be deterred by raising returns to land. All relevant analysis must carefully distinguish the two.

2. Land and capital are not mutually convertible.[1]

(Substitution is another matter, considered later.) Capital is convertible into any other kind of capital each time it turns over. With each turnover it is 100% *fungible*. Land is not convertible even into other land, and certainly not into capital.

3. A rise of real interest rates (i.r.s.) destroys part of the real value of existing capital, in increasing measure of its putative longevity.[2]

This is an economic loss, a loss that is just as real as physical destruction. The cash flow from durable capital will, after a rise of i.r.s., be divided more in favor of interest, less in favor of

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[1]The important case of exhaustible resources is not considered here. It is a subject in itself.

[2]"Longevity" here means economic life, in the full economic sense. It should not be confused with physical carcass life. The "full economic sense" means the duration and time distribution of cash or service flows, properly adjusted for the time value of money.

Capital Consumption Allowances (CCAs).[3] The basic mathematics of finance is available, and is quite precise and consistent.

Conversely, a fall of real i.r.s. adds to the real value of existing capital, having the same effect as creating capital.

(Both those effects are muted by countervailing effects on ground rents and land prices. This refinement is not pursued here, but that does not mean it is unimportant.)

Implications:

The response to a shortness of available (soft) capital is economically to destroy part of durable (hard) capital. This raises the possibility of ***a macroeconomic "glitch"*** (a perverse episode of harmful "positive feedback," often called a "vicious spiral"). This effect, variously described and with varying emphases, has been noted by Ricardo, Jevons, Böhm-Bawerk, Wicksell, Spiethoff, Hayek, and others. Ricardo's Chapter 1, "On Value," and Chapter 31, "On Machinery," are good introductions. They are nominally well-known, and at the same time treated as nonexistent: a feat of compartment-mindedness that seems to characterize much economic writing. As Lionel Robbins points out, micro theory after 1870 became one of acapitalistic production.[4] Capital theory simply disappears from the picture.[5]

4. **The property tax rate on capital items affects their value just as would a rise in the (real) i.r.s. of the same percentage.**

A rise in the rate thus destroys existing real capital; a fall in the rate creates real capital.

5. **A rise in i.r.s lowers market prices of land by a much larger factor than it lowers prices of existing capital, because the value of land derives from more remote future prospects, overall.**

Land prices, accordingly, are hypersensitive to i.r.s.[6] Likewise, market prices of land are more sensitive to property tax rates than are market prices of items of capital. Thus ***they are a most undesirable basis for demand deposits***. This was recognized by the English Bubble Act of the early 18th century, and then alternately forgotten and rediscovered with each succeeding episode of land boom and bust.

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[3]The appropriate accounting adjustment on the asset side is called "marking to market value." The loss of value occurs whether or not it is formally recognized on the books.

[4]Introduction to the English translation of Wicksell's *Lectures* (p. xiv).

[5]An attempt to reintegrate capital theory with micro and macro theory has been made by the writer, 1976, "Toward Full Employment with Limited Land and Capital." In Arthur Lynn, Jr. (ed.), *Property Taxation, Land Use and Public Policy*. Madison: Univ. of Wisconsin Press, pp. 99-166. Also in "Capital Requirements for Economic Growth." Joint Economic Committee, Congress of the United States, *U.S. Economic Growth from 1976 to 1986: Prospects, Problems and Patterns*. Vol. 8, pp. 56-75.
   In both works, the effort was to use capital theory as a bridge to unify micro and macro theory.

[6]"I.r.s." is used here to subsume all the conditions of availability of loans, or equity funds. It is recognized that selective credit controls may cause i.r.s. relevant to land purchase to move differently from other i.r.s. Short rates may be more volatile than long, but the application of credit rationing to land-based loans is more volatile than to self-liquidating loans.

6. Changes in the market price of land, when caused by inverse changes in i.r.s., do not represent changes in social wealth.

In this respect they differ from changes in the market price, or DCF, of depreciable capital. Many potentially useful analyses of our subject are deeply flawed by failure to hew to this difference.[7]

Land prices are also sensitive to changes in expected growth rates of net income, both real and inflationary. These changes, likewise, do not represent changes in social wealth.

The third major factor determining land prices is the current net income (cash or service flow). This may rise for purely distributive causes, e.g., a fall of the interest charge on financing a new building,[8] or a fall in wage rates. These changes, again, do not represent changes in social wealth.

Last, the service flow of land may rise because the land actually becomes more productive, e.g., from the spillover benefits of surrounding urban growth. This *may* represent a rise of real social wealth—I leave the question moot. The main point here is that ***most changes in land prices do not represent changes of real social wealth***.

Implications:

A. Land is dangerous to use as debt collateral, because its price is so highly sensitive to i.r.s. changes. It is ***even more dangerous to let it become the collateral backing demand deposits***.[9]

B. Selective controls on credit extended by commercial banks may be used to prevent collateralizing land values. Another method would be to make mortgages taxable property, as provided for, for example, in the 1879 California Constitution. Such a provision is enforceable because mortgages (or deeds of trust) are always publicly recorded, along with land titles themselves. ***Such a provision would also ease the political case for raising property taxes***,

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[7]See David F. Bradford, 1990, "What is National Saving?" in Walker, Bloomfield, and Thorning, *The U.S. Savings Challenge*. Boulder: Westview Press, at p. 47. Here, Bradford seems to include land price increments as part of national saving, implying they constitute an increase of national wealth. This is a particularly frustrating case because Bradford has taken pains to treat land separately: he is so near, but still so far, from getting it right.

[8]This is separate from the cap rate applied to the net income of land to find the selling price. Land prices are doubly sensitive to the i.r.s. for this reason alone.

[9]Item: In Norway, Sweden, Denmark, and Finland, land values have fallen, and banks are in deep trouble. Governments are bailing them out. (What common force makes land value drop at the same time, around the world?)

Item: In Southern California, land values have dropped sharply since 1989, in varying percentages depending on locale. Speculative outlying acreage has dropped over 50%; sales are stagnant; lenders are hurting.

Item: In Japan, Kichinosuke Sasaki, a heavily indebted developer, estimates a 50% drop of land and stock prices, from peak. In 1990, the Finance Ministry ordered banks to stop lending for real estate transactions. At the same time, the Bank of Japan raised i.r.s.

which otherwise fall solely on equity holders, and appear to exempt lenders (except as they erode collateral security).

Why are banks not lending much in early 1993? Interest rates (at least short-term rates) are low, but collateral requirements are very high. There are 3 problems, at least. 1) Banks are leery of any real estate collateral now; 2) They lack the needed *capital*. (They also may lack reserves—data needed). Both of those result from their recent *losses*; 3) Real interest rates are higher than they look when we factor falling land prices into the c.o.l. index used to deflate nominal i.r.s. into real i.r.s. This is a variation on Keynes' perception of a liquidity trap. By "variation" I mean it is the same phenomenon, only differently perceived and expressed.

Sequence. Land boom fizzles. Banks take losses. Their reserves and surpluses (capital) dwindle. They stop making loans and investments. By a process of positive feedback ("vicious spiral") this stoppage aggravates its own cause, *viz.* the fall of land prices.

7. A rise of i.r.s. tends to raise savings rates via a strong wealth (or portfolio) effect.

It lowers the current market price of land, especially. To a lesser extent it lowers the prices of items of durable capital.

There is a diminishing marginal utility of total wealth held (for retirement, for business use, for consumer capital, etc.). The fall of asset prices as a store of value thus tends to raise savings rates.

At the same time, a rise of the Marginal Rate of Return (MROR) on new investing raises the reward of saving as vs. consuming income. This is a substitution effect, conceded by all. The traditional counter-argument has been that there is a countervailing income effect: higher income from given sums invested tends to weaken the impulse to save. This counter-argument in turn, however, is offset and more than outweighed by the wealth effect recited above. The wealth effect reinforces the substitution effect, making saving respond positively to i.r.s. hikes.

Conversely, a fall of i.r.s. raises the market price of land, swelling portfolio values, weakening the incentive to save. In the extreme, if there is no reward for saving (i.r. = 0), and no property tax on land values, land prices would rise infinitely high. This, along with associated absurdities, would end all saving. These *reductios ad absurdum* clearly indicate that savings rates must be positively related to savings rates.[10]

8. A rise of property tax rates on the land value base raises savings rates via the same wealth (portfolio) effect.

Hikes in other kinds of taxes might have wealth effects, too, but there are two differences: 1) The wealth effects are weaker[11]; 2) There are undesirable substitution effects, lowering the

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[10]At zero interest, everyone could borrow infinitely to consume infinitely, and repay all debts infinitely at no cost. Saving would become negative, with no constraint whatever on consuming. In fact, no one would even have to work, when all could borrow and refinance indefinitely without cost. The notion, often seriously advanced, that interest is not needed to promote net saving is indeed absurd.

[11]This applies to individual items of capital. On the other hand, if the tax on capital is shifted to land, and we consider the infinite chain of future buildings, the wealth effects are equally strong. I leave this moot.

MRORAT. The land value tax stands alone in having the pro-saving wealth effect, coupled with the absence of marginal disincentive effects.

Implications:

A. To raise savings rates, raise the tax on land values.

B. Doubly to assure raising savings rates, couple such taxation with use of the proceeds to pay off public debt.

9. **Capital in old buildings may be consumed and destroyed by locational obsolescence, even when the building remains physically sound.**

In a dynamic, unpredictable market, a certain amount of this is to be expected, and is justifiable. However, in a major roller-coaster land cycle, towards the peak, there is a great deal of factitious locational obsolescence. The speculative land price swallows up the capital in the standing structure.

This takes the financial form of equity withdrawal. The owner takes the rise of land price as a substitute for storing up Capital Consumption Allowances (CCAs) to maintain his capital intact. Thus he consumes the CCAs as they inure to him.

That occurs whether or not the high land price later recedes. If it does recede, the fall is seen as negative income, tending to counteract the first effect. However it is likely to coincide with unemployment, bankruptcy, etc., making saving difficult and unlikely.

This is one of several mechanisms whereby a rise of land prices is treated by landowners as current consumable income, even though there is no corresponding production of real wealth. Result: negative capital formation. See Appendix to #9, *infra*.

Implications:

A. *Property tax assessors should revalue land annually, thus showering cold water on incipient land booms*.

B. High property tax rates on land put a cap on land booms. Consider the basic, simplified valuation equation, $V = a/(i-g+t)$, where V is land value, $\underline{a}$ is current net rent, $\underline{i}$ is the interest rate, $\underline{g}$ is the expected growth rate of $\underline{a}$, and $\underline{t}$ is the property tax rate. ***In the manic phase[12] of a land boom, as in California up to 1989, $\underline{g} \rightarrow \underline{i}$, and nothing holds down V except for $\underline{t}$***.

Through that mechanism, a high rate of property taxation applied to land (high $\underline{t}$) averts negative capital formation.

10. *Misallocating capital has much the same economic effects as lowering the aggregate supply*.

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[12]One of the great ironies is that during the manic phase, a theory with a name like "rational expectations," and corresponding pretensions, waxed dominant among economists. It is one of the recurring conceits of intellectuals to think that social life is, or could be, controlled by rational processes. One might even take the emergence of such theories as a sure sign that wisdom and judgment are being overborne by mob psychology and crazes. See Rene Dubos, *The Dreams of Reason*.

Whenever capital is drawn into "hard" forms, with slow payout periods, there is the danger of its freezing up in an episodic "glitch," or credit crunch, in which case its value is lost. It becomes *unrecoverable*, which is the same as consuming or otherwise destroying it. Artificially raising demand for capital, leading it into wasteful, low-productivity uses, has similar effects. Overpricing land leads investors to overallocate capital to land substitution. This takes several forms: see Appendix 10, *infra*.

Implications:

A. Heavy taxation of land, precluding overpricing, should prevent overallocation of capital to land substitution.

B. ... (THIS SECTION NEEDS COMPLETING.)

11. Taxing anything except land (e.g., retail sales, labor income, value-added) will sterilize marginal lands (and marginal activity on all lands).

Thus, non-land taxes abort investment outlets, demand for capital, hence capital formation.

12. Bankruptcy laws need drastic tightening.

Now they are used to let villains bleed companies and financial institutions, then escape to Florida and keep the loot.

TO BE REORGANIZED, AND CONCLUDE

N.B. to Bertrand Renaud: the Appendixes referred to in text are not included with this mailing; available on request.

APPENDIX TO #9

Consider an existing building, solid, useful, and middle-aged. It is ready to be "milked," as a "cash cow." That means that most of its cash flow from now until teardown will be regarded as CCAs (Capital Consumption Allowances), rather than income. CCAs are invested elsewhere, to conserve the owner's capital. When the building is finally torn down, the owner (and society) will have as much capital as ever.

Now suppose the price of the land under the building to rise, in a speculative boom, while the cash flow of the building remains the same. Let the land price rise so high it is now worth as much as the land+building were worth before. *Now, the owner does not need to conserve any CCAs to conserve his wealth: the rise of land price has done it for him*.

At the same time—viewing the same point from another angle—the cash flow from the land+building is now imputable to the land alone, to justify the land's higher price. *The cash flow is all net income, because land does not depreciate*. The owner may spend it all on consumption; being human, he begins to do so. *Lenders descend on him and seduce him into borrowing on the land to increase his consumption*. "Equity withdrawal" is the current term for it.

From yet a third angle, the building has undergone "locational obsolescence," and lost its economic value. Physically, it may look the same; economically, the land has sucked the reproducible capital out of it.

From a fourth and last angle, capital, to survive, must earn cash flow enough not just to cover interest on the unrecovered value,[13] but also enough above that to *reproduce* itself. As Mill said, "Capital is kept in existence from age to age, not by preservation, but by continual reproduction." Capital reproduces itself by yielding CCAs. When rising land prices devour capital, and/or rising ground rents arrogate its CCAs, *capital stops reproducing itself*. This is how rising rent drives capital out of production. It is not that capital "sulks." Such a metaphor is misleading: economic agents cannot afford to sulk. Rather, capital is drained and consumed by the rise of all-devouring rent.

This ruin occurs without apparent harm to the owners of buildings when, as is the rule, they own the land under them. It is silent and insidious, like a vampire in the night. It would only be contentious and "newsworthy" if the land were owned by a different party than owns the building, and the lease expired. There are such cases—in trailer parks, and on the Irvine Ranch leaseholds in Orange County in the early 1980s—when the sapping of capital is visible and contested. As a rule, though, it passes unnoticed: no one seems to be suffering, no one rebels or can plead injury, even as a big share of the nation's precious capital stock shrivels and dies without reproducing itself.

After that, *there ensues a shortage of loanable and investable funds. That, in turn, slowly grinds down land prices* and rents. This, I believe, makes sense of George's phrase, that rising rent cannot permanently force interest "below the point at which capital will be devoted to production." It would be clearer had he said at this juncture "below the point at which capital reproduces itself." Shortage of capital, and tightness of loans, finally force down land prices. Labor, meantime, endures a period of acute suffering after job-making investing dwindles down.

APPENDIX A TO #10

Equity withdrawal consumes capital.

When assets appreciate, the owners regard that as current income, most of which they will consume. Selling the assets may be part of that process. The process also occurs without a sale: they might just borrow on the assets instead. Commonly they let the capital run down without replacement, eating their own seed corn so to speak, letting the rise of the underlying land value serve in lieu of a proper CCA (Capital Consumption Allowance). Cf. #9.

Misallocation of capital for overpriced land; substitution of capital for land.

(See Appendix on excess capital capacity.)

When land is overpriced, it leads to overallocation of capital to land-saving investments. *This waste of capital leads to a shortage of disposable or "circulating" capital*. It is characteristic of

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[13]To recompense the self-restraint of its owners (who are always tempted to consume it).

land-saving investments that their **payout is very slow**; the capital in them is locked up[14] for many years or decades. In a word, it "turns over" slowly, if at all.

Although capital cannot be converted into land, it can substitute for land, and does when rents and land prices are high. John Stuart Mill long ago pointed out that the **structure and character of capital is determined by the level of rents and wages**. High wages evoke labor-saving capital; high rents evoke land-saving capital. It is useful to carry this further, and recognize five kinds of capital evoked or overstimulated by high rents and land prices:

1. Land-saving capital, like high buildings.

Land-saving comprises intensification of use of previously rentable lands, or "exploiting the intensive margin of production."

2. Land-enhancing capital, meaning capital used to improve land for a new, higher use.

That includes, but is not limited to, bringing previously submarginal land into production, way out on the frontiers. It also means converting rangeland to plowland, dryland to irrigated land, irrigated pasture to horticulture, and furrow irrigation to drip irrigation. In urban growth, it means converting farmland or wasteland to dwelling units. It also means replacing low-density estates with garden apartments; apartments with shops and offices; and obsolete structures with modern ones. Both country and city are marked by many "interfaces of supersession," where lower uses give way to higher uses.

Developing submarginal land is particularly capital-intensive, and the payoff is notably slow. A generic example is reforesting land that is high, cold, dry, and sloping, where the timber does not ripen for over a century. In farming, an example is planting citrus or avocados on dry slopes, requiring pumping the irrigation water and running drip lines to each tree. In urban growth, an example is subdividing outlying land where the improved lots have little value above the costs of their streets and utilities. See also #5, below.

3. Land-linking capital, like canals and rails and city streets.

4. Land-capturing (rent-seeking) capital, like squatters' improvements, and canal and rail lines built to secure land grants, and dams and canals built to secure water rights.

These land-seizing investments are never optimal for society, and always waste capital. Land-seizing investments are laid out by self-seeking individuals ("rational economic agents") with no expectation of *ever* recovering the capital invested because the payoff comes as title to land, which never wears out. Canal, rail, traction, water supply, freeway, and other such promoters are always mainly in the business of selling lands.

5. Rent-leading capital.

In urban growth, an example is overimproving land today, expecting higher demand tomorrow. This is "forcing the future." It occurs because there are "economies of simultaneity" in building. It is hardly ever economical to add stories to buildings one at a time. If you are going to build to four stories, you have to do it all at once. Suppose today's demand is high enough to

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[14]Other words for locked up are frozen, sunk, fixed, non-circulating, unrecoverable, clay (as vs. putty), etc.

justify a two-story building, but you see the demand rising steadily over the sixty-year life of the building. You build a four-story building today, and absorb early losses on the upper two stories, as an investment for future years. A city builds a four-lane street, where two would do today, anticipating higher future usage. It puts excess capacity in its water and sewer lines, for future growth. Such examples are legion.

Economies of simultaneity are related to economies of scale. Building higher, taken by itself, suffers *dis*economies, a.k.a. increasing costs. On the other hand, building larger, with horizontal expansion, evinces economies of scale. It also requires more land, meaning more land rent. It comes into style during periods of rent-leading capital building.

Land-saving capital and economic instability.

In a speculative land boom, land prices go prematurely high. ***Premature high land values profoundly distort the character of capital investment***. High land prices stimulate land-saving, land-enhancing, and land-linking investments. This is a rational economic response when and if the market is sending the right signals. Ideally, an optimally high level of land rents and values serves as a community synchronizer, causing everyone to build *as though others were going to build complementarily in sync*.

However, in the frenzy of a speculative boom the market sends the wrong signals. Land is peculiarly subject to inefficient, random speculative pricing in booms because it has no cost of production, so its pricing is entirely subjective, i.e., based solely on forecasts of future rents and resale prices, with no firm cap based on cost.

Overpricing of land reserves land for two contrasting kinds of buyers and holders:

Type A buyers would "force the future" with "rent-leading" buildings. They plan to and do develop land for a future demand higher than present demand. In Chicago, 1835, this was exemplified by building four-story buildings outside The Loop. Overpricing and consequent overimprovement gets greater the farther out you go. In London, 1993, it is exemplified by Canary Wharf.

When that demand fails to materialize, Type A buyers cannot recover their money. They cannot rent out all their floor space, if that is what they built. Or they cannot use the full capacity of their tannery, harbor, shipyard, sawmill, packing plant, soap factory, brickyard, or whatever they overbuilt.

When Type A buyers develop land beyond the reach of existing infrastructure, they force extensions of same, which are often losers, cross-subsidized by the whole system. This wastes social capital. For example, in May 1993, British Prime Minister Major opened the six-lane Limehouse Link vehicular tunnel, 1.1 miles costing $500 million, the most expensive highway per mile in British history. The idea is to link the Canary Wharf Docklands project to the city. Britain also completed the seven-mile Docklands Highway, costing another $520 million. There is a problem: the Canary Wharf Docklands project is not renting up.

Type B landowners just hold land unused or underused. Rather than force the future, they would free-ride on the future. They are usually looking or expecting to sell for a rise. Type B-1 is

the aggressive outside buyer, the stereotypical "land speculator," who does this calculatingly, cold-heartedly, as a purely pecuniary investment. Type B-2 is the ancient owner whose land just happens to lie in the way of growth. Type B-2 owners are sympathetic figures in popular drama and sentiment. They are passive victims of change, clinging to old values against mechanistic, impersonal, exogenous, amoral, modernizing forces. However, their market behavior has much the same economic consequences as that of Type B-1. Many turn out to be ambivalent, resisting change for a few years while quietly expecting to sell out for top dollar for their retirement.

The land of Type B landowners absorbs no capital directly, but much capital indirectly, by forcing the stretching-out of all land-linking investments in space, and generating no traffic or use to justify those that are built to and past them. Empty land also generates no synergistic spillover gains to raise the cash flow of surrounding, complementary lands. Thus it helps freeze up capital sunk in improving them.

The combination of (a), reduced net saving, with (b), waste and freezing of capital, *leads to a shortage of disposable capital, tight lending policies, and a crash or slump*.

Land speculation and credit institutions.

There is another factor George hints at in *Progress and Poverty*. When land is first overpriced, credit is extended further in order to accommodate it. That is, *banks lend on overpriced land, counting on a further rise*. When the rise slows, they extend the loans, sometimes even granting new loans for paying interest on old loans.[15] They use political pressure to get governmental agencies (e.g., the World Bank) to extend or underwrite these risky loans (e.g., in Latin America). When the bubble bursts, the loans are not repaid. This destroys capital. Witness the collapses of Charles Knapp, Charles Keating, et al.[16]

The developing areas are supported by credit extended from older areas, until credit is recalled in a panic. Credit is, as George says, *like a rubber band that gives before breaking, until suddenly it snaps*.[17]

J.S. Mill had advanced a related idea in his chapter on the tendency of profits to a minimum (Mill, *Principles*, Book IV, Chapter IV, Article 5). Mill sees profits driven down to a minimum by the formation of more capital than can find profitable use. Then investors, rather than accept safe, low returns, give a "ready ear" to riskier ventures promising higher gains but risking great losses, which in fact occur.

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[15]This is Ponzi finance. David Felix has pointed out how a Ponzi operator develops a demand for capital that actually rises when i.r.s. rise. Could the debtor U.S. government be entering such a phase?

[16]In the present context I simply use "banks" generically for financial institutions. It is recognized that Knapp and Keating were S&L cases, and that after 1979 S&Ls were deliberately sacrificed to bolster commercial banks, so the details of the two kinds of institutional history differ.

[17]George, who often chooses such striking examples, understates this point with an example of an English merchant selling gaudy calico and Birmingham idols, and financing his buyers. Actually, the heavy and significant credit went from England to the colonies to finance rails and cattle and such substantial developmental items.

Modifying Mill with George's idea, profits are driven down, not by a glut of capital, but overpricing of land. Then investors give a "ready ear" to riskier ventures—and more deferred returns, in land-saving[18] and marginal developmental ventures. When the land bubble collapses, these risky ventures in saving and developing land prove to have been ill advised. Land now becomes too cheap to warrant and repay such outlays to have saved it. Thus the ***capital is lost, and there is little recovery with which to meet the next payrolls***. Ricardo pointed this out long ago.[19] Veblen developed a theory somewhat along George's lines, but with "goodwill" substituted for land value as the overpriced siren that leads the sailors on the rocks.[20]

George's theory is incomplete, and yet contains an essential element to include in a complete theory of how a boom wastes capital, and leads to shortage of liquid capital, causing a crash.

Today there are a dozen books on the S&L collapse, the RTC bailout, etc. ***Much of the capital loss is simply being added to the national debt***. What is needed is to show how this collapse is an integral, inevitable accompaniment of a political economy dominated by landowners who can first force down their taxes, and then further force up their land prices by perverting the credit system into an engine for subsidizing them with cheap mortgages based on overpriced land.

APPENDIX B to #10: Lagniappe on a cycle of capital waste, Chicago, 1830-37

The following notes purport to show how the above principles may be derived from events in a 19th century episode of boom and crash.[21] The narrative centers on Chicago, then an infant city.See A Cycle of Boom and Bust: Chicago, 1830-40, Notes by Mason Gaffney, February, 1991; rev. August, 1993

APPENDIX on excess capacity, waste of capital

Excess capacity is a measure of unbalanced investment, too much in durables.

A. Housing

1990 Census showed 10% of d.u.s. are empty: 10.3 vacant houses. That's 2 million more than in 1980.

Some are resort condos, empty in offseason.

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[18]Consult other material herein, where we add to "land-saving" the corollary ideas of land-enhancing, land-linking, land-capturing, and rent-forcing investments.

[19]*Principles of Political Economy and Taxation*, Chapter 1, "On Value," and Chapter 31, "On Machinery."

[20]Wesley Mitchell, Veblen's disciple who pioneered modern business cycle research, had some such model on his back burner, too. Mitchell, unfortunately, was so dogmatically inductive that it became a compulsion, and he and his National Bureau finally couldn't see the forest for the trees.

[21]Alternatively, they may be derived a posteriori from world history, then applied a priori to Chicago. This writer's evolution began in Chicago with a study of Homer Hoyt's work.

Demographic factor: popn bulge went thru, bought homes. Next cohort, from baby bust, is smaller.

Regional differences. Calif., 7.2% of d.u.s. are empty. New Orleans, 17%; Houston, 15%; NYC, 6%; Chicago, 10%; Detroit, 9%. Okla. City, 16.5%.

Many are probably vacation homes. Vt. is highest, 22.3%; Me., 21%; NH, 19%. Lowest are Ohio, Ill., Ct., Ind., Calif.

—Tim Bovee, AP, "10% of housing is vacant." P/E, 27 Apr 91 p.1.

Note, the *land* with the houses is unused, not just the capital. Thus, even if the K has been recovered, the land has not been. Ditto for other items below.

B. Offices

Various sources, maybe 20% vacancies, 1991.

C. Industry

Various sources, much excess capacity.

D. Oil

The "taking" part of extractive industry: water diversion capacity; exploration; drilling.

Lease bonuses are a kind of capital use, when the seller, the U.S. Govt., uses this capital for current consumption.

Ultra-deep water exploration. New "Mars Prospect" of Shell and partner BP, 3,100 ft. deep. Miss. Canyon, Gulf of Mex. Nearby Auger Field, Shell is drilling a production well deepest in world, 2860 feet below surface. Will start in 1993.

Shell is largest leaseholder in Gulf, below 1500 feet.

"Development" cost of $5/bbl or more, vs. $3-4 for earlier oil. On top of that, production cost of $5/bbl. (Meaning of cost/bbl not clear, however. If oil sells for $20, there's still a lot of rent there.) —Patrick Lee, 4 May 91, "U.S. Oil find could be the biggest in 20 years," *L.A. Times*, p.1.

E. Farming

High share of farmland under crop-control leases.

F. Infrastructure

Declining neighborhoods, etc., closed schools.

G. Fisheries

Excess boat capacity.

H. Water

Excess diversion capacity.

I. Overseas

Over the last 10 years, 1982-92, China has gotten $13b+ in loans; half of them (those made by the Internat. Dev. Assn. or IDA) are w/o interest. Those with normal rates are made for longer terms than standard, 35-40 years. U.S. funds 22% of IDA interest-free loans, with repayment in balloon at end! (Barber Conable, ex-congressman, was made head of World Bank, a political appointment.)

In Germany, "Everybody is investing in Eastern Europe, and so West Berlin is dying."— Marlis Hanne, union rep.

J. Inventories

In 1992 I order a product (knife-sharpener), delivery takes several months. 1990, my wife orders stainless steel spoons, delivery has taken two years. These firms are presumably short on working K, not consumer demand. Also, a "German" product arrives labeled "Korea." That probably raises inventory requirements.

Macroeconomic implication: until they deliver and sell and collect, they cannot meet the next payroll.

K. Industrial

The U.S. capital investment per worker in autos = 2x that in Japan (according to Clark, Kantrow, and Abernathy, 1983, *Industrial Renaissance*, cit. McIntyre: 17). Granted, McIntyre has a labor union axe to grind, but most of the data we see are ground for the other side.

On the good side, let us give an example of saving capital. During W.W. II, the government needed more electrodes for welding. It offered to finance a new plant for Lincoln Electric. Instead, James F. Lincoln showed competitors how to speed production with advanced methods.

That effected a double capital saving. Instead of sinking capital into a plant, everyone had a lower inventory/output ratio. This kind of thing was common during W.W. II: plants were used around the clock, for example; mass transit substituted for individual motor transit; etc. The good habits developed then may explain a lot about postwar prosperity.