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What is Macro-economics?

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Ec. 100B, Winter, 1981, Prof. Gaffney

WHAT IS MACRO-ECONOMICS?

A. Contrast with Micro-economics

Macro is in large part a rediscovery of issues that were recognized by early economists, but were then hidden, obscured or suppressed at the time when "neo-classical economics" displaced and was written over classical "political economy. This occurred in the early 20th century.

Classical political economy, as developed by leaders like Quesnay, Smith, Ricardo, Malthus and Mill dealt with a wider range of questions, and some more basic ones, than what today we call Micro. The Classicals treated the dist ribution of wealth and income as determined by functional contribution and entitlement. They looked at how the pie is divided among the original factors of production, which they divided into land, labor and capital. They dealt with man's adaptation to resource limits as population and capital increase. They recognized that this is a small planet, with limits to growth; and that resource owners' share of the pie would probably rise over time. They treated of the creation of income by investment, which they described as the advance of subsistence to workers by capitalists -- they were inclined to telescope into one transaction the payment of wages to labor, and the spending by workers on goods, as though workers all brought chits to the company store (which many of them in fact did.) They sought to explain the causes of poverty and low wages, about which they were often fatalistic, but not, like some modern economists, totally blind.

The classicals could be engagingly frank and open about many points not so discussable today, perhaps because power and education were safely monopolized by the upper classes. With the growth of education and the spread of democracy, however, classical political economy proved a malleable tool for use by advocates of radical changes in distribution or in social organization, men like Henry George and Karl Marx, both of whom are considered classical in their reasoning and methodology. Defenders of the established order were moved to develop a new set of ideas, or paradigm, in which there was nothing called a "surplus," no wealth or income without a fully rationalized function, and hence an entitlement beyond challenge. Pareto, Clark, the Englishman Wicksteed (not the Swede Wicksell), and Knight of Chicago led this reformulation. They left us with the foundations, the limiting assumptions, and the myopia of what is now called Micro-economics, which we now list.

1. The main subject is the allocation of limited, fixed resources among alternative ends. Everything is a choice, and choice is everything. The only cost is opportunity cost, and all inputs have such a cost.

2. The economy is assumed static and closed; capital is a fixed amount. Capital formation, growth, migration, circulation and turnover are hardly issues. The effort is to make capital resemble land, so the birth and death and mobility of capital are obscured.

3. There is no time-dimension. The circulation and turnover of capital are ruled out as concepts. This is because they might imply that there is a period of time between investment and recovery, a "period of investment", which is claimed to be indefinable, and which would distinguish capital from land. Likewise, the migration, replacement, durability and maintenance of capital are ruled out of bounds, and the intertemporal structure of capital. The allocation of capital refers only to allocation among different "industries" producing different "commodities", and not to allocation among investments of different payback times.

Thus, although limiting its scope to the subject of allocation, Micro neglects the intertemporal allocation of capital. This aspect of allocation is left to Macro. One could argue that this is the heart of Macro, in which case we have the interesting relationship that Macro is simply a neglected aspect of Micro.

When modern supply-side economists speak of intertemporal allocation, they probably refer simply to saving, i.e. the choice between present and deferred consumption. But intertemporal allocation of capital properly refers to the choice between investments of different lives, or payback times.

4. The analysis of factor proportions has factors combining in parallel, at a moment of time, rather than in sequence over time. Machines or other capital are used by or with labor. There is no note taken of labor producing capital; or investment hiring labor.

5. Capital and land are perfect substitutes. Land is expansible by, in effect, turning capital into land. There are thus no effective resource limits on a small planet. As a corollary, questions of space, location and transportation are neglected, and isolated and contained as subdisciplines.

6. Capital-cum-land is called "capital". This capital is always complementary to labor, as in the Cobb-Douglas function. There is no place in the model for the phenomenon of capital displacing and disemploying labor by preempting a limited land supply. The displacement or substitution of capital for labor could only mean that the same number of workers end up with more capital/worker, hence more output/worker, a higher average product. There is no land limit, no resource or energy limit separate from overall limitations on productive inputs.

7. Functional distribution of income among land, labor and capital (in the old sense) doesn't matter. "Distribution" as a topic refers only to the concentration of income, from all sources, which are aggregated. The degree of concentration of income is thought to be nearly constant (Pareto's Law); efforts toward egalitarianism are futile.

8. Most resource misallocations caused by concentration of wealth and economic power, by absentee ownership, and industrial monopoly are minor, although regrettable. Other misallocations caused by institutional bias are attributed to transactions costs, and may be larger, but are hardly avoidable because transactions costs are real costs whose alternative would be bureaucratic costs in a command economy. The most serious misallocations result from allowing open public access to resources, which are then crowded and overused. The solution is to make everything private property. It is not important how resources become private, or how they became so historically. It is only important that private rights be firm, and freely transferable. Where rights of use are being formalized, however, the least disruptive basis of allocation is historical priority and quantity of use, a concept called the "prior appropriation" doctrine. The effect that prior appropriation has on incentives to get grandfathered in before rights are formalized is not generally given any emphasis.

9. Capital is quickly adaptable in technical form, although (usually) held as fixed in quantity. Capital migration is inconvenient for the model, and therefore treated awkwardly and separately under international trade theory.

10. Most adjustments are instant. The system is "hitchless" or glitchless, with no long periods of unemployment, no boom and bust, no cycles or perturbations.

11. What some people call "unemployment" is largely a necessary transaction cost of job search. As a social problem it is greatly exaggerated in the popular mind.

12. History, transition paths, sequences, irreversible acts, and the flow of time generally are neglected.

13. Warfare was treated by Knight as merely an economic investment in acquiring resources, something like exploration and discovery, and hardly distinguishable from creating new resources. It is not clear that all his followers regard this as part of the essence of Micro; but it is not clear that they don't, either, for the question is not usually raised.

14. In excluding the circulation of capital from economics, the neo-classical fathers nearly excluded the spending and cycling of money. They did treat it formally, and produced the useful "Equation of Exchange" which we still rely on in Macro. But they rather overcomparmentalized this, so they had the supply of money determined by regulatory or international forces exogenously, and hardly affected by endogenous forces like investment opportunities and collaterial values.

15. Inflation is not treated in Micro because Micro lacks a time-dimension, and inflation is something that happens over time.

16. There is a tendency to lump interest together with depreciation of capital and call it the cost of capital, or the rent or hire of capital. This helps Micro avoid looking into the process of investment and recovery and retirement over the full life of capital.

B. How Macro-economics moves into the vacuums in Micro-economics

The narrow, tendentious and static neo-classical paradigm created vacuums which were bound to be filled. Macro is the part of economics that deals with what was excluded from Micro, and seeks to integrate it with Micro. We will be seeing that several perverse aspects of neo-classical thinking sneaked into Macro, or what has now become the new conventional Macro, leaving more work to be done if one would truly understand the economic machine. But Macro at its best fills the gaps in neo-classical economics. Here is what it treats of.

1. Idle resources. Land, labor and capital are generally complements, and yet at any time there are substantial amounts of each which are out of use. What keeps them from getting together? Or, if labor is idle while land and capital seem to be scarce, what is needed to change the proportions in which the factors combine, in order that the scarce land and capital soak up the idle labor? Nominally, Micro provides a sort of mechanism for handling this question, called "production economics" with "variable proportions", substitution, etc. This is what remains of diminishing returns, a pillar of classical political economy. But only the rare modern Micro-economist uses this mechanism to bring any good news to unemployed workers. The paramount tendency is to rationalize economies of scale, which usually involve the substitution of land and capital for labor. There is little interest shown in what happens to the disemployed labor.

The Micro treatment of factor proportions is incomplete, because it treats the matter only in parallel, at a moment of time, and not in sequence. Macro does treat the matter in sequence.

There is a division of emphasis between Micro and Macro which is not entirely logical, but traditional. Micro focuses on efficiency, narrowly construed from the viewpoint of those who own resources. Macro assumes the responsibility for relieving the misery of the dispossessed, the poverty-stricken, the newcomers and outsiders, (which often includes youth getting started in life.) It integrates this concern with its treatment of the whole economy, rather than pigeon-holing it as a separable sub-issue (as LBJ did in the mid-sixties with his "war on poverty.") Macro addresses the issue of poverty by analyzing what determines the demand for labor, and how the economic system provides openings and opportunities for workers to be useful and productive, and to earn rewards for it.

2. Distribution of wealth and income.

a. Distribution among factors. Modern Micro now largely omits this question, except as a faint echo of classical political

economy. But it is integral to Item #1, above, the study of factor proportions, because the relative prices of the factors are what actuate substitution among them.

In addition, interfactoral distribution bears on the relative holdout power or bargaining power of the different factors. The more you have, the greater your holdout power. It also bears on the allocation of capital, because the basis of lending is not so much the marginal productivity of the proposed use, but the collateral of the borrower. Collateral values affect the important intertemporal allocation of capital. Collateral values also serve as a basis for a large part of the money supply which is created in the form of new demand deposits when banks expand their loans.

b. Concentration of income, wealth, and economic power. This bears on the incentives to use resources intensively -- the more concentrated the ownership, the weaker the incentive, as a rule. Absentee ownership and concentrated ownership are both demonstrably bad for employment of labor. Concentration also bears on how the flow of spending is directed. Conventional Macro has made much of an alleged tendency for concentration to reduce consumption and increase saving, although it is arguable that this is neither true nor, if true, a bad thing.

3. The dynamics of capital

This should be central to a proper Macro, in my opinion. Conventional Macro has failed to give it an adequate emphasis -- this is part of neo-classical myopia which sneaked into Macro. The dynamics is there, but often hidden behind the curtains. We will pull back the curtains in this course.

a. Definition, quantification and measurement of capital

b. Formation and destruction

c. Circulation (turnover) and time-structure (intertemporal allocation) of capital

-- Investment flows and income generation. Cf. Item #4, just below.
-- Turnover and the flow/fund ratio.
-- How wage levels and interest levels determine turnover rates, and thus change the flow of income-creating spending.
-- Allocation of capital among different maturities.
-- Payback times and replacement rates.
-- "Normalization" in going concerns, a process which reconciles and integrates the instant models of Micro with the sequential models of Macro.

d. Migration

e. Evolution of form and quality. Embodiment of new technology. Obsolescence.

f. The valence of capital for labor and land

g. Relation of cycling speed (turnover) with factor shares, where factor relations are viewed sequentially.

h. Irreversibilities and traps due to freezing too much capital in slow paybacks.

4. Determination of the flow of real spending that both creat es income and generates output for the income to buy.

Neo-classical economics, having rejected the classical wages-fund theory without replacing it, was left with no concept of a flow of income-creating spending. Into this vacuum roared Keynes, whose ideas have been modified and probably distorted until they resemble what is summed up in our textbook by Branson.

Keynes and his popularizers made the message easy to take by stressing only the spending side, letting the supply side take care of itself. Applied Macro became a matter of simple "demand management." This was too easy, too good to be true, for government can create any amount of money demand by use of its power to create new money. The result was a progressive loss of discipline over federal spending and a progressive imposition of inflation and inflationary expectations on everyone. Both of these have been likened to drug addiction and, although the analogy has become a tiresome cliche, it is quite accurate. The public conditioning to inflation is so complete that no administration dares to disappoint the expectations, which would be comparable to challenging some powerful vested interest.

Dislike of inflation has grown so great, however, that a new "supply-side" economics is arising. Ideally, such an analysis would seek to balance demand management with supply management, so that supplies of "ripe" (consumable) goods would flow to consumers along with money incomes, so the money income would be real income. The chits, so to speak, would be worth something in the company store. Unfortunately, those who speak for supply-side economics have generally used it mainly as a rationale for redistributing incom e in favor of property owners ("business" is the term usually used, but property is what is meant.) In this course we will try to show how a supply side economics could be better developed.

Referring back to Item #3,c, above, note that the flow of real spending, i.e. spending backed up by goods and services for consumers, is closely related to the amount of national capital times its turnover. Turnover is the flow/fund ratio of capital. The fund of capital times the flow/fund ratio is the flow of gross business or volume done with the fund. This is true for any business, and equally for the whole economy. It suggests that any amount of capital is enough to finance any level of employment, just so its intertemporal allocation be adjusted to accommodate the necessary volume. Higher turnover means higher gross investment, accompanied by higher volume of goods for sale, thus synchronizing increased

supply flows with increased demand flows. This is an idea we will develop in this course.

5. Dynamics of investment in land development and/or territorial expansion.

END OF INSTALLMENT #1, Jan. 13, 1981

Ec. 100B, Winter, 1981, Prof. Gaffney

WHAT IS MACRO-ECONOMICS? Installment #2.

January 15, 1981

5. Dynamics of investment in land development and/or territorial expansion

Land can be highly complementary to labor, or to capital, or to both, depending on how it is used; and to neither if it is reserved from use. There have been periods of massive evictions and displacements of labor from land, with capital substituted for labor, accompanied by consolidation and engrossment of large holdings. One such period was in England over several decades preceding and accompanying the industrial revolution of the late 18th and early 19th centuries. What happened is called the "Enclosure Movement." (The second one, actually -- there was another in the 16th century.) The Enclosure Movement converted the English yeomanry of small freeholders into the landless working class. It is quite comparable to the depopulation of rural America in the 20th century, except that the capital which bumped labor was draft animals instead of tractors.

To some extent the Enclosures dumped labor on the cities, to become raw material for growing industries. To some extent the new industries drew labor from the farms, gave farm labor a cash value, and so tipped the balance of advantage away from labor-intensive farming. To some extent the growing cities made a new market for grain, encouraging the kind of commercial grain farming that was displacing labor. As with many complex systems, it is easier to see the relationships than to establish original causes historically; but the Enclosures came first. The moral for us is that the same land can employ a little labor or a lot depending on who owns it, and relative input costs. Any Macro-economics that purports to explain and cure unemployment must face up to these fundamental questions of variable factor proportions.

Classical political economy saw land as complementing labor. Ricardo and especially Malthus were quite fatalistic and pessimistic about it: they saw population pressure as driving wage levels down to survival levels. One Nassau Senior, an extreme Malthusian, objected to any relief efforts during the Irish famine of 1846-47. The only solution he pronounced was death for the surplus population. This was the teaching of the science of economics.

Thomas Carlyle replied that if this was the science of economics, then economics was a "dismal science" -- a name which has stuck, for several reasons. We will see that modern Macro, when new, was a cheerful science that attracted people because it offered solutions; but it has degenerated long since into a new dismal science that offers us only dismal choices between inflation and unemployment, and increasingly more of both.

Quesnay and Adam Smith attributed poverty not just to the limits of nature but also to concentration and engrossment and consequent underuse of land. They thought that land reform could help. Mill, more pessimistic, still thought that land division could help, and favored small farms (like retiring Sec'y of Agriculture Bergland

today.)

But then territorial expansion on a world scale in the 19th century showed that surplus labor and capital could move en masse to new lands. They could utilize vast resources previously sub-marginal; they could populate lands previously remote and make them accessible. Technology could identify new values in old resources. Cheap transportation allowed new increases from specialization.

They also discovered that this change in factor proportions could increase wage rates without raising prices. There was no wage-price spiral. Increased wages came from rents, which had to fall as land became more abundant and accessible.

People at the time were very conscious of these basic economic relationships. Thomas Jefferson wanted to open a frontier to create an American yeomanry. Alexander Hamilton strove on the other hand to contain the bumptious pioneers in the east, to serve as cheap industrial labor on the English model. Hamilton failed. But in Australia, Edward Gibbon Wakefield succeeded in locking up the public lands for the avowed purpose of creating a working class for industry. Czarist Russia had strong containment forces who feared the loss of serfs to the eastern frontiers. Canada's eastern establishment let population move west only reluctantly to nail down an empire threatened by expansive Americans and Russians.

Expansionists generally saw the frontier as a "safety-valve" for discontented unemployed labor. Territorial expansion was the Full Employment Policy of the 19th century. It is remarkable how this great dominant overarching fact has been hosed out of modern conventional Macro, which has divorced itself from much of world history.

But the frontier safety valve had its problems. When you consider the rather sudden addition of half the world to the Anglo, Latin and Russian economies, the gains to labor are not impressive. Indeed, only on the Anglo frontiers, where expansion was coupled with land distribution, is it clear that workers as such gained much at all. There was misery and land monopoly in Latin America, and revolution in Russia. Even in the U.S.A. there was massive discontent and upheaval in the depressions of 1873-79, 1893-96, and 1929-40. Worse, we created a tradition of dependency on aggressive expansion to solve our endogenous systemic problems, and a mindset that cannot conceive of how to raise or maintain living standards without chewing up more and more of the earth in proportion to the increase of population and living standards and jobs.

Another problem has been instability. American expansion has been a boom-and-bust process, with great suffering in the depressions, and great losses of capital which was misdirected into ill-timed, ill-located and ill-designed projects to develop land.

As to the safety valve for labor, frontier settlement proved to be more capital-using than labor-using. The problem for labor with land engrossment was that capital displaced labor from a fixed land supply. The problem with frontiering was that the new lands soaked up the capital supply. Either process deprives labor of a needed complement. This is so fundamental, let us underscore and repeat it. WITH FIXED LAND, LABOR SUFFERS WHEN CAPITAL BUMPS LABOR OFF THE LAND: WITH FIXED CAPITAL, LABOR SUFFERS WHEN NEW LANDS DRAW CAPITAL AWAY FROM LABOR. This presumes, of course, that the developmental capital is frozen in forms not very complementary to labor.

The frontier kind of misery is more episodic, however, than the permanent poverty caused by land monopoly. History relates that capital moved westward in the booms, followed by labor during the depressions. This labor occupied new lands opened up by the premature capital outlays of the preceding boom, just as your parents bought houses placed on lots left over from orphan subdivisions platted in 1927. This has been a large part of the story of our national life.

Urban expansion has always been an integral part of frontier expansion. There were new cities, and then each city expanded centrifugally, each creating its own economic frontier at the edges. The boom of the 1920s was mostly in the suburbs. The whole boom-bust syndrome of continental expansion was replayed in the wild suburban expansion of the 1920s.

The deep, long bust of the '30s revived old pessimisms from the closed space thinking of Malthus and other classicals. You can hardly imagine what gloom and doom prevailed during the dirty thirties. Depression does that to people. To the extent it was rationalized, it took several forms.

Some said the frontier safety-valve for labor was closed for good. We had reached the Pacific, run out of land, and were back to diminishing returns and subsistence wages. Others emphasized the closing of frontiers for capital, a shortage of investment opportunities leading to hoarding. Some classical political economists had forecast a declining rate of profit as the good lands were all developed, culminating in a stationary economy. Marx (on different grounds) had forecast declining profit rates and the consequent failure of any economic system relying on the profit motive as its prime mover. Keynes foresaw profit rates falling to zero, with the "euthenasia of the rentier". To keep the system going, he advocated "socialization of investment", (which could mean anything from the Chrysler bailout to leafraking, evidently.) It was Alvin Hansen who Americanized Keynes by bringing in the closing of the frontier. He wrote of a "mature economy" which had run through all its frontiers: geographical, technological, and, one gathers, spiritual. Thomas Jefferson's dream was finished: it was time to hand over the keys to Big Brother.

Curiously for these ideas, however, the value of land in the 'thirties was plumbing new depths, often approaching zero. It is impossible to reconcile this fact with any idea of land shortage, whether natural or artificial. It seems more likely there was an artificial or at least uneconomical abundance of developed land, and a shortage of capital with which to use and improve it further. The boom had sucked too much capital into suburban quicksands, where it got stuck. We will pursue this thought later.

World War II opened new frontiers for Americans, frontiers of a new kind -- abroad. Even more than before, this kind of frontier has soaked up much capital but little American labor. More than before it has required large military outlays to police. These outlays are financed in increasing measure by a tax system that bears on the income and consumption of labor in the homeland, and so serves as a barrier to employment at home.

The working hypothesis for American employment policy since the Keynes revolution has been that the way to make jobs for labor is to create opportunities for capital. Economic philosophers have neatly inverted the gloom of Mill, Marx, Keynes and Hansen who said the economy was running down for lack of investment outlets. Their solution is to keep creating new ones. The gloom of Malthus is to be countered by acquiring resources from and in other peoples' countries. In these years, we are now getting toward the end of a massive test and experiment of whether those ideas work. They have worked rather well for some of the countries that have taken our aid and military services, and are pulling ahead of us economically. Whether they are best for most Americans seeking jobs is another question.

As to resource limits, another working hypothesis has been that progress always means using more resources per person, so proper and progressive growth always means increasing our drafts on nature. The alternative of moving to a sustainable balance of man and nature has not been seriously considered.

The Macrodynamics of land development then includes these topics:

a. Land as a limit to growth
b. Intensification of land use to accommodate workers and capital.
c. Developing new lands
d. Effects of new lands on interfactoral distribution
e. Effects of scattered settlement on capital needs
f. International allocation of land by military action, and its effects on demand for labor.
g. Effects of land development on the time structure of capital
h. History of land use and development as related to employment.

I have devoted more than its share of space to the dynamics of land development, for the reason that our text neglects this topic entirely. Modern economics has become overspecialized and compartment-minded. It is all right to study land and resource economics, but then one is supposed to fall into a pigeon-hole called "Resource Economics", sealed off from Macro. We hear people calling for interdisciplinary communication, but in economics they cannot even achieve intersubdisciplinary communication. Indeed, the various old boy networks make some effort to prevent it. If we are ever to make sense of the world, however, we must overcome these cliquish and divisive propensities and get the whole act together.

6. Instability.

END OF INSTALLMENT #2, January 15, 1981

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WHAT IS MACRO? Installment #3

6. Instability

History makes it clear that the economy is not "hitchless", as neo-classical Micro seems to presume. In Micro, the existence of unused land and plant and equipment gives a marginal productivity to labor; and idle labor gives a marginal productivity to the land and plant and equipment. But in Macro, there must be an investor to advance money to pay for the other inputs, to get the economic machine moving. And the flow of this income-creating investment rises and falls like the flow of a California river.

Minor declines do not much concern us in this course, although some Macro-economists specialize in fine-tuned forecasting. But now and again the flow dries up to the point of catastrophe. This occurred in major depressions beginning in 1797, 1819, 1837, 1857, 1873, 1893, and 1929. The last of these, particularly, traumatized an entire generation and led to the semi-permanent federal demand management apparatus, philosophy, bureaucracy and vested interest under which we experience double-digit inflation today.

Macro looks for the sources of the spending which creates income, and asks what lets them dry up when hirable factor inputs like land, labor and plant and equipment are idle and seeking employment.

Macro also deals with instability of price levels. It looks at relatively mild inflationary dependencies such as our present one, or that of France which for decades progressively devalued the franc for the purpose of subsidizing its exports. It looks (aghast) at histories of fiat money and total inflationary abandon, such as the Mississippi Bubble (French) and the South Sea Bubble (English) of 1720; the Massachussetts Bay Colony inflation of 1737; the French Revolutionary issuance of unlimited "Assignats" and later "Mandats" of the 1790s; the "Continentals" printed by the Continental Congress (which in this matter was the incontinent congress) under our Articles of Confederation; the "shinplasters" of the southern Confederacy; the hyperinflation of the mark under the Weimar Republic and the yuan under Chiang Kai-shek and the Kuomintang, and the current triple-digit Begin inflation in Israel. Each of these stories is a cautionary tale for Macro-economists of the demand-management stripe, some of whom come close to saying we can simply spend our way to prosperity.

7. Money and prices

Macro takes money out of the separate compartment of the equation of exchange into which neo-classical economists would confine it, and seeks to integrate money better with the circular flow of spending. Conventional Macro does this by focussing on spending, rather than money. The results have been mixed, and some backtracking towards the neo-classical emphasis on the determination of the money supply has been necessary. Some further backtracking is needed, however, to the relationship between spending and the circulation

of capital, that is of real, concrete things of value.

We also need to relate the quantity of money to things other than the formal controls by which the federal management Apparatschiks think they control it. Money supply is also controlled by the private sector. It responds to investment opportunities in general. It also responds to investment opportunities for banks in particular. These differ from general opportunities in being dependent on lenders' risks, for banks invest almost always indirectly as lenders rather than as principals. Lenders' risks depend on collateral values held by borrowers; and bank expansion and contraction is historically a function of collateral values.

8. Economic history and forecasting

Neo-classical economics was quite ahistorical. One of the neo-classical fathers, Simon Patten, said it in so many words: "economics must divorce itself from history and sociology." But Macro deals with the sequence of events through time and therefore with history, with events today as consequences of yesterday and causes of tomorrow. It looks at trends and time-series, and this leads to forecasting. There is a minority of students who only want to learn to make a buck and don't give a hoot for world history or social aspects of the unemployment problem, but they, too, have reason to be interested in Macro, for it is the basis on which most business forecasting is done today, for better or worse.

Overall, Macro is the dynamic side of economics. It looks more to flows than to funds; more to change than to finding equilibria.

END OF INSTALLMENT #3, January 19, 1981