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Binary Economics - An Overview

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A B S T R A C T

Based on binary economic principles, this paper asserts that one widely overlooked way to empower economically poor and working people in market economy is to universalize the right to acquire capital with the earnings of capital. This right is presently largely concentrated, as a practical matter, in less than 5 % of the population. The concentration of the right to acquire capital with the earnings of capital helps to explain how people either remain poor or end up poor no matter how hard they work or are willing to work.

Binary Economics offers a conception of economics that is foundationally distinct from the economic theories presently employed by government, private enterprise, charitable institutions, and individuals to formulate and evaluate economic policy. Because it is foundationally distinct from classical, neoclassical, Keynesian, monetarist, and socialist economics, binary economics specifically offers a distinct explanation for the persistence of poverty, unutilized capacity, and suboptimal growth. First advanced by Louis Kelso, binary economics holds that (1) labor and capital are equally fundamental or "binary" factors of production, (2) technology makes capital much more productive than labor, (3) the more broadly capital is acquired with the earnings of capital the faster the economy will grow.

Most binary economists conclude that universal, individual participation in the right to acquire capital with the earnings of capital (the binary property right) is a necessary condition for sustainable growth, distributive justice, and a true democracy. Binary economic analssis reveals a voluntary market-based strategy for producing much greater and more broadly shared abundance without redistribution. Based on objective standards of (1) reasonable, workable assumptions, (2) internal consistency, and (3) plausible descriptions, predictions and prescriptions, binary economics should be taught wherever other economic approaches to growth, sustainability, development, investment, poverty, and economic justice are taught.

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I. INTRODUCTION

This overview of binary economics begins with a summary description of binary economics as a distinct, combined theory of economics and private property Section II discusses the alternative economic system. Part III compares the binary strategy of broadening the right to acquire capital with prevailing approaches employed by governments today. Part IV discusses the binary private property system. Part V explains the unique principle of binary growth. Part VI discusses the nature of the binary growth question. Part VII provides a brief conclusion.

Binary economics focuses on "the right to acquire capital with the earnings of capital." The binary approach is based on (1) a distinct economic theory of production, distribution and growth and (2) a private property system with philosophical roots in Anglo-American common law and the work of John Locke.[1] As an approach to economics and private property, binary economics provides important insights regarding (1) the role of labor and capital in production, distribution, and growth,[2] (2) the fuller employment of existing productive capacity, (3) the reduction of poverty and the need for redistribution, and (4) the economic conditions necessary for (a) greater market efficiency, and (b) widespread, sustainable economic prosperity and growth.

Binary economics has special appeal to those concerned about economically disadvantaged people. It not only provides a unique explanation of the persistence of poverty; it also offers a voluntary, ownership-broadening market strategy for helping poor and working people without redistribution. Binary economics also has special appeal to those who believe it reveals ways to enhance sustainable, environmentally friendly economic growth.

Binary economic reforms would open the existing system of corporate finance so as to realize for all people "the binary property right," which is the right to acquire capital with the

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[1] Binary Economics was first advanced by corporate finance attorney, investment banker, and philosopher, Louis Kelso. See, L.O. Kelso and M.J. Adler, *The Capitalist Manifesto* (1958); L.O. Kelso and M.J. Adler, *The New Capitalists*; (1961) L.O. Kelso and P. Hetter, *Two-Factor Theory: The Economics of Reality* (1967); L.O. Kelso and P.H. Kelso, *Democracy and Economic Power: Extending the ESOP Revolution through Binary Economics* (1986, 1991). The authoritative and most complete source of writings by Louis Kelso (the originator of binary economics) can be found on the web site of The Kelso Institute: << http://www.kelsoinstitute.org >>.

For writings on binary economics by Robert Ashford see "Milton Friedman's Capitalism and Freedom: A Binary Economic Critique," forthcoming, XLIV, No. 2 *Journal of Economic Issues*, 533 (June 2010); "Broadening the Right to Acquire Capita with the Earnings of Capital: The Missing Link to Sustainable Economic Recovery and Growth," *39 Forum for Socio-Economics*. 89 (2010); "Capital Democratization," 37 *The Journal of Socio-Economics*, 1624 (2008) (co-authored with Demetri Kantarelis); *Binary Economics: The New Paradigm*. Lanham, MD: University Press of America. (1999) (Co-Authored with Rodney Shakespeare); "A New Market Paradigm for Sustainable Growth: Financing Broader Capital Ownership with Louis Kelso's Binary Economics." *14 Praxis, The Fletcher Journal of Development Studies* 25 (1998); "Louis Kelso's Binary Economy." 25 *Journal of Socio-Economics* 1(1996) (1998)."The Binary Economics of Louis Kelso: A Democratic Private Property System for Growth and Justice," Chapter 6 in *Curing World Poverty: The New Role of Property*, (1994), John H. Miller, C.S.C., S.T.D., editor; "The Binary Economics of Louis Kelso: The Promise of Unversal Capitalism." 22 *Rutgers Law Journal* 3 (1990).

[2] As used in binary theory, capital includes land, animals, structures, and machines – anything capable of being owned and employed in production. It does not include financial capital, which is a claim on (or ownership interest in) real capital.

earnings of capital. The reforms would enable participating, credit-worthy corporations to satisfy any portion of their capital requirements while simultaneously enabling their employees, consumers, neighbors, and others to acquire in trust shares of the participating corporations. Thus participating corporations could simultaneously increase their productive capacity and expand their markets by broadening the ownership of their shares. The universal realization of the binary property right (and the resultant benefits of broader ownership distribution and greater growth) would be achieved in a wholly voluntary process that respects, broadens, and fortifies the institution of private property for the benefit of all people.

II. THE ALTERNATIVE ECONOMIC SYSTEM

Binary economics accepts the classical economics of Adam Smith as set forth in *The Wealth of Nations*, but modifies Smith's analysis uniquely to account for the increasing role of capital in production and distribution. Binary economics can be distinguished from Adam Smith's classical economics and other economic schools by the following related propositions:

(1) Labor and capital are equally fundamental or **"***binary***"** factors of (or "inputs to") production;

(2) Technology makes capital much more productive than labor; and

(3) Capital has a strong, positive, *distributive* relationship to growth, such that the more broadly capital is acquired, the more it can be profitably employed to increase output. (The principle of binary growth.)

Productivity and Productiveness: According to Adam Smith, the primary role of capital is to increase labor productivity. Karl Marx, Alfred Marshall (widely credited for neoclassical economics), and J.M. Keynes did not disagree. Indeed, in his *General Theory*, Keynes distilled the economy to three fundamental, independent variables: time, money and labor and (Like Smith) treated capital as a dependent variable.[3] In binary economics, capital and labor are equally fundamental, independent, or binary variables

According to the binary view of production, although labor and capital may cooperate (just as people may cooperate) to do work, each factor (the human and the non-human) does its own work and provides its own "productiveness." To understand the binary approach, it is important to distinguish between "productivity" (which is the ratio of the output of all factors of production, divided by the input of one factor, usually labor) and "productiveness" (a special focus of binary economics, which retrospectively means "work done" and prospectively means "productive capacity").

The "binary productiveness" of labor and capital can be illustrated by considering any sort

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[3] "It is preferable to regard labour, including of course, the personal services of the entrepreneur and his assistants, as the sole factor of production, operating in given environment of technique, natural resources, capital equipment and effective demand. This is why we have been able to take labour as the sole physical unit which we require in our economic system, apart from units of money and of time." Keynes, *General Theory of Employment, Interest and Money*, Harcourt, Brace & World, Inc. (1936) pp. 213-214.

of work. For example, with a hand say a person can saw ten boards per hour with a hand saw, and one hundred boards per hour with a machine saw. According to conventional economic analysis, compared to working with the hand saw, the worker is said to have become ten times as productive and has ten times the productivity. But when sawing each board with the help of the machine saw, the worker is doing much less work. Per unit of output, the labor contribution to the production of sawed boards has decreased. From a binary perspective, per unit of output, the productiveness of the worker has decreased and the productiveness of capital has increased. From a binary perspective, the machine saw is doing essentially all of the extra work.

The independent productiveness of capital is more clearly revealed in the work hauling sacks: a person can haul one sack one mile in one hour and is exhausted; (1) with a horse, ten sacks can be hauled four times as far (yielding a forty-fold increase in output) and (2) with a truck, five hundred sacks can be hauled forty times as far (yielding a twenty thousand-fold increase in output). According to the binary perspective, the horse and truck are doing essentially all of the extra work.

It should be noted that the "binary" in "binary productiveness" has a particular meaning. It requires treating labor and capital as *binary, or "independent" variables*. The concept of binary productiveness does *not* negate the fact that in many instances both capital and labor are generally needed to complete specific kinds of work, or the fact that labor is needed to conceive of, design, create, operate, maintain, store, and repair capital. But the work of conceiving, designing, creating, operating, maintaining, storing, and repairing capital is not the work of the capital conceived, designed, created, operated, maintained, stored, and repaired.[4]

Nor does binary productiveness negate the fact that the productivity of labor and capital will be priced in markets relative to each other. Rather it requires the recognition that capital and labor are each equally fundamental variables. Just as labor does work and distributes income, so capital does work and distributes income. But unlike the productive power of labor, which despite substantial differences in talents, skills, opportunities, and tastes, is relatively evenly dispersed among people, through ownership the productive power of capital can be massively concentrated; and the amount of the work it can profitably be employed to do depends significantly on the distribution of its ownership.

The Six Powers Capital: Based on its "independent productiveness," capital has six powers important to production, distribution, and growth. Capital can

(1) replace labor (by doing what was formerly done by labor);

(2) vastly supplement the work of labor by doing much more of the kind of work that humans can do,

4. Thus, although it takes a person to lead the horse, the work of leading is not the work of hauling. If instead of leading a horse, the leader led ten people each carrying one sack, who would deny the independent work (productiveness) of each of the ten human haulers merely because someone is leading them? Likewise, although it takes a person to operate the hand saw and machine saw, and no boards would be sawed without the worker, it is also true that no boards could be sawed without a saw, and there is now automated machinery that can saw a great number of boards in a comparatively short period of time with virtually no human input.

(3) do work that labor alone can never do (e.g., people cannot a single board without a saw; elevators lift tons hundreds of feet in seconds; airplanes fly; scientific instruments unleash forces that create computer chips that cannot be made by hand; fruit trees make fruit while all farmers can do is assist in the process);

(4) work without labor (as in the case of washing machines, automatic bank tellers, gasoline dispensers, vending machines, automated factories, and fruit-bearing trees);

(5) pay for itself out of its future earnings (the basic rule of business investment); and

(6) distribute the income necessary to purchase its output

The first four powers concern what might be considered the "real economy" powers of capital; the latter two are powers that are most clearly revealed in a private property, market economy with a stable credit system protected by a reliable legal system.

Each of these powers, when actually reflected in production, contributes to growth (including mere labor replacement, which produces the same physical output, plus leisure), but only the first power directly involves the mere substitution of capital for labor. Thus, although some economists and policy advocates use the marginal efficiency theory of neoclassical economics as the foundation for (or the primary component of) a general theory of growth, the capital/labor substitution process is only one component of growth (operating *after* the creation of greatly increased productive capacity); and from the binary perspective, the wealth enhancing contribution of market pricing and resource allocation is severely limited so long as the distribution of capital acquisition remains narrow. (See "Productiveness, Prices, Values, and Efficiency," below.)

Productiveness, Distribution, and Growth: When analyzing how production and productive capacity have grown since the first publication of Smith's *Wealth of Nations* in1776, conventional market economics interprets the role of capital as merely facilitative: capital increases human productivity, thereby allowing for a rise in output per unit of labor, higher wages, and the employment of more labor. According to binary economics, however, in contributing to economic growth, capital does much more than increase the productivity of the people who work with it: Increasingly capital is doing ever more of the work. *The economic imperative is generally to produce more with more productive capital and less labor.* Although capital may be seen to concentrate higher productivity into fewer workers, as the general rule, per unit of output and in the aggregate, the primary effect of technological advance is to make capital more productive than labor and thereby to replace and vastly supplement the productiveness of labor with ever greater capital productiveness.

Moreover, because capital is independently productive, it works on both sides of the production-consumption economic equation by providing vastly increased

(1) productive capacity and production, and

(2) capacity to distribute income and leisure.

According to binary economists, in a private property, market economy, it is the capacity of capital both to do much more work and to distribute much more income and leisure that explains how broadening capital ownership promotes greater employment of existing capacity, capital accumulation, and growth. Thus, from a binary perspective, *growth is primarily the result of* *increasing capital productiveness and the distribution of its ownership rather than increasing labor productivity*.

Binary Growth: Noting that present demand for capital goods is dependent on demand for consumer goods in a future period, binary economists reason that a voluntary pattern of steadily broadening ownership promises more production-based consumer demand in future years and therefore more demand for a fuller employment of existing labor and capital and more capital investment in earlier years. Thus, a broader distribution of capital acquisition, ownership, and income strengthens the promise of capital to pay for itself out of its future earnings, and makes profitable the employment of more (and increasingly more productive) capital. Therefore, binary economists consider the return on capital is not only related to its scarcity, the wage rate, and the interest rate, but also significantly related to the increasing productiveness of capital and the distribution of its ownership. Thus, growth is positively related not only to increased labor productiveness, increased capital investment, and accelerated technological advance, but is also positively related to the distribution of capital acquisition.

The potent *distributive* relationship between capital acquisition and growth is called the principle of binary growth. As a fundamental economic principle, it is unique to binary economics. If valid, the principle binary growth will greatly enhance mainstream understanding of how to economically empower poor and working people and thereby promote greater growth. This principle therefore requires special attention. The question of binary growth will be explored more fully in Part V below.

It is important, however, to emphasize that the asserted positive relationship between the distribution of capital ownership and growth (i.e., the principle of binary growth) is ***not*** based on the behavioral premise that people will work more productively if they have ownership stake in their employer. Although most binary economists accept this behavioral premise as true, this behavioral premise (that broader ownership will increase labor productiveness, and therefore cause growth) is neither unique to binary economics nor inconsistent with mainstream economics. Rather, the unique binary premise is that the promise of broader ownership, *in and of itself*, will cause the fuller employment of existing capacity and greater growth.

Moreover, if valid, the principle of binary growth does not involve the involuntary redistribution of any existing assets in which people have existing property rights. It is the growth-enhancing promise of broader ownership that gives rise to the voluntary transactions that produce the broader ownership and growth.

The principle of binary growth is unique to binary economics. This distribution-based relationship to the rate of return on capital and growth is not revealed by conventional classical and neoclassical analysis that assume that the return on capital is a function of only its scarcity and labor productivity, but not its independent productiveness and the distribution of its ownership. Likewise, Keynesian analysis (which reduces the operation of the economy to time, money and labor) cannot yield a conclusion that growth and the return on capital is an independent function of the productiveness of capital and the distribution of its ownership.

Productiveness, Prices, Values and Efficiency: The binary approach to understanding production also offers a new perspective on the impact of the broader distribution on price and value. So long as most people own little or no capital, most consumer goods and services will be worth the work people are willing to do by their labor to acquire them. This is (1) how Adam Smith and John Maynard Keynes saw it, (2) the foundation of price theory and (3) in an economy in which capital ownership is highly concentrated, "empirically" the "value of labor" and the foundation of prices. However, in an economy in which ownership is much more broadly distributed, the value of goods and services is not limited to the work people are willing and able to do by way of their labor, *but also includes the work they are willing and able to let their capital do.* Without a horse, few sacks are "worth hauling" before the hauler becomes exhausted. With a horse, many more sacks are worth hauling; and the economy of sack-hauling will grow as horse (and truck) ownership becomes more broadly distributed. Thus people express value not only by the work they do but also by the work they let their capital do.

Thus, from a binary perspective, (1) the technical relationship used in the theory of marginal productivity that governs conventional understanding of the relative employment of capital and labor in production and (2) the factor income shares derived from production are significantly dependent on the distribution of access to capital acquisition with the earnings of capital. In other words, the willingness of a laborer to work at given wage depends on his competitive opportunity to acquire capital with its earnings and then receive its full net return. (But without access to the same government-supported infrastructure available to well-capitalized people, the opportunity to acquire capital with the earnings of capital and thereby through ownership to produce goods and express value is not open to most people as a practical matter.) From a conventional economic perspective, in terms of its impact on pricing, capital/labor substitution and employment, and factor income shares, the distribution of access to capital ownership is either irrelevant or of only minor consequence.

Competitive market pricing requires (1) no barriers to entry, (2) voluntary (rather than coerced) exchange, and (3) no monopolization of the means of production. Once it is recognized that labor and capital are independent factors of production and that capital is increasingly the more productive factor, then it becomes clear that broad, essentially universal, individual access to capital acquisition is necessary before the presumed theoretical, allocational benefits of efficient pricing can be fully realized.

III. BINARY AND CONVENTIONAL ECONOMIC STRATEGIES COMPARED

Accepting the labor-based, productivity paradigm of mainstream economics, governments pursue strategies and policies that facilitate capital acquisition primarily for well-capitalized people and jobs and welfare for everyone else. But binary analysis indicates that jobs and welfare cannot distribute sufficient consumer income to employ fully employ existing capacity and promote sustainable growth unless it is supplemented with the additional consumer income that naturally results from the coupling of the increased productiveness of capital with a broader pattern of capital acquisition paid for with the earnings of the capital acquired.

Based on mainstream economics, while government policies facilitate capital acquisition with the earnings of capital primarily for well-capitalize people, the mainstream prescription for poor and working people to acquire a viable capital estate is to work hard, save, and invest wisely. However, binary economists note that the mainstream prescription for capital acquisition is ***not*** the way most capital is presently acquired in modern industrial economies. In the USA, for example, of the trillions of dollars of capital acquired each year, virtually all of it is paid for with the earnings of capital, and much of it is acquired with borrowed money. Relatively little capital is acquired with the earnings of labor. (See Endnote 6.) The preferred means among the rich to acquire new capital is to buy it with non-recourse corporate credit and to repay the acquisition debt obligation with the income earned by the assets acquired.

To acquire capital with the earnings of capital, well capitalized people use (1) the pre-tax earnings of capital, (2) collateral, (3) credit, (4) insurance and capital markets mechanisms to diversify and reduce risk, and (5) a monetary policy intended to protect private property. No less competitive a means is needed by middle class and poor people, who have little or no assets to place at risk.

As explained in Section V, below, the same institutions and practices that work profitably for well-capitalized people can also work profitably for all people. Moreover, in an economy operating at less than full capacity, if capital can competitively pay for its acquisition costs out of its future earnings primarily for existing owners, it can do so even more profitably if all people are included in the capital acquisition process.

IV. THE BINARY PRIVATE PROPERTY SYSTEM

Although binary economics is premised on a unique theory of production, distribution, and growth, it also rests on ancient principles of private property that find expression in the Anglo-American common law and in the writings of John Locke.

Three Foundational Principles: The legitimacy of private property is premised on three foundational principles:

(1) Universal participation,
(2) Distribution according to production and voluntary exchange, and
(3) Limitation when required to insure universal participation and distribution according to production and voluntary exchange.

It should be noted that these three principles also express three essential conditions of an efficient market.

Because (1) labor and capital are independently productive variables, (2) technology makes capital much more productive than labor, and (3) in every industrial society almost all capital is acquired with the earnings of capital, binary economists reason that compliance with these private property principles and the conditions essential for market efficiency cannot be achieved as long as the vast majority of people are excluded from the process by which capital is acquired with the earnings of capital.

The competitive right to acquire capital with the earnings of capital: As a matter of property law, a binary economy extends to all people "the binary property right" (i.e., the competitive market right to acquire capital with the earnings of capital). More particularly, the binary property right is the right to acquire capital with non-recourse credit and to repay the cost of acquiring the capital with the pre-tax yield of the capital acquired. Strictly speaking, this competitive capital acquisition right is a market right, not a welfare right. It is the right to participate in a voluntary transaction with one or more willing parties.

Using Institutional Precedents That Work: Combining the salient principles of (1) the Homestead Acts (intended to broaden land ownership), (2) the employee stock ownership plan (ESOP) technique of corporate finance (intended to broaden capital ownership by employees by using tax exempt, limited liability trusts, as fiduciary agents for employees, to acquire shares of employer stock with non-recourse credit, (3) a market for capital credit insurance (such as that profitably provided by the Federal Housing Administration to broaden home ownership), and (4) a return of the Federal Reserve to its original Congressional mandate under Section 13 of the Federal Reserve Act (intended to broaden access to capital credit) to allow for the discounting of eligible productive private credit, binary economic analysis offers an entirely voluntary means that would enable prime-credit-worthy companies to meet any portion of their capital requirements while simultaneously enabling their employees, customers, neighbors and others to acquire (with non-recourse credit) full-dividend shares of the participating companies which would pay their full return (net of reserves for depreciation, research, and development to maintain the competitive productive capacity of the capital) first to repay the capital acquisition loan obligation and then to provide a capital source of income to supplement wages and welfare benefits.

A Proposal for Instructional Purposes: There are many variations of binary financing that can be applied in different contexts. For instructional purposes, Figure 1, below, sets forth a structural representation of a single binary financing transaction. It also represents the aggregate of all binary transactions within an economy. Figure 1 shows (1) a corporation, (2) an ownership-broadening, constituency trust, (3) a lender, (4) a private capital credit insurer, (5) a government reinsurer, and (6) the central bank. Corporations eligible to participate in binary financing would be prime-credit-worthy companies. In the USA, these eligible companies would generally (though not necessarily) number among the three-thousand or so largest companies. The implementation of this proposed structural alternative for private capital acquisition requires no transactions; but its provides the property rights basis enable market participants voluntarily to price the value of broader ownership distribution.

On the strength of the pledged, anticipated profits of the capital acquired, and market-priced, capital credit loan insurance as a substitute for collateral, the lender loans funds to the trust in return for a promissory note. The trust invests in "full-dividend" common stock of the corporation at fair market value. With the cash received for the issuance of its stock, the company makes the investment and (if all goes according to plan) distribute the income earned on the capital investment to the ownership-broadening trust which uses the funds to repay the loan obligations and then distributes all net earnings to the beneficiaries. Consistent with necessary monetary discipline, the central bank is authorized to discount the trust's outstanding promissory note at its administrative cost. Based on experience with present bank loan-service charges, insurance charges of the Federal Housing Administration, and the administrative costs Federal Reserve, the cost of borrowing to the constituency trust has been estimated at approximately at less than 5% per year, consisting of (1) 2% bank service charge, (2) 2% for the capital credit insurance and (3) 1/4% for the central banks administrative costs.[5]

Thus, in a binary economy, the logic of corporate finance (which enables corporations to acquire capital before they have earned the money to pay for it, and which enables existing owners to become richer on future corporate earnings even as they sleep) is extended individually on market principles to all people even if they have no savings (or collateral to secure credit) to invest.

The establishment of a binary economy is accomplished as a legal matter entirely through traditional and largely well-settled means: by the revision of a few national laws related to banking, corporations, employment, insurance, and taxation, and by the reliance on traditional corporate, trust, financial, and insurance principles and institutions. According to binary theory, the effect of these revisions is to extend to all people the competitive right to participate in capital acquisition with the earnings of capital on market principles. It is this broadening ownership participation that provides the basis for "binary growth," which is explained more fully in Section V below.

V. BINARY GROWTH:

The logic supporting the binary property/economic paradigm indicates that the voluntary operation of a national binary economy on market principles will provide not only a broader distribution of wealth and income, but also substantially more real growth than would a traditional economy. As previously noted, because demand for capital investment is dependent on demand for consumer goods in a future period, a voluntary pattern of steadily broadening ownership promises more production-based consumer demand in future years and therefore more demand for investment in earlier years. Thus, a broader distribution of capital acquisition, ownership, and income strengthens the promise of capital to pay for itself out of its future earnings, and makes profitable the employment of more (and increasingly more productive) capital.

Eligible Companies: The primary, practical application of the principle of binary growth can be understood by considering the three thousand largest companies in the USA, and then focusing on a subset comprised of prime-credit-worthy companies. At diminishing unit costs, most of these companies can produce much more of the goods and services people dearly need and want; but there is lacking the consumer demand to render more production profitable even at greatly diminishing unit costs.

Presently through these corporations, almost all new capital is acquired with the earnings of capital, and much of it is acquired with borrowed money.[6] At the same time, the ownership

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[5] Kelso, Louis O., and Patricia Hetter, pp 70-73, 108. (1986). *Democracy and Economic Power: Extending the ESOP Revolution through Binary Economics*. Cambridge, MA: Ballinger Publishing Co.

[6] For example, during the fifteen year period from 1989 through 2003, in the case of major prime credit-worthy companies in the U.S.A., the sources of funds for capital acquisition, in approximate terms,

of this corporate wealth is highly concentrated so that approximately 1% of the people own 50% of the wealth and 10% own 90% of the wealth, leaving 90% people owning little or none.[7] Thus, capital returns its value at a rate reflective of its long-term (suppressed) earning capacity as it buys itself for a small minority of the population. According to binary economics, if the techniques of corporate finance presently used to enable existing owners to acquire capital with the earnings of capital were opened competitively to all people then, the present demand for capital investment and employment would increase in anticipation of the broadening distribution of capital income to poor and working people with unsatisfied needs and wants.

Projecting Ownership-Distribution-Based Demand: Figure 2, set forth below, illustrates the distributive, growth-sustaining feature of an ownership-broadening binary economy. For simplicity, Figure 2 assumes a seven-year cost recovery period for capital investment, and it shows the number of years of annual acquisitions that will have paid for themselves over time. Figure 2 assumes that in every year after the implementation of the binary economy, some number, N, of an economy's largest prime credit-worthy companies have profitably utilized binary financing to acquire in the aggregate some percentage, X, of their capital investments. Figure 2 also assumes that the capital credit insurance is properly priced to pay for those financings that fail to repay the acquisition loans so that N and X are net of those failures. Figure 2 also assumes for simplicity, as a first iteration, that N, X, and the rate of return on capital remain constant throughout the period.

Although beginning slowly, the broadening distribution of capital ownership and income will increase steadily and thereby provide the basis for binary growth. Each year after the initial cost recovery period of the most productive capital, more binary capital will have paid for itself and will be distributing capital income to poor and working people. Consistent with the conservative assumption of a seven-year capital cost recovery period, Figure 2 shows the steady growth in annual capital acquisitions. In the eighth year, the first annual acquisition of capital will have paid for itself and will begin paying its full return to the new binary owners. In the ninth year, the second annual capital acquisition will be fully paid for and will therefore begin paying its full return to the new binary owners. In fourteen years, 50% of the annual capital acquisitions will have paid for themselves, and will have begun paying heir full annual return to the new binary owners. In the 28th year, 75% of the acquisitions will have paid for themselves; and so on. In the long run, the linkage between supply (in the form of the incremental productive power of capital) and demand (resulting

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reveal that annually retained earnings accounted for at least 70% and more usually 80% of the capital acquisition. Borrowing accounted for almost all of the rest. Sale of stock as a source of funds capital acquisition never exceeded 5% during the period and was negative in most years (meaning that loans and retained earnings were used to retire equity stock.) See Richard A.. Brealey & Stewart C. Myers, Franklin Allen *Principles of Corporate Finance* Chapter 14, pp 561-563 3rd edition, 2004). *Stock Market Pricing and Securities Regulation*, (87 *Mich. L. Rev.*, 613 at 648, 1988).

[7] Edward N. Wolff, *Top Heavy: A Study of Increasing Inequality in America* (New York, Twentieth Century Fund, 1995) and Edward N. Wolff, "How the Pie is Sliced: America's Growing Concentration of Wealth," *The American Prospect*, No. 22, (Summer 1995), pp. 58-64.

from the widespread market distribution of capital income to consumers) approaches 100%. The more binary financing that is undertaken, the greater the distributional growth effects.

Maintaining Market Share in a Growing Economy: To maintain market share in the projected growing economy, producers will have to increase production and productive capacity (more fully utilize existing capacity and acquire more capacity) ***before*** binary income begins to be distributed to its new owners. Because present demand for capital goods is positively affected by anticipated future demand for consumer goods, the broader pattern of capital acquisition and resultant broader distribution of capital income should be reflected in increased capital spending within the time frame required to acquire and employ the added capital necessary to increase production to satisfy the additional anticipated consumer demand. Thus, for example, with a capital cost recovery period of seven years, and a capital planning investment horizon of five years, market incentives for increased capital spending by producers of consumer goods and services might materialize in the third year. Furthermore, market incentives for increased capital spending and labor employment by producers of producer goods and services might materialize in the first year.

Moreover, for additional reasons, the growth process might start as early as the first year. First, to the extent that the return on the equity represented by the binary shares exceeds the debt-servicing requirements, income will be available for payment to the binary beneficiaries before completion of the capital recovery. Second, to the extent that consumers feel wealthier by reason of their capital ownership, their marginal savings and consumption rates will shift towards more consumption even before they begin to receive binary income. Furthermore, the terms of the loan agreements may provide for increasing partial dividend payments directly to the beneficial owners as specified percentages of the loans - and shares - become fully paid.

Demand and Supply In a Binary Time Frame: The logic supporting binary growth is best understood within a "binary time frame"--the time expected for well-managed capital to pay for its acquisition costs (a period usually no longer than seven years) and then to begin earning a net income for its owners. This is a time period in which capital investment is variable rather than fixed. Thus, within the context of perhaps a seven to fourteen years, if members of the poor and middle classes are enabled to compete with existing owners for the acquisition of corporate stock representing the capital requirements of companies worthy of prime credit, they would bring to the bargaining table a chip not possessed by existing owners: a pent up appetite for the necessities and simple luxuries of life that the rich have long enjoyed from capital income. After the acquisition debt obligations have been satisfied, the earnings of capital acquired by members of the poor and middle class, if fully paid to them, will create more production-based consumer demand than if that capital had been acquired by the rich. If acquired by the rich, most of the capital earnings would seek investment opportunities but in the context of weaker consumer demand.

The growing capital-based consumer demand generated by binary financing over a binary time frame will make more capital investment credit-worthy and profitable. The growing capital-based consumer income will also make investment less risky, and therefore more insurable, less expensive, and more profitable. Over the same period of time, in a traditional economy, with relatively less capital-based consumer demand, capital investment will be riskier, and therefore more expensive, and less capital investment will be credit-worthy and profitable.

Growth and Broader Distribution Without *Re*distribution: From a binary perspective, the incremental binary consumer income is neither inflationary nor *re*distributionary. It exists only as a result of voluntary transactions and only if the underlying capital has earned income sufficient first to return its acquisition cost and then to pay net income to its owners. Any incremental consumer income generated in a binary economy is balanced by the antecedent incremental production of goods and services of equal value.

By financing the ownership of productive capacity for people with substantial unsatisfied needs and wants (essentially most people who presently earn little or no current consumer income from capital ownership), participating companies may satisfy their projected credit-worthy capital requirements while simultaneously encapitalizing their employees consumers, neighbors, and others, thereby establishing a long-run self sustaining basis for growth. This is a growth that does not require anyone to work harder or smarter. It is not caused by an increase in capital investment, advancing technology, or any other traditional basis for growth. It is not the result of a *re*distribution, because it only materializes from the broader pattern of capital acquisition generated by the voluntary operation of the binary economy that enable all people to acquire capital with the earnings of capital.

Thus, although the reforms indicated by binary theory may be criticized as an unwise intervention in the market, the binary approach may be more fairly viewed as an opening of the capital markets to all people; and a strong case can be made that a binary economy will operate more openly and efficiently on market principles than any existing economy.

VI. THE NATURE OF THE BINARY GROWTH QUESTION

It is important to understand that the question of whether or not the principle of binary growth is valid is not a question of value, but rather a question of fact: either there is a substantial, positive relationship between the broader distribution of capital ownership and growth or there is not. Whether a broader distribution of ownership or greater growth is good or bad, just or unjust, or environmentally sustainable or not, may be debatable; but such questions are distinct to the antecedent question of whether or not the pattern of capital acquisition has a substantial positive relationship to growth. In principle, this question of fact is empirically resolvable, but to do so requires the establishment of a real economy based on binary property rights, and that has yet to happen. But time is long overdue for teaching, theoretical research and modeling of the basic binary concepts.

VII. CONCLUSION

Binary economics presents an unusual challenge to educators. Its promise of distribution-based growth may be a grand illusion whose logical or practical fallacy has eluded a growing number of scholars and citizens throughout the world, or it may be one of the most important new concepts to emerge in the twentieth century.[8] It offers to harness technology more fully by providing a voluntary market means to employ existing capacity and future capital more profitably and to achieve a level of sustainable growth and distributive justice beyond conventional understanding.

One of the most important purposes of education (and one of the highest roles of the lawyer, economic advisor, and government official) is to assist people (and society) in identifying and securing their essential opportunities, rights, and responsibilities Based on mainstream economics, people are given no reason to believe that greater economic growth and more broadly shared prosperity may be achieved voluntarily by opening the system of corporate finance so that increasing numbers and eventually all people can acquire capital with the earnings of capital. Although very few multi-millionaires fail to invest in a viable portfolio of America's three thousand largest companies, the vast majority of people are not taught and therefore have no understanding that they too might have a legitimate interest in participating in that capital acquisition in a way that might be profitably realized voluntarily on market principles.

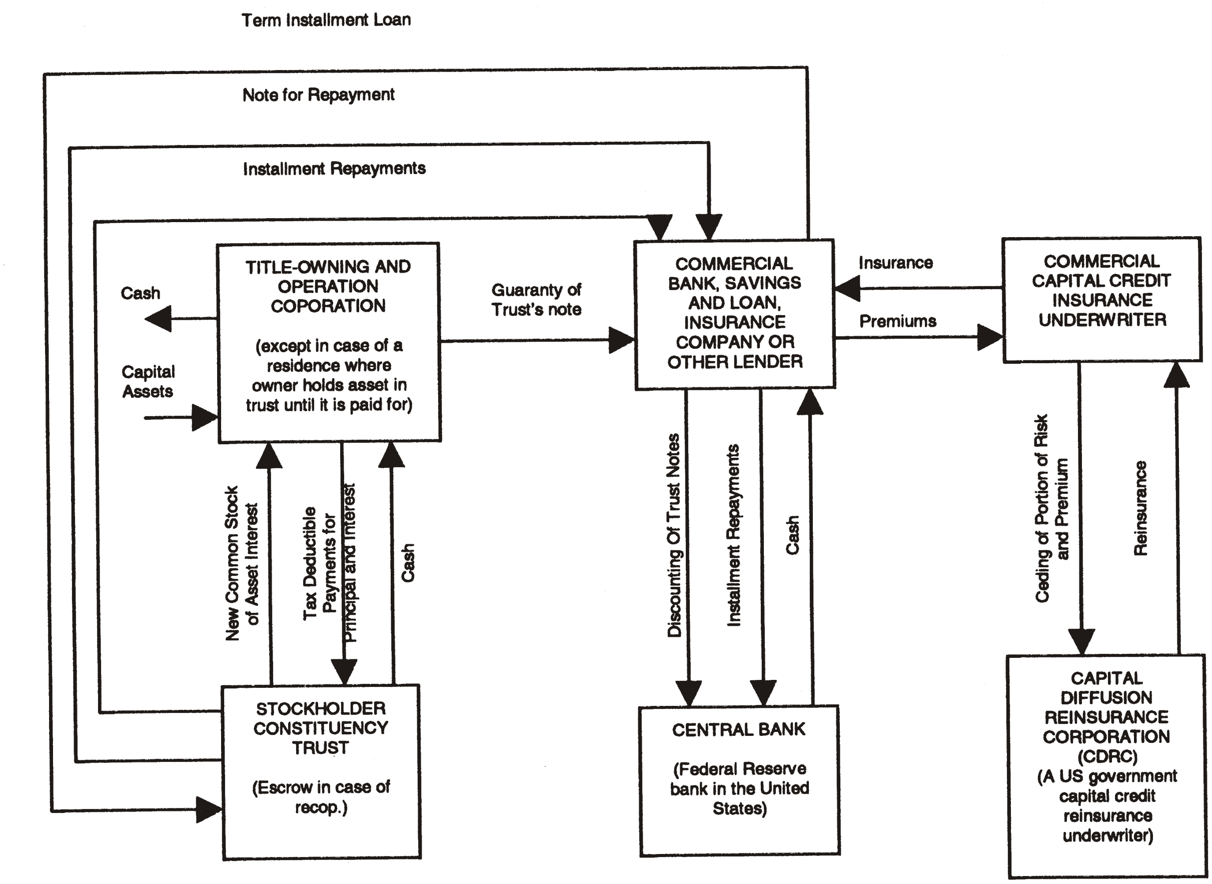
When judged by the epistemological rigor of the hard sciences, the binary approach:

(1) is a distinct paradigm of market economics;
(2) rests on reasonable assumptions (at least as reasonable as those that support mainstream economic theories);
(3) is internally consistent;
(4) has descriptive and prescriptive power at least as good as that based on mainstream economic theories; and
(5) offers special promise to achieve a market basis for sustainable growth that will systemically help poor and working people everywhere without redistribution

As such, binary principles should be taught to students in important contexts in which the conventional wisdom regarding the role of labor and capital in production, distribution, efficiency and growth is explicitly taught as part of the positive or normative analysis With an understanding of binary economics, people will be in a better position to comprehend their economic, political, ethical, moral, and other personal choices; and as educated professionals, they will also be in a better position to assist others regarding such choices.

[8] "I came to appreciate the critical importance of the theory of (binary) capitalism; and....I felt that its revolutionary insights and program should be briefly summarized in the form of a manifesto addressed to all Americans who are concerned with the future of a democratic society....and with a twentieth century interpretation of everyone's right to life, liberty and the pursuit of happiness....It was with these discoveries in mind that I persuaded Louis Kelso to engage with me in writing *The Capitalist Manifesto*." (*The Capitalist Manifesto*, Mortimer Adler's Preface at ix, xvii).

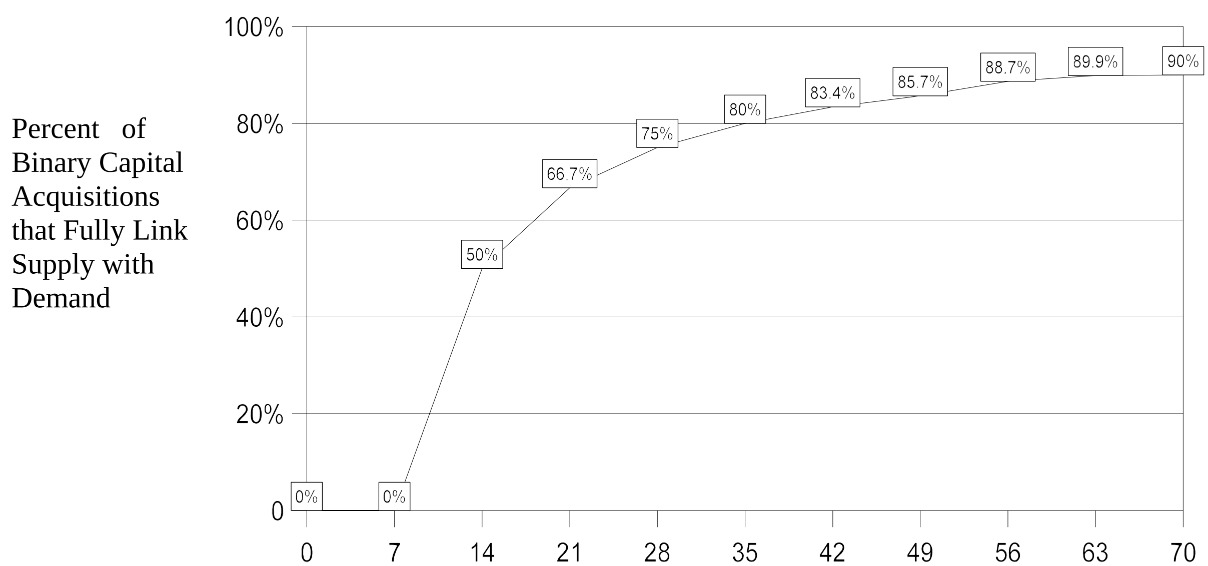
Figure 1 - General Theory Diagram



Source: Kelso & Kelso (1989). Reproduced with permission

Figure 2

Linking Supply With Demand Through Broadening Ownership



Twelve Controversial Questions

* * * * * * *

1. Why does wealth tend to concentrate in market economies even in times of great prosperity?

2. Why (if markets are basically free and competitive) does vast excess productive capacity persist along-side of widespread unmet needs and wants?

3. Why does the great promise of the industrial revolution (abundance and leisure) remain unfulfilled for most people?

4. Why does every generation of students graduate deeper in debt?

5. Does it matter whether the ownership of capital is highly concentrated or broadly distributed among people?

6. What is behind the adage, “It takes money to make money”?

7. What are the growth and distributive consequences of the fact that most capital is acquired with the earnings of capital?

8. How can more economic opportunity become more broadly distributed?

9. Is there a practical, efficient way to enable all people to acquire capital with the earnings of capital, without taking anything from existing owners?

10. How can a more competitive, efficient, and just system of corporate finance be established consistent with Islamic principles regarding interest?

11. Will an opening of the capital markets produce substantial distribution-based economic growth?

12. How can the need for increased economic growth to benefit poor and working people be harmonized with environmental necessities?

Binary economics offers important new insights, answers, and solutions.