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Enhancing Poor and Middle Class Earning Capacity with Stock Acquisition Mortgage Loans

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ENHANCING POOR AND MIDDLE CLASS EARNING CAPACITY WITH STOCK ACQUISITION MORTGAGE LOANS

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ABSTRACT. In this article, to enhance the earning capacity of poor and middle-class people (who in recent years have suffered a substantial decline in their share of national income), we propose a new loan which facilitates acquisition of financial capital with the future earnings of financial capital acquired and we discuss some possible strengths and weaknesses of such an approach. According to our analysis, there is an undeveloped market for the broader distribution of future capital income in which the price (cost) paid for acquisition of securities to realize such future capital income plays a crucial role. More specifically, we show that increasingly elastic demand for future capital income raises consumption (and therefore production) for the entire economy and, under certain conditions, for both high and low income earners. Additionally, we describe suggestions proposed by past researchers regarding how such loans may be instituted in countries with well-functioning financial markets and monetary systems, at acquisition costs lower than average historical returns in security markets.

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1. Introduction

There is growing concern in the USA and many other countries regarding the declining share of national income earned by eighty to ninety percent of the adult population. Expressions like "the hollowing out of the middle class" are increasingly found in academic and popular writings. Because incentives for the present investment to employ labor and capital to produce goods and services require a reasonable anticipation of future demand for those goods and services, this declining trend does not bode well for the long-term prospects for the profitable employment of labor and capital, retirement security, and sovereign credit-worthiness.

Although a number of analyses of this phenomenon and possible solutions to enhance the economic opportunities of poor and middle-class people have been advanced, two facts generally clearly distinguish the economic prospects of the top earners from the rest: As one moves up the wealth pyramid, (1) capital earnings of individuals comprise an increasing portion of the total earnings of wealthier individuals, and (2) those individuals are increasingly acquiring additional capital with the earnings of capital. Regarding future economic opportunities, these facts present both a dark side and a brighter side. On the dark side, they provide a structural explanation regarding how the top earners succeed in claiming a growing portion of national income. On the brighter side, they suggest that the economic prospects of poor and middle-class people could be likewise enhanced if (1) they were also extended the economic opportunity to acquire capital with earnings of capital and (2) then after the capital is acquired (and fully paid for) they too could supplement their labor earnings and welfare payments with capital income. On the long-run macro-economic level, this prospect would provide reasonable expectation of greater consumer demand in future years and therefore greater incentives to employ labor and capital in earlier years.

Of course, another factor that distinguishes the top earners from the rest is that they already own a substantial capital estate that they can use either to supplement their consumer spending (rarely) and/or (much more frequently) to acquire more capital with the earnings of capital. It is widely recognized that it is progressively easier to acquire additional millions.

Owning little or no capital (with many having a negative net worth), poor and middle-class people are told that to acquire capital they must work hard, save, and invest wisely which historically has not proven effective. In light of the growing concentration of capital acquisition and the declining share of national income earned by poor and middle-class people, this method is likely to prove even less viable for most people in the future.

Moreover, it is instructive to recognize that the "work-hard, save and invest wisely" is not how most capital is acquired in the USA today. If one considers the capital holdings of the top 10% of earners, virtually all (through

direct stock holdings, mutual funds, and retirement plans) own diversified portfolios in America's three thousand or so largest credit worthy companies. These companies comprise over 90% of America's investible assets.[1] Furthermore, to acquire additional capital, these companies rely almost entirely on the earnings of capital.[2] In addition, the ownership of these corporations is highly concentrated. In approximate terms, 1% of the people own 40–50% of corporate wealth; 10% own 90%; and 90% are left to scramble for 10%, with many of them having a negative net worth.[3] Thus, although business corporations have proven to be excellent means to acquire capital with the earnings of capital in industrialized economies, their benefits have not yet been made available to a substantial degree to poor and middle-class people. This article offers an analysis that reveals how business corporations may voluntarily choose to broaden their share ownership to include poor and middle-class people, enhance the earning capacity of those people, improve corporate profitability as well as shareholder wealth, and lay the structural economic foundation for sustainable growth.

Ironically, many heavily indebted poor and middle-class people routinely receive unsolicited offers of consumer credit to acquire consumer goods and services that they cannot afford with their declining share of earnings. At the same time, these people have virtually no access to capital credit which would enable them (1) to acquire capital with the *future* earnings of capital and (2) then after the capital is acquired (and fully paid for) to supplement their labor earnings and welfare payments with capital income. With access to capital credit, in a relatively short period of time (the time that it takes well-managed capital to "pay for itself") poor and middle-class people could begin to increasingly earn by owning capital just as the top earners do, and thereby reduce and eventually largely eliminate reliance on consumer debt.

One reason that poor and middle-class people do not have access to the capital credit that well-capitalized people routinely enjoy is traceable to sound banking principles. To extend capital credit lenders typically require two "secured" sources of loan repayment: (1) the anticipated secured cash flow from the capital acquisition sufficient to fully satisfy loan repayment (principal plus interest) and (2) a sufficient security interest in "collateral" (assets) in the event that the cash flow is insufficient to repay loan obligations. Collateral may be any valuable asset: tangible or intangible (including investments, guaranties, and capital credit insurance).[4]

Well-capitalized people and corporations who have identified a capital investment expected to pay for its acquisition cost in a competitive period of time (frequently referred to as the "capital cost recovery period") usually have access to capital credit because the expected cash flow from the capital investment plus their available collateral satisfies the two-source-loan-repayment requirement of sound secured lending principles. When individuals take advantage of such credit, indirectly, by way of their share ownership of

corporations, the capital credit is "non-recourse" as to the individual share-holders beyond the value of their shares. In other words, if the projected earnings of the capital investment are insufficient to repay the loan, the lender may attach and seize the corporate assets secured as loan collateral, and the attachment and seizure may depress or entirely extinguish the value of the corporate shares, but the lender has no additional recourse to the shareholders other earnings or assets. Finally, when borrowers (and shareholders borrowing indirectly through the corporate form) prefer not to subject their assets or shares to risk of loss or when they have insufficient collateral to finance capital acquisition, they may choose to satisfy the collateral requirement by way of capital credit insurance either by paying an insurance premium to a capital credit insurer or by reimbursing the lender for the cost of such insurance.

In light of the foregoing principles, the question remains: how can poor and middle-class people who lack the personal earning capacity and collateral assets to qualify for capital credit be included in this wealth-enhancing process routinely enjoyed by well capitalized individuals and corporations? Our answer is to apply the features of a typical mortgage loan to a competitive stock-acquisition loan that would enable poor and middle-class people to purchase securities of the same three-thousand or so largest credit-worthy companies that routinely comprise a major component of the top earners' investment portfolios.

In a typical mortgage loan, a house or apartment building may serve as collateral; whereas in a stock loan (legislated in Canada, but presently not available in the USA) a portfolio of stocks may serve as collateral. The mortgage loan is a debt instrument that is secured by the collateral of a specific property either currently owned (purchased in period **t-1**) or to be purchased with a mortgage loan in period **t** with unencumbered ownership transferred to borrower after full payment. The mortgage loan welcomes pre-ownership of the asset but does not require it. Home mortgage loans also typically require a down payment, a credit report and sufficient earning capacity of the borrower. However, if the mortgage-loan is used to acquire rental property (for example a six-unit or ten-unit apartment building) that is expected to earn rents sufficient to repay the asking price (market value) of the building the earning capacity of the purchaser need not enter the lender's financing equation. In contrast, the Canadian stock loan is a debt instrument that is secured wholly by the collateral of a currently owned portfolio of financial securities purchased in period **t-1**. Thus, unlike the mortgage loan, the Canadian stock loan requires that the borrower already owns a portfolio of investments.

In principle, stock loans, like mortgage loans, could be issued not only to owners of portfolios currently owned, secured (wholly or in part) by the shares purchased and fully paid in period **t-1**, but also to would-be owners of portfolios to be purchased with stock loans in period **t**. Rather than relying on stock acquired in **t-1** as all or a portion of the necessary collateral, if such

stock loans could be secured by capital credit insurance, they could be transformed into stock acquisition mortgage loans (SAMLs) that could enable poor and middle class people to acquire capital with the earnings of capital just as the top earners are able to do. To function as mortgage loans, presumably the credit insurance would need to be sufficient to insure the lender for any failure in payments that would otherwise be expected from the earning capacity and other assets of the borrower (including the earning capacity of the portfolio to be acquired.)

Could such SAMLs be used to enhance the well-being of poor and middle class people ("would-be" investors) who own little or no assets in **t-1** and the whole economy?[5] A hypothetical question of course, can only receive a hypothetical answer. Our purpose in this article is to offer an initial framework for thought.

In sections 2 and 3 we discuss consumption for the entire economy as a function of the distribution of future capital income. In section 4 we consider, compare and contrast consumption by high and low income earners. In section 5 we offer suggestions on how such loans may be instituted in countries with well-functioning financial markets and monetary systems. We summarize and conclude in section 6.

2. The Representative Consumer

Let $C = f(Y)$, $f_Y > 0$, where C = consumer consumption and Y = income after taxes.

For simplicity, assume that function **f** is non-linear such as equation (1):

$$C = \gamma Y - \delta Y^2 \tag{1}$$

Let $Y = Y_L + Y_K$, where Y_L = income from labor and Y_K = income from financial capital.[6]

Let $Y_L = 1$. Therefore,

$$Y = 1 + Y_K \tag{2}$$

Letting $\gamma = 5$ and $\delta = 0.5$, substituting (2) into (1) and differentiating with respect to Y_K, we get the marginal consumption (MC) curve:

$$MC = 4 - Y_K \tag{3}$$

Assume that institutions, such as investing firms, banks or other, are authorized to offer SAMLs and that the representative consumer, who currently owns zero financial stocks, gets approved to acquire a portfolio of financial assets which is held by the lending institution as collateral against the loan until it is repaid in full. Forward looking, equation (3) (where F = future) may be written as follows:

$$MC_F = 4 - Y_{KF} \tag{4}$$

3. Income from Financial Capital

Y_{KF} may be defined as the algebraic sum of future predictable income ($\overline{Y}_F$) and the future income of the acquired capital (K_F) minus the price (cost) paid for the acquisition of capital (P_K), or

$$Y_{KF} = \overline{Y}_F + K_F - P_K \tag{5}$$

Future capital income is desired by all but it is not available free of charge. For example, if SAMLs become possible, there would be a market for them in which borrowers would be willing to pay an acquisition price for future capital income. Assuming linearity, demand for K_F may be expressed as follows:

$$K_F = \alpha - \beta P_K \tag{6}$$

where, **α** is the sum of various ceteris paribus variables (inclusive of distribution-based variables), and **β** is the response of K_F per additional dollar change in P_K.

Equation (6) may be viewed as the demand function for future income from capital.[7] Obviously, more competition in this market, assisted by transparent and well regulated financial institutions, will cause the market to become more elastic (cause the value of **β** to decline.) For simplicity, we assume that (6) is a linear function the inverse of which is:

$$P_K = \frac{\alpha}{\beta} - \frac{1}{\beta} K_F \tag{7}$$

Therefore, combining (5) and (7) we get:

$$Y_{KF} = (\overline{Y}_F - \alpha/\beta) + (1 + 1/\beta) K_F \tag{8}$$

Finally, combining (8) and (4) we get:

$$MC_F = (4 - \overline{Y}_F + \alpha/\beta) - (1 + 1/\beta) K_F \tag{9}$$

Given $\overline{Y}_F$ and α, as (6) becomes more elastic (as the value of β decreases) the more (9) shifts to the right, in a non-parallel fashion since β affects both intercept and slope. As shown in Figure 1, a shift of the MC_F to the right would generate additional future consumption equal to the area between the MC_{F1} and MC_{F2}. More future consumption implies more future demand and therefore greater future and present well-being for the representative consumer as well as higher income for the entire economy.

Figure 1 Impact of β on marginal consumption
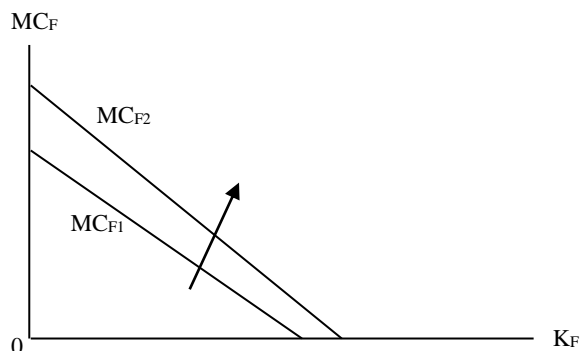
4. Two Classes of Consumers

Let the economy consist of high income earners (W) and low income earners (Z) each experiencing marginal cost relationships like the one in (9). Naturally, W's demand function for future capital income, function (6), should be more inelastic than Z's with higher values for both **α** and **β**.

Figure 2, maps marginal cost curves for W (left to right) and Z (right to left) and identifies the equimarginal equilibrium at point **e** where society currently rests. With all else constant, a decrease in the β values would cause the respective marginal cost functions of W and Z to shift up and intersect at a new point such as **e′**. Figure 2, below, assumes that the W and Z shares of national income are unchanged after the increase in total national income. (Depending on the relative values of **β**, **e′** may be located directly above **e** or above to the right or above to the left; more on **e′** follows below in conjunction with Figures 3 and 4.) At **e′**, society gains the entire shaded area of additional consumption without any shifting of future income away from Z to W or vice versa. Hence, consumption rises for both classes of consumers; in other words, society experiences Pareto improvement.

Figure 2 Pareto improvement in consumption without shifting of future income
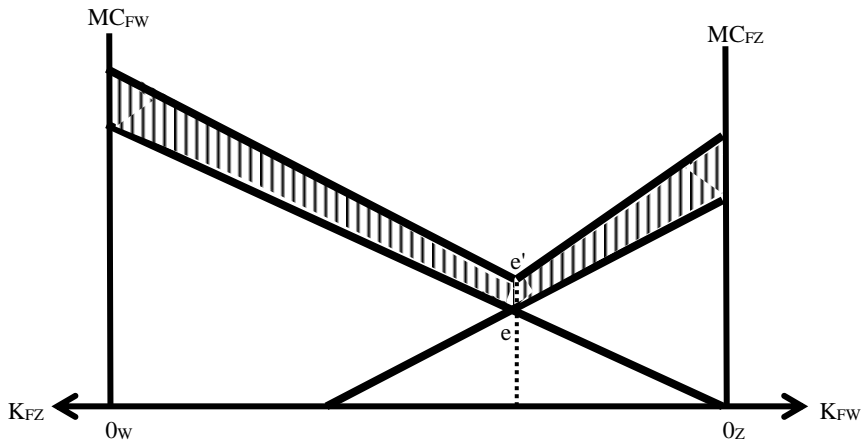

Figure 2, assumes that the percentage share of national income earned by W and Z is unchanged after the increase in total national income. If the percentage share of national income of W were to increase (and correlatively the percentage share of national income of Z were to decrease, then **e′** might be situated above and to the right of **e** as shown in Figure 3, below. Similarly if the percentage share of national income of W were to decrease (and correlatively the percentage share of national income of Z were to increase, then **e′** might be situated above and to the left of **e.**

Figure 3, is similar to Figure 2 but with **e′** appearing above and to the right of **e**. In this case, W's future income increases from **x** to **k** and Z's future income decrease by the same amount; this small shift in future income still generates Pareto improvement in overall consumption:

• W's additional gain in income is equal to the shaded area to the left of line e′n plus the trapezoid xenk;

• Z gains the shaded area to the right of line e′ but loses the trapezoid xenk. Because the gain is greater than the loss, Z realizes a significant net gain;

• at **e′** society gains the entire shaded area of additional consumption and experiences Pareto improvement.

Figure 3 Pareto improvement in consumption with
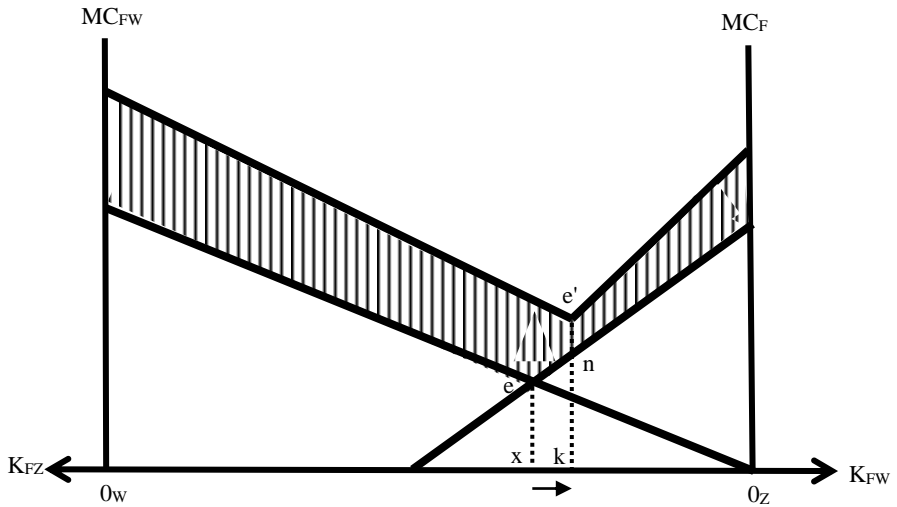shifting of future income and small losses

Figure 4, is similar to Figure 3 but with **e′** appearing above and further to the right of e. In this case, W's future income increases from **x** to **k** and Z's future income decrease by the same amount; this large shift in future income still generates Pareto improvement in overall consumption:

    • W's additional gain in consumption is equal to the shaded area to the left of line e′n plus the trapezoid xenk;

    • Z gains the shaded area to the right of line e′n but loses the trapezoid xenk. Because the gain is less than the loss, Z realizes a significant net loss;

    • at **e′** society gains the entire shaded area of additional consumption and experiences Pareto improvement.

Due to net losses, Z would not prefer such an outcome despite the fact that it is equimarginally efficient. How could society deal with such a problem? Conventionally, not necessarily preferably, through transfer payments with all the objections associated with the taxing of high income earners to provide for low income earners. Alternatively, society could provide incentive mechanisms to encourage activities that benefit the low income earners as well.

Figure 4 Pareto improvement in consumption with
shifting of future income and large losses

MC .... MC

e′

n

e

x

K$_{FZ}$ .... K$_{FW}$

0$_W$ .... J .... 0$_Z$
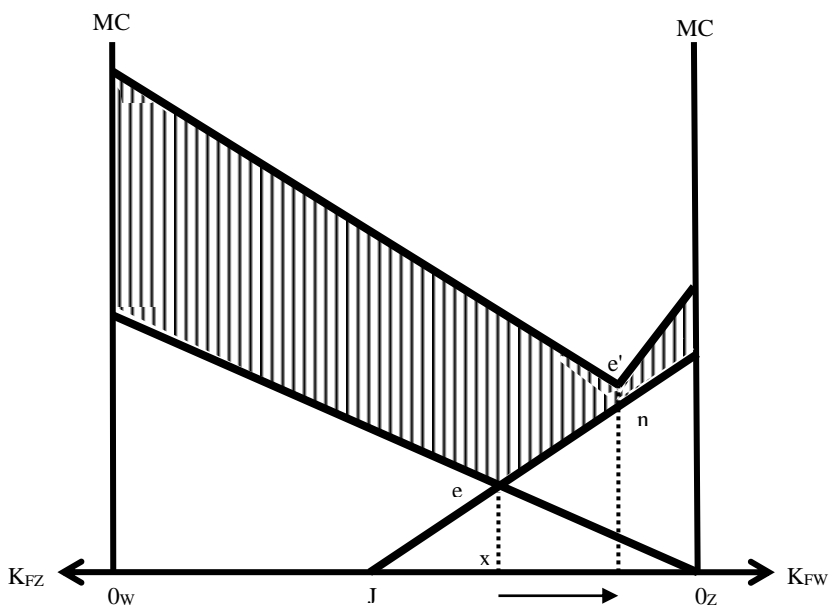
Of course **e′** may be located above and to the left of **e** with income shifted
away from W. In this case, the results will generate Pareto improvement with
gains to Z and net gains or net losses to W. As with Z, W would not favor
equimarginal efficiency subject to net losses.

It is also likely that **x** is located between **J** and **k** (see Figure 4) but not
corresponding to **e**; in this case the outcome would be equimarginally in-
efficient. A move to an equimarginally efficient solution such as **e′** in Figures
2–4 would undoubtedly benefit the whole economy.

5. The Plausibility of Acquisition of Financial Capital with the Future Earnings of Financial Capital

The acquisition of financial capital with the future earnings of financial
capital, is an idea originally proposed by Kelso and Adler (1958 and 1961),
Kelso and Hetter (1967), and Kelso and Kelso (1986/1991). The underlying
logic was subsequently refined and enriched by Ashford (1996, 1998, 2009,
2013, and 2015). The idea has further been discussed by Gauche 1998),
Ashford and Shakespeare (1999), Kane (2000), Kurland (2001), Ashford and
Kantarelis (2008), and Ramady and Kantarelis (2009).

As stated above, a SAML would function like an ordinary home mortgage
by vesting the borrower with property rights in the acquired assets subject to
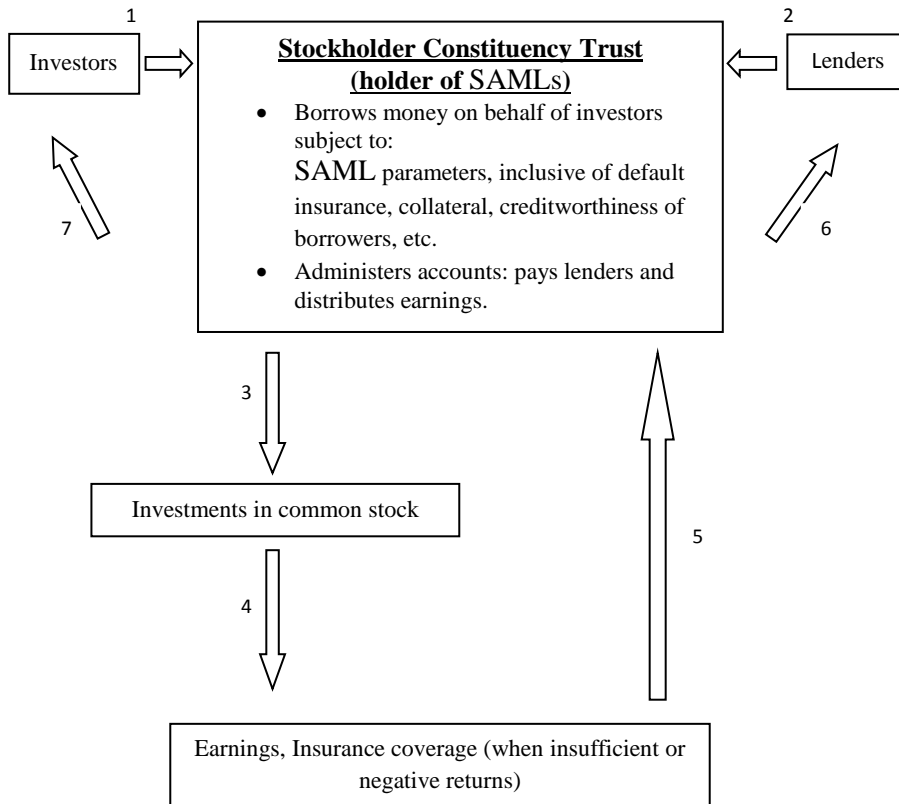
the loan obligations owed to the lender. However, like a mortgage used to purchase income real estate, instead of using the borrower-purchaser's earning capacity as the primary source of repayment, the lender would look to earning capacity of the stock portfolio. As the second source of repayment, the lender would use the portfolio of securities as collateral plus capital credit insurance. During the repayment period, the portfolio and its earnings are secured to repay the lender, but once the loan obligations are fully satisfied, the portfolio becomes fully owned by the borrower/investor.

As explained by Ramady and Kantarelis (2009, p. 334), to minimize transaction costs, all accounts can be managed and held in a stockholder constituency trust. The trustee of the trust could be a lending bank, a mutual fund company or some other financial fiduciary. The trustee of course would have to be compensated for all its administration services related to screening and approving loans based on credit history, ability to pay, default insurance coverage, additional collateral, accounting services, borrowing on behalf of investors, and paying their loan installments. As shown in Figure 5, going from 1 to 7, investors place applications in the trust for acquisition of financial capital; if the bank trust approves, it asks lenders for money or it supplies it itself.

In turn, the borrowed money is invested in a portfolio of securities and the earnings are used to repay the loan. After the loan is repaid, the portfolio becomes 100% the investor's property free of encumbrance and thereon its earnings are periodically paid to the new owner. Thus, once a SAML is repaid, the new owners have a second source of income (a capital source) to supplement income from labor, other capital, and/or transfer payments.

Of course, for the duration of the loan, the objective of the bank trust would be to maximize, appropriately discounted and deflated, the stream of financial capital income based on the specific portfolio acquired by its investor client. To accelerate the loan repayments, the shares included in the client's portfolio ought to be full return stock. Such *full return* stocks would pay out the full return (net of reserves for depreciation and research and development) needed to maintain the real capital investment underlying the shares. Because the corporation would have no use of the earnings paid on these shares it would not be taxed on it. If the shares are purchased in the market rather directly than from the issuer, the conversion to full return stock would require the consent of the issuer.

Figure 5 Acquisition of Capital with the Future Earnings of Capital [a]

| 1 Investors | | **Stockholder Constituency Trust**
(holder of SAMLs)
• Borrows money on behalf of investors subject to:
SAML parameters, inclusive of default insurance, collateral, creditworthiness of borrowers, etc.
• Administers accounts: pays lenders and distributes earnings. | | 2 Lenders |

7   6

3 → Investments in common stock

4 → Earnings, Insurance coverage (when insufficient or negative returns)

5

To reduce the borrowing cost of financial capital, proponents of this approach advocate an expanded role for the central bank. To take the USA as example, the Federal Reserve would have an additional means of controlling the money supply. Presently it uses its authority (1) to regulate certain key interest rates, (2) lower or raise the fractional reserve requirements for bank lending, and (3) to monetize government obligations through purchases of such obligations through the New York Federal Reserve Bank's Open Market Committee (OMC). Under the plan advanced by Ashford and others, the OMC could also discount SAMLs (institute a new instrument for monetary policy) for the ownership broadening financing transactions described above. Thus, with no lending of money representing the financial savings from past production, the market cost of the borrowing would include only the following elements: the trust bank service charges, the costs of the credit insurance, and the central bank's administrative cost. These three acquisition costs give rise to P_K, the independent variable in the demand function for future capital income summarized by equation (6).

Proponents observe (with data supporting their observation) that macro-economies in developed nations operate below their capacity levels because there is not enough income around for consumption. Hence, they maintain that additional income through the broadening of financial capital ownership (as described above) will add to a laborer's income which in turn will cause consumption to increase and production to move closer to its capacity level. They add that there would be no fear for inflation as long as consumption does not cause production to exceed capacity levels.

Would an investor's portfolio in the constituency trust account perform adequately to cover all costs? Of course it depends on how well diversified the portfolio is as well on the health of the national and global economy and on many unpredictable random events, ranging from wars and financial crises, to acts of God and policy mistakes. At pp. 70–73, Kelso and Kelso (1986/ 1991) estimate that the annualized percentage real acquisition cost of bor-rowing would be approximately 4.25% (2% lending bank's service charge, 2% for the capital credit insurance,[8] and 0.25% for the central bank's administrative costs). Adding an additional 1% for the constituency trust's service charge, we estimate a total annualized percentage real acquisition cost of borrowing at 5.25%.

One measure of the ability of an investor's trust portfolio to cover all borrowing costs might be based on the historical annualized return U.S. cor-porate stock. According to Davis, Aliaga-Díaz and Thomas (2012), we can "anticipate U.S. stock returns of 8%–10% annually, close to the historical average, over the next decade." According to the Global Investment Returns Yearbook – GIRY (Finfacts (2005), "the best performing equity markets over the very long term are Sweden and Australia, with annualized percentage real returns since 1900 (up to 2006) of 7.9% and 7.8%, respectively, compared to a world average of 5.8%." Thus, it appears that based on its annualized rate of return, a well-diversified global portfolio would more than cover the Kelso-Hetter cost estimates. Yet, there is reason to believe that the historical annualized rate of return on a representative diversified portfolio of U.S. cor-porate stock may understate the earning capacity of such a portfolio to repay the acquisition loan obligations and then generate in future years a demand for goods and services that would cause greater employment of labor and capital in earlier years. In an interesting article entitled "The Mysterious Disappearance of Retained Earnings," based on his study of the financial performance of "50 of the largest, mature, publicly held U.S. companies," MIT's Ben C. Ball discovered that over half of the companies annually earned more than their return as reflected by the annual increase in their asset value.[9] Many explanations may be offered for this discrepancy; but whatever the reasons, the fact remains that the rate at which the portfolio can repay the acquisition debt and then produce enhanced income in future years for poor and middle class people (so as to enhance a fuller employment of labor and

capital in earlier years) is a direct consequence of the capital earnings rather than the market's assessment of future company performance (which is a market assessment of future company earning capacity that may not be substantially related to actual historical company earnings.) Ball's data suggests that the rate at which capital earnings can repay acquisition debt of SAMLs may be considerably faster than the rate suggested by the historical and projected annual rate of stock returns.

6. Summary and Conclusion

To address the growing problem of income inequality and the declining share of national income earned by poor and middle-class people, we have proposed a new loan (the Stock Acquisition Mortgage Loan) which enables acquisition of financial capital with the future earnings of financial capital and discussed some possible strengths and weaknesses. The analysis is based on our belief that there is an undeveloped market for future capital income in which the price (cost) paid for acquisition of securities to realize such future capital income plays a crucial role. More specifically, we have shown that increasingly elastic demand for future capital income raises consumption for the entire economy and, under certain conditions, for both high and low income earners. Additionally, we have enlisted suggestions made by past researchers on how such loans may be instituted in countries with well-functioning financial markets and monetary systems at acquisition costs lower than average historical returns in security markets.

Consumption inequality is lower than income inequality in the USA, primarily, as a result of availability of credit cards, other types of consumer loans, and welfare subsidies. Unfortunately, these approaches address only symptoms of the deeper problem faced by poor and middle-class people: namely inadequate and declining earning capacity. The capital-credit loan we propose in this article can be applied voluntarily to enhance the earning capacity of poor and middle-class people and therefore their ability to consume. By doing so, the approach we advance also systemically addresses Adam Smith's recognition that the purpose of production is consumption and the present-day market imperative that mass production requires mass consumption which on market principles requires widespread earning capacity. Concluding, it is perhaps fitting to point out a fact about the state of consumption in the USA articulated by Michael Hennigan (2012):

> On a bigger scale, the fact that 5% of Americans are responsible for almost 40% of consumer outlays (including consumer spending, interest payments on installment debt and transfer payments) while the bottom 80% by income account for another 40%, shows the level of dependence on a small number in an economy where consumer spending accounts for almost 70% of GDP. In his 1776

book, *An Inquiry into the Nature and Causes of the Wealth of Nations*, Adam Smith … noted: 'No society can surely be flourishing and happy, of which the far greater part of the members are poor and miserable.'

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1. Source: Russell Investment, Russell U.S. Indexes, www.russell.com/Indexes/data/US_Equity/Russell_US_equity_indexes.asp.

2. During the fifteen-year period from 1989 through 2003, in the case of major American companies, the sources of funds for capital acquisition, in approximate terms, reveal that annually retained earnings accounted for at least 70 percent and more usually 80 percent of the capital acquisition. Borrowing accounted for almost all of the rest. Sale of stock as a source of funds never exceeded 5 percent and was negative in most years (see Brealey, R. A., Myers, S. C., and Allen, F., *Principles of Corporate Finance*, 3rd edn. New York: McGraw-Hill, 2004).

3. Edward N. Wolff, "Recent Trends in Household Wealth in the U.S.: Rising Debt and the Middle Class Squeeze," in J. M. Gonzales (ed.), *Economics of Wealth in the 21st Century* (2011).

4. Some tangible assets such as a building are subject to depreciation and value loss resulting from market conditions; a tangible asset such as land is subject to value loss due to negative externalities; other tangible assets such as natural resources, for example oil wells, are subject to depletion. Depreciation, value loss and depletion must be apportioned annually as costs. For intangible assets (goodwill, patents, copyrights, trademarks, startup expenditures) and investments (fixed-rate, bonds, stocks), net asset value may be more difficult to include in a loan due to wide market volatility and other variables; as such, loans on intangible assets may be more costly for both borrowers and lenders.

5. This loan is different than a *buying on margin* loan; the interested reader may read more about buying on margin at Investopedia <http://www.investopedia.com/university/margin/margin1.asp>.

6. More pragmatically, YK may be defined as follows: YK = YKG + YKI where YKG is capital gains and YKI is capital income. Most wealthy income earners would prefer more YKG and little or no more YKI whereas most low income earners would prefer more YKI. According to our analysis, as YKI increases YKG increases as well. Naturally, an increase in YKI will contribute to a higher consumption rate than an increase in YKG.

7. Although in (6) both KF and PK are expressed in dollars, theoretically speaking the function may be justified since, logically, KF may be viewed as a proxy for future output: KF is income which will be spent in the future on good QF at price PF. Hence, $KF = QFPF = \alpha - \beta PK$ and letting PF = 1, $QF = \alpha - \beta PK$.

8. Of course, the capital credit insurance cost for each particular capital acquisition would be both "transaction specific (dependent on its individual prospects and risks s transaction) and also dependent on the overall health of the economy.

9. Ben C. Ball, Jr., "The Mysterious Disappearance of Retained Earnings," *Harvard Business Review*, July/August, 1987: 56–63. To avoid the "snapshot" problem in looking at performance for a single period…[Professor Ball] used rolling 5-year periods for 15 years (at p. 57).

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