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Workers or rentiers

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Abstract:

We explore the shifting allegiances in the traditional conflict between capital and labor. This shift is created by finance: the distinction between financial and nonfinancial firms has become elusive. Our focus is on the worker who voluntarily or involuntarily transforms into a rentier. We embed the choices of capital and labor in state-space representations of a general macro model: one state equation is the accumulation of wealth, the other is the accumulation of capital. The 'euthanasia of the rentier' and the pick of the capital accumulation regime is determined by government choice of the interest rate.

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The demands of green investments, among other reasons, aggravate the tension between the allocation of money capital to financial instruments and the commitment to capital goods. As the tentative results of ongoing R&D emerge, technical change is sought to be incorporated into production processes. For example, along with the possibilities afforded by electricity in manufacturing and—after the first failure—a fresh cost-benefit analysis of the returns of using hydrogen, there is the discovery of rare materials required as inputs in new production functions. Not only are there uncertainties associated with the former but also unquantifiable geopolitical risks connected with mining in the latter. Besides, financial rent continues to dominate the rate of profit on capital and the wage rate. Therefore, the financial sector in the developed world bounces back after capital market crashes and bank collapses. Along with ignorance of the future, there are additional reasons to do with minimum scale because of which the private sector is loath to increase investment in capital goods. Governments have stepped in through derisking, assuring returns and other elements of crowding in. Corporations have responded by writing financial contracts on green capital, which are bought and sold in markets, rather than by any real

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commitments. As a result, if the actual or potential return on a promising resource-conserving technology falls, it would be abandoned. While the present-value of these projects might be positive, a net positive return could follow significant initial periods of negative returns. Private capital must ensure period-by-period positive returns to shareholders. 'Long termism' instead of 'short termism' is the feature of governments and public sector enterprises which are their investment branches.

The impact on the working class is visible. Where available, work—including gig work—is precarious. In a large part of the world, the poor are unemployed workers in the making. The security provided by governments in steady work at a social wage is vanishing. Finance penetrates the lives of the vulnerable as well. In a situation of generalized unemployment with grocery bills having to be paid and mortgage payments looming, the promises offered by financial instruments cannot be resisted. Workers become rentiers. In an inversion of class positions which we investigate in section 1, subprime borrowers are persuaded to own housing stock as an investment. Workers become landlords. Employees as shareholders could at least in principle contest the terms of a new share offering by a corporation for financing fresh investment plans. Not so in the sense specified in section 2, where both buyer and seller are committed to upward movements in price and quantity. The two are aligned in a joint preference for short-term profits over growth. Therefore, products are being tailor-made to different tastes, including those of different echelons of the working class. "Wealth management for the many" is expanding (*The Economist*, 2023). Wall Street firms advise clients to allocate assets, minimize tax bills and plan for retirement for an annual fee of 1% of invested assets. The appeal is the growth of global wealth which has increased four times faster than global output between 2000 and 2020. Technology is making the management of funds of different sizes easier.

All of the above is familiar in political economy, a theory enriched by empirical and historical research. Our contribution lies in returning to so-called first principles in explicating the choices that must be made in favor of a hedge or an option instead of a green hydrogen plant, in favor of wages and profits instead of financial returns. To the initial endowment of neoclassical theory, we add finance in a monetary production economy. Workers have mutual funds to sell in addition to their labor power. An endowment of money-finance can remain putty in the form of financial instruments or become clay in the form of farms and factories. The representative agent can be a rentier or a worker-capitalist. Usually, monetary and fiscal policy form the backdrop against which the choices are made.

The next section specifies a connection between rent and finance. Section 2 specifies and solves a dynamic game. Sections 3 and 4 are reflections upon courses of action, the first in the case of work, the second with regard to finance for investment.

1. Rent and finance

The movement between classes in modern societies has been variously described as "industrial feudalism" (Szymborska and Toporowski, 2022) and "rentified capitalism" (Dosi et al., 2024). Feudalism, in its extraction of land rents, was a fetter on the development of capitalism. Competitive capitalism evolved into monopoly capital in the twentieth century; financial economics drove Wall Street and monopoly finance in the twenty-first: we analyze the fusion of the two in modern times. Currently, the measure of corporate success is stock market returns and not the reinvestment of profits. In the US, the emergence of a feudal mode and relations is represented by the five largest big tech companies—Alphabet, Amazon, Meta, and Microsoft—and

a financial oligarchy comprising of BlackRock, The Carlyle Group, The Vanguard Group, among others, in a non-antagonistic relationship with the working class with assets. In this model, wages and employment are replaced by rents. Shares or mutual funds provide a floor which prevents members of the working class becoming *déclassé* as a consequence of the vanishing of wage income. Declining wage shares worldwide are connected with the rising share of managers and shareholders via stock options and the like. Furthermore, financial returns are increasing the compensation of CEOs.

In the US, a so-called deflationary coalition was enmeshed in housing policy which, in turn, was part and parcel of welfare provision since the New Deal. The Savings & Loans (S&L) associations were constituted to deliver government-backstopped long-term housing loans. The inflation of the 1970s threatened this arrangement as savers pulled their monies from S&L associations and invested in new instruments like certificates of deposit (CDs). The government adopted the via media of continuing with the deregulation of the financial industry while protecting housing relative to other consumer loans. Thus, housing became an asset that appreciated in value relative to employment and wages which were unavailable. Over time, as Brett Christophers (2021) has documented, the cohort of wealthy homeowners has been able to block the building of new housing stock in high-demand areas. Christophers defines rent as income earned from the ownership, possession or control of scarce assets under conditions of limited or no competition. It is sufficient that worker households earn rents on housing and financial assets. In a study of asset price inflation in Sydney, Australia, quoted by Christophers, the authors ask how working-class action can square with the fact that the value of mid-size homes in large Western cities increases by more than it is possible for middle-class earners to save from wage income. Max Kiefel (2023) underlines how Australia emerged from World War II with a militant trade union movement. Its membership included the leaders of the mining, dockworkers, metalworkers, and sea workers unions. This post-war reconstruction was spearheaded by a Labor government that used planning to reach full employment. The party invested massively in new housing projects and the Minister for Postwar Reconstruction, John Dedman, was, in his words, "not concerned with making workers into little capitalists". Prior to the 1983 elections, the government entered into what Kiefel calls an "accord" with the trade unions according to which the workers would demobilize and accept wage restraint in exchange for an expansion of the social wage. The agreement enabled the Hawke government to escalate privatizations and deregulation of financial services. Foreign competition led to increased business lending and further stimulation of the housing market. The risk weighting of loans was lowered by the Basel Accord of 1988, inducing domestic banks to increase home lending. As a result, mortgage demand from lower-income households went up, supply fell, and prices rose. The attention to date has been restricted to mortgages and, thus, homeownership. However, the expansion of financialization via rented homes calls for scrutiny (Fuller, 2021). The important mechanisms here are real estate investment trusts (REITs) and listed real estate operating companies (REOCs). Both REITs and REOCs own residential real estate and derive their income from rent or sales of property. The difference is that REITs are "pass-through" institutions designed to disburse their profits to shareholders. REOCs are corporations and can plough back their profits to build up housing stock. The *raison d'être* of REITs and REOCs is the insulation of incomes from the dynamics of the cycle in the provision of rents—the connection with financialization is clear: the real demand for houses is localized whereas financial markets for housing are globalized. When houses are converted into financial products, their special features give way to homogenization. Thus, synchronization of international housing prices increases. Studies report movement across country housing markets suggesting housing cycles (Dosi et al., 2024). Varieties of capitalism are

reducing along this axis and there is a hastening convergence toward rentification. The connection between local and global is affected by collateralized debt obligations (CDOs), credit default swaps and an alphabet soup of instruments to which the world was introduced in 2008. The popular press depicts the rising price of homes as advantageous to homeowners, as if the average American is a real-estate speculator and not a member of the working class (Hudson, 2021). The high price means a higher mortgage debt—the debt of new owners to their banks escalates. Financial asset prices rise much like land prices which the classicals considered as reflecting the 19th century rentier economy. Wealth is accumulated by ploughing back asset-price gains into real estate, stocks, bonds, less by the saving and investment of the working class and the capitalist class respectively. Terms and conditions get attractive with increasing maturities, lower down payments, rising limits on debt-income ratios. Earning of rents is costless, and keyed in digitally.

The orthodox binary between capitalists and workers is labelled "classical capitalism" by Ranaldi and Milanović (2020) in contrast to "liberal capitalism" in which individuals receive returns from both capital and labor.

2. The accumulation of wealth and the accumulation of capital

New investment can be financed by debt or equity. Capital accumulation in equation (2), below, is underwritten by financial intermediaries after due diligence, in connection with greenwashing—for instance, of the applications of prospective owners of capital. In the case of equity, a successful issue should be determined by a detailed prospectus which the market evaluates closely. However, as Lazonick and coauthors continue to study, (see Lazonick and Hopkins, 2020, for example) rather than investing in the appropriate technologies, American corporations over the last decade have been occupied with share buybacks. For instance, the Semiconductor Industry Association (SIA) has been lobbying hard for the Creating Helpful Incentives to Produce Semiconductors (CHIPS) for America Act. However, the members of the association are precisely those who in the past have spent the cash largesse of the state for buybacks in order to shore up the share prices of their companies (Lazonick and Hopkins, 2021). The authors provide clear evidence of the contrast between distribution to shareholders in the form of dividends and buybacks, and investment in plant and machinery and R&D expenditures. The payoffs accrue to insider executives, outsider hedge funds, and stock traders on Wall Street. Among the hedge fund managers are shareholder activists who purchase a tiny fraction of shares of a company on the open market and then push insiders to buybacks by lining up the proxy votes of asset managers. In contrast, innovation requires capital to endure market transformation and market access until a high-quality and low-cost product is created and begins to generate profits. The basis of financial commitment is retained earnings. In the case of Intel, Lazonick and Hopkins (2021) show that financialization has blossomed to the detriment of organizational learning. Innovation entails the encouragement of workers to form teams dedicated to processes and products. The scholars lament the case of IBM because the company was the model of lifelong employment with no involuntary layoffs—this stance evaporated in the early 1990s, when the company opted for young, cheap and short-run labor in 'open systems' employment contracts. In a well-publicized case, Apple turned its back on investing in semiconductor fabs and opted instead for huge buyback schemes—central banks have been supportive of this. A secular decline in interest rates, both short-term and long-term, has welded the connection between "free cash and the financialization of capital" (Foster et al., 2021, p. 1).

In sum, capital and labor can be subjected to the dynamics of finance or the laws of motion of capital. We turn to the discipline of macroeconomics with its cancellations, for instance of the equity market, and aggregations. Consider first the accumulation of wealth. Since the propensity to invest is low, we drop investment from this model. The following general equilibrium account is taken from Bénassy (2007, pp. 4-5). In each period t, the representative household chooses the composition of its wealth, Ω_t, in money, M_t, and bonds, $B_t \cdot \Omega_t = M_t + B_t$. It lends bonds at the nominal interest rate, i_t. The household can choose to work and produce output, Y_t, and consume, C. It pays taxes, T_t. With P_t the price level at time t, its budget constraint can be written as follows (Bénassy, 2007, equation 5):

$$\Omega_{t+1} = (1 + i_t)\Omega_t - i_t M_t + P_t Y_t - P_t T_t - P_t C_t \quad (1)$$

We contrast this financial dynamic with a model of the accumulation of capital. The theoretical backdrop is Keynes' monetary theory of production which, in contemporary formulations, is the theory of the monetary circuit. Money in the model above is a stock carried over from period to period. It is invoked by a cash-in-advance constraint. Investment must be introduced now but, for reasons already cited, instead of private investment, I_t, stands for the flow of public investment at time t. The public sector firm is comprised of a production and investment department on the one hand and a finance department on the other. The representative agent here is a producer who is engaged in current activity and must first meet the costs of variable capital through a credit line with a bank. The bank can be a commercial bank or the central bank lending directly or through the commercial bank. Variable costs can be summarized in the wage bill, $W_t N_t$, where W_t is the nominal wage rate, N_t is employment. In a monetary production economy, bank money, M_t, tracks $W_t N_t$. The following national income identity is recalled, $P_t Y_t \equiv W_t N_t + P_t \Pi_t$, where Π_t is real profits at time t. By definition, profits are sales, Y_t, minus the wage bill and the interest due to the bank on that account. With r_t the short-term interest rate, $P_t \Pi_t = P_t Y_t - (1 + r_t) W_t N_t$. The other breakup of national income is $P_t Y_t \equiv P_t C_t + P_t I_t$.

The choice of equity is unavailable to the public sector firm. The finance department of the firm issues to-the-outcome paper to the investment department. Profits of the latter are returned as they accrue or at the end of the lifetime of the capital goods to the former. The accounts are then closed. This assumption is made to contrast the usual association of the issue of governments bonds with the financing of deficits. Government consumption and taxation are not at play here. The public sector bonds are crafted to mirror the marginal efficiency of capital (MEC) schedules of capital goods. Alternatively, and more naturally, investment plans can be financed by investment trusts or a department of a bank separate from the earlier department issuing liabilities to finance the wage bill for production plans. Investment is defined as change in the stock of capital net of period interest due to the government. With i_t the long-term rate of interest, $P_t I_t \equiv P_t(K_t - K_{t-1}) - i_t K_{t-1}$. Combining the definitions, we get the following expression:

$$P_{t+1} K_{t+1} = P_t(1 + i_t) K_t + (1 + r_t) W_t N_t + P_t \Pi_t - P_t C_t \quad (2)$$

We can collapse both equations mechanically by ignoring the substantive differences and interest rates and with the correspondence between M and wN, and between B and K. Here, both production and investment must be studied in input-output terms running sequentially in real time (Heise, 2023). Outlays on variable and fixed capital are made over intervals $t_0 - t_i (i = 1, 2, \dots)$. In each period, activity includes movement of goods from storehouses to retail outlets. Workers occupied in transportation and commerce are productive and sales of commodities generate profits. What matters is not just net yield but its distribution over time; the

corresponding costs will also fluctuate and must be secured. Only the security of state banks on the one hand and the long-term public sector bond on the other can offer committed and credible contractual arrangements. Investment here is considered in what Heise calls its "intensive", that is productivity-enhancing aspects and "extensive", that is capacity-increasing aspects.

Our state equation hereafter is equation (1). We note the tensions in equation (1) which are absent in equation (2). Rentiers seek to maximize present consumption and, to that extent, the growth of wealth is impacted negatively for any given level of wealth. Profits are sought as dividend payouts. In the case of equation (2), for given consumption choices of workers and capitalists, both are joined in the accumulation of capital, since investment today means higher wages and profits tomorrow. A variant of Keynes' aggregative economics is displayed: an increase in the utilization of existing capacity implies higher wages and profits today, as well as an increase in the demand for goods. Equation (2) includes both the 'short-term' interest rate, r, and the 'long-term' interest rate, i. The connection between the two is the yield curve. One of the characteristics of poor countries often pointed out is primitive financial markets reflected in the absence of a yield curve. In our construction, the yield curve takes shape entirely as the result of production and investment. We also give the device of sovereign bonds a new meaning: rather than instruments traded in international markets to meet the demands of domestic fiscal deficits, they are a mirror to investment plans undertaken at home.

For the sake of brevity, we will denote the right-hand side of equation (1) by $f\ (W, P, \Omega)$ in what follows. Capital and labor are generic categories. The associated maximands do not change. The control variable is output in the case of capital, employment in the case of labor. In the case of indirect utility functions, the choice variables are the wage rate, W, for the worker, and the price level, P, for the capitalist. The indirect utility function U for the working class (wc) and the profit function Π for the capitalist class (cap) are specified below. In a dynamic game, their choices are embedded in a state evolution equation which feeds back to determine their choices.

We follow the Lagrangian solution procedure recommended by Chow (1997) to solve for the Markov-perfect Nash equilibrium (MPNE) and settle for a three-period model. The multipliers are appropriately superscripted.

$$\sum_{t=0}^{2} \beta^t U(W_t, P_t, \Omega_t) \text{ and } \sum_{t=0}^{2} \alpha^t \Pi(W_t, P_t, \Omega_t)$$

The Lagrangian for the capitalist is stated.

$$\mathcal{L}^r = \Big\{\Pi(W_0, P_0, \Omega_0) + \alpha\Pi(W_1, P_1, \Omega_1) + \alpha^2\Pi(W_2, P_2, \Omega_2) + \alpha\lambda_1^{cap}\left[\Omega_{t+1} - f(W_0, P_0, \Omega_0) + \alpha^2\lambda_2^{cap}[\Omega_{t+2} - f(W_1, P_1, \Omega_1)]\right]\Big\}$$

The first order conditions follow.

$$\alpha^{-2}\frac{\partial \mathcal{L}^{cap}}{\partial P_2} = \frac{\partial \Pi}{\partial P_2} = 0 \quad \text{(a)}$$

$$\alpha^{-1}\frac{\partial \mathcal{L}^{cap}}{\partial P_1} = \frac{\partial \Pi(W_1, P_1, \Omega_1)}{\partial P_1} - \alpha\frac{\partial f'(W_1, P_1, \Omega_1)}{\partial P_1}\lambda_2^{cap} = 0 \quad \text{(b)}$$

$$\frac{\partial \mathcal{L}^{cap}}{\partial P_0} = \frac{\partial \Pi(W_0, P_0, \Omega_0)}{\partial P_0} - \alpha\frac{\partial f'(W_0, P_0, \Omega_0)}{\partial P_0}\lambda_1^{cap} = 0 \quad \text{(c)}$$

$$\alpha^{-2}\frac{\partial \mathcal{L}^{cap}}{\partial \Omega_2} = \frac{\partial \Pi(W_2,P_2,\Omega_2)}{\partial \Omega_2} - \lambda_2^{cap} = 0 \tag{d}$$

$$\alpha^{-1}\frac{\partial \mathcal{L}^{cap}}{\partial \Omega_1} = \lambda_1^{cap} + \frac{\partial \Pi(W_1,P_1,\Omega_1)}{\partial \Omega_1} - \alpha\frac{\partial f'(W_1,P_1,\Omega_1)}{\partial \Omega_1}\lambda_2^{cap} = 0 \tag{e}$$

Identical steps for the worker lead to the following array.

$$\begin{aligned}\mathcal{L}^{wc} = \{&U(W_0,P_0,\Omega_0) + \beta U(W_1,P_1,\Omega_1) + \beta^2 U(W_2,P_2,\Omega_2)\\ &+ \beta\lambda_1^{wc}[\Omega_{t+1} - f(W_0,P_0,\Omega_0) + \beta^2\lambda_2^{wc}[\Omega_{t+2} - f(W_1,P_1,\Omega_1)]]\}\end{aligned}$$

$$\beta^{-2}\frac{\partial \mathcal{L}^{wc}}{\partial W_2} = \frac{\partial U}{\partial W_2} = 0 \tag{a'}$$

$$\beta^{-1}\frac{\partial \mathcal{L}^{wc}}{\partial W_1} = \frac{\partial U(W_1,P_1,\Omega_1)}{\partial W_1} - \beta\frac{\partial f'(W_1,P_1,\Omega_1)}{\partial W_1}\lambda_2^{wc} = 0 \tag{b'}$$

$$\frac{\partial \mathcal{L}^{wc}}{\partial W_0} = \frac{\partial U(W_0,P_0,\Omega_0)}{\partial W_0} - \beta\frac{\partial f'(W_0,P_0,\Omega_0)}{\partial W_0}\lambda_1^{wc} = 0 \tag{c'}$$

$$\beta^{-2}\frac{\partial \mathcal{L}^{wc}}{\partial \Omega_2} = \frac{\partial U(W_2,P_2,\Omega_2)}{\partial \Omega_2} - \lambda_2^{wc} = 0 \tag{d'}$$

$$\beta^{-1}\frac{\partial \mathcal{L}^{wc}}{\partial \Omega_1} = \lambda_1^{wc} + \frac{\partial U(W_1,P_1,\Omega_1)}{\partial \Omega_1} - \beta\frac{\partial f'(W_1,P_1,\Omega_1)}{\partial \Omega_1}\lambda_2^{wc} = 0 \tag{e'}$$

We work out the time-consistent solution by backward induction. We solve for equations (a) and (a') to derive the implicit functions $P_2 = g(\Omega_2)$ and $W_2 = h(\Omega_2)$, respectively. We proceed to sign the functions. The derivative of the function in (a) is non-negative by virtue of the quasi convexity of the indirect utility function in the price level. Coming to the multiplier in (d), we know that indirect utility is non-decreasing in wealth. Treating the arguments in (a) and (d) together, the indirect utility function is homogenous of degree zero in prices and wealth. We conclude that the function g connecting Ω_2 and P_2 is non-positive. That is to say, an increase in Ω_2 results in a decrease in P_2. Moving to the other side and equation (a'), the profit function is convex in the price of labor. Let us assume a 'constrained' level of wealth, Ω_2. In that case, the profit function is concave in the constrained level of wealth. In short, the h function connecting Ω_2 and W_2 is non-negative. That is, an increase in Ω_2 causes an increase in W_2. Both past and present can be interpreted in this light. The current state of affairs is depicted where increasing wealth, Ω_2, is associated with increasing wages, W_2, of those employed. The other face of the same economy is the deflationary coalition where increasing wealth, Ω_2, is associated with falling prices, P_2. In an older interpretation of this first-order conditions, we have epochs of coordinated capitalism in the 20th century, the Swedish model being canonical, where capital and labor worked out a subgame perfect equilibrium with 'high' wages and employment and, therefore, 'high' effective demand supported by a reduction in the degree of monopoly and 'low' prices. We go on to solve for $P_1 = g(\Omega_1)$ and $W_1 = h(\Omega_1)$ in equations (b) and (b') and the multipliers for the two agents in (e) and (e'), respectively. Explicitly, equations (b) and (b') read so.

$$\frac{\partial \Pi(W_1,P_1,\Omega_1)}{\partial P_1} = -\alpha C_1\frac{\partial \Pi(g(\Omega_2),P_2,\Omega_2)}{\partial \Omega_2} \tag{3}$$

$$\frac{\partial U(W_1,P_1,\Omega_1)}{\partial W_1} = \beta N_1 \frac{\partial U(W_2,h(\Omega_2),\Omega_2)}{\partial \Omega_2} \quad (4)$$

The optimality conditions lend themselves to the interpretation of intertemporal Euler equations. Taking similar steps we derive functions $W_1 = g(\Omega_1)$ and $P_1 = h(\Omega_1)$. The solutions for the multipliers in equations (e) and (e') come from the following:

$$\lambda_1^{wc}(\Omega_1) + \frac{\partial U(g(\Omega_1),P_1,\Omega_1)}{\partial \Omega_1} = \beta(1-i_1)\frac{\partial U(g(\Omega_2),P_2,\Omega_2)}{\partial \Omega_2} \quad (5)$$

$$\lambda_1^{r}(\Omega_1) + \frac{\partial \Pi(W_1,h(\Omega_1),\Omega_1)}{\partial \Omega_1} = \alpha(1-i_1)\frac{\partial \Pi(W_2,h(\Omega_2),\Omega_2)}{\partial \Omega_2} \quad (6)$$

Again, first-order conditions are on display. We have equality between the marginal rate of substitution between the state variables in two periods and the price of a unit reduction in the constraint in the state variable. Finally, from equations (c) and (c') we derive $W_0 = g(\Omega_0)$ and $P_0 = g(\Omega_0)$.

$$\frac{\partial U(W_0,P_0,\Omega_0)}{\partial W_0} = -\beta C_0 \lambda_1^{wc} \quad (7)$$

$$\frac{\partial \Pi(W_0,P_0,\Omega_0)}{\partial P_0} = \alpha N_0 \lambda_1^{cap} \quad (8)$$

For the last time, the conditions appear as the necessary conditions of static optimization exercises. Marginal utility, equation (7), or marginal profits, equation (8), on the left-hand side must equal discounted consumption or employment as an initial condition with the λs as the shadow prices of the constraints.

All this is routine. A twist is that the pair of equations (5-6) must obey the law of one price (the interest rate). The equations must be solved simultaneously. Imagine instead, a Planner intervention to pick one or the other. We assume that workers possess a longer time horizon than capitalists. That is, $\beta \geq \alpha$. We can assume that the working (capitalist) class with lower (higher) wealth has a higher (lower) marginal utility of wealth (Martins, 2021). The elements of equation (5) are higher than the comparable components of equation (6) and the equation can be so identified. A choice in favor of (5) is a choice for a lower level of wealth and with the passage of time of the model, wealth will be extinguished and the economy can reorient towards equation (2) and a new dynamic in the accumulation of capital. The rentiers would be euthanized. In either model, interest rates are policy rates and neither high nor low. The ability of the government to plan around the following conundrums will be tested. Keynes and Kalecki, with their models of effective demand, focused on inequality. The rich have a low propensity to consume inducing stagnation via C thereby (Schwartz, 2021). Schumpeter, on the other hand, emphasized supply and was optimistic about the innovation proclivities of the entrepreneur who was driven by the promise of monopoly profits, Π. Between, we have Veblen writing about the state of affairs in the early 1900s. A set of monopolies had emerged and taken control of IPRs: patent, copyright, trademarks, brands. Their objective was to obliterate the fringe of competitors. The marginal propensity to invest, I, was low as was the wage bill, wN.

The increase in wealth in equation (1) could turn negative in the event of the non-homogenous elements of the equation rising sharply as in a consumption splurge or an increase in precautionary holding of cash balances or a (unlikely) hike in income taxation. Countercyclical policy interest rates would track the path of wealth. The switches reflect a “postmodern cycle” of

inflation and deflation following each other (Oppenheimer et al., 2022, p. 1). In order to break out of the circle, the authors recommend a focus on enterprises that are 'adaptors' that can flexibly modify existing business models and 'innovators' that can increase efficiency by lowering energy and labor costs in their production processes. Our model is consistent with both the high interest rates and low interest rates of what have been termed financialization mark I and financialization mark II (Auvray et al., 2021). Mark I was a regime of high interest rates and competitive markets. Firms preferred not to plough back profits resulting in a sharp drop in investment. With Mark II interest rates were low and global value chains entrenched. A hegemony of corporate and financial monopoly was installed. Distributed profits were the consequence and not the cause of indifferent levels of investment. Auvray et al. have documented the shift in the use of profits by non-financial companies from the accumulation of capital for France, Germany, Japan, the UK, and the US, from 1980 to 2018. Both macro and micro datasets are used, capturing both economy-wide and large firm-level dynamics. Since the 2008 crisis, the pooling of funds by a few financial asset management behemoths grew in leaps and bounds. Passive investment delivered a higher return than active investment leading the way to the growth of massive index-tracking funds. Overall, the model consists of expanding global shares motivated by low fees allowed by passive asset management and the reduction of fixed costs from reaping economies of scale. Auvray et al. record the vanishing of investment plans unable to absorb global savings. Global value chains strengthen the deflationary forces. They show how interest rates began to fall and encouraged accommodative policies on the part of central banks. Relieved of the pressure of high-cost debt, firms were induced to leverage the favorable terms to increase dividend payouts. Returns fell due to an abundance of liquidity pushing investors out of bonds into equities reinforcing the centralization of funds in the control of asset managers.

Central banks and treasuries acted in concert and policy interest rates followed prices on a downward trail. The definition of a "deflationary bloc" regime is due to Feygin (2021, p. 1). The foretelling has been traced by them to Hyman Minsky who criticized Keynesians for misreading Keynes' central message that the state should directly plan economic activity, in particular long-term investment. In the case of the US, implicit and explicit contracts between trade unions and capitalists were always tenuous due to the built-in conflict between the two. The 1970s were marked by stagflation: the 'Volcker shock' broke inflation and the back of labor. Rentiers, supported by governments that earmarked assets for privileged constituencies, were strengthened by nominal payoffs. Minsky's 'big bank' and 'big government' were repurposed to suit the ends of financial deregulation. The new regime supported deflationary policies even when inflation did not pose a threat.

In sum, across inflationary and deflationary blocs, governments support financial oligopolists. In the next two sections, we consider the normative aspects of our positive analysis. We first underline the integrity of labor.

3. "What is to be done?"

This question is posed by the historian Kevin O'Rourke (2019, p. 369). He approves the strategy recommended by Michael Huberman who records the step-by-step introduction through the late nineteenth century of labor market regulations and social insurance introduced by the state so as to protect the working class. As in the case of Belgium, workers responded with support for trade liberalization in what O'Rourke calls a "labor compact". States and markets, in short, can be complements. Further, history is replete with instances of states cooperating with each other,

each aware of the implications of the alternative race to the bottom. Nationalization of sectors must be reinvented. A 'dirigiste' industrial policy would be supported by public investment banks. Essentially, owners of capital must not be incentivized to transform into rentiers.

A primary thesis is that all must work (Wisman, 2021)—the section of their paper from which this discussion is drawn is also titled "what is to be done". Going back in time, anthropologists and historians have discovered that work was chosen so as to give pleasure and purpose. Hunter-gatherers lived without classes and bosses. There was specialization by gender and age but no division of labor. Work was carried out collectively and democratically. The work-leisure tradeoff did not exist because the distinction had no meaning. Alienation and rote activity more or less coincided with the advent of capitalism. The image of manufacturing, of large numbers of men and women at conveyor belts, still endures. Today, the factory is not the sole site of manufacturing and workers with different skills along the STEM (science, technology, engineering, mathematics) spectrum find employment. Computers allow individual creative space as well as the benefits of working in teams. In the absence of private sector offers, it is up to governments to rejuvenate the working class by employment in public works at a social wage with continuous training and protection of democracy at sites of work. The problem of scarcity and want has long been solved. A big payoff would be reduction in ecological damage. The pressure to increase the growth rate so as to provide employment would reduce. Workplace community would reduce relative consumption as a measure of satisfaction. With prescience, Minsky foresaw the demise of the standard long-lived contract between employee and large firm that characterized manufacturing in his time and recommended two alternative scenarios (Minsky, 1995). Workers of different skills would be distinguished in rosters and matched with employers on a rotation basis in a so-called union hiring ball or shape up system. Every worker would be a temp but over a span of time would be 'fully employed'. The second system hinged on a placement firm with a rostrum of registered workers. Firms would shop and hire. The scenario would add flexibility in staffing patterns. The operation of a buffer stock principle would ensure that hands not hired in a downturn would be employed in the running and maintenance of local creches, schools, day care centers, clinics.

At present, AI and robots have been posed as a threat to labor. However, the economist notion of substitution of labor by capital derives from the isoquant of microeconomics. A general production function allows for the less popular concept of complementarity between the two. With the present state of knowledge, smart machines complement smart workers. In addition, not least due to the repercussions of international finance entering the sector, in many developing countries manufacturing revolutions have been stillborn and, consequently, distress reverse migration is taking place from town to country. Also, the mode and relations of production in agriculture is far from capitalist with absentee landlords and farming of tiny and unviable plots of land. Land reform continues to be at the top of the agenda of countries freed from colonialism decades ago. Consolidation of parcels of land is required with investment in combine harvesting and the like. Yet again, private capital is daunted by the risks associated with earning profits in agriculture. Here, the landlord class is a constituent of the state and, as a result, the challenge is formidable. There is also crumbling hard and soft infrastructure in the US and elsewhere that calls for massive state investments in retrofitting, and health-care workers, nurses, midwives. If AI was substituting for labor, productivity would boom and that is not the case (*The Economist*, 2024). The requirement is huge outlays on software, communications, equipment and factories permitting the substitution to take place. Non-residential investment rose by 3% of GDP from 1992 to 1999 in America and fueled the breakthrough in the personal computer. An American capex 'tracker' constructed by Goldman Sachs is a measure of investment plans and future

prospects: it is currently falling by 4% year-on-year. In the third quarter of 2023, the investment by American firms in 'information-processing and software' fell by 0.4% year-on-year. Similar trends are reported from all over the world. In short, weak capex explains sluggish productivity growth—the reason for the former is low expected demand for the products and services which cost tens of billions of dollars to develop.

In short, both manufacturing and agriculture in developing countries especially, operate well within their production possibility frontiers. The movement of the curve outward or inward via technical change may be nonlinear. There are links between production and growth rates and technical progress in the form of dynamic economies of scale and learning by doing. The collapse of a production regime also signifies technical regress (Roncaglia, 2023). The constructive message, for developing countries at least, is that a program of large-scale employment must be driven by appropriate technologies. In a study of Latin America, the results of which could apply to any developing country, the hiatus between employment and growth in productivity is shown to be complete (Palma, 2023). The reason is the inability of the market to pick new techniques even when the returns to existing production functions are diminishing. At least continuous upgrades are called for in a flexible production strategy. Moreover, the lure of easy rents from non-produced assets like natural resources plays a significant role here. Importantly, the positive productivity shock of what Palma calls "extractivism" of commodities—like copper in the case of Chile—has never had a positive spillover productivity effect on the rest of the economy. Kaldor's 'third law'—the capacity of a leading sector to foster own productivity increases as well as productivity increases in other sectors—is shown to hold true only with manufacturing as the leading sector but not commodities (Palma, 2023). To be sure, the proposition might not hold for agriculture in general. Kaldor believed that manufacturing could benefit from increasing returns to scale. For reasons cited, the familiar reasoning from the usual trichotomy between agriculture, industry, services, is false. Only the state can internalize the externalities between the three. Movement of labor and capital between the sectors will not occur through laissez-faire but through implementation of a plan. The inter-sectoral effects include growth in average productivity as labor migrates from low-productivity pockets in services to manufacturing, and manufacturing pushes productivity growth in services and construction. As non-tradables, these depend critically on domestic demand. Kaldor's law is predicated on crowding-in of government expenditure as well as overarching public R&D systems. Instead, in Latin America rent-seeking elites and weak governments ruled. Mechanisms like generating backward and forward linkages in natural resources, a green new deal founded on renewable energy systems, reengineering mining activity in the format of environmental friendliness, were not adopted. Manufacturing as an engine of growth stalled. As Palma concludes, the challenge is extending the production possibility curve outwards towards the frontier in the sense of the virtuous feedback loops of Myrdal/Young/Keynes/Kaldor.

4. Green government

The solution of the accumulation of capital game in section 2 was a strong public sector comprising of a central bank and public enterprises. In a consensus today about the monetary transmission mechanism that joins orthodox and heterodox approaches, central banks key in reserves into commercial banks rather than banks depositing statutory proportions of deposits in central banks. It is a short step to recommend reserves as a carrot or stick on the asset profiles of

banks, incentivizing green assets and penalizing brown assets. Indeed, 'asset-based reserve requirements' have long been on the list of policy recommendations of heterodox economists.

This does not reflect reality, as all central banks hold fast to the model of the accumulation of finance with inflation targeting as the sole objective. Financial stability emerges as a corollary of this theorem (Aubrechtová et al., 2023; McGuiness, 2023). The foundations of the model remain competitive product and labor and financial markets. At most there are frictions and stickiness impeding the path to an equilibrium with market clearing. The classical dichotomy between the real and the monetary-financial holds. In the case of the European Central Bank, green targeted lending operations were considered and rejected. At best, a sensitivity to problems of transition to a "Paris-aligned carbon footprint path" is displayed. Corporate sector purchase programmes (CSPPs) are only 'tilted' towards issuers with superior climate mitigation scores (Aubrechtová et al., 2023). "Neutrality" is a common measure of central bank interventions in markets to mitigate adverse impacts of climate change (McGuiness, 2023, p. 5). The relative price of securities discovered by markets should not be distorted. However, it should be obvious that in an environment skewed towards fossil-fuel-using production, asset purchases respecting the proportion of eligible securities in the market only reinforces the existing carbon-intensive asset structure. The resulting dynamic is a vicious feedback loop this time, towards ecological disaster. This appraisal is in no way intended to draw attention away from the painful costs of transition from environmental degradation to environmental friendliness. The mammoth task of increasing output and employment in whole continents today is assumed to be accomplished with the existing environmental-unfriendly technology.

We return to the coalition of central bank and monopoly capital and finance of section 1. Confining ourselves to stock buybacks in the case of corporations that impact on climate change through their monopoly of energy sources, since the mid-1980s Exxon Mobil has used high profits from high oil prices to repurchase company stock (Lazonick, 2023). Pushing its profits was its pruning of its labor force from 74,900 in 2019 to 62,000 in 2022. Other oil-refining US companies as well are unwilling to reinvest their profits into clean energy. Elsewhere in the world too, oil giants are not investing in green energy but pulling back from investing in brown on the prospect of falling demand (Mackenzie and Sahay, 2023).

Climate finance has a twofold direction—mitigation and adaptation. The former would include renewable generation projects, the latter is illustrated by constructing a sea wall to prevent flooding. Most of the finance flows into mitigation because the projects earn revenues and are commercially attractive. In contrast, adaptation schemes have high upfront costs, long gestation periods, and uncertain return streams. Mainly multilateral development banks offer loans here. Government financing is required in technologies like wind and solar power which are also commercially viable. However, 'patient government capital' will be indispensable at frontiers like green hydrogen where massive and direct funding is called for in the installation of electrolysers. Economies of scale will have to be reaped with large orders. Instruments like green bonds and catastrophe bonds (CAT) must be brought into play. National investment authorities will need to be constituted, backed by government guarantees and chartered to nurse and nurture well-defined green projects.

As it stands, green projects like renewable energy projects are elements in the financial portfolios of institutional investors which means they will enter and exit based on market risks and returns. The strategy of liability management of pension funds transforms essential public services and infrastructure in emerging markets into vehicles for speculation. Investors structure infrastructure through short-term closed-end funds. They purchase an asset, cut costs, delay maintenance, sell it as soon as the market is propitious and pocket handsome profits. Even in

instances where holding illiquid assets like an extensive road network is relatively riskless and profitable, investors might not pledge monies since their profits depend on trading fees and liquidity means more potential trades.

COP26 has only fortified what Daniela Gabor (2021a, 2021b) has christened the Wall Street consensus (WSC). The strategy comprises of transmuting climate or nature into asset classes and their derisking by the state. The fiscal authorities intervene in public-private partnerships so as to render them marketable by assuming some of the risks. The monetary authority shields investors from liquidity risk. The commodification of public goods and social infrastructure moves beyond water, electricity, transportation, into housing, education. All have to generate cash flows to appease institutional investors. At the day of financial reckoning on November 3, 2021, central banks capitulated to voluntary decarbonization. Bowing to the expectations of private investment, there is to be neither public investment nor compulsory decarbonization. The financial phalanx constituted is the Glasgow financial alliance for net zero (GFANZ) with a purse of US$130 trillion. The sum is not the estimated credit flow to green sectors but the assets at the command of GFANZ members not unaccustomed to financing dirty activities. Central banks partner with private finance in mutating climate risks into demand risks. They regard the immediate impact of harsh climate regulation that increases the cost of funding or sharply changes asset values as 'transition risks'. The result is incremental small green regulatory steps to accommodate greenwashing. In the network for greening the financial system, member central banks had made the case that climate risks were financial stability risks as well and proceeded to design a regulatory regime with a 'color' classification ranging from green to dirty to the entire spectrum of assets held by banks and financial institutions. The carbon financing cabal staunchly resisted this credit taxonomy. It responded with an ESG (environment, social, governance) private classification that would permit green regulatory arbitrage. Investors can shop for high ESG ratings for their portfolios since ESG providers measure ESG performance on a wide range of criteria that are picked arbitrarily. The well-known example of a beneficiary is the world's largest asset manager, Blackrock, in the case of the European Union.

The space for a green developmental state that designs low-carbon transitions where the poor do not have to bear a disproportionate part of the burden is shrinking. The design of a low carbon-emission transition regime should be deeply respectful of grassroots experiences, indigenous communities and post-carbon solidarity economies. In any green new deal, large-scale public investment—usually via development banks—would be oriented toward green infrastructure which citizens could access freely and would be taxed on a pay-as-you go principle. The state may issue green bonds to global institutional investors especially when public investment requires imports to be paid for in foreign currency. Thereby, national development banks can scale up the creation of green public credit. A constructive critique of the greening of the Bank of England's bond purchases is a suggestive path to take (Dafermos et al., 2022). The upshot is a more proactive, less reactive role to be played by central banks in general (Dafermos, 2021). The IMF's recent resilience and sustainability trust, which offers long-term finance to developing countries to, among other things, mitigate climate change is promising. New instruments like debt-for-climate swaps are evolving. For example, if the US is a creditor to the Congo, that country would be permitted to invest in a climate adaptation scheme instead of paying back the debt (Parramore, 2023).

5. Conclusion

Maximizing shareholder value is a fundamental principle of financial economics. Within the neoclassical model, the first-order conditions are an extension of the choice of work in a labor-leisure tradeoff. However, political economy rejects the classical dichotomy. The capitalist mode of production is a mode of money and finance. Capitalists and workers of yesteryear have collapsed into rentiers. In the case of share buybacks, coordination is perfect in share price-share quantity space. Outside this circle is small business where price equals marginal cost, and workers with tenuous employment and wages that do not cover the cost of housing. This dual economy equilibrium is dynamically unstable. The law of value or the laws of demand and supply must operate so that commodities can be produced and consumed. For the purpose, enterprise and employment must be broad-based and widespread. Accordingly, we construct two micro-founded macro models of complete generality to capture the accumulation of wealth and the accumulation of capital. On the margin of choice, moving from one period to the next, workers and capitalists can accumulate capital or rentiers can accumulate wealth. In the former case we have 'patient capital' and 'green' physical investments, in the latter, we have 'short-termism' and investment in financial instruments. The state must intervene in the choice of the mode and relations of production.

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