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The Value of Money: A Survey of Heterodox Approaches

by

L. Randall Wray
Levy Economics Institute of Bard College

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Levy Economics Institute
P.O. Box 5000
Annandale-on-Hudson, NY 12504-5000
http://www.levyinstitute.org
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ABSTRACT

This paper examines heterodox theories of the determinants of the value of money. Orthodox approaches that tie money's value to relative scarcity of money or to the price level are rejected as inconsistent with the monetary theory of production embraced by heterodox traditions linked to Marx, Veblen, and Keynes. This paper examines and integrates (1) recent contributions by David Graeber and Duncan Foley that reinterpret Marx's labor theory of value, (2) the interpretation of Keynes's liquidity preference theory as a theory of asset pricing that began with Sraffa and was further developed by Minsky and Kregel, and (3) Modern Money Theory's approach to sovereign currency. As Heilbroner argued, money is central to the internal logic of the capitalist system, and is what makes capitalism truly different from other social organizations. Our theory of value informs our beliefs about how the deep structure of the economic system generates a system of prices denominated in the money of account.

KEY WORDS: Labor theory of value; Modern Money Theory; Liquidity Preference; Monetary Theory of Production; Marx; Keynes; Minsky; Graeber; Foley; Sraffa; Heilbroner

JEL CODES: B14, 24, 25; B51, 52; E11, 12, B62

INTRODUCTION

This contribution will examine several heterodox approaches to the determination of the value of money. All of these, of course, reject the monetarist claim that the quantity of money determines prices, thus, money's value. Mainstream Keynesians have long used some version of the Phillips Curve to relate the aggregate price level to the unemployment rate. In that case, the quantity of money still plays a role by shifting an aggregate demand curve relative to an aggregate supply curve. The new macro consensus uses a demand gap along with inflation expectations and a Taylor Rule to explain movements of price levels. Potentially, the value of money is under the control of the central bank which influences expectations and eliminates the demand gap.

Heterodox approaches tend to focus on the supply side, with prices determined by costs plus a mark-up. Wage costs, in particular, play a significant role when wages grow faster than labor productivity.[1] While aggregate demand can also be important in some situations (especially in times of war), rising prices are usually attributed to conflicting claims over distribution. Except in the Marxist approach, there is little discussion of the *value of money*, presumably because it is seen as the other side of the price level: rising prices mean money's value is falling. Money's *value* is what money can purchase.

Marxists focus on labor value and the role played by money prices in distributing surplus value among invested capital. However, the connection between labor values and money wages and prices has been contentiously debated. Many heterodox economists use Kalecki's equation to explain the macroeconomic generation of profit, but—except in Minsky's work—this is not often clearly linked to firm-level mark-ups. Minsky insisted that we focus on the macro foundations of micro to understand mark-ups. There are similarities between Minsky's approach to profits and the Marxist approach to surplus labor power, as will be shown. We will close with an examination of Modern Money Theory (MMT), which, while integrating many of the ideas from heterodoxy, attempts to tackle the value of money head-on. We will explore parallels between MMT's focus on the role of wages in determining the value of money and the Marxist view of money as the expression of labor value *prior* to the concept of price.

[1] Other costs would include rising interest rates, costs of imports, and other input costs.

WHAT IS VALUE?

Before we proceed, we must examine what we mean by value theory, and then specifically what we mean with respect to the value of *money*. Neoclassical economics adopts a utility theory of value (although its perceived importance has faded); Marxists and some others adopt a labor theory of value; Institutionalists adopt an instrumental theory of value; but most heterodox economists (and, indeed, most economists in general) do not seem to consider value theory very important. Heterodox economists are almost united in their belief that money is important in the capitalist economy—but to the extent that money has value, it is related to, determined by, or is even identical to prices (of both output and of financial assets or debts).

Modern economics began as an exercise in moral philosophy, and outside of economics, the concept of value is closely connected to normative concepts such as what is *meaningful*, *desirable*, or *worthwhile*—or more colloquially, we might think of concepts like *family values, freedom, or equal treatment*. Early economics used ideas such as *intrinsic worth*, and *just* or *fair* prices. Today, as discussed below, discussion of *value* is largely relegated to social spheres other than economics.

However, the goal of economics has always been more than to produce a theory of price:

> It has been to understand the workings of any system of exchange (including free-market capitalism) as part of larger systems of meaning, one containing conceptions of what the cosmos is ultimately about and what is worth pursuing in it. Such systems of meaning meant that the kind of moral and ethical questions that Aquinas or Smith felt were at the heart of the matter could not simply be pushed aside. (Graeber 2005, 443)

As Heilbroner put it,

> *The general problematic of value, as I see it, is the effort to tie the surface phenomena of economic life to some inner structure or order.* This problematic arises because economic is unavoidably involved in two intimately related but essentially distinct tasks. One of

> these is the investigation of various empirical aspects of the process of social provisioning…. Equally necessary for the existence of what we call economic thought is a level of abstract inquiry—an inquiry directed not at the "facts" of economic life but at some structure or principle "behind" the facts…. It necessarily looks beyond appearances for essences… Economics now becomes an inquiry into the systemic properties, the structural attributes, the tendencies and sometimes even the *telos* of the provisioning process. (Heilbroner 1988, 105–6; emphasis in original)

Economists have variously sought "laws" of the behavior of individuals (utility maximization; rationality) or of the system ("laws of motion," equilibrium). Given the importance of prices in a capitalist system, they have been the focus of economists of all traditions. "Value 'theory' is therefore indispensable for understanding how the capitalist system, largely guided by price stimuli, tends toward some kind of determinant outcome" (Heilbroner 1988, 107). Heilbroner quotes an insightful thought experiment posed by Adolph Lowe: "Suppose that a universal amnesia were to wipe out the knowledge of all present prices, would there be a rule for reestablishing them?" (108). Most economists would presumably answer in the affirmative. Our theory of value informs our beliefs about how the deep structure of the economic system would restore a system of prices.

In orthodoxy, money plays no important role in those processes. Prices are relative—measures of scarcity. However, in most heterodox approaches, money plays a role beyond that of medium of exchange—although exactly what role(s) it plays varies across traditions. For at least some, money is part of that deep structure of the capitalist system. As Heilboner (1985)[2] explains, money is central to the internal logic of the capitalist system. The drive to amass capital in money form is the single most important element of the system. It is what makes capitalism truly different from other social organizations, and to a great extent makes it possible to examine capitalism as an *economic system* that is somewhat dis-embedded from the social system as a whole—operating under a *logic* that is capable of economic analysis.

[2] See also Wray (1990, 56), and Wray (forthcoming), that places value theory and money within a comprehensive treatment of monetary theory of production.

Social theory has two distinct approaches to society:

> The first begin by imagining some total system or structure—a society, a world-system—and then try to understand how it is maintained and reproduced over time. The other starts with individual actors pursuing something, and sees society largely as the effect of their actions (here economics and its derivatives, like rational-choice theory, have been the paradigm). (Graeber 2005, 445)

The individualist, rational choice theoretic begins with the utility maximizer who takes prices as given data; an invisible hand then produces a harmonious outcome at the aggregate level. In the orthodox tradition, the claim is that economics is "value-free" and there is "no standard of justice outside of the market itself" (Graeber 2005, 443). Economics is *objective*, eschewing morality. Value *is* price that efficiently allocates scarce resources among alternative competing uses. All factors of production get their *just rewards*. We will not go through the utility theory of value except to note that it is based on subjective utility generated in *use*. In the following sections, we turn to alternatives to the utility theory of value. The heterodox approach generally—but not always—begins with macro forces, outcomes, and constraints within which individuals make decisions. Values in the general sense of that term are important, and for some of these approaches, value in the specific sense of economic value that structures the systemic properties of the capitalist system is the basis of analysis.

THE KEYNESIAN TRADITION

In the orthodox approach, there is an uneasy tension between the determination of micro-level prices and the aggregate price level. As Keynes famously remarked,

> So long as economists are concerned with what is called the Theory of Value, they have been accustomed to teach that prices are governed by the conditions of supply and demand… But when they pass …to the Theory of Money and Prices, we hear no more of these homely but intelligible concepts and move into a world where prices are governed

> by the quantity of money…. We have all of us become used to finding ourselves sometimes on the one side of the moon and sometimes on the other, without knowing what route or journey connects them, related, apparently after the fashion of our waking and our dreaming lives." (Keynes 1964, 292)

And, yet, it is not clear that heterodoxy has resolved this conundrum. Keynes argued that the "right dichotomy is, I suggest, between the Theory of the Individual Industry or Firm and of the rewards and the distribution between different uses of a *given* quantity of resources on the one hand, and the Theory of Output and Employment *as a whole* on the other hand." (193) For the first, he suggests that we "are not concerned with the significant characteristics of money," but for the second "we require a complete theory of a Monetary Economy." (op.cit.. 193) This was the aim of his *General Theory,* where *"the importance of money essentially flows from its being a link between the present and the future."* (193; emphasis in original)

Earlier drafts of the *General Theory* took a "monetary theory of production" approach (much like the approaches of Marx and Veblen) in which production begins with money in order to end up with more money—that is, with a view of the driving force of capitalism as the pursuit of money profits. This remains clear in the final version of the *General Theory* even if the terminology has changed. Keynes emphasizes that the neoclassical demand and supply scissors cannot determine even micro-level prices and quantities in goods, labor, and money markets unless "our views concerning the future are fixed and reliable in all aspects" for otherwise aggregate incomes, output, and employment can be impacted and violate the necessary independence of supply and demand curves. Thus, "the theory of shifting equilibrium must necessarily be pursued in terms of a monetary economy" yet "it remains a theory of value and distribution and not a separate 'theory of money'" (294).

In Chapter 21, Keynes (1964) discusses the theory of prices of output as a whole. At the industry level, price "depends partly on the rate of remuneration of the factors of production which enter into its marginal cost, and partly on the scale of output." (194) When we move to the economy as a whole, we do not need to modify this: "The general price-level depends partly on the rate of remuneration of the factors of production which enter into marginal cost and partly on the scale

of output as a whole, i.e. (taking equipment and technique as given) on the volume of employment." (194) He goes on to discuss the impact "of changes of *demand* both on costs and volume", of output as a whole—a point we return to shortly. (194)

As Kahn (1974) put it, in his *General Theory*, Keynes had adopted what Hicks called the *wage-theorem*:

> The money-wage is the fulcrum on which rests the whole structure of everything expressed in terms of money—all prices, incomes of every kind, and all money-values. A higher level of money-wages means that everything expressed in terms of money is higher in the same proportion. (16)

Kahn goes on, stating that if the money wage rises,

> [A]ll incomes and debts fixed contractually in terms of money are smaller in real value as a result of the money-wage being higher…. The basis of the fundamental role of the money-wage in determining all prices, money-incomes, and money values is that money-wages not only form part of costs of production but, because they are to a large extent spent, they form part of total purchasing power expressed in terms of money. (17)

What causes money wages to rise? Looking to the *Treatise* and the *General Theory*, Kahn finds that Keynes mentioned "'the power of trade unions', the greater readiness of entrepreneurs to give way to pressure 'when they are doing better business' and 'the psychology of the workers and the policies of employers and trade unions'" (Kahn 1974, 18). In the *General Theory*, Keynes argues that "our experience of human nature" shows us that "the struggle for money-wages is…essentially a struggle to maintain a high *relative* wage, this struggle is likely, as employment increases, to be intensified in each individual case because the bargaining position of the worker is improved." (Keynes 1964, 252–3; Kahn 1974, 19) Kahn insists that Keynes

believed that money wages are generally stable and, in any case, as is well-known, he opposed policy to reduce them as a means to promote employment or to fight inflation.[3]

In Chapter 21 (*The Theory of Prices*) Keynes (1964) elaborates on his views on inflation, arguing that, as aggregate demand rises, it will face varying degrees of inelastic supply across sectors of the economy so that both price and quantity will rise until we reach the point of full employment—beyond which "prices will change in the same proportion as the quantity of money"[4] (296). Before full employment, some prices will rise with demand—but that is only "semi-inflation." Likewise, "the wage-unit may tend to rise before full employment has been reached… For this reason a proportion of any increase is likely to be absorbed in satisfying the upward tendency of the wage-unit" (301). Beyond full employment, the elasticity of supply approaches zero so the impact of a rise of demand is entirely spent in raising prices—what Keynes called "true inflation."

Prices rise with "semi-inflation" as demand increases, however this is not a simple story of excess demand (whether or not *caused* by money) but rather because supply is less than completely elastic. Only beyond full employment, where supply is inelastic, can we say that the problem is one of excess demand. As we will see in the next section, Keynes's treatment of the role of money in determining the price and volume of output is much more complex than in either the monetarist or "Keynesian" approach of the neoclassical synthesis (even in its modern new consensus garb)—and it plays its role *earlier* in the production process, not in the sphere of circulation.

Keynes's analysis of price formation at the aggregate level, particularly that of Chapter 21, moves the discussion beyond the simplistic quantity theory of money and as well beyond a

[3] Kahn (1974) quotes Keynes from his earlier *The Economic Consequences of Mr. Churchill* that "a policy of trying to reduce wages and prices 'by intensifying unemployment without limit…is a policy…from which any humane or judicious person must shrink'" (21).

[4] While this sounds like an exogenous money supply and a quantity theory of money, Keynes (1964) lists a number of simplifications and caveats to make it clear that there is no direct link between the quantity of money and spending. After going through simple mathematical manipulations of the equation of exchange, he warns that "I do not myself attach much value to manipulations of this kind; and I would repeat the warning, which I have given above, that they involve just as much tacit assumption as to what variables are taken as independent…as does ordinary discourse…." (305)

simple aggregate demand and aggregate supply explanation. At both the micro and macro levels, Keynes links prices to production costs and in particular to wage costs. In the next section we will examine the Post-Keynesian extension of this line of thought. Neither of these seems to be up to the task of providing a theory of value to identify the underlying structure of the capitalist economy. We will return below to another interpretation of Keynes's method in the *General Theory*.

THE POST-KEYNESIAN TRADITION

Heterodoxy generally rejects the demand and supply scissors approach to firm-level pricing except for in exceptional cases (a Saturday fish market just before closing time). While orthodoxy has striven over the past half century to ground macroeconomics in "rigorous" microeconomics, at least some heterodox economists argue that micro must have good macro foundations. Focusing on micro-level pricing might improve our understanding of the "data" ground out by a capitalist system, but it does not help us to understand the "deep structure" of the economic forces at work.

A Kaleckian cost-plus-markup approach forms the basis of much of the heterodox micro-pricing theory. There are various approaches to determination of the markup, with market power—as well as considerations of maintaining the firm as a going concern—playing a role.[5] It is believed that over a wide range of production, firms face largely constant costs (meaning that rising aggregate demand does not necessarily increase costs or prices). Wages and prices are sticky, especially in the downward direction. Class conflict and conflicting claims over output go into determining wages and, thus, the wage and profit share. The *cost-plus* approach is, largely, focusing on the data of the system, while the *conflicting claims* view moves to the underlying economic structure.

[5] As Lavoie (1992) argues, the three common Post Keynesian cost-plus pricing procedures are "mark-up pricing, normal or full cost pricing, and target-return pricing" (256). See *Microeconomic Theory A Heterodox Approach* F. S. Lee and T. Jo, 2017, London: Routledge for a detailed treatment of the mark-up approach.

At the aggregate level, ignoring the government and foreign sectors, the Kalecki profit equation shows that capitalist spending on investment plus consumption out of profit determines aggregate profits (i.e., capitalists get what they spend). The wage share is a residual, with workers spending what they get (if they do save, that reduces aggregate profit). The higher the level of investment, the higher the profits and the smaller the share of total consumption output going to workers in the consumption sector as they must share the output with workers in the investment sector.[6]

Heterodox economists generally embrace the endogenous money approach in which the quantity of money is an uninteresting residual (consisting of the quantity of bank deposits created in lending activity that has not yet been redeemed in loan repayments), and so reject the quantity theory of aggregate prices. Yet, there is something of a *which side of the moon are we on* when it comes to determining pricing and profits. At the micro level, prices are set as cost plus mark-up, with profits and the mark-up depending on market power. At the macro level, profits and markup are determined by capitalist spending (in the simple model—if we add positive net exports and a government deficit, those also contribute to profits, meaning the mark-up is higher).

How can we be sure that individual behavior is consistent with the aggregate constraint? If every firm doubled its mark-up, what would be the consequence for prices and profits at the aggregate level? Similarly, if costs (usually taken as labor costs) doubled, what would be the consequence at the aggregate level? How can we be sure that aggregate profits are sufficient for firms to realize their desired mark-ups at the individual level? Lavoie links the size of the micro mark-up to the rate of utilization of capacity, and hence to aggregate demand. Aggregate nominal profits are "simply the difference between aggregate demand and the costs of producing output", or, "the nominal amount of autonomous expenditures."[7] (Lavoie 1992, 262) Thus, the "real amount of profits is equal to the real amount of autonomous expenditures" (262). If aggregate profits are determined by aggregate demand less costs, does micro-level mark-up behavior matter? How?

[6] Of course, adding government and a foreign sector alters these outcomes.

[7] Lavoie (1992) first examines a one-sector model where autonomous spending is autonomous consumption and then a two-sector model that adds investment. The results are the same.

Generally, it is not clear what happens if the micro-level mark-ups are not consistent with the macro.

Post Keynesians typically see inflation as a result of conflicting claims, with prices rising because wages and/or mark-ups are increasing. When wages rise faster than labor productivity (output per unit of labor), unit labor costs rise and push up prices. If the mark-up rises (or, in alternative specifications, if the share of real profits in terms of real output rises), the aggregate-price level rises.[8] Inflation does not require excess demand—costs and the mark-up can increase even with excess capacity. Post Keynesians sometimes take the wage as exogenous—Robinson took the money wage at any point in time as "an historical accident" (Lavoie 1992, 377). Conflicts between workers and capitalists, as well as rivalries among different groups of workers can lead to rising wages unrelated to the state of effective demand. Likewise, rising pricing power might allow higher mark-ups regardless of movements of effective demand.

Lee (e.g., Lee and Jo 2017), perhaps the foremost Post Keynesian on micro-level pricing "rejected labour-based pricing models, where price depends only on unit labour costs, because an extremely small number of firms seem to employ labour-based pricing" (Lavoie 2016,175). He favored the explicit inclusion of intermediate goods, and preferred "normal-cost pricing" that includes overhead and fixed costs. The costs used for price determination would be "based on estimated production or normal capacity," with average direct cost "increasing, decreasing or constant depending on the plant's structure of production"—hence he also rejected the assumption of constant cost (176). These full-cost prices would be similar to the notion of "long period prices" but "he rejected the idea of a uniform rate of profit" common to classical approaches (177).

Lee (2013) argued that "the social provisioning process is embedded in the social surplus approach," and it is the "demand for the social surplus or effective demand that drives the provisioning process"[9] (467). While "the basic goods system" determines "basic goods prices," it

[8] See Lavoie 1992 p. 374 for an exposition.
[9] See Todorova (2009) for a gendered analysis of the provisioning process from a Post-Keynesian/Institutionalist view that approaches the monetary theory of production from both micro and macro viewpoints. The "market" is usually seen as the masculine sphere where traits of amoral competitiveness dominate; the "family" is seen "as a

is "the price system as a whole that determines the surplus goods prices"; and since that price system "reflects and is embedded in the social system of production, it is the latter that determines prices, or, more accurately, provides the material and social basis for their existence"[10] (478). Thus,

> "the causal structure runs from surplus goods to surplus labor to wage goods, or, more bluntly, it is the production of profits that produces the wage goods. This inverts the traditional Marxian argument that underpins its theory of exploitation and the origin of profits. Yet, while the use of surplus labor as an entry point into the analysis of exploitation and profits is misleading, the outcome is more or less the same: capitalists and the state direct the economy and hence the social provisioning process for their own interests, with the material reproduction of workers as a nagging afterthought." (Lee 2010, 35)

Lee (2010) insisted that "prices cannot be reduced to a homogenous quantity of labor power and consequently are not proportional to embodied homogenous quantities of labor power." (35) He rejected the labor theory of value in favor of "an emergent model with an embedded theory of value" (38). The heterodox theory of value he was developing "can be used to explore from a heterodox perspective both micro and macro events that affect the social provisioning process" (38) His rejection of the Marxist approach explored in more detail below seems to be based on the erroneous belief that it poses a direct relationship between prices and embodied labor hours and as well on the adoption of a tendency toward a uniform rate of profit on capital.

With the exception of Lee's somewhat opaque treatment,[11] in much of the Post Keynesian work, the value of money simply seems to be its purchasing power equivalent. Aggregate pricing is, largely, a sociological phenomenon (conflicting claims, market power, micro-level mark-up, and

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safe haven of private morality" where "proper canons of femininity" are practiced. This "absolves the business realm from moral considerations" and "complements the liberal idea of *laissez-faire*" (7). Again, values are not a proper topic for discussion by economists who focus on business matters. Todorova shows how this leads mainstream economists to ignore much of the provisioning process.

[10] Basic goods are used in production; surplus goods are those not used directly in production.

[11] However, it seems to be similar to Minsky's approach, considered next.

pricing strategy) that cannot be explained by economic *theory*. In many formulations, it isn't clear what role, if any, is played by deep structure in the formation or determination of the value of money. Some of the work does seem to use the notions of *normal-cost* and *long period prices*, and as well the goal of reproducing the system (i.e., the firm as a going concern, social provisioning). But a tendency toward equal profit rates is rejected. Further, the relation between the micro-level pricing and the macro-level distribution of a monetary surplus is not always explicit. That relationship becomes much clearer in the Minsky's work, to which we now turn.

HYMAN MINSKY AND THE AGGREGATE (KALECKIAN) MARK-UP

In Minsky's interpretation of Keynes, the supply price of capital is determined by supply conditions that include labor and other input costs and the gross capital income required to cover finance costs, overhead, and profits for firms that produce investment goods. If external finance is required, then the supply price also includes *lender's risk* to compensate the suppliers of finance. The demand price for capital is a function of the discounted stream of expected returns (i.e., quasi-rents) over the lifetime of use of the investment goods. The discount factor used will include an adjustment for confidence of expectations—providing a margin of safety. In addition, externally financed investment includes *borrower's risk*. The demand price must exceed the supply price (by a *margin of safety*) for investment to proceed. As the demand price is determined in large part by expected prices in the future for the output to be produced by the investment, the time path of *expected* future prices plays a role. This is why Keynes said that expectations of inflation can be conducive to investment, while expectations of deflation are detrimental.

For Minsky, price formation is not oriented toward market clearing. Instead, prices (and expected prices) in a capitalist economy serve five main functions: to provide information, to cover costs, to carry profits, to validate debt, and to link the past, present, and future.[12] At the aggregate level,

[12] Minsky's clearest discussion of pricing is contained in two unpublished chapters he was preparing for a planned book manuscript. These are available in the Minsky Archives as Minsky, Hyman P. Ph.D., "Prices in a Financially Sophisticated Capital-Using Capitalist Economy" (1992), Hyman P. Minsky Archive, 35,

prices generate a surplus that accrues to the owners of capital assets, validating previous investment and servicing the debt commitments incurred by earlier investment. The aggregate surplus is determined as in the Kalecki profits equation—in the simplified closed economy model where capitalists do not spend, and workers do not save, the surplus equals investment plus the government's deficit. Ignoring government transfer payments, it is the wage bill in the government sector (including wages paid to produce the private output the government buys) less taxes, plus the wage bill in the investment sector that is identically equal to—and causal in determining—the aggregate of profits. If workers save, profits are reduced; if capitalists consume their profits, the profits are maintained.

As Minsky put it, the price of consumption output must be sufficient to ensure that the workers who produced it cannot buy all of it—they must share it with the workers in the government and investment sectors. He provides an example: if the marginal propensity to consume out of wages is 0.8 but the other *classical assumptions* of the Kalecki model hold, then the wage bill in the investment sector needs to be at least a quarter of that in the consumption sector (to establish effective demand at a level high enough to justify the level of employment in the consumption sector).[13] If the wage bill in the investment and/or government sectors rises, the price of consumption goods must go up to distribute a share of consumer goods to those workers. Likewise, adding government welfare payments will increase prices and profits. All else equal, a bigger government or a more capital-intensive form of capitalism requires higher prices. Adding positive net exports also means higher prices and more profits for the producers of consumer goods since workers in the export sector need a share of output. There are also feedback effects as the higher profits increase the demand price for capital goods, further increasing investment. (As Minsky argues, this can lead to the endogenous development of financial instability—a topic we will not cover.)

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https://digitalcommons.bard.edu/hm_archive/35; and Minsky, Hyman P. Ph.D., "Prices in a Capital Using Capitalist Economy II" (1992), Hyman P. Minsky Archive, 36, https://digitalcommons.bard.edu/hm_archive/36.

[13] If Wc=100, MPC=0.8, Cw=80, Wi=25, and Ci=20, then Aggregate C=100, S=25 and W=125. So, profit = I-Sw=0. Where Wc=wage bill in the consumption sector, MPC=marginal propensity to consume, Cw=consumption out of wages of workers in the consumption sector; Wi=wage bill in the investment sector, Ci=consumption by workers in the investment sector; C=consumption, S=saving; W=wages; I= investment; and Sw=saving out of wages.

If all this is true, it cannot be the mark-up behavior of individual firms that generates the macroeconomic profits. Instead, pricing power and competition among capitalists can only determine the distribution of profit, and not its generation. Thus, these macro-level arguments hold regardless of the degree of concentration of pricing power—which determines only the distribution of profits that flow to those that can raise their mark-ups, not the aggregate of profits. There is a difference between raising a mark-up and realizing it. Realizing a surplus requires that one is generated. If there is no investment (or government deficit or net exports in the expanded model) then there are no net profits to distribute; the profits of lucky firms equal the losses of the others.[14]

Minsky inverts the micro and the macro: macro conditions determine the framework within which individual decisions determine price and output at the micro level. Relative price reflects market power as well as the capital intensity of different production processes (among other factors that Minsky labels "business style" which would include advertising and compensation of management). The financial arrangements set up and enforce intertemporal payment commitments at the micro level, but success depends on macro performance.[15] The absolute macro price depends on aggregate spending across the sectors, on policy choices concerning government spending, taxing, and trade policies, and whether the version of capitalism is a high investment–high profit system or a high consumption–low profit system. The first (high investment) needs to generate a greater surplus to distribute among capitals, and is also subject to greater instability (due to financial commitments incurred during investment); the second (high consumption) will rely more on wages and consumption and thereby will be more stable.

Greater use of external finance increases non-labor costs and must be covered at the micro level by a larger mark-up. Higher market share and greater pricing power also increase the ability to enforce a micro mark-up; and pricing power also increases access to external financing. *Business*

[14] There is a symmetry between Minsky's treatment of the surplus and the Marxian treatment. Surplus is created in production—by the ability of workers in the consumption sector to produce more consumer goods than they consume. The sphere of circulation (where pricing power comes into play) only determines the distribution of the surplus. The surplus is not created in circulation—but rather is maintained and distributed by pricing. See below.

[15] There's no guarantee the micro and macro conditions are compatible; the transition from stability to instability is an example in which the financial commitments made at the micro level are not consistent with the macro determination of profit flows—resulting in financial crisis.

style—advertising, high compensation of management, and other perks—also increases the necessary micro mark-up. These costs do not produce a macro surplus but require that a larger share of the macro gross profits go to the firms with higher finance and business style expenses. Increasing *financialization* of the economy redistributes the macro surplus toward the financialized sectors, which also can be the more heavily capitalized sectors.

We can allow for differences of wage rates in the capital goods and consumption goods sectors, and for growth of wages and of labor productivity. Higher relative wages in capital goods increase consumption sector profits; higher average wages increase prices; and growth of labor productivity reduces unit labor costs and hence puts downward pressure on prices of output (all else equal). High capital ratios—especially with external finance of investment—require maintenance of high rates of investment (or larger budget deficits and net exports) to produce the gross capital income required to validate previous investment. That, in turn, requires the maintenance of a high demand price for capital relative to its supply price; expectations of future *quasi rents* must be kept high and borrower's and lender's risk kept low to keep investment up.

There is a Harrod *knife-edge* aspect as robust investment encourages more use of external finance and rapid growth, and any slowdown will quickly generate financial problems that collapse demand prices and reduce profits[16]—the well-known Minsky financial instability results. The greater the capital intensity, the greater the potential instability because profits are pre-committed to servicing debt. Sectors with high capital intensity must have pricing power to force a share of the surplus in their direction. Firms with more debt need a larger mark-up and realization requires investment, government deficits, and net exports at the aggregate level. If the economy's capital intensity rises, prices and profits need to increase.[17]

Prices must cover costs and carry gross capital income. In sum, the aggregate mark-up over the wage bill in the consumption goods sector will be higher (and, thus, the aggregate price level will be higher) the higher the level of investment, government transfers, net exports, ratio of wages

[16] If investment falls, profits fall, making it more difficult to service debts.

[17] Note the aggregate surplus will be higher if the economy's welfare system increases or if its net exports trend upward. All else equal, current output prices must be higher to produce that extra surplus.

outside the consumption sector to those in the consumption sector, financial costs related to taking positions in capital assets, business overhead costs (including advertising and managerial expenses), and corporate and other business taxes. If these tend to rise over time, prices will rise. On the other hand, increasing labor productivity and imports as well as downward pressure on wages or transfer payments will alleviate price pressures.

Money's value is directly determined neither by money supply nor by aggregate demand. Demand and supply conditions at the firm level play some role but prices are complexly determined and perform a number of functions in the economy—at the micro *and* macro levels. Importantly, the aggregate surplus is determined at the aggregate level and cannot be directly determined by mark-up behavior at the micro level. Expectations need not be realized—outcomes can exceed or fall short of plans. This can affect expectations and lead to a shift of the point of effective demand; and in Minsky's approach it can encourage either more, or less, financial adventuring.

As we'll see below, there many parallels to the Marxian approach to be found in Minsky's exposition.

FUNDAMENTALIST KEYNESIAN APPROACH

The "fundamentalist" Post Keynesians—such as Davidson, Minsky, and Kregel—emphasize the approach taken to money in Chapter 17 of the *General Theory* which interprets liquidity preference as a theory of asset prices.[18] Minsky, in particular, focuses on the two price systems: one for current output and the other for assets; these come together in the demand price and supply price for newly produced capital assets. This is essential to Keynes's theory of effective demand. Here, money's importance is paramount for two reasons: its total return (mostly due to liquidity) is the *rooster* that sets the standard for all other assets, and because the terms under which access to external finance is provided influence the level of investment.

[18] This can be presented as a *theory of value for asset prices*—that is, for anything that can be held through time. See Townshend (1937) and Wray (1990; 1992).

With regard to the first, Keynes rejected the notion that money determines the price of output when he put it this way:

> Money, and the quantity of money, are not direct influences at this stage of the proceedings. They have done their work at an earlier stage of the analysis. The quantity of money determines the supply of liquid resources, and hence the rate of interest, and in conjunction with other factors (particularly that of confidence) the inducement to invest, which in turn fixes the equilibrium level of incomes, output and employment and (at each stage in conjunction with other factors) the price level as a whole through the influences of supply and demand so established. (JM Keynes *Introduction* to the French edition of *The General Theory of Employment Interest and Money*)

Thus, instead of determining prices after production has taken place (that is, in the sphere of circulation), money does its job earlier in the sequence—in the investment decision, not in the pricing of final output. Keynes's *General Theory* Chapter 17 introduced money as the most liquid asset whose return is determined solely by its liquidity less its carrying cost, which for money is greater than that of any other asset. Any asset that can be held through time has a return equal to its yield, minus the carrying cost, plus its liquidity premium. The own rate of any asset is determined by the relationship between its *spot price* and its *forward price*. He gives an example using wheat: if 100 units of wheat delivered today *spot* has the same exchange value as 105 units delivered a year from now (*forward*), then the wheat rate of own interest is 5 percent.[19] Producible assets (i.e., capital, commodities) are produced until their own rate falls into line with the own rate on money. In this respect, money *rules the roost*. (The own rate on money is simply the base interest rate set by policy—as discussed below.)

[19] We can also calculate wheat's *own rate* in terms of money, but this requires knowing money's *own rate*—the interest rate on money. If that is 5 percent, and if 100 units of wheat delivered spot costs $100 while the forward price is $107, then selling wheat for $100 and earning 5 percent produces $105 over the year and that would purchase only 98 units of wheat for forward delivery. The wheat-rate of interest is then –2 percent in terms of money. (Keynes 1964, 223)

In equilibrium, spot prices equal forward prices and there is no incentive to increase production; if the spot price is above (below) the forward price then there is an incentive to produce more (less). This is equivalent to a situation in which the current demand price for the asset exceeds its supply price.[20] As production of each type of producible asset (capital or commodity) increases the asset supply, the spot price tends to fall[21] relative to the forward price. Aggregate production proceeds until all own rates align with the own rate on money—*the* interest rate.[22]

Today all central banks target the *overnight interbank lending rate*, setting the standard base rate on money—the risk-free lending rate. The term structure on risk-free government bonds is then largely determined by expected future central bank target rates: "the one-year rate is the market estimate of the cost of financing a bond, successively for 365 days, at the prime[23] rate. This is the cost of financing the purchase of the one-year bond on the interbank reserve market to maturity, the cost of *carrying* the bond to maturity." (Resende 2022, 37) As uncertainty about central bank policy increases farther into the future, longer-term bonds must also include risk of capital loss in their pricing—so the term structure will generally slope upward because of an extra premium over carrying cost.[24]

Just as we have a term structure of interest rates, we have a term structure of money prices. Imagine we have a market-maker and spot and forward markets in all consumption goods. We can think of inflation as the premium to be paid at a future date over the price paid today.[25] An expected higher rate of inflation increases the forward price of output. If the forward price of

[20] As Sraffa (1932) put it "if, for any reason, the supply and the demand for a commodity are not in equilibrium (i.e. its market price exceeds or falls short of its cost of production), its spot and forward prices diverge, and the 'natural' rate of interest on that commodity diverges from the 'natural' rates on other commodities….It will be noticed that, under free competition, this divergence of rates is as essential to the effecting of the transition as is the divergence of prices from the costs of production; it is, in fact, another aspect of the same thing." (50)

[21] With generally constant costs, rising output lowers mark-ups and prices fall along with quasi-rents.

[22] See Kregel (1988).

[23] Here he means the overnight interbank rate—fed funds rate in the US.

[24] Longer-term interest rates are complexly determined and could include other factors—including expectations of exchange-rate movements—but that is beyond the scope of this paper.

[25] See Resende (2022) for a discussion.

wheat rises, today's demand for wheat to purchase and hold rises, increasing the spot price. When it rises sufficiently above current supply prices to compensate for total carrying costs, more wheat is produced today for storage. Rising productive capacities in wheat lowers the forward price, which lowers the rate of return on wheat until it is back in line with other rates of return.

Sraffa (1932) argues that if "loans were made in terms of all sorts of commodities, there would be a single rate which satisfies the conditions of equilibrium, but there might be at any one moment as many 'natural' rates of interest as there are commodities, though they would not be 'equilibrium' rates" (49). In the *General Theory*, Keynes distinguishes between the *natural rate* and the *neutral rate* of interest on money. There is a different natural rate associated with each point of effective demand, but only one of these is *neutral*—the one consistent with the level of effective demand associated with full employment. At each *natural rate*, entrepreneurs are employing the quantity of labor required to produce the amount of output they believe to be warranted by their expectations of profits—but this need not be at full employment.

Chapter 17 of the *General Theory* follows the argument made earlier by Sraffa (1932) that this natural rate on money and level of effective demand is associated with equalization of the natural rates of all other assets: "[i]n equilibrium the spot and forward price coincide, for cotton as for any other commodity; and all the 'natural' or commodity rates are equal to one another, and to the money rate" (50). Sraffa describes the possibility of using the monetary policy's bank rate to control inflation, but it requires adopting a target that "is an average of the 'natural' rates of the commodities entering into the price-level, weighted in the same way as they are in the price-level itself" (51). This rate is not unique as it depends on the composite commodity (weighted as in the price measure).[26]

In any event, as Davidson (1978) explains,[27] forward markets as well as market-makers and continuous spot markets are absent for most products. The holding costs, as well as the illiquidity

[26] See the discussion below of the Keynes/Sraffa critique of price indices.
[27] The conditions required include that the product is in general demand, can be standardized, has high substitutability between old and new items, is durable, and has a large existing stock relative to annual flows, among other characteristics (Davidson 1978, 87).

of most products makes them undesirable as stores of value, thus, not good substitutes for liquid assets.[28] Only with extreme inflation of *flow-supply* prices would the carrying costs of holding most consumer durables be sufficiently low relative to future prices to justify storing them. Hence, the own-rate analysis applies mostly to financial assets (with relatively high liquidity and low carrying costs), some commodities, and productive capital. What matters for most production (i.e., goods and services for consumption) is the relation between the spot (demand) price and the flow-supply price. And for that output, the interest rate enters decision-making as a cost on both the *demand* (financing purchases) and *supply* sides (financing production).

This casts doubt on the prevailing notion that raising the interest rate target can be used to fight rising prices—and there are further reasons to doubt it.[29] By extrapolation, when the spot price of the basket of consumer goods rises sufficiently above flow-supply prices to increase production, the increased supply of consumption goods puts downward pressure on the path of flow-supply prices through time. A higher money interest rate can *reduce* disinflationary pressure by raising production costs as well as by setting a higher own-rate standard for capital and other assets that can be held through time, acting as a barrier to expanding production. In any event, as Sraffa (1932) argued, if there is a policy interest rate that can stabilize the price level, "it is an average of the 'natural' rates of the commodities entering the price level…" properly weighted—not the overnight inter-bank lending rate usually adopted as the policy rate. For these reasons, the typical central bank response to inflation—i.e., raising the base rate—is not likely to work.

As discussed, Keynes (1964) argued that, "[t]he general price-level depends partly on the rate of remuneration of the factors of production which enter into marginal cost and partly on the scale of output as a whole, i.e. (taking equipment and technique as given) on the volume of employment" (194). In his analysis, he adopts only two fundamental units of quantity, "quantities of money-value and quantities of employment" and he adopts two measuring units:

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[28] "It would be patently foolish to store value in a specific physical durable good, even if its notional value was expected to increase at an annual rate which exceeded the rate of interest on riskless bonds" without well-organized continuous spot markets with low transactions costs for those goods. (Davidson 1978, p. 194) Further, the storage costs for most durables will rise quickly with the increase in holdings, thus, they are not good stores of value. (Davidson 1978, 235)

[29] See Papadimitriou and Wray (2022).

the *wage unit* and the *quantity of labor hours* (Keynes 1964, 41).[30] In his view, this is the only way to avoid problems of measuring the volume of *heterogenous* output and the general level of prices (43). Aggregate supply is then a function of employment, and the "ordinary supply curve" depends on employment and the expected *user cost* associated with that level of employment.

Output is measured by aggregating the employment involved in producing each commodity—since heterogenous output cannot be aggregated. Its value in money terms is measured as "the number of hours of labour paid for…on the existing capital equipment, hours of skilled labour being weighted in proportion to their remuneration." (Keynes 1964, 44) This avoids the "well-known, but unavoidable, element of vagueness which admittedly attends the concept of the general price-level[…]" (39). In agreement with Hayek, Sraffa (1932) spoke of the "well-founded objection to the vagueness of the conception of 'the general price-level' understood as anything different from one out of many possible index-numbers of prices, and in the opinion that such a conception can have no place in a theory of money" (44). However, he chastised Hayek for focusing solely on the medium of exchange function of money (which led Hayek to erroneously embrace the notion of neutral money), arguing that money is "also a store of value, and the standard in terms of which debts, and other legal obligations, habits, opinions, conventions, in short all kinds of relations between men, are more or less rigidly fixed. As a result when the prices of one or more commodities changes, these relations change in terms of such commodities…" (43).

In the *fundamentalist* approach, the importance of money is not found in its relation to an overall *price level* (that is necessarily a chosen index from among a limitless number of possible indices) but rather in money's impact on *relative* money prices of commodities and hence on the level of effective demand, which is a function of money's own rate.[31] Its *spot* value in terms of commodities is its purchasing power of labor—the *wage unit*. The relative wage unit is that for an hour of ordinary labor effort.

[30]More specifically, he uses "ordinary labour as our unit and weighting an hour's employment of special labour in proportion to its remuneration" to make labor time a homogenous measure. This is similar to Marx's *socially necessary labor time*—see below.

[31] This is precisely the opposite of the monetarist claim that money determines the overall price level, with no effect on the relative price system (at least in the long run).

In conclusion, as in the Marxist approach discussed next, the *value of money* is not just the flip side of the aggregate price level, either. Price indices are arbitrary and heterogenous output cannot simply be added-up. We use only two measures of value: labor hours and the money wage unit. The *value of money* is equal to the amount of labor time it can purchase. The *price* of output is complexly determined and must be higher relative to wages paid to produce it to cover finance and other overhead costs (advertising, management, taxes) associated with the version of capitalism into which the output is produced. At the aggregate level, this *surplus* depends on the share of investment, government spending, and net exports in total output. What that means is that gross capital income (profits) must be redistributed through the price system toward firms with higher business costs, higher capital ratios, and more financial debt.

MARXIAN APPROACHES

There are two competing Marxian approaches to the value of money (Foley 1983). The first interprets Marx as arguing that the labor hours required to produce the commodity money determines the value of money—hence money is just like any other commodity produced by labor. While there is evidence to support this interpretation, it conflicts with other discussions by Marx. Further, with the abandonment of gold standards (and the limited use of them throughout money's history) this would be problematic when it comes to so-called *fiat money* systems. For these reasons, this contribution will focus on the second interpretation of Marx: money's value is determined by socially necessary labor time—not at the level of production of any particular commodity but rather at the aggregate level, nor is money's value determined (in an inverse way) by price of output. Labor value does not equal price, and indeed, labor values must deviate from prices (the so-called *transformation problem*)[32] (Foley 1982; 2018).

[32] As Foley (1982) argues, while it is possible to come up with the assumptions required to ensure that labor values can be transformed directly into prices, in the general case, labor values must deviate from prices. The most important reason is that prices need to redistribute surplus value to equalize profit rates on capital (as a tendency, not necessarily at any given point in time), which causes price to deviate from value because labor–capital ratios vary across firms. In addition, market pricing power as well as what Minsky called *business style* varies across firms and sectors.

Whether or not this really was Marx's view is not important. As Foley (1983) argues, Marx, like other classical economists, had trouble conceiving of abstract properties, such as money as a pure measure of abstract value. He may have believed that one commodity must take on the role of measuring and expressing value—even if it was not consistent with his general argument. Like the classicals (and neoclassicals), that method begins with a non-monetary economy and tries to find a logic for the use of money (Levine 1983). Since, in that logic, the use of money comes out of pre-existing commodity relations, one commodity becomes money to resolve a technical problem (the *double coincidence of wants*).[33] But, as Levine argues, production for market exchange already presumes specialization and the separation of producer from consumer that would have been far too risky in the absence of markets and money. Production for market is *commodity production* and requires a system of commodity relations with an external measure of value. While a single commodity can be valuable to satisfy an individual need, for *relative values* we need to measure in terms of something that is not a commodity—we need a *universal measure of value*. Money is the external measure of value and has no *value* itself in terms of satisfying *individual needs*. In Levine's view, money *is* value, *emancipated* from individual needs.

Similarly, Foley (1983; 2018) argues that money is an expression of *abstract* labor. It is not derived from a commodity, indeed the source of money is credit—the unit in which promises to pay are measured.[34] This stands classical economics on its head: first there are debt relations, denominated in a money of account, and then commodity markets with prices set also in terms of the money of account.[35] At the aggregate level, money value exactly measures the aggregate of labor value—and money values are the only pure form of value we can observe. Labor values are preserved in exchange, but exchange occurs at money prices. Money prices redistribute value to equalize money profit rates across processes with different *organic compositions of capital*.[36]

[33] Such a view, of course, informs neoclassical theory and its focus on money as a medium of exchange.

[34] Note the similarity to Sraffa's remark above—money is the standard in which debts are written.

[35] This is also the MMT view discussed next.

[36] Only living labor produces surplus value; the money price system redistributes surplus value to processes with high capital-to-labor ratios (*dead labor-to-living labor* ratios). In other words, firms with high capital ratios will

While all value is created by labor, money values drive production decisions—production starts with money to end up with more money later. Money value (of profits) is the only measure of success (from the point of view of capitalists who organize production).

Foley (1982) presents the "labor theory of value as the claim that the money value of the whole mass of net production of commodities expresses the expenditure of the total social labor in a commodity-producing economy […] A unit of money, in this approach, can be thought of as a claim to a certain amount of the abstract social labor expended in the economy." However, money prices for individual commodities are not equal to the money equivalent of the embodied labor value: "Any particular commodity can be seen as embodying a certain fraction of the total abstract social labor expended in producing commodities; it also exchanges for a certain amount of money (its price), which represents a possibly different fraction of the abstract social labor expended" (37).

Money prices cover wages, non-wage costs, and profits. The money price of a commodity less the non-wage costs is the value added to the commodity in production; the non-wage cost is Marx's *constant capital*, the wage cost is *variable capital*, and the profit is *surplus value*—or *unpaid* labor value. Like Keynes, Foley adjusts measured labor time to correct for "differences in the intensity of work, the skill of workers, and the relation of the technique of production to the current social standard"—that is, he uses "simple, abstract, socially-necessary labor" (Foley 1982, 38–39). The value of money is then defined as the "ratio of aggregate labor time to aggregate money value added." All value is created in production and is conserved in the sphere of circulation at the aggregate level. However, at the individual firm level, money revenue deviates from its labor value equivalent as surplus value is redistributed "where one party gives up more value than it receives in money value added," with losers in exchange exactly matched by winners (41).

The level of the money wage is taken to be the cost of the socially determined subsistence standard for workers. At the aggregate level, "profits are proportional to aggregate unpaid labor

need higher money prices relative to the value of labor embodied in the commodities produced. Note the similarity to Minsky's argument: high capital ratios require higher profits to validate the investment.

time" although prices can deviate from labor value to redistribute profits (Foley 1982, 42). Thus "in general the price of any commodity multiplied by the value of money as defined here will not be equal to the labor value of the commodity" (43). Money plays a role not only in distributing surplus value but also in exploiting labor—as workers and capitalists struggle over the level of money wages. The wage is a claim on a share of the labor embodied in commodities; workers bargain over a money wage, not a bundle of commodities.

Following the Smithian and classical school's *long period approach*, mobility of capital and labor ensures a tendency for market prices to move toward *natural prices* that will equalize the rate of profit on capital and also equalize the *rate of exploitation* of workers across employments. The profit rate is determined as net money revenues relative to money capital invested and are a portion of the surplus value which is realized in money form and created by unpaid labor power. This is extracted at the aggregate level and forms a *social fund* that is distributed among individual capital through competition. The aggregate money surplus (what Minsky called *gross capital income*) also supports other incomes such as rent, royalties, interest, commercial activities that do not generate surplus, and the financial sector (interest, capital gains).[37] It is the *money price system* that distributes the surplus among claimants. This presupposes a *monetary production economy* for otherwise there would be no way to distribute the surplus in such a way so as to equalize profit rates. The price system provides the signals that mobilize capital movements to ensure this tendency.

Similarly, money wages mobilize labor so that the rate of exploitation, which is the *ratio of the money value of the surplus to the money wage*, tends to equality across employments.[38] This makes money wages proportional to labor effort across all lines of production. While the wage is proportional to effort, it only rewards a portion of the effort. The natural (long period) price of commodities is also proportional to labor effort, a proportion that Foley labels MELT: the *monetary equivalent of labor effort*. The ratio of MELT to the money wage is a measure of the degree of exploitation, which tends toward equality across lines of production as commodity

[37] Owners of scarce resources can obtain monopoly rents.

[38] This is an updated version of the "New Interpretation" of Marx's theory of value. See Foley (2018).

market prices tend toward the natural prices. Hence, the same competitive processes that redistribute surplus value to equalize the rate of profit also tend to equalize the rate of exploitation. Labor effort and labor values are unobservable but underlie the money wages, money prices, and money profits that are the bases of decisions.

In the Marxian approach, all wages paid represent a claim on subsistence commodities equal to money's value, multiplied by hours of paid labor on all production. Since the aggregate money value of subsistence commodities is equal to aggregate wages paid, plus non-wage costs and the money value of surplus labor spent to produce them, wages from producing other (non-subsistence) commodities must also be spent on subsistence commodities. And because the sum of the wage bill across all sectors only equals paid labor, the unpaid labor surplus cannot be realized without additional spending—by unproductive labor and government. Foley (2018) argues that modern capitalism produces so much surplus—the surplus value is larger than the money value of paid labor—that a large volume of claims on the surplus can be supported, which can be thought of, for capitalism, as a kind of *overhead cost*.

There are a number of similarities between this version of Marx and Keynes's approach, among which the following are the most important. As in Keynes's theory, there are two measuring units: socially necessary labor time (or *ordinary labor* in Keynes's terminology) and money value (wage unit). Capitalism is a monetary production economy, driven by the expectation of money profits. At the aggregate level, Keynes measures output as total paid labor hours—which is precisely aligned with Foley's interpretation of Marx. In both approaches, money's value is equal to the wage paid for an hour of (average) labor. Money is the (only) external measure of value.

MODERN MONEY THEORY AND THE VALUE OF THE CURRENCY (SIMPLE CASE)

Modern Money Theory (MMT) (Wray 1998; 2015; 2022; forthcoming) emphasizes the role of the state in the monetary system. As in Keynes's approach, money is the abstract unit of account

in which credit and debt are denominated. The state chooses a money of account, imposes an obligation denominated in the money of account (fees, fines, taxes, tribute, tithes), names what is accepted in payment in the money of account, and, if it issues liabilities, those are also payable in the money of account. As short-hand, MMT says that "taxes drive money" in the sense that the state's own liabilities—mostly currency plus central bank reserves denominated in the money of account—are acceptable in the payment of taxes that are denominated in the same money of account. This creates a demand for the state's own obligations, redeemed in payments to the state.

Similarly, we could say that liabilities to banks drive the demand for bank liabilities. Private monies such as bank deposits are normally denominated in the state's money of account. There is a hierarchy of monies, with the state's liabilities serving as the ultimate means of payment and clearing.[39] Banks typically make payments to each other using the central bank's liability—reserves. The state stands behind some of the private monies and enforces contracts written in the state money of account. Principles of redemption also apply to private monies; for example, bank deposits are widely accepted liabilities because they can be used to make payments on bank loans—simultaneously redeeming both the bank and the borrower. When a bank makes a loan, it accepts the debt of the borrower and either creates a demand deposit for the borrower or (more likely) makes a payment on behalf of the borrower. Debts to banks are usually paid using bank deposits—leading simultaneously to debits of the bank's liability (a deposit), the bank's asset (the IOU of the borrower), the payer's asset (the bank deposit) and the payer's liability (the loan) (Minsky 1986, 258).

MMT adopts the Marx-Veblen-Keynes view that the capitalist economy is a system based on monetary production, where money plays a more central role than it has in any previous economic system. However, MMT argues that money—and state money—long predates capitalism. The basic propositions about a sovereign currency hold for state money systems for "the past four thousand years at least."[40] The typical story about an evolution from a primitive

[39] See Foley (1983), Minsky (1986), and Bell (2001).

[40] See Keynes (1930, 4); this is the statement from which the term "modern money" as the name of the approach came.

commodity money created as a medium of exchange to resolve the problem of a double coincidence of wants is rejected for both historical and logical reasons. Money has always been issued as a record of indebtedness and accepted in the redemption of obligations. Money historically predates the existence of market exchange and, indeed, is a precondition for prices and monetary exchange.[41]

In summary, MMT emphasizes the role of the state's money of account as the unit of measure of the value of monetary obligations to the state. However, this raises two questions: one, how much demand for the currency can be created through tax obligations, and, two, how much will the currency be worth—that is, what determines the value of money?

Assume the state places a $1000 head tax on each of the nation's thousand inhabitants. If the state imposes tax obligations equal in the aggregate to $1 million, payable in the state's own money, the population will accept at least $1 million in government spending of its own money—so that taxes can be paid.

In practice, government will probably be able to spend more as some of the population will want to hoard for future use. In addition, the state's money can be used in private transactions—and legal tender laws as well as court enforcement of payments made in the state's currency will increase demand. This would lead us to believe that demand for the currency could be larger than the tax liability. However, it does not tell us directly what the currency will be worth in terms of purchasing power—even if the currency maintains parity in payment of obligations to the state.

MMT has typically argued that money's value is determined by what one must do to obtain the currency that can be used to discharge the tax liability.[42] However, in the modern economy, people work for wages (including for the government), they produce and sell output (including to the government), they receive transfer payments (social security, welfare), own property that generates rents, realize capital gains on assets, and "beg, borrow and steal" to obtain money that

[41] This is similar to Levine's (1983) argument discussed above.

[42] This is similar to Foley's "labor effort": how hard must one work to satisfy the obligation to the state.

can be used to pay taxes and make other payments. Note also that people can (legally) avoid and (illegally) evade taxes. And today they rarely use currency to pay taxes—they usually use bank money. Most of their income (and other sources of money to pay taxes) also comes in the form of bank money. In sum, there are many ways of obtaining the money needed to pay taxes, and little of the money used takes the form of currency.

So, we need to dig deeper to understand what determines the value of money—money's value is not *simply* determined by what people must do to obtain *currency* to pay taxes.

We first focus only on government spending and taxing and examine alternative strategies that could be adopted by government in its spending: government can purchase at fixed prices versus floating prices; it can purchase fixed quantities or floating quantities; and it can let its budget float or fix it at a specified level of spending.

Let's start by assuming the state only spends its currency into existence (there is no state lending and no state transfer payments). Further, assume all tax payments require use of the state's currency. We can set aside for the moment whether there are private moneys and obligations and production for private use. (We are thus side-stepping, for now, important questions concerning the nature of the "private" economy—i.e., is it oriented around "monetary production," for profit and with division of labor?)

In this simple economy, let's suppose the government will establish the *money's worth* (price) of each thing it buys. If the tax bill is $1 million, the government can spend at least $1 million at the prices it pays.[43] For example, it could pay $1 for an hour of labor and $2 for a bushel of wheat. Even if government's relative pricing is random, government can make its desired nominal prices stick if it refuses to budge in terms of price and provides stiff enough penalties for nonpayment of taxes. However, the population will have some freedom to choose what it wants

[43] Note that we are assuming that the tax liability is enforced. We are also assuming there is a redistribution mechanism so that currency received by sellers can be distributed to those who need to pay taxes. This could be either because taxes are levied at the societal level or because there is a functioning private market system. We will examine implications of adding a private sector with private banks below.

to sell at the government's price (items with prices deemed to be too low might not be offered). But government can force the sale of some items even at unattractive prices simply by leaving no alternative way to make tax payments—up to the point that tax obligations have been satisfied.[44]

In our simple example, we assumed that the tax liability is $1 million and we argued that would create a demand for currency of at least $1 million. Sellers of resources would offer at least a million dollars' worth of resources to obtain the currency needed to pay taxes. But they are likely to offer more—depending on economic arrangements—because the currency can also be used as a medium of exchange (if there is private exchange) and store of value (at a minimum, to pay future taxes).

How much more? Government could ramp up its spending, going beyond $1 million as it offered to buy more outputs. So long as sellers were willing to sell more, the government would buy. Ultimately, it would be the sellers who decided how much currency the government could spend—not the government. Once the sellers obtained all the currency they wanted—to meet tax obligations, to use as medium of exchange, and to store for future use—they would stop offering resources for sale. When would that point be reached? We cannot say with certainty, but it would come before the government bought all the resources—since the private sector would want some for private use. So long as the government was purchasing only "extra" resources not needed by the private sector, we can presume that willing sellers would come forth until they had satisfied their full demand for currency.

The tricky question concerns the value of the currency—would the value of money remain constant in terms of the resources that government is buying as it tries to increase its purchases (beyond the $1 million tax liability)? The answer depends on the government's buying strategy.

[44] There could remain some items that are "unpriced" because no one will sell them at the state's announced price. However, if there is a private sector with banks that issue private money, then once the tax liability is satisfied, sales can occur above government's price. See Levey (2021). Note that mobile labor and capital would tend to produce results along the lines suggested by Foley: labor effort would be directed to producing commodities for which government's price provided better compensation for labor's effort. However, as the tax liability *must* be met, commodities (including labor power) would be sold at prices that did not compensate for labor effort if necessary to avoid penalties for nonpayment of taxes. Labor effort plus the penalty for nonpayment of taxes both play a role in determining money's value.

To further simplify we will assume government only spends on labor and that government pays a uniform wage for "ordinary labor." However, the analysis would apply to purchases of other kinds of resources, with the caveat that they would be heterogenous so that relative prices and distribution of resource endowments would matter. We will return to this below.

Let us distinguish among distinct strategies. In the first we continue assuming government adopts a *fixed price, floating quantity* spending strategy, this time paying one dollar per hour of labor. The government will not increase the wage but will purchase whatever quantity suppliers offer at the fixed wage. In the second strategy, government pays "whatever it takes" to ensure it can spend a desired amount of money. We can call this a *fixed quantity, floating price* strategy—with the wage floating. Assume in both cases the tax liability is $1 million.

The second strategy *could* lead to rising wages paid by government for labor it hires: the value of the currency could decline relative to the real resources it buys. However, a government that pursues the fixed price (wage) will maintain a stable value of the currency relative to purchased labor hours. In both cases, by imposing a tax, the government is creating a demand for its currency, the purpose of which is to move resources to the public sector. The act of spending the currency completes the objective.

By extrapolation, we can examine the results of each strategy if the government's budget sets a dollar amount of spending—say, $2 million—with a total tax obligation of $1 million. With the fixed price approach, the government will not increase the wage it pays but will buy whatever quantity suppliers offer for sale at the fixed wage. This means that government might not be able to spend $2 million—the sellers of labor hours will determine how much government spends. Government would always be issuing just the *right amount* of currency relative to the tax obligations it imposed in the sense that, at the fixed price, sellers are receiving enough currency to pay taxes and to accumulate desired hoards of currency. The currency spent but not used to pay taxes would equal the budget deficit and would remain in private hands as *net desired saving*.

However, the floating price strategy *could* lead to rising wages paid by government as it spends $2 million. Again, the government's deficit would equal the private desired saving in the form of currency—up to $1 million—but wages could rise (reducing currency's value in terms of real resources).

We conclude: given the conditions presumed, a deficit, by itself, does not cause wages to rise—the pricing strategy matters.

By raising the tax obligation (from, say $1 million to $2 million) the government will be able to move more labor resources following either strategy. The fixed price strategy will do so without raising wages (reducing the real value of the currency[45]), even where government's spending is greater than the total tax obligation since the price paid by government is fixed. When following the fixed price, flexible quantity strategy the government sets the tax at the level thought to be consistent with moving the portion of resources required to pursue the public purpose. The tax will determine the *minimum* volume of resources government can move, but the actual volume will likely be higher—and the extra amount will be set by sellers. The higher tax liability will enable government to command more resources—the government will be able to spend *at least* $2 million, at fixed prices.

We conclude further: on a fixed price strategy, it is not important to match government spending and taxing since government's currency might be demanded for other purposes (general medium of exchange and store of value).[46] This allows government to spend more currency than it receives in tax payments while holding the wage constant. On the other hand, the flexible price, fixed quantity strategy can result in a rising wage beyond some level of resource utilization (and spending)—spending and wages rise until all the currency is demanded (as a medium of

[45] Relative to each thing it buys. The overall "price level" according to a price index can, of course, change as the composition of things purchased changes.

[46] Note that with a general money tax, government cannot choose the precise composition of the aggregate basket it buys. We will return to the composition of the purchased basket below.

exchange and store of value). With the floating price approach, it is more important to set tax rates in line with spending if the goal is to minimize inflation.[47]

In practice, the ability to impose sufficient obligations might be constrained. What that means is that the sovereign would face *real* constraints: a tax revolt would limit the quantity of real resources that could be moved to the *public purpose*—not because the sovereign would *run out of money* but because the level of taxes that was politically feasible wouldn't create a sufficient demand for the currency to allow the sovereign to purchase as many resources as desired. While government *could* spend more, if it is willing to pay higher prices, it can drive prices up and perhaps obtain no more resources.

In this simple case with government imposing taxes and fixing the price of wages, the value of money is determined by the value placed by government on labor effort—the hour of ordinary labor—as in the *New Interpretation* of Marx discussed above. If government is the only supplier of money, an hour of labor effort is required to obtain money, hence the government's wage will "rule the roost" in private transactions. If there is a private capitalist system, the value of paid labor will be based on the government's wage for ordinary labor. Private employers would bid against the government's wage, paying a differential for labor with greater productivity. If government's demand for labor were infinitely elastic at its fixed wage, private sector wages could not fall below that of the government. This is the logic behind MMT's Job Guarantee proposal: the government pays a base wage and hires anyone willing to work at that wage. The base wage paid by government becomes the effective national minimum wage. We will discuss this in greater detail in the next section (Tcherneva 2020).

VALUE OF THE CURRENCY IN A CAPITALIST SYSTEM

Let's move on from the simple case. In the capitalist system, the nongovernment sector is organized with production for monetary profit. Private banks can lend and issue deposits

[47] Of course, if government stops spending before it has supplied enough currency to pay taxes, some of the tax liabilities cannot be met.

denominated in the state money of account, usually with backing by the state such that that bank deposits are close substitutes for the state's currency and are accepted in payment of taxes (although clearing among banks takes place in central bank reserves).[48] Government spending adds reserves to banks, while the nongovernment sector is paid in bank deposits.[49] Government currency is relatively unimportant, and reserves are not constraining because when banks are short, the central bank either lends them or provides them in purchases of government and private bonds. Government spending is important because it adds income, while taxes reduce net income. Generally, if government spends more than it taxes, government issues an amount of bonds approximately equal to the deficit. We will ignore impacts of bond sales—such as generating additional income for the private sector through interest payments. We will focus on government spending, taxing, and pricing strategies.

In both the Kalecki-inspired approach of Minsky and the Marxist approach, *ceteris paribus* (including holding labor productivity constant) if government purchases a portion of the output of commodities, then the aggregate money price of output must be higher to generate a bigger surplus, as discussed above. Whether government is directly hiring labor or purchasing the output of labor that is directed to produce commodities for government, the price system must ensure that workers in all sectors can purchase the subsistence consumption basket. For that reason, adding government spending must increase the overall price level, reducing the purchasing power of the wage to generate a surplus. Taxing reduces net private income, creating space for government's purchases, and thereby reducing the required increase of the aggregate price to generate a surplus. A deficit *forces a surplus* (in Minsky's terminology) with government spending moving a portion of produced commodities to government's use and generating an equivalent surplus in the form of money profits.

[48] In other words, although taxpayers can pay taxes with bank deposits, banks must use currency (cash and central bank reserves) for final clearing. This could limit bank ability to create bank money.

[49] Clearing of bank money when taxes are paid will require central bank reserves—effectively currency. However, if the central bank routinely lends reserves for clearing, the taxes can always be paid. Banks will be indebted to the central bank for borrowed reserves. Levey (2021) addresses the case when there is both government money and bank money, although with some non-substitutability across types of money. Government pricing can still affect "market" prices because its taxes are continually pulling currency out of the economy so that the population needs more to pay taxes.

Earlier we saw that, under some conditions, the government's fixed price, floating quantity approach can stabilize the value of money/prices paid, as increasing government's spending will not affect the prices it pays. Prices of private purchases can rise above government's prices, and private wages can rise above the government's—although the government's wage can set a floor (if it is willing to purchase all that is offered at that price). Private producers can refuse to sell to the government at its fixed price, meaning that the government may not be able to purchase what it wants, constraining government spending. The lack of government spending can depress income and private spending, possibly putting sufficient downward pressure on prices that government's prices become attractive. If taxes are linked to the volume of spending and income (for example, income or sales taxes), then taxes become pro-cyclical, helping to stabilize output and prices.

The question is whether there will be additional pressure on the value of currency arising from the conditions imposed on government's spending. Modern governments generally do not operate with a fixed price, floating quantity strategy. Spending is budgeted and government's purchases are typically at market-offer prices, although sometimes with cost-plus pricing. Further, much of government's spending does not directly purchase labor or output. Instead, it takes the form of transfers or subsidies. This provides income in addition to wages to increase spending on consumer goods. The mark-up over wage costs in the production of consumer goods must be higher. In Minsky's terminology, the price system increases the money value of the gross surplus so as to distribute some of it to transfer recipients, etc. We can also add non-government spending on "business-style" expenses, or on Wall Street financial operations, and so on. These can be financed by private money creation. Such (unproductive) spending forces an aggregate surplus by raising prices relative to wages.[50]

[50] A paper by DeLoecker and Eeckhourt (2017, 2) finds that "while market power was more or less constant between 1950 and 1980, there has been a steady rise in market power since 1980, from 18% above cost to 67% above cost. Over a 35 year period, that is an increase in the price level relative to cost of 1% per year." This is associated with a decline of the labor share of income from 62 to 56 percent over the same period (17).

What if government wanted to stabilize the value of money relative to prices of a broad basket of goods and services?[51] As both Keynes and Sraffa argued, indexes of prices are human constructions and imperfect as measures of aggregate price. Trying to fix an index price would be difficult and even counterproductive in a dynamic economy, as it would interfere with the changing conditions of production (such as labor productivity and remuneration of different types of labor) and as well with changing consumer demand and mixes of the final purchased product. However, let us put those concerns to the side for a moment and look at the possibility of stabilizing prices for a basket of consumption goods.

Government typically purchases a relatively narrow range of output on a large scale: oil and other sources of energy, military hardware, and a range of services. Even if government moved toward a fixed price, floating quantity model for such purposes, it would not necessarily stabilize money's value relative to the typical consumption basket. Stabilizing the price of the entire consumption basket would require operating across a broad range of outputs—many of which the government would not need. However, this could be done, for example, through the use of buffer stocks—standing ready to buy and sell to stabilize prices, as has been done for agricultural commodities.

However, given the *logic* of monetary production—in which there is a tendency to equalize profit rates and rates of exploitation—any government attempts to regulate a large range of prices would interfere with the logic of generating and distributing the surplus. It would be better to stabilize the prices of the inputs that are common across the production of the subsistence commodities—the wage goods. The common factor of production is labor, with the wage unit and labor hours being the fundamental units of measure.

Following the insights of both Marx and Keynes, it would make more sense to attempt to stabilize the value of money in terms of the wage unit. This is also consistent with other heterodox approaches that see unit labor cost as a primary determinant of price. Labor is not

[51] Kahn mentions that Keynes corresponded with Benjamin Graham, who advocated stabilizing prices through the operation of a buffer stock program for a variety of commodities (p. 22). In this correspondence, Keynes argued that an alternative to increasing unemployment had to be found to prevent wage pressures from feeding through to inflation.

homogenous but it is arguably more homogenous than output. Government is a direct purchaser of a wide variety of labor—from relatively unskilled (new army recruits) to highly skilled (FDA researchers). However, trying to stabilize the remuneration for each type of labor is not necessary and probably not desired as it would be very difficult to get relative wages and salaries just right to call forth the right proportions of each type of worker.

Instead, government could set the base rate and stand ready to hire anyone who wants to work at that rate. This is the idea behind Minsky's job guarantee (JG).[52] Market forces would then adjust to the base rate with wages for more skilled workers set at a multiple of the rate. If government sets the JG wage at $15 per hour, that becomes the effective minimum wage; the private sector (as well as the government itself) would pay more than that to attract the kinds of workers desired for particular positions. In recessions, workers who lose their jobs can get $15 per hour in the JG program; in expansions, more workers will be pulled out of the JG program by offers above $15. In this way, the value of money is set equal to the wage rate paid for "ordinary labor"—say, $15 per hour.

At the aggregate level, the total money value produced then equals the total value of hours of paid labor adjusted—as Keynes suggested—by quality. On the margin, $15 will buy an hour's worth of ordinary labor (and maybe a half an hour's worth of average labor—and much less time in the case of highly remunerated workers). The marginal value of money will remain at $15 per ordinary hour of labor for as long as that remains the JG wage.[53] And $15 would buy output (weighted appropriately—keeping in mind that prices must redistribute surplus labor) produced with an hour of ordinary labor.

However, money's value will change in terms of output as well as in terms of average labor as the labor composition of output changes over time even with a constant JG wage. If the basket of

[52] Minsky called it "employer of last resort." See Minsky (2013).

[53] Levey (2021) presents a simple model in which government "buys" labor and issues a currency that can be used to pay taxes (i.e., a "tax credit") and in which there are also private purchases of labor. The outstanding stock of government money grows at a rate determined by the government's deficit. Government adopts a fixed wage JG policy, but the "private" sector can pay any wage it wants using currency. Levey shows that so long as taxes are greater than zero, government's pricing for labor in the JG will determine the value of money. It turns out that it is not important whether the government is the only "seller" of the currency but only that it is the sole "producer."

consumption shifts toward output produced by less skilled labor, money's average value in terms of ordinary labor time increases; if the basket shifts toward output of skilled labor, money's value falls. In the second case, the purchasing power of the wage paid in the JG program would fall relative to the price of the new subsistence basket of commodities. So long as the wage paid remains at $15 per hour, it is creating a disinflationary force.

Note that this works even without unemployment—anyone willing to work at the program wage would be able to get a job. To maintain purchasing power for ordinary labor, the money wage would need to be raised above $15. This would be a policy choice. Similarly, increasing government transfer payments or rising business style costs will reduce the purchasing power of the wage unit because a portion of output will need to be shifted and profits need to be redistributed. A price index would record this as *inflation*, but it is not something that *should* be fought. This is why a well-functioning, dynamic economy will have what Keynes (1964) called *semi-inflation*—inflation before full employment is reached (301).

Recall that taxes can be used to release resources for government use. Imposing taxes in conjunction with transfer spending can reduce the purchasing power of workers (by reducing net wages) to free up commodities for consumption by transfer recipients. Government does not need taxes to "pay for" spending but needs to make way for its spending. Taxes on claimants to the surplus (such as recipients of interest or rent) can also release commodities for consumption by transfer recipients, attenuating pressure on prices.

CONCLUSION: TOWARD A RESOLUTION

As discussed by Graeber (2005, 440), the "[m]ercantilists located wealth in precious metals; physiocrats argued…all social wealth was ultimately derived from agriculture…", but Adam Smith drew on the moral tradition that "argued instead that intrinsic value had to be based in its costs of production, which made labour the main source of value" (442). Value was separate from price, however, the "invisible hand" guided by "Divine Providence" would push market prices toward the "natural price," "which in turn meant that people would indeed be justly

rewarded for their labours" (442). Marx took this up, arguing that the capitalist wage system turns "human creativity itself into an abstraction that can be bought or sold, necessarily involving alienation, exploitation and the destruction of what makes life meaningful or worthwhile." (op.cit. p. 443)

The Neoclassical revolution against classical thought replaced the labor theory of value with the marginalist utility theory, where value is a purely subjective measure of individual desire. Value becomes a normative concept outside the scope of economics and in its place is a relative price system that clears markets. Economics is "value free," "there is no standard of justice outside of the market itself." (op.cit. p. 443) Economics becomes an objective "science" of the study of price formation.

The neoclassical notion that the economy seeks a market-clearing equilibrium is rejected by all versions of heterodoxy; however, much of the heterodox tradition also shuns discussion of value in favor of price. An alternative theory of price formation is offered that emphasizes cost and profit and focuses on examining how firms actually set prices. Labor costs play an important role in price formation. However, as production takes the form of "production of commodities by means of commodities"[54] there is a bit of an infinite regress as it is "cost plus markup" all the way back through the stream of inputs.

There are two heterodox traditions that do emphasize value: Marx and Keynes. Marx's approach according to the interpretation adopted by Heilbroner, Foley, and Graeber emphasizes the "unique thing about capitalism" is that "it allowed labour to become an abstraction", turning labor power into a commodity that can be bought and sold. That commodity is the "*capacity* to work." (Graeber 2005, 450)

> What makes this possible is the use of a specific symbolic medium of value: money. For Marx, money is a symbol. It represents the 'value' or importance of labour. It can do so by incorporating it into a total market system, because for Marx the real value of a

[54] Sraffa's (1932) term. Note however that either the wage rate or the rate of profit must be taken as given outside the system to find the prices of production.

> product is not (as Ricardo claimed) how many hours of work went into making it, but the proportion of the total amount of labour in the entire economy that went into making it. This proportion can only determine through the market; that is through the use of money. (Graeber 2005, 450–51)

Thus, value is tied up with money, but not directly with a commodity's price. Money is the only abstract measure of labor's value we can observe. While we can count labor hours, these hours are specific to the tasks to which they are employed. The price of a particular commodity produced by labor is not equal to its embodied labor value as prices must redistribute surplus labor.

Most economists today reject the need for a theory of value. As Graeber (2005) says,

> [w]ithin capitalist societies, the word [value] is normally invoked to refer to all those domains of human action that are not governed by the laws of the market: thus we hear about family values, spiritual values, values in the domains of art and political ideals. In other words, 'values' begin precisely where (economic) 'value' ends. (444)

Keynes's approach to measuring units—money value and labor hours—is similar to Marx's, as we saw above. However, what is perhaps more important is that he brought values, in the sense of morality, back into (non-Marxian) economics. Keynes does not take wants as given but rather he wishes we might make our wants *desirable*. As Skidelsky (2009) argues, Keynes believed that "[t]o make the world ethically better was the only justifiable purpose of economic striving" (133). Keynes saw capitalism "as a necessary stage to get societies from poverty to abundance, after which its usefulness would disappear" (135). Following Moore, Keynes believed that "good" is objective, that we know what is good, and "that which is to be maximized is not happiness or pleasure, but goodness" (137). Keynes's view was that the "love of money" is a neurosis to be tolerated only until we achieve the abundance that would allow us to realize the "Economic Possibilities for Our Grandchildren" (144).

As Graeber puts it, in this sense of the term, values are "conceptions of the desirable," or "ideas about what people *ought* to want" (Graeber 2005, 446). The important point is that both Marx and Keynes saw the immorality of capitalism as a system that pursues profit above all else. In Keynes's theory, the result is unemployment and excessive inequality (also instability, as Minsky argued)—both attributed to the use of money. In Marx, it is the result of the exploitation of labor (unpaid labor time). Graeber (2005) argues

> Marx did not propose a labour theory of value mainly as a way to explain price fluctuations, but as a way of connecting economic theory with broader moral and philosophical concerns. For Marx, 'labour' was more or less identical with human creativity…. The unique thing about capitalism, Marx held, was that it allowed labour to become an abstraction. This was because capitalism turns labour into a commodity, something that can be bought or sold, and what an employer who hires a labourer buys is an abstraction, that labourer's *capacity* to work. What makes this possible is the use of a specific symbolic medium of value: money. (450)

Money is "fetishized" as "wage labourers only go to work in order to get money" (Graeber 2005, 451) and capitalists only hire them to get *more* money. As Keynes put it, they have no other desire in the world. The economic system, itself, *values* the money token, not the ability to satisfy basic human needs.

How can the heterodox approaches that derive from Keynes's thought be synthesized with the Marxian approach? Wages owed are denominated in the state's money of account, as are commodity prices. Payment of money clears the wage obligation to workers; money received as wages represents a *claim ticket* on commodities, redeemed for subsistence consumption. If we expand our analysis to include private money, this too takes the form of credits and debits denominated in the money of account. Banks advance money in the form of deposits to firms to pay wages and other costs, producing commodities for sale; receipts allow firms to meet their obligations to banks by redeeming bank money. Market prices determine the quantity of money for which commodities can be exchanged at a given point in time, but in the long run they tend toward natural prices that equalize profit rates and rates of exploitation across commodities.

There is thus a proportion between labor hours and money, what Foley terms MELT—the monetary equivalent of labor time.

The state can be brought into the analysis to not only choose the money of account and issue currency redeemable for obligations to the state, but also to issue the ultimate money for clearing of private monetary obligations (i.e., obligations of one bank to another). MMT can also bring in *political economy* aspects of the state's role in primitive accumulation, division of labor, wage labor, and markets (Forstater 2004; 2005).[55] This helps to resolve the problems with the usual approach to money identified by Levine (1983): imagining a pre-existing market economy based on commodity exchange but without money.

In the approach favored by many MMT proponents, *money* was there in the very beginning—before specialization, before wage labor, and before markets. This view also fits the facts as we understand them and has the advantage that it can explain the existence of money before capitalism. Money clearly predates commodity production.

This resolves the "beaver and deer" problems in Smith's exposition of exchange. He supposes that if it takes twice as much labor to kill a beaver as it does to kill a deer, then "one beaver should naturally exchange for or be worth two deer" (quoted in Heilbroner 1988, 112). As Heilbroner argues, Smith takes for granted that there are at least two pre-existing conditions: individuals want to (or need to) "maximize" value in exchange. But outside a capitalist system, why should this be so? It certainly is not true of many observed pre-capitalist societies, where exchange was customarily undertaken on an unequal and even competitive basis to force the counterparty to get the better side of a trade. Second, it presumes that there is a *disutility* in labor. While there are certainly a lot of unenjoyable ways to perform labor in a capitalist economy, why wouldn't hunting be an enjoyable pursuit in what Smith called "a nation of hunters"? And even if there is some disutility involved, there is no reason to suppose that hunting beaver and deer require the same effort for each time period (i.e., per hour).

[55] Forstater (2004; 2005) highlights Marx's views on the role the state's taxes played in primitive accumulation and in monetizing labor power and economies.

Finally, as discussed above, the value of labor is not determined at the individual level but at the level of the economy as a whole: "for Marx the real value of a product is not (as Ricardo claimed) how many hours of work went into making it, but the proportion of the total amount of labour in the entire economy that went into making it." (Graeber 2005, 451) This is the difference between abstract labor (economy as a whole) and concrete labor (hunting deer)—commodities do not exchange on the basis of concrete labor hours but rather are sold for money that represents a claim ticket on abstract labor power.

MMT also argues we should have *the state* in the picture from the very beginning: it creates a money of account, imposes obligations, and issues the currency which can be used to pay those obligations. In this way, we do not have to imagine the operation of a capitalist economy without a state, and then add the state and its currency to a pre-existing, stateless, system. There is no capitalism without a state that chooses the abstract measure of general value—the money of account. There is no capitalism without a state that provides a legal framework, that enforces contracts, and that provides the institutional framework within which capitalism functions. This does not mean that the state dominates or operates separately from capitalist relations, but rather that it plays a socio-political role that goes beyond "spending and taxing."

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