Marx, the quantity theory, and the theory of value

Don Lavoie

I. Introduction

By the 'quantity theory' is meant some form of the often empirically illustrated proposition that an increase in the quantity of money causes a proportional increase in the level of prices. Karl Marx vehemently denied this proposition, yet in many ways was an overtly sympathetic adherent to some of its essential elements. He attacked the order of causation, although his own causal explanation is different only in subtle details. And he uncritically accepted both the long-run result of proportionality and the long-run perspective of the quantity theory even though his attention in monetary theory is focussed primarily on short-run problems. Some of his scattered insights on the effects of money on the economy suggest a more powerful criticism of the quantity theory than the arguments he emphasized, a criticism which has received a more satisfactory treatment from other, decidedly non-Marxian, quarters. Some problems in monetary theory which Marx's quantity theory is intended to address do not lend themselves to the long-run formulation in which his theory of value is cast. With respect to money, we are, so to speak, always in the short run. Marx's version of the quantity theory, like that of classical economics, is singularly unsuited to the comprehension of what are essentially short-run, disequilibrium problems. In particular, I will contend that Marx's analysis of the objective exchange value of money cannot be easily reconciled with immediate facts of contemporary reality, i.e., with the existence of valuable 'token' money that is unconnected to the value of any commodity money. Thus, certain limitations of Marx's monetary theory are traceable to deeper limitations of the labor theory of value and so may provide a fresh way to address the debates between subjective and objective value theories.

Economists in Marx's day, as much as today, were deeply concerned about the applicability of their general theory of value to the most important of all exchange phenomena, money. Just as the field of money and banking was then seen to be insufficiently integrated with the (objective) cost-of-production theory of value, so do we continue to worry about the
(subjective) microfoundations of macroeconomics. The Marxian critique of some quantity-theory formulations for failing to connect the aggregates of the $MV = PT$ equation to meaningful human action or praxis is closely akin to the arguments of some modern subjectivist critics of the quantity theory. The goal of both objective and subjective critics is not to reject the quantity theory, except in its crudest form, but to go beyond and, as it were, behind it. For objectivists it is traced to underlying costs of production, while for subjectivists it is traced to underlying subjective perceptions. But for both, the simple quantity-theory relationship is seriously flawed if it is not clearly connected to value theory.

The microeconomic debates between objective and subjective value theories appear, unfortunately, to have become mired in the technicalities of the transformation problem. Similarly the macro debates between quantity theorists and their various critics seem stalled on the issue of whether the long or the short run matters most. One way to re-address these issues might be to ask the question: Through which analytical lenses (objective or subjective) can the effects on the economy of changes in the supply and demand for money be seen most vividly? I will argue that both the quantity theory and the objective theory of value are analytical perspectives from which many of the short-run monetary phenomena that Marx tried to describe are, at best, awkwardly explained.

After Sections II and III examine Marx's analysis of the supply and demand for commodity money, Section IV will take up his objective-value explanation of the relative price effects of changes in those supplies and demands. Section V then addresses the question of the applicability of this monetary theory to the paper monies of the modern world. It will be argued that a certain passivity of money in Marx's analysis of its supply and demand keeps him from elaborating upon some of the short-run effects of money on the system of production. Marx's objective-value discussion of the relative price effects of monetary changes in the economy under both commodity and paper standards will be compared with a subjective way of analyzing the same problems.

II. The Quantity of Money

In its quality as being a measure, money is indifferent to its quantity, or, the existing quantity of money makes no difference. Its quantity

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1. I will take it for granted that any of these analytical perspectives is able to 'see' the economic phenomena of the real world, and that the issue is not so much which theory is correct but rather which can help us most to see what is going on. All of these points of view aim, among other things, at an explanation of the exchange value or purchasing power of money. In the quantity theory, $1/P$ is the exchange value of money. The objective-value theory of classical economics tries to explain the exchange value of any commodity by tracing it to the underlying 'value' or cost of production of the commodity in terms of socially necessary labor hours (in this case the labor content of gold). The subjective-value
Marx’s theoretical formulation amounts to the same quantitative relationship as the famous $MV = PT$ of the quantity theory:

... for a given interval of time during the process of circulation, we have the following relation: the quantity of money functioning as the circulating medium is equal to the sum of the prices of the commodities divided by the number of moves made by coins of the same denomination.

For Marx "the sum of the prices of the circulating commodities depends on the quantity, as well as the prices, of the commodities"; hence the quantity of money $M$ equals $PT/V$. Marx attaches utmost importance to this quantitative relationship and refers to it as a "law" which "holds generally," is "one of the principal economic laws, and the detailed substantiation of [which] based on the history of prices is perhaps the only achievement of the post-Ricardian English economists." In applying his own theory to history he frequently employed the idea of a quantity-theory relationship between the money supply and the price level.

Marx did, however, deny the order of causation of the quantity theory. "This much is clear, that prices are not high or low because much or little money circulates, but that much or little money circulates because prices are high or low." Although this converse proposition constitutes Marx’s major argument against the quantity theory, in fact his is not so much a different description of the causation as a different way of explaining the same causal sequence that the classical economists’ quantity theory describes. First, both theories agree, a gold discovery occurs as an exogenous event. The quantity theory argues that this brings into circulation an increased quantity of money, which in turn causes a rise in prices. Marx’s version interjects a fall in the value of money as the direct consequence of the discovery of gold, that is, the cost of production per ounce falls. Marx

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theory tries to explain exchange value by tracing it to an underlying subjective use value of the marginal unit of the commodity (in this case, demand to hold money balances). Thus three kinds of ‘value’ will be discussed in this article and, where necessary, distinguished parenthetically as exchange value, subjective use value, and objective costs of production.


4. Ibid. 120–22.


then has prices rise in consequence of the fallen value of the units by which they are measured. The rise in prices is viewed as the cause of the increase in the quantity of circulating medium. But while the order of this analytical description differs from the quantity theory, the order of the actual events is the same in each. The discovery of gold sets in motion a process by which both the quantity of money and the prices adjust upward more or less simultaneously:

This process is accompanied by the continued increase in the quantity of the precious metals, an increase caused by their streaming in to replace the articles directly bartered for them at their sources of production. In proportion therefore as commodities in general acquire their true prices, in proportion as their values become estimated according to the fallen value of the precious metal, in the same proportion the quantity of that metal necessary for realizing those new prices is provided beforehand.\(^7\)

While Marx did not hold to a dichotomy between the real sector (the sphere of the circulation of commodities) and the monetary sector, the latter is consistently viewed as a passive element with respect to the former. The quantity of money in circulation manifests and responds to changes in the other three elements of the equation, “state of prices, quantity of circulating commodities, and the velocity of money-currency,” which “are all variable.”\(^8\) He termed “one-sided” and even “false” those seventeenth and eighteenth century economists who saw gold discoveries as instances of the increased quantity of money causing a rise in prices.\(^9\) For Marx the quantity of money performs its function as medium of exchange by realizing prices at whatever their level, this having been separately determined on the one hand by the values (objective costs of production) of the commodities, and on the other hand by the value of money, in its function as measure of value.

When prices are higher, more gold is mined and removed from hoards and alternative uses in order to ‘realize’ these higher prices. The sphere of circulation of commodities ‘absorbs’ only as much money into circulation as it needs to circulate commodities. “In accordance with the requirements of the process of circulation, gold must sometimes be put into circulation and sometimes withdrawn from it.”\(^10\) \(M\) adjusts to the levels of \(PT\) and \(V\), given the value (that is, cost of production) of gold.

This account has a certain plausibility for pure commodity money where the continuous possibility exists of conversion between money coin and

\(^7\) Capital I, 118.
\(^8\) Capital I, 122.
\(^9\) Ibid. 118.
\(^10\) Marx, A contribution to the critique of political economy (New York, 1970), 107.
bullion. Marx quotes Sir Dudley North: "If never so much be brought from abroad, or never so much coyned at home, all that is more than what the Commerce of the Nation requires, is but Bullion; and will be treated as such; and coyned Money, like wrought Plate at Second hand, shall sell but for the Intrinsick." In other words, extra gold beyond that needed for circulation loses its distinctively monetary character and comes to be valued only for its use as a factor of production like wrought iron. In the long run the social resources devoted to gold production will be such as to make the value (cost of production) of gold just equal to the value of the other goods which use an equivalent amount of (by assumption, homogeneous) labor. The classical theory of value has equal values exchange, so the supply of gold forthcoming from the mines corresponds to its underlying relative cost of production. A gold discovery signifies a lower value of gold, that is, fewer labor hours need to be expended per ounce. This cheapening of the production of an ounce of gold means that transactors who want to exchange other commodities for this ounce should be willing to offer a basket of commodities which contains fewer necessary labor hours in their production. If originally an ounce exchanged for ten bushels of wheat, and, with a gold discovery it now takes, say, half the previous number of labor hours to produce the ounce, it will tend to exchange for correspondingly fewer bushels of wheat. The price of a bushel of wheat in terms of gold has risen from \( \frac{1}{10} \) ounce to \( \frac{1}{2} \) ounce because gold now requires half its previous cost to produce. Gradually this new value of money becomes expressed in higher prices of other goods until all prices are (roughly) twice their original level. To realize these higher prices throughout the market a greater quantity of gold is required, so more of it is coined from bullion, withdrawn from other uses, or produced in mines until the quantity in circulation is sufficient to circulate the commodities at the higher level of prices:

... the values of commodities remaining constant, their prices vary with the value of gold (the material of money), rising in proportion as it falls, and falling in proportion as it rises. Now if, in consequence of such a rise or fall in the value of gold, the sum of the prices of commodities fall or rise, the quantity of money in currency must fall or rise to the same extent.

In accordance with Marx's theory of value it can only be value magnitudes that determine prices, and relative prices that guide the production of various quantities of commodities:

11. North, *Discourses upon trade; principally directed to the cases of interest, coynage, clipping, increase of money* (London, 1691), 17.
The change in the quantity of the circulating medium is, in this case, it is true, caused by the money itself, yet not in virtue of its function as a medium of circulation, but of its function as a measure of value. First, the price of the commodities varies inversely as the value of the money, and then the quantity of the medium of circulation varies directly as the price of the commodities.\(^\text{13}\)

Marx is here emphasizing the dual function of money in this process, (i) as a unit of account or measure of value, in which role it expresses the relative labor costs of its production relative to that of all other commodities in the system of prices, and (ii) as a medium of circulation, in which role it is passed from hand to hand to (passively) realize prices in actual exchange transactions. He is adhering to the quantity-theory explanation of the effects on prices of a gold discovery as a long-run, comparative statics proposition, except that, in order to maintain consistency in his labor theory of value, he wants to locate the source of the causation in the value (the labor cost of production) of gold. Thus a diminution of the value of money, alluding to its first function, increases all prices, whose increase in turn calls forth a greater quantity of money, alluding to its second function.

While this theory highlights the important fact that in the long run, gold production is endogenous to the market, its stress on the long-run determinants of the quantity of money is misplaced for the short-run process analysis to which Marx seems to want to pay attention. Upon the first moment of the discovery of gold, no transactors know what the value of money has thereby changed to, and indeed it seems plausible to explain the rising prices as caused by the increased money bidding up prices. The objective theory of value wants to focus on the underlying objective conditions, but in the short run these real factors, such as relative labor content of different goods, are not known to those making exchanges. The long-run orientation of the objective-value theory deprives Marx’s analysis of its choice-theoretical basis. The value categories are necessarily divorced from the analysis of the concrete action or praxis of individual economic agents.\(^\text{14}\) Neither those who first come into possession of the new gold nor those to whom this gold is first offered in exchange transactions have in mind a changed subjective value of money, no matter what the classical

\(^{13}\) Ibid.

\(^{14}\) It might be objected that I am employing a methodologically individualistic account of phenomena which many Marxists treat holistically. Space does not permit any justification of this procedure, but D. F. B. Tucker has made a persuasive case for the proposition that Marx and Engels were sophisticated methodological individualists (see Marxism and individualism, New York, 1980). They were, of course, harsh critics of naive methodological individualism which treats man as an isolated, atomistic agent apart from society. Man, along with his tastes, laws, habits, institutions, language, and culture, is essentially a social animal. But this is clearly recognized and even stressed as well by some of the most prominent economists who uphold methodological individualism, for example F. A. Hayek and
value theory says must have happened to the value (cost of production) of gold. A subjective theory of value which concentrates on the perceptions, however incorrect, of market participants would seem to be more amenable to this kind of short-run process analysis. Before objective factors have had a chance to exert their effect on market participants it is unhelpful to apply the classical proposition that equal values exchange. In the short run it is evident that the two participants exchange in order to gain in use value by this transaction, as Marx admits: "So far as regards use-values, it is clear that both parties may gain some advantage. Both part with goods that, as use-values, are of no service to them, and receive others that they can make use of." It is only after a long process that exchange value comes to represent relative costs of production. Those first receiving new gold may easily mistake this extra money as a real increase in demand for the commodities they sell for this gold, precisely because the long-run forces have not yet had the chance to influence the subjective perceptions of individuals. This short-run price rise may be due either to a revision in the transactors' estimation of the fallen value (cost of production) of gold, or to a temporary belief that the value of gold has remained constant and that the extra gold being offered in exchange reflects a real shift in demand. Marx's tendency to relegate money to a purely passive role reflects his theory of value in which only ultimate real factors are taken as determinants: "the quantity of means of circulation is determined by factors . . . all of which are contingent on the metamorphosis proceeding in the world of commodities . . . in short on circumstances which lie outside the framework of simple money circulation and are merely mirrored in it." But for short-run analysis the immediate cause of price changes can be other than

James Buchanan. Marx and Engels, in reaction to the holistic theory of history that had been promulgated by Hegel, argued that "The premises from which we begin are . . . real premises from which abstraction can only be made in the imagination. They are the real individuals, their activity and the material conditions under which they live" (from The German ideology, quoted in Tucker, p. 32). Precisely because his analysis is an extension of classical political economy, Marx relies fundamentally on an explanation of social phenomena in terms of the concrete purposes of individual actors. For the objective-value theory, complex social phenomena are rendered intelligible by discovering their composition in terms of the purposive expenditure of labor by individual workers. For the subjective theory, complex social phenomena are rendered intelligible by discovering their composition in terms of an interplay of the purposive marginal choices being made by individual consumers and producers. In neither theory is an explanation considered satisfactory which fails to connect aggregate concepts with their roots in meaningful human purposes. In this sense, I would contend, both ways of looking at value are essentially methodologically individualistic or choice-theoretic. With reference to some short-run problems, however, the objective theory has, I believe, some difficulty maintaining its own individualistic standards. My argument here is, in effect, that as with the other classical economists, Marx's value theory stood in the way of a more complete application of his own methodological individualism.

16. Marx, Contribution, 105
their ultimate causes. The quantity of commodity money is endogenous in the long run, but an active causal factor in the short run.

III. The Demand for Money

The solidification of circulating money into hoards and the flowing of the hoards into circulation is a continuously changing and oscillating movement, and the prevalence of the one or the other trend is solely determined by variations in the circulation of commodities.\(^{17}\)

Among the three factors in Marx's \(M = PT/V\) with respect to which the quantity of money is passive is the velocity of money. But this too is entirely passive with respect to the real sector—in Marx's terms, the circulation of commodities. The circulation of commodities consists of a continuous metamorphosis between the acts of purchase, the transformation of money into commodities (M–C), and sale, the transformation of commodities into money (C–M).

Again as a result of his theory of value Marx lacks much of a choice-theoretic flavor in his analysis of the demand for money, and, as with his analysis of the quantity of money, his relegation of this factor to a passive role diverts his attention from factors that it affects. There might be more to say about why people hold the real level of the value of the hoards that they hold than that this depends on the circulation of commodities.

Like his analysis of the quantity of money, Marx's theory of its demand has a certain long-run plausibility. Since money is not ultimately desired for its own sake but only as a means to secure commodities, there is a sense in which a person's cash balances are passive with respect to the commodities which are the aim of exchange. Marx stressed the contrast between the circulation of commodities and the currency of money.\(^{18}\) The circulation of a commodity is a purposeful path from its initial production, by persons whose use value for the commodity is virtually nonexistent, through various productive metamorphoses and exchange relations, toward its ultimate sale to a consumer for whom it has use value. The currency of money, by contrast, seems to be an unending and secondary movement through the economy. People routinely accept money for unspecified future purchases, but aim consciously to acquire commodities. Commodities undergo a circuit and are, as use values, the whole purpose of social production, whereas money wanders, apparently aimlessly, and is desired only in order to be thrown back into circulation to obtain commodities. So for Marx, commodities rule the motion of economic activity, while money plays the secondary though indispensable role (under capitalism) of servicing commodity circulation:

\(^{17}\) Marx, Contribution, 136.

\(^{18}\) Capital I, 114.
The change of form, C–M–C, by which the circulation of the ma-
terial products of labour is brought about, requires that a given value in
the shape of a commodity shall begin the process, and shall, also in
the shape of a commodity, end it. The movement of the commodity
is therefore a circuit. On the other hand, the form of this movement
precludes a circuit from being made by the money. The result is not
the return of the money, but its continued removal further and further
away from its starting-point.\textsuperscript{19}

But as is implicit in Marx's own discussion of hoarding, people do ac-
tively attempt to achieve a certain level of cash balances, a "value of the
hoard," which is sensitive to the value of money.\textsuperscript{20} Given an opportunity
for a fortuitous exchange a transactor will readily accept 'unwanted' cash
balances, will often passively adjust his hoard to his desire for real com-
modities. But some commodity purchases are themselves constrained by
the demand to maintain a sufficient value of hoarding. A more detailed
treatment of this active role of the demand for money would have signifi-
cantly enhanced Marx's discussion of the mechanism by which changes in
the value of money influence prices.

IV. Relative Price Effects

If the mass of commodities remain constant, the quantity of circulat-
ing money varies with the fluctuations in the prices of those commod-
ities. To produce this effect, it is by no means requisite that the
prices of all commodities should rise or fall simultaneously.\textsuperscript{21}

In Marx's theory the discovery of gold only gradually leads to a higher
price level and more gold in circulation. Money works its way sequentially
through the economy in one exchange after another, according to its circuit
M–C–M. When with a gold discovery the value of money falls, not all
prices immediately rise to reflect the new lower value of the unit of ac-
count. Its fall in value is "first evidenced by a change in the prices of those
commodities that are directly bartered for the precious metals at the sources
of their production." Meanwhile, other exchanges are taking place at the
false higher value of money, i.e., at prices that are too low. At first only
the prices of a few commodities rise. "The greater part of all other com-
modities . . . will continue for a long time to be estimated by the former
antiquated and illusory value of the measure of value."\textsuperscript{22}

During the operation of this transmission mechanism, until the economy
settles down to a new level of prices, the relative prices of various com-

\textsuperscript{19} Ibid. 114–15.
\textsuperscript{20} See Contribution, 148.
\textsuperscript{21} Capital I, 119.
\textsuperscript{22} Ibid. 118.
modities are necessarily at variance with what they would have been before and will become after the gold discovery. Thus short-run relative price changes necessarily occur during the transmission process by which the price level adjusts to the lowered value of money.

Such short-run non-neutralities are, of course, admitted by all but the crudest quantity theorists. But, as Axel Leijonhufvud has argued, the significance of the short-run distortions to relative prices that money can cause puts in question the relevance of the long-run proportionality conclusions of the quantity theory. The change in the value of any commodity will cause such relative price changes during the adjustment process, but since money enters into all exchange transactions and measures all prices, the magnitude and significance of these short-run effects is far greater for money:

\[ \text{. . . one commodity infects another through their common value-relation, so that their prices, expressed in gold or in silver, gradually settle down into the proportions determined by their comparative values, until finally the values of all commodities are estimated in terms of the new value of the metal that constitutes money.}^{23} \]

Insofar as money is pure commodity money, the magnitude of the changes in its value will be relatively slight. In his day, Marx finds,

\[ \text{the deviations from the average level, of the quantity of money current in any country, are much smaller than we should at first sight expect, apart of course from excessive perturbations periodically arising from industrial and commercial crises, or, less frequently, from fluctuations in the value of money.}^{24} \]

This, along with some mentioned peculiarities of the long-run perspective of the classical theory of value, may explain why Marx devoted so little attention to these relative price effects. Were his scattered comments on these ‘illusory’ prices more complete this could constitute a more potent argument against the quantity theory then his own, challenging the relevance of the long-run conclusions of proportionality among the prices which are often implicit in quantity theory formulations. The short-run non-neutrality which, quantity theorists concede, has effects on investment decisions, prevents the neutral long run from ever arriving. And these non-neutral effects are even more important today when the value of paper money can fluctuate violently.

Such a theory that systematically examines the effects of illusory prices caused by money was developed by the Austrian economists Ludwig von Mises and Friedrich Hayek. In this subjective approach all exchange value,

23. Ibid.
24. Ibid. 123.
including that of money, is traced to subjective use value. Here the gold discovery does not immediately affect the (subjective) value of money, since this is based on its expected purchasing power (which is itself estimated from recent prices) and only secondarily related to costs of production. This theory has the quantity of money actively raising prices by bidding them up higher than their ‘actual’ equilibrium level. The subjective value of money then falls as people gradually come to realize that with higher prices the hoard has lost some of its purchasing power. Indeed, it is precisely this effect on ‘real balances’ that leads to the adjustment of the velocity of money to its increasing supply. In the objective-value theory, at the early stage of the inflation process the prices in the vicinity of the sources of the new money rise to their correct level reflecting the already fallen value (cost of production) of gold, whereas in the subjective-value version these prices rise above their correct height and only later, when the holders of ‘hoards’ realize that the purchasing power has fallen owing to the rise in most prices, does the subjective value of money fall. For this type of short-run problem the subjective theory, which concentrates on the perceptions of the actors, whether mistaken or not, seems more fruitful than the objective approach, which refers to an abstract concept of value that cannot be in the minds of the actors.

Marx admits that there is a gradual process in which the true value of gold is not for a time reflected in actual exchanges. More relevant is the ‘value’ that people believe it has, that they attribute to the money, which, being founded upon recent memory of the level of prices, changes only gradually. The first to spend new money evaluate it as highly as they had valued it before the discovery of gold, but they find they have more of it than they wish to hold as the real value of the hoard. Their actions to spend out of these excessive hoards leads to the very rise in prices that in turn will reduce the purchasing power of the hoard. The objective-value theory’s concentration on ultimate underlying objective causes renders it a clumsy tool for analyzing short-run processes in which this underlying reality is widely misperceived. Although Marx had many of the elements of a theory of the inflation process via the real-balance effect, complete with ‘ragged price’ effects (as Leijonhufvud calls them), his long-run theory of value barred him from putting all these promising pieces together into a coherent process analysis.

V. **Token Money and the Objective Theory of Value**

The token of value is directly only . . . a *token of gold*, and only indirectly a token of the value of the commodity. Gold . . . has not sold its shadow, but uses its shadow as a means of purchase.\(^\text{25}\)

If the value (cost of production) of money inversely determines the level of prices, then why doesn’t the circulation of “worthless things, such as paper” make prices rise without limit? The cost-of-production theory of value would seem to imply that paper money would have no exchange value, although immediate facts of reality indicate that it retains purchasing power. Marx properly reacts to this argument as a potential challenge to his entire theory of value. “Exchange-value thus appears to be something purely conceptual . . .,” “seems to represent the value of commodities directly,” and thus “seems to invalidate economic law.” But, Marx argues, the appearance is deceptive. Paper money is a token of gold and can replace it only in its function as medium of circulation, not in its function as a unit of account. For Marx it is only through its connection with (valuable) gold that (worthless) paper can act as a token of value and circulate as money:

The token of value is effective only when in the process of exchange it signifies the price of one commodity compared with another or when it represents gold with regard to every commodity-owner. . . . It can maintain this position only if its function as a symbol is guaranteed by the general intention of commodity-owners, in other words if it acquires a legal conventional existence and hence a legal rate of exchange.

The token must directly represent an amount of gold, which has value, and only indirectly represents commodities:

Worthless tokens become tokens of value only when they represent gold within the process of circulation, and they can represent it only to the amount of gold which would circulate as coin, an amount which depends on the value of gold if the exchange-value of the commodities and the velocity of their metamorphoses are given.

According to Marx’s scheme a gold discovery must necessarily affect the circulation of paper currency.

Rudolph Hilferding, the Austro-Marxist who had a strong influence on the development of Marxism in this century, significantly disagreed with Marx on this point. He refers to the “detour by which Marx proceeds—first determining the value of the quantity of coins and then, from that, the value of the paper money—” as “superfluous” and argues that we should deduce the value of the paper money “directly from the social value in circulation.” In short, paper money is valuable directly for its purchasing

26. Ibid. 113.
27. Ibid. 115.
28. Ibid. 119.
29. Ibid. 115–16
30. Ibid. 118.
power with respect to other commodities and not because it is a shadow of
gold: "The fact that, historically, paper currency had its origin in metal
currency is not a reason for regarding it in this way theoretically. The value
of paper money must be deducible without reference to metal money."31

While Hilferding’s point seems well taken and indeed could be extended
to the value of bank deposits and quasi-money, the question arises whether
this conclusion is consistent with the labor theory of value, as Marx evi-
dently thought it would not be. How is it that a worthless scrap of paper
can directly represent value, can act as the universal measure of value, and
can exchange for commodities which embody the expenditure of labor
time? And if this exception to the objective theory of value is granted, then
why cannot gold money itself be analyzed as having exchange value be-
cause of its expected purchasing power as implied in the existing price
level rather than because of its labor costs of production? But Hilferding
does not consider these objections. His "social value in circulation" hardly
appears to be made of the same objective substance in which all other costs
of production are measured: socially necessary labor hours.

It would seem that where paper money is inconvertible to gold and is
the only medium of exchange in use, this necessary connection between
the mere token of value and gold is severed. The function of paper to act
as a symbol of value is guaranteed "by the general intention of commodity
owners" to accept it in exchange, not to be able to convert it to gold. The
mere fact that people expect to be able to spend paper, because it has had
purchasing power, imparts (subjective) value to it, and gold no longer
plays a part in the value of money.

Marx retains a kind of passivity of the quantity of money by distinguishing
between the nominal and the real quantity of money:

If the paper money exceed its proper limit, which is the amount in
gold coins of the like denomination that can actually be current, it
would, apart from the danger of falling into general disrepute, repre-
sent only the quantity of gold, which, in accordance with the laws of
the circulation of commodities, is required, and is alone capable of
being represented by paper.32

While the nominal quantity of paper tokens can be changed by the state,
any excess in this issue beyond the real quantity that would circulate if it
were gold simply cheapens the token. Thus the real quantity of money is
endogenous and depends on the value (cost of production) of gold:

If the value of gold decreased or increased because the labour-time
required for its production had fallen or risen then the number of

32. Marx, Capital I, 128.
pound notes in circulation would increase or decrease in inverse ratio to the change in the value of gold.\textsuperscript{33}

Clearly the quantity of paper money issued by the state is exogenous and has an effect on prices. But for Marx since the value of these tokens is due only to the gold they represent, this power of the state is an "illusion." It can alter the nominal quantity of money, but this will only serve to raise prices until once again the real quantity of money equals the quantity of gold that the circulation of commodities would require:

\begin{quote}
The State may throw any number of paper notes of any denomination into circulation but its control ceases with this mechanical act. . . . This would have changed nothing but the nomenclature of the standard of prices.\textsuperscript{34}
\end{quote}

This last remark seems to have been an overstatement. We have seen that according to Marx's own analysis, a change in the value of money is only evidenced gradually throughout the economy. With paper money, where an increased quantity decreases its value, some prices near the sources of the new money will rise before others. Only as a long-run comparative statics proposition can it be said that monetary expansion changes nothing but the "nomenclature" of prices. In the actual inflation process, particularly if there are repeated injections of new money, the real consequences on the circulation of commodities through relative price changes could be quite significant.

Once paper money is circulating and prices are expressed in units of these tokens, the state can, step by step, remove gold entirely from circulation as money, as recent history has illustrated. But according to Marx's theory of money, paper tokens cannot directly represent the value of commodities but can do so only "in so far as paper money represents gold, which like all other commodities has value."\textsuperscript{35} It seems absurd to suppose that in contemporary society paper dollars are tokens of value only insofar as they represent a quantity of gold. Most transactors in dollars do not even know the price of gold in dollars.

Thus recent monetary history contains a lesson in the theory of value. The fact that money, which, at the latest since Nixon ended the convertibility of dollars to gold for foreign holders of dollars, is thoroughly disconnected from its roots in gold, suggests that the theory of value should pay more attention to the demand side than Marx's theory of money has paid. It suggests that not only modern paper currency but perhaps all money is 'valued' because of the widespread use to which it can be put in social exchange. Marx uses this idea of purchasing power in his analysis of the

\textsuperscript{33} Marx, \textit{Contribution}, 119.
\textsuperscript{34} Marx, \textit{Contribution}, 119–20.
\textsuperscript{35} Marx, \textit{Capital I}, 128.
origin of the institution of money, but it disappears in his account of the value of money, obscured by his objective-value theory. Paper money should be seen as material proof that the value of money depends neither on its own costs of production nor on the costs of producing something else of which it is a token, but on the subjective anticipations to accept it in exchange. It is valuable because people think it is valuable.

Marx himself recognized that to acknowledge the possibility that regularly reproducible goods, whose cost of production in terms of socially necessary labor time was negligible, could retain exchange value would raise serious difficulties for the application of an objective theory of value. Paper money is a reproducible commodity with an exchange value that somehow stays higher than its labor content suggests it should. So long as gold regularly circulates alongside paper tokens so that its value relative to the tokens can be estimated, Marx can plausibly answer this criticism by invoking his ‘token of value’ argument. In some sense the value of gold may in that case be the underlying unit of measure while tokens act as mere media of circulation. But when the last vestiges of the links to gold have dissolved, when these ‘worthless’ tokens are the only circulating medium, we must face up to the fact that paper money is the unit of account as well as the circulating medium, that gold no longer casts its shadow on the value of money. More generally, then, objects possess exchange value purely because they are desired and regardless of their costs of production.

The objective-value theory has limited applicability for many problems because objective reality impinges on subjective minds only in the long run, assuming that production can respond to price signals. In a world composed of competing fiat currencies controlled by governments, the cost-of-production theory of value should say that, other things being equal, each government will keep expanding its production of paper money, driving its value down to its cost of production. But, of course, other things are not equal. Political factors keep the exchange value of paper from ever getting to its long run cost-of-production value. The long run doesn’t arrive. Various social pressures come to bear on the monopoly issuer of currency and prevent it from fully exploiting its printing-press rents. True, in the long run paper currency may indeed become worth the paper it is printed on, and this long-run argument may offer a valuable warning of the dangers of paper money falling into ‘general disrepute.’ Nonetheless, we are not yet at that long run, and our economic theory had better be capable of studying the short run which we are in. It has to be seen as a fundamental weakness of the classical theory of value as an explanation

37. In fact I have argued elsewhere (‘Some strengths in Marx’s disequilibrium theory of money,’ Cambridge Journal of Economics, 7 (1983): 55–68) that Marx himself in much of his writing maintained a disequilibrium perspective that demands paying attention to the
of prices that it can much less easily describe such short-run processes of price adjustment than can a subjective theory. It is precisely in these short-run processes that the purposeful human actions that constitute price formation take place.

For economic problems in which the long run is quite remote, and many problems in monetary theory are of this type, the cost-of-production theory of value is not very helpful. It is just this excessively long-run perspective that is the chief weakness of many versions of the quantity theory, including the 'upside down' version of it that is contained in Marx's theory of money.

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short run. Marx's objective-value theory and its long-run focus impairs his analysis of the quantity theory more than it does his general analysis of the effects of money on the overall economy.