

**Money, Demand and Value:  
How Changes in Demand Affect  
The Monetary Expression of Value in Marx**

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## ***1. Money, Demand and Value***

Two relatively recent conceptual developments are central to understanding key aspects of how money functions in Marx's value theory. The first is recent work that develops the concept of the monetary expression of value, a concept that permits the expression of commodity values and exchange-values, conceived of as magnitudes of socially necessary abstract labor, as money prices. The second development is a new approach to explaining how changes in demand affect the determination of commodity values. In order to use the monetary expression of value to theorize the relationship between values and prices, it is necessary to integrate these two recent developments – to show how money acts to express commodity values under conditions of excess or deficient demand. The object of this paper is explain how changes in demand affect the monetary expression of value and how value is withdrawn from and reintroduced into the sphere of circulation, in part, via the formation and depletion of money hoards.

Existing theories of how money expresses commodity values do not explicitly consider the effect of changes in demand on the determination of value and exchange value. Demand is most often understood to affect values and exchange-values only indirectly, by causing a deviation of market-prices from prices of production; the idea that demand can directly affect commodity values is rejected on the grounds that admitting such a role for demand would undermine Marx's claim that labor is the sole source of value. I have argued elsewhere that by integrating an important dimension Marx introduces with the concept of socially necessary labor-time it is possible to see that variations in demand directly affect commodity values and exchange-values by redistributing value among the various producers

(Kristjanson-Gural 2003). Demand affects the magnitude of value directly but does not represent a source of value. This insight has important implications for the question of how money stores and expresses value.

What I propose to accomplish in this paper is the following. I first analyze the effect of changes in aggregate demand from one period to the next on the exchange-value of commodities and how these changes affect the determination of the monetary expression of value. I then show how changes in demand therefore act to redistribute value intertemporally, between periods, through changes in money hoards and commodity inventories. Finally, I use this analysis to critique two recent attempts to define the monetary expression of value and show the conceptual and quantitative errors that result from the failure adequately to integrate demand.

This contribution is important for the following reasons. First and foremost it provides a theoretic framework to evaluate the various attempts to define the monetary expression of value. Second, it provides a theoretic basis to analyze how different monetary systems may affect the production and distribution of value in order, ultimately, to theorize inflation within a Marxian value framework.

I want to be clear at the outset that I am not proposing a model to analyze concrete instances of capitalist competition. Instead I am utilizing a highly abstract and circumscribed model of simple reproduction to clarify the relationship between value, demand and money at a specific diachronic stage of the development of the analysis. In my view it is necessary first to make clear the meanings of the concepts in this way in order, later, to be able to employ them in the further task of integrating more complex relationships.

I will proceed first by reviewing how demand affects value and exchange value in a post-structuralist framework and how the monetary expression of value is defined using this approach. I will then develop a macro model of simple reproduction and use it to illustrate how a change in aggregate demand from one period to the next redistributes value between periods. In section three I will critique two existing attempts to define the monetary expression of value – the monetary expression of labor-time (MELT) developed by Foley (1982; 2000) and the labor expression of money offered by Fine, Lapavitsas and Saad-Filho (2004). I will end by discussing implications for further research.

## ***2. The Monetary Expression of Value with Excess and Deficient Demand***

Most treatments of demand in the value theory literature hold that short-run variations in demand lead to deviations between the market-price of a commodity and its price of production. In this view, prices of production can be defined either by the average technique of production or by the regulating capital. They act as moving centers of gravity of market-prices and are fully defined by conditions of production. In contrast to this reading, I have argued elsewhere in favor of an alternative interpretation first offered by Rosdolsky (Kristjanson-Gural 2005). Rosdolsky (1954) argues that Marx, in his discussion of market-value, implies that variations in demand first lead to a rise or fall in the *market-value* by affecting how much of the labor-time expended is considered ‘socially necessary’ in the sense of being in accordance with existing social need. The market-value rises and falls with variations in demand and moves in concert with the market-price within the limits defined by the conditions of production. Only when excess or deficient demand persists at a market-value defined by one of the two extremes is there a deviation of the market-price from the market-value. Marx indicates that this analysis of market-value applies to the price of

production with the appropriate modifications, but he does not carry his analysis through to the level of competition among producers in different industries. Doing so results in a new category of exchange-value, the market-price of production, a category that defines the socially necessary abstract labor-time represented by a commodity under conditions of excess or deficient demand, where *socially necessary* acquires the fuller meaning incorporating the market's evaluation of the social need for the commodities.

As a further elaboration of the concept of exchange-value, the market-price of production occupies an intermediate position between the price of production and the market-price.<sup>1</sup> The market-price of production and the market-price will rise and fall together within a range defined by the techniques of production of a given industry according to the level of demand. Outside that range, the market-price will rise above the market-price of production in the case of extreme excess demand, and it will fall below the market-price of production in the case of extreme excess supply. When the market-price and market-price of production are above the industry's price of production, it indicates that too little of the total social labor has been devoted to the production of that commodity. The industry will realize value which has been produced in industries with excess supply where labor has been expended in excess of what is considered socially necessary. Variations in demand among industries thus bring about a redistribution of value not through a deviation of market-price from the exchange-value, but by a change in the exchange-value itself, the amount of socially necessary abstract labor-time represented by the commodity in exchange.

It turns out that this interpretation of demand has an important implication when it comes to theorizing the monetary expression of value. The implication is that the amount of exchange-value realized in a given period may deviate from the amount of value expended in

the period. In the case of an increase in aggregate demand, the sum of the market-prices of production will exceed the sum of the prices of production in the period. More labor-time is socially necessary than has been expended. In periods of excess supply, less labor is socially necessary than has been expended, the sum of market-prices of production will fall below the sum of prices of production. What effect do these variations in socially necessary labor have on the monetary expression of value – how do we convert the exchange-values expressed in money units to exchange-values expressed in labor-time once variations in aggregate demand are introduced? I argue that by incorporating the market-price of production into the definition of the monetary expression of value normal changes in demand do not lead to changes in the monetary expression of value. Furthermore, only by defining the monetary expression of value in this way is it possible to maintain the conservation of value that we should expect in the absence of changes in techniques of production. To establish this claim I will first explain how the monetary expression of value incorporates the market-price of production and why normal changes in demand do not affect the magnitude of the monetary expression of value. I will then briefly contrast it with alternative expressions of the monetary expression of value which do not incorporate the market-price of production in order to show the logical difficulties they encounter as a result.

In earlier work I defined the monetary expression of value that applies to the analysis of prices of production, at a stage of the analysis prior to the introduction of variations in demand (Kristjanson-Gural 2008). The monetary expression of value at the macro level is the ratio of the total money required to exchange the output to the total socially necessary abstract labor those commodities represent.

$$(1) \quad m_c v / \mathbf{pp}^L \mathbf{x} = m_{pp}$$

Where

$m_c$  = Quantity of money in circulation

$v$  = average velocity of money

$\mathbf{pp}^L$  : row vector of prices of production in hours of socially necessary abstract labor-time

$\mathbf{x}$  : column vector of gross output

$m_{pp}$ : monetary expression of value assuming exchange at prices of production

Assuming that commodities are exchanged at price of production,  $m_c v$  equals the total prices of production of commodities exchange in the period;  $\mathbf{p}^L \mathbf{x}$  is the sum of the abstract socially necessary labor-time represented by the gross output. The ratio of these two magnitudes equals the monetary expression of value determined with reference to prices of production. It defines the units of currency (here dollars) represented by one hour of socially necessary abstract labor-time.

Equation (2) below represents a further elaboration of the monetary expression of value once the possibility of variations in demand has been introduced into the analysis. Here the market-price of production takes the place of the price of production since the latter no longer represents the socially necessary abstract labor-time that the commodities represent in exchange. In the case of excess aggregate demand, the sum of the market-price of production will exceed the prices of production in the period, since more labor-time than that expended in production is socially necessary for the satisfaction of the existing social need. However, the money required to exchange this amount of value will also rise proportionately as money is release from hoards. As a result the monetary expression of value remains unchanged. Provided the variations of aggregate demand remain within the limits imposed

by the conditions of production, the numerator and denominator will rise a fall in proportion leaving the monetary expression of value unchanged.

$$(2) \quad m_c v / \mathbf{mpp}^L \mathbf{x} = m_{mpp}$$

Where:

$\mathbf{mpp}^L$  = row vector of market prices of production in hours of socially necessary abstract labor-time

Using the concept of the market-price of production to determine the socially-necessary abstract labor-time in circulation, the monetary expression of value can be used to express a magnitude of labor-time in money under conditions of excess or deficient aggregate demand. When demand is insufficient to purchase the total output at its prices of production, the market-prices of production will fall indicating that not all of the labor-time expended in the period is 'socially necessary'. In this case, value is removed from circulation and enters hoards, either in the form of inventories or in the form of money. The reduction in value in circulation ( $\mathbf{mpp}^L \mathbf{x}$ ) corresponds to the reduction in money in circulation ( $m_c v$ ) leaving the monetary expression of value unchanged. Each dollar represents the same amount of value, the value is simply displaced from circulation to rest in hoards as will be demonstrated below.

In the case of excess demand, the demand for output exceeds the total prices of production in the period and the aggregate market-prices of production rise indicating the more labor is socially necessary than that which has been expended. In this case value in the form of either money hoards or inventory is released from these hoards. Again the rise in the total value in circulation is matched by the rise in the total money in circulation and the

monetary expression of value is unchanged. Thus, in both the case of excess and deficient demand, the total amount of value overall remains unchanged. Demand affects the quantity of value in circulation versus the quantity held in hoards; it does not by itself augment or diminish the amount of value overall. In both cases too, the monetary expression of value is unchanged.

In order to establish that a normal change in demand, by itself, has no effect on the total amount of value, I have constructed a schema of simple reproduction in which the only change that occurs is a variation in demand between periods. I have deliberately eliminated complications that themselves may lead to a variation in the amount of value, such as changes in output and technology. I have also simplified the monetary system in order to avoid conflating the effect of changes in demand on the monetary expression of value with the effect of monetary factors such as loans or other means of money creation. Further analysis would, of course, need to incorporate these factors, but for the purposes of the present argument, they are deliberately ignored.

I consider four periods of production in which the same amount of labor is expended in each period and the same quantity of output is produced. Demand for this output equals the supply in period one, falls in period two, rises in period three and is restored to the original level in period four. The concept of the market price of price of production is used to determine the total *socially necessary* abstract labor-time expended in each period once demand is factored into the analysis. At the outset, the total market-prices of production are equal to the total prices of production at six hours of socially necessary labor-time. The total money required to circulate the commodities at their prices of production is assumed to be six dollars. The monetary expression of value as defined in equation #1 above, is one dollar

per hour. For simplicity, I assume that the variation in demand is normal: it remains within the range defined by the techniques of production so that there is no deviation of market-price from market-price of production.

Since I am concerned only with aggregate magnitudes, I define only the aggregate value produced in the period, abstracting from the breakdown of this output into different industries with differing compositions of capital. While the latter breakdown is important for analyzing how demand redistributes value among producers within a period it is not necessary for the analysis of aggregate demand. I do define the aggregate amount of constant variable and surplus value and I assume that all surplus value is consumed within the period, i.e. there is no unproductive sector.

Finally, I assume that all capital is circulating capital, that no exchange is financed by loans or by trade credit, and that exchange is undertaken with commodity money such that one unit of money equals one hour of labor-time and one unit of currency (the dollar) with a constant velocity. Once the conceptual problem of how changes in demand redistribute value is resolved, the implication of each of these simplifications can be explored but this further analysis lies beyond the scope of the current analysis.<sup>2</sup>

Using this simply schema, I identify two possibilities concerning the change in demand. In the first case, sellers respond to a reduction in demand in period two by reducing prices over the period to eliminate inventory accumulation – a pure price response. In the second case, sellers respond by accumulating inventories maintaining their original prices – a pure quantity response.<sup>3</sup> In both cases, I will establish that demand serves to distribute value between value in circulation and value in hoards; it does not itself augment or diminish the total amount of value under these circumstances. Further, I will demonstrate that the

monetary expression of value remains unchanged as a result of normal variations in demand: it is not affected by the resulting increase and decrease in the value in circulation. The example thus provides the basis for contrasting alternative formulations of the monetary expression of value in the following section.

**Table 1: Changes in Demand with Pure Price Response**

Period	Value in Circulation				Stored Value		Total Value			
	C	V	S	= Wp X	Dw	Dx		Inventory	Money	
1	2	2	2	= 6	6	6	6	2	2	10
2	2	2	0	= 4	6	4	6	2	4	10
3	2	2	4	= 8	6	8	6	2	0	10
4	2	2	2	= 6	6	6	6	2	2	10

In Table 1, above the schema of simple reproduction designates the aggregate value in circulation and stored value over four periods. In simple reproduction 6 hours of value is generated. Of this, two hours is used to purchase new materials (C), two hours is used to pay workers who use their income over the next period to purchase consumption goods, and two hours is used by owners also to purchase consumption goods.

Value is denominated in hours of socially necessary abstract labor-time which, in the aggregate are equal to concrete labor hours. Six units of output (X) are produced in each period, two units are used as constant capital (C), and four units for consumption. Each unit thus represents 1 hour of value. In addition to this value in circulation four hours of value is stored: two units are held in inventory and two units of money are hoarded. Total value refers to the total value in circulation and total stored value.

The monetary expression of value is initially defined as the ratio of money in circulation to the sum of the prices of production in the period. In period 1, I assume six dollars purchase the 6 hours of socially necessary labor-time and the monetary expression of

value is therefore \$1/hr. Demand ( $D_w$ ) defines the number of hours of labor-time deemed socially necessary in the period according to effective demand. In this first example, I have assumed that aggregate demand, initially equal to the total prices of production at \$6 falls in period 2 from \$6 to \$4 forcing producers to lower prices to sell the six units of output for only 4 hours of value. Of the 6 hours of labor-time required to produce the total output only 4 hours is socially necessary and the total market-prices of production fall correspondingly to 4 hours. Since the total money in circulation for this period also falls to \$4 the monetary expression of value (defined in equation #2 above) remains unchanged at \$1/hour. On the other hand, as a result of the decrease in spending, workers and owners save \$2 of earnings from the previous period contributing to two additional hours of stored value. The reduction in value in circulation is thus offset by an increase in value in hoards leaving total value in the period unchanged at 10 hours or \$10.

In period 3, I assume that demand rises to \$8, the \$2 of value that was withheld from spending in period 2 re-enters circulation. Although 6 hours of labor-time is expended as before and six units of output are produced and sold, the increase in demand implies that the socially necessary labor-time in the period is now 8 hours. The market-prices of production rise above the prices of production throughout the period. Normally the purchase of materials would be fully financed with revenue generated in the previous period, but since revenues in period 2 were only \$4 owners must also withdraw \$2 from savings to finance the purchase of new materials at the higher prices.

It appears in this period as if demand has created two hours of value, a result that violates the proposition that holds that only labor can create value. Closer examination reveals that this addition to total value is only apparent. The increase in demand is financed

through savings withdrawn from the previous period. Two hours of value that were generated in period 1 are stored in the form of money hoards in period 2 and re-enter circulation in period 3. The depletion of the money hoard in this period leaves the total value in the period unchanged at 10 hours. The increase in value in circulation is offset by a decrease in stored value leaving the total value unchanged.

The additional \$2 of revenue generated in period 3 allows owners to purchase materials in period 4 and to replenish their money hoards. Demand returns to normal at \$6 and the conditions from period 1 are restored. Over the four periods, the displacement of aggregate demand from period 2 to 3 had no effect on the total value created or realized; it simply redistributed value between circulation and hoards and permitted value to be stored between periods.

The monetary expression of value, defined as the ratio of money in circulation to the sum of the market-prices of production in the period, remains unchanged throughout the four periods. In period 1, six dollars purchase 6 hours of socially necessary labor-time and the monetary expression of value is \$1/hr. In period 2, only four dollars circulate to purchase the 6 units of output but the aggregate market-prices of production have fallen to 4 hours of socially necessary labor-time as a result of the reduction in demand. Each unit of output is worth only 2/3rds of an hour in spite of the fact that it required, on average, one hour of labor-time to produce. Consumers, both workers and owners, experience an increase in their standard of living as a result of the decision by producers to lower prices in response to the reduction in demand. In period 3, the excess demand implies that 8 hours of labor-time are socially necessary in spite of the fact that only 6 hours are expended. The \$8 of effective

demand purchase commodities worth 8 hours of socially necessary labor-time and the monetary expression of value is again unchanged.

The above example is constructed to provide a simple example of a variation in demand to test whether the monetary expression of value adequately serves to translate value in labor-time to value expressed in money units. It establishes that in spite of appearances, demand does not represent an independent source of value in spite of the fact that more value exists in circulation in a period than has been expended in production. Demand acts to redistribute value between periods and the definition of the monetary expression of value provided here applies Marx's second aspect of socially necessary labor-time to theorize how value is redistributed inter-temporally.

**Example 2: Changes in Demand with Pure Quantity Adjustment**

Period	Value in Circulation			Stored Value		Total Value
	C + V + S = Wp	X	Dw	Inventory	Money	
1	2 + 2 + 2 = 6	6	6	2	2	10
2	2 + 2 + 0 = 4	6	4	4	4	12
3	2 + 2 + 4 = 8	8	8	0	0	8
4	2 + 2 + 2 = 6	6	6	2	2	10

The second example illustrates how the variation in demand may instead transfer value through an inventory adjustment. Here the reduction in demand in period 2 is met with a reduction in quantity sold at existing prices – a pure quantity adjustment. Value is reduced in the period owing to the reduction in output sold at the existing price of production of 1 hour per unit. Workers and owners experience a reduction in real levels of consumption, but owners also see an increase in inventories and workers and owners save two units of money from the previous period adding to the stock of value. Total value in the period thus rises to

12 hours. The unsold inventories re-enter circulation in period 3 in response to the increase in demand. Two units are needed to replace the materials and two are needed to meet the additional demand by workers and owners. The four units of money are needed to finance the additional demand given that only 4 hours of revenue was created in period two. Both inventories and money stocks are thus depleted and the total value in the period falls to 8 hours. Of the 8 hours of revenue created in the period, four are consumed, two hours of new materials are provided for period 4 and two hours can be held as inventories. Two hours of additional revenue also replenishes the money stocks so that total value at the end of period four reverts to 10 hours.

Changes in demand here result in a reduction in value in circulation as before and an increase in value in circulation in period 3. While it appears that the increase in demand results in an increase in value by valuing labor-time according to what is deemed ‘socially necessary’ by the market, this increase in demand is financed out of inventory depletions, transferring value from period 2 to period 3. Again labor is the sole source of value. By integrating the effect of demand on the determination of exchange-value, the inter-temporal transfer of value explains how the socially necessary labor-time represented by commodities in a given period can exceed the quantity of labor-time required to produce them.

Throughout this example as well the monetary expression of value remains unchanged. The money required to circulate the value in each period changes in proportion to the socially necessary labor-time represented by the total commodities exchanged.

### ***3. Conceptual and Quantitative Problems Encountered By Alternative Approaches***

Two recent attempts to theorize the monetary expression of value run into difficulties converting value from labor hours into money when variations in demand are introduced.

Here, I will briefly develop Foley’s concept of monetary expression of labor-time (MELT) and the labor expression of money (LEM) offered by Fine *et al.*, in order to identify the conceptual difficulties they encounter and to point out the quantitative anomalies that occur when considering changes in demand. I will argue that these anomalies result from the failure to incorporate the dual meaning of socially necessary labor-time captured by the concept of the market-price of production.

Foley (2000) defines the MELT ( $\mu$ ) as the ratio of value added in money to the new labor expended in the period as follows:

$$(3) \quad \mu_{melt} = \mathbf{p} (\mathbf{I} - \mathbf{A})\mathbf{x}/\mathbf{l}\mathbf{x}$$

Where:

$\mathbf{p}$  = vector of commodity prices

$\mathbf{I}$  = an identity matrix

$\mathbf{A}$  = the matrix of technical coefficients

$\mathbf{l}$  = vector of new labor inputs

The MELT excludes consideration of the prices of the constant capital circulating in the period on the basis that their inclusion represents a double-counting of value circulating in the period. Fine, Lapavitsas and Saad-Filho (2004) define the LEM with reference only to aggregate quantities. It is a ratio of the total living labor in hours to the total net revenue obtaining in the period – the inverse of the monetary expression of labor-time defined in equation #3 above.

$$(4) \quad \mu_{lem} = L/R$$

Where

L = total living labor

R = total net revenue

In both cases the expression contains a measure of living labor expended in the period and a measure of the net revenues generated. Neither expression adequately incorporates the effect of variations in demand. I will demonstrate the conceptual difficulties and the quantitative anomalies with reference to the MELT since these apply equally to the LEM.

Conceptually, because the MELT contrasts (net) market-prices to concrete labor it abstracts from the process of how the labor expended in the period is validated as socially necessary. Money in this approach measures value but it does not serve to validate independent expenditures of private labor as ‘socially necessary’ – a part of the total division of labor. All living labor is included in the determination of the MELT in spite of whether it has successfully contributed to value. While this is appropriate for the determination of the monetary expression of value when considering the formation of prices of production (equation #1, above) when all labor is assumed to be socially necessary in this macro sense, it is inappropriate for the further analysis which incorporates changes in demand. That is why the concept of the market-price of production must be incorporated into the monetary expression of value. By failing to do so, the MELT and LEV conflate concrete labor with abstract socially necessary labor and misspecify money’s important role in validating private labor as socially necessary.

Secondly, because the MELT relies on only the living labor component of the total value in circulation in the period, it will not correctly account for changes in aggregate demand except in the special case in which demand changes proportionately in the capital goods and consumption goods industries. For example, if a reduction in demand in

consumption goods were offset by a rise in demand in capital goods, the MELT would fall in spite of the fact that the same amount of value is circulating in the period. Again, the MELT and LEV adequately measure the monetary expression of value when demand is assumed to equal supply in all industries and prices of production prevail, but not when changes in demand are introduced into the analysis.

These conceptual difficulties result in quantitative anomalies that can be further illustrated with the use of the numerical example in Table #1 above. Taking the second problem first, in the example above, the MELT would fall to \$0.5/hr in period 2 (\$2 of value added/ 4 hours of new labor expended). It thus incorrectly translates the value in circulation (\$4) to be equal to 8 hours of value. In period 3 the MELT rises to \$6/4hrs or \$1.5/hr and incorrectly values the total output in the period at 5.33 hours. Because the MELT relies on a measure of concrete new labor rather than socially necessary abstract labor, it cannot correctly convert the value in circulation from hours to money units.

With reference to the first problem, there is one other possible interpretation of the effect of demand on commodity values that is worth considering. Some have argued that while demand cannot contribute to the total value in the period, labor-time may fail to be validated as socially necessary if demand is insufficient. This interpretation, however, creates an asymmetry which results in a loss in value over time.

In the case of deficient demand, some value in the period fails to be realized in money form and is not valorized. In this case total value and total prices fall proportionately and the MELT is unchanged. However, in the case of excess demand, the rise in money prices is not matched by a rise in value since an increase in demand can never raise the value of a commodity. In this case the MELT rises: each dollar that circulates represents less labor-

time. An asymmetry thus occurs in that the MELT rises with a rise in demand but does not fall with a reduction in demand.

Quantitatively the asymmetry results in a downward bias in the quantity of total value when demand shifts between periods. Suppose, in order to avoid the problems associated with defining the MELT with reference to the net product, it is defined, instead, as the ratio of the total revenue in the period (\$6) to the total labor in circulation (6 hours). In period 2 the MELT would correctly value the output at 4 hours of *socially necessary* labor-time and the MELT would remain unchanged at \$1/hr. However, in period 3 the MELT would not recognize that the increase in demand implies that 8 hours of labor-time are socially necessary. The rise in the total money prices to \$8 results in a rise in the LEM to \$8/6hrs or \$1.25/hr. The total value in period 3 would thus fall to 8 hours as a result of the loss of two hours of value. Because the total money revenue of \$8 is now required to purchase the output in period 4, there is no replenishing of money hoards and value in period 4 remains at 8 hours. A value of 2 hours is thus permanently lost as a result of the shift in demand, a result that occurs because of the asymmetry of the treatment of demand in this widely accepted approach.

### ***5. Conclusion***

Using the concept of the market-price of production, I have illustrated how changes in demand affect the value in circulation and value in hoards from one period to the next. I have also shown how the monetary expression of value, defined with reference to the market-price of production, remains unaffected by normal variations in demand and is therefore able consistently to convert value from labor hours into money units. I then considered two alternative attempts to theorize the monetary expression of value and identified both

conceptual and quantitative problems that result from a failure to integrate the dual meanings of socially necessary labor-time inherent in the concept of the market-price of production. I argue that only by including the effect of demand on validating labor as ‘socially necessary’ is it possible consistently to define the monetary expression of value and to show how demand redistributes value between periods.

In developing the numerical example above, I imposed a number of restrictive assumptions in order to isolate the effect of demand. Further research is needed to explore the implications of relaxing these restrictive assumptions, research that will permit the integration of new contingencies that will permit the further elaboration of the concept of the monetary expression of value and a more satisfactory integration of Marx’s theory of money with his theories of competition and crisis.

**Notes:**

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<sup>1</sup> For clarity, I distinguish the market-price - an average selling price over a given period of time – from an individual price – a price accruing to a particular capital from the sale of a commodity at a given time. Individual prices will vary within the period at times above and at times below the market-price.

<sup>2</sup> For an analysis of factors affecting the hoarding of money capital, see Lapavistas, 2000.

<sup>3</sup> The third case is a variation of the quantity response in the case of perishable commodities; the commodities fail to sell and are rendered unusable. In this case, value cannot be stored in

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the form of inventories and is destroyed. In general some combination of price and quantity responses will result.

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