

**Households in a Monetary Production Economy,
Liquidity Preference and the “Debt Pyramid”**

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Abstract:

The paper argues that an economic theory intended to deal with households in capitalist economies has to be grounded in a theory of monetary production. In making this argument, the paper emphasizes the importance of the theoretical articulation of the distinction between households and business enterprises. The household production function approach is contrasted to the theory of monetary production. The paper uses the concept of “debt-pyramid” to explain the passive position of households in the production process, and to emphasize the importance of business enterprises’ and banks’ liquidity preference for households’ debt-settlements. Households must earn the most liquid pay-tokens or credits in order to discharge their debts, usually by working for wages. Their saving cannot increase before households obtain these liquid pay-tokens. The households’ need for liquidity is reinforced by their position at the bottom of the debt pyramid. Their liquidity preference can be satisfied by banks’ liabilities - demand deposits, which can increase only if bank loans increase. In this process, both business enterprises’ willingness to take positions in productive assets and bank’s liquidity preference are crucial. Households have a passive role in the banks’ decisions to extend loans, and in the business enterprises’ investment and employment decisions. This is due to the households’ position at the bottom of the debt pyramid.

Introduction

The household as the basic decision-making unit has been the focus of the “New Theory of Consumer Behavior,” known also as “New Household Economics,” or “Household Production Function Approach” (hereafter HPFA) whose most prominent proponent is Gary Becker (1964; 1981). Is this approach compatible with the reality of capitalist production? The present paper argues that an economic theory intended to deal with households in capitalist economies has to be grounded in a theory of monetary production instead.

In making this argument, the paper emphasizes the importance of articulating an adequate theoretical distinction between households and business enterprises. Fuller (1996, 604) discusses the HPFA and suggests that “... the household-firm analogy must be dispensed with, not modified.” Focusing on consumer expenditures, Fuller (1996, 605) argues that household activities are “... related to commitments arising from a multidimensional ‘participatory’ process of communication and circulation by individuals, rather than to a one-dimensional ‘production’ concept of household commodity generation.” The present paper focuses on households’ commitments in the light of a “debt pyramid,” or a “hierarchy of money” – a concept that has been put forward by Hyman Minsky (1986), Duncan Foley (1987) and Stephanie Bell (2001) and has been utilized by the Neo-Chartalists (see Wray 1999).

To use Marx’s expression, a theory of monetary production is based on the M-C-M’ process (money, commodity, more money). In Marx’s, as well as in Veblen’s analysis the production process starts with money and ends with more money. Keynes (1933, 1936) emphasized the features of a monetary (entrepreneurial) economy where output and employment will be increased only if the entrepreneurs expect to increase their money profit (Keynes 1979, 82). A theory of monetary production is used also by Minsky (1982); Dillard (1980); Davidson, (1991); Jennings (1994); Knoedeler (1996); Kregel (1998); Henry and Wray (1998); Wray (1990, 1998b, 1999); Carvalho (1992); Graziani (2003); Rossi (2003).

The importance of reconsidering households within a theory of monetary production stems from the tendency to use household theories that are not informed by

capitalist relations of monetary production as a basis for policy formulation geared towards economies characterized by such relations. Hereafter, the terms “monetary production economy,” “capitalist economy” and “entrepreneurial economy” are used interchangeably.

1. The Household Production Function Approach and the Capitalist Economy

The HPFA “improved” on the exogenous consumer tastes and preferences and allowed for endogenous tastes. Further, the decision unit in this approach is the household and not an isolated individual consumer, which seems to be a more social approach at a first glance¹. While heterodox economists have advocated a shift from the asocial “individual consumer” as the decision-making unit to the household, they have distinguished themselves from the HPFA, and have indeed constructed various microeconomic critiques of this approach (e.g. feminist economists). Others have sidelined the importance of analysis of the household for a modern heterodox critique of neoclassical economics, and have focused on the fundamental differences in approaches to production (Post Keynesians). These economists have stressed that capitalist economies are, as Keynes (1936) has argued, “entrepreneurial” or “monetary production” economies and that neoclassical analysis are not fit to deal with this type of production. The present paper brings additional attention to households in a theory of monetary production and offers an evaluation of the HPFA with respect to its compatibility with a capitalist (monetary production economy).

In the HPFA households maximize a utility function of objects of choice, called by Becker (1996, 26) “commodities,” which they produce with market goods, time, skills, training (human capital) and other inputs. The commodity objects can be chosen freely; they are a part of the household utility function, and are “produced” through a production function consisting of market goods or services, personal time input¹, the human capital, and other inputs. This undefined group of inputs entering the household production function is important for the consequent introduction of “social capital.” As Ben Fine (2003, 50) notes: “... social capital serves as a residual to tidy up what is otherwise

inexplicable.” As argued by Fuller (96, 599) HPFA treats social relations as simply another way each person can obtain utility.

Because in HPFA the production function used for the production of the objects of the household utility function includes market goods, there is a presumption that households must obtain these somehow. HPFA gives no account for this process, and thus is not suited for capitalist economies, where the reasons behind the process of selling labor power (working for a wage) and the conditions which households face in their attempt to do so are not trivial.

The HPFA holds that the single constraint on the household’s full income³ is related to the efficiency of household management: Households that are more efficient managers have larger real opportunity sets than less efficient ones with the same full money income. On the other hand, a theory of monetary production puts forward the question of the household’s aggregate income, which is determined by aggregate investment. Here, the focus shifts away from household decision-making, to business enterprises’ investment decisions which determine aggregate income, output and employment in a capitalist economy.

A theory of monetary production emphasizes the discrepancy between investment decisions and household objectives. In such case, a theory of the firm is not adequate for the analysis of households in such an economy. Within the HPFA firms and households are treated in the same way. In the HPFA there is no conflict between producers, consumers, and workers. On the contrary, a theory of monetary production illustrates such conflicts, and is a closer description of a capitalist economy. The next section delineates this conflict.

2. The Role of Households in the Determination of Aggregate Output

In a monetary production economy the purpose of production is not to secure subsistence and creation of livelihood for households (Dillard 1987, 1624). While at any point of time realizing profit is not the sole objective of a business enterprise, and indeed could be forgone for achieving other goals such as market share, production for subsistence is incidental to the business process. Once the pecuniary motives behind

production are addressed, money is no longer a veil concealing production and it is recognized that the activities of business enterprises are divorced from considerations about provisioning of consumption for households.

Households are not the ones making the investment decisions. “It is the firms’ decisions that determine both the level of employment and output and how the output will be divided between investment and consumption. The consumer can do little else but battle over the consumption goods that are available” (Kregel 1978, 60). “... [It] is not consumption and its growth, but the realization of profit, which is the decisive factor in determining the direction that production takes, its volume, and its expansion or contraction (Hilferding [1910] 1981, 240).

The current level and composition of final output available for purchase depend on the expectations of decision-makers occupying strategic positions in the business enterprises. Households are faced with restrictions related to the level and composition of output. Business enterprises determine not only the quantity (availability) of output, the categories of produced goods and services and their attributes, but also the wage bill and hence households’ entitlements to the output. Hence, the role of today’s business enterprises’ investment decision based on expectations about the future.

These conditions cannot be treated as a part of the social capital, which seemingly “recognizes” a certain dependence upon factors outside the control of the individual household. Social capital was designed to complement human and personal capital by allowing the incorporation of anything that could not be explained by an individual choice. However, the HPFA cannot account for the conditions of monetary production mainly because it does not make a clear distinction among households and business enterprises.

3. Households vs. Business Enterprises

If an intermediate goal for households is to sell labor power in order to get money wages, they face a restriction from business enterprises with respect to the level and composition of employment, which sets restriction on their entitlements to the available output. To use Commons’ term, “the value of liberty” (1996, 27) in selling labor power is

the difference between the highest and the lowest wage opportunity for the particular household. However, the range and content of opportunities is determined by the business enterprises, and not by households. Demand for labor power depends on the expectations of decision-makers occupying strategic positions in the business enterprises.

If an intermediate goal of business enterprise is to produce and sell output, the business enterprise is interested in availability of supplied labor power, and in the potential consumer market. Do business enterprises face a restriction administered by households in achieving their intermediate goal? That is, do households restrict their supply of labor power at today's price (wage), because they expect prices of consumer goods tomorrow to be lower? Further, do households refrain from buying goods today because they expect their money wage to go down or vanish in the future? It is reasonable to assume that households cannot simply give up consumption for subsistence today and postpone it to the future (although they could decrease their consumption up to a point). Nor could households easily decide not to sell their labor power and thus give up money-wages that are necessary for purchasing goods and services for subsistence.

Thus, within a theory of monetary production business enterprises achieve their intermediate goals of hiring labor power and selling output to consumer markets relatively easier than households obtain money wages to obtain goods and services. In a competitive labor markets model or in its variations, it does not make a difference if households are able to wait and compare wages after which to make their final decisions; indeed, it may be useful to conceptualize the variations in households' ability to do so.

Some models treat work efforts as an endogenous labor input in the production function of the business enterprise. In efficiency wage models (Akerlof and Yellen 1990; Solow 1990) workers are presumed to have control over their work effort, and thus on their real wages. In a theory of monetary production total wages are determined by the investment decisions of business enterprises and relative nominal wages are important.

In a monetary production economy, labor power is sold at a price (money wages) that must be predetermined (administered) by the business enterprise in order to obtain their target rates of return or other business goals. While wages are stable, the level of employment is not. Further, while prices of consumer goods are generally stable, and thus

it might be argued that households know the prices of consumer goods, they are not the ones who administer them.

It is also important to point out that the job descriptions are discretionary to business enterprises and can be re-written in compliance with the goals of the business enterprises. Business enterprises formulate their business goals and then establish various labor prices for packaged tasks necessary for the achievement of these goals. Business enterprises could face restrictions with respect to the composition of supplied labor power when the available skills of laborers are unsuitable for particular production initiative. In such case some households face the danger of structural unemployment.

Both business enterprises and households may feel insecure about their future income flows. But it should be noted that households' future income flows depend on the content of the forward contracts of business enterprises because in a theory of monetary production, as Michael Kalecki's (1954) put it: "capitalists get what they spend" (assuming no government expenditures). Business enterprises are going to be able to sell the produced output only if there is sufficient effective demand, which means that the wages that are paid out to households come back to the business enterprises in the form of profits. Business enterprises could face restricted effective demand, and could fail to sell their inventories if they do not pay out sufficient money wages to households on the aggregate¹.

It should be noted though that government transfers, could make it possible for households to increase their effective demand for produced goods, and to increase business enterprises' profits. The same could be achieved through consumer credit. Further, certain business enterprises may be able to export to foreign consumer markets, and sell their inventories and increase profits without changing the wage bill.

In order to make payments to business enterprises for goods and services, households create debts owned by the banks. In order for households' debts to be discharged, there is a need for creation of bank liabilities (demand deposits) so that households become creditors (owners of bank liabilities). What are the conditions for this to happen? The "own-rate" approach discussed in the *General Theory* is instrumental in addressing this question.

3. The Link between Liquidity Preference and Production

The own-rate approach offered by Keynes (1936), and emphasized by Kregel (see especially 1997 and 1998) and Wray (see especially 1990, 1992, 1995, 1998b, 2003) leads to the determination of demand prices for assets. In these analysis liquidity preference is a theory of asset prices, and not as “money demand.” Liquidity preference is interpreted as a theory of value (as in Townshend 1937) because it gives the framework of analyzing “...the value of an asset that can be held through time” (Wray 2003, 310).

An asset price is composed of: $(q - c + l + a)$; where q is the expected income from operation; c is the carrying cost; and l is the liquidity of the asset; and a is the expected capital gains (appreciation or depreciation). Highly liquid assets have a return comprised largely of yield from liquidity, while physical capital will have a return comprised mainly of the yield it is expected to generate from employing it in production. Carrying costs would be insignificant for liquid assets, while they would be large for physical capital that depreciates over time.

The liquidity component of the own-rate of an asset has two roles: first, protection from future uncertain conditions; and second, opportunity for profiting from future uncertain conditions. “It is the essential difference between money and all (or most) other assets that in the case of money its liquidity-premium much exceeds its carrying cost, whereas in the case of other assets their carrying cost much exceeds their liquidity-premium” (Keynes 1965, 227).

Indeed “liquidity preference” as such exists because most economic agents in a capitalist system are oriented toward accumulation of monetary profit via an anticipation of uncertain future conditions. “When liquidity preference rises, asset prices adjust such that those whose return is primarily comprised of liquidity premium (l) rise relatively to those whose returns come from prospective net yields ($q-c$)” (Wray 2003, 310). An increase of liquidity preference increases the prices of liquid assets and decreases the physical assets’ prices, which influences investment decisions and future employment and distribution.

The premium that is required to convince individuals to become illiquid and to part with money is the equivalent of the “user cost of money” (Kregel 1998, 123). The

user cost of spending money today is the present value of the potential future gain or loss that has been foregone or avoided by parting with money today. In a “user cost” context the problem of the level of output and employment becomes the determination of the returns from employing labor and producing output relative to holding money as given by the user cost of money, coupled with the return from using the capital goods with labor to produce goods as given by the marginal efficiency of capital (Kregel 1998, 123). In equilibrium, expected returns (q , c , l , and a) must be equal, so “that there is nothing to choose in the way of advantage between the alternative” (Keynes 1965, 228). If the expected return on the employment of labor and capital is higher than the expected returns on speculation with financial assets, employment will be provided (Kregel 1998, 124).

Thus, in a monetary production economy a business enterprise takes a position in inputs, including labor, with the expectation that he will be able to sell the expected quantity of output at some unknown future date at the expected price. The business enterprises buys labor, materials and services in the expectation of later sale of output at an expected profit rate, and in the expectation for achieving goals such as market share and “good-will.” This process is described by Hyman Minsky (1975) and Jan Kregel (1983, 1998) as “speculation.” A parallel could be made to Commons’ discussion on capital (1996, 25), as he states that: “capital is the present value, not of physical things, but of the hopes of the future aroused through confidence in the now invisible but expected transactions of the future.”

The term “speculation” could be applied to any kind of economic activity, such as taking positions in buying labor, employing it in production with the expectation of future sales of produced output. In this sense, production is one way of engaging in speculation. In the production process “...the entrepreneur is guided, not by the amount of product he will gain, but by the alternative opportunities for using money having regard to the spot and forward price structure taken as a whole” (Keynes 1979, 82-83).

Labor, also takes a “position” when it accepts a wage that it hopes to exchange at some future date and time for goods and services (Kregel 1983, 38). In this broader sense of “speculation” households as providers of labor input for the business enterprises

undertake speculative positions when they work for wages. Households undertake these positions in order to offset their debts incurred by the purchase of goods and services.

In order for household' debts to be discharged, there is a need for creation of bank liabilities (demand deposits). Such bank debt can occur if households become creditors (owners of demand deposits). Indirectly, an increase in household demand deposits is a function of the same business factors that are behind investment decisions.

Households' liquidity preference can be satisfied with an increase in banks' liabilities. However, banks' liabilities can increase only if banks extend loans, and this means that banks have to undertake more illiquid positions. In this case, banks would be reducing their liquidity preference (see Wray 1995). Banks' liquidity preference however can be satisfied by high powered money from the government (See Wray 1998; 2004). High powered money expands through government expenditures in case there is no a counter acting draining the created excess reserves for the purpose to sustain the short-term fed funds interest rate above zero (See Wray 1998).

While within an endogenous money framework loans increase as a result of the business enterprises' planned production activity, some authors (Minsky 1982; Kregel 84/5; Carvalho 1999; Wray 2004, see also Wolfson 1996 on credit rationing and endogenous money) have pointed out the importance of banks' liquidity preference in banks' decision for extending loans⁴. “[B]anks with liquidity preferences will not accommodate passively the demand for credit but will compare expected returns and liquidity premia of all purchasable assets” (Carvalho 1999).

Within an endogenous money framework households' demand deposits can be created only if banks extend loans for investment to business enterprises. The endogenous money approach is consistent with a Neo-Chartalist view of money (discussed bellow), where money is viewed as a debt and credit simultaneously. Money comes into existence when somebody offers a promise (liability), and somebody else accepts it as an asset and becomes a creditor, which is necessary condition for investment to occur.

4. Households and the Debt Pyramid

One could imagine a hierarchy of money or a multi-tiered debt pyramid composed of liabilities. The tiers of the pyramid represent various promises (liabilities to the issuer). Bell (2001, 159) simplifies the analysis of such plethora of money through categorizing them in a four-tier pyramid of debt including the state money at the top, followed by bank demand deposits, business enterprises, and finally households at the bottom. The higher the debt in the pyramid, the broader is their acceptance.

Suppose that household A writes a note to household B that they owe two days of childcare, B cannot use the note (I owe You - IOU) in payment of taxes, it cannot even buy goods from the grocery store. While this note has its place in the hierarchy of money, its circulation is very limited. A Neo-Chartalist theory of money (see Wray 1998a, 1999) to explain why the various debts are denominated in a specific unit of account (the dollar) and why certain liabilities within the hierarchy are more widely accepted than the others (Bell 2001, 158 – 161).

At the top of the pyramid is the state liability (e.g. the U.S. dollar) which everybody wants to hold. As argued by the Neo-Chartalist theory of money, this liability becomes the unit of account in terms of which the other liabilities are denominated. According to the Neo-Chartalist theory a specific liability (the state issued money) becomes a unit of account into which all other moneys from the pyramid are convertible due to the ability of the state to levy taxes that ought to be paid in dollars. The “liability” of the state is its promise to accept the dollars in payment of taxes. A government bond is a state promise, but because it is not accepted in payment of taxes it is not as liquid as demand deposits or state fiat money. For this reason a government bond promises not only a nominal amount payment but also an interest rate payment.

Bank demand deposits are banks’ promises to convert on demand the deposits into state-issued currency. This means that demand deposits are highly liquid – they can be converted quickly into cash with no loss of value. Within the Neo-Chartalist theory, the liquidity of demand deposits is due to the fact that they are accepted at the tax pay-office of the state. On the other hand, corporate debt and household debt are not accepted

at the tax pay-office of the state. According to the Neo-Chartalist theory, this makes them less liquid.

Liquidity is characterized not only by the quickness of conversion into state currency, but also by the degree of loss of value during this conversion. The lost value is due to uncertainty about the future supply price of the asset that those who accept the debt expect to face at a future date. Such expectations give rise to degrees of premium that have to be offered to a creditor who is uncertain about the future supply price of the acquired asset. The premium takes the form of a corporate bond interest rate, or an interest rate on a household credit card debt.

When a retailer creates a loan to a household, the loan is an asset for the retailer, but this asset is not accepted by the tax-pay offices - demand deposits are. The retailer charges the household a premium for holding an illiquid asset. The higher interest rate in such case "... is not the result of 'lack of loanable funds' ..." (Wray 2003, 320) but is a result of a higher liquidity premia. While household debt is widely accepted by financial institutions and retailers as assets, this occurs at a high liquidity premium for the creditors in the form of interest rates and fees charged to the debtors – the households. Household debt is widely accepted by creditors, but it is still at the bottom of the debt pyramid when we consider the high liquidity premiums charged by creditors. Indeed, the households' position at the bottom of the debt pyramid is one of the factors allowing for banks' profits.

Recognizing that banks are for profit institutions and not merely financial intermediaries is thus of importance for a household theory that is relevant for entrepreneurial economies. Lavoie (2003, 511) discusses the profits of banks and argues that "the condition of zero-profit for the bank would be equivalent to the interest rate charged on loans to be equal to the rate of interest paid on deposits."⁵

The multi-tiered debt pyramid composed of liabilities of the state, banks, business enterprises and households demonstrates not only the hierarchy of acceptability of liabilities but also the position of the various agents in satisfying their liquidity preference and their susceptibility to high liquidity premiums which contribute to banks' profits.

5. Households' Saving within a Monetary Production Economy

Assuming no government income policy, households' demand deposits can be created only if business enterprises request loans and banks extend loans. The level of output and employment in the economy is determined by investment. As investment is undertaken by taking loans (banks' assets), the households' wage bill will be paid only when loans increase.

However, as Victoria Chick (2000, 127) points out there is not a necessary "one-to-one relation" between money and effective demand because increase of loans does not necessarily lead to increase in production - it could result in increase of inventories not sold. Unsold inventories, most likely would generate pessimistic expectations about the future, which will influence today's decision by producers to purchase investment goods and labor, and thus will result in an increase in liquidity preference.

Ultimately, households' saving is a function of the liquidity preference of banks and business enterprises, because bank loans must be extended to finance the business enterprises' investment and the wage bill. The process starts when banks grant loan for what they perceive credit-worthy projects (see Lavoie 2003, 509).

Households' savings would grow only if their demand deposits exceed households' expenditures. But "...[as] Keynes argued, the public cannot increase or decrease hoards (except as the banking system creates or destroys money)" (Wray 1990, 175). If households decrease consumption out of current aggregate income in attempts to increase their savings, this will result in the reduction of profits in the consumer goods sector, and eventually in the reduction of output and the wage bill paid out by this sector.

It is impossible to increase investment by motivating households to save. In a theory of monetary production, the emphasis is not on the households' portfolio decisions for the amount of "loanable funds." As Rochon (1999, 221) has pointed out this would imply that "... money is not introduced *per se* out of the needs of production, but rather by household decisions. Indeed adopting the endogenous money approach dismisses the idea that households' saving decisions contribute to a "pool" of funds enabling the finance of business enterprise's future investment. In a monetary production model households' portfolio decisions are important for the level of investment only to the

extent that they could affect banks' liquidity preference and producers' expectations about the next investment period and investor's willingness to take on loans.

For households, earning the credits that offset the obligations incurred with the purchase of consumer goods requires that business enterprises are willing to become debtors to banks in order to employ household members for wage work. However, one cannot become a debtor unless his liability is accepted as an asset by somebody else, hence, the importance of the liquidity preference of banks for the level and composition of investment, output and employment.

Conclusion

Households cannot be analyzed separately from the monetary production process even though they are engaged in non-market activities. To emphasize this point the Neo-Chartalist theory of money comes to help. The concept of debt-pyramid supports a theory of monetary production, because it offers an explanation of the major motive behind households' decision to engage in wage work. Further, it also makes place for discussion on liquidity preference and the role of the state within endogenous money approach.

Households must earn the most liquid pay-tokens or credits in order to discharge their debts, usually by working for wages. Their saving cannot increase before households obtain these liquid pay-tokens. The households' need for liquidity is reinforced by their position at the bottom of the debt pyramid. Their liquidity preference can be satisfied by banks' liabilities - demand deposits, which can increase only if bank loans increase. In this process, both business enterprises' willingness to take positions in productive assets and bank's liquidity preference are crucial. Households have a passive role in the banks' decisions to extend loans, and in the business enterprises' investment and employment decisions. This is due to the households' position at the bottom of the debt pyramid.

While external to households' individual choice, the position of households at the bottom of the debt-pyramid cannot be captured by "social capital." HFPA is not relevant for economies characterized by capitalist production relations. A theory of monetary

production together with the concept of a debt-pyramid presents the grounds for an adequate framework for a theory of households in a capitalist economy.

Some challenging avenues for extending the discussion of households within a theory of monetary production include the incorporation of unpaid household labor and the consideration of the feminist critique of defining households in economics. Possible starting points could be suggested by Jennings (1994); Hanmer, Lucia and A. Haroon Akram-Lodhi (1998); Waller (1999); and Danby (2004).

Notes:

1. However, as pointed out by Fine (2003) there is still the problem of aggregation, as it is presumed that the members of the household come up with some ways of reconciling possibly different “tastes.” The alternatives are that (a) members’ preferences are homogeneous, or (b) the choices of one of them, possibly considered as the head of the household, dominate. Otherwise, it would follow that household members’ choices cannot be aggregated (see Fine 2003).
2. There are various problems of valuation and aggregation of this time input that will not be addressed here.
3. “Full income” as defined by Becker (1996, 27) includes the value of time to the household. Full income is the maximum money income that a household could achieve by an appropriate allocation of its time and other resources.
4. Carvalho (1999) points to a quote by Keynes (1982 59-60), as a good description of the concept of banks’ liquidity preference: “[w]hen, for example, they [bankers] feel that a speculative movement or a trade boom may be reaching a dangerous phase, they scrutinize more critically the security behind their less liquid assets and try to move, so far as they can, into a more liquid position.”
5. See also Wray (1993).

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