HETERODOX MICROECONOMIC THEORY: AN OVERVIEW

By

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In the past ten years numerous terms, such as non-traditional, non-neoclassical, non-mainstream, and heterodox, have been used to collectively characterize the many different strands of economic analysis, such as Post Keynesian economics, radical and Marxian economics, Sraffian economics, evolutionary economics, Institutional economics, feminist economics, and social economics, that challenge mainstream economics. In recent years, however, heterodox has become the term of choice—thus heterodox economics is a collective term referring to all the particular heterodox approaches. But it is more than this. For the past decade, we find more and more economists engaging with two or more of the above approaches; and by doing so, a community of heterodox economists has emerged. Bound together by interest in a variety of theoretical approaches, subscription to and/or the reading of more than one heterodox journal, and attending different heterodox seminars and conferences, heterodox economists have created an increasingly dense social networks binding themselves together. Consequently, concerns affecting, say, radical economists are also the concerns of social economists.

Heterodox economics also has another meaning, that of referring to the development of a coherent theory that is an alternative to and replaces neoclassical theory. In this case, heterodox economics is a synthesis of particular arguments and ideas from the various heterodox approaches as well as the development of novel ideas and arguments. This is the sense that heterodox microeconomics is used here. In spite of images of intransigent and dogmatic Post Keynesians, Sraffians or what have you, most of the heterodox economists are interested in working co-operatively to develop a

coherent heterodox economic theory--even if it means that some of their cherish views and ideas must be discarded. The overview of heterodox microeconomic theory presented here reflects this process, for it is a first attempt at an emergent synthesis of heterodox ideas drawn from Post Keynesian, Marxian, Institutionalist, and Sraffian economics which is consciously, point for point and concept for concept, antithetical to neoclassical microeconomics.

The intellectual roots of heterodox economics are located in the various heterodox traditions that emphasize the wealth of nations, accumulation, social relationships, full employment, and economic and social reproduction. Therefore the discipline of economics is, from the heterodox perspective, defined as being concerned with explaining the process that provides the flow of goods and services required by society to meet the needs of those who participate in its activities, that is, economics is the science of the social provisioning process. How the social provisioning process is explained differentiates and characterizes neoclassical and heterodox economics. The neoclassical explanation acknowledges real activity but uses fictitious concepts to explain how asocial, ahistorical individuals choose among scarce resources to meet competing ends. In contrast, using empirically grounded concepts, the heterodox explanation involves human agency in a cultural context and social processes in historical time affecting resources, consumption patterns, production and reproduction, and the meaning (or ideology) of economic activities engaged in social provisioning. Thus *heterodox economics* has two interdependent parts: theory and policy. *Heterodox economic theory* is a theoretical explanation of the historical process of social provisioning within the context of a capitalist economy. Therefore it is concerned with explaining those factors

that are part of the process of social provisioning, including the structure and use of resources, the structure and change of social wants, structure of production and the reproduction of the business enterprise and other relevant institutions, and distribution.

In addition, heterodox economists extend their theory to examining issues associated with the process of social provisioning, such as racism, gender, and ideologies and myths. Because heterodox economics involves issues that are inseparable from ethical values, social philosophy, and the historical aspects of human existence, heterodox economists feel that it is also their duty to make *heterodox economic policy* recommendations to improve human dignity, that is, recommending ameliorative and/or radical, social, and economic policies to improve the social provisioning for all members of society and especially the disadvantage members. Moreover, they adopt the view that their economic policy recommendations must be based on an accurate historical and theoretical picture of how the economy actually works—a picture that includes class and hierarchical domination, inequalities, and social-economic discontent.

The objective of *heterodox microeconomics* is to identify, describe, and develop a narrative-- that is a theoretical explanation--utilizing structures and causal mechanisms of the "micro-events" that contribute to the overall understanding of the social provisioning process in a capitalist economy. In principle, the micro-events range from pricing and investment by the business enterprise to cartels, urban housing, and child care for workers; and heterodox microeconomics consists of theories of pricing and investment, markets, urban development, and the family. However for this lecture, the scope will be limited to delineating an overview of heterodox microeconomic theory while at the same time addressing some important theoretical issues. Because of the significance of the

price mechanism to neoclassical economics, one theoretical concern of the lecture is the business enterprise, markets, demand, and pricing. Also, since heterodox economists see investment as the principle director and driver of economic activity, a second theoretical concern is investment decisions, the financing of investment, and the profit mark up. Finally, the third theoretical concern of the lecture is the delineation of a disaggregated price-output model of a monetary economy. The integration of the theories of the business enterprise, markets, demand, investment, and finance with a theoretical model of the economy forms a nexus of theory that can be identified as heterodox microeconomics. Thus the lecture is divided into three parts: the first deals with the micro-macro structural organization of economic activity, while the second section delineates the social framework of the social provisioning process. The last part of the lecture presents a micro-macro model framework of a monetary production economy and then uses it to examine a range of theoretical issues in heterodox microeconomics, such as workers as wage-slaves and the producers of profits, the role of the surplus in generating and 'coordinating' economic activity, the role of prices, wage rates, and profit mark ups for the social provisioning process, and the existence and relevance of a heterodox theory of value.

Micro-Macro Structural Organization of Economic Activity

<u>Structure of Production</u>

As noted above, the aim of heterodox economics is to first provide a theoretical explanation of the social provisioning process under capitalism. The social provisioning process is founded on the production of goods and services; thus the core framework of economic activity of a capitalist economy consists of its schema of production and the

income flows relative to goods and services for social provisioning.[1] The schema of production of the economy can be represented as a circular production input-output matrix of material goods combined with different types of labor power skills to produce an array of goods and services as outputs. Many of the outputs replace the goods and services used up in production and the rest constitute a physical surplus to be used for consumption, private investment, and government usage. More specifically, the production schema of the economy is empirically represented in terms of a product-by-product input-output table (or matrix).   The table shows that m goods and services are produced, and that n goods and services and z labor power skills are used in their production, the former constitute the *intermediate capital inputs* where $m > n$ and the latter constitutes the labor power skills inputs where $z \geq m$. Thus, letting q_{ij} represent the amount of the jth product (good or service) and L_{iz} represent the amount of the zth labor power skill to produce Q_i amount of the ith product, the production of the ith good can be represented by

(1) $[q_{i1}, \ldots, q_{in}, L_{i1}, \ldots, L_{iz}] \rightarrow Q_i$ or

          $[G_i, L_i] \rightarrow Q_i$

where $G_i = (q_{i1}, \ldots, q_{in})$ and

          $L_i = (L_{i1}, \ldots, L_{iz})$

Hence, the input-output table of the economy takes the following form:

          $[G_1, L_1] \rightarrow Q_1$
(2) $\ldots\ldots\ldots\ldots$
          $[G_m, L_m] \rightarrow Q_n$

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[1] There is also a third component—the flow of funds that ensure that monetary production and monetary social provisioning are taking place.

Representing the array of $(G_1,…, G_m)$ as G, the array of $(L_1,…, L_m)$ as L, and the total

quantity produced of each product as Q_d, the input-output table of (2) can be depicted as

(3)   G + L $\rightarrow$ Q_d or

(4) $\begin{bmatrix} G_{11} \\ G_{21} \end{bmatrix} + \begin{bmatrix} L_{11} \\ L_{21} \end{bmatrix} \rightarrow \begin{bmatrix} Q_{d1} & 0 \\ 0 & Q_{d2} \end{bmatrix}$

where G is a *m* x *n* flow matrix of intermediate capital goods and services;

L is a *m* x *z* flow matrix of labor power skills;

Q_d is a diagonal *m* x *m* matrix of output;

G_{11} is a square *n* x *n* matrix of intermediate capital goods and services inputs used

in the production of Q_{d1} a *n* x *n* diagonal matrix of intermediate capital

goods and services;

G_{21} is a *m-n* x *n* matrix of intermediate capital goods and services inputs used in

the production of Q_{d2} a m-n x m-n diagonal matrix of consumption,

investment, and government goods and services;

L_{11} is a *n* x *z* matrix of labor power skills used in the production of Q_{d1}

intermediate capital goods and services; and

L_{21} is a *m-n* x *z* matrix of labor power skills used in the production of Q_{d2}.

One feature of circular production is that in the case of G_{11} $\rightarrow$ Q_{d1}, all the outputs

also appear as inputs (either directly or indirectly) in their own production. This implies

that both inputs and outputs are tied to technically specified, differentiated uses,

production is a circular flow, and all intermediate capital goods are produced inputs.

Consequently, the production of intermediate capital goods is a differentiated,

indecomposable hence emergent schema or system of production that cannot be

segmented, aggregated, disaggregated, reduced or increased. Therefore, the removal of

any one horizontal production schema from G_{11} means that no production can occur, while an *ad hoc* introduction of a production schema is not possible. Moreover and most significantly, since the production of Q_i must directly involve at least one q_{ij} where $i \neq j$, it cannot be reduced entirely to a non-q_j input, such as a specific labor power skill, in n-1 integrative steps.[2] Building on circular production, a second feature is that there are no scarce resources which means that intermediate capital goods are not scarce factors of production and the surplus does not consist of 'relatively scarce' goods.

Monetary Structure of the Economy and the Linkage between Incomes and the Surplus

The second component of the framework is the relation between the money wages of workers, profits of enterprises, and government 'money income'[3] and expenditures on consumption, investment, and government goods. That is, the surplus of the economy, which consists of the goods not used directly in production (Q_2),[4] has to be distributed across three classes of claimants—workers, capitalists and business enterprises, and the state; and it has to be done in money terms.[5] Hence letting $\mathbf{p} = (p_1,\ldots,p_m)$ be a column

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[2] This point can be stated as follows: $Q_{d1}^{-1}G_{11} = A_{11}$ where A_{11} is a matrix of material production coefficients $[a_{ij} = q_{ij}/Q_j]$. Thus $A_{11}^{n-1} \neq 0$ where n is the number of intermediate capital goods and $A_{11}^{m} \neq 0$ as long as m is finite which means that a commodity residual exists. This result has the interesting but perhaps obscure implication of dismissing the concept of relative scarcity.

[3] That is, the government creates its own money income for spending by crediting bank accounts. While taxes do exist, they are not relevant with regard to expenditure decisions by the government. The point of taxes is to create demand for money (government IOUs) and secondly to drain reserves out of the system thereby affecting the expenditure decisions of enterprises and households.

[4] The surplus could also consist of intermediate capital goods, but this will not be dealt with here so as to reduce somewhat the complexity of the following analysis and modeling.

[5] More specifically, $(\mathbf{e}Q_{d1})^T - (\mathbf{e}G_{11})^T = 0$ means that all the intermediate capital goods are used up in production; and $Q_2 = (\mathbf{e}Q_{d2})^T$ is a column vector of goods not used directly in production and hence can be used for (that is purchased for) consumption, investment and/or government purposes.

vector of money prices of all m goods produced in the economy, $\mathbf{p_1} = (p_1,\ldots,p_n)$ be a column vector of money prices of intermediate capital goods, $\mathbf{p_2} = (p_{n+1}, \ldots, p_m)$ be a column vector of all surplus goods, and $\mathbf{w} = (w_1,\ldots,w_z)$ be a column vector of money wage rates, then

(5a) $W = \mathbf{e}(L\mathbf{w})$ which is scalar and is the total wage bill;

(5b) $P = (Q^T\mathbf{p}) - \mathbf{e}[G\mathbf{p_1} + L\mathbf{w}]$ which is a scalar and is total profits;

(5c) G_m = government 'money income';

(5d) $VS = (Q^T{}_2\mathbf{p_2})$ which is a scalar and is the total monetary value of the surplus; and

(5e) $NI = W + P + G_m$ is national income and equal to the sum of the wage bill, 'profits', and government income.

Since the state does not actually produce the goods but the capitalists do, government income qua expenditures is simply transferred to the capitalists and shows up as an indistinguishable component of their profits. Thus government income is 'double counted' in national income.[6] Together, the production and monetary structures generate a monetary input-output structure of the economy:

(3) $G + L \rightarrow Q_d$ the productive structure of the economy;

(4') $(\mathbf{e}G)^T + Q_2{}^T = Q^T$ which is the structure of the total output of the economy that equals the material inputs used in production plus the surplus;

(5b') $G\mathbf{p_1} + L\mathbf{w} + \mathbf{P} + G_m = Q_d\mathbf{p}$ is the monetary structure of the economy where $\mathbf{P} = (P_1, \ldots, P_m)$ is a column vector of the profits (which includes government expenditure) in each market; and

(5d') $Q_{d2}\mathbf{p_2} = Q_{d2C}\mathbf{p_2} + Q_{d2I}\mathbf{p_2} + Q_{d2G}\mathbf{p_2}$ which is the monetary structure of the surplus

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[6] This apparent anomaly needs further investigation.

in terms of consumption, investment, and government purchases.

Since workers spend all their wage income on consumption goods, capitalists spend part of their profit income on consumption goods and part on investment goods, and government income is spent on government goods, then

(5f) $Q_{2C}\mathbf{p_2} = \mathbf{e}(L\mathbf{w}) + \mathbf{c_c}P$ which is that consumption is equal to the wage bill and the capitalist consumption out of profits where $\mathbf{c_c} = (c_{c1}, \ldots, c_{cm})$ is a row vector of capitalist propensities to consume out of profits;

(5g) $Q_{2I}\mathbf{p_2} = \mathbf{re}P$ which is investment is equal to retained earnings where $\mathbf{re} = (1 - c_{c1},$ $\ldots, 1 - c_{cm})$ a row vector of capitalist propensities to retain earnings out of profits; and

(5h) $Q_{2G}\mathbf{p_2} = G_m$ which is government income is equal to the value of government goods purchased.

Therefore,

(6) $\mathbf{e}(Q_{d2}\mathbf{p_2}) = \mathbf{e}(L\mathbf{w}) + \mathbf{c_c}P + \mathbf{re}P + G_m$ or the value of the surplus equals national income.

Social Framework of the Social Provisioning Process

Complementing the structure of the economy is the social framework of the social provisioning process in a capitalist economy. It consists of the organizations that generate and direct the social provisioning process, that is, the business enterprise and the state, and the social relationships that permit them to direct the process. Starting with the latter, there are two broad social classes with respect to economic activity: those who do not own or control qua direct the means of production and hence do not have privileged access to incomes and those that do own and do control qua direct the means of

production and hence have privileged access to incomes. Thus the former have no choice but to work for the latter while the latter are able to control and direct the working lives of the workers for their own benefits and hence are the bosses or the capitalists. The latter's benefits include not just a superior material standard of living but also the social power to maintain ownership and control so to continue the directing of the social provisioning process for their benefit. Whether, the two broad classes have anything in common is a complex question; however, what they do not have in common is who owns, controls, and directs the economic activity underpinning the social provisioning process. In particular the capitalist class wants to retain the power associated with ownership, control, and direction so as to make workers dependent upon them and therefore be able to direct workers lives for their own benefit.

Business Enterprise and Prices

The organizations through which the capitalist class directs the social provisioning process is the business enterprise and the state. The business enterprise is a specific social organization for coordinating and carrying out economic activities in a manner that mirrors the social relationships in capitalist society and, most importantly, reproduces the capitalist class itself. It consists of an organizational component, a production and cost component, a series of routines that transmit information (such as costs, sales, and prices) to enable workers and managers to coordinate and carry out their activities, and a management that makes strategic decisions about prices and investment. The organization of the business enterprise is essentially a particular social technique for the production of goods and services. Hierarchical in structure and authoritarian in terms of social control, the organization of the enterprise enables senior management to make

decisions that, in turn, are carried out by lower management and workers. The enterprise

has three tools by which to affect economic activity and hence the social provisioning

process for its own interest: setting prices, undertaking investment, and making

production and employment decisions. When making decisions, management of an

enterprise is motivated by different goals, the most fundamental being the survival and

continuation of the enterprise, followed by various strategic goals, such as growth of

sales, developing new products, entering new geographical regions or markets,

generating dividends for shareholders, and/or attaining political power. Given that the

enterprise has an unknown but potentially very long life span, the time period to achieve

each of the goals is likely to be different, and management cannot be sure that they can

achieve them. Thus the goals are not ends in themselves but are established so as to

direct the activities of the enterprise in an uncertain environment. As a result, profits are

not an end goal for management, but rather an intermediate objective that facilitates the

directing of its desired activities.

<u>Pricing and the Price Model</u>

Management views price setting and the choosing of investment projects as

strategic decisions designed to meet their goals. With regard to the former, management

utilizes cost-plus pricing procedures that involve first calculating the costs of producing

the product at normal output and then adding a profit mark up to set the price. The

resulting price remains fixed for a period of time (and many transactions) and does not

change when sales increase or decrease. Its two most important properties are its

potential, depending on the state of demand, to generate a cash flow for the enterprise

that will cover its costs producing the product and to generate profits and its strategic

capabilities, such as penetrating markets and altering market shares. Once set, the price

is then administered to the market as the enterprise's market price. However, the

business enterprise sells its goods and services in markets that include products from

other competing enterprises; thus there needs to be a market arrangement by which the

market price is set. For simplicity sake, it will be assumed that the market price is set by

a price leader or a cartel. Hence the *price equation for a single market* is not significantly

different from the enterprise pricing equation:

(7) $[\mathbf{m_i}\mathbf{p_1} + \mathit{l_i}^*\mathbf{w}][1 + r_i] = p_i$

where $\mathbf{m_i} = (m_{i1}, \ldots, m_{in})$ is a row vector of average material pricing coefficients

at normal output or capacity utilization;

$\mathit{l_i}^* = (\mathit{l_{i1}}^*, \ldots, \mathit{l_{iz}}^*)$ is a row vector of average labor pricing coefficients at

normal output or capacity utilization;

r_i is the profit mark up; and

p_i is the market price for the ith good.

Since market refers to all the transactions of a specific product, the economy

consists of as many markets as there are products. Thus there are m markets that can be

classified as consumer, investment, intermediate capital, or government goods markets.

Common to all the markets is that the relationship between the market price and market

sales is non-existent; thus a reduction in the market price by itself will generate little if

any increase in market sales.[7] Finally, the *price model of the economy* is:

(8) $[R_d][M\mathbf{p_1} + \mathit{l}^*\mathbf{w}] = \mathbf{p}.$

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[7] This implies that the m markets are not neoclassical markets or markets in the sense that
variations in the amount of goods and services demanded and sold in the market are due
to variations in the market.

where R_d is a *m x m* matrix of profit mark ups and the ith element is $(1 + r_i)$;

M is a *m x n* matrix of average material pricing coefficients that are invariant with respect to short term variations in output and the ith row in m_i; and

l^* is a *n x z* of average labor pricing coefficients that are invariant with respect to short terms variations in output and the ith row is l_i^*.

Business Enterprise, the State, Investment and the Quantity Model

Management of the business enterprise distinguishes between investment projects that are designed to replace broken equipment or maintain the operations of an existing plant, to meet state mandated environmental and safety standards, and to expand capacity, create new products, and expand the enterprise's marketing capabilities. Management generally funds all the investment projects in the first two categories on the grounds that, if they were not supported, the enterprise's capacity for current production would be severely reduced. Investment projects in the third category, on the other hand, are justified either in terms of their contribution to meeting the future demand of the enterprise's existing products or in terms of producing new products for current and novel future demands. In addition, such investment have to meet a range of financial guidelines ranging from generating a flow of profits that would cover their costs in a given number of years to a minimal rate of return (that is greater than the market interest rate). Given management's goals, however, the financial guidelines play a secondary role in investment decisions. Once the investment decision are made, management then determines whether it can be internally financed from profits or that external funds will have to be obtained from financial institutions. From the above discussion we find that

investment is a demand for goods that are not used up in production and hence are part of the surplus. Therefore for the economy as a whole, the total investment or total demand for the surplus in the form of investment goods can be represented by Q_{2I}.

Both workers and capitalist demand consumer goods, but they do not command the direct production of those goods. That is, capitalists and workers do not receive a predetermined inventory of goods derived from the surplus in the previous time period; and nor do they directly order the production of the goods they consume. Rather, workers and capitalists partake in the surplus, but not of their own choosing. Drawing upon past consumption patterns, enterprises make production and employment decisions that result in consumption goods (Q_{2C}) being produced ahead of payments for them while the consumers simply choose among the already produced goods for them. Finally, the state also demands goods not used up in production; that is, it demands surplus goods (Q_{2G}). Thus the output of the economy can be represented as:

(4') $(\mathbf{e}G)^T + Q_{2I} + Q_{2C} + Q_{2G} = Q$.

Letting $Q^{-1}_d G = \begin{bmatrix} Q^{-1}_{d1}G_{11} \\ Q^{-1}_{d2}G_{21} \end{bmatrix} = A = \begin{bmatrix} A_{11} \\ A_{21} \end{bmatrix}$ a m x n matrix of material production

coefficients that vary with output and $Q^{-1}_d L = \begin{bmatrix} Q^{-1}_d L_{11} \\ Q^{-1}_d L_{21} \end{bmatrix} = l$ a m x z matrix of labor

production coefficients that vary with output, the *output-labor quantity model of the economy* is:

(9) $A^T Q + Q_{2I} + Q_{2C} + Q_{2G} = Q$

$$l^T Q = L$$

Micro-Macro Framework of the Monetary Production Economy

The structure and social framework of the economy can be represented as follows:

(3') $Q_dA + Q_d\boldsymbol{l} \rightarrow Q_d$ productive structure of the economy

(9) $A^TQ + Q_{2I} + Q_{2C} + Q_{2G} = Q$ quantity model of the economy - output

                $\boldsymbol{l}^TQ = L$ quantity model of the economy - labor

(8) $[R_d][M\mathbf{p_1} + \boldsymbol{l}*\mathbf{w}] = \mathbf{p}$ price model of the economy

(10) $Q_dA\mathbf{p_1} + Q_{d2}\mathbf{p_2} = Q_d\mathbf{p}$ price-output model of the economy as a

                $Q_d\boldsymbol{l}\mathbf{w} = L\mathbf{w}$ whole

(6) $e(L\mathbf{w}) + \mathbf{c_c}P + \mathbf{re}P + G_m = e(Q_{d2}\mathbf{p_2})$ national income equals the value of the

                                      surplus.

As the model stands, the economy operates in terms of the decisions concerning prices

and the production of the surplus; and these decisions are made by the business enterprise

and the state. More specifically, the decisions concerning the production of the surplus

determines output and employment. This can be seen in the following way:

(9') $(I - A^T)^{-1}[Q_{2I} + Q_{2C} + Q_{2G}] = Q_d$

Hence, enterprise investment and production decisions and government purchases

decisions determine the composition and amount of the surplus (Q_2); and given Q_2 (or Q_{2I}

+ Q_{2C} + Q_{2G}), the composition and the amount of output (Q) and employment (L) is

determined. Thus, the material basis to the social provisioning process is determined by

one class or segment of society—the capitalist class and the dependent capitalist state—

for society as a whole. Since the composition and amount of the surplus is determined by

the capitalist class and the state, they have the dominant influence qua control over the

economy and society. In other words, since workers as a class cannot directly command

the production of their consumption goods, they cannot control their own social

provisioning process.[8]

    This argument has two theoretical implications. The first and most significantly

is that while workers must be employed to have access to the social provisioning process

in a capitalist economy, the employment process is controlled by the capitalists and the

state. Therefore the composition of and how many workers are employed are determined

by them. Thus while workers may choose the particular jobs they do, they can not as a

class choose to work or be employed. In short, workers are, to use an old Marxian

phrase, wage-slaves. Secondly, workers as a whole are employed to produce what the

capitalists and the state wants and in the process, as a sort of unintended consequence or

by-product, produce their own material reproduction, that is the goods they buy with their

wages: Wage Bill $= \mathbf{e(Lw)} = Q_{2C}\mathbf{p_2} - \mathbf{c_c P}$. In contrast, by being employed to produce

consumption, investment, and government goods for capitalists and the state, workers

have also produced the profits for the capitalists: Profits $= Q_{2I}\mathbf{p_2} + [Q_{2C}\mathbf{p_2} - \mathbf{e(Lw)}]$.[9]

Since profits 'consists' of non-scarce reproducible goods, they are not based on scarcity

and hence are not 'technologically' constrained.

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[8] Of course they may indirectly through the state affect a command of the goods they consume and hence affect their own social provisioning process. However, the capitalist state limits this possibility so the only question is whether the actual 'government' goods made available are those actually wanted by workers as opposed to 'imposed' upon them by capitalists.

[9] It must be noted that production is a complex process in which capitalists qua managers engage; thus within the context of the capitalist system they contribute to production. Withdrawal of either workers or capitalists from the production process under capitalism means that production would cease. However, the point being made is that workers have no control over producing capitalist profits because it is only when production for profit occurs that workers gain access to their material reproduction. In an alternative economic system the class of capitalists qua managers need not exist and production can be carried on solely by workers in which they would also produce a surplus income that does not come back to them in the form of consumption goods.

The second implication is that since workers are compelled to work as a way to gain access to the social provisioning process, the state can also employ (or command) workers to produce state goods; however in this case, workers do not produce state income as the state can 'create' its own 'income'. Rather ironically, by producing state goods, workers are 'producing' profits for capitalists as a form of transfer payment. In any case, the state is in a powerful position to direct the economy through commanding labor power to produce its goods. In spite of the state's role in generating capitalist profits, the capitalist state is constrained by the capitalist class in its ability to command labor and direct the economy. But that should not obscure the fact that capitalists and the state are able, in the same way, to command labor power in pursuit of their own objectives.[10] Finally, if the capitalist and the state command workers to produce surplus goods, then workers are not made to provide surplus labor; rather it is the command for 'surplus labor' to produce surplus goods for capitalists and the state that has as its by-product the production of wage goods for workers. Thus, the causal structure runs from surplus goods to surplus labor to wage goods; or more bluntly it is the production of profits that produces the wage goods. This inverts the traditional Marxian argument that underpins their theory of exploitation and the origin of profits. Yet, while the use of surplus labor as an entry point into the analysis of exploitation and profits is misleading, the outcome is more or less the same: capitalists and the state direct the economy and hence the social provisioning process for their own interests, with the material reproduction of workers as a nagging afterthought.

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[10] Stated in this way, capitalism and the capitalist state is not that different from a feudal economy except that the former has rejected and 'social' responsibility for ensuring that all workers has a right to a place in the social provisioning process.

Turning to the price model, $[R_d][M\mathbf{p_1} + \boldsymbol{l^*}\mathbf{w}] = \mathbf{p}$, in a monetary production

economy, for any given values of the profit mark up and wages, prices are determined.[11]

Since M_{11} (like A_{11}) represents circular production, it is not possible to reduce the

material pricing coefficients to zero.[12] In addition, since L is a irreducible matrix of labor

power skills, it is not possible to reduce it to a single homogeneous amount of labor

power. This implies that prices cannot be 'reduced' to a homogeneous quantity of labor

power and, consequently are not proportional to embodied homogeneous quantities of

labor power. More significantly, because prices can exist as long as the profit mark ups,

the wage rates, or both are positive, then it is the price system as a whole that determines

prices. However, since the price system reflects and is embedded in the social system of

production, it is the latter that 'determines' prices or more accurately provides the

material and social basis for their existence.

This argument also has two interesting theoretical implications. The first is that

price changes can only occur when enterprises decide to vary wage rates or profit mark

ups or by altering the pricing coefficients (which is predicated on changing the

underlying technology or an alteration in the capital-labor relationship within the

enterprise). Thus, prices in the economy reflect *both* the agency and the costing-pricing

structures of the business enterprise and the structures of the social system of production.

The second implication is that wage rates and profit mark ups can vary independently of

each other; thus an increase in wage rates does not require a 'structural' reduction in

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[11] Specifically, we have the following:
$(I - R_{d1}M_{11})^{-1}R_{d1}\boldsymbol{l^*}_1\mathbf{w} = \mathbf{p_1}$ and $R_{d2}M_{21}[(I - R_{d1}M_{11})^{-1}R_{d1}\boldsymbol{l^*}_1\mathbf{w}] + R_{d2}\boldsymbol{l^*}_2\mathbf{w} = \mathbf{p_2}$.
[12] $M_{11}{}^m \neq 0$ as long as m is finite which means that a commodity residual exists. This result means that prices, wage rates, and profit mark ups are not based on relative scarcity and hence are not scarcity indexes.

profit mark ups and vice-versa. This outcome is a result of the price model and prices being embedded in a monetary production economy where the unit of account (that is the dollar, euro, and yen) is the *numeraire* and wages are denoted in terms of it. From this it can be argued that an equal percentage increase in wage rates will not alter the price-wage ratio whereas an equal percentage increase in the profit mark up will do so.[13] Hence, as will be argued below in the context of distribution, the profit mark up has a more significant impact on the economy relative to the wage rate.

Finally, the quantity and price models together produce a price-quantity model of the economy as a whole:

(10) $Q_d A \mathbf{p_1} + Q_{d2} \mathbf{p_2} = Q_d \mathbf{p}$

$$Q_d l \mathbf{w} = L \mathbf{w}$$

with the principle characteristic that output and prices are determined independently of each other. Hence the 'coordination of economic activity' and the 'allocation of scarce resources' is not only not done via prices, both concepts also have no meaning. That is, economic activity does not exist because of coordination and hence does not break down because of the lack of coordination; rather economic activity is generated and its structure is organized through the creation of the surplus. Moreover, with markets defined in terms of the transactions of a specific product and market price and market sales separately determined, market prices cannot clear markets and markets are conceptually non-clearable in that there will always be market transactions as long as the desired surplus

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[13] From footnote 11, we find that each price is equal to a row vector of non-price coefficients (which include profit mark ups) times the wage rates. Hence an equal percentage increase in wage rates will generate the same percentage increase in prices leaving the coefficients unchanged. On the other hand, if profit mark ups increase, the coefficients hence prices increase resulting in an increase of the price-wage rate ratio.

requires the production and utilization of the product. Therefore it is the variations in the desire for surplus goods by the capitalist class and the state and not variation in prices that generates variations in output, market transactions, and employment of workers.[14] Lastly, as noted above, in a social system of production where all goods and services are producible and reproducible there are not scarce resources and factor inputs and prices are not scarcity indexes. Hence the concept of allocating scarcity resources by the price mechanism has no meaning.

If prices are not required for the 'coordination of economic activity' or the allocation of scarce resources, then what does the price system do? The answer lays not so much with price *per se* but with its two principle determinants: the profit mark up and the wage rate. As noted above, wages and profits are spent on consumption and investment goods: $e(L\mathbf{w}) + \mathbf{c_c P} + \mathbf{reP} = Q_{2C}\mathbf{p_2} + Q_{2I}\mathbf{p_2}$. Since consumption goods are for the reproduction of workers and their households, wage rates are the agency qua institutional qua distributional mechanism through which this is achieved. However, variations in wage rates mean that there are variations in workers' participation in the social provisioning process. In particular, under capitalism with its ethos of individualism and a capitalist class strategy of preventing the emergence of a unified working class, a hierarchy of wage rates is established through the interaction of capitalists, trade unions, and workers that results in some workers having not just more

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[14] The argument here is an extension of the argument by Keynes where he dismissed the neoclassical notion that the labor market determines employment. If effective demand eliminates the neoclassical labor market it also eliminates the neoclassical product market.

goods and services than others but also having different ones.[15] The profit mark up is

designed to capture a portion of the global surplus of consumption and investment goods

to enable the enterprise and the capitalists to reproduce themselves. That is, like wage

rates, profit mark ups are the agency qua institutional qua distributional mechanism that

capitalist have access to the social provisioning process and enterprises are able to

reproduce themselves. Therefore, as with wage rates, variations in profit mark ups

generate among capitalists differential access to social provisioning and differential

capabilities among enterprises to reproduce and grow.

Considering the relationship between wage rates and profit mark ups, as noted

above, increasing wage rates cannot encroach upon the portion of consumption goods

that is acquired by the capitalist class. However, increasing profit mark ups reduces the

'purchasing power' of wage rates, which results in changing the composition of the

production of consumption goods so that less are produced for workers and more for

capitalists are produced. Thus, the profit mark up and the 'wage share' of the value of

consumption goods ($Q_{2C}\mathbf{p_2}$) are inversely related.[16] While the profit mark up is

independent of the wage rate, it is quite different for the capitalist propensity to consume

(or the capitalist wage rate). That is, if the latter increases, the profit mark ups must

increase in order to obtain the amount of profits to purchase the same amount of

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[15] This point implies that in a capitalist society, differential access to the social
provisioning process necessarily means a differentiation of consumption goods (as
opposed to a single homogeneous consumption good). If culture, age, gender, climate,
and topography are also taken into account, then it is clearly impossible to aggregate
across consumption goods to generate a single homogeneous consumption good. It is
only by having a differentiated set of consumption goods is it possible to explore the
relationship of class, gender, family, race, and culture to the social provisioning process.
[16] It is possible to explore the same issue through varying the capitalist propensity to
consume out of profits. But since this propensity is tied to the reproduction of the
capitalist class, the analysis will be more complex.

investment goods while at the same time driving down the 'wage share'. So the answer to what does the price system do is that under the existing capitalist social relationships it 'ensures' the reproduction of capitalists, business enterprises, and perhaps workers.

As noted above, the objective of heterodox microeconomics is to identify, describe, and develop a narrative-- that is a theoretical explanation--utilizing structures and causal mechanisms of the "micro-events" that contribute to the overall understanding of the social provisioning process in a capitalist economy. If this objective has been at least partially achieved in the above discussion, then embedded in heterodox microeconomics is an emerging heterodox theory of value—that is a qualitative-quantitative analytical explanation of prices of goods and services, of profit mark ups and wage rates, of the composition and amount of the surplus and overall output and employment, and of distribution—which provides the core understanding of the social provisioning process. Central to it is the role of capitalist social relationships that produces within the context of a monetary production economy an individual qua household alienated social provisioning process. Hence, the analytical need for agency by capitalists, 'the state,' and workers and the structural existence of the distribution variables of profit mark ups, wage rates, and capitalist propensity to consume. Whether this heterodox value theory is sound or not will be determined by further development of heterodox microeconomic theory. But at least one thing is certain and that is there is an emerging coherent theory with a core theory of value that is an alternative to and replaces neoclassical theory and its theory of value.

Suggested Readings in Heterodox Microeconomics

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