Heterodox Microeconomics and the Foundation of Heterodox Macroeconomics

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Resumen

La resolución de la controversia sobre las microfundamentos de macroeconomía es importante para la economía heterodoxa. En este ensayo se argumenta que la controversia se debe a una mala interpretación. Es decir, la comprensión convencional de la controversia consiste en que es un ejercicio reduccionista de la macroeconomía a la microeconomía establecida. Sin embargo, la microeconomía establecida es teóricamente incoherente y de ahí que no puede proporcionar los fundamentos para ninguna macroeconomía, corriente principal o heterodoxa. Además, una posición común en la economía heterodoxa es que la macroeconomía heterodoxa genera una subestructura en microeconomía. Pero esa no es la cuestión; más bien esto genera un debate en la microeconomía heterodoxa. El ensayo concluye con el argumento de que en la Economía Heterodoxa la dicotomía micro-macro no existe y de ahí que la controversia debería ser desechada.

Palabras clave
- Heterodoxo
- Microeconomía
- Macroeconomía

Abstract

The resolution of the controversy over the microfoundations of macroeconomics is important to heterodox economics. In this essay, I argue that the controversy is due to misspecification. That is, the conventional understanding of the controversy is that it is a reductionist exercise of macroeconomics to mainstream microeconomics. However, mainstream microeconomics is theoretically incoherent and hence cannot provide the microfoundations for any macroeconomics, mainstream or heterodox. In addition, a common position in heterodox economics is that heterodox macroeconomics generates a mainstream microeconomics substructure. But it is argued that this is not the case; rather it generates a heterodox microeconomics substructure. The essay concludes with the argument that in heterodox economics the micro-macro dichotomy does not exist and hence the controversy should be dismissed.

Key words
- Heterodox
- Microeconomics
- Macroeconomics

JEL Classifications: B5, D01, E12

Many heterodox economists have an ambivalent attitude about the issue of "microfoundations of heterodox macroeconomics". Often they entirely dismiss the issue because it has the appearance of being like the mainstream reductionist research program of reducing macroeconomics entirely to microeconomics. But when it is not dismissed, the foundations are often located entirely in current mainstream microeconomic theory or in its Marshallian variant. Other times, heterodox economists combine some components of mainstream microeconomic theory, such as scarcity and factors of production, demand curves and price elasticity of demand, marginal products, maximization, and close-system theorizing, with various heterodox concepts, such as normal cost pricing, going enterprises, and socially constructed markets, and suggest that it is a coherent and

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viable foundation for heterodox macroeconomics. Finally, there are those who argue that the issue is incorrectly specified and that it should be the "macrofoundations of microeconomics;" that is to say, the theoretical structures and properties of heterodox macroeconomics determine what the microeconomics will be. Yet, when attempts are made along this line, mainstream microeconomic concepts often end up being adopted.

The enduring nature of this issue and the heated debate (at times) and often resounding silence which constitutes part of the debate (at other times) suggests that there is indeed something wrong about its specification. Indeed, some argue that the issue is a non-issue because macroeconomics and microeconomics exist in completely different theoretical domains and hence unrelated to each other-so no microfoundations or macrofoundations. This is not the position taken in this essay. Another possible reason for the misspecification concerns the internal theoretical coherence of mainstream microeconomics and its theoretical compatibility with heterodox microeconomic theory. This will be addressed in the first section of the essay; and the overarching conclusion reached is that mainstream microeconomic theory is incoherent and incompatible with heterodox microeconomic theory. So the issue is indeed misspecified in that mainstream microeconomics cannot be the foundation for heterodox macroeconomics or indeed for any macroeconomics. Therefore, the issue of misspecification now becomes one of macroeconomic foundations of microeconomics. In particular, does heterodox macroeconomics 'generate' a mainstream microeconomics sub-structure? This point will be examined in the second section of the essay and the conclusion is also negative. The third section of the essay pursues the heterodox macrofoundations of microeconomics question further by examining what kind of microeconomics that heterodox macroeconomics demands. The essay concludes with the argument that the issue is indeed wrongly specified because the micro-macro dichotomy does not exist for heterodox economics.

I

It is odd but nevertheless true that many heterodox economists accept, to one degree or another, mainstream microeconomic theory. This remains the case even in light of well-developed and articulated arguments delineating its theoretical incoherence. First, the objects of study of mainstream microeconomics, such as preferences-utility, marginal products, demand curves, rationality, relative scarcity, and homogeneous agents, are ill-defined, have no real world existence, and where

relevant are non-quantifiable, non-measurable.[1] Consequently, the issues and problems for which the objects are relevant, such as competitive markets, efficiency, and constrained optimality, are either fictitious in that they are unrelated to the real world; or if the issues and problems are clearly located in the real world, such as prices or unemployment, the objects have no bearing on their existence. Secondly, the methods used by mainstream economists to develop theoretical explanations addressing the issues and problems, such as deductive methodology and ontological and methodological individualism, generally include fictitious objects and utilize concepts that have no empirical grounding hence no meaning in the real world. Together, they clearly suggest that it is not possible for mainstream economists to conjure up any theoretical explanations relevant to the provisioning process that takes place in the real world. In addition, the mainstream theory of the provisioning process is itself quite problematical. The core propositions of the theory, such as scarcity, preferences and utility functions, technology and production functions, rationality, maximization/optimalization, market clearing, equilibrium, ontological and methodological individualism, heterogeneous agents, and positivist and deductivist methodology, have all been subject to intensive heterodox critiques; and in many cases there are multiple, overlapping heterodox critiques of core propositions.[2] But even if the critiques are ignored, it is well-known that it is not possible to generate internally coherent explanations, stories, or parables of market activity (such as the pervasive urban legend of the market as a self-adjusting mechanism) at either the micro or the macro level; and even if particular stories (represented in terms of models) of market activities are accepted, such as general equilibrium or game theory, they have been shown, on their own terms, to be theoretically incoherent and empirically unsupported [Rizvi, 1994; Lawson, 1997; Keen, 2001; Lee and Keen 2004; Ackerman and Nadal, 2004].

[1] In some cases, mainstream microeconomic concepts and their derivative symbols are presented in such a way so as to look like they are quantifiable, such as the utility function and "U" for total amount of utility. However, "U" is not well-defined, has no dimensions, and its units of measurement are not stated. This is a case of pseudoquantitation [Bunge, 1998; Mahner, 2007].

[2] To illustrate, consider the heterodox critiques of the mainstream concept of scarcity. The Post Keynesians (Bortis, 1997) argue that produced means of production within a circular production process cannot be characterized as scarce and that production is a social process; while Institutionalists (DeGregori, 1987) reject the view that natural resources are not socially created to enter into the production process; and the Marxists (Matthaei, 1984) argue that the concept is a mystification and misspecification of the economic problem-that it is not the relation of the individual to given resources, but the social relationships that underpin the social provisioning process. The three critiques are complementary and integrative and generate the common conclusion that the concept of scarcity must be rejected as well as the mainstream approach to the study of the social provisioning process in terms of the allocation of scarce resources among competing ends in light of unlimited wants.

The general incoherence of mainstream microeconomics has quite negative consequences for heterodox economists wanting to use it to provide a foundation for heterodox macroeconomics. Most obvious, it cannot be used because it has no meaning and thus lacks truth and value. That is to say, mainstream microeconomic theory represents bogus, false, or pseudo-knowledge because "it refers to non-existents or because it represents existents in an utterly false manner" (Bunge, 1983: 195). Yet, such a sweeping condemnation is ignored by heterodox economists who implore that demand curves, factors of production, maximization, and other particular mainstream microeconomic theoretical concepts and arguments can be incorporated into heterodox microeconomics and hence contribute to the foundation of heterodox macroeconomics. The non-sense of this position is, however, all too apparent. For example, only under the assumption of agents with identical homothetic utility functions is it possible to obtain aggregate demand curves and derive price elasticity of demand. If agents are different in any way, then an aggregate demand curve which represents a law-like functional relationship between price and quantity does not exist (Varian, 1984: 151); and without its existence, it is not possible to utilize supply and demand narratives to explain how markets work. Similar aggregating arguments can also be directed against supply curves, firm demand curves derived from market demand curves (such as in oligopoly, monopolistic competition, and game theory), and aggregate demand for and supply of factor inputs. Consequently, it is not possible to use mainstream aggregate supply and demand curves that have law-like functional relationships between price and quantity in heterodox economics because they do not exist in mainstream economics.

Another example involves the heterodox assumption of constant marginal costs. In this case, the assumption not only violates the law of diminishing returns (with its diminishing marginal products) that is central to mainstream production theory, but also implies that relative scarcity does not characterizes the factor inputs or the output. Moreover, heterodox production theory rejects the view that any means of production or labor power input is individually productive, that is has a marginal product (Lee and Jo, 2010). Finally, the concept of the production function and its property of marginal products is incoherent and non-measurable. Therefore, it is not possible to integrate mainstream and heterodox production and cost theory at any level. A final example concerns maximization, particularly maximization of profits. Maximizing involves an economic agent making choices relative to known-with-certainty constraints. But when the constraints do not exist and/or certain knowledge of them does not exist, then maximization is not possible. A fundamental principle of heterodox economics is non-ergodicity, transmutable future, and radical uncertainty. In this context, maximization of profits (or any other outcome) has no

meaning; thus maximization has no role or meaning in heterodox microeconomics. Moreover, without well-specified non-transmutable constraints, agents are reduced to making historically contingent decisions. Hence the mainstream deductive and close system theorizing is not possible. So again, heterodox and mainstream theory are completely incompatible and incommensurable. The overarching conclusion of this section is mainstream economic theory is (1) theoretically incoherent, (2) pseudo-knowledge, and (3) fundamentally incommensurable with heterodox microeconomic theory. Therefore, it cannot in any manner constitute the foundation of heterodox macroeconomics.

II

Heterodox macroeconomic theory is fundamentally concerned with explaining aggregate levels of output and employment via the theory of effective demand. Emphasis is placed on investment and consumption decisions and government expenditures as driving the output and employment levels of the economy. On the other hand, prices and wage rates are viewed as having little or no impact on output and employment; profit mark ups as having a negative impact on output and employment; and savings and the propensity to save as having either a negative or no impact on output and employment. Given this summary of heterodox macroeconomic theory, the issue that needs to be explored is whether it generates a mainstream microeconomic sub-structure. This can be done through the use of Kaleckian macroeconomic models.

The basic Kaleckian model of the economy[3] is based on the core macroeconomic structural relationship that national income (NI), which consists of wages (W) and profits (P), equals the value of the surplus (VS), which consists of consumption goods and services (C) split between workers consumption (C_w) and capitalist consumption (C_c) and fixed investment goods and services (I):

(1) NI = VS
(2) $W + P = C + I = C_w + Cc + I$.

Working with a 2class society of workers and capitalists, it is assumed that workers spend all their income on consumption ($W = C_w$) and capitalists spend part of their income (profits) on consumption and part on investment ($P = C_c + I$). In addition, it is assumed that capitalists spend a given percentage (q) of their profits on consumption. Thus we have:

[3] The model has a shortcoming in that it has no state engagement in the economy.

(3) P = I + Cc
(4) C_c = qP
(5) P = I + qP = I/(1-q).

Because capitalists can effectively make the investment decisions, their aggregate demand for and hence expenditures on investment goods create aggregate profits, which means that the production of fixed investment goods is simultaneously the production of profits (as represented in equation 5). Similarly, the production of workers' consumption goods simultaneously produces workers' wages. Finally, drawing from (1) and (2), we have:

NI = P + W or
NI W = P or
NI [W/NI] x NI = P.

Letting [W/NI] = α which is the wage share in national income, we have:

NI αNI = P or

(6) NI = P/(1- α)

Substituting in equation (5), we get

(7) NI = I/(1- α)(1-q)

where I/(1- α)(1-q) is the wage share-capitalist propensity to consume multiplier or the Kaleckian

multiplier.

The outcome of equation (7) is that changes in fixed investment (or effective demand), in the capitalist propensity to consumer, and/or in the wage share changes national income.

So in spite of its analytical shortcomings of being a stateless, two-sector, two-class, aggregate money-value economy, the model does clearly argue, imply, and/or suggest that investments determines profits (savings) rather than profits being the

marginal product of capital (fixed investment goods); that wages are not based on the marginal product of labor; that economic agents, being from different classes, are not identical; that workers consumption is determined by the production decisions of capitalists independently of their preferences qua utility function; and that savings do not determine investment and the Kaleckian multiplier is not based on the capitalists propensity to save, implying that savings as an analytical concept has no place in heterodox macroeconomics. What this distinctly suggests is that heterodox macroeconomics demands anything but mainstream microeconomic theory. To make this more evident, it is necessary to delineate the Kaleckian model in terms of prices and quantities and introduce a price model and a output-employment model.

Consider the following Kaleckian two-sector price-output-employment model of the economy:

(8) $Q_m(l_m w_m)(1 + r_m) = Q_m p_m$

$Q_c(l_c w_c)(1 + r_c) = Q_c p_c$

where Qm is the output of machines,

Qc is the output of the consumption good,

lm is the constant labor production coefficient for the machine industry,

lc is the constant labor production coefficient for the consumption good industry,

wm is the wage rate in the machine industry,

wc is the wage rate in the consumption good industry,

rm is the profit mark up in the machine industry,

rc is the profit mark up in the consumption good industry,

pm is the price of machines, and

pc is the price of the consumption good.

Assuming that only labor costs are used as the cost-base for setting the price, the pricing model of the economy is:

(9) $(l_m w_m)(1 + r_m) = p_m$
$(l_c w_c)(1 + r_c) = p_c$.

Production in the model consists of machines with labor producing machines and machines with labor producing consumption goods. In order for the economy to be productive, the output-machine ratio for the machine industry, qmm, must be greater than one. On the other hand, the output-machine ratio for the consumption goods industry, qcm, needs only to be greater than zero. Finally, given the constant labor production coefficients and assuming homogeneous labor, total employment, L, is proportional to the output of machine and consumption goods: $l_{mm} Q_m + l_{cm} Q_c = L$. For the moment, it is assumed that all the machines produced in the machine industry are entirely used up in the production of machines and consumption goods, thereby making the surplus of the economy consist entirely of consumption goods, Q_c. Thus the output-employment model of the economy is:

$[q_{mm}/(q_{mm} - 1)][Q_c/q_{cm}] = Q_m$

(10) $q_{cm} M_c = Q_c$

$l_m[q_{mm}/(q_{mm} - 1)][Q_c/q_{cm}] + l_c\, q_{cm}[Q_c/q_{cm}] = L$

where Mc is the number of machines currently used in the consumption goods industry, and

$q_{mm}/(q_{mm} - 1)$ is the output-employment multiplier.

The technical givens of the price and output-employment model are the labor production coefficients lm, lc, and the output-machine ratios qmm and qcm; values for the money wage rates wm and wc are exogenously given; and the quantity of Q_c is determined exogeneously by capitalists. The unknowns of the model include p_m, p_c, Q_m, M_c, L, r_m, and r_c. With five equations from (9) and (10) and seven unknowns, two additional equations are needed to close the model. Utilizing the Kaleckian proposition that capitalists spend all their profits on machines, we have the following:

(11) $Q_m(l_m w_m) r_m = (Q_m - M_c) p_m$

(12) $Q_c(l_c w_c) r_c = (M_c) p_m$.

Equation (11) states that all the profits in the machine industry are spent on purchasing machines to replace those that have worn out; while equation (12) states that all the profits of the consumption good industry are spent on purchasing machines to replace those that have also worn out. Thus all profits are spent on purchasing investment goods (that is machines). With these two equations the model is fully specified and given the above assumptions, all the unknowns are determined.

What is significant about these results is what determines the profit mark ups. In the case of rm, it is technically determined by qmm:

(13) $r_m = 1/(q_{mm} - 1)$.

As for r_c, it is determined by the technical givens of the model as well as the assume values for the wage rates:

(14) $$r_c = \frac{l_m w_m \times q_{mm}}{l_c w_c \, q_{cm}(q_{mm} - 1)}.$$

One implication of equations (13, 14) is that the profit mark ups *per se* emerge prior to market transactions and so are non-price phenomena, and hence exist prior to any degree of market competition or demand curves, because the machine industry produces more machines than it uses up on production, $q_{mm} > 1$ and more generally because $Q_m > 0$. A second implication is that their magnitude is determined by the fertility of the production process modified in the case of rc by wage costs; hence changes in the profit mark ups arise from changes in the external technical conditions of production and the wage rates: the more fertile the technology, the greater qmm and qcm are and hence the lower the profit mark ups are. Thus, the magnitude of and changes in the profit mark ups are not affected by any degree of competition; in fact, market competition and demand curves have no role to play in the determined of the profit mark up, prices, or any other aspect of the model. The final implication is that total profits are generated via the production of consumption goods and the output-employment multiplier:

(15) $[q_{mm}/(q_{mm} - 1)]2[\, Q_c/q_{cm}][l_w w_m] = Q_m p_m$ = total profits.

Therefore profits are not a result of savings but of production—that is profits are produced and freely produced in that they are only constrained by capitalists decisions to produce consumption goods. And this point can be extended to say that total employment, output, and national income are determined by capitalist decisions to produce (in this case consumption goods) and not from decisions

about savings; and hence are only limited by the capitalists decisions to produce consumption goods (Lee, 2011b).

One interesting result of the structural determination of the profit mark ups is that variations in Q_c neither affect the profit mark up or prices -that is Q_m and Q_c are unrelated to their prices, which means that there are no demand or supply curves and the price elasticity has no role in determining the profit mark up or prices. As a corollary, profit maximization has no meaning in that the profit mark ups and total profits are determined by technical factors and decisions not constrained by the economy. Another result is that the profit mark ups (and therefore prices) per se have no impact on overall economic activity since Q_c is determined independently of them. Thus, technical change that reduces qmm and/or qcm resulting in the reduction of the profit mark ups and prices does not affect Q_c but does affect the total amount of labor employed. Similarly, changing wage rates can affect rc but not total economic activity; rather they only affect the division of Q_c among the workers in the two sectors. In short, in spite of the quite restrictive nature of the Kaleckian model used, the above analysis again shows that the heterodox macroeconomics does not generate a mainstream microeconomics but something quite different. And this result does not change when the model is slightly extended to the production of more machines than used up in production. In this case, the profit mark ups are affected, moving in the same direction as the production of the surplus machines, which supports the heterodox view that links investment to the profit mark up.[4] More significantly, when the model is extended to circular production with non-basic surplus of fixed investment, government, and consumption goods, profits being

[4] While the pricing model of the economy (equation 9) remains the same, the output-employment model becomes.

$$[q_{mm}/(q_{mm} - 1)][Q_c/q_{cm} + M^*_m + M^*_c] = Q_m$$

(10a)
$$q_c M_c = Q_c$$
$$l_m[q_{mm}/(q_{mm} - 1)][Q_c/q_{cm} + M^*_m + M^*_c] + l_c\, q_{cm}[Q_c/q_{cm}] = L$$

where M*m and M*c are the extra machines to be produced, and

$$Qm = M_m + M_c + M^*_m + M^*_c.$$

Finally, the Kaleckian equations become

(11a) $Q_m(l_m w_m)r_m = (Q_m - M_c - M^*_c)p_m$

(12a) $Q_c(l_c w_c)r_c = (M_c + M^*_c)p_m$.

When solving for the profit mark ups, we find that they are now a function of the production of the additional machines:

(13a) $$r_m = \frac{[q_{mm}/(q_{mm} - 1)][M_c + M^*m + M^*_c] - M_c - M^*_c}{M_c + M^*_c}$$

(14a) $$r_c = \frac{l_m w_m}{l_c w_c} \times \frac{[q_{mm}/q_{mm} - 1)][M_c + M^*_m + M^*_c]}{q_{cm} M_c}.$$

Thus for a given Mc, increasing either M*m or M*c will result in higher output, employment, prices, and profit mark ups; but since the amount of the consumption good has remained the same, the real income of workers decline.

spent on fixed investment and consumption goods, and the state demands and purchases the state goods with state money, the results do not change significantly (Lee, 2011a).

III

Heterodox economics is concerned with explaining, and proposing and advocating changes in the historical process of producing the social surplus that provides the flow of goods and services required by society to meet the reoccurring needs and promote the well-being of those who participate in its activities. That is, heterodox economics is a historical science of the social provisioning process, and this is the general research agenda of heterodox economists. Its explanation involves both human agency embedded in a transmutable hence uncertain world with fallible knowledge and expectations and in a cultural context and social processes in historical time affecting resources, consumption patterns, production and reproduction, and the meaning (or ideology) of market, state, and non-market/state activities engaged in social provisioning. This implies that agency can only take place in an interdependent social context which emphasizes the social and deemphasizes the isolated nature of individual decision-making; and that the organization of social provisioning is determined outside of markets, although the provisioning process itself will, in part, take place through capitalist markets. Thus heterodox economic theory is a theoretical explanation of the historical process of social provisioning within the context of a capitalist economy; and hence it is also a historically contextual explanation. 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, family, state, and other relevant institutions and organizations, 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 (Lee, 2009; Lee and Jo, 2011; Jo, 2011).

What is implied in the heterodox vision of explaining the social provisioning process is that the theoretical starting point is the economy as a differentiated, disaggregated whole and not as a set of macroeconomic aggregates. That is, since the economy is an emergent system with various emergent sub-systems, the heterodox theory of the social provisioning process is also an emergent theoretical system with various emergent theoretical sub-systems. This implies that it cannot be divided into disjointed sub-systems of microeconomics and macroeconomics which in turn are based on quite different theoretical arguments. In particular, the theoretical core consists of a productive and monetary structure of the social provisioning

process, of organizations and institutions, and of agency. The productive structure is represented by a basic-non-basic input-output table where the non-basics consists of investment, consumption, and investment goods; and the monetary structure consists of the relation between the wages of workers, profits of enterprises, and taxes of government and expenditures on consumption, investment, and government goods as well as non-market social provisioning activities which is facilitated by a flow of funds or state money accompanying the production and exchange of the goods and services. Together they produce a monetary input-output structure of the social provisioning process where transactions in each market are a state-money transaction; where a change in price of a good or in the method by which a good is produced in any one market will have an indirect or direct impact on the entire economy; and where the amount of private investment and government expenditure on real goods and services determines the amount of market and non-market economic activity, the level of market employment and non-market laboring activities, and consumer expenditures on market and non-market goods and services (Lee, 2011a).

The second component of the heterodox core consists of three categories of economic organizations and institutions that are embedded in the monetary input-output structure of the economy. The first is particular to markets and products and consists of the business enterprise, private and public market organizations (such as cartels and government market boards) that regulate competition in markets, and the organizations and institutions (such as trade unions and minimum wage laws) that regulate the wages of workers. The second is spread across markets and products, or is not particular to any market or product and includes the state and various subsidiary organizations as well as financial organizations, that is, those organizations which make decisions about government expenditures and taxation, and determine interest rates. Finally, the last category consists of non-market organizations and institutions that promote social reproduction and include the household and state and private organizations that contribute to and support the family. The significance of organizations is that they are where agency qua the socialized individual, the third component of heterodox theory, is located. That is, agency, which consists of decisions made the capitalist class, ruling elite, and households, concerning the social provisioning process and social well-being takes place through these organizations. And because the organizations are embedded in both instrumental and ceremonial institutions, such as gender, class, ethnicity, justice, marriage, ideology, and hierarchy as authority, agency acting through organizations affect both positively and negatively but never optimally the social provisioning process.

The integration of the monetary input-output structure, organizations, and agency into the economy as a whole creates a macro vision of the economy with

'macro' properties. The most significant is that the capitalists and the ruling elite (that is the ruling class) determine the surplus goods and services they want and hire the surplus labor to produce them; while the production of surplus goods and services for workers are an unintended by-product. This means that the capitalists' decision to produce consumption goods and services for workers governs the workers' access to the social provisioning process by simultaneously creating the wage rate as an income category. In a similar manner, the ruling class decisions to produce fixed investment and consumption goods and services for the capitalists and for the state governs the capitalists' access to the social provisioning process by simultaneously creating the profit mark up as an income category. Consequently, because the capitalist class and the state determine the production of the surplus and with it wage rates and profit mark ups, they govern the real direction of the capitalist economy, control the volume of and access to the social provisioning process (while the price system plays a secondary role of governing the access of particular capitalists and workers to social provisioning and ensuring the reproduction of the business enterprise), and maintain the capitalist (dominate)-worker (subordinate) social relationships necessary for capitalism to exist. Other macro properties include separate determination of prices and output-employment, structural differentiation of wage rates and profit mark ups, and the production of the surplus does not depend on 'savings'.

A macro vision is one thing, but the economic outcomes that in aggregate constitute it do not emerge by themselves, without agency. That is, to theorize about the social provisioning process in terms of a disaggregated, interdependent economy, it is necessary to delineate and explain: (1) its sub-systems, (2) the reproduction of the sub-systems, and (3) how the system works as a whole, which implies examining how changes in one part of the economy produces changes in other parts as well as the economy as a whole. Thus, heterodox microeconomics required by the heterodox macro vision for narrating the social provisioning process is concerned with delineating and explaining the sub-systems of the economy and their interdependencies. The sub-systems include the business enterprise and other private business organizations such as cartels, the household, and state-public organizations, while the interdependencies include technological-production relationships between enterprises, private investment-government expenditures and profit-employment, wages-capitalist income and workers-capitalist consumption patterns, state expenditures and taxes-financial assets. Heterodox microeconomic theory thus involves working with the sub-systems and interdependencies to develop analytical narratives qua theoretical explanations that contribute to understanding the social provisioning process.

Conclusion

What is evident is that the heterodox narrative of the social provisioning process generates an economy-as-a-whole or macro vision of the economy which has properties that arise from agency embedded in its various sub-systems. Thus, the economy is an emergent system of emergent sub-systems that cannot be broken apart analytically or conceptually; hence, the macro-micro distinction in heterodox economics is a false one. So, why is there a controversy among heterodox economists? Part of the answer is fact that many heterodox economists could not conceive of any microeconomics that was not mainstream microeconomics. Perhaps the rest of the answer is the quite controversial suggestion that the heterodox macro vision of the economy is really radical—that is, it makes capitalism a contested system in which one class dominates. Because organizations, institutions, and agency are part of the provisioning process and the macro vision of the economy, class qua social relationships and their impact on the process have to be explicitly articulated. In particular, since the quantity of the surplus is not technically constrained and the distribution of the consumption goods among households is not determined by their productivity, the creation and distribution of the surplus is effectuated through the social relationships that sustain the ruling class. On the other hand, the trappings of market forces are a veil that obscures them.

Due to its focus on the various sub-systems and their interdependencies, microeconomic theory pierces this veil and lays bare the social and class relationships that drive the provisioning process and its narrative. But this narrative and accompanying macro vision of capitalism is much darker and more exploitative that the social democratic sensibilities of many heterodox macro economists. For example, the social democratic macroeconomic policy of full employment carries with it a darker story of workers still being controlled, dominated, and exploited by bosses qua the ruling class. Moreover, the policy of full employment may have no basis in a class society: the ruling class may prefer to have unemployment as a way to control workers on the job floor and make them more submissive (Kalecki, 1943). In such a capitalism, social progress and well-being of the working class is better served by more radical economic policies that strike directly at the social and class relationships so vividly identified by heterodox microeconomics. Not wishing to advocate such radical policies, many heterodox macroeconomists prefer to obscure the 'micro' by promoting the macro-micro dichotomy.

Dismissing the dichotomy is necessary if heterodox economic theory is to produce a clear, accurate explanation of the social provisioning process and good ways to change it in favor of the working class. Clearly, this will make heterodox theory much more radical than currently conceived; but being more radical is the only way to produce progressive social change.

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