

STRUCTURE AND ORGANIZATION OF ECONOMIC ACTIVITY: FROM THE SOCIAL  
FABRIC TO SOCIAL ACCOUNTING TO AGENCY

By

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### **Abstract**

This paper attempts to integrate the social fabric matrix, input-output analysis, social accounting matrix, and organizations and agency so to develop an empirically grounded model of the economy that can be used to examine the social provisioning process. The first step in this process is to establish the core structures of a capitalist economy relevant to the social provisioning process and then, secondly, to locate within them the organizations, institutions, and agency that direct, engage in, or facilitate the economic events that result in social provisioning. The structures help shape and govern the provisioning process while the organizations and social institutions (that are located in the structures) house the causal mechanisms in which agency is embedded. Because the social provisioning process is founded on the production of goods and services, the structure of production and the social surplus and the structure of the linkages between incomes and the social surplus are delineated in the next two sections. In the third section, the core organizations, social institutions and agency relevant to the social provisioning process are delineated and located in the structures. And the final section of the paper integrates the material into a model of the economy as a whole.

## STRUCTURE AND ORGANIZATION OF ECONOMIC ACTIVITY: FROM THE SOCIAL FABRIC TO SOCIAL ACCOUNTING TO AGENCY

People have social lives; they have families, parents, children, and a history; and they need to be feed, housed, clothed, married, and schooled. And the needed and desired goods and services are produced to sustain their socially constructed, meaningful lifestyle.<sup>1</sup> Thus the social provisioning process is a continuous, non-accidental series of production-based, production-derived economic activities through historical time that provide ‘needy’ individuals and families the private and state goods and services necessary to carry out their sequential reoccurring and changing social activities through time. This means that the social provisioning process is embedded in a production-with-a-social surplus ‘paradigm’ (a point further delineated below).<sup>2</sup> Hence, as a particular kind of social activities, economic activities cannot be disembedded or separated from society and similarly the economy cannot be separated from society. Rather the economy and its economic activities are situated within various societal organizations and institutions (such as the state, state money, legal system, and the family); cultural values (such as individualism and egalitarianism) that are evaluative criteria for establishing which social activities are worthwhile and desirable; and norms and beliefs (such as property rights and the work ethic) that explain or justify particular social activities. These components or structures of the *social fabric* affect the pattern and organization of economic activities delivering the goods and services that make the social activities possible: they give this delivery mechanism or the social provisioning process its meaning, its value.<sup>3</sup> Moreover, they are slowly changing structures relative to the structures, organizations, institutions, and agency that specifically mould and direct economic activity and affect access to and delivery of social provisioning. Since the aim of this chapter is to delineate the latter, the structures of the social fabric are treated as ‘social parameters’, an assumption that will be dropped in chapter 8.<sup>4</sup>

Social activities are socially created as opposed to being naturally or arbitrarily given. Thus, there is no limitation on what the activities can be or how diverse they are which means that the goods and services relevant for the activities are diverse and socially specified. This has three implications. The first is that differentiated social activities require differentiated goods and services which in turn require differentiated production processes and labor power skills; so it is the differentiated social activities that bring into existence the division of labor and technical variation and change and not the reverse. A second implication is that the production processes, which include produced means of production,<sup>5</sup> differentiated labor power, and technology, are also socially specified. In particular, means of production are not limited by the natural properties of the resources used in their construction; specific types of labor power are not genetically determined; and technology is not a natural transformation process that turns natural resources and natural labor power into natural goods for 'social' utilization. Rather, they are social entities and hence are not naturally but technically specified, which means that production is socially determined and production activities are social activities. As a result, there exists an array of social relationships qua social structures within the production process that are endemic to capitalist societies, including class, hierarchy and dominance, gender, and race; and it is through these social structures combined with agency that the production-economic activities underpinning the social provisioning process are conducted, coordinated, and given meaning and value.

The third implication is that means of production are not homogeneous so as to consist of a single all purpose good such as corn, that labor power is not homogeneous, and that the technology is not homogeneous so that the production techniques for different goods and services do not have the same value of the means of production-labor ratios or organic composition of capital.<sup>6</sup> The outcome of the non-homogeneity is that economic activity as a whole cannot be reduced to a single homogeneous non-monetary substance, whether it be land, labor, corn, or even utility. Moreover, the

non-homogeneity of labor power suggests that the skills of an individual are insufficient by themselves for survival. The final implication is that all goods, services, and resources used in production and for social provisioning, that is all inputs and outputs, have socially distinct, determined uses that are well-defined within an array of social practices and customs. Consequently, their uses are socially objectively determined and thus are intrinsic to them and which is illuminated by their name(s).<sup>7</sup> Hence the combination of differentiated social activities and labor power means that economic activity must form an interdependent network for social provisioning to continually take place and individuals to survive not just physically but also socially through maintaining a socially meaningful lifestyle. This pursuit of social needs in turn provides the impetus for a further multiplication of economic activity. In short, to understand how the economy continuously generates its socially determined economic activities, it is necessary to treat it as a technically and socially differentiated but integrated whole, that is as a going concern. [Hayden 1982, 1986, 2006; Bortis 1997, 2003; Levine 1978]

The concept of the going concern, which first appeared in accounting literature in the late 1800s, refers to business enterprises with continuity of economic activity and an indefinite life span (as opposed to a terminal venture or an enterprise in the process of liquidation). For such an enterprise, it is necessary to keep its productive capabilities intact and to reckon its costs, revenues, and income in a manner that does not disrupt its productive capabilities. Thus the accounting profession uses the concept to base their understanding of productive assets or fixed investment goods, depreciation, and business income. The concept was further developed and differentiated into a going plant or productive capabilities and a going business which referred to the activities associated with transactions, such as pricing, and their continuation over time. Moreover, for the going plant and the going business to work together to ensure a flow of actual and expected transactions, there must be working rules (institutions) within the going concern that make it happen;

and also an external array of working rules which ensure that the flow of transactions in the market place occur in a manner which enables the going concern to continue with its flow of transactions. Thus, a going business enterprise has the productive capabilities, managerial capabilities, and the working rules that enable it to have expectations of a future.<sup>8</sup>

For the enterprise to exist as a going concern, the economy itself also has to be a going concern; that is, it must also have the productive capabilities, ‘managerial’ capabilities, and the working rules that enable it to have expectations of a future, by which is meant that the social provisioning process is sustainable. One way to depict a going concern economy is the Sraffian social surplus approach; but it has no room for agency. A second way is the heterodox social surplus approach in which agency (hence change) is present. In both approaches, the economy is productive in that it produces a social surplus and is viable in that the working class is sustained as a whole (but not necessarily the individual worker) and so are the social relationships that sustain the working and ruling classes. However, the Sraffian approach assumes a self-replacing economy and a given total social product or normal capacity utilization. The heterodox approach, in contrast, includes structural conditions of ruling class and (to a lesser extent) working class viability, assumes a non-self-replacing economy, and assumes agency which determines the social surplus that determines the total social product and its composition. Hence, the going concern economy is equivalent to the heterodox social surplus approach. So changes in goods and services that comprise the viable social provisioning process in a going concern economy are due to changes (but not fundamental changes) in the social relationships. If changes in class social relationships occur however, then the economy and its social provisioning process cease to be viable, cease to be a going economy from the perspective of the ruling class, even though it still retains the productive capabilities to produce the social surplus. [Storey 1959; Chatfield 1974; Sterling 1968; Commons 1957; Ramstad 2001; Kaufman 2006; Veblen 1904; Chiodi 1992, 1998, 2008, 2010; Lee and Jo 2010]

As a theoretical concept and methodological approach, the economy as a going concern is abstracted from its historical origins and situated historically. That is, it represents a ‘currently’ functioning working capitalist economy complete with structures and agency. Hence, the structures that give the economy its form, the organizations and institutions that structurally organize and coordinate economic activity, and the agency which initiates and directs economic activity operate interdependently, contemporarily although not necessarily synchronically. So while the structures, organizations, and institutions provide the framework for the economy to be a going concern, to continuously generate economic activities, it is agency that makes it happen or not—the economy does nothing on its own accord.<sup>9</sup> Thus, the aim of this chapter is to theoretically delineate a capitalist economy as a going concern that will serve as the foundation for developing an empirically grounded microeconomic theory of the social provisioning process as well as an empirically grounded model of the economy. The first step in this process is to establish the core structures of a capitalist economy relevant to the social provisioning process and then, secondly, to locate within them the organizations, institutions, and agency that direct, engage in, or facilitate the economic events that result in social provisioning. And the economic events of specific interest are those that affect the production, pricing, demand, and distribution of goods and services. The structures help shape and govern the provisioning process while the organizations and social institutions (that are located in the structures) house the causal mechanisms in which agency is embedded. Because the social provisioning process is founded on the production of goods and services, the structure of production and the social surplus and the structure of the linkages between incomes and the social surplus are delineated in the next two sections. In the third section, the core organizations and social institutions, relevant to the social provisioning process are delineated and located in the structures; and the agents whose agency or decisions, which take place through the core organizations and institutions, direct and sustain the social provisioning process are identified. The final section

integrates the material to form a model of the economy as a whole that provides the overarching framework in which heterodox microeconomic theory is situated.

### **Structure of Production and the Surplus**

Since the social provisioning process is founded on the social and interdependent production of goods and services, one core aspect of the organization of economic activity is its structure of production. It is represented as a circular production input-output table of resources, material goods, and services combined with different types of labor power skills to produce an array of resources, goods, and services as outputs. Many of the outputs replace the resources, goods, and services used up in production and while the rest constitute a surplus to be used for consumption, private investment, and government usage that underpins the social provisioning process that sustains social activities. More specifically, the arrangement of production on an elementary level, or *schema of production*, is done in terms of a flow of produced resources, goods, and services and different types of labor power or skills as inputs in a technically required sequence for the production of a specific good/service.<sup>10</sup> The schema may consist of a single horizontal delineated production process:

( 1) cloth  $\oplus$  thread  $\oplus$  seamstress  $\rightarrow$  dress

or a number of horizontal processes, starting with, say, cotton and ending with a dress:

( 2) cotton  $\oplus$  labor skill 1  $\rightarrow$  yarn

yarn  $\oplus$  labor skill 2  $\rightarrow$  cloth

cloth  $\oplus$  thread  $\oplus$  seamstress  $\rightarrow$  dress.

The structure of production for the economy as a whole is, however, qualitatively different from a schema of a single production process and more complex than simply arranging together the schemas of different production processes.<sup>11</sup>

### Circular Production

The structure of circular production depicts the flow of resources, goods, and services and



labor power needed to produce a specific resource, good, or service as well as the circular nature of production, technical differentiation of resources, goods, and services and labor power, and the surplus of goods and services not used up in production. Although its origins can be traced back to William Petty, the French physiocrats and Karl Marx (Kurz and Salvadori 2000), the modern form of circular production with a surplus was developed by Wassily Leontief (1951) and Piero Sraffa (1960). In particular, the *production structure of the economy* is empirically represented in terms of a product-by-product input-output table (or matrix) and a labor power skills-by-product table.<sup>12</sup> The table shows  $n$  resources, goods, and services (or *intermediate*) inputs and  $z$  labor power skills inputs are used in the production of  $m$  resources, goods, and services are produced, where  $m > n$  and  $z > m$ . Thus, letting  $q_{ij}$  represent the amount of the  $j$ th product (resource, good, or service) and  $L_{iz}$  represent the amount of the  $z$ th labor power skill needed to produce  $Q_i$  amount of the  $i$ th product, the schema of production of the  $i$ th good is represented by

$$3 \quad [q_{i1}, \dots, q_{in}, L_{i1}, \dots, L_{iz}] \rightarrow Q_i \text{ or} \\ [G_i, L_i] \rightarrow Q_i$$

where  $G_i = (q_{i1}, \dots, q_{in})$  is a row vector of  $n$  intermediate inputs, and

$L_i = (L_{i1}, \dots, L_{iz})$  is a row vector of  $z$  labor power skills inputs.

Hence, the production structure of the economy takes the following form:

$$4 \quad \begin{array}{l} [G_1, L_1] \rightarrow Q_1 \\ \dots\dots\dots \\ [G_m, L_m] \rightarrow Q_m \end{array}$$

Representing the array of  $(G_1, \dots, G_m)$  as  $G$  a product-by-product input-output table, the array of  $(L_1, \dots, L_m)$  as  $L$  a labor power skills-by-product table, and the total quantity produced of each product as  $Q$ , the production structure of the economy of 4 is depicted as

$$5a \quad G \oplus L \rightarrow Q$$

or

$$5b \quad \begin{bmatrix} G_{11} \\ G_{21} \end{bmatrix} \oplus \begin{bmatrix} L_{11} \\ L_{21} \end{bmatrix} \rightarrow \begin{bmatrix} Q_1 \\ Q_2 \end{bmatrix}$$

where  $G$  is a  $m \times n$  flow matrix of intermediate inputs constituting of produced resources, goods, and services;

$L$  is a  $m \times z$  flow matrix of labor power skills;

$Q$  is a strictly positive  $m \times 1$  column vector of output or the total social product;

$G_{11}$  is a square  $n \times n$  matrix of intermediate inputs used in the production of  $Q_1$  a strictly positive  $n \times 1$  column vector of intermediate resources, goods, and services;

$G_{21}$  is a  $m-n \times n$  matrix of intermediate inputs used in the production of  $Q_2$  a strictly positive  $m-n \times 1$  column vector of final goods and services for consumption, investment, and government use;

$L_{11}$  is a  $n \times z$  matrix of labor power skills used in the production of  $Q_1$ ; and

$L_{21}$  is a  $m-n \times z$  matrix of labor power skills used in the production of  $Q$

One feature of the structure of production is that, as indicated in ( 1), the production of  $Q_i$  involves the utilization of many distinct resources, goods, and services ( $G_i$ ) and labor power skills ( $L_i$ ), that intermediate inputs are, as indicated in ( 2), themselves produced by many distinct intermediate inputs, and that many outputs are used directly and/or sequentially indirectly as inputs into their own production. In the particular case of  $G_{11} \rightarrow Q_1$ , all the outputs also appear as inputs (either directly or indirectly) in their own production—that is all of  $Q_1$  are produced means of production. This implies that both inputs and outputs are tied to technically specified differentiated uses, production is a circular flow, all intermediate inputs are produced inputs, and the linear production schemas ( 1) for each output are all linked together on the input side. Consequently, the production of intermediate inputs is a differentiated, indecomposable hence emergent system of production that cannot be segmented, aggregated, disaggregated, reduced or increased.<sup>13</sup> A second

feature is that an increase in any surplus good or service is technically dependent on intermediate inputs. Thus the production of any surplus good or service in  $Q_2$  requires the direct and/or indirect utilization of all intermediate inputs. As a result, the production of  $Q_1$  and the employment of  $L_{11}$  are dependent on the decisions to produce surplus goods and services for consumption, investment and government use. Finally, the third feature of the structure of production is that the production of any  $Q_i$  must directly involve at least one  $q_{ij}$  where  $i \neq j$ , which means that all of  $G_{11}$  is at least indirectly engaged in its production, making all intermediate inputs,  $Q_1$ , Sraffian basic goods.<sup>14</sup> In short, in order to produce any  $Q_i$ , the entire sub-system of basic goods,  $G_{11}$ , is needed. [Bortis 1997; Lee 1998; Roncaglia 2005; Trigg 2006; Miller and Blair 2009]

#### Circular Production, Non-Produced Inputs, and Scarcity

Although resources and labor power are not intermediate produced goods and services *per se*, neither are they non-produced inputs with naturally given indestructible productive capabilities and talents that exist prior to production and externally to the structure of production as original factor inputs.<sup>15</sup> Being producible within the structure of production, goods and services used as intermediate produced means of production are not original factors and a similar argument can be used for resources and labor power as well. That is, while ‘neutral stuff’ in the form of attributes of nature exists, they are not resources with ‘naturally’ given capabilities that can be used for production until they have been shaped by technology and culture and placed under human control and direction. To be an input in a technologically specialized production process requires prior technological development in terms of converting the neutral stuff into resources that have capabilities to work with other goods and services and labor skills to produce an output that meet existing technological and/or cultural needs. Hence, ‘neutral stuff’-based resources are socially created inputs with technologically created capabilities, which implies that their ‘fertility’ is not knowable in physical terms. Thus they are produced, reproduced, augmented, eliminated, or even

cyclically produced and eliminated by the structure of production in conjunction with changes in knowledge and technology and therefore are not naturally fixed or finite in amount or quantity because they are not natural. In short, “resources *are* not, they *become*; they are not static but expand and contract in response to human wants and human actions” (Zimmermann 1951: 15). Consequently, resources are an expression of human appraisal of the ‘neutral stuff’ and hence cannot be viewed as a non-produced input externally injected into the structure of production. Rather resources are socially produced means of production and therefore function like goods and services used as intermediate produced means of production.

Similarly, labor power is a socially produced input in that it is created or becomes. That is, humans are a kind of neutral stuff that has capabilities to learn particular skills. A particular state of technical knowledge will produce and reproduce those skills or specific forms of labor power while changes in it will render some skills obsolete (hence not reproducible) and create new skills. In addition, any particular labor power skill or even the overall amount of labor power can vary as a result of changes in technical knowledge. Therefore, like neutral stuff-based resources, labor power is socially constructed hence similar to, but not the same as, a resource or a good or service used as an intermediate input. Hence, while labor power is not produced within the system of production like a ton of steel, it is socially created in conjunction with technical knowledge and then enters the system of production as an ‘input’.

With resources, labor, and goods and services being used as intermediate inputs co-created and co-existing internally within the structure of production, there does not exist original factors of production with naturally given indestructible capabilities and given unalterable endowments.<sup>16</sup> Consequently, none of the inputs in G or L can be scarce factor inputs, as defined in mainstream economics, which implies that none of the outputs (**Q**) can be characterized as relatively scarce products. Therefore production is not an activity to overcome scarcity, exchange does not arise from

scarcity, and prices are not scarcity indexes. In short, under circular production, scarcity has no theoretical meaning and hence is not an organizing principle of economic inquiry in heterodox economics.<sup>17</sup> This does not mean that shortages of produced goods do not exist, but rather that shortages are not the basis of exchange, prices are not shortages indexes, and production is not solely organized to deal only with shortages. Moreover, the absence of scarcity and the production of resources do not mean that neutral stuff-qua resources is not fixed or exhaustible in some sense. Rather the quantity available for production is variable since changes in technology, knowledge, social mores, legislation, business investment and production decisions, and government expenditure decisions can augment the quantity of a resource for production or can make a resource neutral stuff again. This does not imply that there are no environmental issues associated with production of resources, goods, and services; and it also does not imply that natural processes that contribute to the production of resources, goods, and services do not exist. But they are not relevant to the theoretical issue of scarcity as an organizing concept for economic inquiry being addressed.<sup>18</sup> Finally, with the absence of scarcity, the ‘fixity’ of neutral stuff is not a constraint on production and a limit to the social provisioning process, which in turn implies that the concepts of production possibility frontier, opportunity cost, and the trade-off in the production of goods and services have no meaning in heterodox economics. The absence of original factors of production and scarcity means that with circular production, the restraints on the social provisioning process are not given quantities of scarce factor inputs located in production, but are located in the decisions and values that affect the production of the surplus ( $Q_2$ ) and its distribution. [McCormick 2002; De Gregori, 1985, 1987; Tool 2001; Zimmerman 1951; Levine 1977, 1978; Veblen 1908; Bradley 2007; Matthaei 1984; Gaitskell 1936, 1938; Eichner 1979]

### Fixed Investment Goods, Resource Reserves, and the Surplus

Behind the usage of intermediate inputs and the employment of differentiated labor power for

each product stands an array of differentiated fixed investment goods, some of which are currently being produced while others are not:

$$6 \quad \mathbf{K}_i = [k_{i1}, \dots, k_{ik}]$$

where  $\mathbf{K}_i$  is a row vector of  $k$  fixed investment goods used in the production of  $Q_i$ ,

$k_{i1}, \dots, k_{ir}$  are currently produced fixed investment goods, and

$k_{ir+1}, \dots, k_{ik}$  are fixed investment goods not currently produced.

In addition there is also an array of differentiated resource reserves:

$$7 \quad \mathbf{RR}_i = [rr_{i1}, \dots, rr_{ik}]$$

where  $\mathbf{RR}_i$  is a row vector of  $k$  resource reserves used in the production of  $Q_i$ , and

$rr_{ij}$  is the amount of the  $j$ th reserve available for the production of  $Q_i$ .

Thus, the combined array of fixed investment goods ( $\mathbf{K}_i$ ), resource reserves ( $\mathbf{RR}_i$ ), intermediate inputs ( $\mathbf{G}_i$ ), and differentiated labor power ( $\mathbf{L}_i$ ) used for the production of  $Q_i$  represents the complete technology of the schema of production:

$$8 \quad [\mathbf{K}_i, \mathbf{RR}_i; \mathbf{G}_i \oplus \mathbf{L}_i] \rightarrow Q_i.$$

The technology of the schema embodies a specific set of learn, socially created knowledge which is an emergent whole. In particular, the fixed investment goods, intermediate inputs, and the differentiated labor power inputs are the physical manifestations of the uniquely specific social knowledge or technology used in the production of  $Q_i$ . Being linked in an emergent technological arrangement for the production of  $Q_i$ , the schema of production cannot be separated into parts with each identified with a certain portion of the output;<sup>19</sup> its fixed investment goods and resource reserves cannot be viewed as separate 'dated output' to be hypothetically sold in the form of joint products (a point further discussed in the next chapter); and the schema itself cannot be treated as joint outputs along with  $Q_i$ . Finally, from equation 8, the entire structure of production can be represented as

$$9 \quad K, RR: G \oplus L \rightarrow Q$$

or

$$9a \quad \begin{bmatrix} K_1, RR_1: G_{11} \\ K_2, RR_2: G_{21} \end{bmatrix} \oplus \begin{bmatrix} L_{11} \\ L_{21} \end{bmatrix} \rightarrow \begin{bmatrix} Q_1 \\ Q_2 \end{bmatrix}$$

where  $K_1$  is a  $n \times k$  matrix of the stock of fixed investment goods used in the production of  $Q_1$ ,

$K_2$  is a  $m-n \times k$  matrix of the stock of fixed investment goods used in the production of  $Q_2$ ,

$RR_1$  is a  $n \times k$  matrix of the amount of resource reserves available for the production

of  $Q_1$ , and

$RR_2$  is a  $m-n \times k$  matrix of the amount of resource reserves available for the production

of  $Q$

The social surplus of the economy consists of the excess of goods produced over what is used up in production:

$$10 \quad (eQ_d)^T - (eG^*)^T = Q - G^* = S^*$$

where  $(eQ_d)^T = Q$  the total social product and its composition;

$G^*$  is an augmented  $G$  matrix with the  $n + 1$  to  $m$  columns consisting of zeros;

$(eG^*)^T = G^*$  is a semi-positive  $m \times 1$  column vector of intermediate inputs; and

$S^*$  is a semi-positive  $m \times 1$  column vector of the goods and services that constitute the social surplus.

The social surplus includes inventory or stocks of intermediate inputs and final goods and services.

However, since inventory resources, goods, and services constitute less than plus or minus one percent of total economic activity,<sup>20</sup> they will for the moment be ignored by assuming that all of  $Q_1$  is used up in production or

$$11 \quad (eQ_{d1})^T - (eG)^T = 0,$$

which means that the social surplus of the economy is equal to final goods and services:

$$12 \quad \mathbf{S} = \mathbf{Q}$$

In this structure of production with a surplus, as noted above, the intermediate inputs are Sraffian basic goods and the surplus consists of Sraffian non-basic goods and services. As a result, the economy is productive in the sense that it can produce a surplus. It also has the productive possibility of replacing all the output,  $\mathbf{Q}_1$  and  $\mathbf{Q}_2$ , produced in the previous period. Moreover, if the social surplus is just sufficient to maintain without change the society in which the economy is embedded, then the economy is viable and in a self-replacing state. In a sense, as with Schumpeter's (1969) circular flow of economic life, the economy cannot change because it does not have the internal capabilities to do so. But, if the economy is sufficiently productive, it can, in a continuous manner, be in a viable and also in a non-self-replacing, non-replicating state—that is, the economy can be a going concern that changes.

The final goods and services are differentiated by 'final' destination—consumption ( $\mathbf{Q}_{2C}$ ), private investment ( $\mathbf{Q}_{2I}$ ), and government ( $\mathbf{Q}_{2G}$ ):

$$13 \quad \mathbf{S} = \mathbf{Q}_2 = \mathbf{Q}_{2C} + \mathbf{Q}_{2I} + \mathbf{Q}_{2G}$$

where  $\mathbf{Q}_{2C}$ ,  $\mathbf{Q}_{2I}$ , and  $\mathbf{Q}_{2G}$  are semi-positive  $m - n \times 1$  column vectors of surplus goods and services. Since the different destinations are engaged with broadly different economic and social activities, the array and composition of the three vectors differ.<sup>21</sup> In particular,  $\mathbf{Q}_{2I}$  not only differs in its array of goods from  $\mathbf{Q}_{2G}$  and  $\mathbf{Q}_{2C}$ , it is also a differentiated array of goods and services due to the different technologies used to produce  $\mathbf{Q}_{2G}$  and  $\mathbf{Q}_{2C}$ , which themselves are an array of differentiated goods and services. Moreover,  $\mathbf{Q}_{2I}$  is connected as a 'flow' to  $\mathbf{K}$ , the  $m \times k$  matrix of the stock of fixed investment goods:

$$14a \quad \mathbf{Q}_{2I} \rightarrow \mathbf{K}.$$

Thus, the economy is productively linked together by the circular flow or production of intermediate inputs *and* by a second circular flow via the surplus from the production of fixed investment goods to



their use directly and/or indirectly in their own production as well as in the production of all intermediate inputs and final goods and services, which makes them a ‘quasi-basic goods’ in the Sraffian sense. Moreover, the array of differentiated goods in  $\mathbf{Q}_{2G}$  indicates the range of social activities supported by the state and its composition indicates their relative social importance. Therefore the state’s contribution to social provisioning is affected by the cultural values, beliefs, and norms and by agency qua decisions that compel the production of  $\mathbf{Q}_{2G}$ . But to make its contribution in terms of government services (GS), the state must draw upon government fixed investment goods and resource reserves (which it also produces) and employ differently skilled workers, managers, and politicians and combined them with  $\mathbf{Q}_{2G}$  and government transfer payments (GTP):

$$14b \quad \mathbf{K}_4, \mathbf{RR}_4: \mathbf{L}_{41} \oplus \text{GTP} \oplus \mathbf{Q}_{2G}^T \rightarrow \text{GS}, \mathbf{K}_4, \mathbf{RR}_4$$

where  $\mathbf{L}_{41}$  is a  $m + 2$  row vector of  $z$  labor power skills used in providing government services,

GTP is the amount of dollars of government transfer payments to individuals and

families that do not have current employment or other forms of income,

$\mathbf{Q}_{2G}^T$  is a  $l \times m - n$  row vector of surplus goods and services used in providing government services, and

$\mathbf{K}_4$  and  $\mathbf{RR}_4$  are a row vector of  $k$  government fixed investment goods and resource reserves used in providing of government services.<sup>22</sup>

Finally, the array of differentiated goods and services in  $\mathbf{Q}_{2C}$  indicates the range of social activities undertaken by families and individuals, while its composition indicates their relative social importance:

$$14c \quad \mathbf{Q}_{2C}^T \rightarrow \text{CSA}$$

where  $\mathbf{Q}_{2C}^T$  is a  $l \times m - n$  row vector of surplus goods and services that contribute to consumer social activities (CSA).

There are two further implications arising from  $\mathbf{Q}_2$  being produced by the economic system

as a whole. The first is since consumption and investment are based on current production, the former is not constrained by the latter and the latter is not based on ‘savings’. That is, the economic system as a whole has the capability of producing varying amounts of  $Q_{2C}$  independently of  $Q_{2I}$  if below full utilization of capacity and co-operatively with  $Q_{2I}$  if additional capacity is needed. Because workers consume currently produced  $Q_{2C}$  there is no ‘saved’ wage fund that inversely links ‘real wages’ to employment or that links higher ‘real wages’ for some to lower ‘real wages’ for others. Moreover, since  $Q_{2I}$  is also currently produced, it is not dependent on ‘savings’ of any sort and increasing  $Q_{2G}$  does not ‘crowd out’ the production of  $Q_{2C}$  and  $Q_{2I}$ . Secondly, since  $Q_2$  is produced for the purpose of maintaining an ongoing range of particular government services and consumer social activities, the overall array and composition of the social surplus is the physical component of the structure of the social provisioning process. But it also represents social relationships and decisions that produced it. This clearly makes the surplus socially (not naturally) constructed hence a *social* surplus; and the social determination of the volume and composition of the surplus also means the social determination of all means of production—resources, goods, services, and labor power. Thus, all the actual economic activities that constitute the social provisioning process are manifestations of societal relations and decisions. [Lowe 1976; Kurz and Salvadori 1995; Veblen 1908; Ranson 1987; Lower 1987; Lager 2006]

### Social Provisioning as a Going Plant

What emerges from the previous section is that the structure of the social provisioning process in terms of resources, goods, services, and labor power consists, in part, of the structure of production required for the production of the social surplus ( 9a) and of production and contribution of the social surplus to social provisioning ( 13 and 14a-c):

#### *Productive Structure of the Social Provisioning Process*

$$15 \quad K_1, RR_1: G_{11} \oplus L_{11} \quad \rightarrow \quad Q_1$$

$$\begin{array}{ll}
K_2, RR_2: G_{21} \oplus L_{21} & \rightarrow Q_2 = Q_{2G} + Q_{21} + Q_{2C} \\
K_4, RR_4: L_{41} \oplus GTP \oplus Q_{2G}^T & \rightarrow GS, K_4, RR_4 \\
& Q_{21} \rightarrow K_{1,2} \\
& Q_{2C}^T \rightarrow CSA
\end{array}$$

As a whole, the economy qua the social provisioning process acquires the structure of a going plant with unused capacity and fixed investment goods and resource reserves and the capability of producing additional capacity through producing fixed investment goods and resource reserves. So, as long as consumer social activities are ongoing and supported by government services, the structure of production ensures the continuous reproduction of the intermediate inputs and fixed investment goods, and production of resource reserves. More specifically, the level of economic activity for the economy as a whole is completely determined by the decisions to produce consumption, investment, and government goods and services, that is by effective demand. With the ‘input’ requirements produced and reproducible simultaneously with the goods and services necessary for the consumer social activities and government services to take place, the social provisioning process is potentially sustainable, and thus has an expected future; and this is what makes the economy a going plant. However, although it is a going plant, it is not necessarily a self-replacing, replicating one. That is to say, the decisions that determine the production of the surplus generally alter the absolute and relative quantities and composition of the goods, services, and resources produced. Therefore, the production of goods, services, and resources do not exactly replace what is used up in production; and nor do they necessarily ensure the reproduction or replication of all of the individuals and groups that comprise the ruling, working, and dependent classes. The social provisioning process is a going plant, but one that constantly changes and access to it constantly changes.

### **Structure of the Linkages Between Income and the Social Surplus**

The second structural component of the social provisioning process are the linkages between

the money incomes of workers, managers and other members of society, profits of enterprises, and government spending and expenditures on the social surplus, that is consumption, investment, and government goods and services. They exist because the social surplus needs to be accessed qua distributed in a manner that maintains the economy as a going concern and particularly a capitalist going concern. Consequently, class and agency-linked incomes are associated with agent-created goods and services. Capitalists use their business income, that is profits, to purchase fixed investment goods produced by capitalists, while workers use their wage incomes to purchase consumption goods and the state uses its state money to purchase government goods both also produced by capitalists. The linkages can be articulated through a social accounting matrix (Miller and Blair 2009) or in terms of equations (both will be used in this book), often delineated in the form ‘workers spend what they get and capitalists get what they spend’.

The particular forms that the linkages take involve exchange, markets, and state money, but they are based on a set of social relationships specific to capitalism. That is, under capitalism there exists a set of property rights that vest the ownership of the produced means of production, resource reserves, and output in a group of individuals, either business people or the corporate enterprise;<sup>23</sup> and an associated set of legal right that validate and ‘empower’ a hierarchical organizational structure which enables the board of directors and senior management of business enterprises to unilaterally direct their activities. These two groups of individuals—business people/corporate enterprise and members of boards of directors/senior management—constitute the *capitalist class*. In addition, the state, as opposed to the *political elite*, owns its activities and ‘property’ while the elite has the legal authority to direct its activities. Thus the combination of the capitalist class and the political elite constitutes the *ruling class* that owns the means of production, resource reserves, and output and directs the economic and political activities of enterprises and the state that contribute to social provisioning. In contrast, there is a second class of people who engage in the production of

the output but do not own it or the means of production by which it is produced and who engage in activities that provide government services; and neither can in any substantive sense direct, determine, or control the ‘working’ activities in which they are engaged. These private and public sector employees constitute the *working class*. Finally there is a third class of individuals who are not engaged in social provisioning activities, such as children, retirees, and others that constitute the *dependent class*. Thus the twofold social relationship, denoted as *capital*, between the ruling class and the working and dependent classes is that the former owns the ‘going plant’, that is the productive and administrative capabilities, and its output (which forms the foundation of social provisioning) and have the social power to direct it and to determine the conditions of access, while the latter have neither.<sup>24</sup>

As noted above, production is interdependent and diverse social activities exist; thus no single production schema can reproduce itself in isolation or ensure social provisioning. This implies that workers and managers, even if they owned and hence had direct access to the total social product, **Q**, are not able to survive based on their own economic activities; or in other words, it takes the entire economy as a whole to provide for social provisioning and thus ensure the survival and reproduction of individuals, business enterprises, and the state. This combined with the dominance of the ruling class means that the social provisioning process involves market exchange, which has the following implications. First, all goods, services, and resources, **Q**, are produced for exchange (hence are commodities in a Marxian sense), but since they are brought for their usefulness, they cease for the most part to be commodities, that is, to be offered for further exchange. This is clearly the case for the intermediate inputs qua outputs, fixed investment goods, and resource reserves in that they are utilized directly for and in production. In addition, government and consumer goods and services are generally not bought to be offer for exchange.<sup>25</sup> Finally, in the case of fixed investment goods, this means that they cannot be depicted as joint-products that are ‘produced’ as

commodities to be hypothetically exchanged.<sup>26</sup> A second implication is that exchange is carried out in markets and involves prices which means that individualistic, episodic, accidental exchanges for particular, personal needs have no analytical meaning or usefulness for explaining the social provisioning process, and that the only analytical-theoretical starting point is a system of systematic, coordinated, and unending multiple exchanges involving state money (which is not a commodity) as opposed to direct exchanges of commodities, that is barter exchanges. The final implication is that prices are state money prices, which means that exchange, whether money for goods, services, or labor power or vice versa, arises from the need of needy individuals to gain access to a state-money monetized social provisioning process (rather than motivated by efforts to alleviate consumption constraints arising from relative scarcity, division of labor, and arbitrary allocation of scarce resources). Consequently, prices are correlated with state money incomes and the social rules governing the continually changing provisioning process rather than with a 'substance' intrinsic or transferred to the commodities being exchanged or with exchange ratios required for the replicated reproduction of the economy, that is prices of production.<sup>27</sup>

State money (generally fiat money) is created when the government desires to purchase goods and services from the capitalist class sector and hires employees that are needed to carry out its activities relevant to the social provisioning process and at the same time require such money in the payment of taxes, fines and fees.<sup>28</sup> Following the Chartalist argument, the state creates its own money income for spending by crediting bank accounts that are located in financial corporate enterprises which are part of the banking sector and there get transformed into government and banking sector financial assets. So while taxes co-exist with expenditures, they are not relevant with regard to expenditure decisions by the government; rather the point of taxes is to create demand for the state's fiat money—in short taxes are the 'cost' of having state money.<sup>29</sup> Complementing and reinforcing the Chartalist tax argument is that the demand for state money also arises through state

and capitalist class power coupled with access to the social provisioning process. In this case, the government acquires the goods and services and hires the employees it needs by paying for them with fiat money that is backed by state power of simply acquiring them without any or little compensation. Accepting state money for its goods and services, the capitalist class in turn demands that all market exchanges for its goods, services, and resources are carried out in state money and the working class is paid with state money. By requiring all payments be made with state money, the capitalist class makes their own as well as the working class access to the social provisioning process dependent on having it. So, it uses its class power over workers to impose on them the need to acquire state money as their only way to gain access to the social provisioning process, which means that members of the working class have to sell their labor power for state money to be able to purchase goods and services necessary for their survival.<sup>30</sup> As a result, every exchange, every transaction that involves state money prices is a public manifestation of the dominant-subordinate social relationship between the ruling and the working-dependent classes. [Wray 1998, 2003; Bell 2001; Ingham 1996; Mosler 1997-98; Levine 1978]

Given the symbiotic relationship of the government and the capitalist class over state money, the social relationship between the ruling class and the working and dependent classes is that the former owns the productive and administrative capabilities underpinning social provisioning, have the social power to direct it, and control the access to state money that is necessary for access to social provisioning, while the latter have none of the above. This tripartite social relationship defines what is meant as *capitalism* as a social, political, and economic system embedding the provisioning process; and in doing so, it determines the particular structural form of the linkages between the money incomes of workers, managers and other members of society, profits of enterprises, and government ‘money income’ and expenditures on the social surplus. In particular, since all outputs are commodities that are exchanged in markets, they must have prices in terms of state money.

Hence, letting  $\mathbf{p} = (p_1, \dots, p_m)$  be a column vector of state money prices of all  $m$  resources, goods, and services produced in the economy,  $\mathbf{p}_1 = (p_1, \dots, p_n)$  be a column vector of prices of intermediate inputs, and  $\mathbf{p}_2 = (p_{n+1}, \dots, p_m)$  be a column vector of all surplus goods and services, then the total value of the total social product is  $\mathbf{Q}^T \mathbf{p}$ ,  $\mathbf{Q}^T_1 \mathbf{p}_1$  is the total value of the intermediate inputs,  $\mathbf{Q}^T_{2I} \mathbf{p}_2$  is the total value of investment goods,  $\mathbf{Q}^T_{2G} \mathbf{p}_2$  is the total value of goods and services purchased by government,  $\mathbf{Q}^T_{2C} \mathbf{p}_2$  is the total value of consumption goods and services, and the total value of the social surplus is

$$16 \quad \mathbf{Q}^T_2 \mathbf{p}_2 = \mathbf{Q}^T_{2C} \mathbf{p}_2 + \mathbf{Q}^T_{2I} \mathbf{p}_2 + \mathbf{Q}^T_{2G} \mathbf{p}_2$$

Consequently, as noted above to gain access to social provisioning, it is necessary that all individuals and family incomes, enterprise revenues, and government expenditures be denominated in state money.

In terms of state money, government expenditures are equal to the wages and salaries of government employees and politicians, transfer payments to the dependent class, and purchases of final goods and services:

$$17 \quad \text{GOV}_E = \mathbf{G}_{41} \mathbf{p}_2 + \mathbf{L}_{41} \mathbf{w} + \text{GTP} + \mathbf{Q}^T_{2G} \mathbf{p}_2$$

where  $\text{GOV}_E$  is total government expenditures,

$\mathbf{w} = (w_1, \dots, w_z)$  be a column vector of state money wage rates,

$\mathbf{L}_{41} \mathbf{w}$  is the government's wage bill, and

$\mathbf{Q}^T_{2G} \mathbf{p}_2$  is government expenditures on goods and services.

Government expenditures, as noted above, are credited to bank accounts in the banking system. This implies that for enterprises, individuals, and families to use state money for provisioning and reproduction purposes, all enterprises must accept it and utilize the banking system for making payments and receiving revenues. In addition, since the government does not actually produce  $\mathbf{Q}_{2G}$  or the consumption goods and services purchased by government employees, politicians, and the



dependent class, government expenditures are directly and indirectly spent on outputs own by capitalists and corporate enterprises and show up as a component of their profits and hence in the total profits for the economy. Because profits are also generated by expenditures on fixed investment goods, total profits are equal to investment and government expenditures after taxes. This means government-generated profits are converted into financial assets, notably government bonds for capitalist and corporate enterprises, and banking system-created financial assets for enterprises and for individuals and families via the distribution of dividends out of profits.<sup>31</sup> Thus, the symbiotic relationship of the government and the capitalist class over state money creates a banking sector that, with a stock of fixed investment goods, financial assets, and liabilities, utilizes intermediate inputs and labor power to produce qua create financial products and services that are purchased by enterprises and individuals and families. In particular, all enterprises buy financial goods and services from the banking sector that are intermediate inputs and included in costs, such as the cost of obtaining working capital loans. In this case, the financial goods and services is the cost of the loan,  $Q_i p_i$ , where  $p_i$  is equal to the interest rate. The loan or liability itself is paid out of profits. Moreover, enterprises purchase financial goods and services that consist of financial assets that are paid for out of profits. Thus, in addition to stocks of fixed investment goods and resources, enterprises also have stocks of financial assets and liabilities; and similarly, individuals hold stocks of financial assets and liabilities.

Defining gross profits as the difference between intermediate and labor input costs and revenues, in a state money economy we have:<sup>32</sup>

$$18a \quad \mathbf{\Pi} = \mathbf{Q}_d \mathbf{p} - \mathbf{G} \mathbf{p}_1 - \mathbf{L} \mathbf{w}$$

$$18b \quad \mathbf{\Pi} = (\mathbf{Q}^T \mathbf{p}) - \mathbf{e}[\mathbf{G} \mathbf{p}_1 + \mathbf{L} \mathbf{w}]$$

where  $\mathbf{\Pi}$  is a  $m \times 1$  vector of gross profits for each product,

$\mathbf{Q}_d \mathbf{p}$  is the revenue by product,

$\mathbf{Gp}_1$  is the value of the intermediate inputs by product,

$\mathbf{Lw}$  is the wage bill by product, and

$\Pi$  is total gross profits.

Because taxes are in part necessary to maintain the demand for state money, there is a profit tax,  $t_p$ .

In addition, the capitalist class allocates a percentage,  $c_v$ , of its profits to dividends, and the rest ( $1 -$

$c_v$ ) is retained to purchase fixed investment goods, reduce liabilities, and acquire new financial

assets. So gross profits after taxes are distributed between dividends and retained earnings:

$$19 \quad \Pi(1 - t_p) = \Pi^T \mathbf{re}(1 - t_p) + \Pi^T \mathbf{c}_v(1 - t_p)$$

where  $\Pi^T \mathbf{re}(1 - t_p)$  is gross profits after taxes retained for purchasing fixed investment

goods and financial assets, and retiring liabilities,

$\Pi^T \mathbf{c}_v(1 - t_p)$  is gross profits after taxes distributed to individuals and families for

consumption activities,

$\mathbf{re}$  is a  $m \times 1$  vector of the percentage of gross profits retained by the enterprise ( $1 - c_{v1}, \dots,$

$(1 - c_{vm})$ ,

$\mathbf{c}_v$  is a  $m \times 1$  vector of the percentage of gross profits allocated to dividends, and

$t_p$  is the tax on profits which is a scalar.

From the above, the link between retained profits after taxes and fixed investment goods, assets, and

liabilities is

$$20 \quad \Pi^T \mathbf{re}(1 - t_p) = \mathbf{Q}_{21}^T \mathbf{p}_2 + \mathbf{FA}_{BE} + \mathbf{LB}_{BE}$$

where  $\mathbf{FA}_{BE}$  is the amount of financial assets purchased by the capitalist class from the

banking sector, and

$\mathbf{LB}_{BE}$  is the amount of banking sector liabilities paid off by the capitalist class.

Finally, the working and dependent classes spend their entire post-tax income on consumption goods

and services, while the ruling class spend only a portion of their combined salary and dividend post-

tax income on consumption goods and services and utilize the remainder to purchase or pay off banking sector financial assets and liabilities. Thus, drawing from equations 17 – 19, the link between total income and consumption goods and services is

$$21 \quad \mathbf{e}(\mathbf{L}^*\mathbf{w})(1 - t_i) + \text{GTP}(1 - t_i) + \mathbf{\Pi}^T \mathbf{c}_v(1 - t_p)(1 - t_i) = \mathbf{Q}_{2C}^T \mathbf{p}_2 + \text{FA}_C + \text{LB}_C = (\alpha + \beta) \mathbf{Q}_{2C}^T \mathbf{p}_2 + \text{FA}_C + \text{LB}_C$$

where  $\mathbf{e}(\mathbf{L}^*\mathbf{w})$  is the total wage bill of the economy,

$t_i$  is an income tax,

$\text{FA}_C$  is the amount of financial assets purchased by individuals and families from the banking sector,

$\text{LB}_C$  is the amount of banking sector liabilities paid off by the individuals and families, and

$\alpha$  ( $\beta$ ) is the percentage of consumption goods purchased by the working and dependent (ruling) classes where  $\alpha + \beta = 1$ .

The linkages between income-profit-government spending and the surplus delineated in 16, 17, 20, and 21 implies that the incomes of the ruling, working and dependent classes which consist of wages, dividends from profits, and government transfer equals the value of the surplus  $\mathbf{Q}_{2C}^T \mathbf{p}_2$  plus the creation of financial assets and the reduction of liabilities minus taxes.

### Social Provisioning as a Going Economy

Combining the productive structure of the social provisioning process (3.15), state money, the banking sector, and financial assets and liabilities, and the above income-surplus linkages, the monetary structure of the social provisioning process is the following:

#### *Monetary Structure of the Social Provisioning Process*

$$22 \quad \begin{aligned} \mathbf{K}_1, \text{RR}_1, \text{SFA}_1, \text{SLB}_1: & \mathbf{G}_{11} \mathbf{p}_1 + \mathbf{L}_{11} \mathbf{w} + \mathbf{\Pi}_1 = \mathbf{Q}_{d1} \mathbf{p}_1 \\ \mathbf{K}_2, \text{RR}_2, \text{SFA}_2, \text{SLB}_2: & \mathbf{G}_{21} \mathbf{p}_1 + \mathbf{L}_{21} \mathbf{w} + \mathbf{\Pi}_2 = \mathbf{Q}_{d2} \mathbf{p}_2 \\ \mathbf{K}_3, \text{RR}_3, \text{SFA}_3, \text{SLB}_3: & \mathbf{G}_{31} \mathbf{p}_1 + \mathbf{L}_{31} \mathbf{w} + \mathbf{\Pi}_3 = \text{FA} = \text{FA}_C + \text{FA}_{BE} \rightarrow \text{SFA}_{1-3,5} \\ \mathbf{K}_4, \text{RR}_4, \text{SFA}_4, \text{SLB}_4: & \mathbf{G}_{41} \mathbf{p}_1 + \mathbf{L}_{41} \mathbf{w} + \text{GTP} + \mathbf{Q}_{2G}^T \mathbf{p}_2 \rightarrow \text{GS}, \mathbf{K}_4, \text{RR}_4 \\ \text{SFA}_5, \text{SLB}_5: & \mathbf{e}(\mathbf{L}^*\mathbf{w})(1 - t_i) + \text{GTP}(1 - t_i) + \mathbf{\Pi}^T \mathbf{c}_v(1 - t_p)(1 - t_i) \end{aligned}$$

$$= \mathbf{Q}_{2C}^T \mathbf{p}_2 + \text{FA}_C + \text{LB}_C \rightarrow \text{CSA}, \text{SFA}_5, \text{SLB}_5$$

$$\mathbf{\Pi}^T \mathbf{re}(1 - t_p) = \mathbf{Q}_{2I}^T \mathbf{p}_2 + \text{FA}_{BE} + \text{LB}_{BE} \rightarrow \text{K}_{1-3}, \text{SFA}_{1-3}, \text{SLB}_{1-3}$$

where  $\text{K}_3$  and  $\text{RR}_3$  are a row vector of  $k$  fixed investment goods and resource reserves used in the production of financial assets,

$\text{SFA}_1$  and  $\text{SLB}_1$  are  $n \times 1$  vectors of the stock of financial assets and liabilities associated with the production of intermediate inputs,

$\text{SFA}_2$  and  $\text{SLB}_2$  are  $m-n \times 1$  vectors of the stock of financial assets and liabilities associated with the production of the surplus,

$\text{SFA}_3$  and  $\text{SLB}_3$  are scalars and the stock of financial assets and liabilities associated with the production of financial assets,

$\text{SFA}_4$  and  $\text{SLB}_4$  are scalars and are the stock of financial assets and liabilities associated with providing government services,

$\text{SFA}_5$  and  $\text{SLB}_5$  are scalars and are the stock of financial assets and liabilities associated with consumer activities,

$\mathbf{G}_{31}$  is a  $m+1$  row vector of  $n$  intermediate inputs used in the production of financial assets,

$\mathbf{L}_{31}$  is a  $m+1$  row vector of  $z$  labor power skills used in the production of financial assets,

$\mathbf{\Pi}_1$  is a  $n \times 1$  vector of profits for each intermediate input,

$\mathbf{\Pi}_2$  is a  $m-n \times 1$  vector of profits for each surplus product,

$\Pi_3$  is a scalar of profits for financial assets, and

$\text{FA}$ ,  $\text{FA}_C$ , and  $\text{FA}_{BE}$  are currently produced or generated financial assets, financial assets for individuals and families, and financial assets for the business enterprise qua capitalist class.

As a whole, the monetized social provisioning process acquires the structure of a going concern.

With the provisioning process as a going plant, the flow of state money ties together the market and

non-market transactions and activities that ensure the continuation of consumer activities and government services through time. Moreover, the ruling class has the productive and administrative capabilities and the legal rights to direct the provisioning process in their own current and changing future interests. Therefore, the monetized social provisioning process is a socially sustainable process in which each monetized transaction is a manifestation and reproduction of the capitalist relationships and hence both sustains and promises a future for the ruling elite and their dependents—in short the monetized social provisioning process is a going concern. Given the going plant with ruling class agency, such a going concern economy is qualitatively different from Schumpeter’s circular flow of economic life and a commodity-base money, self-replacing, viable economy in that the latter exist only as conceptual or imaginary models of the economy whereas the former is grounded in the real world. The differences are found in the origins of profits, in the properties of prices, profit mark ups, and wage rates, and in the causal direction of economic activity (points that will be further discussed in chapter 7). [Bortis 1997, 2003; Lee 1998; Levine 1978; Kregel 1975]

### **Organizations, Social Institutions, and Agency**

(NEEDS WORK)

Complementing the structure of the economy is the social framework in which decisions are made regarding 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.

Agency: enterprise—boss-workforce, decisions: price, investment, production, employment, wage rates, sales effort, market control, etc.

Family—expenditure patterns, expenditure decisions

Government—expenditure patterns, expenditure decisions

### Emergence Market Institutions that Facilitate the Social Provisioning Process

Markets: context of prices and goods and services, structure;

Market governance institutions: structures—legal, numbers, etc.; agency:  
determining/maintaining, pricing, controlling competition

### Locating Agency and Emergent Institutions

Agency is located in organizations: family, enterprise, market organizations, state, others

Markets in industry in input-output model; relate market/industry to NAIC; industry contains many markets; locate market governance at market, business enterprise, groups of markets, industry but not across industries; reject vertical integration

Business enterprise: locate in market, industry, across markets/industries

Family: located outside of market but inside social economy; decisions located outside of market inside social economy; engages in economic transactions in markets

Government: located/decision outside of market inside of social economy

### **Modeling the Economy as a Whole**

The above discussion can be drawn together into a complete model of the economy which will be used as the basis for the rest of the book. The beginning point is the relationship between the social fabric, social activities, and the social provisioning process. In particular, the components of the social fabric are interrelated in that they directly and/or indirectly affect each other as well as affect social activities and the social provisioning process, while the latter affect each other and the components of the social fabric. These relationships between the components of the social fabric matrix can be represented in Figure 1 below.

Figure 1

Social Fabric Matrix

## Figure 2

Social Fabric matrix and the Productive Structure of the  
Social Provisioning Process

## Figure 3

The Economy as a Whole:

Social Fabric Matrix, Social Accounting Matrix, and Access to Social Provisioning

## END NOTES

<sup>1</sup>From this perspective, the notion of an isolated, asocial individual with asocial or arbitrarily given preferences (or natural needs) has no sense, no meaning. Hence, it is a fruitless, meaningless exercise to speculate about the choices an isolated individual would make in the context of the social provisioning process.

<sup>2</sup>This ‘paradigm’ is distinct from the exchange paradigm that lies at the foundation of mainstream economics. [Pasinetti 1986a, 2007: 18-20; Bortis 1997; Chiodi and Ditta 2008]

<sup>3</sup>The economy embeddedness controversy that has gone on for over sixty years essentially misses the point, starting with Polanyi (1944).. That is, the economy is always socially embedded. On the other hand, there is a sustained ideological argument associated with classical political economy and mainstream theory that places the economy outside of the ‘social’ so to support the emergence of capitalism and maintain its continual existence. It is this fictitious, incoherent argument that has generated the controversy because the protagonists involved with the argument that. In particular, if the arguments delineating self-adjusting markets are incoherent and self-adjusting markets are in themselves fictions, then the notion of ‘interference with the market mechanism’ has no meaning, no sense. Therefore, Polanyi’s double movement is without foundation. [Dale 2010, chs. 2,5]

<sup>4</sup>By embedding the structures and organization of economic activity in the structures of the social

fabric, Pasinetti's particular distinction between a natural system and institutions is not sustainable in that the former cannot reflect the fundamental causal forces or foundational and essential relations among the economic variables that shape the social provisioning process. In short, it is not possible for pure models or theories that abstract from the social to explain the social provisioning process.

[Pasinetti 1993, 2007; Bortis 1997, 2003]

<sup>5</sup>Produce means of production is often equated to capital goods. However, the term 'capital' in this book will only be used to refer to a specific social relationship between capitalists and workers.

Therefore, the terms human capital, social capital, cultural capital, and capital as resources, goods, services, financial assets, and produced means of production will not be used in the book.

<sup>6</sup>This implies that heterodox models that have heterogeneous outputs (and inputs) but homogeneous labor power lack a degree of meaning. This is especially the case when it is assumed that the model rests on the division of labor.

<sup>7</sup>This point implies that both the usefulness of goods, services, and resources and the language used to identify and describe them are determined independently of the individual.

<sup>8</sup>The going concern conception of the business enterprise originated with Veblen and Commons is and virtually identical to the conception of the business enterprise used by Post Keynesian and Marxist economists.

<sup>9</sup>The significance of agency is that the capitalist economy cannot be theoretically depicted, as for example Levine (1978) does, as a holistic, organic organism that is 'genetically' or 'logically' programmed, without the aid of conscious agency, to self-reproduce, self-expand, or self-organize. Sraffians also reject the role of agency and depict the economy solely in terms of structures, organizations, and institutions (Bortis 1997, 2003).

<sup>10</sup>The issue of joint production as two goods or services emerging from the same production schema



or process is not dealt with in this book.

<sup>11</sup>Historically, heterodox economists have, in their theoretical and applied work, utilized three different production structures to represent the economy as a whole: the classical production, the Burchardt production, and the circular production structure. In the classical production structure, production is characterized as a one-way street from original non-produced or factor inputs, usually labor and ‘resources’, through various intermediate stages of production to produced final consumption goods. The defining feature of the structure is that the intermediate produced means of production or inputs used at an early stage of production are not themselves produced by produced means of production at a later stage in the production process. On the other hand, in the Burchardt production structure, production is characterized as a circular flow with regard to fixed produced means of production or investment goods and a one-way flow with regard to original factor inputs and intermediate inputs ending with the production of consumption and fixed investment goods. The defining features of the structure are circular production for fixed investment goods, one-way production for intermediate inputs and consumption goods, the necessary existence of two industries (or sectors), and the absence of inter-industry flows of intermediate inputs. Finally, in the *circular production structure*, production is a circular activity in which intermediate inputs are involved directly and/or indirectly in their own production as well as in the production of all other final consumption and fixed investment goods. Its defining feature is that all produced means of production and consumption goods cannot be fully resolved into non-produced inputs. While the first two production structures are widely utilized by heterodox economists in theoretical and applied research (see Lee 1998: 12-16), they have no empirical support—that is there are no empirical studies of any capitalist economy that depict either of those structures. In contrast, the circular production structure, which is not as widely utilized by heterodox economists, has overwhelming

empirical support and hence will serve as the core production structure on which the organization of economic activity is founded. [Bortis 1997; Clark 1984a; Dmitriev 1974; Harris 1974; Pasinetti 1980-81, 1981, 1993; Lowe 1952, 1976; Lee 1998, 2011c; Miller and Blair 2009]

<sup>12</sup>The modern form of input-output tables was developed by Wassily Leontief in the 1930s. After 1945, governments around the world undertook the empirical construction of such tables. Hence after sixty years of work, there are hundreds of such tables in existence, depicting the world, national, and regional economies. In the United States, the Bureau of Economic Analysis produces input-output tables—see <http://www.bea.gov>. For further discussion of the history and methodology of Leontief, Sraffa, and input-output tables, see Carter and Petri (1989), Clark (1984b), Foley (1998), Kohli (2001), Kurz and Salvadori (1995, 2000, 2006), and Miller and Blair (2009).

<sup>13</sup>This implies that 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.

<sup>14</sup>As a result, it is not possible to reduce, through a series of  $n-1$  integrative steps, the intermediate inputs entirely to non- $q_j$  inputs, such as a vector of labor power skills and/or quality of resources, as would occur in a classical production structure. This point can be stated as follows:  $Q_{d1}^{-1}G_{11} = A_{11}$  where  $A_{11}$  is a indecomposable matrix of production coefficients [ $a_{ij} = q_{ij}/Q_j$ ]. Thus  $A_{11}^{n-1} \neq 0$  where  $n$  is the number of intermediate inputs and  $A_{11}^m \neq 0$  as long as  $m$  is finite—that is Sraffa's commodity residual exists. And, conversely, it is not possible to start with non- $q_j$  inputs and proceed in a 'forward' direct or in a 'roundabout' way to  $Q_i$ . Thus, the Austrian structure of production with its particular notion of period of production, higher and lower order goods, and one-way street to consumption goods is not compatible with the circular structure of production in heterodox microeconomics (Skousen 1990). Moreover, it is not possible (or desirable) to abstract from intermediate inputs and circular production in favor of labor and some form of a labor value principle

when explaining or theorizing about the social provisioning process (Pasinetti 1986b, 2007; Bortis 1997, 2003).

<sup>15</sup>Another way of stating this is that the quantity and/or reproduction of a original factor input is not dependent on any direct or indirect economic decisions (Gaitskell 1936, 1938).

<sup>16</sup>This raises the question whether the Georgescu-Roegen's concept of 'funds' as applied to resources and labor power (and later to plant and equipment) is sustainable—see chapter 3 for further discussion. [Mir-Artigues and Gonzalez-Calvert 2007; Lager 2000; Kurz and Salvadori 2003]

<sup>17</sup>While scarcity is an organizing principle in mainstream economics, it is also a theoretically incoherent concept—see Levine (1977: 180–86). The problem with scarcity is that it is a asocial or pre-social concept being used to organize explanations of what are inescapably social activities.

<sup>18</sup>This clearly implies that the economy is not separate from politics in that what constitutes the economy and inputs into production are politically determined. That is, politics makes the economy as much as the economy makes politics.

<sup>19</sup>This means that none of the components of the schema of production have intrinsic productive potency, which means that no single 'input' is in itself productive in the mainstream sense of having a marginal product.

<sup>20</sup>Evidence can be found in the input-output accounts for the United States and United Kingdom—see for example Kuhbach and Planting (2001) and Millard (1995).

<sup>21</sup>Indicative evidence can be found in the input-output accounts for the United States and United Kingdom (Lee 1998: 221).

<sup>22</sup> $G_{31}$  and  $L_{31}$  will be introduced below.

<sup>23</sup>In the United States, the corporate enterprise is legally considered an individual with constitutional rights—see the Supreme Court cases of Santa Clara County vs. Southern Pacific Railroad (1886) and

Citizens United vs. Federal Election Commission (2010)..

<sup>24</sup>This suggests that *capital accumulation* consists of increasing the number of workers and dependents that depend of the capitalist class for access to the social provisioning process rather than massing more fixed investment goods.

<sup>25</sup>In the case of households, this means that their activities involving goods and services cannot be portrayed as production for exchange.

<sup>26</sup>This point is further developed in chapter three in the context of the business enterprise as a going concern, with the implication that the Sraffian depiction of fixed investment goods as joint-products is not a fruitful endeavor and should be left to one side (Sraffa 1960; Levrini 1988; Kurz and Salvadori 1996; Lager 2006).

<sup>27</sup>If state money is not required for access to social provisioning, then there would be no prices and social provisioning would be carried out by means other than exchange—see for example Morris (1995: 36-43).

<sup>28</sup>While historical accounts and ‘logic’ has the imposition of taxes being prior to government expenditures, in a going concern economy they are happening at the same time (Wray 1998). Moreover, this process of creating money means that it is not a scarce ‘factor’, and hence compliments the non-scarce goods, services, and resources that make up the real monetary transactions of the economy.

<sup>29</sup> A second role of taxes is to drain reserves out of the system thereby affecting the expenditure decisions of enterprises and households.

<sup>30</sup>This does not mean that workers wage-money income is linked to a specific set of goods and services, that is to a particular real wage.

<sup>31</sup>This point is frequently argued in Post Keynesian literature: Eros and Molnar (1980), GET

## REFERENCES

<sup>32</sup>At this point, depreciation has not been identified as a cost and hence is included in profits to make them gross profits.