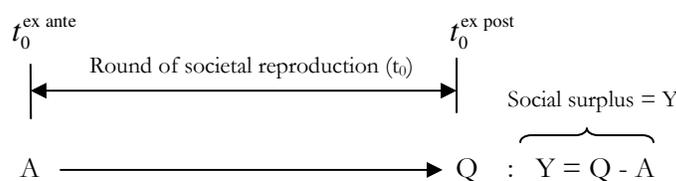


Preliminary notes on the surplus approach to value and distribution¹

0. Introduction

The “social surplus” is defined generally as a quantum of wealth, value, and/or product over and above that necessary for a social system to reproduce itself. In this sense it can be conceived as the residual after the societal necessities have been properly accounted for and deducted out of total end-of-period gross output. Letting A stand for these societal necessities at the beginning of the round of social reproduction (t_0) and Q stand for total gross output emergent at the end of this round, the surplus (Y) can be seen as resulting from the difference between Q and A . This simplistic interpretation is depicted in Figure 1:

Figure 1: Societal reproduction and the social surplus as a residual



The above definition and characterization is purposely vague with respect to the *composition* of the necessities, gross output, and social surplus, and below we return to this definition with more precision. The surplus component has been alternatively termed the *net product*, *value added*, *net productivity*, *gross profits*, and *shares of remunerated national income*. It has been defined in different contexts as both *excluding* as well as *including* wages. It has been conceived as the fund from which distributed revenues partake, and is also the source of capital accumulation and growth in subsequent rounds (t_{+1} ; t_{+2} , ...) of social reproduction.

That the social surplus so defined exists represents the hallmark of modern capitalistically-oriented and market-dominated socio-economic systems due precisely to the sheer enormity of net productivity associated with this mode of production. This is not to suggest that in earlier historical epochs a social surplus did not exist – certainly as far back as when human civilization emerged out of the hunting and gathering stages the social surplus (whether explicitly recognized or not) was the source of net wealth, thus allowing for the construction of Babylonian hanging gardens and Egyptian pyramids, etc. However what is indisputable is the fact that the growth in net wealth became exponential in capitalistically-oriented systems of production and distribution, and that the surplus available here for whatever ends dwarfs that engendered in any previous socio-economic system. Hence the need arises to provide some explanations, and this is where economic theory enters into the discussion.

¹ PRELIMINARY AND UNFINISHED DRAFT. Scott Carter, Department of Economics, The University of Tulsa, Tulsa, Oklahoma (scott-carter@utulsa.edu). Please do not quote without permission. All of Sraffa’s archival material is copyright by his Literary Executor, Pierangelo Garegnani, and requires explicit permission. I would like to thank Professor Garegnani for permission to quote from this material for this draft. Paper presented at the AJES workshop...

At the risk of severe over-simplification, we can speak of two broad approaches to the social surplus in capitalistic and market oriented systems, each couched within one of two respective theoretical paradigms of value and distribution. The more recent (temporally-speaking) or “modern” of the two is the *marginalist or neoclassical approach to value and distribution*.² This approach of course currently remains the dominant one in economic theory. Net productivity is in this paradigm recognized, however it is *not* referred to as a “surplus”³; rather the opposing forces of demand and supply especially of the “factors of production” capital (K) and labor (L) are seen to “naturally” (i.e. “imperfections” cast aside) come into equilibrium such that remuneration of each factor corresponds to its (marginal) productivity. The upshot is that due to the (marginal) productivity of each factor and especially that of capital (human, physical, or entrepreneurial), social net wealth increases, where wages accrue to labor and profits accrue manna-like to the owners of the various forms of capital. The theorem of product-exhaustion (again “imperfections” notwithstanding) ensures that each factor is paid according to its contribution to the net-wealth creation process and this pinnacle system is conceived as the societal expression of “human nature”, the best-of-all-possible worlds fundamentally of harmony and not of discord.

On the other hand, the *surplus approach to value and distribution*, although not called by that name at the time (see note 2 regarding Garegnani’s coining of this term in 1958), represents the older tradition in political economy the origins of which we can trace to the groundbreaking circular flow interpretation of the Physiocrat Francois Quesnay’s and his famous *Tableau Economique* which first

² We trace the specific language and juxtaposition of the two “approaches”, the dominant marginalist approach and the alternative surplus approach, to Professor Garegnani’s (1958) Cambridge Ph.D. thesis *A problem in the theory of distribution from Ricardo to Wicksell*, written under the “successive supervision” of Piero Sraffa and Maurice Dobb. In the Preface to that document we read the following expression of thanks:

“I wish here to thank Mr. Sraffa and Mr. Dobb who have successively supervised my work during the terms of research I spent in Cambridge. My debt to them is double since it regards not only the guidance and encouragement they have given me in the course of preparation of the dissertation, but it refers also to the fact that the interpretation advanced here of the connection between Ricardo’s theory of value and his theory of distribution, and, more generally, my interest in the subject, owe much to sections IV and V of the introduction to the *Principles* written by Mr. Sraffa with the collaboration of Mr. Dobb and contained in Vol. I of their edition of Ricardo’s *Works*” (Garegnani, 1958, pp. ii-iii).

³ Indeed “surplus” in this approach is conceived *not* in terms of net wealth creation, but rather in terms of “extra” satisfaction gained, seen in the concepts of consumer surplus and producer surplus – i.e. quanta of “satisfaction” that accrue to the respective individual “demanders” and “suppliers”, where it is maintained that the quantities bought and sold to the left of the equilibrium position are from the perspective of the consumers done so at prices *lower* than they would be willing to spend and from the perspective of the producers *higher* than the firms would be willing to sell (hence each agent left of the equilibrium position gained “surplus satisfaction” in that they are able to buy and sell favorably when compared to their “willingness” to do so). An exception to this is the case of the discriminating monopolist with complete knowledge of each respective individual’s reservation price wherein the allocation of goods remains exactly the same as that of competitive equilibrium, yet the “surplus” accrues exclusively to the discriminating monopolist as opposed to the consumer. We trace the origin of this notion of “surplus”, especially “consumer surplus”, to Alfred Marshall’s *Principles* (book iii, chapter iv, p. 124 and Appendix K), although Hicks (1939, *Value and Capital*, Note to Chapter II) refers to Dupuit (1844) as the “original inventor” (Hicks, 1939, p. 38). In his Note Hicks makes a great deal of the difference between Dupuit’s and Marshall’s conceptions of consumer surplus especially as regards the latter’s assumption of the constant marginal utility of money (see Marshall’s *Principles*, Mathematical Appendix, p. Note VI, p. 842).

appeared in 1758.⁴ Despite its feudal remnants with respect to the identification of agriculture as the sole “productive” sector in the sense that *newly created output* was (erroneously) seen to emanate exclusively there – the surplus of which the Physiocrats coined the “gift of nature” – on a more fundamental plane the *Tableau* remains in our opinion hands down more relevant than marginalist approaches that eschew the inter-industrial and inter-sectoral character of modern capitalistic market-oriented socio-economic systems of production and distribution, or if you will social provisioning.

In this essay we explore some recent developments in the surplus approach to value and distribution especially as regards developments out of the unpublished papers of Piero Sraffa whom has been regarded as the theoretician responsible for the rehabilitation of the surplus approach.

1. The Surplus Approach in the Physiocrats, Classical Theory, and Marx

As indicated in the Introduction, we trace the origin of the Classical surplus concept to the Physiocrats and especially François Quesnay’s *Tableau*. The groundbreaking character of Physiocratic thought and Quesnay’s table cannot be underestimated. Writing in pre-revolutionary France, Quesnay, his close disciple Mirabeau, and other adherents to the Physiocratic school (often derided as a “sect” by those who do not sympathize with its tenets⁵) developed the first formal economic model of an integrated economic system.⁶ At the heart of the Physiocratic doctrine was the concept of the *produit net*, or *net product*. We read from Meek’s account:

⁴ “Quesnay...brought out three successive ‘editions’ of the *Tableau* in 1758-59; Mirabeau published a lengthy ‘Explanation’ of the *Tableau* in the Sixth Part of his *Friend of Mankind* in 1760; in *Rural Philosophy* (1763), an important joint product of the efforts of Mirabeau and Quesnay, the form of the *Tableau* was altered and still more varied uses found for it; and Quesnay, towards the end of his career as an economist, elaborated the *Tableau* further and employed it as a tool for the analysis of certain specific economic problems...” (Meek, 1962 [2003], pg. 28).

⁵ This is especially true for Schumpeter (1954), who writes:

“[T]he group [of Physiocrats] really reduces to one man, Quesnay,...other members of the group...were...disciples, nay, pupils of Quesnay in the strictest and most meaningful sense these terms will bear – disciples who absorbed and accepted the master’s teaching with a fidelity for which there are only two analogues in the whole history of economics: the fidelity of the orthodox Marxists to the message of Marx and the fidelity of the orthodox Keynesians to the message of Keynes. They were a school by virtue of doctrinal and personal bonds, and always acted as a group, praising one another, fighting one another’s fights, each member taking his share in group propaganda. They in fact illustrate the nature of that sociological phenomenon to perfection had they not been something more than a scientific school” they formed a group united by what amounted to a creed; they were indeed what they had been so often called, a Sect” (Schumpeter, 1954, pp. 223-4).

Fox-Genovese (1976) takes a very similar position:

“Any comprehensive study of the physiocratic sect will have to take account of [the] psychological tensions in evaluating the unusual strength of the ties binding the members of the *Secte* to the master, and the related evidence of sibling rivalry that surfaces in the disciples’ correspondence with and about each other” (*The origins of physiocracy*, pg. 19; note the lower-case “p”).

We are of the position that both of these sentiments are rather harsh, and are of the opinion more in line with that articulated by Ronald Meek (2002 [1962]), Gianni Varga (1987), and John Eatwell’s (1987) Forward to Varga’s account that the Physiocratic doctrine represented a significant advance and in certain aspects remains more advanced than that of Smith and Ricardo and the Classical school. This latter interpretation of course resonates with the opinion of Marx, to which we comment further below.

⁶ “[T]he laws governing the particular type of exchange economy [were that] which the Physiocrats concerned themselves...to be ascertainable, therefore it was necessary to put these variables into a manageable form – in other

“[T]he Physiocrats...endeavoured to discover some key variable...causing an expansion or contraction...in the general level of economic activity. The variable which they hit upon was , as well as the capacity...to yield a ‘net product’, i.e. a disposable surplus over necessary cost” (Meek, 1962 [2003], pg. 19).

The Physiocrats expressed the social surplus within the “feudal shell” of agricultural production, hence for them only the agricultural sector was “productive” in the sense that it alone was thought to yield the excess of product above cost, hence their calling the social surplus the “gift of nature”. Yet despite this shortcoming, the fact remains that it was the social surplus that acted as the fulcrum from which the famous circular flow diagram of social reproduction⁷ in Quesnay’s *Tableau* originated. In other words, the creation of a social surplus was the origin and initial position from which social reproduction commenced.

This idea we can express in an variant of Quesnay’s famous *Tableau*, here utilizing the numeric example that appears in the joint work with Mirabeau *Rural Philosophy* attached to an input-output table analysis introduced in Pasinetti (1977, pg. 7). In our extension of the *Tableau* we distinguish between use-value magnitudes, all expressed in quarters of “corn” (qtr), and monetary magnitudes, expressed in currency units (\$). Under these simplifying assumptions the output of the manufacturing sector consists of manufactured goods made out of “corn”, hence these are “corn-machines” used in the farming sector for the production of “corn”, as well as “corn-finished goods” consumed by the different sectors of production. Under Physiocratic assumptions the manufacturing sector (MFG) is “sterile” in that the MFG output is of exactly the same value as the inputs used to produce it; thus it is “simple productive”, not “net productive”. The output of the farming sector consists of food and raw materials, each expressed in quantities of “corn”, which under the same Physiocratic assumptions is “net productive” in the sense that the resultant output is of a magnitude greater than the input requirements. Finally the “landlord” sector represents the unproductive consumers – i.e. pure consumption without equivalent. Under these simplifying assumptions the monetary value of the surplus product accrues wholly as rent to this class of

words to construct what we would call today an abstract theoretical model of the economy” (Meek, 1962 {reprint 2003}, *The economics of Physiocracy*, pg. 19).

⁷ The circular flow concept in Quesnay has little to do with the notion of circular flow one finds in modern introductory “principles” of economics textbooks, the latter of which conceives of the “circuit” as a simplistic positing of a relationship between “agents” (i.e. households and firms) to “markets” (i.e. factors and commodities). The Physiocratic circular flow concept is much more sophisticated and represents abstract macroeconomic sectors of social production and reproduction and attendant necessary conditions of such reproduction. Indeed it was directly from the account in Quesnay that Marx developed his reproduction schemes of Volume II of *Capital*, the first two-sector model developed in the history of economic thought, which includes the conditions of both simple reproduction as well as reproduction on an expanded scale. On Marx’s own acknowledgment of his debt to Quesnay regarding his schemes, see especially his letter to Engels from July 6, 1863 and especially his important “Digression” on Quesnay’s *Tableau Economique* which appears as Chapter VI of *Theories of Surplus Value*, Part I. On the relationship between Quesnay and Marx on this score, see Tsuru’s Appendix A to Sweezy (1942) *Theory of Capitalist Development* as well as Pasinetti’s (1977) reproduction of Tsuru’s diagrammatic schema. See Peter Liechtenstein (1983, *An Introduction to Post-Keynesian and Marxian Theories of Value and Price*, Chapter 2) for an account (diagrammatic and otherwise) of the difference between orthodox and heterodox notions of circular flow.

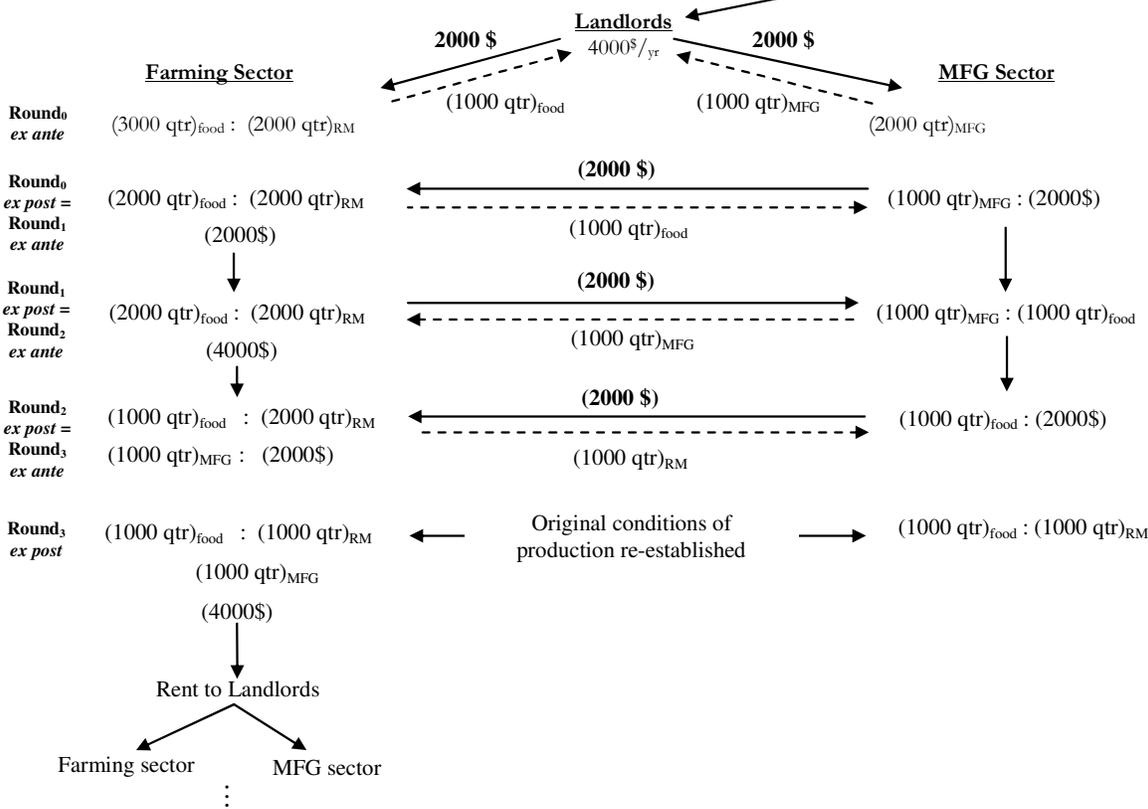
unproductive consumers. And it is from this class of unproductive consumers that the cycle of social reproduction expressed as a circular flow commences.

Figure 2: Quesnay’s *Tableau Economique* (adapted)

1. Sectors of Production – note that only farming sector produces a net product (MFG are sterile)

Sector of Production	Beginning of Round of Production: Inputs			End of Round of Production: Output			Net Product	Price of Net Product ($p_{corn} = 2^{\$/qtr}$)
	(MFG Good)	(Food)	(Raw Materials)	(MFG Good)	(Food)	(Raw Materials)		
Farming Sector	$(1000 \text{ qtr}/\text{yr})_{\text{MFG}}$	$(1000 \text{ qtr}/\text{yr})_{\text{food}}$	$(1000 \text{ qtr}/\text{yr})_{\text{RM}}$	-----	$(3000 \text{ qtr}/\text{yr})_{\text{food}}$	$(2000 \text{ qtr}/\text{yr})_{\text{RM}}$	$(2000 \text{ qtr}/\text{yr})$	$4000 \text{ }^{\$/\text{yr}}$
MFG Sector	-----	$(1000 \text{ qtr}/\text{yr})_{\text{food}}$	$(1000 \text{ qtr}/\text{yr})_{\text{RM}}$	$(2000 \text{ qtr}/\text{yr})_{\text{MFG}}$	-----	-----	-----	-----
Total	$(1000 \text{ qtr}/\text{yr})_{\text{MFG}}$	$(2000 \text{ qtr}/\text{yr})_{\text{food}}$ $= (5000 \text{ qtr}/\text{yr})_{\text{TOTAL}}$	$(2000 \text{ qtr}/\text{yr})_{\text{RM}}$	$(2000 \text{ qtr}/\text{yr})_{\text{MFG}}$	$(3000 \text{ qtr}/\text{yr})_{\text{food}}$ $= (7000 \text{ qtr}/\text{yr})_{\text{TOTAL}}$	$(2000 \text{ qtr}/\text{yr})_{\text{RM}}$	$(2000 \text{ qtr}/\text{yr})$	$4000 \text{ }^{\$/\text{yr}}$ (payment of rent to landlords)

2. Sectors of Social Consumption



The solid arrowed lines represent flows of money and the dashed flows of commodities. The “rounds”, both *ex ante* and *ex post*, do not represent rounds of production but rather rounds within the circular flow circuits. Under the simplifying assumptions in this adaptation of the *Tableau*, by the start of circuit round 3 the original conditions of production are once again re-established.

Production once again commences, and a rent (to the tune of \$4000) once again accrues to the unproductive consuming class of landlords, thus setting the circuitous cycle off again.

Moving to developments by Economists on the British Isles, one of Adam Smith's many original contributions to the then-budding science of political economy was precisely the generalization of the Physiocratic "gift" from agricultural production to manufactured production proper. Rejecting the old mercantilist notion that national wealth consisted of hoarded precious metals and the necessity of favorable terms of trade manifest from protectionist international trade policy prescriptions, for Smith the "wealth of nations" was instead expressed in the net productivity of a nation's industry and workforce. We may perhaps conceive this as the "gift of net productivity" that modern surplus producing society is able to enjoy.

The Classical economists proper, specifically David Ricardo and Thomas Robert Malthus, also conceived of an economic system within a surplus approach paradigm. For his part Ricardo placed great emphasis not only on net productivity, but even more importantly on the distribution of this net productivity to the three original "classes of the community". Here we find the primal role given to the distribution of the "produce of the earth" as the remunerated revenues of wages to the class of laborers, rents to the class of landlord, and profits to the class of capitalists. Malthus too worked within the surplus approach paradigm, and the fundamental differences between him and Ricardo revolved not around the efficacy of the approach *as such* but rather on certain nuances within this approach such as the correct measure of value and the possibility and implications of overproduction/underconsumption (what in modern parlance would be associated with a debate of Say's law), just to name two of the most important points of contention between these English contemporaries.

The developments by Karl Marx, although strictly speaking a *critique* of then-extant (bourgeois) political economy, also remain within the confines of the surplus approach paradigm. Marx's developments are actually less clear-cut, and it is here we find a different interpretation of the notion of "surplus". Whereas with the Physiocrats, Smith, Ricardo, and Malthus, the "surplus" is in the main conceived as surplus *product* – i.e. a surplus quantum of output over and above the necessary conditions of social reproduction, in Marx we meet quite explicitly with the idea that this surplus product in fact is the material expression of *surplus value* explicitly conceived as *unpaid labor time*. This is to say, for Marx the idea of a "social surplus" lay squarely in the exploitative nature of a skewed class societal structure (actually Smith too adopts this; see TSV I where Marx makes this quite explicit).

The idea that the creation of a social surplus was the origin and initial position from which social reproduction commenced is a crucially important point, and is the reason why Marx in his (very favorable) account of the contributions of the Physiocrats in Part I *Theories of Surplus Value* (hereafter *TSV*) begins his notes with the observation that:

“The analysis of *capital*, within its bourgeois horizon, is essentially the work of the Physiocrats. It is this service that makes them the true fathers of modern political economy” (Marx, 1963, p. 44).

Further into this important chapter we read:

“[T]he foundation of modern political economy, whose business is the analysis of capitalist production, is the conception of the *value of labour-power* as something fixed, as a given magnitude – as indeed it is in each particular case. The *minimum of wages* therefore correctly forms the pivotal point of Physiocratic theory. They were able to establish this although they had not yet recognised the nature of value itself...if they made the mistake of conceiving this *minimum* as an unchanging magnitude...this in no way affects the abstract correctness of their conclusions, since the difference between the value of labour-power and the value it creates does not at all depend on whether the value is assumed to be great or small” (Marx, 1963, p. 45, emphasis in text);

“The Physiocrats transferred the inquiry into the origin of surplus-value from the sphere of circulation into the sphere of direct production, and thereby laid the foundation for the analysis of capitalist production” (Marx, 1963, p. 45);

And lastly, on the feudal remnants as regards the primacy given to agricultural production Marx notes that:

“The difference between *value of labour-power* and *the value created* by it – that is, the surplus-value which the purchase of labour-power secures for the user of labour-power – appears most palpably, most incontrovertibly, of all branches of production, in agriculture, the primary branch of production...In agriculture [the surplus-value] shows itself directly in the surplus of use-values consumed by the labourer, and can therefore be grasped without an analysis of value in general, without a clear understanding of the nature of value” (Marx, 1963, p. 46).

These passages in Marx warrant full citation because of the vital points that he makes that:

- (i) The surplus-product is in fact the use-value expression of surplus-value, i.e. the difference between the value-added by labor and the value that labor is remunerated. This clearly locates the “surplus” as an expression of *unpaid labor*, the *source* of which is the exploitation of the worker under capitalistic social relations of production;
- (ii) That this in fact constitute the *definition of “capital”* – i.e. “capital” represents a quantum of value advanced that commands a magnitude greater than its initial cost;
- (iii) That the merit of the Physiocrats was to discern this aspect of capitalistic production, albeit expressed in the feudal shell such that net productivity was exclusively regulated to the agricultural sector, and;
- (iv) That it was due to this focus on agricultural (gross and net) product (and the difference engendered therein as regards the surplus) that the problem of value did not arise; or to

use a phrase Ricardo’s wrote to James Mill some years later in December 1815, the Physiocrats were not “stopped by the word ‘price’” (Ricardo to Mill, Letter 149; *Works* VI, p. 348; see also Sraffa’s Introduction to *Works* I, p. *xiv*).

These are very important points that we return to, primarily because it is our opinion that they have much resonance with Sraffa’s own interpretation of the notion of the social surplus as revealed through archival evidence.

2. The Surplus Approach in Sraffa’s unpublished archival notes: Sraffa’s peculiar mode of exposition of the surplus

We now consider the peculiar mode of exposition that Sraffa ultimately chose for his book, as seen in its first five chapters. There Sraffa adopts a physicalist approach to the transition to capitalist commodity production, a manner of exposition which we feel downplays the *distributive* aspect of the story. The “ideal type” system of the first type is found in Chapter I’s production for subsistence model. No mention is given to a unitary wage share; we are only told that this “simple society...produces just enough to maintain itself”, and to illustrate Sraffa gives us a simple numeric example that shows the summed economy-wide inputs “necessary” for production are exactly equal to the quantity of resulting outputs. The model for capitalist commodity production is presented in Chapter II’s production with a surplus model. The physicalist nature of the inquiry is retained with surplus production conceived here as the case where for at least one commodity more output is produced than is “necessary” as inputs for systemic production. Here the surplus is conceived as surplus *product*, resulting in “extra” output left over after the conditions of production have been replaced. The numeric examples of the two chapters highlighting this “physicalist” aspect is seen quite clearly when placed them side-by-side:

Table 3: Production for subsistence and production with a surplus numeric examples in Sraffa (1960)

Production for Subsistence (Sraffa 1960, Ch. I, p. 3)	Production with a Surplus (Sraffa 1960, Ch. II, p. 7)
$\begin{pmatrix} 280 \text{ qr. wheat} & : & 12 \text{ t. iron} & \rightarrow & 400 \text{ qr. wheat} \\ 120 \text{ qr. wheat} & : & 8 \text{ t. iron} & \rightarrow & 20 \text{ t. iron} \end{pmatrix}$ $\Sigma = (400 \text{ qr. wheat} : 20 \text{ t. iron})$	$\begin{pmatrix} 280 \text{ qr. wheat} & : & 12 \text{ t. iron} & \rightarrow & 575 \text{ qr. wheat} \\ 120 \text{ qr. wheat} & : & 8 \text{ t. iron} & \rightarrow & 20 \text{ t. iron} \end{pmatrix}$ $\Sigma = (400 \text{ qr. wheat} : 20 \text{ t. iron})$

The summed means of production requirements for each system is shown in the penultimate row. The physical structure of production on the input-side is exactly the same, the only difference being that in surplus-producing society we now have the addition of an extra quantum of output, here to the tune of 175 quarters of wheat. It is this quantity of wheat that is available for distribution *as profit*.

Sraffa’s peculiar mode of presentation here, which stands in contrast to that of some of his notes, muddles we think that what’s really going on is not the production of an extra quantum of output *per*

se, but rather that this extra quantum of output represents a quantity that has *not been paid for*. This is the real “self contradiction” in the surplus producing society that Sraffa identifies.⁸ That this surplus represents a quantity that has not been paid for is seen in Sraffa’s assertion that “the surplus (*or profit*) must be distributed in proportion to the means of production (or capital) advanced in each industry” (Sraffa, 1960, p. 6; emphasis added). Here Sraffa directly identifies the surplus product with *profit*, which we argue represents magnitudes of unpaid labor. The distribution of this surplus-qua-profit to the owners of the means of production is strictly along the capitalistic lines of a uniform rate of return on the capital advanced in each industry. It is in this way that the owners of the capital in the iron industry, although they produce no physical surplus, nonetheless share in the gains “produced” by the wheat industry in that the exchange values of both wheat *and* iron will include the general rate of profit (r^*).⁹

Sraffa however sometimes engaged in different manner of exposition in unpublished notes, where the distributional aspect of the different commodity producing societies is highlighted over the physicalist surplus production aspect. A few passages from his archival notes should be sufficient to demonstrate this point. Consider first the Majorca Draft¹⁰ of March 1955, where the “physicalist” approach adopted in his book is clearly advanced:

“REDACTED” (D3/12/52 : 3).

And in a marginal note we find the following comment on the “simple society”:

“REDACTED” (D3/12/52 : 2).

This more “physicalist” approach to the question is very close to the version of events that appears in his book. However, in notes written (we conjecture¹¹) one year later in March 1956, we find a very different approach to the question of the transition to surplus-producing society:

“REDACTED” (D3/12/59/20)

and:

⁸ This has caused some confusion in interpretations of Sraffa seen, for example, in Meek’s (1973) “logico-historical stages” approach in his own reconstruction of the movement from “early and rude” production to that of capitalist production proper, where five separate “logico-historical” stages of commodity producing societies are sequentially advanced. We are of the opinion that this approach to the Sraffa system, although not wrong as such, is much too literal and dangerously broaches the “historical” LTV argumentations that Sraffa seems to have rejected (on the latter see above and Kurz and Salvadori, 2010).

⁹ Sraffa returns to a similar idea in critiquing the “two such opposite writers”, Joan Robinson and Friedrich von Hayek, on the question of whether or not the law of value would result in an unjust distribution in socialism. See section 5 below.

¹⁰ In March of 1955 Sraffa made a three week visit to the Spanish Island of Majorca where he cranked out a 31 page first draft of what would be Part I of his book on single product industries; we return to the importance of this draft below.

¹¹ These notes appear at the beginning of an important file folder entitled “Balance of wages and profits (probably finished) 24.11.55 up to March 1956” (D3/12/59) and the particular pages cited above do not bear a date; but as is the case with many of Sraffa’s folders, the later versions of notes often appears at the beginning of the file folders, and progress in reverse chronological order. Certainly we know that the above notes were written in November 1955 at the earliest date (hence subsequent to the Majorca Draft of March 1955).

“REDACTED” (D3/12/59/22; note the latter part of this passage appears as a marginal note on the former part).

This second manner of exposition of the transition to a surplus-producing society reveals in our opinion the fact that for Sraffa the key was not necessarily the creation of “extra” output in the physicalist sense, but rather the emergence of part of the produced output conceived as a deduction from the “national income” that labor had, under “early and rude” conditions, commanded in its entirety. The surplus here thus emerges as a magnitude of product that has not been given an equivalent on the cost-side of the ledger; that is to say it has not been *paid for*.

Why the change in the manner of presentation? In particular, why did Sraffa in his book revert back to the physicalist approach, thus in our opinion muddling the fact that what’s really going on in the production of a surplus is not a manna-like accrual of “extra” (read physical) product, but rather a fundamental change in the social relations of property as direct producers “no longer” command the complete product of their labor? These questions continue to perplex us, and we cannot provide the rationale behind Sraffa’s decision to minimize social property ramifications inherent in capitalistic relations of production and distribution by depicting the change in one society to the other as one of *surplus product creation* as opposed to *unpaid labor extraction*.

That Sraffa did understand the *social* nature of the inquiry is evidenced by a surprising observation he makes in his model of Closed Vertical Combines written in October 1942. The closed vertical combine model conceives of all means of production and means of subsistence requirements completely contained within what he terms “complete vertical combines”:

“REACTED” (D3/12/22/1 : 1).

Here we see an attempt to conceive of a pure date-reduced model where the only input purchased on the market is labor. Sraffa would expend a great deal of energy in the early 1940s on the reduction equations, juxtaposing his own treatment against that of Böhm-Bawerk and Wicksell. He recognized that the reduction to dated labor was a powerful idea, but also saw that in the hands of Böhm-Bawerk especially it could be dangerous.

“REDACTED” (D3/12/22/1 : 2)

The key point of difference between Sraffa’s approach to the reduction and that of Böhm-Bawerk is the latter’s belief that the reduction could be carried backward “long enough” so as to reveal at the “beginning of time” a pure dose of unassisted human labor, sort of a bourgeois original sin.¹² Sraffa

¹² One implication of this approach is that it minimizes the class nature of capitalist society. It is also interesting to point out that in certain respects, this pure unassisted labor story has resonance with the first type of price system when the wage share is unity. The easiest way to see this is to consider the case what Malthus in an interesting lecture of 1825 calls “the product of appropriative industry” (Malthus 1829, p. 171). Here the product is immediately brought to market, thus eliminating the need to assess this unassisted labor at a general rate of profit as no time passes: $wL_b = p_b Q_b$. This is very much in line with the above normalizations in equation 4.2, 5.2, and 6.2 above. In his lecture Malthus refers to “wild strawberries” and “wild fruit”; in correspondence with Ricardo he refers to gold picked up at the seashore and Ricardo refers to shrimp harvested in a single day (cite references: *Works IV* Absolute and exchangeable value pg. 365;

was able to anchor himself (he writes in his notes on various occasions of needing a “rock to cling to”) on the maximum rate of profit concept; that no matter how far back one reduces the dated labor, there will *always* be a commodity residue present. This has implications for Sraffa’s theory of labor commanded, which we return to in the fourth section.

This is very much like the reduction models of Costabile (1983) and Tosato (1985), as well as the underlying model implicit in Malthus’s illustration of the measure of value.¹³ The simplest form of this model is to assume an annual production cycle in an unassisted labor model:

$$\underbrace{(1+r^*)^n w^* L_j^{(n)} + \dots (1+r^*)^2 w^* L_j^{(2)}}_{\text{Indirect dated labor}} + \underbrace{(1+r^*) w^* L_j^{(1)}}_{\text{Direct labor}} = p_j Q_j$$

Note that the superscript ⁽ⁿ⁾ refers to the *n*th date. We will have an opportunity to consider this model in some detail below. It is important to note that since the capital advance is pure wages, the rate of profit comes to coincide with the rate of exploitation and is upper-bounded by infinity.

This model reflects, argues Sraffa, a *particular* social and historical framework within which production takes place. He is surprised that simply by altering the *social conditions* within which production takes place, leaving the “technical” relations unchanged, a fundamental change takes place in that maximum rate of profit becomes undefined:

“REDACTED” (D3/12/22/1 : 1-2; emphasis added)

Notice here the emphasis Sraffa places on the “difference in ownership”. This seems to indicate that he was acutely aware of the importance the relations of private property, a *social relation* of the power of one class of people over another. Hence we read in this that it is not so much the *technical* conditions of the production of extra output that matters, but rather the social relations of capitalistically-arisen conditions of private property.

There are a few other hints towards the concept of extraction in relation to the surplus product in some of Sraffa’s early notes from 1928s, less than a year after his important papers of November 1927 that Garegnani (2005) characterizes as his “turning point”. In a 5 page document entitled “Surplus product” (archived as D3/12/7/161), Sraffa begins to contemplate the nature of the concept of “surplus” in economic theory in general :

“REDACTED” (D3/12/7/161 : 1).

What Sraffa means by “vanish or remains unexplained” is given three pages later:

Works IX pp. letter 542 Ricardo to Malthus, Aug 15, 1823 for shrimp reference; unassisted gold picked up at the seashore, see *Works XI*, p. 107 on the fourth of the five measures of value that Malthus proposed.

¹³ The idea of a closed vertical combine has interesting resonance with Graziani’s (2003) monetary theory of production: “If we consider firms as one integrated and consolidated sector, the only purchase firms have to make before starting its produce is to hire labour, and their only payment is the wage bill” (Graziani 2003, p. 27).

REDACTED (D3/12/7/161 : 3-4; emphasis added).

We read in this remarkable passage an understanding of the nature of “surplus” as consisting not so much in an expansion of output beyond subsistence, but rather as product that emerges out of the production process that has no cost-equivalent. Indeed, in the first paragraph of the above quote Sraffa is clear that all portions of actual output produced do in fact entail a “cost”, in the sense that there is a necessary expenditure of energy, muscle, and means of production consistent with the appropriate level of technology for all commodities produced.

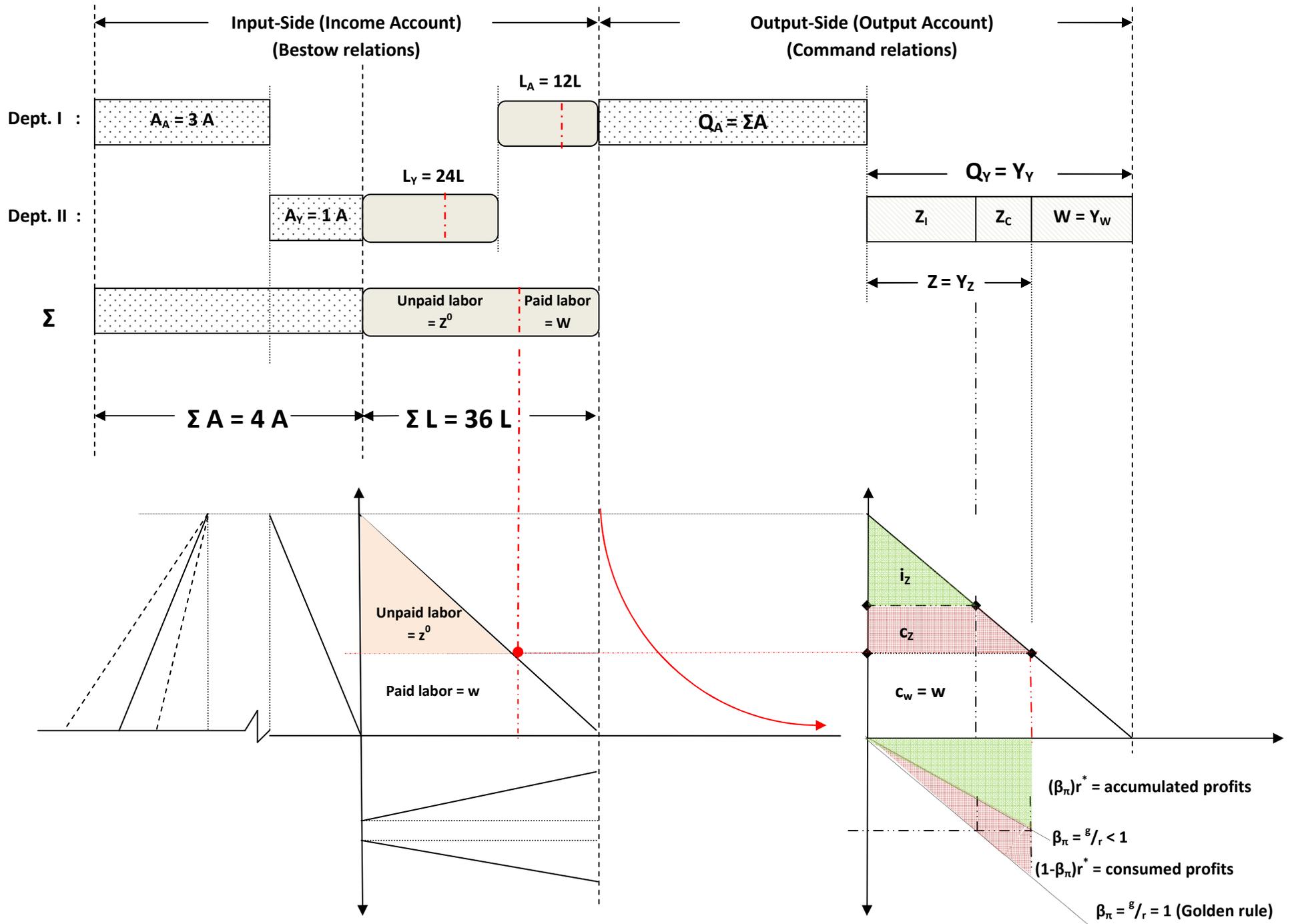
Whether or not Sraffa means by surplus the surplus-*labor* (read unpaid labor) or the surplus-*product* we think is an open question. However the *foundations* for the approach of surplus as unpaid labor certainly can be discerned and developed from the analysis Sraffa presented.

3. Some modeling

In modeling the surplus approach to value and distribution we can discern several different analytical variants, each with its own unique properties regarding exposition of surplus-producing society:

- (i) Pure unassisted labor model (Malthus’s “appropriative industry”)
- (ii) One commodity “corn” model
- (iii) Consumption commodity (Department II) as non-basic (conventional departmental analysis)
- (iv) “Money” commodity as the product of unassisted labor (“silver found on seashore”)
- (v) Two-commodity basic system
 - a. Actual system
 - b. Sraffa’s Standard system
 - c. Garegnani’s integrated wage goods sector
- (vi) General case (n -commodities)

Schematic Diagram of Conventional Departmental Model (Department II as non-basic)



Further developments of the different models in terms of schematics

Discussion/critique of other heterodox interpretations of surplus approach (e.g. Fred Lee and Tae-Hee Jo)

Other discussions

Conclusion

To be finished...

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