The Composition of Capital and Technological Unemployment: Marx’s (and Ricardo’s) Intellectual Debt to John Barton and George Ramsay

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Abstract

This brief note contends that Marx’s (and Ricardo’s) views on fixed (constant) and circulating (variable) capital, the impact of machinery on the working class, and their conception of how the accumulation of capital gives rise to a relative diminution in the demand for labor were strongly influenced by the works of English economists John Barton and George Ramsay. With a few notable exceptions, Marx’s (and Ricardo’s) intellectual debt to these classical economists has been practically neglected in the extant literature. Second, the note delves into Marx’s theory of technological unemployment (surplus population) and its main components. Again, the textual evidence strongly suggests that Marx was influenced by the writings of Barton, Ricardo, and Ramsay. The latter also seems to have influenced Marx’s conception of one of the three major components of the surplus population, viz. the latent component.

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I. Introduction

This short note contends that Marx and Ricardo were strongly influenced by the works of British economists John Barton (1789-1852) and George Ramsay (1800-1871) insofar as Marx’s and Ricardo’s conception of fixed and circulating capital is concerned, as well as the evolution of the composition of capital over the course of capitalist development. Without question, the writings of John Barton clearly influenced Ricardo’s discussion of the effects of the accumulation of fixed capital on the condition of the working class in his controversial chapter on machinery added to the third edition of the Principles. For his part, Marx credits Barton with the original conception of the rising organic composition of capital and its impact on employment, while he commends Ramsay with making the important (and original) distinction between constant and variable capital, thus rendering Barton’s original idea more precise. Finally, the development of Marx’s theory of the surplus population or “reserve army of the unemployed” is shown to be strongly influenced by Ricardo’s and Barton’s (and Ramsay’s) views on the topic. The note is organized as follows. First, it highlights Barton’s and Ramsay’s influence on Ricardo’s and Marx’s views on the impact of machinery on the working class, and their conception of the composition of capital and how its accumulation results in a progressive diminution in the demand for labor. Second, it discusses Marx’s intellectual debt to Ricardo, Barton, and Ramsay insofar as his theory of technological unemployment (surplus population) and its main components is concerned. The concluding section summarizes the main arguments.

II. The Rising Organic Composition of Capital

Both Ricardo and Marx held the work of English economist John Barton in high esteem and, undoubtedly, Ricardo (and Marx) borrowed the idea that the progressive accumulation of capital causes a relative decrease in the demand for labor (see Schumpeter, 1954). This is contrary to Adam Smith’s and Thomas Robert Malthus’ view (previously held by Ricardo) that the demand for labor grows in direct
proportion to capital accumulation. In this connection, Ricardo quotes the following passage from Barton’s work entitled, “On the Condition of the Labouring Classes of Society, 1817”:

As arts are cultivated, and civilization extended, fixed capital bears a larger and larger proportion to circulating capital. The amount of fixed capital employed in the production of a piece of British muslin is at least a hundred, probably a thousand times greater than that employed in the production of a similar piece of Indian muslin. And the proportion of circulating capital employed is a hundred or a thousand times less. It is easy to conceive that, under certain circumstances, the whole of the annual savings of an industrious people might be added to fixed capital, in which case they would have no effect in increasing the demand for labour (p. 16).

To which Ricardo comments approvingly in a footnote towards the end of his controversial Chapter XXXI entitled, “On Machinery,”

It is not easy, I think, to conceive that, under any circumstances, an increase of capital should not be followed by an increased demand for labor; the most that can be said is, that the demand will be in a diminishing ratio. Mr. Barton, in the above publication, has, I think, taken a correct view of some of the effects of an increasing amount of fixed capital on the condition of the laboring classes. His essay contains much valuable information (Principles, p. 299).

It is highly probable that Marx’s own conception of the rising organic composition of capital (and its impact on employment) has its origins in John Barton’s work as attested by his favorable but critical comments on his work in Vol. I of Capital and Theories of Surplus Value (TSV) II. He writes in his famous Chapter XXV entitled, “The General Law of Capitalist Accumulation” that, “The law of progressive diminution of the relative magnitude of variable capital and its effect on the condition of wage-workers is conjectured rather than understood by some of the prominent economists of the classical school. The greatest service was rendered by John Barton, although he, like all the rest, lumps together constant and fixed capital, variable and circulating capital” (p. 631). In TSV II, written several years before Capital, Marx, uncharacteristically goes out of his way to praise Barton, and credits him, in no uncertain terms, with the original conception of the idea that the accumulation of capital causes a relative decrease in the demand for labor. It is worth quoting Marx in full:
Indisputably, Barton has very great merit. Adam Smith believes that the demand for labour grows in direct proportion to capital accumulation. Malthus derives surplus population from capital not being accumulated ... as rapidly as population. Barton was the first to point out that the different organic components parts of capital do not grow evenly with accumulation and development of the productive forces, that on the contrary in the process of this growth, that part of capital which resolves into wages decreases in proportion to that part (he calls it fixed capital) which in relation to its size, alters the demand for labour only to a very small degree. He is therefore the first to put forward the important proposition ‘that the number of labourers employed is not in proportion to the wealth of the state’, that relatively more workers are employed in an industrially undeveloped country than in one which is industrially developed” (TSV II, p. 577).

It is interesting (and puzzling) to note that the Marx of Vol. I of Capital believes that all classical economists fail to give a more nuanced conception of the two types of capital, because this is clearly not his assessment in TSV when he refers to the relatively unknown work of British economist George Ramsay entitled, “An Essay on the Distribution of Wealth, Edinburgh, 1936.” In TSV II and III he considers Ramsay to be one of the most important and neglected economists of the classical period, and credits him with a more precise formulation of Barton’s original idea. This is because he does not limit constant capital to just fixed capital (although he continues to call it that) but includes raw and auxiliary materials in the definition as well. Variable capital (which Ramsay calls circulating capital) is restricted to include only capital laid out in wages (see TSV II, p. 579).

In Marx’s view, Barton’s (and Ricardo’s) deficient conception of the composition of capital resides in conceiving it only from the standpoint of how it circulates (fixed vs. circulating), rather than from the standpoint of production and reproduction. When viewed from this latter vantage point, Marx contends that “its [expression] is the relation of constant to variable capital, whose difference is based only on their relationship to living labour” (TSV II, p. 579). According to Marx, Barton’s error (and Ricardo’s) resides in not realizing that an important part of circulating capital in the form of raw and auxiliary materials is not exchanged for living labor and thus does not constitute a demand for labor any more than fixed capital in the form of machinery, instruments, and buildings. He goes out of his way to emphasize that “... the part of circulating capital which resolves into raw materials and auxiliary
materials increases in the same or even greater proportion as that part of capital which is fixed in machinery” (Ibid). In Marx’s judgment, “Ramsay’s chief contribution is that he does in fact make the distinction between constant and variable capital ... he defines fixed capital in such a way that it includes all the elements of constant capital ... not only machinery and instruments, buildings in which labour is carried on or in which the results of labour are stored, draught and breeding animals, but also all raw materials (semi-manufactures, etc.)” (TSV III, p. 326). He goes on to add that, “by ‘circulating capital’ he [Ramsay] understands nothing but the part of capital which constitutes wages” (Ibid.).

Insofar as the rising organic composition of capital is concerned, Marx believed that Ramsay’s conception regarding the distinction between fixed and circulating capital enabled him to draw an important (and correct) conclusion regarding their evolution over the course of capitalist development. He quotes approvingly the following passage from Ramsay’s work: “In countries where industry has much advanced, fixed capital comes gradually to bear a greater and greater proportion to circulating. Every augmentation, therefore, in the national stock destined for reproduction, comes, in the progress of society to have a less and less influence upon the condition of the labourer. Every addition of fixed capital, is made at the expense of the circulating, i.e., at the expense of the demand for labour ... The evils resulting from the invention of machinery, to the laboring population employed in the manufactures, will probably be but temporary, liable to be perpetually renewed however, as fresh improvements are constantly making for the economizing of labour” [emphasis in the original] (TSV III, p. 336).

Upon reading this passage, Marx gives three plausible reasons for why “the evils” resulting from the capitalists’ use of new machinery in the manufacturing industry, but not agriculture, will be

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1 In TSV III, Marx also commends Ramsay for coming “... close to the correct definition of surplus-value” when he writes that: “... a circulating capital will always maintain more labour than that formerly bestowed upon itself, because, could it employ no more than had been previously bestowed upon itself, what advantage could arise to the owner [master-capitalist] from the use of such?” (p. 328). See also pp. 331-32, op cit.
“temporary.” First, the capitalists who first adopt the new machinery are able to make above normal profits before competitive forces come into play, thus increasing their capacity to save and accumulate not just fixed capital but circulating capital as well. Second, as the price of manufactured commodities made with the new machinery decreases, this enables consumers to save which, in turn, facilitates the accumulation of capital (including circulating capital) in the manufacturing industry in question. Finally, Marx observes that the fall in the price of manufactured commodities increases the demand for these products and, in turn, serves to increase employment in the manufacturing industry. Marx concludes that, “with the advance of society, i.e., with the development of capital ... the condition of the workers is affected less and less by this development [the adoption of new machinery], in other words, it worsens relatively in the same ratio as the general wealth increases, i.e., as capital is accumulated ... it is a far cry from this conclusion to the naïve conception of Adam Smith ... In his time, the demand for labour did in fact grow at least in the same proportion in which capital was accumulated, because manufacture still predominated at that time and large-scale industry was only in its infancy” (TSV III, p. 335).

Although Marx depicts Smith’s conception as naïve, he does recognize that during the first half of the eighteenth century (as opposed to the second half), little or no machinery (fixed capital) was employed in manufacturing, so the accumulation of capital took primarily the form of circulating capital and did give rise, as posited by Smith, to a proportionate increase in the demand for labor.

Before proceeding, it should be noted that Marx defines the organic composition of capital as the value composition of capital (the ratio of constant to variable capital, c/v) insofar as it directly mirrors or reflects the technical or material composition of capital (the means of production relative to the labor employed). That is, changes in the organic composition of capital measure how the value composition would have changed had the individual values for means of production in terms of machinery, equipment, raw materials, and labor power remained the same (see Brewer, 1984; 1990). Marx, Ricardo, and Barton understood that the progressive accumulation of capital under the pressure of
competition leads to an enormous rise in the productivity of labor (in terms of use-values) which, in turn, reduces the value of labor power, newly employed machinery, and devalues that of existing capital equipment (Marx refers to it as “moral depreciation”). Thus, the value composition of capital rises more slowly than its organic composition or material (technical) composition (in terms of use-values or commodities). He gives the following simple example in *Wages, Price and Profit* to illustrate the idea: “If the proportion of these two elements of capital [constant and variable] was originally one to one, it will, in the progress of industry, become five to one, and so forth. If of a total capital of 600, 300 is laid out in instruments, raw materials ... and 300 in wages, the total capital wants only to be doubled to create a demand for 600 working men instead of for 300. But, if of a total capital of 600, 500 is laid out in machinery, materials ... and 100 only in wages, the same capital must increase from 600 to 3600 in order to create a demand for 600 workmen instead of 300. In the progress of industry the demand for labour keeps, therefore, no pace with the accumulation of capital” (pp. 76-77).

Marx, of course, connected this discussion of the rising trend in the organic (and value) composition of capital to his controversial and much debated falling rate of profit thesis in Vol. III of *Capital*. Suffice it to say that, contrary to the Ricardian model, the rate of profit, \( r = s/(c + v) \), in the Marxian system can fall even when the rate of surplus value \( (s' = s/v) \) remains constant or increases. \( c \) refers to constant capital or value of means of production; \( v \) is variable capital or value of labor-power; and \( s \) is profits or surplus-value which goes to capitalists. Marx generally assumed that the accumulation of capital would lead to a tendency for the average rate of profit to fall because, *ceteris paribus*, the organic composition of capital \( (q = c/v) \) would rise more rapidly than the rate of surplus value \( (s') \). For further details on the long-standing and controversial debate surrounding the falling rate of profit, see Meek (1956); Ramirez (2012); and Sweezy (1970; orig. 1942).
III. Technological Unemployment

It is evident then that there are strong parallels between Marx’s discussion of the rising organic composition of capital and Ricardo’s and Barton’s work, as well as Ramsay’s more precise discussion of the deleterious effects of the introduction of machinery on the working class. One highly important point that has received hardly any discussion in the extant literature is the influence Ricardo (and Barton) had on Marx in terms of the development of his theory of the surplus population or “reserve army of the unemployed.”

Marx, in *Theories of Surplus Value*, Part II, goes out of his way to commend Ricardo for making a significant advance over Barton in terms of understanding that “… the demand for labour does not grow proportionally with the development of machinery, but that the machines themselves ‘render the population redundant’ … i.e., create a surplus population … Essentially … the whole absurd [Malthusian] theory of population was thus overthrown” (p. 578). Marx is here referring to several passages in Ricardo’s chapter on machinery where the latter discusses the possibility of the population becoming redundant even in the case where there is an increase in the gross output of society (see pp. 298-99 in the *Principles*). Ricardo believed that with the advance of society, the price of food and wages would rise as more marginal lands were cultivated, thus he states towards the end of his chapter on machinery that “… every rise of wages will have a tendency to determine the saved capital in greater proportion than before to the employment of machinery. Machinery and labour are in constant competition, and

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2Schumpeter (1954), other than Marx, is one of the few major scholars of the history of economic thought to recognize Ramsay’s contributions to the economics of the period, but not in terms of the latter’s influence on Marx’s development of his idea of the rising organic composition of capital. He writes, “Marx’s recognition of Ramsay must, of course, be appraised with his habits of criticism. If these are taken into account, this recognition means a lot … it speaks highly of Marx’s scholarship, for when he wrote Ramsay was practically forgotten” (p. 488).

3Steedman (1982) is one of the few scholars who argues that Marx is strongly indebted to Ricardo for his theory of technological unemployment, but neglects to mention the important influence of Barton and Ramsay. More recently, Kurz (2010) makes a cogent case in tracing Ricardo’s influence on Marx’s views concerning the impact of machinery on the working class. Finally, Schumpeter (1954) also emphasizes Ricardo’s indebtedness to Barton’s analysis insofar as his chapter on machinery is concerned, and the important influence it had on Marx’s own theory of technological unemployment.
the former can frequently not be employed until labor rises” (*Principles*, p. 395). If this is the case, then the “vulgar” notion espoused by the economists of his time, viz., that in order for workers to improve their lot they should strive to keep their numbers below the rate at which capitalists hire them would prove futile. The latter would only incentivize capitalists to substitute capital for labor. Apropos, Marx writes that Ricardo understood that “… to keep down the laboring population, thus diminishing the supply of labour, and ... raising its price, would only accelerate the application of machinery, the conversion of circulating [variable] capital into fixed [constant] capital, and hence, make the population artificially “redundant” ... redundancy exists, generally, not in regard to the quantity of the means of subsistence, but the means of employment, the actual demand for labour” (ibid).

Thus, the growing accumulation of fixed capital relative to circulating capital during the course of capitalist development is endogenous to the rise of the wage rate (and food prices) as a growing population forces capitalist farmers to cultivate lands of diminishing fertility.

Despite Ricardo’s concerns about the deleterious effects of the introduction of machinery on the laboring class, by no means did this imply that he advocated discouraging its extensive application—far from it. And in this he shows his profound insight into the economic forces propelling capitalist development forward during his time, thus gaining the admiration of Marx for his hard-hitting “scientific honesty.” For example, in his chapter on foreign trade, Ricardo argues correctly that the introduction of machinery is analogous to the extension of foreign trade, for the latter enables the country to obtain food and necessaries more cheaply than if it produced them at home. In his words, “If, therefore, by the extension of foreign trade, or by improvements in machinery, the food and necessaries of the labourer can be brought to market at a reduced price, profits will rise. If, instead of growing our own corn, or manufacturing the clothing and other necessaries of the labourer, we discover a new market from which we can supply ourselves with these commodities at a cheaper price, wages will fall and profits will rise” (*Principles*, p. 132). Ricardo was also initially of the opinion that if profit rates were higher in other
countries than in England it would not necessarily follow, as it would in the case of differing profits rates within different regions of England, “... that capital and population would necessarily move from England to Holland, or Spain, or Russia, where profits might be higher” (p. 86). That is, in his chapter on foreign trade (and in the first two editions of the *Principles*), Ricardo assumed explicitly (and implicitly) that both capital and labor were immobile between countries—that is, trade between countries was based primarily on comparative not absolute advantage.⁴

However, in his chapter on machinery (and the third edition of the *Principles*), he posits the distinct and real possibility that any attempts by the State or society to discourage or prevent the use of machinery to its fullest extent would invariably lead to capital being exported abroad or “offshored,” to use today’s terminology. He declares in no uncertain terms that any attempt to restrict the mobility of capital will result in “... a more serious discouragement to the demand for labour than the most extensive employment of machinery; for while a capital is employed in this country it must create a demand for some labor ... By investing part of a capital in improved machinery there will be a diminution in the progressive demand for labour; by exporting it to another country the demand will be wholly annihilated” (*Principles*, p. 300). Thus, by the time Ricardo wrote his chapter on machinery in the third edition of the *Principles*, he no longer assumed implicitly (if not explicitly) that capital was immobile between countries—a very prescient position to take and well-ahead of his contemporaries.

From the discussion so far, it is clear that Marx rejected the Malthusian population doctrine, however, what is less apparent (and surprising to say the least), is that Ricardo did so as well (at least, implicitly) by the time he had published the third edition of the *Principles*. It is no wonder that this edition has created so much controversy and debate ever since its publication (see Blaug, 1986; Hunt and

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⁴ For example, Ricardo writes in Chapter VII (On Foreign Trade) “... that the fancied or real insecurity of capital ... [induces] most men of property to be satisfied with a low rate of profits in their own country, rather than seek a more advantageous employment of their wealth in foreign nations” (*Principles*, p. 88).
Lautzenheiser, 2011; and Schumpeter, 1954). Of course, Marx, building on Ricardo’s and Barton’s (not to mention Ramsay’s) insights went on to develop an endogenous theory of relative population in *Capital*; i.e., one determined by the needs of capital accumulation and independent of any particular assumption about the growth rate of population, whether positive, or even negative. For Marx, capitalist production cannot (and will not) be constrained by “the natural increase in population ... it requires for its unrestricted activity an industrial reserve army which is independent of those natural limits” (Vol. I, pp. 637-38). That is, it requires a pool of redundant workers that can be quickly deployed to expanding industries and away from contracting ones according to market conditions. In Marx’s eloquent words, “every special mode of production has its own laws of population, historically valid within its limits alone. An abstract law of population exists for plants and animals only, and only in so far as man has not interfered with them” (Vol. I of *Capital*, p. 632). Marx also expected the reserve army of the unemployed to grow in relation to the active part of the laboring class during the course of capitalist development as the following passage indicates:

The greater the social wealth, the functioning capital, the extent and energy of its growth, and, therefore also the absolute mass of the proletariat and the productiveness of its labour, the greater is the industrial reserve army. The same causes which develop the expansive power of capital, develop also the labour-power at its disposal. The relative mass of the industrial reserve army increases therefore with the potential energy of wealth. But the greater this reserve army in proportion to the active labour-army, the greater is the mass of a consolidated surplus-population, whose misery is in inverse ratio to its torment of labour (*Capital I*, p. 644).

Marx also went beyond Ricardo and Barton (but not necessarily Ramsay as indicated below) in terms of identifying and analyzing the three major components of the reserve army of the unemployed which he expected to grow even during periods of prosperity. The first component, its floating one, is composed of those workers who have been rendered redundant by the introduction of capital-intensive technology in the manufacturing sector, grows secularly as the accumulation process increases the demand for their labor power at a slower rate than it releases them into the pool of unwanted workers.
These dismissed workers are likely to be older since capitalists have the opportunity to hire new, younger and stronger workers from the new entrants into the labor market. Marx also observed, correctly, that increasing mechanization made it possible for the number of female and youthful laborers to increase relative to the number of adult male workers. The former workers are often paid only a fraction of that received by their older counterparts whose skill and experience has been rendered obsolete by the elimination of their particular trade.

The second major component of the surplus population, its latent form, increases relative to the active part of the working class as a result of the progressive extension of capitalist relations of production into the agricultural sector. The majority of small peasant farmers are ruined by their inability to compete with the larger, more productive and capital-intensive farms of the modern sector. According to Marx, the demand for agricultural labor power even falls absolutely because, unlike the manufacturing sector, the introduction of capital-deepening technology (fixed capital) does not generate a significant offsetting demand for the services of agricultural laborers. Apropos, Marx credits Ramsay for understanding the differential impact of the accumulation of fixed capital on the manufacturing and agricultural sectors—something that neither Barton nor Ricardo do in their discussion of the topic. He quotes approvingly from Ramsay’s work that, “... the machinery [in manufacturing] may throw out of employment a considerable body of persons, ‘this’ will yet be probably followed, after a longer or shorter period, by re-employment of the same, or even a much greater number of labourers ... in agriculture the case is widely different. The demand for raw produce cannot increase in that rapid way in which it may for manufactured goods ... But the change of all others most fatal to the country people is the conversion of arable land into pasture ... Almost all the funds which formerly supported men, are now vested in cattle, sheep, and other elements of fixed capital” (see *TSV III*, p. 336). Marx (and Ramsay) conclude that, “Part of the agricultural population is therefore
constantly on the point of passing into an urban or manufacturing proletariat...This source of relative surplus-population is thus constantly flowing” (Marx, 1867, Vol. I, p. 642).

The third major component of the reserve army of unemployed is referred to by Marx as the stagnant form. It comprises those members of the labor force that form “the supernumerary forces of modern industry and agriculture” and who work on an extremely irregular basis. When they do find employment their working conditions are “characterized by maximum of working-time, and minimum of wages” under conditions of extreme poverty (Vol. I, p. 643). Its recruits are chiefly from those relatively backward sectors of industry where handicraft production is being displaced by manufacturing and modern machinery. (It should be noted that Marx even named a “lower (fourth) sediment” of the relative surplus population that live in utter misery or pauperism, and consist primarily of “vagabonds, criminals, prostitutes,...the mutilated, the sickly, widows ... the dead-weight of the relative surplus population”, p. 797). Marx thought that the floating, latent and stagnant forms of the surplus population would not only experience a fall in their relative position, but their conditions of life would sink below that of the average worker. He expected the reserve army of the unemployed to grow in relation to the active part of the working class during the course of capitalist production (see Vol. I, Capital, p. 644).

Whether labor-saving technological change is sufficiently strong to generate an increasing reserve army of the unemployed is by no means a settled question in the Marxian paradigm. In this connection, Brewer (1984; 1990) and Howard and King (1985) contend that there are, at least, three major factors at work which make it difficult to make an a priori determination, namely: the increasing composition of

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5 Agrarian overpopulation (relative to the needs of capital) is particularly great in developing nations such as Mexico where in rural villages throughout the country millions of small peasant (corn and bean) farmers are unable to stand up to the competition of large (often foreign) agribusiness concerns. These villages also suffer from high levels of disguised unemployment, concealed only by the illusion of owning an insignificant plot of land (between 1 and 3 hectares) which is not sufficient to generate a meager existence, thereby fueling migration to the country’s major cities and, in turn, the United States. For further details, see Wiggins et al. (1999).
capital (which reduces the demand for labor), the accumulation of capital (which increases the demand for labor), and the growth in the size of the laboring population as a result of demographic and social factors. Marx believed that, as accumulation proceeded, the higher labor productivity in the newly expanding machine-producing industries relative to the declining ones would prevent those industries from absorbing all the workers “set free” by the backward ones (including non-capitalist sectors such as agriculture). Also, as indicated above, the introduction of large-scale machinery would also permit greater utilization of women and children, thus further increasing the profits of capitalists and the size of the reserve army of unemployed. However, as argued by Howard and King (1985) and even suggested by Marx and Ricardo above, the very same economic forces that increase the relative surplus population (and depress wages) will also incentivize capitalists to use capital-saving (labor-using) technology when there is a relative shortage of capital, as happens during the trough or bottom phase of the industrial cycle. Moreover, even if the growth rate in the demand for labor declines over time, the growth rate in the supply of labor would have to decrease even more for the relative surplus population to rise over time.

IV. Conclusion

This brief note has provided textual evidence which suggests that Marx’s (and Ricardo’s) views on fixed (constant) and circulating (variable) capital, the impact of machinery on the working class, and how the accumulation of capital gives rise to a relative diminution in the demand for labor were strongly influenced by the works of English economists John Barton and George Ramsay. With a few notable exceptions, Marx’s (and Ricardo’s) intellectual debt to these authors has been practically neglected in the extant literature. Second, the note delves into Marx’s theory of technological unemployment (surplus population) and its main components. Again, textual evidence is presented that strongly suggests that Marx was influenced by the writings of Barton, Ricardo, and Ramsay. The latter also seems to have influenced Marx’s conception of one of the three components of the surplus population, viz. the
latent component. Future archival research is also likely to uncover strong parallels between Marx’s and Ramsay’s conception of surplus-value (and profit) given Ramsay’s correct (implicit) conception of constant and variable capital (see footnote 1).

References

