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Mill's Fourth Fundamental Proposition on Capital: A Paradox Explained

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John Stuart Mill's Fourth Proposition on Capital, first stated in 1848, had become an enigma well before the nineteenth century had come to an end. Described in 1876 as "the best test of a sound economist" and never challenged in Mill's own lifetime, it is now a statement that not only fails to find others in agreement but fails even to find an internally consistent interpretation that would make clear why Mill found it of such fundamental importance. Yet the fourth proposition should be easily understood as a continuation and extension of the General Glut debate. Economists led by Malthus had argued, contra Say's Law, that demand deficiency was the cause of recession and that a body of unproductive consumers was needed to raise the level of demand if everyone who wished to work was to find employment. Mill's answer to such economists was to argue that to buy goods and services would not lead to an increase in employment, or in Mill's own words, that the demand for commodities was not the demand for labour.

John Stuart Mill's Fourth Proposition in respect of capital has in many respects the same mystery about it that "Fermat's Last Theorem" had in mathematics.¹ It is a statement found in an ancient text of the highest reputation yet it is statement that can no longer be explained in a way that makes clear why Mill found this fourth proposition of such fundamental importance. Thompson, in the last major discussion in the economics literature, written as far back as 1975, reviews all of the previous

¹ "Fermat's Last Theorem states that no three positive integers a, b, and c can satisfy the equation $a^n + b^n = c^n$ for any integer value of n greater than two. This theorem was first conjectured by Pierre de Fermat in 1637, famously in the margin of a copy of *Arithmetica* where he claimed he had a proof that was too large to fit in the margin. No successful proof was published until 1995 despite the efforts of countless mathematicians during the 358 intervening years." (Wikipedia)

discussions of this economic proposition.² There he found no convincing explanation that made clear what Mill had in mind or why Mill had found it of such importance. His own inability to reach a firm conclusion is shown in his opening sentence:

“‘Demand for commodities is not demand for labour’ – so goes one of economics’ strangest theorems.” (Thompson 1975: 174)

Strange, presumably, because he could find no explanation for what Mill had written that fully satisfied him. In this, he is joined by virtually the entire economics profession.

Alfred Marshall is an interesting example. Having already discussed his fundamental rejection of the proposition even in the first edition of his *Principles* where he wrote that the wording “expresses [Mill’s] meaning badly”, he later added, to emphasise his disagreement, a marginal note for the relevant paragraph which read, “Demand for commodities *is* generally demand for labour” (Marshall [1920] 1947: 828 – my italics), stressing the opposite of what Mill had written. For Marshall as for others since Mill’s time, an increase in the demand for commodities is an increase in the derived demand for labour. It never occurs to Marshall that he may not have understood Mill’s actual intent.

There are therefore a number of issues. What did Mill mean? Was Mill’s meaning sensible and coherent? Did it require some special assumption that we have since discarded, such as the wages fund? Why could Leslie Stephen in 1876 describe Mill’s fourth proposition as “the doctrine – so rarely understood, that its complete apprehension is, perhaps, the best test of a sound economist” (Stephen 1876: 297), emphasising both how infrequently economists even in his own time were capable of making complete sense of Mill’s proposition but also specifically stating how crucial he believed understanding Mill’s proposition is if one is actually to understand how an economy works.

Going further, the question that asks itself is what had happened to the way economists thought about economic issues so that less than fifteen years after Stephen had written his words, Marshall could no longer accept Mill’s meaning without major qualification? Is there, moreover, a discontinuity between Marshall’s way of conceiving economic issues and the way they had been conceived by his classical predecessors? Has there been a further distancing between classical modes of thought

² In point of fact, I have twice discussed, and attempted to explain Mill’s Fourth

Proposition on Capital in my books. See Kates 1998: 68-73 and Kates 2011: 74-80.

The second of these is probably the first time in well over a century that Mill’s fourth proposition, indeed all four propositions, have been included as an integral component of an introductory text on economics.

and our own contemporary ways of thinking since the Keynesian Revolution which established at the very centre of macroeconomic thought a principle that was the very antithesis of Mill's? And indeed, this paper will argue that there has been just such a discontinuity between classical times and our own. It will be argued that the basis for understanding Mill is dependant on a proper understanding of Say's Law as it was understood by Mill and his classical contemporaries, an understanding which was weakened during the Marginal Revolution and then totally lost with the Keynesian Revolution two generations after that.

The Classical Meaning of Say's Law

In understanding Mill's meaning, properly understanding what Mill understood by what he called "Say's Law" is crucial. The barrier to our understanding of Mill's fourth proposition on capital exists because the meaning to Mill of what we today refer to as "Say's Law" and the meaning it holds within modern economic discourse are vastly different. To understand the meaning to Mill's contemporaries of what is now called Say's Law, it is necessary to see how this concept developed into one of the basic components of classical theory which originated during an obscure debate that took place during the Napoleonic Wars between James Mill and William Spence.³ The French had blockaded European ports and reduced the level of England's export trade. Spence therefore wrote his *Britain Independent of Commerce* (1807) to argue that there was no need for concern about this loss trade. In his view, since an economy is driven by spending rather than saving, the missing demand could be made up by encouraging expenditure by the landed classes. In reply, Mill ([1808] 1966a) wrote his *Commerce Defended*, one chapter of which was devoted to refuting Spence's argument in relation to demand.

The question that Mill was seeking to answer was what would make demand effective.⁴ Certainly you could increase the level of spending but what would be required to cause such an increase in expenditure to lead to an increase in economic activity and employment. In framing his answer, Mill referred to Say's *Treatise* which had been published only a few years before in 1803, and took from it that demand is constituted by supply. For money demand to be effective in creating employment, it

³ This section is adopted from the Chapters 2 and 3 of Kates 1998.

⁴ This is different from Keynes's question which was what actions should be taken to increase the level of employment during recession. The shift in the relevant term from effective demand to aggregate demand is a tacit recognition of the subtle shift in the underlying question being posed.

had to be underpinned by value adding output that had been received in exchange for the money received.

These issues remained dormant until the publication of Thomas Robert Malthus's *Principles of Political Economy* in 1820. There Malthus argued that the recessions which had followed the Napoleonic Wars had been caused by a deficiency of demand and that the solution would be an increase in unproductive expenditure, again by the landed classes. But this time, rather than it just having been an exchange of tracts between two economists, there was a free for all in which every major economist of the time became engaged. This controversy has come down to us as the general glut debate, and its conclusion remained the bedrock position of the entire mainstream of the profession through until the publication of *The General Theory*. And the conclusion that was maintained throughout this period was this: that demand deficiency was not a legitimate explanation for recessions and that unproductive expenditure was never a cure for recessions when they arose.

And while this principle has been attributed to J.-B. Say, it may not actually be his own. It was James Mill who in 1808 took what had actually been an older physiocratic principle from Say and applied it to the policy question whether an economy could be driven from the demand side. When the same issue arose again, Say (in his *Letters to Mr Malthus* 1821), Mill (in his *Elements of Political Economy* 1825), along with virtually every major economist of the time (Sowell 1972: 115), took up that same debate to reach the collective conclusion they did. But at no stage during the nineteenth century was this principle referred to as "Say's Law". The term "Say's Law" was coined by Fred Taylor (Kates 1998: 148-49) whose first use of it in print did not occur until 1909 in an obscure article on the teaching of economics. It only became part of the general discourse amongst economists in the 1920s following the publication of Taylor's textbook on introductory economic theory.⁵

It is therefore important, when reading the term "Say's Law", to recognise its shifting meanings, and in particular the meaning that this at-the-time unnamed principle originally held as a consequence of the general glut debate. It is this meaning which needs to be contrasted with the meaning it took on following the Keynesian Revolution. Keynes defined what he specifically referred to as Say's Law as "supply creates its own demand" by which he meant that everything produced would be bought. From this Keynes concluded that classical economic models, following in the Ricardian tradition, always tacitly assumed an economy that was at full employment and that therefore there was no explanation for involuntary unemployment within the classical tradition. It is this interpretation of Say's Law that has become embedded

⁵ There had been seven student editions of Taylor's text used at the University of Michigan since 1911 but the first published version did not appear until 1921 and was designated as the 8th edition. Because of its origins in the US, the term "Say's Law" was used almost exclusively on the American side of the Atlantic until it showed up in the *General Theory* in 1936.

within the economics tradition even though it does not express the meaning this principle actually held within classical theory.

Thompson on Say's Law

It is in this context that Thompson's incredibly insightful discussion must be framed. What is quite noteworthy is that Thompson (1975: 178) not only recognises that Mill's fourth proposition is the logical extension of the first three but also that it has been derived from what he calls "Say's Law". The problem, though, is that he does not understand what Say's Law meant to Mill and others amongst the classical school. He thus states exactly what is the case but does not himself understand the implications of what he wrote:

"If considered strictly in terms of the theoretical framework employed by Mill, the fourth fundamental proposition hardly deserves the appellation 'paradox.' On the contrary, it follows quite logically from his assumptions, which, besides all that is implied in a broad interpretation of the wages-fund and Say's Law." (Thompson 1975: 178)

Thompson then adds for emphasis:

"The theorem follows almost by necessity when the wages-fund doctrine is combined with Say's Law. Hence it is more properly regarded as a natural by-product of the classical system than as Mill's exclusive property." (ibid.)

In a sense, one could argue, he sees what Mill is trying to argue and has provided an explanation. Yet what is clear is that having made these points, Thompson is left almost entirely unsatisfied. He sees what the text has said but cannot work out why Mill goes to such length to explain and defend his fourth proposition nor can he see why anyone would find it such an important statement of economic principle. And the problem for Thompson is that he is trapped by the common understanding at the time he wrote of the meaning of Say's Law. Whether he followed Keynes in accepting that Say's Law meant full employment is always assumed, or had instead followed Becker and Baumol's (1952) slightly weaker interpretation in arguing that the meaning of Say's Law was embodied in what they called Say's Equality, so that even if recessions occurred they would be shallow and brief, the end result is that Thompson assumes Mill is discussing an economy in which unemployment is not a serious issue. Given this assumption, an increase in the demand for commodities is therefore not an increase in the demand for labour because everyone is already employed. Thompson's interpretation of Mill *vis-à-vis* Say's Law is explained later in his paper:

"Incidentally, Newcomb's insistence that the existence of unemployment is implied in Mill's principal illustration is given some support by the fact that Mill subsequently made the theorem the basis of an attack on the English poor law. This would seem to imply that he did not restrict its application to a situation of full employment. His conception of Say's Law, of course, did not rule out the

existence of temporary unemployment. Yet Newcomb's suggestion of a chronically unemployed class goes too far and must be adjudged incompatible with Mill's theoretical assumption." (ibid.: 188)

Given his acceptance of the full employment version of Say's Law, Thompson is unable to see the point Mill is trying to make. But as will be argued below, there is no question that Mill clearly meant his fourth proposition to apply to situations where large scale unemployment existed. His point was that even with high unemployment, an increase in the demand for non-value adding forms of output would not lead to an increase in the number of jobs. Thompson, by beginning with the assumption that Mill had for all practical purposes assumed a fully employed economy, cannot in the end make satisfying sense of the fourth proposition on capital. Nor could he find any satisfaction within any of the other interpretations whose efforts he discusses. None in his view were able to decipher Mill or provide a coherent and satisfying explanation of what Mill had meant.

This paper will, however, attempt to demonstrate Mill's meaning in a way that not only demonstrates the internal coherence of his statement but will also argue that the fourth proposition, along with the first three, provide a coherent and cohesive understanding of the operation of an exchange economy based as they are on a proper understanding of the classical meaning of Say's Law. Moreover, the demonstration that demand for commodities is not demand for labour requires no retreat into classical presuppositions such as the wages fund to explain why this may be the case, nor does it require any reading into the text of some principle left unstated on the pages of Mill's *Principles*.

Mill's Four Propositions and the General Glut Debate

What is most important to understand is that the four propositions are a summary of the mainstream classical position in the aftermath of the general glut debate. Unless these four propositions are seen as a reply to the controversy touched off by Malthus in 1820, the core point Mill is attempting to make will be lost. Malthus had argued that oversaving and demand deficiency were the potential cause of recessionary conditions and high levels of unemployment. The four propositions taken together are a direct response to those who had argued that there was a limit to the level of economic activity set on the demand side of the economy. It is in his discussion of the first proposition where the central point intended by Mill is found. There he wrote:

"Every increase of capital gives, or is capable of giving, additional employment to industry; and this without assignable limit." (Mill [1871] 1921: 66)

And then in a reference whose significance would have been completely clear to his contemporaries, Mill wrote:

"Authors of the highest name and of great merit have contended, that if consumers were to save and convert into capital more than a limited portion of their income,

and were not to devote to unproductive consumption an amount of means bearing a certain ratio to the capital of the country, the extra accumulation would be merely so much waste, since there would be no market for the commodities which the capital so created would produce. I conceive this to be one of the many errors arising in political economy, from the practice of not beginning with the examination of simple cases, but rushing at once into the complexity of concrete phenomena.” (ibid: 67)

And if there were still any lingering doubt about who and what he meant, there is a footnote that follows the phrase, “authors of the highest name and of great merit” which reads, “For example, Mr. Malthus, Dr. Chalmers, M. de Sismondi” (ibid. 66 ftn). All three are readily identified as having argued that overproduction and demand deficiency were the causes of recession. Thus, the fourth proposition is merely the summation of the argument against those who had argued in favour of the possibility of a general glut and had consequently argued in favour of encouraging additional spending to overcome the possibility of recession due to too little demand. As Malthus wrote in his *Principles*:

“The third main cause which tends to keep up and increase the value of produce by favouring its distribution is the employment of unproductive labour, or the maintenance of an adequate proportion of unproductive consumers. . . . It is absolutely necessary that a country with great powers of production should possess a body of unproductive consumers. (Malthus 1986 II: 462)

An unproductive consumer is someone who buys without contributing to the supply of value adding output. Their communal benefit, according to Malthus, is to add to the demand for commodities without contributing more to those already glutted markets. It is by increasing demand without simultaneously increasing supply that will in turn cause others to be employed. Mill in writing the fourth proposition is merely stating that increases in the demand for commodities is not, as Malthus and others had seemed to believe, an increase in the demand for labour.

Importantly, in this statement Mill goes beyond the basis of the law of markets in only denying that recessions are caused by deficient demand. He makes the further point that artificially attempting to increase demand, output and employment by the mere purchase of commodities will be unsuccessful, even counterproductive. He is adamant that buying final goods and services without adding to the productiveness of the economy cannot lead to an increase in the demand for labour. Irrespective of whether there are unemployed resources, Mill is arguing that increasing the level of unproductive expenditure cannot be used to increase the number of persons employed and if attempted will not succeed.

That this is what Mill had in mind is further demonstrated in a footnote reference found in Book III, Chapter XIV, “Of Excess of Supply”. This is the chapter in which Mill specifically denies the possibility of a general glut, providing the classical statement on Say’s Law. At the start of the chapter, Mill writes:

“Because this phenomenon of over-supply, and consequent inconvenience or loss to the producer or dealer, may exist in the case of any one commodity whatever, many persons, including some distinguished political economists, have thought that it may exist with regard to all commodities; that there may be a general over-production of wealth; a supply of commodities in the aggregate, surpassing the demand; and a consequent depressed condition of all classes of producers. Against this doctrine, of which Mr. Malthus and Dr. Chalmers in this country, and M. de Sismondi on the Continent, were the chief apostles, I have already contended in the First Book;[*] but it was not possible, in that stage of our inquiry, to enter into a complete examination of an error (as I conceive) essentially grounded on a misunderstanding of the phenomena of Value and Price.” (Mill [1871] 1921: 556-557)

The asterisk [*] leads to a footnote which reads, “Supra, pp.66-8” which takes the reader back to Mill’s chapter on his fundamental proposition on capital and specifically to the discussion of his first proposition. And at the start of this discussion, we find this:

“Every increase of capital gives, or is capable of giving, additional employment to industry; and this without assignable limit.” (ibid.: 66)

And the final conclusion at the end of the section emphasises once more that it is not demand deficiency that is the cause of recessions but an absence of productive power.

“Thus the limit of wealth is never deficiency of consumers, but of producers and productive power. Every addition to capital gives to labour either additional employment, or additional remuneration; enriches either the country, or the labouring class. If it finds additional hands to set to work, it increases the aggregate produce: if only the same hands, it gives them a larger share of it; and perhaps even in this case, by stimulating them to greater exertion, augments the produce itself.” (ibid.: 66)

Mill’s contemporaries, who had grown up in the midst of the general glut debates, would have had no difficulty in recognising the point Mill was trying to make: unproductive expenditure does not lead to an increase in employment. And as Mill clearly implies, he is not assuming a fully employed economy since he argues more capital can lead to more employment “if it finds additional hands to set to work”. And I should here stress that the aim of this paper is not to argue whether Mill was right or wrong in his conclusion, but merely to demonstrate what his conclusion was. What is surprising is that Mill’s clear references to the issue he was discussing has been lost sight of since the end of the nineteenth century so that there has been no clear meaning attached to the statement that the demand for commodities is not demand for labour.

Mill’s Four Propositions

It is therefore useful to examine all four of Mill’s propositions on capital in order to understand his fourth within a proper context. The following discussion explains Mill’s meaning in relation to each of the four proposition.

Mill's First Proposition

Mill's first proposition states that "industry is limited by capital". It states that the total output of an economy is held within limits set by the amount of capital available. There is only so much that can be produced given the available resource base and this resource base can be applied either to the production of consumption goods or can be used as investment that adds to the economy's capital base. Capital, it should be further understood, was any and every available resource that was used by its owner to earn an income. Labour cannot be employed without capital:

"There will not and cannot be more of that labour than the portion so allotted (which is the capital of the country) can feed, and provide with the *materials and instruments of production*." (ibid.: 64 – italics added)

This is not wages fund. Mill means something more comprehensive than just the availability of food, shelter and clothing for the working population since beyond merely feeding the population Mill explicitly notes that it is also necessary to provide "materials and instruments of production". This is steel mills, power looms and every other produced form of input into the production process. We might today include human capital but that would not change the argument. That this is Mill's meaning for the term "capital" is clearly explained in Book I Chapter 4, the chapter simply titled, "Of Capital", where Mill describes the particular kinds of items that might be included as part of the capital of a manufacturer. There he explicitly lists buildings, machinery, raw material inputs, food and clothing, and finished goods ready for sale as forms of capital (ibid.: 54-55). We today no longer list food and clothing only because these are now so abundant we never stop to think their existence remains necessary if the working population is to continue to work.⁶ The productive efforts of an economy are thus limited by the supply of productive resources in all of their different forms.

Mill then goes on to state as part of this same first proposition:

⁶ As one of my students put it, are the wages of the person who made a camera paid by the person who bought it? Since obviously they are not, but have been paid through advances out of savings, failing to take into account the need to remunerate labour while productive activity takes place ignores an important aspect of the production process. An agricultural community, for example, lives on last year's crop while producing this year's which they will live on while producing the crop for the year after.

“Every increase of capital gives, or is capable of giving, additional employment to industry, and this without assignable limit.” (ibid: 66)

The greater the amount of capital, the more an economy can produce. In this, Mill is denying the validity of those who had argued that there is an upper limit imposed on an economy’s rate of growth from the demand side as had been argued by the General Glut theorists.⁷ There is no such demand side limit. It is necessary to mix this capital with labour but the more capital there is, the greater the level of employment. Employment levels vary directly with the amount of capital. Stephen (1876: 298) states on the page following his previously cited more famous quotation “that the capital employed constitutes the demand for labour”, a conclusion directly derived from Mill.

Mill’s Second Proposition

Mill’s second proposition is that “capital ... is the result of saving” (ibid.: 68). In Mill’s words:

“To consume less than is produced, is saving; and that is the process by which capital is increased.” (ibid: 70)

This is a basic premise universally accepted. The source of resources with which to invest are made available only because some resources have been saved, that is, not used as current consumption. It is a definition more or less in conformity with modern macroeconomic theory.

Mill’s Third Proposition

Mill’s third proposition is that saving is not an abyss, a negative, an absence but is an actual productive use of resources. Mill again:

⁷Mill is again refuting a proposition found in Malthus’s *Principles*:

“It appears to me perfectly clear in theory, and universally confirmed by experience, that the employment of a capital, too rapidly increased by parsimonious habits, may find a limit, and does, in fact, often find a limit, long before there is any real difficulty in procuring the means of subsistence; and that both capital and population may be at the same time, and for a period of great length, redundant, compared with the effective demand for produce.”

“Capital ... although saved, and the result of saving, it is nevertheless consumed.” (ibid.)

“Consumed” here is not in its modern sense of forming part of final consumer demand but means that the goods and services in question are being put to use in some kind of productive activity by being converted into capital. The word “consumed” and its various derivatives in the following passage should be read in the sense of “put to use”.⁸

“The word saving does not imply that what is saved is not consumed, nor even that its consumption is deferred; but only that, if consumed immediately, it is not consumed by the person who saves it.” (ibid.)

Savings, bear in mind, are part of an economy’s productive efforts. They are actual resources used to increase that economy’s capital base. They are additional productive capital items plus the various goods and services, almost invariably paid in the form of wages advanced to workers in the form of money payments for the contribution in expanding industries before these industries have been able to increase their level of production and receive payments for the goods or services produced.

Mill’s Fourth Proposition

Mill’s fourth fundamental theorem respecting capital is, however, where the difficulty lies.

“What supports and employs productive labour, is the capital expended in setting it to work, and not the demand of purchasers for the produce of the labour when completed. Demand for commodities is not demand for labour.” (ibid.: 79)

This is, to modern ears, near on incomprehensible, all the more so since Keynesian theory has the opposite conception embedded as its own fundamental assumption. In a Keynesian world, demand for commodities is most emphatically the demand for labour. Yet as Thompson notes: “criticism of the theorem was uncommon during Mill’s lifetime. One can only surmise that it met with the approval of most economists of that period” (Thompson 1975: 179). Since the only “notable exception” Thompson

⁸ Consumed, to use Ricardo’s more graphic example, as in consumed by a fire

(Ricardo 1951-73: II. 421-22). So far as any time period is concerned, even if labour

and capital items remain in existence when the time period ends, the productive

services they had offered have completely disappeared into the past having been used

in one way rather than in another.

could find was G.P Scrope, and that was not until the 1870s, there is every reason to believe Mill's Fourth Proposition was indeed accepted virtually across the board amongst his contemporaries. Yet given the effort Mill makes to explain this proposition, and the interesting concession he makes about the difficulty he has found in getting others to apply it in all instances where it ought to be applied, acquiescence did not necessarily mean full comprehension. From Mill's perspective, this was a proposition that was far from universally understood in the heat of argument:

"It is, to common apprehension, a paradox; and even amongst political economists of reputation, I can hardly point to any, except Mr. Ricardo and M. Say, who have kept it constantly and steadily in view." (Mill op. cit.: 80)

And in the continuation of this passage, Mill makes a statement that underscores the point he is trying to make:

"Almost all others occasionally express themselves as if a person who buys commodities, the produce of labour, was an employer of labour, and created a demand for it as really, and in the same sense, as if he bought the labour directly, by the payment of wages." (ibid.)

And then he adds in exasperation a complaint about the shallowness of economists and economic theory if the belief that buying things is the same as actually hiring labour cannot be eradicated:

"It is no wonder that political economy advances slowly, when such a question as this still remains open at its very threshold." (ibid.)

It is this implicit assumption that to buy commodities is the same as to employ workers that Mill was attempting to deny. He was trying to demonstrate that to buy goods and services not only does not add to the demand for labour, such increases in the demand for commodities, if they reduce the supply of capital, can even cause the number of persons employed to fall.

The Marginal Revolution and the Demand for Commodities

Why then did Marshall, his contemporaries along with virtually all economists since the end of the nineteenth century fail to understand Mill's fourth proposition? Something takes place between 1876 when Leslie Stephen can describe Mill's fourth proposition as the best test of a sound economist and Marshall's virtual dismissal of Mill's statement a mere decade and a half later? And what it was that took place was the "marginal revolution", the formalisation of a theory which placed the determination of value on marginal utility. It took the focus of economic analysis from the supply side of the economy to the demand side, diminishing supply side considerations to a very considerable extent. In an important sense, economic theory goes from being an inquiry into the nature and causes of the wealth of nations to become a study of individual decision making and the logic of choice.

As already noted, there was even in Mill's own time a tendency to believe that to purchase was to employ even though the prevailing conceptual apparatus was the importance of the supply side. To Mill it was the availability of capital that drove production and employment. Demand would determine what producers would produce but not the level of employment. Although there were commercial crises and depression, the will to produce would find a ready market if what was produced matched what buyers wished to buy. The Marginal Revolution led, however, to a radical change in perspective:

“The triumvirate of the marginalist revolution – Jevons, Walras, and Menger – rejected the objective cost-of-production theories of value and focused instead upon the subjective principle of utility and consumer demand as the keystone of a new approach to economics. They noted that individuals make choices on the basis of preferences and values in the real world. Like J.-B. Say, they recognized that no amount of labor or production confers value on a product. Value consists of the subjective valuations of individual users. In short, demand had to be high enough before producers would employ productive resources to produce a product. Demand must always supersede supply.

“The marginalists even went a step further and argued that in the long run there is no such thing as an independent supply curve; supply is ultimately determined by final demand. For example, if the demand curve shifts forward, eventually a new supply (cost) schedule develops as new resources enter the *industry*. As Philip Wicksteed, one of the strongest proponents of the marginalist revolution in the early twentieth century, stated, ‘costs of production is coordinate with the schedule of demands’ (1933: 812).” (Skousen 2009: 174)

With the supply side of the economy shifted towards the background, the conceptual tools necessary to understand Mill withered.⁹ The very way in which economic issues were framed and understood radically altered in ways that made it almost impossible to understand the conceptual framework required if one was to believe that demand for commodities was not equivalent to an increase in demand for labour. Both Marshall and Hayek, who stated their support for Mill's proposition, in the end could not see the point Mill was making since they continually saw the point in terms of derived demand. An increase in the demand for shoes is an increased derived demand

⁹ Hayek (1941) makes a similar point and with specific reference to Mill's Fourth Proposition. He wrote “that in more modern times the doctrine has suffered a marked eclipse is mainly due to the fact that the modern subjective theory of value was erroneously thought to have provided an effective refutation” (Hayek 1941: 434).

for shoemakers.¹⁰ But an increased demand for shoes that causes the productivity of the economy to fall as less capital formation occurs has a very different effect. It diminishes the ability of the economy to employ as many people at the going real wage.

It is interesting that Thompson again looks at the possibility that the change in the nature of economic theory had made it impossible to follow Mill's meaning. This possibility is discussed within the context of a Kuhnian paradigm shift. Thompson, however, rejects this possibility, writing:

“The inability of marginal utility theorists of the period to perceive any appreciable truth in Mill's fourth proposition could easily be interpreted as a typical example of incommensurability. It is necessary, of course, to explain the awkward fact that this reaction to be a temporary one. Within a decade or two, such writers as Marshall, Wicksell, and Newcomb were able to consider Mill's theorem with moderation and objectivity. This fact is not believed to present a serious barrier to the application of the incommensurability thesis, however. Incommensurability was pictured by Kuhn as primarily a phenomenon of the crisis period when a paradigm shift was in progress. With the passage of sufficient time, the work of translation could be accomplished, making a valid reinterpretation of an old proposition entirely possible.” (Thompson 1975: 191)

The reality is that whatever may have been Kuhn's original thesis, Mill's fourth proposition appears to have become impossible to fathom because of the change in the way economists looked at economic issues. First because of the Marginal Revolution which was decisive, and then because of the Keynesian Revolution, there was no longer any theoretical argument to pit against the notion of demand deficiency. The result was the ability to see what Mill had meant disappeared from within economic theory itself.

Sympathetic Interpretations of Mill which Miss the Point

A discussion of three examples where Mill's point could not be fully understood are provided to indicate just how difficult it is for economists of one era to understand the economics of another where the underlying presuppositions have shifted. The three examples are Alfred Marshall, Allyn Young and Friedrich Hayek. While each tries to

¹⁰ Assuming, of course, there is no shift towards more capital-intensive methods of production as demand for shoes increases.

show agreement with Mill, in the end they are unable to grasp in full the point Mill is trying to make.¹¹

Alfred Marshall

In an appendix on “The Doctrine of the Wages Fund” in his *Principles*, Marshall wrote that the “*Demand for commodities is not demand for labour*: and this again expresses his [Mill’s] meaning badly” (Marshall [1920] 1947: 828). And in trying to explain Mill’s meaning, the most that Marshall is willing to concede is that “there is a sense in which this contains a little truth” (ibid.). But if one reads Marshall, it is clear he is floundering. Although he would like to present a clear logical explanation for Mill’s conclusion, in the end he finds he cannot do so. And he specifically argues that Mill seems in his view to be saying something he could not possibly have been trying to say, that Mill “seems to imply that, to spend money on the direct hire of labour is more beneficial to the labourer than to spend it on buying commodities”. Since that was indeed what Mill was trying to argue, it is evident that Marshall can make neither heads nor tails of Mill’s logic which is why, as noted above, he wrote as his marginal note that “demand for commodities *is* generally demand for labour” (ibid.: my italics again).

Allyn Young

An interesting discussion of Mill’s fourth proposition is found in Allyn Young’s published lecture notes for the years 1927-29. He follows Marshall in interpreting Mill in relation to the wages fund, but adds a different and more realistic dimension.

“Mill really meant by his statement, ‘demand for commodities is not demand for labour’ that the demand for labour depended upon the employer who paid the labourer during production; and the demand for the product depended on the consumer. He thought in terms that were too inelastic, of a predetermined fund, and not of something fluid. The wages fund viewed as a flow is a much more flexible thing than the older economists thought it.” (Young 2007: 75-76)

¹¹ Samuel Hollander discusses Mill’s fourth proposition extensively and on a number of occasions (Hollander 1985: 371-76; 1987: 183-184, 209-213; 2000: Chapter 7) but is not included in this section as in the end he could not be properly described as sympathetic to Mill. Hollander, moreover, does not attempt to explain why Mill had believed this proposition to be of such fundamental importance. And without specifically invoking Say’s Law, he takes the view that “the fourth proposition presumed full use of existing capacity” (Hollander 1985: 376).

This is a useful and largely accurate interpretation of Mill. Producers and consumers are the same set of individuals but at different moments in time. Consumers buy what has been produced, after it has been produced. When acting as producers, they are consuming the products of a previous period. Thus, the demand for commodities is not the demand for labour since whatever is being consumed is the result of labour that was undertaken at an earlier period of time. In the present, it is only a forward-looking entrepreneurial decision to hire that puts someone to work, where the decision to employ is based on an expectation of future sales. But while this is a useful interpretation,¹² it cannot be the complete answer. Using this logic, one could argue that the demand for commodities in the present will encourage others to produce the same commodities in the future so that in this sense buying goods and services that have already been produced becomes the reason why producers will continue to produce to find consumers in the future. With Young's interpretation we have a more sophisticated time-period related relationship between buying and employing. It is not, however, what Mill had in mind since his examples are of decisions either to consume or to add to an economy's capital base. It is the very existence of capital when production takes place that allows employment in the examples Mill provides. This is the crucial element Young omits.

Friedrich Hayek

Hayek provides a more comprehensive assessment of Mill's fourth proposition in his *Pure Theory of Capital* ([1941] 2009: 433-439). Like Alfred Marshall his discussion is found in an appendix to the main text and again, like Marshall, Hayek sees Mill's fourth proposition being "of course closely connected with the wage fund theory" (ibid.: 433). He, however, conceives the nature of what Mill had written in his own terms as a shift of relative prices between the stages of production, a conceptual

¹² It is discussed in Kates 2011: 78-79.

apparatus totally foreign to Mill's approach.¹³ Moreover, Hayek in attempting to explain Mill's meaning commences by reinterpreting what Mill had actually said:

“Before we proceed further, however, it will be advisable to re-state Mill's proposition in a form which leaves no doubt about its exact meaning. In the first instance it is probably clear from that use to which the doctrine has been generally put that we are entitled, as we have already done, to substitute consumers' goods for 'commodities' and that the 'demand for commodities' will have to be described, not as a simple quantity, but as a demand schedule or curve describing the quantities of consumers' goods that will be bought at different prices. Secondly, the test of whether demand for consumers' goods 'is' demand for labour (or, we may say, demand for pure input) must clearly be whether a rise in the demand curve for consumers' goods raises the demand curve for pure input (and whether a lowering of the former lowers the latter), or whether a change in the demand for consumers' goods causes no change in the same direction or perhaps

¹³ in relative prices.”

¹³ Note that Mill was not in this passage discussing unemployed labour but merely noting that some goods remain unsold for prolonged periods of time, remaining part of a firm's stock. Mill wrote that “because industry is limited by capital, we are not however to infer that it always reaches that limit. Capital may be temporarily unemployed, as in the case of unsold goods, or funds that have not yet found an investment: during this interval it does not set in motion any industry” (Mill [1871] 1921: 65). Indeed, Mill goes even further, noting that the problem not only is not related to there being too few jobs but too few potential workers. The just quoted passage continues with these words: “Or there may not be as many labourers obtainable, as the capital would maintain and employ” (ibid.). Thompson (1975: 188) is also critical of Hayek's interpretation on this basis:

“A more serious deviation, which Mill would probably have found unacceptable, is the fact that the validity of Hayek's reformulated theorem depends on changes in relative prices.”

even a change in the opposite direction to the demand for pure input.” (Hayek 1942: 435-36)

Both these re-interpretations move well away from Mill. To equate commodities with consumer goods and to turn it into a schedule are interpretations that are not based on Mill’s text. Commodities to Mill are goods consumed in the present without leaving behind a more productive economic environment. It is not just end consumers who may do so but governments as well, and in some instances businesses. And then, secondly, Hayek transfers the meaning of the demand for labour into the “demand for pure input” by which Hayek means much more than just labour but includes all forms of input into the production process. The crucial point Mill was trying to make on the relationship between the availability of capital and the level of employment disappears.

It is actually worse. There has been some debate over the years to which Hayek himself has contributed as to why he had not responded to the *General Theory* immediately after publication. The reason might, in fact, be that so far as Keynes’s main point was concerned, he and Keynes were in agreement. Mill had been trying to argue that demand for goods and services would not lead to an increase in employment. Hayek, however, agreed with Keynes that in times of high unemployment, increased demand for commodities would lead to greater employment.

“That under conditions of under-employment the general principle does not directly apply was of course well known to ‘orthodox’ economists, and to J. S. Mill in particular. In his exposition the statement that ‘industry is limited by capital’, on which, as we have seen, the proposition under discussion is based, is immediately followed by the further statement that it ‘does not always come up to that limit’^[14]. And few competent economists can ever have doubted that, in

¹⁴ Note that Mill was not in this passage discussing unemployed labour but merely noting that some goods remain unsold for prolonged periods of time, remaining part of a firm’s stock. Mill wrote that “because industry is limited by capital, we are not however to infer that it always reaches that limit. Capital may be temporarily unemployed, as in the case of unsold goods, or funds that have not yet found an investment: during this interval it does not set in motion any industry” (Mill [1871] 1921: 65). Indeed, Mill goes even further, noting that the problem not only is not related to there being too few jobs but too few potential workers. The just quoted

positions of disequilibrium where unused reserves of resources of all kinds existed, the operation of this principle is temporarily suspended, although they may not always have said so.” (ibid.: 439)

In other words, when there are unused resources, the demand for commodities does constitute demand for labour. From this, the conclusion Hayek reaches is very different from Mill’s:

“More than ever it seems to me to be true that the complete apprehension of the doctrine that “demand of commodities is not demand for labour” - *and of its limitations* - is “the best test of an economist”. (ibid. – my italics)

A strange conclusion to reach given that Mill had considered this one of his “fundamental” propositions on capital. It could not have been all that fundamental if it contained the kinds of “limitations” Hayek described.

Keynesian Revolution

With the change in conception from the supply side to the demand side following the Marginal Revolution, the Keynesian Revolution was a paradigm shift waiting to happen. Say’s Law is the essence of the supply side conception of how an economy runs. Its two most noted classical statements were that there is no such thing as a general glut and demand is constituted by supply. These are at odds with the conception of an economic framework based around incremental shifts in marginal utility.

When Keynes came to write and publish his *General Theory* in the 1930s, to the extent that Say’s Law was an obstacle of any kind it was a very weak reed indeed. It is no wonder the belief, so far as Keynes was concerned, that employment was always positively correlated with aggregate demand for consumer goods was an “axiom which only half-wits could question”. By the time he wrote, Keynes’s approach had already by then been embedded in economic theory for more than half a century.

For all that, so far as Mill is concerned, the belief that there can be demand deficiency for all goods and services in aggregate makes it impossible for an economist to understand the actual workings of an economy. Mill made this abundantly clear in the final paragraph of his chapter in which he outlined “Say’s Law”:

“A theory so essentially self-contradictory cannot intrude itself without carrying confusion into the very heart of the subject, and making it impossible even to conceive with any distinctness many of the more complicated economical workings of society.” (Mill [1871] 1921: 562)

passage continues with these words: “Or there may not be as many labourers

obtainable, as the capital would maintain and employ” (ibid.).

There had been many “Keynesians” before Keynes. This was Mill’s reply to Keynesian economics *avant la lettre*. Understanding Mill’s Fourth Proposition on Capital at least allows us to understand what the difference in view actually is.

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