

Keynes, Marshall and The *General Theory*

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INTRODUCTION

Many authors – e.g. Clower (1975), Leijonhufvud (2006), Hayes (2006) and Lawlor (2006) — have defended the view that a correct understanding of Keynes’s *General Theory* requires a central place being given to his Marshallian lineage. While agreeing with these authors, we differ from them as far as its implications are concerned. It is true that reading the *General Theory* in this way is enlightening. However, it does not follow that Keynes’s theory is thereby reinforced. On the contrary, we shall argue that such a reading points to Keynes’s failure to achieve the theoretical project he was striving at, namely to demonstrate an involuntary unemployment result wherein nominal wage rigidity could be exonerated from being its cause.

Our paper comprises three sections. In the first, we reexamine Marshall’s theory of value ¹. Three specific points are dealt with, Marshall’s account of the working of the market day (his corn model), Marshall’s conceptualization of time and his analysis of firms’ optimizing production decision in the context of the short period. The main conclusion of this section is that no serious of unemployment is to be found in Marshall’s writings. In section two, we study the literature spanning between Marshall and Keynes in order to see whether the lacuna present in Marshall’s writings has been filled. We shall document the emergence of the notion of frictional unemployment. We shall see that its coming to the forefront hardly goes along with a theoretical elaboration. This means that when Keynes started to write the *General Theory* unemployment theory was almost non-existing. The last section is a critical reflection on the *General Theory*. Our aim here is to assess the implications of anchoring Keynes’s theory more firmly in the Marshallian tradition. We start by making the point that Keynes’s theory of effective demand ought to be viewed as an extension of Marshall’s analysis of firms’ short-period production decisions. This will enable us to bring out the decisive role

¹ There is more than one way in which one can be Marshallian. While many present-day authors like to emphasize the institutional and evolutionist aspects of Marshall’s work, we shall stick to Marshall the neoclassical value theorist — that is, mainly to the ideas that were developed in Book V of the *Principles*, a fine recasting of which can be found in Frisch (1950).

played by the wage rigidity assumption in Keynes's reasoning. We shall claim that, except for this assumption, there are no differences between 'effective demand *à la* Marshall' and 'effective demand *à la* Keynes'. We close our analysis by showing that, contrarily to what is usually claimed, the nominal rigidity assumption is not removed in chapter 19 of the *General Theory*.

Before entering into these questions, a preliminary methodological remark needs to be made. Leijonhufvud has recurrently observed (e.g. in Leijonhufvud 2006) that a distinction should be drawn between a theory and a model. To him, a theory is a set of beliefs about reality, propositions claiming to tell the truth. In turn, a model is a formal representation of these beliefs or a part of them. Usually, it takes a mathematical form but reasoning in prose or with the support of graphs can also do. Here the aim is to draw logical inference, to demonstrate the logical validation of the propositions made. A theory so defined can of course be discussed on its grounds but such discussions have the drawback of often leading to no progress because of hermeneutic issues. Hence 'progress' requires the main attention being given to modelization. Discussions about the validity of models are likely to be more decisive than those bearing on the theory. My aim in this paper is to assess unemployment as present in Marshall's and Keynes's models, and not their theories even if, sacrificing to the usual practice, I shall often speak of a theory (e. g. Keynes's theory of effective demand) when in all rigor I should use the model term.

MARSHALL

Marshall's time framework

Marshall was keenly aware that "man's powers are limited" while "almost everyone of nature's riddle is complex". "Breaking up a complex question, studying one bit at a time, and at last combining his partial solutions with a supreme effort of his whole small strength into some sort of an attempt at a solution of the whole riddle" was his solution (Marshall 1920: 366). This partitioning process, he claimed, should proceed along two lines, to divide the economy into separate industries, on the one hand, and to divide time into three time categories – the market (the unit period of exchange), the short period and the long period — on the other.

This led Marshall to separate three equilibrium concepts associated with these three time categories. Each of them could be the subject of a separate analysis: market-day equilibrium (in short market equilibrium), short-run equilibrium and long-run equilibrium. Marshall

engaged in these separate analyses but as well known, his theory evolved on robust grounds only for the short-run equilibrium aspect. He also argued that the relationship between these categories should be viewed as a gravitational process.

The lack of any rationing (and hence unemployment) result in Marshall's theory of value

Marshall's main interest when constructing his theory of value lied in what he called the study of normal equilibrium, the centre of gravitation for market outcomes. Nonetheless he must be credited for having addressed the issue of market-day equilibrium, the outcome of the working of markets on a daily basis in Chapter II of Book V of the *Principles*. Let us retrace Marshall's reasoning in this chapter.

From the onset, the reader is provided with information about the market supply and demand schedules enabling him to calculate what Marshall calls the 'true equilibrium' — 700 hundred quarters traded at the unit price of 36s.² Marshall suggests that this is the result of a tough bargaining process between agents, the "haggling and bargaining of the price around the 36 shillings mark". Eventually, he claims, the price of 36 shillings will impose itself. What is the underlying mechanism? Scrap the rhetorical effects, and it turns out that the attainment of market equilibrium results from agents' ability to form right conjectures about equilibrium values or, in other words, from their being as knowledgeable about market conditions as the outside economist. In short, it must be assumed that agents hold perfect information. Under this assumption, all sellers will be ready to trade at a price above) the equilibrium price but they will never find trading partners from the other side of the market, the converse being true for purchasers. As a result, trade will occur at the equilibrium price only. However, Marshall is aware that this assumption is too heroic. Hence his next move is to show that the same result comes close to be realized even if the perfect information is removed or, more precisely, limited to one side of the market. To this end, it is necessary to assume that the marginal utility of money is constant, which, in turn, requires that the expenditure made in the market under study represents a small proportion of total income. Now market equilibrium is attained gradually through successive false trading without income effects being generated. The end result is almost the same as in the perfect information case. The quantity of corn traded and the price of corn in the last transaction are the same as in true equilibrium, but agents end up with different money balances.

² This shows that Marshall, unlike Walras, was not interested in demonstrating the logical existence of equilibrium. He rather wanted to elucidate how agents' interactions could end up making these equilibrium values effective.

Although a testimony to Marshall's cleverness, this last step of his reasoning cannot win the day because the idea of a constant marginal utility of money (or income) is *ad hoc*, and cannot be generalized. Actually, later on Marshall fails to refer to it, and falls back, be it only implicitly, on the perfect information assumption. An important conclusion follows on: the Marshallian market always features market clearing (i. e. the matching of market supply and demand).

Three further implications are worth noticing. First, whenever the perfect information assumption is adopted, the idea that duration matters now ceases to be relevant. On any market day, equilibrium can be arrived at fast or slowly, yet this hardly matters. Applying Occam's razor, we should consider the formation of market equilibrium as arising in logical time, i.e. instantaneously. In other words, once the perfect information assumption receives prominence, the idea that equilibrium follows from some tough negotiations between sellers and purchasers turns out to be just a rhetorical varnish.

Second, we must raise the question of whether Marshall's account of the corn market can be extended to the labour market. Our answer is 'yes'. At the end of the corn market model chapter, Marshall admits that the constant marginal utility of money assumption is inappropriate when it comes to the labour market. Moreover, Marshall scattered remarks in the *Principles* about labour pertain to the particularities of the demand for and supply of labour rather than to the functioning of the labour market. He never argues that the labour market functions differently from the corn market. Silence is consent. The bottom line must be that, to Marshall, the labour market operated on the same principles as the corn market, in which case it could not be an exception to the market clearing principle. In other words, there is no room for the notion of unemployment in Marshall's value theory. There is one exception, however, but it is trivial (and not even considered by Marshall). It follows from assuming an exogenous wage floor. If the latter is above the market-clearing magnitude, unemployment arises. Not that Marshall remained silent on the topic of unemployment. It is just that he had limited interest for it. As noted by Matthews:

“The social problem that disturbed *his* conscience was poverty; and poverty might have a number of causes, of which unemployment was only one” (Matthews 1990: 33).

Cyclical unemployment was *par excellence* a 'Vol. II' subject, along with business cycles generally. It does get some treatment in the *Principles*, but to a large extent

Marshall's views have to be pieced together from his various writings. Those are often fragmentary or aphoristic (Matthews 1990: 35).³

Our third remark is the permanent realization of market clearing in Marshall's analysis does not preclude it having some room for frictions. It is just that these frictions should be viewed as a cause of market non-clearing. Since this point has been an important source of confusion, it is worth delving into it.

In Marshall, the study of market equilibrium cannot be separate from that of the more fundamental equilibrium concept, which he calls 'normal equilibrium', towards which market equilibrium outcomes are supposed to gravitate.⁴ States of no-coincidence between the market equilibrium price and the normal equilibrium prices can be coined as states of disequilibrium. This means that Marshall's theory features the possibility of a co-existence between market clearing and disequilibrium, a trait that makes little sense in reference to the Walrasian approach. In view of the confusion that may exist on this point, it is worth to take a moment to look at it more closely. To this end, we lean on Marshall's well-known fishing industry example (1920, p. 307).

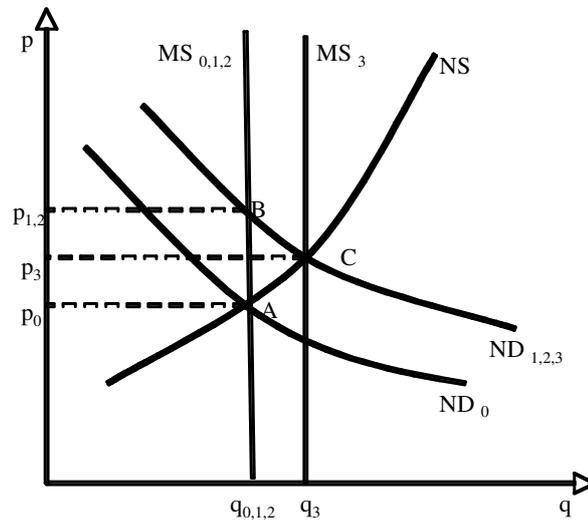
In this passage Marshall studies the reaction of suppliers in the fish industry in face of changes in demand. We confine our attention to the effect of an increase in demand of a moderate length. Marshall supposes that the new equilibrium price and quantity will quickly be arrived at, without being more precise. In so far as production takes place in advance and as the change in demand is unanticipated, disequilibrium will be present at least on the market day where the shock manifests itself. If the change in variable capital can be made before the next period of exchange (this depending on the assumption made about the interval between market periods) the new equilibrium will be reached at this next period of exchange. But the adjustment process can also be longer in which case disequilibrium will extend over several

³ The same judgement had been made by Hicks in his *Theory of Wages*: "The traditional way of allowing for unemployment, as we find it in Marshall and Edgeworth and other of their contemporaries, is, to say the least, peculiar. In effect, they use alternative models. Sometimes they treat the labour market as a purely competitive market, working under the action of supply and demand — an then they leave unemployment out of account. But elsewhere they allow for unemployment, only to make insufficient allowance for competition" ([1932] 1963: 5-6). In his recent essay (2006), which devotes a chapter on "The treatment of labor markets in Marshallian economics", Lawlor praises Marshall for his emphasizing "the non-deterministic influence of social institutions a work in labor markets" and for his account the actual institutional details of wage practices" (206: 69). But when it comes to unemployment, Lawlor is compelled to admit that "Marshall had something of a blind spot" (2006: 61).

⁴ At present, it is often (but misleadingly) called 'long-period equilibrium'.

such periods. The following graph drawn from the *Principles* (but used by Marshall for a different purpose) permits to make the point.

Figure 1



Starting from a state of equilibrium at t_0 (A), a change in normal demand (ND) of a moderate length occurs at t_1 . As to supply, we have to draw a distinction between market-day supply (MS), which is vertical due to fish's perishable nature, and short-period normal supply (NS) expressing firms' optimal plan whenever they have the possibility to change their variable capital. The initial result of the change in demand is that on t_1 the market equilibrium price rises to p_1 . At B, the market is in disequilibrium, since the short-period normal equilibrium fails to be attained. Note, however, that market clearing prevails. *Normal* supply and demand do not match but *market* supply and demand are equal. We assume that it takes two weeks for the new optimal quantity of variable capital to deliver in the new planned production. Hence, the market remains in the state of disequilibrium at t_2 . The short-period equilibrium is reached on the third week at point C. When the departure from permanent values comes to an end, the market returns at A. This slow adjustment towards normal equilibrium (going along with an instantaneous adjustment towards market equilibrium) can be considered as due to 'frictions'. However, the step that should not be made is to assert that such frictions are a cause of market rationing.

The firm's equilibrium in the short period

The perfect information assumption also underpins Marshall study of firms' optimal short-period production decisions in a given industry, to be found In Book V, Chapter 5 of the

Principles. This analysis bears on firms' individual equilibrium, i.e. the determination of their optimal trading plan. As well known, its solution is the equalization of marginal revenue and marginal cost. To get this result, firms must decide jointly about the supply of outputs and the demand for factors. When they establish their supply curve (their marginal cost function) they need to make a conjecture about the cost of their inputs, in accordance to the possible varying levels of demand for it. To this end, they need to estimate the magnitude of a series of variables, which, at the time of their decision-making, are still virtual. The wage rate is one of them. That is, firms need to conjecture the labor market outcome. The fact that Marshall's jumps at once from the individual equilibrium (optimal planning) to the interactive equilibrium (the industry equilibrium) means that he implicitly assumes that these conjectures are right. Otherwise he should have entered into the analysis of what goes on when they are wrong. In other words, the determination of normal equilibrium in a given branch firstly occurs as a thought-experiment in the minds of firms' managers to become implemented as an objective observable market experiment only later. This implies that firms hold perfect information.⁵

The following two quotations, the former from Marshall's *Principles*, the second from Frisch (1950), can be adduced in support of our interpretation.

We assume that the forces of supply and demand have free play; that there is no close combinations among dealers on either sides, but each acts for himself, and there is much free competition; that is buyers generally compete freely with buyers, and sellers compete freely with sellers. *Though everyone acts for himself, his knowledge of what others are doing is supposed to be generally sufficient to prevent him from taking a lower or paying a higher price than others are doing.* This is assumed provisionally to be true both of finished goods and of their factors of production, of the hire of labour and of the borrowing of capital. We have already inquired to some extent, and we shall have to inquire further, how far these assumptions are in accordance with the actual facts of life. But meanwhile, this is the supposition on which we proceed; we assume that there is only one price in the market at one and the same time (1920: 341; my emphasis).

⁵ The underlying reasoning is as follows. Assume that firms incorporate a false nominal wage (i.e. a market-non-clearing value). Since market supply and demand always match in Marshallian analysis, in the labor market as in others, a discrepancy would arise between the actual wage (the market-clearing wage) and the wage conjectured by firms. This would result in their engaging in a change of behavior. But then Marshall's reasoning cannot be considered as describing an equilibrium state. For this to be the case, firms' conjectures about the labor market ought to be correct.

Here Marshall has no qualms about assuming perfect competition and perfect knowledge.⁶ The implications of the sentence in *italic* should be made clear. If agents refuse any price other than the single market-day equilibrium, it means that they know the latter. The question needs then to be addressed as to how this may be true. Again, omniscience is the only possible answer.⁷

If the price is given and there are for instance three firms in the market, one strong, one average, and one weak, we get a situation as indicated in Figure 3 [not shown]. The unbroken curves I and II for each firm represent respectively the unit cost curves for all factors and for the variable factors. The broken curves are the marginal cost curves. The shaded ones are the individual supply schedules. The supply schedule of the market (not drawn) is derived in the usual manner by horizontal addition of the individual supply curves (the shaded ones). ... The point of intersection between the supply schedule of the market and the demand schedule of the market determines the normal equilibrium price with reference to short periods (Frisch 1950: 503-4).

Again, it can be seen that Frisch's reasoning requires the perfect information assumption. Frisch states that the price is given. But where does it come from? The only conceivable answer is that firms have conjectured the price on the basis of past information and their expectations on present conditions. Next, the reader's attention should be drawn on the last sentence of the quotation, which states that normal equilibrium is achieved. This is not an innocuous statement. It asserts that firms' conjectures about the equilibrium price have been confirmed. But, then, the coincidence between the conjectured and the realized normal equilibrium requires that each firm has perfect knowledge of the different underlying factors, in particular the market demand and its underpinnings in terms of agents' preferences, the technological characteristics of the other firms, each firm's respective share of the market, and the market supply function. There is thus a twist. The beginning of the passage is concerned with firms' optimizing production decisions, taking the price as a parameter, while its last sentence indicates that normal equilibrium is realized. How does one go from the former to the latter? The only answer we can think of is perfect knowledge.

⁶ Admittedly, he wrote almost the opposite in other passages of the *Principles*, e.g. (1920: 540-1).

⁷⁷ Perfect information à la Marshall should not be ascribed to Marshall exclusively. It is for example also present in Jevons' *Theory of Political Economy*: "It is the very essence of trade to have wide and constant information. A market, then, is theoretically perfect only when all traders have perfect knowledge of the conditions of supply and demand, and the consequent ratio of exchange" ([1871] 1970: 143). It was also taken up by later Marshallian economists such as Stigler ([1957] 1965: 252) and Knight (1921: 76 seq.). None of these authors had the feeling that this was too heroic an assumption to be made.

UNEMPLOYMENT THEORY BETWEEN MARSHALL AND KEYNES

We have seen that no value-theoretical study of unemployment is to be found in Marshall's *Principles*. In this section, we examine whether post-Marshall but pre-Keynes economists have improved on this state of affairs. As an exhaustive examination of the literature is beyond the scope of our study, we shall content ourselves with surveying a few seminal works. The authors we have retained are Beveridge (1912), Robbins (1926), Dobb (1928), Hicks (1932) and Pigou (1933).

We start with briefly evoking Robbins's and Dobb's books, which have in common to discuss wages without mentioning employment.

Robbins and Dobb

In 1926, Lionel Robbins published a ninety-pages book entitled *Wages. An Introductory Analysis of the Wage System under Modern Capitalism*. As its title makes clear, it had no claim of presenting cutting-edge research, its aim was purely pedagogical. The topics addressed were: the nature and measurement of wages, wages and the cost of labor, the determination of wages, fluctuations in wages, trade unions and wages, the state and wages. Robbins's discussion is institutional and down-to-earth with no theoretical reference.

Maurice Dobb's essay, *Wages*, came out in 1928 in the *Cambridge Economic Handbook* series edited by Keynes. Subsequently, it underwent several revisions and reprints. According to Lawlor (2006), it can be considered the expression of the orthodox Cambridge view of the time. Lawlor finds this book praiseworthy for its "wealth of institutional details" (Lawlor 2006: 63). It provides a detailed description of distinct methods of wage fixing and contracts between employers and employees. Dobb also offers a historical account of wage formation from classical to marginalist economics, with Marshallian supply and demand analysis being viewed as the apex of this evolution.

For our purpose, the striking common feature of these two pieces lies in what they omit, the issue of unemployment. We have here two authors, one of them with a socialist inclination, writing on wages at a time where unemployment had becoming a looming social problem and who feel no need to address unemployment in their discussion.

Beveridge

In his book, *Unemployment. A Problem of Industry* (first edition 1908; third edition 1912), Beveridge criticizes existing theory for having neglected to address the issue of

unemployment (without explicitly mentioning Marshall in this respect).⁸ Noteworthy, he takes it for granted that unemployment is *frictional* unemployment.

The weakness alike of theory and practice in regard to unemployment in the past has been the assumption that this adjustment was already substantially secured; in other words that the force of friction might be neglected (1912: 216).⁹

Beveridge emphasizes three specific imperfections of adjustment, the analysis of which is his book's main object: changes in the industrial structure, fluctuations of industrial activities and the need for a reserve of labor. The latter concerns mainly casual work, such as dock work. It is present in trades witnessing a high volatility of activity so that there is the need for a permanent reserve to meet these fluctuations. "The men forming these reserves are constantly passing into and out of employment" (1912: 13).

The common factor underlying these different imperfections is the plurality of labor markets.

Why should it be the normal condition of the labor market to have more sellers than buyers, two men to every job and at least as often two jobs for every man? The explanation of the paradox is really a very simple one — that there is no one labor market but only an infinite number of separate labor markets (1912: 70).¹⁰

According to Beveridge, the solution to the problem is as straightforward as its diagnosis: the labor market needs to be better organized, that is to become more centralized.¹¹ "There shall be known centers or offices or Exchanges, to which employers shall send or go when they want work people, to which workpeople shall go when they want employment" (1912: 198).

Beveridge's book is an excellent work, still impressive today. It provides the reader a wealth of data at a time where statistics were scarce. It studies institutional aspects in a detailed way. However, it is hardly a theoretical piece. It may well have introduced the notion of frictional unemployment but it fails to explain it theoretically.

Hicks

Hicks's book, *The Theory of Wages*, published in 1932 is a theoretical essay.¹² It addresses

⁸ There is only one reference to Marshall in the whole book.

⁹ Unlike Keynes, who opposed involuntary unemployment and frictional unemployment, Beveridge considers that frictional unemployment is involuntary (1912: 3).

¹⁰ Excess supply is also deemed to be due to increases in population (1912: 70).

¹¹ In the case of dock workers, "The total number of men practically required to do the work without delay (and by consequence the number of reserve labourers) is, in fact, increased by every barrier to free movement from one wharf to another, and can correspondingly decreased by everything tending to the organization of the whole ten [wharves] into a single labour market" (1912: 78).

issues such as the equality between wage and marginal product or the coexistence of wage increase and unemployment. Here, we concentrate our attention on Hicks's explanation of unemployment. We note first that he (and for that matter all the authors surveyed) took it as a fact that real-world labor market are usually not in a state of equilibrium (1963: 42), an opinion with which most economists were to concur, at the time and in subsequent decades, before Lucas radically questioned it in the 1970s.

Hicks's book is a convoluted piece unceasingly weighting the pros and cons of theoretical propositions. Its main message is that 'pure theory', i.e. Marshallian theory, should not be applied too hastily:

If a labour market could be found which was genuinely in equilibrium, so that every employer could go on employing the same men, and every man could go on working for the same employer, without either party having any incentive to make a change; and if then the employers' opportunities of profitably employing labour were suddenly reduced, or the number of labourers available suddenly increased, unemployment would result. If the new conditions remained unchanged indefinitely, then, under competitive conditions, this unemployment must lead to a fall in wages, going on until the excess of labour was absorbed. But these artificial conditions, although they may serve as a convenient model for analysis, are not a description of what really happens (p. 56)

Hicks's main interest is in what really happens, and in how this involves departures from pure theory. For example, the latter states that wages must decrease in the presence of unemployment. It can be observed that this is not happening. First, irrepressible level of unemployment always exists because of the presence of 'unemployable', men whose efficiency is subnormal and who are long-term unemployed. Second, even when the economy is in a stationary state, frictional unemployment is present.

For although the industry as a whole is stationary, some firms in it will be closing down or contracting their sphere of operations, others will be arising or expanding to take their place. Some firms, then will be dismissing, others taking on labour; and when they are not situated close together, so that knowledge of opportunities is imperfect, and transference is attended by all the difficulties of finding housing accommodation, and the uprooting and transplanting of social ties, it is not surprising that an interval of time

¹² A second edition was published in 1963. In the latter, Hicks admits that 1932, the blackest year of the Great Depression, was not a lucky date for the appearance of his book. Evolving at a high level of abstraction, it had nothing to say about the situation of the time, and this was certainly shocking. Moreover, the book was published on the eve of the appearance of Robinson's book on imperfect competition and of Keynes's *General Theory*, which were to change radically economists' vision.

elapses between dismissal and re-engagement, during which the workman is unemployed (p. 45).

To Hicks, frictional unemployment is an equilibrium phenomenon. Firms have no interest in profiting from the existence of unemployment to cut wages. Such attempts would ultimately prove futile. “By reducing wage he [the employer] has reduced his chances of getting good workmen; and sooner or later he will find that he suffers” (p. 46). Finally, a last source of unemployment lies in the existence of a non-competitive labour market where trade unions play a central (p 179).

Hicks’s analysis calls for two concluding observations. The author of *Value and Capital* (1939), Hicks is rightly considered an important contributor to economic theory. However, drawing from his book on wages, published in the same decade, it is striking to note how limited faith in economic theory he had, although, on the other hand, he did not want to repudiate it. The following three quotations summarize his standpoint:

This ‘Law of Marginal Product’ is regarded by most modern economists as the most fundamental principle of the theory of wages. Nothing will be said here to contradict that view (p. 9).

The movement of labor from place to place is insufficient to iron out local differences in wages. But the movement does occur, and recent researches are indicating more and more clearly that differences in net economic advantages, chiefly differences in wages, are the main causes of migration. The labour market is not a perfect market; the equalizing forces do not act quickly and easily, but nevertheless they do act (p. 76).

... But we cannot go from this to conclude that this equality of wages and marginal products will actually be found in practice; for the real labour market is scarcely ever in equilibrium in the sense considered here. In actual practice changes in methods are continually going on; and resources are continually being transferred from one industry to another, or new resources being put at the disposal of industry, which are not equally distributed among the various branches of production (p. 18).

Hicks’s standpoint is three-pronged: (a) pure theory has little room for unemployment; (b) unemployment is nonetheless an undeniable fact of life; (c) there are discrepancies between the pure theory model and reality; to explain unemployment, we need mainly to resort to factors relating to the interstices between them. This amounts to foregoing giving unemployment a theoretical explanation.

Our second observation is that even the little room that Hicks grants unemployment in pure theory is unwarranted. Look at the following quotation summarizing his standpoint:

Wages, say the textbooks, tend to that level where demand and supply are equal. If supply exceeds demand, some men will be unemployed, and in their efforts to regain employment they will reduce the wage they ask to that level which makes it just worthwhile for employers to take them on. If demand exceeds supply employers will be unable to obtain all the labour they require, and will therefore offer higher wages in order to attract labour from elsewhere (p. 4).

For all its wide acceptance, this assertion is mistaken. It betrays Marshallian value theory as analyzed above. Hicks errs because of his lack of separating the formation of *market* equilibrium and of *normal* equilibrium. As far as the former is concerned, false trading ought to be excluded as soon as the constant marginal utility of income cannot be applied which is the case for the labour market. The implication is that market disequilibrium has only a virtual existence, being eliminated before becoming effective. Hicks is thus wrong when taking the existence of unemployment in Marshallian theory, as resulting from the slow adjustment of wages, for granted. Whenever present in the Marshallian framework, slow adjustment pertains to the formation of normal equilibrium but not of market equilibrium. This is the point that Hicks and the textbooks have missed.

Pigou

Pigou wrote a short introductory essay, *Unemployment* (1914) and, later, a more elaborate book, *Theory of Unemployment* (1933). Keynes took it as his foil in the *General Theory*, as if his book was the incarnation of classical orthodoxy, which was wrong. As noted by Hicks in his IS-LM paper, Pigou's book was new and difficult, and "to most people, its doctrine seemed quite as strange and novel as the doctrines of Mr. Keynes himself" ([1937] 1967: 126).

Like the other authors examined here, Pigou takes it as verified fact that excess supply of labor is the normal state of affairs. As a result, all his analysis is conducted on the premise that labor demand plays the active role in the determination of employment (and hence of unemployment as well): "The quantity of employment is equal to the quantity of labor demanded" (1933: 9).¹³ That is, firms determine employment unilaterally. For all his having been Marshall's favorite pupil, Pigou failed to realize that this premise went a long way from Marshallian orthodoxy. The latter would rather have it as follows: "the quantity of employment is determined by the intersection of supply of and demand for labor". Pigou is

¹³ Pigou qualifies this statement by adding that the number of unfilled vacancies should be subtracted from the quantity of labour demanded.

hardly explicit about the reason behind the permanent excess supply of labor. Most commentators declare that Pigou examined a case of fixed real wages.¹⁴

Pigou's book is a frustrating reading. The reader expects to learn about unemployment and, in view of the time when it appeared, about massive unemployment, but Pigou fails to deliver. Moreover, there is a gap between the book's title and its content. The book comprises about three hundred pages. Two hundred forty of these are devoted to the study of the short-period elasticity of the real demand for labor and of the factors affecting this demand, a rather excruciating reading. The motivation for this study is to ascertain which changes in wages are required in order to make the demand for labor (and hence employment) increase. This may be a fine motivation but it leads Pigou into laborious detours. It is only in Part V of the book, starting on p. 247, that the subject of the causation of employment and unemployment is broached. At this juncture it is unsure whether the reader will consider that the substance of what Pigou has to say is worth all the preliminaries that she had to undergo before. In effect, Pigou's views look trivial and insufficiently elaborated.

With perfectly free competition among workpeople and labor perfect mobility, the nature of the relationship [between the real wage and demand] will be very simple. There will always be at work a strong tendency for wage-rates to be so related to demand that everybody is employed. Hence, in stable conditions everybody is employed. The implication is that such unemployment as exists at any time is due wholly to the fact that changes in demand conditions are continually taking place and that frictional resistances prevent the appropriate wage adjustment from being made instantaneously (Pigou 1933: 252).

While frictions are the culprit, wage policy is an aggravating factor:

There is reason to believe that the goal at which wage policy aims is sometimes, in some centers of production at all events, a wage-rate substantially higher than the rate which, if adopted everywhere, would yield nil unemployment (1933: 253).

As Hicks, Pigou's reasoning evolves at a high level of abstraction. His book has little relevance for the problems that were plaguing the occidental economies at the time. When he eventually comes to utter a few remarks about the post-war period, he could hardly be more orthodox:

Our general conclusion then must be that, as a remedy for the heavy unemployment of the post-war period, a mere correction of wage inequalities would probably have

¹⁴ Cfr. Klausinger (1998: 54). Further references are to be found in this article.

proved, not merely unavailing, but actually harmful. This would have been so even were labor perfectly mobile, and in actual conditions the argument is *a fortiori*. To reduce unemployment from the side of wages it would have been necessary, after wage inequalities had been reduced and labor appropriately redistributed, *also* to reduce the average rate of real wages (1933: 270).

It is true that Keynes's criticism of Pigou was often off-target. Nonetheless, Keynes's annoyance with Pigou's essay is understandable. Not only was it defending rearguard policy conclusions. Like Hicks's, it was giving a poor image of the economic profession as if it were consisting of people engaged in philistine work and unable to come to grips with the problems that were plaguing the times.

Conclusion

The pitfall of a retrospective reading of past works is that we tend to be too harsh on past authors, wondering how things that look obvious to us may have escaped their attention. This being acknowledged, we are nonetheless struck by the rudimentary character of pre-Keynes theory of unemployment. Explanatory factors are brought forward and commented upon but any attempt at demonstrating them is lacking. What is called theory only consists in expressing opinions about reality and making a general discourse around and about the subject. Moreover, when reading books like Pigou's and Hicks's, one cannot imagine that they were written in the midst of the Great Depression. Read in isolation, Keynes's diatribe in Chapter Two of the *General Theory* against economists comparing them to Candides cultivating their gardens while proclaiming that everything is well in the best of the world may look just a somewhat bewildering piece of rhetoric. However, Keynes's outburst becomes more understandable when related to the theoretical literature of the time, which was indeed so disconnected from what was happening in reality.¹⁵ Beyond doubt, there was something wrong with economic theory. The issue of unemployment had to be taken afresh.

KEYNES' *GENERAL THEORY*

Reconstructing Keynes's theoretical project

The *General Theory* is a complex book, intertwining different types of arguments developed at distinct levels of abstraction. Most commentators agree that Keynes's aim in this book was

¹⁵ Hence our impression that the most interesting of the early works is Beveridge book, because it pursues the more modest aim of providing a detailed descriptive account of the working of markets.

to demonstrate the theoretical existence of involuntary unemployment. The latter, he recognized, was a phenomenon whose real-world existence was compelling yet for which economic theory had yet found no room. Bridging this gulf was the task he set himself. The line he took was to state that involuntary unemployment resulted from a deficiency in aggregate demand, itself the result of insufficient investment.

While this characterization is fine for us, we find that it can be improved by replacing it in a broader context. Although, at the time, the notion of the research program had not yet been invented, it is nonetheless worthwhile trying to reconstruct the research program that underpinned the *General Theory*. Let us call it ‘Keynes’s program’. In our reconstruction, it consists of the following four objectives, to be fulfilled jointly:

- (1) demonstrating the existence of involuntary unemployment;
- (2) demonstrating that wage rigidity can be exonerated from being its cause;
- (3) giving a general equilibrium or interdependency explanation of the phenomenon while adopting a perfect competition framework;
- (4) demonstrating that demand stimulation rather than wage deflation is the proper remedy for the problem.

Three additional comments are worth making. First, Keynes himself did not spell out his project in these terms, nor did his interpreters. Still, we are of the opinion that our reconstruction of Keynes’s project can easily be reconciled with most interpretations of the *General Theory*. The existing differences are a matter of emphasis rather than straight incompatibilities. Second, the common explanation at Keynes’ time was that unemployment was the result of too high wages. Such an explanation was put forward against the background of Marshallian analysis in which one market, here the labor market, is considered in isolation from the rest of the economy. Keynes wished to escape this framework in a twofold way. On the one hand, he wanted to exonerate too high a wage from any responsibility in the existence of involuntary unemployment. On the other hand, he believed that its explanation had to be looked for outside the labor market. What he was actually striving for was to move the analysis of unemployment from a partial to a general equilibrium framework (although this terminology was non-existing at his time). However, such a willingness to adopt an interdependency perspective should not be interpreted as an adhesion to the Walrasian general equilibrium approach. At Keynes’ time, Walras’s views were hardly appreciated in Cambridge and, for better or worse, Keynes did not think that Walras’ theory could be of any help for his own project. Third, Keynes did not want to join the imperfect competition line of argument, which was emerging at the time in Cambridge. He wanted to put his argument in terms of

perfect competition, – possibly because he associated imperfect competition with collusion, unions, etc. His concern was to bring to the fore something deeper, namely that unemployment could be possible even when the labor market was functioning in a perfectly competitive way without either frictions or market power.

Different kinds of unemployment?

In Chapter Two of the *General Theory*, Keynes claims that different types of unemployment exist, amongst which frictional unemployment and involuntary unemployment. He also gives the impression that economic theory is on solid grounds as far as the explanation of frictional unemployment is concerned. What is needed is the consideration of an additional type of unemployment, involuntary unemployment. This claim is the contribution of his book. Our survey casts doubt on this view. Nothing worth being called a theory existed about frictional unemployment.

Does the alleged real-world co-existence of frictional unemployment and involuntary unemployment extend to theory? That is, is Keynes proposing a theory where the types co-exist? The answer is ‘No’. When it comes to expose his theory, only one kind of unemployment is considered, involuntary unemployment, i.e. unemployment as caused by a deficiency in effective demand. Either involuntary unemployment is present or none is present and we are in the Marshallian state of a matching between the supply of and the demand for labour.

Effective demand à la Keynes versus effective demand à la Marshall

Keynes introduces the notion of effective demand on chapter three of the *General Theory*. He defines it as the intersection between aggregate demand and supply, both a function of the quantity of goods produced and hence of employment. He claims that involuntary unemployment is present whenever the employment level associated with effective demand is lower than full employment. Hence his central claim that the cause of involuntary unemployment lies in a deficiency of effective demand. This deficiency is underpinned by what he calls the ‘fundamental psychological law’ of a decreasing marginal propensity to consume out of income. Involuntary unemployment results when this proportionate decrease in consumption fails to be matched with a sufficient demand for investment goods.

We follow Clower when claiming that Keynes’s theory of effective merely restates in aggregative form a Marshallian partial equilibrium demand and supply model (Clower 1997: 42). More precisely, Keynes’s aggregate demand/supply analysis is an extrapolation of

Marshall's analysis of firms' optimal short-period production decision, which as discussed above. That is, the formation of effective demand is accounted for along the same line as the formation of the representative firm's equilibrium values. It occurs firstly in entrepreneurs' minds as the result of a thought-experiment on markets outcomes. They forge conjectures about the aggregate supply price and the aggregate demand price functions and derive effective demand as their intersection. As in Marshall, no problem of realization is evoked. In other words, it is implicitly assumed that these conjectured values actually arise once the economy starts to unfold. All this could not happen if entrepreneurs did not have perfect information. The heroic character of the assumption is even stronger than in Marshall since now the exercise bears on the whole economy.

Of course, Keynes departs from Marshall but the differences are minor. Like Marshall, his analysis jumps from a supply price and demand price to a supply and demand framework. Moreover, he considers proceeds (i.e. price times quantity) as the dependent variable instead of the price alone. He also takes employment instead of the quantity produced as the independent variable. Finally, Keynes reasons as if his analysis concerned the whole of the economy, or at least its manufacturing sector, but then this makes no difference because the economy is viewed as a single sector. The change is purely semantic.

The conclusion to be drawn is that Keynes's theory of effective demand is less original than it looks to readers who are unfamiliar with Marshallian theory. This raises another question: what explains that, unlike 'effective demand *à la* Marshall', 'effective demand *à la* Keynes' features a market non-clearing result?

Our answer runs as follows. The sole element of the Marshallian reasoning, which Keynes abandons, is the view that the aggregate supply price function incorporates inputs' costs at their market-clearing values, at least as far as labor is concerned. Instead, he assumes that the wage rate upon which firms elaborate their supply price function is a 'false' (i.e. non-market-clearing) wage. If we want to keep the assumption that firms are correct in their conjectures (as stated earlier, were we wanting to drop it, a theory about learning should be needed), we must conclude that their incorporating a false wage in their conjecture follows from their correct anticipation that this is indeed what will happen in the labor market. As to the factor explaining the prevalence of the false wage, there exists only one candidate, exogenous wage rigidity. Therefore, all the claims to the contrary notwithstanding, it is difficult to escape the view that Keynes' effective demand reasoning is based on a fixed wage hypothesis. The reason for unemployment lies in the labor market, and no fuss should be made about effective

demand as being the cause of unemployment. The existence of unemployment logically precedes the determination of effective demand rather than the other way round.

That Keynes adopted the nominal wage rigidity assumption in chapter 3 is beyond dispute. But he stated that its introduction served only a simplifying purpose and that it would be removed later in the book without harming his theory. To settle the matter, we need to assess Chapter 19 of the *General Theory*, where this removal is allegedly made. This will be done presently. At this juncture, it should, however, already be noted that the mere introduction of this assumption is intriguing. What an oddity to have brought it in the picture! Keynes was well aware that the wage rigidity assumption was the main, if not the only, rival to his own preferred explanation. It is unusual to introduce a rival explanation as a simplifying device of one's own argumentation. In order to discard any ambiguity, would it not have been safer to avoid it altogether, be it at the price of a more complicated demonstration?

The time framework of Keynes's analysis

In the *General Theory*, Keynes treads Marshall's footsteps by deciding to analyze the short- and the long-period separately. We have evoked the rationale for this strategy: the theory's *explanandum* is too complex to be studied in one stroke. But it has several drawbacks. Two of them are visible in the *General Theory*. The first is a lack of consistency. As seen, Keynes studies the short period under the perfect information but it when it comes to the comes to long period he goes for the radical uncertainty assumption. The issue of how the short and the long period interact is left unaddressed. A second ambiguity pertains to the time framework adopted by Keynes when developing his aggregate demand-deficiency. Keynes argues that this is a short-period analysis. From Hicks inaugural paper onwards, IS-LM models have followed suit – "thus I assume that I am dealing with a short period in which the quantity of physical equipment of all kind available can be taken as fixed." (Hicks [1937] 1967: 127). But is this so obvious? The point is to see what the short period term means. Does it designate a single period of exchange (Hick's Monday or the single day over which the corn market was studied) or a short sequence of periods of exchanges? The latter is the Marshallian definition of the short period. Returning to the *General Theory*, if the issue addressed by is the emergence of involuntary unemployment, the period of exchange or market day ought to be the relevant time framework for studying it. In effect, involuntary unemployment must necessarily occur on a given market day. Let us insist on this point. In a discourse that aims at describing reality, we shall look at quarterly statistics and observe for example that unemployment has increased in a certain percentage over a given quarter. But such a

statement will not do when it comes to a theoretical discourse (here understood as a modeled reasoning). First of all, we usually want unemployment to follow up a state of equilibrium wherefrom it was absent. Moreover, we need to be more precise about the timing of its arising. Above, we have made explicit the time assumptions underpinning Marshallian theory (and Keynesian theory as well). Since the market is the unit period of exchange, the emergence of involuntary unemployment is the matter of something happening on a given market day. Stating that it arises over the short period, a succession of market days, is too imprecise a statement.

The state of affairs is then the following: Keynes studies the arising of involuntary unemployment on a given market-day. For the reason given above, it should be viewed as one point in time — all operations are supposed to take place instantaneously. But terminology has evolved in such a way that what Marshall called the ‘market day’ is now called the short period, while what Marshall’s used to call normal equilibrium is now branded long period equilibrium. Small wonder that confusion arises!

Any salvation from Chapter 19?

If our above remarks are valid, one cannot but be skeptical about Keynes’s ability to deliver on his Chapter 3 promise that he would lift the nominal wage rigidity assumption later in the book without impairing his aggregate demand deficiency claim. This task, he claims, is performed in Chapter 19. To Patinkin, an eminent Keynes scholar, this chapter constitutes the apex of the *General Theory*, proving “that, the many contentions to the contrary notwithstanding, the analysis of this book does not depend on the assumption of absolutely rigid money wages” (1987: 28).¹⁶ Keynes’s claim can be summarized as follows: it can be concluded that too high a wage is no cause of involuntary unemployment as soon as it has been demonstrated that a decrease in the wage does not result in an increase in employment. In order for employment to increase, it is necessary that the decrease in wages causes either an increase in the marginal efficiency of capital or a decline in the interest rate but these occurrences are not bound to arise.

¹⁶ Many interpreters have treaded Patinkin’s footsteps. To give just one example: “It is true that Keynes assumed a fixed money wage for the first eighteen chapters of the book, but this, as he explained, was just ‘to facilitate the exposition’. In chapter 19, entitled ‘Changes in Money Wages’ he relaxed the assumption and argued that it made no difference to the conclusions of the previous eighteen chapters” (Howitt 1990: 72). See also Trevithick (1992).

As a prerequisite of gauging Keynes's claim, we need to make clear whether it relates to the real world or the fictitious theoretical universe. As to the issue of whether decreases in nominal wages have succeeded to decrease mass unemployment during the Great Depression, many economists will concur that it did not. For our part, we insist that what is at stake is to generate this result in the theoretical model. In the latter context, it is crucial that the time assumptions are made precise as just claimed. In our eyes, this is where Keynes errs.

While the emergence of involuntary unemployment was studied in the market day framework, chapter 19 is concerned with another object of study, the success of the adjustment process across market days or the lack thereof. Two separate adjustment processes need thus to be disentangled, the adjustment within the market day and the adjustment across market days. Whenever the object of analysis is effective demand, the impediment to adjustment caused by wage rigidity relates to the first of these processes. This is the type of wage rigidity that needs to be removed and replaced with the flexibility assumption. But then this is the very thing that Keynes does not do in Chapter 19. The question he actually addressed in it relates to the second adjustment process, the adjustment across market days — will employment increase if wages decrease from one market day to the next? It ought to be noticed that this question does not address the wage formation process on a given market day. So, it must be presumed that the assumption made earlier in this respect still prevails: the labour market is under the spell of an exogenous wage floor. At the risk of repetition, the question addressed can be recast as follows: will employment increase if the exogenous wage floor were to be lower in market day t_2 than in market day t_1 ? That is, an exogenously rigid wage is assumed at each trading round but it may be different across these rounds. Keynes may well have clinched a point when stating that intertemporally rigid wages might be more desirable than intertemporally flexible wages. But this is hardly tantamount to removing the point-in-time rigidity assumption, the task that should have been fulfilled in order to exonerate nominal rigidity from causing involuntary unemployment on a given period of exchange. So, contrary to what Keynes, Patinkin and others have claimed, the rigid wage assumption, as introduced in chapter 3 and pertaining to a given market day, is not removed.

CONCLUDING REMARKS

The aim of this paper was to assess the implication of trying to anchor Keynes's theory more firmly on Marshallian theory. Many others have emphasized the need for such an anchorage but they have taken for granted that it would reinforce the validity of Keynes's argumentation.

We have shown that the contrary is true since it leads to conclude that Keynes was unable to achieve his programme, the main stumbling block being the conciliation of the demonstration of the existence of involuntary unemployment and the exoneration of wage rigidity as its cause.

As a last word, let us return to Leijonhufvud's distinction (between a theory and a model. The claim made in this paper is not that Keynes's theory was false. It is rather that he was unable to rigorously demonstrate the validity of his theory. He failed to realize his programme because he proved unable to get rid of the rigid wages assumption.

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