WICKSELL, CASSEL AND THE IDEA OF INVOLUNTARY UNEMPLOYMENT

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Resumo
O artigo examina as concepções de desemprego involuntario desenvolvidas por Knut Wicksell e por Gustav Cassel no inicio do seculo XX, comparando-as com o conceito formulado por J.M. Keynes em 1936. Utilizando material não publicado de arquivos e textos originais em sueco, o artigo discute as noções de equilibrio e desequilibrio associadas a analise do mercado de trabalho no periodo, alem de apresentar evidencia da utilização do conceito de taxa de desemprego "normal" e de como a ideia de desemprego friccional foi introduzida em economia como parte da discussão sobre desemprego involuntario.

Palavras-chave
desemprego involuntário, ciclo econômico, salário real

Classificação JEL
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Abstract
The paper examines the notions of involuntary unemployment put forward by Knut Wicksell and Gustav Cassel in the early 1900s, and points out their similarities and differences to J.M. Keynes's (1936) concept. Based on unplublished archive material and untranslated Swedish texts, the paper discusses the equilibrium and disequilibrium notions associated to the analysis of the labour market in that period. It also presents evidence of the use of the notion of "normal" rate of unemployment and of the development of the idea of fricctional unemployment as a by-product of the discussion of involuntary unemployment

Keywords
involuntary unemployment, business cycle, real wages

1 Introduction

The concept of "involuntary unemployment", as well as the controversies surrounding it, have become part and parcel of macroeconomic theory since the publication of John Maynard Keynes's *General Theory* in 1936. Yet the connection between unemployment and involuntary action had been around for a long time before Keynes made it one of the central ideas of his book. The description of unemployment as "involuntary" or "enforced" idleness can be found in Henry George (1879, p. 6), Alfred Marshall ([1890] 1990, p. 572), John Hobson (1895, p. 419), Arthur Pigou (1913, p. 14) and Wesley Mitchell (1913, p. 270), among others (see Hutchison, 1953, ch. 24; Kahn, 1976; Garraty, 1978, ch. 6; Corry, 1996). The distinction between voluntary and involuntary unemployment ("chômeur volontaire" and "involontaire") was conspicuous in the French economic literature at the end of the 19th century (e.g., Charles Gide, 1884; Vilfredo Pareto, 1897), especially in the context of the discussion on unemployment insurance (see Topalov, 1994, ch. 10).

This paper examines the use of the notion of involuntary or forced unemployment ("ofrivillig" or "tvungen arbetslöshet") by the well-known Swedish economists Gustav Cassel (1864-1944) and Knut Wicksell (1851-1926), respectively. In public lectures given between 1901 and 1907, they put forward classifications of unemployment that also included the concepts of voluntary ("frivillig") and "normal" unemployment. Cassel's lectures, all delivered to the Liberal Club, the Stock Exchange Society and the Workers' Institute in Gothenburg in 1902, were published under the title *Socialpolitik* (Cassel 1902a)*;* the book was reprinted in 1908 and 1922. Wicksell's unemployment lectures, which were addressed to workers' associations of Malmö in 1901 and of Copenhagen in 1907, were never published, but Wicksell's notes for the Copenhagen lecture have survived, and a report of his Malmö lecture was published in the workers' newspaper *Arbetet* (22 March 1901).

Although those lectures are the only sources of use of the phrase "involuntary (or forced) unemployment" by Wicksell and Cassel, we shall argue that the concept was important for the development of their respective macroeconomic theories. Furthermore, Wicksell's and Cassel's classifications and explanations of unemployment are of general interest in several respects. First, they cover a wide range of coordination problems in the labour market and the macroeconomy, pertaining to both the short and the long run. Second, Wicksell and Cassel approach the phenomenon of involuntary unemployment from different angles that, moreover, deviate in many ways from the perspectives taken in the contemporary literature. Third, their concepts of involuntary unemployment shed light on their interpretations of business cycle as a challenge to general equilibrium theory. Wicksell and Cassel were among the first to address an immanent problem of neoclassical theory, with its emphasis on the principles of scarcity and marginal utility. The problem is exposed by the phenomenon of cyclical depressions which, to Wicksell and Cassel, demonstrated that continuous full employment of the production factors might require negative rates of interest and zero wage rates (both in real terms).

Cassel ([1918] 1932a) insisted that one of the main analytical issues of business cycle theory is to explain what prevents money wages from falling to zero under the pressure of a continuous excess supply of labour, that is, why labour does not become a "free good". His explanation was a rational and organized resistance to wage cuts – an answer that reveals an ambiguity in the distinction between involuntary and voluntary unemployment which Cassel had pointed out already in his 1902 lectures. Yet, nominal and real wage rigidities played no role in Cassel's and Wicksell's explanations of *cyclical* unemployment. While Cassel resorted to the wage-rigidity argument in his explanation of the persistent unemployment of the 1920s, the notion of "free goods" came to the fore again in connection with permanent unemployment, as a by-product of critical examinations of Cassel's general equilibrium system by Hans Neisser ([1932] 1990) and other critics in the early 1930s. In his well-known review of Cassel (1918), Wicksell ([1919] 1934) had anticipated the criticism that wages may be zero in long-run equilibrium. In the mid-1920s, when the post-World War I economic crisis was over but unemployment rates continued at a high level, Wicksell suggested that overpopulation, together with labour-saving technical progress could explain permanent unemployment. In an unpublished manuscript probably written between 1923 and 1926, he went as far as implicitly recanting his previous interpretation that technological progress can cause only temporary unemployment.

Our discussion of Wicksell's and Cassel's ideas is thus intended to show the richness of pre-Keynesian discussions about involuntary unemployment. Section 2 presents the classifications of unemployment in Wicksell's and Cassel's lectures as well as in the contemporary literature. Section 3 sketches the relevant concepts of voluntary unemployment and the labour supply curve. Section 4 describes how various notions of normal unemployment were set in contrast with earlier concepts of an industrial reserve army. Section 5 examines Cassel's and Wicksell's approaches to cyclical unemployment. Section 6 discusses Wicksell's and Cassel's views on the causes of permanent unemployment. Section 7 concludes.

2 Classifications of Unemployment

2.1 Wicksell

According to the report in *Arbetet,* Wicksell started his 1901 lecture on "Unemployment, its causes and cures" by stating that, "despite being a topic of great relevance,.. it is nevertheless an extremely unexplored subject whose deepest cause is hard to make out".[1] Wicksell pointed out that "the science of political economy has only marginally dealt with this subject, if it has not ignored it altogether". The difficulty arises from the fact that while "it is well understood that an exhausted, lazy or frail person cannot work...it is not easy to understand why a healthy, strong and fit person should be forced to be unemployed". Before advancing a tentative answer, Wicksell continued his 1901 lecture by distinguishing between modern forms of unemployment, which result from the advanced division of labour – "Robinson Crusoe could suffer from various problems, but he certainly did not suffer from unemployment" – and old times, when "only one kind of unemployment was known, namely that of the tramp or vagabond". Wicksell suggested that the heavy penalties against unemployed people resulted from the opinion that, since "society had organized work for everybody,.. unemployment could not have any other cause than the worker himself". This opinion, still widespread in his own time, "confuses criminality with unemployment".[2] As far

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[1] See Jonung (1989, pp. 30-32) for another account of Wicksell's Malmö lecture, based on Wicksell's manuscript notes prepared for that lecture. These notes have since been lost and the detailed report in *Arbetet* is the only remaining primary source. It has been reproduced in Swedberg (1998, pp. 114-23). The main difference between Jonung's account and the report is that Jonung (1989, p.31) refers only to the three categories of forced unemployment discussed by Wicksell, but not to the distinction between voluntary and forced unemployment. It should also be noted that at the time of the 1901 Malmö lecture, Wicksell and Cassel were rivals for a professorship at Lund University, eventually won by Wicksell in November of that year (see Gårdlund, 1958, ch. VII, for a fascinating account of that famous competition).

[2] For interpretations of unemployment in pre-industrial times akin to Wicksell's, see Garraty

as moderns forms of unemployment are concerned, he distinguished between three categories: "voluntary", "by conflict", and "forced", which he subdivided into "normal" and "periodical". Finally, periodical unemployment was further subdivided into "seasonal" and unemployment caused by "crises and bad times". In the 1901 lecture, Wicksell defined voluntary unemployment as chosen leisure. Wicksell's "voluntary unemployment" belongs, therefore, in the realm of the determinants of the labour supply curve, as discussed in section 3 below. Wicksell (1901) was very brief on his second category, "unemployment by conflict". He remarked that "it is not too difficult to eliminate", if there is "tolerance on both sides". "Conflict" probably refers to industrial disputes between trade unions and firms over wages, as suggested by a passage in volume 1 of Wicksell's *Lectures on Political Economy* (p. 51) on "wage disputes" and the arbitration of "conflicts" between employers and employed.[3]

The core of the Malmö Lecture is the notion of forced unemployment, as Wicksell pointed out: "If the focus is set on the dangers to society, the various types of *forced* unemployment have to be taken into account" (italics in the original). The first category [of forced unemployment] that we shall take a look at is the so-called normal unemployment. Its causes vary a lot. Take the example of a worker who is made to quit, or quits, his job. While he looks for new work, he belongs to the category of the unemployed. Even if such search activities do not take much time, a certain number of workers will always be unemployed just because they are engaged in searching." The other category of forced unemployment discussed in the Malmö lecture was "periodical unemployment", which is "hard to fight, even if people know when it is going to strike". The first type considered is caused by the "so-called seasonal work", which can be predicted to a certain extent. The second kind of periodical unemployment discussed by Wicksell is associated with business cycles and crises. After dismissing the Marxian argument that overproduction is caused by underconsumption and low wages,[4] Wicksell states in the Malmö lecture that "the cause of bad times is to be found elsewhere, in the choice of wrong directions in production. Overproduction of a commodity means that output is excessive relative to the production of other commodities, and thereby their exchange is put out of equilibrium."

The notion that the depression is caused by *partial* overproduction and frictions in the transference of capital and labour between sectors can also be found in Wicksell's notes written at the time for the lectures on "commercial crises" at the University of Lund (see

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(1978, ch. 1 and 2) and Schumpeter (1954, p. 270). Wicksell's source on historical material was probably Adler (1895), whose entry on unemployment in the German *Handwörterbuch der Staatswissen-schaften*, the main dictionary of economics at the time, is referred to by Wicksell in his remark that "there is an economic dictionary of six fat volumes which was edited in Germany some time ago, but you would not find any entry on 'unemployment' in the whole edition. It was only in a supplementary volume that this deficiency was remedied".

3 Wicksell ([1901] 1906, p. 51) pointed out that the equilibrium wage rate is an "indeterminate problem" under bilateral monopoly. However, in his 1924 review of a book by A. Bowley, he showed that, under the assumption that the seller (i.e. the trade union) sets the price, the bilateral monopoly problem has a determinate solution (Wicksell [1924] 1958, pp. 223-25; see Ståhl, 1978).

4 On Wicksell's critique of underconsumption theories see also Boianovsky and Trautwein (2001).

Boianovsky and Trautwein, 2001).

Wicksell's general explanation of the "unemployment puzzle" posed in the introduction to his Malmö lecture can be found in the remark in his 1907 manuscript that "the most common cause of unemployment (to which all others are related) is that human work, even if indispensable in all production, cannot by itself produce anything - it is just supervising and directing natural forces and capital". For Wicksell (1907), the complementarity of labour, capital and land is the key to the unemployment puzzle – in contrast with his own microeconomic theory of production and distribution ([1901] 1934, part II) where, for given amounts of the production factors, substitution is the core concept.

2.2 Cassel

Cassel's 1902 classification of unemployment is part of his lecture on the "tasks for public social policy" (Cassel 1902a, ch. IV). Apart from three other lectures on social policy, the book also includes chapters on "trade union policy" and the "high-wage economy".[5] Apparently, it resulted from Cassel's visit to Britain in 1901-02, where he entered into contact with Sidney and Beatrice Webb, who had published their classic *Industrial Democracy* in 1897. The Webbs' influence is visible not only in the 1902 volume, but also in the chapter on wages in Cassel's main work, *Theory of Social Economy*, written between 1911 and 1914, but published in 1918 (see Montgomery, 1947, pp. 532-33). Like in Wicksell (1901), one of the main tasks of public social policy discussed in Cassel (1902a, pp. 100-104) is unemployment insurance. However, while Wicksell dealt with issues pertaining to the funding of unemployment insurance, Cassel drew attention to the distinction between insurance against "voluntary" and "involuntary" unemployment.

> The issue of insurance against unemployment is perhaps the one that is most relevant for the worker. It is significantly complicated by the fact that workers need to insure themselves against two different kinds of unemployment. In this context we totally disregard any kind of voluntary unemployment that is due to laziness or careless ways of living. There is another kind of voluntary unemployment that a trade union chooses to stand when it prefers not to work at the conditions offered by the employers. *That kind of unemployment is extremely difficult to distinguish from the purely involuntary one, which is caused by a complete shortfall of demand for labour.* (Cassel, 1902a, p. 102; italics added).

The notion that trade unions should prevent their members from underbidding wages below the "Standard Rate" decided by the "Common Rule", and that "Out of Work benefit" should be used to implement that policy, is one of the main concepts of the Webb's *Industrial Democracy* (1897, pp. 161-66).[6] As pointed out by Cassel, "competition would always be

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[5] Lindahl (1958, p. 24) reports that Cassel's 1902 lectures were considered rather radical by the academic establishment, which delayed his appointment to a professorship at the University of Stockholm until 1904. In the same vein, Wicksell's appointment to Lund University in 1901 was preceded by intense debates about what appeared to be Wicksell's neo-Malthusian radicalism.

[6] "As understood and administered by all Trade Unions, the Out of the Work benefit is not valued exclusively, or even mainly, for its protection of the individual against casualities...Its most important function is to protect the Standard Rate of wages and other normal conditions of employment from being 'eaten away', in bad times, by the

distorted if external forces intervene". This would be the case if the workers were insured against unemployment by the state under the condition that they "take any jobs on offer". Accordingly, Cassel was "of the opinion that trade unions should take over all insurance against unemployment, be it caused by conflicts with the employers or by *temporary* shortfalls in the demand for labour" (p. 103; italics added). It is worth noting that Cassel's remark that workers withhold their labour supply in wage conflicts is reminiscent of Wicksell's category of "unemployment by conflict" in the Malmö lecture. Even though Wicksell, unlike Cassel, did not call it "voluntary" unemployment, he may have been aware of the ambiguity pointed out by Cassel. He suggested that the insurance principle should be applied only insofar as the occurrence of unemployment was uncertain, and not against fluctuations in labour demand that can be foreseen.

Cassel's use of the phrase "normal unemployment" is not the same as Wicksell's, since the emphasis is on the predictability of seasonal or regular changes in labour demand, instead of search unemployment as in Wicksell. This can be explained by the fact that Cassel was making a distinction in the context of unemployment insurance literature, where the notion of "risk" is crucial (see Topalov, 1994). Furthermore, we have seen that Wicksell treated seasonal unemployment as akin to the "normal" mismatch in the labour market. The idea of mismatch unemployment is nevertheless present in Cassel's more general discussion of wages and unemployment in sections 36 and 37 of his *Theory of Social Economy*: "The frequent change of job, which is inevitable in the present organization of many industries, such as the building industry, is bound to appear in the statistics in a certain not inconsiderable percentage of unemployment, *but this does not mean that employers then have no difficulty in meeting their demand for labour*... A well-organized labour exchange will reduce this type of unemployment to a minimum, but can never completely eliminate it" (Cassel, [1918] 1932a, p. 349; italics added).[7]

The concept of search or frictional unemployment as the kind of unemployment that coexists with unfilled vacancies and unsatisfied demand for labour elsewhere – which is implicit in Beveridge (1909, ch. V), a book mentioned by Cassel ([1918] 1932a, p. 345, n.1), but explicit only in Beveridge (1944, pp. 408-09) – comes out in the italicized passage quoted from Cassel above.

Cassel did not use the "voluntary/involuntary" distinction either in his 1918 magnum opus, although the concepts can be found. This can be in part explained by the crucial ambiguity of that distinction, pointed out for the first time in his *Socialpolitik*. Cassel ([1918] 1932a) was influenced, instead, by the analysis of the composition of the unemployed labour force advanced by the Webbs (1909, part II, ch. IV) in the famous "Minority Report" of the Poor Law Commission, which concluded that the "large army of those in need of relief" is constantly "being fed with new recruits...solely as a result of the organization of the labour market" (Cassel [1918] 1932a, pp. 345-46).[8] According to Cassel, these groups of workers of

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competition of members driven by necessity to accept the employers' terms." (Webb and Webb, 1897, p. 165)

[7] Unless otherwise stated, all passages quoted from the 1932 edition of Cassel's *Theory of Social Economy* also appear in the first 1918 edition.

[8] The Webbs (1909, p. 164) distinguished between four categories of unemployed: (i) "those who have lately been in definite situation of presumed permanency" ("The Men from Permanent Situations") ; (ii) "those who normally...shift from job to job, with more or less interval between jobs" ("The Men of Discontinuous Employments"); (iii) "those who normally earn a bare subsistence by casual jobs, lasting only a few hours each, or a day or

low efficiency, reflecting the heterogeneous composition of labour supply, form what is usually described as the "industrial reserve army" – a concept whose critical treatment by Wicksell and others will be further discussed in section 4 below.

According to Cassel, unemployment in such periods of depressions raise a crucial analytical problem concerning the existence of a "scarcity of labour" that is necessary to warrant the payment of "any wages at all". Cassel's explanation, based on the workers' withholding of their supply of labour, confirms the ambiguity of the voluntary/involuntary distinction advanced in 1902.

2.3 The Contemporary Literature

The distinction between "involuntary" and "voluntary unemployment" (in Wicksell's and Cassel's meanings) was not usually part of the English literature before Keynes (1936), simply because unemployment was *defined* by British and American economists as "involuntary" or "enforced" idleness. Hence, to write about "voluntary unemployment" was a contradiction in terms. This is probably best illustrated by the chapter on "the meaning and measurement of unemployment" in Pigou's 1913 monograph *Unemployment*, where the author warns that "unemployment is one of those many terms in common use...but which it is, nevertheless, somewhat difficult to define with accuracy". The main source of difficulty resides in the fact that

> [u]nemployment clearly does not include all the idleness of wage-earners, but only *that part of it which is, from their point of view and in their existing condition at the time, involuntary...* There is...excluded the idleness of those who are idle, not from necessity, but from choice... Yet again, there is excluded the idleness of the great mass of the vagrant class, whose ambition is, in large part, just to avoid work. And, finally, there is excluded the 'playing' of those workpeople who are idle on account of a strike or a lock-out (Pigou, 1913, pp. 14-15; italics in the original).

That is, unemployment is implicitly defined as workers being off the labour supply curve.[9]

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two" ("The Under-Employed"); (iv) "those who have been ousted, or have wilfully withdrawn themselves from the ranks of the workers" ("The Unemployable").

[9] The first explicit definition (and diagrammatic illustration) of involuntary unemployment as a point off the labour supply curve was apparently provided by Joan Robinson (1937, pp. 176-78). Keynes's famous definition (1936, p. 15) in terms of the increase of labour supply and labour demand induced by a fall in real wages when prices go up, can be made consistent with Robinson's concept. Nevertheless, Keynes aimed at the distinction between involuntary unemployment that could not be eliminated by workers accepting lower money-wages, and voluntary unemployment, which could be so reduced (see Corry, 1996). Interestingly enough, the phrases "voluntary" and "frictional" unemployment were suggested to Keynes by Roy Harrod in correspondence of July 1935, who pointed out that "frictional unemployment is also in a sense involuntary" (Moggridge, 1973, p. 527); see also Keynes's reference to "involuntary unemployment, apart from frictional unemployment..." (1936, p.10) and to the decision to exclude frictional unemployment from the definition of involuntary unemployment "for reasons of convenience" (1936, p.15). In Wicksell's Malmö lecture, as discussed above, "forced unemployment" is inclusive of search unemployment. As pointed out by Robinson (1937, p. 172), Keynes's definition of involuntary unemployment is correct only if the wage elasticity of labour supply is not negative.

From the Pigovian perspective, even unemployment caused by wage rigidity could be understood as involuntary, since the contraction in labour demand brought about by higher real wages is unintended.[10] This differs from Cassel's 1902 voluntary unemployment, defined by the workers' *choice* to withhold their labour supply at wage rates deemed to be temporarily below equilibrium level.

Apparently, the first British economist to define unemployment as "all forms of involuntary leisure suffered by the working class" was Hobson (1895, p. 419; see Hutchison, 1953, p. 413; Corry, 1996, p. 13), in a critical reaction to the path-breaking discussion of the concept of unemployment in the 1893 "Report on the Agencies and Methods for Dealing with the Unemployed" produced by H. Llewellyn Smith for the Labour Department at the Board of Trade (see Harris, 1996, pp. 63-64). Following the trend set by Charles Booth's ([1889] 1902) pioneer empirical investigation of poverty in London, Llewellyn Smith (1893, p. 8) repeated Booth's idea that "the total number of the superfluous is the true measure of the unemployed".[11] The unemployed are a "*surplus*, in the sense that the labour market would be in a better condition for their total removal" (p. 7).

This raised two kinds of critical reactions by British economists, most notably Hobson (1895) and Beveridge (1907, 1909). Hobson accepted the starting-point that "unemployment" means excess or superfluous labour supply and agreed that if "leakages belongs to an irregularity inherent in the trade, it cannot rank as waste", but pointed out that, to the extent that the length of the interval between jobs is affected by the level of activity itself, there is a "genuine waste of labour-power" (p. 416).[12] Likewise, the army of workers unemployed because of cyclical depression should be deemed as excess labour supply – in contrast with Booth's notion of a "reserve of labour" formed by a necessary "unemployed margin" of skilled workers "waiting" to be absorbed later on.

Beveridge (1909), too, defined unemployment as "involuntary" or "enforced idleness" (see Topalov, 1994, p. 184). But he brought into the picture the notion that the "reserve of labour" (title of ch. V) should be explained by the "degree of friction" in the movement of labour (p. 103), a concept largely absent from Llewellyn Smith (1893), Hobson (1895) and even Pigou (1913), but present in Wicksell's 1901 idea of "normal unemployment". While the phrase "voluntary unemployment" was conspicuous by its absence in the pre-Keynesian English literature, the French equivalent "chômage volontaire" (and "involontaire") could be easily found (see Topalov, 1994, ch. 10). One possible explanation is that the word "chômage", which has existed since the Middle Ages, derives from the Greek "kauma" ("burning heat") via the medieval Latin "caumare" (meaning "to take one's ease during the heat of the day") and is rooted on the idea of "being at leisure" (see Garraty, 1978, p. 4;

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[10] See Ralph Hawtrey's criticism of Keynes's definition of voluntary unemployment in correspondence of April 1936, reproduced in Moggridge (1973, p. 29).

[11] Booth ([1889] 1902) divided the London population into eight classes. The lowest (class A) was formed by a "savage, semi-criminal" of casual labourers "beyond redemption", while the "very poor" (class B) consisted of workers frequently unemployed for personal reasons. The solution to both problems of poverty and unemployment was, according to Booth, to exclude class B from the labour market through the creation of labour colonies. This would improve the conditions of classes C and D, and end the confusion between class A and the unemployed (see Garraty, 1978, pp.11-13).

[12] The notion that the extent of frictional unemployment fluctuates over the business cycle was later discussed by Robinson (1937, chapter 2) and Phelps (1967); see also Boianovsky (2000).

Topalov, 1994, p. 190).[13] "Chômage involontaire" is therefore close to "involuntary idleness", which was the English definition of "unemployment" at the time. This is clearly the case in Pareto's use of the phrase as part of a discussion of the composition of the labour force in volume 2 of his classic *Cours*. According to Pareto (1897, p. 378), the description of the labour force should include data on workers who "chôment involontairement", but "it is impossible to know that number, even approximately". All we know is the aggregate number of individuals" out of work", formed by different categories, including the "ouvriers actifs, intelligent et laborieux" who, for reasons of an accidental and unforeseen nature - usually associated with economic crises - are temporarily out of work. These are apparently the involuntarily unemployed, who wish but cannot work at the prevailing wage rate (see also Boianovsky and Tarascio, 1998).

3 Voluntary Unemployment and the Labour Supply

In both the Malmö and Copenhagen lectures Wicksell defined "voluntary unemployment" as time for recreation. This should be seen against the institutional organization of labour markets at the time, when paid holidays were rare and workers had to face the marginal decision between paid working weeks and unpaid time off. This is clear from Marshall's discussion of the influence of "inconstancy of employment" on wages, where it is pointed out that the conclusion that average wages should be higher in seasonal and cyclical occupations is valid only if "we assume that the rest and leisure, which a man gets when out of employment, are of no service to him directly or indirectly" ([1890] 1990, p. 462). Marshall accepted that assumption whenever "waiting for work... involves so much anxiety and worry that it causes more strain that the work itself would do".[14] In this case the marginal disutility of searching for jobs is higher than the marginal disutility of work, which fits with Marshall's idea of "enforced idleness" briefly mentioned elsewhere in the book (p. 572; added in the second edition, 1891). "But that is not always so", for "interruptions of work that occur in the regular course of business, and therefore raise no fears about the future, give opportunity for the system to recruit itself and lay in stores of energy for future exertions" (p. 462).

The assumption that voluntary off-time can be regarded as a source of utility for the worker is made throughout Wicksell's treatment of the labour supply curve in terms of leisure and income.[15] Unlike Walras, Wicksell assumed in his general equilibrium models of production and capital as a first approximation that the utility of the use of the factors of

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[13] The earliest recorded use of the English word "unemployment" is in a 1887 report prepared by Carrol Wright, chief of the Massachusetts Bureau of Statistics, who defined the new concept as "those who really want employment" but cannot get it (see Garraty, 1978, p. 109; Topalov, p. 178). The Swedish word "arbetslöshet" was first used by the Poor Relief Commission of 1870, but its meaning was still mixed up with vagrancy (see Magnusson, 1989, pp. 200-201).

[14] In this connection, Marshall referred to Foxwell's famous 1886 lecture on unemployment, which might have been a source of influence on Wicksell, too.

[15] Wicksell (1893 and 1901), together with Wicksteed ([1910] 1967, pp. 522-26), was one the first to define the labour supply decision in terms of choice between income and the marginal utility of leisure, instead of between income and the marginal disutility of labour as in Jevons and Keynes. The results coincide only if the marginal utility of income is constant, which implies that the marginal disutility of labour is the same as the marginal rate of substitution of income for leisure. The Wicksell-Wicksteed formulation is the one adopted nowadays.

production directly by their owners is insignificant compared to the indirect utility derived from their productive employment in the market, which means that the amount of factors of production available on the market is taken as a given quantity (Wicksell [1901] 1934, pp. 98 and 103) irrespective of their prices. The individual supply curve of labour is backward sloping, since (what we now call) the negative income effect of a higher real wage begins at some point to outweigh the positive substitution effect (see Wicksell, [1893] 1954, p. 91, and [1901] 1934, pp. 45-46). This does not necessarily reduce the effective volume of labour supplied since the higher wage tends to have a joint positive effect on the efficiency and the number of workers in the market. Wicksell's definition of voluntary unemployment in his unemployment lectures may be read as a comment on workers' reaction to wage increases that enable them to take time off. Wicksell did not refer on that occasion to a reduction of working hours, probably because, as his audience was aware, the working day is mostly determined independently of the individual worker, by collective agreements or legal restrictions.[16]

4 Normal unemployment and the Industrial Reserve Army

In the late 19th Century, a large part of the literature on unemployment was strongly influenced by the Marxian concept of an industrial reserve army, a large number of people who, as a consequence of labour-saving technical progress, become unemployed even in normal times and whose competition for jobs helps to depress wages (see section 2.3, and Adler, 1895). In contrast with the notion of the industrial reserve, the existence of frictional unemployment in normal conditions – that is, a "normal rate of unemployment", as put forward in the Malmö lecture – does not imply any downward pressure on wages, which is also true of Cassel's interpretation of the equilibrium of the labour market (see section 2.2).[17]

Cassel ([1918] 1932a, pp. 346-47, 357) examined carefully how unemployment and scarcity of labour with positive wages may coexist. Despite his pointing out that a small measured rate of unemployment does not necessarily reflect an excess supply of labour, since there might be at the same time unfilled vacancies (p. 349), Cassel's argument was not based on frictions in the working of the market, but on the heterogeneity of labour. He claimed that there is usually "permanent" unemployment of low efficiency workers, together with a

[16] Unlike Wicksell, Cassel did not accept the concept of marginal utility as foundation of the theory of demand. This is also true of the "disutility theory" of labour supply, a "meaningless theoretical construction" according to Cassel ([1918] 1932, p. 360), whose explanation of the supply of effort was based on the view that both workers and employers realize that "the greatest individual economic result is obtained not by the greatest possible effort at any moment, but rather by a wise distribution of work over the day, week, or life". There has occurred historically a reduction of the working-day simultaneously with an "intensification of work" decided by "custom or agreement" between trade unions and employers (p. 356).

[17] See Samuelson's (1967) interpretation of the industrial reserve army as a condition of temporary excess supply of labour, which depresses real wages until the unemployed are absorbed at a wage rate corresponding to the marginal productivity of labour. As pointed out by Samuelson, it is not the mere existence of the unemployed, but their competition for jobs, that pushes the wage rate down, and, even so, not to its subsistence level. In Samuelson's interpretation, in contrast with Wicksell's and Cassel's, there is no room for search or frictional unemployment.

"scarcity of labour of a particular high quality" (p. 346), clearly a mismatch of qualifications offered and demanded "The process we have described bears a certain resemblance to that of the extension of the area under cultivation when the demand for foodstuffs increases - in which case land of increasingly poorer quality has to be taken into cultivation." (Cassel [1918] 1932a, p. 347). Cassel, however, was aware that the analogy is far from perfect, since, in contrast with land, labour has a positive reservation price. Cassel's solution to the puzzle, discussed in the following sections, will take us back to the intrinsic ambiguity of the distinction between voluntary and involuntary unemployment pointed out in 1902.

5 Unemployment, Wages and the Business Cycle

5.1 Cassel

In periods of depression, "workers of normal efficiency, too, often fall out of employment" (Cassel [1918] 1932a, p. 348). What happens to money wages under those circumstances? "If a certain amount of unemployment is caused as a result of a decline in demand, one would think, on general grounds of price theory, that the excessive supply of labour must bring wages down, and that this pressure on wages would not cease until unemployment was somehow diminished by the stimulus given to demand or, if this result could not be brought about, until wages had fallen to zero. In practice, however, matters are not so. The unemployed resist with all their power any reduction of wages, and are extremely reluctant to offer their labour at a lower price" (Cassel [1918] 1932a, p. 357). The withholding of labour supply is made possible by the payment of unemployment benefits by trade unions, which prevents underbidding in the labour market. This is Cassel's solution to what he regarded as one of the main problems of the theory of wages:

> It is only by an artificial scarcity of labour brought about in this way that we are at all able to explain theoretically a state of equilibrium existing simultaneously with the payment of wages at a certain level at a time when there is unemployment (ibidem).

Because of the withholding of labour supply at the current wage rates, the labour market is in equilibrium in the sense that there is no tendency for wages to change. But, at the same time, there is unemployment measured by the distance between the actual employment level, determined by the intersection of the labour demand curve with the infinitely elastic segment of the labour supply curve (at prevailing money-wages), and the maximum amount of employment that workers are willing to offer at that wage rate. Unemployment is involuntary in the sense that the unemployed would rather work at the going wage rates, and yet it is voluntary in the sense that workers prefer to be unemployed instead of bidding down wages – which might explain why Cassel did not use the voluntary/involuntary distinction in his textbook.

The withholding of labour supply also explains why labour does not become a "free good" with zero price in the depression, despite continuous unemployment. This was also a matter of concern for Keynes (1936, p. 304), who pointed out that, if workers did not resist a reduction in their money wages, "there would be no resting-place below full employment until either the rate of interest was incapable of falling further or wages were zero" (see also pp. 191 and 253). Keynes's explanation of nominal wage rigidity was based on the assumption that workers tend to interpret a fall in money wages as a microeconomic change that affects relative wages (1936, pp. 14, 303). In Cassel, the source of wage rigidity is the workers' perception of a temporary fall of demand during the business cycle, a notion briefly mentioned by Keynes (p. 16) in his criticism of the "classical economists".[18]

Cassel (1904; [1918] 1932a, book IV) interpreted business cycles as deviations of the economy from its steady-state full-employment growth path (see Boianovsky, 1999). One of the central contributions of his 1918 book is the extension of the concept of equilibrium to the "uniformly progressive society", where output and the stock of capital grow at the same steady rate, determined by the exogenous rate of population growth. In equilibrium, the rate of interest is such that the supply of savings, the demand for investment and the value of new capital goods produced are of the same magnitude. In uniform growth, the equilibrium capital-output ratio *(v)* will be equal to the proportion of income saved *(s)* divided by the rate of population growth *(n)*, that is: $v = s/n$, which is reminiscent of the so-called Harrod-Domar formula with the essential difference that v is the endogenous variable in Cassel's formulation. According to Cassel ([1918] 1932a, p. 62), "only during transition periods will there be a a material difference between the rate of increase of capital and of income". The upshot is that Cassel's "unemployment equilibrium" is a transitory condition that ends when demand for new capital goods rises again:

> The depression also creates corresponding forces which tend to counteract it: there are then low prices for materials of fixed capital and low wages. These factors cheapen the production of fixed capital, at the same time as the low rate of interest, itself a result of the depression, raises the value of the completed capital goods. The co-operation of these factors overcomes the depression and leads to an upward movement in trade (p. 642).[19]

5.2 Wicksell

The issue of the interval of time necessary for unemployment to affect wages was hotly debated between Malthus and Ricardo, as pointed out by Sowell (1972, pp. 125-27).[20] Assuming that wages are flexible with a lag, being determined by the "competition of the unemployed", a deflationary process will produce not only continuous falling prices – which, by its effect on banking reserves in a non-pure credit system, will eventually bring the market rate of interest back to its equilibrium level and put an end to the cumulative process – but also a fall in employment and output. The real wage can be assumed to be constant, since the money wages are falling at the same rate as the price level, so that there is continuous deflation with *constant* unemployment (see Kohn, 1981, p. 873).[21]

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[18] Interestingly enough, the Webbs' interpretation of nominal wage rigidity was quite the opposite of Keynes's. They suggested in *Industrial Democracy* (pp. 793-94) that, if a trade union perceived that the reduction in labour demand was not limited to that industry but a general one, it should resist the wage fall, since "any such reduction could not possibly increase the aggregate demand (which is the aggregate product)."

[19] See Keynes's (1936, ch. 19) discussion of the indirect positive effects of money-wage reduction on employment through its impact on the rate of interest and the marginal efficiency of capital.

[20] Malthus stated in correspondence with Ricardo that "we know from repeated experience that the money price of labour never falls till many workmen have been for some time out of work", to which Ricardo replied by saying that "insufficient demand for labour must mean a diminishing reward for the labourer, and not a diminishing employment of them" (Sowell, 1972, pp. 126-27).

[21] This is in marked contrast with the famous "banana parable" used (and later abandoned) by Keynes in his neo-Wicksellian *Treatise on Money*, where excess saving brings about a

Wicksell never addressed what we may call "Cassel's problem" – to explain what prevents money wages from falling to zero in the depression. This may be due to the fact that he did not, in contrast with Cassel, investigate the properties of "unemployment equilibrium", but set his focus instead on disequilibrium states of the labour market as described in his cumulative process. This is also true of Wicksell's treatment of the business cycle, which he kept separate from the analysis of the "cumulative process". According to Wicksell ([1907] 1953), cyclical fluctuations in economic activity (as opposed to cumulative changes in nominal variables or once-and-for-all changes in real variables) originate in shocks represented by the irregular pace of technical progress, which cause regular fluctuations because of the lag structure of the economy – what later became to be known as the "impulse-propagation mechanism" (see Boianovsky, 1995). In this framework, the main feature of a cyclical depression is that, due to the interest inelasticity of the demand for fixed capital goods, no positive market rate of interest may equilibrate saving and investment at full employment.

> Hence the task is one of providing cheap credit for all who are willing to produce for stock in times of depression. Among other things this will contribute to the reduction of unemployment to a far greater extent than the few and inadequate emergency projects, which are initiated at such times by local and other government authorities ([1907] 1953, p. 68).[22]

Wicksell did not explicitly associate his concept of "natural" or "normal" rate of interest with the idea of a "normal rate of unemployment" introduced in the Malmö lecture, in the sense of the proposition that the rate of unemployment is at its "normal" level when the market rate of interest is at its equilibrium level. Nevertheless, as suggested in *Interest and Prices* ([1898], 1936, p. 62), the "sudden cessation" of the price rise is caused by an attempt of individuals to increase their real cash balances when "confidence has been strained and general mistrust prevails". This leads to a falsification of the over-optimistic expectations engendered by the

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cumulative contraction in output "until all production ceases and the entire population starves to death" (Keynes, [1930] 1971, p. 160).

[22] In a public lecture on "crises and unemployment" delivered to trade unions in Stockholm and summed up in *Dagens Nyheter* of November 17, 1908, Wicksell remarked that "it is ridiculous to see how people behave in a period of general unemployment like this. They rub their hands and try to find out public works, and it always comes to stone cracking. But there are thousands of other things which should be done to turn into inventories, including building houses, making clothes and all sorts of durable goods" to be used later in the boom. Wicksell opposed to emergency "relief works" of the sort deployed in Sweden and other countries at the time, which differed from the concept of countercyclical public investment introduced by the Webbs in 1909 (pp. 280-87). Actually, the notion of a "deliberate policy aimed at forestalling unemployment" was already present in Cassel (1902a, p. 104), who suggested that "we must so arrange that in every public enterprise we take account of the market situation and act in conformity...In this way the public organs of society could achieve not a little by way of levelling out the market and thus forestalling unemployment". However, Cassel's enthusiasm for countercyclical public works diminished with the years, because he feared that they would diminish the supply of capital to the private sector and keep real wages above the level consistent with full employment. In the 1930s, when the topic was on the order of the day, he gave just qualified support for public works (see Carlson, 1993).

continuous and accelerating increase in prices. This is consistent with Wicksell's discussion of economic crises in the Malmö lecture and with the view that the economic system will be on its "normal unemployment" equilibrium path whenever profit expectations of entrepreneurs are not misled by cumulative price changes.[23] However, as pointed out by Wicksell, employment fluctuations over the business cycle (as opposed to economic crises) are brought about by shifts in investment based on correct evaluations of the rate of return on capital. The 1901 notion of normal unemployment as a search phenomenon can still be accommodated, although the explanation of why searching time changes over the business cycle cannot fall back on mistaken expectations of employers.

5.3 Abnormal Depressions

The connection between falling prices and unemployment was stressed by Wicksell again in the early 1920s, when the average rate of unemployment in Sweden and other countries rose to 25 per cent under the impact of a short but intense deflation (see Boianovsky, 1998). That was not a typical cyclical depression. Wicksell's interpretation of unemployment, documented by many of his articles in the Swedish press at the time, was based on two factors: the impact of *unexpectedly* falling prices on the real burden of debt and resulting bankruptcies, and – to the extent that the price fall started to be anticipated – money hoarding accompanied by the postponement of consumption expenditure. The "involuntary" or ”forced" nature of massive unemployment was clear enough, since money wages fell swiftly in the process. Cassel put forward a similar explanation of the real *effects* of deflation, although his interpretation of its *causes* and of the goals of monetary policy differed from Wicksell's (see Boianovsky, 1998). In his *Theory of Social Economy* he put the blame for rising mass unemployment in the Great Depression of the early 1930s on the wrong monetary policy of the central bankers. Money-wage rigidity is conspicuous by its absence in Cassel's reading of the causes of the "fantastic figures of the number of employed" in the Great Depression ([1918] 1932a, p. 507), although some rigidity was necessary to explain why wages remained above zero level. Real wage rigidities were, however, discussed by Cassel, Wicksell and others as an explanation for the persistently high average rate of unemployment of about 10 per cent in many European countries throughout the 1920s, as discussed next.

6 The Rule of Free Goods and Permanent Unemployment

6.1 Wicksell

In 1919 Wicksell wrote a long critical review of Cassel (1918) that was later translated into German and English. In the book review, Wicksell ([1919] 1934, p. 255) praised the sections on business cycle theory as "incomparably the best part of [Cassel's] work", but was quite critical of the rest of the book. One of the criticisms that have attracted the attention of historians of thought is Wicksell's comment that Cassel's general equilibrium system may

[23] The influence of price expectations on the workers' labour supply decision and of wage expectations on firms' demand for labour was stressed many years later by Phelps (1967) and Friedman (1968) to explain fluctuations of the actual rate of unemployment around its equilibrium value, which Friedman called the "natural rate of unemployment" in analogy with Wicksell's "natural rate of interest". Friedman's idea had been anticipated by Champernowne's (1936) concept of a "basic rate of unemployment" (see Boianovsky, 2000), but neither Friedman nor Champernowne based their hypothesis on the notion of involuntary search unemployment, in contrast with Wicksell's brief suggestions.

not have a solution with positive prices for one or more production factors:

> The "simultaneous equations" are no guarantee that any "variable" cannot assume the value nil, even if we are discussing so important a social factor as wages or so questionable - not to say odious - a social factor as the rent of land, site-rent, or certain monopoly revenue, etc. (p. 228)

The notion that the demand for any factor (especially labour) may fall short of its supply in Cassel's system came to the fore in the early 1930s in articles by Neisser ([1932] 1990), Zeuthen (1932) and others. Such factors, as briefly remarked by Wicksell before, could no longer be regarded as scarce and should have a price of zero, which became known in the literature as the "rule of free goods". Analytically, the equations of demand and supply of each factor should be replaced by inequalities expressed by complementary slackness conditions, which would make it possible to identify free and scarce factors endogenously and would open the way to formal existence theorems. Cassel was aware, of course, of the notion of "free goods", but – instead of deriving from market processes which factors are free – he *assumed* that only scarce factors are included in the general equilibrium system (see Weintraub, 1983, p. 7).[24] The single, but important, exception was his discussion of cyclical unemployment and the suggestion that (what we now call) the "rule of free goods" does not apply under those circumstances, since workers will withhold their labour supply to prevent money-wages from falling to zero (see Morishima, 1976, ch. 7, who claims that Keynes did not accept the rule of free goods in the context of his equilibrium unemployment theory). According to Wicksell,

> there would necessarily be a permanent excess either in the number of workers or in the amount of available land (assuming that the population was not correspondingly diminished in the one case as a result of emigration, or increased in the other case as a result of immigration or natural growth). Theoretically, such an excess would depress either the level of wages or of rents, as the case might be, to an unlimited extent. ([1898] 1936, p. 131) [25]

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[24] As Cassel put it in his "Grundriss" (1899, p. 441): "If something would be left of a raw material [i.e. production factor], the rest would necessarily be offered at a lower price, whereby the price of this raw material would be pushed down. Such leftovers can only exist of a raw material whose price is zero; free goods of this kind need not be taken into account". And again in 1902b (p. 691): "The production must be conducted in such an economic way that every factor of production is fully made use of. An exception from this principle can only be made if a factor of production is so abundant that it would not be scarce even if its price were zero. That kind of factor is no longer an economic good; it is completely excluded from the considerations of the theory of price formation".

[25] Wicksell's approach is close to Neisser's hypothesis that "the employment of workers can only be increased if the amount of physical capital is increased at the same time."([1932] 1990, p. 141; see also Hagemann, 1990). The long-term adjustment mechanism through population change is, of course, part of the classical approach, as mentioned by Neisser (p. 150). Wicksell did not extend his criticism of Cassel's general equilibrium system to Walras's, which was also based on fixed coefficients. This may be explained by the fact that Cassel did not make Walras's assumption that the supply of production factors in the market is a positive function of their prices, which means that, in contrast with Walras,

However, while free land (as in the American old west) and free capital are a benefit for society, the same cannot be said of free labour and zero wages resulting from the pressure of a growing population that diminishes marginal productivity at a given supply of land and capital. Overpopulation, together with falling marginal productivity of labour provoked by labour saving technical progress, is the main factor in Wicksell's interpretation of the high rates of unemployment that persisted in Sweden and elsewhere in the mid-1920s, when the economy had already recovered from the post-World War deflationary crisis. As Wicksell explained in his critique of Ricardo in volume 1 of the *Lectures* (pp. 133-144), it is the fall in real wages that prevents the negative effects of "machinery" on employment, since, under the stimulus of lower wages, both new and old methods of production will be adopted in equilibrium. Wicksell (p. 141) realized that, if equilibrium real wages were pushed below subsistence level, regulations of a minimum real wage at that level would lead to permanent unemployment. He came back to this issue in a paper on "Ricardo on Machinery and the Present Unemployment" submitted in 1923 to the *Economic Journal*, but rejected by the then editor J. M. Keynes, and finally published with an introduction by Lars Jonung in 1981. Since *average* labour productivity was such that the whole population could be easily supported, while labour *marginal* productivity was low, the solution was to let real wages go down to their equilibrium level and pay complementary wage subsidies financed by taxes on land rent and capital interest. "The very worst thing, however, would be to enforce a minimum wage, thereby perpetuating the state of unemployment. The true solution... would rather lie in an application... of the old Gilbert's Law, letting wages go down to their natural limit and supplementing the deficiency from public resources" (Wicksell [1923] 1981, pp. 204-05).[26]
Even though Keynes rejected Wicksell's paper, his own explanation of the persistent unemployment in the mid-1920s, too, was based on the pressure of increasing population on real wages – without, however, taking into account the additional pressure of labour-saving technical progress. In Keynes's opinion, "the most alarming aspect of the prolongation and the intensity of the existing unemployment is the possibility that transitory influences may not wholly explain it" ([1987] 1923, p. 121). This would bring to the fore "deep causes" closely connected with population, in the sense of an attempt by workers to maintain real wages at a higher level than allowed by the pressure of population growth on the supply of consumption goods, especially in the form of food imports.[27]

In an undated and hitherto unpublished manuscript on unemployment, probably written between 1923 and 1926, Wicksell expressed himself more forcefully on the relation between technical progress and unemployment. The manuscript conveys a quite different interpretation of the effects of labour saving technical progress on employment, if compared to Wicksell's analysis in the *Lectures* and in the 1923 paper on machinery, and it gives the impression that Wicksell recanted his previous interpretation. According to the manuscript,

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Cassel "had to put the (potentially) existing quantity of services equal to the quantity to be employed in production in equilibrium" (Schumpeter, 1954, p. 1012, n. 37; see Wicksell [1901] 1934, pp. 98-99).

[26] The idea that equilibrium real wages could fall below the level of subsistence also appeared in Wicksell's (1919) criticism of Heckscher's (1918) theory of the impact of prices of goods on factor prices in international trade, which Heckscher later developed, in reaction to Wicksell's comments, into the Heckscher-Ohlin theorem of factor price equalization (see Lars Herlitz, forthcoming).

[27] On the debate between Keynes, Beveridge and other English economists on population and unemployment in the 1920s see Hancock (1960).

technical progress could lead to a situation where a small fraction of the labour force is sufficient to operate and maintain the machines. The rest of the workers would become permanently redundant with zero wages. If workers were all of the same skill, the rule of free goods should apply, for "all labour would become worthless as one worker cannot receive more than the other" with the same qualification. In contrast with his previous discussion, where the new technology never replaces completely the old one, Wicksell assumed in the manuscript that only the new, labour-saving technology is adopted.

As has been pointed out by commentators,[28] Wicksell's critical analysis of Ricardo requires that the average productivity of labour in one technique never exceeds the average productivity of the other technique at all land/labour ratios, which rules out the possibility that the new technique completely replaces the old one under flexible wages. In Wicksell's critique of Ricardo, such complete substitution, with ensuing unemployment, would only happen if real wages were rigid at subsistence level, which is not mentioned in the pages of the manuscript that survived. We may therefore speculate, that Wicksell wrote the manuscript out of admission that he had previously discussed a special case only.

6.2 Cassel

According to Cassel ([1918] 1932a, pp. 320-21), the increase in real wages in Sweden and elsewhere in the 1920s was the main factor behind the persistency of high unemployment. Instead of following the "open shop" policy advocated by the Webbs and praised by Cassel since 1902, trade unions had after World War I increasingly resorted to "monopolistic policy" in sheltered trades by means of "closed trade union policy".[29] This was discussed in detail by Cassel (1927) in a study prepared for the League of Nations, mentioned in the 1932 edition of his *Theory of Social Economy* ([1918] 1932a, p. 538). The increasing monopolistic power of trade unions was in great part explained by the "state maintenance of the unemployed", especially in the form of public unemployment insurance introduced in Great Britain, Germany and some other countries.

In 1937, Cassel reviewed Keynes's *General Theory* for the *International Labour Review*. In contrast with most book reviews of Keynes in the 1930s, Cassel interpreted the book as making a proposition about the long-run equilibrium of the economic system. There are therefore no references to Cassel's own analysis of unemployment equilibrium in his textbook, since that discussion had been explicitly associated with short-run equilibrium. According to Cassel, the main results of economic theory should be based on the long-period method of analysis, with no room for "temporary disturbances". Economic equilibrium means uniform growth with constant relative prices and constant price level over time, which implies that the money supply is necessarily an endogenous variable determined by the central bank in order to stabilize the price level (Cassel, 1937, p. 440). Cassel (1937, p. 443) argued that, under the assumption of a "normal supply of money" (implying an equilibrium rate of interest), the Keynesian concepts of liquidity preference and money hoarding are not enough to bring about long-run unemployment of labour. "There can be no such thing as a general theory of employment or unemployment... There is always a solution of such [general equilibrium] system admitting full employment of every factor of production."

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[28] See Neisser (1932 [1990], pp. 158-60) who, however, wrongly imputes to Wicksell the view that minimum wage legislation would not cause unemployment.

[29] See Keynes (1936, p. 16) where the real wage rigidity engendered by "closed shop" policy is associated with "voluntary unemployment".

7 Conclusion

Even though the phrase "forced unemployment", used by Wicksell in his Malmö and Copenhagen public lectures of 1901 and 1907, cannot be found in his published writings, the concept is an important feature of his interpretation of the dynamics of the labour market in general and of the business cycle in particular. In his 1908 discussion of the depression in Sweden, for instance, Wicksell ([1908] 1997, pp. 254-55) pointed to the analytical differences between "partial" and "general" overproduction. The 1901 notion of normal unemployment as an equilibrium rate is still important, but frictions are less relevant for the explanation of aggregate excess supply.

> So-called *general overproduction*, on the other hand, – i.e. a situation in which labour and capital are in over-supply in certain trades *without* any compensating shortfall in other areas – must be fundamentally a quite different phenomenon with radically different causes, and it must therefore require substantially different treatment both in theory and in practice (p. 255; italics in the original).

In the same vein, Cassel's concept of "involuntary unemployment", if not the phrase, can be found in his writings on the business cycle, as witnessed by his first, long article on the topic. Cassel (1904, pp. 21-29) described "bad times" as periods of general overproduction leading to "shortage of employment for the various production factors". According to him, "a fall in the demand for the products of a certain industry will bring about a secondary sequence of overproduction and *unemployment* in the other production sectors" (p. 29; italics in the original). The primary cause of unemployment and overproduction is the uneven development of consumption on one side and productive capacity on the other, which Cassel (p. 28) ascribed to the "planless" organization of production. More specifically, "bad times" are caused by the scarcity of the production factor "waiting" at the end of the boom. Producers of capital goods are not able to foresee correctly the forthcoming supply of savings. The sudden reduction in the production of fixed capital goods produces the depression through its "secondary effects" on the demand for consumption goods. The depression is further intensified by the accelerator effect of the reduction in consumer demand on the employment of durable means of production (p. 75). It is clear enough that fluctuations of labour employment throughout Cassel's business cycle are essentially involuntary, subject to the ambiguity of the voluntary/involuntary distinction in "unemployment equilibrium".

The idea of involuntary unemployment in Wicksell and Cassel results in part from the notion that, for a given level of aggregate demand, a fall in money wages will be accompanied by a corresponding fall in prices, without any effect on real wages. This is one of the central aspects of Wicksell's theory of the "cumulative process", which Keynes repeated in chapter 19 of the *General Theory* (see Leijonhufvud, 1968, pp. 321-22). It is through its indirect impact on the rate of interest or on the rate of return on capital, that a reduction in money wages is able to reduce unemployment. It is clear from the above, however, that Wicksell's and Cassel's notions of involuntary unemployment differed from the Keynesian notion of involuntary unemployment in macroeconomic equilibrium that later came to gain prominence. The old Swedes certainly acknowledged the existence of involuntary unemployment caused by a lack of effective demand, but for them it was a disequilibrium phenomenon connected with business cycles, whereas their categories of equilibrium (involuntary) unemployment were of the frictional sort or based on qualificatory mismatch. Nevertheless, the discussions about "normal unemployment", as opposed to "the industrial reserve army", and about the "rule of free goods" and its role in the explanation of cyclical *and* persistent unemployment show that involuntary unemployment was a hot issue in economic theory even before the publication of Keynes's *General Theory* in 1936.

References

Adler, G. 1895. Arbeitslosigkeit und Arbeitsnachweis. In J. Conrad *et al* (eds). *Handwörterbuch der Staatswissenschaften*, Supplementband, pp. 117-139.

Barkai, H. 1990. The Neoclassical Paradigm and Unemployment. *Working Paper* no. 219. Department of Economics, Hebrew University of Jerusalem.

Beveridge, W. 1907. Labour Exchanges and the Unemployed. *Economic Journal*. 17 (March): 66-81.

Beveridge, W. 1909. *Unemployment: A Problem of Industry*. London: Longmans, Green.

Beveridge, W. 1944. *Full Employment in a Free Society*. London: Allen & Unwin.

Boianovsky, M. 1995. Wicksell's Business Cycle. *European Journal of the History of Economic Thought*. 2 (2): 375-411.

Boianovsky, M. 1998. Wicksell on Deflation in the Early 1920s. *History of Political Economy*. 30 (2): 219-275.

Boianovsky, M. 1999. Cassel on Cyclical Growth. In C. Sardoni and P Kriesler (eds). *Keynes, Post-Keynesianism and Political Economy: Essays in Honour of Geoff Harcourt*, ch. 3. London: Routledge.

Boianovsky, M. 2000. Some Cambridge Reactions to "The General Theory": David Champernowne and Joan Robinson on Full Employment. *Schriftenreihe Globalisierung und Beschäftigung* 15/2000. University of Hohenheim.

Boianovsky, M. and V. Tarascio. 1998. Mechanical Inertia and Economic Dynamics: Pareto on Business Cycles. *Journal of the History of Economic Thought*. 20 (1): 5-23.

Boianovsky, M. and H.-M. Trautwein. 2001. Wicksell's Lecture Notes on Economic Crises (1902/05). *Structural Change and Economic Dynamics*. 12 (3), forthcoming.

Booth, C. [1889, 1902] 1969. *Life and Labour of the People of London*, v. 1. New York: A.M. Kelley.

Carlson, B. 1993. The Long Retreat: Gustav Cassel and Eli Heckscher on the "New Economics" of the 1930s. In L. Jonung (ed). *Swedish Economic Thought*, ch. 10. London: Routledge.

Cassel, G. 1899. Grundriss einer elementaren Preislehre. *Zeitschrift für die gesamte Staatwissenschaft*. 55: 395-458.

Cassel, G. 1902a. *Socialpolitik*. Stockholm: Geber.

Cassel, G. 1902b. Der Ausgangspunkt der Theoretischen Ökonomie. *Zeitschrift für die gesamte Staatwissenschaft*. 58: 668-698.

Cassel, G. 1904. Om kriser och dåliga tider [On crises and bad times]. *Ekonomisk Tidskrift*. 4(1): 21-35, (2): 51-81.

Cassel, G. 1918. *Theoretische Sozialökonomie*. Leipzig: C.F. Wintersche Buchhandlung.

Cassel, G. [1918]1932a. *The Theory of Social Economy*. 5th ed. Trans. by S. Barron. New York: Harcourt, Brace.

Cassel, G. 1937. Keynes' "General Theory". *International Labour Review*. 24 (4): 439-44.

Corry, B. 1996. Unemployment in the History of Economic Thought: An Overview and some Reflections. In B. Corry (ed). *Unemployment and the Economists*, ch. 1. Cheltenham: E. Elgar.

Dorfman, R., P.A. Samuelson and R. Solow. 1958. *Linear Programming and Economic*

Analysis. New York: McGraw-Hill.
Foxwell, H. S. 1886. Irregularity of Employment and Fluctuations of Prices. In J. Burnett (ed). *The Claims of Labour*. Edinburgh: The Cooperative Printing.
Friedman, M. 1968. The Role of Monetary Policy. *American Economic Review*. 54(1): 1-17.
Gårdlund, T. 1958. *The Life of Knut Wicksell*. Stockholm: Almqvist & Wiksell.
Garraty, J. A. 1978. Unemployment in History of Economic Thought and Public Policy. New York: Harper & Row.
George, H. 1879. Progress and Poverty: An Inquiry into the Cause of Industrial Depressions and Increase of Want with Increase of Wealth; the Remedy. London: Kegan Paul, Trench & Co.
Gide, C. 1884. *Principes d'économie politique*. Paris: Recueil Sirey.
Hancock, K. 1960. Unemployment and the Economists in the 1920s. *Economica*. 27 (November): 305-321.
Harris, J. 1996. From sunspots to social welfare: the unemployment problem 1870-1914. In B. Corry (ed). *Unemployment and the Economists*, ch. 3. Cheltenham: E. Elgar.
Herlitz, L. forthcoming. Wheat and Wood: Wicksell, Heckscher and the Theory of Foreign Trade 1896-1920. *History of Political Economy*.
Hicks, J. 1932. *The Theory of Wages*. London: Macmillan.
Hicks, J. 1977. *Economic Perspectives*. Oxford: Clarendon Press.
Hobson, J. A. 1895. The Meaning and Measure of Unemployment. *Contemporary Review*. 47 (March): 415-432.
Hutchison, T. W. 1953. *A Review of Economic Doctrines 1870-1929*. Oxford: Oxford University Press.
Jonung. L. 1989. Knut Wicksell on Unemployment. *History of Political Economy*. 21 (1): 27-42.
Kahn, R. 1976. Unemployment as seen by the Keynesians. In G.D.N. Worswick (ed). *The Concept and Measurement of Involuntary Unemployment*, ch. 1. London: Allen & Unwin.
Keynes, J.M. [1923] 1989. Population and Unemployment. In D. Moggridge (ed), 1917-1989, v. 19, pp. 120-125.
Keynes, J.M. 1936. The General Theory of Employment, Interest and Money. London: Macmillan.
Llewellyn Smith, H. 1893. *Report of the Agencies and Methods for Dealing with the Unemployed*. Board of Trade - Labour Department. Cmnd 7182.
Lindahl, E. (ed). 1958. Knut Wicksell: Selected Papers on Economic Theory. London: Allen and Unwin.
Magnusson, T. 1989. Poor-Unemployed-Worker: A Study of Key-Concepts in the Debate on the Social Problem in Sweden 1839-1913. In B Stråth (ed). *Language and the Construction of Class Identities*. Gothenburg, Condis Project Report no. 3, pp. 187-221.
Marshall, A. [1890] 1990. *Principles of Economics*. London: Macmillan.
Marx, K. [1887] 1938. *Capital: A Critique of Political Economy*, v.I. London: Allen & Unwin.
Mitchell, B. R. 1975. European Historical Statistics 1750-1970. London: Macmillan.
Mitchell, W. C. [1913] 1970. *Business Cycles*. New York: Burt Franklin.
Moggridge, D. (ed). 1971-1989. *The Collected Writings of John Maynard Keynes*. London: Macmillan for The Royal Economic Society.
Morishima, M. 1976. *The Economic Theory of Modern Society*. Cambridge: Cambridge University Press.
Neisser, H. [1932] 1990. The Wage Rate and Employment in Market Equilibrium. *Structural Change and Economic Dynamics*. 1 (1): 141-163.

Olofsson, J. 1996. Arbetslöshetsfrågan i historisk belysning - en diskussion om arbetslöshet och socialpolitik i Sverige 1830-1920. Lund Studies in Economic History 6. Lund: Lund University Press.

Pareto. V. 1897. *Cours D'Économie Politique*, v. 2. Genève: Librairie Droz.

Phelps, E. 1967. Phillips Curves, Expectations of Inflation and Optimal Unemployment over Time. *Economica*. 34: 254-281.

Pigou, A. C. 1913. *Unemployment.* London: Williams & Norgate.

Robinson, J. V. 1937. *Essays in the Theory of Employment.* London: Macmillan.

Samuelson, P. A. 1967. Marxian Economic Models. *American Economic Review - Papers and Proceedings.* 57 (May).

Schumpeter, J. A. 1954. *History of Economic Analysis.* New York: Oxford University Press.

Sowell, T. 1972. *Say's Law - An Historical Analysis.* Princeton: Princeton University Press.

Ståhl, I. 1978. Unemployment insurance: the Swedish case. Reprint series, Lund University, Department of Economics.

Swedberg, R. (ed). 1998. Knut Wicksell - Stridsskrifter och samhällsekonomiska analyser. Stockholm: City University Press.

Topalov, C. 1994. *Naissance du Chômeur 1880-1910.* Paris: Albin Michel.

Webb, S. and B. Webb. [1897] 1920. *Industrial Democracy*. London: Longmans, Green.

Webb, S. and B. Webb. 1909. *The Public Organization of the Labour Market.* London: Longmans, Green.

Weintraub, E. R. 1983. On the Existence of a Competitive Equilibrium: 1930-1954. *Journal of Economic Literature*. 21 (March): 1-39.

Wicksell, K. 1890. Tomme maver - og fulde magasiner [Empty Stomachs - and Full Warehouses]. *Samtiden*. 1(2,3): 245-257, 293-304.

Wicksell, K. 1892. Normalarbetsdag [The Standard working day]. Unpublished manuscript. Wicksell Archives, Lund.

Wicksell, K. [1893] 1954. *Value, Capital and Rent*. Trans. by S.H. Frowein. London: George Allen and Unwin.

Wicksell, K. [1898] 1936. Interest and Prices. A Study of the Causes Regulating the Value of Money. Trans. by R.F. Kahn. London: Macmillan.

Wicksell, K. [1899] 1999. Review of F. Linderberg, "Karl Marx og den Historiske Socialisme". Trans. by T. Chamberlain. In B Sandelin (ed). *Knut Wicksell: Selected Essays in Economics*, v. II, ch. 29. London: Routledge.

Wicksell, K. 1901. Arbetslösheten, dess orsaker och botemedel [On Unemployment, its causes and cures]. *Arbetet*. March 22.

Wicksell, K. [1901] 1934. *Lectures on Political Economy*, v. I. Trans. by E. Classen. London: George Routledge and Sons.

Wicksell, K. [1906] 1935. *Lectures on Political Economy*, v. II. Trans. by E. Classen. London: George Routledge and Sons.

Wicksell, K. 1907. Arbetslöshetens Problem [The Problem of Unemployment]. Unpublished manuscript. Wicksell Archives, Lund.

Wicksell, K. [1907] 1953. The Enigma of Business Cycles. Trans. by C. Uhr. *International Economic Papers*. 3: 58-74.

Wicksell, K. [1908] 1997. Why Are Factories Operations Being Curtailed? Trans. by T. Chamberlain. In B Sandelin (ed). *Knut Wicksell: Selected Essays in Economics*, v. I, ch. 13. London: Routledge.

Wicksell, K. 1919. Svenska Produktionsproblem. *Forum* no. 2-3: 16-17, 29-31.

Wicksell, K. [1919] 1934. Professor Cassel's System of Economics. Trans. by S. Adler. In *Lectures on Political Economy*, v. I, pp. 219-273.

Wicksell, K. 1923. Arbetslöshet. *Alarm*. no. 2.

Wicksell, K. [1923] 1981. Ricardo on Machinery and the Present Unemployment. In L. Jonung. 1981. Ricardo on Machinery and the Present Unemployment: An Unpublished Manuscript by Knut Wicksell. *Economic Journal*. 91 (March): 195-205.

Wicksell, K. [1924] 1958. Protection and Free Trade. In E. Lindahl (ed), pp. 250-266.

Wicksell, K. [1925] 1958. Mathematical Economics. In E. Lindahl (ed), pp. 204-226.

Wicksell, K. 1926. Arbetslöshetens Orsaker [The Causes of Unemployment]. Unpublished manuscript. Wicksell Archives, Lund.

Wicksell, K. Undated. Arbetslöshet - ett kåseri [Unemployment - a commentary]. Unpublished manuscript. Wicksell Archives, Lund.

Wicksteed, P. [1910] 1967. *The Common Sense of Political Economy*, v. 2. New York: A.M. Kelley.

Zeuthen, F. 1932. Das Prinzip der Knappheit, technische Kombination, und ökonomische Qualität. *Zeitschrift für Nationalökonomie*. 4: 1-24.