SCHUMPETER ON UNEMPLOYMENT

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The cause which leads to practically very striking unemployment is, essentially and in principle, temporary. Therefore, we can only explain transitory unemployment - and mainly as a frictional phenomenon - but not other kinds of unemployment. This result is not sufficient, but it is not without value. It doubtlessly explains a good deal of the phenomenon of unemployment, in my opinion its better half (Schumpeter [1911] 2002, p. 120).

It follows from our model that, basically, cyclical unemployment is technological unemployment ... It further follows that, like profits, technological unemployment is ephemeral. It might, nevertheless, be ever present, but, as in the case of profits, every individual source of it in the industrial organism tends to exhaust itself, while new ones emerge periodically. In the same sense as profits, moreover, it may be called frictional, since instantaneous adaptation of the system would kill it at birth (Schumpeter 1939, pp. 515-16).
1. Introduction

There have been three rounds of interest on Schumpeter’s ideas about unemployment. Oskar Lange’s (1941, pp. 192-93) criticism in his review of Business Cycles - that Schumpeter 1939 (in contrast with Keynes 1936) lacked a theory relating economic fluctuations and employment changes - was accepted by the literature at the time, and sparked off defensive reactions in articles by Edward Bennion (1943), Wolfgang Stolper (1943) and Rendigs Fels (1952), as well as in the well-known book by Richard Clemence and Francis Doody (1950, ch. 8). Whereas both Bennion and Fels attempted to remedy that by grafting upon Schumpeter’s business cycle model a Keynesian-type saving-investment apparatus, Stolper claimed that Schumpeter’s theory of employment is implicit in the latter’s proposition that the economy will converge to full-employment equilibrium unless wages are not flexible (as in Keynes). Clemence and Doody argued that employment changes cannot be the primary datum in Schumpeter’s framework because it is based on the assumption of shifting production functions that continuously destroy the link between employment and output.

After a long interval, interest on some aspects of Schumpeter’s approach to unemployment was resumed in the early 1980s as part of the celebrations of his centenary and of the return of long-waves to the research agenda, without challenging Lange’s negative assessment. Peter Kalmbach and Heinz Kurz (1986, p. 91), after discussing Schumpeter’s ([1926] 1934, ch. 6, section 5; 1954, part III, ch. 6, section 6 [h]) critical treatment of Ricardo’s machinery problem, concluded that Schumpeter was not able to give satisfactory answers to the effects of the introduction of labor-saving methods on employment and real wages and that he “wanted to escape a discussion” about the repercussion of technological progress on the economic system. In another centennial conference contribution, Peter Hammond (1984, pp. 66-68) suggested that Schumpeter’s ([1942] 1952, ch. 5) approval of unemployment relief implied that he interpreted unemployment as “involuntary” phenomenon, but Hammond did not substantiate that with an examination of Schumpeter’s other writings on unemployment. In their 1982 volume about long-waves, Christopher Freeman, John Clark and Luc Soete wrote that, although Schumpeter’s theory of long cycles caused by innovations provided the backbone to interpret the increasing unemployment of the 1980s, “Schumpeter had relatively little to say about unemployment and wages” (p. 21). Moreover, they criticized Schumpeter for neglecting the possibility that a particular wave of innovation “might first of all have big net employment generating effects but at a later stage some employment displacement effects” (p. 27). In their view, Schumpeter (1939) explained the higher levels of unemployment typical of the Kondratieff down-swings by general demand deficiency associated with low investment and profitability, and not with changes in the rate of job creation and destruction associated with a particular level
of investment. Later on, in a survey about employment and technical change that covered in part the same ground as Kalmbach and Kurz (1986) and Freeman et al (1982) - but not the developments mentioned in the next paragraph - Pascal Petit (1995, p. 370) stated that Schumpeter made major contributions to economic theory in the 1930s, but that “these did not directly address the whole issue of technological change and employment”.

After these two early critical rounds, Schumpeter’s ([1911] 2002, pp. 118-20; [1926] 1934, pp. 149-51; [1934] 1951, p. 113, 1939, pp. 511-17; [1942] 1952, chapters 5 and 7; 1954, pp. 944, 1135) perspective - that unemployment should be interpreted as a frictional phenomenon that results from the reallocation of factors of production from contracting production unities to expanding ones in the “creative destruction” process characteristic of economic growth - became the dominant approach in the new macro labor literature started in the 1990s (see e.g. Philippe Aghion and Peter Howitt 1994, 1998; Howitt 1994; Ricardo Caballero and Mohamad Hammour 1994, 1996; Christopher Pissarides 2000; Patrick Francois and Huw Lloyd-Ellis 2003, 2005; Fabien Postel-Vinay 2002; Dale Mortensen and Pissarides 1999; Mortensen 2005). This represented a turn-around in the profession’s perception of the relevance of Schumpeter’s analytical framework to the study of unemployment. The neo-Schumpeterian paradigm of unemployment resulted from the combination of two theoretical changes that took place in the late 1980s, that is, the endogenous growth literature (Paul Romer 1986) and the models of search and matching equilibrium in the labor market (Pissarides 1990). The neo-Schumpeterian version of endogenous growth theory emphasizes quality-improving innovations that make old products and old firms obsolete through Schumpeter’s “creative destruction”. Its implications for labor market dynamics come from the view that the process of match formation and dissolution requires time and resources. The reallocation of workers from old to new jobs, caused by the creative destruction process, entails search on the part of workers, and hence unemployment.

Although Schumpeter’s ideas about economic growth and innovation have been an important source of inspiration for the new paradigm, it should be noted that modern authors seldom - if ever - refer to specific passages from Schumpeter’s (1911[2002], [1926] 1934, 1939, 1954) discussion of unemployment issues. The only passages that are often mentioned in current literature are Schumpeter’s ([1942] 1952, p. 83) concept of “creative destruction” (see e.g. Francois and Lloyd-Ellis 2003, p. 530), and his related remark about depressions and cyclical unemployment as “the means to reconstruct each time the economic system on a more efficient plan” (Schumpeter [1934] 1951, p. 113; see e.g. Howitt 1994, p. 765). Postel-Vinay’s (2002, p. 738, n. 2) observation that Schumpeter did not specifically connected the notion of creative destruction to the unemployment problem is illustrative of the limits of Schumpeter’s direct influence on modern literature. In the same vein, Howitt’s (1994, p. 768) overview of the history
of the notion of technological unemployment refers to Ricardo (1821) and Wicksell ([1901] 1934) on the machinery problem, but not to Schumpeter. Caballero and Hammour (1996, p. 842) do mention that “technological unemployment, as described by Schumpeter, is a natural result of the frictions indigenous to the process of reallocation”, but they do not provide textual evidence to support their claim.

Time seems ripe to reassess Schumpeter’s approach to unemployment. The present paper provides, for the first time in the literature, a comprehensive investigation of the evolution of Schumpeter’s understanding of unemployment phenomena. In the next section we show that Schumpeter’s long term concern with unemployment was often, especially in its first stages, part of his overall discussion of the welfare effects of economic development. Section 3 examines Schumpeter’s positive theory of unemployment as displayed particularly, but not only, in chapter 9 (section D) of his 1939 book. Together with a German article on the controversy about unemployment benefit in Germany, published in 1926/27, that is the only piece written by him with the word “(un)employment” in the title. Finally, Schumpeter’s reflections about the implications of his unemployment views for economic policy are discussed in section 4. That section also addresses Schumpeter’s interpretation of the role of wage rigidities, which are of marginal relevance to his core model of economic fluctuations but may become important under particular circumstances.

2. Technological Progress and Welfare

The starting-point to study the evolution of Schumpeter’s unemployment theory is chapter 7 of the first edition of his 1911 classic Theorie der wirtschaftlichen Entwicklung. That chapter - titled “Das Gesamtbild der Volkswirtschaft” (“The economy as a whole”) - was omitted from the second (1926) German edition, from which the 1934 English translation was made. It became known in the literature as “the lost chapter” (see Shionoya 1997), and was eventually translated into English in 2002. The reasons for Schumpeter’s decision to remove that chapter can be found in the preface to the second edition.

The 7th chapter of the first edition is completely eliminated. If it had any effect at all, it was - for me - an undesirable one: the fragment of cultural sociology that it offered, among other things, has sometimes distracted the attention of the reader from the problems of dry economic theory whose solutions I wish to be understood, and it has accidentally brought upon me a sort of acclaim that I find just as fatal as the rejection of the incapable (Schumpeter 1926, p. xi).
However, apart from the “fragments of cultural sociology”, that chapter included a section titled “Der wichtigste Spezialfall” (“An important special case”), which is a discussion of the implications of labor-saving technical change (Ricardo’s machinery question) for the trend of employment and real wages along the path of economic development (Schumpeter [1911] 2002, pp. 117-20). Although chapter 6 of the 1911 edition was about “Das Wessen der Wirtschaftskrisen” (“The nature of economic crises”), it barely mentioned unemployment. Chapter 6 was basically a reproduction of several sections of an article with a similar title published a year before (Schumpeter 1910; translated 2005), where Schumpeter advanced the first outline of his theory of economic development. In the second edition Schumpeter changed the title of chapter 6 to “Der Zyklus der Konjunktur” (“The business cycle”) and revised it extensively. Of particular interest is the new section 5 of the revised chapter 6 (Schumpeter [1926] 1934, pp. 241-51), which, as described in the detailed table of contents of the 1926 edition (excluded from the 1934 translation), inquires how “the process of depression runs its course in a state of nearly complete lack of development; the process of depression as a fulfiller; the different categories of economic agents in the depression; the real wage in prosperity and depression”. As discussed below, those last two subsections evolved from the 1911 “special case” section, together with another section (Schumpeter [1911] 2002, pp. 109-17) titled “Die Wirkung der Entwicklung auf die einzelnen Wirtschaftssubjekte” (“The effect of development on the different economic agents”). Their subject is the same, that is, the theoretical investigation of the effects of “economic development” - in the Schumpeterian sense of growth of productivity through cyclical waves of technological progress - on the welfare of economic agents, particularly workers.

Schumpeter ([1911] 2002, pp. 111-12; [1926] 1934, pp. 232, 248) argues that the new demand of entrepreneurs for means of production in the upswing, when new production methods are being introduced and investment demand goes up, brings about higher real wages and employment. However, because of the rising price level, workers “often do not gain a whole lot” in the prosperity phase ([1911] 2002, p. 114).1 In the downswing, when the new products become available, prices fall and the entrepreneurial profit of the previous boom is, according to his pure model without unemployment effects, turned into higher real incomes of the primary factors labor and land ([1911] 2002, pp. 114-15; [1926] 1934, p. 249). Such an increase in both real wages and the aggregate real wage bill of workers is “much more important than the rise in their money incomes in the period of upswing” ([1911] 2002, p. 115). In Ricardian terms, “the values of all goods decreased, because, due to the improvements in the methods of production less work is required for their production, and more goods than before are necessary to buy the same quantity of work” (ibid). The fall in real costs per unit of product that takes place in the downswing is the consequence of the technical progress realized by the boom ([1926] 1934, p.
Schumpeter observes that his conclusion about the positive long-run effects of technical progress on economic welfare agrees with the prevailing opinion among economists: “It is widely accepted that the basic fact which explains the influence of development on wages and rents is the following: Through the influence of development labor and land will produce more goods than before. Hence, in the long-run all permanent achievements of developments either increase wages or rents” ([1911] 2002, pp. 116-17).

There is, however, an important exception to that result, as Schumpeter ([1911] 2002, p. 117) points out in his discussion of the “important special case”. The new companies that carry out the “reorganization of the economy towards efficiency” can either directly be designed to cut production costs through a more effective organization (as implicitly assumed in the paragraph above), or they can produce new means of production “which have a saving effect”. In both cases the first impact is an increase in the demand for primary factors to produce the new goods, but in the latter case this is followed by a reduction in the demand for labor and land when the new means of production are applied to production and “compete” with the primary factors. As stressed by Schumpeter (p. 118), the crucial point is not the technical reduction of costs *per se*, but the decline of the demand for labor and land caused by it.3 “This is the reason why, obviously, the cost-saving function of development hurts the producers’ interest of workers and landowners in a way which seems to be very analogous to how the interests of the owners of old durable goods are being hurt” in the depression (p. 117). This is the question discussed by Ricardo (1821) in his path-breaking new chapter “On Machinery” and then by several other authors listed by Schumpeter (p. 117, n. 18), such as McCulloch and Marx.

The machinery problem had attracted Schumpeter’s attention even before writing his 1911 *Theory of Economic Development*. Already in his first book - which dealt with economics largely from a static equilibrium standpoint - Schumpeter (1908, pp. 516-18) claimed that the use of the “variation method” (that is, the marginalist approach) should take the treatment of the effects of technical progress to another level as compared to Ricardo’s original analysis and the controversy that followed it. According to Schumpeter (p. 517), the scientific debate about the consequences of labor-saving invention led to no conclusions, until “theory was deserted due to exhaustion”. However, instead of rejecting theory, one should search for a “better theory”. “How can we achieve it?” asks Schumpeter. Firstly, the matter must be treated as part of the field of “dynamics”, since “a main cause of the inconclusiveness of the controversy is certainly the failure to distinguish between the ‘immediate’ and the ‘indirect’ effects, between the short and long periods. Marx and his disciples have mainly emphasized the former, whereas the compensation theory stressed the latter” (ibid). Schumpeter suggests that new machinery should be introduced into the static system of his book in a way that could capture the ensuing “redundancy” of labor - by assuming that the entrepreneur who purchases new machinery “now
suddenly has acquired possession of a quantity of labor” (p. 518). The “variation method” would then “in its exact and clear fashion” provide the answers to the effects of the introduction of labor-saving methods. Schumpeter however did not explain on that occasion how exactly the marginalist approach could improve on the classical treatment of the consequences of new machinery for income distribution and employment. In 1911 he would bring into the picture, somewhat hesitantly, the role of wage changes as an equilibrating mechanism, but it would be only after the publication of John Hicks’ 1932 Theory of Wages that matters would become clear to Schumpeter (1939, [1942] 1952, 1954, as discussed below.

Schumpeter ([1911] 2002, p. 118) started his analysis of the machinery problem in chapter 7 by stating that the effect of the introduction of labor-saving methods in a particular industry depended on the elasticity of the supply and demand curves for that good. In principle, the reduction in labor demand was just a possibility. If such a reduction indeed took place, then one would have to consider the “counterweights” represented by wage changes in an economy with plenty of substitution between production factors, as Schumpeter usually assumed. “We saw that any decline of the rate of interest necessarily brings new entrepreneurs into action. This necessarily makes new combinations possible, and leads to their realization. For the same reason, a decline in the prices of the original means of production must have a similar effect. Here the decline [in the demand for primary factors] finds its effective break - it cannot go further” (p. 119). This “dynamic” marginalist argument implies that the fall in real wages increases the profitability of old labor-intensive technology and leads to the reabsorption of workers displaced by the (partial) introduction of the new technology, as first elaborated by Knut Wicksell in the examination of the machinery problem in his 1901 Swedish Lectures. Schumpeter neither referred to Wicksell nor realized the full implications of the 1911 “counterweight” argument. In any event, his conclusions are similar to Wicksell’s in that “the freed workers would push towards bringing the wage down, but would have to find employment at the lower wage” (pp. 119-20). This follows from Schumpeter’s implicit invocation of the law of free goods in his remark that “workers who lose their position due to the introduction of machines could not remain permanently unemployed [for] there is no market where it can happen that a part of of the supply of a good does not find its relevant demand, while the rest is being sold for the usual price” (p. 119; see also Schumpeter 1954, p. 683). Labor-saving innovations may reduce real wages permanently, but the fall in employment can be temporary only. The upshot of Schumpeter’s discussion of the employment effects of new machinery is that

Since a decline in demand for original means of production is by no means certain to happen and can not go beyond a minimum for a determinable period of time, we will not put much emphasis on this special case of the process of the decline in status and class in general. Every now and then, and in particular locally, it can certainly occur very
forcefully; in particular, it will look very bad if one considers only the first of the two periods into which the phenomenon is divided by time (ibid; italics in the original).

Schumpeter ([1926] 1934, pp. 250-51) came back to the machinery problem in the new chapter 6, but this time he mixed two different kinds of argument: the compensation point of view, based on Say’s law, and the marginalist perspective based on wage changes. According to Schumpeter, the diminution of labor demand due to the mechanization of the productive process cannot be permanent, because “the expenditure of that part of entrepreneurial profit which is not annihilated by the fall in prices necessarily more than prevents any lasting shrinkage” (p. 251). He immediately qualified that statement by pointing out that there is only one way economic development can permanently reduce labor demand: “If in the new combinations it shifts the relative marginal significance of labor and land which obtained in the old productive combinations sufficiently to the disadvantage of labor”. This will cause a permanent fall of the absolute amount and share of labor in aggregate income (but not in the employment level). The same effect may be provoked by the “practically more important case” of a “shift in the demand in favor of produced means of production already in existence” (ibid). The microeconomic argument about elasticities in the markets for goods deployed in 1911 was gone; at the same time, the influence of Wicksell’s ([1901] 1934, pp. 133-44; 164-65) pioneer treatment of the effects of technical change in terms of marginal productivity theory is very likely in the last quotation above, since the Lectures had been available in German since 1913.

Although Schumpeter did not mention Wicksell in that connection, he would later refer to Hicks’s (1932, ch. 6 on “distribution and technical progress”) further application - explicitly based in part on Wicksell - of marginalist theory to the distribution repercussions of technical change. As observed by Schumpeter (1939, pp. 80, 574), a labor-saving innovation - in Hicks’s sense of an increase in the marginal productivity of capital relative to labor at a given capital-labor ratio - will tend to lower real wages and the wage share, but its effect on the wage bill depends on the elasticity of substitution between labor and capital goods. “Since most innovations are not only labor-saving themselves but induce adaptations that are also labor-saving”, the “relative marginal significance of labor in the productive process” will change through economic development and the “wage bill may decrease whatever happens to the total income” (p. 574). This is different from the incipient and inconclusive earlier attempts made by Schumpeter, in both editions of The Theory of Economic Development, to apply marginal analysis to the machinery problem. “We therefore meet again the problem of machinery and labor ... But we meet it now in its fundamental aspect, for technological unemployment is but a special and, moreover, as we have seen, a temporary form of the effect of technological improvement on the wage bill” (ibid). Schumpeter’s enthusiasm for Hicks’s analytical
framework is even more evident in the section about “distributive shares and technological advances” in the *History of Economic Analysis*, where he wrote that the 19th century controversy about the machinery problem, in the form of arguments pro and con compensation, is “dead and buried” and “vanished from scene as a better technique filtered into general use” (1954, p. 684; see also [1942] 1952, p. 36). Schumpeter’s earlier 1926 confusion between compensation arguments (mainly in the form of Say’s law) on one side and the marginal productivity theory on the other also vanished from sight after the mid 1930s.

Apart from the machinery problem, there was, according to Schumpeter ([1911] 2002, p. 120; [1926] 1934, pp. 249-50), another factor that should be taken into account in evaluating the welfare effects of economic development: the downswing of the business cycle.

We also know of a second reason for unemployment. During times of crises, almost always workers become unemployed in the normal process of liquidation and reorganization. Yet no one doubts the temporary character of this kind of unemployment. It is often very serious. It is in practice much more important than the one mentioned before. But it is only a special case of the comprehensive effects of depression, which affects all classes of society in principally the same way, and which disappears by itself together with the depression ([1911] 2002, p. 120).

Despite the increase of the real wage rate in the depression, the real income of workers falls during that period because of temporary unemployment caused by three factors ([1926] 1934, pp. 249-50). The uncertainty created by the disturbance of equilibrium and change in data in the boom makes it impossible to old and new firms alike to rationally formulate plans for the future, and therefore “upsets many firms and reduces others to idleness for a time. This must result among other things in unemployment, the essentially temporary character of which does not alter the fact that it is a great and under certain circumstances annihilating misfortune for those concerned” (see also [1910] 2005, p. 42). The second contributing ingredient to unemployment is the elimination or contraction of old firms by the appearance in the market of new and more productive firms. As pointed out by Schumpeter (1910 2005, p. 41), in the depression “the evaluations of the static economic agents continue to prove a failure - their returns also change; this makes a readjustment of all net assets necessary, and this readjustment expresses itself in its part in taking away from or adding to the previous assets”, with ensuing devaluation and obsolescence of old capital goods. Even if job destruction in the static firms is matched by job creation in the dynamic ones, unemployment will not prevented, as “there may be difficulties and frictions which, with the incomplete functioning of the labor market, weigh disproportionately heavily in the balance” ([1926] 1934, p. 250). Interestingly enough, Schumpeter’s stress on the
difficulty of workers to adjust to changes in the labor market seems to have been influenced by his reading of Karl Marx: “As far as [the primary factors] have difficulties with the transition to other uses - this is what Marx emphasized so heavily - then a phenomenon of economic friction is embedded in there” ([1911] 2002, p. 116). Finally, unemployment will also go up in the downswing because of the diminished labor demand associated with the completion of investments in new capital goods started in the boom ([1926] 1934, p. 250). This introduces into the analysis an intertemporal coordination problem, but Schumpeter did not pursue it.

Except for the “qualification” represented by the possibility of permanent negative effects of labor-saving innovations on real wages, Schumpeter reaffirmed the conclusion of chapter 7 of the first edition of *The Theory of Economic Development* that the unemployment of the cyclical downswing is part of the “temporary reactions” that overshadow the economic nature of depression as a process of “diffusion of the achievements of the boom over the whole economic system through the mechanism of the struggle for equilibrium” ([1926] 1934, p. 251). The thesis that the instabilities of capitalism, which arise from the process of innovation, tend to correct themselves, “and do not go on accumulating”, was one of the main points of his 1928 *Economic Journal* article (Schumpeter [1928] 2005, p. 310). One of its implications is that the long-run rate of unemployment is stationary, a prediction that, according to Schumpeter, had been confirmed by data.

I do not think that unemployment is among those evils which, like poverty, capitalist evolution could ever eliminate of itself. I also do not think that there is any tendency for the unemployment percentage to increase in the long run. The only series covering a respectable time interval - roughly the sixty years preceding the First World War - gives the English trade-union percentage of unemployed members. It is a typically cyclical series and displays no trend (or a horizontal one) (Schumpeter [1942] 1952, p. 69).

The series mentioned by Schumpeter can be found as chart XX of his 1939 *Business Cycles* (p. 512). He would later claim that the stationarity of long-run unemployment is also a feature of the series up to 1929 (Schumpeter [1946] 1951, p. 200), which led him to stress once again the positive welfare effects of economic development: “the capitalist process has always absorbed, *at increasing real wage rates*, not only the unemployment it generated but also the increasing population” (ibid; italics in the original).

Schumpeter’s unemployment series has been extended up to 1990 in the book by by Layard, Nickell and Jackman (1991, pp. 3-5). Like Schumpeter, they have concluded that unemployment is untrended over the very long term. Such empirical evidence has led some authors to regard the absence of long-run effects of the level of productivity on the steady-state
(or “natural”) rate of unemployment as one of the conditions that any unemployment model should satisfy (see e.g. Blanchard and Katz 1997, p. 56). It should be pointed out, however, that there is as yet no consensus about the sign (if any) of the long-term empirical correlation between unemployment and productivity (or economic growth), although the zero correlation is often found (see e.g. Mortensen 2005).

From a purely theoretical perspective, the relation between productivity growth and unemployment has been approached in two different ways in the literature, depending on the assumption about the character of technical progress. Under the assumption of disembodied technology, faster technological progress leads to more job creation in the steady state through the “capitalization” effect: since the costs of job creation are paid initially, faster technological progress means a lower effective discount rate on future profits and hence higher present value for profits (Pissarides 1990, ch. 2). If variations in the rate of job destruction are mostly high-frequency (that is, they can be assumed to be constant across business cycles), the effect of faster growth in the disembodied case is to increase job creation and reduce unemployment. In the alternative vintage model, the new capital is assumed to be embodied only in newly created jobs. The notion that new technology cannot be adopted by existing jobs and that the introduction of new technology requires the creation of new jobs with new capital goods is close to Schumpeter’s approach. It implies that technical progress entails a transition of workers to unemployment and search for a job in the new firms. Therefore, faster technical progress brings about more labor reallocation and - because of frictions inherent to the working of the labor market - higher unemployment caused by lower job creation and higher job destruction flows. This positive effect of technical progress on unemployment is called (after Schumpeter) “creative destruction” effect (Aghion and Howitt 1994; see also Mortensen and Pissarides 1999; Pissarides 2000, ch. 3).

It is worth noting that modern models of creative destruction in the labor market do not challenge the Wicksell-Hicks neoclassical view (adopted also by Schumpeter) that the introduction of labor-saving methods have no long-term effects on unemployment. As pointed out by Howitt (1994, p. 768), the mainstream view focuses upon the effect of a single technological innovation, not on the effects of an increase in the rate at which technological progress takes place. Even if the workers displaced by a single innovation will eventually find new jobs, “the faster the pace of job-destroying innovations the greater will be the flow into unemployment in any given situation, and therefore the greater will be the steady-state rate of unemployment”. Schumpeter was aware that the effects of a constant rate of technological progress on the level of long-run unemployment would be permanent: “technological unemployment, even if essentially temporary so far as the effects of any individual act of mechanization is concerned, may evidently become a permanent phenomenon through being
incessantly recreated” (Schumpeter 1954, p. 944; see also the second quotation that opens this paper). However, except for a brief elliptic passage in the 1911 chapter 7, he did not discuss the effects of a 

faster rate of technological progress on long-run unemployment (that is, a comparison between different steady-states).

Workers who lose their position due to the introduction of machines could not remain permanently unemployed [because of the ensuing wage fall]... Only if due to the introduction of new machines ever more new workers would have to be laid off, would there always be a number of unemployed workers in the economy, and this number would be increasing with development. But development does not have such a tendency to make labor inputs superfluous. To the contrary, development has the tendency to create ever more demand for labor... Hence, let us state the matter thus: that cause of permanent - and ever worsening - unemployment simply does not exist as such and only forms the basis of temporary unemployment ([1911] 2002, pp. 119-20).

This is a confusing passage. The claim that development must be accompanied by a higher rate of labor creation is apparently motivated by the Say’s law notion that the higher output associated with increasing productivity entails more demand for goods and primary factors (cf. Schumpeter [1911] 2002, p. 117, top). It could also be explained by the higher labor demand caused by increasing investment demand in the upward phases of the business cycle, when the new machines are being produced (cf. [1911] 2002, p. 118, bottom), but this is compensated by investment contraction in the downswing. Purely on the basis of Schumpeter’s interpretation of the machinery problem, the notion of a positive relation between the pace of technological progress and unemployment cannot be assumed away. But then, if this is accepted, “one would even have to wonder less about [the fact of] unemployment itself than about the fact that unemployment does not reach even much further than it does now” (p. 119). Unemployment data would eventually convince Schumpeter that a positive correlation between productivity growth and long-run unemployment was out of the question.

3. Disequilibrium, Frictions, and the Normal Rate of Unemployment

Schumpeter noticed in 1911 the implications for the scope of unemployment theory of his conclusion that economics can explain unemployment as a temporary frictional phenomenon only. “From this it follows immediately that the phenomenon of unemployment with the means of pure theory, i.e. from the essence of the economic mechanism, cannot be explained without an
unexplained remainder” ([1911] 2002, p. 119). Although the interpretation of unemployment as friction explained its “better half” (see the opening quotation of this paper), Schumpeter pointed out the “negative meaning” of his result.

One can rather conclude from the fact that unemployment cannot be completely explained by theory that as far as it remains unexplained it rests on other causes than those which lie in the essence of the economic process. If we wanted to investigate the problem of unemployment, then we would now look for other causes directly in the given data of facts. We would not expect to find a comprehensive phenomenon that explains it all, but we would expect to find a lot of different explanations, which would vary with respect to location and time ([1911] 2002, p. 120).

Despite the acknowledged limitations of the purely theoretical deduction of unemployment as friction, Schumpeter (1931, p. 8) would claim in one of his Tokyo lectures that the time series of unemployment (as well as other variables such as prices, output and loans) “move very much as they should according to this [business cycle] theory”. That was probably the basis for the statement, made at the start of his article about German unemployment in the 1920s, that “our embarrassing ignorance” about the causes of unemployment at the time was not due to any deficiency of economic theory - “which offers all we need for the basic understanding of the phenomenon” - but to the multiplicity of mutable facts whose significance changes continuously (Schumpeter 1927/27, pp. 153 and 157).

In order to understand the several factors that affect the unemployment time series, Schumpeter (1939, ch. 9, section D) introduced a new unemployment taxonomy. Although his classification of types of unemployment can be seen in part as a critical reaction to Keynes’s (1936, ch. 2) better-known division into frictional, voluntary and involuntary forms of unemployment, Schumpeter’s purpose was mainly empirical. According to Schumpeter (1939, pp. 511-14), unemployment phenomena should be grouped into two broad sets: (i) unemployment present in the “neighborhoods of equilibrium”, called “normal unemployment”; and (ii) unemployment that is characteristic of economic fluctuations in disequilibrium, which he subdivided into “disturbance unemployment” (caused by factors external to the economic system, such as wars or innovations carried out in other countries) and “technological unemployment” (arising from disturbances by innovation within the system).9

The phrase “normal unemployment” had been used before by Hicks (1932, ch. 3) to express forms of unemployment - unemployable workers of low efficiency, search unemployment, voluntary change of job by workers, and casual labor - that do not represent excess supply in the labor market and, therefore, do not tend to move the wage rate downward
(see also Boianovsky and Trautwein 2003, where the earlier use of the term in Swedish by Knut Wicksell and Gustav Cassel, with a meaning similar to Hicks’s, is discussed). This is close to Milton Friedman’s well-known “natural” rate of unemployment. Schumpeter was probably influenced by Hicks in that regard, but the meaning is not the same. Schumpeter (1939, p. 511) defined normal unemployment as “the unemployment that would at any point exist if the system had already reached the neighborhood of equilibrium toward which it is tending”. It comprises seasonal unemployment, unemployability, change of residence, occupation or job, and “imperfections of competition or of equilibrium”. Disequilibrium unemployment may be “supernormal” (above equilibrium) or “subnormal” (below equilibrium). Schumpeter was at pains to stress that the several forms of unemployment are not independent from each other, which means that the rate of normal unemployment is not an independent quantity that could be added to other independent amounts of other sources of unemployment. It is rather the “percentage of workers unemployed which would exist in the absence of disturbances of equilibrium” in the economic system (p. 513). It is not the average value of the unemployment rate in a series of years, but the rate observed when the business cycle is passing through its neighborhood of equilibrium; for the pre-First World War period Schumpeter selected the year 1897, when the unemployment figure was 3.3% in England. As suggested by Schumpeter (p. 511), his concept of normal unemployment should replace the imprecise notion of “structural unemployment”, often used by Emil Lederer and other German economists at the time.

Another category that Schumpeter sometimes included as part of normal unemployment is the unemployment caused by a deviation of wage rates from the figure at which normal unemployment would be produced, that is, “unemployment that takes the place of adaptation of wages to that figure”, called “vicarious” by Schumpeter (ibid). It is “normal” as long as it lasts throughout the whole period under analysis. Schumpeter also envisaged the use of the term “vicarious” to describe unemployment that could be removed by a wage fall outside the neighborhoods of equilibrium, but this makes the concept “extremely difficult to handle” (p. 514). A case in point is Schumpeter’s (pp. 838-39) interpretation of output fluctuations in the American economy in the 1920s: the business cycle was not affected by wages being “too high”, since, within limits, a wage level that persists through a decade “becomes a datum to which the system will in general adapt itself without changing its mode of working”. One of the forms of adaptation is the replacement of labor for capital in the production process, with ensuing (vicarious) unemployment. As discussed in the next section, the connection between high wages and unemployment is anything but straightforward in Schumpeter’s framework.

The unemployment form associated with business cycles is the technological one, according to Schumpeter (pp. 514-15). He used the phrase “technological unemployment” in his *Business Cycles* to describe not only the displacement of workers by machinery (as in [1926]
1934, p. 250), but also the direct and indirect effects on unemployment of every kind of labor reallocation induced by innovations through changes in the production functions and the replacement of old by new firms (that is, the creative destruction process). It was the priority of this broad concept of technological unemployment over the kind of unemployment caused by wage rigidity that set Schumpeter apart from the rest of the economic literature.

Few, if any, economists realize the one major point that the writer wishes to make. They have a habit of distinguishing between, and contrasting, cyclical and technological unemployment. But it follows from our model that, basically, cyclical unemployment is technological unemployment. For vicarious and disturbance unemployment are, in the main, but understandable incidents, though quantitatively important in practice, which we could abstract from without thereby blotting out any essential contours. Technological unemployment, however, is of the essence of our process and, linking up as it does with innovation, is cyclical by nature (1939, p. 515; italics in the original; see also [1926] 1934, p. 250, item d).

Also in contrast with much of the contemporaneous literature, Schumpeter associated the notion of economic frictions not just with normal unemployment (as Hicks 1932 had done), but specially with cyclical unemployment, which owes its existence to the fact that the adaptation of the system to a new equilibrium is not instantaneous (1939, pp. 515-16; cf. [1926] 1934, p. 238, last paragraph). The word “friction” may be interpreted not only in the sense of the time-consuming searching process in the labor market (as in [1926] 1934, p. 250, item b), but in the wider meaning of lags in the convergence to equilibrium - caused by costs incident to change of occupation or shift from the production of one sort or quality of commodity to another one, transactions costs, resistance to change of some prices, long-time contracts, difficulty of “persuading oneself or other people to act”, etc (1939, p. 50). As pointed out by Schumpeter (ibid), the presence of friction will entail an equilibrium different from that which would be reached in a frictionless world (cf. the notion of “normal unemployment”), as well as slow up the convergence to equilibrium (cf. the notion of cyclical “technological unemployment”).

Whereas in chapter 7 of the first edition of The Theory of Economic Development Schumpeter had suggested that frictions could account for only part of unemployment (its “better half”), he gradually moved to the position that economic frictions provided an explanation for a large component of the phenomena - if not all of it. This is clear in his rejection of Keynes’s (1936, ch. 2) indictment that “classical” economists (in Keynes’s sense) knew of no unemployment other than frictional. According to Schumpeter (1954, pp. 944, n. 57; 1135; 1177,
n. 12), the indictment is either false - since pre-Keynesian economists did recognise several forms of unemployment - or tautological - if a wide definition of “frictional” is adopted.

We are free, of course, to define the concept of frictional unemployment so widely as to include technological unemployment and also the other types of unemployment that were recognised - mainly: unemployment from imperfections of competition; unemployment from monetary causes; and unemployment from business fluctuations, whatever their cause - but then the indictment loses its force for, thus defined, friction is no longer an obviously inadequate explanation of the observed facts of unemployment (1954, p. 944, n. 57; italics in the original).

Schumpeter ([1911] 2002, p. 119, n. 20) had mentioned Beveridge (1909) as a standard reference in the vast unemployment literature, and repeated it in the History of Economic Analysis as part of the footnote about frictions quoted immediately above. However, while it is true that Beveridge was the first in the English literature to emphasize the pivotal role of frictions in the working of the labor market (see Boianovsky and Trautwein 2003, pp. 390-91), he did not, in the way suggested by Schumpeter in the last quotation, claim that economic frictions could encompass unemployment phenomena as a whole. From that perspective, Schumpeter’s counterattack may be understood as a defense of his own approach against Keynes’s concept of “unemployment equilibrium”.

Like many others at the time, Schumpeter (1939, pp. 52, 161; 1952, p. 287, n. 34) rejected Keynes’s argument that permanent or equilibrium unemployment could be a feature of a perfectly competitive system with flexible prices and wages. Schumpeter did incorporate into his analytical framework the existence of unemployment as an equilibrium phenomenon, in the guise of “normal unemployment”, but that is, of course, very different from Keynes, even if partly motivated by The General Theory. As observed by Schumpeter (1939, p. 160), “it has, with many economists, become a fashion to make the presence of unemployed resources - labor, in particular - a datum of the problem of cycles, to base their theories on it and to object to other theories on the ground that they neglect it and fail precisely because they neglect it”. That passage sounds like an anticipation of Lange’s (1941) criticism of the absence of an unemployment theory in Business Cycles. In order to deal with the presence of unemployment independently of the disequilibrium process of the business cycle, Schumpeter (p. 161) introduced the notion of unemployment due to “imperfections of both competition and equilibrium”, which would become part of his concept of “normal unemployment”. Under this assumption, “full employment ceases to be a property of equilibrium states” (ibid, italics in the original). Apart from the economic frictions mentioned above, such “imperfections” are explained by the assumption of imperfect competition in the market for goods. The presence of
monopolistic competition and nominal price rigidity means that the economy will tend to a different equilibrium with excess capacity and unemployment (pp. 66-67; cf. Blanchard and Kiyotaki 1987).

Interestingly enough, Schumpeter (1926/27) had argued before that “rationalization” of the productive process (in the sense of substitution of machinery for labor on the one hand, and “Taylorization” on the other) could cause not just temporary, but permanent unemployment, if the free competition assumption was replaced by “quasi-monopolistic” market structures. Technological unemployment in imperfectly competitive markets was the main cause of German unemployment in the 1920s, according to Schumpeter (1926/27). This could be expressed in terms of the 1939 framework as an increase of the normal rate of unemployment. Indeed, as pointed out by Schumpeter (1939, pp. 516-17), “institutional changes, insertion into the system of additional permanent rigidities, emergence at any time of imperfections that had been absent before, for instance, of the oligopolistic type” are able to produce a positive trend of the long-run (normal) rate of unemployment.

The main reason why Keynes and other economists had separated cyclical from technological unemployment, was, according to Schumpeter (1939, p. 518; 1952, p. 283), their focus on short 40 months cycles (called “Kitchin” by Schumpeter), instead of the 9 years “Juglar cycle”, and specially the 60 years “Kondratieff long-waves”. This is explained, in Keynes’s case, by his short-run assumption of given production methods. Schumpeter (1939, pp. 516-18) claimed that a close examination of the unemployment time series for the pre-First World War period reveals the absence of a trend (that is, a steady normal rate of unemployment), together with the supernormal unemployment levels of the depression phase of the second Kondratieff and the presence of an unemployment peak every 9 years, reflecting the “clusters of innovation” typical of the Juglar cycle. In the rest of volume II of his Business Cycles, Schumpeter carried out a detailed historical investigation of the behavior of the main time series (including unemployment) for the 1920s and the period after the 1929 world crisis, which, in his view, confirmed the ability of his business cycle theory to explain fluctuations in employment. Although “vicarious unemployment” did play a role at times after the 1920s (in contrast with the pre-First World War period, when it was largely irrelevant), wage rigidity would become a major influence only much later. A good illustration of Schumpeter’s application of his general analytical framework to a particular situation is the interpretation of UK unemployment in the mid 1930s. The first visible feature of the data was the heterogeneity of unemployment figures in different sectors of the British economy. According to Schumpeter (1939, p. 969), these examples

Proves that much of the total volume of unemployment was intimately linked to conditions peculiar to individual industries and that a great part of the
phenomenon must be missed by aggregative theories... This does not mean, of course, that “causes” are not amenable to general formulation. On the contrary, these differences are the very results of our process of reorganization and elimination, which we designate by the term competing-down, including therein the geographical rearrangement. We are faced both with states of disequilibrium and with a movement toward a new equilibrium... The problem is ... not a permanent one... It has nothing to do with any inherent inability of the capitalist mechanism to attain equilibrium or with any inherent tendency of it to establish subnormal equilibrium.

The 1911 skepticism about the feasibility of an economic theory of unemployment was largely gone.

4. Wages, Unemployment Benefit, and Policy

In contrast with Britain and most other countries at the time, unemployment was persistently severe in the US economy in 1933-39, a fact that seemed to challenge Schumpeter’s claim that the long-run rate of unemployment is untrended. The apparent stagnation of the American economy raised a debate about capitalist decay, of which Schumpeter (1939, ch. 15, section G.5 on the “stagnation of the capitalist process”; [1941] 1991; [1942] 1952, part II; 1943; [1946] 1951, section 8) and Alvin Hansen (1939, 1941; see Mehrling 1997, ch. 7) were the main protagonists. Instead of Hansen’s theory of “vanishing investment opportunity”, Schumpeter submitted that the explanation for the prevailing low profit expectations were the “anticapitalist policies” adopted in most European countries ever since the First World War and in the US since 1933. According to Schumpeter (1939, p. 1038) the appearance of these policies is endogenous to the capitalist economy itself, which “produces by its mere working a social atmosphere ... that is hostile to it, and this atmosphere, in turn, produces policies which do not allow it to function”. One of those were “labor policies” that pushed labor cost upwards through money-wage increases (especially after the Second World War; see Schumpeter [1942] 1952, ch. 28) and higher costs incident to employing labor (e.g. payrolls taxes). As suggested by Schumpeter ([1941] 1991, p. 361) in his lectures given in March 1941 at the Lowell Institute in Boston but published only in 1991,

Labor policies explain partly the existing unemployment and the inability of the system to absorb the unemployment of the crisis. This is an intricate subject from the standpoint of analysis. That a tendency to push up wage rates pushes up unemployment is not self-
evident. It’s a much more complex argument, which I couldn’t think of presenting in a few minutes, which leads to the result that the wage policy has anything to do with the failure of the system to absorb the unemployment.

The matter of the influence on labor demand and employment of departures of the wage rate from its full-employment equilibrium level was first discussed by Schumpeter in his 1916/17 (pp. 78-80) article about the theory of distribution. He then introduced a distinction between small variations/short period on one side and large variations/long periods on the other. In the latter case a higher wage rate will induce another optimal combination of production factors that increases the capital-labor ratio, that is, a mechanization of the productive process. This mechanization may be accompanied by a larger optimal output and a shift upwards of the demand for capital. The increase in the production of capital goods will induce a “secondary demand” for labor, which restores part of the original employment level. It is possible that the demand for labor will regain its earlier level (or even exceed it), if at “such a reorganization of production as it is involved in a mechanization of the production process, very easily completely new possibilities emerge that nobody had ever thought of earlier and that further reorganization of the production follows the one mentioned before”. This differs from the short run effect of small wage increases, which tend to bring about cuts in production, and, therefore, on the demand for both capital and labor. This apparent indetermination did not bother Schumpeter, since the application of any theoretical economic proposition to a concrete case depended on the data in question. Moreover, it reflected an intrinsic difficulty of production analysis, that is, the relations of both complementarity and substitution between factors in different time periods. “The effects of wage rises are not fully and unambiguously predictable, since they refer to two different relations between the values and prices of labor on the one hand and capital and land on the other: on the one hand all three are complementary goods, on the other all three of them are, within certain limits, rivalizing goods”.

The distinction between the short-run and long-run effects of wage changes - or resistance to change - was carried to his *Business Cycles*, although this time in the context of cyclical economic oscillations. The dominant factor in the determination of employment in short-run situations of economic depression is the downward shift of the firms’ demand curves for labor, caused by cyclical shifts in the demand curves for goods. Furthermore, the labor demand curves tend to become less elastic in the process of shifting down. Hence, the short-run influence on cyclical phases of changes in wage rates is not important in Schumpeter’s framework (see 1939, p. 839, n. 1). In the particular case of the American labor market in the years following the 1929 crisis, “it is not only likely that actual [wage] reductions failed, for the time being, to call forth additional demand for labor … and that greater reductions would have still more completely
failed to do so, but there must also have been cases in which reductions of rates simply resulted in a decrease of total output and employment” (pp. 953-54). That conclusion does not apply after the economy passes the lower turning point and enters the prosperity phase of the cycle - higher wage rates will then contribute to mechanization and prevent a faster increase of employment, as long as there is supernormal unemployment (p. 954). However, even in that case, “a wage rate high enough to induce substitution of labor by other factors ... will at first tend to increase employment, because it engenders additional demand for labor-saving devices, most of which have themselves to be produced ... This possible source of treacherous ‘verifications’ of high-wage theories should always be kept in mind whenever the effects of wage rates on employment are being discussed” (pp. 841-42). This “temporary” positive effect of rising wages on investment was visible in the American economy in the 1920s and mid 1930s, according to Schumpeter (p. 1042).

Although Schumpeter kept elements of the distinction between short-run and long-run effects of wage changes he had introduced in 1916/17, the indeterminate results of that article were gone by the time he delivered the Lowell lectures. In the new chapter 28 added to the second edition of *Capitalism, Socialism and Democracy*, Schumpeter ([1942] 1952, p. 386) wrote that labor (and other “anticapitalist”) policies that prevailed in the US “reduce employment below its otherwise possible level by putting an abnormal premium on everybody’s employing as little labor as possible - they induce a sort of ‘flight from labor’”. It is clear from this passage that Schumpeter had in mind the long-run substitution of capital for workers induced by high labor costs - a process intensified by “cheap money” policy, as pointed out in the Lowell lecture ([1941] 1991, p. 369, second paragraph. Schumpeter ([1942] 1952, p. 386, n. 10) was aware that the proposition that changes in money-wages may cause changes in employment of the opposite sign “contradicts the teaching of Keynesian orthodoxy”. He had observed before that Keynes’s “simple nexus” - that changes in money-wages can only affect employment through their indirect effect on the interest rate - results from a model which “excludes all the vital mechanisms through which variations in wage rates act” on the economy (Schumpeter 1939, p. 843, n. 1), probably meaning the equilibrium effects on the choice of technique.

Despite Schumpeter’s criticism of “labor policies”, he was in favor of unemployment relief as the best way to counteract the effects of the business cycle on the workers’ welfare. Having described cyclical technological unemployment as “frictional”, Schumpeter (1939, p. 516) was at pains to stress that it did not indicate any intention to “minimize the importance of the phenomenon or the sufferings it inflicts”. It did follow from his unemployment theory, though, that the primary interest of workers is in the effects of innovation on their long-run aggregate income “and not in the incident variations of employment, which is but an element of the mechanism that produces the changes of the former and can be separately handled by public
policy”. Schumpeter did not indicate at the time what exactly he meant by “public policy”, but it is clear from his other writings that he had in mind not anti-cyclical stabilization policy but the protection of workers from the effects of temporary and untrended unemployment.

The real tragedy is not unemployment *per se*, but unemployment plus the impossibility to of providing adequately for the unemployed *without impairing the conditions of further economic development*: for obviously the suffering and degradation ... which we associate with unemployment, though not the waste of productive resources, would be largely eliminated and unemployment would lose practically all its terror if the private life of the unemployed were not seriously affected by their unemployment ([1942] 1952, p. 70; italics in the original).

As pointed out by Hammond (1984, p. 66), Schumpeter did not elaborate on efficient methods of financing unemployment benefits. He was content to observe that if the American economy performed after 1928 as well as it did in the 60 years before (i.e., at an average rate of increase of 2% per year), income per capita would within 5 decades reach such a level that “ample provision for the unemployed” would be a light burden, although one should avoid “irresponsibility in creating unemployment and in financing the support of the unemployed” (p. 69). He warned against “economically irrational methods of financing relief and on lax and wasteful methods of administering it” (p. 71). By “wasteful methods” Schumpeter (pp. 385-86) meant the payment of benefit rates that are too high relatively to wages and, therefore, may create perverse incentive effects on labor supply. The American labor market was characterized by a high labor turnover, with a “large fringe of half voluntary and half involuntary unemployment”, which he associated with the “nomadic habits of American workmen” that made the normal unemployment rate in America higher than in Europe (1939, pp. 840-41). Careless managed unemployment benefits could increase the value of the normal rate even more. By “irrational” methods of financing, Schumpeter probably meant those methods that increase labor cost - such as payroll taxes - and therefore affect negatively profit expectations (cf. his reference to the American tax on payrolls, 1939, p. 1042, second paragraph). The relevance for unemployment of burdens directly and indirectly associated with the employment of labor (such as employers’ contributions to social insurance) was pointed out in his discussion of the German economy in the 1920s (1939, pp. 845-46). It is worth noting that Schumpeter’s insight - about the potentially negative effects on employment and growth of unemployment compensation, payrolls taxes, employment protection and other forms of passive labor market policy - has been largely confirmed in a recent neo-Schumpeterian model of unemployment and growth by Mortensen (2005).

Schumpeter (1926/27) had defended unemployment relief before, as a comment on the debate between Lederer and Gustav Cassel about its influence on German unemployment in the
1920s. However, on that occasion his argument was aimed not at cyclical/temporary sort of unemployment, but at permanent unemployment caused by imperfect competition in the goods market. Cassel (1927; see Boianovksy and Trautwein 2003 for Cassel’s interpretation of unemployment in general) argued that labor market policy was the only possible source of permanent unemployment. Cassel’s claim was based on the idea that general overproduction is impossible; therefore, unemployment is in principle a temporary phenomenon associated with the reallocation of workers between different sectors. “From which it follows that the cause of a more than temporary unemployment can be found only in circumstances that prevent workers from such adjustments” (Schumpeter 1926/27, p. 155; italics in the original). Schumpeter rejected neither Cassel’s Say’s law assumption nor its corollary that permanent unemployment can only be explained by the inflexibility of the labor market. “It has been attempted innumerable times for more than hundred years to refute this argument [against general overproduction]. However, if understood properly, it is irrefutable ... But the way from this insight to its practical application is just as long as the way from a pure theorem of mechanics to the construction of a bridge...” (ibid). The problem with Cassel’s proposition rested elsewhere, in his assumption of free competition in the goods market. Permanent unemployment in Germany at the time was, according to Schumpeter, caused not by lack of labor market flexibility, but by the dominance of imperfectly competitive firms that turned the temporary unemployment effects of labor-saving innovations into permanent ones (see also section 3 above).

From this follows first of all that Professor Cassel’s argument does not apply, at any rate, to the German system of unemployment benefits. Because, if the monopoloid price and sales policies are the true cause of persistent unemployment, while we cannot abstain from the monopoloid forms of organization, the support of the unemployed is just as indispensable an element of our economic order as unemployment itself ... This is the reason, but the only reason, why under present circumstances the problem of unemployment can only be solved in a planned economy - not necessarily a state-led one, though (1926/27, pp. 159-60; italics in the original).

Hence, in his German article Schumpeter, in contrast with the discussion in Capitalism, Socialism and Democracy and in his 1946 (reproduced 1951) encyclopedia entry about capitalism, restricted his defense of unemployment benefit to “permanent” unemployment dissociated from frictions. His later argument in favor of unemployment relief did not exclude the perverse incentive effects of the kind stressed by Cassel, but assumed that they could be minimized by proper management of the unemployment insurance system.
Although Schumpeter paid relatively more attention to counteracting the effects of unemployment than attacking its causes, there was some scope for macroeconomic policy in his framework. The topic of the last section of chapter 6 of the second edition of *The Theory of Economic Development* is the “prophylaxis and therapy” of economic crises. While depressions, by destroying “these existences which are irretrievably associated with the hopeless unadapted” ([1926] 1934, p. 253), are in principle a necessary feature of the economic development process, abnormal depressions that overshoot equilibrium and “increase unemployment beyond what is necessary” ([1925] 1993, p. 90) should be avoided. The same idea may be found in Schumpeter’s ([1942] 1952, p. 90) remark that the disorganization of the industry caused by the rapid change in data in the creative destruction process may inflict “functionless losses” and “avoidable unemployment”. Economic policy should not try to conserve “obsolescent industries indefinitely”, but instead try to “avoid their coming down with a crash” and attempt to “turn a rout, which may become a center of cumulative depressive effects, into orderly retreat” (ibid). Such “abnormal depressions” are explained mainly by mistaken expectations, bankruptcies and panics in the credit market, typical of periods of crises.

The losses and destruction which accompany the abnormal course of events are really meaningless and functionless. Justification of the various proposals for a prophylaxis and therapy of crises chiefly rests with them. The other sound starting point for remedial policy is the fact that even the normal - still more the abnormal - depression implicates individuals who have nothing to do with the cause and the meaning of the cycle, above all the workers ([1926] 1934, p. 253).

Among the measures suggested by Schumpeter were the postponement of new construction by government enterprises to periods of depression, and credit policy that distinguished businesses made obsolete by the boom from those affected by the secondary reactions of the crisis. A general increase in credit would only make disequilibrium worse, whereas widespread credit restriction - the policy of “curing the evil by letting its acute consequences run their course” - was “at least open to discussion” ([1926] 1934, p. 254). However, Schumpeter (1939, p. 155) would later made clear that even if it is established that depressions eventually find a “natural” end, it does not constitute an argument for “letting things take their course or trusting to the ‘restorative forces of nature’”. The same point of view can be found in Schumpeter’s oft cited contribution to the 1934 Harvard volume on *The Economics of the Recovery Program*. Schumpeter ([1934] 1951, p. 115) had no doubts that relief was “imperative on moral and social grounds” and important to steady demand, but was critical of remedies (such as expansionary credit policy) that could prevent the necessary adjustment to economic change. The upshot was that “futile as it is to hope for miraculous cures, it is exactly wrong to believe that the evils of
depression are all of them inevitable and that the only sound policy consists of doing nothing” (p. 117). That meant, just like in chapter 6 of the Theory, that “all those features of depressions, which spell suffering and needless waste, can yet be taken care of”. A case in point was a temporary increase in public expenditure, especially if a budget surplus was accumulated in the previous prosperity phase (as in the US in the 1920s). It is clear enough that Schumpeter’s conception of economic policy in the depression was more sophisticated than the pure “liquidationist” view often associated with him (see e.g. De Long 1990).

5. Concluding Remarks

Schumpeter’s interpretation of unemployment as an essentially frictional phenomenon is a by-product of his approach to the long and short-run employment effects of technical progress. His natural starting point was the study of the consequences of the introduction of labor saving innovations into the system - the famous machinery problem formulated by Ricardo and carefully discussed by Marx, Wicksell and Hicks. This is hardly surprising, since it was in the machinery chapter that Ricardo ([1821] 1951, p. 387, top) advanced the Schumpeterian theme of the temporary profit captured by the businessman who is the first to introduce the innovation into the economic process (see Schumpeter 1954, p. 646; Morishima 1992, pp. 43-44). It may look like a paradox that, having rejected the view that unemployment may be explained by permanent labor displacement effects of new machinery, Schumpeter would focus on technological unemployment as the main dimension of unemployment in capitalism. However, this apparent paradox is easily solved once we grasp Schumpeter’s account of the reallocation process inherent in the business cycle.

The dismiss or neglect of Schumpeter’s approach to unemployment in the economic literature of the 1940s and 1950s was founded on the notion that unemployment could not be explained by frictions. A case in point was Alexander Gourvitch ([1940] 1966, pp. 188-90) who, in his classic book, criticized Schumpeter’s notion that technological unemployment is “ephemeral”, on the grounds that it depended on Schumpeter’s unproven assumption that the system eventually converges to normal equilibrium unemployment. This changed dramatically after the early 1990s, when Schumpeter’s concept of creative destruction became central not just to the microeconomic analysis of competition (as it had been already for some time), but to the macroeconomics of the labor market as well. Indeed, as put recently by David Warsh (2006, p. 121) in his history of the development of endogenous growth theory, “as a specimen of the phasemaker’s art, ‘creative destruction’ ranks second only to the ‘Invisible Hand’”. Yet, Schumpeter’s discussion of the dynamics of the labor market surpassed the mere metaphorical level and penetrated into the disequilibrium process caused by the irregular appearance of
innovations in the economy. Apart from the similarities between Schumpeter’s and the modern concept of frictional unemployment, it is worth noting that his notion of normal unemployment throughout the business cycle as the equilibrium rate of unemployment of the economy may be compared to the “deterministic steady state rate of unemployment” of recent models (see Rogerson 1998). Schumpeter’s attention to unemployment benefits, on the other hand, indicates that, in contrast with part of the neo-Schumpeterian literature, relief was deemed necessary against the welfare effects of unemployment, despite problems associated with perverse effects of its financing.

The neo-Schumpeterian literature has paid special attention to what is generally perceived as Schumpeter’s views of the cleansing effect of recessions (Caballero and Hammour 1994, 1996). Indeed, Schumpeter ([1941] 1991, p. 351) sometimes referred to breakdowns as a “spring cleaning” that is usually followed by a new avalanche of consumers’ goods. Caballero and Hammour (1996, 2005) have argued that, contrary to Schumpeter’s claim, the pace of the restructuring process may fall rather than rise during contractions because of impediments to creative destruction. Incomplete contracting between labor and capital can disrupt the synchronization between job creation and destruction during recessions and make unemployment higher than optimum. However, Schumpeter was hardly oblivious to the fact that unemployment can reach levels higher than its “right” amount in the depression. Moreover, his careful discussion of the impediments to the creative destruction process were part of his interpretation of the causes of the potentially persistent increase of unemployment, not of its cyclical increase in the downswing.

Notes

1. Schumpeter’s (1939, p. 576) later analysis of the data would lead him to conclude that real wages are largely anti-cyclical. This is not explained by corresponding changes in the marginal productivity of labor, at it is clear from Schumpeter’s ([1926] 1934, p. 245, n. 1) brief mention of the classical concept of diminishing returns. It should be noted that the phrase “real wages” at the last paragraph of n. 1 ([1926] 1934 pp. 248-9) is a translation error, that should read “real wage bill” instead.

2. See Boianovsky and Hagemann (2005, p. 90, n. 5) for evidence that Marshall, J. B. Clark, Cassel and Walras believed that higher real wages would necessarily accompany the increase in output brought about by technical progress. Wicksell was the sole exception in the neoclassical period.
3. The distinction established by Schumpeter may be interpreted in terms of Robert Solow’s (1959) concept of embodied and disembodied technical progress.

4. Volume I of Wicksell’s Lectures was translated into German in 1913 only. On Wicksell’s discussion of Ricardo’s machinery problem see Boianovský and Hagemann 2005.

5. On the distinction between the marginal productivity and the Say’s law approaches to the effects of technical change on employment see Hans Neisser 1942. It is clear enough that Schumpeter (1954, p. 944) eventually realized the importance of that distinction.

6. Hicks ([1932] 1963, p. 311) recalled that in his first visit to the US, in 1946, he was entertained to dinner by Schumpeter and other eminent economists. “We spent the evening, I trying to persuade them that my Theory of Wages was a thoroughly bad book, they trying to persuade me that it was good one”. Referring to passages in the History of Economic Analysis where his 1932 book is mentioned, Hicks wrote that “I felt surprise when I saw those passages. I had not quite believed that he meant what he was saying.”

7. Lange (1941, p. 193) criticized Schumpeter’s (1939) “pure model” of the business cycle for stating that output falls in the boom and goes up in the recession, and suggested that the explanation for the fall of output in recessions is the fluctuation of employment. However, this is precisely what Schumpeter did in chapter 6 of his [1926] 1934 book.

8. Schumpeter (1954, p. 681, n. 100) used the same argument to argue that Marx could have explained the presence of permanent unemployment that way, without invoking the wrong notion that each act of mechanization causes (permanent) unemployment. However, as mentioned by Kalmbach and Kurz (1986, p. 79), Marx had realized the point already.

9. Schumpeter’s 1939 unemployment taxonomy did not make an impact on the literature, possibly because it was just a 10 pp section in the middle of a 1095 pp book. Clemence and Doody (1950, p. 59) stated that it was a “highly suggestive analysis” but did not explain why. One of the few careful discussions of Schumpeter’s taxonomy can be found in an appendix written by Hyman Lewis for a 1961 report on unemployment by the American Congress, where Lewis compared Schumpeter’s classification to Pigou’s and Keynes’s.

10. The first economist to incorporate economic frictions as an important aspect of the economic system was Vilfredo Pareto (1897), who compared frictions to the role of inertia in mechanics.
and tried to build a formal business cycle model based on it (see Boianovsky and Tarascio 1998). After his brief incursion into the influence of frictions in the labor market, Hicks (1935) would find an even more important role for them in monetary economics. Bennion (1943, pp. 346-47) realized that Schumpeter’s notion of frictions was not exactly the same as the traditional one. However, his interpretation of the word “frictional” in the key passage on p. 515 of the Business Cycles - as the interval until investment reaches its full employment level - is hard to accept, and is revealing of his effort to interpret Schumpeter in Keynesian terms.

11. As put by Schumpeter on many occasions (see e.g. his 1931 Tokyo lecture; and 1954, pp. 615-25), Say’s law was one of the main building blocks of business cycle theory, since it had removed from scene the wrong turn represented by underconsumption theories. However, differently from Cassel, Schumpeter did not usually constructed the concept of frictional unemployment as a corollary of Say’s law.

References


