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Why Economists Dislike a Lump of Labor

Tom Walker
East End Food Co-op, Vancouver, Canada

Abstract The lump-of-labor fallacy has been called one of the "best known fallacies in economics." It is widely cited in disparagement of policies for reducing the standard hours of work, yet the authenticity of the fallacy claim is questionable, and explanations of it are inconsistent and contradictory. This article discusses recent occurrences of the fallacy claim and investigates anomalies in the claim and its history. S.J. Chapman's coherent and formerly highly regarded theory of the hours of labor is reviewed, and it is shown how that theory could lend credence to the job-creating potentiality of shorter working time policies. It concludes that substituting a dubious fallacy claim for an authentic economic theory may have obstructed fruitful dialogue about working time and the appropriate policies for regulating it.

Keywords: lump-of-labor fallacy, hours of work, full-employment policy

> One of the best-known fallacies in economics is the notion that there is a fixed amount of work to be done—a lump of labour—which can be shared out in different ways to create fewer or more jobs. (Bishop 2004: 159)

The regulation of working time has been a politically controversial topic since at least the second decade of the 19th century, when the Ten Hours Movement was active in Great Britain. How standard hours of work are determined in the absence of direct government regulation is also controversial within economics, with neoclassical economists arguing that the individual supply of labor time is based on workers' choices between income and leisure while Marxists and institutionalists maintain that political power, institutional structures and class conflict are decisive (Philp *et al.* 2005). Over the course of the 20th century, a puzzling claim has become commonplace in the discourse of mainstream economics: that policies aimed

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at creating jobs by reducing standard hours of work stem from a mistaken belief that there is a fixed amount of work. Economists call this allegedly widespread belief the "lump-of-labor fallacy."

In recent years, the lump-of-labor claim has appeared frequently in criticisms of European policies that pursue job creation through reduced working time, such as the 35-hour workweek in France. The claim that work-time reduction and other labor-supply adjustment policies are based on an irrational belief in a fixed amount of work has been put forward in policy papers produced for the French Ministry of Finance (Camdessus 2004), the UK Department for Work and Pensions (de Koning *et al.* 2004), the Council of European Premiers (Boeri *et al.* 2000), the Organization of Economic Cooperation and Development (2004a, 2004b) and the International Labor Organization (Landsmann 2004). The fallacy claim appears routinely in popular media news reports and opinion pieces (see, for example, Bartlett 2003; Taylor 2004; Lea 2006; Merritt 2006). Over the past dozen years, *The Economist* magazine has made something of a *bête noir* of the supposed fallacy, decrying it in no fewer than 17 articles between 1993 and 2005 (see, for example, *Economist* 1995, 1997, 2002). The claim surfaces sporadically in scholarly articles (Hunt 1999; Saint-Paul 2004; Blanchard 2004), textbooks (Samuelson and Nordhaus 1998) and popularizations of economic principles (Wheelen 2002; Flynn 2005).

This article examines the history and logical coherence of the lump-of-labor fallacy claim and highlights the possible consequences for policy deliberation of its frequent reiteration. It also briefly examines the analytical tradition within economics that positively values the reduction of working time both for its positive effects on productivity and for its potential contribution to full-employment policy. Contributions to this neglected tradition have come from such notables as John Maynard Keynes (1980), Luigi Pasinetti (1981), John R. Commons (1969) and S.J. Chapman (1909).

The stakes in the controversy extend beyond the number of hours worked in a day, a week or a year. Ultimately, the hours of work and the method or methods by which they are determined crucially affect social well-being and income distribution as well as employment and aggregate income. Ritualistic repetition of the fallacy claim may discourage analysis and dialogue about how the hours of work should be determined and what might be the likely social, political and economic consequences of policy interventions to establish reasonable hours of work. Furthermore, by obstructing such a crucial area of economic analysis, the shibboleth of the lump-of-labor fallacy suffocates methodological advance in the field of economics.

ORIGINS OF THE LUMP-OF-LABOR FALLACY

The earliest known reference to a fallacious "Theory of the Lump of Labour" appeared in "Why Working-Men Dislike Piece-Work," by David F. Schloss (1891). In that article, Schloss employed the phrase to condemn the withholding of work effort and output by workers. The main inclination of the article was to validate workers' complaints against employers' often arbitrary piece-work practices. The inclusion of a section dealing with the restriction of output could be understood as an effort by Schloss to counterbalance the catalogue of complaints by workers with an acknowledgement of the justice of an age-old complaint against workers by employers. Far from condemning reduced working time, the article concluded by endorsing the eight-hour day as highly desirable on both social and economic grounds.

The argument tying advocacy of reduced working time to belief in a fixed amount of work was made a few years later by John Rae (1894). Rae advocated an eight-hour day but criticized claims that reducing the hours would relieve unemployment. Rae was responding to extravagant claims, such as those made by George Gunton, about the direct and immediate job-creating potential of shorter hours (Rae 1894: 180). Gunton claimed that the establishment of the eight-hour day in the US would generate a quantity of jobs equal to three-and-one-half times the number of unemployed and thus would require the importation of workers from England and Europe. Rae countered that reducing the hours of work to create jobs was not "a simple sum in arithmetic" (p. 179). He went on to argue that the "illusion" that shortening the hours of work would reduce unemployment stemmed from "simply not observing or apparently caring to observe the important alteration which the introduction of shorter hours itself exerts on the productive capacity of the workpeople" (p. 181). The alteration Rae had in mind was an increase in productivity. He argued that a better-rested workforce would produce as much or more in the shortened hours, thus forestalling the need to hire additional workers. Rae worried that the "good cause" of the eight-hour day would be corrupted by "bad arguments" that it was a cure for unemployment (p. 216).

Rae's observation that worktime reduction was not a simple sum in arithmetic would have been above reproach had he not also gone on to try to show that the case *against* job creation was cut and dried. Charles Beardsley (1895) refuted Rae's overextended argument, pointing out that Rae relied on a variation of the same fallacy—namely, the by then widely discredited wages-fund doctrine of classical political economy—that he attributed to others.

The ridiculing of an assumption of a "fixed amount of work" almost certainly originated as a broadside aimed at the same wages-fund doctrine that Beardsley detected in Rae's analysis. In 1871, John Wilson criticized a "Unionist reading of the Wages-fund theory" that sanctioned the dividing up of the "work to be done" (1871: 243). But even before that, in 1865, when the wages-fund doctrine still held sway among orthodox political economists, Karl Marx unleashed a polemic against the fixed assumptions underlying his colleague John Weston's argument against higher wages:

> If our friend Weston's fixed idea of a fixed amount of wages, a fixed amount of production, a fixed degree of the productive power of labor, a fixed and permanent will of the capitalists, and all his other fixedness and finality were correct, Professor Senior's woeful forebodings would have been right and Robert Owen, who already in 1816 proclaimed a general limitation of the working day the first preparatory step to the emancipation of the working class... would have been wrong. (Marx 1970: 14)

The mention of "Professor Senior's woeful forebodings" alludes to an analysis presented in 1837 by Nassau W. Senior wherein he maintained that, in a cotton mill working an average of eleven and a half hours a day, "the whole net profit is derived from the last hour" (cited in Johnson 1969: 360). The exact nature of Senior's "blunder" remains contested to the present day, as does the adequacy of Marx's critique of Senior's argument (Johnson 1969; DeLong 1986; Pullen 1989). Nevertheless, Senior's argument did indeed rely on an assortment of fixed microeconomic assumptions about the amount and turnover time of capital from which he deduced that a ten-hour day was not macroeconomically feasible.

As it hardened, the lump-of-labor fallacy claim, in effect, appropriated the rhetoric of the critique against Senior's argument but adapted it—in a 180 degree turn—to a defense of his position. At the turn of the 20th century, employers' associations and their allies in the press escalated the fallacy claim into a polemic targeted at the eight-hour day itself. In so doing they pointedly ignored the crucial distinction between shorter hours of work and restriction of output. Instead, they fused the two, claiming that reducing the hours of work was nothing less than a tactic of the unions to restrict output. The keynote for the employers' anti-union campaign was sounded in a 1901 *London Times* series, "The Crisis in British Industry." The *Times* series described the rationale for the eight-hour day as being the absorption of all the unemployed by "obtaining employment for a larger number of persons on such work as there was already" instead of by the "laudable and much-to-be-desired means of increasing the volume of trade..." (1901: 10). The author of the series found this strategy objectionable because, without the disciplining factor of unemployment, "the workers would have the employers entirely at their mercy." Using phrasing reminiscent of Schloss's and Rae's, the series attributed the union strategy to a supposed belief in a fixed amount of work. Unlike either Schloss or Rae, though, the series offered no suggestion that an eight-hour day might be socially or economically desirable or, indeed, that total output in an eight-hour day might match or even exceed that in the longer day. In this latter respect, the *Times* article effectively reverted to Senior's static assumptions about hours and output. Evidently influenced by the rhetoric of the *Times* article, the National Association of Manufacturers (1904) sounded the alarm in the US that the eight-hour day was part of a general union strategy aimed at restricting output and thereby subordinating employers to the will of unionists. The Association's 115-page pamphlet against a federal eight-hour bill cited restriction of output by unions as "surely one of the chief causes of the industrial decline of England" (p. 19).

Twentieth-century Usage

Present-day usage of the lump-of-labor claim weds Schloss's catchy phrase to Rae's disdain toward the job-creating potential of shorter hours. But, as did the employer's polemic of a century ago, it glosses over those writers' important arguments about restrictions of output versus gains in productivity. The meaning of the "fixed amount of work" basic to the contemporary fallacy claim may seem self-evident at first glance but, as Daniel Kinderman (2001) has pointed out, that fixed amount could represent either a ceiling or a floor. That is, it could refer to an assumed upper limit on the demand for labor or to an erroneous assumption that the demand for labor is unaffected by changes in labor cost. Such ambiguity lends a tactical advantage to the fallacy claim. Critics of shorter worktime policies point to long-term employment growth as conclusive evidence that such policies are not needed and then refer to increased labor costs for a microeconomic explanation of why they cannot work. Those two half arguments, however, do not add up to a coherent whole. The long-term growth of employment was not achieved independently of either government intervention or reductions in the annual hours of work per employee. And arguments about the effects of shorter worktime on labor costs are incomplete without an assessment of its direct and indirect effects on productivity, worker health and labor turnover.

Paul Swaim (2005) has described the lump-of-labor fallacy as "an illustration of a type of logical error that represents a constant danger when analyzing economic issues . . . (In more technical jargon, treating an 'endogenous' variable as if it were 'exogenous'.)" Such errors are pervasive in that economists "cannot escape assuming that many potentially relevant variable[s] are fixed. It is simply impossible to think about everything varying at the same time." This explanation suggests a pedagogical function for the lump-of-labor fallacy claim: it is a striking practical illustration of the principle that economists need to be vigilant against the constant danger of being led astray by their simplifications and fixed assumptions. It is ironic, then, that the standard lump-of-labor claim relies on what might be called, following Swaim, "lump-of-labor *type*" logical errors: assuming, for example, that workers' preferences for income and leisure are formed exogenously, that the given hours of work are optimal, that the costs of employer-paid benefits are independent of output or the number of hours worked, or that arrangements regarding the hours of work are exogenous to long-run employment and productivity growth. By this standard, Senior's "last hour" argument was a lump-of-labor type argument, as was Rae's insistence that the eight-hour day could do nothing to relieve unemployment.

Besides committing logical errors akin to the one they claim to be debunking, economists who resort to the lump-of-labor fallacy argument also appear to be unaware that several distinguished economists have viewed favorably the job creation prospects of reduced working time. In a letter to the poet T.S. Eliot, dated April 5 1945, John Maynard Keynes identified shorter hours of work as one of three "ingredients of a cure" for unemployment (1980: 383–384). The other two ingredients were investment and expanded consumption. Keynes regarded investment as "first aid," while he called working less the "ultimate solution." A more thorough and formal presentation of his view appeared in a note Keynes prepared in May 1943 on "The Long-Term Problem of Full Employment" (pp. 320–325). In that note, Keynes projected three phases of post-war economic performance. During the third phase, estimated to commence some ten to 15 years after the end of the war, "It becomes necessary to encourage wise consumption and discourage saving,—and to absorb some part of the unwanted surplus by increased leisure, more holidays (which are a wonderfully good way of getting rid of money) and shorter hours" (p. 323).

In Chapter 5 of *Structural Change and Economic Growth*, Luigi Pasinetti (1981) also addressed full employment as a goal of economic policy. In his analysis of a multi-sector, dynamic model of an economy, he noted that even when starting from a condition of full employment, the uncompensated effects of technical progress would be to generate technological unemployment because demand cannot be expected to increase *at the same rate* and *in the same proportions* in which technical improvements reduce the requirement for labor. Pasinetti's argument is thus not simply about an absolute amount of work to be done but about its specific relative composition. There are different rates of technical progress in different sectors, labor is not perfectly mobile between sectors and demand for any given commodity will inevitably reach a saturation point. However, two factors operate to offset any tendency toward technological unemployment. One results from technical progress itself: the introduction of new goods. The second would be the reduction of working time, "a decrease either in the proportion of active to total population or of the length of the working week or of both" (p. 90). Those two counter-balancing factors are not incompatible. They are complementary to each other and can be brought in together in various proportions. Pasinetti stressed that his analysis does not "boil down to the commonsense proposition that technical progress gives society a choice between *more* (or *new*) goods or more leisure" (p. 90). Instead, it reveals "the fixed framework within which the choice has to be made" and, furthermore, the necessity of making such a choice if technological unemployment is to be avoided.

Another eminent economist to suggest reduced working time to counteract unemployment was John R. Commons, who offered the novel proposal in *Industrial Goodwill* of varying the hours of work throughout the business cycle to flexibly distribute a fluctuating total amount of work (1969: 67–72). Commons summed up his proposition as follows:

> Elasticity has to be provided somewhere to meet these fluctuations [in demand for labor]. The elasticity may be provided by laying off a part of the force in hard times and taking them back in good times, or by reducing hours all around in hard times and increasing them in good times. The one method is the method of unemployment for some, the other the method of distributing unemployment and regularizing employment for all. (p. 71)

What Commons, Keynes and Pasinetti have in common, besides their views that the reduction of working time is one way to combat unemployment, is that their analyses have not been engaged by any of the authors who assert that reduced working time policies are populist nostrums bereft of sound economic reasoning.

No discussion of the economics of working time would be complete without attention to the work of Sydney Chapman (1909). Chapman did not propose reduced work time as a job creation measure. Instead, his argument was that the value of leisure must rise along with technological progress and that therefore the optimal length of the working day must progressively decline. As a result, he envisioned that "agitation for shorter hours will be constantly breaking out anew" (p. 358). It was thus, in Chapman's view, the effects of technical progress that motivated demands for reduced working time and not workers' "views, fallacious or otherwise, concerning the mechanics of distribution" (p. 365).

Chapman reviewed the mass of evidence from the 19th century that reductions in the hours of work had not led to proportionate declines in output. From that evidence, he inferred that workers required more leisure time to fully recover from the fatigue of work as industrial methods became progressively more intensive. Thus, when the hours of labor were reduced, the better-rested workers were often able to produce as much or more in the shorter hours than they had previously in longer hours. Chapman's analysis, however, also suggested that competition between employers would make it unlikely that a working day of optimal length would be established in a free market and, furthermore, that the length of day that would maximize workers' welfare would likely differ from the optimal length for output.

Chapman argued that the long-term maintenance of a working day of optimal length for output would require short-term restraint by employers. Such restraint, however, would be undermined because a competing firm could potentially poach the well-rested employees from a firm that did exercise restraint. Thus, the actual length of working day sought by employers under competitive conditions would tend to be longer than would be optimal for output.

Similarly, workers would tend to disregard the long-term effects of working time on fatigue, productivity and ultimately on wage levels. Thus, in forming their preferences for income and leisure, they would be predominantly influenced by current wage levels. This would result in workers seeking a working day longer than would be prudent in the long run, although still shorter than that sought by employers acting competitively. Thus, the prevailing concern of both employers and workers for immediate self-interest would bias the preferences of each toward longer than optimal hours.

Chapman's theory came to be regarded as the "classical statement of the theory of 'hours' in a free market" (Hicks 1932: 102n.). Superficially, it might seem that Chapman's argument might undermine the case for reduced working time as an employment creation policy. After all, if the same number of workers were producing more output in fewer hours, wouldn't that tend to reduce the need for workers? That, in fact, had been Rae's supposition. But such would be the case *only* if one assumed that there was a "fixed amount of work to be done" and thus disregarded the possibility that increased efficiency could lead to lower prices and consequently expanded demand for products and labor. Chapman's theory turns the conventional lump-of-labor fallacy claim on its head by placing the reduction of working time at the heart of technological progress rather than treating it as a merely ameliorative response to such progress. It suggests a view of technological progress much in accord with Thorstein Veblen's argument that the productivity attributed to capital goods is ultimately a function of the level of development of the "immaterial equipment" of knowledge, behaviors and institutions (Ranson 1987). Although Chapman himself did not directly draw such a conclusion, his premise regarding the increased productivity of shorter hours reinforces the notion of an "efficiency week" hypothesis for shorter work time, such as suggested by Robert LaJeunesse (1999) (see also Walker 2000: 204–208).

Chapman's analysis has never been refuted, only displaced by a "simplifying assumption" and a collective dose of amnesia. That simplifying assumption—that the given hours of work can be assumed to be optimal—was introduced by John Hicks in 1932 with the caveat that any calculations resulting from that abstraction needed to be thought back to a more realistic form. Hicks' caveat, like Chapman's theory, has simply been ignored (Nyland 1989). The strange disappearance of Chapman's theory—formerly acknowledged as authoritative—from contemporary economic discourse is especially perplexing in light of the persistence of the dubious lump-of-labor fallacy claim.

Implications for Contemporary Policy Debates

The reduction of working time is an issue that affects aspects of life beyond the numbers of jobs and the wages of labor. From the perspective of workers and of society as a whole, the chief prospective benefit is an increase in disposable time. The questions that need to be asked, then, are not simply about how many jobs or how much income would result from a given reduction of working time but also whether more disposable time might better contribute to people's well-being—that is, to things such as trust, health, learning, family life, self-reliance and citizenship. It is a question that cannot be answered with either a simple sum in arithmetic or a more complicated econometric model. Yet when comparing European working time policies with American economic performance, critics of reduced working time policies rely almost exclusively on conventional measures of national income and unemployment. Richard Layard has commented on the inappropriateness of that practice, arguing that even though taxation may reduce both work effort and income, as measured by gross domestic product (GDP), "we should be equally clear that this does not matter, because GDP is a faulty measure of well-being" (2003: 11). Similarly, unemployment has very different impacts on the well-being of individuals across different countries. A recent international research project on labor market statistics concluded that the unemployment rate "is no longer an adequate measure of labor market capacity, economic performance, or social well-being" (Bluestone and Sharpe 2004: 3) and that there is "virtually no relationship" (Osberg and Sharpe 2004: 4) between the unemployment rate and a more comprehensive index that includes income, human capital accumulation, wage inequality and job insecurity.

The lack of correspondence between conventional economic measures and well-being may offer a clue to anxieties underlying the preemptive use of the lump-of-labor claim. If there were indeed a likelihood that shorter working time could represent "an advantage to the entire community," as the report of the US Industrial Commission (1902: 773) argued over a century ago, then economists would have to grapple with the possibility that such an advance might register as a decline in GDP. Conversely, an increase in GDP could represent a diminution of free time accompanied by an increased output of goods and services whose sole utility was either facilitating labor-market participation or repairing some of the social damage that resulted from the stress of overwork or the neglect of non-market activity. Such results are not only theoretically possible but would not be especially surprising under the conditions that Chapman specified in his analysis. None of this radical indeterminacy makes for convenient mathematical model-building along established neoclassical lines. If the reduction of working time is not, as Rae cautioned, "a simple sum in arithmetic," neither could the well-being of a nation be reduced to such terms.

In his presidential address to the Economics and Statistics Section of the British Academy for the Advancement of Science, Chapman attributed the drive for shorter hours to "ideals of life, formed half instinctively" (1909: 365). In the conclusion to his paper, Chapman worried, "lest the growing importance of leisure generally, and of a proper use of leisure, should not be fully realised." That danger arose, Chapman suggested, because "some of us who have an economic bent of mind get into the way of thinking too much of the quantity of external wealth produced and too little of the balance between internal and external wealth" (p. 373). Chapman's warning, along with his theory, goes largely unheeded today even as the questionable claim of a lump-of-labor fallacy has gained unwarranted currency. Together, the sheer disregard of the one and the rote repetition of the other impedes dialogue between different analytical traditions in economics and, as a consequence, darkens the prospects for progressive policy innovations centered on the reduction of working time.

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