

SHORTER WORK TIME, HOURS FLEXIBILITY, AND LABOR INTENSIFICATION

Philippe Askenazy
CNRS and CEPREMAP

INTRODUCTION

Whether initiated by states, industries, or firms, the reduction of work time for full-time workers (RWT) has deepened in most continental European countries [Evans, Lippoldt, and Marianna, 2001]. Since the first laws to reduce work hours of youths and women during the nineteenth century, RWT has been historically associated with “social progress” and the improvement of working conditions. These policies were driven by pressure from trade unions, from the army (believing that soldiers had to be vigorous), and from the clergy (believing that, to preserve morality, workers should have enough time to go to church and to be with their families).

The recent reductions of work time in continental Europe, especially in France with the 35-hour week, suggest an increasing gap between overworked Americans and underworked Europeans. At the same time, evidence of increased intensity of work in Europe exists [Green and McIntosh, 2001; Burchell and Fagan, 2002], suggesting that RWT is not necessarily associated with an improvement of well-being at work. In fact, RWT has gradually become a tool for labor policy and more recently for industrial strategy. Improving well-being is no longer the primary goal of RWT. Even in the case of a mandatory reduction, such as the 35-hour work week, decentralized bargaining now results in organizational changes that may have negative consequences for the working conditions of workers. As a result, the consequences of RWT for working conditions and workers’ well-being at work have become ambiguous.

The aim of this paper is first to discuss the recent French experience and second to provide a theoretical framework for analyzing the impact of RWT on workers’ well-being. Evidence suggests that in recent years RWT has been associated with hours flexibilization and no clear improvement of well-being at work. Flexibilization primarily consists of the possibility for the employer to change work schedules and the number of hours worked from one week, or even one day, to the next. Contrary to the case where workers can freely choose their schedules, this kind of flexibility implies increased uncertainty and greater difficulties in coordinating working lives and private lives. It may also induce an intensification of work and have potential adverse impacts on health and safety.

I introduce a simple bargaining model in which work time, organizational choice—the level of flexibility—and wages are jointly determined. Effort is a function of both the length of work time and the organization of work schedules. The main theoretical

Philippe Askenazy: 48 Bd Jourdan, 75014 Paris, France. E-mail: philippe.askenazy@cepremap.ens.fr.

proposition is that RWT induces organizational changes. Unions or workers' delegates may accept greater flexibility of work time that, given the increased labor effort, only becomes sustainable when work time is shortened. In this framework, RWT can be seen as an instrument to impose flexibility that is crucial in the new technological and competitive environment. The impact of shorter work time on utility is then not necessarily positive even if overall pay is unaltered.

The paper is organized as follows. The French experience with RWT is presented in section 1. Section 2 details the connections among effort, work time length, and flexibility. Section 3 introduces the bargaining model.

THE FRENCH EXPERIENCE

The number of hours involved in normal work time has recently declined in several industries of the German, Dutch, and Belgian economies. Portugal has reduced legal weekly work time from 48 hours to the benchmark 40 hours. But during the 1990s, the European country most committed to shorter work time was France. The French changes were extremely complex, with four new laws and more than 1,000 pages of new legal rules. In 1996 Gilles de Robien, the center-right Minister of Labor, initiated the movement by establishing a law giving financial support to firms that reduce work time. Martine Aubry, the socialist Minister of Labor, introduced two laws in 1998 and 2000 imposing a mandatory reduction from 39 to 35 hours per week. This had to be implemented before January 2000 for large firms but was delayed for small ones. In practice, some large firms have not reduced work time and consequently they must pay systematic overtime bonuses for hours between 35 and 39. On the contrary, thousands of small firms have decided to reduce work time and to find an arrangement with workers' representatives.

These laws allow social partners to bargain over wages; the organization of work, especially the flexibility of work schedules; and, to some extent, the definition of work time.¹ Wage moderation associated with the RWT was only modest, but massive changes took place in work organization. In fact, Aubry's law allowed social partners to reach agreements that were at times inconsistent with existing regulations. The most common arrangement arrived at was the "annualization" of work time. In such cases, an employer can impose up to 48 work hours some weeks without paying an overtime bonus, if the average weekly number of hours worked is 35 hours over a year. In practice, the employer indicates on Friday the individual work schedules for the next week. The flexibility of work time in France is rarely an element of workers' autonomy, but rather a part of the employers' right to manage. Annualization may allow employers to increase the intensity of work. It clearly lowers the amount of paid overtime and lowers labor costs. The key point is that bargaining over flexibility can occur only if work time has been reduced. The idea of the socialist government was a win-win outcome—flexibility and labor force adaptability for employers and shorter work time for workers. However, the laws leave out of consideration working conditions consequences, such as increased labor effort or declining occupational health and safety at work.²

In 2003, François Fillon, the conservative Minister of Labor, suspended RWT for small firms. Currently, RWT has taken effect in most large corporations. Half of all employees in the private sector worked around 1,600 hours in 2003. This is due to arrangements in industries or in firms induced by Robien's and Aubry's laws. They have been accompanied by significant changes in hours flexibility. According to the French Ministry of Labor [Ministère du Travail, 2002], three-quarters of the establishments with a 35-hour work week in 2001 have introduced flexible work hours. This trend towards flexibility of work schedules is also observed in other countries, especially Germany, during the last decade (see the special issue of *Transfer* [1998] for national reviews). This flexibility of work time seems also to be important for implementing functional flexibility for the firm. According to the EPOC 1996 survey, a positive correlation between such workplace practices and shorter work time is common in many European countries [OECD, 1999]. Based on the survey of French establishments, "REPOSE" 1998, Askenazy [2003] finds moreover that RWT presented the opportunity to reorganize through just-in-time production and through the development of multitasking. The extension of these innovative practices after RWT, however, was less systematic than the basic flexibility of work schedules.

In addition, numerous case studies suggest that an intensification of work has taken place since the first agreements in 1996. The investigation of the DRTEFP of Alsace (regional office of labor and professional training) [1999] is an illustration. The investigation found that intensification is achieved by the elimination of some natural pauses in the rhythm of work and by the rationalization of work activity using flexible work schedules. Although the number of work injuries and extent of absenteeism slightly decreased, the feeling that the rhythm of work had accelerated was shared by a majority of employees, especially those involved in administrative tasks. Three years later, the descriptions are similar [Jacquot and Setti, 2002].

These descriptions are also consistent with the claims of workers based on a detailed representative survey conducted by the French Ministry of Labor in 2001 [Coutrot and Guignon, 2002]. Workers' sense of the impact of shorter working time in France on their overall working conditions is clearly mixed. Table 1 summarizes some results of the survey "RWT and life" conducted in 2001 on a sample of 1,600 workers. In spite of shorter work time, most indicators of work intensity have increased. RWT results in increasing stress for more than 30 percent of the workers. Tensions between colleagues also increase, even though employees feel more autonomous in their work. A near majority of workers claim to have less time to perform the same tasks than they had before RWT. Of course, these claims are subjective. A more objective indicator is the number of occupational injuries per worker, which has not decreased³ even though individual work time has dropped by 4 percent on average.

This evidence shows that a theoretical analysis of the consequences of the recent shortening of work time in Europe should take into account the associated organizational changes. We will focus here on the main dimension that seems to have been altered: the flexibility of work schedules. Most of the analysis can be extended to functional flexibility. The next section provides a framework for understanding connections among shorter work time, hours flexibility, and well-being at work.

TABLE 1
RWT and Intensification in France (2001)
 (Percent Response)

Since the Reduction of Work Time:		
<i>Your working conditions are:</i>		
Improved 26.4	damaged 27.9	similar 45.7
<i>The relations with your colleagues are:</i>		
Better 6.0	damaged 11.8	similar 82.3
<i>Your autonomy has:</i>		
Increased 15.8	declined 4.8	similar 79.4
<i>Your stress has:</i>		
Increased 31.7	declined 10.9	similar 57.4
<i>Time to perform same tasks is:</i>		
Longer 3.2	shorter 41.8	similar 54.9

Sample: employed workers.

Source: Estrade and Méda [2002].

FLEXIBILITY, INTENSIFICATION, AND WORK TIME

Assume that well-being at work is determined by the organization of work. A variety of workplace factors come into play, but our analysis will focus only on work time and hours flexibility, and ultimately on their implications for labor effort. Effort is assumed to affect well-being at work negatively. No incentive problem due to asymmetric information and worker shirking is assumed. Worker effort is not an individual choice but is perfectly managed by the employer through the organization of work. An intensification of work is an increase in effort.

Let U denote the utility of an employee. This utility depends on her wage w and on her effort \bar{e} . For simplicity, we take

$$(1) \quad U = w - \bar{e}.$$

Work time is assumed to have two dimensions: length l and flexibility v . Both affect workers' well-being through their impact on effort:

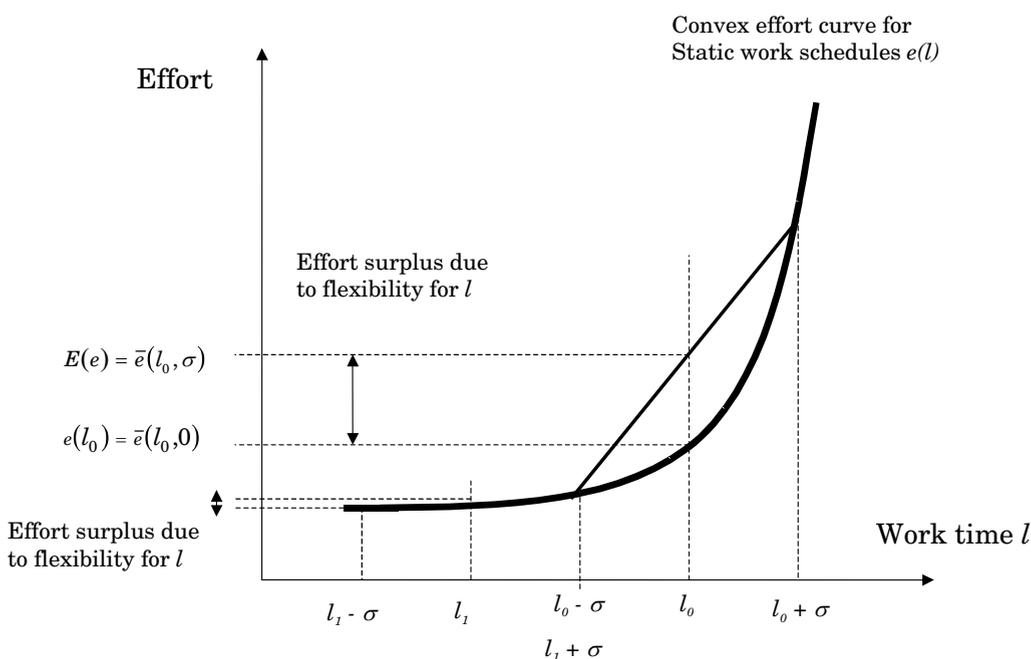
$$(2) \quad U = w - \bar{e}(l, v).$$

To present the effects of work time on well-being at work, we will first separate its two dimensions.

Static Work Schedules

Assume that there is no flexibility of work schedules, $v = 0$. Evidence suggests that for a duration above 30 weekly hours or five daily hours, the positive effects associated with learning-by-doing seem dominated by the impact of tiredness. The *European Survey on Working Conditions* [Merllié and Paoli, 2001] shows that mental strain or physical indicators, such as dorsal pain, increase as work time increases. More generally, the indices of occupational health and safety deteriorate at an increasing rate with the extension of work time [Sauter et al., 2002]. Hence, we will take the effort (or cost of working in terms of utility) $e(l) = \bar{e}(l, 0)$ to be increasing and convex with the duration of work l (see Figure 1). Consequently, other things being equal, in order to increase well-being it is better to reduce work time, especially when length is high.

FIGURE 1
Effort, Work Time, and Flexibility



Flexible Work Schedules

What are the consequences of hours flexibility for workers? A first impact of working flextime can be captured through the previous property of convexity of effort $e(l)$. Alternating short schedules $(l - \sigma)$ and long schedules $(l + \sigma)$ around a pivot value of l results in exposure to elevated work lengths. The resulting loss in well-being outweighs the gains from working less at other moments. Figure 1 illustrates this point. Working time flexibility is associated with greater average effort $\bar{e}(l, \sigma)$ than that observed for a fixed duration $e(l) = \bar{e}(l, 0)$.⁴

While I have chosen to capture the impact of flexible hours on working conditions through their effect on labor effort, it should be noted that there are other negative working conditions consequences as well. The 1998 French survey of a sample of 22,000 workers (*Conditions de Travail*) reveals some of the larger working conditions consequences of work time flexibility.⁵ This survey comes from a supplementary questionnaire to the French labor force survey. It provides detailed information on workers' characteristics, such as occupation, industry, and technologies used, as well as involvement in new work practices, thereby allowing for controls for worker heterogeneity [Dehejia and Wahba, 2002]. The survey also contains information on hours flexibility and a host of working conditions, such as mental strain and occupational hazards.

Askenazy and Caroli [2003] have used these data to construct an artificial experiment research design for the purposes of analyzing the impact of hours flexibility on working conditions. The first step is to match workers that have similar estimated probabilities of incurring work time flexibility given observable worker characteristics. This is conducted using a probit estimation. Within groups of matched workers, we create a subgroup A containing workers with flexible work schedules and a subgroup B containing workers with static schedules. The second step, then, computes the observed difference in variables of interest—for example, mental strain or risks—between workers in subgroups A and B. This difference is the impact of being involved in flexible work schedules. The final estimate is the mean of this difference over all groups. Here, flexibility is captured through two indicators: a variable number of hours and a variable number of days from one week to the next. Some workers are subject to both types of flexibility. To test the robustness of the findings, various specifications have been tried. They give generally consistent results. Table 2 reports the range of estimates of the links among flexibility, mental strain, and risks at work given by the different specifications (see Askenazy and Caroli [2003] for further details). Table 2 shows how work time flexibility is related to mental strain or occupational risks. For example, on average, the pivot proportion of workers who say they receive contradictory orders is estimated to be between 5.4 and 6.3 percent higher when workers face flexibility in the number of work hours. Work time flexibility is therefore associated with growing mental strain, particularly in relation to time pressure. In addition, workers say they face more occupational risks, perhaps a reflection of the intensification of work associated with hours flexibility.

Another facet of flexible work schedules is that they are more bearable when work time is low. When work hours and flexibility are high, the effects on workers are overwhelming [Sauter et al., 2002]. Figure 1 illustrates this point. Because of the convexity of effort, if the average work time l rises from l_1 to l_0 , then the negative impact of flexibility σ dramatically increases. In other words, the marginal cost for the worker of increasing flexibility is lower as work time declines.

The consequences of shorter work time on well-being at work depend on the design and management of work time. In Europe, to a large extent, this design falls within the scope of bargaining between social partners. It is thus important to study RWT in the context of a bargaining model to fully explain the empirical evidence above.

TABLE 2
Connections among Flexible Work Time, Mental Strain, and Occupational Risks; French Workers in 1998

	Mean (%)	Range of estimates in %			
		Flexible Worked Hours		Flexible Worked Days	
		Min	Max	Min	Max
Mental strain					
Cope on his/her own with difficult situations	25.1	3.7***	4.0***	3.6***	5.3***
Change task unexpectedly	28.4	2.2**	3.0***	0.8	2.6*
Receive contradictory orders	45.9	5.4***	6.3***	0.7	2.6*
Consequences for product quality of an individual error	65.9	1.0	2.37*	6.9***	9.4***
Financial consequences for the firm of an individual error	50.7	1.0	3.0*	2.8*	3.5**
Tensions with colleagues	19.1	1.6	2.3**	1.0	1.8
Tensions with superiors	33.6	4.5***	5.2***	3.8**	5.0***
Tensions with customers	30.5	4.0***	5.9***	7.0***	9.2***
To always hurry to work	52.5	5.7***	5.9***	0.3	1.8
Not enough time to perform correctly his/her job	25.2	5.6***	5.9***	3.5**	5.1***
Occupational risks and injuries					
More than 3 risks ^a faced on the job	3.1	2.6***	2.7***	4.2***	5.2***
Serious injuries (last 12 months)	4.7	0.2	0.4	-0.7	-0.2
Benign injuries (last 12 months)	3.8	-0.2	0.0	0.8	1.2**

Source: Askenazy and Caroli [2003] with data from the survey *Conditions de Travail* 1998.

Estimations based on propensity method.

Sample: workers with seniority above 12 months.

*Significant at 10 percent level; ** significant at 5 percent level; *** significant at 1 percent level.

^aRisk of serious fall, electrical risk, risk of being burnt, risk of transportation accidents, risk of injury due to falling objects, machines, or materials.

BARGAINING MODEL

I develop in this section a stylized bargaining model between trade unions and employers.⁶

Social Partner Objective Functions

For sake of simplicity, let us assume that the union's goal is to maximize LU , where L is the *ex post* number of workers and U is the utility of a representative employee. Recall that this utility depends on wages w , average work time l , and its flexibility v :

$$(3) \quad U = w - \bar{e}(l, v).$$

Again for simplicity, we assume that the reservation utility of the unemployed is zero.

Firm output Y depends on the level of flexibility and on the labor input (capital is assumed to be quasi-fixed). The production function is Cobb-Douglas and has decreasing returns to scale in l and L :

$$(4) \quad Y = A^\varepsilon(v)l^\beta L^\alpha,$$

where $\alpha < 1$ and $\beta < 1$. The parameter $\varepsilon > 0$ stands for the competitive environment. Because higher flexibility should improve firm efficiency, the function $A(v)$ is increasing in v at least for $v < v_{max}$. The employer is assumed to be a price taker. The goods price is the numeraire. We also assume that employers are in monopolistic competition. This framework is more relevant for the case of industrial bargaining; however, this assumption does not change the results. Profit is simply

$$(5) \quad \Pi = A^\varepsilon(v)l^\beta L^\alpha - wL.$$

Basically there are two institutional cases of shorter work time: a generalized mandatory reduction (for example, Portugal) and a RWT initiated by the social partners (for example, Germany, Netherlands, etc.). France is currently a mix because social partners can change to some extent the definition of work time and because small firms can currently choose whether to reduce work hours.

Shorter Work Time and Bargained Flexibility

Assume first that the average work time is exogenously given. What is the nature of bargaining over wages and flexibility? The bargaining process is basically two steps:

1. Employer and union (or the workers' delegate) simultaneously bargain over wages w and the level of work time flexibility v .
2. Employers have a right to manage. Consequently, the firm chooses the level of labor L that maximizes its profits, taking v and w as given from the outcome of first round bargaining.

Let μ denote the bargaining power of unions. Because the employer is risk neutral, the first step yields a Nash bargaining equilibrium. Let J denote the log of the weighted joint surplus of social partners: $J = \mu \ln[LU] + (1 - \mu) \ln(\Pi)$. The equilibrium is given by the maximization of J (L given):

$$(6) \quad \max_{v,w} \mu \ln[L(w - \bar{e}(l,v))] + (1 - \mu) \ln(\Pi).$$

But *ex post*, the level of labor is such that w is equal to marginal productivity. That is, the second step gives $w = \alpha A^\varepsilon(v)l^\beta L^{\alpha-1}$ or:

$$(7) \quad wL = \alpha A^\varepsilon(v)l^\beta L^\alpha.$$

Let $\gamma = 1/(1 - \alpha) > 1$. By substitution in Equation (6), the maximization of the joint surplus becomes:

$$(8) \quad \max_{v,w} \mu \ln(w - \bar{e}(l, v)) + \gamma \epsilon \ln A(v) + (1 - \mu - \gamma) \ln(w) + \gamma \beta \ln(l).$$

The first order condition for w gives:

$$(9) \quad (\mu/w - \bar{e}) + [(1 - \mu - \gamma)/w] = 0.$$

The bargained wage is

$$(10) \quad w = [1 + \mu/(\gamma - 1)] \bar{e}.$$

For tractability, we take a particular specification of the effort function that assumes the property of convexity. If the work schedules are static, we assume workers have a constant aversion $\xi > 0$ to l :

$$(11) \quad e(l) = \exp(\xi l).$$

Assume in addition that the consequences of flexibility are as spelled out by Figure 1. We can now calculate the impact of flexibility. If effective work time is a stochastic variable driven by a normal density function with mean l and variance $v l^2$, the certainty equivalent of ξl is $\xi l + v \xi^2 l^2 / 2$ —that is, average effort \bar{e} depends on l and the level of flexibility v :

$$(12) \quad \bar{e}(l, v) = E[e] = \exp\left\{\xi\left(l + v l^2 \xi / 2\right)\right\}.$$

Putting this finding in Equation (8) gives the level of flexibility as the result of the maximization of J under only v :

$$(13) \quad \max_v -\xi^2 (l^2 v / 2)(\gamma - 1) + \gamma \epsilon \ln A(v) + \gamma \beta \ln(l) - \xi l(\gamma - 1).$$

The choice of the level of flexibility v is a trade-off between productive efficiency and increasing effort, which drives wage claims. Recall, if work time is shorter, the marginal cost of flexibility in terms of well-being at work declines. Consequently, unions can accept an increase of v if the employer consents to an increase of hourly wages. But this wage bonus should be lower when average work time is reduced. Employers can finance it with the productivity gains induced by flexibilization.⁷ Therefore, when l declines, the new equilibrium collective agreement leads to higher flexibility.

The impact of shorter work time on the level of effort is thus ambiguous. It depends on the technology $A(v)$. For instance, take the specification $A(v) = A(\phi + v)$, where $\phi \geq 0$. The first order condition of Equation (13) gives $-\xi^2 (l^2 / 2)(\gamma - 1) + \gamma \epsilon(\phi + v) = 0$, that is, $v = [2\gamma \epsilon / \xi^2 l^2 (\gamma - 1)] + \phi + v$. By substitution, Equation (12) becomes $\ln \bar{e} = \xi(l - \phi l^2 / 2) + \gamma \epsilon / \xi l^2 (\gamma - 1)$. Therefore, if $\phi > 1/l$, there are large relative productivity gains to higher flexibility and \bar{e} rises after RWT. If $\phi < 1/l$, \bar{e} declines.

To sum up, we have the following proposition:

Proposition 1: *In the case of an exogenous (mandatory) reduction of work time, bargaining between social partners leads to flexibilization*

of work. Because of this flexibilization, the positive impact on well-being at work associated with shorter work time may vanish.

In addition, the utility of a representative worker is from Equation (10):

$$(14) \quad U = w - \bar{e} = [\mu/(\gamma - 1)]\bar{e} = [\mu/(\gamma - 1 + \mu)]w.$$

Consequently, because bargained wage compensation is greater than the disutility of labor effort, the total utility of an employee increases after RWT if and only if her or his effort is higher.

Endogenous Work Time

Now we can turn to the extension of the model in the case where the choice of work time is determined by social partners. We can *a priori* specify that trade unions only accept RWT if well-being at work is preserved. Basically, the duration of work is bargained jointly with v and w in the first step. Work time is now given by the double maximization of the joint surplus J under v and l :

$$(15) \quad \max_{v,l} -\xi^2 \left(l^2 v / 2 \right) (\gamma - 1) + \gamma \epsilon \ln A(v) + \gamma \beta \ln(l) - \xi l (\gamma - 1).$$

The first order condition on l gives:

$$(16) \quad \xi^2 l^2 v (\gamma - 1) - \gamma \beta + \xi l (\gamma - 1) = 0.$$

The bargained working length is then explicitly a function of v :

$$(17) \quad l^*(v) = \left(-1 + \sqrt{1 + 4\xi\tau v} \right) / 2\xi v,$$

where τ is positive. As a mirror of the exogenous case, the bargained duration l^* is decreasing in v . Putting this value in Equation (15), the bargaining maximand J is finally simply:

$$(18) \quad \max_v \gamma \beta \ln l^*(v) - (\gamma - 1) \xi \left(l^*(v) + \tau \right) \gamma \epsilon \ln A(v).$$

From this, we can see that the level of flexibility depends only on ϵ . If ξ increases, then flexibility becomes more crucial for the firm and, naturally, the bargained value $v^*(\epsilon)$ is larger. In addition, work time length declines.

Employers propose shorter work time because it makes flexibility tolerable. Now, globalization [Saint-Paul, 1993] or technological progress—through a destabilization effect or through its impact on innovation—put firms in a competitive environment where adaptability and reduced time-to-market are key factors (see Arnal, Ok, and Torres [2001] for a review). Consequently, they raise ξ and then initiate a double movement of RWT and increased flexibility in industries or firms where work duration and organization are collectively bargained. In this case the RWT is endogenous.

What are the consequences for well-being at work of an endogenously determined RWT? Equation (16) yields the *ex post* value of effort as a function of l^* :

$$(19) \quad \bar{e}(l^*, v^*) = \exp\{(\xi - 1)l^* + [\gamma\beta/2\xi(\gamma - 1)]\}.$$

Consequently, we have the intuitive result that when l^* decreases, the equilibrium effort \bar{e} declines if and only if the aversion to length of work time is sufficiently high, that is, $\xi > 1$. In addition, Equation (14) is still verified. It therefore yields the following proposition:

Proposition 2: *Changes in the competitive or the technological environment can lead to an endogenous decline in work time. As in the exogenous case, such RWT is associated with higher flexibility and does not necessarily improve well-being at work. In the endogenous case,*

- 1) *if the aversion to work time duration ξ is under 1, then well-being at work is damaged and, because of wage compensation, workers' utility is higher.*
- 2) *if $\xi = 1$, net effort, wages, and utility are unaltered.*
- 3) *if $\xi > 1$ net effort, wages, and utility decline.*

The second case, $\xi = 1$, gives a potential explanation for both unaltered wages and the nonpositive impact of RWT on well-being at work as observed in France in recent years: there is no rise of utility despite shorter work time.

CONCLUSION

This paper shows that the reduction of work time does not necessarily induce an improvement in workers' well-being if there is bargaining between employers and workers' delegates over the flexibility of work schedules, which in turn affects labor effort. French experience during the last decade suggests that the impact of reduced work time on total effort has been ambiguous. Theoretically and empirically, worker utility has not necessarily risen with shorter work time, even though pay has remained the same, because intensity may also have risen with the increase in hours flexibility.

NOTES

1. For instance, social partners can decide to consider training hours or some breaks as work time or as leisure.
2. Again, Aubry's laws permit social partners to overcome standard protection regulations, such as limitations to work time fluctuations. Moreover, laws regulating workplace health and safety are not systematically binding, especially in services, thereby giving space for reduced occupational safety and health. Finally, as in the U.S., there is no specific regulation of the newer kinds of threats to health and safety, such as cumulative trauma disorders (CTDs). Note that, as in the U.S. during the 1980s (see Brenner, Fairris, and Ruser [2004]), France experienced a dramatic increase in CTDs beginning in 1997.
3. See European Commission [2003].

4. The value of greater flexibility for firms is not limited to increased labor effort. Work time flexibility allows firms to minimize full-time work hours when the activity and the pace of work are slow. It contributes to optimizing production organization and results in an increased density of work for a given number of hours.
5. The French working conditions survey was conducted in 1998 by the French Ministry of Labor and the INSEE. These data can be used only under a convention with the French statistical agencies. Detailed descriptions of the survey, including the questionnaire, can be found at http://www.travail.gouv.fr/etudes/etudes_i.html. Some public statistics are available in the short papers of the department of research of the French Ministry of Labor at http://www.travail.gouv.fr/etudes/etudes_h.html.
6. See Layard, Nickell, and Jackman. [1991] for a primer on such models.
7. Because of the bargaining power of unions, rents are shared between wages and profits.

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