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Wage Generosity

by

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Abstract

Actual wages typically exceed collectively set standard wages. Standard wages are, therefore, not binding, yet they seem to influence actual wages strongly. An explanation for this phenomenon is offered along the lines of the Fair Wage/Effort Hypothesis proposed by George AKERLOF and Janet YELLEN [1990].

It is argued that it is precisely when collectively set wages are relatively unimportant for perceptions of fairness at the firm level, that large wage mark-ups emerge. The general point seems to be that the results of economic modelling may react very sensitively to the customary suppression of "non-economic" factors. (JEL: J 30)

1. Introduction

It is one of the most persistent, and indeed most striking, features of the German labor market that actual wage rates usually exceed union wages by more than ten per cent.[1] Cases where standard wages are actually paid are extremely rare. (Note that we have unions which cover entire industries, and collective wage settlements fix the wage rates for certain typical jobs centrally for the entire industry.)

Collective wage settlements are, therefore, practically never binding: they fix a minimum which is not relevant for most firms. Yet collective bargaining is tough and seems to have real impact on wage formation, since a rise in collectively set standard wages goes along with a corresponding rise in actual wage

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[1] This holds true for virtually all industrial jobs. There are exceptions, however, such as unskilled labor in supermarkets which fetch standard wages only. Note, however, that the Christmas bonus, often called the "thirteenth salary" because it usually amounts to a monthly salary, is paid nearly everywhere but is voluntary in many firms.

rates: actual wage rates are usually determined as a sum of the union wage rate, firm-specific bonuses and individual bonuses. These mark-ups change over time, presumably in response to market conditions, but these changes are not offsetting rises in collectively set wage rates.

This generosity phenomenon, as it may be termed, is closely related to the well-known and wide-spread phenomenon of wage drift. In all the major countries with centralized wage-setting procedures, it has been observed that actual wages usually increase faster than collectively set standard wages. The widening of this gap between actual rates and standard rates is known as *wage drift.*[2] It seems to me, however, that we should try to explain the wage mark-up before tackling the question as to why it changes over time.

The mark-up phenomenon is rather puzzling. How can a non-binding constraint such as a standard wage rate be of any relevance? Are both the labor unions and the employers' unions foolish when fighting about such irrelevant issues by means of strikes and lockouts? Why is it, further, that firms pay more than they are obliged to pay, even in periods of severe unemployment?

The purpose of this paper is to propose an efficiency wage explanation for the wage mark-up by means of the 'Fair Wage/Effort Hypothesis' put forward by George AKERLOF and Janet YELLEN [1987], [1988], [1990]. I shall argue that fairness considerations are influenced by collective wage agreements: workers primarily compare their own wages with average wages in the market and form their notions of fairness from this comparison, but they also compare what they get with what they 'ought' to receive according to collective agreements, which is standard wages. Thus a rise in union wages will slightly increase the fair wage rate and will induce firms to increase their pay somewhat in order to keep morale (and profit) high. This will push the wage level up and induce additional wage increases in a cumulative fashion, ultimately leading to an increase in actual wages proportionate to the increase in standard wages.

In this way, a very small impact of collective bargaining on fairness perceptions is sufficient to produce a significant wage mark-up. AKERLOF and YELLEN [1985], [1986] have pointed out that small causes may generate large effects, and the phenomenon studied here offers another example of this.

The model is developed in section 2. Some competing approaches and empirical studies are discussed in section 3, cognate ramifications are made in section 4. A conclusion follows.

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[2] PHELPS BROWN [1962] provides a survey covering important countries. He reports that approximately a quarter of wage increases is due to wage drift (PHELPS BROWN [1962, 342]). The recent study by Bernhard Gahlen and Hans Jürgen Ramser for West Germany reports a similar result (GAHLEN and RAMSER [1987, 145]). The study by Harald GERFIN [1977] is also in line with this complex of findings.

Yet the wage drift phenomenon has only been studied in a rather aggregate fashion. Thus it may easily be the result of changes in the composition of the workforce and other similar structural changes. Further, the wage drift phenomenon cannot possibly prevail forever in the sense that actual wage rates always rise faster than scheduled rates.

2. A Model of Wage Setting

AKERLOF and YELLEN [1987] offer a rather comprehensive discussion of psychological and sociological investigations in support of the view that it is the ratio between the actual wage rate w and the fair wage rate w^* which affects performance. Put briefly, their Fair Wage/Effort Hypothesis may be stated as postulating that effort is a function of the ratio $\gamma = w/w^*$ which will be termed *the degree of generosity*. A degree of generosity above unity implies *overpayment*, a degree of generosity below unity implies *underpayment*. Experimental evidence indicates that increased generosity leads to increasing productivity but that overpayment produces less behavioral change than underpayment (CAMPBELL and PRITCHARD [1976, 108]). As a consequence, productivity will increase in γ. Denote productivity by α. We should thus expect a relationship between α and γ as given in figure 1: with increasing generosity γ we obtain an increase in productivity α up to a maximum productivity which may be normed to unity. The response to increasing generosity will, however, be decreasing.[3] Algebraically, this translates into

$$\alpha = \alpha(\gamma), \quad \alpha' > 0, \quad \alpha'' < 0, \quad \alpha(\infty) = 1. \tag{1}$$

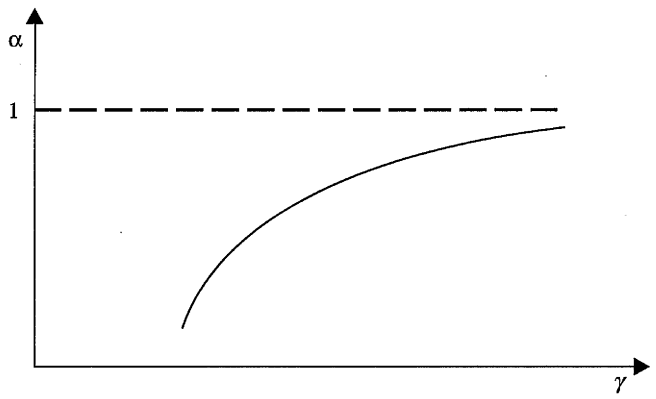

Figure 1

[3] AKERLOF and YELLEN [1987, 17] use a version with a kinked curve which they built on arguments taken from sociology and social psychology. This is not in conflict with the version proposed here, since heterogeneities among workers will lead to different positions of the kinks; in the aggregate, a relationship like that depicted in Fig. 1 can be expected. Further, equity theory suggests that wages exceeding the fair wage w^* have positive productivity effects since workers try to balance this 'gift'; this is indeed a cornerstone in AKERLOF's [1984] 'Gift Exchange Theory'.

The most important determinant of the fair wage will be what other workers in similar occupations in other firms would get, i.e. the *average wage level W*. The idea that such comparisons are made and have a strong impact on performance and satisfaction is indeed commonplace in industrial psychology and has been widely tested in the context of equity theory.[4]

We shall, however, also introduce another determinant of the fair wage rate: the *standard wage rate s* as fixed by collective bargaining. This will affect fairness considerations too, since an increase in the standard wage will create an entitlement to wage increases, and such entitlements influence fairness perceptions (HOFFMAN and SPITZER [1985]). If standard wages increase, the workers may expect a rise in wages, possibly very small, even if the average wage level remains constant. Further, other arguments such as the rate of unemployment may enter here, but we assume these fixed and disregard them for the moment. We concentrate only on the average wage level and the standard wage rate as determinants of the fair wage rate and write

$$w^* = \Phi(W, s), \qquad \Phi_W > 0, \qquad \Phi_s > 0\,, \tag{2}$$

with $\Phi(\cdot)$ concave.

If the wage level W equals the standard wage s, it seems reasonable to assume that the fair wage w^* has just the same size.[5] This implies for the function Φ:

$$\Phi(x, x) = x \quad \text{for all } x > 0. \tag{3}$$

In order to formulate the theory in such a way that it is independent of the units of measurement of wages, it is convenient to assume also that Φ is linear homogeneous:

$$\Phi(\lambda W, \lambda s) = \lambda \cdot \Phi(W, s) \quad \text{for all} \quad \lambda > 0. \tag{4}$$

Denote the elasticity of Φ with respect to the standard wage by Θ.

$$\Theta := \frac{\partial \log \Phi}{\partial \log s} \tag{5}$$

which implies

$$0 < \Theta < 1 \quad \text{and} \quad \frac{\partial \log \Phi}{\partial \log W} = (1 - \Theta) \tag{6}$$

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[4] A particularly dramatic example may be found in SCHMITT and MARWELL [1972].

[5] Arguably, people often develop fairness notions which are biased to their own advantage. This would amount to having w^* slightly larger (i.e. $\Phi(x, x) > x$ in (3)). A minor effect of this kind would again lead to sizeable consequences but I refrain from incorporating this here.

because of homogeneity. The elasticity Θ denotes the relative influence of the standard wage on the fair wage.

Define the wage *mark-up* μ as the ratio of average to standard wages:

$$\mu = W/s. \tag{7}$$

The fair wage may now be expressed as determined by the average wage and the wage mark-up:

$$w^* = W/\sigma(\mu) \tag{8}$$

$$\text{with} \quad \sigma(\mu) := \mu/\Phi(\mu, 1), \quad \sigma(1) = 1, \quad \frac{d\log\sigma}{d\log\mu} = \Theta.$$

Define further the *relative wage rate* v as the ratio between the wage paid by the firm under consideration and the average wage rate:

$$v := w/W. \tag{9}$$

The degree of generosity γ is determined from the wage mark-up and the relative wage rate:

$$\gamma = v \cdot \sigma(\mu). \tag{10}$$

Inserting this into (1) yields

$$\alpha = \alpha\{v \cdot \sigma(\mu)\} \tag{11}$$

which is a slight extension of the productivity curve in some older efficiency wage models.

Assume now that the firm has a concave production function F relating output to effective labor input $\alpha \cdot N$. Profits are thus

$$\pi = F(\alpha\{v \cdot \sigma(\mu)\} \cdot N) - v \cdot W \cdot N. \tag{12}$$

These profits are to be maximized with respect to employment and wages, subject to the constraint that wages are not below standard wages. Necessary conditions for a profit maximum with respect to N and v are:

$$\begin{aligned} & F' \cdot \alpha = v \cdot W \\ F' \cdot \alpha' \cdot \sigma \cdot N = W \cdot N \quad & \text{for} \quad \alpha'(\sigma(\mu)/\mu) \cdot (v\,\sigma(\mu)/\mu) > \alpha(\sigma(\mu)/\mu) \\ v = 1/\mu \quad & \text{for} \quad \alpha'(\sigma(\mu)/\mu) \cdot (v\,\sigma(\mu)/\mu) \leq \alpha(\sigma(\mu)/\mu). \end{aligned} \tag{13}$$

If productivity reacts sufficiently to generosity, this leads to the familiar 'Solow condition' for an optimal wage rate, namely, that the elasticity of pro-

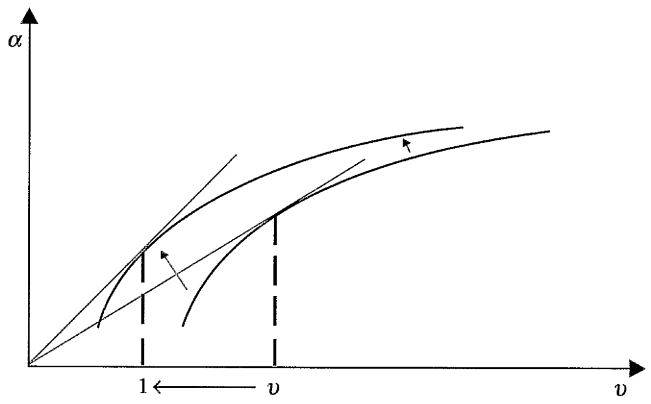

Figure 2

ductivity with respect to wage changes must be unity (SOLOW [1979], SCHLICHT [1978]):

$$\frac{\alpha'(v \cdot \sigma(\mu)) \cdot v \cdot \sigma(\mu)}{\alpha(v \cdot \sigma(\mu))} = 1 . \tag{14}$$

This condition gives the optimal relative wage rate v as depicted in figure 2.

Since $\gamma = v \cdot \sigma(\mu)$, condition (14) may also be seen as determining the optimal degree of generosity γ^* from

$$\frac{\alpha'(\gamma^*) \cdot \gamma^*}{\alpha(\gamma^*)} = 1 . \tag{15}$$

Assume now that all firms fix their wages accordingly: each firm chooses its optimal relative wage rate. If many firms put v above unity, this will push the average wage level up. This will increase μ, which shifts the productivity curve to the left and decreases v until all firms select, on average, just the average wage level. If we start with a low wage level, the process works in the opposite direction (fig. 2). It will settle down when the typical firm selects v just equal to unity.[6] This implies $v = 1$ in (14) and comes down to a fixed wage mark-up μ^* defined by $\mu^* = \sigma^{-1}(\gamma^*)$. Such a mark-up is, however, not always possible since actual wages cannot be below standard wages, and the wage mark-up can therefore never be below unity. In this case, firms are constrained from lowering wages below standard wages even if this would be required by the Solow

[6] More rigorously, an argument about the stability of the adjustment process similar to that given in SCHLICHT [1978, n. 7] could be made.

condition, and we obtain

$$\mu^* = \sigma^{-1}(\gamma^*) \quad \text{for} \quad \gamma^* > 1$$
$$\mu^* = 1 \quad \text{for} \quad \gamma^* \leqq 1\,. \tag{16}$$

In this way, the wage mark-up is determined. It is interesting to note that the elasticity of the wage mark-up with respect to the rate of generosity is just the inverse of the elasticity Θ which describes the response of the fair wage to changes in standard wages:

$$\frac{d\log\mu^*}{d\log\gamma^*} = \frac{1}{\Theta}\,. \tag{17}$$

As a result, *the less the impact of standard wages on fairness perceptions, the more will the mark-up react on changes in generosity*. More specifically, a Taylor expansion of $\log\mu^*$ around $\log\gamma^* = 1$ yields

$$\mu^* = \gamma^{*\,1/\Theta}\,. \tag{18}$$

Table 1 gives the wage mark-ups μ^* resulting from alternative degrees of generosity γ^* and alternative elasticities Θ. The effect of generosity on the wage level is indeed quite pronounced. If, for instance, the firms set their own wage 1% above the fair wage ($\gamma^* = 1.01$) and if a 10% increase in the standard wage increases the fair wage by 1% ($\Theta = 0.1$), the wage mark-up will be 10%.

3. Generosity and Symbols

Now turn to other possible explanations of the generosity phenomenon. HOLMLUND [1988] assumes that a wage mark-up occurs if collectively set wages are below market-clearing wages. In this case, actual wages rise above standard wages and absorb excess demand for labor to some degree. Unions take this into account when fixing standard wages under uncertainty. But this story seems not to fit the fact that we observe wage generosity even in downturns and states of rather severe unemployment.

Another interpretation would be along more conventional lines in the efficiency wage literature: firms pay more than market-clearing wages to assure discipline, reduce turnover, or affect the quality of the work force.[7] In all these

Table 1

$\gamma^* \setminus \Theta$	0.01	0.03	0.05	0.1	0.5	0.9
1.01	2.70	1.39	1.22	1.10	1.02	1.01
1.03	19.22	2.59	1.75	1.34	1.06	1.03
1.05	131.50	5.09	2.65	1.63	1.10	1.05
1.1	13,781.	23.97	6.73	2.59	1.21	1.11

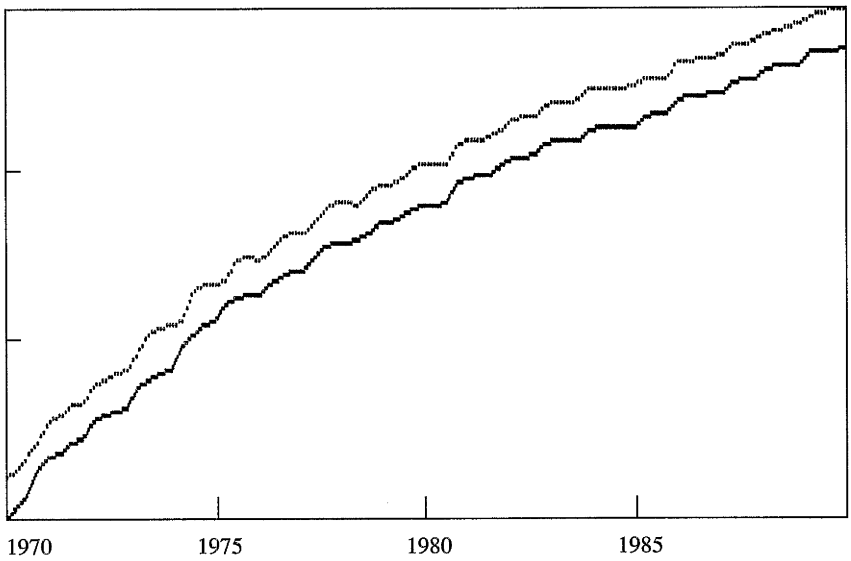

Figure 3

Standard Wages and Actual Wages in West German Manufacturing
$\log s$ (—) and $\log W$ (·····)

models, workers compare a firm's wage offer with the alternatives in the market, and there is thus no link between standard wages and actual wages unless standard wages are binding. These approaches would explain a wage mark-up, but they would not explain why standard wages influence actual wages.

It seems to be the case that standard wages affect actual wages. First, we have a very tight correlation between standard wages and actual wages, as shown in the study by Bernhard GAHLEN and Hans-Jürgen RAMSER [1987].[8] Figure 3 presents an illustration from manufacturing in West Germany. The corresponding OLS regression gives (t-values in parentheses, quarterly data):

$$\log W = -1.7149 + 1.0018 * \log s \qquad (19)$$
$$(-133.0) \quad (334.5)$$
$$78 \textit{ observations}, \quad R^2 = 0.9993, \quad F = 111{,}882, \quad DW = 1.809 .$$

[7] See STOFT [1982], SHAPIRO and STIGLITZ [1984] and FEHR [1986] on discipline; SALOP [1979] and SCHLICHT [1978] on turnover; and WEISS [1980] for self-selection. YELLEN [1984] and STIGLITZ [1987] provide excellent surveys.

[8] GAHLEN and RAMSER [1987, 144] note the fact that the regression coefficient of $\log s$ on standard wages on $\log W$ consistently exceeds unity. The problem seems to be that this influence is too strong, in the sense that increases in standard wage rates go along with more than proportionate increases in actual wage rates. This is just the wage drift phenomenon which is, however, beyond the scope of the present considerations and may well be the result of structural changes in the aggregates.

This shows very clearly the tight connection between standard wages and actual wages.[9] Other industries show similar patterns.[10]

An indirect but very powerful argument for the relevance of standard wages for actual wages lies in the fact that the fight over standard wages is very intense, but this would be irrational for the labor unions and the employers' unions if standard wages had no bearing on actual pay.

There is, however, another interpretation of wage mark-ups, also related to efficiency wages, which runs as follows.[11] Collective bargaining proceeds in two steps: first, there is central bargaining between the labor unions and the employers' unions. The outcome – possibly a result of industrial dispute – fixes the minimum which is to be paid to labor. Now there is a second round of bargaining on the local level: within each firm, the representatives of labor and management bargain over firm-specific bonuses and adjustments of personal bonuses in the firm. If collectively set wages are of relevance at all, they should affect the outcome of local bargaining even if they are not working as binding constraints. (If they were binding constraints, local bargaining would be hardly

[9] Source: time series no. 2148009 (average hourly earnings, wage group 1, males) and time series no. 2557016 (index of standard wages of males, base adjusted by the author), 1st quarter of 1970 till 2nd quarter of 1989, obtained from the data bank of the Statistisches Bundesamt der Bundesrepublik Deutschland, (STATISBUND), Wiesbaden (Germany).
If the standard wages in the previous and in the following quarter are included, we obtain:

$$\log W = \underset{(-100.4)}{-1.6843} + \underset{(7.5)}{0.7368} \cdot \log s + \underset{(4.1)}{0.2980} \cdot \log s(-1) - \underset{(-0.5)}{0.0390} \cdot \log s(+1)$$

76 *observations*, $R^2 = 0.9994$, $F = 40{,}598.0$, $DW = 1.65$.

[10] Empirical results are presented here only for purposes of illustration. It is beyond the scope of the present study to go into that in more detail, and I have not conducted a comprehensive study up to now. The other case I studied is chemistry. The corresponding time series of STATISBUND (nos. 2148042 and 2557046) yield the regression

$$\log W = \underset{(-60.7)}{-2.3414} + \underset{(124.0)}{1.1085} \cdot \log s$$

78 *observations*, $R^2 = 0.9951$, $F = 15{,}384.8$, $DW = 1.13$

$$\log W = \underset{(-54.7)}{-2.3438} + \underset{(5.1)}{0.8716} \cdot \log s + \underset{(2.0)}{0.2511} \cdot \log s(-1) - \underset{(-0.1)}{0.0129} \cdot \log s(+1)$$

76 *observations*, $R^2 = 0.9957$, $F = 5558.8$, $DW = 0.96$.

In both cases, the future standard wages are insignificant in the correlations whereas the past standard wages are significant. This suggests that standard wages affect actual wages, rather than the other way round.

[11] The papers by HOEL [1988 a], [1988 b] deal with some cognate issues in central/local bargaining. HOEL [1988 a] actually contains a theory of wage bonuses which *assumes* that increased wages lead to increased productivity and this induces the firms to choose wages which exceed collectively set standard wages. The point in the present approach is to use one particular mechanism (fair wage/effort) which produces this effect.

useful. On the other hand, if the results of central bargaining were irrelevant for local bargaining, it would not be worthwhile to undertake central bargaining. The fact that there is both local *and* central bargaining is, thus, an indication that *both* are important.) So we must ask: why may local bargaining be important? What are the threats which keep the demands of the parties in check? The threat for the firm is, in my opinion, that it settles for standard wages. Thus centrally set standard wages may serve as a threat point and may in that way influence standard wages. However, the workers do not threaten the firm with a strike in local disputes. Their threat seems to be to work strictly by the rules. This is usually a very severe threat to the firm's performance. Since this is the case, this implies that workers are usually *not* working strictly by the rules; they are constantly making, in AKERLOF's [1982] terminology, gifts to the firm. The firm may induce them to continue doing so by paying fair wages. Ultimately we come down to the Fair Wage/Effort Hypothesis again. The central/local bargaining paradigm is thus essentially not an alternative paradigm but really a variant thereof.[12]

Wage generosity ultimately implies that *collective bargaining affects wages by establishing symbols which have real consequences.* Hence symbolic action must affect performance in some way, and this implies that a kind of social-psychological mechanism plays a role, as in the Fair Wage/Effort Hypothesis.[13] The point in this paper is that very small influences of that kind may bring about significant consequences.

4. Ramifications

The basic view presented here can, of course, be elaborated in several directions, and some remarks may be in place.

Unemployment. It may be that unemployment affects fairness perceptions (AKERLOF and YELLEN [1990, 271, n. 3]). In this case the rate of unemployment u should be introduced as a shift parameter in the function Φ in (2). (Assumption (3) should be dropped in this case.) The analysis can be carried out nearly unmodified, and the result is a wage mark-up μ shifting with u. If the fair wage is negatively influenced by u, the wage mark-up would change procyclically.

Yet it seems unclear why an employed worker should compare himself with an unemployed worker. Another hypothesis, which seems to me to be more

[12] SCHWAB [1988] has shown, however, that contract presumptions strongly affect bargaining outcomes. Standard wages may very well serve as a kind of contract presumption and may affect bargaining. This works presumably via fairness perceptions and may suggest a "Fair Bargaining/Effort Hypothesis" in order to be competitively viable.

[13] I have argued elsewhere that contracting, which is certainly fundamental for economic performance, is ultimately of a symbolic nature; see SCHLICHT [1990]. GAHLEN and RAMSER [1987] actually start implicitly with the postulate that effort is influenced by standard wages, rather than actual wages elsewhere.

plausible from a psychological perspective, would be that profits affect fairness perceptions. This would presumably come down again to a procyclical wage mark-up.

Several authors have claimed that the wage mark-up moves procyclically. HOLMLUND [1986, 243] argues for instance: "Several empirical studies show a marked covariation between wage drift and measures of unsatisfied demand for labor (such as the number of vacancies)," and he refers to PHELPS BROWN [1962] and to a number of studies pertaining to Sweden. However, GAHLEN and RAMSER [1987, 144] report a negative impact from unemployment on the wage mark-up in two out of four cases only (consumer goods and food) whereas the other cases (basic goods and capital goods) show an insignificant positive effect of unemployment, and my own calculations are also inconclusive.[14] (Note that unemployment may affect wage formation strongly through its impact on standard wages even if it has no effect at all on the wage mark-up).

Other Variants of Efficiency Wages.[15] The present discussion has focussed on the "morale" version of efficiency wages. In the "turnover" version, very similar results could be obtained by linking job satisfaction with generosity, and having turnover affected by that. The "self-selection" version would require reservation wages to be affected not only by the market wage level, but by standard wages as well. It seems, however, difficult to build standard wages into the "discipline" version as long as standard wages do not serve as a threat point.

Wage Compression. In the context of the present model, the explanation of wage compression would be slightly different from that given in AKERLOF and YELLEN [1987], although the overall result would be the same:[16] labor unions

[14] GAHLEN and RAMSER [1987] use economy-wide, rather than sector-specific, unemployment. My own more disaggregated data are also very indecisive, however. I have an unemployment series for chemistry (series no. 0002014 of STATISBUND). The regression is:

$$\log W = \underset{(-28.8)}{-0.20871} + \underset{(55.5)}{1.0407} \cdot \log s + \underset{(4.02)}{0.0000036}\, u$$

$$78 \textit{ observations}, \quad R^2 = 0.9960, \quad F = 9233.9, \quad DW = 1.28 .$$

The sign of the coefficient for u is unexpected.

For manufacturing, I have no unemployment figures, but only employment, which I denote by e (series no. 2021002 of STATISBUND). The corresponding regression is

$$\log W = \underset{(-20.8)}{-1.8361} + \underset{(95.9)}{1.0155} \cdot \log s + \underset{(1.4)}{0.0000054}\, e$$

$$75 \textit{ observations}, \quad R^2 = 0.9993, \quad F = 50{,}930.6, \quad DW = 1.8237 .$$

The sign for e is as expected but clearly insignificant.

GAHLEN and RAMSER [1987, 146] found, however, a consistent negative impact of the *change* in unemployment on wages. This is more in line with discipline and turnover versions of efficiency wages.

[15] For references, see footnote 7 above.

[16] Wage compression refers to the phenomenon that wage differentials are often smaller than skill differentials. FRANK [1981] and LAZEAR [1989] offer other explanations.

typically press for reducing wage differentials among different skill levels, perhaps for reasons of maximizing votes. If they can implement this through collective bargaining, this would result in wage compression. The empirical test would be that a compression in standard wages goes along empirically with a compression in actual wages. More indirect, but again very powerful, evidence is that costs and energy are spent in collective bargaining, and even wage concessions are made occasionally by the labor unions to achieve compression and by the employers' unions to avoid it.

Firm Effect and Industry Effect.[17] As regards the firm effect (that a firm which offers high wage mark-ups in one occupation will offer also high wage mark-ups in other occupations) and the industry effect (that some industries pay consistently more than others for comparable skills), the present view offers a nice interpretation of the German case since collective bargaining proceeds first on the industry level, which would account for the industry effect, and then on the firm level, which would account for the firm effect. However, even in different institutional settings we should expect intra-firm comparisons which lead to these results (AKERLOF and YELLEN [1987, 14]).

Regional Differences in the Wage Mark-up. The wage mark-up varied significantly across different regions of the Federal Republic of Germany (before unification): mark-ups were systematically higher in the more prosperous parts of the country and smaller in the depressed regions. At the same time, wage mark-ups were fairly uniform within industries in any given region. This observation suggests that the general state of the labor market must influence wage setting. If the rate of unemployment itself is not an important determinant, as has been argued above, such a result may be due to fairness perceptions which are influenced not only by outside wages, but also by the general wage level or living standard in any particular region. Further, the observation renders it doubtful to believe that standard wages affect only marginal jobs, say, in depressed regions, and a rise in those wages pushes up the bulk of all other wages, leading thereby to a positive wage mark-up in the aggregate. Such a direct interregional transmission of marginal impulses would render the introduction of standard wages through fairness arguments unnecessary, but this mechanism does not seem very plausible. We should expect considerable leakage and friction in interregional transmission rather than such a rigid interdependence.

Constancy. In spite of regional differences there is considerable intertemporal constancy in wage mark-ups. (Practitioners of collective bargaining really regard the wage mark-ups as constants.) Although the theory presented here leads to constant wage mark-ups, the size of the wage mark-up hinges upon the data of the model, and these (the productivity-generosity link and the function linking the average wage, the standard wage, and the fair wage) do not excel in

[17] On these, see LEONARD [1987], KRUEGER and SUMMERS [1988] for example. AKERLOF and YELLEN [1987, 14] give an explanation in terms of their Fair Wage/Effort Hypothesis without recourse to union wages.

firmness. It would be desirable to link the constancy of wage mark-ups to more solid givens. But what can be considered solid in this context? Technology is ever-changing, preferences change, and so forth. There seems to be no firm ground to build upon. The constancy problem thus raises quite fundamental problems which are common to many economic theories.

One way out would be to relate these constancies to people's cognitive and perceptual predispositions, since these seem to be the only sufficiently invariant elements in the economic universe. If we consider wage generosity together with other phenomena of a similar kind, such as the custom of giving gratuities, such an approach gains in plausibility. Gratuities, like wage generosity, are fairly invariant over time, but they vary considerably across societies and cannot easily be related to technological or transactional differences.

5. Conclusion

Small causes may have big consequences. This has been illustrated here with reference to fairness considerations and wage formation. It has been shown that it is precisely when collectively set wages are relatively unimportant on the firm level that big wage mark-ups emerge. The general point seems to be that the results of economic modelling may react very sensitively to the customary suppression of "non-economic" factors.

Zusammenfassung

Die Effektivlöhne liegen oft beträchtlich über den Tariflöhnen. Die Tariflöhne sind also nicht bindend. Dennoch scheinen sie die Lohnentwicklung zu beeinflussen. Eine Erklärung für diesen paradoxen Sachverhalt wird vorgeschlagen, die der "Fair Wage/Effort"-Hypothese von George AKERLOF and Janet YELLEN [1990] folgt.

Es wird gezeigt, daß die Lohnspanne besonders groß ist, wenn die Bedeutung der Tariflöhne für die Lohnbildung auf Firmenebene sehr gering ist. Die ökonomischen Abläufe können mithin sehr sensibel auf die Einbeziehung „nicht-ökonomischer" Faktoren reagieren.

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