This paper is an interesting and useful contribution to the growing empirical literature on asymmetric adjustment costs (AC) of labour used by business firms. The issue of asymmetry is important among other for a better understanding of business cycle fluctuations and reactions of business firms to policy interventions aimed at affecting their employment decisions.

Since the pioneering work of Oi (1962), the quasi-fixedness of labour has been studied in the literature. Until recently, mainly for reasons of convenience, most theoretical and empirical studies relied on quadratic (symmetric) AC specifications.

My comments will be concerned with the specification of the AC function, with the empirical results obtained by the authors and with possible extensions.

Asymmetric adjustment cost functions

Asymmetry of AC has been modeled in different ways in the literature. Along, a suggestion by Holt, Modigliani, Muth and Simon (1960), Burda (1990) includes a linear term in the quadratic specification, which then yields

\[ AC = \phi (\Delta L_t)^2 + \delta \Delta L_t, \quad \phi > 0, \]  \hspace{1cm} (1)

where \( \Delta \) denotes the change in employment \( L_t \) and \( \phi \) and \( \delta \) are constant parameters. Bertola (1989) uses a piecewise linear specification of the form

\[ AC = \begin{cases} \delta^h \Delta L_t, & \text{if } \Delta L_t \geq 0 \\ \delta^f \Delta L_t, & \text{if } \Delta L_t < 0 \end{cases} \]  \hspace{1cm} (2)

where \( \delta^h \) and \( \delta^f \) are constant parameters.

The present authors use a locally quadratic specification

\[ AC = \begin{cases} \phi^h (L_t - \theta L_{t-1})^2, & \text{if } (L_t - \theta L_{t-1}) \geq 0 \\ \phi^f (L_t - \theta L_{t-1})^2, & \text{if } (L_t - \theta L_{t-1}) < 0 \end{cases} \]  \hspace{1cm} (3)

where \( 1 - \theta \) denotes the quit rate, \( \phi^h \) and \( \phi^f \) are coefficients which can be related to variables that characterize the state of the labour market and the strength of trade unions.

Finally, in line with Pfann and Verspagen (1989), Pfann and Palm (1992) and Brasson, Kramarz and Sevestre (1991) include an exponential term in the AC specification and allow for cross-adjustment effects

\[ AC = -1 + \exp (\beta_i \Delta L_{it}) - \beta_i \Delta L_{it} + \gamma_i (\Delta L_{it})^2 \sum_{j=1}^{n} \gamma_{ij} \Delta L_{it} \Delta L_{jt}, \quad i = 1, \ldots, n, \]  \hspace{1cm} (4)
where $L_{it}$ denotes employment of the $i$-th type of labour. When $\beta_i = 0$, specification (4) specializes to become quadratic. When $\beta_i > 0$, hiring costs are larger than firing costs, whereas when $\beta_i < 0$, the reverse is true.

Although the locally quadratic specification (3) takes account of various types of asymmetries, it has the disadvantage of not being twice differentiable, which may for instance render it difficult to check the second order conditions for profit maximization close to $\lambda_{it} = 0$. Also, this specification may not be the most obvious choice if one wants to allow for a linear term as in specification (1) and for cross-adjustment effects between the different production factors as in equation (4).

Also the resulting empirical model is highly nonlinear in the endogenous variables (and in the parameter $\theta$) as it includes the product of the change in employment, $L_t - \theta L_{t-1}$, and dummy variables, the values of which depend on the sign of the change in employment. Specification (4) has the advantage of being differentiable. It also needs one extra parameter for the asymmetry, the value of which will be determined by the complete sample. As in (3), one can assume the ACs to vary with the gross change in the labour force by including a quit rate $1-\theta$ (assumed to be constant) in (1), (2) and (4). But it is legitimate to ask the question whether a constant quit rate does lead to fixed ACs rather than affecting the variable ACs as firms will adapt the size of their personnel department to deal with the expected quits.

To conclude, I agree with the authors that at the disaggregate level one should distinguish between regimes of expansion and contraction. But smoothing by aggregation over types of labour and/or firms may result in a specification like (4) as appropriate and computationally convenient approximation for the shape of the AC function. The need for including the quit rate in the AC specification is an empirical matter.

The empirical results

A very interesting feature of the present study is the use of panel data for British firms in manufacturing for the period 1978-1985. The finding that asymmetries are statistically significant is in line with the conclusions reached by other authors who investigated the importance of asymmetries in ACs. Among others, this conclusion was found by Rahila and Teräsvirta (1989) using business survey data for 500 Finnish firms for the years 1976-1987, by Bresson et al. (1991) for a panel of 1146 French firms over the period 1975-1983 and by Jaramillo, Schiantarelli and Sembenelli (1991) for 52 large Italian firms over the period 1963-1988.

The evidence in favour of asymmetry is quite strong. Hiring costs are found to be greater than firing costs. None of them is very large, a result which might be specific for the period since the eighties in the U.K. given the changes in labour market and employment security legislation in Britain in that period. The coefficients of the AC function are found to vary with the level of investment, a finding indicating the existence of
interrelationships between ACs for labour and capital. It would be interesting to check to what extent this finding is due to the fact that capital stock is not included as a production factor in the model and to see whether these possible interrelations could also be accounted for by the interaction terms in the specification (4). Finally, I am somewhat worried about the implications of the large value of the Sargan test of correlation between the instruments and the error term and about the sensitivity of the estimation results with respect to the a priori choice of a constant quit rate of 8%.

Extensions

It would be interesting to compare the results for the locally quadratic specification (3), possibly with time-varying parameters $\phi^h$ and $\phi^f$ with those for the specification (4). Next, in view of the evidence obtained by Bresson et al. (1991) and Pfann and Palm (1992), one should be concerned about the aggregation bias, a point which the authors acknowledge. Bresson et al. (1991) distinguish between three different skill levels, (1) engineers and technicians, (2) skilled production workers, administrative and commercial staff and (3) unskilled production workers, whereas Pfann and Palm (1992) estimate their model for production and nonproduction workers in the Netherlands and the U.K. for the periods 1971-1984 and 1955-1986 respectively. In both studies, the degree of asymmetry varies with the level of skills. For French engineers and technicians, hiring costs are found to be larger than firing costs ($\beta_1 > 0$) and whereas they are about the same for other categories. For production workers in the manufacturing sector in the Netherlands and the U.K., hiring costs are larger than firing costs ($\beta_1 > 0$), for non-production workers, the reverse holds true. Another aspect which deserves attention are the cross-adjustment effects which turned out to be important for French panel data but were found to be insignificant for aggregate data for the manufacturing sectors in the Netherlands and the U.K. It would also be sensible to investigate whether this conclusion is affected when other production factors such as capital are included in the production function. Finally, one could estimate the Euler equations for all production factors jointly, possibly also including the production function. These estimates should be more efficient than single equation estimates.

To conclude, I agree with the authors that asymmetries in adjustment costs matter and ought to be taken into account when modelling the dynamics of factor demand. I believe that their findings are quite robust with respect to the choice of the specification for the asymmetry. The extension of relating the value of AC coefficients to the state of the economy is sensible. Using panel data information should be preferred to that of pure time series data. I am not fully convinced that distinguishing two regimes of expansion and contraction, respectively, with different parameter constellations as done in the present study has to be preferred to using an AC specification such as (4).
Additional references


