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Hagen Lesch*

Ageing Societies and Challenges for Collective Bargaining Policy

The ongoing demographic changes in the industrialised countries mean not only that the ratio of pensioners to the number of people working has increased and is projected to continue to do so, but also that the average age of the labour force is increasing. These developments confront collective bargaining policy with new challenges as the size and characteristics of the labour supply change, as do the interests of the median trade union member. The following article examines these challenges using the example of Germany.

Like many other European societies Germany is confronted with a fundamental demographic change. Today, Germany has about 82.5 million inhabitants. Due to a "birth rate deficit" this number will shrink to between 67 and 81 million by 2050, depending on different assumptions concerning fertility and immigration.[1]

The demographic change will also influence the size and structure of the potential working population. According to a forecast by the Federal Statistical Office, which assumes a considerable increase in life expectancy and an annual net immigration of 100,000 persons, the potential labour force will decrease from 56 million in 2001 to 39 million in 2050.[2] The number

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[1] Statistisches Bundesamt: Bevölkerung Deutschlands bis 2050, 10. Koordinierte Bevölkerungsvorausberechnung, Wiesbaden 2003, p. 27.

[2] Ibid., p. 35.

of 35 to 49 year-old workers, who now constitute the biggest age group, will shrink while the number of 50 to 64-year-olds will grow substantially. Accordingly the average age of the labour force is expected to increase by 4½ years by 2050 (from the current 39 to 43½ years).[3]

While these developments are predictable, it is quite unclear how they will affect labour supply. The latter depends on the number of employed, which in turn depends on the length of time spent in education, the age of entry into retirement, female labour force participation and net immigration. Theoretically, the shrinking of the working age population could be counteracted by reducing the duration of vocational training, raising the retirement age, expanding the female labour force and controlled net immigration. But such measures could only mitigate the effects of a shrinking potential labour force. They will not prevent the ageing of the working population nor the changes in the age structure.

Demography and Labour Relations

These developments will confront collective bargaining policy with new challenges. It is hardly possible to predict which collective bargaining system will be most effective to tackle these challenges in the future. In Germany presently sectoral collective agreements cover approximately 61 per cent of all employees, but only 43 per cent of all companies. The continuing structural change and the ongoing recruiting problems of most trade unions will further diminish the sector-level coverage rate.

The organisational structure of the dominant German Trade Union Confederation (Deutscher Gewerkschaftsbund, DGB) is already characterised by ageing. The proportion of inactive members (pensioners, early retirees and unemployed) to all trade union members is estimated at 19 per cent, while the share of young workers (under 30 years) is only 7 per cent. In the mid-1970s young workers made up 16.5 per cent of total union membership. Their absolute number has declined from 1.2 million to approximately half a million.[4]

If we assume – in contrast to the observed trend during recent years – that the willingness to join a union does not decrease further, demographic change would still reduce the number of young members to 346,000 by 2050. During the same period the number of active DGB members would decline from currently 6.3 million to 4.6 million. The unions would lose approximately 1.7 million members. If the recently observed shrinking process continues, however, the unions will risk approaching a "critical mass". From an organisational perspective this shrinking process will lead to a dead-end and will in the long run call into question the system of sectoral level bargaining.

With regard to trade unions, industrial relations will not only be influenced by the unions' loss of significance, but also by their preference-building process. If the ageing of the union membership continues – which on the basis of the demographic trend seems a realistic assumption – and the majority of union members is 50 years old and older, the unions will be tempted to consider their policy as an "end game".[5] What does that mean? As the income of the dominant older members will be more determined by their pensions than by potential wage increases, retirement policy will unavoidably become more important than wage policy. The unions will then try to influence political reforms with respect to the interests of their older members by log-rolling. For example, by offering wage moderation in exchange for maintaining pension benefits.

This would be different if the unions stopped the ageing of their membership. In that case there would be the chance to refocus their collective bargaining policies. The "median member", whose preferences are decisive for trade union policy, would move to "the left" of the union age scale, which is to say he would be younger. As a consequence, the interest of the older union members in maintaining the pension benefits would be less important in relation to the interest of the younger members in expanding wages.

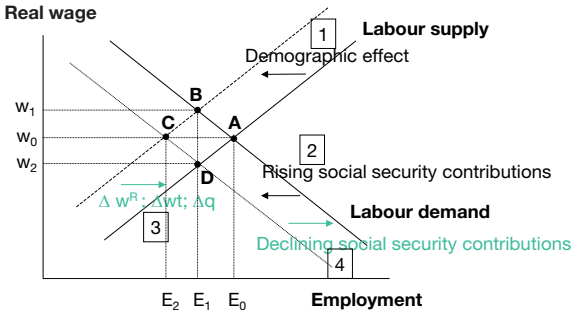
Finally, the future of the collective bargaining process will depend on the ability of the unions to attract more members in the growing service sectors, for example in the information and telecommunication industries. So far the unions are well organised in the manufacturing sector and the public services. Unfortunately, these sectors are not creating new jobs and consequently no new union members. In order to reverse the shrinking process it is therefore indispen-

[3] A. Börsch-Supan: Kann die Finanz- und Sozialpolitik die Auswirkungen der Bevölkerungsalterung auf dem Arbeitsmarkt lindern?, in: B. Genser (ed.): Finanzpolitik und Arbeitsmärkte, Berlin 2002, p. 19.

[4] B. Ebbinghaus, J. Visser: Trade Unions in Western Europe since 1945, London 2000; W. Müller-Jentsch, P. Ittermann: Industrielle Beziehungen – Daten, Zeitreihen, Trends 1950-1999, Frankfurt 2000.

[5] W. Streeck: Gewerkschaften vor dem Endspiel, in: Financial Times Deutschland, 19 March 2001, p. 2.

Figure 1
Demographic Change and Labour Market



Legend: Δw^R = reservation wage, Δwt = working time, Δq = qualification level

sable to recruit new members in the expanding service sectors.

Ageing and Collective Bargaining Policy

The trade unions will only solve their organisational problems if they respond to the individualisation of labour relations. In the future, quantitative aspects like collective wage increases or reductions in working time will lose significance. Instead qualitative aspects like training, working life arrangements or employee loyalty will become more important. Some of the most important challenges in collective bargaining policy will be analysed below.

I shall begin by discussing whether a shrinking and ageing labour force will influence the distributive margin in wage policy. The productivity-based wage policy approach, developed by the German Council of Economic Advisers *(Sachverständigenrat zur Begutachtung der gesamtwirtschaftlichen Entwicklung)*, recommends using average productivity gains by the economy as a whole as a benchmark for wage increases. This raises the question whether the productivity trend will be affected by the demographic change. If we assume a hump-shaped relation between average age and aggregate productivity, which implies increasing productivity at the start of working life and decreasing productivity toward the end, we cannot predict the influence of a rising average age on aggregate productivity growth.

An increase of the average age along the rising part of the curve leads to rising productivity. As ageing progresses, we come to the declining part of the curve where the relation between average age and productivity is negative. An increase of the average age then leads to decreasing productivity. Accordingly, empirical estimates show only minor productivity losses.[6]

But the assumption of a hump-shaped relation between average age and productivity is discussed very controversially and there is no empirical evidence to support it.[7] The first controversy is at the micro-level. It is not clear how the productivity of a worker develops over his working life cycle. On the one hand older workers are regarded as less dynamic and innovative, but on the other hand they have less absenteeism, lower job turnover, fewer accidents, higher job satisfaction and their human capital includes specific skills acquired over the years of work.[8] Secondly, even if there is a hump-shaped relation at the micro-level, this will only partially affect aggregate productivity at the macro-level. This is due to the fact that age cohorts with decreasing performance coexist with cohorts with constant or increasing performance, although the latter will shrink numerically.

In addition to supply-side productivity effects we have to account for demand-side productivity effects, for example those generated by the technologies employed by companies.[9] Taking them into consideration, we can expect a growth in trend productivity similar to the growth observable during the 1990s (approximately 1.5 per cent).

The labour supply shortage could be more important than the productivity effects induced by an increasing average age of the labour force. Analytically a shortening of labour supply will shift its curve to the left as shown in Figure 1. Assuming a constant labour demand curve, this will induce a rising wage level (look at the movement from point A to point B in Figure 1). If capital costs remain unchanged the rising factor price of labour also increases the relative price of labour which will disturb the optimal allocation of capital and labour. Labour will be substituted for by capital. The rising capital intensity increases productivity so that

[6] D. Blanchet: Does an Ageing Labour Force Call for Large Adjustments in Training or Wage Policies?, in: P. Johnson, K. F. Zimmermann (eds.): Labour Markets in an Ageing Europe, Cambridge 1993, p. 128; A. Börsch-Supan, op. cit., p. 24 f.

[7] P. Johnson: The Impact of Ageing: The Supply of Labour and Human Capital, in: H. Siebert (ed.): Economic Policy for Ageing Societies, Berlin 2002, pp. 115 ff.

[8] P. Auer, M. Fortuny: Ageing of the Labour Force in OECD Countries: Economic and Social Consequences, in: ILO-Employment Paper 2000/2, Geneva.

[9] L. Funk, P. Janßen, H. Lesch: Arbeitsbeziehungen und Personalwirtschaft, in: Cologne Institute of Business Research (ed.): Perspektiven 2050 – Ökonomie des demographischen Wandels, Cologne (forthcoming in spring 2004).

the distributive margin in wage policy also increases. But rising gross earnings will not lead to rising net earnings because the deteriorating relation between workers and pensioners will result in higher social security contributions. The gap between gross and net earnings will therefore further increase.

If we account for demand-side effects, the changing age structure results ceteris paribus in higher non-wage labour costs. This modifies the outcome. Rising non-wage labour costs restrain labour demand.[10] In Figure 1 the labour demand curve shifts to the left. The equilibrium moves from B to C. Theoretical analysis cannot predict precisely at which point a new equilibrium will be established. But it is undisputed that this demand-side effect will dampen the expected change of the factor price relation between capital and labour and the increase of the distributive margin.

Adjustment Requirements

The discussion on the distributive margin indicates that the need for adjustments in collective bargaining policies emanates less from the ageing of the workforce. It emanates more from the expected shortage of labour supply and the concomitant scarcity of skilled labour. If the labour force declines more than the population this poses a threat not only to aggregate output but also to output per capita. Society as a whole would lose welfare and incomes per capita would decline. This will also happen if labour supply shortage reinforces the mismatch in the labour market. In this case, the output capacity potential would not be able to be utilised completely.

The social partners can prevent such adverse developments if they introduce regulations which encourage work especially among older people and women. Let us return to Figure 1 which shows the effect of a higher labour force participation. The labour supply curve moves back and the equilibrium moves from C to D in the direction of its initial position. Since an increasing willingness to work improves the relationship between workers and pensioners, social security contributions could be lowered. As a result the labour demand curve would also shift back to the right. In the optimal case these measures would reinstate the initial equilibrium.

In order to reach this outcome, the social partners have to eliminate disincentives induced by payments and work rules which make early retirement or economic inactivity attractive. They also have to create incentives which increase the willingness to work of persons who are able to work but do not do so.

In order to realise incentive-compatible regulations concerning work the social partners could use traditional policy tools. These include pay schemes, working time, dismissal protection, part-time work for older workers and provisions for training. Of course, collective bargaining policy can only provide a framework. Whether these instruments are used or not depends on employees and employers.

With regard to wage policy one widespread demand is the elimination of seniority provisions, especially pay systems which grade salaries according to age or years of service and neglect current performance. Critics predict that the elimination of seniority-related provisions would strengthen the willingness of firms to hire and to keep more older workers. Even though such provisions are less common in collective wage agreements than usually presumed – in most of cases the automatic wage increases end after a few years – there is clearly a link between the effective wage level and years of service.[11]

Unfortunately these findings do not tell us if seniority rules are the outcome of collective bargaining policy or company practices. In principle both can make older workers more expensive than younger workers with the same qualification. If the seniority rules are collectively agreed upon, either through seniority wage systems or by upgrading, they worsen the employment prospects of older workers. However, if they are an element of company policy, they could also be based on efficiency wage considerations.

From the perspective of a single firm it might be efficient to grade salaries according to age or years of service.[12]

- Seniority provisions will raise the motivation and performance of employees who would otherwise work to rule when approaching retirement. In this way, seniority rules are a substitute for costly monitoring.
- Firms are interested in retaining highly skilled employees for a long time because of their high costs of orientation. By paying below the marginal product

[10] L. Funk, S. Optendrenk: Warten, bis die Arbeitslosigkeit verschwindet?, in: Orientierungen zur Wirtschafts- und Gesellschaftspolitik, Vol. 70, No. 4, 1996, p. 23; L. Funk, H. P. Klös, S. Seyda, R. Birk, B. Wass: Beschäftigungschancen für ältere Arbeitnehmer – Internationaler Vergleich und Handlungsempfehlungen, Gütersloh 2003, pp. 114-116.

[11] H. P. Klös: Ältere Arbeitnehmer: Entwicklungstrends und beschäftigungspolitischer Reformbedarf, in: iw-trends, Vol. 27, No. 2, p. 84.

[12] W. Franz: Arbeitsmarktökonomik, 5th edition, Berlin 2003.

Figure 2
Reservation Wage and Labour Supply

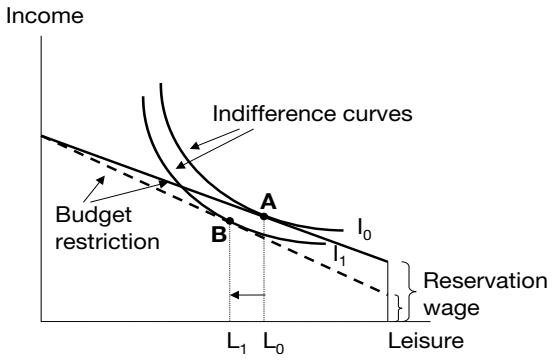
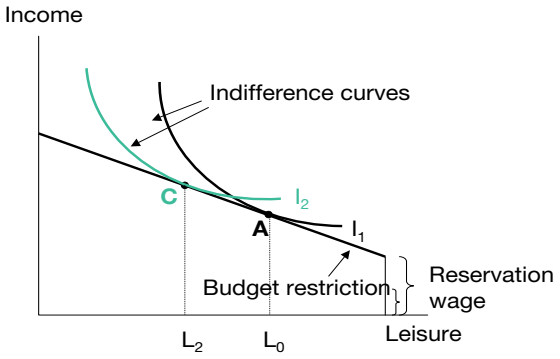


Figure 3
Working Time Optimisation and Labour Time Supply



at the beginning and above toward the end of working life, the employer is able to discriminate between job candidates. Only candidates who want to commit themselves for a long time will accept seniority rules.

- Seniority rules can bind employees with a lot of firm-specific human capital.

Efficiency wages can only work at the micro-level, not at the macro-level. If all firms pay efficiency wages, there are no relative price effects. That means that no one firm has an advantage over any other firm. If the advantage disappears employees' behaviour will not change as expected but the firms will be stuck with higher labour costs.

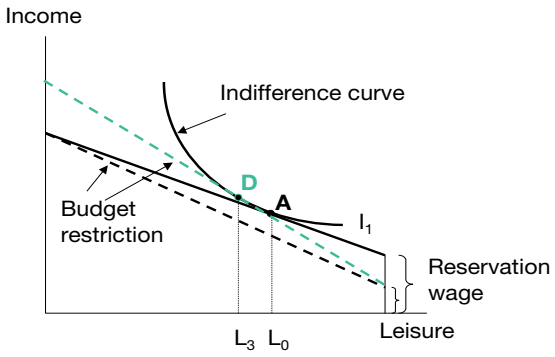
Basic collective agreements also contribute to the problem that older workers are more expensive than younger ones. Among them are the protection of older workers against downgrading, extending the dismissal notice period with age or years of service and special dismissal protection for older workers. Such rules are counterproductive, especially if younger and older workers are not perfect substitutes. In this case a decrease in the production factor "young workers" accompanied by a simultaneous expansion of the factor "older workers" results in a change in the relative price of the two factors. Younger workers will gain and older workers will lose.[13]

These demand-side aspects are contrasted by supply-side aspects. Suppose the preference for more leisure time increases with age or number of children. In this case we can only increase the labour force participation rate by strengthening the willingness to work. Theoretically we can do this by paying a bonus. The problem is that a bonus increases labour costs and reduces labour demand. Therefore, we cannot expect a positive employment effect. A more efficient alternative is to decrease the reservation wage, i.e. the income for not working. Of course, this would have to be done by the legislators.

Figure 2 analyses what would happen if the reservation wage is reduced. Take a representative individual who has to decide on the optimal allocation of his leisure and working time. Much leisure means little work, inducing little income. Little leisure means much work, inducing a higher income. In Figure 2 this trade-off is represented by a budget restriction. The solution of the trade-off depends on the individual's utility function as described by the indifference curves. The indifference curves represent all labour-leisure combinations generating an equal level of utility. If the individual decides not to work, he receives a reservation wage. In order to lower the reservation wage of older workers the anticipated pension payments have to be reduced. This could be done by extending working life. Such an extension would lead to fewer years of pension payments and higher deductions from pension payments in the case of early retirement. In Figure 2 a reduction of the reservation wage moves the budget restriction down as illustrated by the dashed line. In comparison with the initial equilibrium (point A) the individual now prefers more work and less leisure (point B). The new utility level is represented by the indifference curve I_1, which is lower than the utility level at the outset (indifference curve I_0).

[13] G. Steinmann, O. Fuchs, S. Tagge: Mögliche Effekte des demographischen Wandels – Ein Überblick, in: Wirtschaft im Wandel, Vol. 8, No. 15, 2002, p. 472.

Figure 4
Reservation Wage, Qualification and Labour Supply



To summarise, a reduction in the reservation wage increases the labour supply of a representative individual at the expense of a lower utility level. But on the other hand we have a higher output level per capita. So macroeconomic or social welfare need not necessarily decrease.

Alternatively, we could raise the labour supply by optimising working hours or by offering more training. Optimisation of working hours means that an individual prefers to work more instead of having more leisure time. In Figure 3 this is illustrated by a shift of the individual's indifference curve. Suppose the budget restriction remains unchanged. Then optimising working time reduces the disutility of work (in the form of lost leisure) and increases the individual's labour supply. Point C in Figure 3 shows the new solution of the trade-off between leisure and work. In comparison to the initial state represented by point A the preferred level of leisure is lower and labour supply is higher.

An optimisation of working time would be particularly efficient for women because their decision to work is determined less by the wage level than by the possibility of combining work and family responsibilities. Therefore it does not suffice to match the economic interests of employers with the working time preferences of female employees. An adequate supply of childcare facilities is also necessary.

In order to raise the labour participation of older workers part-time schemes should no longer be used as a substitute for early retirement but to encourage older workers to extend their working life by offering them more flexible working hours. In the future it will be a big challenge for the social bargaining partners at the sectoral and plant levels to match the working time preferences of specific groups of employees and company interests without creating dead-weight losses.

Training measures will help older workers to sustain their individual performance and they can reduce the mismatch in the labour market. Reducing the mismatch means utilising unused resources (of the unemployed) to increase social welfare. And further training can influence the labour-leisure trade-off in the sense that the work incentive rises in anticipation of a larger income in the future. The higher income is the reward for higher individual productivity gained by training. The effects of further training are illustrated in Figure 4. We can see that qualification moves the budget restriction upward. Expanding qualification makes it possible to reduce the reservation wage and to raise the labour supply without losing utility. The new equilibrium (D) lies on the same indifference curve as the initial one (A). Recall that an indifference curve represents all feasible labour-leisure combinations which lead to the same utility level.

Recommendations

In the future the social partners will have to link the different policy instruments more strongly. They will have to accept that a decrease in certain inputs demands relative price adjustments. If the number of younger workers shrinks and if younger and older workers are not perfect substitutes, seniority rules are counterproductive because they needlessly raise the costs of the abundant factor. In order to prevent unemployment we need a wage structure which reflects shortages in the labour market. The need for wage differentiation could be reduced by making younger and older workers more substitutable. This can be done through training. It should further be considered in which way the organisation of work can be adjusted to the changing age structure, for example by mixing younger and older employees in teams to reach an optimal allocation of the age-specific skills.

A good example for linking the different policy instruments is the integration of working time and training policies.[14] The last collective bargaining agreement in the German chemical industry institutionalised the right to withdraw time from working time accounts for qualification. Such measures will lead to an acceptable cost sharing between employer and employee. While the employee contributes leisure time the employer bears the training costs. The individual need for

[14] P. Janßen: Investive Arbeitszeitpolitik – Mehr Weiterbildung durch Arbeitszeitflexibilisierung, in: iw-trends, Vol.30, No. 2, 2003, pp. 47-57.

qualification can best be determined at the company level. Collective agreements do not need to specify qualification entitlements. They could, however, set incentives for qualification, for example by allowing for qualification bonuses or protection clauses against dismissal.

Qualification bonuses could be introduced in connection with flexible wages. Flexibilisation means that the employee's wage would no longer be entirely fixed. Instead, parts of the wage would be paid on a variable basis. The variable part should be negotiated at company level. Pay by results or profit-related payments are possibilities for implementing a flexible wage structure. Such incentives would enhance the workers' motivation and strengthen the relationship between employer and employee. Variable payments would also induce productivity gains which could be distributed between suppliers and demanders of labour.

Protection clauses can replace seniority rules, which are common in regulations on employment protection. The latter reduce the incentives for older workers to work and to participate in qualification programmes. Collective bargaining could change this by linking further training and employment protection. Further training will be rewarded by a protection clause against dismissals. It would also be possible to divert some of the costs for employment protection to training programmes. Instead of supplying generous employment protection rules the employee could be offered training. This would allow companies to expand their qualification programmes without additional costs. The employees would not necessarily be less protected because their employability would be enhanced by training so that they would become more attractive to employers (indirect protection).

To ensure that companies use the savings gained by reduced employment protection for training programmes a collective agreement could specify the share of the payroll to be invested in training. Because different companies have different qualification needs, opening clauses should allow companies to negotiate company-specific amounts which can deviate from sectoral agreements. In addition, it could be collectively agreed to allocate shares of saved redundancy payments to promote the re-employment of workers under notice through qualification measures.

Trade unions, too, see the need for counteracting the shrinking labour force.[15] The German metal workers union supports a higher labour force participation rate for both men and women, an earlier entry and a later exit from the labour market and life-long qualification. Its priorities are more flexible work schedules and more part-time jobs. In addition it demands more qualification programmes.

So far the unions have not agreed on more concrete policy recommendations. However, they do fear that as a result of the ageing workforce business costs will rise because of additional expenditure for continuous qualification and for workplace adjustments necessitated by the changing age structure, and that this could narrow the distributive margin and weaken their bargaining position.[16]

Summary

Until 2050 the potential labour force will decrease dramatically. In addition, the average age of the working population will rise and the age structure will change. We shall have fewer younger workers and more older ones.

In order to compensate the shrinking labour force potential we need a higher labour market participation rate especially of older workers and women. To promote this goal, collective bargaining policy must increase the incentives to work and to hire. This could be done by

- eliminating seniority rules
- eliminating incentives for early retirements
- introducing performance and profit-related pay schemes
- optimising working time
- expanding training programmes.

If these measures are successful we need not fear a decreasing distribution margin. To the extent that younger and older workers are not perfect substitutes we need a new kind of age-specific wage differentiation. As the age structure changes, collective bargaining partners have to change the factor price relation of younger and older workers. The need for wage differentiation could be reduced by training older workers in order to enhance their substitutability for younger workers.

[15] IG Metall: Demographischer Wandel: Entwicklungstendenzen, Maßnahmen, Wirkungen auf Wirtschaft und Arbeitsplätze, Frankfurt, March 2003.

[16] M. Braun, R. Riebl: Gewerkschaftliche Politik für ältere Beschäftigte, in: Gewerkschaftliche Monatshefte, Vol. 54, No. 7, 2003, p. 431.