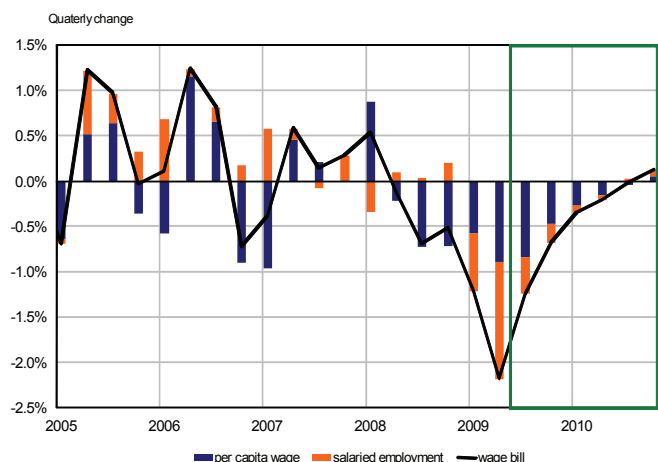


Japan's changing labour market and how it is affecting its growth model

- Japan's labour market model stands apart from that of other countries by the importance it places on employment, which it seeks to guarantee for life, while maintaining a high degree of wage flexibility. Among others, this has given rise to a system of company trade unions not seen elsewhere, and has led to a situation in which the unemployment rate is not particularly relevant as a variable. Generally, losing one's job in an organisation of this kind, more than elsewhere results in an exit from the working population.
- This model of a job for life, moreover, is designed for one category of worker only, namely core workers (male employees, considered by their employers to be permanent). This has been substantially undermined by the expansion of temporary work since the mid-1990s. At the moment, however, the transformation is incomplete: whereas the core workers alone still enjoy a guaranteed job for life, all employees pay the price for this via flexible wages, indexed on that of core workers, and companies' mark-ups have risen steadily overall since the mid-1990s.
- Against this background, the recession that began in 2008 could have an extremely heavy impact on wages: employment could adjust even more sharply than in earlier recessions due to the large number of employees on precarious contracts, while wages are expected to adjust substantially. The wage bill could then fall as steeply as, or even more steeply than, the fall in nominal output; if that were the case, this could aggravate the imbalance in the Japanese growth model. This would boost the role of investment and exports still further, to the detriment of domestic demand, posing the question of this growth model's sustainability even more acutely.

This study was prepared under the authority of the Treasury and Economic Policy General Directorate and does not necessarily reflect the position of the Ministry for the Economy, Industry and Employment.

Breakdown of wage bill growth



Source: Quarterly national accounts; DGTPE forecasts

1. The historical structure of the Japanese labour market is based on two pillars, namely rigid employment and wage flexibility

1.1 The Japanese system is based on the concept of a "job for life"

The Japanese employment model, which grew up in the 1920s and then spread after the Second World War, is characterised by the idea of a "job for life"¹, seniority-based pay, extensive career-long training, profits shared out fairly inside the firm, and active employee involvement in the life of the firm. Everything is done to build employee loyalty (there is a very high cost to job mobility, particularly due to the seniority-based pay system and legislation hostile to dismissals). For example, during the 1970s, nearly a million employees became jobless within their firm, with no precise task to perform but continuing to be paid thanks to an implicit social contract to maintain excess manpower.

Since the end of the Second World War, full employment has been a constant priority for succeeding Japanese governments, as a means to building a more cohesive society. Indeed, a wide variety of measures designed to preserve jobs or encourage retraining have provided a cushion against cyclical shocks². One outcome is an exceptionally high labour market participation rate for men aged between 25 and 60 (averaging 96% over the period 1970-2000); the rate for women is lower, but they are partially excluded from the system (see below).

In addition, employees are expected to grow old, until they retire, in the same firm. One characteristic of the system is the importance of the role accorded to older people in the production process. Because training too is one of the pillars of the system, employees can adapt as they age, and so remain productive and continue to play a valued role. One consequence of-or perhaps the reason for-this phenomenon is the rule that wages rise with seniority, peaking between the ages of 50 and 60. Moreover, the average effective retirement age, close to 70, is the highest in the OECD (the OECD average being 63).

1.2 The wage bargaining system is geared to this preference for "jobs for life", wages being flexible

Because of the special role of the firm in Japanese society, and in particular the importance of ties between employees and the firm, trade unions are organised on a company basis (in the form of company unions), and not on an industry wide or sector-basis as in most of the other developed countries (see Box 1). This mode of organisation has consolidated the system of jobs for life by focusing negotiations on ways to preserve jobs, with wages being treated merely as a means to that end and unions willing to make concessions on them. In a cyclical downturn, employees are willing to agree to wage restraint in return for the guarantee of a long-term job. According to the OECD, nominal wages are significantly more flexible in Japan than in the other OECD countries³.

This wage flexibility is reinforced by the importance of bonuses in employees' pay and by the customary recourse to overtime. Japanese firms are not alone in paying bonuses (which they pay twice yearly, in the summer and at year-end, on top of the basic wage), but it is peculiar to Japan that they account for 20% of an employee's annual wage, on average (compared with an average of 11% in the United States), rising to 40% in certain firms. Together with reducing the traditionally extensive reliance on overtime, cutting bonuses, therefore, and is one of the main levers used by Japanese firms to adjust wages when the economy turns sour.

From an aggregated standpoint, this method of preserving jobs served to avoid a fall in employment between 1970 and 1998. In times of economic crisis (in particular after the recessions that followed the bursting of the financial and property bubbles at the start of the 1990s), it was mainly wages that adjusted, as shown in the chart below.

Box 1: Trade unions in Japan

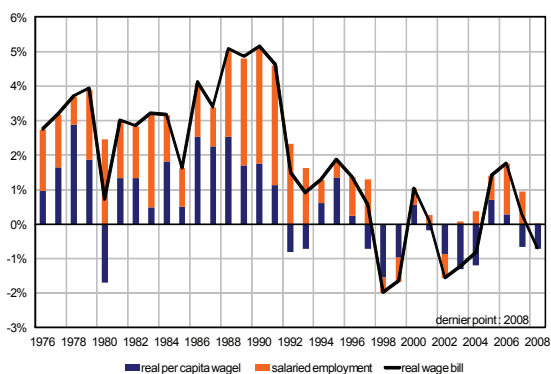
The importance of company unions is a specific feature of Japan. They account for 96% of the trade unions and more than 90% of unionised workers. Wage bargaining is conducted jointly at the national level (by federations of unions for each industry sector) and at the local level (by company unions).

Unions combine into federations in March and April of each year, on the occasion of the *Shunto* (spring offensive) in order to agree on wage increase targets and coordinate the bargaining timetable (and strikes, if any) at the level of each firm. However, once targets have been set for a sector, firms have the last word in the final bargaining process with the company unions. The bargaining also, but not completely, affects the level of wages in the SMEs (both subcontractors and others).

Unions consider the economic situation (growth, inflation, companies' financial condition, etc.), and also the so-called "automatic" annual wage increase under the seniority-based pay system, when making their wage demands. Until the mid-1990s, despite disparities in unionisation rates and the important role played by bargaining within each firm, the large firms (but not SMEs) always respected this "automatic" wage increase.

- (1) This need not necessarily mean the same job throughout a person's life. A feature of the Japanese model is the extensive recourse of secondment to subsidiaries and transfers within a given firm, in order to build the employee's loyalty (which is also facilitated by abundant career-long training).
- (2) Source: "Chômage et réforme du marché du travail au Japon" (Unemployment and labour market reform in Japan), E. Dourille-Feer (CEPII Working Paper, December 2005).
- (3) See "Implementing the OECD Jobs Strategy - Assessing performance and policies", OECD, 1999, as well as "OECD Economic Surveys: Japan", p. 126, 1996. Between 1964 and 1993, the standard deviation of variations in wages per hour worked together with variations in wages per employee, either nominal or real, in Japan are reckoned to be more than double the figures for the United States (e.g.: 6.69 for nominal wages per hour worked in Japan, compared with 2.6 in the United States).

Chart 1: Breakdown of growth in the real wage bill



Source: OECD

1.3 However, this system applies to part of the population only; women in particular are often left out of it

The "typical" worker concerned by the job for life system defended by the unions is described as a "core worker". This is generally a man, considered by the firm to be a permanent worker⁴. Many workers are thus excluded from this system.

This concerns women especially, as they are often excluded from the "normal" functioning of the labour market in Japan, being regarded as a "temporary" fill-in,

despite many legislative measures designed to promote their entry into the workplace. Evidence of this is to be found in their labour force participation rate, which is significantly lower than for men (50%, versus 78% for men). This explains the difficulty they experience in gaining social advancement and in having a regular job (only 55% of women enjoyed a "regular" job between 1990 and 2008, on average, whereas the figure was closer to 87% for men), and the wage discrimination they suffer (the hourly wage of women with a regular job in industry was 52% of the wages of men with a comparable job in 1985, and 64% in 2005). Women's employment clearly serves as an adjustment variable in times of crisis.

But women are not the only ones to be excluded from the system, others being non-regular employees and non-salaried employees:

- "non-regular" employees (e.g. temporary and part-time workers, and workers on fixed-term contracts) are not represented by the unions, have very little unemployment insurance cover (see below), and lose their jobs more readily than the others;
- non-salaried employees are naturally excluded from this system, and they account for nearly 20% of Japan's working population (versus 8% in the United States, for example). This chiefly concerns the self-employed (mostly women) or people working in family firms, whether or not they are paid.

2. This specific system naturally produces low unemployment, although this variable is heavily skewed in Japan by the flexion effect (see below) and therefore cannot be used in international comparisons

2.1 The problem relating to the statistical measurement of unemployment cannot in itself suffice to account for the observed gaps vis-à-vis the other developed countries

The Japanese system naturally produces a lower unemployment rate than the other developed countries (averaging 2.1% in Japan, between 1970 and 1990, versus 6.7% in the United States, 7.2% in the United Kingdom, and 5.5% in the eurozone), even though workers can be dismissed (many employees are excluded from the protection provided by the system), and that includes core workers (as, for example, when the firm employing them collapses). But the observed differences with the other developed countries in the second half of the 20th century are too wide for us to ignore other factors as well.

Doubt is sometimes cast on the unemployment figures in the academic literature. Unemployment is defined as for the ILO, but the main thrust of the controversy surrounding the under-estimation of unemployment in Japan concerns the distinctions between economically active persons in work, the unemployed, and economically inactive persons. Several publications have tried to correct for possible statistical bias, but their findings are controversial and the international organisations (ILO and OECD)

recently took the view that the purely statistical underestimation of unemployment in Japan was not significant.

2.2 Japan's relatively low unemployment rate is mainly accounted for by the cyclical nature of the economically active population, which is particularly pronounced in times of crisis

A better explanation for Japan's low unemployment rate lies in the scale of the flexion effect: when a worker loses his job, he tends to drop out of the economically active population, i.e. he stops actively seeking work pending an upturn in the economy. In practice, this results in an extremely strong correlation between growth in employment and growth in the economically active population, as shown in Table 1.

Broadly speaking, in the Japanese labour market, the distinction is not between workers and unemployed, but between workers and economically inactive persons. As witnessed in particular by the fact that until recently unemployment was mostly of short duration in Japan⁵, virtually regarded as frictional unemployment. In Japan, therefore, "under-employment" corresponds more to the notion of discouraged workers, who are recorded as economically inactive, rather than as "unemployed".

(4) Core workers do not correspond to any officially recognised statistical category. In principle, the closest statistical category ought to be regular workers, but the scope is too broad, since it includes many people who, although on an open-ended contract, are not recognised as permanent members of the firm (women especially). The statistical category generally regarded as closest to core workers is the number of men having regular work in a large firm, even if this choice excludes de facto all men also having the status of core worker in a small firm.

(5) In the early-1980s, the proportion of people who had been unemployed for over six months represented less than 1/3 of all unemployed people in Japan, compared with more than 2/3 in France.

Indeed, if one includes discouraged workers (who would be willing to work if they had the opportunity), academic studies⁶ have found that Japan's unemployment rate is

underestimated by around 50%, whereas similar analyses for other countries⁷ show that elsewhere this effect is more negligible.

Table 1: Linkage between employment and economically active population

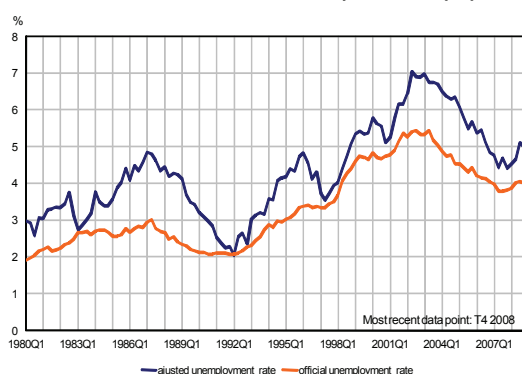
	Japan	United States	Eurozone	United Kingdom
Elasticity of economically active population to employment	0.83	0.43	0.38	0.42
R ² of the equation	0.90	0.46	0.57	0.52

Source: OECD ; DGTPE calculations

Note: The estimated equation takes the form: $\Delta (\ln(\text{economically active population})) = \alpha + \beta \times \Delta \ln(\text{employment})$.
Estimated between Q1 1970 and Q4 2007.

The databases serving to create these adjusted unemployment rates taking discouraged workers into account are scarce, however, and are updated after a time lag. To assess the extent of this flexion effect, we have calculated an adjusted unemployment rate that completely neutralises this effect⁸. This adjusted unemployment rate seems to capture labour trends in times of crisis more effectively (see chart 2). For example, during the late-1990s crisis, unemployment as measured by our indicator (over the period 1998-2002) would have risen by nearly 3 percentage points, versus 1.5 percentage point in the official statistics.

Chart 2: The "adjusted" unemployment rate



Source: DGTPE

In addition, we find that the high level of mobility between activity and inactivity particularly concerns workers

excluded from the system especially (women and temporary workers in particular). For example, between 1952 and 2007, the standard deviation for the cyclical portion of the female economically active population was twice as large as for men (17.3 versus 8.2). There are several possible reasons for this particularly high flexion rate:

- *unemployment insurance is distinctly less well-developed than elsewhere*: unemployment insurance does exist, but it was long confined to regular workers (until 2001, see Box 2), and it is weak in terms of the amount and above all duration of the benefits. When dismissed workers no longer receive unemployment benefit they have less incentive to register as unemployed.
- *sociological factors*: women and non-salaried employees, knowing they are not part of the "model", withdraw from the market of their own volition when they realise it is getting tight. When a woman loses her job, for example, she may report herself as "performing household tasks", which leads her to be treated as economically inactive. This phenomenon is particularly pronounced in Japan. For example, the three-yearly survey of the structure of employment in 1982 (the last year in which it was conducted) showed that the number of female unemployed would triple if one took discouraged workers into account, while remaining stable for men⁹.
- *structural factors*: a substantial proportion (around 20%) of employees in Japan are self-employed. These can withdraw from the market more rapidly when the economy deteriorates.

Box 2: The Japanese unemployment insurance system

Unemployment benefit is paid over a relative short period in Japan (for a maximum of 330 days, depending on the beneficiary's age and the duration of the payment of contributions, versus up to 36 months in France), with amounts ranging between 45% and 80% of the unemployed person's wage (compared with 58% to 75% in France).

Unemployment insurance was very uncommon among non-regular workers before 2001. Then, in 2001/2002, a reform broadened the criteria of eligibility for unemployment insurance to cover precarious forms of employment (part-time salaried work, temporary work, employees aged over 65, and short-term employment), but the eligibility conditions for unemployment insurance remain highly restrictive for this category of the population: one must have worked more than 11 days per month (with a minimum of 20 hours per week) for at least 12 months in the course of the past 2 years preceding cessation of work.

(6) In particular Koji Taira "Japan low unemployment: economic miracle or statistical artifact".

(7) Constance Sorrentino, "International unemployment indicators, 1983-93" (1995).

(8) Both its aspects are neutralised:

- the cyclical effect, since to calculate it we use an economically active population smoothed by an HP filter (i.e. eliminating the cyclical character);

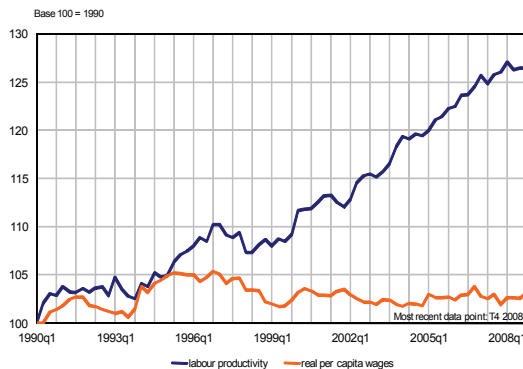
- and the structural effect, since we add 1.0% to the figure for the unemployment rate in order to reflect the average figure for discouraged workers (the first method captures the variation only; this figure is measured thanks to specific surveys, although their drawback is that they are published only infrequently).

(9) See "La mesure du chômage au Japon" (Measuring unemployment in Japan); Philippe SAUCIER; 1985.

3. The expansion of precarious forms of employment in the 2000s has seriously undermined the "social compact" underpinning the Japanese system

The Japanese labour market model is based on the concept of a guaranteed job for life. The price for this is a high degree of wage flexibility. This "social compact" appears to have come under increasing attack since the beginning of the 2000s: wages began declining with the economic crisis of the late-1990s¹⁰ and continued to do so despite the return to growth, and despite fundamentals heading in the right direction (with rising productivity), while at the same time the labour market became more flexible and precarious with the spread of temporary work.

Chart 3: Real per capita wages and productivity



Sources: OECD and national accounts, DGTPE calculations

3.1 Precarious forms of employment have spread rapidly since the mid-1990s, and the Japanese "social compact" covers fewer and fewer workers

In response to the persistent crisis of the 1990s, and faced with rising economic uncertainty, firms sought to increase the flexibility of their manpower while continuing to cut wages. The share of non-regular employees in total employment rose from 20% to 34% between 1994 and 2008; in particular, temporary workers, who were practically non-existent in 2000, numbered more than a million

in 2007. The concept of a "job for life" was truly under threat, and the probability of spending more than 10 years with the same employer fell from 63% in 1992 to 49% in 2002.

Core workers, while still the lynchpin of the Japanese labour market structure, are now very much in the minority¹¹. Even so, the benefits they enjoy have not been curtailed (the probability of their remaining in a firm has stayed more or less stable¹²). The two-speed system has therefore strengthened, with the tacit support of the government, which implemented measures to deregulate the labour market in the 1990s¹³: on the one hand, the core workers, who continue to enjoy the benefits of the Japanese model (a job for life and welfare cover); on the other, non-regular employees, who do not enjoy these benefits¹⁴, who have seen their wages become increasingly flexible, and who are generally significantly less well-paid for equivalent work¹⁵ (the IMF¹⁶ estimates the wage differential between core workers and non-regular workers at 40%). According to a 2007 Japanese Labour Ministry survey, 80% of firms questioned cited cost reductions as the reason for hiring non-regular employees, in order to reduce the excess manpower accumulated in the early-1990s.

Consequently, while between 1970 and the mid-1990s the change in real wages was mainly attributable to the change in labour productivity (both variables more or less doubled over the period), the steep rise in the proportion of non-regular employees observed since then has exerted downward pressure on wages, leading their evolution to diverge from that of productivity (see appendix). As a result, the rise in the number of non-regular employees is estimated to have depressed wages by 0.2% per quarter, on average, since the end of the 1990s, thereby accounting for the increased mark-up (see below).

Box 3: A two-speed labour market also reflects a divergence between sectors

A sector-by-sector study of the Japanese economy reveals that wages appear to have fallen above all in non-manufacturing SMEs (especially in services), whereas they have held up pretty well in the major industrial sectors (with total wages down 10% overall between 1997 and 2008). This disconnect reflects the very different state of health of these two broad sectors.

On the one hand, the manufacturing sector is the economy's "open" sector, consisting of large firms for the most part. This sector has flourished in recent years thanks to vigorous external demand and favourable foreign exchange terms, with a much higher than average profit rate, and is therefore in good health. Indeed, productivity in the manufacturing sector rose 5.7% between the period 1989-2002 and the period 2002-2005, while stagnating in the service sector.

The sheltered sector, meanwhile, is in a more critical position. Since the beginning of the 1990s, low returns in the SMEs making up this sector have raised the spectre of a possible large-scale reorganisation, which the government has continually delayed by means of support measures (especially in services and building, which account for the majority of jobs in Japan). One consequence of this is that the sector is very fragile, consisting of a host of companies with very weak productivity and kept alive thanks only to the fact that the services market is virtually closed to outside competition (2/3 of firms in the sector do not make a profit as defined for tax purposes). Against this background of weak productivity and low returns, the fall in wages is only to be expected, especially as this is the sector that makes the heaviest use of non-regular labour.

(10) See *Trésor Economics* no. 62: "How does today's US crisis compare with the 1990s Japanese crisis?", S. Rivaud; M. Sicsic.

(11) According to the restrictive definition of core workers (the number of men having regular work in a large firm), these now represent only 20%. This constitutes only a lower bound, however, since employees on regular contracts account for 70% of employment.

(12) See "The Japanese Employment System after the Bubble Burst: New Evidence", Ryo Kambayashi and Takao Kato; 2008.

(13) These deregulation measures have facilitated the increase in non-regular employees by expanding the list of firms able to hire such employees. In 1998 in particular, a measure authorised the extension of the maximum duration of "non-regular" jobs (from less than a year to three, and then five years in 2003).

(14) Non-regular employees are easier to dismiss and receive a lower level of welfare cover (health, pensions and various social services) than permanent employees.

(15) Especially as their particular status allows firms to not pay them bonuses.

(16) Somer (2009) "Why are Japanese Wages so sluggish", IMF Working Paper.

3.2 The trade union system has not responded to this increased labour market flexibility

One might have expected the unions to respond aggressively to this greater labour market flexibility, by rejecting further wage cuts, for example, given the demise of guaranteed jobs. Yet the unions in Japan—in large businesses, essentially—represent the core workers mainly. Consequently they have no interest in more vigorously defending the wages of employees subject to the increased labour market flexibility (cf. Lindbeck and Snower's insider/outsider theory).

Against this background, although a growing proportion of the population seeks greater job protection, it is not surprising to see a significant drop in union membership rates, from 34% in 1970 to 25% in 1990 and 19% in 2004. This has no doubt helped to amplify the inegalitarian nature of the system, by eroding the unions' bargaining power vis-à-vis employers. The influence of the *Shunto* has faded since the early-2000s, and it has shifted its attention towards a system (corporate governance) that appears to have altered the allocation of value added to the detriment of employees. Thus, the incomes of the heads of large firms rose by 59%, whereas those of employees fell by 5%, between 2001 (when new rules of corporate governance began to be introduced) and 2004. The incomes of shareholders in large businesses, meanwhile, rose by 70% between 2001 and 2004, versus a rise of 6% between 1986 and 1989.

Overall, companies' mark-ups¹⁷ increased significantly from the mid-1990s onwards, rising from 45% in 1995 to 49% in 2007. This means Japanese mark-ups have been higher than in the eurozone, the United States or the United Kingdom since 2004 (it was 43% in the United States, 45% in the eurozone, and 47% in the United

Kingdom, in 2007). According to Somer (2009), a 5% increase in the share of non-regular employees leads to a 1 percentage point rise in the mark-up. Consequently, the increase in the mark-up between 1995 and 2007 could be accounted for almost entirely by the increase in the share of non-regular employees (which is consistent with our estimations).

Moreover, the heads of firms increasingly consider the financial condition of their firm when setting wages (according to a Labour Ministry survey, in 2005, 75.2% of company heads look first at the financial condition of their firm before reviewing their employees' wages, versus 41.2% in 1970). Company profits have a particularly large impact on investment as well as on wages, in Japan: an econometric simulation of real wage trends shows that, in the short run¹⁸, profits affect the latter substantially (see appendix), the impact being felt especially swiftly when profits decline.

Overall, union power appears to have weakened. The principle of combined wage bargaining, with a mixture of centralised and individual company bargaining, has shifted towards a greater tendency to negotiate on a company basis, and towards abandonment of the principle of annual basic wage rises (in 2005, 79% of firms had a "merit-based" compensation system¹⁹, as opposed to a "seniority-based" system).

As a result, the growth of precarious forms of employment, the declining bargaining power of the unions and, no doubt, albeit to a lesser extent, population ageing (see Box 4), depressed wages significantly in the course of the late-1990s and the early-2000s, at a time when employment was becoming more flexible.

Box 4: Has population ageing contributed to lower wages?

Population ageing also may have amplified the decline in wages observed at the macroeconomic level.

Although the retirement age in Japan has been set at 63 since 2007, versus 60 previously, pensions are not paid in full until retirees reach the age of 65. This acts as an incentive to employees to renegotiate their wages from the age of 60 onwards in order to preserve a wage until they receive their pension. Consequently, when an elderly employee retires, he is either replaced by a younger one on a lower wage, or re-employed after the age of 60, often with a different status. In either case, the corresponding pay is lower^a. Altogether, the average per capita wage for the economy as a whole can be expected to decline when the number of people retiring rises. The effect of this may have been considerable in the 2000s, but it can be expected to be still more considerable in the coming years, as 7 million baby boomers currently aged between 60 and 62 start retiring.

Several studies confirm that the retirement of the baby boomers will probably help to depress wages^b, even if a recent IMF study (Somer 2009) challenges the significance of this effect. This is because employees retiring after 60 receive a retirement bonus representing up to five years of wages, which would offset the aforementioned effect. While not recorded as "compensation of employees" as defined by the Japanese Ministry of Health, Labour and Welfare, this lump-sum retirement benefit would represent an injection of around 300 billion euros into the Japanese economy between 2007 and 2010.

a. A study by the Teikoku Data Bank shows that people aged over 60 earn between 60% and 70% of their previous wages.

b. In particular, Artus 2005 ("*La retraite des baby-boomers: la théorie peut-elle expliquer les évolutions observées au Japon?*" "*Baby boomers retiring: can theory account for the changes observed in Japan?*") shows that according to a model built on classical economic theory the retirement of the baby boomers would depress average wages, depress returns on capital, boost profits, and depress the total saving rate.

(17) Defined as $1 - (\text{nominal wage bill}) / \text{nominal GDP}$.

(18) In the long run, wages are explained by productivity and the share of non-regular employees (see appendix).

(19) Study conducted by the National Personnel Authority in October 2005 and aimed at firms with 100 or more employees. This trend accelerated in 2002 when the employers' representatives opposed the principle of annual basic wage rises, under pressure of the economic situation, and a major union confederation (Zensen) did not request them.

4. By increasing companies' bargaining power, greater wage and employment flexibility could lead to a further radicalisation of the Japanese growth model in the medium term

4.1 The present crisis could depress both employment and wages substantially

In April 2008, the government sought to slow down the growth in the number of non-regular employees via a series of measures aimed at transferring non-regular employees to the status of "regular employees". Despite these efforts, Japan entered the crisis with an incompletely transformed model: the unions, which protect regular employees, are still prepared to agree to wage cuts, but companies enjoy greater room for manoeuvre in terms of jobs thanks to the hefty rise in the number of non-regular workers, pending the possible emergence of new, more representative unions.

The steep fall in activity that occurred in winter 2008 could therefore further diminish the power of workers. As is traditionally the case, wages can be expected to fall significantly, and especially swiftly since profits have plummeted. This time, however, the decline is unlikely to prevent a substantial fall in employment, even more so this time, now that many employees are in a precarious contractual situation²⁰. As a result, despite measures to boost employment contained in the stimulus plans passed in 2009²¹, the government will probably be unable to support employment as much as in earlier crises, and this is likely to diminish significantly (by 1.8% in 2009 and 0.9% in 2010). The impact of falling employment on unemployment could be limited, however, by the highly cyclical nature of the economically active population active. This phenomenon could be amplified by the fact that a large proportion of employees who lose their jobs are non-regular workers whose unemployment benefits are low, and who therefore have little to gain from going

through the process of registering as unemployed (see box 2).

4.2 This development would further unbalance the Japanese growth model

The expected fall in the wage bill could accentuate the imbalance in the Japanese growth model (already observed since the 1990s crisis), with greater importance being given to investment and exports (Japan's two main growth drivers), to the detriment of household demand. Firms may take advantage of their "dominant" position to try to boost their competitiveness by cutting wage costs (a process made all the more necessary by the recent appreciation of the yen), while households, on the contrary, could find themselves obliged to trim their consumption in response to falling income (despite the support provided by the mid-2009 stimulus plans).

As a result, rather than calling into question an export-led growth model (despite showing its limits this winter²²), the present crisis could radicalise it further. Any such development would exact a heavy toll on employees, already suffering the effects of a labour market transformation since the mid-1990s that has worked mainly to their disadvantage. Faced with this expected further radicalisation, the need to give fresh impetus to this transformation of the labour market is critically important. That was a key issue in the August 2009 elections, which handed victory to the opposition Democratic Party-for the first time since the Second World War-running on a programme claiming to place households at the centre of economic policy (see Box 5).

Box 5: Main measures envisaged by the recently elected Democratic Party

The Democratic Party, which won the legislative elections on 30 August for the first time in 52 years, plans to earmark for a period of four years (starting in April 2010) an annual envelope equivalent to 2 ¼% of GDP in order to fulfil its economic programme focused on household consumption and purchasing power. Measures to support domestic demand will include: the introduction of family allowances and subsidies to reduce school fees (representing half of the total envelope), health insurance-related measures (in particular increasing the monthly wages of home health-care assistants), and old-age insurance measures (in particular increasing the guarantee of a minimum monthly pension of over 10,000 yen, or 80 euros).

In addition to the above, the government plans to tackle the problem of wages and non-regular employment, proposing:

- a monthly bonus of 100,000 (800 euros) to job-seekers in vocational training;
- tougher labour legislation, including a ban on temporary work by the day and very short-term contracts in manufacturing industry;
- a progressive rise in the minimum legal hourly wage to 1,000 yen (7.7 euros) (representing an increase of 40% relative to the 2009 level).

It should be noted, however, that these measures would be compensated for by a range of measures, some of which could have a negative impact on the wage bill, such as the planned 20% cut in civil service pay.

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(20) From an aggregate standpoint, the expected fall in the share of irregular workers-more likely to be dismissed than regular workers-ought to have a positive impact on trends in average per capita wages, the former being paid less for the same work.

(21) Including in particular subsidies to support and preserve jobs and encourage the hiring of new personnel in the public employment agencies.

(22) The financial crisis did not affect the Japanese economy directly (the wealth effects were small; the financial system and private agents' balance sheets had been cleared up by the 1990s crisis). The extent of the recession (with GDP falling by more than 6 percentage points between Q2 2008 and Q1 2009) is primarily due to the indirect effects of the financial crisis, with falling external demand leading to a drop in exports and business investment.

Appendix: : Modelling the wages and employment function with the aid of error-correction models

The following variables are used:

SMPT_VAL: Nominal per capital wages;
 DEFL_CONSO: Consumption deflator;
 PROD: Productivity ;
 PART_TIMER: Share of non-regular employment in total employment (calculated, before 1990, by restating annual data on a quarterly basis);
 PROFITS: Nominal profits of private companies^a;
 @RECODE: This function serves to include asymmetric effects (i.e. different coefficients depending on the sign of the explanatory variable).
 EMPLOI_SAL: Salaried employment;
 PIB_VA : Nominal GDP;
 PIB: GDP Real GDP;
 ALPHA_HP: HP filter on alpha (nominal wage bill /nominal GDP).

The letter L before the name of a variable signifies that it is considered in its logarithmic form. The letter D signifies that we consider the primary difference. Figures in parentheses (-x) indicate the number of lagging quarters considered.

The wage equation estimated in one step by the OLS method is as follows:

$$\begin{aligned}
 \text{DLSMPT_VAL} = & -0,50 - 0,21 * (\text{LSMPT_VAL}(-1) - \text{LDEFL_CONSO}(-1) - \text{L}(\text{PROD}(-1))) - 0,003 * (\text{PART_TIMER}(-1)) + 0,39 * \text{DLDEFL_CONSO}(-2) \\
 & (-3,9) \quad (-4,0) \qquad \qquad \qquad (-4,4) \qquad \qquad \qquad (1,8) \\
 & + 0,03 * @\text{RECODE}(\text{DL}(\text{PROFITS}(-1)) < 0) + 0,03 * @\text{RECODE}(\text{DL}(\text{PROFITS}(-5)) > 0) \\
 & (2,3) \qquad \qquad \qquad (2,0)
 \end{aligned}$$

R² ajusted : 0,40 DW : 2,3

Estimation period: Q4 1986 to Q4 2008

The employment equation estimated in one step by the OLS method is as follows:

$$\begin{aligned}
 \text{DLEMPLOI_SAL} = & 0,53 - 0,12 * (\text{LSMPT_VAL}(-1) + \text{LEMPLOI_SAL}(-1) - \text{LPIB_VA}(-1) - \text{LALPHA_HP}(-1)) + 0,10 * \text{DLPIB}(-1) + 0,09 * \text{DLPIB}(-2) \\
 & (3,5) \quad (-3,5) \qquad \qquad \qquad (2,1) \qquad \qquad \qquad (2,1)
 \end{aligned}$$

R² ajusted : 0,40 DW : 2,0

Estimation period: Q1 1986 to Q1 2008.

- a. Profits have a sizeable impact on wages despite the weak elasticity of wages to profits, because the latter vary widely.

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