TRÉSOR-ECONOMICS

Impact of the crisis on employment and wages in France

■ In 2009, France experienced its deepest recession since World War II, with a GDP contraction of 2.6% (versus 0.9% in 1993). This issue of Trésor-Economics describes the labor-market adjustment during the recent crisis, highlighting the characteristics of the persons most affected.

■ The recession entailed large job losses mainly in the non-farm market sector, where they rose from 183,000 in 2008 to 331,000 in 2009. In 2010, the economy started creating jobs again (74,000) and unemployment eased. The effects of the crisis on employment were alleviated by measures taken to limit job destructions (such as the extension of part-time work) and encourage job creations (such as zero employers' social contributions for very small enterprises and expanded work-linked training). As a result, the adjustment of employment over the entire crisis period seems rather mild relative to the magnitude of the economic shock.

■ At the start of the recession, the adjustment was concentrated in temporary-agency work, but the sector restarted creating jobs again in Q2 2009. After adjusting for past trends, the sectors that contributed most heavily to job destructions in 2009 were manufacturing and services.

■ Senior employment proved resilient: the employment rate for the 55-64s, adjusted for age structure, rose steadily, even during the recession period.

■ At the same time, wage growth slowed as a consequence of the economic downturn and rising unemployment. Gains in the average wage per capita weakened from 2.6% in 2008 to 1.3% in 2009. Growth in the basic monthly wage registered a milder slowdown from 3.0% to 2.2%.

■ The total wage bill in the mainly non-farm market sectors slipped 1.2% in 2009. The 2.4% fall in paid employment outweighed the 1.3% rise in the hourly wage, while the number of hours worked per capita is estimated to have remained roughly stable. However, paid employment registered a milder contraction than value added, notably thanks to the moderate, lagged adjustment of employment to the economic downturn. As a result, the share of wages in value added rose.

Employment, wages, and wage bill in market sectors (annual averages)

Latest data points: 2009

Legend: Contribution of hourly wage per capita ; Contribution of hours per capita ; Contribution of employment ; Wage bill
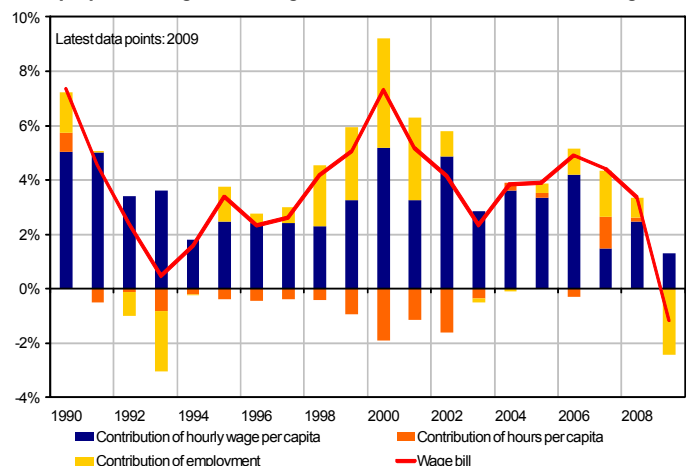
Source: European Commission

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The French economy entered recession in Q2 2008 and exited it one year later. In 2009, the economic downswing was sharper than in previous recessions. GDP shrank by 2.6% compared with 0.9% in 1993 and 1.0% in 1975. The present study examines the labor-market adjustment in 2008-2009. Sections 1 and 2 describe the macroeconomic and microeconomic adjustment of employment. Section 3 discusses wage adjustment.

1. Major job losses due to the severity of the crisis

1.1 Substantial job destruction in 2008-2009...

In 2008 and 2009, the market sector recorded a heavy drop in paid employment,[1] with losses of 183,000 and 331,000 respectively.[2] However, non-market paid employment mitigated total job destruction (chart 1), particularly thanks to the increase in subsidized contracts: new entrants rose from 276,000 in 2008 to 359,000 in 2009. To a lesser extent, non-farm non-payroll employment rose as well, by a combined 61,000 in 2008-2009. Total employment decreased by 138,000 in 2008 and 232,000 in 2009.

Chart 1: Breakdown of changes in total employment (metropolitan France)
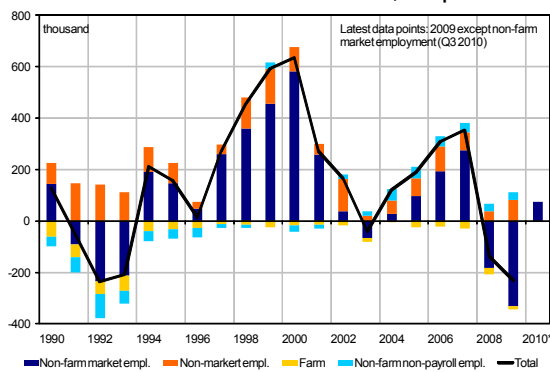
statistical overhang at end of Q3 2010
Sources: INSEE

In 2010, the main market sectors resumed creating jobs, adding 74,000 in the first three quarters. This led to a mild 0.3-point easing of the unemployment rate during the same Q1-Q3 period.

From a historical perspective, the adjustment in market-sector paid employment is comparable in magnitude to the 1993 recession shock, but it was spread over just seven quarters instead of twelve. The unemployment rate posted a similar rise in both episodes.

Yet this massive, concentrated shock does not indicate an overadjustment of employment for the period as a whole, with respect to the magnitude of the crisis led observers to expect. We can illustrate this point empirically from the estimate of the link between economic activity and employment obtained by applying "Okun's law" (box 1).

1.2 1.2 ...notably in services and manufacturing, and for temporary-agency work

The sector that contributed most heavily to job destructions was the manufacturing industry (chart 2).[3] Other sectors destroyed jobs as well, but in more reasonable proportions (table 1).

This description by sector is, however, biased by structural employment trends specific to each sector.[4] Adjusted for estimated 2002-2007 trends, the sectors that contributed most heavily to total job losses are manufacturing and services. Measured against pre-crisis levels, job destruction was especially severe in construction and manufacturing.

Chart 2: Change in paid employment by sector
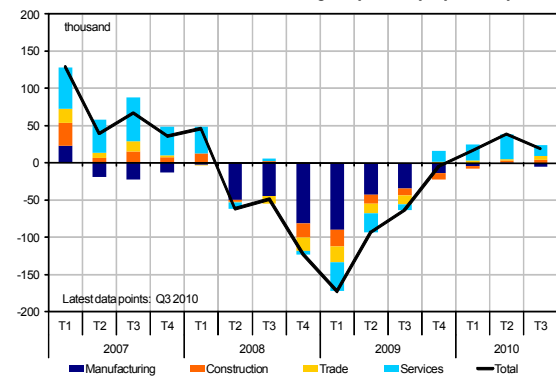
Source: INSEE

Table 1: Job destruction during crisis compared with past changes

	Average annual change				Difference	
	2002-2007		2008-2009			
	Eff.	En %	Eff.	En %	Eff.	En %
Manufacturing	−73	−1.7%	−179	−4.7%	−106	−2.9%
Construction	40	2.7%	−29	−1.8%	−69	−4.5%
Trade	19	0.6%	−36	−1.2%	−56	−1.8%
Services	104	1.4%	−17	−0.2%	−121	−1.6%

Interpretation: Between 2002 and 2007, manufacturing lost an average 73,000 jobs per year. In 2008-2009, losses rose by 106,000 to 179,000.

Source: INSEE

(1) Here and in what follows, "market paid employment" denotes employment in mainly market non-farm sectors.

(2) Source: INSEE local employment estimates. Employment in metropolitan France at December 31.

(3) In this section, we have classified temporary-agency jobs by user sector.

(4) Manufacturing is losing jobs to services. However, job destruction in manufacturing is partly due to a change in the production system characterized by greater outsourcing of industrial production activities to the service sector (L. Demmou, The decline in industrial employment in France (1980-2007): how to account for it?, Trésor-Economics no. 77, September 2010).

Box 1: **Estimation of Okun's law in France**

The empirical relationship expressed by Okun's law is the ratio of the variation in the NAIRU gap (difference between unemployment rate and NAIRU [non-accelerating inflation rate of unemployment]) to the variation in the output gap (difference between growth rates of actual and potential GDP)[a]:

$$\Delta(UR - NAIRU) = \beta \times (gy - gy*)$$

where UR is the unemployment rate, $NAIRU$ the equilibrium unemployment rate, gy actual GDP growth, and $gy*$) potential GDP growth.

β is the Okun coefficient. It measures the impact on the unemployment rate of a deviation in GDP growth with respect to potential growth. Potential growth is the structural change in GDP that would be driven solely by changes in the trend productivity of labor and in potential labor supply.[b] Thus a rise in output does not entail a decline in the unemployment rate unless the latter exceeds potential growth.

Estimation of Okun's law on annual data

The estimation of the relationship from 1988 to 2007 yields an Okun coefficient of –0.34, which is consistent with standard orders of magnitude.

The 1991-1993 episode may suggest that the employment adjustment was consistent with what the activity shock would have led one to expect (the 1991-1993 points lie broadly on the regression line: chart 3). The 2008-2009 shock implies a weaker adjustment of employment to the economic shock, visible in 2008.

This initial analysis is, however, rudimentary, for it rests on a purely contemporaneous relationship between activity and unemployment, masking the customarily lagged adjustment of employment to activity.

Chart 3: Okun's law (annual data)
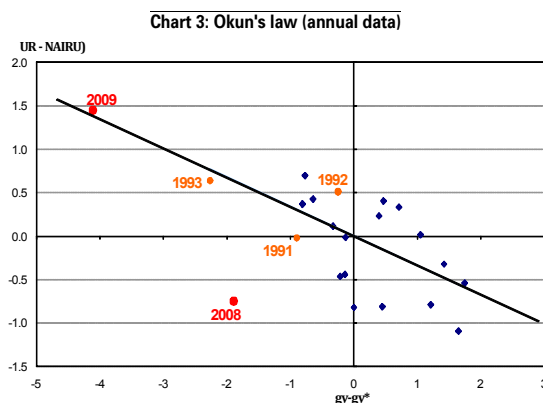
Sources: INSEE, DG Trésor calculations

Estimation of Okun's law on quarterly data

$$\Delta(Tcho - Nairu)_t = \sum_{i \geq 0}\beta_i \times (gy - gy*)_{t-i} + \sum_{i \geq 1}\gamma_i \times \Delta(Tcho - Nairu)_{t-i}$$

The use of quarterly data ensures greater precision. The estimation period is identical (Q1 1988 - Q4 2007). The Okun coefficient is now –0.53, indicating a greater sensitivity of unemployment to economic activity in the longer run.

Chart 4 plots the cloud of points corresponding to the ratio of the variation in the expected NAIRU gap (on the x-axis) to the variation actually observed (on the y-axis). Also shown are the averages for the periods Q1 1991 - Q4 1993, Q2 2008 - Q1 2009, and Q2 2009 - Q4 2009. This more satisfactory relationship weights the previous conclusions.

The relationship tells us that:

- the recession of the early 1990s generated a rise in unemployment consistent with expectations;

- the 2008-2009 recession may be broken down into two sub-periods: (1) Q2 2008 - Q1 2009, with a rise in unemployment slightly greater than expected, and (2) from Q2 2009 onward, when unemployment rose less than expected.

Chart 4: Okun's law (quarterly data)
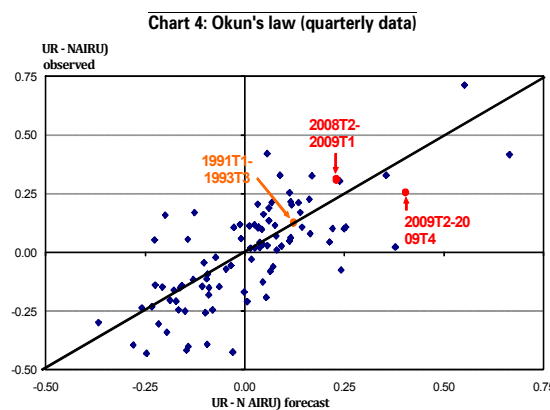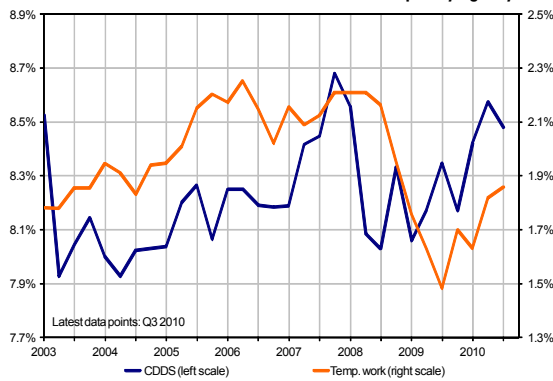

Sources: INSEE, DG Trésor calculations

a. See M. Daly and B. Hobijn: "Okun's Law and the Unemployment Surprise of 2009," Economic Letter 2010-07, Federal Reserve Bank of San Francisco.
b. The change in labor supply is calculated for the economically active population assuming stability of structural unemployment and hours worked per capita.

In 2008-2009, temporary-agency work accounted by itself for nearly 30% of job losses. The destruction was concentrated between Q2 2008 and Q1 2009. Starting in Q2 2009, temporary-agency work posted gains even as the destruction of other types of jobs persisted. The proportion of economically active persons in temporary-agency work fell to a level not seen since 1997.

The proportion of workers on fixed-term contracts (*contrats à durée déterminée*: CDDs) also decreased, returning to its 2005-2007 levels. Since the end of the recession, the share of fixed-term workers has risen rather sharply, almost returning to its end-2007 level, whereas the proportion of temporary-agency jobs remains well below pre-crisis levels (chart 5).

Chart 5: Proportion of economically active persons on fixed-term contracts (CDDs) or in temporary-agency work

Latest data points: Q3 2010

CDDS (left scale)   Temp. work (right scale)

Sources: INSEE Labor-Force Survey, DG Trésor calculations

1.3 Job destruction, however, has been curtailed by employment incentives

The government's recovery plan fostered employment by supporting the economy. At the peak of the crisis, the plan was backed up by substantial funding for measures to limit job losses and foster job creation and retraining.

To limit job destruction, part-time work arrangements have been improved. The government has increased wage-loss compensation and raised the ceiling for authorized p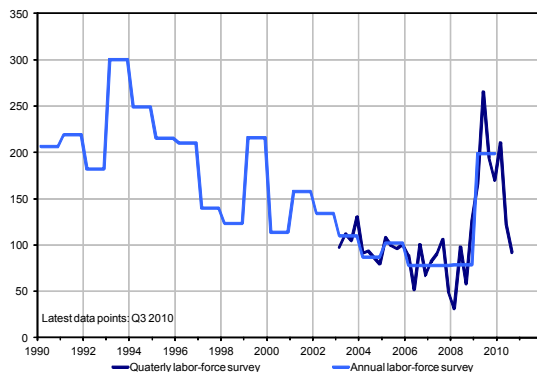artial-unemployment hours. Effective as of May 1, 2009, the long-term part-time work system, which supplements the partial-unemployment procedure, provides compensation equal to 75% of gross pay for employees whose working hours have been reduced on a long-term basis. The number of employees having experienced a part-time work spell peaked at 265,000 in Q2 2009 then eased to 92,000 in Q3 2010 (chart 6).

To promote job creation, a "zero employers' social contributions" hiring incentive was introduced to allow very small enterprises (VSEs) to continue hiring despite the economic downturn. All hirings in a firm with fewer than ten employees were eligible for total exemption from employers' social contributions up to minimum-wage (SMIC) level, and a partial declining exemption up to 1.6 times the SMIC. All in all, more than 1.1 million applications had been accepted by October 1, 2010. The incentive, extended to June 30, 2010, helped to curtail the fall in hirings throughout 2009 (chart 7).

As youth employment is particularly sensitive to economic swings, the emergency plan of April 24, 2009, contained €1.3 billion in specific measures for this category. One of the main goals was to promote the school-to-work transition by expanding work-linked training (apprenticeship and "professionalization contracts").

To foster retraining, the coordination of efforts in favor of employment and vocational training between the State and social partners was stepped up by the Social Investment Fund (Fonds d'Investissement Social: FISO). Improvements were also made in the Personalized Reclassification Contract (Convention de Reclassement Personnalisé: CRP) and Occupational Transition Contract (Contrat de Transition Professionnelle: CTP). These two reclassification tools combine stronger support and a training course for workers laid off by firms with fewer than 1,000 employees. Lastly, additional resources were allocated to the Public Employment Service (Service Public de l'Emploi), combined with greater use of private employment agencies (Opérateurs Privés de Placement: OPPs).

Chart 6: Number of workers in part-time employment (thousand)

Latest data points: Q3 2010

Quarterly labor-force survey   Annual labor-force survey

Source: INSEE

Chart 7: Reported hirings for periods of over one month by firm size (thousand)

Latest data points: Q4 2009

Firms with 10+ employees (left scale)   Firms with <10 employees (right scale)
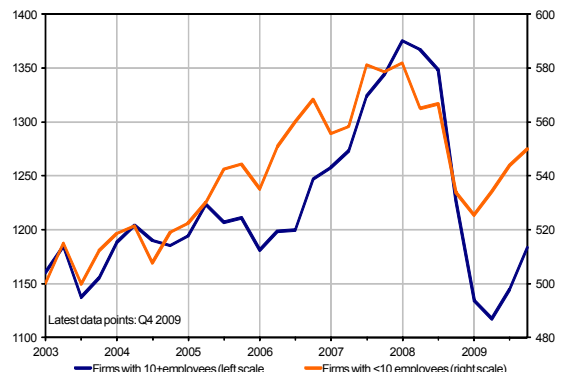
Sources: ACOSS, DG Trésor calculations

2. 2. Young people, blue-collar workers, and low-wage earners have been the hardest hit by the crisis

2.1 During the crisis, unemployment rose most sharply for young people and manual workers

Between Q1 2008 and Q4 2009, the ILO unemployment rate in metropolitan France rose from 7.1% to 9.6% of the active population before easing in first-half 2010 to 9.3% in Q3 (chart 8). Also between 2008 and 2009, the male unemployment rate significantly outpaced the female unemployment rate, gaining 2.9 versus 2.0 points (chart 9). As a result, male and female converged toward an identical 9.6% in Q4 2009. This convergence is due to the heavy impact of the crisis on manufacturing, whose workforce is predominantly male. ILO unemployment among young people aged 15-24 rose 6.4 points between 2008 and 2009, then stabilized in Q1-Q3 2010.

Chart 8: ILO unemployment rate (metropolitan France, %)
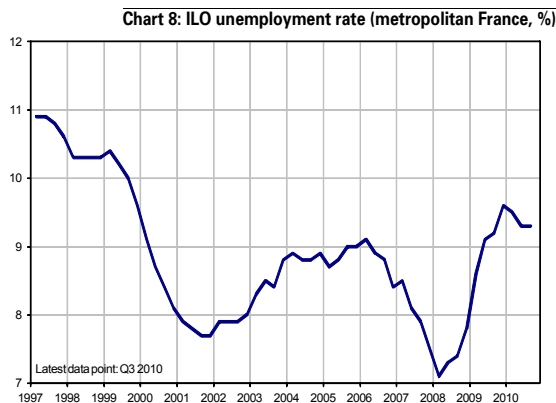
Sources: INSEE Labor-Force Survey

Chart 9: Change in unemployment rate between Q1 2008 and Q3 2010 (metropolitan France, points)
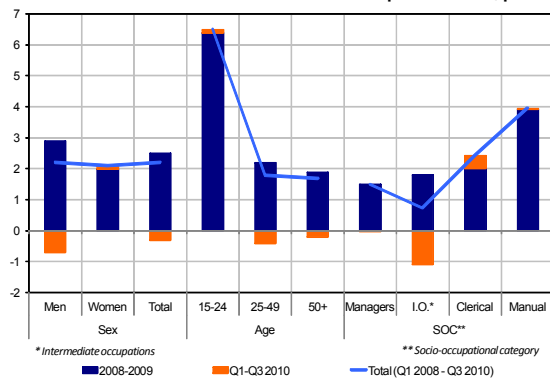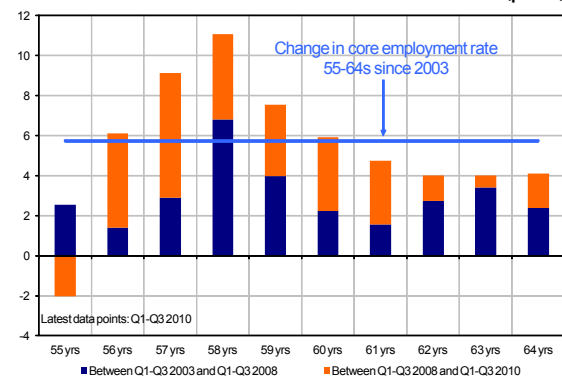

Sources: INSEE Labor-Force Survey, DG Trésor calculations

The steepest rise in the unemployment rate between 2008 and 2009-nearly four points-concerned blue-collar workers. Among clerical workers and intermediate occupations, the rate increased by about two points. Among managers and professionals, the unemployment rate rose by a more modest 1.5 points in the same period. In Q1-Q3 2010, the easing of the unemployment rate was visible mainly in intermediate occupations.

2.2 By contrast, senior employment proved resilient

The senior employment rate has gained nearly two points since 2003, of which one point in the past two years. Adjusted for age structure, the "core" employment rate[5] among the 55-64s has risen far more steeply. Between Q1-Q3 2003 and Q1-Q3 2010, the increase totaled almost six points (chart 10), notably thanks to measures to promote senior employment steadily enacted since the early 2000s. The uptrend was observed for all ages, particularly for the 56-61s. It persisted during the recession, with an increase of nearly three points in the past two years.

Chart 10: Change in age-specific senior employment rate between Q1-Q3 2003 and Q1-Q3 2010 (points)

Sources: INSEE Labor-Force Survey, DG Trésor calculations

### 2.3 In 2009, exits from employment rose more steeply for certain categories

The tracking of individual paths over a full year in the Labor-Force Survey conducted by INSEE (the National Statistical Institute) corroborates the preceding analysis. The crisis increased exits from employment, mostly among temporary-agency workers (chart 11):

- In the private sector, exits from employment to unemployment or inactivity had fallen from 8.1% in 2004 to 7.1% in 2008, but jumped 1.5 points in 2009.

- Temporary-agency workers are the category hardest hit by the crisis. Their exit rate from employment doubled in two years, from 19% in 2007 to 39% in 2009. The exit rate for fixed-term workers rose as well, but by a more modest 5.5 points between 2008 and 2009, while that of workers on open-ended contracts (CDIs) remained practically stable with a one-point increase.

- The exit rate from employment was higher for blue-collar workers and clerical workers than for intermediate occupations and managers and professionals. The socio-occupational categories most affected were manual workers and intermediate occupations, with a rise of approximately two points between 2008 and 2009. The rise in the exit rate from employment to unemployment only was distinctly higher for manual workers than for intermediate occupations: the respective increases were 2.2 points and 1.5 points.

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(5) The core employment rate is equal to the arithmetical mean of age-specific employment rates. This cancels the effect of unequal demographic weights of different age groups-for example, after the entry of the large baby-boomer cohorts into the 55-64 age group.

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- On average for the period 2004-2008, the exit rate from employment was nearly three times as high for workers earning near the minimum hourly wage than for those earning at least twice the minimum hourly wage.

Chart 11: Transition from private-sector employment to unemployment or economic inactivity (%) by contract type

by socio-occupational category

by hourly wage level
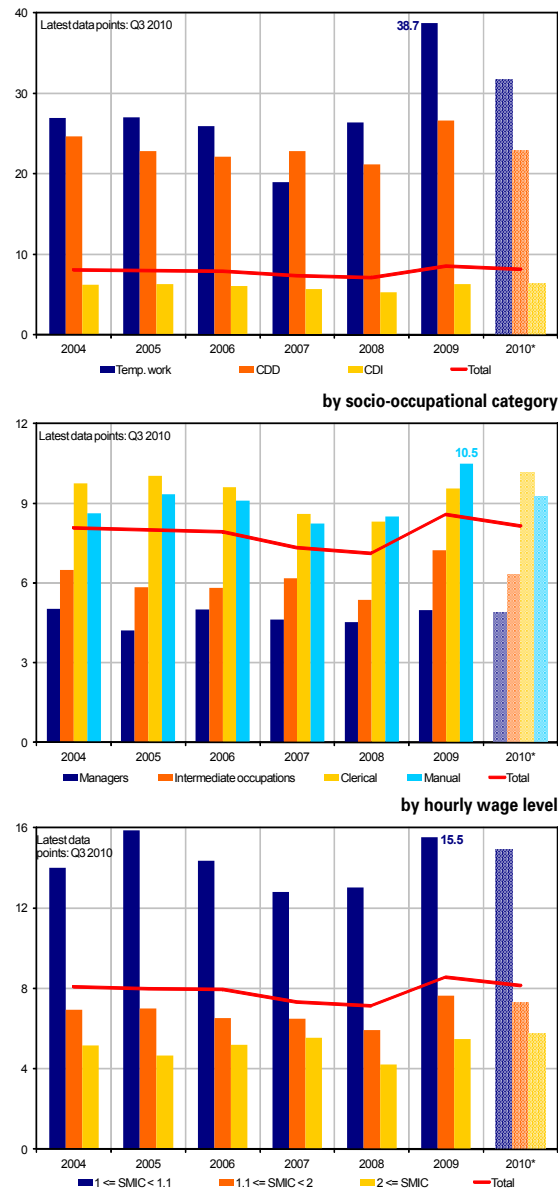
Sources: Sources: INSEE Labor-Force Survey, DG Trésor calculations

Interpretation: Among temporary-agency workers aged 15-64 employed in the private sector in 2008, 38.7% were unemployed or economically inactive a year later. For manual workers and persons earning an hourly wage under 1.1 times the minimum wage (SMIC), the respective proportions were 10.5% and 15.5%.
*The 2010 figure is calculated from the average of the first three quarters.

The 2009 recession drove up all exit rates from employment, but the increase was twice as large for hourly earnings below 1.1 times the minimum wage (2.5 points) as for earnings of at least twice the minimum wage (1.3 points). However, the data for Q1-Q3 2010 indicate an easing of exit rates, particularly for workers earning near the minimum hourly wage.

2.4 2.4 Entries into employment decreased, particularly for private-sector open-ended contracts

Among the unemployed in 2008, 35.4% were in employment a year later: this represents a nearly six-point drop in the employment entry rate from the previous year. Of persons economically inactive in 2008, 7.8% were working a year later, which translates into a 0.5-point decline in their employment entry rate (chart 12). In addition to this crisis-induced fall in the entry rate, the figures show a slight shift in the breakdown of new jobs by contract type. The change was due to (1) the increase in the government's budget allocation to subsidized contracts in the non-market sector from 276,000 entrants in 2008 to 359,000 in 2009, and (2) slack demand in the temporary-agency sector. Among persons in employment in 2009 who were out of work in 2008, the proportion of open-ended contracts (CDIs) in the private sector fell 1.2 points from 36.4% to 35.2% (chart 13), compared with a 1.1-point rise for the same category in the public sector. This structural change also occurred in fixed-term contracts (CDDs), down 0.8 points in the private sector and up 1.8 points in the public sector between 2008 and 2009.

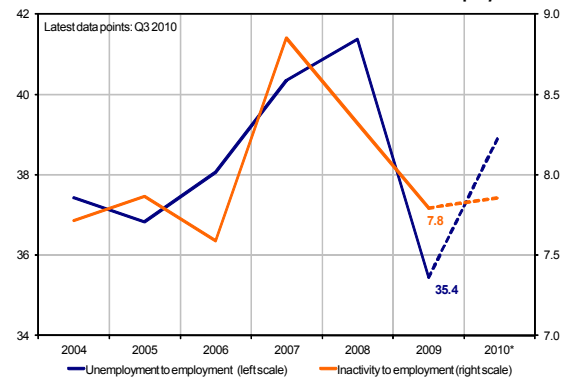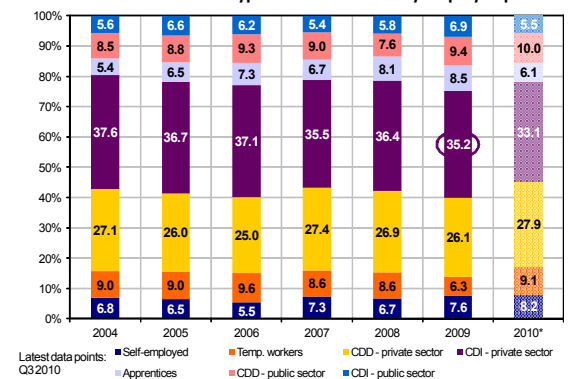**Chart 12: Transition from unemployment or economic inactivity to employment (%)**

Chart 13: Type of contract of newly employed persons

*Sources: INSEE Labor-Force Survey, DG Trésor calculations*

Interpretation: Among job-seekers aged 15-64 in 2008, 35.4% were in employment a year later. For the economically inactive aged 15-64 in 2008, the proportion was 7.8%. Of these newly employed persons, 35.2% had open-ended contracts (CDIs) in the private sector.
*The 2010 figure is calculated from the average of the first three quarters.

3. Slower wage growth in 2009

3.1 The basic wage registered a slowdown…

Wage growth slowed during the recession and the first few quarters that followed. The average growth in the basic monthly wage (Salaire Mensuel de Base: SMB) and the basic hourly wage for manual workers (Salaire Horaire de Base Ouvrier: SHBO) fell from slightly over 3% in mid-2008 to just under 2% in 2010 (chart 14). The SMB and SHBO measure wages using a constant skill structure and excluding short-term variations in working time (see box 2 for definitions of wage indicators). For the seven years prior to the recession, annual growth rates of basic monthly wages of manual and clerical workers exceed the gains for intermediate occupations and managers and professionals by approximately 0.4 points. During the recession, these trend gaps narrowed and the year-on-year changes eased toward 2%. This pace has broadly stabilized since mid-2009.

Chart 14: SMPT, SMB, and SHBO (year-on-year, %)
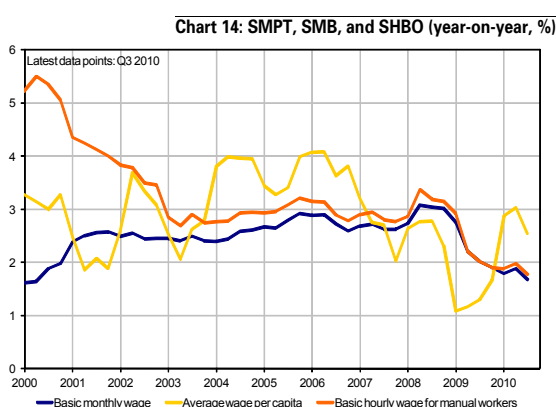
Sources: ACEMO Survey (DARES), INSEE quarterly national accounts

The wage slowdown is consistent with the pattern typically observed in economic crises. It is also due to the rise in unemployment-which lessens employees' bargaining power and eases labor-market pressures-and to the cyclical downswing in labor productivity.

3.2 …but less so than the average wage…

The slowdown in the average wage per capita (Salaire Moyen par Tête: SMPT) occurred earlier and was more pronounced. In H1 2008 alone, year-on-year SMPT growth slipped nearly two points. According to INSEE national-accounts figures, the SMPT gained only 1.3% in 2009 on an annual average basis-its weakest increase since 1950. By contrast, real SMPT growth[6] rebounded to 1.2% from 0.2% in 2008 thanks to the sharp slowdown in inflation, which was near zero in 2009. However, the SMPT slowdown also ended earlier, starting in Q2 2009. Its annual growth has now returned to its pre-crisis level, with a 2.5% increase in Q3 2010.

3.3 …owing to lower bonuses, less overtime, and recourse to part-time employment

The fact that the SMPT slowed more sharply than SMB is due to the decline in bonuses and the heavy recourse to part-time unemployment. The exacerbation of the financial crisis after the Lehman Brothers failure in September 2008 caused a drop in bonuses paid in the financial sector. This was compounded by the growing switch to part-time work and the reduction in overtime-two responses that dampened the effect of the crisis on employment after the 2008 increase in reported hours worked.

An analysis by ACOSS[7] quantifies the impact of all three developments on the annual change in the SMPT in 2009. The decrease in financial-sector bonuses and in overtime hours are estimated to have reduced wage growth by 0.1 points each. Partial unemployment accounts for an estimated average reduction of 0.5-0.6 points, with large sectoral disparities.

Box 2: Definitions of wage indicators[a]

Monthly basic wage (Salaire Mensuel de Base: SMB) and basic hourly wage for manual workers (Salaire Horaire de Base Ouvrier: SHBO): basic earnings with a constant-skill structure

The monthly basic wage (SMB) consists of gross earnings before deduction of social contributions and before payment of social benefits. It excludes bonuses (except, where applicable, the bonus provided for working-time reduction) and overtime. It is usually the amount shown on the first line of an employee's pay slip.

The basic hourly wage for manual workers (SHBO) is obtained by dividing the gross monthly wage by the employee's basic monthly working time (which does not include overtime). It is measured for manual workers only. The SMB and SHBO indices track changes in these wages with a constant skill structure. They are calculated from the quarterly survey on labor activity and employment (ACEMO) conducted by DARES (a ministerial statistical office) on a sample of local units and enterprises of ten or more employees, mainly in the non-farm market sector in metropolitan France. Each local unit or enterprise reports the basic wage for a position regarded as representative of an occupational category and tracked in successive surveys.

Average wage per capita (Salaire Moyen par Tête: SMPT): total components of earnings, with variable employment and skill structure

The change in average wage per capita (SMPT), as calculated by INSEE for the national accounts, reflects the change in wages paid by all firms in the aggregate. The indicator is obtained by comparing the changes in the total wage bill and the number of employees, both being measured from exhaustive sources (tax data from firms). Unlike the SMB, it takes into account very small enterprises, structural effects (changes in skills and in the proportion of part-time work), cyclical effects (overtime level), and seasonal effects (bonuses).

a. See A. Brizard: "Le salaire et ses évolutions dans le secteur marchand non agricole: éléments méthodologiques," PIPS no. 41.1, DARES, October 2006.

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(6) i.e., of SMPT deflated by the consumer price index.

(7) ACOSS: Agence Centrale des Organismes de Se?curite? Sociale (Central Agency of Social-Security Organizations). See C. Hagneré, M. Mosu Nasr, and É. Sévin: "Baisse historique de la masse salariale du secteur privé en 2009," ACOSS Stat Bilan no. 104, June 2010.

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These three factors together contributed about 0.75 points to the wage slowdown. By using internal flexibility margins for pay and hours worked per employee, firms were able to partly dampen the fall in demand. This mitigated the impact of the crisis on jobs in the tight financing environment.
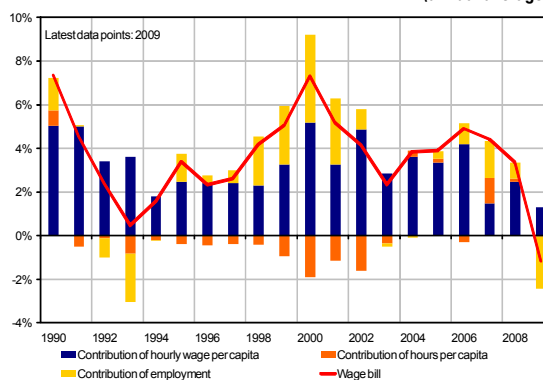
3.4 Overall, the wage bill declined but less than value added

The wage bill in the market sector decreased (chart 15). In 2009, the 2.4% fall in paid employment outweighed the 1.3% rise in the hourly wage.

The decline in the wage bill was significantly milder than the 2.8% loss of market-sector value added, notably because of the lagged and limited adjustment of employment to activity. As a result, the share of the wage bill in value added rose steeply in 2009, exceeding even the previous peak on 2002. Such a level had not been observed since 1986.

Chart 15: Employment, wages, and wage bill in market sectors (annual averages)

Source: INSEE national accounts

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http://www.tresor.bercy.gouv.fr/TRESOR_ECO/tresorecouk.htm

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