

Trends and Issues of Occupational Safety and Health in Japan
– Health and safety measures in response to globalization, diversification
of employment formats, and declining birth rates –

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1. Introduction

With a total population of around 127 million, Japan is reported to have a workforce of 67 million and a working population of 63 million as of January 2009 (“Labour Force Survey”, Ministry of Internal Affairs and Communications). By industry, 2.5 million workers were employed in agriculture and forestry (4%), 11.4 million in manufacturing (18%), 54.0 million in construction (8.6%), and 43.0 million in services and other industries (68%). A comparison with reports from the EU shows that Japan and the EU resemble each other very closely indeed in their workforce composition. While Japan’s working population as a whole has not changed dramatically over the last ten years (an increase of around 500,000), the population employed in agriculture and forestry has declined by about 10% (just under 30,000) in that period. In Japan’s construction industry, where the employment rate is generally higher than in other industrialized nations, a decrease of around 15% (800,000) has been seen. Similarly, employment in manufacturing industries has fallen by more than 5% (around 600,000). These could of course be described as changes in the industrial structure. But the ageing and decline of the population working in agriculture, forestry and fisheries, as primary industries, could affect the very survival of those industries. As such, a response at government level is considered necessary, partly to ensure the preservation of national land infrastructure.

Before Japan opened her doors to the western world in the second half of the 19th century, mining accidents and pneumoconiosis (a lung disease caused by inhalation of dust, known as “*yoroke*”) were more or less the only instances of occupational accidents and diseases in Japan. When industrialization advanced in Japan in the second half of the 19th century, the biggest problem in terms of workers’ health was tuberculosis in the silk spinning and other industries. Then, with the rise of heavy industry from the beginning of the 20th century, accidents in ironworks and coalmines became problematic. Around the end of the Second World War, carbon disulphide poisoning in rayon factories and other diseases took over, together with tuberculosis, pneumoconiosis, and external injuries due to accidents. In the economic boom era from the 1960s onwards, there were instances of injuries due to mining accidents, carbon monoxide poisoning caused by explosions, pneumoconiosis in the construction and manufacturing industries, musculo-skeletal disorders, and poisoning with lead, chrome and others. The subsequent growth of manufacturing industries gave rise to more musculo-skeletal disorders related to production line work in factories, keyboard operation in the finance industry, and so on. From the end of the 20th century, finally, mental health disorders came to the fore. These are thought to result from stress due to increasingly fierce international competition, the ever-increasing speed of technical innovation, excessive physical and mental work burdens, peer pressure and others. The relative weight of such disorders as problems for occupational safety and health is increasing.

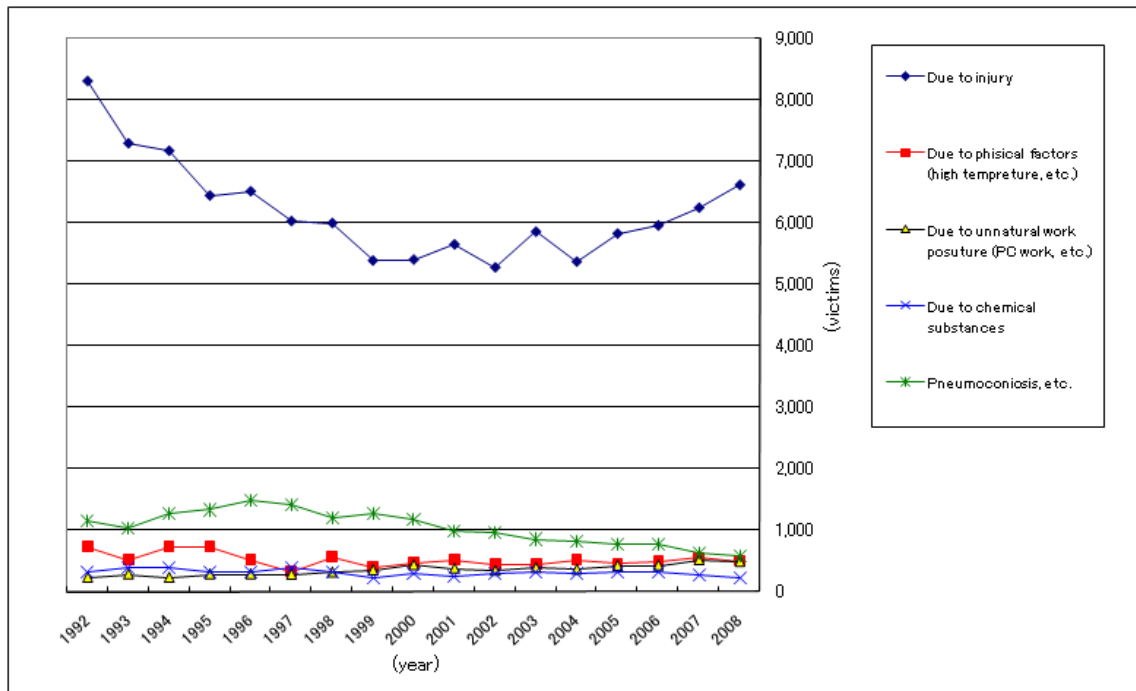


Fig1. Trend of occupational diseases

In Japan, the need to promote systematic, comprehensive measures to prevent industrial accidents was recognized from the earliest time after the end of the Second World War. This trend was particularly strong between the beginning of the 1950s and the mid-1960s, when numerous accidents occurred as a downside of economic growth. In view of this, the first “Five-Year Plan for Comprehensive Measures to Prevent Industrial Accidents” was formulated in August 1958. It included the target of halving the number of accidents projected for 1962 (about 860,000 cases) and preventing economic losses amounting to 110 billion yen (values as of then). Now, the 11th Plan is in progress. The number of fatalities and casualties, which peaked at 481,686 workers per year in 1960, had fallen to a quarter of that figure (119,291) by FY2008. In particular, the number of fatalities fell to less than one-fifth, from 6,712 to 1,268 per year. Again, the number of job-related diseases requiring an absence of 4 days or more decreased from 30,796 cases (0.9 per thousand workers) in 1970 to 8,874 (0.2 per thousand workers) in 2008. Looking back over the last decade, conversely, although fatal accidents have continued their steady decline, the rate of decrease in fatalities or casualties requiring an absence of 4 days or more has started to slow down. This is in contrast to the EU, despite the same sophistication of technology for safety measures. The number of accidents, for example, is much higher than in the UK, based on a per labour population ratio.

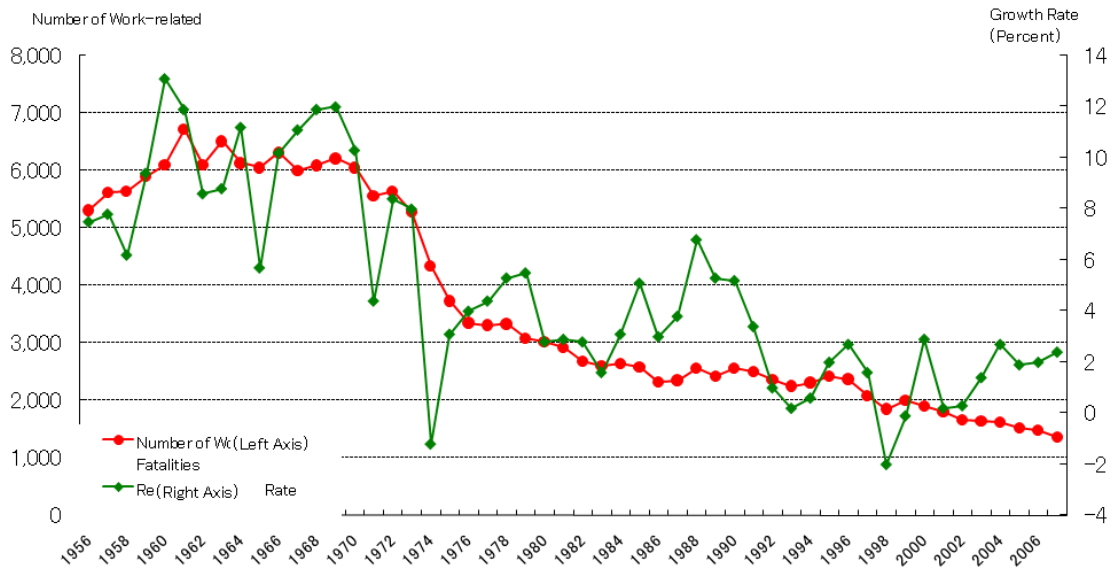


Fig.2-1 Trend of economic growth rate and fatalities in industrial accident

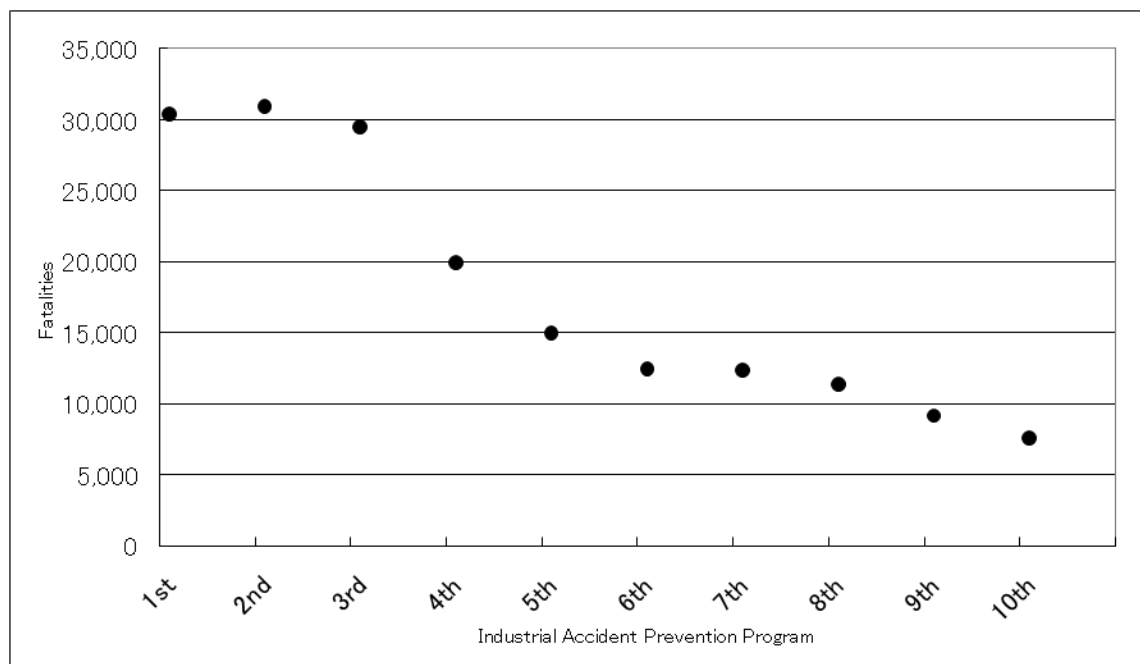


Fig.2-2 Trend of Industrial Accident (average in each Industrial Accident Prevention Program (every five year))

From the 1990s onwards, companies increasingly threw themselves into re-engineering and restructuring as a gambit for survival. This brought its own set of problems: the decline of the family-centred corporate culture and the system of lifelong employment, which had acted as safety valves until then; strong anxiety over employment, demands for a rapid response to international competitiveness accompanying deregulation, the retirement of skilled engineers, progressive

ageing and birth-rate decline, technological catch-up by developing countries, the obsolescence of machinery and equipment, and so on. In view of these factors, Japan's industrial structure at the beginning of the 21st century stands at a major crossroads, and this could be seen as a serious turning point for both industrial safety and occupational health. The impact on stress-related psychological disorders is even appearing among public service bodies, which provide relative stability of employment.

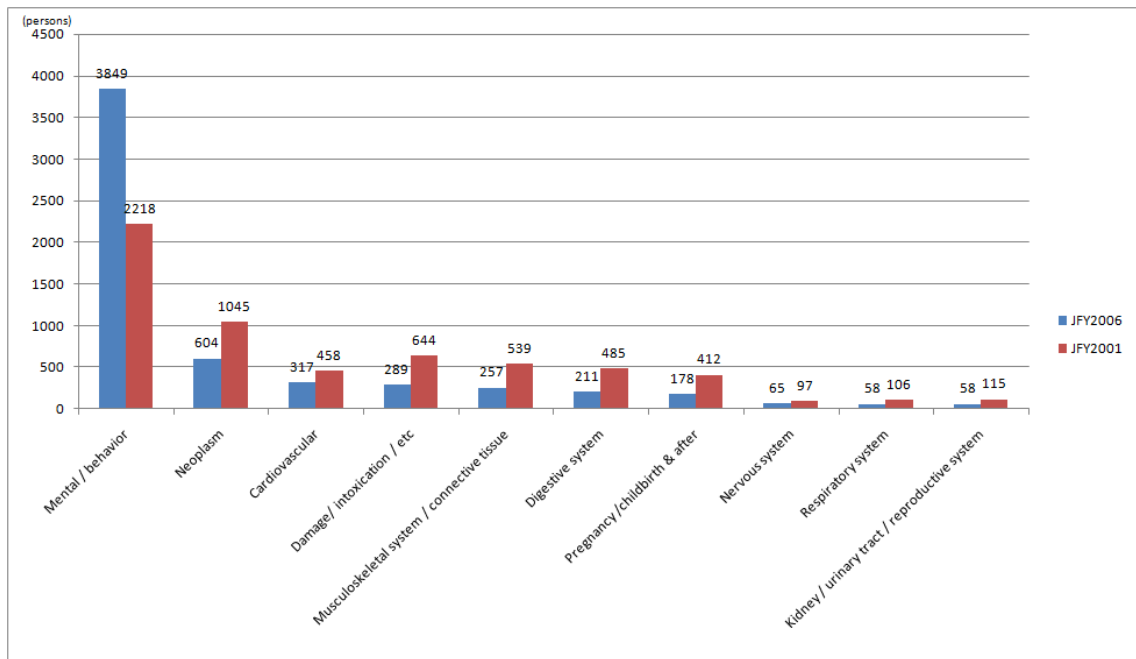


Fig. 3 Number of long sick leaves by disease in 2001 and 2006 (national government employees)

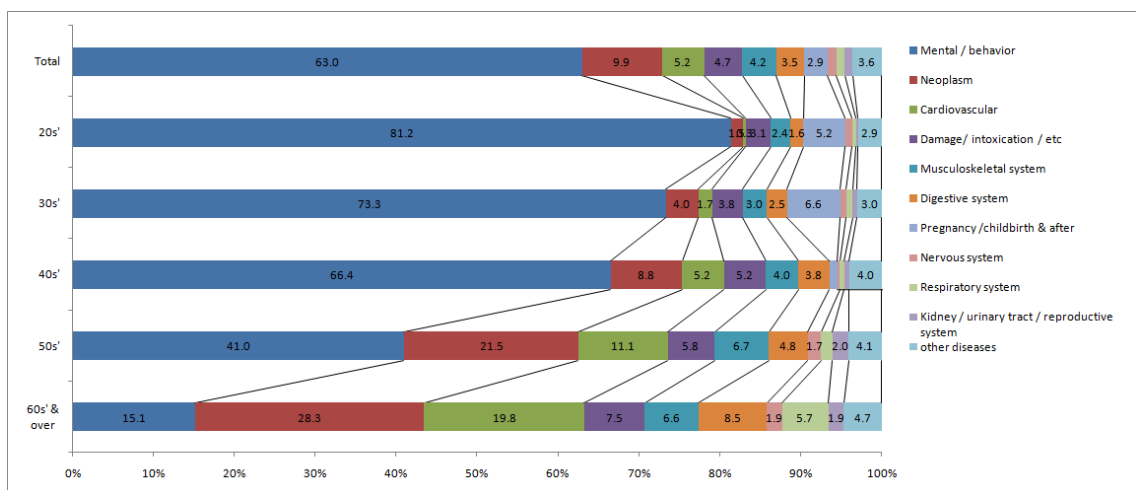


Fig. 4 Ratio of long sick leaves by age and disease in 2006 (national government employees)

Now, diversifying employment formats, technological advances, and the ageing of the workforce (a result of population ageing and declining birth-rates) are all having a major impact on the health and safety of the working population in Japan. On the safety side, accidents have been attributed to the difficulty of conveying skills, economic resistance to the introduction of safety

technology and equipment, the sophistication of technology and inadequate human capacity to adapt. On the health side, there is an increase in mental health disorders and cerebro-cardiovascular ailments, thought to be related to increased mental burdens in industry as a whole and an increased load on specific workers. This is becoming a problem that includes a lowering of the age of workers taking time off due to mental disorders. Meanwhile, there is also a growing disparity in access to occupational health services depending on corporate scale and employment format.

This paper has been prepared as far as possible in line with the headings used in the Summary Document (Agreement Ref. No. VC/2008/1050) produced by EU expert Tom Walsh at the Preparatory Meeting held in Tokyo in March 2009, as preparation for the 13th Japan-EU Symposium to be held in Brussels in 2010. The aim of the Summary Document was to summarize the background to EU industrial health and safety, important issues, and opportunities for mutual dialog with Japan. As a result, I felt that making the headings of this paper consistent with those of the Summary Document will help clarify the similarities and contrasts between the EU and Japan, thereby making it easier to push the discussion forward.

2. Policy decisions on occupational safety and health in Japan

2.1 Background and general matters

In Japan, the Diet (the national legislature) tables bills for new laws. The bills must be debated and approved by the House of Representatives and the House of Councillors (Lower and Upper Chambers) before being enacted as law. Annexed to these laws are detailed regulations and subprovisions necessary for their enforcement. Cabinet Orders and ministerial ordinances exist to add or supplement necessary matters in the text of the laws. In the field of occupational safety, these are determined and promulgated by the Cabinet and the Ministry of Health, Labour and Welfare, respectively. Mandatory penal provisions against violations may only be established within the laws themselves.

The main Japanese laws concerning occupational safety and health are, in chronological order, the Labour Standards Act (1947), the Pneumoconiosis Law (1960), the Occupational Safety and Health Law (1972) and the Working Environment Measurement Law (1975). The Labour Standards Act was enacted in 1947 to define standards for working conditions based on Article 27 of the Constitution, the Pneumoconiosis Law in 1960 as a law to protect the health of workers exposed to dust and soot and those with abnormal findings, the Occupational Safety and Health Law in 1972 as a comprehensive law on occupational safety and health as distinct from the Labour Standards Act, and finally the Working Environment Measurement Law in 1975 with the aim of maintaining and improving good working environments in order to protect workers' health, in tandem with the Occupational Safety and Health Law. Of these laws, the Occupational Safety and Health Law provides the core of measures for occupational safety and health.

To prevent industrial accidents, all concerned parties including the government, businesses and workers need to cooperate in comprehensively and systematically promoting measures. The Occupational Safety and Health Law stipulates that the Minister of Health, Labour and Welfare must, after hearing the opinion of the Labour Policy Council (a tripartite body consisting of workers' representatives, employers' representatives and experts in the field), draw up an "Industrial Accident Prevention Plan" to provide for the main measures for preventing industrial accidents, together with other important matters related to preventing industrial accidents. The

agenda for occupational safety and health is to be deliberated by a Health and Safety Working Group established within the Council. Again, the Minister of Health, Labour and Welfare must, when finding it necessary in light of industrial accidents and the effectiveness of measures to prevent them, revise the Industrial Accident Prevention Plan after hearing the opinion of the Labour Policy Council (Articles 7 of the Occupational Safety and Health Law).

While the Plan mainly sets out the principal measures to be taken by the government to prevent industrial accidents, the measures themselves need to be carried out by employers, workers, works commissioners, machinery manufacturers and other stakeholders from their own respective positions. Employers, workers and other stakeholders are required to independently tackle the measures contained in the Plan for their own respective organizations, e.g. business establishments, employers' associations, industrial accident prevention groups, labour unions, etc. In particular, industrial accident prevention groups are expected to draw up five-year plans including targets for each of the relevant sectors and to engage in prevention activities, with a view to developing policy measures based on the Plan, etc., to suit the circumstances of the relevant sector. This is to be supported by the government with guidance, support and the provision of information.

2.2 Organizations and expert bodies related to occupational safety and health

Measures for occupational safety and health are conveyed from the relevant department in a central ministry or agency to the Regional Labour Bureaus or Labour Standards Inspection Offices, via consultation by a body such as the Health and Safety Working Group of the Labour Policy Council mentioned above. Measures are also conveyed via industrial accident prevention groups to local communities and member companies in the respective sectors. The Labour Council is a committee set up in the Ministry of Health, Labour and Welfare, consisting of workers' representatives, employers' representatives and experts in the field. It assesses current situations and deliberates on proposals for new measures in the central Labour Policy Council and the Health and Safety Subcommittee set up under its aegis. In the prefectures, meanwhile, Regional Labour Councils (effective from 2000) have been set up. Their role is to receive opinion reports on Regional Labour Bureau measures from a similar membership profile (i.e. workers' representatives, etc.) in their region.

A national body that represents workers is the Japanese Trade Union Confederation (JTUC), formed by a merger of four existing labour organizations in 1989. This is currently the largest of all such organizations, with a membership of 6.8 million. Its representatives usually represent workers at both national and regional level. A representative body on the employers' side, meanwhile, is the Japan Business Federation, established through an amalgamation of two employers' associations in 2002. Its members are 1,632 leading corporations. Besides this, there is the Japan Association of Corporate Executives at national level and Chambers of Commerce and Industry at regional level. As well as academic and professional experts, representatives endorsed by these bodies become members of the Council, where they discuss administrative policy and make opinion reports as bodies for implementation at regional level. These bodies also function effectively as channels for conveying and enforcing occupational safety and health measures.

Organizations that function to prevent industrial accidents include the Japan Industrial Safety and Health Association, which covers all sectors but mainly manufacturing industries, and occupational safety health associations in individual sectors (construction, land transportation, port transport, forestry and timber manufacturing industries, and mining). These organizations

provide information to employers and other parties concerned with occupational health, as well as education and skill training support for actual implementation. Other bodies that provide information and work support to specialist professionals engaged in occupational health activities, as well as officers and relevant staff inside companies, are the Prefectural Occupational Health Promotion Centres set up by the Japan Labour Health and Welfare Organization in 1993. Local medical associations also carry out regional occupational health center projects under commission from the central government, with the aim of enhancing occupational health services for workers and others in small-scale businesses with less than 50 workers.

Besides these, other research and survey organizations related to occupational safety and health are the National Institute of Occupational Safety and Health, the Occupational Health Research and Development Center and the Japan Bioassay Research Center (both affiliated to the Japan Industrial Safety and Health Association), and the Institute for Science of Labour. Bodies that provide information include the Japan Advanced Information Center of Safety and Health and the Occupational Health Promotion Foundation. The University of Occupational and Environmental Health, a globally unique institution that trains industrial physicians and specialist professionals in occupational health and industrial safety from the undergraduate level, is operated by the latter Foundation. As well as training personnel, the University undertakes research on occupational health and occupational medicine, and is involved in international cooperation including the dispatch of personnel.

The Institute for Safety and Health Qualifying Examination is a testing body for qualifications related to occupational health in Japan. Finally, another body that plays an important role in the field of occupational health is the Japan Society for Occupational Health, which influences regulation values for occupational health by recommending tolerance levels (threshold limit values and/or unit risks).

Table 1 List of Major organizations related to occupational health

- **MHLW- Labour Standard Bureau, Prefectural Bureau, Labour Standard Offices**
 - **Japan Industrial Safety & Health Organization**
 - **Industrial Accident Prevention Associations by industry**
 - **Japan Construction Occupational Safety and Health Association**
 - **Land Transportation Industry Safety & Health Association**
 - **Japan Port Transport Industry Safety & Health Association**
 - **Forestry and Timber Manufacturing Safety and Health Association**
 - **Mining Safety and Health Association**
 - **Institute for Safety and Health Qualifying Examination of Japan**
 - **Related organizations**
 - **National Institute of Occupational Safety and Health**
 - **Japan Labour Health and Welfare Organization**
 - **The Occupational Health Promotion Foundation**
 - **University of Occupational and Environmental Health**
- Prefectural Occupational Health Promotion Centers (47 centers nationwide)**

“Rodo Eisei no Shiori 2009” (Handbook for Occupational Health 2009)

3 Consultation and social dialog on health and safety in the workplace

3.1 Consultation in the workplace

The Occupational Safety and Health Law states that “safety committees” and “health committees” should be set up in each workplace, as sites for consultation on occupational safety and health in the workplace. In sectors considered particularly hazardous, such as forestry, mining, construction, and some manufacturing industries, safety committees must be set up in workplaces used full-time by 50 or more workers, and in workplaces belonging to other manufacturing industries, cleaning businesses and other hazardous sectors where there are 100 or more full-time workers. The matters to be deliberated by these committees are safety regulations, results of hazard or toxicity surveys, safety planning, assessment and improvement, and safety education plans. It is also mandatory that a record be kept of the minutes of meetings and the outcome of consultation. Comparative case studies are often made of industrial accidents in similar workplaces and related companies, traffic accidents, and so on. Health committees, meanwhile, are to be set up in workplaces where 50 or more workers are permanently engaged, across all sectors. Matters for deliberation are the creation of health regulations, the creation, implementation, assessment and improvement of health-related plans, the implementation of health education, response to the results of regular health check-ups, etc., measures to cope with long working hours, the maintenance and promotion of mental health, and so on. Here again, a record of minutes and the outcome of consultation must be kept.

Table 2 Composition of committee, items of investigation and deliberation

	Safety Committee	Health Committee
Composition of committee	1 General Safety and Health Manager or a person who exercises overall management over the execution of the undertaking (one person) 2 Safety Officer * 3 Employees who have experience on safety *	1 General Safety and Health Manager or a person who exercises overall management over the execution of the undertaking (one person) 2 Health Officer * 3 Industrial physician * 4 Employees who have experience on Health *
Items of investigation and deliberation	1 Matters pertaining to lay down rules concerning safety 2 Matters pertaining to investigate the danger or harm and to take necessary measures on safety 3 Matters pertaining to preparation, implementation, evaluation and improvement of a plan concerning safety 4 Matters pertaining to the provision of education plan on the safety etc.	1 Matters pertaining to lay down rules concerning health 2 Matters pertaining to preparation, implementation, evaluation and improvement of a plan concerning health 3 Matters pertaining to the provision of education plan on the health 4 Matters pertaining to take measures on according to the results of a periodical medical examination 5 Matters pertaining to measures for the prevention of the health impairment of workers due to long working hours 6 Matters pertaining to measures for maintaining workers' mental health etc.
Others (common items)	1 Holding the committee more than one time every month 2 Overview of agendas at the committee were prepared and were made known to the workers 3 Important items of minutes of the proceedings of the committee were prepared and maintained for three years	

* As regards the members other than the item (1) member, the employer shall designate those recommended by the trade union where there exists a trade union organized by a majority of workers at the said workplace or by those representing a majority of workers where there exists no trade union organized by a majority of workers.

Measures which shall be take by the employer who shall not be obliged to establish a committee

The employer who shall not obliged to establish the committee such as workers does not reach the figure of 50, shall endeavor to provide opportunity of hearing opinions on safety or health from related workers

In workplaces where both committees need to be set up, they may be merged into a single health and safety committee. Meetings are to be held at least once a month. The committee members should be General Safety and Health Managers with responsibility for health and safety on the management side, industrial physicians (health committees), health and safety officers (safety officers, health officers) and workers' representatives who have knowledge of safety or health. Other committee members may be nominated by the employer in addition to the above, as well as management and workers' representatives, but at least half of the members must represent the workers. Also, in businesses that have labour unions, workers' representatives are to be recommended by the labour union.

In these committees, issues related to occupational safety and health in the workplace are discussed and opinions exchanged. However, these committees are not decision-making bodies; they cannot make management judgments or other decisions on business activities. Nevertheless, they are seen as playing an important role in promoting future health and safety measures, including Occupational Safety and Health Management Systems (OSHMS). The 11th Industrial Accident Prevention Plan (2008-2012) stresses the need to strengthen the role of health and safety committees in companies.

In the EU Health and Safety Directive, employers are also obliged to permit participation in discussions on occupational safety and health by workers or their representatives, and to consult them. At present, however, safety committees have only been provided in some EU member countries. On the composition of participants, similarly, there is considerable divergence between countries; in some, committees are provided for in domestic legislation or customary practice, while in others they are not.

3.2 Social dialog

Social dialog between employers' groups and labour unions, not only on occupational safety and health but also on working conditions, is held by the aforementioned Health and Safety Subcommittee in the central government's Labour Policy Council, by other subcommittees and working groups, and, at regional level, by Regional Labour Councils in each prefecture, among others. Permanent councils are to be formally established, including regional ones, in line with the National Government Organization Law (Law No. 120, in force since 1948). Members of committees must, before proposing the enactment of legislation or the amendment of provisions in the usual way, first gather the wishes of the various parent groups or bodies they represent, and state their opinions. In the central government, the Ministry of Health, Labour and Welfare has a Council as well as research groups that compile surveys, discussions and outlines on various individual issues, which are necessary when proposing bills or regulations, or studying their content.

The Japanese Trade Union Confederation (JTUC), as the central body representing workers, consults its members on the content under deliberation, and incorporates the opinions it hears in proposals to the Council. The Japan Business Federation (Keidanren), which represents employers' groups, similarly studies individual proposals and reports its opinion as an organization.

Of the matters discussed by the Council, Cabinet Orders and ministerial ordinances are usually referred for public comment by the nation at large. Public comment is the process whereby government bodies present proposals for orders, etc. (Cabinet Orders, ministerial ordinances, etc.) in advance of their enactment, and broadly solicit opinions and comments from the public concerning them. This process was launched with the amendment of the Administrative Procedures Act in 2005. Proposed orders, etc., and the results of public comment are published via the all-embracing e-gov website. Some academic societies related to occupational safety and health, like the Japan Society for Occupational Health, have set up legislation committees within their organizations, conduct studies on related matters and submit these in the form of public comment, requests to the competent government body or statements of opinion.

Except in special cases, deliberations by councils related to occupational safety and health are disclosed to the public through the media. When these deliberations concern issues with a high level of public interest, they are made widely known and debated. Sometimes, media organizations canvass public opinion in the form of questionnaires to viewers and listeners. Some proposed bills have actually been shelved as a result of opinion obtained via the media, as in the case of the "white collar exemption".

Meanwhile, new measures are listed in the Official Gazette and on websites, etc. At regional level, Regional Labour Bureaus and Labour Standards Inspection Offices take steps to inform the general public, either directly or via channels such as labour standards associations organized by local companies, chambers of commerce and industry, Prefectural Occupational Health Promotion Centres, and so on.

3.3 Consultation within occupational safety and health review committees

Draft bills, Cabinet Orders or ministerial ordinances on problems that should be addressed by industrial safety and health legislation in Japan are assembled from the results of research groups organized by the administration on individual problems, or discussion on proposals in the

Labour Policy Council. They are then submitted to the Diet, the Cabinet or the relevant Minister. Of course, Diet members may also submit bills after referring to public opinion, these generally being known as Diet members' bills. As stated in 2.2 and 3.2 above, the Labour Policy Council is a review body of the Minister of Health, Labour and Welfare established in accordance with law. Deliberations on occupational safety and health are held by the Council's Health and Safety Working Group, consisting of public interest representatives (currently 7), workers' representatives (7) and employers' representatives (7). The Working Group examines the problems arising and presents a draft opinion. The various draft materials examined here are prepared via research groups, expert subcommittees and others. In the process leading to deliberation by review groups, expert subcommittees and others organized by the administration when drawing up rough drafts, facts have to be confirmed, survey results analysed, and so on. This work may sometimes be undertaken directly by the administration, or sometimes based on the findings of research groups and others organized under commission to related public interest bodies.

4. Development of health and safety measures in Japan

4.1 Implementation of voluntary health and safety activities and risk assessment in workplaces

Occupational safety and health in Japan is based on a system of management within businesses, the appointment of specialist professionals, the preparation, evaluation and improvement of countermeasure promotion plans by committees, and the implementation of health and safety education. Businesses are encouraged to promote voluntary health and safety activities starting with risk assessment, as provided under "Investigation of Hazards or Harms, etc." in Article 28-2 of the Occupational Safety and Health Law (Law No. 57).

Japan's "basic measures for occupational health management" are (1) establishing a system of occupational health management, (2) managing the working environment: protecting workers from harmful chemical, physical and biological environmental factors, etc., (3) avoiding excessive burdens, reducing workload, managing working hours, making appropriate use of protective gear, etc., through work management, (4) health management: health check-ups and follow-up measures, activities for maintenance and promotion of health, appropriate staff allocations, etc., (5) occupational health education: awareness of hazardous and harmful work, and finally (6) systematic, ongoing improvement to levels of health and safety by introducing risk assessment and OSHMS. Meanwhile, "Investigation of hazards or harms, etc., and measures based on the results thereof" provides for (1) systems and timing of implementation, (2) obtaining necessary or useful information, (3) identifying what is hazardous or harmful, (4) estimating risks, (5) studying and implementing risk mitigation measures, and (6) keeping records.

"Introducing Occupational Safety and Health Management Systems (OSHMS)" will be the basis of occupational safety and health activities in future. This sets out guidelines designed to improve health and safety levels in businesses via "Kiken Yochi" (KY or hazard prediction) activities, evaluation of medical incidents, and workplace patrol activities customarily undertaken by businesses, by setting targets, investigating "hazards or harms", etc., and preparing, implementing, evaluating and improving plans. It prescribes a series of processes around the PDCA cycle and, with the cooperation and participation of workers, aims to promote continuous improvement. In assessing the outcome of OSHMS to date, based on the number of accidents, days taken off, and so on, there have been reports that effects are gradually being recognized in companies that have introduced it.

4.2 Risk reduction measures at design and manufacturing stages of machinery

As specific safety measures, promoting and implementing “Investigation of Hazards or Harms, etc.” also forms the core of many measures prescribed by the above-mentioned Industrial Accident Prevention Plan. On safety of machinery, in particular, a shift in the methodology for preventing accidents is recommended. Until now, the causes of accidents related to machine accidents in Japan have often been sought in the carelessness or inexperience of the workers who operate the machinery. When an accident occurs, efforts to prevent recurrence rely on improving safety work manuals and strengthening systems of site management, or activities with a focus on management-oriented measures with priority on education and training. With the promotion of “Investigation of Hazards or Harms, etc.”, however, it has become widely perceived that the most effective way of reducing the risks associated with machinery lies in engineering-oriented measures that eliminate or mitigate hazards of the machinery at the design stage. As a result, in voluntary health and safety activities that start from risk assessment, the participation of equipment officers and production engineers who make decisions on the design, arrangement or commissioning and introduction of machinery equipment is just as essential as the participation of on-site workers who are skilled in the actual operation of the machinery and are keenly aware of its hazards.

Furthermore, to improve safety across all stages from manufacture to use of the machinery, “Guidelines for the Comprehensive Safety Standards of Machinery” are provided as standards on comprehensive measures to ensure that safety can be applied to all sorts of machines. The Guidelines strongly demand the implementation of risk assessment and risk reduction, not only by employers (machine users) who employ workers to use machines, but also, over and above this, by the makers of the machines (machine manufacturers). In other words, the manufacturers are expected to supply safer machines to the market. To respond to this, various manufactures’ association are now working on formulating internal standards on risk assessment and preparing guidelines, and a response is gradually taking shape. The above-mentioned “Guidelines for the Comprehensive Safety Standards of Machinery” were drawn up in reference to EN 292:1991, a harmonized standard of the EU Machine Directive. Besides this, the engineering-oriented measures indicated in the Guidelines include the clauses of existing occupational safety and health regulations and structural standards, as well as the contents of many ISO/IEC standards that address safety of machinery. For example, the basic strategy of enhancing machine safety, i.e. prioritizing engineering-oriented measures over management-oriented measures as mentioned above, complies with the risk reduction process stated on ISO 12100:2003 (issued in 2003 in line with EN 292:1991) – in other words, with internationally standardized principles for safe design of machinery. Similarly, on the subject of specific safety technology, the Guidelines recommend a shift from “the hazard-detection type” rationale of “stopping the machine as soon as a hazard situation is detected, common in Japan until now, to “the safety-confirmation type” or only enabling a machine to be operated when safety has been confirmed”, as indicated in ISO/IEC standards.

The shift to the methodology outlined above, whereby the risks associated with the use of the machinery are clarified and eliminated at the design stage is sometimes called a “shift to a western model” (particularly the EU one) in Japan as shown in the Table below. Of course, anyone can see that the western model, shown in the right-hand column of the Table 3, is preferable to the Japanese model but why is this called a shift to a western model? The reason is mainly that, in the

midst of the globalization of product distribution since the signing of the WTO/TBT agreement in 1995, the “Essential Health and Safety and Requirements” of the EU Machine Directive and EN harmonized standards have become widely known and the concept and principles of user protection that lie at the core of these regulations have come under increasing scrutiny in Japan, the EU stance and initiatives on product safety were highly evaluated including an element of self-reproach.

Table3. Comparison of Rationale on Safety (Methodology of Accident Prevention)

Japanese Model	Western Model
<ul style="list-style-type: none"> • Main cause of accidents lies in human failings • Recurrence of accidents can be prevented through human efforts • As there have been no accidents so far, there will be none in future • Human measures take priority over technical measures (recurrence can be prevented by creating a management system, training personnel and strengthening regulations) • Safety is basically free • Financial resistance to equipment-based measures • Expense incurred in training and maintenance of management system not accounted as costs • Main focus on hazard detection measures (machine operation is stopped when hazard situation is detected) • Reliance on operators’ skill and experience • Measures to prevent recurrence only implemented where accidents have been experienced or hazards detected • Priority on frequency rate (number of accidents) 	<ul style="list-style-type: none"> • Main cause of accidents lies in poor technology • Accidents can recur at any time, regardless of human effort, depending on the level of technology • Unless hazards are adequately addressed, accidents can occur at any time • Technical measures take priority over human measures (humans will always make mistakes, so recurrence cannot be prevented without improving technology) • Safety costs money • Cost of equipment measures seen as forward investment • Strong cost awareness of training and maintenance of management system • Basis in safety-confirmation check measures (machine operation only permitted when safety has been confirmed) • Assumption that humans err and machines go wrong • Safety theoretically assured by pre-emptive prevention technology, technology designed to mitigate accident scale • Priority on severity rate (serious accidents)

4.3 Other laws, recommendations, etc., that impact occupational safety and health

As stated above, Japan’s legislation on occupational safety and health consists of the Occupational Safety and Health Law, the principal law in this field, as well as the Labour Standards Act, based on the former Act and dealing with management of working conditions and hours, the Working Environment Measurement Law that provides indicators for evaluating and improving work environments, and the Pneumoconiosis Law relating to health management of pneumoconiosis, a leading occupational disease. Besides these, the Workers’ Accident Compensation Insurance Act provides for compensation to industrial accident victims. From 2007, specific health check-ups and health guidance designed to prevent lifestyle-related diseases have been introduced into the workplace, based on the Elderly Healthcare Assurance Act. The Health Promotion Act, which provides measures related to public hygiene, also has a connection with health management activities in the workplace. Circulars are designed to convey the content of guidance considered necessary from central government bureaus to Prefectural Labour Bureaus, while workplaces receiving guidance carry out preventive measures based on these as guides.

Besides laws, Cabinet Orders, ministerial ordinances and circulars, voluntary measures by companies are influenced by recommendations of tolerance levels for toxic elements in the workplace. These include chemical, physical and other elements recommended by the Japan Society for Occupational Health, following proposals by its Tolerance Level Committee and public comment from its members. Also, I would expect guidelines prepared individually by various expert associations, or by joint committees formed by them, to be used as important guidelines in future. For example, these might include the “Guidelines on Social Rehabilitation,

Enrolment in Education and Employment of Patients after Receiving Pacemakers, ICD or CRT, 2008” prepared by a joint research team formed by the Japanese Circulation Society, the Japan Society for Occupational Health and eight other academic societies.

As international standards, there are the various conventions proposed by the International Labour Organization (ILO). Although Japan does not have a particularly strong record in ratifying these conventions, the content of ratified conventions has been amended to bring them in line with domestic legislation. In fields related to occupational safety and health, ILO conventions ratified by Japan include No. 115 Radiation Protection (1960), No. 120 Hygiene (1964), No. 121 Employment Injury Benefits (1964), No. 134 Prevention of Accidents (Seafarers) (1970), No. 139 Occupational Cancer (1974), No. 162 Asbestos (1986), and No. 187 Promotional Framework for Occupational Safety and Health (2006). Besides these, No. 161 Occupational Health Services (1985) and No. 170 Chemicals (1990) are seen as important conventions in terms of occupational safety and health, but have yet to be ratified as certain issues remain in their compatibility with related domestic legislation.

Management of chemicals is an area that demands compatibility with international standards. This is also considered important in view of the spread of chemicals beyond national borders. Systems, procedures and standards related to the management of chemicals include MSDS (material safety data sheets), GHS (global harmonization system), CB (control banding), REACH (Regulation on the Registration, Evaluation, Authorization and Restriction of Chemicals), and the PRTR (pollutant release and transfer register). These are now established in Japanese industry.

Issues concerning the management of these chemical substances include management techniques in response to globalization, sharing and diffusion of technology, preventing the spread of asbestos damage, etc., relaying our experience and countermeasures to developing countries, international cooperation in creating relevant databases, and promoting internationally shared research on new substances and the causes of new hazard factors. These would be suitable for inclusion in future discussions between the EU and Japan.

4.4. System of specialist professional qualifications related to occupational safety and health

In Japan, various state qualifications are required by specialist professionals employed in occupational safety and health activities. Typical examples include qualifications for industrial physicians, health officers, sanitary engineering health officers, health officers, sanitary engineering health officers, safety managers, working environment measurement experts, industrial safety consultants and occupational health consultants, among others. Meanwhile, the qualification of work supervisor is required by those who are engaged in specific hazardous and harmful work and who supervise work. Some EU nations have a framework whereby high-level expert education with knowledge related to occupational safety and health can be obtained in postgraduate education and expert degrees received, but there are few such educational institutions or courses in Japan.

5 Safety and health in the workplace: Data, trends and what they mean

5.1 Accident statistics in Japan

As stated earlier, the number of fatalities and casualties peaked at 481,686 workers per year in 1960, but had fallen to 119,291, a quarter of that figure, by FY2008. The number of fatalities, in particular, fell to less than one-fifth, from 6,712 workers per year to 1,268 workers per year.

Meanwhile, the number of job-related diseases requiring an absence of 4 days or more decreased from 30,796 cases (0.9 per thousand workers) in 1970 to 8,874 (0.2 per thousand workers) in 2008. On the other hand, the number of fatalities or casualties requiring an absence of 4 days or more caused by mechanical equipment in 2008 was 33,171 overall, accounting for 25.7% of all accidents (129,026 workers), still a high frequency of occurrence. By type of machine, “powered conveyance” accounted for the largest number with 13,860, followed by “general powered machinery and metal processing machinery” (11,421).

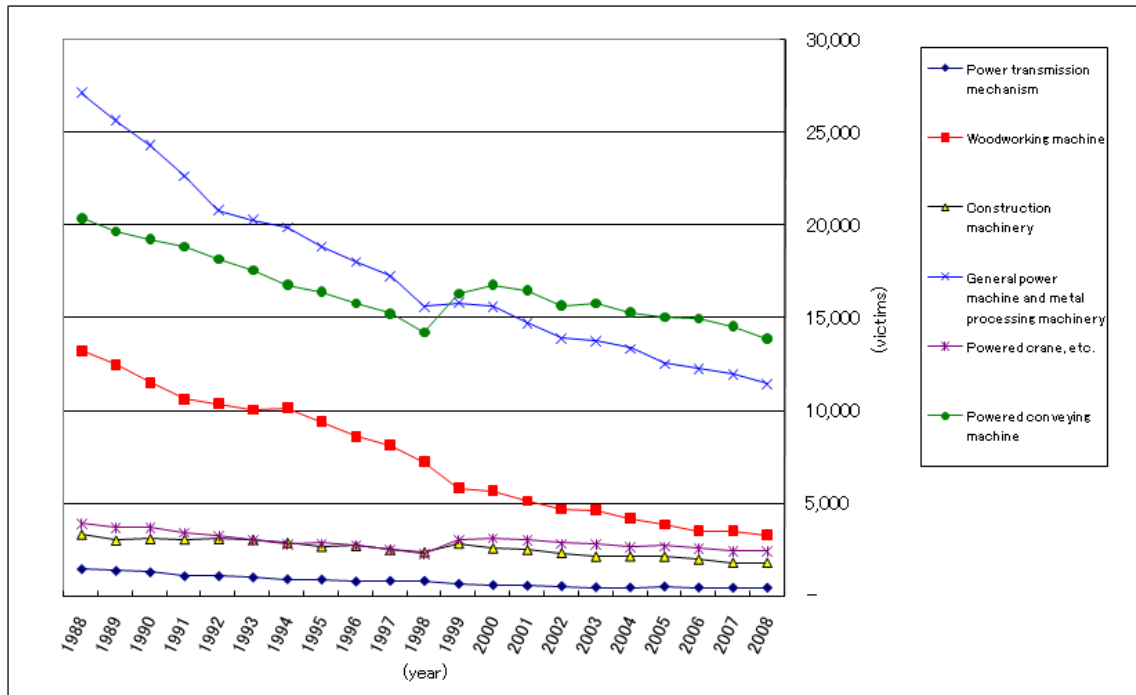


Fig. 5-1 Trends in industrial accidents caused by mechanical equipment (fatalities or casualties requiring absence of 4 days or more) Safety Indices, 2009

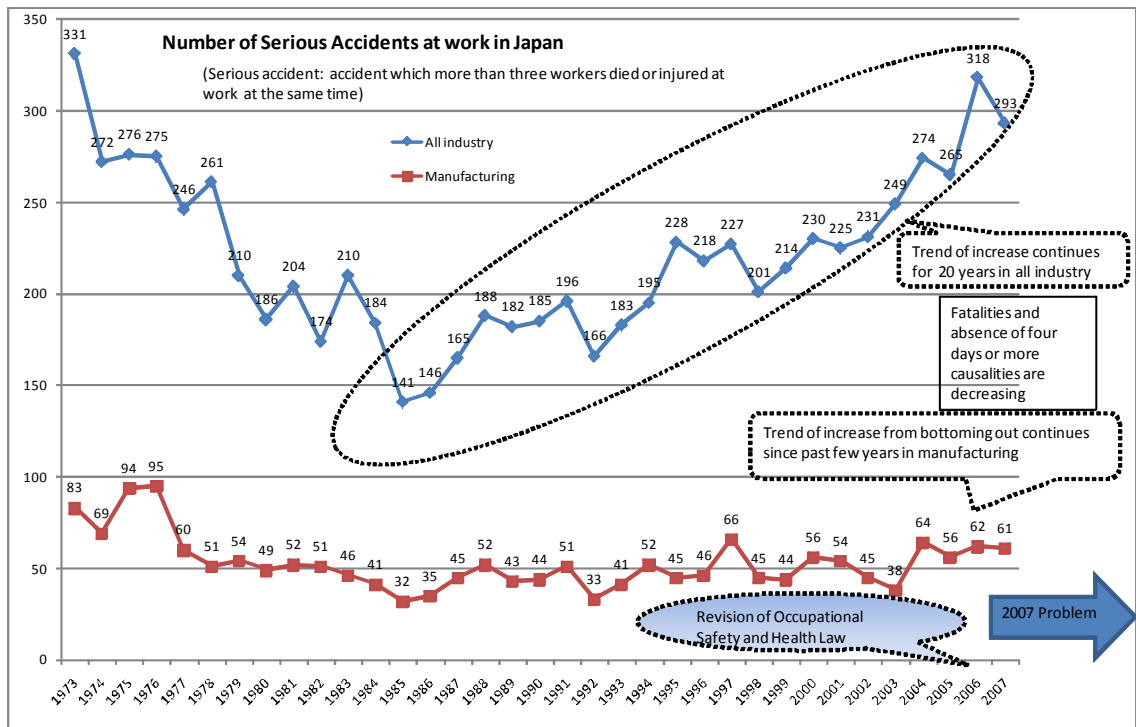


Fig. 5-2 Trends in the number of serious accidents at work in Japan

While the number of fatal accidents and the number of accidents in general are maintaining a decreasing trend, the rate of decrease in the latter has tended to lose pace since around the mid-1990s. There were 278 serious accidents in 2008, a decrease of 14 compared to the previous year. There were 1,650 fatalities and casualties (a decrease of 682), fatalities accounting for 60 of these (a decrease of 3). This phenomenon is most likely due to transient factors such a slump in the construction industry due to the worsening economic climate. The causes of serious accidents in 2008 were traffic accidents in 125 cases (45%), poisoning and work-related disorders in 68 (24.5%), fire and extreme heat objects in 15 (5.4%), and explosion in 14 (5.2%), among others.

Elderly workers aged 60 or over accounted for 16% of the fatalities or casualties requiring an absence of 4 days or more in fiscal 2008, higher than the accident rates in other age groups. By size of business, the fatal accident rate per thousand workers in manufacturing industries is higher in smaller businesses (the smaller the business, the higher the accident rate). The rate per thousand workers in manufacturing businesses with 1-9 workers is 5.81, five times higher than that for those with 300 or more workers (1.14).

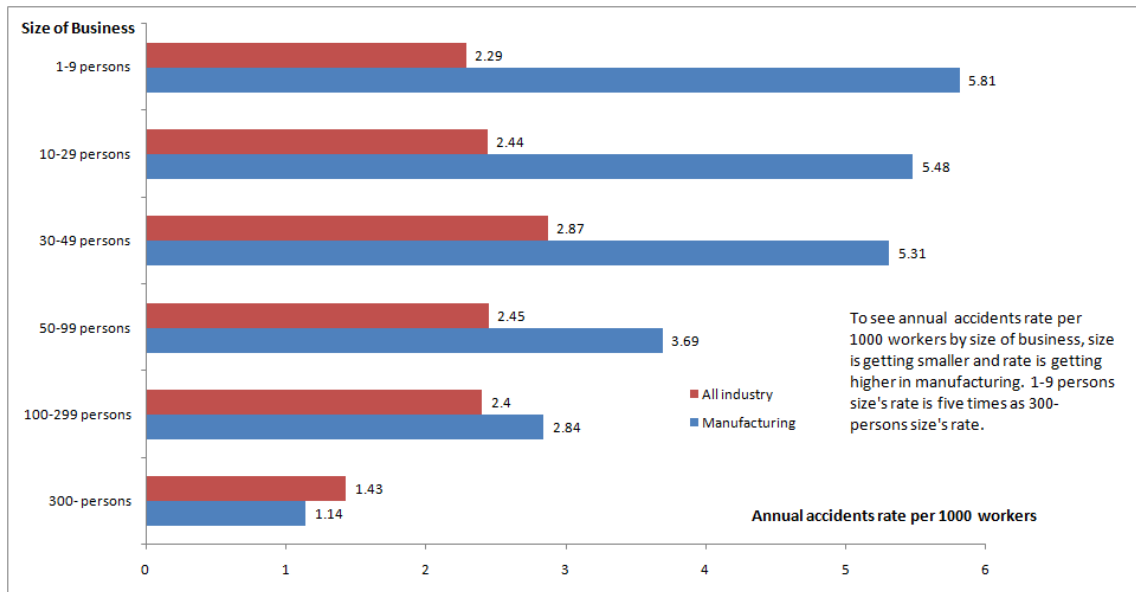


Fig. 6 Annual accidents rate per 1000 workers by size of business in 2007

In terms of employment format, fatalities or casualties requiring an absence of 4 days or more among dispatched workers increased year by year from 2,437 in 2005 to 3,686 in 2006 and 5,885 in 2007, partly reflecting an increase in this format, but fell to 5,631 in 2008.

In terms of the occurrence of work-related disorders, cases requiring an absence of 4 days or more decreased by 60% from 14,547 in 1986 to 8,684 in 2007, but since 1997 the number has remained close to 8,000. The rate of abnormal findings in special health check-ups has actually increased from the 5% to the 6% range since 1995, when the examination headings were revised. Abnormal findings of pneumoconiosis have decreased consistently from 15.8% in 1984 (target group 262,024) to 2.3% in 2007 (target group 224,651). The rate of abnormal findings in periodic health check-ups, which Japanese employers are obliged to provide for their workers, exceeds 50%. In terms of workplace scale, in 2007 the rate of abnormal findings was 32.9% for businesses with 5,000 or more workers, 44.5% for those with 1,000-4,999, 42.4% for those with 300-999, 43.2% for those with 100-299, 43.1% for those with 50-99, 37.6% for those with 30-49, and 34.4% for those with 10-29 workers. By employment format, the rate of abnormal findings was 40.5% for ordinary employees, 38.1% for contract employees, and 35.1% for part-time workers. Care is required when handling these figures, as no adjustments have been made for age or examination headings.

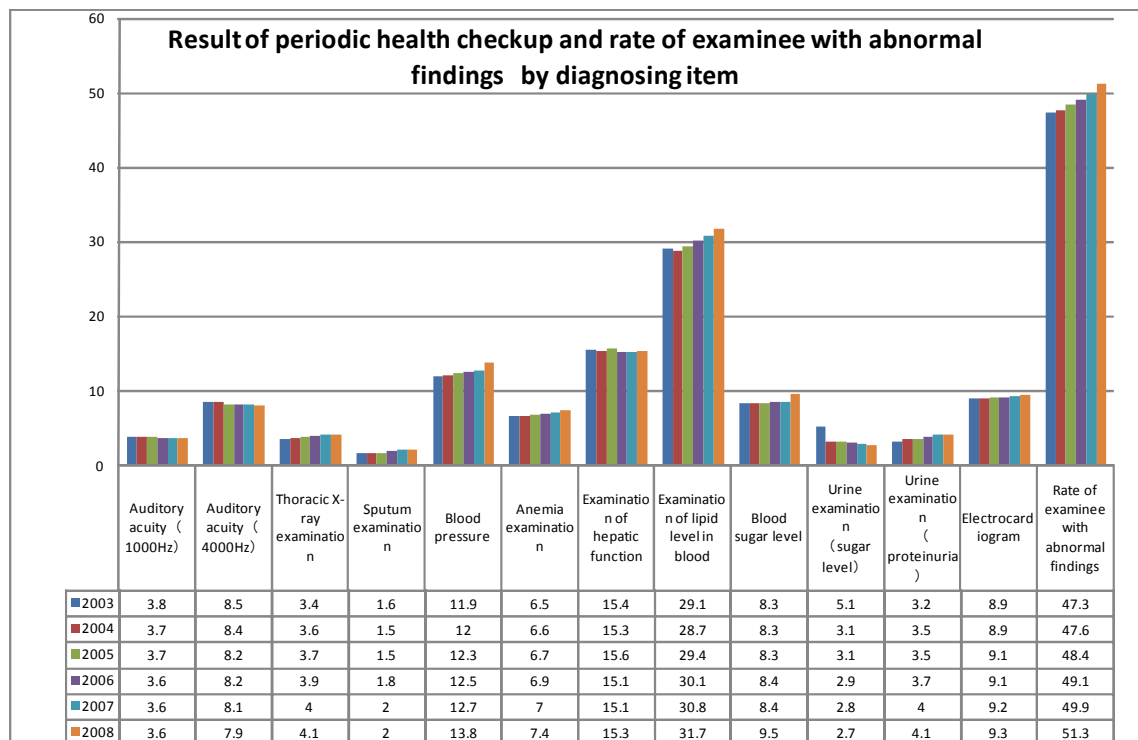


Fig.7 Trend of Result of periodic (annual) health examination and prevalence rate of abnormal findings by inspection items

Cases of industrial accident compensation related to brain or heart disease and mental disorders caused by overwork have increased, as have those related to mental disorders arising from occupational causes. In industrial accident compensation for brain or heart disease thought to be caused by excessively long working hours and other excessive work loads (“*karoshi*”, a term that has even entered the English language), there were 819 claims and 317 payouts in 2002, but in 2006 this had risen to 938 claims and 355 payouts. As compensation for mental disorders thought to be work-related, there were 341 claims and 100 payouts in 2002, but in 2006 this had increased to 819 claims and 205 payouts. By industry, 28% of cardio-vascular diseases were in the transport industry and 21% in the wholesale and retail industries, while 19% of mental disorders were in manufacturing industries and 13% in healthcare and welfare. A characteristic of Japan is that, as “irregular employees” increase in number, a greater burden of long working hours falls on the “regular employees”. On the other hand, some have also pointed out that longer hours are worked to compensate for the lower wages of certain irregular employees under the current economic climate. Japan’s minimum hourly wage is on a par with the US, but lower than that in the EU.

5.2 Cost of industrial accidents and occupational diseases

In Japan, there have been no recent survey results corresponding to the EU’s Statistical Analysis of Socio-Economic Costs of Accidents in the European Union, 2004 edition, which analyzes the cost arising from industrial accidents and job-related diseases. The amount of industrial accident insurance payouts as of 2000 was 226.4 billion yen in medical compensation (2.99 million cases), 127.6 billion yen in compensation for lost time (690,000 cases), 50.3 billion yen in lump sum payments of injury compensation (26,500 cases), 5.9 billion yen in lump sum payments for surviving family compensation (807 cases), 2.2 billion yen in funeral costs (3,231

cases), 5.8 billion yen in nursing compensation (about 42,000 cases) and 401.9 billion yen in pension payments (1.55 million cases), totalling 820.2 billion yen, with 620,000 new beneficiaries altogether. Besides these, the total amount of damages, compensation and condolence money paid out by private companies is estimated to have been around 400-500 billion yen, while payments of salaries during layoffs and wages to replacement workers to make up for lost working days are estimated at more than about 200 billion yen. Taking these costs into account, the total is estimated at up to around 2 trillion yen. The amount paid out is not expected to have diminished in 2008; a similar number of around 600,000 new beneficiaries is anticipated, while cases of disorders requiring large-sum compensation due to severity or long-term absence from work have increased. For example, cases of psychoneurotic disorders and cardio-vascular diseases have increased from fiscal 2000 onwards and asbestos-related diseases from 2005 onwards. The cost of this is estimated to be in excess of 0.3% of GDP.

Japan shares the trend whereby workers with long-term health problems and disabilities due to work-related diseases are outweighing those due to industrial accidents. Regardless of whether a case is officially subject to industrial accident compensation or not, psychoneurotic disorders today account for 70-80% of long-term absences from work due to injury or illness in many companies. The losses incurred are estimated to exceed the amounts paid out for industrial accident insurance, if indirect costs are included. Although no highly accurate national survey with a design that allows sufficient analysis has been carried out, in a series of studies carried out in 1998-2000 on the cost-effectiveness of companies' occupational safety and health measures, it was estimated that enhancing occupational safety and health activities leads to a reduction in accidents and illness, and the cost of activities can be amply covered by the benefits obtained from reduced occurrence of accidents and disease.

5.3 Accidents – Breakdown by sector

In sectors with a relatively high accident rate in 2007, the annual fatality or casualty rate per thousand workers involving an absence of 4 days or more was 16.3 in mining (1990: 22.6), 29.5 in forestry (30.2), 6.7 in port handling services (18.4), 8.2 in land transportation (14.1), 5.6 in construction (11.3) and 3.2 in manufacturing industries (5.5). The pace of decrease in these has tended to slow since the turn of the century.

Industrial accidents in the construction industry have maintained a decreasing trend, this decrease being particularly conspicuous in fatal accidents. Nevertheless, this sector still accounts for more than a third of fatal accidents in all industries, and more than a fifth of all fatalities or casualties involving an absence of 4 days or more. Falls from height account for more than 40% of all fatal accidents and more than a third of fatalities and casualties in the construction industry. Accidents caused by construction machinery and sediment collapse remain on the high side, albeit in a decreasing tendency.

Manufacturing industries account for a fifth of fatal accidents and a quarter of fatalities and casualties in all industries. By cause of occurrence, industrial accidents caused by general powered machinery, metal processing machinery and other machinery occupy more than 40%, and of these, loss of fingers and other serious industrial accidents causing residual disability are also common. Slipping, tripping and falls from height are also frequent, accounting for more than a quarter of all fatalities and casualties. There are concerns over an increase in workers with inadequate awareness of health and safety, such as dispatched or subcontracted workers, and a lowering of health and

safety standards due to mass retirements of workers from the “baby boom” generation, who until now have been a dynamic force.

The land transportation industry accounts for about 10% of fatal accidents as well as fatalities and casualties in all industries. Of these, traffic accidents provide two-thirds of all fatal accidents, while falls from height during goods loading work account for 30% of fatalities and casualties. Forestry has the highest rate of occurrence of industrial accidents, with more than ten times the rate in all industries. One reason for this is thought to be the rapid progression of ageing in the industry as a whole. More than half of fatal accidents occur during felling work.

In tertiary industries except the transport industry, an increase in workers has led to a rise in industrial accidents in general, these now accounting for 40% of fatalities and casualties in all industries. By sector, industrial accidents occur with frequency in the wholesale and retail industries, and are also increasing in social welfare facilities, the communications industry and elsewhere. The rate of occurrence in the industrial waste processing industry, for example, is higher than in other sectors.

5.4 Accidents – Breakdown by company size

In a breakdown of industrial accidents by business size, two-thirds of fatalities and casualties in all industries occur in businesses with fewer than 50 workers. More than 90% of accidents occur in businesses with less than 300 workers, and 80% in businesses with less than 100 workers. The rate of fatalities or casualties per thousand workers by business size is about double in businesses with less than 50 workers compared to businesses with 300 workers or more. This is similar to figures for all economic activity in the EU, where accident occurrence was higher in smaller businesses with less than 50 employees than in companies employing 50 or more workers. In Japan, however, the rate of industrial accidents occurring in businesses with 100 or more workers has tended to increase recently.

It is thought that paying attention to the health and safety needs of workers in small and medium enterprises is a matter of maximum priority in both the EU and Japan.

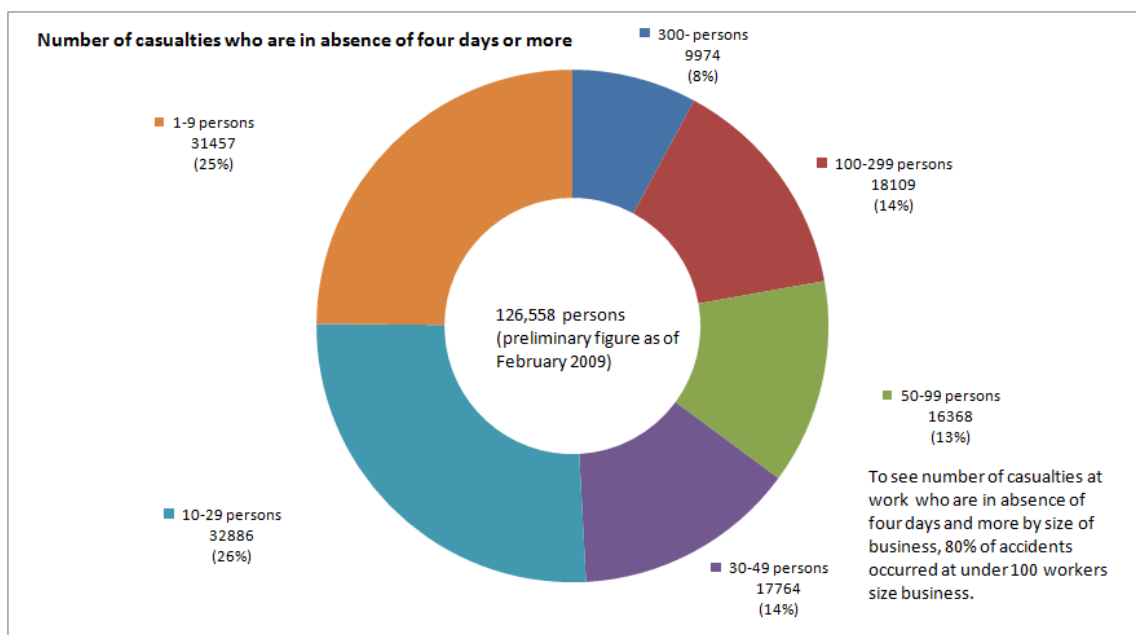


Fig. 8 Situation of casualty accident occurrence by size of business in 2008

5.5 Accidents: Workers in special categories and types of accidents

Viewing the occurrence of industrial accidents by age group, and in particular the proportion of accidents involving older workers to all accidents, workers aged 50 or over accounted for just under 60% of fatal accidents and just under 40% of fatalities and casualties, while those aged 60 or over accounted for just over 30% of the former and just under 20% of the latter. The annual accident rate per thousand workers among workers aged 50 or over is higher than that for workers aged 20 to 49. This would appear to reflect the higher proportion of workers in upper age brackets in the transport industry, construction, forestry and other sectors with higher rates of industrial accidents. In future, it will be important to consider the characteristics of older workers when enhancing health and safety measures, since a further increase in older workers is expected across all industries. For reference, the occurrence rate of non-fatal accidents in the EU is thought to be highest among younger workers, but in Japan the rate is equally high in both the 20s and 50s age brackets. We share a tendency for fatal accidents to increase with age. In fact, Japan and the EU have remarkably similar experiences concerning older workers. In Japan, this is incorporated as one focal point of the 11th Industrial Accident Prevention Plan, on the premise that it is important to expand health and safety measures for older workers.

In EU, men are 2.5 times more likely than women to have an accident at work. Unfortunately, there are no available statistics of this kind in Japan. Before the financial crisis of 2008, the number of foreign workers in Japan increased from 370,000 in 1996 to 755,000 in 2006, mainly in manufacturing industries, together with an increase in the hiring of “irregular employees” (dispatched or subcontracted workers). In 2007, there were 5,885 fatalities or casualties requiring absence of 4 days or more among dispatched workers, an increase of 2,199 (about 60%) compared to the previous year. We also need to address the possibility that health and safety practices in Japan could be impacted by differences in customs and an increasing number of workers who have poor awareness or inadequate experience of health and safety.

5.6 Work-related health problems

Occupational diseases in Japan affected between 13,000 and 18,000 workers a year from the 1970s to the end of the 1980s, but the number fell below 10,000 in 1993 and has remained at around 8,000 since then. Of this number, 6,000 or more workers suffer disorders arising from injuries (such as lumbago), accounting for more than 60%. In future, there are concerns that this proportion will rise due to an increase in older workers and a growth of nursing-related work. New findings of pneumoconiosis had been decreasing, but in recent years the decline has stopped at around 250 persons a year. Recognized cases of occupational illness caused by vibration and noise disorders have been decreasing over the long term, but still account for more than 300 workers every year in both cases. Every year, around 20 workers die of heat stress and 10 of oxygen deficiency (Fig. 1).

In Japan, employers are obliged to provide periodic health check-ups (ordinary health checks) under the Occupational Safety and Health Law. According to the results of these check-ups, workers with findings thought to be related to lifestyle (lipid abnormalities, high blood pressure, diabetes, etc.) are increasing, and about one in every two workers has abnormal findings. Cerebro-vascular and other lifestyle diseases are treated as subject to health management, as work-related disorders in the workplace. If obvious overwork is imposed on workers with lipid

abnormalities, high blood pressure, diabetes and other basic disorders, they may become susceptible to brain or heart disease. Among these, cases recognized as occupational disorders are in excess of 300 per year, and remain at a high level. Similarly, cases of industrial accident compensation for mental disorders, etc., remain at around 300 cases per year. Trends in health problems seem to be similar to those in the EU, where stress, depression and anxiety neurosis account for 18% of all problems and 26% of problems requiring an absence of 2 weeks or more.

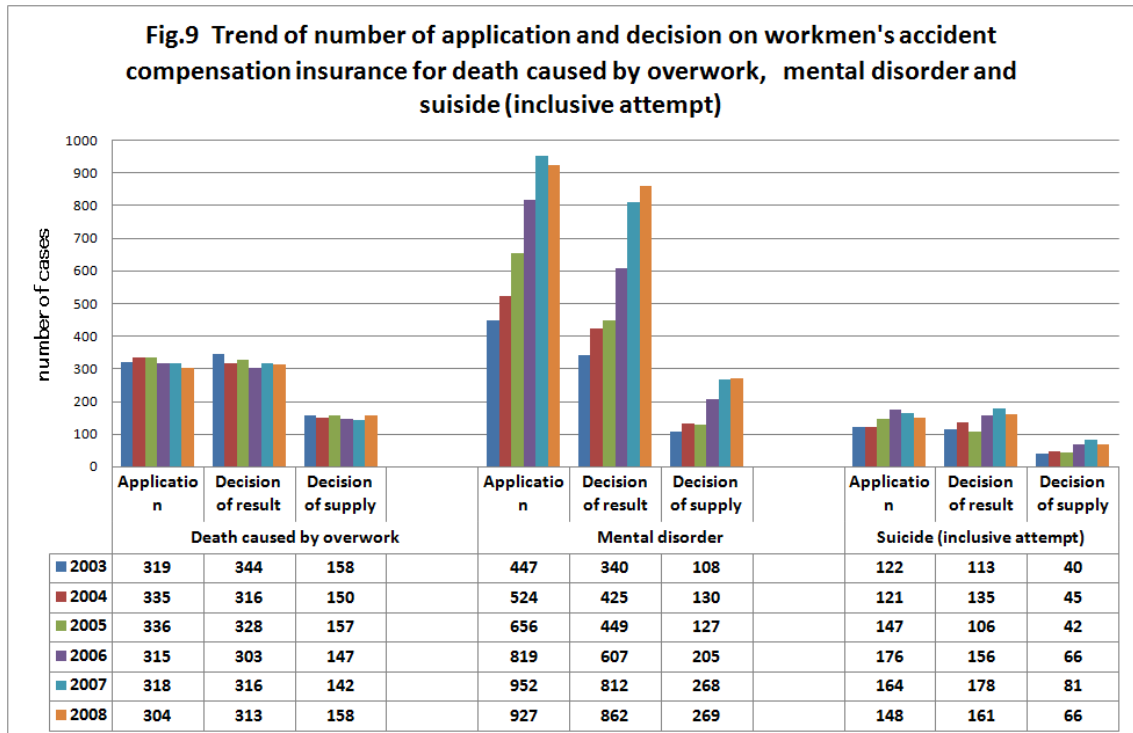


Fig.9 Application of workmen's accident compensation insurance caused by work-related sudden death, mental disorder and suicide (inclusive attempt)

According to the results of surveys and other findings on the state of workers' health conducted in 2002 and 2007, the proportions of workers who feel strong anxiety, worry or stress have remained at a high level, registering 50.6% in 1982, 55.0% in 1987, 57.3% in 1992, 62.8% in 1997, 61.5% in 2002 and 58% in 2007. Of those who feel strong anxiety, worry or stress, the main objects of anxiety or dissatisfaction among the younger generation are "aptitude to the job", "volume of work" and "quality of work", while the main area of anxiety for those aged 50 or over was "work after statutory retirement age, problems in old age".

As measures implemented in workplaces, the ratio of businesses that attempt some kind of efforts to maintain or promote workers' health was 45.2% of all businesses as of 2007, and 80% of businesses with 300 or more workers (all sectors). The most common efforts reported were health counselling (46.1%) and workplace exercise (33.1%). Meanwhile, 90% of businesses with 1,000 or more workers and 60% of businesses with 100 or more workers responded that they adopt measures for mental health. The main measures adopted were establishing a system of counselling (59.3%), providing education, training and information for workers (49.3%) and providing education training and information for managers and supervisors (34.5%).

5.7 Newly emerging hazards

Serious hazard factors in Japan's occupational safety and health are generally the same in content as those indicated by the EU-OSHA (Occupational Safety and Health Agency).

Chemical factors

Under discussion are the health impact in workplaces and general environmental problems caused by compound exposure to chemicals, carcinogenics, newly used materials and substances (indium, lithium, etc.), nanomaterials and other microscopic particles, the manufacture and processing of sensitizing substances, reprotoxic substances, etc. There are demands for action to prevent a repeat of the experience of asbestos damage observed in exposed workers who are now suffering major impacts due to past exposure, those suffering from para-occupational exposure, and those who have suffered from environmental exposure.

Physical and physiological risks

Hazards cited here include noise, vibration, heat (heat stress measures), ionizing radiation, non-ionizing radiation (including ultraviolet rays and lasers), electromagnetic fields, and human engineering factors (working posture, working hours, shift work).

Heat-related problems deserve particular attention, in view of the increasing number of extremely hot days in recent summers, the urban heat island phenomenon, and so on. Among human engineering factors, meanwhile, action is thought particularly needed in working environments and work management in response to the ageing of the labour population. Responses to new technology such as design work and machine operation in virtual environments are also an issue, as are man-machine interfaces connected with machine safety. The musculo-skeletal disorders, noise, vibration, heat hazards, ionizing radiation and non-ionizing radiation, machinery, work processes, science and technology, and various human engineering hazards indicated by the EU are also issues for Japan.

Biological risks

The importance of measuring and assessing bacteria, viruses, fungal infections, etc., and measures for the workplace environments have been pointed out. Measures against the legionella problem, the potential occurrence of bioterrorism, and new forms of influenza from the BCP point of view are among the issues that have been taken up as necessary tasks. In Japan, as the hepatitis virus is highly contagious, action is required not only by medical professionals but also in the workplace. Other subjects of discussion include measures against dengue fever and malaria caused by global warming, and the re-emergence of tuberculosis, especially amongst the elderly. In Japan, action against biological factors until now have, with the exception of certain sectors, attracted less interest compared to chemical substances and physical factors; not enough effort has been made to develop guidelines or establish or publicize measures based on standards.

Meanwhile, the EU has given stringent appraisals of occupational hazards that are becoming chronic worldwide, exposure of workers to antibiotics-resistant pathogens, occupational exposure to endotoxins, biological hazards in management of mould and solids in indoor workplaces, and biological agents in the workplace.

Psychosocial risks

The need to address emotional demands in the workplace, including new employment formats and work guarantees, risks facing an ageing workforce, the intensification of work, increasing work volumes and pressure at work, and violence and bullying in the workplace is just as high as in the EU. In particular, there are claims that Japan has more factors that make it difficult to maintain a work-life balance than in EU countries.

A connection between employment formats and occupational safety and health services has been mooted, such as a decline in skill improvement due to an increase in irregular employment, the occurrence of industrial accidents, and a decrease in opportunities to support health management. Developing workplace environments in response to the ageing of workers is also one of the main themes of priority research (“Millennium Research”) instituted by the government to mark the new millennium. On the subject of ageing, research and development is thought necessary not only on environmental factors but also on measures needed to maintain the work ability or employability of the individual.

Smoking measures in the workplace are also thought necessary, and further promotion including anti-smoke support are being demanded. Environmental improvements are recommended, in that forming pleasant workplaces for a diverse variety of working people, including smoking measures, also leads to the formation of workplaces that are not only healthy but also highly productive.

6. Factors related to industrial health and safety surrounding workers

In Japan, some of the government information that assists in evaluating the situation surrounding workers comes from general labour condition surveys, labour economic trend surveys, comprehensive factual surveys on the diversification of employment formats, five-yearly workers’ health status surveys, industrial accident insurance payout data, and purpose-specific surveys via related bodies as convenient, conducted by the Ministry of Health, Labour and Welfare. In the current global economic meltdown, an increase in irregular employees, ageing of the labour population amid trends of ageing and declining birth rates, and the increasing tendency for workers to be aware of their own stress and feel anxiety over their lives are indicated in a series of surveys. On the work-life balance and improvement of the quality of work, just as the EU, in the Fourth European Working Conditions Survey (2007), encourages employment aimed at improving the quality of work in Europe and evaluates trends for working conditions with a view to improving lives and working conditions, so in Japan, too, a lively discussion is now beginning to be held.

6.1 Employment climate

In 2007, the total population of Japan was 127.76 million, the population aged 15 and over was 110.43 million, and the total labour force was 66.69 million. There were 64.12 million persons engaged in work, 6.22 million self-employed, 55.23 million employees, and 2.36 million family workers. The 2009 Labour Force Survey gives a breakdown of the employment formats of 51.08 million persons in employment (excluding company executives). They include 33.71 million regular employees, accounting for 66% of the whole (2000: 36.30 million, 74%), 11.43 million part-time and “arbeit” temporary workers, accounting for 22.4% (10.78 million, 22.0%), and 5.94 million dispatch workers, contract employees and entrusted employees, accounting for 11.6% (1.94 million, 4.2%). Within the latter, dispatch workers accounted for 1.45 million or 2.8% (330,000, 0.7%). The workforce as a whole is shifting to irregular employment. The gender breakdown of part-time workers is 26.5% male (24.7%) and 73.5% female (75.3%), while the

proportions of employed workers other than regular employees are particularly high in security (99%), services (71%) and sales work (48.4%). The average number of people out of work in January to March 2009 was 1.48 million, continuing a rising trend from 1.23 million in the same period in 2007 and 1.29 million in 2008. Besides the economic situation, reasons given for this are that, of the working age population, “baby boomers” are now passing age 60 (statutory retirement age 65), and ageing is advancing.

Table 4

Table 4 Trend of number of employees by age (non Agriculture and forestry)

		Total	15-24y	25-34y	35-44y	45-54y	55-64y	65-y
Real number	2000	5,322	662	1,321	1,096	1,288	752	203
	2001	5,331	635	1,352	1,097	1,301	739	206
	2002	5,292	603	1,338	1,110	1,261	768	212
	2003	5,296	579	1,338	1,137	1,218	812	212
	2004	5,319	561	1,342	1,157	1,182	868	208
	2005	5,356	559	1,328	1,182	1,152	913	223
	2006	5,430	555	1,319	1,224	1,136	953	242
	2007	5,478	547	1,278	1,268	1,132	990	264
	2008	5,478	536	1,241	1,296	1,126	995	284
Change over the year	2000	24	-22	24	11	10	0	1
	2001	9	-27	31	1	13	-13	3
	2002	-38	-32	-14	13	-40	29	6
	2003	4	-24	0	27	-43	44	0
	2004	23	-18	4	20	-36	56	-4
	2005	37	-2	-14	25	-30	45	15
	2006	74	-4	-9	42	-16	40	19
	2007	48	-8	-41	44	-4	37	22
	2008	0	-11	-37	28	-6	5	20

(unit: ten thousand persons)

The June 2009 bulletin of the Labour Force Survey reports that there were 63.00 million persons in employment in that month (1.51 million less than the same month in 2007). Of these, 10.51 million or 16.7% worked in manufacturing industries (down by 910,000), 5.06 million or 8.0% in construction (down by 370,000), 10.80 million or 17.1% in wholesale and retail (down by 40,000), 6.16 million or 9.8% in healthcare and welfare (up by 210,000), and 4.54 million or 7.2% in service industries other than the above (down by 370,000). The unemployment rate in March was 4.8%, an increase from 3.8% in the same month of 2008, and the effective job vacancy-to-job seeker ratio fell to 0.52 from 0.93 one year earlier. As for the number of workers employed by size of business, 30% worked in companies employing 1-29 workers, 15.9% in those with 30-99 workers, 18.4% in those with 100-499 workers, and 25.9% in those with 500 or more workers, civil servants finally accounting for 9.0%. As for remuneration, 39% of regular employees commanded monthly salaries of “200,000-299,999 yen”, 25.5% received “300,000-399,999 yen” and 13.8% “400,000-499,999 yen”. Of non-regular employees, 40.5% earned “Less than 100,000 yen”, 37.4% “100,000-199,999 yen”, and 14.2% “200,000-299,999 yen”. The smaller the business size, the lower the levels of remuneration. In businesses with less than 30 employees, there has been a significant decrease since 2000, while even in larger businesses there have been decreases of 4% in some, more than 8% in others.

Table 5 Trend of number of employees by size of business (non Agriculture and forestry)

		Total	1-29per	30-99per	100-499per	500-per	Public sector
Real number	2000	5,322	1,726	859	889	1,274	543
	2001	5,331	1,729	868	916	1,248	541
	2002	5,292	1,735	862	931	1,184	545
	2003	5,296	1,716	862	925	1,204	554
	2004	5,319	1,679	861	944	1,233	566
	2005	5,356	1,656	866	971	1,271	553
	2006	5,430	1,685	890	985	1,289	541
	2007	5,478	1,672	887	1,004	1,336	534
	2008	5,478	1,644	869	1,009	1,417	495
Change over the year	2000	24	-16	16	-1	18	3
	2001	9	3	9	27	-26	-2
	2002	-39	6	-6	15	-64	4
	2003	4	-19	0	-6	20	9
	2004	23	-37	-1	19	29	12
	2005	37	-23	5	27	38	-13
	2006	74	29	24	14	18	-12
	2007	48	-13	-3	19	47	-7
	2008	0	-28	-18	5	81	-39

(unit: ten thousand persons)

A characteristic of Japan is that regular employees in long-term, full-time employment share the same workplace with dispatch workers and contract employees. The disparity between different employees makes collaboration in the workplace difficult to maintain. And unlike the Dutch model, where there is no difference in employment terms, there is often a difference in the treatment in terms of incomes earned by individuals, even when doing similar work. While it is thought that the harshness of dismissal regulations for regular employees creates this difference, it greatly disadvantages workers who are directly employed as temporary staff, even when subject to “cooling off”; their terms (annual leave, hourly pay when promoted, etc.) are reset, their unemployment benefits are interrupted, and so on. Problems arise in each part of the equation: disadvantages for the employer due to business interruption, disadvantages for the worker, and a burden on public finances arising from unemployment benefit payments. The biggest stress is anxiety over re-employment; workers often hope to be re-employed by the same employer, but even when this is the case, the resetting of terms means that conditions are worse than when the worker was originally employed. Anxiety over unemployment and other mental stress factors are considerable, and this is also a problem in terms of occupational safety and health.

6.2 Working hours

In 2008, workers in businesses with 5 or more employees worked a total of 147.9 hours per month (which converts to 1,775 hours per annum), 32 hours fewer than in fiscal 2007. Converted to annual figures, this consisted of 1,652 regular working hours and 122 non-regular working hours. In businesses with 30 or more employees, total annual working hours were 1,813 hours, 37 hours fewer than in fiscal 2007. The corresponding monthly take-home pay in businesses with 5 or more employees was 333,050, including regular pay of 249,976 yen, non-regular pay of 18,660 yen, and bonuses or ad hoc payments of 64,414 yen. By industry, meanwhile, all workers except part-time employees worked 2,090 hours per annum in the printing industry and 2,003 hours in

manufacturing industries. These working hours tend to be on the long side compared to 1,962 hours in the US, 1,874 hours in the UK, 1,538 hours in Germany and 1,537 hours in France.

6.3 Non-standard working hours

There are no available survey results on workers engaged in night-work. As such, we are not able to evaluate the increase due to the diversification of working hours or the trend towards a 24-hour society. From 2008 to 2009, non-regular working hours decreased significantly in all sectors, particularly in manufacturing industries, reflecting the current economic climate. A characteristic of Japan is that, as irregular employees increase in number, a greater burden of long working hours falls on the regular employees. On the other hand, some have also pointed out that longer hours are worked to compensate for the lower wages of certain irregular employees under current economic conditions. Japan's minimum hourly wage is on a par with that in the US, but lower than that in the EU.

Total days off work per year are on average 112.3 days per worker. Days off tend to increase as the size of the business increases; on average, workers in companies with 1,000 or more employees take 115.3 days off, compared to only 103.8 for those with less than 100 workers. Meanwhile, annual days of paid leave taken per worker are 17.6 days on average. By sector, workers in social infrastructure industries like electricity, gas, heat supply and waterworks tend to take more days of paid leave with 14.9 days per year (leave-taking ratio 76.3%), while those in the catering and hotel industries take fewest with only 4.7 days per year (29.8%).

6.4 Composition of working hours

While their starting and finishing times are different, more than half of all workers start work at a fixed time, stop work at a fixed time, and work the same number of hours each day and the same number of days per week. In this respect, Japan is judged to be similar to the EU. The flexitime system is not as common as it once was, and it has been pointed out that, in many cases, the core time hours are too extensive and there is too little room for flexibility. Systems that ease the constraints of working hours in response to childcare and health problems are now becoming established. As concerns home working, there are no reliable data owing to a bias in employment formats, etc. Nevertheless, this type of work is forecast to expand generously in future, and concerns over the irregularity of work management (time management) and health management in that case have been pointed out.

6.5 Physical and physiological risk factors

There are no systematic surveys on the work content and actual work burden of individual workers, and as such, this cannot be commented upon. The use of workers in work involving heavy musculo-skeletal burdens in manufacturing industries is thought to be decreasing, due to the introduction of auxiliary equipment, mechanization and other factors. On the other hand, the number of workers receiving special health check-ups for exposure to hazardous and harmful factors is increasing, and now stands at more than two million. Of these, about 800,000 workers (rate of abnormal findings 9.1%) have been diagnosed for physically harmful factors. Besides these, the number of workers receiving pneumoconiosis health check-ups for exposure to dust and soot is around 420,000, and this is a harmful factor that still needs to be addressed. In 2007, 12.2% of businesses carried out action such as interview guidance by doctors for workers who needed attention to their health due to long working hours and other forms of overwork.

6.6 Violence, harassment and discrimination in the workplace

The problems of violence, power harassment (abuse of power), sexual harassment and discrimination in the workplace have come to attract considerable attention since the early 1990s. To promote a society of gender equality, together with the permeation of the Equal Opportunity Employment Law, attempts to resolve gender discrimination in job promotions and treatment in the workplace, and particularly sexual harassment towards women (including the environmental type) have been prioritized. Meanwhile, workers have brought lawsuits based on psychological damage resulting from power harassment and others by superiors, and this is now an issue that companies are expected to take responsibility for addressing. It is known through experience that just ignoring this kind of problem has an adverse impact not only on the health and work performance of the targeted individual, but also on the psychosocial working environment of the group and the business performance and economic activity of the organization as a whole.

The Prefectural Labour Bureaus, as administrative bodies, have set up counselling desks for labour-related problems. Amid a general increase in cases brought for counselling, there has been a particular increase in cases of bullying and harassment. Of a total of around 200,000 cases of counselling in fiscal 2002, those related to “bullying or harassment” accounted for 5.8% (just under 6,000 cases), but in fiscal 2007 this had risen four-fold to 25,000 cases (12.5% of around 200,000 cases). In particular, it has been pointed out that some fault lies in companies’ habit of persuading individual workers to leave the company of their own accord rather than sacking them, which would place a larger burden on the company, when pursuing dismissals for worsening work performance. Conversely, there are increasing cases of subordinates bullying their superiors. A trend can be perceived for the positive, nurturing atmosphere in the workplace to disappear as a result of corporate situations, among other factors.

Cases of harassment and bullying are thought to be increasing in proportion to a rise in mental health problems in the workplace. Some claim violence in the workplace to be less prevalent in Japan than in the west; instead, the type caused by human relations in the workplace, problems of violence from customers in service industries and violence aimed at medical professionals by hospital patients have become clear. Mental health disorders in the workplace (absenteeism, presenteeism), suicide, harassment, bullying and violence may be seen as external manifestations of disorders connected both to economic activities and to the increase of stress in the workplace. In a number of surveys, as causes of work-related health problems, it has been suggested that these phenomena in the workplace tend to aggravate the occurrence of mental health problems. Since these problems are also connected to management problems, I think it important to promote the understanding and awareness of employers as their social responsibility, to educate and train management personnel on measures to improve human relations in the workplace, and to reform job design by shifting from an excessive focus on evaluating individual performance to an emphasis on achieving targets through teamwork.

In the EU, moreover, it has been pointed out that these problems “could be under-reported, because many workers who have been subjected to severe violence or mental cruelty may not be working any more, or may have become unemployed due to psychosomatic disorders”, with regard to this I think the same is also true of Japan. Incidentally, a new concern now emerging involves the problem of violence from patients in medical institutions.

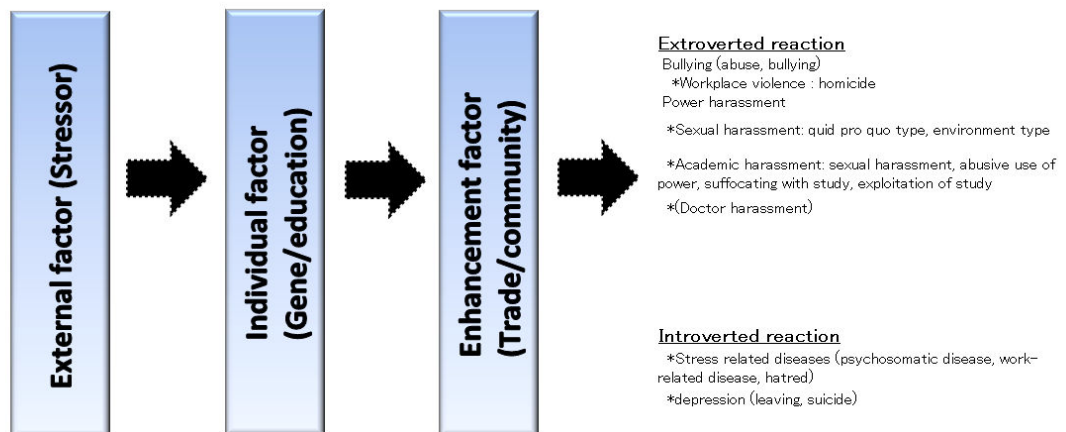


Fig. 10 Appearance and concept of stress-related effect at work

6.7 Changes in the nature of work

At this point in time, it is not possible to confirm detailed survey data on the content of workers' jobs in order to analyze changes in the nature of work in Japan. The number of employed workers is shifting from primary and secondary (manufacturing) industries to tertiary (service industries), while in many service industries attempts are being made to boost productivity by introducing IT equipment. In service industries, while there is no great change in the content or volume of work that requires a human presence on site, in divisions where the use of information and introduction of equipment is advanced, changes have arisen in the content of work duties. Together with labour productivity, this kind of polarization gives rise to a wage gap and other disparities in employment terms. Even now, many workers still spend most of their working day inside their employers' offices, but thanks to the diffusion of IT equipment and networks, more and more jobs can now be performed by SOHO or working at home.

In some older survey results from 2001, the number of teleworkers was reported to have been 2.46 million in 2000. This is estimated to have passed 4.50 million in 2005, and is expected to continue increasing in future. In a Telecommunications Usage Trend Survey (2008), workers aged 15 or over who are engaged in telework accounted for 10.4% of all workers in the same age group, and the fact that this was 15.2% in 2008 would appear to support this. The Japanese government has launched a "Telework Population Doubling Action Plan", and advocates raising the proportion to 20% in 2010. A combined meeting of relevant ministries and agencies on promoting telework concluded that telework can improve the quality of work and life, and expressed the view that it "is a flexible working style that uses information technology and is not tied down to specific places or times, facilitates a harmony between work and private life (work-life balance), and creates diverse employment opportunities and companies, as well as opportunities for making a fresh challenge". On the other hand, it has been pointed out that workers in irregular employment would have difficulty in finding work in this field, being ill-equipped to acquire skills owing to the ageing of Japan's population structure or unemployment, or having difficulty in acquiring skills because they have to change jobs in a short space of time. Therefore, strong support for their acquisition of skills is needed in order to help them make a fresh challenge.

Amongst workers in the "employed" bracket, those engaged in telework accounted for 14.3% in 2008 (9.5% in 2005), while amongst "self-employed" workers the proportion was 21.0% (16.5%). Workers currently engaged in telework cite the advantages of "increased free time due to

the elimination of commuting time (44%)” and “alleviation of the physical and mental stress of commuting (34.4%)”, while others respond that “the content of the work is not suited to telework (27.5%)” and that it is “difficult to manage the work progress and time on my own (20.6%)”. Other issues pointed out were the materials necessary for work, support from colleagues, and others, as well as time management, environmental management and other issues relating to occupational health. Moreover, with a greater diffusion of this type of work, there are some sectors in which the downward pressure on teleworkers’ wages will intensify based on the current work content, and it is possible that this will not lead to an improvement in the quality of life.

As changes in work aptitude due to the spread of IT, employees’ ability to use computers is still considered inadequate overall. While IT literacy is a minimum required ability for regular employees, “human” skills will be important in future, rather than a digital response ability. Young employees will be expected to improve their basic skills in “communication”, “arguing logically” and “co-operating with others”, while middle- and older-aged employees will be expected to be able to develop new potential through “creativity” and “the flexibility to change”.

To improve productivity and the quality of work in future, it is thought inevitable that IT or ICT (information or Internet communication technology) will become further diffused, while, on the other hand, there are expected to be difficulties in matching people, jobs and aptitudes. Workers who use both machines and IT equipment will require more skills. On the other hand, for manual workers on site, including the use of machinery, work that is determined by machinery will tend to remain (as has been pointed out by the EU, this work is traditionally more repetitive and monotonous, with little autonomy, and is both physically and psychologically more demanding). This results in the possibility of a much higher risk of musculo-skeletal disorders. As such, consideration for older workers becomes a major issue. It is thought to be important, both in the EU and in Japan, to create an industrial structure and design jobs in line with the international sharing of burdens, thus raising both job satisfaction and satisfaction with home life. This problem has major implications for occupational safety and health.

6.8 Organization of work, autonomy, intensity, pace of work

In several awareness surveys aimed at workers, many regular employees reply that the burden of work in the workplace has increased since 1990. After the downturn in the Japanese economy in the mid-1990s, some regular employees started working longer hours as a side effect of restructuring. On the other hand, as a result of economic recession, measures to deal with long working hours, and other factors, figures show a slight improvement, albeit transitory. In questionnaires on the workplace atmosphere, many respondents indicate an increase in burdens such as the pace of work, autonomy and intensity. Meanwhile, in a survey of workers’ health (2007), the proportion suffering from anxiety, worry or stress was 50.6% in 1982, 55.0% in 1987, 57.3% in 1992, 62.8% in 1997, and 61.5% in 2002, showing that many workers feel a sense of anxiety. In explaining their strong anxiety, worry and stress concerning work and working life, 32% of ordinary employees responded that they feel burdened by the volume of work (excessive), 36.7% by the quality of work (too difficult), and 37.7% by human relations in the workplace. Concerning telework, which the government is attempting to promote, respondents who are currently teleworkers replied that, while it provides autonomy, it also poses problems with time management and support from colleagues compared to working on the employer’s premises. If targets for work fulfilment are then set, there is concern that the need to meet these targets will lead to limitless increases in work intensity and hours.

Even for civil servants, who are traditionally considered less directly susceptible to variation in terms based on economic conditions, some survey results suggest an increasing burden in the composition of work, autonomy, intensity, the pace of work, and so on, amongst civil servants working in central government agencies. In addition to staff cuts, the ratio of irregular employees is increasing in inverse proportion to regular employees, while the more stringent scrutiny and demands from society are also thought to play a part. Of 299,871 office-based national government employees in general posts, 6,105 (2.04% of the total) were long-term sickness absentees in fiscal 2006 (i.e. did not work continuously for at least one continuous month in the year surveyed, because they took sick leave or quit their posts, etc., due to injury or illness). By gender, 4,702 of these were male (1.88% of all 250,100 male employees) and 1,403 were female (2.82% of all 49,771 female employees). Since the number of office-based national government employees in general posts has decreased (from around 490,000→300,000), the number of long-term sickness absentees has reached a record low. Nevertheless, the ratio of long-term sickness absence (the proportion of long-term sickness absentees compared to the whole target group) is 2.04%, far higher than the 1.36% in fiscal 2001. Incidentally, the most common cause of long-term sickness absence is “mental and behavioural disorders” with 3,849 sufferers (63.0% of all long-term sickness absentees), an increase of 1,631 persons compared to the previous survey. Seen as a ratio of long-term sickness absentees, this represents 1.28%, a massive increase of nearly three times compared to the fiscal 2001 figure of 0.46%.

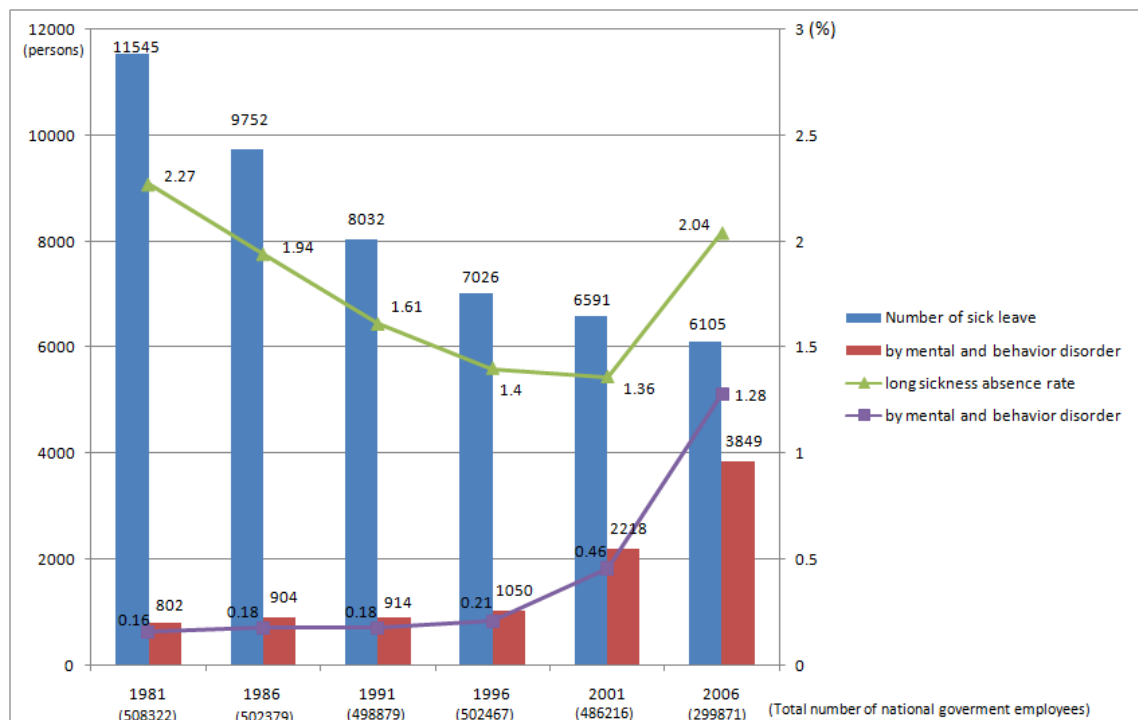


Fig. 11 Trend of long sick leave and absence rate in 2006 (national government employees)

While there is a tendency for work intensity to increase due to demands from the employer for improved productivity, the proportion of companies that offer education, training or support related to the introduction of equipment or technology that would alleviate this problem is, if

anything, falling. More fitting relationships between worker and work duties need to be created, including improvements to workers' skills.

6.9 Impact of work on health

In both Japan and the EU, many research studies indicate that the general health of working people basically tends to be better than that of the population at large. This is called the “healthy worker effect”, and there is known to be a disparity in the size of this effect depending on company scale and employment format; this is partly attributed to the “healthy worker selection effect”. The “healthy worker survivor effect” also plays a part, but regular employees working for large companies have access to established systems of employee welfare and health support, and the “health promotion effect” could therefore also be involved. Even then, in a survey of businesses with 10 or more full-time workers, when asked about health, many replied that it was “Not good”. This response was given by 17.1% of workers in their 30s, 22.4% of those in their 40s and 18.2% of those in their 50s. Excluding work-related diseases, there are no available survey results on the relationship between the state of health and work at the present stage.

According to the periodic health check-ups that employers are obliged to provide to workers in Japan, the number of workers with lifestyle-related findings (lipid abnormalities, high blood pressure, diabetes, etc.) is increasing; about one in every two workers has abnormal findings. Cerebro-vascular and other lifestyle diseases are subject to health management in the workplace, as work-related disorders. If obvious overwork is imposed on workers with lipid abnormalities, high blood pressure, diabetes and other basic disorders, they are thought to become susceptible to brain or heart disease. Among these, cases recognized as occupational disorders are in excess of 300 per year, and remain at a high level. Similarly, cases of industrial accident compensation for mental disorders, etc., remain at around 300 cases per year. By industry, 28% of compensation cases for cardio-vascular diseases are in the transport industry and 21% in the wholesale and retail industries, while 19% of mental disorders are in manufacturing industries and 13% in healthcare and welfare. Considering the number of employees, it is suggested that there is a strong connection with specific professions and work burdens.

On mental disorders, there are numerous studies suggesting that work-related factors including human relations in the workplace have an impact as major factors. There are concerns over a widening of the gap in health status due to a widening of relative socio-economic disparity; actually being employed, in itself, is also perceived as a major factor that maintains and promotes health, leading to the maintenance of a mentally positive state (motivation) as well as a financial one.

6.10 Management and communication structures

On matters related to occupational safety and health, as stated above, the establishment of safety committees and health committees is mandatory for businesses over a certain size in Japan (50 or more workers employed full-time). At least half of the committee members must be workers' representatives, and this guarantees opportunities for discussion with the employees. I would expect participation by the workers in workplace decision-making, now established in the EU, to permeate further in Japan with the introduction of OSHMS in future. OSHMS forms part of the cycle of PDCA activities now established within the QC movement in manufacturing industries, and as such, is considered well suited to circumstances in Japan. On the other hand, the “bottom-up” style of management that has long been established in Japan is tending to shift to a

“top-down” style under pressure from international competition, and there are fears that factors like this could lead to a decline in health and safety levels in Japan. The introduction of OSHMS, which is dependent on employers’ understanding and the declaration of their aims, will also be an important measure from this point of view.

In Japan, trade and individual company unions are organized by many large corporations, facilitating negotiations with employers on conditions of work. However, it has been pointed out that this is disadvantageous for irregular employees and the response is inadequate, as the union members are in principle led by regular employees and the overall organization levels have fallen. A shift in the response on this point has also been progressing at national centre level in some labour unions (including companies that have union shop agreements) in recent years.

6.11 Work-life balance (Work and non-working life)

According to a newspaper survey (2007), the ratio of workers working 60 hours or more per week (i.e. including around 20 non-regular working hours) was 23% and 21% for people in the child-rearing age brackets (30s and 40s) in 2004, compared to 19% and 16.5%, respectively, in 1993. There are no reliable survey reports on levels of satisfaction with the balance with working hours and home life that would correspond to the EU survey. Considering the statement in the EU report that “Four out of five European workers say they are satisfied with how their working time arrangements fit in with their non-work commitments... While... satisfaction with work-life balance (85% and higher) is reported by those working fewer than 30 hours per week, over 40% of those working more than 45 hours per week report that their working hours do not fit in well with their family and social commitments”, a high level of satisfaction can certainly not be expected. Although this is an indirect indicator, in the question about health mentioned above, the ratio of workers who responded that their health was “Not good” was 17.1% for those in their 30s, 22.4% among those in their 40s, 18.2% for those in their 50s, showing a high tendency.

Dissatisfaction with the balance between work and home life was not a particularly big issue until the beginning of the 1990s, partly because total working hours decreased in a large proportion of sectors. Then “karoshi” (literally “death through overwork”) became a problem, the connection between long working hours and cerebro-cardiovascular diseases was established, and so was industrial accident compensation for these diseases. Implementation of countermeasures became mandatory by law, and particularly since the beginning of the new millennium, work-life satisfaction has become established as a social problem. Behind this, for workers, lay an increase in the time they would like to use or needed to use outside working life (childcare, nursing, self-enlightenment, social activities, etc.). While in Japan, too, this is partly due to an increase in working women, the traditional division of housework between men and women still remains. This can also be seen in the fact that, on average, men will work long hours in paid employment, while women most commonly combine paid employment with unpaid work. In response to the increasing age of workers associated with population ageing and birth-rate decline, and the progressive participation of women in the workplace, a need is seen to expand systems of individual discretion over working hours and to reconstruct systems of short-hour employment and flexitime work.

Japan differs from the EU in that many shops stay open 24 hours a day or every day of the year, and this is a factor behind the increase in night-work. Some propose that we should learn from the Netherlands and other EU member countries, where universally consistent, regular

working schedules and flexible allocation of regular working hours are thought to have contributed to greater levels of satisfaction with the balance between work and home life. In Japan, steps should be taken to adopt systems of “responsible” work sharing. In future, with a view to aiming further for (1) regarding “time” as a limited management resource, (2) rethinking the traditional “man’s way of working”, and (3) promoting balance support measures for employment and at the same time promoting equal employment opportunities for men and women, we will need to revise the methods used for systems that support the work-life balance, and develop systems for managing work and working hours in which “time-restricted” workers can be constructively employed. Amid a diversification of employment formats and modes of work, examples of enhanced work-life balance are seen in the diffusion of telework and an increase in small-scale segregated offices and home offices (SOHO), where people can work close to their homes. However, diffusion is still only partial, and the effects are still only at the verification stage.

6.12 Satisfaction with the workplace environment

Satisfaction with the workplace is not necessarily high, given the long working hours of regular employees resulting from adjustments to employment practices, long working hours to compensate for insufficient income due to low wages, and so on. In particular, with the exception of those who have voluntarily chosen their working format, satisfaction among irregular employees tends to be low. This concurs with the finding in the EU survey that the majority of workers who are not satisfied with their work are young males, blue-collar workers, public sector workers, fixed-term contract or agency contract workers, and workers with low levels of educational attainment.

In the Japanese survey of 2007, by employment format, regular employees most often replied that they were “Satisfied” with the workplace in terms of “Stability of employment” with 26.7%, “Work content, motivation” with 22.6%, and “Working hours, days off and other working conditions” with 20.4%. Workers other than regular employees were most commonly “Satisfied” with “Working hours, days off and other working conditions” (26.8%) and “Human relations in the workplace, communication” (20.7%). In a comparison between regular employees and other workers, the former expressed greater satisfaction with “Stability of employment”, “Employee welfare”, “Education, training and method of ability development” and “Working hours, days off and other working conditions”. Among irregular employees, the greatest area of dissatisfaction was with “Wages”. Japan’s minimum wage is lowest amongst OECD countries, in relative terms. The connection with wages should also not be overlooked when trying to improve the “Quality of Work”.

In Japan, measures being promoted in terms of workplace environment factors are health promotion support, initiatives on mental healthcare and smoking measures. Efforts to maintain and promote health are made by 45.2% of businesses (2007), while 33.6% of businesses make efforts for mental healthcare. By size of business, 100% of those with 5,000 or more workers and 95.5% of those with 1,000-4,999 workers are tackling mental healthcare. The content of measures includes “Developing a system of counselling for workers” (59.3%), “Providing education, training and information for workers” (49.3%) and “Providing education training and information for managers and supervisors” (34.5%). In Japan, moreover, full-time or equivalent contracted industrial physicians are employed in businesses with 1,000 or more workers. Smoking measures are undertaken by 75.5% of businesses. Measures mainly consist of segregation, such as “Setting

up smoking corners, smoking banned everywhere else” (50.2%) and “Setting up smoking rooms, smoking banned everywhere else” (37.0%).

6.13 Conclusions of the survey

From the survey results and other data given above, I studied ongoing policy issues that have been thrown up due to the progressive ageing of the workforce. It is important to address new hazardous and harmful accident factors arising from the advance of technology, cope with stress associated with employment in a changing environment, prevent the incidence or aggravation of disorders caused by this, and maintain health and vitality. Safety and health are mutually interactive in the prevention of accidents and the maintenance of health, and when promoting OSHMS, there should be no bias towards either one of them. The survey results emphasize the importance of improving and developing the workplace environment in future, so that older workers can stay in the workforce for as long as possible and younger workers can easily achieve success in their chosen vocation.

Entering employment can provide motivation for maintaining and promoting health. For older workers to maintain WA (work ability), guidance and support to individuals is important. In Japan, I think addressing lifestyle-related diseases as “work-related diseases” is a policy that is worth continuing. Against the background of population ageing, it is important to painstakingly study continuous periods of work as well as hours and predictability of work for both women and men, with a view to improving the balance between work and home life. For young people, meanwhile, it is vital that we secure opportunities to acquire appropriate skills and promote a response to industrial structure and technological innovation, both in terms of health and safety and in the sense of preventing a deterioration in health caused by the widening of disparity due to the loss of employment opportunities. I also think Japan should learn methods of “responsible” work sharing from the EU.

In Japan, as priority measures, we need to promote improvements starting with safety measures for older workers, work design and working environment design, and to ensure the safety of dispatch (non-regular) and subcontracted workers. I think the lack of business ethics that has caused the current economic crisis is not unrelated to the world of occupational health. In management efforts aimed at occupational health, unless we promote participation as specialist professionals based on a strong ethical code and the provision of services not tied down to specific employment formats, there is even a risk that we in the labour administration will no longer be able to act as a safety net for society, based on “uniformity with management and greater efficiency”.

7. Demographic aspects and other related aspects of occupational safety and health

As is revealed in the statistics about accidents, when addressing the prevention of industrial accidents and occupational diseases in future, it will be impossible to disregard the ageing of the working population. In Japan, continuous employment for older citizens who wish to work is an important policy issue, both in order to secure the workforce as social infrastructure and to maintain the pensions system. As has also been pointed out in the EU, Japan faces the same shared threats and opportunities arising from extended life expectancy, an ageing workforce, lower birth rates, increased social participation by women, changes in the workers employed in various labour sectors, and irregular patterns of employment. Considering that improvements in living environments, workplace environments and medical care lead to a promotion of average health in all age groups, the average ability of today’s elderly citizen is higher than that of a person who

reached the same age 50 years ago, for example. Many studies assert that being employed is also connected to the purpose of maintaining health, and that it is an important factor contributing to good health. In Southeast Asian countries, there have also been cultural studies showing that, for a man, working produces important life motivation.

It is important that policymakers take account of these changes, and also, when supporting employment for the elderly, we need to prepare tailor-made support measures taking account of individual differences. As such, the development of this kind of system is desirable. In the measures we take, as well as developing employment environments and working environments based on the idea of “normalization”, in which we address not only the elderly but also individual differences, and supporting health in units of individuals, we also need to urge individuals to make efforts to help them maintain their employability from middle age. Maintaining and improving work ability leads to employability.

On this issue, I think we can identify the development of policy measures for the management of the working environment, psychosocial response, and maintaining work ability as a task for joint development by the EU and Japan in future.

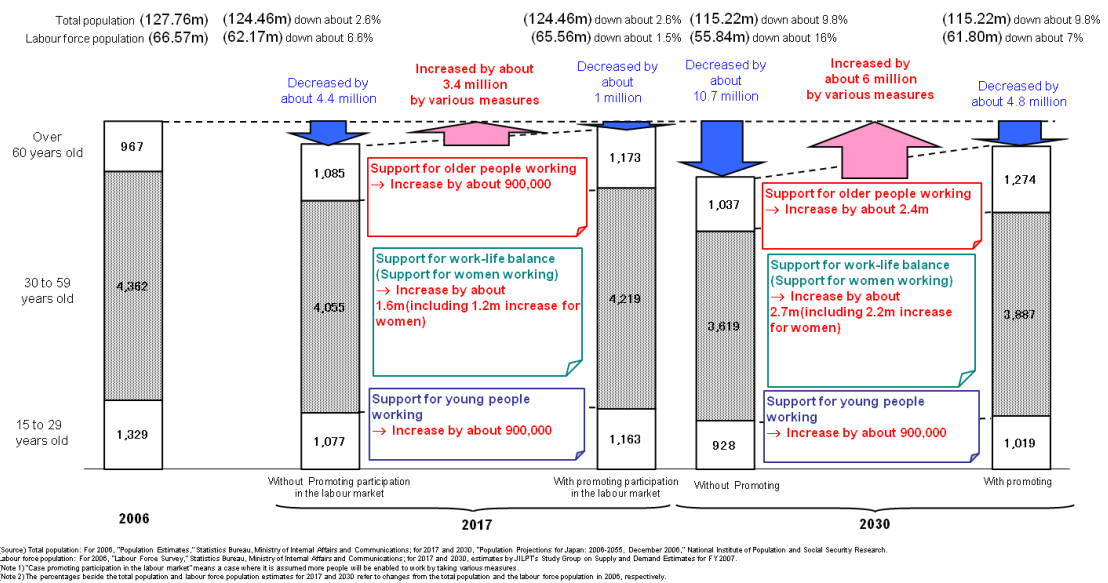


Fig12 Labour force prospects

8. Current economic problems and social climate

Like many EU member countries and other leading economic nations, Japan is also struggling against economic stagnation and the failure of the banking system. Besides the problem of the cash chain in global financial institutions, falling demand due to economic recession has delivered a hard blow to manufacturing industries. Other problems are unemployment, falling wages, an increase in irregular employment, and an increase in the labour supply accompanying short-term redundancies, in particular. Irregular employment in Japan, unlike in the main EU countries, tends to involve a large wage differential depending on employment format, and can easily cause the quality of life to decline. This is thought to have a considerable impact on health, along with a tendency for inadequate acquisition of knowledge and skills related to health and

safety, as well as the greater difficulty in benefiting from health check-ups, follow-up treatment and other occupational health services. While it depends partly on the development of a social safety net, there is the danger that not only the physical health of workers, but also their retention of skills, motivation and other mental and psychological conditions will decline in Japan, as it is not a country particularly renowned for social welfare.

There are figures to show that, on the surface, the current financial crisis is causing a temporary decrease in industrial accidents, due to the withdrawal from economic activities by industries with a conventionally high level of safety risks. On the other hand, there are fears that a shortage of facility investment needed in the long term, as well as excessive cost cutting and redundancies, could lead to a deterioration of future health and safety indicators. Generally, the drawbacks of an extremely free economic system also have an impact on occupational health, including safety; amid international competition, investment in health and safety is seen as the first cost to cut. The thinking then tends to be that human resource development and safety investment does not have to be seen as the employer's responsibility, while workers, for their part, place highest priority on salaries and remuneration, and make light of health and safety. This must not be allowed to lower standards of ethics in business management. Even in the midst of economic problems, it is important that we do not lose what we have already achieved in occupational safety and health, and maintain levels of competitiveness in preventing industrial accidents and occupational diseases.

Pension and other social security systems originated in Germany, but have been developed to extremes under the lengthy administration of the Social Democratic Party in Sweden. The Swedish social security system is funded by a high tax burden, but the country's economic performance is one of the highest in Europe. Just as a good social security system contributes to the economy as a social stabilizing mechanism, a good workplace environment is thought to improve the productivity of private companies. This once again underlines the importance of occupational safety and health, and I hope we can share a mutually meaningful discussion.

9. Data and trends highlight some major issues

As stated above, numbers of industrial accidents and occupational diseases have been decreasing over the long term in Japan, but except for a period of numerical decrease under the present economic recession, the decline has tended to slow in pace over the last 10 years. In numerical terms, these are still at a high level compared to the UK, for example, even taking the industrial structure into account. As in many EU countries, I feel the current levels of industrial accidents and occupational diseases to be beyond acceptable levels. Meanwhile, as causes of upward pressure on accident rates, there are other issues that we must address, such as the ageing of the working population. It is thought a framework for improvement in aspects of occupational safety and health will have major significance for human resource development and education, as well as indicating laws to be enacted, guidelines and models for good practice. On this point, Japan may be lagging behind the EU on points such as the introduction of OSHMS. In terms of the ratification of ILO conventions, chemical management systems, and training of high-level occupational safety and health experts, among others, I think some areas remain in which consistency and linkage with the EU should be sought. However, as has been pointed out by the EU, "meeting the target of lowering levels of accidents and illness caused by work is matter that involves all stakeholders, and more focussed, dedicated efforts are needed". This is something we can share as a stance necessary for improvement.

10. Japanese's priority measures on occupational safety and health in 2007-2012

The 11th Industrial Accident Prevention Plan sets out the targets of (1) reducing fatalities by at least 20% in 2012 compared to 2007, (2) reducing fatalities and casualties by at least 15% in 2012 compared to 2007, and (3) promoting health assurance measures by workers, halting the increasing trend in the rate of abnormal findings in periodic health check-ups, and changing it to a decrease. For reference, the overall target set in the EU strategy is to cut the occurrence rate of industrial accidents and occupational diseases at EU levels by 25% during the period 2007-2012. Clearly, the proposed reduction is more ambitious than the Japanese target, but I think this reflects higher accident rates in some countries or regions of the EU.

The 11th Industrial Accident Prevention Plan also outlines the following 8 priority measures, setting targets for each measure and the efforts to be promoted.

1. Promoting risk assessment (surveys of “hazards and harms”, etc.) and measures based on the results (Japanese-style risk assessment in the broad sense): With the target of gradually improving the implementation rate of risk assessment, specific methods of implementation to suit the content of work, etc., will be publicized, steps will be taken to diffuse them, and training of human resources inside and outside workplaces will be promoted.
2. Promoting risk assessment for chemical substances and measures based on the results: With the target of gradually improving the implementation rate of risk assessment for chemical substances, steps will be taken to expand the use of labelling for chemical substances based on GHS, safety data sheets on chemicals and others (MSDS), information on the safety of chemicals, and so on.
3. Preventing machine hazards: With the target of further reducing machine hazards, studies will be made and necessary steps taken to enhance safety measures for individual types of machinery and others in which industrial accidents still occur with frequency or with a high degree of severity, though currently in a decreasing trend, including a shift in the attitude towards safety measures.
4. Preventing falls from height: There are concerns that falls from height will actually increase in future, due to the ageing of the workforce, diminishing levels of skill etc. With the target of further reducing these from current levels, studies will be made and necessary steps taken to enhance measures to prevent falls from height in work on scaffolding and structures involving multiple hazards, work connected with goods loading, etc.
5. Preventing soot and dust disorders: With the target of reducing the number of workers with new abnormal findings of pneumoconiosis, comprehensive measures will be promoted with a focus on measures to prevent soot and dust disorders relating to tunnel construction work, arc welding work, metal and other polishing work, and others that are causing new cases of pneumoconiosis.
6. Preventing health disorders caused by chemicals: With the target of reducing occupational diseases caused by chemicals, steps will be taken to appoint foremen in toxic work involving chemicals, rigorously enforce the fulfilment of duties by said foremen, enforce management of working environments, and promote health and safety education.
7. Promoting health check-ups: With the target of gradually improving the implementation rate of health management measures based on the results of health check-ups, etc., steps will be taken to promote voluntary efforts by workers, rigorously enforce measures based on the results of

health check-ups, and create linkage with measures implemented by medical insurers based on the Elderly Healthcare Insurance Act.

8. Promoting mental health measures: With the target of raising the proportion of businesses tackling mental healthcare to 50% or more, measures will be implemented to prevent health disorders due to overwork, education and training will be carried out to promote individual awareness by workers, counselling systems will be developed inside and outside workplaces, and measures will be promoted to revive workplaces.

Besides these, a 2006 amendment to the Occupational Safety and Health Law imposed obligatory efforts on employers to implement risk assessment and measures based on it. As well as the basic rationale and matters to be implemented, the amendment sets out a number of priority measures designed to prevent health disorders due to overwork: (1) Reducing out-of-hours and holiday working hours, (2) Encouraging workers to take their annual paid leave, (3) Improving the allocation of working hours, etc., and (4) The flow of measures related to workers' health management and interview guidance in the system of interview guidance given by doctors to long-hour workers.

An issue in recent years has been the financial and health disparity between workers, based on employment format and other factors. It has been pointed out that one cause of this is a lack of knowledge of laws, systems, hazardous and harmful substances, etc., on the part of the workers, and the importance of imparting knowledge on occupational health in compulsory education on life skills has therefore increased. To effectively implement OSHMS, moreover, I think it necessary to establish and promote a system of high-level expert education in the fields of occupational safety and health, an area in which Japan is currently lacking compared to the EU and North America. I think that education and international uniformity of education and expert training systems will become ongoing issues for both the EU and Japan in future.

11. Conclusion (Summary)

Occupational safety and health are indispensable activities, not only for workers but also for society as a whole. As technology advances and the industrial structure changes, I think that, in addition to conventional issues, new issues that require solutions will appear, and the significance of occupational safety and health will grow ever larger. I think companies should see occupational safety and health not only as one aspect of risk management or one of the factors involved in improving productivity, but also add this as one of the pillars of their CSR (corporate social responsibility).

As issues that will continue to be relevant in future, one could cite (1) reaffirming the social significance of work and health, and verifying the compatibility of systems, (2) ethics in economic activity and company management: corporate social responsibility, (3) promoting the inclusion of measures in management: health accounting, health administration, (4) clarifying the responsibilities of companies and the government in occupational health, and (5) the need for action on occupational health as one aspect of work and economic activity. In Japan, mismatches between labour and jobs have been accelerated by global segmentation aimed at productivity, and have caused disparity to expand. A growing inequality of skill learning opportunities, including health and safety, could become a bigger problem in Japan than in the EU. While improving workers' health capital and basic social skills partly depends on self-efforts, I think that support

from social systems as well as from employers should be seen as part of CSR (corporate social responsibility).

As directions and issues for occupational health in Japan from now on, one may cite (1) positioning of occupational health specialist professionals, establishment of OSHMS: a basis for addressing the advance technology, (2) diffusion of health and safety education: education and training have the greatest investment effect, and education on health and safety is also important as one aspect of basic social skills, (3) response to the ageing of the population: the health promotion effects of being employed, as one aspect of occupational health and as a national measure, (4) provision of occupational health services to all working people: as a safety net, and as a basic social skill, and (5) promoting action on stress and mental health: nurturing systems (job sharing, etc.), support systems and organizations, “Decent Work”.

Meanwhile, it has been shown in several studies that education in the field of occupational safety and health is the greatest effective investment (Rantanen, 2003). A transition from disease prevention of a problem-solving (retroactive) type to the proposed occupational health that includes health promotion will help to improve corporate productivity and revitalize society, as well as preventing accidents and reducing work-related health damage. I see the permeation of this as an important safety mechanism for society, together with a good system of social security.

Occupational safety and health measures are also part of national health policy. To paraphrase a statement by former WHO Secretary-General Brundtland, “Comparing countries in which there is a five-year difference of about 5 years in average life expectancy, assuming that other conditions are more or less the same, there is extra annual growth of 0.5% in countries that effectively invest in health policies.”