

## Abstracts

### A Study of the Recent Trend of the Employee's Invention System

**Hisayoshi Yokoyama** (Gakushuin University)

The encouragement of employee inventions is essential to the industrial development of our country. As employee inventions are made with the cooperation of the employee as "a researcher" and the employer as "an entrepreneur", the employee-invention system should be established to provide incentives to further inventions with both of them. In this respect, our patent law adopts the principle that the right to obtain patents belongs to the employee, but the employer can succeed to the right with payment of "adequate remuneration". I will review our employee-invention system with an introduction of the recent trend of the legislation and cases about it, and discuss how interests of both the employee and the employer about an employee invention should be adjusted.

### Optimal Contracts for Invention

**Shingo Ishiguro** (Osaka University)

In this paper we investigate how the design of compensation schemes for the employees engaging in inventions affect the firms' and employees' ex ante incentives. We offer several contract theoretic models to address this issue and show the conditions under which risk and incentives to employees are negatively and positively linked. We also examine the case that the courts may intervene the process of determining the compensations and analyze how such intervention distorts ex ante incentives of firms and employees.

### The Mobility of R&D Workers and the Technical Performance

**Yaichi Aoshima** (Hitotsubashi University)

Based on the career data of 718 engineers and researchers working in the semiconductor industry in Japanese companies, we analyzed the influence of inter-organization transfers and in-house transfers (inter-department rotations) on technological achievements. Unlike the discussions in existing studies, the analysis indicated that both types of transfer negatively influence engineers' achievements. According to the analysis, little achievement through inter-department rotations was attributed to the fact that more frequent transfers between departments tend to make workers more isolated from outside information and that they do not have enough time to acquire the professional ability early in their careers. There was a strongly negative relationship particularly between a brief career before the first transfer and technological achievements. On the other hand, the negative relationship between inter-organization transfers and technological achievements was believed to be linked to the fact that more frequent transfers between organizations cause greater separation from the network of personal contacts within an organization. Engineers subject to frequent transfers between organizations tend to share less information with personnel of an organization and to have less experience of inter-department rotations. This is opposite to case of engineers who are promoted quickly, and they feel dissatisfied with the current job, suggesting that there are some problems in the treatment of engineers having many transfers between organizations. Generally, transfers of engineers and inter-department rotations are thought to encourage innovation. This study, however, shows that innovation cannot be promoted through transfers of engineers without an organizational management and treatment system to accelerate the integration of different kinds of knowledge. In an additional analysis, the rapid rotation of engineers increased remarkably at the time

when the Japanese semiconductor industry lost its international competitiveness, indicating the risk of drawing a hasty inference for the effects of inter-department transfers.

Treatment of Scientists and Engineers in Social Relativity

**Masayo Fujimoto** (Doshisha University)

This paper discuss about treatment of Japanese scientists and engineers in means of social relativity compared with the professionals in other fields or with their non-professionals colleagues in manufacturing industry. Previous survey in 1988 described the differences of their treatment among Japan and other developed countries. This was caused by the difference of the wage system between Japanese and other countries. Instead of role wage system in other countries, a seniority wage system in Japan keeps all employees in relative equality instead of the different role. In England or in US, University graduates try to get managing position for higher salary and they are not persisting in industry. On the contrary, Japanese engineers try to continue their scientific or engineering role because this will not make big difference on their salary. Japanese society respects manufacturers so that people are happy work with them. Thus, people tend to be a manager in other countries, Japanese scientists and engineers tend not to be managers. We discuss how Japanese scientists and engineers be treated in today's Japanese society.