24 hours are distributed for work (paid/ unpaid) and leisure. How much time to allocate work and leisure would decide one’s earning, one’s social life, and one’s health condition. Longer working hours would lead more earnings, but at the same time, it will bring less time for sleep, less time for exercise, and less time for leisure. That would also have a negative effect on their children, because lack of time would prevent parents from providing good food or good education for their children.

Technological progress does have an effect on one’s time allocation. Telework provides greater flexibility at work and it can allow workers to use their time more productively. “The right to disconnect”, which is recently introduced in France, is also a good example of the treatment for technological progress in order to secure workers’ leisure time.

Japan is experiencing population aging that is unprecedented in the world, and it is necessary to adopt new forms of work with taking full advantage of technological progress. France is one of the leading countries where the policies towards work life balance was introduced in an early stage, and the reforms are highly regarded in terms of productivity and job satisfaction. We are sure we can learn from the experience of France.

This workshop is co-organized by FFJ and the Panel Data Research Centre of Keio University (PDRC) and funded by Grant-in-Aid for Specially Promoted Research 2017-2021, as the part of the research project: “Economic disparity and intergenerational transfer in the longevity society: Policy evaluation analysis using panel data”.
Various actors have interests to promote that the impact of artificial Intelligence on labour will surpass that of previous General Purpose Technologies. This claim fuels worries about a lack of jobs in the next decades and conversely hopes of a better work-life balance. I argue that the research question should be inverted: in a context of a shrinking working-age population, could AI transfer sufficient labour force and hours for addressing ageing and climate change?

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services in the market to compensate for their time deficit. Based on the estimated results, we demonstrated that the government needs to increase the policy support, especially for single-parents with children and for double-income couples with children.


**Christine Erhel** (Cnam) (co-authored with Mathilde Guergoat)

In this presentation, we will present some results of a European comparative project (QuInnE, Quality of Jobs, Innovation and Employment), which aims to better identify the links between innovation and job quality and test the empirical relevance of the “virtuous circle” hypothesis which is at the heart of Lisbon and Europe 2020 Strategies. First, using classification techniques, we will identify innovation and job quality regimes in Europe and cross them in order to define a joint typology of EU countries. The results show that innovation and job quality clusters appear generally well correlated, in accordance with the variety of capitalism perspective and to the idea of a “virtuous circle” between innovation and job quality. In particular, the situation of Nordic countries illustrates a regime of complementarity between high job quality and high innovation. At the opposite end, most Eastern and Central European countries display low levels of innovation and job quality. However, some gaps also appear, like for instance in France or Estonia in 2012: both countries display a rather high innovation effort but only average or low levels of job quality.

Second, using a dataset of French firms, we will analyze the effect of technological innovation on employment and job quality at firm level. It shows that innovation increases employment and job quality (measured through wages, the number of permanent contracts and working hours). However, this overall virtuous circle between innovation, employment and job quality should be nuanced: first, because not all social groups benefit from firm innovation, as lower-skilled workers and women are less positively affected in terms of employment and wages; second, as the positive effects of innovation appear mainly in Manufacturing, and not in Services.

15.20 | **The Human Sustainability of ICT and Management Changes: Evidence for the French Public and Private Sectors**

**Nathalie Greenan** (Cnam)

We investigate the human sustainability of Information and Communication Technology (ICT) and management changes using a French linked employer-employee survey on organizational changes and computerization. We approach the human sustainability of changes through the evolutions of work intensity, skills utilization, and the subjective relationship to work. We compare in the private sector and the state civil service the impacts of ICT and management changes on the evolution of these three dimensions of work experience. We find that intense ICT and management changes are associated, in the public sector, with work intensification and knowledge increase. In the private sector, ICT and management changes increase the use of skills, but at a rate decreasing with their intensity and without favoring the accumulation of new knowledge. However, their impacts on the subjective relationship to work are much stronger, with public sector employees expressing discouragement, as well as the feeling of an increased effort-reward imbalance when private sector employees become more committed. We find that this divergence is neither explained by the self-selection of employees in the two sectors nor by implementation of performance pay. We identify two partial explanations: one is related to employee turnover in the private sector, the other to the role of trade unions. These results suggest that the human sustainability of ICT and management changes depends on their intensity and on how their implementation takes into account the institutional context of the organization.

16.00 | **Coffee Break**

16.10 | **Inequality through Wage Response to the Business Cycle – Evidence from the FFL Decomposition Method**

**Naomi Kodama** (Nihon University) (co-authored with Izumi Yokoyama and Yoshio Higuchi)

This study explores the change in wage response to the business cycle and resultant wage inequality. First, we find that the pro-cyclical relationship between wage and business cycle has weakened among low-income earners after the late 1990s, despite the fact that wages of low earners had been vulnerable to the business cycle fluctuations before this period, using the Firpo, Fortin, and Lemieux decomposition method. Second, our empirical analyses using the DiNardo, Fortin, and Lemieux decomposition method confirm that the change contributed to mitigating wage inequality among employed people in the subsequent recessions such as the 2008 global financial crisis. This could be explained by the structural changes in Japanese employment system triggered by the financial crisis in 1997, which turned firms’ attitude towards downsizing more aggressive than before. This change affected mainly low-income earners who tend to belong to the secondary segment, while the wages and job security of the high-wage workers who mainly belong to the primary segment have stayed stable even after the structural changes. As a result, employment adjustment has dominated wage adjustment for the low-income earners after the change in the employment practice, which led to the results found in this study.

16.50 | **General Discussion and Prospects**