

Monetary Incentives for Corporate Inventors: Intrinsic Motivation, Project Selection and Inventive Performance

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Abstract:

Using novel panel data on Japanese inventors, we investigate how monetary incentives affect corporate inventors' behavior and performance, as well as how they interact with the strength of intrinsic motivation. We exploit inventors' responses to a policy change in Japan in the early 2000s that forced firms to strengthen monetary incentives for inventors to identify its effect. Our major findings are as follows: (1) while introducing or increasing revenue-based payments is associated with a small improvement in patent quality, such schemes significantly decrease the use of science in R&D projects; (2) the above positive effect of revenue-based payment on patent quality is smaller and the negative effect on scientific intensity is greater in the research areas where risk heterogeneity among potential projects is greater; (3) the strength of intrinsic motivation is significantly associated with the inventor's patent productivity; and (4) strong intrinsic motivation weakens the marginal effect of monetary incentive on inventive productivity, and reinforces the negative effect of monetary incentive on scientific intensity in the research areas where risk heterogeneity among potential projects is sufficiently great. The results imply that strengthening monetary incentives changes project selection towards those that utilize less scientific knowledge.

Keywords: Monetary incentive, Employee-invention, Intrinsic motivation, Patent

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