## **Non-technical Summary**

Economists generally give great weight to the importance of competition in reducing inefficiency. Leibenstein (1966) proposed the concept of x-inefficiency to characterise managerial 'slack', and discussed its relationship to competition. Part of the role of competition may be in facilitating performance-related pay for mangers. In fact, theorists have shown that the relationship between competition, optimal incentive schemes and management effort is ambiguous. In this paper we use a large dataset of establishments in Britain to establish the facts on the relationship between competition and incentive pay.

We provide empirical evidence on the influence of product market competition on the use of incentive pay schemes within establishments. Job and workplace characteristics that make performance-related pay (PRP) more suitable for certain jobs than others, and our dataset allows us to control for most of these. The data we use are drawn from the 1998 Workplace Employee Relations Survey (WERS). This is a 3-part cross-section survey which consists of interview responses from managers, from worker representatives and self-completed employee questionnaires. We use solely the management survey for all our analyses. This consists of responses from a representative sample of 2,191 British establishments. The survey represents the majority of the population of establishments in Great Britain. Almost all workplaces with 10 or more employees are eligible; only agriculture, forestry and fishing and coal mining industries are excluded. Our dataset allows us to control for a rich set of other factors, and to examine the influence that product market competition has on the use of incentive payment schemes.

We also look at the PRP schemes faced by non-managers. For occupation groups other than managers, it seems likely that competition does not directly improve the precision of performance information. Hence if workers are always optimally incentivised by their line managers (given the measurement constraints for their job and the characteristics of their workplace) then we should observe incentive schemes

equally as common in both competitive and non-competitive establishments for non-managers. However, if managers are able to incentivise workers but do so only when their own utility depends on the workers' performance then we should observe*ceteris paribus* more incentive schemes for non-managers when there is greater pressure on managers, either from competition directly or from incentive pay.

In this paper, we show that the degree of product market competition that an establishment faces has a significantly positive effect on the likelihood that it will use a performance-related pay system. This effect holds for all occupation groups. Unsurprisingly, because competition is a characteristic of a market not a single establishment, part of this effect is absorbed by industry effects when they are included in the analysis alongside competition, but these industry effects themselves are highly correlated with competition.

These findings relate to previous theoretical work on competition, incentives and efficiency. There appear to be two opposite effects of competition on the likelihood of PRP. On the one hand, a competitive market itself enforces a discipline on managers, rendering a PRP scheme unnecessary. On the other hand, a competitive market in principle provides a lot of comparative information on managerial performance, hence making PRP schemes easier to set up. Our results favour the latter view. It seems that the owners of firms believe that competitive markets do not squeeze out all the scope for managerial slack, and that sufficient comparative information is available to them to implement PRP.

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<sup>&</sup>lt;sup>1</sup> This is the Workplace Employee Relations Survey 1998 (WERS98), a representative, interview-based survey of over 2000 UK establishments.