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#### ACCEPTED MANUSCRIPT

## Horizontal Mergers and Product Innovation\*

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#### Abstract

We set up a stylized oligopoly model of uncertain product innovation to analyze the effects of a merger on innovation incentives and on consumer surplus. The model incorporates two competitive channels for merger effects: the "price coordination" channel and the internalization of the "innovation externality". We solve the model numerically and find that price coordination between the two products of the merged firm tends to stimulate innovation, while internalization of the innovation externality depresses it. The latter effect is stronger in our simulations and, as a result, the merger leads to lower innovation incentives for the merged entity, absent cost efficiencies and knowledge spillovers. In our numerical analysis both overall innovation and consumer welfare fall after a merger.

JEL Classification: D43, G34, L13, L40, O30, O31.

#### 1 Introduction

The relationship between mergers and innovation is an important question in competition policy, as it is well-established that innovation is one of the main determinants of long-term growth and consumer welfare. Competition authorities typically maintain that horizontal mergers risk reducing innovation incentives. For example, the U.S. Horizontal Merger Guidelines state that "competition often spurs firms to innovate". Similarly, the E.C. Horizontal Merger Guidelines maintain that effective competition benefits consumers by promoting innovation, and that a merger may deprive consumers of this benefit. The U.K. Merger Assessment Guidelines posit that rivalry between firms creates incentives to introduce new and better products.

The position that mergers risk reducing innovation incentive is not universally shared. Some commentators argue that horizontal mergers may rather raise innovation incentives even in the absence of cost efficiencies or knowledge spillovers, by increasing the market power of the merging firms and thus raising the reward from innovation.<sup>1</sup>

In this paper we investigate how a horizontal merger may affect product innovation via its effects on market power.<sup>2</sup> We set out a stylized model which allows us to isolate and study two separate channels for the

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<sup>&</sup>lt;sup>1</sup>Shapiro (2012) summarizes this debate.

<sup>&</sup>lt;sup>2</sup>We focus on product innovation, defined as innovation that increases the quality of existing products. We do not consider the case of cost-reducing innovation (i.e. process innovation).

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