

## Macro Roundup Article

**Headline:** [Distorted Innovation: Does the Market Get the Direction of Technology Right?](#)

**Article Link:** <https://www.nber.org/papers/w30922>

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**Summary:** In the presence of markup differences, externalities and other social considerations, the equilibrium direction of innovation can be systematically distorted. This paper builds a simple model of endogenous technology, which generalizes existing comparative static results and characterizes potential distortions in the direction of innovation. From a positive perspective, the framework links the direction of technology to relevant market sizes (supplies of factors of production working with these technologies and consumer demand), the price of other inputs into the production process (for example, natural resources used in different sectors), markups and regulations. I show that empirical findings across a number of different areas are consistent with this framework's predictions and I use data from several studies to estimate its key parameters. Combining these numbers with rough estimates of differential externalities and markups, I provide suggestive evidence that equilibrium distortions in the direction of technology can be substantial in the context of industrial automation, health care, and energy, and correcting these distortions could have sizable welfare benefits.

**Primary Topic:** Innovation/Research

**Topics:** Academic paper, Innovation/Research, Productivity, Theory

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