

Abstract: This paper quantifies the welfare consequences of the medical arms race in the context of MRI adoption. We build and estimate a model of the vertical structure of the industry where MRI manufacturers sell high- and low-quality MRIs in the up stream market, whereas medical institutions provide medical services to patients in the downstream market. Simulation results suggest that the current free-entry policy in Japan leads to excess MRI adoption. Furthermore, regulating medical institutions' MRI adoption, taxing MRI purchases, or softening competition among MRI manufacturers would increase social welfare substantially by mitigating the business-stealing effect in the downstream market.