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Does Domestic Intellectual Property Right Strength Affect Pharmaceutical Innovation?

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Intellectual Property Rights have been a contentious issue for the past few decades. The conventional reasoning for the legal basis of patents is that it is worthwhile to grant an inventor monopoly rights for a certain innovation that can be easily mimicked, thus guaranteeing the inventor the fruits of her labor. The economic basis for patents is that if an inventor or firm knows that they cannot be granted a patent for a potential invention, then they will not be able to profit and thus there will be no incentive to innovate. While granting a monopoly may spur innovation in certain cases, monopoly pricing undoubtedly lowers consumer welfare. In addition, while the idea that patents spurring innovation seems logical in most industries, economic research has not strongly supported this argument. The question I address in this paper is whether domestic intellectual property right strength is of importance specifically for pharmaceutical innovation. I use pharmaceutical research and development expenditure as a proxy for innovation to run panel regressions on 23 OECD nations. I do comparison regressions between pharmaceutical R&D and total R&D to see if patent strength is of more importance to the pharmaceutical industry. I use two indexes of patent strength as independent variables, one for general patent strength and one specifically for the pharmaceutical sector. I find that for pharmaceutical patent strength, higher levels lead to an increase in innovation, with a positive marginal effect only occurring at relatively high levels of patent strength. In the comparison regressions using total R&D, I find that at lower levels increasing intellectual property strength increases innovation up to a certain point, and that for most developed countries the optimal patent strength has already been reached.