International diffusion and intellectual property rights: An empirical analysis

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Abstract

Does a stronger intellectual property rights regime lead to the faster diffusion of new products and technology? While there is a presumption that this is the case, our analysis of data on the international release patterns of Hollywood movies suggests a more complex story: although moderate standards of IPR encourage the spread of movies, either very weak or very strong property rights tend to slow the speed with which American movies are released abroad. This empirical finding is robust to a wide variety of specifications. Overall, it appears that while some recognition of IPR may encourage diffusion, very strong IPR may actually retard the speed of diffusion.

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The increasing dependence of firms on copyrights, trademarks and patents to protect their goods and services in the international marketplace has elevated the protection of intellectual property to the center of international economic diplomacy. While efforts have sought to strengthen protections through both multilateral initiatives (WTO’s TRIPS agreement) and bilateral pressures (NAFTA, Special 301 of the Trade Act), the complexity of intellectual property rights (IPR) along with the redistributive implications of reform

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means that there is no clear-cut first best solution that countries can work towards. Consequently, there has been much debate over how the global system of IPR should be structured.

In these debates, proponents of reform have claimed that stronger IPR, while likely to involve a static cost, will generate the dynamic benefit of an increased rate of innovation. However, new results have emerged that cast doubt on the ability of stronger IPR to increase the rate of innovation (Helpman, 1993; Branstetter and Sakakibara, 2001). Yet, an increased rate of innovation is not the only benefit that has been suggested. It has become increasingly common to assume that the speed with which innovations diffuse to a country is also likely to increase in response to stronger IPR (World Bank, 2001; UNDP, 2001). While this conjecture seems relatively intuitive, existing theoretical work suggests that the relationship between market power (one aspect of IPR) and diffusion may not be so simple (see Reinganum, 1981; Quirmbach, 1986). Given almost every country receives the best part of its technology from abroad (Keller, 2001), determining whether stronger IPR leads to faster diffusion is potentially very important.

However, no empirical study has tried to assess the relative importance of IPR for the international diffusion on new goods and services, resulting in a lack of empirical evidence to guide this aspect of the debate. It is the goal of this paper to provide evidence on this issue. To gain insight into the association between IPR and diffusion, the behavior of the major Hollywood studios is studied with a focus on how they exploit IPR in their global operations. Hollywood offers an especially attractive setting in which to study this association. In particular, it is an industry where there are no technological barriers to the international diffusion of new goods/services (i.e. Hollywood movies). This provides an environment where diffusion, in principle, could be instantaneous, and so supplies an ideal benchmark against which to measure observed behavior. In fact, the international diffusion of movies is surprisingly slow, with the average lag being around 3 months. Given the size of this lag, when no appreciable lag was expected, one aim of this paper is to explore why it exists, and try to determine the role, if any, of IPR.

One would expect IPR to be important in the decision making process of Hollywood studios. Given the high upfront costs and the relatively low cost of duplication, the success of Hollywood relies heavily on the ability to protect its intellectual property both within the US and in foreign markets. Indeed, foreign markets now account for a greater share of revenue than the domestic US market, a situation that has contributed to the audio–visual sector being ranked as the second largest exporter for the US. The global success enjoyed by Hollywood also means it is often cast in the role of villain in debates

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1 For an indication of the redistributive implications, see McCalman (2001).
2 For evidence on the relationship between IPR and FDI that uses data from Hollywood, see McCalman (2004).
3 To provide a context, the typical Hollywood movie is simultaneously released in all major cities within the US.
4 The annual submission from the Motion Picture Association to the USTR is almost exclusively concerned with the documentation of the sources and degree of piracy in foreign markets. See for example Motion Picture Association (1998).
5 This is a claim that is routinely made, see for instance the discussion of Peter Sutherland (Director General of the GATT at the time) in relation to the Uruguay Round negotiations (Sutherland, 1993). For an attempt to establish the validity of the claim see Acheson and Maule (1999).
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