An Empirical Analysis of Hold Percentages, Wagering Activity, and Slot-Win

ABSTRACT: This paper examines slot machine financial performance between 2004 and 2018. The latter part of this period coincides with a well-documented decline in slot-play, rising hold percentages, and stagnant slot win amounts. The paper documents three principal results. First, increases in hold percentages are attributable almost exclusively to an increase in the popularity of low-denomination machines, which carry high hold percentages. In contrast, hold percentages are largely flat when one examines them by machine-denomination. Second, there is little association between changes in hold percentages and wagering dollar volume, suggesting that players do not alter their aggregate wagering activity in response to changes in hold percentages. And finally, there is a positive association between increases in hold percentages and slot win, suggesting that an increase in hold percentages, coupled with an apparent lack of change in wagering behavior, results in increased win per unit. These results coincide with changes in the form and function of electronic gaming devices, many of which were designed either to increase the speed-of-play or to broaden the appeal of the games. The narrative that emerges is that customers are gravitating toward low denomination units, perhaps to maintain time-on-device in the presence of limited bankrolls.

IMPLICATION STATEMENT: The paper addresses industry concerns that rising hold percentages have not produced significant associated increases in slot-win. It provides information about the underlying cause of rising slot hold percentages, and the extent to which those changes are associated with corresponding changes in wagering activity and slot revenue.