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Study looks at the impact of bid credits for small businesses in FCC spectrum auctions

- **Spectrum has become a valuable commodity in today's increasingly technology-dependent and driven world**
- **The Federal Communication Commission (FCC) first ten spectrum auctions generated over \$23 billion dollars in revenue**
- **Study looks at the revenue and distributional aspects of a FCC policy that effectively discounts spectrum for winning bidders that are small firms**

Given advancements in telecommunications such as 5G and new use cases from the Internet of Things (IoT), spectrum is more valuable than ever, and how it is allocated is increasingly scrutinized. Assistant Professor of Economics at the University of Kentucky and ISFE Affiliate Benjamin Rosa recently released a working paper studying one aspect of this process that aims to help allocate spectrum to small businesses.

The FCC sells spectrum licenses through auctions. In keeping with regulations requiring them to ensure that small businesses are able to acquire spectrum licenses they routinely offer assistance in the form of bid credits. These bid credits require small businesses to pay only a proportion of their winning bid to purchase the license from the FCC. While successful at increasing small business participation in auctions, bid credits raise concern have come under concern for their potential negative impact on revenue. While small firms do end up paying less, the increased bidding competition and activity drives up the cost of winning bids for larger firms, allowing revenue to increase or decrease in auctions where bid credits are given.

Rosa identifies empirical evidence of a second unintended consequence of this scheme, known as the “exposure problem.” Spectrum bidders tend to have complementarities across different spectra, that is, a license may be more valuable if a complementary license is owned or also won during a spectrum auction. Since firms bid on individual licenses instead of bundles, a firm may end up winning an undesirable bundle of licenses at a price higher than their value.

Rosa documents that bid credits tend to intensify the exposure problem for firms, leading some firms to reduce their maximum bids, and counteracting the positive impacts from the increased bidding competition. However, he also simulates the FCC bidding process and finds that increased revenue from competition still tends to overcome the exposure problem and revenues for the FCC tend to increase when bid credits are assigned to small firms.

Rosa noted, “My calibration indicates that large firms have high enough values that the FCC could have used a 50 percent bidding credit with a minimal effect on revenues. A credit of that magnitude would have increased the proportion of small winners by 36.8 percent. These results suggest that the FCC may have had considerable flexibility in changing the credit without adversely affecting revenues.”