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Toward Understanding the Competitive Environment of High-Frequency International Broadcasters

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Abstract. For more than 70 years, high frequency broadcasters have been operating internationally. An understanding of the competitive environment in which these broadcasters operate may contribute to an understanding that the value these broadcasters bring to this unique communications segment. High frequency transmissions are able to bridge long distances, so long that signals are inter-country in that the signal crosses many borders. Broadcasters use high frequencies to primarily inform and educate, but are also helpful in relief efforts in addition to providing some entertainment programming. High frequencies are especially invaluable within developing countries and emerging markets.

The spectrum of available high frequencies tends to cluster within various ranges. Frequency collisions are the inevitable result of this clustering, that is, one broadcaster's signal interferes with a signal from a different broadcaster. Unlike the FCC model in the United States that allocates frequencies on a fixed range basis, high frequency international broadcasters voluntarily and informally coordinate their frequency spectrum through an international association.

This paper will discuss various techniques to avoid frequency collision that include not only technological solutions, but, self-policing and enforcement, negotiation, and elements of game theory that result in the determination of a Nash equilibrium where each broadcaster chooses an optimal strategy given the strategies that other broadcasters are pursuing. The decision making model may prove to be useful to other industries where self-regulation is likely or in situations where there is a high probability that more stringent regulations will result unless economic agents act in a manner to reduce losses in both social and economic welfare.

The paper will profile the competitive environment of high frequency international broadcasters with respect to supply and demand trends in relationship to transmitter hours, costs of production, pricing, elasticity, market structure and power, the extent of firm interdependence, market potential, and the degree to which alternative media outlets are either strong or weak substitutes. The paper will address market irregularities, including political considerations and other country risk factors that affect the distribution of high frequency programming across national borders.

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