In the U.S. equity market, high-frequency trading firms with access to fast networks engage in latency arbitrage. In this dissertation, we study both theoretically and empirically whether the artificial latency (“speed bump”) implemented by Investors Exchange (IEX) and NYSE American protects slow traders from HFT predatory trading and improves market quality.

In the first chapter, we look at daily TAQ data around the implementation of these two speed bumps, and find empirical evidence that the IEX speed bump improves the overall market quality, while the NYSE American speed bump makes little difference. We find that the IEX speed bump has a larger impact on more volatile stocks and stocks traded on exchanges closer to IEX, while the NYSE American speed bump mostly affects trading handled by its Designated Market Makers. We also study latency reductions on several NYSE exchanges and find that they do not improve market quality.

In the second chapter, we build a model to study how a speed bump affects investors and the market. Fundamental investors, high-frequency arbitrageurs and market makers trade on two exchanges. When we introduce a speed bump to one of them, overall price discovery improves while the market has lower liquidity. Fundamental investors become more profitable at the expense of HF traders, while uninformed investors can be better or worse. We find that investors’ trading behavior depends on information production, communication between market makers, as well as venue choice of uninformed investors, which in turn determine the impact of introducing a speed bump.