In the paper Confused, timid and unstable: Picking a video streaming rate is hard the author post a question called downward spirals effect which is that rating selection based on inaccurate estimates can trigger a feedback loop, leading to undesirably variable and low-quality video. The author investigatethree CDN services -- Hulu, Netflix and Vudu, measure the performance and present the insights of the causes. The author find that the reason cause feedback loop here is that the feedback is failed to control the fair share. As the author says "The HTTP layer is simply not privy to continuous high-fidelity feedback about the fair share at the bottleneck link". The author comes out two methods to solve this issue. First is start from both TCP and HTTP to achieve steady-state fair share. The second is that the HTTP do not attempt to estimate bandwidth at all.

In the paper A Control-Theoretic Approach for Dynamic Adaptive Video Streaming over HTTP, the author gives us a solution to solve the video Qoe issue. As the hard problem addressed by the first Paper.The author develop a principled control theory model to reason about a broad spectrum of strategies. They use the model predictive control algorithm to optimize the throughput. It is a model predictive control approach to optimally combine buffer occupancy and throughput predictions in order to maximize the user’s QoE.