

# Report on Master Thesis

Institute of Economic Studies, Faculty of Social Sciences, Charles University in Prague

<b>Student:</b>	<b>Waheed Brown</b>
<b>Advisor:</b>	<b>Martin Gregor</b>
<b>Title of the thesis:</b>	<b>Seller Strategies for Virtual Auctions Using Real Currencies</b>

This thesis has an ambition to study virtual auctions using real currencies, using a video game called Diablo 3. This topic is fascinating, and innovative in two respects. First, we have an (online) auction for purely virtual goods. Second, the auction house combines virtual goods, virtual currencies and real currencies. The first innovation is itself relatively minor since the literature knows quite well about online second-price auctions that employ proxy-bidding. In fact, the analysis is even more simple since sellers cannot set a secret reserve price. What is truly novel is the second aspect, namely the existence of simultaneous auctions in nine real-world currencies and also in the in-game currency.

In the thesis, Waheed reviews at length competitive bidding under proxy-bidding and incomplete information, but his main focus is finally on the seller's part, namely on the optimal seller's choice of the minimum bid. Effectively, Waheed reviews and applies Paarsch and Hong (2006) in the thesis. In this respect, the algorithmic approach performed in Matlab is fine (see Section 8), but I prefer to work directly with a closed form solution as in Section 6.8.

Next, Waheed works with a time series of daily sale prices of one particular item (in fact two series in two currencies). There was a trouble to obtain any data from a game producer, and the series were finally obtained from a third party. There are two auction houses (gold and USD) where a particular good can be sold. Waheed asks if the arbitrage price affects the observed price of the good. Unsurprisingly, there is a high correlation between the two prices. The data reveal that over time, selling prices decrease. It is however difficult to make any observation out of that because this aspect may involve demand and supply shocks in the game, and also learning/signaling effects. The evolution of variations of prices cannot be exploited either because only daily averages are available.

To sum up, this is a promising topic and the thesis is written in excellent and fluent English. Still, the data did not allow to put the theory on the optimal distribution of selling prices into test. The theory in the thesis is only reviewed, not developed (indeed, this was not the main aim), and unfortunately many terms from auction theory are not explained well for a general economist. For example, to introduce „a game in a series of repeated games“ (p. 2) is simply impossible for a game theorist.

I appreciate that Waheed developed the work very independently, but I must also say that the structure and content could be really improved. Still, in my opinion, the thesis meets standards for a Master thesis at our department.

## **SUMMARY OF POINTS AWARDED** (for details, see below):

<b>CATEGORY</b>		<b>POINTS</b>
<i>Literature</i>	<i>(max. 20 points)</i>	18
<i>Methods</i>	<i>(max. 30 points)</i>	15
<i>Contribution</i>	<i>(max. 30 points)</i>	22
<i>Manuscript Form</i>	<i>(max. 20 points)</i>	16
<b>TOTAL POINTS</b>	<i>(max. 100 points)</i>	<b>71</b>
<b>GRADE</b>	<b>(1 – 2 – 3 – 4)</b>	<b>2</b>

**NAME OF THE REFEREE: PhDr. Martin Gregor, PhD**  
**DATE OF EVALUATION: June 12th, 2013**



Referee Signature