# Economic Policy

# Touts Out: How A New Pricing System Could Solve Ticket Resale's Problems

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*Eoin Cambay to analyse the market for tickets for popular events such as concerts by looking at all of the actions that the major actors in the market have taken in recent years that have caused such public attention, and explaining how the two-tiered nature of the market creates incentives for this behaviour. He/she then goes on to explain how these actions have impacted consumers, and outlines the main regulatory actions taken to remedy this. They then go on to propose a solution to the inefficiencies in the market by offering different options to consumers, while still satisfying the major actors in the market.*

## Introduction

Ticket resale is a contentious topic as public outcry concerning exorbitant prices has led to several ongoing investigations at home and abroad. This paper will begin by describing the interdependent nature of primary and secondary markets and the buyer uncertainties that define them. This will serve as a foundation to discuss the principal topic, recent developments in the secondary market and whether this sheds new light on previous investigations into potential anti-competitive behaviours. The current model of single-period fixed prices coupled with strategic capacity rationing to retain tickets for the secondary market, reduces consumer welfare and harms the overall ticketing market. This paper will go further, by reasoning that the current resale market is inefficient, and argue that the introduction of a more flexible approach using options pricing consumers will enjoy more efficient allocations. To achieve this, this paper will seek to amalgamate the approaches of Cui, Duenyas, Sahin (2013), and Leslie, Sorensen (2009,2013). Effective rationing is assumed as described by Svensson

(1980), accounting for the stochastic nature of primary market ticket availability.

## Markets & Buyer Uncertainties

There are two ticket markets - primary and secondary - which are interdependent; outcomes in the former affect the latter and expectations of the latter affect the former. Within these two markets are three market players - producers, brokers and consumers - to whom economic surplus is unevenly reallocated. Brokers and consumers are buyers, but only consumers gain utility from attending the event as brokers are purely speculative.

### Primary market:

In the primary market, tickets are sold at a fixed nominal value, plus charges. Each buyer has access to information on expected demand, approximate capacity, size of venue, and the number of players. The buyer is presented with a trade-off between advantages and disadvantages of early arrival, with higher quality seats likely to sell faster yet subject to time costs. The assumption of heterogeneity in both cost and benefit of early arrival presented by Leslie, Sorensen (2013) is maintained, as otherwise buyers would arrive according to their willingness to pay and the primary market would be efficient. As most artists are dependent on a loyal fan base whom they do not want to outprice, they are reluctant to set prices at market clearing levels.

### Secondary market

In the secondary market, tickets previously sold are put up again for sale. The secondary market has several players; ticket resale marketplaces (e.g. StubHub), who facilitate resale and profit from a percentage fee of the resale price, consumer resellers, fair exchange platforms, general online platforms and speculative buyers. Currently, Ireland has no prohibition on ticket resale and no regulation regarding price of resale tickets with respect to their nominal value on secondary markets (DJEI,2017). Waterson (2016) states a 25-30% combined fee is levied against buyers and sellers on secondary market ticket platforms, higher than in the primary market. Many point to the mismatch between high demand and the limited supply of tickets priced below the market clearing price as the primary reason for the existence of a secondary market. Evidently the supply side is fixed, thus proponents argue for demand-based pricing. Yet this leads to a situation where consumers priced out of the secondary market would similarly be excluded from the primary market. Leslie, Sorensen (2013) showed that an inefficient primary market with resale opportunities, incubates rent-seeking and transaction costs which diminish the allocative efficiency gains from a secondary market. Frictions, regulatory or self-imposed, which increase the transaction costs decrease total surplus.

## Buyer Uncertainties

Primary market decisions are guided by expectations of the secondary, within which several buyer uncertainties play a role.

1. Stochastic nature of buyers' arrival in primary market
2. Unforeseen schedule conflicts: represented in the consumer decision path figures as a probability v' prime of a clash and a probability 1 - v' prime of no clash [Figure 1]. This is resolved between primary and secondary market under fixed pricing and between the first and second duration of the primary market under options pricing.
3. Randomness in secondary market buying
4. Event specific shock to demand: although popularity is apparent to buyers, the primary market price will not fully reflect this. The secondary market is where the full extent becomes evident.

Selling of tickets below nominal value occurs if consumers have purchased but are presented by uncertainty b) or if speculators have overestimated demand as per uncertainty d). Furthermore, event consumers are often asked to purchase tickets far in advance, such that accounting for scheduling conflicts is difficult. An efficient secondary market increases consumer surplus by allowing consumers who previously purchased a ticket and cannot attend to resell and providing consumers who did not participate in the early market access to tickets.

# New Developments in Secondary Market & Closeness of Competitors

Although the Irish and U.K. markets are geographically distinct, they accommodate the same market players given their proximity, shared language and similar culture, with the exceptions of consumers and venues. Both markets have undergone large-scale consolidation and vertical integration with a handful of players dominating the market. Whilst the secondary market has always been characterised by high demand and limited supply, it has been altered by the rise of online selling. (DJEI,2017)

As many venues are now owned by ticket distributers, distributors have gained further control over the primary market. Although artists still largely control ticket prices, the responsibility for distribution of tickets lies with the venue and promoter. An example of the pervasiveness of a single player's influence over the process is Live Nation (promoter), the parent company of the 3 arena (venue) for whom Ticketmaster (ticket distributer) allocates primary market tickets. The caveat to this is that whilst in theory all the activities, represented under the vertical integration of a market player such as Live Nation, are discrete. If inventory empties on a primary market site such as Ticketmaster, consumers are redirected to one of its secondary market sites. Through the anonymised settlement data presented by Waterson (2016), it is calculated that ticketing distributers used strategic capacity rationing to retain 4.96% primary market tickets to be sold on their own secondary market platforms. This is supported by Smith (2009) who states that Ticketmaster regularly lists hundreds of top tiered tickets on its secondary market resale site.

In 2002, at the time of the merger between Ticketmaster and Seatwave, the U.K.'s Competition and Markets Authority found there to be sufficient competition in the secondary market (CMA,2015). Specifically, the CMA looked at whether the merger would result in the realistic prospect of a substantial lessening of competition, and if it would subsequently lead to customer and input foreclosure. Both possibilities were dismissed on the basis of a small route to market, and limited incentives for producers to set price-floors on secondary market ticket prices (CMA,2015). Furthermore, the CMA did not find primary tickets to be a constraint on secondary market tickets. The merger was also investigated by the Irish Competition Authority under section 5 of Competition Act, 2002. Here, the relevant market was that of outsourced ticketing services for events with a national or international appeal (CA,2006). At the time, Ticketmaster held a monopoly market share of 100%, far more than it now holds. The CA found Ticketmaster not to be abusing its market dominance given two major promoters kept it from doing so.

This begs the question, do the CMA's and CA's conclusions remain valid now in a ticketing market which differs greatly from its standing in 2002?

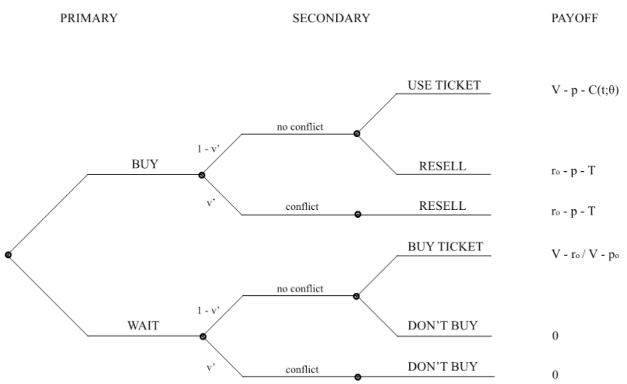
Firstly, it is important to recall the current interdependent nature of ticketing's two markets, which has grown in recent years. Customer foreclosure is now apparent as primary market suppliers are reselling tickets directly on their secondary platforms, at a higher price with added revenue accruing to the now merged entities. This is indicative of coordinated effects. Input foreclosures are harder to demonstrate given that there are several other large players with similar arrangements in the Irish and U.K. markets, and as each firm maintains its proprietary ticketing and data system, this points to existing competition. This might not be the case outside the markets considered here, given NYAG Schneiderman (2016) found NFL teams have implemented price floors on their official secondary platforms, even citing excessive service charges as potential evidence of abuse of monopoly power. The crucial difference between this and the market under study, lies with who sets the price.

The primary price-setting power resides with the artists themselves and, as such, the initial pricing power is outside the reach of the vertically merged entities. Additionally, as no player is dominant, the market remains competitive. This is further justified by the presence of other resale opportunities, be they via traditional street touts or online marketplaces. The presence of other opportunities also negates tacit coordination.

## Consumer Welfare & A New Pricing System

If we assume the principal consumer interest is the ability to access events at a price that equates their realised valuation, Waterson (2016), then the current market conditions are adequate. However, ticket prices should look to reward long term supporters, rather than aim for short-term profit maximisation. In this aspect, the current resale market is insufficient. Given the interdependent nature of ticketing markets, actions to increase consumer welfare must take place in the primary market.

**FIXED PRICING**



The Call for Evidence survey (Waterson, 2016) proposes a 'cooling off period' where primary market consumers can resell their tickets to the seller, which thereafter can be resold. Additionally, prices below the market clearing rate is a magnet for touts, and without clear constraints, tickets will quickly migrate to the secondary market, resulting in reduced consumer welfare via higher prices and fees.

Consider the following. Options allow buyers to reserve a seat for a nominal fee, the option price (x), this gives the right but not the obligation to purchase the ticket, at a strike price (p). Both prices are readily available in the primary market, and selling of options by producers past capacity is not allowed and options are non-transferrable between buyers. Under fixed pricing the full ticket value is lost if the buyer is unable to attend or resell, however under options pricing only x is lost.

Consumer's exercise options if:

$$\max(V, (1-T)\gamma_0) > \rho$$

Thus, if either their realised valuation (V) is greater than the strike price (p) or the payoff from ticket resale is greater than the strike price.

Speculators exercise options if:

$$(1-T')\gamma_0 > \rho$$

Given speculators have no value in attending, the option is only exercised if the payoff from the ticket resale is greater than the strike price. If options reduce resale then they also reduce low-valuation buyers' incentives to purchase tickets, thus off-setting the costly effort of the arrival game presented under fixed pricing. Left unchecked arrival game costs erode gains from reallocation. The producers' optimal price occurs when:

$$x^* + \rho^* < \rho_0^*$$

where $\rho_0^*$ represents the regular priced ticket in the secondary market. Producers should set x* at minimum level which incentivises buyers to purchase options, whilst setting a high $\rho^*$. The reason for a high strike price is twofold, it suppresses consumer resale while also ensuring a large pool of expired options, and thus tickets to sell in the second duration at a raised price. Options pricing by default allows strategic capacity rationing through control of the strike price. Importantly whilst under fixed pricing this would reduce consumer welfare the same cannot be said under options.

Figure 2 shows the consumer's decision path under this scenario, demonstrating the reduction in the resale market. Here, resale opportunities are diminished and potential consumers losses reduced. The producers are now directly competing with speculators.

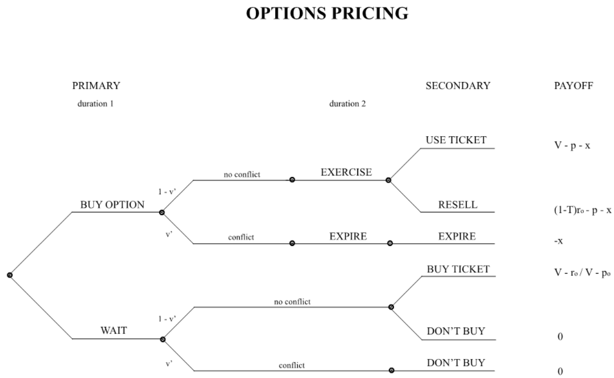



*Figure 2: consumer decision path under options pricing*

# Conclusion

Despite ongoing investigations into the secondary ticket market, this paper does not find evidence of anti-competitive behaviour. However, it is apparent that consumers are being negatively impacted by both limited primary market availability and high secondary market prices. The ticketing industry stands at a crossroads, public anger is at boiling point, policy makers have threatened to use their powers to enact regulation and artists are being accosted by apoplectic fans. Although the players in the market are currently acting fairly, it is submitted that the current situation is unsustainable. To solve this an options pricing method should be adopted by all market players. This would reduce the resale market, and thus that of speculative opportunities. The advantages for producers and buyers, are that of maintaining producer surplus and accounting for buyer uncertainties, and increasing consumer welfare respectively.

# Appendix

| VARIABLE | EXPLANATION |
|---|---|
| $V$ | Realisation of valuation, $V=0$ for speculators |
| $x$ | Option price |
| $p$ | Strike price |
| $r_0$ | Resale price |
| $T$ | Consumer transaction cost |
| $T'$ | Speculator transaction cost |
| $C(t;\theta)$ | Arrival cost under fixed pricing, $t$ = time, $\theta$= buyer type |

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