The Regulation of Airport Landing Slots

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RATIONING SCARCE RESOURCES

- In a "Tragedy of the Commons" approach, unregulated airlines tend to "overgraze the commons" at popular airports during high demand times, saturating airport and airway capacity.
- Rationing scarce resources has never been an easy task. In a market system, resources are allocated to their highest valued use based upon the law of supply and demand—consumers bid for goods they want through the pricing system; producers promptly provide them to those bidding highest.
- In contrast, public resources, particularly infrastructure built by government for public use, typically are rationed by government.





World Air Traffic Growth



WHAT IS A "SLOT"?

- A "slot" is the right to take off or land an aircraft at an airport—in effect, a "reservation" for takeoffs and landings.
- The authority to take-off or land a single aircraft is referred to as a "slot." Thus, a round-trip flight to and from an airport requires a pair of slots.





SLOT RESTRICTIONS

- Landing slot restrictions were originally imposed to reduce air traffic congestion and delays.
- At many congested airports, where capacity arguably exceeds demand, governments have divided runway utilization into timedefined segments known as slots.
- By the end of the 1990s, more than 130 airports around the world were slot-controlled.
- In the United States, five major U.S. airports are slot-constrained by federal decree—Chicago O'Hare, Washington National, and New York LaGuardia, Kennedy and Newark.





Jet blast of departing and arrive aircraft can cause severe physical harm esulting in extreme bodily harm and/or death

DANGER

EATING ACAD



LANDING SLOTS AS OPERATING RIGHTS

- Landing slots are similar to gates in the sense that both carry with them the economic equivalent of an operating certificate.
- Without a slot and a gate, an airline cannot operate.
- Where there is a finite number of such gates or slots, their value lies, in part, in their ability to create, on the one hand, or circumscribe, on the other, competition.

Constricted competition elevates consumer prices.

SLOTS and CURFEW RESTRICTIONS AS ENVIRONMENTAL PROTECTION

- A number of airports(such as John Wayne Orange County Airport, California) are slot controlled by local airport proprietors, usually for purposes of reducing noise. Most European airports are curfew restricted as well.
- Environmentalists fear the elimination of slot restrictions will blast residents with noise. Small communities fear slot elimination will cause them to lose access to congested airports.







GOVERNMENT REGULATION

- Several approaches have been attempted to ration slots, and each has produced its own set of problems:
- •Governments or airports have distributed them to carriers via regulatory fiat;
- •Governments have allowed airlines to divide them up by according antitrust immunity to scheduling committees;
- •Governments have revoked slots from incumbents, or created a pool of new slots, for distribution to new entrant airlines, foreign carriers, or to provide service to small communities.
- •Governments have allowed the trading of slots; and
- •Governments have transferred slots to airlines, and allowed them to buy and sell slots in the market.



 One promising rationing mechanism which deserves more attention is "peak period" pricing, whereby carriers pay more for slots when demand is high, and less for slots when demand is low.





Before 8pm: Fast, easy rides at normal prices. 8–10pm: May be moderate surge as people hit the town. 10:30-12:15am: Ultra-pro-tip: open Ubers are everywhere right before the ball drops. 12:15-2:30am: Most EXPENSIVE time of the evening; everyone is on the move at exactly the same time. 3:00am-dawn: Prices will quickly drop and return to normal rates.



AIRLINE SLOT REGULATION

- Outside of the US and EU, airlines engage in self-regulation of slots:
- IATA engages at overall and bi-annual worldwide schedulecoordination committees; and
- Airlines engage in local coordination at individual airports through their own scheduling committees.



GENERAL PRINCIPLES OF ALLOCATION

- GRANDFATHER RIGHTS incumbents enjoy priority rights based on holding slots during the prior period;
- USE IT OR LOSE IT carriers lose a slot unless it is used a certain percentage of time during the allocated period;
- PRIORITY FOR REGULAR SERVICES more frequently used service gets priority over seasonal, charter or occasional services; and
- 4. POST-ALLOCATION TRANSFERS air carriers can trade slots having broadly similar operating characteristics.





US HIGH DENSITY SLOT RULE - 1968

- Promulgated in 1968, the DOT High Density Rule designated several airports (i.e., Chicago O'Hare, New York's LaGuardia, Kennedy, and Ronald Reagan Washington National) as high density airports and allowed the FAA to cap the number of permissible hourly Instrument Flight Rule [IFR] operations (takeoffs and landings).
- The High Density Rule has been amended several times since initially promulgated, to address issues such as the number of authorized operations, the specified controlled hours at airports, the minimum percentage of slot use required to avoid forfeiture, and the size of aircraft allowed at the airports.



SLOT RESTRICTIONS

Slot restrictions have the following characteristics:

The number of slots varies from airport to airport;

•Slots are allocated among specified classes of users—air carriers, commuter carriers, and other operators (general aviation and charters); and

•Slots must be used 80% of the time over a two-month period or they will be considered dormant and withdrawn by the FAA (though special rules attempt to accommodate bankruptcy).





FAA BUY/SELL SLOT RULE – 1986

- The FAA "Buy-Sell" Rule permits airlines to sell slots at the four High-Density airports. The FAA reserved the right to revoke them at any time.
- Carriers holding slots on December 16, 1985, were "grandfathered" in—that is, they were effectively given the slots they held on that date.
- Slots not used regularly were deemed dormant and subject to recapture by the FAA, and along with other newly available slots, could be distributed by lottery. The FAA could also recapture slots for "operational reasons." International and general aviation slots were treated separately.
- Non-carriers could hold slots—something of significance for airlines wishing to use their slots as collateral for loans. Hence, slots could be bought, sold, leased or mortgaged on the secondary market.
- In order to avoid the recapture of dormant slots, owners of slots were allowed to lease them to other carriers.



The Market Value of a Slot

Four measures have been used to determine the value of a slot:

•*The Economic Value* —To the incumbent airline, the value of a slot is equivalent to the discounted present value of the net profit stream from the fare premium it is able to charge;

•*The Sales Value* —To the prospective buyer, the value of a slot is the incremental earning power afforded by slot access; it will vary with the number of slots, the time period they represent, and the high density airport to which they provide access;

•*The Collateral Value* —To the lender, their value will be discounted because of the risk associated with such collateral in terms of the possibility of recapture, or a change in governmental policy;

•*The Accounting Value* —To the airline holding or seeking them, their value will vary depending upon the accounting treatment they are given, with some carriers bundling their value with gates, while others carrying them on their balance sheets at book value.



Opposition to Buy-Sell

Parties opposed to the Buy-Sell rule objected on four grounds:

- •It would give an undeserved "windfall" to incumbents by allowing them to capitalize on property belonging to the public;
- •By enabling the growth of market power, it would increase air fares;
- •It would cause slots used for service to small communities to be outbid by carriers seeking to serve more lucrative routes; and
- •It would create anticompetitive incentives for large carriers to outbid smaller carriers for slots.





PROBLEMS WITH THE BUY-SELL SLOT RULE

- Since the Buy-Sell Slot Rule, by and large, the major carriers have been the purchasers, and the early new entrant carriers the sellers, of slots.
- Average fares at slot-constrined are significantly higher than at other airports.





EXAMPLES OF SLOT SALES – U.S.

- In 1996, it was reported that "new airlines have to pay as much as \$2 million to buy a slot from one of the majors to fly into airports such as LaGuardia...."
- In 1993, slots at O'Hare traded at \$2 million or more; United reported that each of its slots at O'Hare generates nearly \$5 million on average in transportation revenue annually.
- In 1992, USAir purchased 62 LaGuardia jet slots and 46 commuter slots, 6 national slots, a terminal under construction and flight kitchen for \$61 million.
- In 1991, USAir purchased 10 Washington National slots and 12 LaGuardia slots for \$16.8 million (approximately \$760,000 per slot). USAir purchased 8 LaGuardia slots for \$6 million (approximately \$750,000 per slot). American Airlines purchased 12 LaGuardia slots and 10 National slots for \$21.4 million (approximately \$970,000 per slot). Continental purchased 35 LaGuardia slots by assuming \$54 million in Eastern Airlines debt (approximately \$1.5 million per slot). Delta purchased 5 LaGuardia slots for \$3.5 million (approximately \$700,000 per slot).
- In 1990, American Airlines purchased 14 National and LaGuardia slots, and it was reported that "slots at National and LaGuardia typically sell for between \$500,000 and \$1 million each, depending on the time of day in which those landing and takeoff rights can be used." American Airlines purchased 10 LaGuardia slots and two Canadian routes for \$10 million.
- A 1990 DOT study found that the value of all slots at four high-density airports was approximately \$3 billion, or \$850,000 per slot. When accompanied by gates, the value of slots doubled.



EXAMPLES OF SLOT SALES - HEATHROW

Date	Vendor	Acquirer	Number	Value £
2002	BA Connect	BA	5	13
2003	United Airlines	BA	4	12
2004	Flybe	Qantas, Virgin	5	40
2006	BWIA	BA	7	5
2007	Malev	BA	2	7
2008	Atalia, GB, Air France	Continental	4	105



FAA AUTHORIZATION ACT OF 1994

The Federal Aviation Administration Authorization Act of 1994 authorized the Secretary of Transportation to grant exemptions from these requirements to enable new entrant air carriers to provide air transportation at high density airports (other than Ronald Reagan Washington National Airport) if he finds both that the public interest so requires and that exceptional circumstances exist.





DOT IMPLEMENTATION

- After a rocky start, the the DOT embraced a more generous policy of awarding exemption authority in *Application of Frontier Airlines*. DOT would find "exceptional circumstances" to exist warranting an exemption from the High Density Rule where: (1) applicants would fly jet aircraft that meet Stage 3 noise requirements in the market; (2) there is a reasonable expectation that the proposed service would be operationally and financially viable; and (3) the applicant either (a) will offer new nonstop service where none now exists, or (b) has a demonstrated potential to offer low-fare competition, there is single carrier service and the market could support competition, or the existing carriers do not provide meaningful competition.
- Under these criteria, new entrant airlines were able to inaugurate new competitive service to a number of slot-constrained airports.
- DOT also launched an experimental program of allocating slot exemptions to selected communities for the purpose of assisting them in securing service to slot-constrained airports.



Wendell H. Ford Aviation Investment and Reform Act for the 21st Century [AIR-21] of 2000

AIR-21 began a phase-out of slot controls at LaGuardia, Kennedy and O'Hare. Slot restrictions were to be eliminated at Chicago O'Hare by July 1, 2002, and at the two New York airports by January 1, 2007. Airlines with limited operations may expand service at New York airports to 20 slots each, and at O'Hare to 30 slots each. There were no restrictions on adding regional jet flights. Almost immediately there were approximately 500 slot requests for regional jet operators. As of May 1, 2000, slot exemptions for international service were no longer required at O'Hare.







BUSH ADMINISTRATION PROPOSAL - 2008

- After experimenting with scheduling committees, lotteries, and buy/sell, the Bush Administration capped operations and proposed to auction off 10% of the slots at New York's three major airports – LaGuardia (113 slots), Kennedy (89) and Newark (81).
- In 2009, the Obama Administration aborted the plan on grounds that the larger legacy network airlines would out-bid the newentrants low cost carriers.



SLOT SPIN-OFFS AS CONDITION OF MERGER OR ALLIANCE IMMUNITY

- As a condition of approving antitrust immunity for American Airlines and British Airways, the US Justice Department insisted they relinquish 168 landing slots at London Heathrow. The price proved too large, and the carriers declined.
- To secure Justice Department approval for United Airlines' acquisition of Continental Airlines in 2010, Continental leased 36 slots to Southwest Airlines at Newark.
- When the US and EU concluded an Open Skies Plus agreement, opening all markets including Heathrow to competition, the US airlines not then serving Heathrow were able to acquire slots through purchase or loan from alliance partners.



Delta-US Airways Swap in 2011

- In 2011, Delta Air Lines acquired 132 slot pairs at LaGuardia from US Airways and US Airways acquired from Delta 42 slot pairs at Reagan National Airport.
- USDOT approved on condition that Delta and US Airways auction off three sets of 20 slots at New York LaGuardia and 14 at Washington Reagan National Airport.
- JetBlue Airways and Canada's WestJet were successful bidders at LaGuardia.
- JetBlue Airways was the successful bidder at Washington Reagan National Airport.





US Justice Department – Oct. 2011

"The Antitrust Division has been conducting an investigation of US Airways' acquisition of Delta Airlines' slots at Washington's Ronald Reagan National Airport to determine the transaction's impact on competition and traveling consumers. The division will continue its investigation with a focus on the increase in US Airways' share and use of slots at Reagan National and the resulting decrease in Delta's share of slots at this slotconstrained airport, at which passengers pay among the highest fares in the country. The division will not continue to investigate the acquisition of slots at New York's LaGuardia Airport because the division has concluded that acquisition does not raise competitive concerns."



EU SLOT ALLOCATION REGULATION - 1993

- Applies to "fully coordinated" airports" (i.e., airports with insufficient capacity to meet demand);
- UK: London Heathrow, Gatwick, Stansted, London City and Manchester.
- Required formation of independent co-ordination committees, which included airlines, airports, air traffic control, and general and business aviation. Votes weighted depending on airline's slots.
- Airport Co-ordination Ltd. Established as an independent company owned by nine UK airlines.





EU SLOT ALLOCATION REGULATION – 1993

Principal Provisions (based on IATA World Scheduling Guidelines): GRANDFATHER RIGHTS – airline holding and using slot in wihter or summer season has the first claim on that slot the next season; RE-TIMING PRIORITY – airline using a slot given priority for re-timing over a completely new slot request;

SLOT POOL – consisting of newly-created slots (through capacity increases) or slots returned voluntarily or under use-it-or-lose it provisions;

NEW ENTRANTS – with less than 3% of slots, allocated up to 50% of pool slots; and

USE IT OR LOSE IT – incumbents must use slots for at least 80% of the period held, or slot is withdrawn and placed into the pool.





- Defined as carriers holding less than 3% of slots on a given day.
- Grandfather consumption means relatively few slots are available for new entrants, and those that are typically are outside peak hours.
- New entrants typically establish hubs at other airports.



EU SLOT ALLOCATION RULES WERE AMENDED SEVERAL TIMES

• Use-it-or-lose-it rules were suspended after the terrorist attack of Sept. 11, 2001, after the Iraq War and SARS epidemic of 2003, and after the financial crisis of 2009.



EU SLOT TRANSFERS

The EU Rules allow slot:

- Transfers from one route or type of service operated by that same carrier;
- Transfers between parent and subsidiary companies, or between subsidiaries of the same company;
- Transfers as part of the acquisition of all or part of another carrier;
- One-for-one exchanges between carriers.





EU BETTER AIRPORTS PACKAGE - 2011

- BUY-SELL: Airlines may buy and sell slots;
- TRANSPARENCY of the slot allocation and transfer process;
- INDEPENDENCE of slot coordinators;
- INTEGRATION with Single European Sky air traffic management system;

- GRANDFATHER RIGHTS enhanced to 85% use it or lose it, and minimum weekly slots required for priority allocation up to 15% summer and 10% winter; and
- SECONDARY TRADING not prohibited.



EU SPIN ON PROPOSALS OF 1 DEC. 2011

The new rules:

- •allow airlines to trade slots with each other at airports anywhere in the EU in a transparent way;
- •reform the rules designed to help new entrants access the market at congested airports.
- •tighten the rules requiring airlines to demonstrate that they have used their slots sufficiently during the season;
- •increase the independence of the coordinator and the level of transparency on slots transactions; and
- •improve the information flow between slot coordinators, airports, airlines, national authorities and organisations providing air traffic control, in order to inform decisions on airport coordination and to allow the system to react better to disruptions, for example due to severe weather conditions.







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