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The impact of infrastructure-related taxes and fees on domestic fares

MIT Global Airline Industry Program and
Daniel Webster College

Prof. Joakim Karlsson (DWC)
Prof. Amedeo R. Odoni (MIT)
Mr. Shiro Yamanaka (MIT)



Background

- Increased concern about proliferation of ticket taxes and fees
 - Airlines
 - U.S. Congress
 - European Commission
- Industry and media report tax as $\geq 25\%$
- Objective:
 - Study the size of infrastructure/security taxes and fees in absolute terms and relative to the total ticket price in the U.S. and in Europe
 - Measure both aggregate and distributive impacts

Industry testimonials

- “Taxes/Fees now add 26% to the price of a ticket, a 145% increase over 10 years”
– Richard Anderson, CEO, Northwest Airlines
- “Taxes and fees already make up 26% of the total cost of an airline ticket”
– Sen. John McCain (R-Ariz.)
- “Taxes now represent 24% of the price of the average ticket, a higher rate than liquor and tobacco taxes”
– Duane Woerth, President, ALPA Int’l

U.S. ticket taxes and fees

Tax/Fee	Symbol	Rate	Recipient
Federal ticket tax	FTT	7.5%	Airport and Airway Trust Fund
Federal segment tax	FST	\$3 per segment	
Passenger facility charge	PFC	\$3 or \$4.50 per enpl.	Collecting airport
Federal security service fee	FSSF	\$2.50 per enpl.	TSA

Notes:

- Rates effective 2002-2003
- Only includes domestic taxes and fees added directly to the price of tickets
- PFC and FSSF collection limited to first 2 enplanements per one-way trip
- Rural airports exempt from some taxes
- Special FST & FTT rules exist for Alaska and Hawaii
- FSSF temporarily suspended from June 1 to September 30, 2003

Definitions

- Total taxes and fees:

$$TTF = FTT + FST + FSSF + PFC$$

- Effective tax rate:

$$ETR = \frac{E(TTF)}{E(BF)} \times 100\%$$

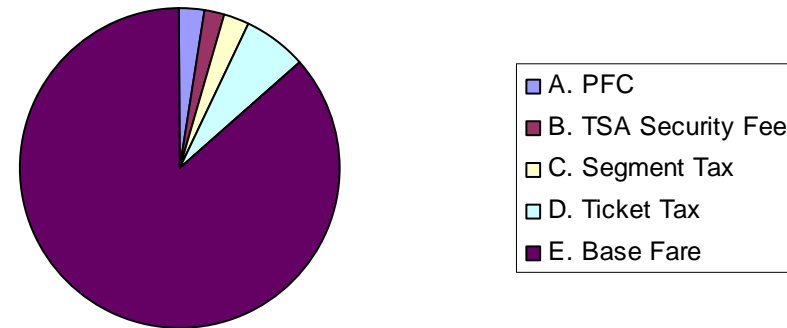
Taxes not included in study

Tax	Rate	Basis
International arrival tax	\$13.70	Per arriving international passenger
International departure tax	\$13.70	Per departing international passenger
Immigration user fee	\$7.00	Per arriving international passenger
Customs user fee	\$5.00	Per arriving international passenger
Animal and plant health inspection service passenger fee	\$3.10	Per arriving international passenger
Animal and plant health inspection service aircraft fee	\$65.25	Per arriving international aircraft
Jet fuel tax	\$0.043	Per gallon
Leaking underground storage tank fuel tax	\$0.001	Per gallon
Air carrier security fee	Varies	Per carrier (based on actual 2000 screening costs)
Cargo waybill tax	6.25%	Domestic freight waybill
Frequent flyer tax	7.5%	Sale of the right to award frequent flyer miles to third parties

Methodology

- DB1A: DOT *Origin and Destination Data Bank 1A Ticket Dollar Value* database
- Includes all tickets ending with “0” (aka “10% ticket sample”)
- 2nd Quarter of 2002: 2.5 million tickets
- Note: DB1A only reports total fare

Breakdown of Fare, Tax, and Fee



- A. PFCs = $f(\text{airports in itinerary})$
B. FSSF = $\$2.50 \times \text{number of segments}$
C. FST = $\$3.00 \times \text{number of segments}$
D. **FTT** = $0.075 \times \text{BF}$
E. **BF** = $(\text{Total} - (\text{PFC} + \text{FSSF} + \text{FST})) / 1.075$

Data filters

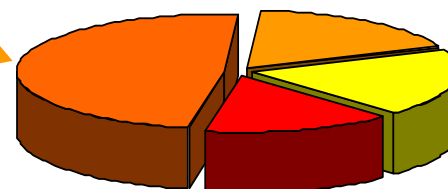
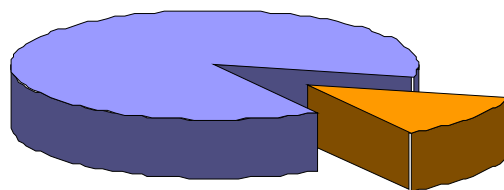
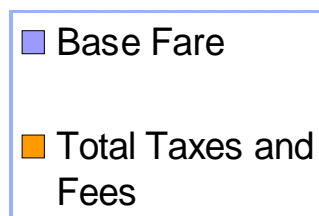
- Scope of study limited to:
 - Domestic market in 48 contiguous States
 - O-D markets with at least 10 pax/day
 - Tickets with 1 or 2 segments per one-way
- A significant number of fares were found to be zero, unusually low, or unusually high
 - Frequent flyer and other promotional awards
 - Use of \$9999 as “code” (e.g., bulk purchases)
 - Bad data

Fare filters

Filter step	Filter description	Records remaining	Pax remaining
-	Original DB1A* data: One-way trips with 1 or 2 segments	4,138,971	9,615,741
1	Market filter	3,628,537	8,697,248
2	Minimum fare per distance (D) filter: For $D < 100$ mi, drop total fares < 10 ¢/mi For $100 \text{ mi} \leq D < 200$ mi, drop total fares < 8 ¢/mi For $200 \text{ mi} \leq D < 300$ mi, drop total fares < 6 ¢/mi For $300 \text{ mi} \leq D < 400$ mi, drop total fares < 5 ¢/mi For any D, drop total fares < 4 ¢/mi	3,339,097	7,900,610
3	Minimum fare rule: Drop base fares $< \$30$	3,316,355	7,842,225
4	Maximum fare rule: Drop base fares $> \$2,500$	3,315,662	7,840,804
Note: All filter limits are based on one-way fares			

Results

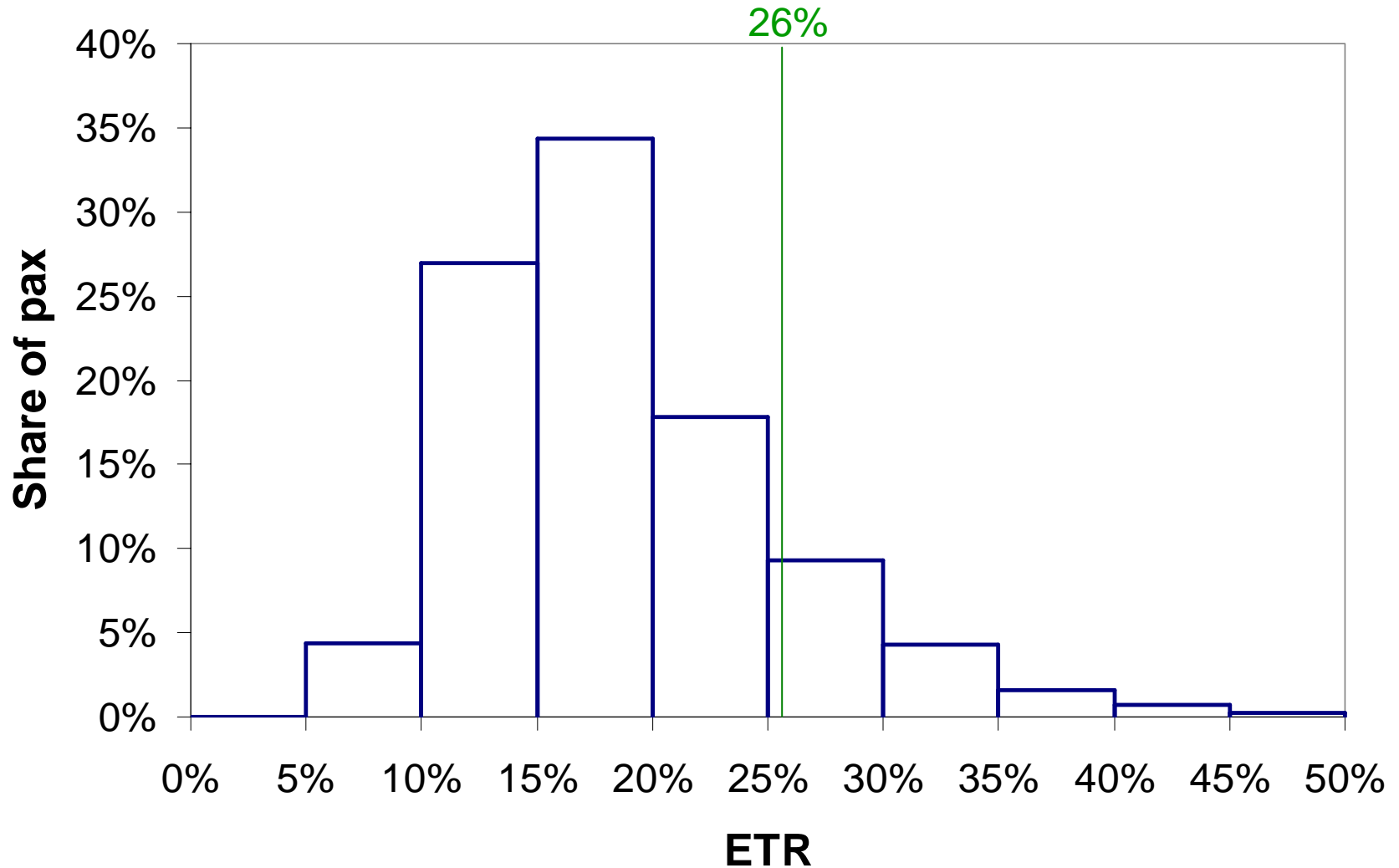
BF	TTF	FTT	FST	PFC	FSSF	ETR
\$289.96	\$44.88	\$21.75	\$7.93	\$8.60	\$6.61	15.5%



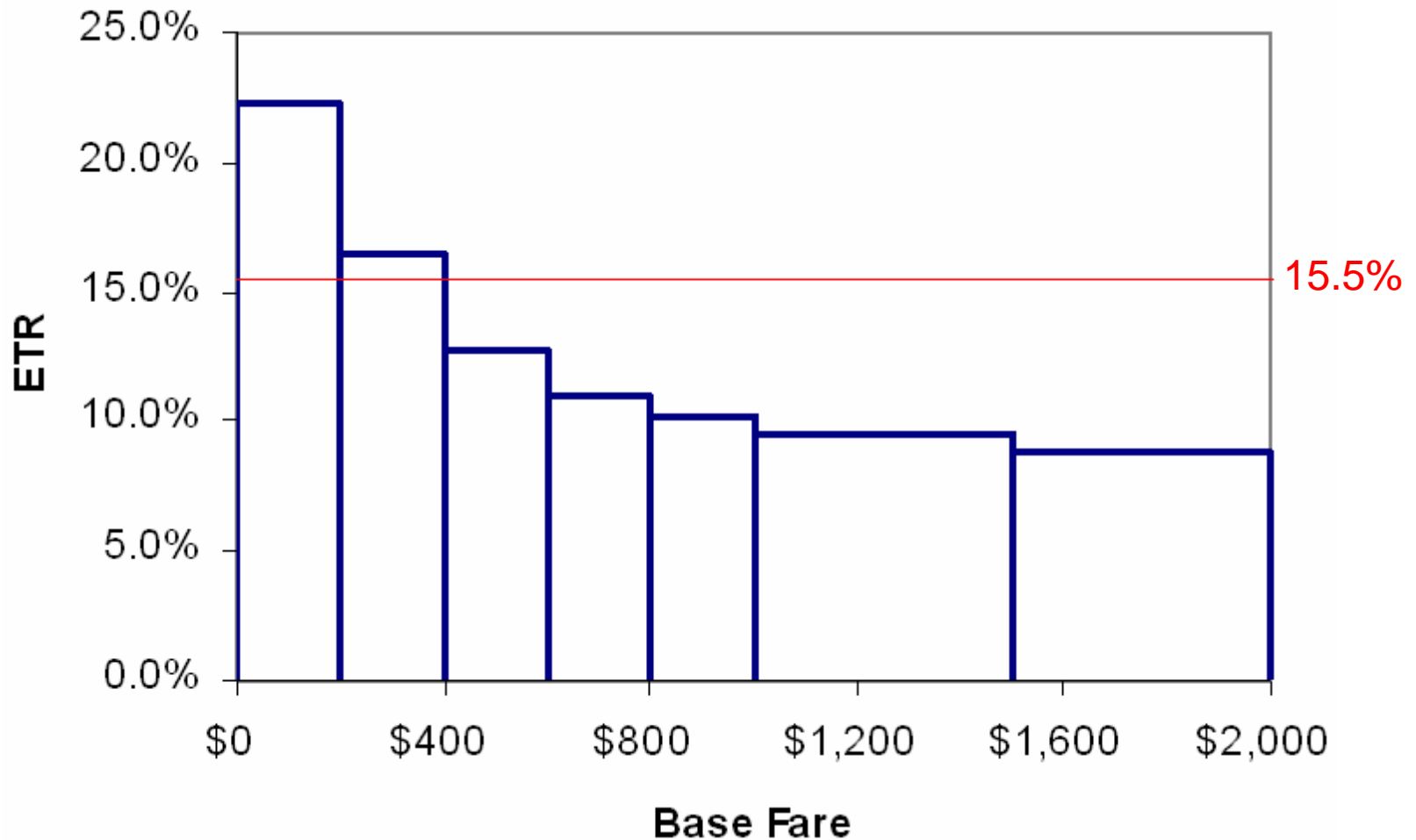
Notes:

- All results for 2Q 02
- Results expressed on a round-trip basis
 - DB1A* records are always expressed as one-way trips
 - We double fare and tax computations to convert to round-trip basis
 - Includes 8.3% of records that represent “true” one-way flights

Distribution of taxes

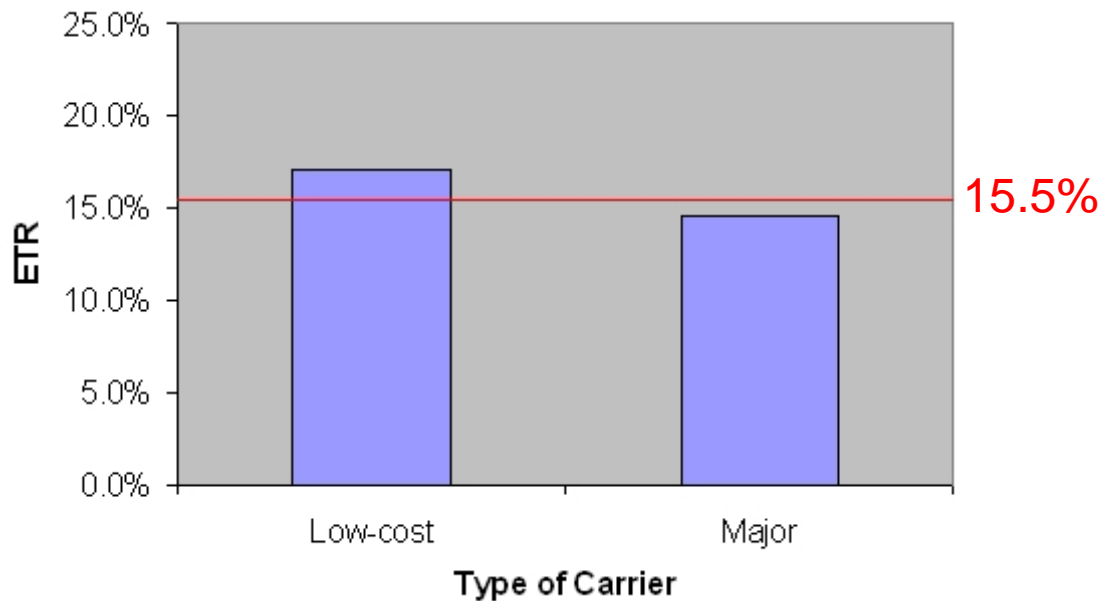


Taxes impact low fares...

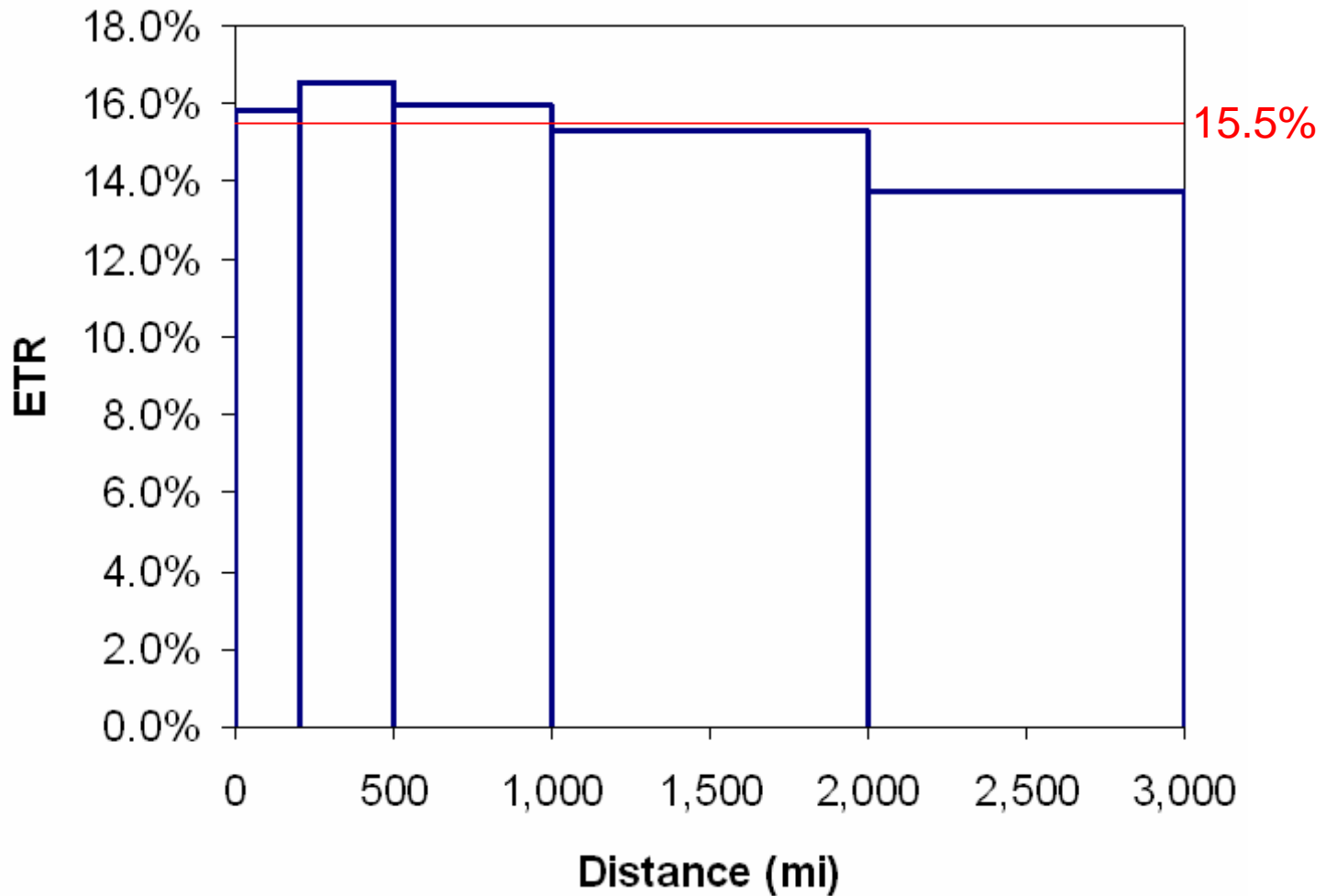


...and low-cost carriers (but less than expected)

Carrier type	BF	TTF	FTT	FST	PFC	FSSF	ETR
Low-cost	\$198.17	\$33.94	\$14.86	\$6.80	\$6.60	\$5.67	17.1%
Major	\$335.67	\$48.88	\$25.18	\$7.97	\$9.10	\$6.64	14.6%



Taxes and O-D distance



1993 vs. 2002

Quarter	BF	TTF	FTT	FST	PFC	FSSF	ETR
2Q 1993	(\$312.91) \$389.57	(\$34.09) \$42.44	(\$31.29) \$38.96	-	(\$2.80) \$3.49	-	10.9%
2Q 2002	\$289.96	\$44.88	\$21.75	\$7.93	\$8.60	\$6.61	15.5%

■ In real terms:

- The average total taxes and fees per ticket has increased by only \$2.44 or 5.7%
- Base fare has decreased by \$100 or 26% (!)

Notes:

- Results expressed on a round-trip basis
- 2002 dollars, except results in parentheses, which are 1993 dollars

Conclusions

- The effective tax rate on all domestic tickets in the U.S. is in 15.4%–16.3% range
- Ticket taxes have the greatest impact on the lowest fares; however, impact on ***low-cost carriers*** is somewhat mitigated
- Ticket taxes are relatively insensitive to O-D distance traveled

Conclusions (cont.)

- Tax rate has increased from 10.9% to 15.5% over last ten years, but this is due primarily to decrease in fares, not increase in taxes
- Federal ticket taxes, PFCs, and security fees are almost certainly not a significant factor in the decline of business travel

Questions?

