

Price Differentiation

Prof. Daniel Guetta



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Outline

- 1 Price Differentiation
- 2 The Economics of Price Differentiation
- 3 Price Differentiation in Practice
- 4 The Limits of Price Differentiation
- 5 Case Study: PeopleExpress vs. American Airlines

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Price Differentiation



p_1



p_2



p_3

Price Differentiation



p_1



p_2



p_3

Divide consumers into categories with

- ▶ Different price-response functions
- ▶ Different costs of service

Types of price differentiation

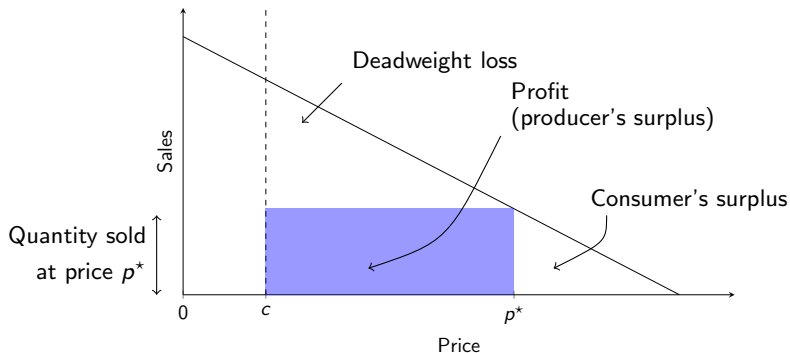
- ▶ First degree: charge a different price for every unit consumed based on the purchaser.
- ▶ Second degree: charge different amounts based on quantity purchased.
- ▶ Third degree: use signal about consumers (eg: age, occupation, etc...) to price differentiate.

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The Power of Segmentation

Suppose the producer incurs a unit price c and charges a single price p^* .

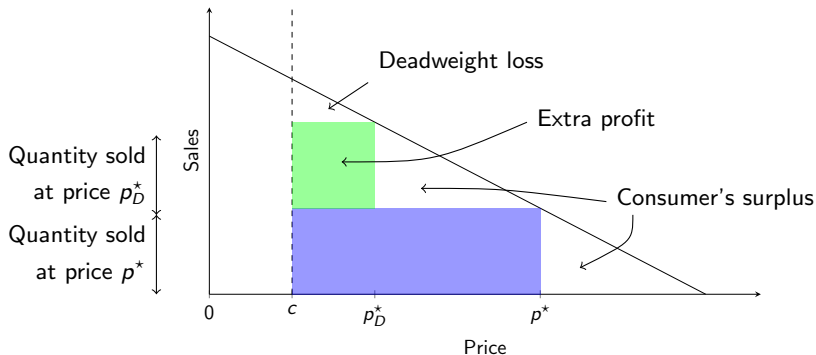


The Power of Segmentation

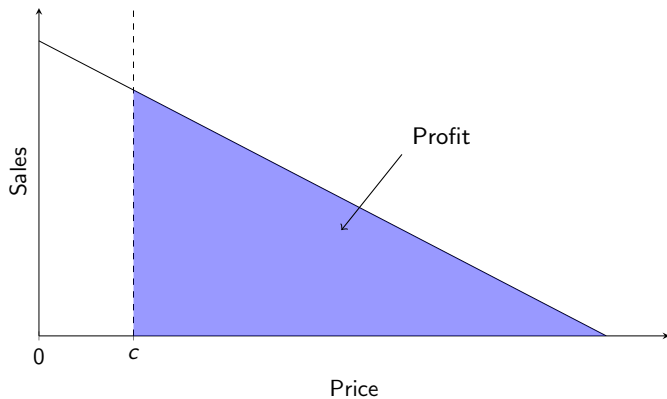
Suppose the producer is able to segment the population and produce a discounted rate p_D^* that will *only* be used by consumers with w.t.p less than the original price p^*

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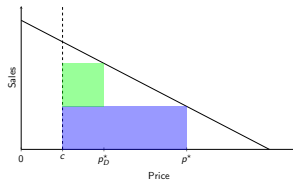
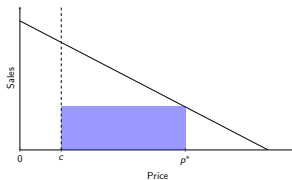


Perfect Segmentation



Price Differentiation and Consumer Welfare

Consider, once again, the first two cases above



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Price Differentiation in Practice

How might we achieve price differentiation in practice?

Group pricing

Group pricing

- ▶ Unambiguous indicator of group membership
- ▶ Group membership correlates with price sensitivity
- ▶ No easy trading/exchanging among purchasers
- ▶ Legally/culturally acceptable

Channel Pricing

Channel Pricing



	Online	Contact center	
Cancellations within 24 hours of booking per booking	\$38	\$45	We will provide a full refund minus an administrative charge.
Earlier flight per passenger	\$30	-	If you would like to move to an earlier flight (subject to conditions and availability) on the same day as your original return flight, you can check availability on our mobile app or at the airport.
Rescue fee per passenger	\$120	-	If you arrive at the airport late, but within two hours of your original flight's scheduled departure time, you can transfer to the next available flight.
Spelling mistakes & title changes	FREE	FREE	If you make a spelling mistake, (e.g. Nick to Nicholas, or Jones to Jones) or need to change a title you can do this for no extra charge.
Name change - more than 60 days before travel per passenger, per flight	\$23	\$29	If you would like to transfer your booking to a different passenger, you can do so for a fee, but without paying any fare difference. This is cheaper to do further in advance.
Name change - 60 days or less before travel per passenger, per flight	\$68	\$73	

Retrieved from easyjet.com

Product Versioning

- ▶ Inferior goods
- ▶ Superior goods

→ product lines

Product Versioning





BUSINESS

Wal-Mart Statement On Peanut Butter Recall



Food safety is always a top priority at Wal-Mart and Sam's Clubs. We are working very closely with ConAgra to fully understand the details of this situation. Wal-Mart has sent direction to our stores and clubs to immediately **remove all impacted Peter Pan Peanut Butter and Great Value Peanut Butter** based on specific product information provided by ConAgra. As an additional precautionary measure, we have also put a sales restriction on the products in question so that, should one inadvertently be scanned, a restriction notice will come up for the cashier. Wal-Mart customers with product in question may return it to their nearest Wal-Mart location for a full refund.

Retrieved from the Wal-Mart website, corporate.walmart.com.

Product Versioning – Airlines

Airlines make extensive use of a form of product versioning

This screenshot shows a Google Flights search for a one-way flight from JFK New York City to Phoenix (all airports) on Wednesday, January 31. The flight details for American 1468 (Economy Class, Boeing 737) are displayed, including a 6h 06m duration and amenities like Wi-Fi and in-seat power. A red circle highlights the flight number 'American 1468'. Below the flight details, a blue button says 'Book, track or share this flight' with a price of '\$157' circled in red.

This screenshot shows a Google Flights search for a one-way flight from JFK New York City to YEG Edmonton on Wednesday, January 31. The flight details for American 1468 (Economy Class, Boeing 737) are displayed, including a 6h 06m duration and amenities like Wi-Fi and in-seat power. A red circle highlights the flight number 'American 1468'. Below the flight details, a blue button says 'Book, track or share this flight' with a price of '\$112' circled in red.

It's the same flight, but with another flight added on!

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Round trip One way Multi-city Economy 1 adult

JFK New York City + Phoenix (all airports) +

Wed, January 31 + Add return date

One way flight

Wed, Jan 31 6:00 AM – 10:06 AM
JFK – Phoenix (PHX)
American 1468 Economy Class · Boeing 737
Average legroom (31")

6h 06m
WiFi
In-seat power
Stream to your device

Book, track or share this flight
Total incl taxes & fees for 1 adult. Additional bag fees may apply.

Book with American \$157

Less price sensitive market (eg:
more business travelers)

This screenshot shows a Google Flights search for a one-way flight from JFK New York City to YEG Edmonton on Wednesday, January 31. The flight details for American 1468 (Economy Class, Boeing 737) are highlighted with a red circle. The price is \$112, also circled in red.

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Average legroom (31")

6h 06m
WiFi
In-seat power
Stream to your device

Layover in Phoenix PHX 59m

11:05 AM – 2:38 PM
Phoenix (PHX) – Edmonton (YEG)
American 5729 Economy Class · Canadair RJ 900
Operated by Mesa Airlines as American Eagle
Average legroom (31")
Often delayed by 30+ min

3h 33m
WiFi
Stream to your device
No in-seat power

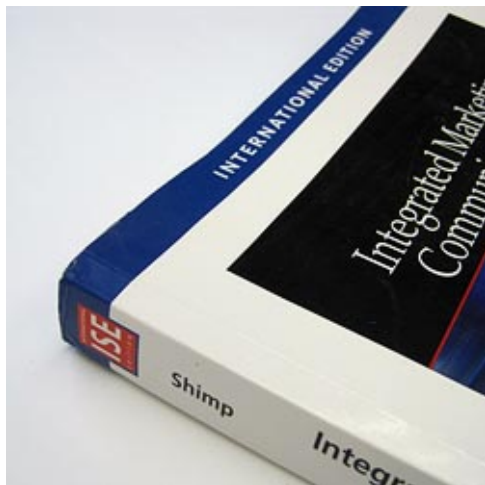
Book, track or share this flight
Total incl taxes & fees for 1 adult. Additional bag fees may apply.

Book with American \$112

Highly price sensitive market (eg:
more leisure travelers)

Regional Pricing

Regional Pricing



McDonald's turned around

Big Mac's makeover

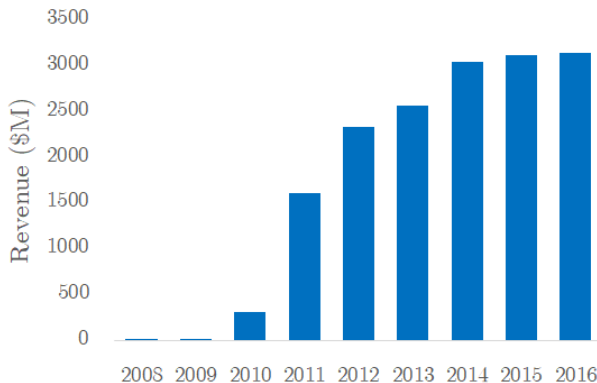
The world's biggest fast-food company has pulled off a remarkable comeback

This might sound Big Brotherish, but McDonald's insists that its businesses will remain, in effect, lots of local restaurants, although ones expected to operate within clearly defined parameters. That still allows for plenty of variation. In some Latin American cities, McDonald's is even experimenting with differential pricing: charging different prices for meals according to the relative wealth of their neighbourhoods. "If you are looking for a command centre with one push button that operates our restaurants in every corner of the world, you won't find it," says Jim Skinner, McDonald's vice-chairman.

Coupons and Self-Selection

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GROUPON



Time-Based Differentiation

- ▶ Type of product versioning
- ▶ Uses time as a way to differentiate customers

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- ▶ Uses time as a way to differentiate customers
- ▶ Particularly important for hotels, airlines, and rental car companies

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The Limits of Price Differentiation

- ▶ Imperfect segmentation
- ▶ Cannibalization
- ▶ Arbitrage

Cannibalization – Airline Product Versioning

Frequently Asked Questions

1. What is a "hidden-city" flight?
2. Why are flight prices sometimes more expensive than listed?
3. Why don't I see any search results?
4. How can I contact Skiplagged?

What is a "hidden-city" flight?

A hidden-city flight is a flight where you get off at the layover rather than the final destination. For example, a flight from New York to San Francisco might be \$300, but a similar flight from New York to Seattle with a layover in San Francisco might be \$200. If you're going to San Francisco we'll show you both flights, and if you choose the cheaper one, you get off the plane at the layover (San Francisco) rather than going to the final destination (Seattle).

This is perfectly legal and the savings can be significant, but there are some things to be aware of:

Travel | News

🏠 > Travel > News

Man sued for sharing cheap flight loophole



Smith, O. Man sued for sharing cheap flight loophole. THE TELEGRAPH. Retrieved from telegraph.co.uk.

Trying to Prevent Canibalization



SIMON &
SCHUSTER

Trying to Prevent Canibalization

Case 1:12-cv-02826-DLC Document 326 Filed 07/10/13 Page 85 of 160

When asked by a reporter later that day why people would pay \$14.99 in the iBookstore to purchase an e-book that was selling at Amazon for \$9.99, Jobs told a reporter, "Well, that won't be the case." When the reporter sought to clarify, "You mean you won't be 14.99 or they won't be 9.99?" Jobs paused, and with a knowing nod responded, "The price will be the same," and explained that "Publishers are actually withholding their books from Amazon because they are not happy." With that statement, Jobs acknowledged his understanding that the Publisher Defendants would now wrest control of pricing from Amazon and raise e-book prices, and that Apple would not have to face any competition from Amazon on price.

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CONCLUSION

Based on the trial record, and for the reasons stated herein, this Court finds by a preponderance of the evidence that Apple conspired to restrain trade in violation of Section 1 of the Sherman Act and relevant state statutes to the extent those laws are congruent with Section 1. A scheduling order will follow regarding the Plaintiffs' request for injunctive relief and damages.


SO ORDERED:

Dated: New York, New York
July 10, 2013


DENISE COTE
United States District Judge

Arbitrage

Arbitrage

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A Domestic Edition textbook cover (left) and its international Edition counterpart (right)

Retrieved from AbeBooks.com

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PeopleExpress vs. American Airlines

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PeopleExpress vs. American Airlines

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- ▶ Congress became concerned this heavy regulation would lead to a repeat of the Penn Central Railroad disaster.
- ▶ On October 24th, 1978, President Jimmy Carter signed the Airline Deregulation Act.
- ▶ This partly in an attempt to encourage competition, and it worked. One of the first new airlines to appear was PeopleExpress.

DOES YOUR COLLEGE KID FLY A BETTER AIRLINE THAN YOU?



YOU PAY FOR COFFEE, BUT IT'S A GOOD CUP OF COFFEE.

When it comes to purchasing virtually anything, there's no group more informed than America's college students. Whether it's buying stereos, automobiles or airline tickets—they know where to find the best deals.

Maybe that's why so many college students make it their business to know that People Express gives you flights at a low price that other airlines don't offer at any price. Here are just a few:

YOU'RE ATTENDED TO BY THE PEOPLE WHO CARE MOST: THE OWNERS.



Every full-time member of our organization is a stockholder—with an average investment of more than \$20,000. So an owner is never more than a few steps away.

BOEING JETS THE WAY THEY SHOULD BE: SPARKLING CLEAN.

Our fleet is made up of Boeing 727 737 and 747 jets. The finest equipment in the air. Furthermore, our planes are shining clean on the outside. And you won't find a coffee stain on your tray table or somebody else's newspaper in your seat pocket.

A SCHEDULE LIKE YOURS DESERVES A SCHEDULE LIKE OURS.

People Express has more flights out of New York than any other airline. Over 200 non stops daily. To 49 cities—coast to coast. Not to mention Montreal, London and the Continent.

So when it comes to choosing an airline, People Express advises you to get the facts and make an intelligent comparison. In other words, ask your kids.



**PEOPLE Express
FLY SMART**

Call your travel agent or the local People Express reservations number. For New York & Co. reservations call 1-800-444-9999. For New York & Co. reservations call 1-800-444-9999. For New York & Co. reservations call 1-800-444-9999. For New York & Co. reservations call 1-800-444-9999. For New York & Co. reservations call 1-800-444-9999.

THIS YEAR WE'LL SAVE THE AMERICAN FLYER A BILLION DOLLARS. HOW MUCH OF THAT WILL YOUR COMPANY SAVE?

Smart travelers will spend \$1 billion flying with People Express this year.

People Express prices are less than half of standard airline fares. So it would cost the public \$2 billion to do the same amount of flying on other airlines. Or put another way, the American traveler, thanks to People Express, will save a billion dollars this year. At least.

And don't think for one minute you have to give up anything to get our low unrestricted prices. On the contrary, it means you get more of the fruits you really want.

Service by owners. On clean and comfortable Boeing 727 737 and 747 jets. And People Express has more flights out of New York than any other airline.



Over 200 non stops daily. To 49 cities—coast to coast. Not to mention Montreal, London and the Continent.

We're even constructing the most convenient, most modern airline terminal in the world—The People Express Terminal (formerly Terminal C) at Newark Airport. With 41 gates, it will be larger than all of LaGuardia Airport.

When you think about it, we offer some of the most sophisticated pleasures you'll find on any airline, including the most sophisticated of all—saving money. Shouldn't some of those savings go in your company's pocket?



**PEOPLE Express
FLY SMART**

Call your travel agent or the local People Express reservations number. For New York & Co. reservations call 1-800-444-9999. For New York & Co. reservations call 1-800-444-9999. For New York & Co. reservations call 1-800-444-9999. For New York & Co. reservations call 1-800-444-9999.

A Tough Choice for AA

- ▶ *Matching PeopleExpress fares* would have retained customers, but ultimately led to AA going bankrupt
- ▶ *Not matching the fares* would inevitably destroy AA's consumer base.

The choice between a slow death and a rapid one...

American's Response

In January 1985, AA announced its “Ultimate Super Saver Fares”, designed to match PeopleExpress prices with two key differences:

American's Response

In January 1985, AA announced its “Ultimate Super Saver Fares”, designed to match PeopleExpress prices with two key differences:

- ▶ Ultimate Super Saver Fares required two week prior booking, and a Saturday night stay.
- ▶ American restricted the number of discount seats sold on each flight – this left space for full-fare passengers who'd be booking during the last two weeks prior to departure.

American's Response

New York Times, December 21st, 1985

The New York Times Business Day

American Airlines Reduces Fares

Published: December 21, 1985

American Airlines, in a move to stimulate traffic in the January doldrums, said yesterday that it would cut fares by up to 74 percent from regular coach fares for travel between Jan. 8 and Feb. 10. The discount fares, which have several restrictions, basically restore the so-called ultimate super saver fares to the levels of a year ago, when they were first introduced.

The newest fares, however, carry less severe restrictions than the earlier versions. Tickets must be bought within three days of making a reservation, but no later than Jan. 20, and 50 percent of the ticket is not refundable. The ultimate super saver now has an advance purchase requirement of 30 days. The new fares, which are expected to be matched by other major carriers, also require customers to stay over at least one Saturday night before departure.

American Airlines Reduces Fares. THE NEW YORK TIMES. Retrieved from [nytimes.com](https://www.nytimes.com).

The Crowds Cheer

“I don’t believe this move will improve American’s or anyone else’s revenues”

— John Zeeman, Vice President of Marketing, United Airlines

“FOR THE FIRST time on a broad scale, ticket-buyers who change plans will be penalized. Once the Ultimate Super Saver ticket is bought, 25 percent of the price will be nonrefundable.”

— Chicago Tribune, January 18th, 1985

PeopleExpress realizes they're in trouble...



AHHH...THE THINGS SOME PEOPLE HAVE TO DO TO SAVE MONEY.

Introducing People Express First Class. Spacious leather seats, two abreast. Service beyond compare. Fine china, crystal and linen. Fresh flowers.

These are just a few of the amenities you have to put up with to save money on our new People Express First Class.

On our 147 First Class service you can sit in the lap of luxury while enjoying an elegant gourmet meal or sipping a fine wine.

What's more, all amenities are included in one ticket price. A price lower than most standard coach fares on other airlines.

First Class service is available now on all People Express 247 flights. Soon you'll be offered the comfort of first class on every single People Express flight.

For First Class reservations call us at 1 (800) 344-4000. Or call your local travel agent.

People Express First Class. You'll have to accept the luxury with the savings.



PEOPLEExpress
FIRST CLASS

“PEOPLE EXPRESS Airlines announced Monday it will raise fares, effective March 1, by \$1 to \$21 on one-way tickets ... IN MOST instances, People Express raised fares to equal American Airlines' new discount prices ...”

— Chicago Tribune, January 22nd, 1985

The Result?

- ▶ Passengers preferred American's superior service
- ▶ PeopleExpress sold to Texas Air at a deep discount less than a year later.
- ▶ This led to the proliferation of revenue management in a number of industries, where it still prevails today.

“We were a vibrant, profitable company from 1981 to 1985, and then we tipped right over into losing \$50 million a month. We were still the same company. What changed was American’s ability to do widespread Yield Management in every one of our markets . . . We did a lot of things right. But we didn’t get our hands around Yield Management and automation issues . . . [If I were to do it again,] the number one priority on my list every day would be to see that my people got the best information technology tools. In my view, that’s what drives airline revenues today more than any other factor - more than service, more than planes, more than routes.”

— Donald Burr, CEO of PeopleExpress