

# Price Discrimination



## Intro to Price Discrimination

## Price Discrimination

- Cost-plus pricing
- Price discrimination based on cost variation
- Price and margin waterfall
- Other incentives that lower costs
- Three principles of product line pricing
- Case application: Heinz Ketchup

## By the end of this module you'll be able to...

- Utilize cost-plus pricing to determine prices
- Recognize the opportunity for price discrimination and use it to optimize prices
- Create price and waterfall margin charts to analyze your business

## By the end of this module you'll be able to...

- Decide how to price a product line based on volume incentives
- Prevent margin leakage and improve price realization along the margin waterfall
- Apply knowledge of price discrimination and pricing through a distribution channel to analyze a real-world case

## Cost-Plus Pricing

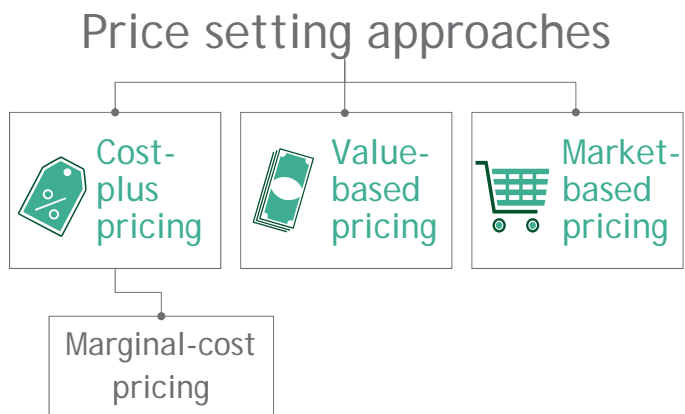
#6

## Economics – Cost-plus pricing (Thomas)

How does a business decide what  
to charge for its products?



## Three main approaches to setting prices



## Cost-plus pricing

$$\begin{array}{ccccc}
 \text{Full cost per unit} & + & \text{Markup} & = & \text{Selling price} \\
 \text{Seller is Price setter} & & & & \text{Buyer is Price taker}
 \end{array}$$


The diagram illustrates the cost-plus pricing formula:

$$\text{Full cost per unit} + \text{Markup} = \text{Selling price}$$

Below the formula, it states:

- Seller is Price setter**
- Buyer is Price taker**

## Example calculation

$$\begin{array}{rcl}
 \$100 & 20\% & \$120 \\
 \text{Full cost} & + \text{Markup} & = \text{Selling} \\
 \text{per unit} & & \text{price} \\
 \left( \frac{\text{Total variable cost} + \text{Total fixed cost}}{\text{Quantity}} \right) & & 
 \end{array}$$

## When is cost-plus pricing useful?

Situations where sellers have sufficient pricing power



Transactions with very custom specifications and outcomes



Industries with regulated prices



Starting point to set the price for a new product



## Advantages vs. disadvantages of cost-plus pricing



### Advantages

- Simple to execute
- Guarantees targeted margin
- Intuitively understandable
- Easy to defend

## Advantages vs. disadvantages of cost-plus pricing



### Disadvantages

- Usually leads to sub-optimal pricing
- Promotes cost inefficiency
- Ignores opportunity cost
- Uses historical cost rather than current or future replacement value


## Target-cost pricing

	=		-	\$
Target cost per unit		Market price per unit		Target margin
\$90		\$110		\$20

## Cost-plus vs. target-cost pricing

### Cost-plus pricing

"How much to charge?"

	+	%	=
Full cost per unit		Markup	
\$100		\$20	



Selling  
price  
\$120

### Target cost

"How much can it cost?"






Market  
price  
per unit  
\$110

-	\$	=	
	Target margin		Target cost per unit
	\$20		\$90



## With target-cost pricing, buyers set a product's price

### Target-cost pricing

	=		+	
Market price per unit		Target cost per unit		Target margin
Buyer is <i>Price setter</i>		Seller is <i>Price taker</i>		

## Wrap-up



How would you go about setting the price for the product in this box?

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## Economics – Price discrimination based on cost variations (Thomas)

Why does the price vary for the  
exact same product by 3× ?



## Price discrimination

Price discrimination describes the practice of selling an identical product to different buyers at different sales prices

Synonyms

- Price differentiation
- Differential pricing

## Price discrimination vs. product differentiation

### Branded spring water

- National brand
- Spring water
- Priced higher



\$1.20

Different products

### Private label purified water

- No brand
- Purified water (not spring)
- Priced lower



\$0.65

Different prices

## Why do sellers discriminate when setting prices?

- |   |                      |
|---|----------------------|
| • Improve margins                               | because they can     |
| • Incentivize buyers to buy differently or more | because they have to |
| • Sell to new customer segments                 |                      |

## Why do buyers accept price discrimination?

### Higher prices

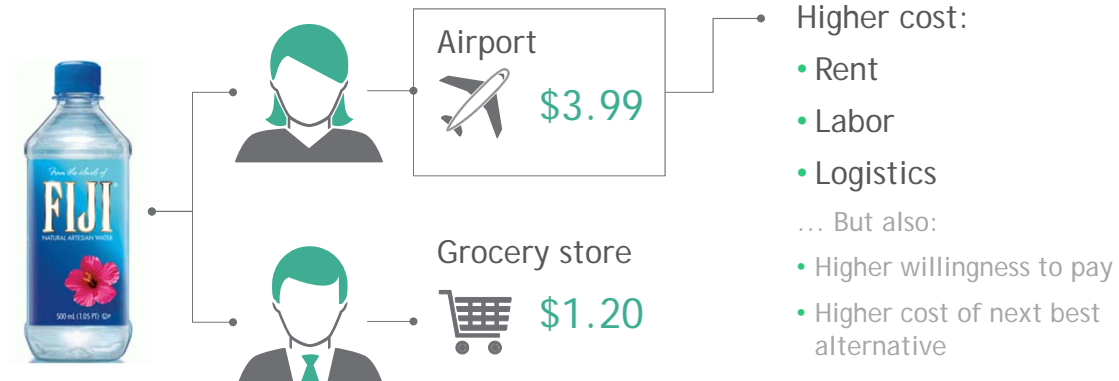
Price can be less important than other factors, e.g. convenience

### Lower prices

Buyers can't afford to pay more and enjoy a 'good deal'

## What is cost-based price discrimination?

Cost of doing business often varies widely between different customers and transactions



## Let's be honest...

Cost of doing business at an airport is certainly higher, but so much to justify a price of 3× more?

... probably not

So what else is going on?

## Cost-based price discrimination helps sellers to optimize margins

### Higher cost

Seller passes cost plus additional markup through to buyer

### Lower cost

Seller passes only part of cost savings through to buyer

## Wrap up

### What you learned

- Price discrimination and how it is motivated by differences in cost
- Product vs. price differentiation
- How price discrimination is used to optimize margins

How could you discriminate prices in your business to improve margins?

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## Economics – Price and margin waterfall (Thomas)

Pricing practitioners have to  
worry about two core issues

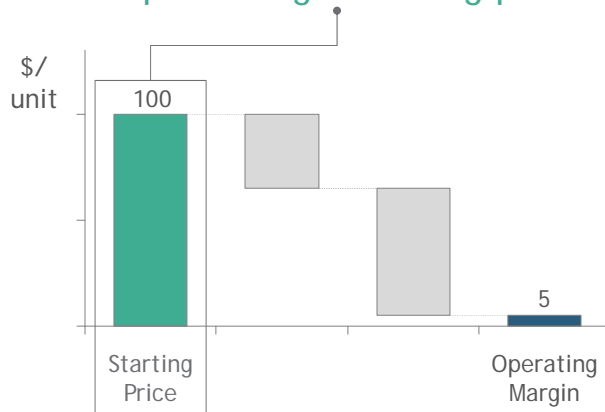
Setting prices

Managing  
margin leakage

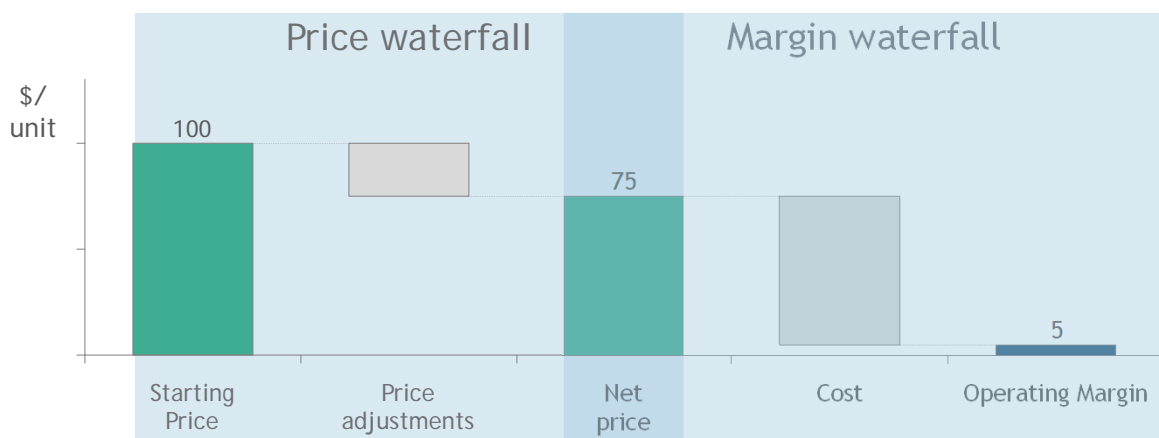


## What's happening when products make hardly any money ...

... despite a high starting price?

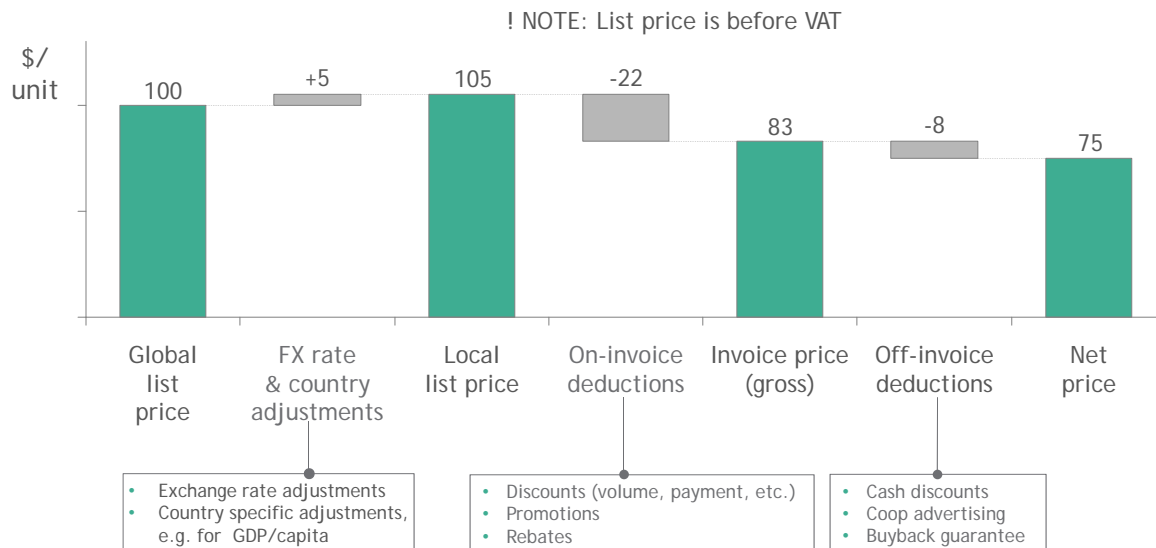


## Price and Margin waterfall is a great tool to discuss margin leakage

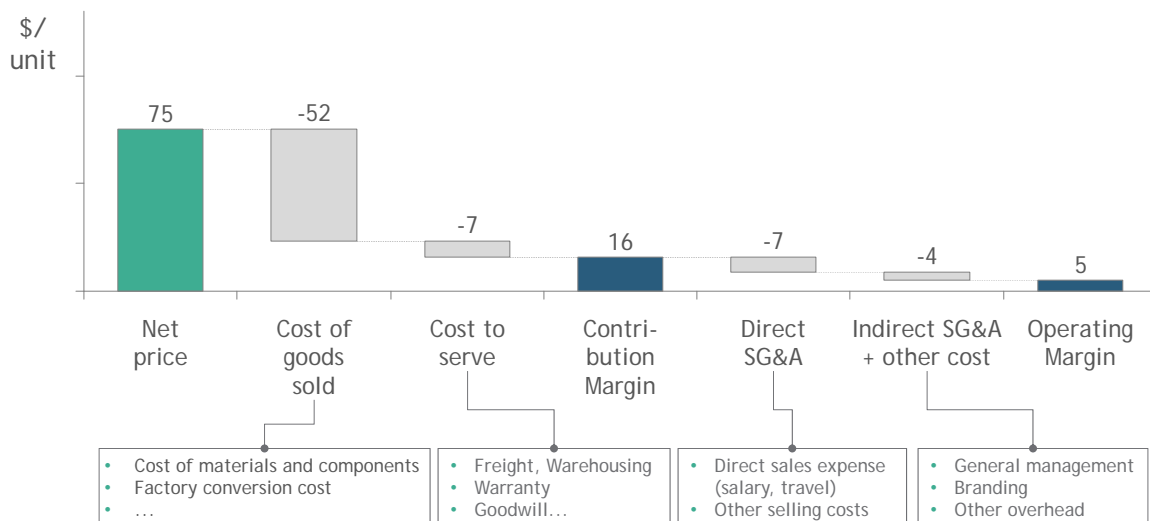




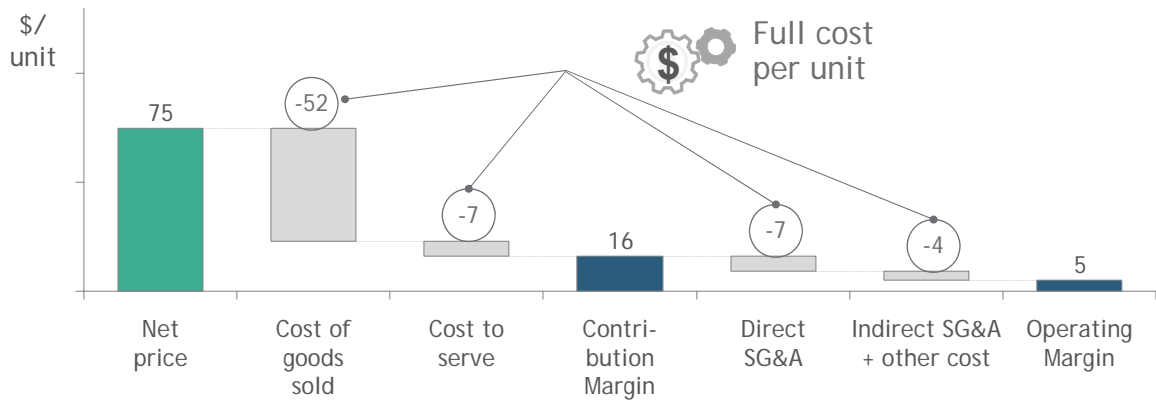
## Price waterfall and its components



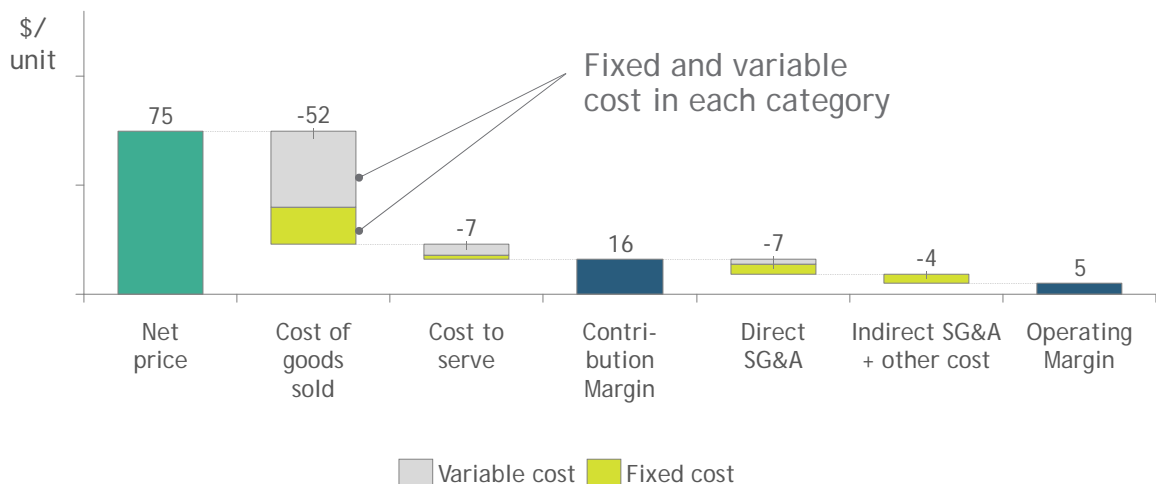
## Margin waterfall and its components



## Margin waterfall and full cost (per unit)



## Margin waterfall and fixed and variable cost



## Closing thoughts

### Price and margin waterfall

- ... illustrates relationship between price and margin
- ... great tool to discuss your business with stakeholders

Cost and margin buckets can be easily benchmarked to identify root causes of leakage

## Closing thoughts

Often difficult to get the data. Do your best; its important to determine profitability

Select most useful dimensions when constructing waterfall charts

- Unit of analysis: a SKU, product category, or business segment
- Dimension of Y-axis: \$ per unit, absolute \$ or % of Net Sales

# Product Line Pricing Principles

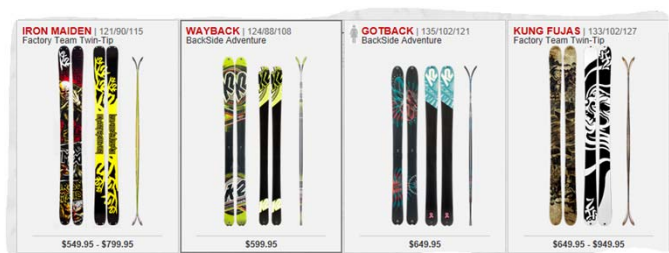
## Product Line Pricing

- Very few companies sell only one product
- The products can have demand interrelationships
- These products may (or may not) be part of a product line.
- Product lines are generally constructed to try to achieve some level of price discrimination.

## Types of Product Lines

- Quality differentiated

## K2 Skis



## Types of Product Lines

- Quality differentiated
- Quantity differentiated

## Heinz Ketchup



## Quantity Differentiated Product Lines: 3 Principles

- Larger-size products should have a lower price on a per-unit basis than smaller-size products.
- The size of the per-unit price discount should be greater if people consume more of the item when they have a larger quantity on hand.
- The size of the per-unit price discount should be lower if the economic or psychological costs of an out-of-stock situation are high.

## Quantity Differentiated Product Lines: Principle 1

- Larger-size products should have a lower price on a per-unit basis than smaller-size products.
  - Intuitive
  - Retailers will generally enforce this provision.

# Quantity Differentiated Pricing: Principle 2

## Quantity Differentiated Product Lines: Principle 2

- Larger-size products should have a lower price on a per-unit basis than smaller-size products.
- The size of the per-unit price discount should be greater if people consume more of the item when they have a larger quantity on hand.



# Product Line Pricing: Principle 3

## Quantity Differentiated Product Lines: Principle 3

- Larger-size products should have a lower price on a per-unit basis than smaller-size products.
- The size of the per-unit price discount should be greater if people consume more of the item when they have a larger quantity on hand.
- The size of the per-unit price discount should be lower if the economic or psychological costs of stock-outs are high.

## Psychological Costs

- Cereal, yogurt
- Pharmaceuticals, toilet paper

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Economics – Other incentives  
to lower costs  
(Thomas)

## How do lower costs benefit both buyers and sellers?



Seller wants  
to sell **more**  
and at  
**better margins**



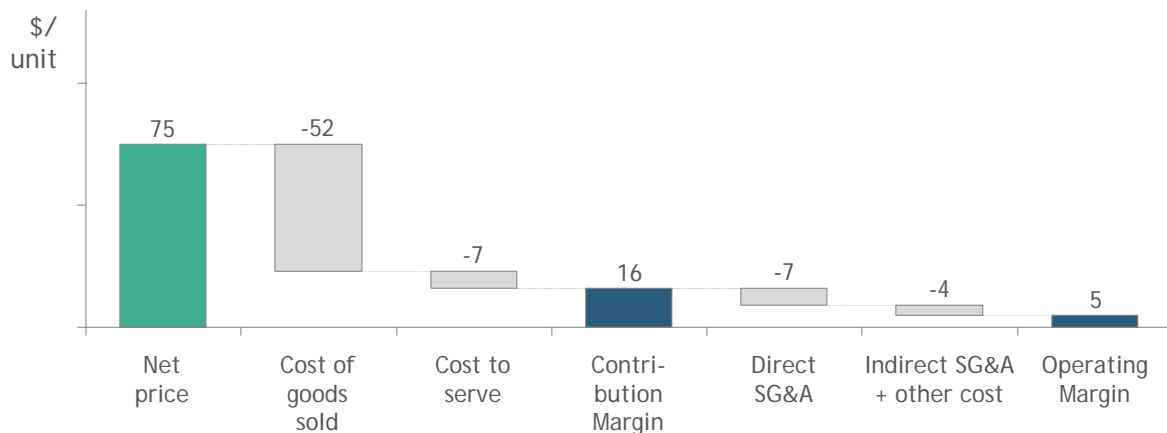
Buyer wants to  
**pay less**

## How do lower costs benefit both buyers and sellers?

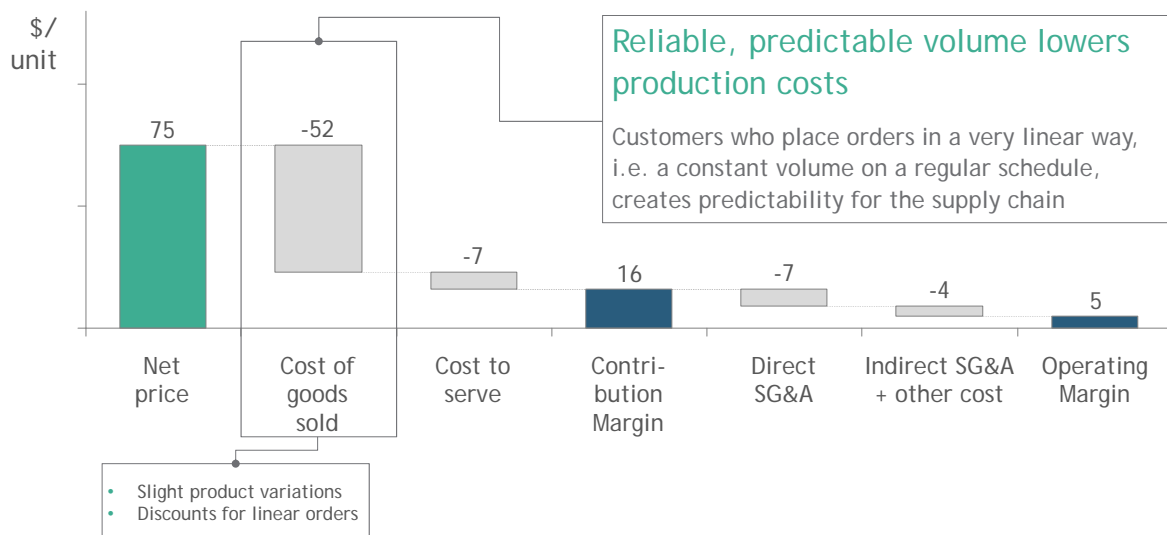
Win-win for buyer and seller!

Buyers need incentives to help  
sellers achieve lower costs

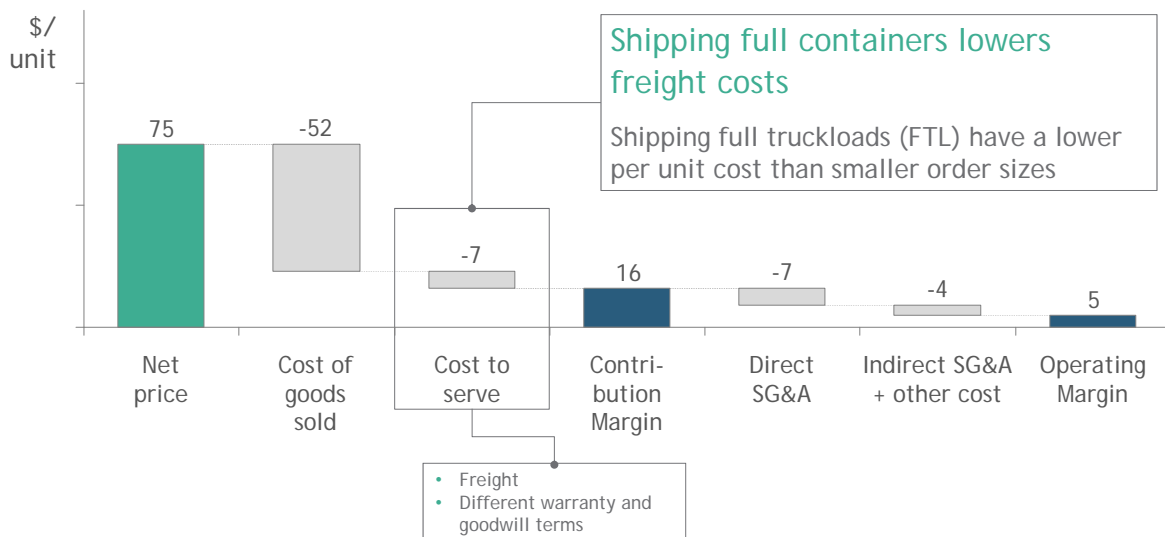
## Margin waterfall to illustrate sales incentives



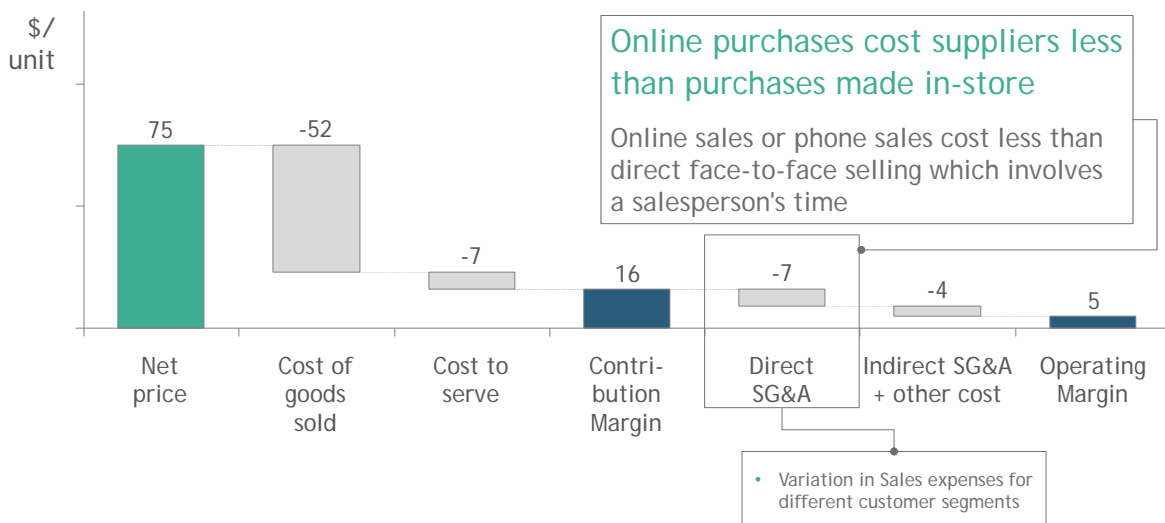
## Example for sales incentives (I)



## Example for sales incentive (II)



## Example for sales incentives (III)



## How can you use these categories to create sales incentives?

- How could you prevent margin leakage and improve price realization along the margin waterfall?
- What incentives to reduce cost might you design to create a win-win?

## Module Takeaways

## Price Discrimination Key Points

- Cost-plus pricing
- Price discrimination based on cost variation
- Price and margin waterfall
- Other incentives that lower costs
- Three principles of product line pricing
- Case application: Heinz Ketchup