

•
•
•
•
•
•
•
•
•
•
•

Cost Accounting
Traditions and Innovations
Barfield, Raiborn, Kinney



Chapter 9
Cost Allocation for
Joint Products and By-Products

•
•
•
•
•
•
•
•

Learning Objectives

- Classify joint process outputs
- Identifikasi kapan output menjadi sebuah produk gabungan
- Alokasi joint costs kepada produk.
- Menjelaskan bagaimana menangani produk sampingan (by-products)
- Menjelaskan bagaimana Perkiraan joint costs di organisasi nirlaba

Terms

- **Proses gabungan (Joint Process)** - proses tunggal di mana sebuah produk tidak bisa dihasilkan tanpa memproduksi
- **Biaya Gabungan (Joint Cost)** - materials, labor, dan overhead yang terjadi selama joint process
- **Produk gabungan (Joint Products)** – keluaran utama (primary outputs) atas joint process
- **Hasil sampingan (By-products)** and **siswa (scrap)** – keluaran yang secara kebetulan atas **Joint Process**

Terms

- **Barang sisa (Waste)** - keluaran sisa, tidak ada nilai jual
- **Titik pisah (Split-off point)** - menunjukkan kapan pertamakali produk gabungan bisa diidentifikasi yang sebagai produk
- **Incremental separate costs** - biaya-biaya setelah split-off
- Pada split-off, biaya gabungan dialokasikan ke produk gabungan/joint products
- Joint costs adalah **sunk costs** ketika split-off dicapai



Joint Process

D's Chicken Soup Company

Bakmi ayam/Chicken Noodle

Ayam/ Chicken & Adonan/Dumplings

Nasi ayam/Chicken Rice

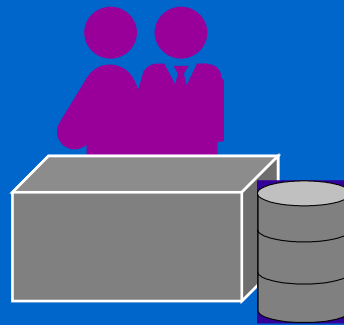


Joint Process

Chicken, vegetables, dan kaldu/broth
adalah joint inputs



Air, ayam dan
bumbu



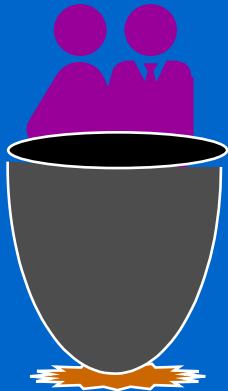
Siapkan sayuran



Masak sayuran dan
kaldu ayam

Joint Process

**Split-off
point**



**Basic
chicken
soup**

Add

**Bakmi/
Noodles**



Rice

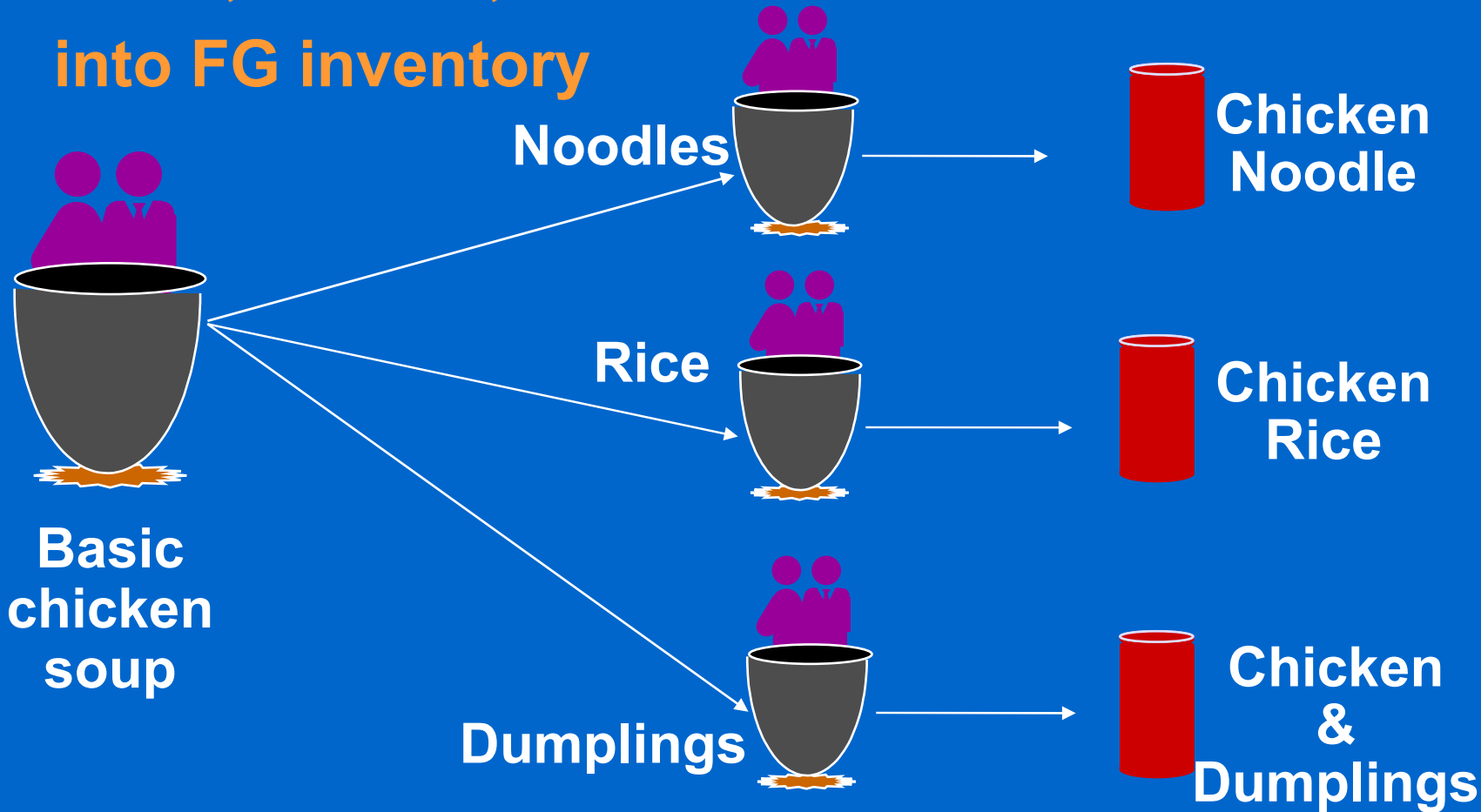


**Adonan/
Dumplings**



Illustration of a Joint Process

Cooked, canned, and
into FG inventory



Management Decisions

To Process or Not to Process

- Apakah penghasilan melebihi total costs?
 - Pendapatan atas penjualan atas hasil proses bersama
 - Costs
 - Biaya bersama (Joint costs)
 - Biaya proses setelah split off
 - Biaya penjualan

Management Decisions

To Process or Not to Process

- Apa yg dimaksud dgn opportunity cost?
 - Apakah pendapatan dari proses bersama lebih besar daripada pendapatan pengguna lainnya ?
- Bagaimana utk mengklasifikasikan hasil?
 - Primary, by-product, sisa/scrap, buang/waste
- Menjual pada split-off atau menproses lanjutan?

Alokasi Joint Costs

- Physical measure
 - Common physical characteristic
- Monetary measure
 - Sales value at split-off
 - Net realizable value at split-off
 - Approximated net realizable value at split-off

Each method may allocate a different cost to joint products

Allocating Joint Costs

- Physical Measure
 - Perlakukan masing-masing unit tersebut sama-sama diinginkan
 - Memberikan beban yang sama kepada masing-masing unit
 - Sediakan suatu ukuran keluaran yang tak berubah-ubah
 - Gunakan untuk produk dengan harga penjualan tidak stabil
 - Gunakan dalam rate-regulated industries
 - Abaikan revenue-generating kemampuan produk gabungan

Allocating Joint Costs

- Monetary Measure
 - Recognizes the revenue-generating ability of joint products
 - The base is not constant or unchanging

Monetary Measure Allocation Steps

- Pilih monetary allocation base
- List values that comprise the base for each joint product
- Sum the values
- Divide each individual value by the total value; this is the numerical proportion for each value
- Multiply joint costs by each proportion; this is the amount to allocate to each product
- Divide allocated joint cost for each product by the number of equivalent units to obtain a cost per EUP

Monetary Measure Allocation Steps

- Choose a monetary allocation base
Sales value at split-off
- List values that comprise the base for each joint product

Product	Revenue
A	\$ 1,000
B	\$ 4,000
C	\$ 5,000

Monetary Measure Allocation Steps

- Sum the values

Product Revenue

A	\$ 1,000
B	\$ 4,000
C	<u>\$ 5,000</u>
	\$10,000

Monetary Measure Allocation Steps

- Divide each individual value by the total value; this is the numerical proportion for each value

Product	Revenue	
A	\$ 1,000	$1,000/10,000 = 10\%$
B	\$ 4,000	$4,000/10,000 = 40\%$
C	<u>\$ 5,000</u>	$5,000/10,000 = \underline{50\%}$
	\$10,000	100%

Monetary Measure Allocation Steps

- Multiply joint costs by each proportion; this is the amount to allocate to each product

Product	Joint Cost	Proportion	Joint Cost Per Product
A	\$3,000 *	10%	\$ 300
B	\$3,000 *	40%	\$1,200
C	\$3,000 *	50%	<u>\$1,500</u>
			\$3,000

\$3,000 of joint costs are allocated to Products A, B and C

Monetary Measure Allocation Steps

- Divide allocated joint cost for each product by the number of equivalent units to obtain a cost per EUP

Product	Joint Cost Per Product		Equivalent Units	Cost Per EU
A	\$ 300	/	100	\$3.00
B	\$1,200	/	600	\$2.00
C	<u>\$1,500</u>	/	300	\$5.00
	\$3,000			



Monetary Measure Allocation

- Sales value at split-off
 - joint products marketable at split-off



-
-
-

Monetary Measure Allocation

- Sales value at split-off
- Net realizable value at split-off
 - joint products are marketable at split-off
 - sales revenue at split-off minus product disposal costs

Monetary Measure Allocation

- Sales value at split-off
- Net realizable value at split-off
- Approximated net realizable value at split-off
 - some or all joint products are not marketable at split-off
 - final sales price minus incremental separate costs

By-Products and Scrap

- Methods
 - Net Realizable Value
 - Realized Value
- Choose method based on
 - magnitude of net realizable value
 - need for additional processing after split-off

Net Realizable Value


By-Products and Scrap

- Use this method when net realizable value is significant

Selling Price

<Process, Storage, Disposal Costs>

Net Realizable Value

- 
- Scrap or by-product recorded at net realizable value
 - Net realizable value reduces joint cost of main products
 - Any loss is added to cost of the main products

Net Realizable Value

By-Products and Scrap

- Indirect method
 - Net realizable value reduces **cost of goods sold** for joint products
- Direct method
 - Net realizable value reduces **work in process** for joint products

Realized Value

By-Products and Scrap

- Recognized when by-products or scrap sold
- One option
 - Proceeds recorded as **Other Revenue**
 - Costs of additional processing or disposal added to costs of primary products
 - Does not match revenues and expenses
- Second option
 - Proceeds less related costs shown as **Other Income**
 - Matches revenues and expenses

•
•
•

Realized Value

By-Products and Scrap

- Other Options
 - Proceeds added to gross margin
 - Proceeds reduce cost of goods manufactured
 - Proceeds reduce cost of goods sold

Job Order Costing

By-Products or Scrap

- If most jobs create by-products or scrap
 - Proceeds reduce **overhead** account
- If only specific jobs create by-products or scrap
 - Proceeds reduce **work in process** for the specific job
- Use net realizable value or realized value

Joint Costs

Service Organizations

- Joint costs often related to advertising
- Not required to allocate joint costs
- Allocation base
 - Physical (number of locations)
 - Monetary (sales volume)



Joint Costs

Not-For-Profit Organizations

- Joint costs related to
 - fundraising
 - accomplishing an organizational program
 - conducting an administrative function
- Required to allocate by AICPA Statement of Position 98-2
- Clarifies the amount spent for various activities - especially fundraisers



Questions

- What is a joint product?
- How are costs allocated to joint products?
- Are joint costs allocated to by-products?
Explain.

