

**MICROSOFT[®] BUSINESS SOLUTIONS
– NAVISION[®] 4.0**

**COURSE 8388A: INVENTORY COSTING
TRAINING**

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INTRODUCTION

Welcome

We know training is a vital component of retaining the value of your Microsoft® Business Solutions investment. Our quality training from industry experts keeps you up-to-date on your solution and helps you develop the skills necessary for fully maximizing the value of your solution. Whether you choose Online Training, Classroom Training, or Training Materials, there's a type of training to meet everyone's needs. Choose the training type that best suits you so you can stay ahead of the competition.

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About the Inventory Costing Course

Costing functionality in Microsoft Navision is a tool that helps companies manage and track inventory costs to an extent they themselves define in order to run their business at maximum efficiency. The functionality provides companies with a superior way of handling costs, together with the ability to post them into the accounting periods in which they occurred, including closed periods.

The overall costing functionality in Microsoft Navision can generally be divided into two broad categories: Inventory Costing and Manufacturing Costing. The distinction is based on the concept that there are fundamental inventory costing principles that any Microsoft Navision implementation consultant must be aware of, and costing aspects that are specific to manufacturing companies.

The focus of the Inventory Costing course is primarily to provide explanations of costing concepts and matters related to general inventory management concerned with the handling of goods purchased for resale.

This course has been designed to give the consultants and implementers of Microsoft Navision with a focus on cost management a solid understanding of the principles and mechanisms on which the program is built. Based on this understanding, course participants will develop confidence in how the program records and calculates all the relevant inventory costs.

We recommend that participants use the material in the context of an instructor-led training course.

Course Organization

When this training material is used to build upon a course, we recommend that the course is taught over a period of two days.

This manual consists of the following chapters:

- Chapter 1: Inventory Costing Overview
- Chapter 2: Inventory Costing Principles in Navision
- Chapter 3: Inventory Costing Functionality
- Chapter 4: Inventory Valuation Functionality
- Chapter 5: Setting Up Inventory Costing

Course Objectives

Whether used in a course setting or for self-teaching, the manual is designed to equip course participants with the product knowledge, both at conceptual and functional levels, required when implementing and supporting Microsoft Navision at a wide range of wholesale and manufacturing companies.

By the end of this course, you should be able to:

- Understand basic inventory accounting and inventory costing concepts.
- Understand how the value of inventory is calculated in Microsoft Navision.
- Understand how the posting flow in Microsoft Navision determines the cost of items, based on the defined costing methods.
- Understand the unit cost and average cost calculations.
- Understand the functionality that supports inventory revaluation, rounding, adjustment, and general ledger posting.
- Set up inventory costing.

Target Audience

This training manual is intended for Microsoft Certified Business Solutions Partners' employees selling, implementing and supporting Microsoft Navision, with focus on financial management, inventory management, and distribution.

Course Prerequisites

To successfully participate in the inventory costing course, participants must have passed the Navision Essentials test or have equivalent experience with the Microsoft Navision application.

Additionally, participants should have a background in distribution/logistics to understand the underlying principles of these businesses.

Before beginning the course (self-teaching), you must install Microsoft Navision on your computer.

Course Overview

This course begins by introducing some basic inventory costing concepts, terms and principles and then explains the details as to how these principles are reflected in Navision functionality. We therefore recommend that the course, when built on this material, follow the suggested teaching path. Each aspect of the way inventory costing is implemented in Microsoft Navision is explained in detail, and is accompanied by comprehensive examples, both abstract and practical.

The chapters in this training manual typically contain the following elements:

- **Concepts:** Concepts explain the business processes that can be managed using the inventory management functionality of the program.

- **Scenarios:** Scenarios represent the typical business situations where the application is used. Scenarios provide a basis for examples that give practical step-by-step descriptions of how to use the application.
- **Test Your Knowledge:** Test Your Knowledge sections allow the course participants (manual readers) to review the information from the chapter by answering questions.

Chapter 1: Inventory Costing Overview, introduces the basic concepts and terms commonly used in inventory accounting.

Chapter 2: Inventory Costing Principles in Navision, explains in broad terms how Navision records the cost of goods sold through the posting process and eventually calculates the value of ending inventory.

Chapter 3: Inventory Costing Functionality, provides the details as to how the program calculates the flow of cost from acquisitions to outbound transactions and how adjustments to those costs are made with the adjustment batch job.

Chapter 4: Inventory Valuation Functionality, explains in detail how the program calculates the value of inventory and posts that value to the general ledger, as well as how the value can be adjusted and revalued.

Chapter 5: Setting Up Inventory Costing, explains how to set up the program to handle a company's inventory costing needs.

Demonstration Data

All examples and exercises in this manual are based on a fictitious company, Cronus International Ltd.

Many examples included in this material involve the creation of different documents. For the sake of simplicity, all documents are built on the following assumptions regarding input data: customer/vendor number is always 10000, and location code is Blue, unless instructed otherwise.

To make sure that you always have a clean demo database, make a copy of the database on your hard disk before starting the course.

License Information

To run the examples included in this training material, you can use any Microsoft Navision license that provides the possibility to post documents at any posting date.

Further Information

The dates in the course material are in the American format. To prevent any confusion when reading the material and following the exercises, you may wish to consider changing the date format in Microsoft® Windows® before starting the training session.

The working date is set as 01/25/01 (January 25, 2001). It is important that this date is used when following the examples and doing the exercises included in the material, unless instructed otherwise.

Bibliography

The following text books have been used as reference material:

- C.T. Horngren, G. Foster, and S.M Datar, Cost Accounting. A Managerial Emphasis. Upper Saddle River, N.J.: Prentice Hall, 1997.
- W. T.Harrison Jr., C.T. Horngren, Financial Accounting. Upper Saddle River, N.J.: Prentice Hall, 2001.

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Student Objectives

What do you hope to learn by participating in this course?

List three main objectives below.

- 1.

- 2.

- 3.

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CHAPTER 1: INVENTORY COSTING OVERVIEW

This chapter introduces a number of basic concepts and terms commonly used in inventory accounting. This introduction serves as a framework around which the rest of the course is built.

This chapter contains the following sections:

- Overview
- Objectives
- Inventory Costs
- Inventory Accounting

Overview

You can best understand the functionality behind inventory costing in Microsoft® Business Solutions–Navision® by first examining the underlying accounting concepts on which the functionality is based. This chapter starts at the most basic level by explaining the fundamentals of how inventory value is calculated. It then continues by exploring the different direct and indirect costs that contribute to the overall cost of inventory. The chapter ends by explaining cost flow assumptions.

Objectives

By the end of this chapter, you should be able to:

- Understand the basic concepts behind calculation of inventory value.
- Understand the relationship of capitalized and non-capitalized costs.
- Understand the valuation of cost objects in relation to their direct and indirect costs.
- Understand the cost flow assumptions that support the various costing methods.

Inventory Costs

Financial accounting measures periodic income. When measuring income, the role of inventory accounting is to assign cost to various accounting periods as expenses. The total cost of goods available for sale or use during a period must be allocated between the current period's usage (cost of goods sold) and the amounts carried forward to future periods (end-of period inventory).

The following equation represents all inventory situations:

$$\begin{array}{r} \text{Beginning} \\ \text{Inventory} \end{array} + \begin{array}{r} \text{Net} \\ \text{Purchases} \end{array} - \begin{array}{r} \text{Cost of} \\ \text{Goods Sold} \end{array} = \begin{array}{r} \text{Ending Inventory} \end{array}$$

The valuation for the ending inventory appears on the balance sheet as the asset (Inventory), while the amount Cost of Goods Sold appears on the income statement as an expense of generating the sales revenue.

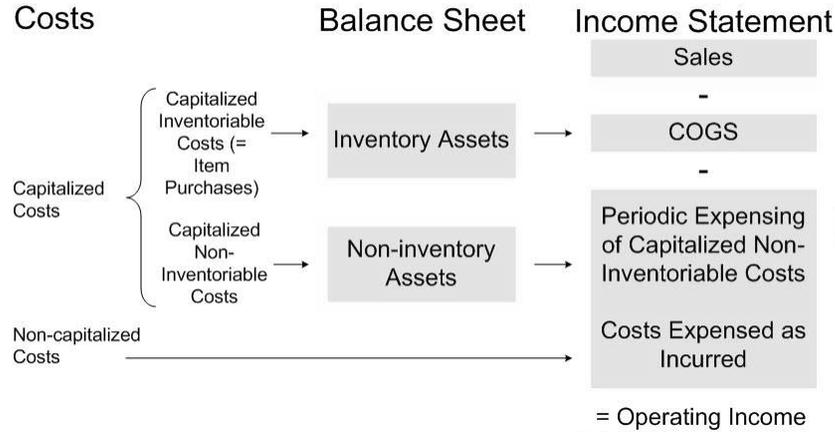
Costs included in the income statement and balance sheets can generally be classified into two categories:

- **Capitalized costs:** These costs are first recorded as an asset (capitalized) when they are incurred and are presumed to provide future benefits to the company. When used, they are recorded as expenses.
- **Non-capitalized costs:** These costs are recorded as expenses of the accounting period in which they are incurred.

Further, capitalized costs can be classified as:

- **Capitalized inventoriable costs:** These costs are associated with the purchase of goods for resale (merchandise inventory) or costs associated with the acquisition and conversion of materials and all other manufacturing inputs into goods for sale (manufacturing inventories). They become part of cost of goods sold in the period in which the inventory item is sold.
- **Capitalized non-inventoriable costs:** these costs are associated with any aspect of business other than inventory, for example, fixed assets.

The relationship of capitalized and non-capitalized costs is summarized in the following diagram:



Most companies use a so-called perpetual inventory method to determine the physical quantity and value amounts of their inventories, so the accounting task is to record and calculate the item withdrawals by constant tracing of costs removed from inventory. When each acquisition and withdrawal is recorded, the ending inventory value (balance in the inventory account) is calculated according to the following formula:

$$\begin{array}{r}
 \text{Beginning} \\
 \text{Inventory} \\
 \text{(known)}
 \end{array}
 +
 \begin{array}{r}
 \text{Net} \\
 \text{Purchases} \\
 \text{(known)}
 \end{array}
 -
 \begin{array}{r}
 \text{Cost of} \\
 \text{Goods Sold} \\
 \text{(recorded)}
 \end{array}
 =
 \begin{array}{r}
 \text{Ending Inventory} \\
 \text{(solved for)}
 \end{array}$$

NOTE: The perpetual inventory method is defined as a method that records and calculates the cost of withdrawals at the time that items are taken from inventory.

Inventory Accounting

The Bases of Inventory Valuation

According to the Dictionary of Accounting Terms, inventory valuation is defined as the determination of the cost assigned to an inventory item.

Depending on the internal accounting procedures and general industry practices, companies choose to value their inventory according to one of or a combination of the following valuation bases:

- **Acquisition cost:** When the acquisition cost basis is used, units in inventory are carried at their historical cost until sold. When this cost basis is used, only sales transactions affect income. Any changes in the value of inventory items occurring between the time of acquisition and the time of sale are not recognized.
- **Standard cost:** Standard cost is an estimate of what inventory items should cost. Studies of past and estimated future cost data provide the basis for standard costs. Manufacturing companies typically choose a valuation base of standard cost. The Manufacturing Costing course offers a detailed explanation of the principles of an accounting system based on standard costs.
- **Net realizable value:** The net realizable value is the amount that a company could realize as a willing seller with a willing buyer in the ordinary course of business. This is an exit value.
- **Replacement costs:** Replacement cost of an inventory item at a given time equals the amount the company would have to pay to acquire the item at that time.

NOTE: In addition to the four above-mentioned valuation bases, there is a fifth, widely accepted, basis called lower-of (acquisition)-cost-or market basis. This basis is the lesser of the two amounts: acquisition cost or "market value."

Cost Object

Accountants usually define cost as a resource sacrificed or forgone to achieve a specific objective. In conventional terms, costs are monetary amounts that must be paid to acquire goods and services. Companies often operate with the term 'cost object'.

A cost object is anything for which a separate measurement of cost is desired, for example a product, customer/vendor, service, department, or project.

To determine the value of a particular cost object, and therefore to guide their decisions, companies must assign costs to designated cost objects. Generally, cost assignment encompasses two elements:

- Tracing accumulated costs to a cost object
- Allocating accumulated costs to a cost object

Costs that are traced to a cost object are direct costs, and costs that are allocated to a cost object are indirect costs.

Direct costs are costs that are related to the particular cost object and that can be traced to it in an economically feasible or cost-effective way. An example of a direct cost might be a freight charge that a vendor adds to a delivery.

Indirect costs are costs that are related to the particular cost object but cannot be traced to it in an economically feasible way. Indirect costs are allocated to the cost object using a cost-allocation method. An example of an indirect cost might be the cost of lighting a warehouse where goods are stored. This lighting cost is attributable to the goods in the warehouse but cannot be directly traced to the goods themselves.

The following diagram presents the relationship between these terms:



Differentiating between direct and indirect costs is the cornerstone of cost accounting.

Acquisition of Inventory

All actual costs incurred in acquiring goods and preparing them for sale are part of the acquisition cost valuation of the goods. For a distributor, such costs include purchasing, transportation, receiving, unpacking, inspecting, and shelving costs, as well as that portion of bookkeeping and office costs that relate to the recording of purchases.

The invoice prices of the purchased goods, as well as any additional cost increase or decrease associated with the specific purchases, are regarded as direct costs. The costs of operating a purchasing department, the salaries and expenses of purchasers, the costs of the receiving and warehousing departments, and the costs of handling and shelving are usually regarded as indirect costs. Depending on the specific country legislation, indirect costs are treated as expenses of the period in which they were incurred, although conceptually they comprise part of the total cost of purchased items made ready for sale.

We can then express the total acquisition cost of an item by the following formula:

$$\text{Acquisition Cost} = \text{Purchase Costs} - \text{Discounts} + \text{Additional Acquisition Costs} + \text{Indirect Costs}$$

Examples of the direct additional acquisition costs can be:

- Customs duty
- Freight
- Freight insurance

Cost Flow Assumptions

If accounting were concerned merely with keeping a record of physical quantities, there would be few problems in accounting for inventories. But as accounting reports are stated in monetary amounts, the major problems in inventory accounting arise from fluctuations over time in the unit acquisition costs of inventory items.

Still, if the individual units of items can be physically identified as coming from a specific purchase, then there is no problem in determining the acquisition cost of the units withdrawn from inventory and the cost of the units still on hand. Companies in some industries dealing with unique and/or expensive items will most likely have a practice of tracing a specific item's cost to its purchase invoice or cost record.

Typically, however, new items are mixed with old units on shelves, in bins, or in other ways, and physical identification becomes impractical.

The inventory valuation problem arises because there are two unknown factors in the inventory equation:

$$\begin{array}{rcccl} \text{Beginning} & + & \text{Net} & - & \text{Cost of} & = & \text{Ending} \\ \text{Inventory} & & \text{Purchases} & & \text{Goods Sold} & & \text{Inventory} \\ \text{(known)} & & \text{(known)} & & \text{(unknown)} & & \text{(unknown)} \end{array}$$

The values of the beginning inventory and net purchases are known; the values of the cost of goods sold and of ending inventory are not known. The question is whether to value the units in ending inventory or cost of goods sold using the most recent costs, the oldest costs, the average costs, or some other alternative.

If more than one purchase is made of the same item at different prices and specific identification is not feasible or possible, then some assumption must be made as to the flow of costs in order to estimate the acquisition costs applicable to the units remaining in the inventory.

There are three cost flow assumptions typically used for this purpose:

- **FIFO (First-in, first-out):** FIFO cost flow assumption assigns the cost of the earliest units acquired to the withdrawals and the cost of the most recent acquisitions to the ending inventory. In other words, this cost flow assumes that the oldest materials and goods are used first.
- **LIFO (Last-in, first-out):** LIFO cost flow assumption assigns the cost of the latest units acquired to the withdrawals and the cost of the oldest units to the ending inventory. In a period of consistently rising prices, LIFO results in a higher cost of goods sold, a lower reported income, and thus lower income taxes. LIFO cannot usually be justified in terms of physical flows but is used because it produces a cost-of-goods-sold figure that is based on more up-to-date prices.
- **Weighted Average:** According to this method, the cost assigned to an inventory decrease is based on the weighted average cost of all inventory increases remaining at the date of the inventory decrease. The technique requires the periodic calculation of a new average unit cost, and this unit cost figure is used to price all withdrawals until the next purchase is made.

Scenario 1 – Identify Cost Objects and Associated Costs

You are examining the accounting procedures for Company XYZ that purchases auto parts from manufacturers and sells them to customers. Company XYZ also provides the service of installing the auto parts for customers.

1. Identify the cost objects for Company XYZ.
2. Identify possible costs that can be associated with each object and classify those costs as capitalized or non-capitalized. If the costs are capitalized, then identify them as inventoriable or non-inventoriable. Decide whether the costs are direct or indirect, meaning whether they can be traced to the object or allocated to the object.

Test Your Knowledge – Inventory Costing Overview

1. What are the two basic types of costs that are included on balance sheets and income statements?

2. Of the four bases for inventory valuation described in this chapter, which one is an estimate of what inventory items should cost based on studies of past and estimated future cost data?
 - a. Acquisition cost
 - b. Standard cost
 - c. Net realizable value
 - d. Replacement cost

3. Of the two types of costs associated with a cost object, which one is traceable to the cost object? Which one is a cost that is allocated to the cost object?

4. Of the three cost flow assumptions used to value acquired goods that are sold, which one assumes that the oldest materials and goods are used first?
 - a. FIFO
 - b. LIFO
 - c. Weighted Average

Quick Interaction: Lessons Learned

Take a moment to write down three Key Points you have learned from this chapter:

1.

2.

3.

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CHAPTER 2: INVENTORY COSTING PRINCIPLES IN MICROSOFT NAVISION

This chapter contains the following sections:

- Overview
- Objectives
- Accounting for Inventory in Microsoft® Business Solutions–Navision®

Overview

The following inventory equation lies at the basis of the calculation of inventory value in Microsoft Navision:

$$\begin{array}{r} \text{Beginning} \\ \text{Inventory} \end{array} + \begin{array}{r} \text{Net} \\ \text{Purchases} \end{array} - \begin{array}{r} \text{Cost of} \\ \text{Goods Sold} \end{array} = \begin{array}{r} \text{Ending Inventory} \end{array}$$

Generally, we can assume that the first element in the equation – beginning inventory – is known, since it is carried into the new financial period from the previous period. However, in order to calculate the value of the ending inventory, net purchases and the cost of goods sold must be recorded and calculated.

This chapter discusses how the program records the cost of goods sold through the posting process and eventually calculates the value of the ending inventory.

Objectives

By the end of this chapter, you should be able to:

- Understand how the program records quantity and value changes in entries.
- Understand the different types of information that are recorded in item ledger entries and value entries.
- Understand how inventory values are posted in the general ledger.

Accounting for Inventory in Navision

Determining the Value of Inventory

The program records the values of the net purchases and the cost of goods sold in two stages:

- **Inventory Posting:** First, every time a user posts a transaction of inventory increase or inventory decrease, the program records corresponding amounts in the item ledger and value entries and stores these records in the inventory ledger.
- **General Ledger Posting:** Second, the program posts inventory values generated by inbound and outbound transactions to the relevant general ledger (G/L) accounts. This is called reconciliation with the general ledger.

Inventory posting takes place through the normal posting of transaction documents that you are already familiar with.

There are two ways to reconcile inventory with the general ledger:

- Using the Post Inventory Cost to G/L batch job: The program makes postings to the G/L when the user runs the batch job. Postings can be summarized per posting group.
- Activating the automatic cost posting option in the inventory setup: The program makes postings to the G/L every time the user makes an inventory posting.

In practical terms, the above inventory equation can be rewritten as follows:

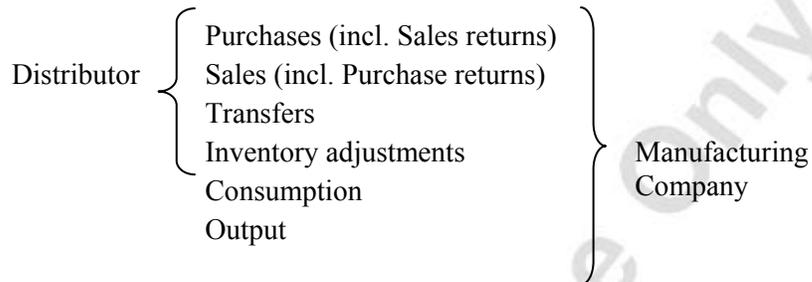
$$\begin{array}{rclclcl} \text{Inventory} & = & \text{Beginning} & + & \text{Value of} & - & \text{Value of} \\ \text{Value} & & \text{Balance of} & & \text{All} & & \text{All} \\ & & \text{Inventory} & & \text{Increases} & & \text{Decreases} \end{array}$$

The following two sections clarify the general principles of inventory posting and posting of inventory to G/L. An in-depth explanation of the inventory costing mechanism in Navision is the focus of the rest of this course.

Inventory Posting Flow

The core of the costing structure in Navision is inventory posting. There are two kinds of inventory posting: quantity and value.

Quantity posting describes the change in quantity on inventory. The following transactions/movements result in a change of inventory quantity:



The first four transactions are typical for a distribution company, while a manufacturing company would additionally need to take into account consumption and output transactions.

Every time a user posts one of the above transactions, the program records the resulting change in inventory quantity as an item ledger entry.

Value posting describes the change in inventory value. A change in inventory value occurs every time there is a change in inventory quantity. However, an inventory value may also change without quantity changes taking place. The program records the change in inventory value as a value entry. The program creates a separate value entry for the following value types:

- Direct costs, representing additional costs related to transactions of inventory increase (for example, a purchase) and cost adjustments related to transactions of inventory decrease (for example, a sale)
- Indirect costs
- Rounding
- Revaluations
- Variances

In this way, one or more value entries can exist per item ledger entry. Each of the above-listed value entry types is looked at in detail in the subsequent sections of this manual.

As with other kinds of entries in the program, you cannot delete item ledger or value entries after the corresponding document has been invoiced. If you have posted a document as invoiced with incorrect information, for example with an incorrect unit cost or quantity that affects inventory valuation, you must post a corrective document in order to create a balancing entry, and then you must post the original document with the correct information.

***NOTE:** Starting with Navision version 3.60, an **Undo Quantity Posting** function is available on the posted shipment and receipt documents to enable the user to undo an incorrectly recorded quantity in a transaction once a related document has been posted as received/shipped.*

Due to a number of factors, the cost amounts initially posted as the value entries may not always reflect the correct inventory value. Therefore, the inventory costs must be adjusted. The adjusting function, called the Adjust Cost – Item Entries batch job in the application, is described in the section “Inventory Adjustment,” in the following chapter.

General Ledger Posting

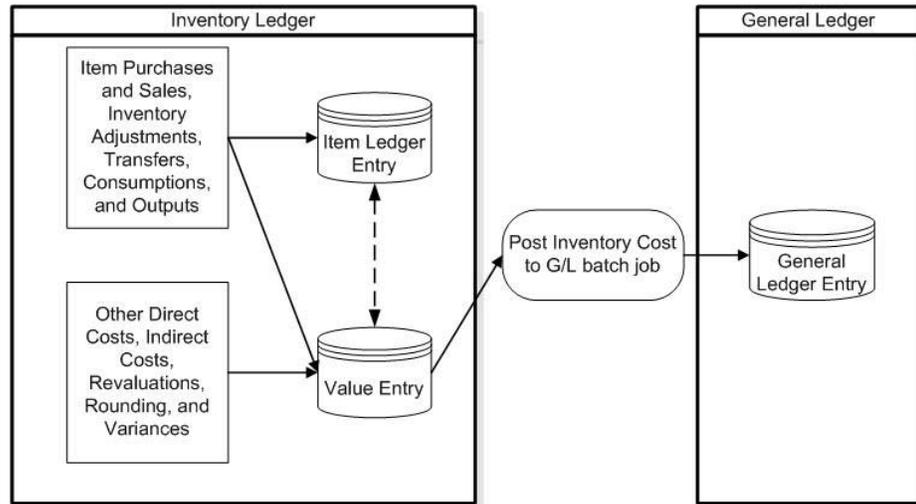
Amounts of inventory value and cost of goods sold are presented in the corresponding accounts of the general ledger. These amounts are calculated on the basis of the value entries that relate to each item ledger entry. Therefore, the value entries making up the inventory costs must be reconciled with the records of the general ledger. This reconciliation is done by posting inventory costs to G/L.

In principle, the program uses the entry type of the value entry to determine which general ledger account to post the entry to, while the sign of the quantity determines whether the entry is an inventory increase or decrease.

Inventory posting to G/L is explained in detail later in the manual in the section “Posting Inventory Costs to the General Ledger.”

Chapter 2: Inventory Costing Principles in Microsoft Navision

A logical design of the inventory costing mechanism in Navision is represented in the following diagram:



The following chapter describes in detail the ways in which the program first records inventory acquisition costs and then cost of goods sold.

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Test Your Knowledge – Inventory Costing Principles in Navision

1. What are the two ways you can post inventory cost to the general ledger?
2. In which entries does the program record inventory quantity changes? In which entries does the program record inventory value changes?
3. True or False: The program uses the information in the item ledger entries to post inventory cost to the general ledger.

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Quick Interaction: Lessons Learned

Take a moment to write down three Key Points you have learned from this chapter:

1.

2.

3.

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CHAPTER 3: INVENTORY COSTING FUNCTIONALITY

This chapter contains the following sections:

- Overview
- Objectives
- Inventory Acquisition
- Cost of Goods Sold
- Inventory Transfers and Returns
- Inventory Adjustment
- Rounding

Overview

The inventory costing principles described in the last chapter form the foundation for the functionality that this chapter introduces and describes. Starting with the acquisition of goods, the program assigns costs to those goods that carry through to the sales, as well as any possible transfers or returns. This chapter details how the program assigns costs to acquisitions and how the costs flow to outbound transactions. Since costs of purchases have the potential to change over time, either through item charges or revaluations, Microsoft® Business Solutions – Navision® implements an inventory adjustment batch job that ensures costs of purchases and sales are updated with the correct costs over time. This chapter discusses the batch job and how it works.

Objectives

By the end of this chapter, you should be able to:

- Understand the assignment of costs to acquisitions, including unit cost calculation.
- Understand the flow of costs from purchases to sales for the various costing methods.
- Understand how cost flow for transfers and returns is handled.
- Understand the purpose and functioning of the inventory adjustment batch job.
- Understand how and why the program creates rounding value entries.

Inventory Acquisition

As described earlier in this manual, in order to calculate the inventory value, accountants must record and calculate item acquisition costs. The generic formula for calculating the total acquisition cost of an item is expressed as:

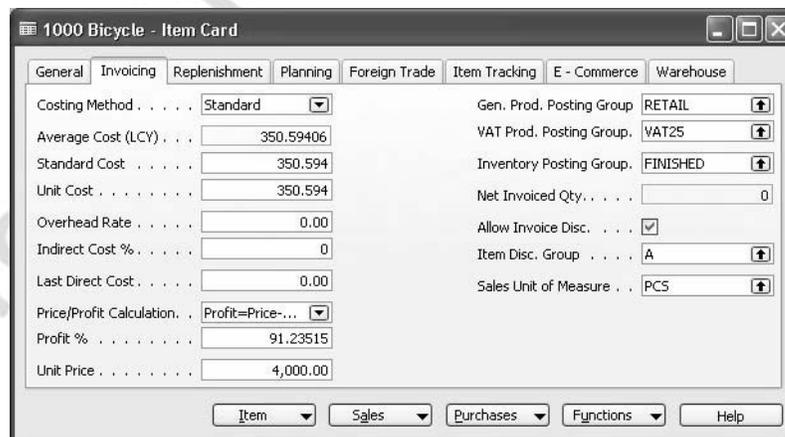
$$\begin{array}{rclcl} \text{Acquisition} & = & \text{Purchase} & + & \text{Additional} & + & \text{Indirect Costs} \\ \text{Cost} & & \text{Costs} & & \text{Acquisition} & & \\ & & (- & & \text{Costs} & & \\ & & \text{Discounts}) & & & & \end{array}$$

This is applicable in Microsoft Navision.

The underlying costing structure in the program allows for the categorization and recording of all three elements of the item acquisition costs. This makes it possible for the company to analyze its expenditures and make informed decisions based on this information.

In Microsoft Navision, the item purchase cost is called the direct unit cost. This is the amount that the company must pay its vendors in accordance with the purchase invoice. We refer to additional acquisition costs as item charges. The program assigns these two types of direct costs by tracing them to the specific purchase(s).

The program assigns indirect costs through cost allocation rather than tracing. In the program, you can add these costs to the direct item cost as a percentage and/or a fixed overhead amount per unit. The indirect cost percentage and overhead rate are specified in the corresponding fields on the **Invoicing** tab of the item card:



In the program, you record and assign costs through inventory posting. The following section describes the mechanism behind the cost assignment.

Unit Cost Calculation

As established earlier, in Microsoft Navision, inventory is valued on the basis of value entries. The program records costs in the Value Entry table in the **Cost Amount (Actual)** field. The program fills in this field every time it posts an inventory transaction, by using the amount from the **Unit Cost (LCY)** field on the purchase line as a basis and multiplying by the quantity.

To calculate the unit cost on the purchase line or item journal line, the program uses one of the following values from the item card:

- **Last Direct Cost**, together with **Indirect Cost %** and **Overhead Rate**, when the item is valued at acquisition cost
- **Unit Cost**, when the item is valued at standard cost

The program uses the last direct cost if the company chooses to value the inventory increase at the acquisition cost. When the user creates a purchase line, the program copies the value in the **Last Direct Cost** field on the item card to the **Direct Unit Cost Excl. VAT** field on the purchase line (or to the **Unit Amount** field on an item journal line). This is valid for all costing methods except Standard.

The program uses the unit cost on the item card when the company chooses to value the inventory increase at the current standard cost. On a purchase line or item journal line, you cannot change the value in the **Indirect Cost %** field when the costing method is Standard.

The **Unit Cost (LCY)** field on the purchase line reflects the unit cost of the item including indirect costs. The program calculates the contents of these fields according to the following formula:

On the purchase line:

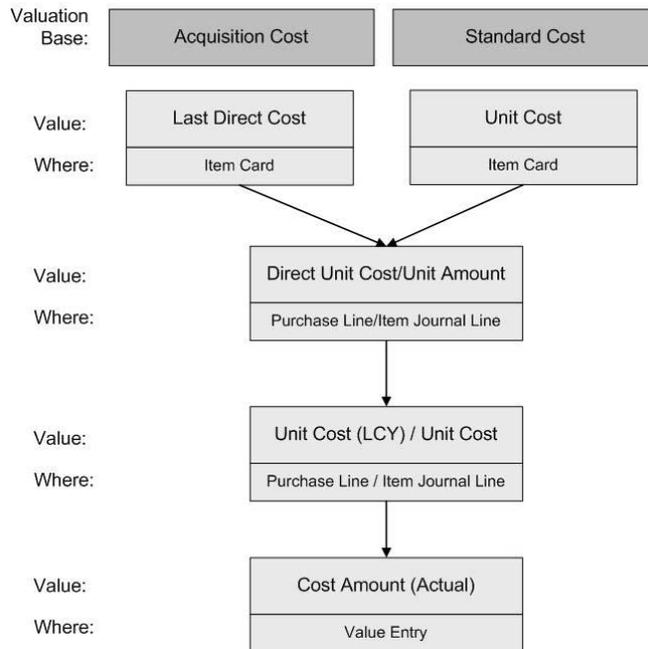
$$\begin{aligned} \text{Unit Cost (LCY)} = & \\ & (\text{Direct Unit Cost} - (\text{Discount Amount} / \text{Quantity})) * (1 + \text{Indirect Cost \%} / 100) \\ & + \text{Overhead Rate} \end{aligned}$$

On the item journal line, the **Unit Cost** field includes the indirect costs when the entry type is Positive Adjustment:

$$\text{Unit Cost} = \text{Unit Amount} * (100\% + \text{Indirect Cost \%}) + \text{Overhead Rate}$$

When the entry type is Purchase, the **Unit Cost** on the item journal line contains the same value as the **Direct Unit Cost Excl. VAT** field on the purchase line would.

The following diagram summarizes the relationship between values specified in different fields and on different windows in the program:



Companies implement their decision regarding the initial valuation base by selecting a costing method:

- FIFO, LIFO, Specific, and Average costing methods imply that inventory valuation is based on acquisition costs.
- Standard costing method implies that inventory valuation is based on standard costs.

Definitions of the costing methods supported in Microsoft Navision are introduced in the section “Costing Methods” later in this chapter.

The program calculates the unit cost of the item by summing up direct unit cost (purchase invoiced value) and indirect costs. The direct unit cost is calculated by the program based on the historical (previous) purchase costs.

However, as mentioned earlier, an item’s total acquisition cost may also include additional direct costs, such as freight or custom duties. You can post additional direct costs to the inventory ledger as item charges. The program records these additional costs in the value entries.

Inventory Posting

When the user posts an inbound transaction, the program creates an item ledger entry as well as one or more value entries. The item ledger entry contains the purchased quantity, while the value entries contain both the value of the direct unit cost and indirect cost.

In addition, when the user posts an item charge related to the purchase of an item, the program creates an additional value entry with the item charge for the item and assigns this value entry to the original item ledger entry. The program does not create an additional item ledger entry; instead, the amount in the **Cost Amount (Actual)** field on the original item ledger entry changes. This is because the **Cost Amount (Actual)** field on the item ledger entry is a FlowField that sums the cost amounts from all the value entries related to that item ledger entry. This is similar to the way the detailed customer ledger entries are related to the customer ledger entries.

The following example illustrates the principles of inventory posting in abstract terms. Only relevant fields are considered.

A purchaser creates a purchase order including the amount of the vendor's invoice and additional freight invoice. The purchaser then posts the order as received and invoiced. The program creates the following item ledger entry:

Item Ledger Entry			
Posting Date	Entry Type	Quantity	Entry No.
01-01-01	Purchase	10	1

The program also creates the following value entries related to the same item ledger entry:

Value Entry					
Posting Date	Entry Type	Cost Amount (Actual)	Cost Posted to G/L	Item Ledger Entry No.	Entry No.
01-01-01	Direct Cost	1000	0	1	1
01-01-01	Direct Cost	100	0	1	2

Examples of Inventory Costing

The following three examples demonstrate how the valuation of purchases works in the program.

NOTE: Before starting the scenarios, we recommend that you set location Blue as default for vendor 10000 and deactivate the option of mandatory external document number on purchase documents by removing a check mark in the **Ext. Doc. No. Mandatory** field on the **General** tab of the Purchases & Payables Setup.

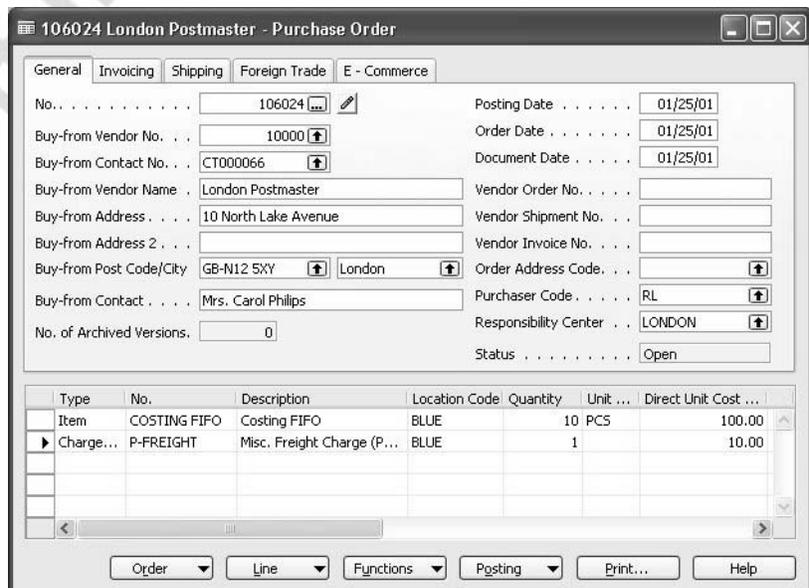
Scenario 1– Item Valuation with Direct Costs Only

1. Create a new item with the following specifications:

No.	COSTING FIFO
Name	Costing FIFO
Base Unit of Measure:	PCS
Costing Method	FIFO
Gen. Product Posting Group	RETAIL
VAT Product Posting Group	VAT25
Inventory Posting Group	RESALE
Last Direct Cost	100.00
Unit Price	120.00

2. Create a purchase order for vendor 10000 with a posting date of 01/25/01 for 10 pieces of item COSTING FIFO. Notice that the program fills the **Direct Unit Cost Excl. VAT** field with the value from the **Last Direct Cost** field on the item card.

3. Now, assume that you also have received an invoice for freight services related to this purchase:
- Enter a second line with an item charge. Select P-FREIGHT in the **No.** field, and enter 1 in the **Quantity** field and 10 in the **Direct Unit Cost Excl. VAT** field.
 - Assign this item charge to the item purchase line. (The procedure for doing this is described in the topic “Assigning Item Charges to Purchase Documents” in online Help).



- Post the order as received and invoiced.

Have a look at the item ledger entries and value entries created as a result of posting:

- From the Navigation Pane, click the **Purchase** button and click HISTORY→POSTED RECEIPTS. Browse to the posted receipt for the order just posted.

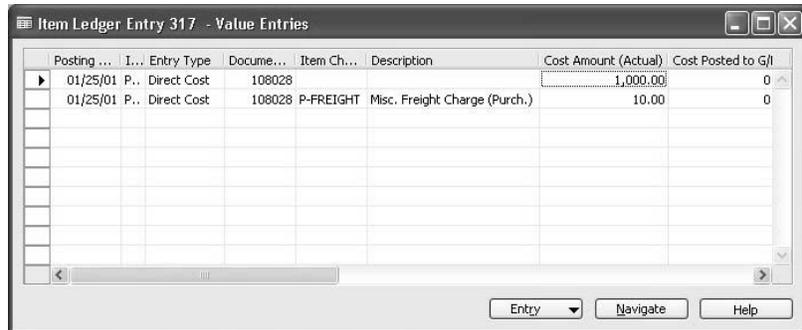
- Click **Navigate**. Select the line for Item Ledger Entry and click **Show**.

Posting ...	Entry Type	Docume...	Item No.	Description	Quantity	Invoiced...	Remainin...	Cost Amount (Actual)
01/25/01	Purchase	107029	COSTIN...		10	10	10	1,010.00

Notice that the program has created only one item ledger entry for this order, because only one line of the purchase order causes a change in inventory quantity. The total landed costs of 1,010 LCY for this purchase are specified in the **Cost Amount (Actual)** field. The entry number of this record is indicated in the **Entry No.** field (scroll to the right to see the field).

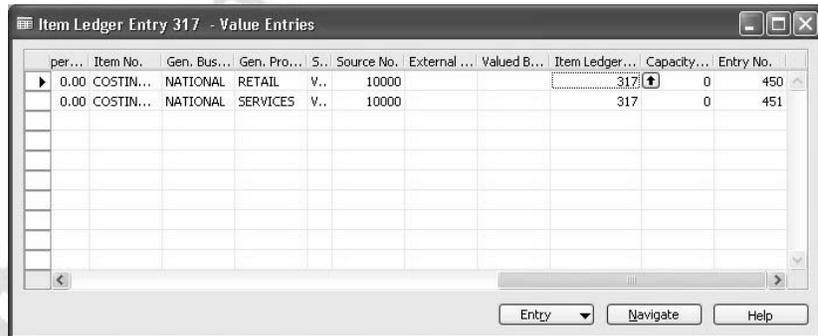
Now see the value entries created for this transaction.

7. Click ENTRY→VALUE ENTRIES.



Posting ...	I...	Entry Type	Docume...	Item Ch...	Description	Cost Amount (Actual)	Cost Posted to G/I
01/25/01	P..	Direct Cost	108028			1,000.00	0
01/25/01	P..	Direct Cost	108028	P-FREIGHT	Misc. Freight Charge (Purch.)	10.00	0

Since the purchase order contained two lines that affected a change in inventory value, the program has created two value entries. The program posts the invoiced purchase cost and the cost of the freight fee as direct costs and copies the corresponding amounts to the **Cost Amount (Actual)** field. By scrolling to the right, you can see in the **Item Ledger Entry No.** field that both entries relate to the same item ledger entry:



per...	Item No.	Gen. Bus...	Gen. Pro...	S...	Source No.	External ...	Valued B...	Item Ledger...	Capacity...	Entry No.
0.00	COSTIN...	NATIONAL	RETAIL	V..	10000			317	0	450
0.00	COSTIN...	NATIONAL	SERVICES	V..	10000			317	0	451

In general, to see a list of all value entries related to a specific item charge type:

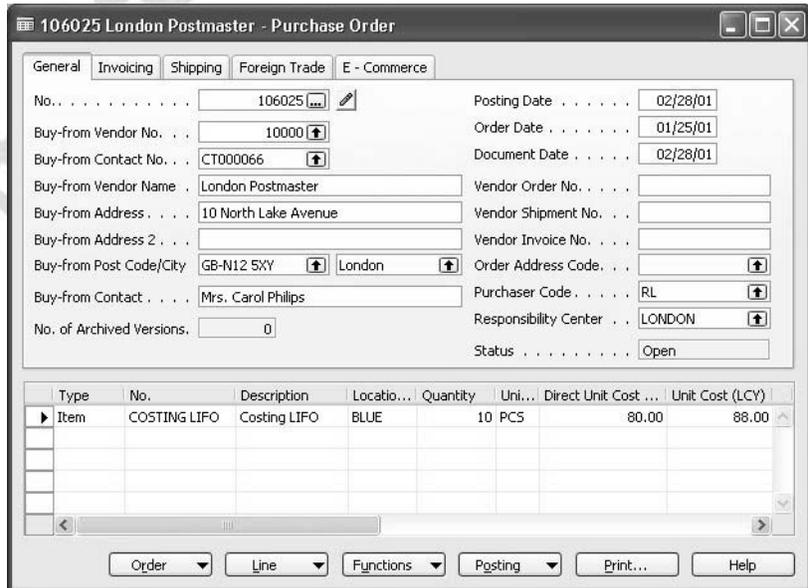
1. From the Navigation Pane, click the **Administration** button and click SALES & MARKETING→ITEM CHARGES.
2. Select the item charge number for which you wish to see value entries.
3. In the Item Charges window, click ITEM CHARGE→VALUE ENTRIES.

Scenario 2– Item Valuation with Direct and Indirect Costs

1. Create a new item with the following specifications:

No.	COSTING LIFO
Name	Costing LIFO
Base Unit of Measure	PCS
Costing Method	LIFO
Gen. Product Posting Group	RETAIL
VAT Product Posting Group	VAT25
Inventory Posting Group	RESALE
Indirect Cost	10%
Last Direct Cost	80.00
Unit Price	130.00

2. Create a purchase order for vendor 10000 with a posting date of 02/28/01 for 10 units of item COSTING LIFO.
3. Use the Show Column function to make the **Unit Cost (LCY)** field visible. Notice that the unit cost includes both the direct cost and the indirect cost associated with the item.



4. Post the order as received and invoiced.

Have a look at the item ledger entries and value entries created as a result of posting.

5. Open the posted receipt and use the Navigate function to view the item ledger entry.

Posting...	Entry Type	Docume...	Item No.	Description	Quantity	Invoiced...	Remainin...	Cost Amount (Actual)
▶ 02/28/01	Purchase	107030	COSTIN...		10	10	10	880.00

The total landed costs of 880 LCY for this purchase are specified in the **Cost Amount (Actual)** field. The entry number of this record is indicated in the **Entry No.** field (scroll to the right to see the field).

Now have a look at the value entries created for this transaction:

Posting...	I...	Entry Type	Docume...	Item Ch...	Description	Cost Amount (Actual)	Cost Posted to G/I
▶ 02/28/01	P..	Direct Cost	108029			800.00	0
02/28/01	P..	Indirect Cost	108029			80.00	0

The invoiced purchase cost is posted as direct cost and indirect cost, and the corresponding amounts are copied to the **Cost Amount (Actual)** field. Both entries relate to the same item ledger entry.

Scenario 3 – Item Valuation Based on Standard Costs

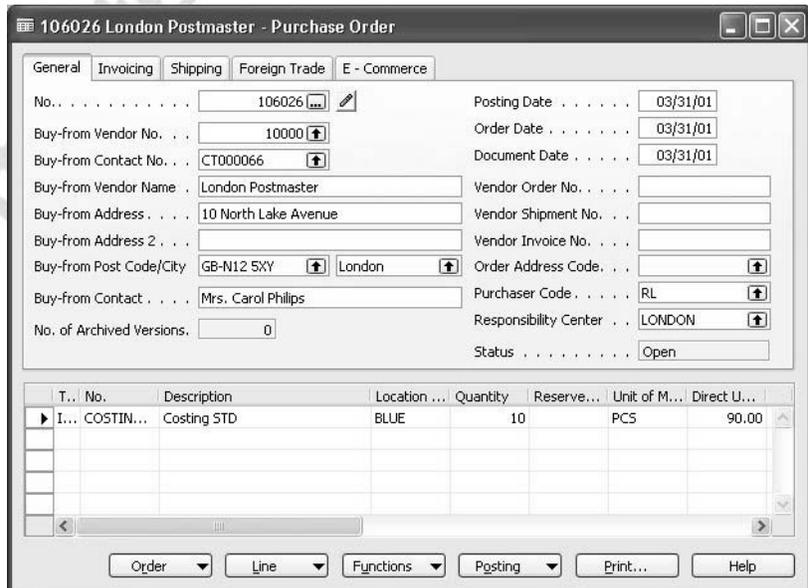
1. Create a new item with the following specifications:

No.	COSTING STD
Name	Costing STD
Base Unit of Measure	PCS
Costing Method	STANDARD
Gen. Product Posting Group	RETAIL
VAT Product Posting Group	VAT25
Inventory Posting Group	RESALE
Standard Cost	100.00
Unit Price	120.00

2. Create a purchase order for vendor 10000 with a posting date of 03/31/01 for 10 pieces of item COSTING STD.

Assume that your vendor invoices the purchase at a cost of 90 LCY per unit.

3. In the **Direct Unit Cost Excl. VAT** field, enter 90. Notice that the program leaves the **Unit Cost (LCY)** as 100.



4. Post the order as received and invoiced.

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The program creates the following item ledger entries as a result of the posting:

Posting ...	Entry Type	Docume...	Item No.	Description	Quantity	Invoiced...	Remainin...	Cost Amount (Actual)
03/31/01	Purchase	107031	COSTIN...		10	10	10	1,000.00

The value of the 10 units on hand, as specified in the **Cost Amount (Actual)** field, is recorded at the standard cost amount of 1,000 LCY, rather than the purchase price of 900 LCY.

Now have a look at the value entries created for this transaction:

Posting ...	I...	Entry Type	Docume...	Item Ch...	Description	Cost Amount (Actual)	Cost Posted to G/L
03/31/01	P..	Direct Cost	108030			900.00	0
03/31/01	P..	Variance	108030			100.00	0

The total purchase cost is posted as two entries: direct cost of 900 LCY and variance of 100 LCY representing the difference between the standard cost amount and the direct cost of the purchase.

When reconciling inventory with the G/L, the program will post the standard cost of 1,000 LCY to the Inventory account and the 100 LCY to the Purchase Variance account.

Cost of Goods Sold

In the following inventory equation, the cost of goods sold is an unknown parameter that must be recorded and calculated:

$$\begin{array}{r} \text{Beginning} \\ \text{Inventory} \end{array} + \begin{array}{r} \text{Net} \\ \text{Purchases} \end{array} - \begin{array}{r} \text{Cost of} \\ \text{Goods Sold} \end{array} = \begin{array}{r} \text{Ending} \\ \text{Inventory} \end{array}$$

When determining the cost of goods sold, the major problem arises from fluctuations over time in the unit acquisition costs of inventory items. If more than one purchase is made of the same item at different prices and specific identification is not feasible or possible, then some assumption must be made as to the flow of costs in order to estimate the acquisition costs applicable to the units remaining in the inventory.

In Microsoft Navision, the cost flow assumption is embedded in the costing method associated with the item.

As described earlier in this manual, a cost flow assumption determines how the program assigns acquisition costs to the inventory withdrawals and to the ending inventory. In practical terms, it means that each time a company makes a sale, the program must determine which items have been sold and which purchase entry or entries the sale should be applied to.

Therefore, a link between an inventory increase and an inventory decrease is necessary. This link is introduced by means of applying quantity postings against each other. In the program, you can create an application between inventory increase and decrease in two ways:

- Manually
- Automatically

The user will typically choose to make application manually when they need to apply an inventory decrease to a specific inventory receipt. A procedure for creating a manual application – in the program referred to as a fixed application – is explained and illustrated below in the section “Fixed Application.”

In most situations, it is preferable and more feasible to allow the program to do the linking automatically based on some assumptions as to how items physically flow through inventory. In Microsoft Navision, this assumption is called the application method, and it is a property of the costing method of the item.

Costing Methods

The costing method is a common term in the program for a combination of application methods and cost flow assumptions. By selecting a costing method for an item, the user determines both the flow of physical items in the company's inventory and the financial treatment of that physical flow.

The choice of a costing method has two consequences:

- It determines which purchase entries and sales entries will be applied to each other when you post a document. This is the application method part of the costing method.

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- It influences the unit cost calculation (because this is affected by the application method used for sales and purchase entries), which is itself used for posting to the general ledger. This is the cost flow assumption part of the costing method.

Microsoft Navision supports the following five widely-recognized costing methods:

- **FIFO (First-In-First-Out):** With this method, the program applies the entries of inventory decrease to the entries of inventory increases that were purchased first. The cost of inventory decrease is thus calculated by taking the value of the first inventory acquisition(s)

The principle of the FIFO costing method is illustrated in the following example. The first three entries represent a sequence of inventory increases, while the last three entries are the inventory decreases valued according to the FIFO costing method:

Posting Date	Quantity	Cost Amount (Actual)	Entry No.
01/01/01	1	10	1
01/01/01	1	20	2
01/01/01	1	30	3
01/02/01	-1	-10	4
01/03/01	-1	-20	5
01/04/01	-1	-30	6

- **LIFO (Last-In-First-Out):** With this method, the program applies the entries of inventory decrease to the entries of inventory increases that were purchased most recently. The cost of inventory decrease is thus calculated by taking the value of the last inventory acquisition. The principle of the LIFO costing method is illustrated in the following example:

Posting Date	Quantity	Cost Amount (Actual)	Entry No.
01/01/01	1	10	1
01/01/01	1	20	2
01/01/01	1	30	3
01/02/01	-1	-30	4
01/03/01	-1	-20	5
01/04/01	-1	-10	6

- Average:** With this costing method, the program applies the entries of inventory decrease to the entries of inventory increases that were purchased first. The cost of inventory decrease is, however, determined by calculating a weighted average of the remaining inventory at the valuation date of the inventory decrease. The way the program calculates the average cost is described in greater detail in a separate section. The principle of the average costing method is illustrated in the following example:

Posting Date	Quantity	Cost Amount (Actual)	Entry No.
01/01/01	1	10	1
01/01/01	1	20	2
01/01/01	1	30	3
01/02/01	-1	-20	4
01/03/01	-1	-20	5
01/04/01	-1	-20	6

- Specific:** The specific costing method represents an assumption that individual units of items can be physically identified, typically with serial and/or lot numbers. Based on this unique identification, the unit's acquisition cost can be traced to a specific unit. With this method, the program ensures that an entry of inventory decrease containing an item with a serial number is always applied to an entry of inventory increase that contains the same item with the same serial number and thus the same acquisition cost. The principle of the specific costing method is illustrated in the following example:

Posting Date	Quantity	Serial No.	Cost Amount (Actual)	Entry No.
01/01/01	1	SN-1	10	1
01/01/01	1	SN-2	20	2
01/01/01	1	SN-3	30	3
01/02/01	-1	SN-2	-20	4
01/03/01	-1	SN-3	-30	5
01/04/01	-1	SN-1	-10	6

- **Standard:** With this costing method, the program applies the entries of inventory decrease to the entries of inventory increases that were purchased first. In terms of application method, this is the same as for the FIFO costing method. However, as the inventory increase is valued at standard costs rather than acquisition costs, inventory decrease is also valued at the standard costs. The principle of the standard costing method is illustrated in the following example:

Posting Date	Quantity	Cost Amount (Actual)	Entry No.
01/01/01	1	15	1
01/01/01	1	15	2
01/01/01	1	15	3
01/02/01	-1	-15	4
01/03/01	-1	-15	5
01/04/01	-1	-15	6

As demonstrated in the definitions above, the costing methods differ in the way they value inventory decreases. However, all costing methods have one thing in common – when the quantity on inventory is zero, the inventory value is also zero.

It is also important to note that while, in general, the inventory costs are capitalized according to the cost flow assumption embedded in the individual costing method, the value of inventory decrease transactions are initially posted as based on just two types of unit cost:

- Average cost for items valued according to all costing methods except Standard.
- Standard cost for items valued according to the standard costing method.

To make an inventory valuation according to the selected costing method, the costs must be adjusted using the inventory adjustment batch job. This issue is addressed later in this chapter in the section “Inventory Adjustment.”

The attributes of costing methods are summarized per costing method in the following table:

Costing Method	Unit Cost Calculation for Inventory Increase	Application Method	Initial Unit Cost Calculation for Inventory Decrease
FIFO	Acquisition Cost	FIFO	Average Cost
LIFO	Acquisition Cost	LIFO	Average Cost
Average	Acquisition Cost	FIFO	Average Cost
Specific	Acquisition Cost	Serial No., Application No.	Average Cost
Standard	Standard Cost	FIFO	Standard Cost

***NOTE:** The program uses FIFO as the default costing method if you do not manually fill in the field for the item.*

Application Methods

There is a defined set of priorities as to how the program treats the physical item flow. These priorities depend on the way applications between outbound and inbound entries are created. They are described as follows:

Every time the user posts an inventory decrease (sales line, item journal line), the program checks whether there is a fixed application between entries, that is, if the line contains an entry number that indicates which posted item entry this line should be applied to. If the fixed application has been created, the program links the line with that item entry.

If no fixed application exists, the program checks whether item tracking entries with serial numbers have been created for the line. If there are such entries, the program links the appropriate increase and decrease in inventory together according to the FIFO or LIFO methods, depending on the selection in the **Costing Method** field on the item card.

If there are no item tracking entries for the line in question, the program refers to the costing method and applies the outbound entry to an inbound entry according to the application method associated with the selected costing method.

Technically, the mechanism of applying inventory entries against each other works in the following way:

When the user posts an inventory increase transaction, the program places a check mark in the **Open** field on the created item ledger entry. The incoming quantity is copied to the **Remaining Quantity** field.

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Open the Item Ledger Entries window for item COSTING FIFO:

Postin...	Entr...	D...	Item No.	Quan...	Invoic...	Remaining Quantity	Cost Amoun...	Cost...	Open	Entry No.
▶ 01/25/01	Purc...	1...	COSTING FIFO	10	10	10	1,010.00	0.00	<input checked="" type="checkbox"/>	317

When an inventory decrease of the same item is posted, the program applies the entry of the outbound transaction to the inbound item ledger entry(s) with the check mark in the **Open** field. The quantity in the **Remaining Quantity** field of the corresponding entry is reduced by the number of units sold. If the quantity of the outbound entry is the same or greater than the remaining quantity of the inbound entry in question, then the program closes this entry by deleting the check mark from the **Open** field.

Records regarding which item entries have been applied to a specific item entry are stored in the Item Application Entry table, which does not have user interface.

Have a look at the applied item entries for item 1968-S:

1. Open the item ledger entries for item 1968-S.

Postin...	Entr...	D...	Item No.	Quan...	Invoic...	Remaining Quantity	Cost Amoun...	Cost...	Open	Entry No.
▶ 12/31/00	Posi...	S...	1968-S	236	236	236	21,545.62	0.00	<input checked="" type="checkbox"/>	27
12/31/00	Posi...	S...	1968-S	14	14	14	1,278.13	0.00	<input checked="" type="checkbox"/>	29
12/31/00	Posi...	S...	1968-S	28	28	13	2,556.26	0.00	<input checked="" type="checkbox"/>	28
01/04/01	Sale	1...	1968-S	-2	-2	0	-192.20	0.00	<input type="checkbox"/>	132
01/05/01	Sale	1...	1968-S	-1	-1	0	-96.10	0.00	<input type="checkbox"/>	134
01/06/01	Sale	1...	1968-S	-2	-2	0	-192.20	0.00	<input type="checkbox"/>	139
01/08/01	Sale	1...	1968-S	-2	-2	0	-192.20	0.00	<input type="checkbox"/>	141
01/11/01	Sale	1...	1968-S	-1	-1	0	-96.10	0.00	<input type="checkbox"/>	148
01/12/01	Sale	1...	1968-S	-4	-4	0	-384.40	0.00	<input type="checkbox"/>	153
01/14/01	Sale	1...	1968-S	-1	-1	0	-96.10	0.00	<input type="checkbox"/>	161

Notice that the remaining quantity for the third entry has been reduced compared to the original quantity when added to the inventory. This indicates that one or more outbound entries have been applied to this entry.

2. Select the third line and click APPLICATION→APPLIED ENTRIES.

Posting ...	Ent...	Docume...	Item No.	Location ...	Applied ...	Quantity	Invoiced...	Remainin...	Open	Applie
01/04/01	Sale	102001	1968-5	RED	-2	-2.00	-2	0		
01/05/01	Sale	102002	1968-5	RED	-1	-1.00	-1	0		
01/06/01	Sale	102003	1968-5	RED	-2	-2.00	-2	0		
01/08/01	Sale	102004	1968-5	RED	-2	-2.00	-2	0		
01/11/01	Sale	102006	1968-5	RED	-1	-1.00	-1	0		
01/12/01	Sale	102008	1968-5	RED	-4	-4.00	-4	0		
01/14/01	Sale	102011	1968-5	RED	-1	-1.00	-1	0		
01/21/01	Sale	102021	1968-5	RED	-2	-2.00	0	0		

The table contains a list of entries that have been applied to the selected inventory increase entry.

Fixed Application

As described earlier, the costing method determines the assumption of how the cost flows from inventory increase to inventory decrease. It is always possible for the user to overrule this assumption if more accurate information about the cost flow exists. This is done by creating a fixed application between entries.

The following example demonstrates how fixed application influences the cost of inventory decreases:

Posting Date	Quantity	Cost Amount (Actual)	Entry No.	
01/01/01	1	10		1
01/01/01	1	20		2
01/01/01	1	30		3
01/02/01	-1	-20	2	4
01/03/01	-1	-10	1	5
01/04/01	-1	-30	3	6

Fixed application is based on the same principle as the specific costing method.

The following example describes the procedure for creating a fixed application between the entries:

1. Create a sales order for customer 10000 for 2 units of item 1968-S:

The screenshot shows the 'Sales Order' window for '1001 The Cannon Group PLC'. The 'General' tab is active, displaying fields for 'No.' (1001), 'Posting Date' (01/25/01), 'Sell-to Customer No.' (10000), 'Order Date' (01/25/01), 'Sell-to Contact No.' (CT000001), 'Document Date' (01/25/01), 'Sell-to Customer Name' (The Cannon Group PLC), 'Requested Delivery Date', 'Sell-to Address' (192 Market Square), 'Promised Delivery Date', 'Sell-to Address 2', 'External Document No.', 'Sell-to Post Code/City' (GB-B27 4KT, Birmingham), 'Salesperson Code' (PS), 'Sell-to Contact' (Mr. Andy Teal), 'Campaign No.', 'Responsibility Center' (BIRMINGHAM), and 'Status' (Open). A table below shows one sales line:

T. No.	Description	Location	Quantity	Reserve	Unit of M.	Unit Pric.
I... 1968-S	MEXICO Swivel Chair, black	BLUE	2		PCS	123.30

2. Use the Show Column function to make the **Appl.-to Item Entry** field visible. In the **Appl.-to Item Entry** field for the sales line, click the **AssistButton**.

The program opens the Item Ledger Entries window with a list of all the open item entries to which the sale transaction in question can be applied to:

The screenshot shows the 'Item Ledger Entries' window for 'Item 1968-S MEXICO Swivel Chair, black'. The table below shows the ledger entries:

Postin...	Entr...	D...	Item No.	Quan...	Invoic...	Remaining Quantity	Cost Amoun...	Cost...	Open	Entry No.
12/31/00	Posi...	S...	1968-S	236	236	236	21,545.62	0.00	✓	27

3. Select the entry and click **OK**. The program copies the entry number to the **Appl.-to Item Entry** field on the sales line.
4. Post the order as shipped and invoiced.

5. Have a look at the item ledger entries for item 1968-S:

Postin...	Entr...	D...	Item No.	Quan...	Invoic...	Remaining Quantity	Cost Amoun...	Cost...	Open	Entry No.
12/31/00	Posi...	S...	1968-5	236	236	234	21,545.62	0.00	✓	27
01/25/01	Sale	1...	1968-5	-2	-2	0	-182.59	0.00		320
12/31/00	Posi...	S...	1968-5	14	14	14	1,278.13	0.00	✓	29
12/31/00	Posi...	S...	1968-5	28	28	13	2,556.26	0.00	✓	28
01/04/01	Sale	1...	1968-5	-2	-2	0	-192.20	0.00		132
01/05/01	Sale	1...	1968-5	-1	-1	0	-96.10	0.00		134
01/06/01	Sale	1...	1968-5	-2	-2	0	-192.20	0.00		139
01/08/01	Sale	1...	1968-5	-2	-2	0	-192.20	0.00		141
01/11/01	Sale	1...	1968-5	-1	-1	0	-96.10	0.00		148
01/12/01	Sale	1...	1968-5	-4	-4	0	-364.40	0.00		153

The remaining quantity of the first inbound entry is now reduced by the two sold units. By clicking APPLICATION→APPLIED ENTRIES, you can see all the outbound entries that have been applied to the selected inbound entry.

There are a number of situations where creating a fixed application can be useful. You may need to correct a wrong posting or to ensure an accurate cost reversal in connection with a sales return. The former is illustrated in the following example, while the latter is addressed in the section “Inventory Transfers and Returns.”

Scenario 4 – Correcting Wrong Posting

1. Create a new item with the following specifications:

No.	COSTING AVR
Name	Costing AVR
Base Unit of Measure:	PCS
Costing Method	Average
Gen. Product Posting Group	RETAIL
VAT Product Posting Group	VAT25
Inventory Posting Group	RESALE
Last Direct Cost	200
Unit Price	250

2. Create two purchase invoices for item COSTING AVR for vendor 10000 with a posting date of 02/01/01. The quantity of the first purchase invoice is one unit with the direct unit cost of 200 LCY, as copied by the program from the item card. The quantity of the second purchase invoice is also one unit with the direct unit cost of 2200 LCY, entered by mistake instead of 220 LCY.

3. Post the invoices.

Now you have to correct the second posting by means of creating a purchase credit memo for the wrongly posted amount (thus taking the incorrect value out of the inventory) and posting a new purchase invoice with the correct direct unit cost of 220 LCY.

4. Create a purchase credit memo for one unit of item COSTING AVR for vendor 10000 with a posting date of 02/01/01. In the **Direct Unit Cost Excl. VAT** field, enter 2,200.

Now, you must apply this entry to the second purchase entry that was posted with the wrong direct unit cost:

5. Create a fixed application to the purchase entry in question. Post the purchase credit memo.
6. Create a new purchase invoice for the same vendor with the correct direct unit cost of 220 LCY with a posting date of 02/01/01. Post the invoice.

There are now two units of item COSTING AVR on inventory with a total value of 420 LCY (200 + 220 LCY). The item's average unit cost is thus 210 LCY.

7. Create a sales invoice for customer 10000 for two units of item COSTING AVR with a posting date of 02/01/01. Post the invoice.

When you first post the sales invoice, the program calculates the cost amount by using the unit cost from the item card. Thus, if you look at the value entry for the sale you just posted, you see that the cost amount is 400 LCY, because the unit cost on the item card is 200 LCY. To adjust the cost for the sale to the weighted average cost, you must run the Adjust Cost – Item Entries batch job.

8. From the Navigation Pane, click the **Purchase** button and click INVENTORY & COSTING→COSTING→ADJUST COST ITEM ENTRIES. Click **OK** in the request form.

Chapter 3: Inventory Costing Functionality

To see the entries created as a result of the inventory postings made in connection with the above described scenario, open the item ledger entries for item COSTING AVR. Notice that the cost amount for the sale has been updated by the adjustment process with the correct average cost:

Postin...	Entr...	D...	Item No.	Quan...	Invoic...	Remaining Quantity	Cost Amount...	Cost...	Open	Entry No.
02/01/01	Purc...	1...	COSTING AVR	1	1	0	200.00	0.00		321
02/01/01	Purc...	1...	COSTING AVR	1	1	0	2,200.00	0.00		322
02/01/01	Purc...	1...	COSTING AVR	-1	-1	0	-2,200.00	0.00		323
02/01/01	Purc...	1...	COSTING AVR	1	1	0	220.00	0.00		324
02/01/01	Sale	1...	COSTING AVR	-2	-2	0	-420.00	0.00		325

Now, assume that no fixed application has been made between the purchase credit memo and the purchase entry with the wrong direct unit cost. The value of the inventory decreases would have been different (inaccurate):

Postin...	Entr...	D...	Item No.	Quan...	Invoic...	Remaining Quantity	Cost Amount...	Cost...	Open	Entry No.
02/01/01	Purc...	1...	COSTING A...	1	1	0	200.00	0.00		326
02/01/01	Purc...	1...	COSTING A...	1	1	0	2,200.00	0.00		327
02/01/01	Purc...	1...	COSTING A...	-1	-1	0	-873.33	0.00		328
02/01/01	Purc...	1...	COSTING A...	1	1	0	220.00	0.00		329
02/01/01	Sale	1...	COSTING A...	-2	-2	0	-1,746.67	0.00		330

The third record in the above Item Ledger Entries form represents the posted credit memo. The **Cost Amount (Actual)** field contains the amount of -873.33 LCY. Since no fixed application was made to apply this inventory decrease to the second purchase entry, the program posted the value of this decrease as based on the unit cost calculated as weighted average, meaning that it added the sum the costs of all the inventory increases on 02/01/01 and divided it by the sum of the quantities of the inventory increases (200 LCY + 2200 LCY + 220 LCY / 3 = 873.33 LCY). This affected the total value of inventory on hand, and thus affected the average unit cost calculation used to value another inventory decrease. As specified in the last record, the sales transaction is valued at the cost amount of -1746.67 LCY instead of the correct 420 LCY.

Unit Cost Calculation on Sales Transactions

As established earlier, the basis for inventory valuation in Microsoft Navision is the value entries. Costs in the Value Entry table are recorded in the **Cost Amount (Actual)** field. The program fills in this field every time an inventory transaction is posted by using the amounts from the **Unit Cost (LCY)** field on the sales line or **Unit Cost** field on the item journal line as a basis and multiplying by the quantity.

To calculate the unit cost on the sales line or item journal line, the program uses the following values on the item card:

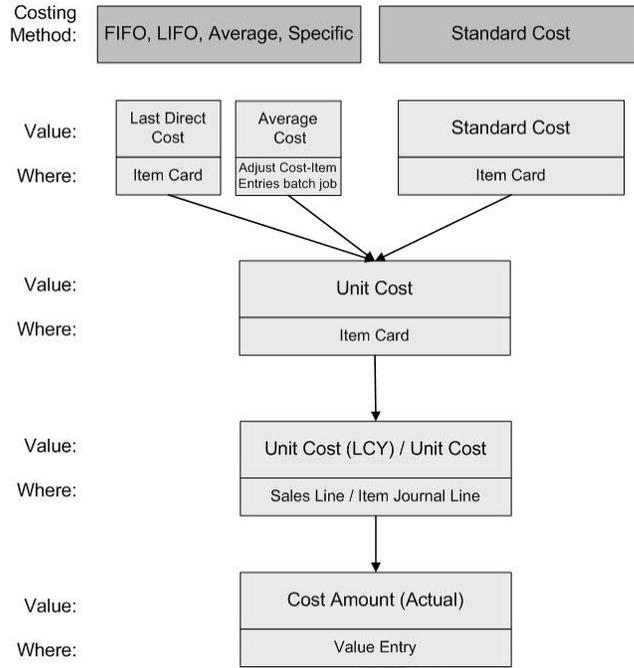
- **Unit Cost**, for items with a costing method other than Standard.
- **Standard Cost**, for items with a costing method of Standard.

The standard cost is a static amount that always remains the same after it is entered by the user, unless the user changes it. The unit cost, however, is continually updated by the program with the average cost of the item. This update occurs in the following situations:

- When posting a transaction, if the net invoiced quantity of the item changes from negative or zero to positive, and the unit cost on the item card is zero, then the program fills the **Unit Cost** field on the item card with the value from the **Last Direct Unit Cost** field.
- When running the Adjust Cost – Item Entries batch job, the program fills the **Unit Cost** field on the item card with the calculated average cost of the item.

***NOTE:** Since the Adjust Cost – Item Entries batch job plays such an important role in determining the unit cost of the item, we recommend running this batch job daily, during non-business hours.*

The following diagram summarizes the relationship between values specified in different fields and on different forms in the program is summarized in the following diagram:



Just as in the inventory acquisition posting, when the user posts an outbound transaction (inventory decrease), the program creates an item ledger entry as well as a value entry. The item ledger entry contains the sold quantity, while the value entries contain the value of the cost amount.

Average Cost Calculation

The calculation of the average cost depends on the valuation date. The valuation date is defined as the date from which an inventory increase or decrease will affect the average cost, and it is stored in the **Valuation Date** field on the Value Entry table.

NOTE: The amount in the **Average Cost (LCY)** field on the item card is calculated on the form, so when the user accesses the item card or the item list, the program instantly updates this and the **Unit Cost** field.

The average cost is calculated as the sum of the invoiced and expected cost amounts divided by the sum of the invoiced and expected quantities for entries with a valuation date equal or earlier than the inventory decrease being valued:

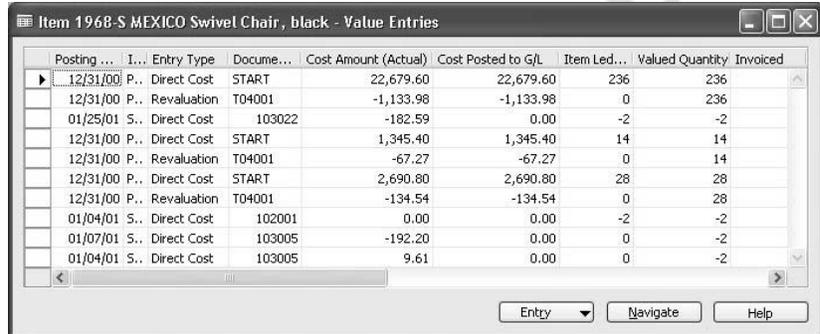
$$\underbrace{\text{Average Cost}}_{\text{On Valuation Date X}} = \frac{\text{Cost Amount (Actual)} + \text{Cost Amount (Expected)}}{\text{Invoiced Quantity} + \text{Expected Quantity}}$$

From Valuation Date 0D to X

Microsoft Navision Inventory Costing

The program allows the user to view all the source value entries on which the average cost for a specific item is based:

1. Open the item card for item 1968-S and look at the **Average Cost (LCY)** field.
2. In the **Average Cost (LCY)** field, click the **AssistButton**. The program opens the Value Entries window containing all the records used in calculating the average cost:



The valuation date is set automatically by the program for each value entry. There is a defined set of rules as to how the program sets this date. In essence, these rules represent certain combinations of two parameters, which are as follows: posting date of the transaction and the sign of the valued quantity on the value entry (negative or positive) indicating whether it is an inventory increase or decrease. The rules are summarized in the following table:

Valued Quantity	Posting Date	Valuation Date
Increase, of type: Purchase orders and invoices, positive adjustments, sales credit memos	Posting date of item ledger entry	The same as posting date
Increase, of type: Item charges	Posting date of value entry	Valuation date of the item ledger entry the charge is assigned to
Increase, of type: Revaluation	Posting date of the revaluation value entry	The same as posting date
Increase, of type: Inbound transfer	Posting date of the item ledger entry	Valuation date of the applied entry of outbound transfer

Valued Quantity	Posting Date	Valuation Date
Decrease, of type: Sales orders and invoices, negative adjustments, item charges, outbound transfer, purchase credit memos	Posting date of item ledger entry is later than the latest valuation date of applied value entries of inventory increase	The same as posting date
Decrease, of type: Same as above	Posting date of item ledger entry is earlier than the latest valuation date of applied value entries of inventory increase	Latest valuation date of applied value entries of inventory increase

The rules described above for setting valuation dates for item entries of different types are illustrated in the following abstract example:

Value Entry						
Posting Date	Item Ledger Entry Type	Valuation Date	Valued Quantity	Cost Amount (Actual)	ILE No.	Entry No.
01/01/01	Purchase	01/01/01	2	20	1	1
01/15/01	Item Charge	01/01/01	0	8	1	2
02/01/01	Sale	02/01/01	-1	-14	2	3
03/01/01	Revaluation	03/01/01	1	-4	1	4
02/01/01	Sale	03/01/01	-1	-10	3	5

The average cost may need to be adjusted later if an inventory increase or decrease is posted with a valuation date earlier than the valuation date used when calculating the average cost of the inventory decrease.

Scenario 5 – Valuation Date for Sales and Purchases

1. Create a purchase invoice for vendor 10000 with a posting date of 02/15/01. Create a line for 10 units of item COSTING AVR with direct unit cost of 150 LCY. Post the invoice.

Microsoft Navision Inventory Costing

2. Create a purchase order for the same vendor with a posting date of 02/16/01. Create a line for 10 units of item COSTING AVR with a direct unit cost of 150 LCY. Post the order as received (not invoiced).
3. Now change the last purchase order (created in step 2 above) so that it has a direct unit cost of 130 LCY. You must use the Reopen function to do so. Enter a posting date of 02/20/01. Post the order as invoiced.
4. Create a purchase invoice for vendor 10000 with a posting date of 02/21/01. Create a line for item charge P-FREIGHT for 1 unit with a direct unit cost of 10 LCY. Assign it to the purchase invoice you created in step 1. When assigning the charge, use the function for getting receipt lines to copy the relevant line to the Item Charge Assignment (Purch.) window. Post the charge.
5. Create a sales invoice for customer 10000 with a posting date of 03/01/01. Create a line for 4 units of item COSTING AVR. Post the invoice.
6. Create a sales invoice for the same customer with a posting date of 02/13/01. Create a line for 1 unit of item COSTING AVR. Post the invoice.

Now view the value entries created for item COSTING AVR as a result of all the postings performed in the above steps:

Item Led...	Entry Type	Docume...	Posting ...	Valuatio...	Invoiced Quantity	Cost Amount (Actual)	Item Led...	Valued Quantity
Purc...	Direct Cost	108028	02/15/01	02/15/01	10	1,500.00	10	10
Purchase	Direct Cost	107030	02/16/01	02/16/01	0	0.00	10	10
Purchase	Direct Cost	108029	02/20/01	02/16/01	10	1,300.00	0	10
Purchase	Direct Cost	108030	02/21/01	02/15/01	0	10.00	0	10
Sale	Direct Cost	103022	03/01/01	03/01/01	-4	-600.00	-4	-4
Sale	Direct Cost	103023	02/13/01	02/15/01	-1	-150.00	-1	-1

NOTE: The layout of the above window is modified to display the relevant fields – **Posting Date, Valuation Date, Invoiced Quantity and Cost Amount (Actual)** – next to each other. Use the function Show Column to make the **Valuation Date** field visible. Sort the entries in the window by the **Entry No.** field in ascending order, and enter the field filter to only show the entries starting from 02/13/01.

Let's analyze the entries in the above window regarding how the program sets a valuation date for each of the transactions and, consequently, how the inventory is valued.

1. The valuation date of the purchase invoice is the same as the posting date, 02/15/01.
2. The valuation date of the purchase order posted as received is the same as the posting date, 02/16/01.
3. The valuation date of the same purchase order posted as invoiced (with a posting date of 02/20/01) is the same as the posting date of the order receipt, 02/16/01.
4. The valuation date of the item charge posted on 02/21/01 is the valuation date of the item ledger entry for the purchase invoice this charge has been assigned to, 02/15/01.
5. The valuation date of the first sales invoice posted on 03/01/01 is its own posting date. This is because this posting date is later than the latest valuation date of the purchase the sale is applied to, that is 02/15/01. The sale therefore is valued at a unit cost of 150 LCY, which is the unit cost on the item card. When you run the Adjust Cost – Item Entries batch job, the program will update the cost to be the average cost as of 03/01/01, which is 139.95 LCY. The calculation includes the transaction from step 6, because the valuation date in step 6 is earlier than 03/01/01: $(1500 + 10 + 1300 - 151) / (10 + 10 - 1)$.
6. The valuation date of the second sales invoice posted on 02/13/01 is the latest valuation date of the applied purchase entry, which is 02/15/01. The sale is therefore valued at a unit cost of 150 LCY, which is the unit cost on the item card. When you run the Adjust Cost – Item Entries batch job, the program will update the cost to be the average cost of 151 LCY $((1500+10)/10)$, which is a calculated weighted average valid on this valuation date.

Scenario 6 – Valuation Dates for Transfers

1. Create a purchase invoice for vendor 10000 with a posting date of 03/05/01. Create a line for 10 units of item COSTING AVR for the Red location with direct unit cost of 150 LCY. Post the invoice.

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2. Create a transfer for 10 units of item COSTING AVR from location Blue to location Red. Enter a posting date of 03/10/01. Use the reclassification journal to make the transfer (alternatively, create a transfer order).

Posting ...	Docume...	Item No.	Quantity	Description	Location ...	New Loc...	Unit of M..
03/10/01	T01001	COSTING AVR	10		BLUE	RED	PCS

3. Post the journal line.

Now view the value entries created for item COSTING AVR as a result of all the postings performed in the above steps:

Item Led...	Entry Type	Docume...	Posting ...	Valuatio...	Invoiced Quantity	Cost Amount (Actual)	Item Led...	Valued Quantity
Purchase	Direct Cost	107030	02/16/01	02/16/01	0	0.00	10	10
Purchase	Direct Cost	108029	02/20/01	02/16/01	10	1,300.00	0	10
Purchase	Direct Cost	108030	02/21/01	02/15/01	0	10.00	0	10
Sale	Direct Cost	103022	03/01/01	03/01/01	-4	-600.00	-4	-4
Sale	Direct Cost	103023	02/13/01	02/15/01	-1	-150.00	-1	-1
Sale	Direct Cost	103022	03/01/01	03/01/01	0	40.21	0	-4
Sale	Direct Cost	103023	02/13/01	02/15/01	0	-1.00	0	-1
Purchase	Direct Cost	108031	03/05/01	03/05/01	10	1,300.00	10	10
Transfer	Direct Cost	T01001	03/10/01	03/10/01	-10	-1,399.47	-10	-10
Transfer	Direct Cost	T01001	03/10/01	03/10/01	10	1,399.47	10	10

The last two entries in the above record list represent the transfer from location Blue to location Red. The valuation date of the outbound transfer entry is its posting date, and the valuation of the inbound transfer entry is the valuation date of the outbound transfer entry.

When you run the Adjust Cost – Item Entries batch job, notice that the unit cost at which the transfer is valued is an average cost calculated per item, irrespective of the location, and is equal to 143.97 LCY. If the item's average cost was calculated per location, then the average cost of the item at the Blue location would be 139.95 LCY $((1500+1300+10-559.79-151)/15)$, and the item would be transferred to the Red location with this unit cost.

The user can choose to set up the program so that the average cost is calculated per item or calculated per item, location and variant. The setup procedures are described in the chapter in this manual on setting up inventory costing.

Accounting for Non-Inventoriable Costs

Determining cost of goods sold implies accounting for the inventoriable costs, meaning acquisition cost representing expenses related to the purchase, applicable to the units sold.

For many companies, however, it may also be important to account for non-inventoriable costs. This cost category becomes particularly relevant in situations where companies incur freight-out costs that affect the profit calculations, or they deal with vendor- or headquarters-owned inventory and thus financially do not carry any inventory on their own (the accounting model used in this case is often referred to as retail-minus).

In Microsoft Navision, to account for non-inventoriable cost incurred in connection with sale transactions, accountants can use the item charge functionality. Item charges represented by, for example, a cost of purchase invoice for shipping services can be assigned to a shipment document. When posted, the cost amount is recorded as a value entry related to the item ledger entry for the sales. As the items that the item charge is assigned to are removed from inventory, the cost amount does not affect the inventory value. Instead, it affects the item's sales statistics as it is included in the profit calculation.

The program records non-inventoriable cost in the Value Entry table in the **Cost Amount (Non-Invtbl.)** field.

Inventory Transfers and Returns

Item transfers between different locations within the company represent an inventory movement. While in the end, the inventory value will remain unchanged (unless there are additional costs associated with a transfer) the program follows certain rules to determine the cost of the transfer transactions.

From the accounting point of view, the program treats vendor returns (purchase credit memos) and customer returns (sales credit memos) as inventory decreases and inventory increases, respectively. This may, however, result in a situation where the inventory is valued incorrectly.

The following sections address costing issues regarding inventory transfers and returns.

Item Transfers

To determine the cost of an item that is being transferred from one location to another, the program uses a physical flow assumption described as a transfer application. According to this application method, the program applies the entries of the outbound transfer (transfer shipment) against the appropriate inventory increases, according to the general cost flow assumption of the costing method.

The program then applies the entries of the inbound transfer (transfer receipt) against the entries of the related outbound transfer.

The actual valuation of an inbound transfer entry depends on the costing method setup for the item:

- Items using the average costing method are valued on the basis of the average cost calculated on the valuation date. The way the program treats transfers of the average-valued items is explained in connection with the description of average cost calculation and valuation date (see the section “Average Cost Calculation”) and is demonstrated in Scenario 6–Valuation Date for Transfers.
- Items using the other costing methods are valued on the basis of the cost of the applied entry of the inbound transfer and thus of the original inventory increase.

The following example illustrates this principle.

Scenario 7 – Valuation of a Transfer Entry

1. Create a purchase invoice for vendor 10000 with a posting date of 03/01/01 and a line for 10 units of item COSTING LIFO and a direct unit cost of 90 LCY. Post the invoice.
2. Create a transfer order for 5 units of item COSTING LIFO from location Blue to location Red. Enter a posting date of 03/02/01. Post the transfer shipment and the transfer receipt.

Now view the ledger entries created for item COSTING LIFO as a result of the above postings:

Postin...	Entry...	Item No.	Locati...	Quan...	Invoic...	Remaining ...	Cost Amoun...	Cost ...	Open	Applied ...
02/28/01	Purch...	COSTING LIFO	BLUE	10	10	10	880.00	0.00	<input checked="" type="checkbox"/>	<input type="checkbox"/>
03/01/01	Purch...	COSTING LIFO	BLUE	10	10	5	990.00	0.00	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
03/02/01	Trans...	COSTING LIFO	BLUE	-5	-5	0	-495.00	0.00	<input type="checkbox"/>	<input type="checkbox"/>
03/02/01	Trans...	COSTING LIFO	OUT. ...	5	5	0	495.00	0.00	<input type="checkbox"/>	<input checked="" type="checkbox"/>
03/02/01	Trans...	COSTING LIFO	OUT. ...	-5	-5	0	-495.00	0.00	<input type="checkbox"/>	<input type="checkbox"/>
03/02/01	Trans...	COSTING LIFO	RED	5	5	5	495.00	0.00	<input checked="" type="checkbox"/>	<input type="checkbox"/>

At location Red, the item is valued at the same unit cost as at location Blue, from where it was transferred. The cost of the transfer from location Blue is calculated on the basis of the unit cost of the applied inbound entry. In this example, since the item is set up to use costing method LIFO, the applied inbound entry is the entry representing the last invoice.

Inventory Returns

As mentioned earlier, purchase credit memos represent an inventory decrease. Therefore, the program sets the cost of the returned inventory according to the cost flow assumption defined by the costing method. In many cases, the cost of the return appears different from the original acquisition cost because it is calculated in this way.

Similarly, sales credit memos represent an inventory increase and are therefore valued at the acquisition cost. However, since a sales return is not a purchase in the usual sense, the program uses a unit cost (which is an average cost) as the best suggestion to value returned inventory. The cost of the sales return calculated in this way will often be different from the cost of the original sale.

To ensure that the program calculates the inventory cost of purchase and sales returns correctly – that is, the cost is reversed – at all times, you must make a fixed application to link the return transaction to the original transaction entry.

NOTE: You may consider using the option of making the exact cost reversing mandatory when processing sales or purchase returns. You activate this option by placing a check mark in the **Exact Cost Reversing Mandatory** field in the **Sales & Receivables** and/or **Purchases and Payables** setup. This indicates that the program will not allow a return transaction to be posted unless the **Appl.-from Item Entry** or **Appl.-to Item Entry** field on a corresponding order line contains an entry.

Making a fixed application between the sales credit entry and the original sales entry also ensures that any additional direct cost (posted as an item charge and assigned to the purchase entry to which an original sale entry is applied) will be forwarded to the sales credit entry.

Inventory Adjustment

In the preceding sections, we often refer to situations where costs at which inventory decreases were valued (as a result of inventory posting) needed to be adjusted before they could be posted to the G/L. The following sections describe these types of situations. The accompanying examples help to illustrate these situations in practical terms.

Inventory is valued according to FIFO or LIFO costing method

As demonstrated in the section “Cost of Goods Sold”, to record and calculate the cost of the goods sold, the program makes an inventory posting based on the unit cost on the item card for items with a costing method other than standard, and the standard unit cost for items with the standard costing method.

This cost is correct for items with a costing method of standard, but for FIFO, LIFO and average costing, it will lead to the incorrect inventory valuation. This is directly related to the very definition of those costing methods:

- The FIFO costing method values the inventory decrease by taking the value of the first inventory increases on inventory.
- The LIFO costing method values the inventory decrease by taking the value of the last inventory increases on inventory.
- The average costing method values the inventory decrease by calculating the weighted average value of the inventory on the valuation date of the decrease.

To ensure the correct inventory value, some adjustment to the costs recorded during inventory postings must be performed according to the cost flow assumption presumed by a selected costing method. See the next example, which illustrates this situation.

Unit cost is changed due to additional direct cost

When the originally recorded acquisition cost changes, the program must make an adjustment to the outbound entries that have been applied to the acquisition. As explained earlier, the cost flows from inventory increase to inventory decrease, and the costs that are assigned to the sold items are based on that item's inventory value, or acquisition cost, known at the time of sale. However, the original value of the inventory increase may change at some later point of time, after the cost of inventory decrease has been posted. For example, an invoice for the freight services relating to the earlier purchase increases the original acquisition cost. In this case, the cost of the sold item, if posted before the freight invoice arrived, is incorrect.

An item is valued at average cost

For the average-valued items, an average cost of an inventory decrease may be incorrect if an inventory increase or decrease is posted with a valuation date earlier than the valuation date used when calculating the average cost of the inventory decrease in question. This scenario is demonstrated in an example below.

Sale occurs before purchase (negative inventory)

In other situations, it is not always possible to calculate the value of an inventory decrease at the time of posting. An item can, for example, be sales invoiced before it has been purchase invoiced.

Similarly, when a quantity of an average-valued item on hand is negative when the sales transaction is posted, the cost of this transaction must be adjusted after a purchase transaction of additional quantity of this item is posted. An example below describes this scenario.

Adjust Cost – Item Entries Batch Job

In the program, cost adjustments are made with the Adjust Cost – Item Entries batch job. To ensure a balance between the inventory and G/L accounts, it is a general requirement to run the Adjust Cost – Item Entries batch job before posting inventory costs to G/L. This batch job also serves an important role in updating the unit cost on the item card with the current average cost of the item. Since the batch job has such an important impact on the unit costs of sales, we recommend running the batch job as often as possible, preferably daily during non-working hours.

The batch job processes only value entries that have not yet been adjusted. For entries that are not valued by average cost, the user can see which entries will be adjusted by the batch job by looking at the **Applied Entry to Adjust** field on the item ledger entries.

The batch job adjusts the cost of items sold – specified in the **Cost Amount (Actual)** field in the Value Entry table – as based on the costing method for the item in question or according to the fixed application. When the program makes an adjustment, it creates a new value entry that, together with the original (unadjusted) value entry, makes up the adjusted cost amount of the sale entry in question.

The posting date of the adjustment value entries created during the adjustment of the sale entries' cost (as well as a result of rounding) is set equal to the posting date of the original entry, unless that entry is in a closed accounting period. When the original entry is in a closed accounting period, the program gives the adjustment entry the posting date that the user enters on the request form for the batch job in the **Closed Period Entry Posting Date** field. In this way, changes to the inventory value are recognized in and posted into the period when they actually occurred.

It is important to keep in mind that, unless the automatic cost posting option is activated in the inventory setup, the Adjust Cost – Item Entries batch job does not update the general ledger; it updates only the value entries.

Scenario 8 – Sales of Inventory Valued According to FIFO

1. Create a purchase invoice for vendor 10000 with a posting date of 01/28/01 and a line for 10 units of item COSTING FIFO with a direct unit cost of 121 LCY. Post the invoice.
2. Open the item card for COSTING FIFO and go to the **Invoicing** tab. The item's average cost is now 111 LCY:

Field	Value
Costing Method	FIFO
Average Cost (LCY)	111.00
Standard Cost	0.00
Unit Cost	101.00
Overhead Rate	0.00
Indirect Cost %	0
Last Direct Cost	121.00
Price/Profit Calculation	Profit=Price-...
Profit %	15.83333
Unit Price	120.00
Gen. Prod. Posting Group	RETAIL
VAT Prod. Posting Group	VAT25
Inventory Posting Group	RESALE
Net Invoiced Qty.	20
Allow Invoice Disc.	<input checked="" type="checkbox"/>
Item Disc. Group	
Sales Unit of Measure	PCS

3. Create a sales invoice for customer 10000 for 20 units of item COSTING FIFO with a posting date of 01/30/01. Post the invoice.
4. Open the item ledger entries for item COSTING FIFO to analyze the entries:

Posting ...	Entry T...	Item No.	Quantity	Invoiced Quantity	Remaining Quantity	Cost Amount (Actual)	Cost A
	01/25/01	Purchase	COSTING FIFO	10	10	0	1,010.00
	01/28/01	Purchase	COSTING FIFO	10	10	0	1,210.00
	01/30/01	Sale	COSTING FIFO	-20	-20	0	-2,020.00

The last entry represents a posted sales transaction. The **Cost Amount (Actual)** field for this entry contains -2,020 LCY. This means that the items were sold at the unit cost of 101 LCY, which is the unit cost on the sale date. This unit cost was set when the first purchase was posted at a direct unit cost of 101 LCY.

However, as the item is set to use the FIFO costing method, the program applied this sale to the first open entry of inventory increase (purchase invoice), and then applied the remaining quantity of the sale to the second open inventory increase – notice that the purchase item entries now have a remaining quantity of zero.

Correspondingly, part of the sales entry must be valued at the acquisition unit cost of the first purchase, which is 101 LCY, and the remaining half of the sales quantity must be valued at the acquisition unit cost of the second purchase, which is 121 LCY.

Notice that the **Applied Entry to Adjust** fields for the purchase entries contain a check mark. This specifies that the Adjust Cost-Item Entries batch job needs to update the **Cost Amount (Actual)** field for this entry and any entries applied to it.

5. From the Navigation Pane, click the **Purchase** button and click INVENTORY & COSTING→COSTING→ADJUST COST ITEM ENTRIES. Click **OK** to run the batch job.

Now have a look at the item ledger entries for the item in question:

Posting ...	Entry T...	Item No.	Quantity	Invoiced Quantity	Remaining Quantity	Cost Amount (Actual)	Cost A
	01/25/01 Purchase	COSTING FIFO	10	10	0	1,010.00	
	01/28/01 Purchase	COSTING FIFO	10	10	0	1,210.00	
	01/30/01 Sale	COSTING FIFO	-20	-20	0	-2,220.00	

The amount in the **Cost Amount (Actual)** field for sales entry has been updated based on the unit cost of the purchases to which the entry was applied.

$$\begin{array}{r}
 \text{(Purchase 1)} \quad -10 \times 101 \text{ LCY} = \quad -1010 \\
 \text{LCY} \\
 \text{(Purchase 2)} \quad -10 \times 121 \text{ LCY} = \quad -1210 \\
 \text{LCY} \\
 \hline
 \hline
 -2220 \\
 \text{LCY}
 \end{array}$$

- Open the value entries for the sales entry to analyze the postings:

Posting ...	Valuatio...	Item ...	Entry Type	Cost Amount (Actual)	Cost Posted to G/L	Item Ledger ...	Valued Quantity
01/30/01	01/30/01	Sale	Direct Cost	-2,020.00	0.00	-20	-20
01/30/01	01/30/01	Sale	Direct Cost	-200.00	0.00	0	-20

The first entry is the original value entry containing the unadjusted cost amount, while the second entry (created as a result of the batch job) contains the amount of the cost adjustment.

Scenario 9 – An Item is Valued at Average Cost

Consider the average-valued item COSTING AVR. The average cost of this item is 143.9684 LCY:

Field	Value
Costing Method	Average
Average Cost (LCY)	143.9684
Standard Cost	0.00
Unit Cost	143.9684
Overhead Rate	0.00
Indirect Cost %	0
Last Direct Cost	150.00
Price/Profit Calculation	Profit=Price-...
Profit %	42.41264
Unit Price	250.00

This average cost is calculated as based on the value entries for the item. In this example, we examine a situation in which the cost of an inventory decrease must be adjusted because an inventory increase is posted with an earlier valuation date.

Chapter 3: Inventory Costing Functionality

1. Create a sales invoice for customer 10000 with posting date 04/01/01 and a line for 1 unit of item COSTING AVR. The program uses the unit cost, which is the average cost calculated when the adjustment batch job was run, to value this transaction:

The screenshot shows the SAP Sales Invoice form for customer 10000. The 'General' tab is active, displaying the following details:

- No.: 1008
- Posting Date: 04/01/01
- Document Date: 04/01/01
- Sell-to Customer No.: 10000
- Sell-to Contact No.: CT000001
- Sell-to Customer Name: The Cannon Group PLC
- Sell-to Address: 192 Market Square
- Sell-to Post Code/City: GB-B27 4KT, Birmingham
- Sell-to Contact: Mr. Andy Teal
- External Document No.: (empty)
- Salesperson Code: PS
- Campaign No.: (empty)
- Responsibility Center: BIRMINGHAM
- Status: Open

The 'Item Information' section shows the following line item:

T.. No.	Description	Location	Quantity	Unit of M...	Unit Cost (LCY)	Unit Pric.
I... COSTIN...	Costing AVR	BLUE	1	PCS	143.9684	250.00

2. Post the invoice.
3. Now create a purchase invoice for vendor 10000 with a posting date of 03/15/01 and a line for 10 units of the same item with the direct unit cost of 140 LCY. Notice that the posting date is earlier than the valuation date of the last sales invoice. Post the invoice.

Due to the new inventory increase entry, the unit cost at which the sale was valued is now incorrect and therefore must be adjusted:

4. Run the Adjust Cost-Item Entries batch job.
5. Open the value entries for the item COSTING AVR to see the result of the adjustment:

The screenshot shows the SAP Value Entries form for item COSTING AVR. The table displays the following data:

Posting ...	Valuatio...	Item ...	Entry Type	Cost Amount (Actual)	Cost Posted to G/L	Item Ledger ...	Valued Quantity I
03/05/01	03/05/01	Purch...	Direct Cost	1,500.00	0.00	10	10
03/10/01	03/10/01	Transfer	Direct Cost	-2,000.00	0.00	-10	-10
03/10/01	03/10/01	Transfer	Direct Cost	2,000.00	0.00	10	10
03/01/01	03/01/01	Sale	Direct Cost	240.21	0.00	0	-4
02/13/01	02/15/01	Sale	Direct Cost	49.00	0.00	0	-1
03/10/01	03/10/01	Transfer	Direct Cost	560.32	0.00	0	-10
03/10/01	03/10/01	Transfer	Direct Cost	-560.32	0.00	0	10
04/01/01	04/01/01	Sale	Direct Cost	-143.97	0.00	-1	-1
03/15/01	03/15/01	Purch...	Direct Cost	1,400.00	0.00	10	10
04/01/01	04/01/01	Sale	Direct Cost	1.14	0.00	0	-1

The last value entry is the adjustment of the sales invoice, containing the amount of the cost adjustment to indicate that the total cost of the sales invoice has changed based on the recalculated average unit cost of 142.83 LCY (143.97 LCY-1.14 LCY).

Scenario 10 - Sale Occurs before Purchase

Consider the average-valued item COSTING AVR.

There are 14 units of this item on stock at the Blue location. The average unit cost of the item is 142.83 LCY.

1. Create a sales order for customer 10000 with a posting date of 04/02/01 and a line for 20 units of item COSTING AVR. (Accept the stockout message). Post the order as shipped and invoiced.

Look at the item ledger entry created by the shipment. The amount in the **Cost Amount (Actual)** field on the created item ledger entry is calculated on the basis of the current unit cost. The **Remaining Quantity** field contains -6 and the **Open** field contains a check mark, which together indicates that 6 units out of the 20 sold must still be applied to a purchase and adjusted to the correct average cost.

2. Create a purchase order for vendor 10000 with a posting date of 04/05/01 and a line for 30 units of the same item with a direct unit cost of 100. Post the order as received and invoiced.

Now have a look at the item ledger entries for the item:

Posting ...	Entry T...	Item No.	Quantity	Invoiced ...	Remaini...	Cost Amount (Actual)	Open	Applied ...	Entry No.
03/01/01	Sale	COSTING AVR	-4	-4	0	-559.79			32
02/13/01	Sale	COSTING AVR	-1	-1	0	-151.00			32
03/05/01	Purchase	COSTING AVR	10	10	10	1,500.00	✓		33
03/10/01	Transfer	COSTING AVR	-10	-10	0	-1,439.68			33
03/10/01	Transfer	COSTING AVR	10	10	10	1,439.68	✓		33
04/01/01	Sale	COSTING AVR	-1	-1	0	-142.83			34
03/15/01	Purchase	COSTING AVR	10	10	0	1,400.00			34
04/02/01	Sale	COSTING AVR	-20	-20	0	-2,856.69			34
04/05/01	Purchase	COSTING AVR	30	30	24	3,000.00	✓	✓	34

When posting the purchase, the program applied the negative sale to the new purchase entry, and the check mark in the **Applied Entry to Adjust** field indicates that the cost of the sale must be adjusted.

3. Run the Adjust Cost-Item Entries batch job.

The amount in the Cost Amount (Actual) field for the sales entry in question has changed to -2,455.12 LCY:

Posting ...	Entry T...	Item No.	Quantity	Invoiced ...	Remaini...	Cost Amount (Actual)	Open	Applied ...	Entry No.
03/01/01	Sale	COSTING AVR	-4	-4	0	-559.79			32
02/13/01	Sale	COSTING AVR	-1	-1	0	-151.00			32
03/05/01	Purchase	COSTING AVR	10	10	10	1,500.00	✓		33
03/10/01	Transfer	COSTING AVR	-10	-10	0	-1,439.68			33
03/10/01	Transfer	COSTING AVR	10	10	10	1,439.68	✓		33
04/01/01	Sale	COSTING AVR	-1	-1	0	-142.83			34
03/15/01	Purchase	COSTING AVR	10	10	0	1,400.00			34
04/02/01	Sale	COSTING AVR	-20	-20	0	-2,455.12			34
04/05/01	Purchase	COSTING AVR	30	30	24	3,000.00	✓		34

This amount is based on the new average unit cost valid on the valuation date for the sales entry, which is 122.756 LCY.

Rounding

Rounding residuals can occur when valuing inventory decreases that are measured in different units than the related inventory increases. For example, an item can be sold in pieces while purchased in pallets. If a pallet consists of three pieces, and the unit cost of one pallet is 1000, then later, when the items are sold in pieces, the division between three pieces gives a rounding residual of 0.01. To ensure the correct inventory value, this difference must be accounted for. This is done by posting a rounding difference to the inventory as a separate value entry.

The program handles rounding residuals for all costing methods. When using the average costing method, the rounding residual is handled by a cumulative rounding during the adjustment batch job. When using a costing method other than average, the program calculates the rounding residual during the cost adjustment for inventory increases that have been fully applied. If a rounding residual exists, then the program creates a rounding entry.

The following example first illustrates the mechanism behind rounding in abstract terms and then as an actual case in the program. The example uses the following sequence of inventory increases and decreases to show how the rounding problem is handled.

Item Ledger Entry		
Posting Date	Quantity	Entry No.
01/01/01	3	1
01/02/01	-1	2
01/03/01	-1	3
01/04/01	-1	4

For an item using the average costing method, the rounding residual (1/300) is carried forward from Entry No. 2 to Entry No. 3. Therefore, when the user runs the Adjust Cost – Item Entries batch job, the program creates a rounding entry that sets the value of Entry No. 3 to –3.34:

Value Entry				
Posting Date	Quantity	Cost Amount (Actual)	ILE No.	Entry No.
01/01/01	3	10	1	1
01/02/01	-1	-3.33	2	2
01/03/01	-1	-3.33	3	3
01/04/01	-1	-3.33	4	4
01/03/01	0	-0.01	3	5

For an item using a costing method other than average, the program also creates a separate rounding value entry. The rounding value entry carries the posting date of the original entry to which it corresponds:

Value Entry				
Posting Date	Quantity	Cost Amount (Actual)	ILE No.	Entry No.
01/01/01	3	10	1	1
01/02/01	-1	-3.33	2	2
01/03/01	-1	-3.33	3	3
01/04/01	-1	-3.33	4	4
01/01/01	0	-0.01	1	5

Scenario 11 – Handling Rounding for the Average-Valued Item

Follow the steps below and analyze the way the program handles rounding issues for the average-valued item:

1. Create a new item with the following specifications:

No.	COSTING RND
Name	Costing RND
Base Unit of Measure	PCS
Costing Method	Average
Gen. Product Posting Group	RETAIL
VAT Product Posting Group	VAT25
Inventory Posting Group	RESALE
Unit Price	100.00
Purchase Unit of Measure	PACK (consisting of 3 pieces)

2. Create a purchase invoice for vendor 10000 with a posting date of 01/25/01 and a line for 1 pack of item COSTING RND with the direct unit cost of 160 LCY. Post the invoice.

The program creates an item ledger entry as the result of the posting:

Postin...	Entry...	Item No.	Locati...	Quan...	Invoic...	Remaining Quantity	Cost Amoun...	Cost...	Open	Applie...
01/25/01	Purch...	COSTING RND	BLUE	3	3	3	160.00	0.00	✓	

The total cost for the three pieces of item COSTING RND is currently 160 LCY. However the item's unit cost, as specified in the **Unit Cost** field on the item card, is 53.3333 LCY.

3. Create three individual sales invoices, each for 1 piece of the item. (You may want to use the item journal to enter these sales transactions.) Enter a posting date of 01/26/01 for each invoice (journal line), and post the documents.
4. Run the Adjust Cost – Item Entries batch job. The program creates the following value entry as a result of the rounding adjustment:

Posting ...	Valuatio...	Item ...	Entry Type	Cost Amount (Actual)	Item Led...	Item Ledger ...	Valued Quantity	Invoiced Qua...
01/25/01	01/25/01	Purch...	Direct Cost	160.00	344	3	3	3
01/26/01	01/26/01	Sale	Direct Cost	-53.33	345	-1	-1	-1
01/26/01	01/26/01	Sale	Direct Cost	-53.33	346	-1	-1	-1
01/26/01	01/26/01	Sale	Direct Cost	-53.33	347	-1	-1	-1
01/26/01	01/26/01	Sale	Direct Cost	-0.01	346	0	-1	0

With the adjustment entry, the actual cost for the second sales entry is -53.34 LCY, rather than -53.33 LCY as for the first and third entries.

NOTE: The program calculates the cost for second value entry in the following way: the rounding residual of the first sales entry is equal to 0.00333 (1/3 of 0.01). This amount is carried to the second sales entry, which also has the same residual. The sum of these two gives 0.006666. This figure exceeds 0.005, which is a rounding threshold. Therefore the total residual of 0.006666 for the first two entries is rounded to 0.01, and added to the cost of the second entry.

Test Your Knowledge – Inventory Costing Functionality

1. To determine the unit cost on a purchase line, the program uses either the **Last Direct Cost** field or the **Unit Cost** field on the item card. What criteria does the program use to decide which field it should use?
2. What entries does the program create when you post a purchase for 120 LCY for an item with a standard cost of 100 LCY?
3. Describe a situation in which it would be useful to use a fixed application.
4. What is the purpose of the valuation date on the value entry?
5. In version 4.00 of Navision, how does the Adjust Cost – Item Entries batch job adjust the value in the value entries so that they contain the correct cost?
 - a. The batch job changes the value in the **Cost Amount (Actual)** field of the value entry to the correct cost.
 - b. The batch job deletes the old value entry and creates a new one with the correct cost amount.
 - c. The batch job creates a new adjustment value entry in which the **Cost Amount (Actual)** field contains the difference between the original cost amount and the correct cost amount.

Quick Interaction: Lessons Learned

Take a moment to write down three Key Points you have learned from this chapter:

1.

2.

3.

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CHAPTER 4: INVENTORY VALUATION FUNCTIONALITY

This chapter contains the following sections:

- Overview
- Objectives
- Inventory Valuation
- Posting Inventory Costs to the General Ledger
- Inventory Revaluation
- Physical Inventory

Overview

The value of inventory is one of the most important aspects of financial reporting for a company. Throughout this course, we have examined how Microsoft® Business Solutions–Navision® records inventory cost information based on user input. The next step is to examine how Microsoft Navision posts this cost information to the general ledger and reports on inventory value. This chapter also covers the tasks of inventory revaluation and physical inventory, both of which are periodic activities in which the user can make changes or corrections to the inventory value of one or more items.

Objectives

By the end of this chapter, you should be able to:

- Understand how inventory value is calculated in Microsoft Navision.
- Post inventory value from value entries to the accounts in the general ledger.
- Understand how the program handles expected costs, both in normal posting flow and in posting to the general ledger.
- Revalue inventory items using the revaluation journal.
- Perform a physical inventory.

Inventory Valuation

As defined earlier, inventory valuation is the determination of the cost assigned to an inventory item.

$$\begin{array}{rclclcl} \text{Beginning} & + & \text{Net} & - & \text{Cost of} & = & \text{Ending} \\ \text{Inventory} & & \text{Purchases} & & \text{Goods Sold} & & \text{Inventory} \\ \text{(known)} & & \text{(known)} & & \text{(recorded)} & & \text{(solved for)} \end{array}$$

This means determining the value of the inventory at the end of an accounting period (ending inventory). Apart from these purely accounting purposes, companies may also want to know the value of their inventory at a specific date. For example, to revalue the inventory, a company must know the current inventory value at a given date in order to make a decision concerning revaluation rates.

The mechanism used by the program to calculate inventory value is explained as follows.

In Microsoft Navision, inventory valuation is based on the value entries. The calculation of inventory valuation uses the **Cost Amount (Actual)** field of the value entries for the item. The entries are classified according to the entry type that corresponds to the following cost component:

- **Direct cost:** For example, item cost, freight cost, cost adjustment.
- **Indirect cost:** For example, warehouse energy, wages and salaries.
- **Variance:** When the direct unit cost differs from the standard cost for an item using the standard costing method.
- **Revaluation:** When an item value has been changed due to appreciation or depreciation.
- **Rounding:** Rounding differences that occur in connection with valuation of inventory decreases.

We have examined the situations where the program creates direct, indirect, rounding and variance types of value entries. The revaluation entries will be explained in the following sections.

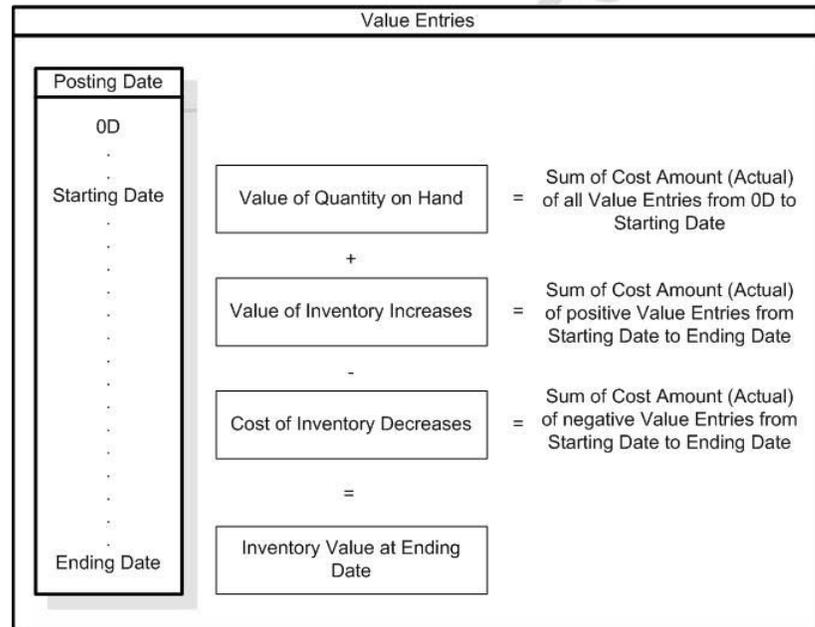
The Inventory Valuation report uses the value entries to calculate the value of inventory at a certain date or period, which the user can specify on the request form.

By definition, the purpose of inventory valuation is to determine the value of all the items that are on stock on a given date. When you run the Inventory Valuation report, you have the option of including in the report those entries that have not yet been invoiced, which are known as expected costs.

As explained earlier, entries are applied against each other, either by the fixed application, or according to the general cost-flow assumption defined by the costing method. One entry of inventory decrease can be applied to more than one increase entry with different posting dates and possibly different acquisition costs.

Therefore, calculation of the inventory value for a given date is based on summing up positive and negative value entries.

To calculate the inventory value in the Inventory Valuation report, the program begins by calculating the value of the quantity on hand at a given “starting date”, then adds the value of inventory increases and subtracts the cost of inventory decreases up to a given “ending date” for which the user wants to see the inventory value. The end result is the inventory value on the ending date. The program calculates these values by summing the values in the **Cost Amount (Actual)** field in the value entries, using the posting dates as filters.



In the following, the principles of calculating the inventory value are first illustrated in the abstract example, and then in the program by using a demonstration company’s data.

Microsoft Navision Inventory Costing

The following entries represent a sequence of posted transactions for an item using the FIFO costing method:

Posting Date	Entry Type	Invoiced Quantity	Cost Amount (Actual)
01/01/01	Pos. Adjmt.	4	80
01/05/01	Pos. Adjmt.	3	75
01/10/01	Neg. Adjmt.	-3	-60
01/20/01	Pos. Adjmt.	10	300
01/15/01	Neg. Adjmt.	-8	-215

Based on the above entries, the program calculates inventory value on a given date as follows:

Date	Quantity at Date	Inventory Value at Date
01/03/01	4	80
01/07/01	7	$80 + 75 = 155$
01/13/01	4	$80 + 75 - 60 = 95$
01/17/01	0 (-4)	$80 + 75 - 60 - 215 = 0 (-120)$
01/22/01	6	$80 + 75 + - 60 - 215 + 300 = 180$

Scenario 1 – Inventory Valuation

To determine the value of all the items with the number starting with “COSTING...” on 04/01/01, follow these steps:

1. Run the Adjust Cost – Item Entries batch job.
2. In the Navigation Pane, click the **Financial Management** button and click INVENTORY→REPORTS→INVENTORY VALUATION.
3. On the **Item** tab of the request form, in the **No.** field, enter COSTING AVR.. COSTING STD.
4. On the **Options** tab, enter 04/01/01 as a starting date and as an ending date. Click **Preview** to see the report.

Posting Inventory Costs to the General Ledger

As explained in the beginning of the course, the value entries making up the inventory costs are created as a result of inventory posting. If you have not set up the program to post automatically to the G/L (this option is explained later in this section), then you must reconcile the inventory costs with the records of the general ledger by using the Post Inventory Cost to G/L batch job.

The batch job uses the type of the item ledger entry and value entry to determine which general ledger account to post to.

Generally, the program posts the inventory costs in the following manner:

Costs of the item ledger entries of the type Purchase are debited to the Inventory account in the balance sheet. The credit is posted to the following balancing accounts in the income statement:

- The Direct Cost Applied account for the value entries of the type Direct Costs.
- The Overhead Applied account for the value entries of the type Indirect costs.
- The Purchase Variance account for the value entries of the type Variance.

Costs of the item ledger entries of the type Sale are credited to the Inventory account on the balance sheet and debited to the COGS account on the income statement.

More specifically, as far as the costing of the purchased inventory is concerned, apart from purchase and sale, there are three more types of item ledger entries – negative adjustment, positive adjustment and transfer. The related value entries are also divided into a number of different types, which must be posted to dedicated accounts in the income statement.

The companies must ensure that all the relevant G/L accounts are set up in the program before undertaking inventory postings.

The G/L accounts on the income statement must be set up in the General Posting Setup window, while the Inventory account must be set up in the Inventory Posting window.

The following table provides an overview of all the G/L accounts required in connection with inventory cost management:

G/L Accounts in the General Posting Setup	Purpose
COGS account	To post the inventory decrease due to sales to the income statement.
COGS account (Interim)	To post the expected inventory decrease due to sales to the income statement. Only when using expected cost posting.
Inventory Adjustment account	To post inventory increases and decreases occurred due to adjustments, revaluations and rounding to the income statement.

G/L Accounts in the General Posting Setup	Purpose
Inventory Accrual account (Interim)	To post expected inventory increases and decreases. Only when using expected cost posting.
Direct Cost Applied account	To post the direct costs to the income statement.
Overhead Applied account	To post the indirect costs to the income statement.
Purchase Variance account	To post the difference between the standard cost and the direct unit cost to the income statement.
Inventory Account	To post the inventory value to the balance sheet.
Inventory Account (Interim)	To post the expected inventory value to the balance sheet. Only when using expected cost posting.

***NOTE:** "Controlling Accounts Posted to in General Ledger", included in the "Costing White Paper", provides a list of all possible combinations of different types of value entries and the account and balancing account posted to in the general ledger.*

Post Inventory Cost to G/L batch job

The program performs reconciliation between inventory entries and the general ledger by means of the Post Inventory Cost to G/L batch job. This batch job posts inventory costs to the general ledger based on the values in the **Cost Amount (Actual)** field on the value entries.

When posting inventory costs to the general ledger, the program calculates the inventory value by summing up the actual cost amounts in the value entries that are related to each item ledger entry. In this way, the program ensures that, for example, additional costs posted as item charges and rounding residuals, are included in the inventory value.

The batch job can post inventory value in the general ledger per ledger entry or per posting group. When posting per ledger entry, you can see a detailed specification as to how a specific transaction has influenced the general ledger. However, this also results in the program creating numerous G/L entries. When posting per posting group, the program takes into consideration customer/vendor posting groups as well as item posting groups and locations.

Using fields from the Value Entry table, the program uses the following calculations to determine the actual costs to post to the general ledger:

Actual Cost: Cost Amount (Actual) – Cost Posted to G/L

***NOTE:** The Post Inventory Cost to G/L batch job also posts expected costs, when specified by the user to do so. Expected cost handling is discussed in the “Posting Expected Inventory Value” section.*

When posting to the general ledger, the program posts the entire amount in the **Cost Amount (Actual)** field on the value entry. After posting, the program updates the Cost Posted to G/L field on the value entry accordingly:

Cost Posted to G/L = Cost Amount (Actual)

A report created as a result of running the Post Inventory Cost to G/L batch job shows all the different postings made against inventory.

The Post Inventory Cost to G/L batch job allows the user to post into an open accounting period those adjustments that are recognized after closing the accounting period to be posted. This is an advantage, because it allows you to post these adjustments without reopening a closed accounting period. A disadvantage is that balances in the inventory ledger and general ledger are only guaranteed to be equal at the point in time when the reconciliation is done.

Scenario 2 – Inventory Posting to G/L

1. In the Navigation Pane, click the **Financial Management** button and click INVENTORY→COSTING→POST INVENTORY COST TO G/L.
2. On the **Options** tab of the request form, select *Per Entry* in the **Posting Method** field and in the **Closed Period Entry Posting Date** field, enter 04/30/01. Place a check mark in the **Post** field.

***NOTE:** For more details about filling in the request form for the Post Inventory Cost to G/L batch job, read the topic “Post Inventory Cost to G/L Batch Job” in on-line Help.*

3. Click **Preview**.

***NOTE:** To get a simple test preview of the Post Inventory Cost to G/L report without undertaking the actual posting, make sure that the **Post** field on the request form for the batch job does not contain a check mark.*

The program generates the Post Inventory Cost to G/L report, specifying amounts posted to the relevant G/L accounts.

The program also updates the value entries for the individual items that were included in the batch job.

- Open the Value Entries window for item COSTING FIFO:

Posting ...	Valuatio...	Item ...	Entry Type	Cost Amount (Actual)	Cost Posted to G/L	Item Ledger Entr...	Item Ledger En...
01/25/01	01/25/01	Purch...	Direct Cost	1,000.00	1,000.00	317	10
01/28/01	01/28/01	Purch...	Direct Cost	1,210.00	1,210.00	338	10
01/25/01	01/25/01	Purch...	Direct Cost	10.00	10.00	317	0
01/30/01	01/30/01	Sale	Direct Cost	-2,020.00	-2,020.00	339	-20
01/30/01	01/30/01	Sale	Direct Cost	-200.00	-200.00	339	0

Now the **Cost Posted to G/L** field contains the same values as the **Cost Amount (Actual)** field. This indicates that the general ledger has been updated with the corresponding amounts.

The fields **G/L Entry No. (Account)** and **G/L Entry No. (Bal. Account)** now contain the respective G/L entry numbers that were created as the result of posting the inventory cost amount.

Similarly, when the program creates the general ledger entry, it specifies in the **Value Entry No.** field the value entry number that originated the creation of the general ledger entry.

To obtain a good overview of costs, sales, and profit information for an item over time, view the item statistics. The Item Statistics window summarizes statistical information. You can view information in terms of different categories, such as profit and cost amounts, as well as purchase and sales charges.

- Open the Item Statistics window for item COSTING AVR. In the **Show as Lines** field, select Cost Specification:

Name	Total Amount	01/01/01	02/01/01	03/01/01	04/01/01	05/01/01
Inventoriable Costs						
Direct Cost (LCY)	9,130.00		3,230.00	2,900.00	3,000.00	
Revaluation (LCY)						
Rounding (LCY)						
Indirect Cost (LCY)						
Variance (LCY)						
Inventoriable Costs, Total	9,130.00		3,230.00	2,900.00	3,000.00	
COGS (LCY)	-3,728.74		-571.00	-559.79	-2,597.95	
Inventory (LCY)	5,401.26		2,659.00	2,340.21	402.05	

Posting in Closed Accounting Periods

After the inventory cost is posted to the general ledger, the accounting period in which these costs occurred is considered to be closed. However, there could be situations where due to, for example, additional costs posted after closing the accounting period, the costs originally posted to the general ledger might change.

To handle such situations, the program provides the possibility to post cost adjustments (recognized after closing the accounting period) into an open accounting period without reopening a closed period. An important thing to remember here is that balances in the inventory and general ledger are only guaranteed to be equal at the point in time when the reconciliation is made. Consider this scenario:

1. December 5, 2003: Item is purchased and posted as received.
2. December 10, 2003: Sale of item is posted as shipped and invoiced at unit cost of 100 LCY.
3. January 8, 2004: Purchase of item is posted as invoiced at 120 LCY.
4. January 12, 2004: Fourth quarter 2003 is closed.
5. January 31, 2004: Adjust Cost – Item Entries batch job is run and the **Closed Period Entry Posting Date** is set to January 31, 2004.

In this case, the cost adjustment of 20 LCY has posting date January 31, 2004 because the posting date of the related item ledger entry is in a closed accounting period.

The same principle applies when you run the Post Inventory Cost to G/L batch job to post inventory costs for accounting periods that are already closed. When you run the batch job with the posting method Per Entry, the date you enter in the **Closed Period Entry Posting Date** field is the date that will appear on the general ledger entries whose corresponding value entries fall in closed accounting periods.

Posting Expected Inventory Value

In some cases, such as the partial shipment of an order, a purchase order may be posted as received but not invoiced. Similarly, a sales order may be shipped to the customer and invoiced at a later time. In situations where only the quantity part of an inventory increase or decrease has been posted, the actual costs of the value entries are not posted to G/L when the batch job is run. However, the program offers an option of posting the expected value of inventory increase or decrease to the general ledger.

Microsoft Navision Inventory Costing

Companies may want to post expected cost to interim accounts to get an estimate of the cost of the received items before receiving the actual invoice. In this manner, they can more or less accurately estimate the value of their assets at a given date. You can activate this option by placing a check mark in the **Expected Cost Posting** field in the inventory setup:



With this option, when the user runs the Post Inventory Cost to G/L batch job, the program posts expected costs to interim accounts using the following formula with values from the Value Entry table:

Expected Cost Posted to G/L – Cost Amount (Expected)

When the user posts the order as completely invoiced and runs the Post Inventory Cost to G/L batch job, the program balances the interim accounts and posts the actual cost to the regular accounts. The program records the G/L entry numbers in the corresponding value entries in the **G/L Entry No. (Interim Acc.)** and **G/L Entry No. (Int. Bal. Acc.)** fields.

The program posts the expected inventory costs in the following manner:

An order is posted as...	Expected costs are...
Received	Credited to the Inventory Accrual (Interim) account
	Debited to the Inventory (Interim) account
Shipped	Credited to the Inventory (Interim) account
	Debited to the COGS (Interim) account

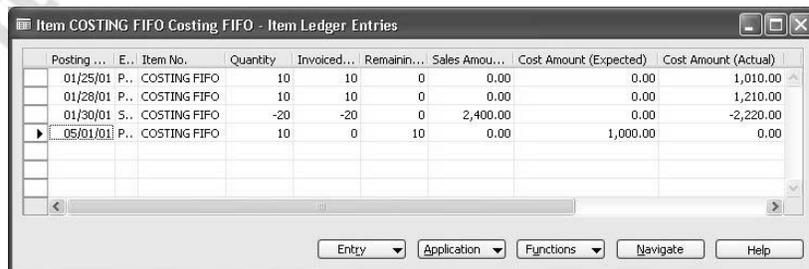
A receipt is posted as...	The actual costs are...
Invoiced	Credited to the Direct Cost Applied account Debited to the Inventory account
	The posted expected costs are... Credited to the Inventory (Interim) account Debited to the Inventory Accrual (Interim) account

A shipment is posted as...	The costs are...
Invoiced	Credited to the Inventory account Debited to the COGS account Credited to the COGS (Interim) account Debited to the Inventory (Interim) account

The following example demonstrates the functioning of the expected cost posting option.

Scenario 3 – Expected Inventory Cost Posting

1. Place a check mark in the **Expected Cost Posting** field in the inventory setup.
2. Create a purchase order for vendor 10000 for 10 units of item COSTING FIFO with a posting date of 05/01/01 and the direct unit cost of 100 LCY. Post the order as received.
3. Open the item ledger entries for item COSTING FIFO:



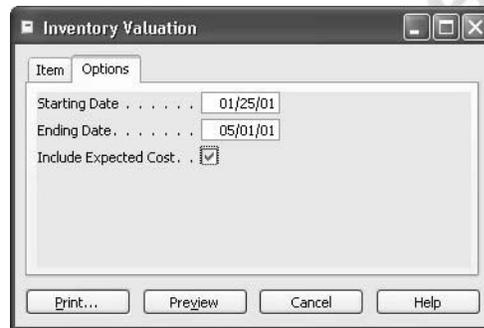
For the entry just posted, the **Cost Amount (Actual)** field contains 0, while the **Cost Amount (Expected)** field contains the amount of 1,000 LCY.

4. Run the Adjust Cost – Item Entries batch job and then the Post Inventory Cost to G/L batch job.

The last batch job will post the expected cost to the relevant interim G/L accounts. The program offers the possibility of including the amounts of expected costs into inventory valuation reports (this option is activated by placing a check mark in the **Include Expected Cost** field on the **Options** tab of the request form of the valuation report).

Create a valuation report for item COSTING FIFO:

5. Open the Inventory Valuation report.
6. On the request form, set up the filter for item number COSTING FIFO. On the **Options** tab, enter 01/25/01 as a starting date and 05/01/01 as the ending date.
7. In the **Include Expected Cost** field, place a check mark:



8. Click **Preview** to view the report.
The valuation report now includes entries that have been posted with expected cost.
9. Post the purchase order as invoiced.
10. Run the Adjust Cost – Item Entries batch job and then the Post Inventory Cost to G/L batch job.

The last batch job will reverse posting of expected cost to the interim G/L accounts and post the costs to the regular G/L accounts.

Inventory Revaluation

The value of a company's inventory can change over time, for example, as a result of deterioration, age or changed market conditions. Therefore, to reflect the inventory value most accurately, companies may need to revalue the inventory. To decide on the new inventory value, they may use current value bases, such as a replacement cost and net realizable cost, or lower-of-cost-or market basis.

A company can implement the inventory revaluation at any date, allowing a high degree of flexibility, as the revaluation can be done back in time. To begin the process, a company must determine the quantity that is available for revaluation on a given date. This quantity is called a revaluable quantity, and it is calculated as the sum of quantity for item ledger entries of inventory decrease and increase with the posting date equal or earlier than the revaluation posting date. Only completely invoiced item ledger entries are included in the calculation.

After calculating a revaluation, it is possible that a user will post an inventory increase or decrease with a posting date preceding the revaluation. This new posted quantity is not affected by the revaluation. In order to make the inventory balance, it is very important that only the original revaluable quantity is valued at the revalued amount, regardless of the posting date of later inventory increases or decreases.

For detailed information on revaluation of WIP-inventory, refer to the “Manufacturing Costing” training material.

The Revaluation Journal

In the program, you change the inventory value of an item or a specific item ledger entry in the revaluation journal.

There are two ways you can fill in the revaluation journal with information about the current (calculated) value of the specified item:

- Enter a journal line manually.
- Use the Calculate Inventory Value batch job.

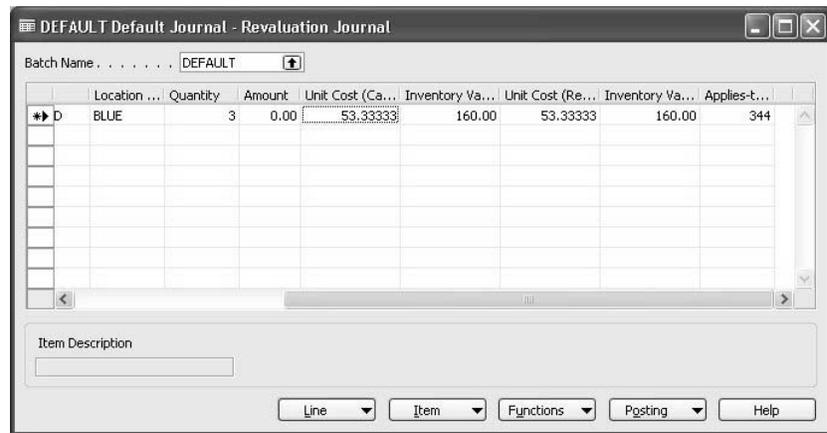
The option you choose depends on the extent of the revaluation.

Creating a journal line manually is a feasible option when you need to revalue an item within a specific item entry. In this case, you must apply the revaluation journal line to the item ledger entry in question.

For example, assume that you need to change the value of the recent purchase of item COSTING RND.

1. In the Navigation Pane, click the **Warehouse** button and click INVENTORY→REVALUATION JOURNALS. In the **No.** field, select item COSTING RND.
2. In the **Applies-to Entry** field, select the item ledger entry whose value you want to change (in the demo data, there is only one entry that you created earlier in the course).

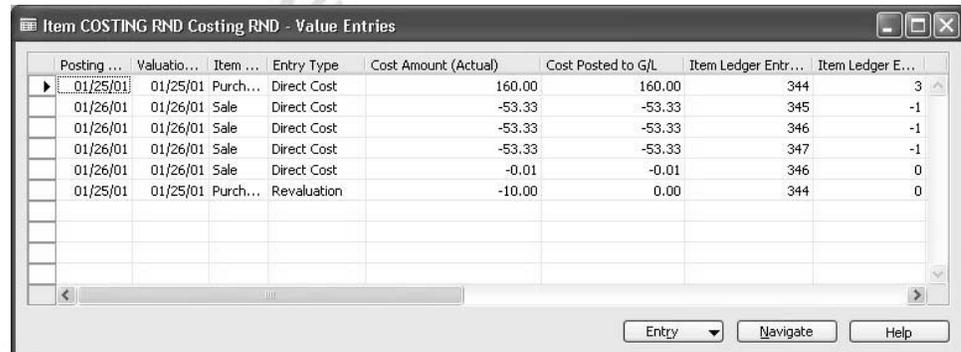
The program automatically fills in the **Unit Cost (Calculated)** and **Inventory Value (Calculated)** fields:



Notice that by default, the program also fills in the **Inventory Value (Revalued)** field with the current value.

3. In the **Unit Cost (Revalued)** field, enter 50 – the new cost. Post the journal line.

As a result of this posting, the program creates a value entry of the type Revaluation for the item in question:



The new value entry changes the inventory value of all units of the original inbound entry, based on the new value. This revaluation will affect, (after the Adjust Cost – Item Entries batch job is run) the inventory value of the subsequent outbound entries that are applied to this item ledger entry, regardless of their posting date.

The above is an example of a situation where a revaluation affects an inventory decrease. There is a defined set of rules for how the program determines whether an inventory decrease is affected by a revaluation. In essence, these rules represent certain combinations of two parameters, which are as follows: the number of an item ledger entry and the posting date of the entry. The rules are summarized in the following table:

Entry No.	Posting Date	Affected by Revaluation
Earlier than revaluation entry No.	Earlier than revaluation posting date	No
Earlier than revaluation entry No.	Equal to revaluation posting date	No
Earlier than revaluation entry No.	Later than revaluation posting date	Yes
Later than revaluation entry No.	Earlier than revaluation posting date	Yes
Later than revaluation entry No.	Equal to revaluation posting date	Yes
Later than revaluation entry No.	Later than revaluation posting date	Yes

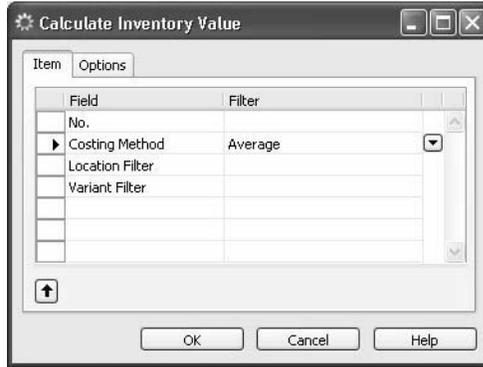
When the user posts the revaluation to G/L, the program credits the actual cost amount in the value entries created as a result of the inventory revaluation to the Inventory account and debits them to the Inventory Adjustment account.

When the scope of inventory revaluation is not limited to one or a few items, we recommend using the Calculate Inventory Value batch job. This batch job allows the user to specify exactly how the revaluation will change the inventory value of an item or item ledger entry. The revaluation is valid for entries relating to this item or item ledger entry, starting from the posting date of the revaluation journal.

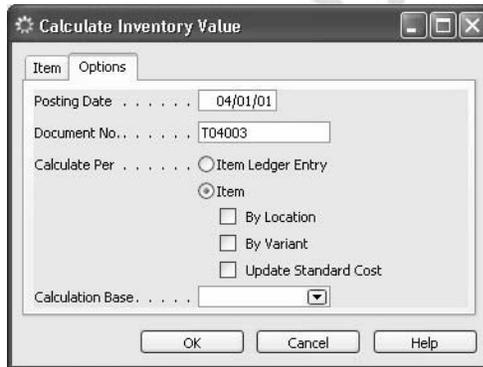
For example, assume that you need to change the value of all the items with the Average costing method:

1. Run the Adjust Cost – Item Entries batch job before the revaluation.
2. Open the revaluation journal, and click **FUNCTIONS** → **CALCULATE INVENTORY VALUE**.

3. On the request form, in the **Costing Method** field, select Average:

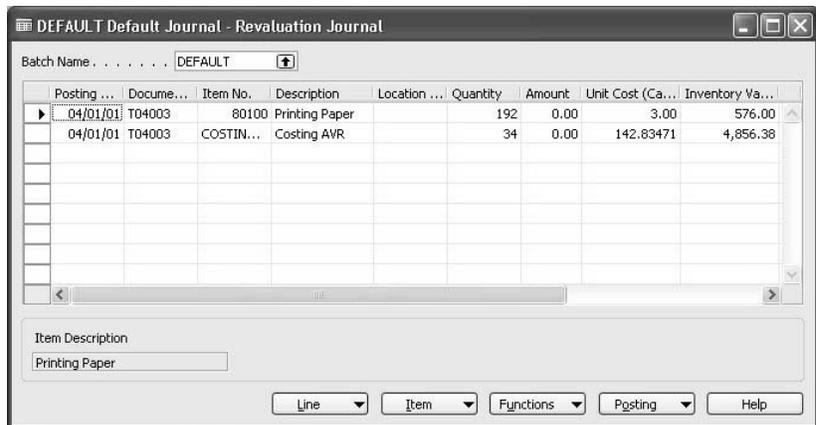


4. Enter the following information on the **Options** tab of the request form (for details on how to set up filters for the Calculate Inventory Value batch job, read the corresponding topic in online Help):



5. Click **OK** to run the batch job.

The program fills in the journal lines. Remember that the batch job does not post the journal.



Now you can enter the new unit cost or the total revalued inventory value in the corresponding fields for each journal line.

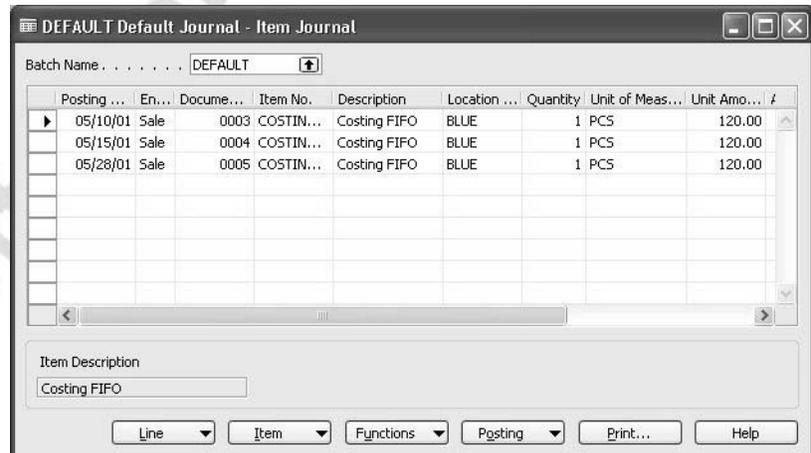
6. Do not enter any changes to the inventory values, and delete the journal lines.

NOTE: As established earlier, by definition, revaluable quantity is calculated as the sum of quantity for completely invoiced item ledger entries with a posting date equal to or earlier than the revaluation date. This means that when some items are received/shipped but not invoiced, the program cannot perform the inventory value calculation. The optional function of **Calculate Inventory Value –Test** is available in the revaluation journal to allow the user to see (test) preconditions for the inventory value calculation. The test report will include all the items and corresponding documents that hinder calculation of the inventory value.

Scenario 4 – Inventory Revaluation

Let's analyze the functioning of the program in terms of how an inventory revaluation affects an inventory decrease. We will take item COSTING FIFO as an example.

1. Create three separate sales orders for item COSTING FIFO, each with a quantity of 1, and with the respective posting dates of 05/10/01, 05/15/01 and 05/28/01. Use the item journal for this purpose:



Posting ...	En...	Docume...	Item No.	Description	Location ...	Quantity	Unit of Meas...	Unit Amo... /
05/10/01	Sale	0003	COSTIN...	Costing FIFO	BLUE	1	PCS	120.00
05/15/01	Sale	0004	COSTIN...	Costing FIFO	BLUE	1	PCS	120.00
05/28/01	Sale	0005	COSTIN...	Costing FIFO	BLUE	1	PCS	120.00

2. Post the journal and run the Adjust Cost – Item Entries batch job.

The program calculates the cost of the three sales transactions on the basis of unit cost of the applied purchase entry, which is 100 LCY.

Now revalue the remaining quantity of the item using the unit cost of 80 LCY. Set the posting date of the revaluation to 05/15/01:

Microsoft Navision Inventory Costing

- Open the revaluation journal. Use the function **Calculate Inventory Value** to automatically create journal lines for item COSTING FIFO only. On the request form, enter a posting date as 05/15/01 and select Calculate per Item Ledger Entry. Click **OK** to calculate the inventory value.
- In the **Unit Cost (Revalued)** field for the journal line, enter 80:

Description	Location	Quantity	Amount	Unit Cost (Ca...)	Inventory Va...	Unit Cost (Re...)	Inventory Va...
Costing FIFO	BLUE	8	-160.00	100.00	800.00	80.00	640.00

- Post the journal.

The program creates a new value entry of the type Revaluation (associated with the just revalued purchase entry) with the cost amount equal to the difference between the old (8×100) and the new inventory value (8×80):

Posting	Valuatio...	Item	Entry Type	Cost Amount (Actual)	Cost Posted to G/L	Item Ledger E...	Valued Quantity
01/25/01	01/25/01	Purch...	Direct Cost	1,000.00	1,000.00	10	10
01/28/01	01/28/01	Purch...	Direct Cost	1,210.00	1,210.00	10	10
05/01/01	05/01/01	Purch...	Direct Cost	0.00	0.00	10	10
05/01/01	05/01/01	Purch...	Direct Cost	1,000.00	1,000.00	0	10
01/25/01	01/25/01	Purch...	Direct Cost	10.00	10.00	0	10
05/15/01	05/15/01	Purch...	Revaluation	-160.00	0.00	0	8
01/30/01	01/30/01	Sale	Direct Cost	-2,020.00	-2,020.00	-20	-20
01/30/01	01/30/01	Sale	Direct Cost	-200.00	-200.00	0	-20
05/10/01	05/10/01	Sale	Direct Cost	-100.00	0.00	-1	-1
05/15/01	05/15/01	Sale	Direct Cost	-100.00	0.00	-1	-1

- Create three separate sales orders with the same details as in step 1.
- Post the item journal and run the Adjust Cost – Item Entries batch job.

8. Open the item ledger entries for item COSTING FIFO:

Posting ...	Entry T...	Item No.	Quantity	Invoiced Quantity	Remaining Qua...	Sales Amount (Ac...	Cost Amount (Actual)
05/01/01	Purchase	COSTING FIFO	10	10	4	0.00	640.00
05/10/01	Sale	COSTING FIFO	-1	-1	0	120.00	-100.00
05/15/01	Sale	COSTING FIFO	-1	-1	0	120.00	-100.00
05/28/01	Sale	COSTING FIFO	-1	-1	0	120.00	-80.00
05/10/01	Sale	COSTING FIFO	-1	-1	0	120.00	-80.00
05/15/01	Sale	COSTING FIFO	-1	-1	0	120.00	-80.00
05/28/01	Sale	COSTING FIFO	-1	-1	0	120.00	-80.00

The revaluation affects the following outbound entries:

- All outbound entries with entry numbers larger than the revaluation entry number.
- The outbound entry with an entry number smaller than the revaluation entry number but with a posting date later than the revaluation posting date.

All entries with numbers smaller than the revaluation entry and with posting dates equal to or earlier than the revaluation posting date were unaffected.

Physical Inventory

During the course of their regular business operations, companies will unavoidably experience situations where the actual quantity of inventory on hand differs from the quantity on hand recorded in the program. With this in view, it is therefore a common practice for the companies to undertake a physical inventory count to correct any discrepancies of this sort. The users enter the correct (actual) quantities into the program, and the program records the differences with negative or positive adjustments, as appropriate.

In Microsoft Navision, the physical inventory journal offers accountants a form where any differences in quantity can be registered as well as a function that enables the automatic posting of corresponding adjustments.

In the Navigation Pane, click the **Warehouse** button and click INVENTORY→PHYS. INVENTORY JOURNALS.

In the journal, you can create lines for the items that you want to do a physical count of. You can do this in two ways:

- Manually
- Automatically by using the **Calculate Inventory** function.

The choice of approach depends on the extent of the physical counting.

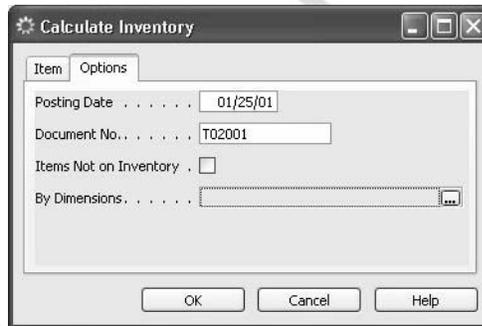
To actually do a physical inventory, you can print the Physical Inventory List report that lists the items on inventory. The report can also include the quantity on hand for each item as calculated by the program.

The following example illustrates the handling procedure when accounting for physical inventory discrepancies:

Scenario 5 – Handling Physical Inventory Differences

After performing a physical inventory counting, a warehouse employee discovers that the quantity on hand of item 70000 differs from the quantity recorded in and calculated by the program. The loss must be registered, and the inventory availability and value updated.

1. Open the **Phys. Inventory Journal**. Click FUNCTIONS→CALCULATE INVENTORY.
2. On the **Item** tab of the request form, set the filter for item 70000.
3. Enter the following information on the **Options** tab (for details on how to set up filters for the Calculate Inventory batch job, read the corresponding topic in online Help):



NOTE: By clicking the *Assist* button in the *By Dimensions* field, the user can select dimension codes by which the physical inventory journal lines will be grouped. For each combination of dimension values for the selected dimensions, the program will create a physical inventory journal line in the journal. However, when calculating inventory for a location that uses bins, it is not possible to filter by dimensions.

4. Click **OK** to run the batch job.

The program creates the following lines in the journal:

Posting ...	E..	Docume...	Item No.	Description	Location ...	Qty. (Ca...	Qty. (Ph...
▶ 01/25/01 P..	T02001		70000	Side Panel		2,000	2,000
01/25/01 P..	T02001		70000	Side Panel	BLUE	2,202	2,202

Note that the values in the **Qty. (Calculated)** and **Qty. (Phys. Inventory)** fields are the same, calculated on the basis of the existing item ledger entries for the item in question. As a result, the **Quantity** field, which specifies the calculated difference between the above-mentioned fields, is equal to zero.

5. For the second journal line, in the **Qty. (Phys. Inventory)** field, enter 2,190, which is the correct (actual) quantity on hand.

The program automatically calculates the inventory decrease of 12 in the **Quantity** field:

E..	Docume...	Item No.	Description	Location ...	Qty. (Ca...	Qty. (Ph...	Quantity
P..	T02001	70000	Side Panel		2,000	2,000	0
▶ N..	T02001	70000	Side Panel	BLUE	2,202	2,190	12

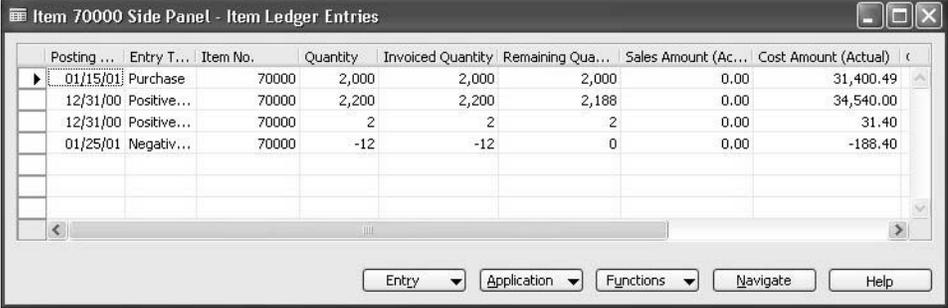
6. Post the journal.

The program creates an item ledger entry for the journal line where the **Quantity** field is not zero.

Microsoft Navision Inventory Costing

Generally, if the value of the **Quantity** field in the physical inventory journal is positive, the created item ledger entry will be of the type Positive Adjustment. If the value of the **Quantity** field is negative, the created item ledger entry will be of the type Negative Adjustment.

In our example, the program created a negative adjustment for 12 units for item 70000:



Posting ...	Entry T...	Item No.	Quantity	Invoiced Quantity	Remaining Qua...	Sales Amount (Ac...	Cost Amount (Actual)	€
01/15/01	Purchase	70000	2,000	2,000	2,000	0.00	31,400.49	
12/31/00	Positive...	70000	2,200	2,200	2,188	0.00	34,540.00	
12/31/00	Positive...	70000	2	2	2	0.00	31.40	
01/25/01	Negativ...	70000	-12	-12	0	0.00	-188.40	

Remember that posting the physical inventory journal does not result in any postings to the general ledger. Therefore, as in the case of other entries in the inventory ledger, the cost amounts must first be adjusted by means of running the Adjust Cost – Item Entries batch job and then posted to the general ledger.

Test Your Knowledge – Inventory Valuation Functionality

1. On which entries is inventory valuation based in Navision?
 - a. Item ledger entries
 - b. General ledger entries
 - c. Value entries
 - d. Item tracking entries

2. Which report would you run to generate an inventory valuation of one or more items?

3. How do you ensure that expected costs are posted to the general ledger?
 - a. Place a check mark in the **Expected Cost Posting** field in the inventory setup.
 - b. Place a check mark in the **Automatic Cost Posting** field in the inventory setup.
 - c. Place a check mark in the **Include Expected Costs** field in the Inventory Valuation report request form.

4. True or False: In Navision, you can only revalue item entries that are completely invoiced.

5. In the physical inventory journal, when you post a change in quantity for an item, what are the two possible types of item ledger entries that the program will create, depending on whether you have posted a positive or negative change in the quantity?

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Quick Interaction: Lessons Learned

Take a moment to write down three Key Points you have learned from this chapter:

- 1.

- 2.

- 3.

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CHAPTER 5: SETTING UP INVENTORY COSTING

This chapter contains the following sections:

- Overview
- Objectives
- Inventory Costing Setup

Overview

The setup of inventory costing consists of two elements:

- **General inventory costing setup:** A company's decision regarding two important aspects of its accounting process – whether the inventory costs should be posted to the general ledger simultaneously with posting of each inventory transaction, and whether the expected inventory costs should be posted to the general ledger – are implemented through the general inventory costing setup. In addition, a decision as to how the program should calculate an item's average unit cost are also implemented in this setup.
- **Individual item setup:** Each individual item must be set up to use one of the five costing methods. Through the selection of a costing method, assumptions are defined concerning the physical and financial cost flow through inventory, and thus the ways the item is valued.

These are described in detail in this chapter.

Objectives

By the end of this chapter, you should be able to:

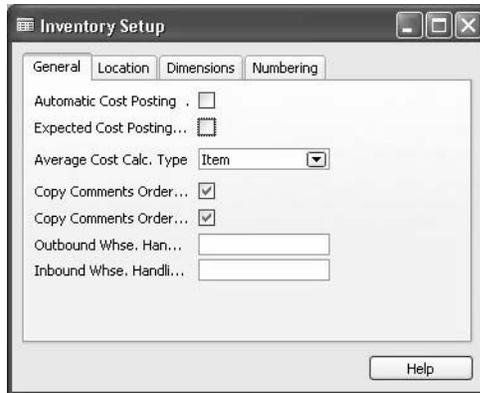
- Set up the inventory costing options for the company in Microsoft® Business Solutions–Navision®.
- Set up individual items to use the correct costing method.

Inventory Costing Setup

General Inventory Costing Setup

The setup of the general inventory costing is part of the inventory setup.

From the Navigation Pane, click the **Administration** button and click APPLICATION SETUP→WAREHOUSE→INVENTORY SETUP.



The following three fields on the **General** tab define the costing setup: the **Automatic Cost Posting**, **Expected Cost Posting to G/L**, and **Average Cost Calc. Type** fields.

A check mark in the **Automatic Cost Posting** field indicates that when posting items to an item account, the program will automatically post to the inventory account, adjustment account and COGS account in the general ledger.

When using this function, however, it is important to remember two things:

- It is still necessary to run the Adjust Cost – Item Entries and Post Inventory Cost to G/L batch jobs periodically. The costs must still be adjusted by the adjustment batch job for the same reasons outlined in the “Inventory Adjustment” section in the Inventory Costing Functionality chapter, and, after you have made these adjustments, you must post them to the general ledger.
- Enabling the automatic cost posting function means that the number of entries the program creates and the level of detail produced every time a transaction is posted increase substantially. This may considerably reduce the performance of the company’s database.

A check mark in the **Expected Cost Posting** field specifies that a company wants to post expected inventory costs to interim accounts in the general ledger. For this reason, you must set up interim accounts for the relevant posting groups before using this option.

The logic and mechanism behind this option are described in this course in the section “Inventory Posting to General Ledger” in the previous chapter. It is important to note that, due to the number of postings and thus the number of resulting entries, this function also has implications for database performance.

The **Average Cost Calc. Type** field contains information about the method that the program uses to calculate average cost.

There are two alternatives for how the program calculates the average cost:

- Per Item
- Per Item & Location & Variant

Read the detailed description of each of the options in the online Help for the **Average Cost Calc. Type** field.

***NOTE:** If the user changes the average cost calculation type, all entries concerning items with the Average costing method will have to be adjusted by running the Adjust Cost – Item Entries batch job. Remember that this may take several hours, depending on the database size.*

Individual Item Setup

As mentioned earlier, you must set up each individual item to use one of the five costing methods supported by Navision: FIFO, LIFO, Average, Specific and Standard. You make this selection in the **Costing Method** field on the **Invoicing** tab of the item card.

The costing methods are described in detail in the section “Cost of Goods Sold” and therefore will not be addressed here.

The setup of items’ costing methods requires careful consideration because, once item entries are created, the costing method cannot be changed.

In situations where a change is absolutely necessary, the user should do the following:

1. For the item in question, reduce the quantity on hand to zero by making a negative adjustment.
2. Rename the item in question.
3. Create a new item and give it the name of the original item.
4. Set up a correct costing method for the new item.
5. For the new item, increase the quantity on hand to the original amount by making a positive adjustment.

Test Your Knowledge – Setting Up Inventory Costing

1. True or False: If you select the automatic cost posting option in the inventory setup, you no longer need to run the Adjust Cost – Item Entries batch job or the Post Inventory Cost to G/L batch job.

2. If you want to select the expected cost posting option in the inventory setup, what type of accounts must you have set up in the general ledger, besides the standard inventory accounts?

3. In setting up inventory costing for individual items, what is the field that you must set on the item card?
 - a. Unit Cost
 - b. General Product Posting Group
 - c. Costing Method

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Quick Interaction: Lessons Learned

Take a moment to write down three Key Points you have learned from this chapter:

1.

2.

3.

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APPENDIX A: ANSWERS TO TEST YOUR KNOWLEDGE QUESTIONS

The following sections contain the answers to the questions that appear in the Test Your Knowledge sections throughout the manual.

Test Your Knowledge – Inventory Costing Overview (CH 2)

1. Capitalized and non-capitalized costs are the two basic types of costs that are included on balance sheets and income statements.
2. Standard cost is an estimate of what inventory items should cost based on studies of past and estimated future cost data.
3. Direct costs are traceable to a cost object, where as indirect costs are costs that are allocated to a cost object.
4. FIFO is the cost flow assumption that assumes that the oldest materials and goods are used first.

Test Your Knowledge – Inventory Costing Principles in Microsoft Navision (CH 3)

1. You can post inventory cost to the general ledger by either running the Post Inventory Cost to G/L batch job or by activating the automatic cost posting option in the inventory setup.
2. The program records quantity changes in the item ledger entries and value changes in the value entries.
3. False: The program uses the information in the value entries to post inventory cost to the general ledger.

Test Your Knowledge – Inventory Costing Functionality (CH 4)

1. The program uses the value in the **Last Direct Cost** field as the basis for the unit cost on the purchase line when the item uses a costing method other than Standard, and it uses the **Unit Cost** field when the item's costing method is Standard.
2. When you post a purchase order for 120 LCY for an item with a standard cost of 100 LCY, the program creates one item ledger entry that posts the quantity, and it creates two value entries. One value entry for the standard cost of 100 LCY and a second value entry with an entry type of Variance and a cost amount of 20 LCY.
3. You should use a fixed application in the following situations:
 - When you need to correct a wrong posting.
 - When you need to ensure an exact cost reversal of a previous posting.
4. The purpose of the valuation date on the value entry is to record the date from which an inventory increase or decrease will affect the average cost.
5. The Adjust Cost – Item Entries batch job adjusts the cost in an original value entry by creating a new adjustment value entry in which the **Cost Amount (Actual)** field contains the difference between the original cost amount and the correct cost amount.

Test Your Knowledge – Inventory Valuation Functionality (CH 5)

1. Inventory valuation in Navision is based on the value entries.
2. To determine the inventory value of one or more items, you would run the Inventory Valuation report.
3. To ensure that the program posts expected costs to interim accounts in the general ledger, you must place a check mark in the **Expected Cost Posting** field on the inventory setup.
4. True. In Navision, you can only revalue item ledger entries that are completely invoiced.
5. When you post a change in quantity in the physical inventory journal, the program will create a Positive Adjustment item ledger entry, if the change was an increase, or it will create a Negative Adjustment item ledger entry, if the change was a decrease in quantity.

Test Your Knowledge – Setting Up Inventory Costing (CH 6)

1. False. If you select the automatic cost posting option in the inventory setup, you must still run the **Adjust Cost – Item Entries** batch job and the **Post Inventory Cost to G/L** batch job.
2. If you want to post expected costs to the general ledger, you must first have set up the appropriate interim inventory accounts.
3. To set up inventory costing for individual items, you must properly set the **Costing Method** field on the item card.

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