

# Business One in Action - When Using FIFO Valuation Method, How Do Returned Items Affect the Open Layers For that Item?



## Applies to:

SAP Business One, [Logistics](#), [Stock](#)

## Summary:

The FIFO valuation method works with a concept called layers. Each physical stock transaction creates its own layer. This article looks at how open FIFO layers work when returning items to stock.

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**Created on:** December 2009

## Author Bio:

Lorna Real joined SAP in 2007 and is currently active as Senior Support Consultant for SAP Business One. She has worked as both technical and business consultant. She authored this article as a direct response to a partner enquiry during the Expert-on-Phone project, where she consulted on mainly logistics and Finance related topics.

## Table of Content

When Using FIFO Valuation Method, How Do Returned Items Affect the Open Layers For that Item? .....	3
Related Contents .....	9
Copyright .....	10

## When Using FIFO Valuation Method, How Do Returned Items Affect the Open Layers For that Item?

When an item has a valuation method of FIFO, each sales return document creates a new layer. This layer is always placed at the end of the list of existing layers for that item and will never return to its original layer.

As a new layer results in an increase in the existing stock quantities (e.g. stock receipt documents), its cost layer will be used in accordance with the FIFO principle.

To illustrate how this works, let us look at the stock transactions for the FIFO item 'S\_1035', SnowBoarding Gloves – Large.

1. Goods Receipt PO No. 158 is added with a quantity of 10 at a price of GBP 35.00.

FIFO Layer	Document	Quantity	Cost (GBP)	Open Qty	Base Document
1	Goods Receipt PO No. 158	10	35.00	10	--

#	Item No.	Description	Posting Date	Document	Quantity	Cost	Trans. Value	Cumulative Qty	Cumulative Value
1	S_1035	SnowBoarding Gloves - Large						4,000	140.00
2								4,000	140.00
3		Opening Balance						0,000	0.00
4			15.01.2009	PD 158	10,000	35.00	350.00	10,000	350.00

2. A purchase return document, Goods Return No. 7 is added, based on Goods Receipt PO No. 158. This return creates a new record. The cost associated to this purchase return is taken from the base document if that layer is open or from the first open layer if the base Goods Receipt PO is closed.

In this example, the base document, Goods Receipt PO No. 158 is still open so the cost for the purchase return record is GBP 35.00, taken from the open Goods Receipt PO.

FIFO Layer	Document	Quantity	Cost (GBP)	Open Qty	Base Document
1	Goods Receipt PO No. 158	10	35.00	5	--
	Purchase Return No. 17	-5	35.00	--	GR PO 158

#	Item No.	Description	Posting Date	Document	Quantity	Cost	Trans. Value	Cumulative Qty	Cumulative Value
1	S_1035	SnowBoarding Gloves - Large						4,000	140.00
2								4,000	140.00
3		Opening Balance						0,000	0.00
4			15.01.2009	PD 158	10,000	35.00	350.00	10,000	350.00
5			18.01.2009	PR 17	-5,000	35.00	-175.00	5,000	175.00

3. Delivery No. 167 is added, selling 4 units. This transaction creates another record, showing the stock release. The cost associated with this stock release transaction is the cost from the first open layer. In this case, GBP 35.00 from Goods Receipt PO No. 158.

FIFO Layer	Document	Quantity	Cost (GBP)	Open Qty	Base Document
1	Goods Receipt PO No. 158	10	35.00	1	--
	Purchase Return No. 17	-5	35.00	--	GR PO 158
	Delivery No. 167	-4	35.00	--	--

#	Item No.	Description	Posting Date	Document	Quantity	Cost	Trans. Value	Cumulative Qty	Cumulative Value
1	S_1035	SnowBoarding Gloves - Large						4,000	140,00
2								4,000	140,00
3		Opening Balance						0,000	0,00
4			15.01.2009	PD 158	10,000	35,00	350,00	10,000	350,00
5			18.01.2009	PR 17	-5,000	35,00	-175,00	5,000	175,00
6			20.01.2009	DN 167	-4,000	35,00	-140,00	1,000	35,00

4. A second Goods Receipt PO is now added (Goods Receipt PO No. 159). As this is a stock receipt transaction, this creates a new FIFO layer for a quantity of 15 at a cost of GBP 40.00. There are now two open layers from which a succeeding release document can pull its cost from.

FIFO Layer	Document	Quantity	Cost (GBP)	Open Qty	Base Document
1	Goods Receipt PO No. 158	10	35.00	1	--
	Purchase Return No. 17	-5	35.00	--	GR PO 158
	Delivery No. 167	-4	35.00	--	--
2	Goods Receipt PO No. 159	15	40.00	15	--

#	Item No.	Description	Posting Date	Document	Quantity	Cost	Trans. Value	Cumulative Qty	Cumulative Value
1	S_1035	SnowBoarding Gloves - Large						4,000	140,00
2								4,000	140,00
3		Opening Balance						0,000	0,00
4			15.01.2009	PD 158	10,000	35,00	350,00	10,000	350,00
5			18.01.2009	PR 17	-5,000	35,00	-175,00	5,000	175,00
6			20.01.2009	DN 167	-4,000	35,00	-140,00	1,000	35,00
7			23.01.2009	PD 159	15,000	40,00	600,00	16,000	635,00

5. A Sales Return No. 9 is added based on Delivery 167. It partially returned 3 of the 4 units delivered at a cost of GBP 35.00, taking its cost of from its base delivery. This sales return creates a new layer as it increases the cumulative stock quantity.

FIFO Layer	Document	Quantity	Cost (GBP)	Open Qty	Base Document
1	Goods Receipt PO No. 158	10	35.00	1	--
	Purchase Return No. 17	-5	35.00	--	GR PO 158
	Delivery No. 167	-4	35.00	--	--
2	Goods Receipt PO No. 159	15	40.00	15	--
3	Sales Return No. 9	3	35.00	3	Delivery 167

#	Item No.	Description	Posting Date	Document	Quantity	Cost	Trans. Value	Cumulative Qty	Cumulative Value
1	S_1035	SnowBoarding Gloves - Large						4,000	140,00
2								4,000	140,00
3		Opening Balance						0,000	0,00
4			15.01.2009	PD 158	10,000	35,00	350,00	10,000	350,00
5			18.01.2009	PR 17	-5,000	35,00	-175,00	5,000	175,00
6			20.01.2009	DN 167	-4,000	35,00	-140,00	1,000	35,00
7			23.01.2009	PD 159	15,000	40,00	600,00	16,000	635,00
8			25.01.2009	RE 9	3,000	35,00	105,00	19,000	740,00

6. When a purchase goods return is added for 2 items but it is not based on any other Goods Receipt PO, the cost for this Goods Return is taken from the first open layer.

In this example, the first open layer, Layer 1, for Goods Receipt PO 158. However, this layer has only 1 unit of open quantity; the requirement is 2 units. Hence, the system takes the cost for this goods return from Layer 1 (Goods Receipt PO No. 158) for 1 unit at a cost of GBP 35.00 and the next open layer, Layer 2 (Goods Receipt PO No. 159), for the other 1 unit at a cost of GBP 40.00.

Consequently, this Goods Return document creates two records, one for each cost associated with it.

FIFO Layer	Document	Quantity	Cost (GBP)	Open Qty	Base Document
1	Goods Receipt PO No. 158	10	35.00	0	--
	Purchase Return No. 17	-5	35.00	--	GR PO 158
	Delivery No. 167	-4	35.00	--	--
2	Goods Receipt PO No. 159	15	40.00	14	--
3	Sales Return No. 9	3	35.00	3	Delivery 167
	Purchase Return No. 18	-1	35.00	--	--
	Purchase Return No. 18	-1	40.00	--	--

#	Item No.	Description	Posting Date	Document	Quantity	Cost	Trans. Value	Cumulative Qty	Cumulative Value
1	S_1035	SnowBoarding Gloves - Large						4,000	140,00
2								4,000	140,00
3		Opening Balance						0,000	0,00
4			15.01.2009	PD 158	10,000	35,00	350,00	10,000	350,00
5			18.01.2009	PR 17	-5,000	35,00	-175,00	5,000	175,00
6			20.01.2009	DN 167	-4,000	35,00	-140,00	1,000	35,00
7			23.01.2009	PD 159	15,000	40,00	600,00	16,000	635,00
8			25.01.2009	RE 9	3,000	35,00	105,00	19,000	740,00
9			29.01.2009	PR 18	-1,000	35,00	-35,00	18,000	705,00
10			29.01.2009	PR 18	-1,000	40,00	-40,00	17,000	665,00

7. The next document is a delivery of 14 units which closes out Layer 2, Goods Receipt PO No. 159. The remaining open layer after this transaction is Layer 3, Sales Return No. 9 with 3 units at a price of GBP 35.00.

FIFO Layer	Document	Quantity	Cost (GBP)	Open Qty	Base Document
1	Goods Receipt PO No. 158	10	35.00	0	--
	Purchase Return No. 17	-5	35.00	--	GR PO 158
	Delivery No. 167	-4	35.00	--	--
2	Goods Receipt PO No. 159	15	40.00	0	--
3	Sales Return No. 9	3	35.00	3	Delivery 167
	Purchase Return No. 18	-1	35.00	--	--
	Purchase Return No. 18	-1	40.00	--	--
	Delivery No. 168	-14	40.00	--	--

#	Item No.	Description	Posting Date	Document	Quantity	Cost	Trans. Value	Cumulative Qty	Cumulative Value
1	S_1035	SnowBoarding Gloves - Large						4,000	140,00
2								4,000	140,00
3		Opening Balance						0,000	0,00
4			15.01.2009	PD 158	10,000	35,00	350,00	10,000	350,00
5			18.01.2009	PR 17	-5,000	35,00	-175,00	5,000	175,00
6			20.01.2009	DN 167	-4,000	35,00	-140,00	1,000	35,00
7			23.01.2009	PD 159	15,000	40,00	600,00	16,000	635,00
8			25.01.2009	RE 9	3,000	35,00	105,00	19,000	740,00
9			29.01.2009	PR 18	-1,000	35,00	-35,00	18,000	705,00
10			29.01.2009	PR 18	-1,000	40,00	-40,00	17,000	665,00
11			29.01.2009	DN 168	-14,000	40,00	-560,00	3,000	105,00

8. Sales Return No. 10 which is not based on a delivery is added. As this is a return it creates its own layer. Its cost is taken from the first open layer, according to the FIFO principle. In this case, Sales Return No. 10 takes its cost from Layer 3 which is the incoming stock transaction associated with Sales Return No. 9.

FIFO Layer	Document	Quantity	Cost (GBP)	Open Qty	Base Document
1	Goods Receipt PO No. 158	10	35.00	0	--
	Purchase Return No. 17	-5	35.00	--	GR PO 158
	Delivery No. 167	-4	35.00	--	--
2	Goods Receipt PO No. 159	15	40.00	0	--
3	Sales Return No. 9	3	35.00	3	Delivery 167
	Purchase Return No. 18	-1	35.00	--	--
	Purchase Return No. 18	-1	40.00	--	--
	Delivery No. 168	-14	40.00	--	--
4	Sales Return No. 10	2	35.00	2	--

**Stock Audit Report**

Date From:  Date to:  Items: S\_1035  
 Currency: British Pound Warehouses: All

#	Item No.	Description	Posting Date	Document	Quantity	Cost	Trans. Value	Cumulative Qty	Cumulative Value
1	S_1035	SnowBoarding Gloves - Large						4,000	140.00
2								4,000	140.00
3		Opening Balance						0,000	0.00
4			15.01.2009	PD 158	10,000	35.00	350.00	10,000	350.00
5			18.01.2009	PR 17	-5,000	35.00	-175.00	5,000	175.00
6			20.01.2009	DN 167	-4,000	35.00	-140.00	1,000	35.00
7			23.01.2009	PD 159	15,000	40.00	600.00	16,000	635.00
8			25.01.2009	RE 9	3,000	35.00	105.00	19,000	740.00
9			29.01.2009	PR 18	-1,000	35.00	-35.00	18,000	705.00
10			29.01.2009	PR 18	-1,000	40.00	-40.00	17,000	665.00
11			29.01.2009	DN 168	-14,000	40.00	-560.00	3,000	105.00
12			30.01.2009	RE 10	2,000	35.00	70.00	5,000	175.00

9. The final transaction for this item is a purchase return. Its cost is taken from the first open layer, according to the FIFO Principle. In this case Goods Return No. 19 takes its cost from Layer 3, Sales Return No. 9 and reduces its open quantity by 1 to 2.

FIFO Layer	Document	Quantity	Cost (GBP)	Open Qty	Base Document
1	Goods Receipt PO No. 158	10	35.00	0	--
	Purchase Return No. 17	-5	35.00	--	GR PO 158
	Delivery No. 167	-4	35.00	--	--
2	Goods Receipt PO No. 159	15	40.00	0	--
	Sales Return No. 9	3	35.00	2	Delivery 167
3	Purchase Return No. 18	-1	35.00	--	--
	Purchase Return No. 18	-1	40.00	--	--
	Delivery No. 168	-14	40.00	--	--
	Sales Return No. 10	2	35.00	2	--
4	Purchase Return No. 19	-1	35.00	--	--

#	Item No.	Description	Posting Date	Document	Quantity	Cost	Trans. Value	Cumulative Qty	Cumulative Value
1	S_1035	SnowBoarding Gloves - Large						4,000	140,00
2								4,000	140,00
3		Opening Balance						0,000	0,00
4			15.01.2009	PD 158	10,000	35,00	350,00	10,000	350,00
5			18.01.2009	PR 17	-5,000	35,00	-175,00	5,000	175,00
6			20.01.2009	DN 167	-4,000	35,00	-140,00	1,000	35,00
7			23.01.2009	PD 159	15,000	40,00	600,00	16,000	635,00
8			25.01.2009	RE 9	3,000	35,00	105,00	19,000	740,00
9			29.01.2009	PR 18	-1,000	35,00	-35,00	18,000	705,00
10			29.01.2009	PR 18	-1,000	40,00	-40,00	17,000	665,00
11			29.01.2009	DN 168	-14,000	40,00	-560,00	3,000	105,00
12			30.01.2009	RE 10	2,000	35,00	70,00	5,000	175,00
13			29.01.2009	PR 19	-1,000	35,00	-35,00	4,000	140,00

In summary:

- Each stock receipt creates a new layer.
- If a purchase return or stock release takes its cost from more than one layer, the system creates a record for the different cost used by return/release document.
- The cost used in each transaction is selected according to the FIFO Principle.



## Related Contents

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