

## *Original Paper*

# Property, Plant, and Equipment and IFRS Conversion from the U.S. Accounting Perspective—Technical Research Report

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### ***Abstract***

*This article analyzes matters related to IAS 16 Property, Plant, and Equipment from a random selected of the IFRS financial statements, with a particular emphasis on componentization and revaluation assets. There are two fundamental differences between IFRS and U.S. GAAP. The first difference is component depreciation required under IFRS. The second part is the option to revalue fixed assets to estimated market value under IFRS. The research has helped U.S. executives understand the complexities of global accounting for PP&E between U.S. GAAP and IFRS and then to know how these differences may potentially impact their multinational organization's accounting function.*

### **1. Componentization**

Componentization is the major difference in accounting for PP&E between IFRS and U.S. GAAP. Under componentization, PP&E is segmented into significant components and recorded and depreciated separately. IFRS requires componentization, while U.S. GAAP allows for a most aggregated approach to account for PP&E.

For instance, under U.S. GAAP, a computer may be treated as a single depreciable asset while, under IFRS, it is typically treated as several separate units of depreciable property, including the printer, the keyboard, the portable disk, and other components. Exhibit 1 illustrates the application of componentization to a computer to demonstrate the difference in accounting between IFRS and U. S. GAAP.

#### *1.1 Exhibit 1: Componentization*

A computer was placed in service on 01/01/2014. The total cost of the entire computer was \$50,000. The computer had a useful life of 5 years and a residual value of \$0. The straight-line method of depreciation is used for all assets.

Components:

Computer: \$50,000/useful life of 5 years

Printer: \$10,000/useful life of 3 years (average)

Keyboard: \$2,000/useful life of 2 years (average)

Other Components: \$15,000/useful life of 4 years

Component and Depreciation determinations:

**Table 1. US GAAP**

<b>Component</b>	<b>Amount</b>	<b>Depreciation Expense at 12/31/2014</b>
Computers	50,000	10,000
<b>Total</b>	<b>50,000</b>	<b>10,000</b>

Source: Compiled by Author.

**Table 2. IFRS**

<b>Component</b>	<b>Amount</b>	<b>Depreciation Expense at 12/31/2014</b>
Computer	23,000	4,600
Printer	10,000	3,333
Keyboard	2,000	1,000
Other Components	15,000	3,750
<b>Total</b>	<b>50,000</b>	<b>12,683</b>

Source: Compiled by Author.

Implementing the componentization requirement of IAS 16 would require an extensive transition accounting strategy, which may entail developing a componentization policy for the organization. Currently, neither the European Union nor IFRS provides any clear guidance as to the level of componentization required when capitalizing PP&E. All companies will need to outline a new approach to facilitate an accounting treatment for all of its assets.

As a componentization result, the following steps could be considered in developing a fixed assets policy:

- Determine major assets, whether there are any components with significant cost,

- Determine major assets, whether there are any components with different useful lives with respect to the overall assets,
- Review plant maintenance schedule,
- Review overhauls—might qualify as components such as: labor, consulting fees, and etc.,
- Prepared analyze most capital expenditures.

For most companies, therefore, the component accounting will change significantly the net value of the property, plant, and equipment.

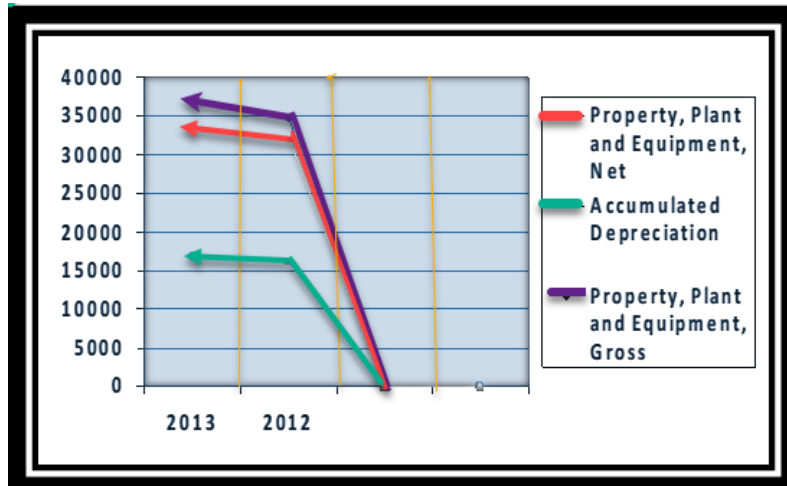
*1.2 Exhibit 2: Johnson & Johnson, Statement of Financial Position, Property, Plant and Equipment*

**Table 3. Property, Plant, and Equipment Net**

USD \$ in millions	Dec 29,2013	Dec 30, 2012
Land and Land Improvements	885	793
Buildings and Building Equipment	10,423	10,046
Machinery and Equipment	22,527	21,075
Construction in Progress	3,298	2,740
<b>Property, Plant and Equipment, Gross</b>	<b>37,133</b>	<b>34,654</b>
Accumulated Depreciation	(20,423)	(18,557)
<b>Property, Plant and Equipment, Net</b>	<b>16,710</b>	<b>16,097</b>

Source: Johnson & Johnson Annual Reports.

Exhibit 2 shows that the depreciation increased by 21%. 2012 shows the amount before the adoption of the component accounting. 2014 shows the amount after the adoption of the component accounting. If Johnson & Johnson adopts the component accounting, then the accumulated depreciation will increase by 21%. Then following this, the net income will decrease by 21% and will have a significant impact on the final performance the company. Johnson & Johnson's machinery and equipment increased from 2011 to 2012 and from 2012 to 2013 based on annual reports.



**Figure 1. The Level of Property, Plant and Equipment Net, Accumulated Depreciation, Property, Plant and Equipment Gross before and after IFRS/IAS Conversion**

Note paras 43-47 of IAS 16:

43. **Each part** of an item of property, plant and equipment with a cost that is **significant** in relation to the total cost of the item shall be depreciated separately.
44. An entity allocates the amount initially recognized in respect of an item of property, plant and equipment to its significant parts and **depreciates separately each such part**. For example, it may be appropriate to depreciate separately the airframe and engines of an aircraft, whether owned or subject to a finance lease.
45. A significant part of an item of property, plant and equipment may have a useful life and a depreciation method that are the same as the useful life and the depreciation method of another significant part of that same item. Such parts may be **grouped** in determining the depreciation charge.
46. To the extent that an entity depreciates separately some parts of an item of property, plant and equipment, it also depreciates separately the **remainder** of the item. The remainder consists of the parts of the item that are individually not significant. If an entity has varying expectations for these parts, approximation techniques may be necessary to depreciate the remainder in a manner that faithfully represents the consumption pattern and/or useful life of its parts.
47. An entity may **choose** to depreciate separately the parts of an item that do not have a cost that is significant in relation to the total cost of the item.

Components depreciation means breaking an asset down into its component parts for separate depreciation of those parts.

## 2. Revaluation

Under IFRS, an organization has an option to use the cost method or the revaluation method to measure PP&E. The final adoption of the cost or revaluation method is applicable to an entire class of PP&E based on the company's policy elections. In contrast, U.S. GAAP measures PP&E at its historical cost as well as prohibits revaluation over the depreciable life of the asset. Companies using a revaluation accounting must also make every effort to keep the assets' values up to date. Assets that are experiencing rapid price changes must be revalued on an annual basis. The fair value of items of property, plant, and equipment is usually their market value determined by appraisal. Companies that choose revaluation accounting because they wish to increase their equity base. In other words, increases in its equity base may help a company meet covenant requirements or provide additional assurances to investors and creditors that the company is solvent.

### 2.1 Exhibit 3: IFRS Revaluation (For Illustration Purposes)

Corp. A has a policy to record its PP&E under the IFRS revaluation method.

Corp. A purchased a computer for \$20,000 on 1/1/2014. The useful life of the computer is 5 years. On 12/31/2014, the computer was revalued to \$24,000.

**Table 4. Net Carrying Value Accumulated Depreciation before and after IFRS/IAS Conversion**

<b>Year 1</b>	<b>Before Revaluation Adjustment at 12/31/2014</b>	<b>Adjustment for Revaluation Surplus</b>	<b>After Revaluation Adjustment at 12/31/2014</b>
Cost	\$20,000	\$4,000	\$24,000
Accumulated Depreciation at 12/31/2014	(4,000)	\$4,000	0
<b>Net Carrying Amount</b>	<b>\$16,000</b>	<b>\$8,000</b>	<b>\$24,000</b>

Source: Compiled by Author

The exhibit shows one method for allocating revaluation gains and losses between cost and accumulated depreciation whereby any accumulated depreciation at the date of the revaluation is eliminated against the gross carrying amount (cost) of the fixed asset and the net amount is restated to the revalued amount of the fixed asset. The revaluation under IFRS will result in a carrying amount at 12/31/2014 of \$24,000 compared to a historical cost carrying amount of \$16,000. The \$8,000 revaluation surplus is recognized in equity. Moreover, the revaluation surplus account can never result in a debit balance. In other words, if the fixed assets revaluation surplus for a PP&E asset decreases to zero or below zero are recorded as an expense in the income statement.

Para 39 of IAS 16 states:

If an asset's carrying amount is increased as a result of a revaluation, the increase shall be recognized in other comprehensive income and accumulated equity under the heading of revaluation surplus. However, the increase shall be recognized in profit or loss to the extent that it reverses a revaluation decrease of the same asset previously recognized in profit or loss.

Para 40 of IAS 16 states:

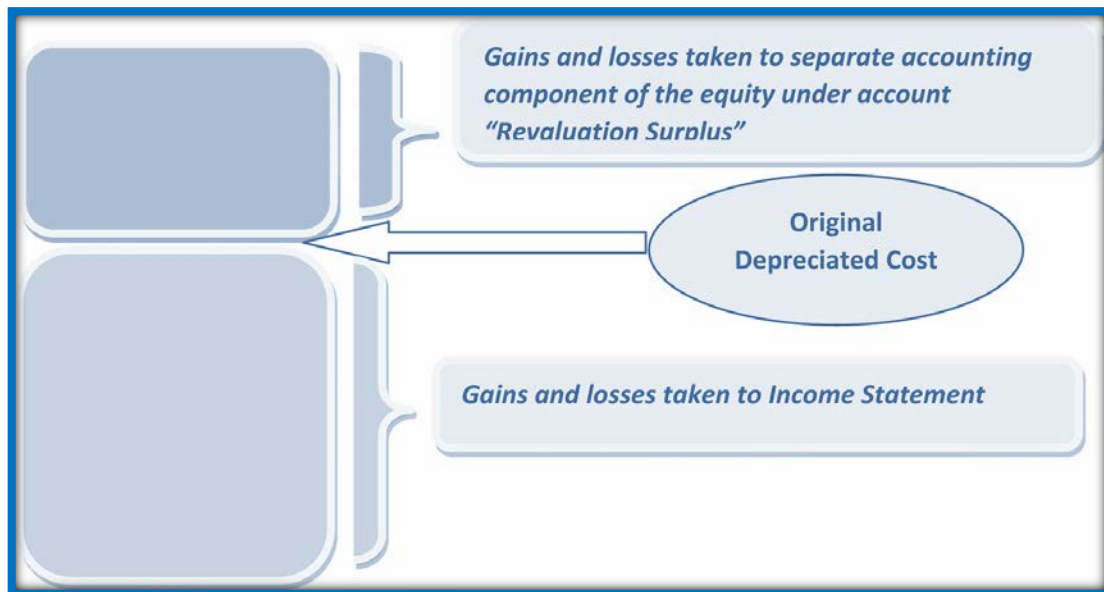
If an asset's carrying amount is decreased as a result of a revaluation, the decrease shall be recognized in **profit or loss**. However, the decrease shall be recognized in other comprehensive income to the extent of any **credit balance** existing in the revaluation surplus in respect of that asset. The decrease recognized in other comprehensive income reduces the amount accumulated in equity under the heading of revaluation surplus.

Para 42 of IAS 16 states:

The effects of taxes on income, if any, resulting from the revaluation of property, plant and equipment are recognized and disclosed in accordance with IAS 12 *Income Taxes*. Tax-effects are accounted for at the point of revaluation only when there is an effect on the asset revaluation surplus. This is because of the recognition of equity at that point.

Where revaluation decrements occur, any tax-effect is calculated at the end of the period when the balance day adjustment for tax is determined.

The following illustration helps illustrate the different treatments:



### 3. Conclusion

The relations between revaluations and future performance corporation and prices are weaker for higher debt-to equity ratio firms. These relations affect how the company reflects asset value changes. All in all, the relations also are weaker in more volatile economic time period. This article shows a strong evidence that the revaluation reflects changes in asset values that are realized in subsequent operations.

IFRS permits a selection of either the cost model of accounting or the revaluation model of accounting for items of PP&E. Componentization recognizes that not all components of a property, plant, and equipment have the same useful life. IFRS requires that each significant component of a property, plant, and equipment be depreciated separately over its useful life.

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