Issues paper: Costs of ownership transfer on non-financial assets[1]

A Executive summary

1. The question of whether to treat costs of ownership transfer as current or capital expenditure has been debated at length over a period of time. It was the subject of extensive discussion during the 1993 SNA revision and of an EDG moderated by Peter van de Ven during 1999. The subject was further discussed at two meetings of the Canberra II group on non-financial assets, in April 2003 and October 2003. In all these fora, advantages and disadvantages of treatment as either current or capital expenditure have been advanced. There is agreement that the issue is not clear cut and the solution adopted must be "less worse" than the other rather than clearly and unequivocally correct. The Canberra II group, and the contributors to the EDG, were split in their views about how to proceed and most individuals involved also see arguments for and against different alternatives and make a choice on the basis of a balance in favour of one solution or another rather than an absolute preference of one solution and rejection of others..

2. In the end all these groups have decided that the present SNA position of treating costs of ownership transfer on non-financial assets as capital expenditure should be maintained but there are some refinements to the time of recording of these transactions which the Canberra II group recommends. The background to the issue is summarised in section B and the recommendations are made in section C below. The recommendations proposed to the AEG in February 2004 were the following:

i. Costs of ownership transfer of non-financial assets should continue to be recorded as fixed capital formation.

ii. Costs of ownership transfer incurred on the acquisition of an asset should be written off over the period the owner expects to hold the asset. (The SNA currently says over the entire life of the asset.)

iii. Costs of ownership transfer on disposal of an existing asset is recorded as gross fixed capital formation when it occurs but should be written off over the period during which the asset is held. This means making an estimate of disposal costs, if any, at the time the asset is acquired. (The SNA currently recommends disposal costs should be recorded as fixed capital formation at the time of disposal, and then written off immediately in the other changes in assets account.)

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[1] This is a revised and expanded version of paper SNA/M1.04/12 which was presented to the AEG in February 2004. At that meeting, recommendations i and ii of paragraph 2 were accepted but the further recommendations were referred back to the Canberra II group. Because the set of five recommendations are seen as together forming a comprehensive treatment of costs of ownership transfer, the considerations underlying the first two remain in the paper though it is expected they will not be subject to further discussion but accepted as in February.

iv. Installation (and de-installation) costs and transportation costs should be included in the costs of ownership transfer when separately invoiced. When there is no separate invoice for these costs, they should be included in the acquisition price of the asset in question. (The SNA is ambiguous about where installation and transportation costs belong.)

v. Terminal costs of assets, that is any costs which must be incurred at the end of an asset's life such as de-commissioning of nuclear power stations and dismantling of oil rigs, should be treated in the same way as costs of ownership transfer on disposal of an asset. That is they are recorded as gross fixed capital formation when they occur but are written off over the life of the asset. (The SNA currently makes no recommendation on the treatment of these costs.) However, when terminal costs are either not anticipated or cannot be predicted with reasonable accuracy, they are still recorded as gross fixed capital formation when they occur but may be written off as consumption of fixed capital immediately.

3. Taken together, these recommendations provide a coherent and comprehensive treatment of costs of ownership transfer and related costs. All the recommendations are considered to be feasible with little extra cost.

4. At its meeting in February 2004, the AEG approved the proposals under i and ii. It referred recommendations ii to v back to the Canberra II group. After extensive discussion, the Canberra II Group confirmed its support for the other three points as originally submitted but with a qualification to the fifth which appears in the last sentence of this point above. Does the AEG now agree with proposals iii, iv and v?

B Background and reasons for change

5. The 1993 SNA position on costs of ownership transfer on non-financial assets is the following:

i. Costs of ownership transfer are to be treated as fixed capital formation.

ii. For produced assets they are integral to the value of the asset to which they relate.

iii. For non-produced assets (specifically land) they are shown as a separate asset.

iv. Costs of ownership transfer incurred at the time the asset is acquired are to written down over the life of the asset. If the asset is sold before the end of its life, the remaining costs of ownership transfer on acquisition not already written off should be written off in the other changes in assets account.

v. Costs of ownership transfer incurred when the asset is disposed of are treated as fixed capital formation but written off immediately in the other changes in assets account.

6. Disquiet with these recommendations, which was apparent during the 1993 SNA revision, arises from the following considerations.

7. The argument for treating costs of ownership transfer as capital formation is that the expected returns to the use of capital must be sufficient to cover costs of ownership transfer as well

as the initial cost of the asset. On the other hand, the resale value of the asset as an existing (second hand) asset is independent of the costs of ownership transfer incurred by the previous owner.

8. The decision on how to treat costs of ownership transfer is different for financial and non-financial assets. Costs of ownership transfer on financial assets are treated as current expenses, intermediate consumption or final consumption as the case may be but costs of ownership transfer on non-financial assets are treated as capital formation.

9. Following the evolution of the value of a produced capital asset is complicated by incorporating the costs of ownership transfer into the value. The value realised on the sale of an existing assets does not necessarily reflect the value of the asset in the balance sheet at that time.

10. If assets are acquired to be used for a period of time less than their useful economic lives and then sold (as is often the case for rental cars and aircraft for example) the whole of the costs of ownership transfer on acquisition are not reflected in the costs of the unit owning the asset and NDP over a period of time is overestimated.

11. Similar arguments apply to the costs of ownership transfer on sale of an existing asset such as building equipment, where deinstallation and transportation costs (included in costs of ownership transfer) may also be significant.

12. There are some assets such as nuclear power stations and oil rigs where there are large costs incurred at the end of the asset's life even though a transfer of ownership is not involved. The 1993 SNA is not explicit about how these "terminal costs" should be accounted for and this has given rise to extensive discussion.

i. Are they intermediate consumption incurred at the point of disposal? This could lead to large negative operating surplus or could be incurred after production has ceased.

ii. Are they to be treated as costs of ownership transfer on disposal of an asset, that is as fixed capital formation which is immediately written off in the other changes in assets account?

iii. Is there some way these costs should be accounted for over the life of the asset, either as current or capital expenditure?

C Recommendations for change

13. An EDG to discuss the topic was set up in 1999 and moderated by Peter van de Ven. The moderator's report[2] concluded that although arguments had been advanced to change the treatment of costs of ownership transfer to have these always treated as current expenditure, there was not a clear majority in favour of this change and therefore the present 1993 SNA treatment should be preserved.

14. This report was presented to the Canberra II group on non-financial assets at their meeting in April 2003 in Voorburg. After some discussion where the same reservations were

[2] Van de Van, Peter, 1999: Registering of ownership transfer costs.

expressed, it was again agreed that there was no compelling majority in favour of a change to treating costs of ownership transfer as current costs. However, it was apparent some further clarification of the detailed recommendations would be beneficial and papers exploring these issues were discussed at the October 2003 meeting of the Canberra II Group[3].

15. The discussion centered around three options. The first of these was to treat all costs of ownership transfer as current expenditure. The second was to treat them all as capital expenditure but with changes in the time of recording so that there would be no need in normal circumstances to have entries in the other changes in assets account. The third option, put forward by John Pitzer, was to treat the costs of ownership transfer on acquisition by the first owner as capital but all subsequent costs of ownership transfer as current expenditure. This also avoids the need for entries in the other changes in assets account.

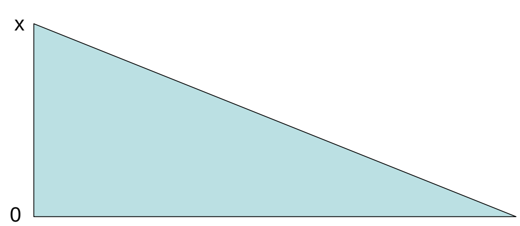
16. The step by step implications of these three options were presented in a table to the members of the Canberra II group at its October 2003 meeting. This table is attached to this report. The group agreed that this was a fair summary of the options available and voted by a clear majority in favour of option 2. The main reason for this choice is to preserve the link between the value of an asset to an enterprise and the value of the services to be rendered by the asset over the length of time it is held.

17. In detailing the implications of this choice for the treatment of costs of ownership transfer on acquisition and disposal, on terminal costs and the impacts of changes in ownership, it can be useful to consider schematic diagrams to supplement the brief descriptions given here. This wishing for more details on the proposals are referred to the papers on the EDG for the Canberra II Group. Access to this EDG is readily available by contacting charles.aspden@oecd.org.

An asset with no costs of ownership transfer

18. The starting point is an asset which has costs of ownership transfer on neither acquisition nor disposal and is owned by a single user throughout its life. Figure 1 shows the simplest case with straight line depreciation of the asset.

Figure 1: Simple asset; no costs of ownership transfer, one user for life



Purchase value x
Terminal value 0
Cumulative consumption of fixed capital x
Value on the slope is value of the asset

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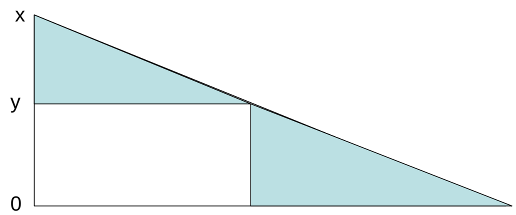
[3]; Pitzer, John, 2003: Costs of ownership transfer; Harrison, Anne, 2003: comments on John Pitzer's paper;

19. This is generalised in figure 2 to the case where the same asset as in figure 1 changes hands part way through its life.

Figure 2: Simple asset; no costs of ownership transfer, two users



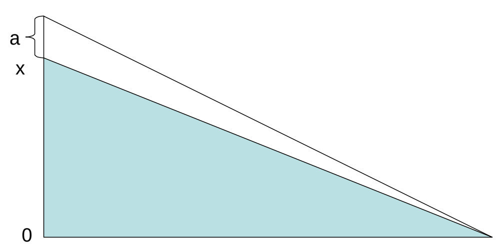
Purchase value x
Resale value y
Terminal value 0
Cumulative consumption of fixed capital for original owner x-y
Cumulative consumption of fixed capital for second owner y
Value on the slope is value of the asset

An asset with costs of ownership transfer on acquisition

20. The recommendation is that costs of ownership transfer on non-financial assets on both acquisition and disposal are to continue to be treated as fixed capital formation. **The 1993 SNA is unchanged in this respect**.

21. When an asset is held by a single unit throughout its life and has no costs associated with its disposal, there will be **no change in the 1993 SNA recommendation**. This will apply to the majority of assets, though not some large and important ones in some countries.

Figure 3: Asset with costs of ownership transfer on acquisition, one user for life



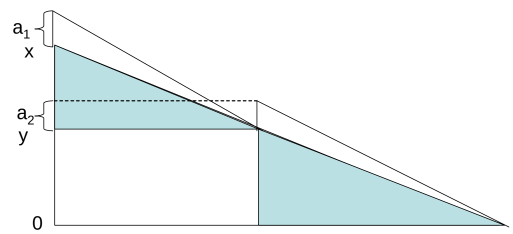
Purchase value x
Costs of ownership transfer on acquisition a
Terminal value 0
Cumulative consumption of fixed capital x+a
Value on the upper slope is value of the asset including cot

SEEA, 2003: Discussion on terminal costs (para 6.58 to 6.90)

22. Figure 3 shows the same asset as in figure 1, but with costs of ownership transfer incurred on acquisition. The effect of treating these as fixed capital is to increase the initial value of the asset and to accelerate the decline in value (increase the value of consumption of fixed capital) so that it still has a value of zero at the same point in time as the asset with no costs of ownership transfer.

23. The costs of ownership transfer on acquisition of an asset should be written off over the period during which the acquirer expects to hold the asset. **This is a conceptual change from the 1993 SNA** which recommends writing off over the entire life of the asset.

Figure 4: Asset with costs of ownership transfer on acquisition, two users



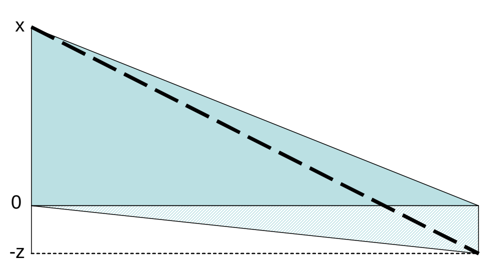
Purchase value x; costs of ownership transfer to first buyer a_1
Resale value y; costs of ownership transfer to second buyer a_2
Terminal value 0
Cumulative consumption of fixed capital for original owner $x+a_1-y$
Cumulative consumption of fixed capital for second owner $y+a_2$
Value on each upper slope is value of the asset including cot

24. Figure 4 shows the implications of this applied to the asset in figure 2. Each owner incurs costs of ownership transfer on acquisition; each of them is written off over the period for which each holds the asset.

An asset with costs of ownership transfer on disposal

25. The expected costs of ownership transfer on disposal of an asset should be written off over the period the asset is held. (This means estimating eventual disposal costs, if any, when the asset is acquired.) **This is a conceptual change from the 1993 SNA** which recommends disposal costs be recorded at the time of disposal, treated as fixed capital and then be written off immediately in the other changes in assets account.

Figure 5: Asset with costs of ownership transfer on disposal, one user for life



Purchase value x
Terminal cost z
Cumulative consumption of fixed capital x+z
Value on the heavy dotted line is value of the asset allowing for disposal costs

26. Figure 5 illustrates this for the asset in figure 1. For simplicity, this figure assumes that the cost to the owner of divesting himself of ownership occurs at the end of the asset's life, though in practice it may occur at any point in the asset's life when ownership changes. The value at the end of the asset's life is now not zero but a negative value of z. This is the price the owner would have to pay to divest himself of the asset. The total decline in the value of the asset over the lie of the asset is x+z. This is similar in principle to the decline in the value of the asset in figure 3 which is x+a. The difference is that in figure 3 the terminal value is 0, in figure 5 it is –z.

27. There are several ways of interpreting the principles underlying figure 5. The simplest, as above is to allow the asset to acquire a negative value towards the end of its life. This negative value is exactly cancelled by the costs of ownership transfer on disposal, valued at z and treated as gross fixed capital formation when they are incurred.

28. A second alternative is to think of the disposal costs as a "provision", that is some sort of liability pertaining to a non-financial asset. This is common in commercial accounting though the concept of a non-financial liability does not exist in the SNA. In fact, the values to be included in the SNA under this proposal could be derived exactly from such provisions in commercial accounting. A further interpretation is to think of this provision not as a positive liability but as a negative impairment to the asset. Again this will produce consistency with the figures required for the SNA under this proposal.

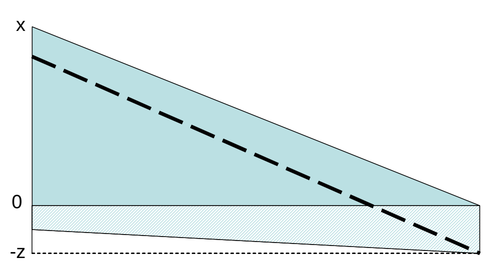
Installation and de-installation costs

29. There is ambiguity in the 1993 SNA about whether installation (and de-installation) costs and transportation costs are to be included in costs of ownership transfer. It is recommended that such costs, when separately invoiced, should be treated as costs of ownership transfer and treated in the same way as other costs of ownership transfer. When there is no separate invoice for these costs, they will be included in the acquisition price of the asset in question. **Treating separately invoiced installation and transport costs as part of costs of ownership transfer is a conceptual change from the 1993 SNA**.

An asset with terminal costs

30. Terminal costs of assets, that is the costs incurred at the end of the useful life of an asset, are to be treated in the same way as costs of ownership transfer on disposal of an asset. **This is an extension to the 1993 SNA** which does not describe the treatment of these costs.

Figure 6: Asset with costs of ownership transfer on disposal, one user for life



Purchase value x
Terminal cost z
Cumulative consumption of fixed capital x+z
Value on the heavy dotted line is value of the asset allowing for terminal costs

31. Figure 6 is closely similar to figure 5. The difference is that costs of ownership transfer on disposal of an asset relate to costs paid to a third party to register a legal change of ownership, or costs to physically move an asset from its previous location to a new one. Terminal costs relate to the costs involved in changing the nature of the asset at the end of its life, usually to ensure that it presents no risk in future. Examples are physically dismantling an asset such as a power station or oil rig or sealing a land fill site to prevent toxic leakage. Where costs of ownership transfer will tend to be modest compared to the original cost of the asset, those for terminal costs tend to be large relative to the original cost. In figure 5, it is assumed that the net present value of disposal costs at the time the asset is acquired is effectively zero. That is the value of the disposal costs does not affect the acquisition price of the asset, or in other words, the disposal costs are not such as to influence whether the asset is acquired or not. For terminal costs, the size is such that they should be taken into consideration when the asset is acquired. The value of the asset to the owner at the time of acquisition is only x-z' where z' is the net present value of z at the time the asset is acquired. This means that the heavy dotted line, which shows the decline in value of the asset in both figures, starts at x in figure 5 but at a value lower than this (z' lower) in figure 6.

32. The interpretation of the allowance for terminal costs, relative to provisions or asset impairment in commercial accounting terms, carries over from disposal costs to terminal costs and will be more important in terms of magnitude here. The net value of the asset in the years immediately preceding, say, decommissioning, are likely to be not only negative but also quite large in absolute terms, showing that far from being an addition to the owning enterprise's net worth, they are actually a drain upon it.

Clarifying the exposition in the SNA

33. It would be helpful to introduce three explicit alternative valuations of assets in the SNA **in order to clarify** the explanation of the treatment of costs of ownership transfer;

> i. ***disposal price*** which is the price which would be paid by a willing buyer to a willing seller for the asset in its current state (this corresponds to the market price of the asset),
>
> ii. ***acquisition price*** which represents the market or disposal cost of the asset plus costs of ownership transfer on acquisition,
>
> iii. ***realisable price*** which is equal to the disposal price less the costs of ownership transfer on disposal and also less final disposal costs (terminal costs)

34. Consumption of fixed capital for produced assets should be based on the acquisition price less realisable price of the asset (ignoring changes in prices over time). Thus when an asset changes hands at a point in time correctly anticipated when the asset is acquired, the cumulative value of consumption of fixed capital should be the decline in market price of the asset plus the costs of ownership transfer on acquisition plus the costs of ownership transfer on disposal (or terminal costs). In this case there will be no need to have entries in the other changes in assets account. If the asset changes hands earlier, or if the costs of ownership transfer on disposal differ from those anticipated, an amount reconciling the value of the asset to the previous owner and the market (disposal) value for the new owner may need to be entered in the other changes in assets

account[4]. This amount will be positive if the asset changes hands more quickly than expected or the costs of ownership transfer on disposal are higher than anticipated. A negative amount may appear if the costs of ownership transfer on disposal are less than anticipated. **This is not a conceptual change to the 1993 SNA but a change which follows conceptually from the changes above** in the elements which enter into the calculation of consumption of fixed capital[5].

35. Costs of ownership transfer for non-produced assets continue to be shown separately from the asset to which they apply. For produced assets, costs of ownership transfer should continue to be integrated with the asset to which they relate. It would be helpful, at least for working purposes, to show the elements of costs of ownership transfer separately from the market value of the asset to which they apply.

36. For most produced assets, where there are no expected disposal costs, the relation between the written down acquisition value at the beginning of the year and the end of the year will be explained by the consumption of fixed capital attributable to the asset for the year and any holding gains and losses applying to the asset. For non-produced assets the same relationship will hold except that the written down value of the initial costs of ownership transfer will be shown separately. When such an asset (produced or non-produced) changes hands at a point of time anticipated at acquisition, the written down cost of the asset (including any holding gains and losses) in the original owner's balance sheet will be equal to its disposable value because costs of ownership transfer for that owner on acquisition will have been written down to exactly zero.

37. For an asset with expected disposal costs or terminal costs, the cumulative consumption of fixed capital over the length of time the asset is held will exceed the initial acquisition price by the amount of the disposal or terminal costs, giving a negative entry for the present value of the asset in the balance sheet at the moment just before the asset reaches the end of its life or holding period (all items adjusted for holding gains and losses as necessary). This negative value will be offset exactly by the disposal or terminal costs, to be recorded as fixed capital formation when they are incurred, leaving a balance sheet value of zero with no need for entries in the other change in assets account.

D Other issues

38. These recommendations provide a single conceptual conclusion to the issue of costs of ownership transfer on non-financial assets.

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[4] The Canberra II group will recommend that the present other change in assets account be split into two accounts; an other change in the volume of assets account and a revaluation account. The exact placement of the adjustment discussed here, whether it is to entirely in one of these accounts or the other or split between the two will be recommended when the appropriate way of recording changes arising from obsolescence has been determined.

[5]: This last paragraph assumes that the current practice whereby estimates of consumption of fixed capital are never recalculated in the light of later information is continued. If that convention were changed, there would be no need for the entry in the other changes in assets account as suggested above, instead estimated of consumption of fixed capital would be adjusted to ensure an exact equality between the cumulated consumption of fixed capital, the acquisition price and realisable price.

39. There are some implications for the two manuals on capital stock published by OECD (*Measuring Capital Stock* and *Measuring Productivity*) but not for any other classification or international manual.

40. The practical feasibility of implementing these proposals is only a little more demanding than the present SNA procedures. Recommendation (ii) requires the determination of the period for which assets will be held as well as the period of their useful life and the derivation of capital stock and decline in its value relating to the costs of ownership transfer separately from those of the asset to which they apply. Recommendation (iii) will require adjustment to estimates of capital formation to take account of the expected costs of ownership transfer when assets are sold. In practice this will be dome in a fairly mechanical way and the recurrent estimation costs should be minor. Recommendation (iv) will require careful estimates to be made for projects that are likely to incur large terminal costs, such as nuclear power stations, but for most assets it should be possible to implement low-cost mechanical procedures which produce satisfactory estimates.

E Paragraphs of the SNA which need revising

41. The entire annex to chapter 10 on calculating and recording costs of ownership transfer will need to be re-written and extended.

42. There are a number of places in chapter 10 where costs of ownership transfer are referred to. These are shown in the index to the1993 SNA. However, the work of the Canberra II group is such that the existing text is likely to be subject to extensive revision on a number of fronts and this will be just one which needs to be taken into account as redrafting takes place.

43. It would be useful to include text describing when other changes in assets entries would be needed because of unexpected costs of ownership transfer. This should appear somewhere in section A.8 of chapter 12.

44. There is also a reference to costs of ownership transfer in chapter 15 (para 15.90).

45. The implications for consumption of fixed capital will lead to changes in the text on this subject. Most of these appear in chapter 6, which, like chapter 10, is likely to undergo considerable modification on this topic from a number of considerations arising from the Canberra II work.

46. In addition there are references to consumption of fixed capital in chapters 1 and 2 as well as chapter 15 and 16 which will need to be examined to see if changes are appropriate.

References

Harrison, Anne, 2003: comments on John Pitzer's paper

Pitzer, John, 2003: Costs of ownership transfer

SEEA, 2003: Discussion on terminal costs (para 6.58 to 6.90)

van de Ven, Peter, 1999: Registering of ownership transfer costs.

Table displaying the characteristics of the three options considered by the Canberra II group

Feature	Option 1: All costs of ownership transfer current expenditure Common Valuation with Financial Assets	Option 2: All costs of ownership transfer capital expenditure with some changes in time of recording	Option 3: Initial costs of ownership transfer capital, subsequent current
Value of Asset on Balance Sheet	Disposal price	Initially acquisition price, declines over expected holding period to realisable price. Expected holding period can vary by owner.	Acquisition price
Treatment of Costs of Ownership Transfer	All intermediate consumption	All capitalized	1. Capitalize transaction related to capital formation (new fixed assets). 2. Expense transactions related to sales and purchases of existing assets.
Consumption of fixed capital of costs of ownership transfer	None	Actual acquisition costs plus expected disposal costs written off over expected holding period	Determined by change in acquisition price each period.
Valuation of acquisitions	Disposal price	Acquisition price	Acquisition price
Valuation of disposals	Disposal price	Realisable price	Acquisition price
Gross fixed capital formation over life of a fixed asset	Initial disposal price	Initial acquisition price plus cost of ownership transfer of all subsequent disposals	Initial acquisition price
Costs of ownership transfer identified in Capital Account	None	Amount incurred on purchase and disposal of non-produced assets	None
Costs of ownership transfer identified on Balance Sheet	None	Implicitly included in value of asset	Implicitly included in value of asset
Attribution of costs of ownership transfer on sale of existing assets	All intermediate consumption of unit involved in transaction	All capitalized by unit involved in transaction	All intermediate consumption and attributed to seller (costs of purchaser are rerouted)

Definitions:

Acquisition price = disposal price plus costs of ownership transfer of purchaser
Disposal price = amount purchaser pays directly to seller
Realisable price = disposal price less costs of ownership transfer of seller