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**ISSUES IN THE AMORTISATION OF INTANGIBLE NON-PRODUCED ASSETS**

**This document has been prepared by L. Binns, C. Obst, L.Thompson, J. Tyndall, P. Romanis - ABS, Australia**

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## ISSUES IN THE AMORTISATION OF INTANGIBLE NON-PRODUCED ASSETS

Paper prepared for the September 2005 meeting of the Canberra II Group  
on the Measurement of Non-financial Assets

Lauren Binns, Carl Obst, Luke Thompson, Jeff Tyndall, Paul Romanis - ABS

This paper explores issues surrounding the treatment of intangible non-produced assets, with a focus on the amortization of mobile phone spectrum licences. Of particular interest is the way in which the amortisation of these assets might be accounted for and several alternative approaches are presented.

This paper assumes that the spectrum is a tangible non-produced asset over which ownership rights can be enforced and economic benefits obtained. While this may be a point of contention the issue is not discussed here.

The paper also assumes that a distinction can be drawn between different types of licences. The distinction made is that where a licence can be directly linked to the use of a tangible non-produced asset, the licence can be considered as asset assuming that the nature of the licence meets certain criteria.

Canberra II has already considered the case of licences that are not linked to an underlying tangible non-produced asset (eg taxi licences) and has supported the treatment that payments for such licences be treated as taxes – thus implying that such licences are not assets. It is possible that such a treatment would also be adopted for licences such as mobile phone licences but in that case accounting for amortization does not need to be considered. The aim of this paper to present for discussion some alternative accounting treatments that might be considered if licences such as mobile phone licences were to be treated as assets in their own right.

To date, a range of possible treatments for dealing specifically with licences to use the spectrum have been explored in previous papers by bodies including the IMF, Eurostat and the ISWGNA. This paper seeks to clarify the different approaches and their impact on the accounts with a particular focus on different approaches to the amortization of the licence. Indeed there is no discussion in the paper on the accounting that needs to be undertaken to recognize the licence as an asset in the first instance. On this matter there appears no disagreement.

### **1. Clarification on the licence as an asset**

1. As noted, this paper assumes that the spectrum is a non-produced, tangible asset. It is generally accepted that the spectrum itself meets the SNA93 criterion as an economic asset primarily as the effective ownership can be determined, and that the spectrum's uses in the production of telecommunication services renders it capable of generating economic benefits. The government is the owner of the spectrum by virtue of its regulatory powers. Excepting possible obsolescence, the spectrum has an infinite life although it is subject to economic appearance/disappearance.

2. Whether a licence to use the spectrum is an asset relies on a closer inspection of the conditions of the licence. While the length of the licence is not the only factor to be considered in determining if the

licence is an asset or otherwise, it is a useful starting point. In the instance where a licence is issued for a period of less than one year, then under SNA93 (and business accounting for that matter) the payment for a licence is treated as rent for the use of the spectrum, rather than payment for an asset. Under this scenario ownership over the spectrum or part thereof has not been transferred to the purchasing entity. (Eurostat have implemented a five year minimum period for a spectrum licence to be considered an asset sale.)

3. It is also possible, however unlikely, that a Government may sell access to the spectrum for an infinite period. In this case, the Government has actually sold the spectrum asset itself, transferring all associated ownership rights and risks to the purchasing entity. In reality, most spectrum licences are sold for long but finite periods of anywhere from 5 to 30 years.

4. In most cases, the licence issued by the Government is for a finite period, greater than one year. In such cases, it is argued that a secondary (linked) asset is created. A number of criteria have been suggested to help in determining if a secondary intangible asset is created (IMF Paper Feb 2001, and ISWGNA paper Dec 2001).

- the ability of the licence issuer to cancel access to the asset
- the degree of exclusiveness and control the licensee has in deriving economic benefits / costs
- the potential to resell the asset (transferability - actual or de-facto)
- the existence of demonstrable value
- pre-agreed value of payments (lump-sum and/or instalments)

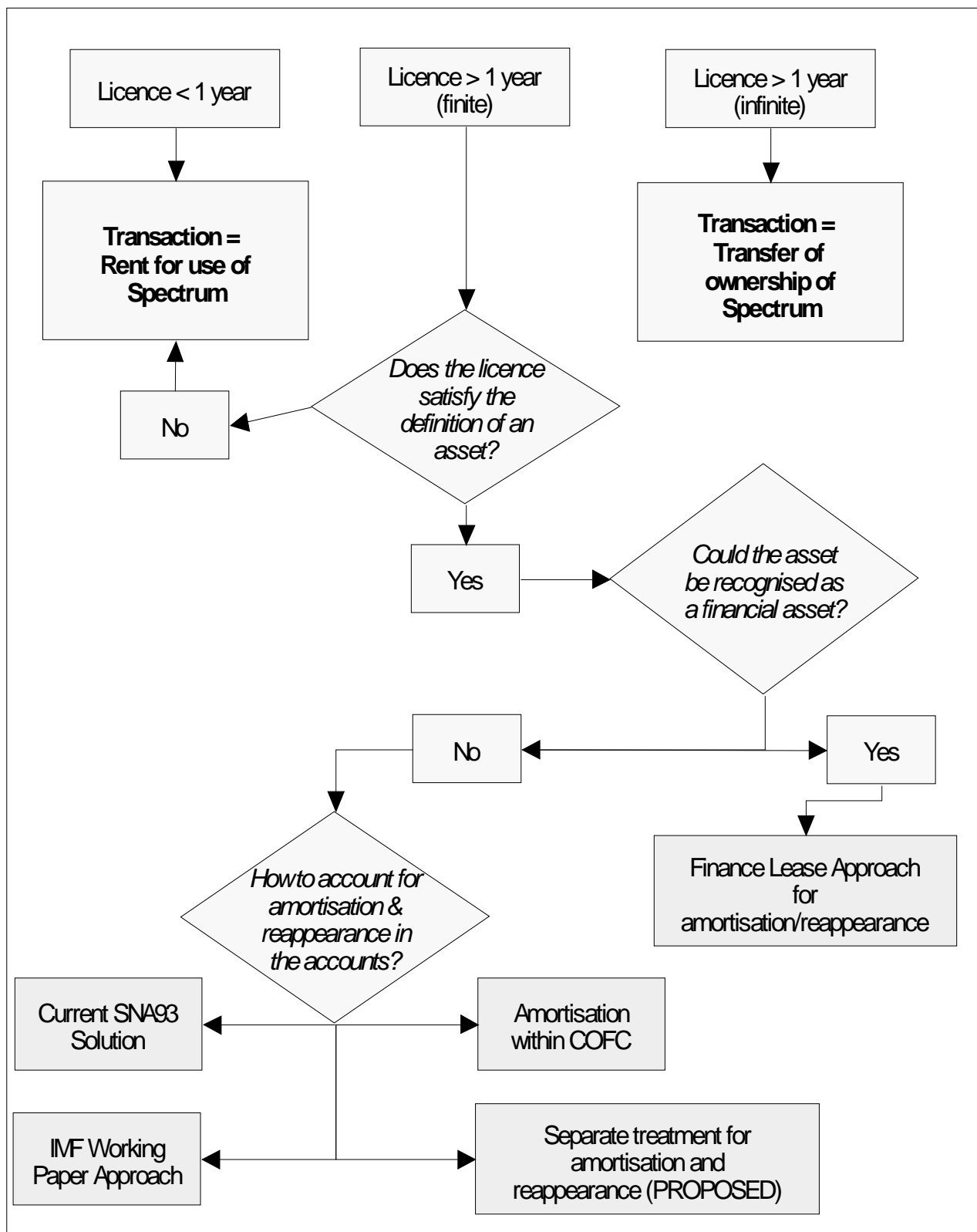
5. While none of these criteria provide conclusive evidence of the existence of the asset, when considered in conjunction with one another it is likely to be fairly evident whether or not an asset exists. This paper suggests that clear guidelines and criteria along the lines of those above are required in the updated SNA to determine both the explicit existence of a spectrum licence as an asset, and where it is found to exist, the nature of the asset.

6. When consideration of these criteria indicate that, on balance, the licence is an asset, the SNA93 would classify it as an intangible non-produced asset

7. Given that the spectrum asset has an infinite life its value should be determined as the NPV of future returns over that period, which is often estimated as the market value of the licence at time 0 discounted to infinity. A licence over the spectrum transfers ownership of the economic benefits (and risks) from the Government to the purchasing entity for a finite period of time, and as such the value of the spectrum to the Government must decrease by a corresponding amount (value of the licence at time 0 discounted to the end of the licence period). This reduces the value of the spectrum itself to be equal to the NPV of future returns for the period from the end of the licence period onwards.

8. The following diagram illustrates how this paper has approached the issue of how to account for spectrum licences in the event that it is deemed to satisfy the definition of an asset. The various accounting options in the diagram are discussed in more detail below.

Diagram 1: Treatment of payment for use of spectrum:



## **2. Is the licence a non-financial asset or does the licence constitute a financial lease arrangement?**

9. At this stage it is necessary to consider a possible treatment, that instead of creating a licence to use the spectrum, the transaction between the government and the business in question is actually a finance lease of the spectrum.

10. A financial lease is an alternative to borrowing as a method of financing the purchase of an asset. For national accounting purposes assets leased in this way are recorded on the balance sheets of the lessee, with a corresponding liability. Payment in a normal financial lease arrangement would cover a principal amount and interest paid over the length of the lease with ownership of the asset in question usually reverting to the lessee at the end of that time.

11. In this particular case, instead of receiving a payment for the principal (eg a cash or a loan asset) the government would hold a finance lease asset to recognise that, at the end of the lease, ownership of the spectrum would return to the government and the lessee would have a similar offsetting liability to return the spectrum to the government. As the payment made by the lessee to the Government (in a licensing arrangement this would be the payment for the licence) does not include a principal component, the complete amount of the payment is effectively prepaid interest which is written off as the interest is earned over the life of the lease. This payment requires the creation of a prepaid interest asset for the lessee and an unearned interest liability for the government, and in subsequent periods flows in the income and financial account to record the earning/payment of interest. This approach is documented in the example in the attached spreadsheet.

12. A disadvantage of this approach is its complexity as well as the difficulty of convincing stakeholders that the licence is a financial asset. If this transaction was classified as a financial lease it would be of a very unusual type. Traditionally a financial lease involves principal repayment, leading to eventual legal ownership transferring to the lessee, whereas in this case the ownership reverts back to the lessor. Additionally, accounting for the spectrum licence in this way may reduce the analytical usefulness of the financial accounts.

## **3. Options for the amortisation of the licence asset**

13. Assuming the licence is an intangible non-produced asset, this paper will now focus on the potential ways of amortising the payment for the asset. In terms of the balance sheet entries all methods of amortization apply the same recording. The main principle in this regard is that, given that the values of the spectrum and licence are linked, when the amortization of the licence asset is recorded, there must be a corresponding increase in the value of the spectrum asset to the government.

### **3.1 *Current SNA Treatment***

14. Following the current SNA93 treatment, both the amortisation of the licence and the re-appearance of the spectrum's economic value are recorded in the 'other changes in assets' account. This approach is consistent with the treatment of other intangible non-produced assets such as copyrights. This approach is relatively benign, as the current accounts and the major aggregates such as net lending/borrowing, net saving contained within them are not affected.

15. However, this outcome may be considered less than ideal from the licence owner's point of view. Under business accounting the amortisation cost would be reported as an expense against the income earned from the production process, and it has been argued that to not record these costs in the income accounts is overstating the net operating surplus of the business sector. It has also been argued that the

purpose of the other change in assets account should be to cover "one-off, unpredictable events, rather than gradual processes that are an expected part of current business operations" (IMF paper).

### **3.2 *Treatment as COFC***

16. An alternative, considered by both the IMF and the Inter-Secretariat Working Group on National Accounts, is to record the amortisation of the licence in the same way as consumption of fixed capital.

17. Both groups rejected this alternative because they felt that if the write off is charged to the current accounts of the licence holder, then an offsetting amount has to be shown as a current receipt to the spectrum owner which consequently increases government saving and net lending/borrowing unless some further adjustment item is introduced into the capital account. Another implication of treating amortisation of the licence as consumption of fixed capital would be an implicit shift in the production boundary as the SNA93 defines COFC to only include the write-down in value of produced assets.

### **3.3 *Dipplesman and Mahle (IMF) approach***

18. In their IMF working paper, Dipplesman and Mahle proposed the alternative that both amortisation and reappearance of these assets could be recorded in property income items in the income accounts with offsetting entries in the capital accounts "While not literally property income paid or received, amortisation/reappearance are flows that relate to property" (R J Dipplesman & N Mahle). This approach would ensure that the amortisation of the licence was reflected in the estimates of disposable income and net saving of the business and the offsetting entries in the capital account would also ensure that net lending borrowing was not affected.

19. There are a few limitations with this approach:

- Accounting for the reappearance of the spectrum in the income and capital accounts seems to include a flow in the transaction accounts of the SNA for which no transaction has occurred.
- Although this approach would record the amortisation of the licence in the income account, it does not solve the overstated net operating surplus problem identified above. Net operating surplus is derived through the generation of income account, whilst property income enters the accounts through the subsequent allocation of primary income account, and thus only affects net saving.
- Dipplesman and Mahle concede that whilst these flows are related to property, they do not fit the literal definition of property income. Their reasons for including the flows within property income are more for simplicity and avoiding adding a new line to the accounts.
- Recording the re-appearance of value of the spectrum as property income appears to record the revenue the government receives for the licence within the income account in addition to recording the revenue when the asset is sold (in the capital account). Although the Dipplesman and Mahle approach has an offsetting entry in the government's capital account to ensure no double counting, it is not a neat solution overall.

### **3.4 *Inclusion of an amortization series***

20. A fourth alternative that has been developed in preparing this paper is to record the amortisation of the licence in the current accounts while continuing to record the reappearance of the spectrum in the other change in volume of assets account.

21. The three basic principles which underlie this approach are:

- 1) amortisation of an asset is similar (but not the same as) consumption of fixed capital and as such should be reported as a separate item, but in the same accounts as COFC in the transaction accounts.
- 2) the other change in volume of assets account is the most appropriate place to report the reappearance of the spectrum asset.
- 3) even though the amortisation of the licence and the reappearance of the spectrum are linked in value, the flows relate to different assets and to achieve the balance sheet requirements previously outlined, there is no need for the two transactions to be recorded in the same accounts.

22. This approach recommends that amortisation of the licence be recorded as a separate item wherever COFC is reported. This is not the same as saying that amortisation should be included in COFC (which would imply a potential shift to the asset boundary, which is an undesirable outcome). This means a new item would be included into the calculation of net value added in the production account, which would impact on the calculation of net operating surplus and net saving in the income account and new item would be included in the calculation of net lending/borrowing in the capital account:

Net value added: even though the licence is not a produced asset, it is an asset essential to the production process of the telecommunications industry and as such, the value of that asset used up in the production process should be reported against the value created through the production process.

Net operating surplus: for the licence holder, the amortisation of the licence is a cost associated with the process of earning income. The national accounts should reflect this cost in the income account, by including it alongside COFC, to accurately reflect the net operating surplus for the business sector.

Net saving: the amortisation of the licence has the effect of decreasing the savings of the business and as such it should impact on the net savings figure for the business sector.

Net lending/borrowing: because the amortisation is added back in to the calculation of net lending/borrowing in the capital account this aggregate is unchanged under this approach.

23. The reappearance of the spectrum asset is not a transaction, however it is a flow that needs to be recorded in the national accounts. Because it does not result from a transaction, this flow should not be reported in any of the transaction accounts. We have seen that where this was attempted in the IMF approach, the net saving figure for the government increases even though there is no action by the government that has caused this. The fact that the reappearance is a regular, predictable flow is also not enough of a valid reason to move it to the transaction accounts when there is no transaction causing the flow. As suggested by the SNA93 the most appropriate place to record flows of this kind is in the other change in volume of assets account where the flow will lie outside of the transaction accounts, but will still impact on the balance sheets.

24. Even though the amortisation of the licence and the re-appearance of the spectrum are linked, this does not mean that the two events have to be recorded in the same accounts. The only implication that the linked value of the amortisation and the reappearance makes is that two values have to be recorded in the same period in order to maintain consistency in the sum of the values of the respective assets.

25. The main short coming of this approach is that for the economy as a whole the net value added and net operating surplus is reduced but there has been no reduction in the value of spectrum available to the economy – there has simply been a shift in value from the licence holder to the spectrum owner. The case of amortising intangible non-produced assets should then be considered to be quite different from the depreciation of produced assets where a fall in the value of asset to the economy as a whole must be recorded.

#### **4. Illustrative Example**

26. The following example compares the various approaches described above.

Consider a licence issued over a spectrum in the last day of year 1. The value of the 30 year licence is reported at \$900m and the remaining value of the spectrum (covering the period from the end of the licence to infinity) has been estimated as \$100m. This gives total value to the spectrum over its life of \$1000m, which excluding obsolescence and price change, should remain constant in the balance sheets over that time.

The appearance of the spectrum (\$1000m), and issuing of the licence (\$900m) has been illustrated in the balance sheet for year 1 in the spreadsheet below.

In the second year, the licence has been used in production and according to its expected life and some amortisation function a figure for amortisation of the licence has been calculated at \$30m per year. Because of the link between amortisation of the licence and reappearance in value of the spectrum, \$30m has to be recorded against the reappearance in value of the spectrum each year.

The amortisation of the licence (\$30m) and reappearance of the spectrum (+\$30m) has been illustrated in the transaction accounts and balance sheet for year 2 in the spreadsheet below. (There are 4 worksheets to consider).