

National Accounts: Effects of Spectrum Payments

Summary

This article discusses the effects on the UK National Accounts of the payments to the Government for allowing access to the electromagnetic spectrum by mobile phone companies. These have often been reported in the media as the auction of licences, although this is a simplification of the reality for public consumption. This article discusses the effects on the Sector Accounts (Income and Capital Account, Financial Account and Balance sheets). The payments will have no direct effect on Gross Domestic Product.

Within the UK accounts the Government's receipts from the auction will be treated as rent. This is because The Office for National Statistics (ONS) considers that the electromagnetic spectrum should be classified in a category known as "tangible non-produced assets". International guidance states that receipts from allowing use of such assets should be recorded as rents. The classification of the receipts is still under international discussion, although the asset classification is universally accepted.

Background

A limited number of third generation (UMTS) mobile phone companies will be granted access to use the electromagnetic spectrum throughout the world in 2000 and 2001, sometimes accompanied by large cash payments.

The UK adopted an auction process with bidders having to undergo a suitability test before entering the auctions. In the second quarter of 2000, three of the successful bidders made payments and were granted licences. In addition, a prepayment was received from the two bidders that settled in the third quarter of 2000.

The UK Central Government (CG) received up-front cash payments from each successful bidder in return for access to the spectrum. The successful bidders are included in the Private Non-Financial Corporations (PNFC) sector in the National Accounts. Under the accruals-based principles of the Accounts, the rents will be accrued over the next 21+ years.

Therefore, there will be a one off increase in CG net assets and a matching decrease in PNFCs net assets as the cash payments take place. This transaction will then be offset by an accruals based adjustment in the accounts of both sectors. The offsetting accruals adjustment will take place over the same period as the rents.

Classification of receipts from allowing use of spectrum

There are two broad options for the classification of the receipts from allowing third generation mobile phone companies to use the electromagnetic spectrum:

- rent for the use of a tangible non-produced asset (the spectrum); or
- proceeds from the sale of an intangible non-produced asset (the licence).

The ONS has decided that the receipts will be treated in the former category, i.e. as rent (see ONS, *Classification of spectrum licence receipts*, Media Release, 13 June 2000).

It follows that, under the accruals-based principles of National Accounts:

- there is a cash transaction to record any pre-payment of rents from successful bidders that results in the creation of an asset for CG and a liability for PNFCs;
- there is an offsetting accruals entry to reverse this cash transaction (i.e. the creation of a liability for central government and an asset for PNFCs): in simple terms PNFCs are purchasing a financial asset by pre-paying rents;
- the rent receipts (and payments) accrue regularly over the following 21+ years; and
- after completion of the licence period, the net effect of the accrual transaction is zero.

Summary of amounts received by the Government from use of spectrum

The total proceeds from allowing use of spectrum for third generation mobile phone companies are £22.5 billion. Three organisations made payments in May (the second quarter of 2000), two other organisations made pre-payments. These two will complete their payments in September (the third quarter).

2000 Q2	
Total (three organisations)	£ billion 12.4
Add prepayment (two organisations)	0.2
Total received in 2000 Q2	12.6
2000 Q3	
Total payments (two organisations)	10.1
Less prepayment in Q2	0.2
Total received in 2000 Q3	9.9
Total received	<u>22.5</u>

Effects on the Financial Account

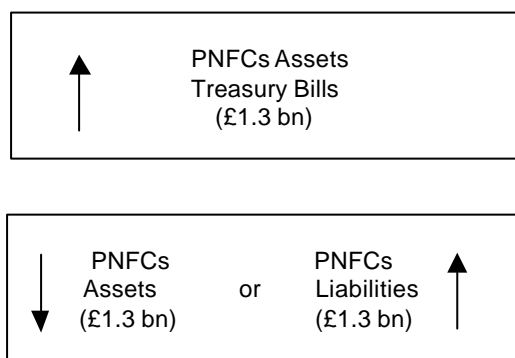
Treatment of company payments

First Quarter 2000 - Payment of deposit by all bidders

In the first quarter of 2000, all bidders were required to lodge a deposit with the Government. The deposit was returned, with interest, if bidders were unsuccessful. The Government invested the deposits in Treasury Bills in a separately identifiable name, treating it as a private sector investment. In the Financial Account, the investment in Treasury Bills is treated as being undertaken directly by PNFCs. The corresponding transaction undertaken by PNFCs was some combination of incurring liabilities or running down assets (see Figure 1).

Figure 1

Payment of deposit by all bidders



Second quarter 2000 - Payment by the first three successful bidders

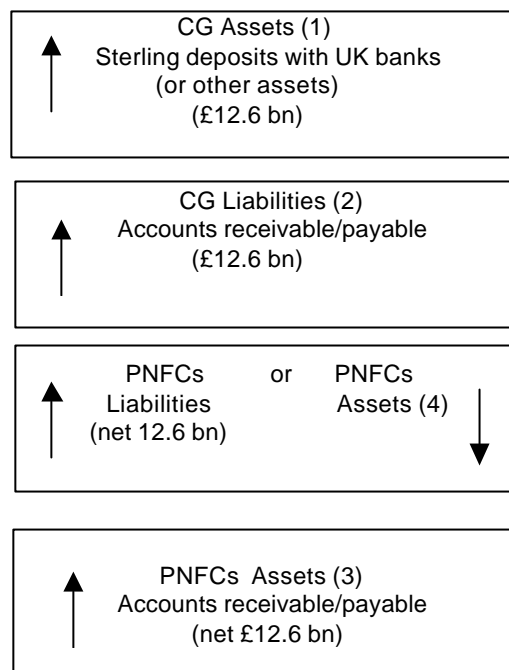
In the second quarter of 2000, three of the successful bidders made cash payments and were granted licences. In addition, a prepayment was received from the two bidders that settled in the third quarter. These amounts together totalled £12.6 billion.

The cash prepayments resulted in the creation of an asset for CG, mainly via a payment into its sterling deposits with UK banks (1), financed by the successful bidders through some combination of incurrence of liabilities or running down assets (4).

Under accruals principles, a corresponding liability (equivalent to a negative asset) is created in accounts receivable/payable in the central government's balance sheet (2) and a corresponding asset created in PNFC's balance sheet in accounts receivable/payable (3) (see Figure 2).

Figure 2

Payment for access to spectrum



In addition, the three successful bidders made their first payments of rents to CG in this quarter. The amount of this rent was £48 million, which reflects the activity only starting part way through the quarter.

Third quarter 2000 - Payment by the remaining two successful bidders

The adjustments in the third quarter of 2000 to record the cash payment and offsetting adjustment by the remaining two successful bidders involve the same entries as the second quarter of 2000, except that the amount is £9.9 billion (£10.1 billion less deposit of £0.2 billion paid in the second quarter of 2000).

In the third quarter of 2000 the total rent flow is £144 million.

Fourth quarter 2000 and beyond

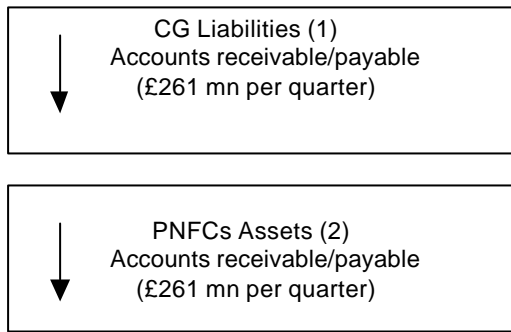
There will be ongoing accrued rent payments over the next 21+ years.

The payments total £261 million in the fourth quarter of 2000 and for every quarter thereafter until 2021. ONS is considering adopting a discount model to better reflect the path of the payments over such a lengthy period.

For now, under accruals principles, the flow of rents from the licence holders to CG will be recorded on a regular basis as it accrues over the length of the licence. The financial liability incurred by CG on receipt of the cash prepayments for the use of the spectrum will be gradually reduced as the accrued rent is 'received' (1) while PNFCs' financial asset will be gradually reduced as the accrued rent is 'paid' (2) (see Figure 3).

Figure 3

Ongoing accrual adjustments



Effect on Income and Capital Account

The accrued rent flows between CG and PNFCs appear in the Allocation of Primary Income Account as rent (D45). The flows appear as income for CG and payments by PNFCs.

In the second quarter of 2000, a receipt of £48 million for CG will be matched by a payment by PNFCs. The payment will be £144 million in the third quarter of 2000, £261 million in the fourth quarter of 2000, and about £1 billion for each year until end-2021.

Effect on Non-Financial Balance Sheets

In the non-financial balance sheets, the value of the spectrum will be shown as an asset for CG. The third generation contribution to the value of spectrum will probably be shown at a value of £22.5 billion until it is next revalued (in 2021). There will be international discussion on the best method of valuation.

Financing transactions

Overall, there has been considerable activity in the telecommunications sector of late, including quite substantial merger, acquisition and disposal activity. The financing by PNFCs for the cash transactions for pre-payment of rents is one of a number of complex transactions in the telecommunications sector (including the financing of use of foreign spectra) that exert a noticeable impact on the sector accounts.

It is difficult to disentangle the direct and indirect effects of the financing transactions in the sector accounts, especially given that the flow and balance sheet data in the accounts record the net impact of numerous transactions.

However, the first and second quarters of 2000 data are noteworthy for some particularly large changes to private companies' assets and liabilities including:

- an increase in direct investment loan liabilities reflecting transfers of funds from rest of the world associated companies;
- an increase in corporate bonds issued;
- an increase in sterling loans from UK monetary financial institutions; and
- an increase in loans from rest of the world monetary financial institutions.

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NOTES

A summary of the effects on sector accounts can be found within Appendix A on the following page.

Further discussion of this topic, including copies of the original press releases, can be found within the economy theme on the National Statistics website:

<http://www.statistics.gov.uk/>

APPENDIX A

Tabular Summary

Flows

£ billion	Q2 00	Q2 00 ⁵	Q3 00	Q3 00 ⁵	Q4 00	2001	2002	2010	2015	2021
GG net assets ¹	12.6	-	9.9	-	-	-	-	-	-	-
GG accounts payable / receivable (F79) ^{2*}	-12.6	0.048	-9.9	0.144	0.261	1	1	1	1	1
PNFC net assets ³	-12.6	-	-9.9	-	-	-	-	-	-	-
PNFC accounts receivable / payable(F79) ^{4*}	12.6	-0.05	9.9	-0.14	-0.26	-1	-1	-1	-1	-1

*approximate due to rounding, the exact amount in a full year is £1.044 bn.

¹ increase in net assets, ² reduction in net assets, ³ reduction in net assets, ⁴ increase in net assets in Q2 and Q3 2000

⁵ Accrued rent flows begin in month following issue of licences, ie flows begin in June 2000 (for Q2 2000 payments) and October 2000 (for Q3 2000 payments). The amounts are 1*0.048bn in Q2 2000 and 3*0.048 in Q3 2000 for the licences issued in Q2 2000. From Q4 2000 onwards, the quarterly flows are £0.261bn.

Balance Sheets

£ billion	Q2 00	Q3 00	Q4 00	2001	2002	2010	2015	2021
GG net assets**	12.6	22.5	22.5	22.5	22.5	22.5	22.5	22.5
GG accounts payable / receivable (F79)*	-12.6	-22.3	-22	-21	-20	-12	-7	0
PNFC net assets	-12.6	-22.5	-22.5	-22.5	-22.5	-22.5	-22.5	-22.5
PNFC accounts receivable / payable(F79)*	12.6	22.3	22	21	20	12	7	0

*approximate due to rounding

** the Government plans to reduce liabilities with the proceeds from allowing use of spectrum

Income and Capital account

£ billion	Q2 00	Q3 00	Q4 00	2001*	2002*	2010*	2015*	2021*
GG rent (D45)	0.048	0.144	0.261	1	1	1	1	1
PNFC rent (D45)	-0.048	-0.144	-0.261	-1	-1	-1	-1	-1

*approximate due to rounding, the exact amount in a full year is £1.044bn