

Cost allocation and return on capital

Introduction

1. This appendix considers the cost allocation and the return on capital of the eight banks' PCA business for the three-year period to December 2004 based upon the financial information we requested in September 2005.¹ Unlike the financial information in respect of revenues and volumes (Appendix 4.10 on financial performance), we did not ask the banks to update the information for 2005 because we considered that the updated information would not change our views on the validity and accuracy of the return on capital calculations based on the 2002 to 2004 data.
2. Profitability is an incentive and a signal, and high profits can occur in competitive markets. However, competitive pressure should result in profit levels moving towards the cost of capital in the medium to long run. Therefore profits which are persistently and substantially in excess of the cost of capital for firms which represent a substantial part of the market could be an indication of limitations in the competitive process. Alternatively, normal or low profits may conceal ineffective competition where firms with market power are able to sustain higher costs than would be possible in a more competitive market.

Approach to measuring profits from PCAs

3. We intended to compare the return on capital (RoC) to the cost of equity calculated in accordance with the capital asset pricing model. This contrasts with the return on capital employed approach (ROCE) in which returns to both debt and equity holders are considered and compared with the cost of holding debt and equity, ie the

¹Due to banks having different financial year-ends some of the information related to the period up to April 2005.

weighted average cost of capital (WACC). Although the two approaches are mathematically equivalent, it is normal to assess financial institutions' profitability on the basis of return on equity capital.² We prefer this approach conceptually as we consider that borrowing and lending money is at the core of these institutions' business operations and is not just a pure financing function.³ Their main source of revenue is interest income and one of their largest expenses is interest payable. This is reflected in the presentation of interest expense as an operating item in the statutory accounts of banks. Aside from our own conceptual preferences, return on equity capital is widely used within the sector as a performance measure.

4. One clearer (Ulster) told us that it did not consider it conceptually appropriate to compare the return on equity, an accounting measure, with a cost of equity determined by the capital asset pricing model, which is an economic measure of expected average return on market value. RoC itself is also not informative of the underlying return generated by the business, in particular when only considered over a short period of time (for example, three years).
5. This appendix considers the three components of a profitability assessment:
 - (a) operating profit (revenues are discussed in Appendix 4.10 on financial performance, while this appendix considers operating costs);
 - (b) capital employed and the return on capital; and
 - (c) cost of capital.

²For example, the CC adopted this approach in its report on *The supply of banking services by clearing banks to small and medium-sized enterprises within the UK*, 2002, Cm 5319, and in its report on the *Store Cards Market Investigation*, 2006.

³See also Copeland, Thomas E, Tim Koller and Jack Murin, *Valuation* (1996).

Summary profit and loss accounts

TABLE 1 Summary financial information—PCAs

	£'000				
	2002	2003	2004	2004 % of total	2002–2004 CAGR %
<i>Revenue</i>					
Ulster					
Northern					
First Trust					
Bol					
Subtotal clearers					
Halifax					
Abbey					
A&L					
Nationwide					
Subtotal non-clearers					
Total revenue					
<i>Operating costs (incl bad debts)</i>					
Ulster					
Northern					
First Trust					
Bol			✂		
Subtotal clearers					
Halifax					
Abbey					
A&L					
Nationwide					
Subtotal non-clearers					
Total operating costs (incl bad debts)					
<i>Operating profits/losses</i>					
Ulster					
Northern					
First Trust					
Bol					
Subtotal clearers	-1,255	-607	-9,494	119.4	175.0
Halifax					
Abbey			✂		
A&L					
Nationwide					
Subtotal non-clearers	-3,233	-2,934	1,542	-19.4	N/A
Total operating profits/losses	-4,488	-3,541	-7,952	100.0%	33.1

Source: CC analysis of responses to Questions 4 and 5 of the Financial and Accounting Questionnaire.

Notes:

1. [✂]
2. N/A = not applicable.

6. The financial analysis within this appendix includes that which relates to Northern's CashMaster accounts. The financial information initially provided by Northern

(revenues, costs and capital) included CashMaster accounts. However, CashMaster is not within our definition of a PCA. At a later stage in our investigation we requested, and Northern provided, CashMaster volume and revenue data. However, we did not ask Northern to estimate CashMaster costs and capital allocations because we considered that excluding CashMaster would not change our views on the validity and accuracy of the return on capital calculations based on the initial data.

Revenues

7. Revenues are discussed in Appendix 4.10 on financial performance.

Operating costs

8. For the eight banks reviewed, PCAs were a product within a portfolio of personal banking products. Some banks, especially the clearers, also offered banking products to small and medium-sized enterprises and larger corporate customers. Personal products include mortgages, current accounts, loans, investment products, deposit accounts and foreign exchange, as well as credit cards, and are provided to customers through the banks' branch network, service centres and call centres. A significant proportion of each bank's operating processes and costs, including the operation of its branch network and manufacturing operations, is shared across its businesses and products.
9. Although the breadth of the financial information routinely produced by the banks differed, we found that the structure and approach of the management reporting fell into one of two broad structures: one for the clearers and another for the non-clearers.

Clearers

10. The clearers' general approach to financial management was one in which products contributed revenue to cover fixed and variable cost.⁴ Costs were reported and managed where they were incurred. Management sought to maximize profits and returns on a bank-wide basis by maximizing revenues whilst trying to manage or reduce costs. There was limited or no linkage between revenues and costs. The clearers reported revenues on a branch, group of branches or regional basis. One bank ([REDACTED]) also reported contribution for groups of products, whilst another ([REDACTED]) did not report revenues in detail below the branch level.
11. Prior to our inquiry, only one clearer ([REDACTED]) had attempted to assess what resources (mainly staff time) were required to provide a PCA service.
12. As a consequence of the clearers' reporting structure, we asked the banks to separate out their Northern Ireland PCA business from the rest of their Northern Ireland operations.

Non-clearers

13. The non-clearers (with the exception of [REDACTED]) all routinely reported product-line profitability, but did not to report on a geographic basis.⁵ As a consequence of the non-clearers' reporting structure, we asked the banks to separate out their Northern Ireland PCA business from their UK PCA business.
14. In order to estimate the profitability of PCAs in Northern Ireland, regardless of the structure of the banks' routine financial reporting all banks had to allocate shared costs to their PCA businesses in Northern Ireland.

⁴[REDACTED] told us that it shared this view.

⁵All non-clearers routinely produced UK-wide monthly profit and loss accounts, but not PCA balance sheets or cash-flow statements.

Difficulties with allocating and apportioning costs to the Northern Ireland PCA business

15. There are significant conceptual and practical difficulties in establishing an appropriate basis for allocating the many shared costs that may be attributable to the banks' PCA business in Northern Ireland. These difficulties exist for non-clearers, but more so for clearers given the way they structure their management and financial reporting. With the exception of [REDACTED], the non-clearers routinely report PCA profitability of the UK in its entirety, and therefore routinely allocated shared costs to PCAs. The non-clearers are able to do so because they generally have fewer products and their systems have been designed to report primarily on a product basis.

16. Theoretically, the profitability of providing PCAs could be assessed on three bases:
 - (a) allocation and apportioning shared costs;
 - (b) costs if a PCA business was run on a stand-alone basis; and
 - (c) costs of adding an incremental PCA business to a bank which does not have an existing PCA business.

17. The different bases produced different outcomes. A stand-alone PCA business would incur the highest costs and therefore the lowest profit. An incremental PCA business would incur the lowest costs and therefore the highest profits. Allocating and apportioning costs produced a cost and profit figure in between the two other bases. A clearer ([REDACTED]) provided estimates of its PCA operating costs under the three bases set out above, and demonstrated how different bases can produce significantly different outcomes.

18. A non-clearer ([REDACTED]) told us that the basis of cost allocation may well be influenced by the history of the organization: those with a mortgage and savings heritage are likely to have different approaches from those with a banking heritage. The same non-

clearer is currently undertaking a review of its own cost allocation methodology and recognizes that this could fundamentally affect the way it views the profitability of its PCA business.

Significance of shared costs

19. The majority, if not all, of the operating costs associated with providing PCAs are shared with other services and customers.⁶ For example, the branch serves personal and business customers, provides services for PCAs, basic bank accounts, deposit taking, personal loans, credit cards and mortgages. Allocating and apportioning shared costs, where shared costs comprise the vast majority of costs, means that the resulting profit is dependent on the appropriateness of the bases used and the accuracy of the underlying data used to calculate the apportionment. This can be seen with two examples of apportioning branch staff costs:

(a) Staff costs could be apportioned to PCAs based on the number of PCA transactions as a proportion of all transactions at a bank. The underlying data is likely to be accurate; however, this basis may not be appropriate if costs differ depending on the nature of the transaction.

(b) Alternatively, staff costs could be apportioned to PCAs based on the proportion of time staff spent on PCA activities compared with all activities at a branch. This is likely to be a more suitable method of allocating costs; however, there may be issues concerning the accuracy of an ad-hoc study of a limited number of branches extrapolated to all staff.

20. Two of the banks (~~[X]~~ and ~~[X]~~) used various bases to allocate and apportion costs. This demonstrates how different bases can produce significantly different outcomes. These are discussed in more detail in paragraphs 38 to 44.

⁶Our discussion concentrates on operating costs. The cost of funds is one of the limited costs which can easily be identified and attributed to PCAs. Cost of funds is offset against gross interest to give net interest income. As discussed in Appendix 4.10, there are issues surrounding the valuation of the cost of funds.

21. Each bank that we reviewed applied different assumptions and methodologies in order to ascertain the profitability of their PCA business. A clearer ([REDACTED]) told us that this would create significant difficulties in assessing the profitability of the PCA business on a comparable basis.

Interdependency of PCAs and other banking products—stand-alone or incremental

22. The banks viewed their banking business as one with a fixed and variable cost base to which revenues from a portfolio of products contribute. Conceptually, PCAs are not a stand-alone banking product—the essence of banking is to take deposits and then lend the money out. All eight banks whose financial performance that we reviewed provided PCAs as part of a portfolio of products. Recent entrants to the Northern Ireland PCA market (eg HSBC, Co-operative Bank) have done so as multi-product banks. A stand-alone PCA business would be fundamentally different to a multi-product bank, and hence the underlying investment appraisal, including the cost of capital, would be different between the two models.

Interdependency of PCAs and other banking products—customers buy multiple products

23. Customers normally use multiple banking products, for example savings accounts, mortgages, personal loans, credit cards as well as PCAs. While customers can source these products from different suppliers, the general business model of banks is to seek to cross-sell products to customers. Similar to other banking products, PCAs can act as a gateway product;⁷ the PCA provides the bank with information on and regular contact with, customers. It is possible to view personal banking as a relationship with the customer to whom the banks seeks to sell as many products (including PCAs) as possible. The corollary of this view is that ‘customers’ is the key unit and the banks would measure performance indicators such as number of

⁷[REDACTED] told us that it viewed PCAs as profitable in their own right.

customers, number of products sold per customer, revenues per customer etc. We found no evidence that the banks undertook financial analysis (revenues, costs or profitability) of individual customers or groups of customers on either a routine or ad-hoc basis. We also found that some banks did not collect data on the number of products sold to PCA customers, whilst for other banks the information was limited.

24. Given the difficulties in assessing the profitability of the PCA product, we considered whether we should assess the profitability at a broader level, such as all personal banking products or all retail banking products. However, we considered that this would give us only limited insight into the competitive environment of PCAs. The different nature, regulation and competitive environments of the products would make it difficult to interpolate the profitability of PCAs from that of personal banking as a whole.
25. The banks' approaches to cost allocation, for the purpose of our investigation, are set out in Annex 1 to this appendix.

Capital employed and return on capital

TABLE 2 Summary financial information—PCAs

	£'000		
	2002	2003	2004
<i>Regulatory capital</i>			
Ulster	(✂)
Northern			
First Trust			
Bol			
Subtotal clearers	28,279	26,938	28,577
<i>Halifax</i>			
Abbey	(✂)
A&L			
Nationwide			
Subtotal non-clearers			
Total regulatory capital	<u>29,146</u>	<u>29,263</u>	<u>30,997</u>
<i>Return on regulatory capital</i>			
	%	%	%
Ulster	(✂)
Northern			
First Trust			
Bol			
Subtotal clearers	-4	-2	-33
<i>Halifax</i>			
Abbey	(✂)
A&L			
Nationwide			
Subtotal non-clearers			
Overall return on regulatory capital	9	-4	-21

Source: CC analysis of responses to Questions 4 and 5 of the Financial and Accounting Questionnaire.

Note: Return on capital has been calculated on a pre-tax basis.

Difficulties with allocating and apportioning capital to the Northern Ireland PCA business

26. The allocation and apportioning of capital to the Northern Ireland PCA business and the associated difficulties fell into three broad categories:

- (a) regulatory capital;
- (b) allocation and apportionment of shared assets; and
- (c) valuation, allocation and apportionment of intangible assets.

Regulatory capital

27. One commonly used method to assess profitability in banking is to calculate returns in terms of regulatory capital. Minimum regulatory capital is calculated as a percentage (or individual capital ratio (ICR)) of risk-weighted assets. Under Basle I

assets are weighted between 0 and 100 per cent depending upon risk. Assets comprise both financial assets (such as loans to customers) and fixed assets (such as land and buildings).

28. The banks all hold capital at a level in excess of the minimum regulatory requirement. This means that the actual (efficient) capital ratio is above the minimum set down by the FSA. The banks have calculated capital employed in PCAs by calculating the risk-weighted assets employed in the PCA business and applying the actual overall bank capital ratio. There are several issues with this approach which suggest that the banks' overall capital ratio may not correctly allocate risk and therefore capital to individual business or products:

(a) Portfolio theory⁸ suggests that a bank can reduce risk (and therefore the level of capital) by having a range of businesses.

(b) The business risk of PCAs may be significantly different to other products in the banks portfolio.

(c) Risk-weighted assets may not be an appropriate basis to allocate capital to a product. For PCAs, financial assets (overdrafts) are relatively low compared with the credit balances,⁹ and therefore regulatory capital may understate the capital employed in providing PCAs. This can be seen by the development of Basle II which will seek to incorporate an element of operation risk. Ulster calculated capital and a return on capital under both Basle I and Basle II bases (see Table 3).

29. A non-clearer ([X]) told us that our return on capital analysis was fundamentally flawed and misleading. A return on capital approach is more applicable for banks

⁸An investor can reduce portfolio risk simply by holding instruments which are not perfectly correlated. In other words, investors can reduce their exposure to individual asset risk by holding a diversified portfolio of assets. Diversification will allow for the same portfolio return with reduced risk. For diversification to work, the component assets must not be perfectly correlated, ie covariance not equal to 1.

⁹In 2005, debit balances were on average £155 million compared with credit balances of £2.1 billion.

overall as they manage their customer lending through a funding structure combining retail and wholesale deposits, and alongside fees and commissions. A PCA is made up from a combination of customer deposits and fees (with no risk weight attaching) and an overdraft facility (100 per cent risk weighted as an unsecured facility). The banks hold Regulatory Capital (under Basel I) against reported Risk Weighted Assets. For PCAs this is overdrafts only (the internal deposits with the banks treasury department are not risk weighted). The PCA is therefore made up from returns on the credit and debit balances along with fees. If debit balances are growing faster than credit balances (which they are for [redacted]) then this distorts RoC analysis. The allocation of capital methodology is therefore as critical to understanding the result as the allocation of cost, and without this detailed reconciliation the analysis at a product level becomes meaningless.

Allocation and apportionment of shared assets

30. Assets employed to provide PCAs that are capitalized on the banks' balance sheets relate to fixed assets (primarily land and buildings and IT equipment). Most of the issues discussed in respect of allocating and apportioning costs also apply to these assets (see paragraphs 12 to 21). Fixed assets are included in risk-weighted assets and therefore taken into account when calculating regulatory capital.

31. One clearer ([redacted]) told us that the analysis could be distorted by the distinction between owed and leased assets. Owned fixed assets are included in risk-weighted assets and therefore taken into account when calculating regulatory capital but leased assets (eg premises) are not and thus comparisons can be distorted depending on the premises policies of the various banks. We noted this concern; however, given that we were unable to conclude on the profitability of PCAs, we considered the issue of owned and leased assets unlikely to affect our conclusions.

Valuation, allocation and apportionment of intangible assets

32. Accounting conventions capture only some of the assets employed in providing PCAs and most notably do not capture certain intangible assets. Intangible assets that could be included in capital employed include marketing costs, staff recruitment and training. One bank [X] suggested that we should uplift regulatory capital (in line with the CC SME report¹⁰) to include intangible assets.

Stand-alone business or incremental

33. A PCA business has an excess of credit balances over debit (overdraft) balances (see Appendix 4.10 on financial performance). If PCAs are part of a portfolio of bank products, this excess credit balance is used elsewhere in the bank to earn revenues. This 'intra-bank' balance would have a zero rating in the calculation of risk-weighted assets. A stand-alone PCA provider is likely to invest the excess credit balances with a third party, which could attract a risk weighting of up to 100 per cent depending on the nature of the investee/borrower.
34. One clearer [X] told us that our return on capital calculations (see Table 1) was effectively an incremental return, and the return on capital for PCAs when treated as a stand-alone product of business would therefore also be considerably lower.

Approaches by two of the banks

[X]

35. [X] calculations show that RoC varies significantly depending on the basis used. Using 2004 as an example, capital calculated on the basis of Basle I and assuming no uplift for intangibles the RoC varies from -[X] to +[X] per cent depending on the cost allocation bases used. Furthermore, if costs are calculated on an incremental

¹⁰The CC's report on *The supply of banking services by clearing banks to small and medium-sized enterprises within the UK*, 2002, Cm 5319.

basis the RoC is [X] per cent and if calculated on a stand-alone basis is [X] per cent.

TABLE 3 [X] PCA RoC—ranges

		<i>per cent</i>		
		2002	2003	2004
Basle I (no uplift)	Mid-point in cost range	(X)
	Upper end of cost range			
	Lower end of cost range			
	Incremental business			
	Stand-alone business			
Basle I (intangibles uplift)	Mid-point in cost range			
Basle II (intangibles uplift)	Mid-point in cost range			

Source: CC analysis based on the [X] report.

36. The RoC calculation is dependent on the bases used to calculate capital. However, the RoC calculation appears more sensitive to the cost allocations bases than to the method used to calculate capital. That is to say, the choice of cost allocation method leads to greater variations in RoC than do the choice of capital allocation.

[X]

37. [X] provided the three different cost allocations, in order to illustrate the difficulties of allocating common costs to PCAs. [X] told us that they were not indicative of actual costs reported either for internal management accounts, or any external accounting purposes. This also applies to the hybrid version calculated by the CC. [X] told us that the estimates of costs and subsequent operating profit figures were not represented as a methodology or financial information that was used by [X] in its normal course of business.

TABLE 4 [REDACTED] PCA RoC—ranges

	<i>per cent</i>		
	2002	2003	2004
Number of transactions			
Balance sheet footings			
Number of accounts		[REDACTED]	
Hybrid			

Source: CC analysis based responses to the Financial and Accounting Questionnaire

38. [REDACTED] calculations show that RoC varies significantly depending on the cost allocation basis used. Using 2004 as an example, RoC varies from $-[REDACTED]$ to $[REDACTED]$ per cent depending on the allocation method used.

Conclusion on return on capital

39. The analysis presented in Table 2 suggests that for some banks in some years PCAs are loss-making. Furthermore, given the interdependency of PCAs and other banking products, and the practical difficulties in identifying appropriate and accurate bases for cost and capital allocations, we are unable to measure profitability with a sufficient degree of accuracy and hence were unable to conclude as to whether the banks are making returns in excess of their cost of capital for their PCA businesses.

Cost of capital

40. It is the usual CC approach to calculate a cost of capital in order to assess the return on capital. However, given the difficulties associated with calculating a return on capital and that we are unable to conclude on a return on capital, we have not sought to calculate the cost of capital.

The banks' approaches to cost allocation

Ulster

1. [REDACTED]

2. [REDACTED]

3. [REDACTED]

4. [REDACTED]

5. [REDACTED]

6. [REDACTED]

Northern

7. [REDACTED]

8. [REDACTED]¹¹

9. [REDACTED]

10. [REDACTED]¹²

11. [REDACTED]

¹¹[REDACTED]
¹²[REDACTED]

First Trust

12. [✂]

13. [✂]

Bol

14. [✂]

15. [✂]

Halifax

16. [✂]

Abbey

17. [✂]

Alliance and Leicester

18. [✂]

Nationwide

19. [✂]

Regulatory framework: Risk Weighted Assets (BAM12060)

From HM Customs and revenue website: www.hmrc.gov.uk/manuals/bamanual/bam12060.htm

Different assets on a bank's balance sheet carry different risks. Risk weighting awards a higher risk weight to a higher risk. Five different risk weights are used 0 per cent, 10 per cent, 20 per cent, 50 per cent and 100 per cent. Non-risky items such as cash, gold and gilts have 0 per cent risk weighting. Riskier items carry a higher risk. For example mortgages are weighted at 50 per cent whilst lending to companies is 100 per cent. The bank will take into account the risk weighting of the loan when setting the interest rate (usually known as the margin).

A minimum of 8 per cent of risk weighted assets must be met by Tier 1 plus Tier 2 capital. 4 per cent of risk weighted assets must be core Tier 1 capital (see BAM12035).

Example

A bank has the following assets

Gilts	£20,000
Cash	£10,000
Loans to companies	£20,000
Mortgages	£20,000
Total	£70,000

The risk weights are gilts and cash 0 per cent.

Loans to companies 100 per cent.

Mortgages 50 per cent.

The notional risk weighted asset value is therefore £30,000.

Each bank also has an individual capital ratio (ICR). The notional risk weighted asset figure is multiplied by the bank's ICR to arrive at the required level of capital. The individual capital ratio is the minimum capital ratio that the bank should maintain. This is calculated by looking at the bank's particular risk profile and capturing elements that are not adequately provided for by the minimum requirement. The minimum individual capital ratio is 8 per cent. Banks with both trading and banking books have a different ICR for each.

Most banks will be required to hold considerably more than the minimum 8 per cent. In any case banks tend to maintain capital above the level required by the Financial Services Authority (FSA) in order to provide a buffer to take account of changes in risk profile. Banks are also generally concerned with their own 'economic capital'. This is the bank's own assessment of the capital required to support the business which may be affected by a number of factors additional to those of interest to the regulator such as capital to finance mergers and acquisitions. Traditionally this is also said to provide insurance against unexpected losses or costs that may arise from difficulties in raising capital. This reflects the fact that for the banks capital is not just about protecting customers; it is also a ready source of funding for the bank.

Capital adequacy calculations involve complex calculations of risk on the many and various assets and off balance sheet instruments using mathematical models. Full details can be found in the 'Interim Prudential sourcebook: Banks' on the FSA website www.fsa.gov.uk. There are similar publications for Building Societies, Insurance companies and others. The FSA intends to produce an

Integrated Prudential Sourcebook in due course grouping prudential requirements by risk rather than the type of entity.

The risk weighting approach becomes more sophisticated under Basel II – see BAM12070.