

# THE NATIONAL BALANCE SHEET OF THE UNITED KINGDOM

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## SUMMARY

*The paper discusses national balance sheets in the light of the proposals for their inclusion in the revised SNA. The author uses his own estimated national balance sheet of the United Kingdom as a basis for discussing the problems encountered in the compilation of national balance sheets, and the greater part of the paper is concerned with questions of valuation, classification and statistical source material. The concluding section deals briefly with the structure of the national balance sheet of the United Kingdom and compares its structure with that of the national balance sheet of the United States. Provisional national balance sheets of the United Kingdom for each of the five years 1957 to 1961 are presented.*

### 1. Introduction

The main purpose of this paper is to present the first results of a study of the national balance sheet of the United Kingdom for the years 1957 to 1961. These results are still somewhat tentative, and the balance sheets which are given at the end of the paper are only the first pulling together of the estimates for the various sectors into a single national balance sheet. A little further study may explain and remove some of the discrepancies, but I do not intend to make alterations to dubious figures merely to square the tables. It seems to me that, once one has done the best that is possible with the data available, it is better to show discrepancies as the inevitable result of combining a number of estimates based on different assumptions and different statistical material. Because the overall national balance sheets are almost as fresh to me as they are to you, I have had little time to do detailed work on the structure of the national balance sheet of the United Kingdom. At the end of the paper I shall make some brief comments on this and make some immediate comparisons with the national balance sheet of the United States, but in the first part of the paper I shall deal with different issues.

The proposals for a revision of the United Nations original System of National Accounts (SNA) have now been published [10]. They propose a fully integrated set of social accounts, comprising financial transactions accounts, balance sheets and revaluation tables in addition to the forms of national accounts already produced by most countries. The Expert Group has not yet spelt out in detail the exact form of the balance sheets, but it has dealt in some detail with the conceptual problems of valuation and the system of classification of sectors and of financial claims. Not entirely by accident my balance sheets follow almost exactly the system suggested in [10], and it seemed to me timely to use my

balance sheets as a pilot exercise in the compilation of balance sheets for the revised SNA. No doubt many official statisticians are wondering what they have been let in for, and I hope they will find my account of the problems encountered in my work of some use. I shall also deal with one or two particular difficulties which have not yet been resolved in the revised SNA—difficulties which arise from the differing requirements of flow tables and balance sheets.

My methods of valuation are in accord not only with the revised SNA but also generally with those adopted by Goldsmith [5] in his work on the national balance sheet of the United States. In face of this unanimity many people would think that a consensus of opinion on the valuations appropriate for national balance sheet work had been reached. Unfortunately this is not true, and already voices have been raised in favour of entirely different methods of valuation. I shall therefore spend some time in dealing with the conceptual problems of valuation.

My paper thus falls into three parts:

- A. Conceptual problems and classification
- B. Statistical sources and methods
- C. Structure of the national balance sheet of the United Kingdom.

#### A. CONCEPTUAL PROBLEMS AND CLASSIFICATION

##### 2. *Main features of the U.K. national balance sheets*

To focus the discussion I shall begin by stating the main features of the national balance sheet tables presented here.

- (1) Both assets and liabilities are valued at market value.
- (2) As a corollary the sector balance sheets consolidate out to national wealth, which is equal to the value of tangible assets located in the country *plus* the net foreign balance (the net worth of the external sector with its sign reversed).
- (3) The balance sheets of each sector are combined summaries of the balance sheets of economic units within the sector.
- (4) The classification of sectors and financial claims is almost identical with that proposed in the revised SNA.

##### 3. *Classification of sectors*

Any classification scheme ought to start with a clear definition of the objects to be classified. The revised SNA does not do this, but implicitly there is a concept, as there is behind my tables, of an economic unit as the elementary “brick” of the classification scheme. The economic unit is the decision-making unit—a household, a business enterprise, a public corporation, a local authority or the central government (counted as one economic unit)—and the sector balance sheet, as we have said, is a combined summary of the balance sheets of all the economic units within a sector.

The only real problem arises over the definition of the economic unit

appropriate to business enterprise. I have taken a group of companies (a parent company and all its subsidiary companies) as my economic unit in this case. This is easy to do in Britain because company law has a strict requirement for the presentation of consolidated group accounts, but I imagine that in many countries it would be difficult to follow this prescription entirely. Conceptually it seems to me the right definition because, however loosely a group of companies may be tied together for operational purposes, finance is the one activity which is most likely to be centrally directed: the group of companies is the decision-making unit in the company field. The only exception which I have made to this rule is when the activities of different companies in a group fall into different sectors; then the group is split between sectors, with a consolidated balance sheet for the parent and subsidiaries in the same sector and a "portfolio" investment in the subsidiaries which fall into a different sector. As a consequence of this treatment the totals of each type of financial claim will exclude claims between companies of the same group. In particular the total of ordinary shares will exclude the shares of a subsidiary company held by its parent, but the total will include shares of a subsidiary company held by minority interests and also shares held by the parent in a subsidiary which has been allocated to another sector. This is a slightly messy solution but no completely tidy treatment of the complex field of incorporated enterprises is possible. In practical terms the problem is quite small because the transfer of subsidiaries to other sectors can be done only in the most obvious cases—for instance, a deposit bank and its subsidiary operating as a hire purchase finance house; the information is just not available to carry the principle out completely.

Once this primary question of the definition of an economic unit has been decided, the problem of sector classification is not difficult. The general criterion is already determined by our definition of the economic unit as the decision-making unit: a sector should be composed of economic units whose financial and investment decisions are based on reasonably homogeneous considerations. The revised SNA system of classification was available long after I had already decided my own sector classification, but I have few quarrels with it. The only two points which need comment are the proposed treatment of unincorporated business and non-profit organizations and the boundaries between the public sector and financial institutions.

There can be no doubt that the desire shown in the revised SNA to have a clean sector for households is a sensible one. Indeed, it might have been taken further by showing private trusts as a separate sub-sector wherever the necessary information was available. I have managed to separate non-profit organizations completely, although the revised SNA does no more than recommend this separation as a subject for further study, but I have not been able to follow the recommendation to treat major unincorporated businesses as either financial or non-financial enterprises. The difficulty is purely the lack of adequate information, because it is a very desirable treatment, and the criterion for choosing the enterprises to be kept separate—that they should have balance sheets distinct from those of the households of which the owners are members—is a useful and workable one. The main reason for my difficulty is a pure technicality. As I

shall explain later, I have had to rely to some extent on grossing up estate duty statistics for my personal sector balance sheet. Estate duty is levied on the estates of individuals, and in many cases the interests of partners in partnership assets are limited, so that the net worth of the partnership as a whole is greater than the sum of the individual interests of the partners. In these cases the estate duty statistics show only a sum under the heading of "interest in partnership" without specifying the assets of the partnership. Unfortunately these cases are particularly common among partnerships in financial business. All that I have managed to do so far is to obtain separate information on the assets and liabilities of Lloyd's underwriters for inclusion under the insurance sector and to collate a certain amount of information to show a partial balance sheet of other unincorporated business. In Britain the provision of separate balance sheets for unincorporated enterprises will probably be a difficult nut to crack, but it is a task well worth attempting.

There seems to be some muddle in the classification of agencies of the central government proposed in the revised SNA. I do not feel very strongly either way about the proposal to include the currency issuing functions of central government in the financial institutions sector. I have not done so in my tables, but the transfer could be made easily enough with a simple accounting entry. But I cannot see why the revised SNA should advocate a different treatment for savings banks. In fact it proposes that only "private savings banks and government savings institutions the funds of which do not flow directly and automatically into government balances or special issues of public debt" should be classified as financial institutions. The important thing seems to be that savings bank deposits of all kinds are similar in the eyes of the holder, and this should be sufficient to keep all types of savings banks in one sector or sub-sector. The argument about their contribution to government finance applies with equal force to the issue of currency, and here the revised SNA comes down on the other side. I have not segregated the social security funds as recommended in the revised SNA; this seems a point of indifference under British conditions.

I have put public corporations into a separate sector, whereas the revised SNA groups them with "non-financial enterprises, corporate and quasi-corporate". This again does not raise any particular issue of principle. In Britain an institution is either publicly-owned or it is not, but in other countries I believe that there may be so many different degrees of public control that the proposed treatment is inevitable. But I should like to emphasize the importance of being able to group all public agencies together into a combined public sector. Certainly in Britain the whole public sector has some of the features of a single economic unit: its investment decisions are centrally determined, and the various agencies have only limited financial autonomy; the central government is the largest single financial institution in the economy. The other main feature of the public sector as a whole is that it can issue only two types of claim—non-interest-bearing (currency) and fixed-interest. For purposes of building the sort of models described in Stone's paper [8] there is some simplification if we treat the public sector as one unit, and I hope that the possibility of achieving this grouping will never be lost.

My last point on classification concerns the number of sectors with which one should operate. Obviously this is a point of presentation rather than of principle. I have chosen to operate with 14 distinct sectors as well as very many sub-sectors, all of which will have separate balance sheets. Out of my 14 sectors no fewer than seven are different types of financial institution. If one splits financial institutions into only one or two sectors, the structure of the financial system is not clearly seen in the one-page national balance sheet table. I regard this one-page table as a very important statistical document, and I think that it should contain sector columns for each of the main types of financial institution.

#### *4. Classification of tangible assets and financial claims*

There is only one point which I need to make. The general scheme is that financial assets should include only those items which figure as liabilities of another economic unit, and this seems quite correct. But there seems to be one omission from the list of claims—claims for future pensions from unfunded pension schemes. In Britain a large part of the public service pension arrangements are unfunded. By including as an asset of persons claims on funded pension schemes we are implying that the prospect of a future pension affects their economic behaviour; this is equally true for the prospect of a pension from an unfunded scheme, and I think that we should make some calculation, however imperfect, of the actuarial value of future pensions of this type. I have done this for most unfunded pension schemes, but I must confess that I have so far excluded social security retirement pensions, although I feel that they should probably be added in. As with the treatment of savings banks the main argument rests on the nature of the claim as an asset.

#### *5. Principles of valuation*

The revised SNA and my balance sheets value both assets and liabilities at market value. In practical terms this general formula is interpreted for different types of tangible asset and financial claim in different ways. (1) Reproducible tangible assets are valued at written-down replacement cost. (2) Land is carried at market value. (3) Inventories are taken at book value as a close enough approximation to market value. (4) Money and other assets which can be turned into fixed money value with little or no delay are carried at nominal or face value. (5) Bonds and ordinary shares (equities) are valued at market value. (6) Policies and other claims on life and pension funds are valued at the actuarial reserves held against them.

Any system of valuation must be established on some definite criteria, and I think that the criteria behind this scheme are three in number, of which the first is the most important. (1) Because the main justification for including balance sheets in a set of integrated accounts is that they are essential for explaining economic decisions, it follows that the valuations must be those which are decisive in influencing economic decisions. (2) They must be valuations which reflect the worth of an economic unit as a going concern: there can be no question of using valuations derived from a second-hand market. (3) Social accounting

conventions require that each type of asset should be valued identically no matter who holds it and that each type of liability should be valued identically no matter who owes it. Many people would add a fourth criterion—that the same claims should be valued identically as assets and as liabilities. Although this practice has been adopted, I shall explain later why I do not regard this as a necessary criterion for a system of valuation.

The fact that the revised SNA is in accord with the valuations adopted by both Goldsmith and myself does not mean that there is complete agreement on the method of valuation to be used in national balance sheets. Past workers in this field have all used systems which differ in many important respects from the present one, and there are many advocates of alternative systems who do not regard the debate as closed by the Expert Committee's recommendations. For the sake of simplifying the issues I shall assume it to be generally agreed that financial claims held as assets should be valued at market value. (I have recently seen the suggestion that the assets of financial institutions should be taken at book values while the assets of other sectors should be taken at market values; as no justification was given for this particular monstrosity, I shall ignore it.) What is at issue is the valuation of reproducible tangible assets and of liabilities, and in both cases the alternative systems would take the values put on these in the conventional accounts of economic units—book values. The arguments in the two cases are necessarily different because book value has different meanings for assets and liabilities.

Even if they were always computed in a fixed way, book values of assets would be conceptually non-additive because they are an accidental mixture of costs expressed in a number of different price levels. In practice book values are not even just original costs less depreciation; they are distorted by varying treatment of capital gains and losses on realization, by periodic revaluations and by writing down which often goes far beyond the normal meaning of depreciation. The argument for the use of book values in valuing reproducible tangible assets, as advocated, for example by Dorrance [4], rests mainly on the fact that enterprises appear to compute no other values for their fixed assets. Perhaps the simplest answer is to point to the economic history of the past two decades, which is littered with examples of enterprises which continued to take book values as meaningful—until they were taken over by other enterprises with a more realistic view of current values.

Book values certainly have no meaning for social accounting purposes, but we must beware of asserting that written-down replacement cost is the value which economic units really have in mind or even that it is equivalent to market value. I think we must admit in all humility that we just do not have a theory to tell us the valuation which economic units use when making their decisions. It may well be market value, but it is more likely to be some concept of normal or long-term market value than the market value that happens to result from the prices of one particular day in the year. All that we are asserting by using market values in our balance sheets is that they are likely to be nearer the values used for decision than any other set of values which are common to all holders of a particular type of asset. Equally written-down replacement cost is only an

approximation to market value, a way of overcoming the problem that there is no real market for the assets of enterprises as going concerns. Straightline or reducing balance depreciation can be only an approximation to the depreciation curve appropriate for computing market values, and written-down replacement cost is only an approximation to market value which is to be used when no direct way of measuring market value is open.

When we are dealing with liabilities, book values are nearly always the same as nominal or face values, and the argument advanced by Dorrance [4] and others is that the market value of a liability is irrelevant because the debtor is concerned with the ultimate redemption value. The case here is somewhat stronger than that for taking book values of fixed assets because the nominal value of a liability is at least a meaningful quantity. But the method is open to the fatal objection that it equates debts of different maturities. It is just not plausible to assume that debtors react in the same way to debts due tomorrow and debts due ten years hence. Market value is used because it is an approximation to the discounted value of the debt, using the current rate of interest for discounting. Once again market value is only the nearest practicable value that we can use. It cannot be exactly the value which the debtor has in mind because market value incorporates an assessment of marketability and of the risk of default which is appropriate only for the asset holder; it contains an unstated and unascertainable provision, which is not a liability of any other economic unit. But market value is greatly to be preferred to nominal value because its use lays stress on the very important factor of maturity of the debt.

Most of those who press for liabilities to be carried at nominal value assume that the main argument for the use of market values is the need in social accounting to value assets and the corresponding liabilities identically so that national balance sheets consolidate to a statement of national wealth. This is the fourth criterion for a valuation system which I mentioned above and rejected as a necessary condition. Certainly this argument was not decisive with the Expert Group, as [10, para. 26, p. 102] demonstrates. If it could be shown that nominal values, that is the ultimate redemption values, were the ones which influenced decisions, there would be a strong case for using them, leaving the consolidation requirement to be met by an accounting entry. Market values have been preferred for the valuation of liabilities because they seem to be the closest practicable approximation to the values which are likely to guide debtors in their decisions.

## 6. *Net worth*

Once it has been decided what is to be valued and how it is to be valued, the definition of net worth is determined. There are three features of the revised SNA and of my balance sheets which determine the definition of net worth. (1) No claim is treated as an asset unless it is also a liability of another economic unit, and *vice versa*. (2) Both assets and liabilities are valued at market values. (3) The share capital of companies is treated as a definite liability. The definition of net worth which results from these features is a perfectly logical one, but it is worth making it explicit.

We have already decided that our touchstone for deciding questions of valuation and classification is the need to explain the economic decisions of economic units, and hence we want each sector's balance sheet to show only what economic units in that sector would count as part of their wealth, valued in the way most meaningful for explaining their economic decisions. For each sector we therefore quite naturally count in assets the values of which can be appropriated by sales and the discounted value of definite promises of future payment; liabilities are definite obligations to other economic units. Thus the personal sector balance sheet is the combined summary of all the balance sheets of individual households and unincorporated businesses, and there can be no question of imputing to persons as a whole values which individual households and unincorporated businesses cannot appropriate. The net worth of non-profit bodies stays in the non-profit sector, and we make no attempt to impute it to persons as a collective whole any more than we should impute to them the negative net worth of central government. The net worth of a sector is thus the sum total of its assets less values which can be appropriated by other economic units.

This definition of net worth stems directly from the desire to explain economic behaviour, and most people will probably find it acceptable for sectors other than those containing companies. A definition of the net worth of companies which involves deducting the market value of their share liabilities is not, it must be admitted, particularly useful in explaining the economic behaviour of companies. Here I think that the argument rests entirely on convenience. For balance sheets taken alone it would probably be better not to regard share capital as a liability. In a system of integrated accounts, however, a place must be found in the financial transactions accounts for new share capital raised, and it is convenient to have a slot in the balance sheets to tie in with this entry.<sup>1</sup>

## 7. *Some problems of valuation*

In this section I want to deal with three specific problems of valuation which seem to pose difficulties in national balance sheet work. These are: (a) the valuation of unquoted securities, (b) the treatment of land and buildings and (c) the valuation of the net foreign balance. The last two raise the question of reconciling the needs of a system of flow accounts with the needs of balance sheets.

### (a) UNQUOTED SECURITIES

As a general principle it seems quite correct to treat securities which have no quoted price on a stock exchange analogously to quoted securities. Dorrance

1. In later work I have followed a suggestion made by Professor Stone and introduced a concept of "total equity", which consists of two items, share capital at market value and a residual net worth. It follows that we can define the total equity of a sector as the aggregate value of assets owned by economic units within the sector *less* values which can be appropriated by their creditors. Net worth is then the aggregate value of assets *less* values which can be appropriated by either creditors or shareholders.

[4, p. 457] argues that there can be no market value for non-marketable securities and that they should be recorded at the values placed on them in holders' books, even though this means accepting a mixture of nominal value, cost and "directors' valuation". I do not think that this is good enough for the unquoted securities issued by companies, particularly for ordinary shares. Unless some attempt is made to impose a uniform valuation on these items, there is no check of sector holdings against an independently computed total in issue; for these securities I have managed to reduce all holdings very roughly to market value. In general there is no problem other than a purely statistical one with securities which are issued in homogeneous blocks.

The conceptual problems begin with the next stage of unquoted securities, those in which the actual terms of issue are a matter for bilateral bargaining between borrower and lender. Many of the securities included under the heading of "mortgages and loans" come into this category. They often contain provisions for alteration of the interest rate under certain conditions and for early redemption if the lender is in distress. For these, knowledge of the coupon and the nominal redemption date is insufficient for valuation. If the lender can obtain early redemption or if he can alter the coupon under certain conditions, then nominal value is probably the correct valuation. I can see no way of sorting out the mass of mortgages and loans so that a meaningful "market value" can be placed upon them, and I have carried them all at nominal value. The problem is complicated by the fact that, while most holders carry them in their books at nominal value, some of the more sophisticated holders, such as insurance companies, do occasionally revalue them in their book to bring values more into line with those appropriate for the ruling rate of interest.

#### (b) LAND AND BUILDINGS

The treatment of land and buildings raises rather weightier issues. The revised SNA provides for the separation of land, carried at market values, from the buildings erected on it, which are treated as all other reproducible tangible assets and valued at written-down replacement cost. The reason for this treatment is obvious in the context of flow accounts—buildings are a result of capital formation, whereas land is not. But in balance sheets there are two serious difficulties in following this treatment.

There is no great problem in working out the value of agricultural and forest land from statistics of acreages and auction prices, although inevitably some farm buildings get included in the total. As I shall explain later my method of valuing other land and buildings is to compute a market value for the two elements taken together, and this is the only way in which it can be done because the market does not distinguish between the value of buildings and the value of the land underlying them. In principle I could then separate land and buildings by deducting the replacement cost of buildings from the market value of land and buildings. The results of this piece of arithmetic are shown in Table 1, and they are not very impressive. The value of land certainly did not rise 3.4 times between 1957 and 1961; even the price of large building plots sold with planning

permission rose only about 100 per cent. The trouble is that the market prices of land and buildings rose by about 20 per cent over the period, while the construction cost index which enters into the replacement cost estimates rose much more slowly. The two methods of valuation are incompatible.

TABLE 1  
RESIDUAL CALCULATION OF THE VALUE OF LAND  
£ million

	1957	1958	1959	1960	1961
A. Market value of land and buildings	35.8	37.9	40.7	45.5	50.9
B. Net replacement cost of buildings	31.4	32.3	33.3	34.5	36.0
C. Implicit value of land (A-B)	4.4	5.6	7.4	11.0	14.9

NOTES: (1) A excludes agricultural and forest land awaiting development.  
(2) Both A and B include works and uncompleted buildings.

For land and buildings taken together we can make some estimates, admittedly very imperfect, of market value, and I think we should use them.

There is also a further reason for taking land and buildings together in balance sheets. As soon as we consider sector ownership of land and buildings, it is impossible conceptually to separate the two elements. Separation is possible only if occupation and ownership go together, whereas in practice the ownership of real property is a mass of complex interests, expressed in leases which are closely akin to financial claims. Although some of these leases are called "ground leases", their value bears no relationship to the value of land because they are fixed-interest securities, usually entered into for a long term. If we want to value sector interests in real property consistently for all sectors, we must treat land and buildings together.

We thus end up with a conflict between the needs of the flow statistics, which must distinguish capital formation in buildings and works from inter-sector transfers of land, and the needs of balance sheets. I cannot claim to have any bright ideas on the best method of reconciling these two needs, unless the reconciliation can be made by an adjustment entry in the revaluation tables of the revised SNA.

#### (c) NET FOREIGN BALANCE

In flow statistics it is customary, and no doubt correct, to regard all foreign-owned enterprises operating in the country as national enterprises and to treat direct investment in both directions as a financial entry. This treatment cannot be continued for balance sheets. To accumulate the flows of direct investment over the years would be equivalent to valuing the net foreign balance at book value, and this we must regard as anathema. But in order to revalue the assets and liabilities of foreigners in our country and the assets and liabilities of our nationals in other countries, we must know their nature.

I have carried this to its logical conclusion by compiling balance sheets for foreign-owned enterprises within each national sector (non-financial companies, banks and insurance companies are the main sectors concerned), and treated these balance sheets as sub-sector balance sheets of the external sector. In balance sheets we are much less concerned with the fact that these foreign-owned enterprises generate incomes in our country than we are with the external financial implications of foreign ownership, and this seems a reasonable treatment. All the different assets and liabilities of British-owned enterprises have been split into home and overseas, and the overseas items have been revalued in social accounting terms in the same way as home items. There is, of course, no other way of proceeding when one is operating with consolidated group accounts of U.K.-registered companies. This treatment has involved showing physical assets owned by British economic units but located abroad as liabilities of the external sector.

The conflict between the needs of the flow statistics and of balance sheets in this case is not a very serious one; in fact it resolves itself to a question of presentation. It would be quite possible for me to present a single entry for the value of direct investment by British enterprises abroad and another entry for the value of direct investment by foreign enterprises in Britain. The point is that in order to value this direct investment correctly separate balance sheets must be compiled; having compiled them, I have preferred to spell out the detail by showing both the tangible assets and the financial claims involved in direct investment.

There is, however, a further side to this problem. Because of the treatment of direct investment in the flow accounts the statistics which are collected to measure direct investment are in a form which is of little use for national balance sheets. In Britain we had a comprehensive census of the book value in 1962 of British-owned enterprises abroad and of foreign-owned enterprises in Britain, and this provides a useful benchmark. Unfortunately it failed to include local long-term borrowing. It is the flow statistics which present the real difficulty because they are in such a form that it is impossible to "move" the census balance sheets to other years. I do not want to spell out all the changes which are necessary, but just to indicate that there is a problem which must be solved before balance sheets can be produced accurately.

This may not be a great problem for many countries, but it is important for Britain. Around 15 per cent of the net fixed assets of British companies in manufacturing and distribution are located abroad, and about 8 per cent of the net United Kingdom fixed assets of companies in manufacturing and distribution operating in the United Kingdom are owned by foreign enterprises. Among the financial items, such as cash, bank loans and trade credit, of the consolidated group accounts of large British non-financial companies with a stock exchange quotation proportions of between 15 and 30 per cent for the overseas element are the general order of magnitude. Since we have to use these consolidated group accounts as raw material, we need as much help as possible in estimating the overseas element, not only for its own sake, but also to get correct figures for the United Kingdom element.

## B. STATISTICAL SOURCES AND METHODS

### 8. *Background*

The United Kingdom is reasonably well served with the statistical raw material necessary for compiling national balance sheets. The laws requiring publication of accounts are fairly strict in most instances although there remain many irritating loopholes; and the attitude of most organizations towards academic enquirers has improved greatly over recent years. Much of the credit for this improved climate must be given to the official statisticians, whose work since the publication of the Radcliffe Report [2] in 1959 has not only resulted in a most impressive body of financial statistics but has also accustomed industry and finance to the idea of having statistics published.

My own work came at a rather awkward time in many ways. Soon after I began working in this field, the pioneer balance sheet estimates for 1953 to 1955 produced by Morgan [6] and the Radcliffe Report [2], with its body of financial statistics going up to 1958, were published. The new official financial statistics did not really get under way until 1961, and for many of the financial sectors I had good statistics for the end of the period but little for the beginning. My reaction has been to concentrate my attention on those numerous elements of national balance sheets which are not covered by official statistics rather than to dig back into the past for the missing years of the official statistics.

There is always a great difference between producing social accounts as a "one-off" job and producing a continuing series year by year. The private investigator who starts work in a new field has to tackle all the most important problems before he can produce anything. Many of my investigations served only to show that a particular problem was unimportant or provided information about small items which will serve for some years to come. I have certainly not solved all the problems, but I am convinced that there are no insuperable problems in producing national balance sheets for the United Kingdom annually, although there will inevitably be a greater delay in publication than with flow statistics.

In this section I want to concentrate on general statistical problems which are likely to find a reflection in most countries, and to ignore problems which are peculiar to Britain. I shall probably not succeed entirely in doing this because I do not know what the problems in other countries are likely to be. I shall deal with four specific topics: (1) the use of published accounts of economic units, (2) the valuation of tangible assets, (3) the use of estate duty statistics and (4) the use of information derived from the registers of holders of different types of securities.

### 9. *Published accounts of economic units*

The basic raw material of national balance sheets is obviously the accounts drawn up by economic units. In this study accounts were available for all sectors except persons (including unincorporated business) and external. Households do not draw up balance sheets, and we have had to use the sample of household balance sheets provided by the estate duty statistics as a substitute. In principle

there is no difficulty in obtaining balance sheets for those large unincorporated businesses which produce them in a form separate from the household accounts; the difficulty is only the scale of the exercise needed to obtain them. With the external sector we have balance sheets for foreign-owned enterprises operating in the United Kingdom (at least for the overwhelming majority which operate as U.K.-registered subsidiary companies), but the rest of the external sector is composed of small parts of the balance sheets of economic units resident overseas; we certainly cannot get complete information on the external sector from published accounts, and we inevitably end up by piecing the picture together from what fragments are available.

The balance sheets of all or some of the economic units within sectors are often summarized in official statistics. Where they are not, the collection of summarized information from individual economic units is time-consuming but no more. In practical terms the real problem is usually to find a suitable sampling frame for the population of a sector.

I do not want to dwell on the problems arising from the differences between social accounting and conventional accounting. The two main problems are (1) differences in valuation and (2) incomplete classification of items in published accounts, of which the failure to separate out overseas items from home items is the most serious in the context of Britain. These problems are dealt with either by bringing in information derived from sources other than the accounts of economic units or by statistical detective work; they may tax our ingenuity, but they are neither intrinsically difficult nor particularly interesting.

There is one particular point on which I have collected a certain amount of information that may be of general interest. This is the problem presented by the differing accounting dates of economic units. For many sectors in Britain economic units nearly all present accounts as at 31 December, either by law or by custom, and for sectors consisting of a large number of small units with different accounting years it is probably not worth attempting to correct the figures. Where the units are large, accounting figures for 31 December for those items which can fluctuate most, broadly current assets and current liabilities, must be collected. The biggest unit in Britain with an accounting date other than 31 December is central government, but we were fortunate in being supplied from official sources with the main figures for 31 December. The other sector with large units is that of non-financial companies, and we made a special study by asking a sample of the larger companies to provide quarterly accounting figures for a period of twelve quarters. The response rate was predictably low because many companies do not produce quarterly consolidated figures, but the predominantly large companies which did respond accounted for 25 per cent of the total net assets of all companies in manufacturing and distribution which had a stock exchange quotation. Table 2 shows two measures of fluctuation for a few of the more important items: (1) the ratio of the average quarterly figures during the companies' financial years to the figures at the balance sheet dates and (2) the ratio of 31 December figures to the figures at the companies' balance sheet dates (giving a ratio of 1.0 for those companies with 31 December balance sheets).

TABLE 2  
MEASURES OF FLUCTUATION OF ITEMS IN COMPANY BALANCE SHEETS

	Ratios of amounts at different dates			
	Average of quarterly figures in financial year to balance sheet date		31 December to balance sheet date	
	1958	1959	1958	1959
Cash	.86	.94	.99	1.04
Inventories	1.00	1.01	1.00	1.01
Debtors	1.03	1.02	1.03	1.03
Bank overdrafts	1.28	1.31	1.23	1.06
Creditors	.97	.96	.97	1.00

It is not necessary to comment on these figures in detail, but my general impression is that the problem of differing accounting dates is not nearly so serious as it has been made out to be. It is clear that these companies did attempt to secure payment of sums owing to them at the balance sheet date and were slightly more dilatory in paying what they owed. They were concerned to reduce bank borrowing and to boost cash at the balance sheet date. Where one might have expected seasonal influences to be important, with inventories, there was hardly any fluctuation. I am not suggesting that similar results would necessarily be obtained in other countries, because many of the possibilities of "window dressing" are removed by the requirement of British company law for the presentation of consolidated group accounts.

#### 10. *Valuation of tangible assets*

Published accounts are least useful for deriving figures of the market value of tangible assets. On occasion adjusted book value figures have to be used as rough approximations to market value when one is dealing with relatively small figures in the balance sheets of sub-sectors, but the main information on tangible assets must come from other sources.

For reproducible tangible assets the other source is likely to be a perpetual inventory calculation based on estimates of capital formation in different types of assets. I was most fortunate in having ready-made figures provided for me, as Dean kindly gave me estimates of the sector distribution of the net stock of assets based on his work reported in [3]. As his latest study has largely removed the great differences that existed between the estimates of Redfern [7] and Barna [1], this was an eminently satisfactory arrangement. Not having worked in this field, I have little comment to offer on it, but I think it is worth making an appeal to our colleagues who work on capital formation to bear the interests of the compilers of balance sheets in mind. Most of the estimates of capital stock which are produced are of the gross stock divided into industrial sectors or into type of asset. Our need is for net stock figures divided into institutional sectors.

It is a waste of resources to have separate studies to provide figures for national balance sheets, and it is reasonable to ask that those who till this particular field in the future should try to produce the sort of figures that we need as well as those in which they are mainly interested.

There are two other possibilities for providing replacement cost estimates for reproducible tangible assets—fire insurance values and revaluations made by economic units themselves. The study which Barna [1] made of the replacement cost of assets from fire insurance values was limited to manufacturing industry, and I think that it would be difficult to extend this method over the whole economy. Many of the larger economic units bear the risk of fire without insuring, and many small units, particularly households, are either not insured or are greatly under-insured. The method is very useful as a check on perpetual inventory estimates, but it is not comprehensive enough in coverage to use on its own. Many economic units publish or are willing to make available the results of professional revaluations of their fixed assets. I found the great difficulty was that of interpreting the results. In comparing what were apparently similar revaluations it was apparent that the valuers often had quite different definitions of current value in mind and were making valuations for different purposes. There was no other method available for arriving at the market value of the property portfolios of property companies, which revalue far more regularly than most other concerns, but otherwise the method was not used.

I have already dealt with the conceptual and practical problems of estimating market value of land to go alongside the replacement cost of buildings, and I have indicated that I preferred to work with a market value for land and buildings taken together. The method that was used was a variant of the capitalization of income, which is always open as a possible, though not particularly useful, method of valuing items in balance sheets. The basis of local taxation in Britain is the rateable value of property, which is the notional rent payable by a yearly tenant. Although a great deal of work had to be done deriving realistic estimates of actual market rents from these notional rents, rateable values have two great attractions for valuing real property: (1) the exemptions from assessment under local taxation are few and relatively unimportant and (2) the administration of local taxation gives rise to detailed statistics of nearly all the real property in the economy, with a fine classification by uses.

Although rateable values are far from ideal as a basis for the valuation of real property, these two attractions were absent from any alternative source. I imagine that in any economy the ownership of real property is so complex that reliable figures for the value of sector interests in real property will be among the most difficult to obtain. There is a lack of comprehensive statistics of ownership and of the market prices of real property which makes capitalization of rateable values and the splitting of total capital values into sectors of ownership very difficult. One fortunate advantage of the rateable value statistics is that their classification of properties by use is fine enough to isolate many types of property of which the occupiers could be presumed to be also the freeholders (buildings occupied by local authorities, universities, schools and hospitals are examples).

In valuing the property interests of other sectors practically all the conceivable methods were used according to the information available—capitalization of actual rents received, crude perpetual inventories of book values and the results of professional revaluations.

### 11. *Estate duty statistics*

Households and to some extent unincorporated businesses are bound to be a particular problem in the compilation of balance sheets in any country because they do not keep accounts. There are three possible ways of dealing with this problem: (1) using data derived from the taxation of either income or wealth, (2) relying on the results of sample surveys of household finances, and (3) treating the personal sector as a residual. In practice one will almost always use elements of all three methods, but I tried to limit the use of method (3) to those cases where it was clearly safe (for assets of which non-personal holdings are small and can be computed with a fair degree of accuracy). The obvious danger with the residual method is that it attributes to the personal sector errors and omissions in the estimates for all other sectors, and under British conditions there was the added danger of mixing the personal and external sectors. Method (2) is generally accepted as unreliable for this purpose, and so we are left with a great emphasis on method (1). Income tax data are not available for our purpose in Britain; we do not have an annual wealth tax, but we do have death duties, or rather estate duty. The great attraction of the use of estate duty statistics is that they do in principle provide complete balance sheets of households and unincorporated businesses. I spent a considerable amount of time over the use of estate duty statistics, and I want to deal very briefly with the general problems.

The principles involved in the use of the estates of those who die in a year as a sample of the wealth of the living have been well discussed in the literature, and the method has been used for the past fifty years in Britain. In recent years it has become possible to use the method for the estimation of the whole personal sector balance sheet because samples of estates below the exemption limit have been included in the statistics and because we have a breakdown of the assets and liabilities of estates according to sex and age at death. All this material is presented annually in [9], together with the Inland Revenue's own estimate of the personal sector balance sheet derived from it.

The literature is also full of discussions on many of the problems involved in using estate duty statistics—the effects of duty avoidance and of gifts *inter vivos*, for example. Two problems which are always coming up I coped with by doing my own statistical studies. From the mortality data compiled by life offices I was able to derive a set of mortality multipliers appropriate to those in the middle and upper reaches of the wealth scale, and I was able to make some direct estimates of the amounts involved in various types of property exempt from estate duty. There are two remaining problems which probably have no solution, and it is these which I want to discuss here.

The use of estate duty statistics is merely an application of sampling theory,

and we must expect grossed-up estimates of personal wealth to have sampling errors. These errors are large for two reasons: (1) the estates are split into about fifty different asset and liability headings and (2) the distribution of personal wealth is highly skew. My favourite example of the effects of (2) is that of the man aged 40 or thereabouts who died with an estate of over £3 million, consisting almost entirely of unquoted company securities; the normal process of grossing-up resulted in adding no less than £1.8 billion to our estimate of unquoted company securities in personal hands just because of this one man. This is an extreme example, but it indicates the dangers of relying too heavily on the estate duty statistics.

The other problem is that of the distortions in personal balance sheets produced by what I can only call technicalities of the administration of estate duty. This sort of problem is always present whenever one uses tax data. One example will suffice. All but a small minority of life policies are owned by persons, and one would expect the estate duty statistics to give a reliable picture of the total amount of this asset held by persons although it will naturally do so at the value of the sums assured (face values). In fact the grossed-up estimate of life policies is less than the total actuarial value of the life funds of life offices. There are at least a dozen contributory factors in this particular discrepancy, but one of the most important is the insuring of debts—mainly mortgages on dwellings. Quite logically executors of estates often regard the debt as cleared by the proceeds of the policy and report neither as part of the estate. This practice reacts on our estimate of the total of mortgages on residential property, the grossed-up estimate of which from the estate duty statistics is only about 30 per cent of the total known to be in existence.

The more one is able to check estate duty estimates against independent data, the less one wants to rely on them. Unfortunately they are often the only data available for items of personal wealth. For assets which are widely held by persons in the middle wealth ranges they are probably adequate as a means of estimation, although there is always the danger of some unsuspected technicality of the type dealt with above.

## 12. *Register information*

The last source of data which I want to discuss is the record of holders of securities or debtors for certain liabilities. This source can be referred to generally as register information. Once again the great attraction of a register of holders for a particular security is its completeness. However carefully we compile balance sheets from sector information, there is always the danger of missing out some types of holder altogether and the ever-present problem of securing balance sheet entries for the personal and external sectors. In using this source of information we are working across the rows of the national balance sheet, instead of restricting ourselves to estimates of entries down the column.

A certain amount of register information is available regularly as part of the general flow of financial statistics—sector distributions of bank deposits and bank overdrafts, for example—and it is a source which compilers of national

balance sheets will find more and more useful and available as registers are transferred to computer working. A fair amount of time in my study was spent in securing register information for all the important types of security at least once during the period. This involved going through the registers ourselves when these were open to inspection by the public or depending on the generous help of the registrars when they were confidential.

There are two disadvantages in using registers as sources of data: (1) the need for small samples because of the cost of the work and (2) the problem of nominee registration. In a recent survey covering the holders of quoted ordinary shares in 1962 and 1963 I have been able to get round the difficulty caused by nominee registration with the co-operation of all the large nominee companies, which have analysed the beneficial ownership of small samples of ordinary share holdings registered in their names. Until sector analyses of holdings are available as a normal part of the registration procedure, which will become possible with the use of computers, the method is too costly to use regularly. I found it a most useful source of additional information and as a check on other estimates: it was almost the only source available for the estimation of overseas holdings of British securities.

### C. STRUCTURE OF THE NATIONAL BALANCE SHEET OF THE UNITED KINGDOM

#### 13. *Composition and accuracy*

There are two points which should be dealt with before I offer some brief remarks on the structure of the national balance sheet of the United Kingdom and attempt a rough comparison with Goldsmith's figures for the United States.

Firstly, I should make my treatment of the external sector balance sheet clearer than I have done in the remarks on the conceptual and practical problems of valuing the net foreign balance. Table 3 splits the external sector into its three component parts: (1) the contra entry in the external sector for the overseas assets and liabilities of U.K. residents, (2) the assets and liabilities in the U.K. of overseas residents (including overseas governments and international organizations) and (3) the balance sheet as far as it affects the United Kingdom of foreign-owned enterprises (non-financial companies, banks and insurance companies) operating in the United Kingdom. I am certainly not asserting that this is necessarily the best way of presenting the information; indeed I should welcome views on this point.

I mentioned at the beginning that the national balance sheets which are shown in the appendix are very much provisional. There are still many discrepancies which can quite legitimately be removed by re-working some of the estimates, although I shall certainly not get rid of all of them. Before we discuss the structure of the national balance sheets, it would be as well to know how accurate are the figures which appear in these tables. There is one useful check which can often be performed for financial claims—a comparison of the total estimates of sector holdings with a known total in issue. I have carried out this check for a few financial claims in Table 4.

TABLE 3  
COMPOSITION OF EXTERNAL SECTOR BALANCE SHEET 1961  
£ million

	U.K. residents (contra)	Overseas residents	Foreign- owned enterprises in U.K.	External sector
A. Physical assets in U.K.	—	24	2106	2130
B. Physical assets overseas	—	—	—	—
C. Financial assets				
(1) Cash	2274	2333	241	4848
(2) Bills and deposits	42	1271	370	1683
(3) Bonds	125	1729	559	2413
(4) Shares	—	794	141	935
(5) Loans	343	2912	810	4065
(6) Trade debtors	714	—	302	1016
(7) Other debtors	1215	—	45	1260
(8) Life funds	459	—	—	459
<b>Total assets</b>	<b>5172</b>	<b>9063</b>	<b>4574</b>	<b>18809</b>
D. Liabilities				
(1) Physical assets overseas	7359	—	—	7359
(2) Cash including gold	1278	1187	1218	3683
(3) Bills and deposits	399	—	—	399
(4) Bonds	5631	—	94	5725
(5) Shares	—	—	—	—
(6) Loans	1266	2337	91	3694
(7) Trade creditors	1104	—	211	1315
(8) Other creditors	414	—	249	663
(9) Life funds	—	—	238	238
<b>Total liabilities</b>	<b>17451</b>	<b>3524</b>	<b>2101</b>	<b>23076</b>
E. Net worth	-12279	5539	2473	-4267

TABLE 4  
DISCREPANCIES AS PERCENTAGES OF KNOWN TOTALS

Financial claim	1957	1958	1959	1960	1961
Cash in U.K.	-14.3	- 5.1	- 6.5	- 6.2	- 4.0
Bank advances in U.K.	-15.9	- 8.3	- 4.0	+ .6	+ 1.9
Net cash in U.K.	-14.0	- 4.2	- 7.3	- 9.1	- 6.5
Quoted U.K. government	+10.4	+ 4.9	+ 4.9	+ .8	- 3.8
Quoted U.K. local authority	+23.8	+29.3	+20.1	+ 5.1	+ 6.2
Unquoted U.K. local authority	- 1.7	- 4.5	- 2.6	- 2.1	- 3.6
Quoted U.K. debentures	- 3.9	- 2.6	- 4.3	+ 2.0	+ 2.3
Quoted U.K. preference	-28.3	-23.7	-27.0	-19.9	-21.6
Treasury bills	- 6.6	—	- 5.1	-13.1	- 3.0

Note: + indicates that estimated sector holdings exceed known total.

As I have said, some discrepancy on every item is inevitable. We have taken figures for each of 35 sub-sectors from different sources, split omnibus asset headings into our own classification and in most cases converted book

or nominal value figures to market values on very inadequate evidence. Given the complexity of the procedure, discrepancies of up to five per cent of the known total are probably acceptable; between five and ten per cent we ought to be looking for means of improving our estimates, and discrepancies beyond ten per cent are generally unacceptable. The discrepancies in Table 4 come into all three ranges.

I do not propose to comment on these figures in detail, but I think that further work will reveal that the cases of discrepancies of the order of fifteen to twenty per cent of the known total will turn out to be due to bad estimates of personal sector holdings. Estimates derived from estate duty statistics are particularly prone to fluctuate widely from year to year, and the personal sector is often the largest holder, as with preference shares, for example. Fortunately we have some register information to guide us in some of the cases, and it is often preferable to estimate the percentage of personal holdings and apply it for each year.

Although it is quite probably personal holdings of cash and personal sector bank advances which are responsible for the moderate to bad outturn on cash and bank advances, there is another factor here which is worth mention. The known total in both cases has been computed from bank records, whereas the sector figures come from the accounts of economic units, and the two will never give the same answer. This is because banks call all black figures deposits and all red figures advances, and only occasionally set off an overdraft on one account against a plus figure on another account of the same customer. Nearly all large organizations have many bank accounts, and in their published accounts they set off much more than the banks do. This particular discrepancy is really a feature of the British system of giving overdrafts rather than loans. It ought to result in our coming closer to the known total for net cash (cash less advances) than for either item separately; this is true for some but not all of the years in the table. Perhaps we ought really to take comfort from the fact that previous investigations of the distribution of cash holdings in Britain up to Morgan [6] have found it difficult to account for more than about half of the known total of cash.

#### 14. *Comparison of United Kingdom and United States*

The most common single measure of the development of the financial superstructure in an economy is the financial inter-relations ratio (FIR), which is the ratio of the total value of financial assets to the total value of tangible assets. For the United Kingdom, the FIRs for the five years covered by my tables are

1957	1.78
1958	1.88
1959	1.97
1960	1.87
1961	1.81.

The comparable figures for the U.S.A. given in Goldsmith [5, Table 16, p. 80] for 1957 and 1958 are 1.19 and 1.26 respectively. On any international comparisons the United Kingdom comes out with the highest FIR of all countries, followed by Japan with an FIR of around 1.50; the less developed countries and the socialist countries typically have FIRs between .30 and .50.

Although the FIR is useful as a rough indicator of financial development, it can be no more than that since there are many factors which can affect the computed values. (1) Because the value of tangible assets is taken at written-down replacement cost in current prices, the effects of inflation are immediately reflected in that value. By contrast the value of financial claims takes some time to adjust itself to inflation, and inflation has the effect of decreasing the FIR. In fact, under British conditions during this century the FIR acts rather better as an index of inflation than as an index of financial development. In a mild way we can see this reflected in the behaviour of the FIR between 1957 and 1961. (2) The value of the FIR is dependent on the degree of consolidation in the accounts used for the national balance sheets—the problem of the definition of the economic unit to which I referred earlier. (3) The value of the FIR can also be affected by the sectoring adopted in national balance sheets: the fact that I include savings banks which contribute directly to government finance in the financial sector and create an accounting entry to show the government liability necessarily increases the FIR because savings bank deposits are in effect shown twice. Contrariwise, the fact that the figures of outstanding government debt at market value for 31 December each year with which I was supplied from official sources excluded government holdings of its own debt lowers the FIR.

In any comparison between the United Kingdom and the United States the relatively much greater importance of the external sector in the United Kingdom national balance sheet produces complications, and I must confess that I am not clear on the best treatment for the computation of the FIR. In the figures which I gave above I computed the FIR direct from my balance sheets by taking the total of financial assets of all sectors including the external divided by the total of tangible assets located both in the United Kingdom and overseas. I regard this as the most meaningful form of the ratio, but perhaps a more conventional definition would be to take national wealth (tangible assets located in the United Kingdom *plus* the net foreign balance) as the denominator; in that case presumably one would count as financial claims only those claims against domestic sectors held as assets by all domestic sectors and by foreign-owned enterprises operating in the country. I have not calculated these alternative ratios, but I doubt if they would work out greatly different.

In view of the limitations of the FIR there is perhaps more interest in a comparison of the sector breakdown of the main balance sheet components for the two countries. This is given in Table 5.

Without a very great deal of detailed work, for which I have not had time, it would be difficult to ensure exact comparability between the figures for the two countries. Because we operate with different sector detail, I have had to combine some of Goldsmith's sectors and some of mine to show the lowest

TABLE 5  
MAIN BALANCE SHEET COMPONENTS BY SECTORS, U.K. AND U.S.A., 1958  
Percentage shares

		Personal	Non-financial companies	Finance	Public	External	Total
Total assets	U.K.	38	19	17	19	8	100
	U.S.A.	53	21	19	8	—	100
Tangible assets	U.K.	31	37	3	27	2	100
	U.S.A.	56	30	1	13	—	100
Financial assets	U.K.	42	9	25	13	12	100
	U.S.A.	49	13	33	4	—	100
Debt	U.K.	6	8	26	43	17	100
	U.S.A.	16	17	42	24	—	100
Net worth	U.K.	76	33	5	-10	-3	100
	U.S.A.	75	23	3	-2	—	100

Notes: (1) U.S. percentages from Goldsmith [5], Table 1, pp. 43-45.

(2) For both countries personal sector includes households, non-profit, agriculture and unincorporated business.

(3) For the U.K. debt has been adjusted to exclude share capital liabilities, which are included in net worth to conform with Goldsmith's treatment.

common denominator. Even so there are several discrepancies, including a different boundary between the public and financial sectors in the two sets of figures and the omission of the external sector from the American figures. What I have to say is so general, however, that these discrepancies will hardly affect the validity of the remarks.

The main impression to be derived from Table 5 is that the personal sector is much more important in the U.S.A., whereas the public and external sectors have a far greater weight in the U.K. The preponderance of the personal sector in the U.S.A. has several explanations. In the first place the unincorporated business sector is much more important in the U.S.A. Not only is agriculture relatively larger, but small businesses are more likely than in the U.K. to be organized as companies. The second main reason is the different distribution of ownership of the housing stock: in the U.S.A. 93 per cent of the housing stock is owned by persons, whereas the comparable figure for the U.K. is only 65 per cent. The high proportion of total liabilities owed by the personal sector in the U.S.A. reflects the greater share in the ownership of physical assets, and in terms of net worth the personal sector is about the same relative size in the two countries. But the fact remains that the personal sector relies much more on its own savings than any other sector, and its preponderance in the U.S.A. is one of the main reasons for the relatively smaller financial superstructure.

In Britain not only is a large part of the housing stock publicly owned, but so also is an important part of the productive capital, since the nationalized industries are part of the public sector. This fact, coupled with the existence of a large "deadweight" national debt incurred during two wars and not wiped out by inflation, explains the great importance of the public sector. But despite

the proportion of physical assets owned by the public sector, non-financial companies, which own most of the remaining productive capital, are relatively more important in Britain than in the U.S.A.—at least in terms of net worth and the ownership of physical assets.

The last main impression from Table 5 is the relative size of the external sector for the United Kingdom. Goldsmith does not include an external sector in his main scheme, but, even if it were inserted, it would be nowhere near so important as in the U.K.<sup>2</sup> By contrast the financial sectors in the two countries are roughly of the same relative size, and the extent of intervention by financial institutions in the channelling of funds from lenders to borrowers can hardly be an explanation of the larger financial superstructure in Britain. In fact the explanation is a very simple one that has very little to do with the degree of economic development: the ownership of physical assets is so distributed in the United States that relatively less outside finance is needed than in Britain.

### ACKNOWLEDGMENTS

This is not the place for a lengthy list of acknowledgments, but it would be inappropriate not to mention the help of the Director of the Department of Applied Economics and of my colleagues Graham Hockley, John Moyle and Frank Townson, who contributed so much to the study. Without the unstinted help of official statisticians and of executives in all types of business and non-profit organizations we should have been completely lost.

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2. Since this paper was written I have constructed some estimates for the external sector of the national balance sheet of the U.S.A. on the same basis as my own estimates for the U.K. The external sector in the U.S.A. turns out to have just under two per cent of total assets, just over three per cent of financial assets and 4.6 per cent of total debt, with a negligible contribution to the other items of Table 5.

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*Cet article étudie le problème des bilans nationaux compte tenu des propositions faites pour les inclure dans le S.C.N. révisé. L'auteur base la discussion des problèmes soulevés par leur construction sur l'étude qu'il a faite lui-même du bilan national du Royaume-Uni. La plus grande partie de l'article est consacrée aux principes d'évaluations, aux nomenclatures et aux sources statistiques. La dernière partie décrit brièvement la structure du bilan national du Royaume-Uni et la compare à celle du bilan national des Etats-Unis. L'article contient enfin des bilans nationaux provisoires du Royaume-Uni pour chacune des cinq années 1957-1961.*

## APPENDIX

### PROVISIONAL NATIONAL BALANCE SHEETS OF THE UNITED KINGDOM 1957 AND 1961

#### *Notes on sector classification*

1. *Persons*—Households, personal trusts and unincorporated business.
2. *Non-profit*—Friendly societies (except collecting friendly societies), trade unions, housing societies, charities and other non-profit bodies.
3. *Banks*—Includes Banking Department of Bank of England.
4. *Savings banks*—Post Office Savings Bank, ordinary and special investment departments of trustee savings banks, railway savings banks, Birmingham Municipal Bank (both departments).
5. *Insurance*—Includes collecting friendly societies and Lloyd's.
8. *Investment trusts*—Investment trusts with stock exchange quotation and unit trusts.
9. *Other finance*—Hire purchase finance houses, property companies, special investment agencies, other bodies classified by stock exchange as financial trusts.
10. *Non-financial companies*—Includes co-operative societies and marketing boards.
12. *Central government*—Includes Issue Department of Bank of England.
13. *Local authorities*—Defined as for national income statistics.
14. *External*—Includes all foreign-owned enterprises operating in the United Kingdom.

*Notes on classification of assets and liabilities*

C.1 *Cash*—Includes gold.

C.2 *Deposits*—Deposits (and “shares”) of savings banks, building societies, co-operative societies, friendly societies, finance houses, discount houses and charity investment pools.

C.3 *Bills*—Treasury and commercial bills.

C.4 *Unquoted U.K. government*—National savings certificates, defence bonds, premium bonds, tax reserve certificates.

C.5 *Quoted U.K. government*—Central government holdings of its own debt are excluded.

C.17 *Long-term loans*—Includes accounting entries, e.g. liability of central government to savings banks.

C.18 *Trade debtors*—Debt owed to a trading enterprise.

C.20 *Life policies*—Includes claims on funded and unfunded pension schemes and sinking fund policies

*Equivalence of liability and asset headings*

<i>Liability heading</i>	<i>Asset headings</i>
D.1	B
D.2	C.1
D.3	C.2, C.3, C.4
D.4	C.5, C.6, C.7, C.8, C.12, C.13
D.5	C.9, C.10, C.11
D.6	C.14, C.15, C.16, C.17
D.7	C.18
D.8	C.19
D.9	C.20

## PROVISIONAL BALANCE SHEET OF THE UNITED KINGDOM—1957

£ million

31 December

	Persons	Non-profit	Banks	Savings banks	Insurance	Pension funds	Building societies	Investment trusts	Other finance	Non-financial companies	Public corporations	Central government	Local authorities	External	TOTAL	
<b>A. PHYSICAL ASSETS IN U.K.</b>																A
1. Land	1360															1
2. Dwellings	12416	56							220	739	238	137	5189	32	19027	2
3. Other land and buildings	713	713	154	5	471	44	39	5	415	5502	2558	1197	3562	446	15824	3
4. Plant and equipment	1300	30							24	8539	3300	1000	600	561	15354	4
5. Consumer durables	2785														2785	5
6. Stocks	1930	11							5	4704	414	388	52	352	7856	6
<b>B. PHYSICAL ASSETS OVERSEAS</b>	79	25	90		28			6	91	5773	78				6170	B
<b>C. FINANCIAL ASSETS</b>																C
1. Cash	4617	115	1698	19	177	30	58	10	41	1463	27	978	129	3103	12465	1
2. Deposits	5458	45	758		23		1	4	1	274				152	6716	2
3. Bills		4	2637		2		9	1	4	124	1		4	1105	3891	3
4. Unquoted U.K. government	3299	40			2		11		5	350	1			23	3731	4
5. Quoted U.K. government	2854	715	2860	82	1220	702	123	25	18	593	85		90	2164	11531	5
6. Quoted U.K. local authority	254	88	63	17	57	73	8			19	1		3	20	603	6
7. Unquoted U.K. local authority	277	95	115	238	149	65	129	17	4	240	8	3	55	80	1475	7
8. U.K. debentures	160	42			543	165	14	41	19	111			4	42	1141	8
9. U.K. preference	738	19			254	64		6	12	21	36			23	1173	9
10. Quoted U.K. ordinary	5814	186	23		896	373		562	42	488	8	493		488	9373	10
11. Unquoted U.K. ordinary	3577	14			14			40	8	379	51	5		73	4161	11
12. Overseas government	250	46	269		502	65	4	6	3	36	1		4	72	1186	12
13. Overseas company	718	9	40		535	3		402	98	404	15	315		494	2611	13
14. Bank advances			2822												3316	14
15. Instalment credit									314	124	57				495	15
16. House mortgages	600	37	127	5	438	8	1983			13	2		288		3501	16
17. Long-term loans		69	280	2560	376	460	57		112	184	121	8507	95	3068	15889	17
18. Trade debtors	360									4252	339			730	5681	18
19. Other debtors	1759	53		6	411	27	7	8	58	232	38	2078	325	971	5973	19
20. Life policies	9670					3			1	34				272	9980	20
<b>TOTAL ASSETS</b>	60988	2412	11936	2932	6098	2082	2429	1106	1517	34506	7490	15160	10400	14271	173327	
<b>D. LIABILITIES</b>																D
1. Physical assets overseas														6164	6164	1
2. Cash			10144									2275		2479	14898	2
3. Bills and deposits		45	903	2925			2282		99	683	11	7247		324	14508	3
4. Bonds								135	120	1011		10453	1976	3794	17500	4
5. Share capital		2	404		695			745	459	11001					13306	5
6. Loans	4680	73		1			2	3	258	1347	4504	5808	3668	2208	22552	6
7. Trade creditors	530		8							2815	361			892	4606	7
8. Other creditors	438	61			1415	11	26	12	102	2204	181	613	214	469	5746	8
9. Life funds		60		7	4234	2333				21	140	3005		177	9977	9
<b>TOTAL LIABILITIES</b>	5648	241	11459	2933	6344	2344	2310	895	1038	19082	5197	29401	5858	16507	109257	
<b>E. NET WORTH</b>	55340	2171	477	-1	-248	-262	119	211	479	15424	2293	-14241	4542	-2236	64070	E

	Persons	Non-profit	Banks	Savings banks	Insurance	Pension funds	Building societies	Investment trusts	Other finance	Non-financial companies	Public corporations	Central government	Local authorities	External	TOTAL	
<b>A. PHYSICAL ASSETS IN U.K.</b>																A
1. Land	1575											68			1643	1
2. Dwellings	12848	58						239		767	254	146	5388	27	19727	2
3. Other land and buildings	769	741	172	5	555	52	43	461		6045	2679	1249	3688	508	16973	3
4. Plant and equipment	1400	32						38		8904	3500	1100	600	596	16170	4
5. Consumer durables	2963														2963	5
6. Stocks	1955	12						4		4694	447	380	54	375	7921	6
<b>B. PHYSICAL ASSETS OVERSEAS</b>	85	26	98		33			6	104	5981	79				6412	B
<b>C. FINANCIAL ASSETS</b>																C
1. Cash	5251	116	1725	20	190	33	69	10	43	1555	25	1239	138	3447	13861	1
2. Deposits	5654	44	842		29		1	3	7	272				222	7074	2
3. Bills		7	2524		1		21	1	3	198			4	1281	4040	3
4. Unquoted U.K. government	3518	39			2		12		2	362	1			31	3967	4
5. Quoted U.K. government	3416	772	3170	98	1387	780	155	25	21	587	94		85	2110	12700	5
6. Quoted U.K. local authority	297	95	62	22	80	109	9			21	1		4	19	719	6
7. Unquoted U.K. local authority	363	114	150	245	168	70	139	10	10	282	9	2	50	120	1732	7
8. U. K. debentures	189	50			614	205		14	50	22	115		4	43	1306	8
9. U.K. preference	810	20			261	65		6	16	26	36			19	1259	9
10. Quoted U.K. ordinary	8094	311	41		1280	481		837	56	561	8	317		562	12548	10
11. Unquoted U.K. ordinary	3823	19	14		19			40	14	443	51	5		76	4504	11
12. Overseas government	296	49	233	3	520	70	4	7	2	36	1				1225	12
13. Overseas company	940	16	45		685	11		503	111	470	14	364	4	86	3245	13
14. Bank advances			3254											517	3771	14
15. Instalment credit									408	146	64				618	15
16. House mortgages	600	37	145	5	477	8	2138			12	3		316		3741	16
17. Long term loans	1	70	284	2534	407	482	52		136	184	138	9308	77	2867	16540	17
18. Trade debtors	370									4528	338			727	5963	18
19. Other debtors	2324	55		6	444	28	7	9	66	233	38	2138	324	1028	6700	19
20. Life policies	10657					3				33				307	11000	20
<b>TOTAL ASSETS</b>	68198	2683	12759	2938	7152	2397	2650	1477	1791	36362	7895	16316	10736	14968	188322	
<b>D. LIABILITIES</b>																D
1. Physical assets overseas														6406	6406	1
2. Cash			10502									2317		2740	15559	2
3. Bills and deposits		46	1007	2923			2479		137	668		7519		319	15098	3
4. Bonds								142	163	1160	10	12114	2358	4456	20403	4
5. Share capital		7	566		907			1088	783	14442					17793	5
6. Loans	5189	79		1			1	3	325	1441	5272	5587	3735	2257	23890	6
7. Trade creditors	559		10							2929	337			920	4755	7
8. Other creditors	475	64			1506	12	31	14	106	2250	141	617	221	498	5935	8
9. Life funds		62		8	4588	2584				24	142	3400		189	10997	9
<b>TOTAL LIABILITIES</b>	6223	258	12085	2932	7001	2596	2511	1247	1514	22914	5902	31554	6314	17785	120836	
<b>E. NET WORTH</b>	61975	2425	674	6	151	-199	139	230	277	13448	1993	-15238	4422	-2817	67486	E

31 December

## PROVISIONAL BALANCE SHEET OF THE UNITED KINGDOM—1959

£ million

	Persons	Non-profit	Banks	Savings banks	Insurance	Pension funds	Building societies	Investment trusts	Other finance	Non-financial companies	Public corporations	Central government	Local authorities	External	TOTAL	
<b>A. PHYSICAL ASSETS IN U.K.</b>																A
1. Land	1846											77			1923	1
2. Dwellings	13479	60					50	8	281	833	265	149	5649	34	20750	2
3. Other land and buildings	854	771	194	6	644	65			541	6729	2769	1306	3960	591	18488	3
4. Plant and equipment	1500	35							49	9316	3700	1100	600	684	16984	4
5. Consumer durables	3173														3173	5
6. Stocks	2016	13							6	4893	457	370	57	403	8215	6
<b>B. PHYSICAL ASSETS OVERSEAS</b>	91	28	107		43			7	114	6302	59				6751	B
<b>C. FINANCIAL ASSETS</b>																C
1. Cash	5671	117	1900	21	193	36	72	8	68	1582	25	1112	136	3856	14797	1
2. Deposits	6035	45	870		29		1	2	4	277				246	7509	2
3. Bills		7	2570		1	1	17	1	1	174			4	1284	4060	3
4. Unquoted U.K. government	3821	38			2		12		4	321	1			35	4234	4
5. Quoted U.K. government	3351	712	2738	111	1461	869	181	24	21	576	93		79	2121	12337	5
6. Quoted U.K. local authority	298	93	60	25	89	125	8			21	1		5	19	744	6
7. Unquoted U.K. local authority	442	134	145	262	202	79	166	6	24	327	17	2	111	174	2091	7
8. U.K. debentures	191	57			695	248		13	81	24	119		4	49	1481	8
9. U.K. preference	876	23			296	74		6	12	33	38			19	1377	9
10. Quoted U.K. ordinary	12679	539	83		2024	844		1331	80	676	11	345	3	684	19299	10
11. Unquoted U.K. ordinary	4054	27	43		31	1		40	19	546	53	5		78	4897	11
12. Overseas government	280	50	256	6	565	76	3	6	2	37	1		4		1286	12
13. Overseas company	813	21	56		773	23		570	102	545	27	385		103	3416	13
14. Bank advances			4148											704	4852	14
15. Instalment credit									659	199	93				951	15
16. House mortgages	600	36	206	6	515	8	2365			11	2		342		4091	16
17. Long term loans	4	72	337	2609	428	505	51		143	306	138	9942	67	2846	17448	17
18. Trade debtors	380									5121	353			828	6682	18
19. Other debtors	2420	60		6	466	30	8	10	77	229	51	1982	342	1110	6791	19
20. Life policies	11560					3				30				350	11943	20
<b>TOTAL ASSETS</b>	76434	2938	13713	3052	8457	2987	2934	2032	2288	39108	8271	16775	11363	16218	206570	
<b>D. LIABILITIES</b>																D
1. Physical assets overseas														6744	6744	1
2. Cash			11379									2402		2812	16593	2
3. Bills and deposits		49	1077	3033			2749		221	721	9	7880		345	16075	3
4. Bonds								152	239	1295		11762	2763	4700	20920	4
5. Share capital		9	945		1683			1769	1382	21090					26878	5
6. Loans	6193	87		1			9	3	441	1769	5804	5697	3635	2765	26404	6
7. Trade creditors	587		12							3126	357			1059	5141	7
8. Other creditors	490	69			1631	20	32	17	126	2360	146	604	248	539	6282	8
9. Life funds		63		9	5009	2886				28	144	3597		204	11940	9
<b>TOTAL LIABILITIES</b>	7270	277	13413	3043	8323	2906	2790	1941	2409	30389	6460	31942	6646	19158	136977	
<b>E. NET WORTH</b>	69164	2661	300	9	134	81	144	91	-121	8719	1811	-15167	4717	-2950	69593	E

31 December

## PROVISIONAL BALANCE SHEET OF THE UNITED KINGDOM—1960

£ million

	Persons	Non-profit	Banks	Savings banks	Insurance	Pension funds	Building societies	Investment trusts	Other finance	Non-financial companies	Public corporations	Central government	Local authorities	External	TOTAL	
<b>A. PHYSICAL ASSETS IN U.K.</b>																
1. Land	2233											90			2323	A
2. Dwellings	14942	67								868	283	169	6280	25	22990	1
3. Other land and buildings	1014	853	228	7	705	76	58	12	356	717	2957	1398	4306	681	20753	2
4. Plant and equipment	1500	40							105	9758	4000	1200	700	742	18045	3
5. Consumer durables	3563														3563	4
6. Stocks	2112	14							8	5508	446	352	55	481	8977	5
<b>B. PHYSICAL ASSETS OVERSEAS</b>																
	96	30	117		51			5	146	6585	61				7091	B
<b>C. FINANCIAL ASSETS</b>																
1. Cash	5539	156	2090	23	213	42	72	15	67	1495	25	1287	153	4665	15842	C
2. Deposits	6358	46	1001		26			4	7	303				271	8016	1
3. Bills		6	2301		2		16	1	2	173			10	1233	3744	2
4. Unquoted U.K. government	4066	38			1		11		3	345	1			38	4503	3
5. Quoted U.K. government	2658	636	2319	128	1423	829	194	26	24	504	100		62	2124	11027	4
6. Quoted U.K. local authority	223	85	53	20	70	130	8			21	1		6	16	643	5
7. Unquoted U.K. local authority	525	158	181	285	228	91	164	8	19	369	15		79	267	2391	6
8. U.K. debentures	205	60			675	301		14	81	28	107	2	3	48	1522	7
9. U.K. preference	895	22		7	271	77		6	20	38	32			24	1385	8
10. Quoted U.K. ordinary	12577	563	74		2087	1111		1414	92	730	10	261	7	776	19702	9
11. Unquoted U.K. ordinary	4290	25	46		32	1		43	28	668	31	4		89	5257	10
12. Overseas government	232	48	233	8	599	68	2	5	2	36	1		4		1239	11
13. Overseas company	703	23	46		845	14		570	97	603	22	385		114	3422	12
14. Bank advances			5012												6100	13
15. Instalment credit									838	177	98			1088	1113	14
16. House mortgages	600	37	239	6	587	8	2612			10	3		384		4487	15
17. Long term loans	10	74	521	2662	484	531	45		167	489	144	10356	57	2624	18164	16
18. Trade debtors	390									5617	389			941	7337	17
19. Other debtors	2393	65		7	508	38	8	8	106	307	76	2139	357	1190	7202	18
20. Life policies	12529					4			1	27				422	12983	19
<b>TOTAL ASSETS</b>	<b>79653</b>	<b>3046</b>	<b>14461</b>	<b>3156</b>	<b>8807</b>	<b>3321</b>	<b>3192</b>	<b>2121</b>	<b>2886</b>	<b>42400</b>	<b>8802</b>	<b>17644</b>	<b>12463</b>	<b>17859</b>	<b>219821</b>	
<b>D. LIABILITIES</b>																
1. Physical assets overseas														7086	7086	D
2. Cash			11842									2525		3459	17826	1
3. Bills and deposits		50	1139	3141			2952		321	736		8120		329	16788	2
4. Bonds								149	299	1192	8	10942	3046	4645	20281	3
5. Share capital		11	936		1766			1744	1309	20514					26280	4
6. Loans	6835	91		1			46	3	569	2232	6184	5692	3595	3456	23704	5
7. Trade creditors	616		14							3452	399			1203	5684	6
8. Other creditors	527	73			1742	22	39	18	148	2532	166	639	266	521	6843	7
9. Life funds		64		9	5489	3174				28	145	3849		221	12979	8
<b>TOTAL LIABILITIES</b>	<b>7978</b>	<b>289</b>	<b>13931</b>	<b>3151</b>	<b>8997</b>	<b>3196</b>	<b>3037</b>	<b>1914</b>	<b>2646</b>	<b>30736</b>	<b>6902</b>	<b>31767</b>	<b>6907</b>	<b>21020</b>	<b>142471</b>	
<b>E. NET WORTH</b>	<b>71675</b>	<b>2757</b>	<b>530</b>	<b>5</b>	<b>-190</b>	<b>125</b>	<b>155</b>	<b>217</b>	<b>240</b>	<b>11664</b>	<b>1900</b>	<b>-14123</b>	<b>5556</b>	<b>-3161</b>	<b>77350</b>	<b>E</b>

## PROVISIONAL BALANCE SHEET OF THE UNITED KINGDOM—1961

31 December

£ million

	Persons	Non-profit	Banks	Savings banks	Insurance	Pension funds	Building societies	Investment trusts	Other finance	Non-financial companies	Public corporations	Central government	Local authorities	External	TOTAL		
<b>A. PHYSICAL ASSETS IN U.K.</b>																	A
1. Land	2289											91			2380	1	
2. Dwellings	16596	72						401	946	305	184	6964	24	25492	2		
3. Other land and buildings	1220	912	278	8	777	92	66	813	9121	3204	1532	4722	807	23566	3		
4. Plant and equipment	1700	50					14	102	10409	4200	1200	700	791	19152	4		
5. Consumer durables	3952													3952	5		
6. Stocks	2203	15						8	5749	452	363	59	508	9357	6		
<b>B. PHYSICAL ASSETS OVERSEAS</b>																	B
	100	32	139		56			5	166	6792	74				7364		
<b>C. FINANCIAL ASSETS</b>																	C
1. Cash	6461	129	2095	22	219	46	75	19	64	1437	18	1317	164	4848	16914	1	
2. Deposits	6683	48	1093		28			5	9	308				289	8463	2	
3. Bills		6	2537		1	2	4	2	2	165			8	1365	4092	3	
4. Unquoted U.K. government	4169	37			5		16		1	321				29	4574	4	
5. Quoted U.K. government	2662	550	2165	145	1390	775	217	30	29	434	101		60	1890	10448	5	
6. Quoted U.K. local authority	289	75	42		35	61	114			22	1		7	14	668	6	
7. Unquoted U.K. local authority	644	175	214	317	238	99	194	20	15	427	19	2	94	332	2790	7	
8. U.K. debentures	189	59			781	343		15	85	30	38		3	52	1595	8	
9. U.K. preference	826	20			242	79		8	20	45	10			24	1274	9	
10. Quoted U.K. ordinary	13970	642	78		2184	1457		1562	99	791	11	216	8	809	21827	10	
11. Unquoted U.K. ordinary	4282	25	38		33	2		45	28	827	31	4		102	5417	11	
12. Overseas government	281	46	243	11	657	76	3	4	1	35			4		1361	12	
13. Overseas company	1150	32	48		1044	20		730	111	687	33	415		125	4395	13	
14. Bank advances			5261											1127	6388	14	
15. Instalment credit									894	156	96				1146	15	
16. House mortgages	600	39	236	6	662	8	2840			9	3		447		4850	16	
17. Long term loans	16	80	601	2709	537	564	41		171	267	191	10752	48	2938	18915	17	
18. Trade debtors	400									5739	423			1016	7578	18	
19. Other debtors	2384	70		8	563	41	9	12	100	331	87	2404	384	1260	7653	19	
20. Life policies	13535					10			4	23				459	14031	20	
<b>TOTAL ASSETS</b>																	
	86601	3114	15068	3261	9474	3728	3473	2471	3123	45071	9297	18480	13672	18809	235642		
<b>D. LIABILITIES</b>																	D
1. Physical assets overseas														7359	7359	1	
2. Cash			12346									2622		3683	18651	2	
3. Bills and deposits		53	1153	3254			3156		379	835		8040		399	17269	3	
4. Bonds								154	337	1276	6	10869	3517	5725	21884	4	
5. Share capital		12	1209		2552			2265	1579	21145					28762	5	
6. Loans	7199	94		1			92	3	524	2335	6498	6140	3563	3694	30143	6	
7. Trade creditors	643		16							3506	426			1315	5906	7	
8. Other creditors	604	76			1896	31	45	19	151	2654	189	635	290	663	7253	8	
9. Life funds		66		10	6000	3497				39	146	4035		238	14031	9	
<b>TOTAL LIABILITIES</b>																	
	8446	301	14724	3265	10448	3528	3293	2441	2970	31790	7265	32341	7370	23076	151258		
<b>E. NET WORTH</b>																	E
	78155	2813	344	-4	-974	200	180	30	153	13281	2032	-13861	6302	-4267	84384		