

Railway accounts and finance

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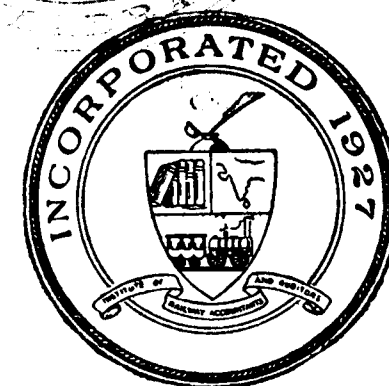
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RAILWAY ACCOUNTS & FINANCE



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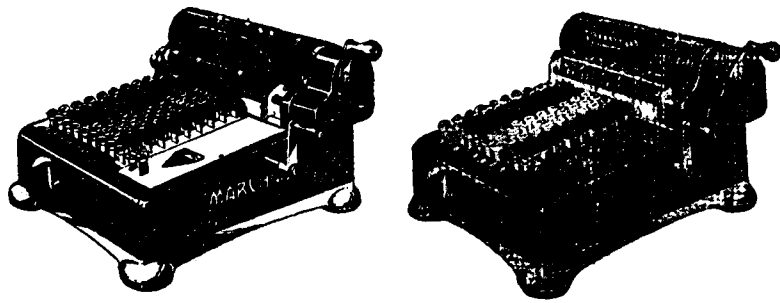
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MECHANIZED METHODS OF BOOK-KEEPING AND ACCOUNTING.

The Accounting profession, as a whole, is fully aware of the unmistakable trend from accounting by manual pen methods to accounting machine methods and is devoting an increasing amount of attention to the possibilities of the various types of machines available and the results obtained from each type. This is evidenced by the amount of space devoted to the subject in the various accountancy journals; by the number of lectures bearing on it and by the many personal enquiries being made of the machine companies.

I do not propose in this lecture to discuss in detail the merits of mechanized accounting as compared with pen and ink methods. This subject was admirably dealt with in a paper by Mr. W. Desborough, published in the *Accountant* on April 28, 1935; which most of you have probably read. I will merely cite here the main advantages claimed for machine methods as summarized in the article mentioned above:—

- (1) Elimination of the error factor to a far greater degree than by hand methods.
- (2) Accurate standards of work can be determined.
- (3) More regular control and better safeguards can be secured.
- (4) Complete detailed, statistical and accounting information is more readily obtained.
- (5) Speed of production of work.
- (6) The work is far more legible and neater.
- (7) Clerical economy.

I believe that if you carefully analyse each of these claims in the light of your present and future experience of accounting methods, you will begin to wonder why we in India have so slow to adopt methods which our principal competitors have been using for many years to a very much larger manufacturing

In order that the changes from one method to another can be most efficiently carried into effect and give the greatest satisfaction to every one concerned, the accountant **should** be in the position to advise his superiors as to the **extent** to which their individual accounting system can be effectively and economically mechanized and as to the types of machines best suited to their requirements. The fundamental accounting principles remain exactly the same under the machine system as under the pen and ink system, but the methods employed are widely different and in order to understand clearly the machine methods used, one requires at least an elementary knowledge of the mechanical devices involved in their specific applications to individual accounting conditions.

The machine companies welcome the interest which is being taken by the professional accountant in mechanization because the active co-operation of the accountant in the preliminary study of the system requirements assures an approach to the subject on as scientific a footing as is possible. The officials of the Company should be satisfied that the results obtained will include not only the ordinary daily and monthly financial figures but also the statistical information necessary for the efficient management of the business **presented** in the form of current facts instead of as past history.

The failure of certain Boards to mechanize efficiently the accounting systems of several concerns in India has, from my own personal observations, been due not to the fault of the machines themselves but to the fact that the salesman of the machine company and the accountant responsible for the installation had not given the matter a sufficient amount of thought in order to plan the work ahead.

It is essential that the Accountant should know the main essentials of mechanization and the basic principles of the various types of machines that can be obtained. I, therefore, propose to classify my talk on the subject under three main headings:

(a) *Fundamentals of constructive Machine Accounting Systems.*

(A) FUNDAMENTALS OF CONSTRUCTIVE MACHINE ACCOUNTING SYSTEMS.

In order that any machine system in factory or office may produce results at maximum efficiency, four basic essentials are necessary:—

1. *That there is an intelligent preliminary planning by the accountant for organization and control in order to obtain a division of labour whereby all work may be classified and operations logically grouped for efficient machine performance.*

The finest machines built may be purchased and put to work, but if the system is not carefully designed they will be a hopeless failure.

The foundations necessary are:—

- (a) Efficient organization.
- (b) Sound accounting policy.
- (c) Standard practice instructions.

(d) Detailed survey of the system and analysis of the routine. All these requirements are present in any system, but under the machine system they become of increased importance.

2. *Full Co-operation on the part of everyone concerned.*

Once the basic plan has been decided upon and approved by the Management, the full responsibility for the working out of the details should be vested in a responsible executive such as the Chief Accountant or Auditor. The fullest possible co-operation on the part of every one concerned from the Management to the machine operators is then of paramount importance and failure in this respect on the part of any individual may lead to trouble for the system.

3. *That the machines selected are the best possible for the work in question and are mechanically sound and properly serviced.*

Machines to-day can be obtained to meet system requirements of practically any type of business. Some manufacturing companies such as ours build every machine in accordance with the specific requirements of their clients.

A modern accounting machine of any make ~~must~~ be considered without a doubt mechanically sound ~~Manufacturing~~.

companies spend enormous sums every year in the technical departments in the improvement of existing machines and in the designing of new features that will increase their mechanical efficiency. I have had from the Chief Accountant of a firm using some 15 of our machines a letter in which he states as follows: "Over a prolonged period of test there has been no single occasion where our percentage of accuracy has fallen below 99.84 per cent." The Ledger posting work of this company involves as many as 60,000 entries in a single day. Postings are made at the rate of 250-300 per hour per machine and the machines are being worked 10-12 hours daily. To obtain practically 100 per cent. accuracy on such volume of work at such speed is obvious proof of the mechanical perfection of the machines.

4. *That the system is intelligently installed and constantly supervised to insure that the results required are being obtained to ease the daily flow of work wherever delays are causing loss of machine time and to be on the alert for possibilities of further machine application.*

Assuming that the foundations of the system are sound and that the equipment selected is the best obtainable for the results required, constant supervision by the Accountant is still necessary. One advantage claimed for machine accounting is that the work can be kept up-to-date. This is no idle claim, for it can be and is being done. It is, however, of paramount importance that the executive in charge of the machine system sees constantly that everything is working out as was originally proposed. Without this constant supervision on his part, sooner or later the system will begin not to give the results expected from it.

Once the system is running smoothly, it will often be found that one or more of the machines may be idle for a part of every day. There is usually then some other job on hand being done by the manual system that can be put on to the machine. Such opportunities must be watched for and used.

(B) THE MAIN CLASSES OF MECHANICAL ACCOUNTING EQUIPMENT AND THEIR CHARACTERISTICS.

The main classes of accounting machines in general use can be grouped roughly into four main headings.

These are as follows:—

1. *The typewriter or the keyboard machine with key tabulated carriage and register accumulation;*

Machines in this class are fundamentally typewriters with vertical adding and subtracting "boxes" or "registers" attached to the machines and connected mechanically with the typewriter numeral keys so that the depression of these keys actuates the mechanism in the registers. For work requiring cross addition or balance, these machines are also fitted with additional registers known as "cross-footers" which are connected with the vertical register so that all amounts added to or subtracted from these may be transferred into the cross-footers, the resulting total or balance being shown in a "dial" or window in the cross-footer. All balances and totals in this type of machine must be manually transferred and printed by the operator at the completion of his work. Machines in this class may be obtained with carriages varying in width from 12 inches to 36 inches and as many as 40 registers may be placed on one type of machine.

Machines in this class are:—

Remington.

Underwood.

Smith-Premier.

These cannot, however, all be obtained in this country.

2. *Multiple keyboard machines without typewriter attachments but with automatic tabulating carriages and adding machine accumulation.*

The main difference between the machines in this class and the typewriter accounting machines described above is the method of accumulation of the figures and the many automatic features that make for increased speed of production and greater elimination of the error factor. Machines in this class have automatic column selection, automatic dating, automatic printing of ciphers and punctuation, automatic printing of symbol abbreviations, automatic totalling and automatic balancing. They have, however, no typewriters attached and are, therefore, limited in scope for written narrative as they can only print abbreviations such as,

GDS—goods

CSH—cash

RTS—returns, etc.

These abbreviations are printed from type wheels within the machine which are operated by keys on the adding machine keyboard.

In all of these machines a cylindrical platen is used which can be mechanically split in order to get two records at the same time so that both records would have the original printing on them, although the amount of information on one might be greater than the other.

The number of adding registers on this type of machine may vary from one to six, subtraction being usually obtainable in two registers. In all of these machines simultaneous addition may be obtained in two registers—one vertical and one cross-footer (add—subtract counter), but in one machine, the “National” Accounting Machine, addition is possible in all six registers simultaneously. This increases speed and reduces the possibility of error in that the amount printed in one column can be repeated in several by merely clearing registers, thus avoiding the necessity of the operator having to repeat the amount on the keyboard.

The flexibility of this machine varies considerably and depends on the basic construction. In some machines, it is practically a mechanical job to change the machine from one type of work to another. In the “National” machine separate “Control Bars” can be supplied that are already set up for the particular types of work required. This feature is of great importance in that many firms having only a small volume of different kinds of work to do, can handle them all on one machine.

Machines in this class are:

Burrough’s High Keyboard machine
and
“National”—Class 3000.

The third machine of this group is not available in Rupee currency.

3. *Multiple keyboard machine with typewriter attachment, automatic tabulating carriage, adding machine accumulation; etc.*

The “National” Class 3000 is the only machine that is equipped with the advantages of the machines described under heading “2”, together with the advantages of the machines described

under heading “1”, *i.e.*, being possessed with all the automatic features that accounting machines should have, plus an independent typewriter keyboard which will allow for full narrative description.

4. *Punching, sorting and tabulating machines.*

In this class come two makes of machines, *viz.*, the Powers Samas and the Hollerith. These two stand alone and are entirely different from all other types of machines for accounting purposes. The equipment consists of three separate units—the Punching Machine, the Sorting Machine and the Tabulating or Adding and Printing machine.

The basis of the system is prepared cards divided into columns and split into “fields” in accordance with the information required.

The cards are first placed into the Punching machine and the information is recorded by punching holes in the various columns in accordance with the previously established code.

In order to check any errors, a Check Punching Machine is used as a second operation.

The Sorting machine, driven electrically, takes stacks of the punched cards and having been set to the horizontal columns required, sorts them into boxes corresponding to the vertical columns of the card at the rate of 24,000 cards per hour. Cards which are not punched in the selected columns are thrown by the sorter into the last sorting box.

From the sorter, cards are then put into the Tabulating machine where punched information is printed on to a roll of paper or an inserted form at the rate of 5,000 to 9,000 cards an hour with necessary accumulated totals several in number. Once the information is punched correctly, it is available for all time, so that by various sortings and tabulations; any or all of the data can be recorded.

(C) *When does it become necessary to consider or recommend mechanization of accounts or statistics?*

Many people still think that the “be-all” and “end-all” of and type of machinery is to replace labour and save salaries and for this reason refuse even to discuss the possibilities in other directions. Others, who are mainly interested in the production

and selling side of the business, will welcome any mechanical device for the more efficient manufacture, selling or statistical nature of their product, but look upon the offices—their accountants and usually their auditors as just so much “dead weight” which is to be borne and without which business could get along just as well, if not better.

Why, is the accountant in the office generally looked upon as a “non-producer”? Usually because he is not sufficiently well qualified or alert to realise the importance and possibilities of his job, and was content to remain enclosed by very narrow limits of a columnar Day Book and a yearly Trial Balance.

Once the accountant shows the Management that he also can produce, not material products, but plans, comparative cost figures, sales statistics, stock records, credit information, budgetary control figures and so on, then it is realised that all these things are vitally necessary to better Management, more efficient production and consequently more profit.

If the man, who was offered command of the “Queen Mary” were told he would have to navigate her without the use of a Hydrometer and with no wireless, he would undoubtedly decline the offer and put in an emergency call to the nearest asylum.

Would you buy a motor car to-day which did not have a petrol indicator on the dashboard? These are only mechanical aids to give immediate advice of danger to the person in control.

Why then should many firms still consider it unnecessary to have such information as will provide some immediate advice of danger necessary for the efficient control of their own particular undertaking.

The cost of obtaining such statistical information by hand methods is usually so prohibitive, that the average firm cannot or will not entertain the idea. Apart from the additional salary expense, it often means that more office space would be required and this is sometimes impossible.

If, however, this information can be obtained at no additional cost, or even at the cost of one junior clerk, then there is no excuse for the executive who will not at least investigate the possibilities.

I suggest, therefore, that it becomes necessary to consider mechanization when the existing accounts and statistics of the

business are not sufficiently detailed or up-to-date to provide the Management with the necessary comparative information in the form of current facts instead of as past history to control it.

I would like to finish by quoting part of the Lecture on the “Structure of Business Management” given by Mr. Robert Ashworth, F.C.A., he states: “The office should be the heart of the business, pulsating life throughout all the ramifications of the concern. This will entail the proper planning and installation of accounting, statistical and costing systems which should clearly reveal the story of the business as a whole from which may be readily given an interpretation free from departmental bias.”

J. EDGAR MILLER.

OFFICE ORGANISATION.¹

When one pays a visit to a well-organised office or serves in the subordinate ranks of such an office, he is impressed by the methodical movement of work in that office which he takes for a settled fact, but seldom reflects as to what an amount of thought and labour should have been bestowed in the process of bringing that office into existence. The organisation of an office involves as many technicalities as any other undertaking, and in addition calls for a successful handling of the human element involved in the task, which is by no means, so simple as might appear on the surface.

The organiser of an office starts by estimating approximately the magnitude of work required to be handled and the staff and records that will have to be provided for therein. Arrangements should then be made for the erection of a suitable building to serve as the premises of the office, in the designing of which, adequate consideration should be given to the space required for the staff and records, good ventilation, lighting, heating and cooling arrangements and, where specially necessary, toilet, and other sanitary requirements. The furniture and fixtures for the staff and records should also be well provided for, as a good deal of outturn of work depends on a comfortable and attractive setting of the office equipment. Steel cabinets and racks are preferable to wooden ones, as they present the smartest appearance and have the longest life of all.

The equipment of the office with staff is by far the most important aspect of its organisation, as it is on this that the entire efficiency of the office depends. This side is however not so easy as the housing and equipment, and as the human element plays its fullest part here, it is necessary to devote attention to two distinct aspects of this question, *viz.*, the selection of the staff and the framing of the most suitable service conditions for them.

The extent of staff required for an office is normally a direct proportion of the extent of work involved therein, and the

¹The Essay awarded the First Prize in the competition arranged by the A.B. Railway Local Association, early in 1939.

recognised method of ascertaining what staff would be required is through the application of the principles of job analysis to the work. This would give roughly an idea of what the initial strength of the office should be, and any modifications called for therein could be effected as a result of experience at a subsequent stage of job analysis.

Having decided on the strength of the office, the various posts should be graded according to the nature of the duties involved in each and the extent of responsibility required to be shouldered. An important point to remember when fixing the range of the grades is that they should be so fixed as to compare favourably with those obtaining for similar services in the same locality; otherwise the possibility of attracting the best men available for those services will be lost and the efficiency of the office will suffer in consequence. The range of the grades should also correspond approximately to the period for which the incumbent is normally expected to stay in that post, so that none of the staff may get a feeling of having been abnormally stuck up in a particular place.

The selection of men to fill the various posts in the office should ordinarily be made in such a manner as to pick up individuals with just the qualifications required for the discharge of the duties involved, and nothing more. The employment of highly qualified men for comparatively poor jobs creates discontent, besides being economically wasteful. While this is the ordinary rule, it should be remembered that a strict observance of this principle would result in the lower subordinate staff not becoming ever eligible for higher posts. In order to provide for a normal flow of such promotions, it would be a better form of organisation if two divisions of clerical staff were created, one upper and the other lower, and fairly qualified men were recruited for the upper division. Care must also be taken to see that adequate menials are provided for the office, as a shortage of this class of staff would result in waste of clerical labour by its being utilised in other directions. The employment of literate menials to do routine work of filing, etc., is also a step in the right direction.

The selection of the personnel for the supervisory establishment is such an important factor in the organisation of an office that it deserves special treatment. This establishment can roughly be divided into two classes, *viz.*, the superior establish-

ment and the subordinate supervising staff. That the head of the entire establishment should be a man of vast resources and thoroughly competent to shape the policy governing the working of the office, is obvious. Direct recruitment to the superior cadre of men specially trained and qualified for the technicalities involved in the work, is usually productive of good results, though a suitable proportion of this strength should be reserved for promotion from subordinate ranks. The official put in immediate charge of the establishment and who is responsible to see that the work of the office is carried out as outlined by the authorities, should have several distinctive qualifications. A thorough knowledge of the last details of the work involved in the office is however his first qualification. He should, in addition to this, also possess the capacity to control staff and to extract work from them, both of which would well-nigh be impossible unless he possessed a good element of humanity, great resourcefulness and capacity to do hard work himself at least occasionally, and considerable tact. A person who does not possess these attainments but thinks he can carry on by virtue of the position he occupies in the office, would only be under an illusion and is also a handicap to the progress of the office; in fact, failure to deal with staff sympathetically and to secure their willing co-operation in day-to-day work might almost be put down as a disqualification for those in responsible positions.

The efficiency of an office rests mostly on the outturn of the staff, and to get the best out of them, it is only proper that their conditions of service should be so set out as to give both the employer and the employee the maximum satisfaction. One of the primary duties of the organiser of an office would therefore be to devote all attention to this question, by giving effect to the few essential service conditions laid down below.

The question of future prospects is one to which each employee's service is closely related, and if it is laid down that preferment of staff to higher graded places will be made only as a result of examinations conducted to test their knowledge of work, and the conditions for qualifying in such examinations are made widely known, the staff would take a keen interest in acquiring more and more knowledge of their own and others' work, and this would ultimately benefit both themselves and the employer. Other qualifications such as the capacity to behave well and shoulder responsibility should also undoubtedly count in prefer-

ment; but what is meant is, that the staff should be disillusioned of the idea that seniority alone would take them up to the highest places. It is also but fair that staff and specially the junior members thereof should have the necessary training to qualify themselves on these lines, and here the efficiency of the head of the office can play a very useful part.

Free and unrestricted scope should be afforded for personal contact between the various grades of the staff, so that the juniors may not have their initiative to think freely on office work destroyed and the seniors may benefit by any suggestions the former may offer. Personal contact with the authorities also gives the staff a feeling of security about their service, and not infrequently, helps to redress any injustice done to them. Staff should also openly be encouraged to offer new ideas for the improvement of the working of the office coming to their mind during their work, and such cases should be recorded in the history sheets of the staff who advanced them, so as to serve as an incentive to the others to take interest on similar lines.

Much may be done to make the staff take more than a passing interest in the business of the office and to cease to look upon it just as a routine machinery in whose prosperity they are not interested. The provision of profit-sharing schemes for the staff is usually recognised as the best means of encouraging efficiency and a stake in the business, and contributory provident fund schemes are also designed for the same purpose. The welfare of the staff as a whole is reflected on the efficiency of the office, and provision of facilities for recreation, etc., of the staff after their day's work in the office would greatly cheer them up and also reduce absences due to sickness. These schemes may therefore be considered along with other service conditions in all offices where the magnitude and resources of the transactions would justify such a course.

It is common prudence that whatever is done should be done economically and no wastage of any kind should be tolerated. An office is no exception to this general rule. Labour saving appliances such as accounting, tabulating, listing, calculating, typewriting and duplicating machinery should freely be employed in all offices, consistent with the magnitude of work involved, as they serve a double purpose of keeping expenditure low and presenting the outturn in an attractive form. No partiality for

unemployed human labour should be allowed to hamper the development of an office on these modern lines.

Questions affecting staff have taken too much space in this paper, and it is therefore time to make a brief mention of the remaining features of the organisation of an office. The working hours of the office should be so regulated as to allow for the proper outturn of work and adequate rest for the staff who, unlike labourers, strain their minds and not limbs. The various items of work to be turned out in the office and the manner in which they should be finished should be well-defined and made known to all the staff, and to this end, office procedure orders dealing with all questions of procedure in respect of the various items of work, disposal of correspondence, and handling of cash and payment of dues where these are involved, should be framed and kept corrected up-to-date. Where cash transactions are involved, it would also be a desirable step to limit cash payments to a certain figure and to make all payments above that sum by cheque only, and also to arrange for an adequate security deposit from the man deputed to handle cash. The compilation and issue of office manuals is one of the recognised means of putting staff in the way of their duties. A calendar of inward and outward returns due in and from the office should be prepared and made available for staff to refer to, and it should be the special duty of the head of the office to see that staff understand the implications of adhering to these dates and act up to the programme of work, and thus make sure that the work of the office is kept current.

Besides the outlines of an efficient organisation of an office detailed above, many other issues are bound to arise in the course of the organisation, peculiar to the nature of the office, and the tackling of these should necessarily rest with the official in charge of the organisation.

K. RAMACHANDRAN.

RESEARCH IN ACCOUNTING.

The importance of research in accounting has been emphasised in these pages from time to time. If Accountancy among all the professions has taken to research somewhat reluctantly the conditions under which the practising accountant has to work and his essential pre-occupation with detail may afford some extenuation. As an incident of business finance, the function of accounting is preparation of the financial record. With the trend towards larger and larger enterprises and consequently more involved transactions, accountancy is becoming an instrument of financial control for the executive, an organon to secure increased efficiency. The besetting sin of large-scale undertakings is the inevitable inertia resulting from departmentalization of work, elaborate system of checks and balances, divided control and supervision. The importance of executive direction is vital in a large organisation. The executive is hampered without a prompt possession of facts and accountancy thus becomes its handmaid in securing efficient and progressive working. The success of the accountant therefore depends as much on his ability to adapt himself to the situation as on the adaptation of his craft to the new demands of the business. This is a continuing problem and there is a large scope for research in a critical evaluation of the existing practices, and a co-ordination of accounting technique and economic analysis.

The output of research has been, generally speaking, more a by-product of professional effort in accounting. It is gratifying to learn that the accounting profession in England has sought to correct this attitude recently and the formation of the Accounting Research Association is a move in the right direction, namely to look upon research as a principal objective by itself. As the Association attempts a task which is unique among the professional accountants' institutions, a brief summary of its record of work since its foundation may be of interest.

The Accounting Research Association was founded in December, 1936. The objects of this association are as follows:—

- (1) To promote research into the history and development of accounting.

(2) To discover in particular how economic, social and legal changes have affected the development of methods of accounting.

(3) To examine the present position of accounting theory and practice.

Some of the suggested lines of research are:—

- (a) The origin and development of forms and accounts.
- (b) The influence of corporation and partnership.
- (c) Changes associated with the industrial revolution.
- (d) Problems arising out of the definition of income.
- (e) Changes necessitated by the growth of fixed costs.
- (f) The genesis and development of cost accounting.
- (g) Industrial accounting including budgetary control.
- (h) To examine the present form of legislation affecting the accounting practice in this country and other countries.

The movement enjoys influential support. The inaugural meeting which was held at the London School of Economics was presided over by G. R. Freeman, F.C.A. and was addressed by Sir Josiah (now Lord) Stamp and Sir William Beveridge, Director of London School of Economics. Some very eminent persons in the profession of accountancy are connected with it. The Association is also served by a strong committee of professional accountants and lecturers in Accounting and Business Administration connected with several universities of Great Britain. The Association is working in close touch with the Research Committee of the Society of Incorporated Accountants and the American Association of Accountants.

At the last Annual Meeting of the Association Mr. Stanley W. Rowland, the President, examined the role of research in accounting in his address. He said:

"The popular conception of a professional accountant as a man confined to pettifogging details is ludicrously wrong when applied to a practitioner who has been trained to profit by experience. He sees commercial life in all its infinite variety upheld by accounting; he sees the interwoven pattern of millions of transactions as an equilibrium of debit and credit, complicated facts are for him mental pictures of ledger accounts and all organisation is the creation of channels of routine whereby information flows from the happening of an event to its ultimate reflection in a statement of account."

Dwelling on the larger aspects of the accountant's work and the importance of speculation he said:

"The engineer and the physicist, the economist, the actuary and even the lawyer are daily seen to enlarge the narrow boundaries set for them by pure experience. The artist and the physician are alike experimenters,

although sometimes in both these fields the results are disastrous. The danger which I see is that the caution enjoyed by the training which leads to the practice of accountancy, and the attention to detail which is necessary for the successful daily conduct of business may shut out accountants from the gift which the best speculation has showered on the rest of the world, with the result that, if this fear is justified in fact, accounting may be left stranded by the changing currents of history. That is a possibility, which I hasten to say, I do not think amounts to a probability."

Thus,

"Research stands between experience and speculation, combining the caution of one with the receptiveness of the other. It is a method of canalising the records of experience so that, after due elimination of the irrelevant, the result may be the soil in which imagination may grow. We may regard both elements as equally important components of the Researcher's equipment. For its own part, research teaches us to appreciate the difference between liberating change and mere truancy into licence. It is holding of the balance between timid prudence and incautious recklessness. It is an assessment of the results of experience which ought not to be undertaken by a man who has not enjoyed experience in his own person; while, on the other hand, it is most suitably undertaken by a man who has sharpened his speculative faculties in other fields. Accounting is something more than technically expert book-keeping; it is one of the most highly fashioned tools in the economic workshop and the craftsman who uses it must be conscious not only of what it has done in the hands of our fathers but of what it might do in the practical world of to-day. Accounting is indeed 'a synthesis of logic and of life'. It is an instrument depending in part on mechanical law, but I am more concerned to point out that its effective operation depends on its adaptability to practical circumstances of which experienced men alone are aware. We can call for higher standards, we can write many text-books, we can slaughter one another as reviewers of text-books, but all our efforts will be futile unless we remember that the canons of accounting we create must ultimately persuade by their reasonableness the men in the office, the man in the board room, the man in the senior common room, the man in the stock exchange, and finally the man, and the woman in the third class carriage, who are the ultimate arbiters of human affairs."

The first year's record of the Accounting Research Association has been encouraging. It has undertaken an investigation of questions relating to the actual valuation of goodwill in the floatation of public companies during recent years. Two questionnaires were issued, one on the valuation of stock, work in progress and raw materials for balance-sheet purposes and the other on the methods of calculating depreciation assets, the object being to obtain some idea of the extent of differences of practice relating to these two problems. The Association brought out also three publications dealing respectively with "A survey of

French Contributions to the study of cost accounting during the nineteenth century".¹ "Some Suggestions for measuring the relative profitability of competing uses of floor space and fixed equipment",² and "Published Balance-sheets as an aid to economic investigation."³ With the wealth of professional experience at the command of the Association there can be no doubt that the Research activities sponsored by it will grow both in value and volume.

R. P. RAY.

RAILWAY STATISTICS.

That our system of Statistics has room for considerable improvement has been recognised by those who have had occasion to examine it. Recently, the Wedgwood Committee drew attention to certain shortcomings and the Railway Board, it is reported, are dealing with them in connection with the proposal to revise the present statistics. Two main considerations arise in connection with the statistical information which is prepared for our railways: one relates to the scope and content of the statistical data; the other to the extent of accuracy of the statistics. The first relates to the range of the statistical information and the second is concerned with the method of compiling statistics and the extent to which they help to produce as true an index as possible. It is proposed to offer a few remarks, in this article as regards our railway statistics considered from the point of view of the former.

One special feature which may be noticed about our ten-day or monthly statistics is the detail in which the financial transactions are presented as compared to other aspects. Thus, the approximate and audited gross earnings and expenses are all stated railway by railway, period by period, month by month, but on the other hand the data relating to the goods traffic are available only under certain broad heads. According to the current practice, wagon loadings are given under seven heads, namely, coal and coke, grains and pulses, oil-seeds, cotton; miscellaneous smalls, miscellaneous full wagons, and Home line Stores and Materials. But even here the figures for each railway are not given and only the totals for the Class I Railways are stated. The Controller of Railway Accounts, of course, prepares a number of statistical abstracts for each railway, month by month, relating to the different aspects of operation. As they are not released for public information, obviously they are utilised only for the use of the different railways themselves. It, therefore, becomes inevitable that with the great time-lag which affects all annual reports, the detailed information on the different aspects of railway working is seldom available before about a year after the expiry of the period to which they relate.

¹ By R. S. Edwards.

² By C. L. Paine.

³ By R. H. Case, R. S. Edwards and R. F. Fowler.

In the matter of Railway Statistics as on many other problems there is much to learn from the practice on foreign railways. Many of the conditions faced by foreign railways are met with in this country and their experience is likely to be of value in dealing with similar conditions in India. We may first refer to the Canadian Railway Statistics.

Railway Statistics in Canada are published by the Dominion Bureau of Statistics, which was set up by Statute in 1918 as a Central Statistical Department for Canada. The Bureau, by transfer or absorption developed, since 1918 out of many heterogeneous units, a unified nation-wide statistical system in which the correlation of the several subjects and their interpretation from a comprehensive national viewpoint has been the primary objective.

The Dominion Bureau has at present fifteen Branches¹ and railway statistics is handled by the Transportation Branch. A general idea of the work done by this branch may be gathered from the publications issued by it on transport, communications and public utilities. They are:—

Annual:

- (a) Railway Statistics;
- (b) Electric Railway Statistics;
- (c) Location of Railway Mileages;
- (d) Summary of Monthly Railway Traffic Report;
- (e) Canadian National Railways—A Survey from 1923 onwards;
- (f) Canadian Pacific Railways—A Survey from 1923 onwards.

Monthly:

- (a) Railway Revenues, Expenses, Income and Operating Statistics;
- (b) Freight Traffic of Railways.

Weekly:

Car Loadings of Revenue Freight;

Special Report:

Index Numbers of Railway Freight Rates.

Besides these, certain annual and monthly or periodical reports are issued by the same branch, on the statistics of the

¹ (1) Administration; (2) Demography—Census and Vital Statistics; (3) Agricultural Statistics; (4) Fisheries, Furs, animal and dairy products; (5) Mining, metallurgical and chemical; (6) Forestry and Home Industries; (7) General Manufactures; (8) External Trade (Imports and Exports); (9) Internal Trade; (10) Transportation and Public Utilities; (11) Financial Statistics; (12) Judicial Statistics; (13) Education Statistics; (14) Census of Institutions; (15) General Statistics.

Express, Telegraphs, Telephones, Canals, Electrical Stations, Motor Vehicles and Civil Aviation.

The character of the data supplied in the reports published by the Dominion Bureau is readily indicated. As the weekly Car Loadings statistics were described in an earlier issue¹ and as the remarks made therein hold good even now, we may turn to the two monthly reports.

One of them presents the "Operating Revenues, Expenses and Statistics of Railways in Canada with annual Operating Revenues of \$500,000 or over." Following a brief summary, the report gives a detailed statement of financial and operating statistics. The monthly statements for the Indian Railways for financial Statistics are almost as detailed as the Canadian reports. But the Dominion Bureau publish the monthly operating statistics also in the same detail. The operating statistics included in the monthly report are as follows:—

1. *Operating Statistics:*

- Average miles of road operated.
- Number of tons carried (Revenue Freight).
- Number of tons carried one mile (Revenue Freight).
- Number of tons carried one mile (All Freight).
- Gross ton miles (excl. of locomotive and tender).
- Number of revenue passengers carried.
- Number of revenue passengers carried one mile.
- Freight Train miles.
- Passenger train miles.
- Total Train miles (Revenue and Non-Revenue).
- Freight Car miles—Loaded.
- Freight Car miles—empty.
- Passenger train car miles.
- Total amount of pay-roll.
- Number of employees.
- Pay-roll chargeable to railway operating expenses.

2. *Daily Averages per Mile of Road Operated:*

- Operating Revenues.
- Operating Expenses.
- Number of tons moved one mile (Revenue Freight).
- Number of tons moved one mile (All Freight).
- Number of Revenue Passengers carried one mile.

3. *Averages per Freight Train Mile:*

- Freight Revenue.
- Number of tons of freight (Revenue Freight).

¹ Vol. II, pp. 46-48.

Gross ton miles.
Loaded freight cars.
Empty freight cars.

4. *Average per Passenger train mile:*

Passenger train revenues.
Passengers carried.
Passenger cars.
Average Operating expenses per train mile.
Average length of hauls, (Revenue Freight) Miles.
Average Passenger Journey—Miles.
Average tons per loaded freight car miles.
Average freight receipts per revenue ton miles.
Average passenger receipt per passenger per mile.
Ratio of operating pay-roll to operating revenues.
Ratio of operating expenses to revenues.

The monthly figures against each of the heads are given separately for the Canadian National Railways, the Canadian Pacific Railway and All Railways and for purposes of comparison, the figures for the corresponding month of the previous year are also included.

The Monthly Traffic Report is an even more interesting report. It covers only the freight traffic handled by the railways. Seventy-six commodities are selected and grouped under five heads as follows:

Agricultural Products:

Wheat.	Other Mill Products.
Corn.	Hay and Straw.
Oats.	Cotton.
Barley.	Apples (Fresh).
Rye.	Other Fruit (Fresh).
Flaxseed.	Potatoes.
Other Grain.	Other Fresh Vegetables.
Flour.	Other Agricultural Products.

Forest Products:

Logs, Posts, Poles, Piling.	Lumber, Timber, Box, Crate and
Cordwood and Other Firewood.	Cooperage Material.
Ties.	Other Forest Products.
Pulpwood.	

Manufactures and Miscellaneous:

Gasoline.	Iron, pig and bloom.
Petroleum Oils and Other Petroleum	Rails and Fastenings.
Products (except asphalt and	Iron and Steel (Bar-Sheet-Structu-
gasoline).	ral-Pipe).
Sugar.	Castings, Machinery and Boilers.

Cement.	Fertilizers, all kinds.
Brick and Artificial Stone.	Newsprint Paper.
Lime and Plaster.	Other Paper.
Sewer Pipe and Drain Tiles.	Paper Board, Pulpboard and Wall-
Agricultural Implements and Vehi-	board (Paper).
cles other than autos.	Wood Pulp.
Automobiles, Auto Trucks and Auto	Fish (fresh, frozen, cured, etc.).
Parts.	Canned Goods (all Canned Food
Household Goods and Settlers'	Products except meats).
Effects.	Other Manufactures and Miscella-
Furniture.	neous.
Beverages.	Merchandise (All L.C.L. Freight).

Animal Products:

Horses.	Poultry.
Cattle and Calves.	Eggs.
Sheep.	Butter.
Hogs.	Cheese.
Dressed Meats (fresh).	Wool.
Dressed Meats (cured-salted-can-	Hides and Leather.
ned).	Other Animal Products (Non-ed-
Other Packing House Products	ible).
(edible).	

Mine Products:

Anthracite Coal.	(Non-ferrous metals).
Bituminous Coal.	Sand and Gravel.
Lignite Coal.	Stone (crushed, ground, broken).
Coke.	Slate, Dimension or Block Stone.
Iron Ores.	Crude Petroleum Asphalt (Natural,
Copper Ore and Concentrates.	By-Product Petroleum).
Other Ores and Concentrates.	Salt.
Base, Bullion, Matte, Pig and Ingot	Other Mine Products.

Against each of the commodities detailed figures are given under the heads: freight loaded in stations, tonnage received from Foreign connections, the total for the month, the tonnage for the corresponding month of the previous year, cumulative totals and the deliveries at stations in Canada and Foreign connections. Besides these statistics, the revenue freight loaded and received and unloaded and delivered is also given for each of the nine provinces.

The monthly statistics of goods traffic published by the Railway Board are meagre as compared to the amount of detailed information available from the monthly traffic report of the Canadian Railways. Quantity statistics showing movements of

certain principal commodities over each railway offer quite useful information for the public. Data relating to mineral and agricultural products moving from the regions where they are produced and movements of imported articles from the port of landing and those of articles of indigenous manufacture for the centres of production afford important indices of business activity in the country. Businessmen and chambers of commerce would welcome such information if available from such an authentic source as the Railway Board. We commend the matter to the consideration of the authorities.

L.A.N.

REVIEWS.

CANADIAN PACIFIC FOUNDATION LIBRARY.

The Canadian Pacific Railway has always enjoyed a reputation for efficiency and thoroughness and this is once again borne out by its recent enterprise in bringing out the Canadian Pacific Foundation Library. Under this title have been published ten volumes entitled, *Canadian Pacific Facts and Figures*; *Factors in Railway and Steam Operation*; *The Dominion of Canada*; *History of Canada through Biography*; *Canada Sings*; *Introduction to Economics*; *Correspondence and Salesmanship*; *French Self-taught*; *Speaking in Public*; and *Dictionary of Correct English*. These ten volumes in an attractive book-case in board are primarily intended for the use of the employees of the Railway.

*The Canadian Pacific Facts and Figures*¹ contains a number of articles describing the different aspects of working on the Canadian Pacific Railway. The volume opens with a brief summary of progress of the C. P. Railway, the history of its construction, the present position, the Presidents, Directorate, Organisation, the General Officers and the extent of the system. Then follows a series of short articles dealing with the different activities of the Railway.

Sir Edward Beatty, Chairman and President, discusses the relations between the Railway and the Dominion Government. Mr. R. G. McNeillie, Passenger Traffic Manager, next deals with the subject of Passenger Traffic on the Railway, Mr. T. M. McKeown with the use of Dining and Sleeping Cars, and Mr. C. B. Gordon with the "Romance of the Ticket." The Canadian Pacific has been famous for the wide range of amenities it offers to the passenger. Some idea about them may be had from Mr. W. E. Allison's article on "Mail Baggage and Automobile", and Mr. H. F. Mathews' on the Canadian Pacific Hotels. Freight Traffic is dealt with by Mr. C. E. Jefferson, the Freight Traffic Manager. Mr. J. Lummis presents an account of the auditing procedure in regard to Telegraph and Telephone Receipts.

(1) Pp. 256 and 1 map.

A series of shorter articles give an account of the Express Services and Traffic of the Railway, by Lake, River and Steamer Services, the Railway Workshops and the types of Locomotives. There is an interesting article by H. P. Bowen, Chief of Motive Power and Rolling Stock, on the re-conditioning of Locomotives.

It is not merely as a transport system that the Canadian Pacific Railway has served the Dominion from its inception: it was a powerful aid to the pioneering forces in the last century and has been one of the instruments for the exploitation of the economic resources of that vast country. What the Railway has achieved in this sense is amply indicated in the seven articles which deal successively with the land grants; the assistance to agriculture; the work of the Department of Internal Resources; the facilities offered to the wheat trade; the activities in connection with immigration and colonisation; and the development of Canada's resources.

There are over 25 articles more describing the other activities of the Railway. This volume has been edited by the General Publicity Department and represents a remarkably well-produced account of the Railway and its many-sided activities.

The *Factors in Railway and Steamship Operation*,¹ is a more serious work which discusses in greater detail the economic and operating aspects. There is first a detailed exposition by Professor W.T. Jackman of the physical factors of operation. The organisation and equipment necessitated by a modern train service is described next by Mr. E.G. O'Brien. The difficulties of the operation of mountain railways are graphically outlined by Mr. H.C. Taylor, in his article "Operating Trains in the Rockies". What the passenger feels in an east-bound trans-continental train from Field to Lake Louise is the theme on which G.H. Soole, an English writer, dwells. "The Section Man" by Edna Jaques, the Canadian Poetess, illustrates the human factor in railway work.

In the succeeding articles, the principal officers of the C.P. Railway present interesting accounts of the routine activities of the different departments and their contribution to the economic life of the nation. The principal articles are: "Winnipeg Terminals" by Mr. R.A. Gamble; "Canadian Pacific Rails" by

(1) Pp. 223.

Dr. T.M.R. Fairbairn; "Sixty Million Canadian Pacific Ties" by Mr. J.H. Reeder; "Preservative Treatment of Poles" by Mr. W.D. Neil; "Maintenance of Way" by Mr. J.H. Forbes; "Fuel for the Canadian Pacific" by Mr. T. Britt; "Canadian Pacific Purchases" by Mr. B. W. Roberts; "Canadian Pacific Stores" by Mr. T. Sawcett; "Passenger Car Cleaning" by Mr. George Whiteley; "Air-Conditioned Passenger Cars" by Mr. H. B. Bowen. Mr. T. E. McDonnell deals with the Express Service and Mr. George T. Coleman with Fast Freight Trains. The telephonic and radio communications on the system appear to have reached a high standard of efficiency and an account of the communications maintained is given by Mr. W. D. Neil.

The Canadian Pacific maintains an excellent steamship service in co-ordination with its rail services. There are three articles on this subject examining the steamship freight problems, the economics of steamship operation and the Atlantic Liner. The volume concludes with an able discussion of the principles of rate making by Professor Jackman. This work, also assembled and edited by the General Publicity Department, is a remarkably interesting survey of the activities of the Railway.

The volume entitled *Correspondence and Salesmanship*,² is divided into three parts. In the first part under the heading "Better Letters" consisting of eleven chapters, Mr. A.M. Kennedy, deals with the principles and technique of business correspondence, filing, etc. In the second part, Mr. William F. Gregory discusses the "Personality of the Salesman". The elements of personality, the physical, mental, moral and social qualities are examined in successive chapters. The writer concludes with a chapter on the improvement of personality. The third part, on Salesmanship for Railway Traffic, is addressed to the railway employee. Mr. Charles E. Parks, who has written the two chapters on the subject, states in the first, the general principles of Railway Salesmanship. In the second he deals with Soliciting freight for the railway and the qualifications for the traffic solicitor.

The *Introduction to Economics*,² is a revised and enlarged edition of the beginner's text-book for Canadian readers by

(1) Better Letters, pp. 142, The Personality of the Salesman, pp. 48; Salesmanship for Railway Traffic, pp. 30.

(2) Pp. vii + 240.

D.A. MacGibbon. *The Dominion of Canada*,¹ is in fact three books in one. It presents in Part I, Economic Geography, by Mr. Neil F. Morrison in twenty chapters; in Part II, Economic History, by Mr. Hubert Heaton, in four chapters and in Part III, the Political Institutions of Canada, by Mr. J.C. Bonar.

The *History of Canada through Biography*,² by Mr. W.J. Karr, offers a series of interesting accounts of the explorers, soldiers and statesmen who have made the Dominion what it is. There are fifty biographies beginning from Jacques Cartier and ending with Mr. Robert Borden. In a supplement is given the Canadian Pacific history as described by the contributions of Lord Mount Stephen; Sir William Van Horne; Lord Shaughnessy and Sir Edward Beatty.

The remaining four books are more in the nature of contributions to general education. *Speaking in Public*,³ is an excellent manual on elocution by Frank Home Kirkpatrick and deals with the principles and practice of public speaking. It contains besides an outline of studies, a chapter on parliamentary and debating procedure and five appendices, giving further hints and some notable speeches. *The Dictionary of Correct English*,⁴ by Mr. A. Pink, is a manual of information and advice concerning grammar, idiom, use of words, points of style, punctuation, pronunciation and other practical matters. *French Self-taught*,⁵ is a special edition of Thimm's system of the natural method with phonetic pronunciation, on the lines of Hugo's series, but with phrases designed for the employees of the Canadian Pacific Railway. *Canada Sings*,⁶ is a Community Song book edited by Mr. Hugo Greys.

The volumes have all been admirably planned and produced. They are calculated not only to improve the intellectual equipment of the average employee; but also to provide ready reference books on a wide range of subjects. The Canadian Pacific Foundation Library is an appropriate manner of commemorating the fiftieth anniversary of the Railway.

(1) Pp. vi + 312.

(2) Pp. 397.

(3) Pp. viii + 207.

(4) Pp. xii + 198.

(5) Pp. 159.

(6) Pp. 143.

A Survey of Railway Development and Practice: By P. E. Garbutt (London. Messrs. Arthur H. Stockwell, Ltd., 29, Ludgate Hill, 1938; Pp. 112. Price 3-6 nett.)

This book, according to the publishers' announcement, contains "a historical sketch of the progress of railways throughout the world, of general principles governing their administration, and of their attitude to current transport problems." The description is correct and the author has offered a brief, clear summary of the growth of the railway industry and the economic problems raised by it. There is little of any prefatory padding or attempt to go into details. It has, therefore, been possible for Mr. Garbutt to go straight into the questions of railway organisation. After a reference to the early history of railway development in Britain, France and Germany; the conditions of state management, Departmental *versus* Divisional systems unification, railway construction of locomotives, regulation of road transport, are briefly discussed in the opening chapter. There is next a discussion of railway rates, and the conduct of traffic. The financial principles of railway administration are examined in the succeeding chapter and the importance of conservative accounting in regard to capital expenditure and renewals and replacements is emphasized. In Chapter IV, railway development in the British Isles is described. The next three chapters review the railway development in Europe, America and Asia, Australia and Africa. Short accounts are given of the principal features of railway developments in the various countries and the only complaint is that they are in some cases too short. The treatment of Indian Railways is comparatively longer, but exception may be taken to the statement: "unlike those of the purely State Railways, their officers (of the Company-managed Railways), and, indeed, the whole personnel of each Company, are paid according to the financial achievements of their various concerns." In fact, in matters of salary, other emoluments and conditions of service, the Company-managed Railways have generally followed the practice on the State lines.

After dealing with the advantages and limitations of Electric and Diesel Traction, Mr. Garbutt concludes that the trend in modern railway development is towards amalgamation and centralised control. The future of Railways, according to him, depends on maintaining a good current financial position and creating new traffic. As regards the effect of road motor com-

petition, he considers that railways are justified in getting back the traffic they have lost to the roads owing to rate cuts.

The book provides stimulating reading to the reader interested in the larger aspects of railway working.

Highway Research Board, Proceedings of the Seventeenth Annual Meeting: Edited by Roy W. Crump. (Washington D. C., Pp. viii, 534).

This volume contains the proceedings of the seventeenth Annual Meeting of the Highway Research Board, Division of Engineering and Industrial Research of the National Research Council, in December, 1937. The reports of the Departments of Highway Finance, Highway Transportation Economics, Design, Materials and Construction, Traffic and Soils investigations are dealt with and under each of these heads, the papers and discussions have been reproduced. The problems of financial administration are examined with special reference to Local Roads and Streets. Under Highway Transportation Economics the report of the Committee on Uniform Highway Accounting and Progress Report on the development of a system are reproduced. In the same section are also papers on Rural Mail Carrier, Motor Vehicle operating costs on various road surfaces, safety and speed as affecting Highway Design and average speed and traffic density as a measure of road capacity. In the sections under Design and Materials and Construction several technical papers have been discussed. There can be no doubt that the volume provides a valuable contribution to the current technical literature on Road Development.

OFFICIAL PAPERS.

VICTORIAN RAILWAYS IN 1937-38.

The Victorian Railways during the year ended 30th June, 1938, report an improvement in the results of working. The gross revenue for the year amounted to £9·735 millions or a reduction of 4 per cent. on that of the previous year. Passenger revenues amounted to £3·684 millions or about 3½ per cent. less than the previous year, of which suburban traffic accounted for £2·281 millions, the balance representing the revenue from country passenger traffic. The progress of recovery from the economic depression of 1936-37 was seriously arrested by an epidemic of infantile paralysis in 1937-38 as a result of which all non-essential travel was greatly reduced for a period of nine months.

Goods and live-stock traffic was greater in 1937-38 than in the preceding year. The improvement was due mainly to better economic condi-

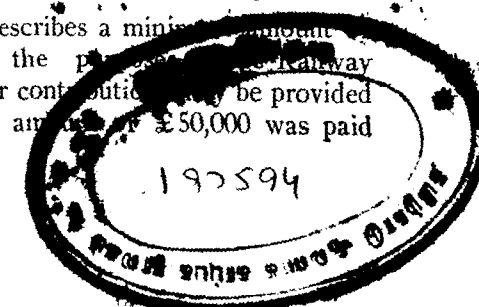
tions, a record live-stock business and a satisfactory wheat yield. The yield per acre was just under 18 bushels which was the highest for 68 years. But revenue was lower, it is stated, as a result of the cessation of the Government recoup in respect of certain freight rate concessions following on the reduction of the capital account. The total revenue was £4·945 millions an increase of £345,775. The Government recoup in the previous year was £429,775 which raised the total for the previous year to over £5 millions.

In spite of the withdrawal of the recoup, the total receipts for the year under review have come up to just under the same figure. It should be explained that the recoup mentioned refers to the payments by the Treasury in respect of losses incurred in operating certain non-paying lines and reductions in freight charges on agricultural produce, wool and live-stock in accordance with the Railways (Finances Adjustment) Act, 1936, No. 4429. The total amount of these recoups amounted in 1936-37 to £668,926. The revenue from other services such as, carriage of parcels, horse carriages and dogs, mails, dining cars, refreshments, advertising and book-stalls, sale of electrical energy, rentals, etc., amounted to £671,319.

Working expenses exclusive of electric tramways and road motor public services during the year amounted to £7·830 millions. The increase of £573,213 in working expenses is attributed to the increased cost of salaries and wages as a result of awards of various tribunals and the higher price of materials including coal. Compared with the previous year, the additional expenditure in 1937-38 under awards covering salaries and wages was £571,000 while higher cost of materials accounted for a further expenditure of £127,250. The full effect of these increases in expenditure has not apparently been felt as they were on many cases applicable for only a part of the financial year.

The total annual expenditure involved for increases which have come into effect since July 1, 1936, is, it is stated, no less than £1·1 millions. The net revenue on the results of working was £1·905 millions. A reduction in interest charges and exchange to the extent of £1,288,616 was brought about by the transfer as from 1st July, 1937 of £30 millions of Railway Loan Liability to the State's General Account in accordance with the provisions of the Railways (Finances Adjustment) Act, 1936. The saving in interest was largely offset not only by the discontinuance of the Treasury recoups but also by the statutory obligation to include in the railway accounts the Department's annual contribution to the National Debt Sinking Fund. Prior to July 1937, this contribution had been met by the Treasury. The net benefit to railway finance as a result of the reduction in the loan liability was, therefore, approximately £500,000. The net revenue was short of meeting the total interest, exchange and other charges by £241,953 which constitutes the deficit for the year.

It is interesting to note that the Act prescribes a minimum amount of £200,000 to be appropriated annually for the Railway Renewals and Replacements Fund. Further contributions may be provided by Parliament and under this provision an amount of £50,000 was paid



into the Fund. In spite of the comparatively larger provision made during the year under review, the Railways Commissioners state:

"It still represents less than one half of the amount needed to provide fully for the depreciation which actually accrues each year in providing transportation service. We would again emphasize that this loss in value is an inescapable commitment. Failure to make proper provision for it in the years in which it accrues cannot have only one result—a steady and continuous drift back to over-capitalization and recurrence of the burden of accrued depreciation which the Railways (Finances Adjustment) Act 1936, was intended to remedy."

The Railway Commissioners invite attention to the report of a Special Committee in 1933 which investigated the capital indebtedness of the Department and recommended an annual provision of £650,000 for depreciation of assets and for reserve. That Committee's view was that after the railway loan liability had been reduced, full provision should be made each year for depreciation by contributions from the working account to a depreciation fund so that all replacements could be met from that fund except to the extent that they increased the net earning capacity of the undertaking. The Commissioners observe that "failure to make adequate provision for replacements and renewals must result in a lowering of the quality of service through our inability to maintain the property at the standard demanded by modern conditions." A serious situation appears to have developed in recent years in relation to the various sections of the rolling stock and other property because of the "inability through lack of funds to undertake the amount of betterment and replacement work imperatively necessary for the continued maintenance of efficient railway service."

It is also emphasized that additional funds are required for overtaking the large amount of maintenance and renewal work which, owing to financial stringency had to be deferred during the depression years. Those works, it is mentioned, include maintenance and replacement of bridges, renewal of points and crossings, and the renovation and general repair of departmental buildings and other property. Some works which could no longer be deferred if the railways department were to continue to operate efficiently and provide the standard of service demanded by the public were financed by a sum of £300,000 supplied under the Public Account Advances Act, 1937. As the works concerned represent an accumulation over a number of years, repayments of the advances has been arranged to be spread over a period of the next 6 years.

The Victorian Railways have not been deterred by the pressure of inadequate finance from embarking on improving service facilities. "The Spirit of Progress" train offering air-conditioned service set a new standard of cleanliness, quietness and smoothness in running, comfortable seating, illumination (including individual lighting for each seat) and æsthetic colour scheme and proved a remarkable success. The account of the tourist activities, the endeavour to assist the primary producer, and the National Resources Developmental Tours all indicate a determination to serve the public in a fuller sense.

The report of the Railway Commissioners refers at length to the effects of unregulated transport conditions and endorse rationalization as

an urgent necessity. They state:

"Necessarily and inevitably a rationalized system defining the economic sphere of each agency of transportation would cost some individual interest to be subordinated to the general Community interest. The direct national gain, however, would be substantial and immediate. Further indirect advantages would result from the stability in transport conditions essential to the sound development of business and industry.

Users could be assured of permanent, efficient service, at reasonable rates, not subject to frequent and often violent competitive fluctuations, but fixed and stabilised so that, contrasted with a present insecurity which is tending increasingly to dislocate the normal process of business, commercial and industrial activities could proceed with confidence on a known and common basis in regard to transport costs."

Statistical information on important aspects of working is given below.

STATISTICS OF OPERATION ON THE VICTORIAN RAILWAYS FOR THE YEAR ENDED JUNE 30, 1938.

	For the year ended 30th June	
	1937	1938
Average mileage operated	4,721	4,721
Capital cost of construction (thousands)*	£50,529	£51,164
Gross Earnings (thousands)	£10,135	£9,735
Working Expenses	£6,917	£7,791
Net Revenue	£2,876	£1,905
Operating Ratio	71.62	80.43
Number of Passenger Journeys (thousands)	137,895	141,342
Passenger, etc., Earnings (thousands)	£4,232	£4,119
Goods (Inc. Live-stock) in thousand tons	7,258	6,813
Goods, Etc., Earnings (Inc. Live-stock) (thousands)	£5,029	£4,945
Other Services (thousands)	£875	£671
Passenger thousand Train Miles:—		
Country	3,314	3,392
Country Rail Motors	820	874
Suburban	7,346	7,453
Suburban Rail Motors	3131	31
Mixed	752	678
Goods thousand train miles (Inc. Live-stock)	4,949	5,490

NEW SOUTH WALES RAILWAYS IN 1937-38.

The New South Wales Railways have reported satisfactory results for the year ended 30th June, 1938. Earnings aggregate approximately £19½ millions and working expenses £13¾ millions. The balance after meeting working expenses was £5.73 million. The percentage of profit to the capital invested was £3.92. After meeting the statutory obligations and adding the contributions from the Government towards losses on the working of the developmental lines amounting to £800,000, the net revenue receipts stood at £6.53 millions. The revenue charges in connection

*The total net amount expended on works and assets standing at £77.203 millions was written down by £26.674 millions in 1936, under the Railways (Finances Adjustment) Act, 1936.

with the State's Loan Liability, the interest on Loan Capital, Exchange on interest remitted Overseas and the Sinking Fund contributions totalled £6.47 millions. The surplus after providing for all statutory debits was £51,469. Thus the results for the year were on the whole better than those for 1936-37.

Revenue earnings showed improvement under almost all heads. The passenger journeys numbered more than 189 million, an increase of 11½ millions over the previous year. The total tonnage was over 16¼ millions and the ton mileage about 1,855 millions.

There were certain direct losses of revenue on account of the grant of reduced rates for starving stock, travelling for food, free return to their original pastures of a large number of stock, in the carriage of fodder and water to drought stricken districts and concessions in fare to returned soldiers. In the aggregate the total of concessions allowed was £423,747. Working expenses showed an increase of £1,405,000 over the previous year. Expenditure on betterments and renewals was £1,164,000. The cost of the increases in the Federal Basic wage, the State living wage, the various award provisions and the operation of the Public Services Salaries Act was a little over £800,000.

The year under review was memorable for the 150th Anniversary Celebrations in which the Department of Railways took a prominent part. The Government Tourist Bureau received a new status with effect from the 1st January, 1938, having been transferred to the Department of Railways. The Railway Commissioner's report refers to the acceleration of the services carried out during the year, the remarkable success of the Diesel train services and various other amenities to the public such as the new De Luxe sleeping cars, liberalised week-end excursions, the introduction of anywhere-to-anywhere excursion fares.

STATISTICS OF WORKING ON THE NEW SOUTH WALES RAILWAYS, FOR THE YEAR, 1937-38.

	For the year ended 30th June	
	1937	1938
Average Mile operated ..	6,124	6,113
Capital cost of construction (thousands) .	£145,257	£146,808
Gross Earnings " ..	£17,816	£19,486
Working Expenses " ..	£12,355	£13,760
Net Revenue " ..	£5,461	£5,726
Operating Ratio ..	69.35	70.61
Percentage of Net Revenue to Capital ..	3.78	3.92
Number of Passenger Journeys ..	177,837	189,349
(thousands)		
Passenger Earnings (Inc. Mails) " ..	£5,623	£5,995
Other Coaching Earnings " ..	£810	£849
Goods in tons (Inc. Live-stock) " ..	14,685	16,480
Goods Earnings " ..	£9,705	£10,831
Passenger (thousand Train Miles):— ..		
" " " " Suburban. ..	8,870	9,260
" " " " Country. ..	8,644	9,183
Mixed " Train Miles ..	1,133	1,072
Goods " Train Miles ..	9,900	10,687

WESTERN AUSTRALIAN GOVERNMENT RAILWAYS
IN 1937-38.

The Annual Report of the Western Australian Government Railways for the year ended 30th June, 1938 and a summary of the Government Metropolitan and Suburban Tramways, Ferries and Electricity Supply for the same period reveals a profit which is the first to be recorded in the last 10 years. The total railway earnings received during the year amounted to £3·678 millions which is £215,813 more than last year. Working expenses increased by approximately £90,000 to £·710 millions. The net revenue amounted to £967,936 which, after meeting the interest charges of £987,887 left a deficit of £19,951. There was, however, a small surplus on the Working of the Tramways and a substantial surplus from the Electricity Supply which after meeting the losses on Railways and Ferries produced a profit of £31,810.

The passenger journeys decreased and the receipts totalled £532,652 a slight decrease as compared with the previous year. Earnings from goods and minerals recorded an appreciable increase to £2·632 millions. The increase in tonnage and ton miles is a satisfactory feature of the year's working, the larger volume of wheat, timber and superphosphate handled being mainly responsible for the improvement.

Working expenses showed an increase of 3.43 per cent. as compared to the year 1936-37. The Railway Commissioner explains that nearly 50 per cent. of the increase was due to causes over which the administration has no control, such as basic wage increases, the new arbitration award and the cost of native coal. In the expenditure provision was also made from working expenses for £100,000 as a repayment to the Treasury for maintenance of railways which was postponed in the depression period 1931-1933. But for these liabilities the year under review would have shown a profit of £80,000. The net return on Capital was 3.70 per cent.

The Railway Commissioner's report also affords a survey of other features of interest during the year. In furtherance of the policy of increasing travel amenities, many improvements were carried out. The first of the diesel electric-rail cars was allotted a regular service on the Perth-Merredin Section. Each of the vehicles has been named after previous Governors of the State. A considerable saving over the previous running schedules is reported, the average improvement being over 40 per cent. in this service. During recent years great attention has been bestowed on the acceleration of services both as regards passenger and goods traffic.

The Western Australian Railways have also been suffering acutely from road motor competition and an officer was deputed to canvass firms whose traffic had drifted from the railways and in other ways to bring the services under the notice of prospective clients. The response is stated to have been so encouraging as to justify the arrangement on a permanent basis. The Railway Commissioner says that the officer has been engaged in following up contacts, calling on customers and discussing their transport problems with them and generally promoting the Department's interest.

STATISTICS OF RAILWAY OPERATION, WESTERN AUSTRALIAN
RAILWAYS, FOR THE YEAR ENDED JUNE 30, 1938.

	For the year ended 30th June	
	1937	1938
Average Mileage operated ..	4,357	4,373
Capital cost of construction (thousands) ..	£25,990	£26,286
Gross Earnings " ..	£3,462	£3,678
Working Expenses " ..	£2,620	£2,710
Net Revenue " ..	£842	£968
Operating Ratio ..	75.68	73.68
Percentage of Net Revenue to Capital ..	3.25	3.70
Number of Passenger Journeys (thousands) ..	12,710	12,011
Coaching Earnings (inc. Mails) " ..	£742	£717
Goods in tons (inc. Live-stock) " ..	3,448	3,606
Goods ton miles (thousands) ..	346,777	390,913
Goods Earnings " ..	£2,541	£2,769
Other Services " ..	£179	£192
Passenger Train Miles. }	6,236	6,535
Goods train miles. }		

JAPANESE GOVERNMENT RAILWAYS.

The Annual Report of the Department of Railways of the Government of Japan for the year ended March 31st, 1937, shows a large increase in profits as compared with the two previous years. Working revenue for the year amounted to 598 million Yen against 545 million Yen of the previous year. Working expenses have also increased, from 330 million Yen to 354 million Yen. The profit on the results of working during the year amounted to 244 million Yen. Under the accounting system of the State Railways the additional work expenses and control of the local Railways, tramways and survey expenses together with a few other items of expenses not directly connected with operation of Railways are debited to the revenue account. Making allowance for these items and interest charges and subsidies to local Railways the surplus amounted to 145 million Yen.

The traffic boom which commenced during the previous year in all spheres of railway operation showed greater activity during the year; the total traffic earnings coming up to 586 million Yen, the highest on record. The principal causes of this expansion on which emphasis is laid in the report are: the financial activities led by swell of Government expenditure, the opening up of new lines, encouragement of travel, the heavy industrial boom due to the Government policy after the incident, the effects of the promulgation of the military budget. The coaching receipts and traffic showed an increase of over 7 per cent. The volume of goods handled totalled approximately 47 million metric tons and goods receipts 136 million Yen, a gain respectively of about 12 and 4 per cent.

The Japanese Railways have consistently with their past record, dealt with the problem of a steady improvement of facilities to the public and a number of new features, *viz.*, further attractions to the holiday makers, special navigation trips, new ferries services, fare reductions and revisions were introduced during this year. Travel was stimulated by means of literature, motion pictures, shows and exhibitions and other measures.

Goods traffic also received similar attention and reductions of rates were offered for encouraging shipping of goods by rail. The Investigation Commission of Forwarding Business consisting of some members of the Diet, high officials of Government, representatives of business, men of experience and some railway officials was organised. The outcome of their labours has been an agreement proposing the regulation of forwarding agency and the organisation of an Express Company under the title of Japan Forwarding Company. More wagons and containers were provided during the year.

The year has been on the whole a period of uninterrupted progress for the Japanese Government Railways as will be seen from the statistics reproduced below.

The Report is as usual a model for clarity and contains all the important data relating to the working of the Railways.

STATISTICS OF OPERATION ON THE JAPANESE GOVERNMENT
RAILWAYS FOR THE YEAR ENDING MARCH 31, 1937.

	For the year ending 31st March	
	1935-36	1936-37
Length of lines worked (kilometre) ..	17,030	17,422
Capital cost of Construction (thousand yen) ..	3,938,263	4,089,625
Gross Earnings (thousand yen) ..	544,534	598,171
Working Expenses (thousand yen) ..	329,537	354,240
Net Revenue (thousand yen) ..	214,997	243,751
Operating Ratio ..	60.5	59.3
Percentage of profit to Capital ..	5.7	6.2
Number of Passengers carried (thousands) ..	985,041	1,058,631
Number of Passengers carried (thousand per 1 kilometre) ..	24,173,052	26,216,155
Passenger Earnings (thousand yen) ..	253,043	274,423
Volume of goods hauled (thousand metric ton.) ..	81,039	89,342
Volume of goods hauled (thousand Ton kilometre) ..	14,011,712	15,656,580
Goods Earnings (thousand yen) ..	225,343	250,962
Passenger Train Kilometrage (thousands) ..	172,254	180,096
Goods Kilometrage (thousand kilometres) ..	68,545	75,317

NOTES AND MEMORANDA.

ACTION TAKEN ON WEDGWOOD REPORT.

The Railway Board issued to the members of the Central Assembly a second statement showing the action taken on the recommendations in the Indian Railway Enquiry Committee's Report 1937. Matters not dealt with in the first statement have been discussed in the statement and a wide range of subjects has been covered. It is not possible to refer to all of them but the most important recommendations are summarised below. As regards Capital Expenditure it is stated:

It is accepted that during the boom period following the war, considerable capital expenditure was undertaken (with the approval of the legislature) which has subsequently not proved to be financially justified. In recent years, however, this expenditure has been on a greatly reduced scale, and every endeavour has been made to 'avoid waste.' The return of 10 per cent. suggested by the Committee in regard to schemes, the financial justification of which rests on the savings to be effected, will be kept prominently in view, but neither in regard to such schemes nor in regard to schemes calculated to earn additional revenue can any percentage figure of return be rigidly adopted as the sole criterion for sanction. Each scheme must receive careful examination on its merits, and with a view to rendering this scrutiny more efficient, the procedure for obtaining the Board's sanction to schemes of over Rs. 1 lakh is being reviewed and the importance of the function of the Chief Accounts Officer as financial adviser to the General Manager in regard to all schemes is being emphasized.

Capital expenditure is incurred not only on new works but also on renewals involving improvements. To keep such expenditure to the minimum, railway administrators have been asked to examine in all cases of proposed renewals whether a reconditioning of the assets, which would be chargeable mainly to revenue, would not be more economical. A formula has been prescribed for measuring the comparative annual cost of replaced and reconditioned assets, and it has been decided that renewals will ordinarily be resorted to only if reconditioning is found to be more expensive.

The question of Railway Contributions to General Revenues has come up more than once during the recent months and the statement presents the views of Government on the desirability of a Railway Reserve and the future of the Depreciation Reserve Fund and the Contributions in the following terms:

As recommended by the assembly in October 1937, the question of writing off the arrear of liabilities of contributions to general revenues and the loans taken from the Depreciation Fund to meet losses, has been postponed till 1st April, 1940 or until the fixation of the amount of the railway capital which the Federal Railway Authority will owe to the federation under Section 187 (i) of the Government of India Act has been settled, whichever is earlier. The payment of contributions to the general revenues has accordingly been resumed from 1937-38.

Government accept the need for an adequate Depreciation Fund and in the light of past conditions agree that a normal balance of Rs. 30 crores would not be excessive. They also agree with the committee's conclusion that it has not been esta-

blished that contributions to the fund in the past have been unduly high. They are impressed with the necessity for a general reserve fund from which any deficit on working expenses and interest could be met in years of depression, and so obviate railways becoming a burden on general revenues at these critical times. The figure of 50 crores suggested by the committee as the amount to which revenue balances, after provision for depreciation, should be appropriated to such a fund is possibly a counsel of perfection, but Government are inclined provisionally to the view that this sum should be borne in mind as a suitable maximum for a combined reserve fund (including the Depreciation Fund). The railway reserve funds at the end of 1937-38 amounted, however, to only 19¾ crores, and the need of the railway contribution to general revenues in present circumstances precludes any decision or action in regard to these matters or to amortization of capital at present, beyond the existing basis of the annual contribution to Depreciation Fund.

It seems that the Wedgwood Committee's recommendations as regards strengthening the present organisation for traffic development and encouraging research have already been adopted and certain additional posts have already been sanctioned on the E.B., B.N., B.B. & C.I., E.I., and G.I.P. Railways.

On the subject of rates and fares, simplification of the Class and Schedule Rates without unnecessary sacrifice of revenue is said to be under consideration. As regards the Risk Rates the Railway Board on the recommendation of the I.R.C.A., have asked railways to give note to the following recommendations: (1) that wherever possible railways should quote schedule rates on railway risk for those commodities on which the risk is insignificant; (2) that wherever possible railways should in future apply the Railway Risk condition to new special rates that may be introduced, and that, if circumstances permit, they should apply risk condition to the existing special rates which are at present quoted at owner's risk. Special steps are being taken to expedite quotation of rates and the proposal of the introduction of rate registers at stations is now under consideration. The procedural reform of the Railway Rates Advisory Committee has been undertaken and Government have accepted the principal recommendations of the Committee.

Other recommendations on which Government have already acted are the renewed efforts to root out incivility and dishonesty of staff, the organisation of the Accounts Department, closing of branch lines and the New York Publicity Bureau and other technical recommendations. Several railways have already abolished the first class in branch lines but "in the opinion of the Railway Board it will not be possible to combine the principal classes entirely and it will be necessary to continue providing first class accommodation on important main-line and certain other trains".

The Wedgwood Committee emphasize the necessity of providing for the training and education of staff. The statement referring to the Committee's remarks says that:

The Railway Enquiry Committee's views have been accepted by the Railway Board and railway administrations have been addressed in the matter. Several administrations have area schools for the training of subordinate supervisory staff which provide courses of training for probationers in the subordinate grades, refresher courses and promotion courses. Substantial progress has been made in this respect on the N.W.Ry., at Walton Training School, Lahore, and a note detailing the

advantages which that administration has gained from that Institution has been circulated to other railway administrations for their consideration. Instructors for the area schools are drawn from railway staff who have an aptitude for this kind of work.

The Railway Board are in general agreement with the views of the enquiry committee regarding advanced courses for subordinate grades and the manner and extent of giving effect to them are under discussion with the general managers of railways. Certain railways already have a system of examination and selection more or less on the lines recommended by the committee.

The Railway Board generally accept the enquiry committee's suggestions on examinations, special commercial training, and courses for officers.

Replies from Railway Administrations indicating their opinions of and the action taken by them on the recommendations contained in paras. 105-113 indicate that railways are generally aware of the necessity for the training and education of their staff and are doing what they can within the means at their disposal to implement the recommendations made in the report. The general financial situation at present precludes any large extension of training facilities but should it substantially improve, the question of additional training facilities will be considered by the Board.

General Managers of railways have been asked to give this matter their consideration and report in what respects they have been able to introduce measures to give effect to the recommendations made in this paragraph. Railways are working generally on the lines suggested by the enquiry committee and have either adopted or are considering the adoption of the following among other measures:—

- (i) Lecture and Debating Societies.
- (ii) Mutual improvement classes.
- (iii) Issue of periodical bulletins to inculcate a spirit of more active business outlook.
- (iv) Officers taking opportunities to speak to employees about the necessity of improved relations with the public.

Railway administrations have taken further steps in the directions noted below to stimulate the interest of staff:—

- (i) Formation of suggestion and invention committees.
- (ii) Collection and distribution to staff concerned of data regarding topographical and commercial features of the locality within trading distance of their sphere of work.
- (iii) Publication of magazines for railway employees.
- (iv) Quota system.

PRODUCTIVITY OF CAPITAL EXPENDITURE.

A question was asked in the Budget Session of the Assembly as regards the reason why Railway Board have come to the conclusion that with regard to the capital expenditure on new schemes, they cannot keep in mind any definite percentage of return as a sound criterion for sanction; the functions, in respect of the sanction in such schemes of the Chief Accounts Officer, as Financial Adviser to the General Manager; and the principles which the Railway Board have accepted with regard to expenditure on renewals. The Honourable Sir Thomas Stewart invited the atten-

tion of the member to the exact wording of the remarks against paragraph 74 of the Second Statement showing the action taken on recommendations in the Indian Railway Enquiry Committee's report, and placed on the table the copy of the Railway Board's letter No. 0453—F dated the 22nd February. The letter reads as follows:—

To

The Agent,
East Indian Railway,
Eastern Bengal Railway,
Great Indian Peninsula Railway,
North Western Railway.

Dear Sir,

PRODUCTIVITY OF CAPITAL EXPENDITURE.

I am directed to invite your attention to paragraph 74 of the report of the Indian Railway Enquiry Committee regarding capital expenditure in which they expressed the opinion that capital expenditure had been incurred on too lavish a scale in the past and suggested that in future no scheme whose justification rests on the savings to be effected should be passed unless the annual saving is equal to at least 10 per cent. on the capital cost involved.

With a view to closer control over capital expenditure the Railway Board are reviewing the procedure for according approval to works costing over a lakh of rupees which, at present, come before them for consideration in the Works Programmes. So far as works within your financial powers are concerned, they desire that in considering schemes the financial justification of which rests on the savings to be effected you should keep the return of 10 per cent. suggested by the committee prominently in view. They recognise, however, that neither in regard to such schemes nor in regard to schemes expected to earn additional revenues can any percentage figure of return be rigidly adopted as the sole criterion for sanction. Each scheme should receive careful examination on its merits, and the Board do not wish to fetter your discretion in the exercise of the powers delegated to you. Certain schemes, though essential or very desirable, cannot from their inherent nature show a direct return on the outlay. Where, however, this return is the predominant consideration in determining whether a scheme should be proceeded with or not, you should remember, that a work is expected to yield only a small margin of profit over and above the present rate of Government borrowing should not necessarily be regarded as remunerative. In the first place, although the present rate of Government borrowing is low, the rate at which the Railway Department has to pay interest to General Revenues on the Capital expenditure is an average rate worked out on borrowings since 1916-17. (It amounts approximately at present to 4.75 per cent. though the effect of the reduction in the rate of Government borrowing in recent years will operate gradually to reduce it.) Secondly, there is the contingent liability to pay a contribution from railways surplus to general revenues which under the existing convention is

assessed at one per cent. of the capital at charge. Any addition to this capital, therefore, increases this contingent liability. Thirdly, experience has shown that partly owing to the optimism of the departments submitting the schemes and partly to unforeseen causes the realisation not frequently falls substantially short of the estimated return. The Railway Board have little doubt that the last consideration carried substantial weight with the Railway Enquiry Committee, when they made their recommendation of ten per cent.

The Railway Board also desire in this connection to emphasize the position of the Chief Accounts Officer, as your Financial Adviser. His work in this capacity is, needless to say, not the routine arithmetical check of estimates nor the examination of the propriety of the allocation, nor the question of the authority competent to convey financial sanction (these points have, of course, also to be examined by him) but the careful scrutiny of the justification for the expenditure proposed. Even in cases where the return on the outlay is not the determining factor, it is incumbent on him to examine and offer his advice on the general merits in the spirit of a prudent individual spending his own money. The observations in this para. should be held to apply not only to schemes within your financial competence but also to those which require the sanction of higher authority.

Yours faithfully,

T. S. SANKARA.

Director of Finance, Railway Board.

INDIA'S STERLING LIABILITIES.

In reply to a question in the Assembly, the Finance Member stated that a repatriation of Rs. 60 crores of sterling debt has taken place from the date of the institution of the Reserve Bank, 1st of April, 1935, up till the end of November, 1938. The explanation of the apparent discrepancy is that for the period 1930-1935 there was an increase of £19 million pounds in our sterling debt followed by a repatriation of £27 million during 1935-36 and 1936-37 and further reduction in our sterling debt of £18 millions since 1st April, 1937. Statement placed on the table is reproduced below:—

(b) The repatriation of Rs. 60 crores of sterling debt has taken place from the date of the institution of the Reserve Bank, that is to say the 1st April, 1935, up till the end of November, 1938. The explanation of the apparent discrepancy is that for the period from 1930 to 1935 there was an increase of about £19 million in our sterling debts followed by a repatriation of £27 millions during 1935-36 and 1936-37 and a further reduction in our sterling debt of £18 millions since 1st April, 1937.

(c) The reduction is an actual reduction in the total amount of our sterling debt and no question of the domicile of holders arises.

(In Millions of £).
(Up to the end of November.)

	1935-36	1936-37	1937-38	1938-39	Total.
Railway Annuities ..	1.83	1.90	1.96	1.47	7.16
Railway Sinking Funds ..	.17	.17	.18	.18	.70
Railway Debentures ..	3.50	.88	1.47	3.06	8.91
Sterling Loans ..	1.95	16.86	2.90	..	21.80
Transfer of Funds to Family Pension Fund Commissioners ..	..	..	3.70	2.84	6.60
	7.45	19.81	10.36	7.55	45.17

or

60.23 Crores of Rupees.

AIR-CONDITIONED COACHES.

The use of the air-conditioned coaches between Bombay and Howrah has, it appears, been financially successful. During the six months, January to June, 1938, the number of passengers were 2,379 of whom 1,697 were through and 682 intermediate passengers. The surcharge levied for the use of the air-conditioned coaches brought in Rs. 42,995. The charges of interest, depreciation, maintenance and operation of the equipment for the period have been estimated at Rs. 25,600. According to this figure, therefore, there has been a profit of Rs. 17,395 on this service. The detailed figures are given below for comparison:—

Bombay to Howrah	No.	Amount of Surcharge Rs.
Through passengers	609	16,470
Intermediate	352	3,265
Howrah to Bombay		
Through passengers	1,088	29,376
Intermediate	330	3,884
Total	2,379	42,995

RAILWAY CONCESSIONS FOR TRANSIT OF GRAINS AND FODDER.

In answer to a question in the Assembly as to the concessions offered in the course of the financial year for transit of grains and fodder on account of famine the Railway Member presented the following statement

showing the concessions to the Consignor on the Broad, Metre and Narrow gauges:—

	Broad. Per Mile		Metre. Per Mile		Narrow. Per Mile	
	As.	Ps.	As.	Ps.	As.	Ps.
<i>Four-Wheelers.</i>						
Special Rates	3	6	2	4	1	9
Concession Rate (to be paid by Traders)	1	0	0	9	0	6
Difference (to be paid by Government)	2	6	1	7	1	3
<i>Six-Wheelers.</i>						
Special Rates	5	3	3	6	2	7½
Concession Rate (to be paid by Traders)	1	6	1	1½	0	9
Difference (to be paid by Government)	3	9	2	4½	1	10½
<i>Bogies.</i>						
Special Rates	7	0	4	1	3	6
Concessions (to be paid by Traders)	2	0	1	6	1	0
Difference (to be paid by Government)	5	0	3	2	2	6

REMARKS.

The minimum charge is Rs. 10 for four-wheelers, Rs. 7-8 for six-wheelers and Rs. 20 for bogies.

The minimum charge is Rs. 5 for four-wheelers, Rs. 15 for six-wheelers and Rs. 10 for bogies.

RAILWAY BOARD MEET RAILWAYMEN.

The sixteenth half-yearly meeting between the Railway Board and the All-India Railwaymen's Federation was held in New Delhi on January 9 and 10, 1939. The deputation from the Federation included Mr. Jamnadas Mehta, the President, Mr. Guruswami, the Acting General Secretary of the Federation, and eleven other delegates from certain Unions affiliated to the Federation.

The subject for discussion was the draft rules prepared by the All-India Railwaymen's Federation to serve as a model for adoption by Railway Unions seeking recognition by railway administrations concerned. The draft rules as they emerged after discussion will be considered by Government before they are finally promulgated.

Reference was also made informally to certain other matters which have been under the Railway Board's consideration, *e.g.*, running parcel clerks on the Eastern Bengal Railway in regard to which the deputation was told that the orders of the Railway Board would issue as early as possible.

The Railway Board agreed to the request of the Federation that the next half-yearly meeting should be held at an early date and the 19th and 20th May, 1939, were accordingly fixed.

BRITISH RAILWAY POLICY.

Lord Monkswell in the House of Lords on February 15th called attention to alleged defects in the policy followed by British Railways in the past and asked His Majesty's Government for an assurance that before granting any new power to the Railways, they were at the same time giving attention to the importance of ensuring that the mistakes of the past were not repeated. According to the *Railway Gazette*, the noble Lord said:

The finances of the British Railways were in a serious condition. Exactly what ought to be done was not clear, but it was important to ensure that remedies were not applied that were worse than the disease. He went on to summarise the history of railways, and said that by 1850 the position of the railways was secure. There had by that time grown up a large professional class of railway officials who saw that all they needed to secure for themselves a quiet life was to agree with one another to do as little as possible in the way of technical development or improved service. Such improvements as took place were usually made in spite of the opposition of the railway officials. The adoption of block signals and continuous brakes were classic instances. One result of the inertia and lack of foresight of that period was that a system of working the goods and mineral traffic was allowed to grow up which had led to some of the worst troubles from which the railways were suffering to-day. Vehicles were not big enough, and colliery sidings and terminals in industrial works were not adapted to dealing with big vehicles. The prime advantage of railways—that of being able to carry very large loads with a small amount of man power—was not utilised as it should have been.

Congratulating the L.N.E.R., upon the improvement that had been effected from the last decade, Lord Monkswell referred to the improvements in service, punctuality, quicker movement and similar development on a smaller scale on the other three groups:

One very unsatisfactory feature of recent railway activity was the stunt of electrification on surface railways. He meant a spectacular move that involved the spending of a great deal of money and was useless when completed. The usefulness of electrification was confined to underground lines. It was enormously expensive to instal, and an electric motor cost roughly twice the price of a steam locomotive of equal power. Owing to difficulties of springing, the heavy motors of electric engines knocked the road to pieces, and the vibration thus set up caused acute discomfort to passengers. Neither was there any reason to suppose that electrification paid. The Southern Railways always flatly refused to give particulars of the finance of electrification. They merely went on repeating that the traffic had largely increased on the electrified systems. Of course it had. The number of residents in the suburban districts served by the Southern Railway had largely increased and traffic must have grown whatever system of traction was used. The railway's claim was a mere subterfuge to conceal awkward facts. The proposed electrification of the Great Western Railway main line west of Taunton would be no advantage for the shareholders or the public. Who was it that benefitted? That was a most interesting question, and one that might very properly engage the attention of the Government. It was the Government who, in their intense anxiety to snatch at any colourable excuse for spending, agreed to lend the railways millions of tax-payer's money below the economic rate of interest, and took no proper steps to ensure that the money should be usefully employed.

The noble Lord also criticised the recent attempts for a "Square Deal". He said:

"When the railways asked to be relieved from their present obligations the principal reasons which they alleged for the request was the pressure of the competition of road vehicles. Railways were specially suited for moving very large loads. They were never likely to lose three immense sources of traffic: first, heavy goods

and mineral traffic; secondly, intensive passenger traffic into and round the big towns; and thirdly, long distance passenger traffic. The traffic they had lost was that where their immense carrying power was least felt; that was to say, for which they were least suited. The trouble was that railway goods rates had never been fixed upon an economic basis—the policy of favouring one kind of traffic against another had broken down.

It was noticeable that the railways were extremely reticent about what they proposed to do if granted the new powers for which they asked. The immediate cause of all the trouble was that the wages of the railway servants had been forced up by political action to a point too high to allow the railways shareholders to receive a suitable return on their holdings. The capitalisation of the railways could not seriously be regarded as too high because it was much less than the sum that would be required to replace the railways. Subsidies always tended to prevent proper provision being made for the future. The railway servants were receiving not only that proportion of the railway receipts which they earned, but also a supplement, which was earned by the thrift of the shareholders but taken from the shareholders and handed over to the railway servants. He criticised also the weakness of the boards of directors which were hardly more than a body for registering the decrees of their professional advisers. One of their duties should be to organise the shareholders effectively for such action as might be necessary, and another was to ensure that the railway managers and officials should at least continue the activity which they had recently displayed."

INDEX NUMBERS OF RAILWAY FREIGHT RATES FROM 1913-36.

The Dominion Bureau of Statistics, Canada, has issued a second report on the subject of index numbers of freight rates. It brings the index up to December, 31, 1936.

There is first an account of the rating system in the Dominion. According to the Railway Act of 1919 the tariff which the Canadian Railways are authorised to issue for the carriage of goods between points on the Railway are divided into three classes (a) the standard freight tariffs, (b) special freight tariffs, and (c) competitive tariffs. The standard freight tariffs are merely tariffs of maximum mileage rates beyond which the railways may not charge. These are not liable to changes unless there is a very material advance or decrease in the cost of transportation. It is stated that the standard tariffs of the Dominion Railways have not changed since 1922 except in the territory covered by the Maritime Freight Rates Act with effect from July 1, 1927. The standard rates are not uniform throughout the country and there are six different schedules or scales in effect. Those in the division between the Sudbury and the Fort William the rates are the highest of all the Eastern Rates; the "Prairie" Standard is higher than those of the two most Easterly divisions but lower than the Sudbury and the Fort William division. The Pacific or Mountain Scale is the highest of all western rates. It is stated that the bulk of the freight traffic, probably 90 per cent. of it, moves under "Special" or "Competitive" tariffs governed by sections 328-332 of the Railway Act. Whereas the Standard rates require the specific approval of the Board of Railway Commissioners, the special tariffs come into effect on three days' notice in the case of reduction and 30 days' notice in the case of advances. The "competitive" rates are for the purpose of permitting the carrier to publish rates lower than the "standard" and will come into effect between two points

where there is competition of two or more transportation lines for the movement of traffic or to meet the exigencies of competition of other carriers by land or water between the specifically affected points. The competitive tariff may be brought into immediate effect without previous notice to the Board.

There is next a brief sketch of the history of the important orders of the Board of Railway Commissioners and the special Acts of Parliament affecting rates. Improved rate changes beginning from Crow's Nest Pass Agreement of 1897 down to the General Freight Investigation and Reduction on Basic Commodities of 1922 and the Maritime Freight Rates Act of 1927 have all been briefly summarised.

There are undoubtedly serious difficulties in compiling an index of freight rates. The average revenue per ton mile which is sometimes used as an index is considered not a very good index of rates where the relative volumes of low class and high class freight rates fluctuate widely from year to year. The method adopted by the Bureau in computing a series of freight rate index numbers for its first report issued in 1936 is as stated below:

The method was: (1) to select a list of commodities representative of 76 commodity classes in which the Railways report the tonnages carried each year; (2) to select hauls for each of these commodities; and (3) to compile the freight rates for the selected hauls for these commodities for a series of years from the tariffs filed with the Board of Railway Commissioners. On the assumption that the list of commodities was a fair sample of all freight carried by railways, that the selected hauls were representative of the actual movement of these commodities, and that the changes in rates on these would be fairly representative of the changes in rates of all freight, weights were given each series and index numbers computed. The selections of commodities and hauls were made with the aid of various returns collected by the Bureau, railway officials having first-hand knowledge of freight movements, and any other source available. Carload commodity rates were used wherever such were in effect. In a number of cases as a result of commodity rates not being in effect in the earlier years it was necessary to use the class rates until such time as a lower commodity rate was established. Further, quite frequently typical commodity routes and rates have been cancelled and class rates restored as a result of insufficient volume moving to command a lower rate. The raising of a rate as a result of the change from a commodity to a class rate does not, broadly speaking, indicate that the rate level has been generally increased on that particular commodity. It usually indicates that economic conditions have changed and that new routes have been established; it has been quite difficult over a twenty-year period to establish a change of class or commodity routes and rates.

The rates for the various selected hauls for each commodity were combined by taking a geometric mean of these rates. The geometric mean is the "nth" root of the product of "n" factors and is less than the arithmetic mean of the same factors. The next step was to combine these geometric means representing the freight rates for each commodity. This was done by taking the weighted arithmetic mean. The weights used were the tonnages reported by the railways for 1926 and index numbers for the five commodity groups, Agricultural Products, Animal Products, Mine Products, Forest Products, Manufactures and Miscellaneous and for the total of all freight were computed using the 1926 data as equal to 100 as a base.

In the present report the data have been brought up to the end of 1936 but certain improvements have been made. The number of commodities has been increased to 48, a better distribution has been attempted

and the indices have been computed to coincide approximately with the more improved sectional and general rate changes. An important improvement has been the weighting of the selected hauls for grain and coal in the agricultural and mine products groups. Thus not all the indices have been brought to closer accuracy by weighting the haul. The idea is that changes in rates for hauls with heavy traffic would have a greater influence on the group index than changes in rates for hauls with light traffic.

Limitations of space preclude our reproducing all the index numbers for the 20 years, *viz.*, 1916-36. Figures for selected years are given below:—

CANADA REVISED FREIGHT RATE INDEX NUMBERS.

	Agricultural products.	Animal products	Mine products.	Forest products.	Manufactures and Miscellaneous.	Total.
Commodities ..	10	9	9	4	16	48
Rates ..	112	92	88	49	159	500
January 1st, 1913	84.89	65.41	64.02	68.85	60.43	67.83
" 1st, 1921	143.67	116.31	111.90	117.53	115.48	121.37
December 31st, 1926	100.00	100.00	100.00	100.00	100.00	100.00
Dec. 31st, 1930	98.66	98.97	95.91	96.95	98.96	98.11
" " 1935	95.90	98.22	95.27	96.10	94.23	95.31
" " 1936	94.68	98.22	95.27	95.11	93.69	94.79

RAILWAY BUDGET SEPARATION IN EGYPT.

The Council of Ministers in Egypt are reported to have agreed in principle to the separation of the Budget of the Egyptian Railways, Telegraphs and Telephone Administrations from the General State Budget. A report issued recently discloses the new basis on which the Railways are to work. According to the proposals the Egyptian State Railways, Telegraphs and Telephone Administrations relating to the Government should be reduced by 20 to 25 per cent. and all Government departments should make cash payment instead of the present system of book credit. The present Railway Board is also to be re-constituted with only six members namely, the Ministers of Communications, Finance and Public Works, the Under-Secretary for Finance, the General Manager of the Egyptian Railways and two others to be appointed by the Council of Ministers.

A STUDY OF FOREIGN RAILWAYS.

The Bureau of traffic and operation of the Department of Railways of the Government of Japan undertakes a continuous research on the developments on foreign railways, and the results are reported from time to time

in a monthly bulletin which is distributed to railway officials, associations connected with communication, scholars, express agencies, newspapers, magazine publishers, libraries and others interested. The wide range of the problems dealt with by the Bureau may be appreciated from the list of the principal subjects dealt with in the bulletins during the year ended March 31, 1937.

(a) *On Railway enterprise in general:*

- (1) Study on narrow gauge railways.
- (2) Railways and national defence.
- (3) On the defence of railways at the time of air raid.
- (4) On the activities displayed by German Railways.
- (5) On the German Railways at Olympiad.
- (6) Geography and Communication of Siberia.
- (7) On the Russian Railways.
- (8) Economic aspects of railways in China.
- (9) Construction of railways and railway policy in China.
- (10) Construction of railways and agrarian finance in China.

(b) *Research on transportation:*

- (1) On the train operation in European railways.
- (2) Comparative study of train speed effected on western railways.
- (3) On the construction of gasoline cars in Europe.
- (4) Operation of gasoline cars in England.
- (5) On the high speed attained by a streamlined locomotive in U.S.A.
- (6) Study on expenses involved in the construction, maintenance, operation, and overhauls of a streamlined locomotive in U.S.A.
- (7) Study on signal apparatus within a carriage in U.S.A.
- (8) Study on the diesel engine.
- (9) Rational operation of wagons.

(c) *Study on the Transport of passengers and goods.*

- (1) Prominent features of shipping piece loads in railways in England.
- (2) Business transactions on the national railways in Germany.
- (3) Latest problems in the transport of passengers and goods on German railways.
- (4) Railway regulation on USSR. railways.
- (5) Transaction of C.O.D. goods on Canadian Railways.

(d) *On the Tariff:*

- (1) Report of the Interstate Commerce Commission as regards reduction of railway tariff.
- (2) On simplification of classification of goods in U.S.A.
- (3) Regulation of passenger traffic on the French Railways.
- (4) Study on the tariff of luggage and piece loads on French Railways.
- (5) On the increase of tariff for goods transport in the National Railways in Germany.
- (6) On railway tariffs with a special reference to agrarian economy.

(e) *On Motor-car traffic.*

- (1) Motor-car routes in Germany.
- (2) Control of motor-car traffic in Europe and America.
- (3) On the connection of rail transport and motor-car traffic on the Southern Railway, U.S.A. and its actual performance.
- (4) Co-operation and competition of railway transport and motor-car traffic in Europe.

(f) *Air transport:*

- (1) Activities in air transport of the world.
- (2) Joint traffic of goods by rail and planes in Germany and its Regulation.

Booklets or pamphlets published in connection with the traffic were: (1) Statistics of World's Railways, 1934; (2) The Business Depression and Railways in the World; (3) Express and Warehousing Business in USSR; (4) The Report on Passenger and Goods Traffic in U.S.A.; (5) On Encouraging shipping of goods by Rail; (6) Railways in China; (7) Map showing marine communications in USSR.

These activities are, of course, in addition to those of the Railway Research Office belonging to the Minister's Secretariat of the Department of Railways, the main business of which is to attend to technical research, standardisation of designs and measures, Investigation of Railway Stores, and the maintenance of the Railway Museum. It has seven departments, namely, the Chemical Department, Physical Department, Electrical Department, Department of Bridges and other structures, Departments of safety appliances, Department of Rolling-stock and General Affairs Department. Even a bare enumeration of the main subjects of research takes up more than eight closely printed pages of the Annual Report for 1937.

RAILWAY ENSIGN.

The Japanese Government Railways have introduced a Railway Ensign on October 14th, 1936, the date of the Anniversary of construction of the first Railway in Japan. The idea behind it is to develop what has been called as "State Railway Spirit", the standard of morale always held by each member of the staff as a criterion of behaviour. The ensign bears a design on a white cloth consisting of ten black bars to represent rails and the axle in red. The former is said to symbolise the virtues of thrift and fortitude while the latter conveys the ideas of loyalty and sincerity. Besides being hoisted on the roof of the Central Building it is used on such occasions as the Railway Anniversary, athletic meetings, celebrations, funerals, etc.

TOURIST ACTIVITIES ON VICTORIAN GOVERNMENT RAILWAYS.

In the last Annual Report of the Railway Commissioners of the Victorian Government Railways an interesting account is given of the attempts to stimulate travel by publicity. As a means of encouraging travel, officers of the Bureau go out seeking business. This activity, it is stated, has been highly developed. The Schools and Colleges are visited for the purpose of organising vacation tour parties; incoming boats are met and wherever large groups of people meet in conferences, etc., the services of an officer of the Bureau are made available to arrange tours, etc., and to supply visiting delegates with full information concerning places of interest in Victoria. The booking of accommodation, a comparatively recent addition to the Bureau's activities, is an increasingly popular service appreciated by both the public and the hotel, guest-house proprietors.

The Victorian Railways have also participated with other travel organisations in the "Save to Travel" scheme. This innovation enables the prospective travellers to save for holiday journeys by buying stamps in denominations of one shilling and five shillings, which are accepted in payment or part payment for journeys by road, sea or air.

INSTITUTE NEWS.

NEW PRESIDENT.

Mr. T. S. Sankara Aiyer, Financial Commissioner of Railways, has been elected President of the Institute in succession to Mr. K. V. Iyer. The new President entered office on May 13, 1939.

BIRTHDAY HONOURS.

At the last Birthday Honours Mr. K. S. Mitra, an Associate of the Institute, was the recipient of the distinction of M.B.E. We believe that Mr. Mitra is the first Incorporated Accountant to be thus honoured. We offer our hearty congratulations to Mr. Mitra.

CONCESSION TO MEMBERS.

Mr. H. A. Outhwaite's *Lectures on Railway Statistics* enjoys reputation of the best introduction to the study of the statistical procedure on our railways. Our thanks are due to The E. B. Railway Administration who have agreed to give copies of this book to members at reduced price of 0-12-0 per copy instead the list price of Rs. 1-8-0. Those who want copies of the book may write to the Secretary.

RETIREMENT OF HONORARY MEMBERS.

Within the last few months the Institute has lost through retirement three Honorary Members of the Institute, Messrs. J. C. Highet, A. F. Harvey and J. A. Bell. Mr. Highet participated at the Fourth Annual Conference held at Delhi. Mr. Harvey opened the Conference held last year at Calcutta. They have all left India after a period of active service on Indian Railways and have earned a well merited retirement. The Institute is indebted to them for all the encouragement and sympathy they have extended to its activities.

NEW MEMBERS.

The following gentlemen have been admitted to the Institute to the class of membership indicated:

Fellowship:

Mr. T. R. V. Sarma, Chief Auditor, G.I.P. Railway, Bombay.

Associate Membership:

Mr. V. S. Pandurangam.

Mr. V. G. Varadaraj.

Application for Membership:

Mr. M. R. Swaminathan, Accounts Officer, East Indian Railway, Calcutta.

RAILWAY STATISTICS.

TABLE I.—TEN DAYS APPROXIMATE GROSS EARNINGS OF ALL STATE-OWNED RAILWAYS.

Period.	1937	1938
	(In lakhs of rupees)	(In lakhs of rupees)
Ten days ending 10th October	2,53	2,31
Ten days ending 20th October	2,46	2,53
Eleven days ending 31st October	2,80	2,62
Ten days ending 10th November	2,37	2,56
Ten days ending 20th November	2,63	2,50
Ten days ending 30th November	2,61	2,53
Ten days ending 10th December	2,60	2,63
Ten days ending 20th December	2,72	2,66
Eleven days ending 31st December	3,15	3,14
	1938	1939
Ten days ending 10th January	2,68	2,67
Ten days ending 20th January	2,71	2,67
Eleven days ending 31st January	3,08	2,94
Ten days ending 10th February	2,80	2,70
Ten days ending 20th February	2,78	2,70
Eight days ending 28th February	2,87	2,24
Ten days ending 10th March	3,06	2,59
Ten days ending 20th March	2,74	2,70
Eleven days ending 31st March	3,35	3,15

TABLE II.—MONTHLY PROGRESS OF WORKING EXPENSES OF THE PRINCIPAL STATE-OWNED RAILWAYS.
(In lakhs of Rupees.)

Railways.	Up to October.		Up to November.		Up to December.	
	1937	1938	1937	1938	1937	1938
A. B.	67	70	75	79	85	90
B. N.	319	332	356	374	392	417
B. B. & C. I.	321	335	364	380	409	430
E. B.	215	229	246	263	278	293
E. I.	573	621	655	706	743	790
G. I. P.	384	405	437	459	495	517
M. & S. M.	215	221	241	252	275	276
N. W.	540	535	616	611	695	684
S. I.	156	167	189	191	202	215
Tirhoot & Lucknow Barcilly	49	47	55	51	62	58
Other Railways	14	14	15	16	19	20
Total	2,853	2,976	3,240	3,382	3,655	3,790

TABLE II.—MONTHLY PROGRESS OF WORKING EXPENSES OF THE
PRINCIPAL STATE-OWNED RAILWAYS.—(Contd.)

(In lakhs of Rupees.)

Railways.	Up to January.		Up to February.		Up to March.	
	1938	1939	1938	1939	1938	1939
A. B.	93	97	103	106	116	117
B. N.	437	465	484	509	553	572
B. B. & C. I.	455	474	500	517	569	579
E. B.	311	331	341	353	381	401
E. I.	833	875	917	958	1024	1043
G. I. P.	548	574	603	626	677	693
M. & S. M.	304	311	332	338	366	376
N. W.	773	760	855	836	952	944
S. I.	224	235	245	257	282	287
Tirhoot & Lucknow Bareilly	70	66	75	74	89	87
Other Railways	21	22	22	23	27	28
Total	4,069	4,210	4,477	4,597	5,036	5,127

TABLE III.—PROGRESS OF UP-TO-DATE EARNINGS OF THE PRINCIPAL STATE-OWNED RAILWAYS.
(IN LAKHS OF RUPEES).

Railway.	Total earnings for the period (ten/eleven days) ending.									
	October 10th.	October 20th.	October 31st.	November 10th.	November 20th.	November 31st.	December 10th.	December 20th.	December 31st.	
A. B.	88	93	99	105	110	115	120	124	130	
B. N.	93	99	106	112	118	123	129	134	140	
B. B. & C. I.	486	509	535	559	585	612	638	666	696	
E. B.	475	498	524	552	576	599	628	655	684	
E. I.	609	639	673	701	735	768	801	835	873	
G. I. P.	598	629	661	693	725	756	790	823	861	
M. & S. M.	283	303	321	339	358	375	391	408	428	
N. W.	285	303	323	345	362	378	396	413	432	
S. I.	1071	1133	1198	1250	1309	1366	1425	1484	1549	
Tirhoot and Lucknow Bareilly	1071	1130	1186	1250	1306	1361	1426	1479	1542	
Other Railways	637	668	708	740	775	812	845	884	933	
	643	676	713	747	781	818	853	891	942	
	352	369	388	403	420	438	456	477	501	
	372	390	410	430	449	467	486	509	535	
	838	884	931	975	1022	1069	1118	1166	1223	
	823	867	911	954	996	1044	1097	1147	1205	
	283	299	315	327	340	353	366	381	399	
	282	297	310	322	335	348	363	376	392	
	111	116	121	126	133	138	144	150	156	
	105	110	115	120	126	131	137	143	149	
	27	28	30	31	32	34	36	37	39	
	25	26	28	30	31	33	35	36	38	
Total	4,793	50,39	5,319	5,556	5,819	6,080	6,340	6,612	6,927	
	4,772	5,025	5,287	5,555	5,805	6,058	6,340	6,606	6,920	

TABLE III.—PROGRESS OF UP-TO-DATE EARNINGS OF THE PRINCIPAL STATE-OWNED RAILWAYS.—(Contd.)
(IN LAKHS OF RUPEES).

Railway.	Total earnings for the period (ten eleven days) ending.									
	January 10th.	January 20th.	January 31st.	February 10th.	February 20th.	February 28th.	March 31st.	March 20th.	March 31st.	
A.B.	134	139	145	151	156	161	166	171	176	
.. { 1938	145	151	157	163	169	174	180	185	190	
.. { 1939	724	749	780	808	838	862	892	917	949	
B.N.	714	741	772	804	833	856	886	914	946	
.. { 1938	907	942	981	1,017	1,054	1,081	1,120	1,156	1,197	
B.B. & C.I.	899	934	978	1,011	1,046	1,075	1,110	1,144	1,182	
.. { 1938	444	460	475	495	512	526	545	562	582	
E.B.	448	465	484	507	526	540	558	575	594	
.. { 1938	1,608	1,663	1,732	1,790	1,850	1,899	1,968	2,031	2,108	
E.I.	1,599	1,653	1,712	1,790	1,826	1,872	1,934	1,992	2,041	
.. { 1938	971	1,013	1,057	1,097	1,137	1,174	1,215	1,251	1,297	
G.I.P.	982	1,020	1,062	1,100	1,138	1,174	1,209	1,246	1,292	
.. { 1938	520	539	560	580	600	619	642	663	689	
M. & S.M.	555	575	597	619	641	660	681	703	725	
.. { 1938	1,271	1,322	1,378	1,429	1,476	1,519	1,576	1,625	1,688	
N.W.	1,254	1,304	1,354	1,401	1,444	1,477	1,524	1,572	1,631	
.. { 1938	414	429	446	461	475	488	503	518	534	
S.I.	407	420	436	451	465	477	491	505	521	
.. { 1938	162	168	175	180	187	192	198	204	211	
Tirhoot and Lucknow Bareilly..	157	163	171	177	184	189	194	200	207	
.. { 1938	40	42	44	46	47	48	50	51	53	
Other Railways	40	41	43	45	46	48	49	50	52	
Total .. { 1938	7,195	7,466	7,774	8,054	8,332	8,569	8,875	9,149	9,484	
.. { 1939	7,200	7,467	7,761	8,048	8,318	8,542	8,816	9,086	9,401	

TABLE IV.—COMPARATIVE STATEMENT SHOWING THE PROGRESS OF UP-TO-DATE WAGON LOADINGS
ON CLASS I RAILWAYS.

Commodity.	Period ended							
	October 10th.	October 20th.	October 31st.	November 10th.	November 20th.	November 31st.	December 10th.	December 30th.
Coal and Coke	5,74,027	5,97,728	6,37,113	6,61,214	6,92,944	7,22,778	7,55,328	8,24,366
.. { 1937-38	5,84,104	6,19,320	6,51,019	6,82,379	7,14,339	7,45,555	7,79,851	8,49,653
.. { 1938-39	3,85,287	4,01,420	4,19,656	4,35,210	4,54,190	4,72,435	4,90,125	5,29,710
Grains and Pulses	3,74,989	3,94,075	4,12,996	4,32,365	4,52,588	4,71,808	4,90,902	5,85,122
.. { 1937-38	91,933	96,563	1,01,873	1,06,017	1,11,832	1,18,444	1,25,899	1,45,710
.. { 1938-39	1,17,059	1,22,185	1,27,254	1,33,317	1,40,933	1,49,896	1,59,391	1,83,508
Oil-seeds	58,235	62,500	67,450	71,255	76,498	81,802	87,250	93,395
.. { 1937-38	61,549	65,592	70,154	75,198	80,341	86,317	92,673	1,00,483
.. { 1938-39	8,82,168	9,28,373	9,82,276	10,29,873	10,78,329	11,26,651	11,74,143	12,75,094
Miscellaneous Smalls	8,89,061	9,39,666	9,92,292	10,44,579	10,95,243	11,46,370	11,99,715	13,05,469
.. { 1937-38	13,11,445	13,76,598	14,53,866	15,18,587	15,90,440	16,63,593	17,36,765	18,17,207
.. { 1938-39	12,72,882	13,45,046	14,19,436	14,92,485	15,64,575	16,43,729	17,25,383	18,14,589
Miscellaneous full wagons	2,28,398	2,38,551	2,51,792	2,61,417	2,72,890	2,84,916	2,96,368	3,21,143
.. { 1937-38	2,28,295	2,40,678	2,51,942	2,63,689	2,74,799	2,86,103	2,97,486	3,20,285
.. { 1938-39								
Home Line Stores and Materials.								

TABLE IV.—COMPARATIVE STATEMENT SHOWING THE PROGRESS OF UP-TO-DATE WAGON LOADINGS
ON CLASS I RAILWAYS—(Contd.)

Commodity.	Period ended									
	January 10th.	January 20th.	January 31st.	February 10th.	February 20th.	February 28th.	March 10th.	March 20th.	March 31st.	
Coal and Coke	{ 1937-38	8,58,119	8,91,672	9,31,032	9,69,141	10,07,910	10,38,552	10,76,873	11,13,099	11,56,889
	{ 1938-39	8,80,867	9,10,917	9,46,211	9,78,287	10,11,679	10,40,062	10,74,034	11,08,498	11,45,972
Grain and Pulses	{ 1937-38	5,50,759	5,70,563	5,93,017	6,13,274	6,32,914	6,49,729	6,68,779	6,86,580	7,08,151
	{ 1938-39	5,57,098	5,77,272	5,99,103	6,19,703	6,40,600	6,58,103	6,79,410	7,01,227	7,24,745
Oil-seeds	{ 1937-38	1,56,416	1,67,050	1,78,516	1,87,137	1,95,940	2,04,272	2,14,752	2,23,423	2,34,398
	{ 1938-39	1,95,323	2,05,857	2,16,756	2,26,206	2,35,391	2,42,934	2,51,663	2,60,913	2,70,485
Cotton	{ 1937-38	1,07,652	1,16,050	1,24,951	1,32,105	1,38,566	1,44,734	1,51,726	1,57,529	1,64,221
	{ 1938-39	1,15,295	1,22,527	1,29,720	1,35,738	1,41,433	1,46,099	1,51,051	1,56,966	1,63,517
Miscellaneous Smalls	{ 1937-38	13,23,293	13,74,578	14,29,362	14,78,471	15,26,162	15,68,169	16,18,908	16,64,957	17,21,796
	{ 1938-39	13,56,372	14,07,729	14,62,857	15,13,274	15,63,844	16,05,185	16,52,597	17,01,842	17,58,077
Miscellaneous full wagon	{ 1937-38	19,97,165	20,84,767	21,85,572	22,79,460	23,72,430	24,52,606	25,51,972	26,36,882	27,37,154
	{ 1938-39	20,13,993	21,12,633	23,16,823	24,12,605	25,04,765	25,77,525	26,54,215	27,35,736	28,27,816
Home Line Stores and Materials.	{ 1937-38	3,33,442	3,46,461	3,61,408	3,74,336	3,87,836	3,99,538	4,12,982	4,23,393	4,37,163
	{ 1938-39	3,30,144	3,40,867	3,52,891	3,64,700	3,76,135	3,85,491	3,95,236	4,06,658	4,20,776

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