

JOINT COMMITTEE ON WAR EXPENDITURE

THIRD PROGRESS REPORT

DEPARTMENTAL CALCULATING SERVICES

17th December, 1941.

JOINT COMMITTEE ON WAR EXPENDITURE.

(appointed 3rd July, 1941.)

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x Appointed 12th November, 1941.

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1. The Joint Committee on War Expenditure, appointed on the 3rd July, 1941, to examine current expenditure defrayed out of moneys voted by the Parliament for the Defence Services and other Services directly connected with the war and to report what, if any, economies consistent with the execution of the policy decided on by the Government may be effected therein, has the honour to submit the following report on the methods used in Commonwealth Departments in making arithmetical calculations.
2. During its inquiries, the Committee has noted the large amount of calculations necessary in the work of the Commonwealth Departments associated with war activities. Its investigation, being limited by its Terms of Reference, do not extend further than the War Departments, but doubtless many of the following comments would apply with equal force to normal Commonwealth governmental offices.
3. The amount of officers' time spent in mental calculations of a necessary but tedious nature is almost incapable of estimation, and results in employment of staff to a greater degree than the nature of the work justifies. The manpower problem is becoming increasingly acute, not least in skilled clerical and accounting sections. Any organisation that will release staff from routine figuring to more important work, with increase rather than decrease of efficiency, is worth full consideration.
4. Evidence given to the Committee indicates that in many instances the system of mental calculation should be replaced by the more modern and efficient method of the calculating machine. Not only would the work be speeded up, and accuracy gained, but considerable decrease in expenditure would flow from more economic use of staff and the elimination of mental drudgery and overtime work. The following short summary of some cases coming under the Committee's notice will indicate the extent to which the introduction of properly selected accounting machines could effect improvement:-
 - (a) In a large Government factory, 30 draftsmen are employed on machine shop work, the volume of figuring involved being staggering. The Committee has in its possession the work of one draftsman on the designing of a single machine; it covers 12 pages of closely figured intricate calculations, involving hours of fatiguing mental work on the part of a skilled officer trained for special technical duties. On the first page, three problems contain errors, (which possibly would be later picked up by another exhaustive check). The same sets of figures could have been run through a calculating machine by a female operator receiving less than half the draftsman's salary, in roughly one fortieth of the time. A similar saving would occur on the re-checking. The probabilities of actual economies in expenditure are immediately apparent; those to be achieved by the lessening of the mental strain, and the utilisation of skilled manpower on work of higher quality are not calculable, but are none the less real.It is not unlikely that repetitions of this instance may occur in a number of similar offices.

- (b) The compilation of pay rolls, the costing of work, and the extension of wages cards are cases where machines can reduce calculating time enormously. In a Government factory, employing a large number of men at many different rates of pay, it took 28 clerks 16 hours each to complete extensions of 4,000 wages cards (roughly 9 cards per hour). A female operator employed at £3.10.0 per week would be capable of extending 90 cards in one hour for 1s. 10d. If a clerk's wage be taken at £5 per week, the cost of his manual operating is more than 14 times greater than the machine method. Carrying a weekly calculation of this nature over a full year, the possibilities of large economies can be readily seen.
- (c) In an aircraft establishment, 8 timekeepers compile wages with the aid of ready reckoners. The work is checked by one girl using a machine. There appears no reason why the original work should not be done by the latter method. But even this partial use of mechanical aid is not economically efficient, as in this case the machine installed is an expensive type unsuited to the work, for which cheaper equipment is available. The tedious method outlined above is repeated in a similar organisation in another capital.
- (d) In one section of a Government Department, a number of clerks work overtime 3 or 4 nights a week in an attempt to overtake accounting arrears. The installation of the proper type of calculating machine would pay for itself in the abolition of overtime, and avoid the necessity for many hours work on masses of figures. For some reason which the Committee has not been able to determine, a recommendation for the purchase of a machine, made by an officer with experience in modern accounting methods, has been consistently shelved.
- (e) In other sections of the Public Service, machines have been installed, but by reason of failure to appreciate the particular uses of various machines, wrong types have been purchased, at unnecessary cost.

5. The use of machines is now regarded by modern business firms as both necessary and economical, but there appears to be some hesitancy regarding their adoption in Government Departments. The Committee feels that the time has come when manpower necessities make essential the use of the most modern methods, and that an overhaul of calculating practices throughout the Public Service is necessary.

6. This work, however, should be undertaken only by a specialist in accounting machines. Installation of equipment unsuited for particular classes of work can result in either excess expenditure in the provision of machines more complex than is necessary, or in failure of the system where inadequate equipment is provided. There are few Government Departments in which officers have sufficient experience to undertake alone the assessment of requirements of calculating equipment - a specialised business in which initial costs must be fairly heavy.

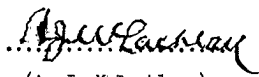
7. The Committee therefore recommends that a survey of accounting work in Commonwealth Government Departments be carried out as early as possible, by a panel consisting of two commercial specialists in accounting machine practice and an officer of the Public Service Board. This panel, after

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examining in every Department the opportunities for utilisation of machine methods in replacement of mental calculation services, should recommend the type of machine suitable for each class of work, and what revision of departmental organisation would be necessary to make the mechanical equipment most effective.

8. Probably special training of staff would be required for efficiency in machine work, and this phase should be dealt with in the panel's report, with particular reference to any types of operators located during the survey who would be specially suitable for supervision duties in the re-organised programme. The re-allocation of machines now used in Departments, where necessary to attain full efficiency, should also be dealt with. Finally the report should be implemented as early as possible after its presentation.

9. The Committee hopes that not only will substantial economy in expenditure be achieved when full use of mechanical equipment is made, but that, in addition, manpower now partially wasted in tedious mental drudgery can be transferred to more important phases of Commonwealth work.


(A. J. McLachlan.)
C h a i r m a n.

Senate Committee Room

CANBERRA

17th December, 1941.