

National Accounts and Environment Division

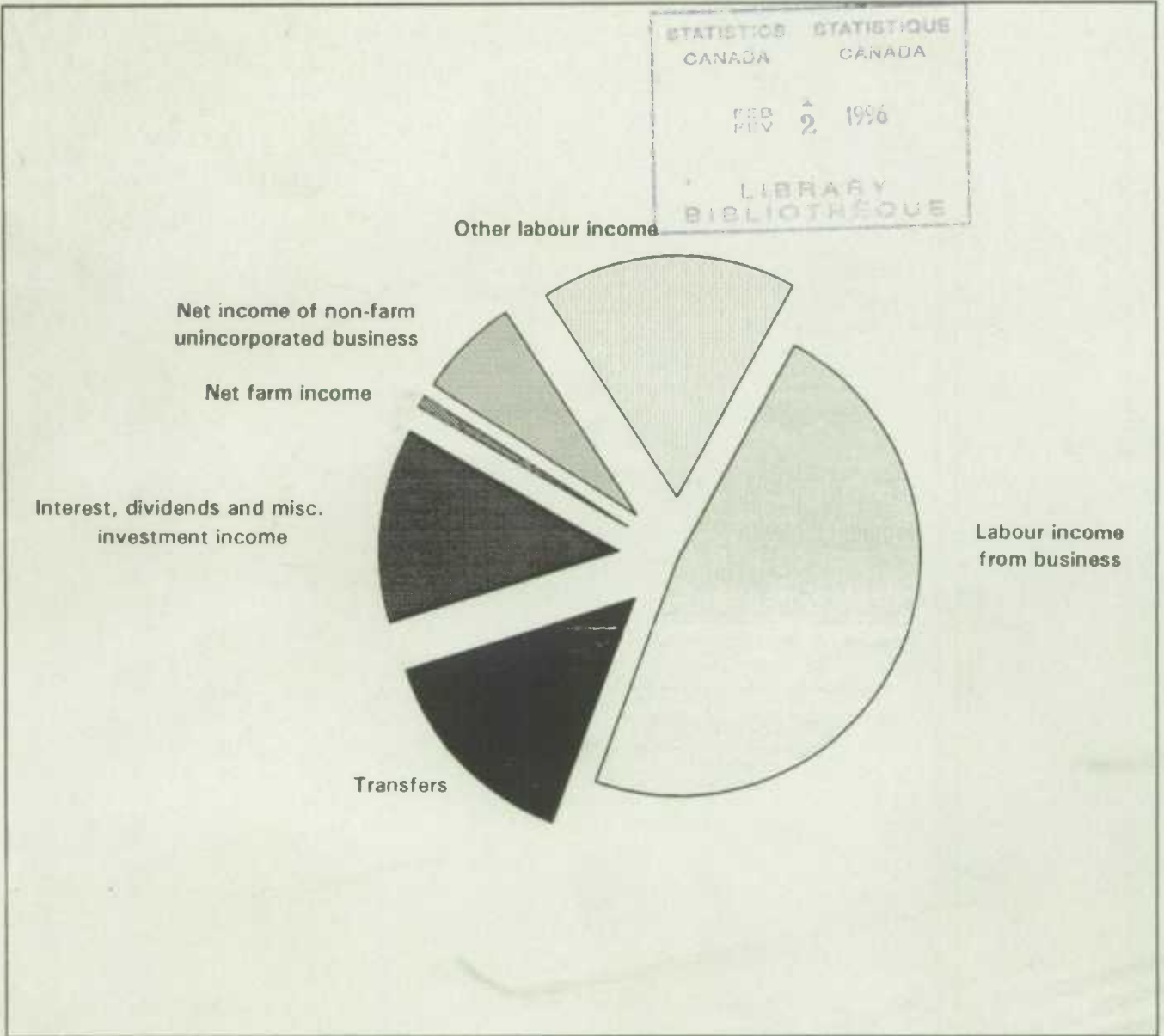


MONTHLY ESTIMATES OF THE SOURCES AND DISPOSITION OF PERSONAL INCOME

Discussion Paper

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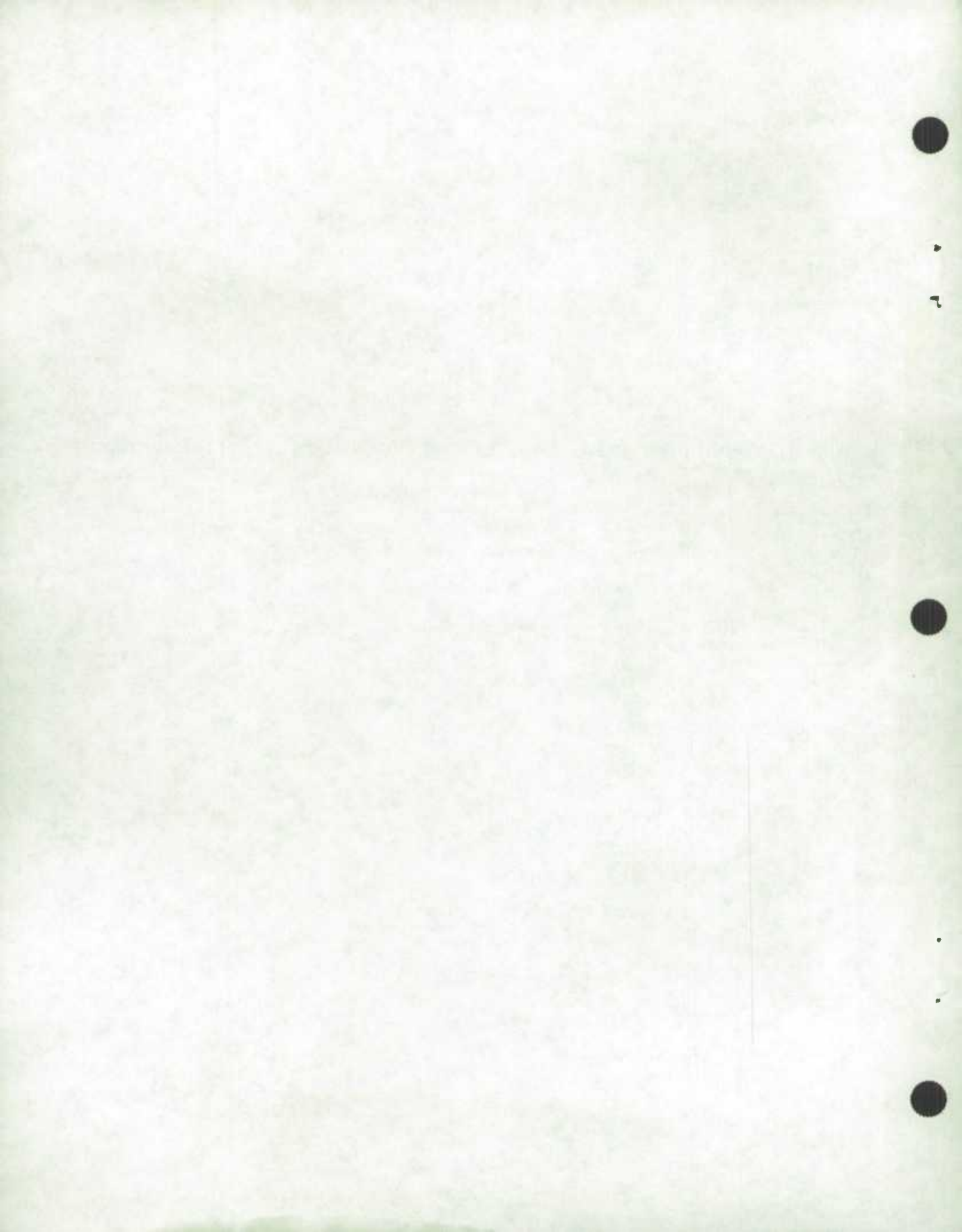
Monthly Estimates of the Sources and Disposition of Personal Income

A Feasibility Study

Catherine Bertrand

National Accounts and Environment Division

December, 1991



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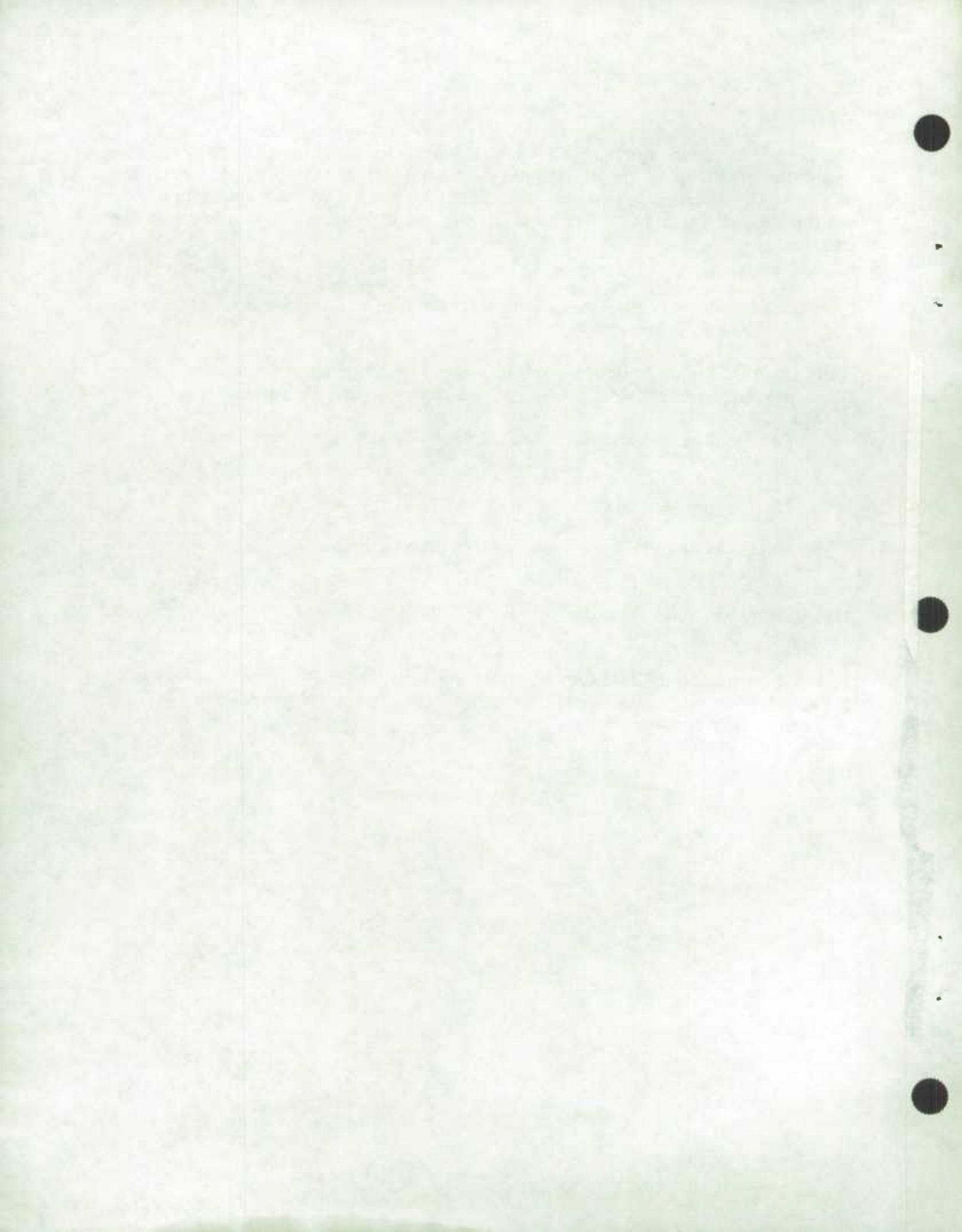
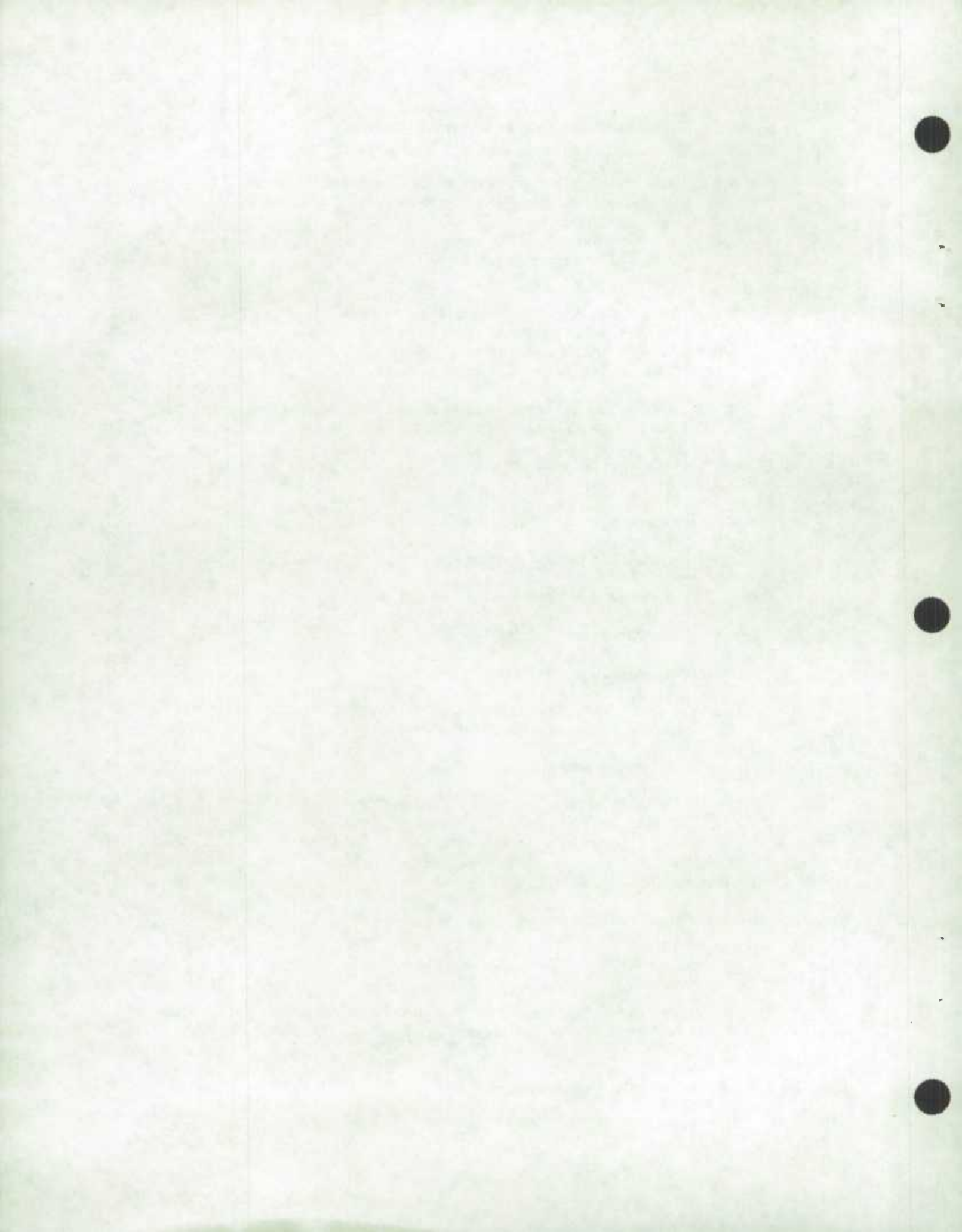


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I. Introduction

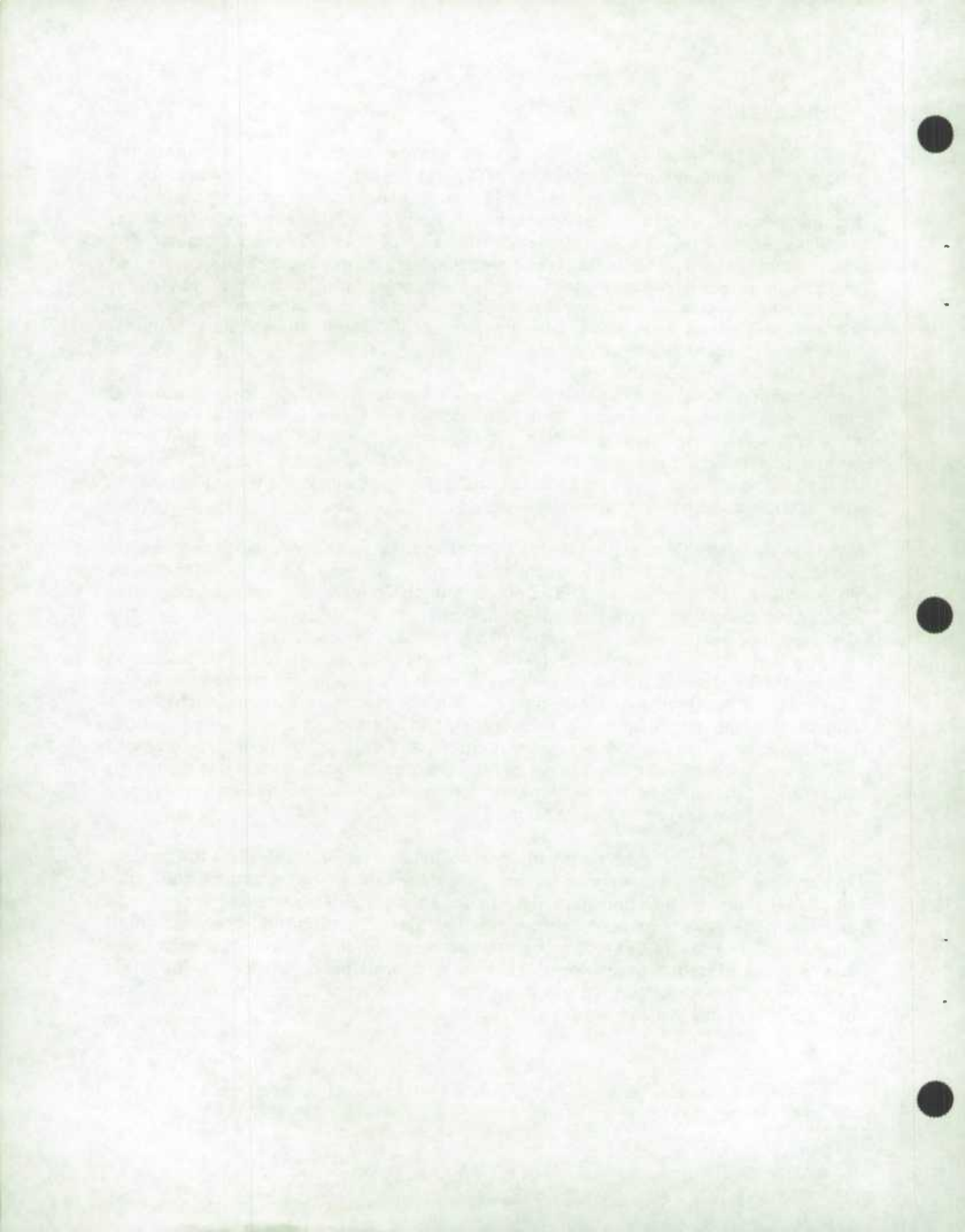
Of the four major sectors in the National Income and Expenditure Accounts, the persons and unincorporated business sector is the largest in terms of its total income and outlay. The key personal sector aggregates, personal income, personal disposable income, personal savings and savings rates are considered vital economic indicators, entering a wide array of policy applications as well as studies by economic decision makers and theoreticians. Estimates of personal income, expenditure and saving and their components provide a consolidation of incomes and outlays of individuals, unincorporated businesses, trusted pension plans, and private, non-commercial institutions such as universities, labour unions, professional organisations, fraternal societies and charitable organisations.

Income and expenditure estimates, including those relating to the persons and unincorporated business sector, have historically been made available to Canadians on a quarterly basis. These estimates and their components are published in Table 6 of the Quarterly Income and Expenditure Accounts (catalogue 13-001), entitled "Sources and Disposition of Personal Income". They are published two months after the time period to which they refer.

In the United States, estimates of personal income have been available on a monthly basis for more than two decades. Monthly estimates of personal income by source have appeared in the U.S. Department of Commerce Bureau of Economic Analysis's *Survey of Current Business* since the mid 1960's. Publication of the disposition of personal income began in 1978, when newly available monthly series of personal tax and nontax payments to non-residents, personal consumption expenditures, interest paid by consumers to business and net personal transfer payments to non-residents made possible the estimation of a number of derived aggregates: personal disposable income, personal outlays, personal saving and the personal saving rate. At this time, a monthly time-series was developed back to 1959, and a comprehensive breakdown of the components of the disposition of personal income along with a description of data sources and methods employed, was presented in the *Survey of Current Business* in November, 1979¹.

The U.S. monthly estimates of personal income by source and disposition are widely cited as an indication of performance of the American economy and often given audience in the Canadian media. Despite the long existence of the American estimates, the development of a similar set of series has not, to date, been attempted in Canada. The failure to produce these estimates in Canada does not appear to be due to a lack of data sources nor of technical or operational capability. The question to address is whether the potential benefit of developing a Canadian counterpart to the U.S. estimates would warrant such an undertaking.

¹For details see Byrnes, J.C. et. al., "Monthly Estimates of Personal Income, Taxes and Outlays", *Survey of Current Business*, United States Department of Commerce, November, 1979.



II. Why Produce Monthly Estimates ?

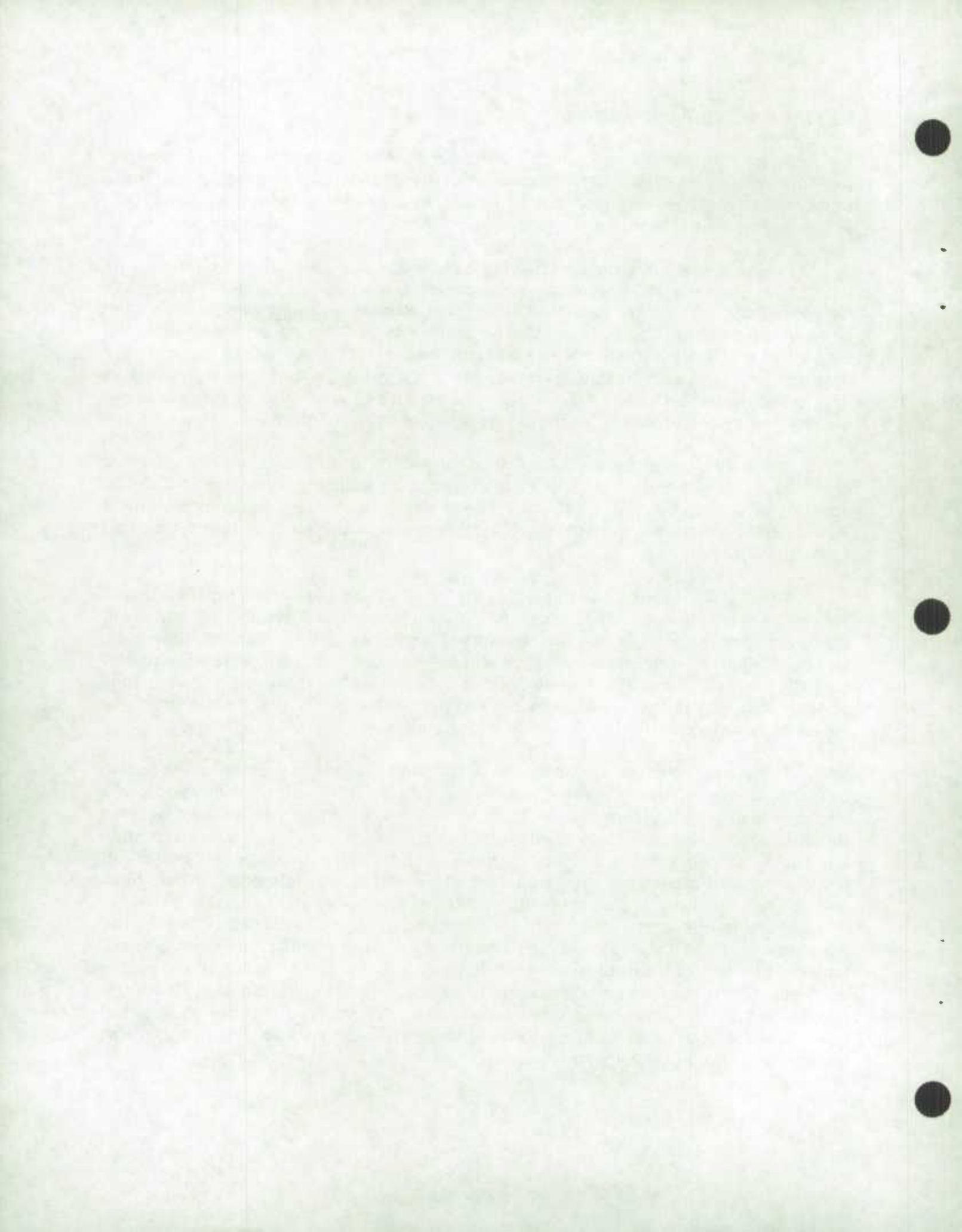
Apart from satisfying public demand for monthly personal sector estimates, perhaps spurred by their existence and wide use in the United States, there are a number of advantages and benefits which could be reaped by their regular production. A few examples of these are outlined below.

Business and government analysts devote considerable effort to anticipating what the quarterly GDP numbers will show by studying monthly indicators. Components like consumer spending, farm income and investment income are among some of the most difficult to foresee. The availability of these aggregates, within the context of monthly personal income statistics, would be of great help to them. These more current aggregate indicators would help to bridge the gap between the reference period and the time of release, by providing a glimpse of what was to come with the quarterly release, containing all four sectors of transactors in the economy.

Industry Measures and Analysis Division of Statistics Canada publishes constant dollar estimates of GDP at factor cost by industry, which give a timely account of overall economic activity. These data, however, give no indication of income and expenditure growth, as would estimates of the sources and disposition of personal income.

Much of Statistics Canada's data gathering activity has a monthly orientation. Employment and earnings data, price information, retail and wholesale trade statistics, manufacturers' shipments, inventories and orders, international merchandise trade, and housing starts and completions are all very relevant examples. External users of Statistics Canada's monthly survey outputs would have an improved understanding of their meaning if they could see their impact reflected in the fuller context of personal income, consumption and saving estimates.

The development of a set of monthly time series of the sources and disposition of personal income would permit a more detailed historical picture of developments and events in the Canadian economy. In addition to providing a new, more detailed framework for analyzing the much-debated relationship among income, consumption and saving, the development of such series would provide a dataset compatible with a wide range of other economic statistics. To date, economic model-builders have had to sum monthly statistics to the quarterly level in order to obtain series at comparable frequencies. It is often argued that the summing procedure biased the assessment of relationships between economic variables by introducing an artificial smoothing effect to the data gathered at monthly frequency. In this context, monthly estimates of the sources and disposition of personal income would provide analysts, researchers and theoreticians with compatible information to better gauge and quantify relationships among economic variables, leading to an improved overall understanding of economic phenomena.



The presence of a monthly integrating framework for data from a variety of areas within Statistics Canada would allow much of the cross-checking that takes place on a quarterly basis via the Income and Expenditure Accounts to be undertaken on a monthly basis. By encouraging monthly data from diverse sources to be compared and confronted, a monthly system of personal income statistics would contribute to improved data quality in many areas of the agency.

Such a system could also contribute to improved data quality in the quarterly Income and Expenditure Accounts. The production of a large proportion of the accounts on a monthly basis would enable the identification of source data problems at an earlier stage and provide more lead-time for their resolution prior to the quarterly estimation process.

The program evaluation of the Income and Expenditure Accounts Division completed in 1987 assessed the division's agenda and provided recommendations for improving its service to data users in the future. Among its recommendations was that personal disposable income, expenditure and saving be estimated monthly, in a presentation similar to that of the United States Department of Commerce. In addition to consideration of public demand for these data, perhaps spurred by their existence in the United States, the program evaluation team judged that the production of monthly personal sector estimates fulfilled an important criterion for choosing new projects: it would enhance and improve the division's current agenda, the provision of quarterly income and expenditure estimates. The team maintained that to prepare monthly personal sector estimates would aid the timeliness and quality of subsequent quarterly preliminary estimates, as two months of the quarter would already have been estimated before its release.

The recommendations of the program evaluation group, in addition to all the elements outlined above, prompted the division to initiate this study, to determine the feasibility, given data availability and resource constraints, of making estimates of the sources and disposition of personal income available to Canadians on a monthly basis.

III. The Basic Approach to Developing Monthly Estimates

The series figuring in the Income and Expenditure Accounts quarterly sources and disposition of personal income are shown in Table 1. These are the estimates (presented in Table 6 of catalogue 13-001) that the IEAD would endeavour to produce on a monthly basis. The table enumerates all the sources of income of the persons and unincorporated business sector, including labour income, farm income, net income of unincorporated business, interest, dividends and other investment income as well as transfers from other sectors, totalling to the frequently used aggregate, personal income. The table also shows all personal outlays, including personal expenditure on goods and services, taxes and

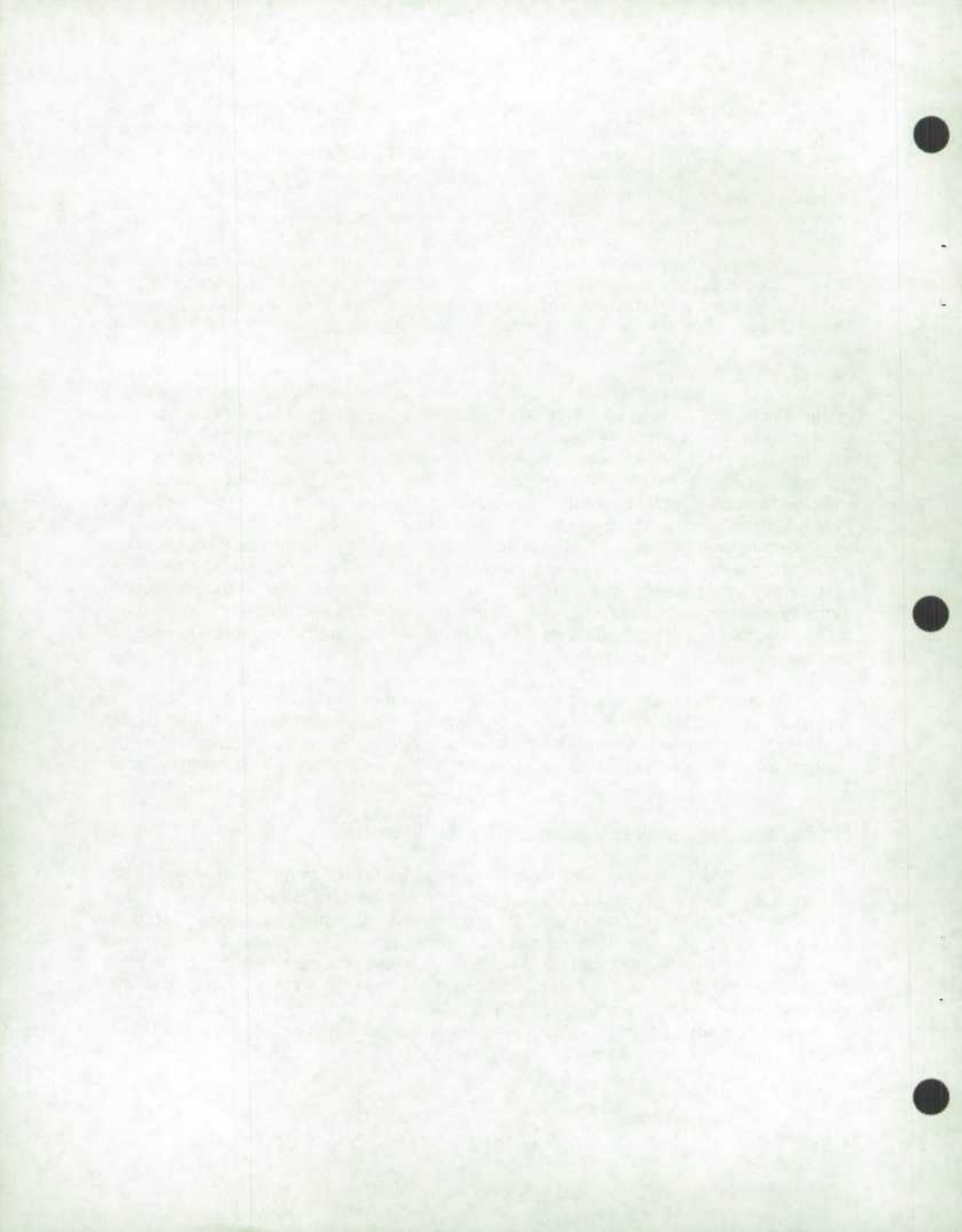
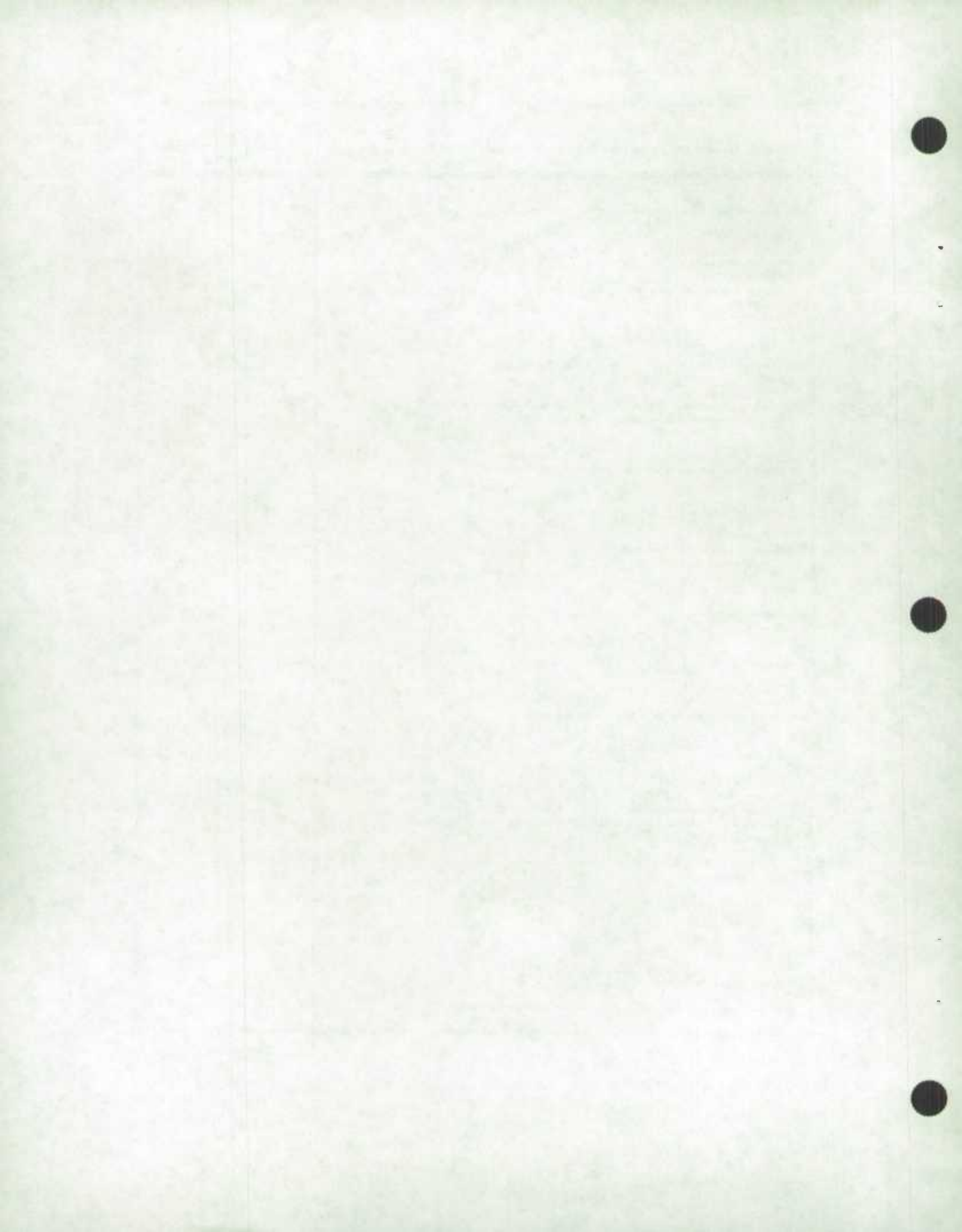


Table 1: Relative Weights of the Sources and Disposition of Personal Income	1987	% of Personal Income
Wages, salaries and supplementary labour income	298834	64.8%
From business	217553	47.2%
From government		
Civilian	66247	14.4%
Military pay and allowances	3143	0.7%
From persons	11891	2.6%
Net income received by farm operators from farm production	3719	0.8%
Net income of non-farm unincorporated business, including rent	30977	6.7%
<i>(of which: net rental income)</i>	11820	2.6%
Interest, dividends and miscellaneous investment income	59744	13.0%
Current Transfers:		
From government	66438	14.4%
Transfer payments to persons	66222	14.4%
Capital Assistance	216	0.0%
From corporations	658	0.1%
From non-residents	821	0.2%
Personal income	461191	100.0%
Deduct:		
Personal expenditure on consumer goods and services	322769	70.0%
Current transfers		
To government	99756	21.6%
Income taxes	70333	15.3%
Succession duties and estate taxes	8	0.0%
Employer and employee contributions to social insurance and government pension funds	25162	5.5%
Other	4253	0.9%
To corporations	5268	1.1%
To non-residents	629	0.1%
Equals: Personal saving	32769	7.1%
Personal disposable income	361435	78.4%
Personal saving as a percentage of personal disposable income	9.1	--



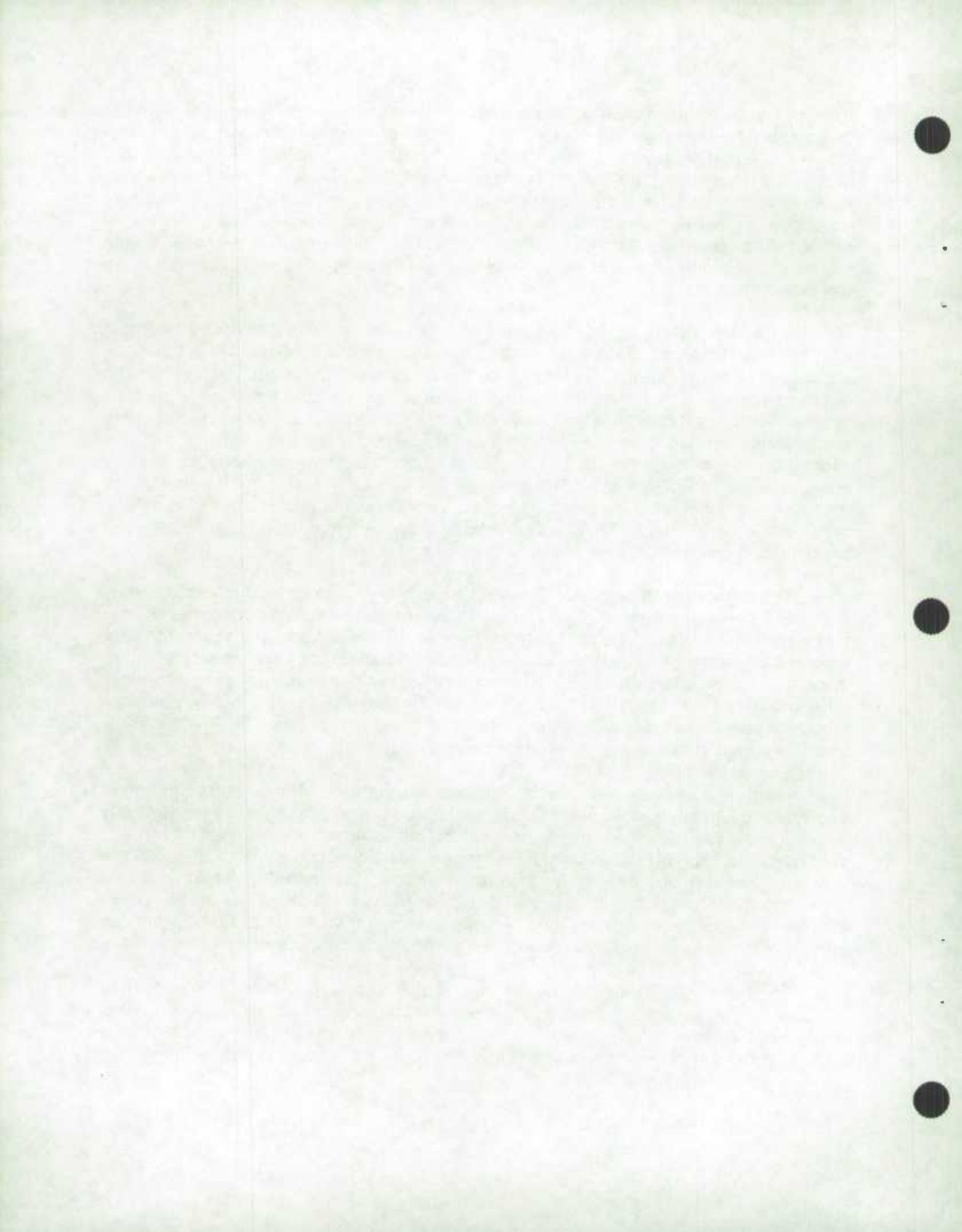
transfers to government and other sectors, and personal saving. A residual measure of personal saving is shown on the table, equalling personal income less personal expenditure and transfers to other sectors. Personal disposable income, another commonly used aggregate derived within the table, is equal to personal income less taxes and other transfers to government. It is also equivalent to personal expenditure on goods and services and transfers to business and non-residents plus personal saving. The last major derived aggregate appearing on the table is personal saving expressed as a percentage of personal disposable income, commonly referred to as the saving rate.

A notable feature of the table is the diverse range of subject matter that enters into the calculation of these aggregates. The series figuring on Table 1 touch on virtually all subject matter areas in the Income and Expenditure accounts. Each of the quarterly components in the sources and disposition of personal income has its own breakdown of subcomponents, and estimation methods and techniques vary considerably among them. To produce Table 1 on a monthly basis, monthly estimation methodologies must be developed for each of these components, and the sub-components within these. The development of a methodological framework for the regular publication of these estimates is a very intricate process, involving careful consideration and study of quarterly methods and monthly data sources, as well as practical and operational problems and concerns.

The proportion that each of the income and outlay components makes up in the personal income aggregate is also shown, in order to show their relative magnitudes in the aggregate. As can be easily noted, their relative weights in the aggregate vary a great deal, with the largest by far being wages, salaries and supplementary labour income on the income side, and personal expenditure on consumer goods and services on the outlay side. It should be noted that Statistics Canada already produces monthly estimates of labour income, and also of the larger, goods portion of personal expenditure on consumer goods and services, although the latter is unpublished.

Monthly source data also exist for many of the other components figuring in Table 1, and in many cases, the estimation methodology already in place for quarterly income and expenditure estimates can be replicated on a monthly basis. In such cases, the quality of the monthly statistics would be equivalent to that of the quarterly. In cases where monthly data is not available, it is possible to create monthly values from quarterly using a variety of distribution and projection techniques. When other information related to the monthly component in question is available, this can be employed in an indirect manner in the distribution and extrapolation procedure.

For the purposes of this study, the approach taken to developing monthly methodologies for the components of personal income, expenditure and saving (and the sub-components of these) was to first consider methods in place on a quarterly basis and determine whether or not the same procedures were possible by month.

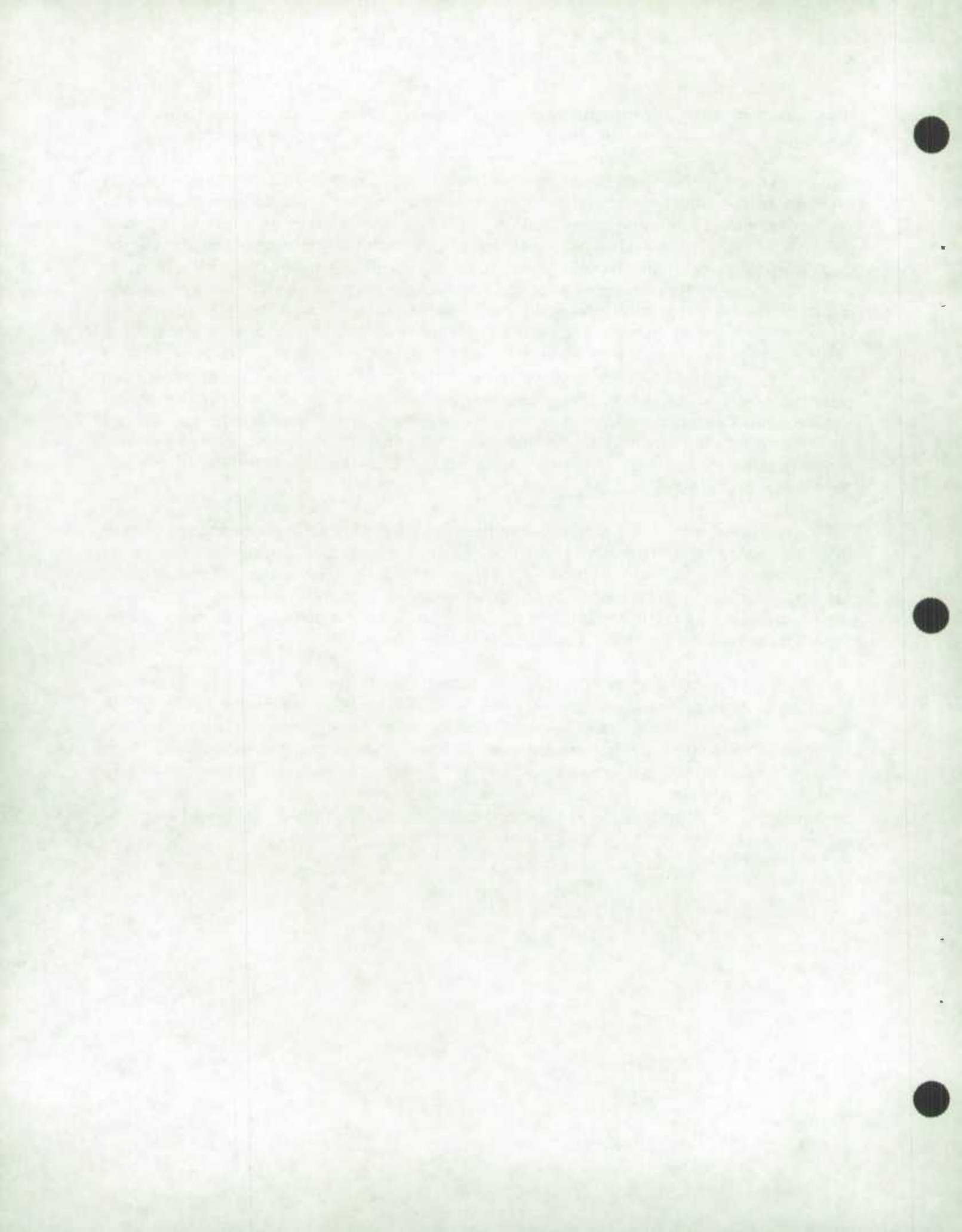


If no direct monthly information was found to be available, quarterly estimates were taken as "given", and means were developed to distribute and extrapolate these.

An inherent operational feature of national income accounting which is relevant to the development of monthly estimates is that with additional time and resources for research and experimentation, it is almost always possible to improve estimation techniques. One of the tasks of the national income accountant is to decide at what point the benefit in terms of improved quality in the estimate is no longer sufficient to warrant the allocation of additional resources. In developing the monthly methodological framework, particular emphasis must be placed on the aggregate estimates of personal income, personal disposable income and personal saving, although the components are important as well. In order to obtain accurate estimates, components with large weights in the aggregates must be given special attention, as well as those which contribute a great deal to their period to period movements. Components like farm income and interest, dividends and miscellaneous investment income have relatively small weights in personal income, but erratic and unpredictable movements in these series necessitate the development of precise estimation techniques.

The initial aim of this study was to produce a set of seasonally adjusted, current price estimates consistent with published quarterly estimates. A monthly time series was to be developed from January, 1981 to the present, and a system put in place for updating estimates as new information became available. January, 1981 was simply chosen as a cut off point, and does not preclude the possibility of carrying the time series back further with additional research and study.

As will become clear throughout the sections to follow, it was not possible, because of time and resource constraints, to derive monthly estimates for all of the components of the sources and disposition of personal income. It was possible, however, to develop a number of monthly time series within components, and to explore possible methodologies in almost all of them. The goals of this study are, therefore, to provide an adequate framework to assess the feasibility of estimating personal sector aggregates and their components on a monthly basis, and serve to serve as a starting point for future work in this area.



IV. Distribution and Extrapolation Techniques

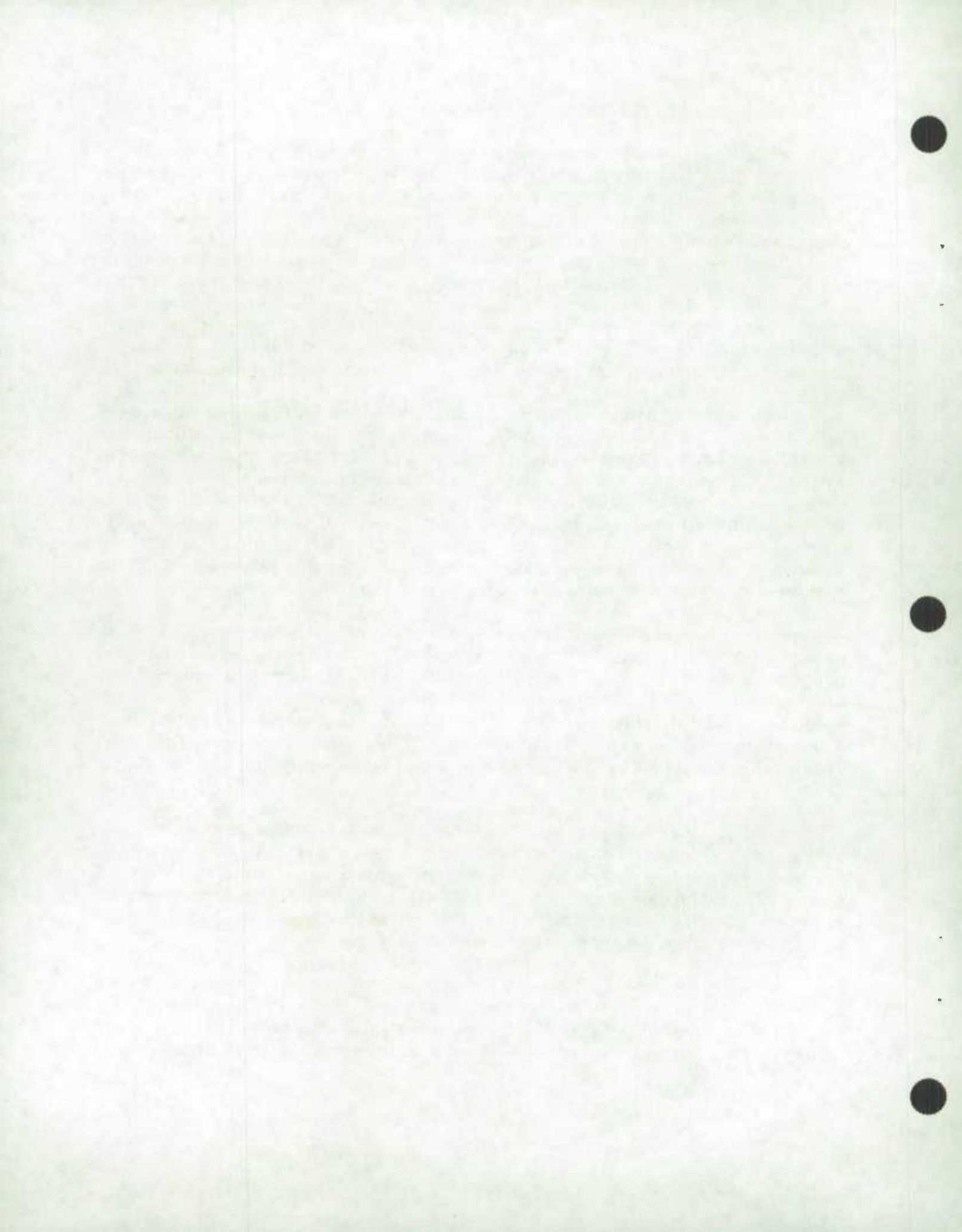
When direct monthly source data are not available for a particular component or sub-component of personal income, it is possible to derive monthly values from quarterly or annual data using distribution and projection techniques. Related monthly data can often provide an indication of the month to month movements of such series, and this information can be made use of in the distribution and extrapolation of quarterly or annual estimates. For example, no monthly source data are available for the net income of unincorporated business in the forestry industry. However, the Labour Force Survey produces estimates of the number of working proprietors in forestry, and the month to month movements of this series can be used to derive monthly estimates of the net income of unincorporated business, under the assumption that employment and net income in the sector are highly correlated.

As one of the goals of this study was to develop monthly time series consistent with previously published quarterly data, the approach adopted was to distribute and extrapolate quarterly values subject to the constraint that the sum of three months in a particular quarter must equal the previously published quarterly value. The quarterly series, then, is considered the benchmark, or control series, and the related monthly information the distributor series. Where direct monthly information is available, the criterion that monthly estimates must sum to previously estimated quarters is a somewhat artificial constraint, and in the future quarterly estimates could be calculated as the sum of months, as is the case in the United States.

Related monthly information can never reflect perfectly the month to month movements of a series for which no monthly source data is available. However, series relating to the same subject matter will often exhibit similar proportional movements making them suitable to use as distributor series. In order to determine whether proportional period to period movements in a quarterly benchmark series and a related indicator are similar, one can compare their quarter to quarter movements. The match between the two series can be tested using regression analysis and other analytical tools.

In some cases, when no related monthly information is available for a particular series, a smooth distribution and extrapolation of quarterly estimates can be carried out to obtain monthly estimates. This method is especially appropriate when the quarter to quarter movements of the series are stable and predictable, and when there are a priori grounds to expect the monthly series to share this characteristic, and not so appropriate when the series exhibits erratic behaviour.

A variety of techniques for the distribution and projection of time series are available to choose from, ranging in complexity from simply dividing a quarterly value by three to obtain the three months within the quarter to employing intricate statistical models. In the quarterly System of National Accounts an assortment of techniques



are used, according to the subject matter and the nature of the series in question. In the course of this study, a number of techniques were explored and considered. Some examples of these are touched upon below:

Average growth rates: The average monthly growth rate needed to obtain a given quarterly growth rate is computed and applied successively to obtain monthly values. This procedure yields a fairly simplistic monthly distribution where the resulting monthly series is adjusted in steps. It does not employ related information. The average growth rate procedure was used for rough, experimental work in this project but was not employed for any of the estimates shown.

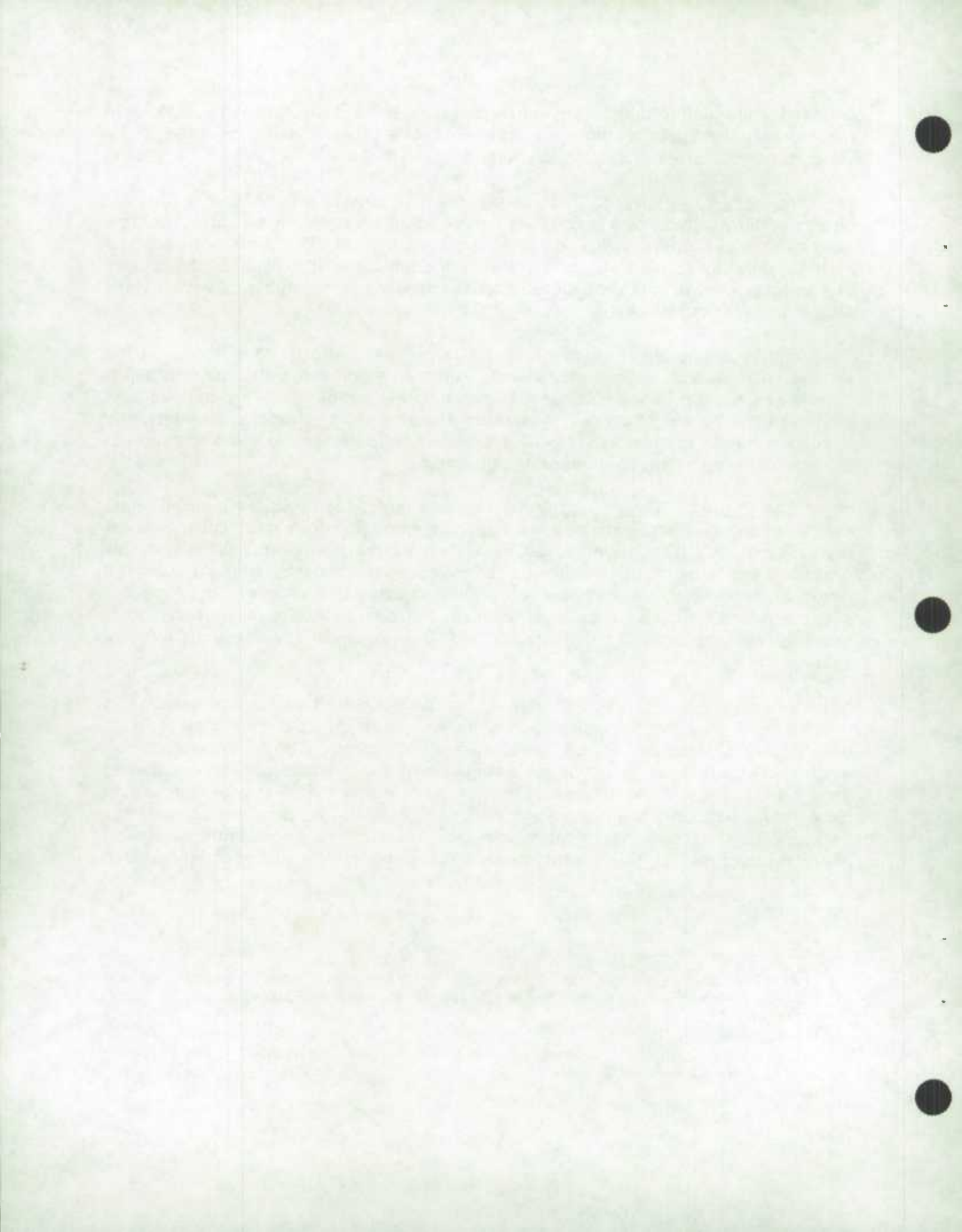
Simple proportions: A quarterly series is broken into months based on the proportional movement of a related monthly series. In other words, the quarterly series is adjusted proportionally to changes in a monthly indicator. This technique is employed in a number of areas in the quarterly income and expenditure accounts, and is equivalently used in some areas of this project, for example, in the calculation of net income of non-farm unincorporated business.

The Chow-Lin Technique²: An estimation technique by which quarterly data can be distributed and projected with related monthly information using a linear regression model. It is possible to use more than one related monthly series with this procedure and a degree of flexibility can be exercised in the design of the model. The Chow-Lin technique was considered for the purposes of this study but was not adopted based on consistency and technical and operational considerations. It is, however, an excellent technique which could be given closer consideration in future study.

The Bassie Procedure³: Monthly values can be created from annuals using this technique, the essence of which is that corrections to an indicator series to fit an annual control series are dictated by a three-term polynomial. The principal technique employed in the American monthly estimates of the sources and disposition of personal income, this technique has been in place in the U.S. National Income and Expenditure Accounts since the 1940's. Over the years the Bassie procedure has been the subject of criticism for introducing seasonality into economic time series and distorting the fourth to first quarter movements. A number of ad hoc attempts have

²See Chow, Gregory C. and Lin, An-loh (1971), "Best Linear Unbiased Interpolation and Extrapolation of Time Series by Related Series", *Review of Economics and Statistics*, Vol. 53, No. 4, pp. 372-375.

³See Bassie, V.L. (1958), *Economic Forecasting*, Appendix A, "Interpolation Formulas for the Adjustment of Index Numbers", McGraw-Hill, pp. 653-661.



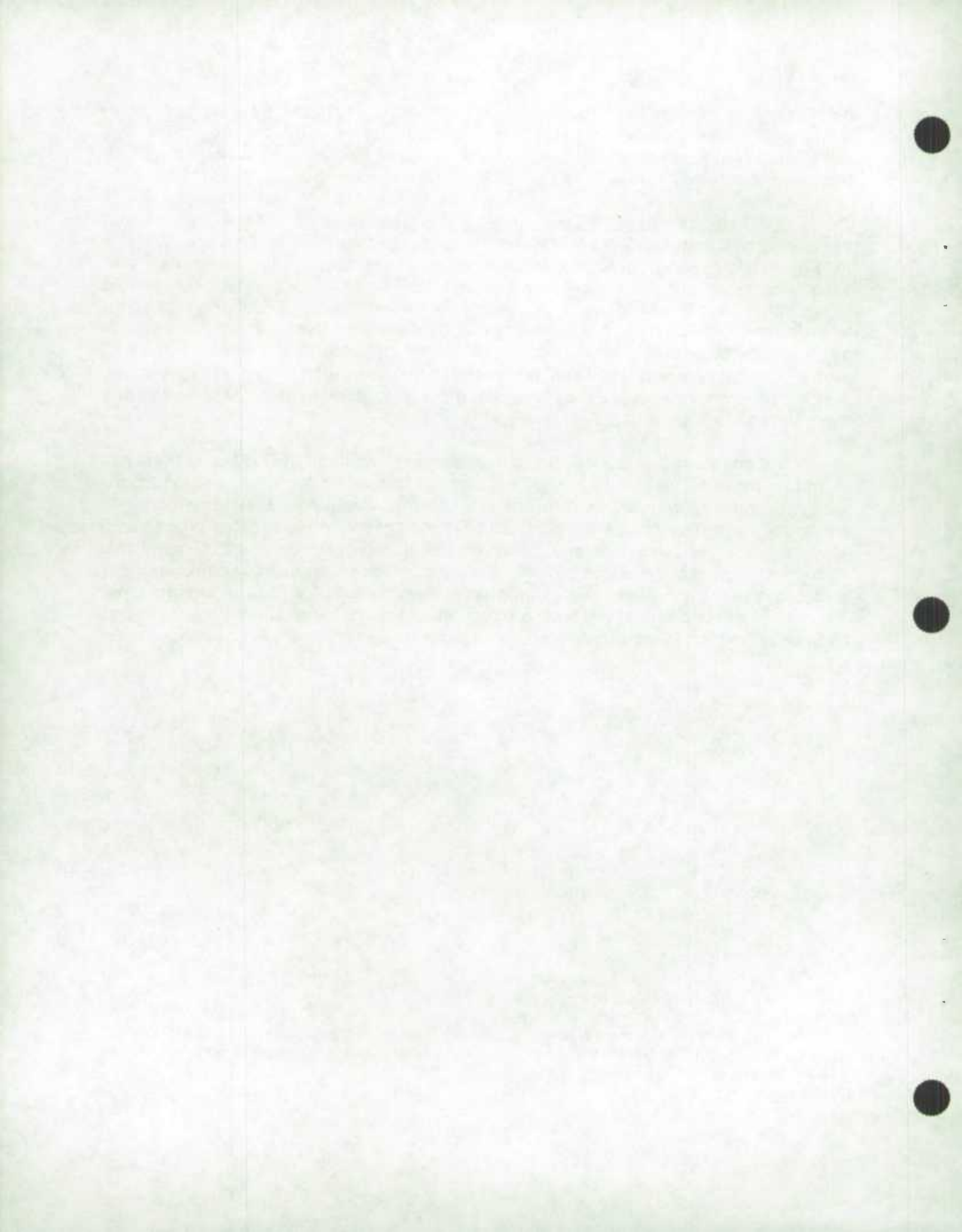
been made to correct the procedure⁴, but the basic approach remains the same. Despite its current employment in the United States, the Bassie procedure was considered somewhat outdated and inadequate and other methods were favoured for the purposes of this study.

The Extended Denton Technique⁵: This technique is a derivative of that developed by Denton (1971) and extended and enriched by Cholette and Baldwin (1988). It adopts a quadratic minimization approach to the distribution and extrapolation of quarterly data to attain monthly values with or without related information. A monthly indicator is brought in line with existing quarterly values for a particular variable, while preserving the month to month movements of the indicator as much as possible. This is accomplished by minimizing the sum of squared proportional differences between the monthly related indicator and the quarterly benchmark series, subject to the constraint that newly-derived monthly values add to the quarterly totals.

The advantage of the quadratic minimization approach over other approaches to the distribution and projection of time series is that corrections to an indicator series to bring them in line with a quarterly or annual control series are smooth or continuous and are not broken into steps as is the case with many other procedures. This technique is used in many areas of the quarterly Income and Expenditure Accounts, and was chosen as the principal method for the purposes of this study. It is employed for distribution and extrapolation in a number of areas, for example, net income of farm operators from farm production, net rental income, interest, dividends and miscellaneous investment income and personal expenditure.

⁴For example, Lisman, J.H.C., and Sandee, J. (1964), "The Derivation of Quarterly Figures from Annual Data", *Applied Statistics*, Vol.13, pp. 87-90.

⁵See Cholette, P.A. (1989), "Transforming Fiscal Quarter Data into Calendar Quarter Values", Working Paper No. TSRA-89-017EF, appearing in the *Proceedings of the Symposium on the Analysis of Data in Time*, held at Statistics Canada, October 1989.



V. Sources and Methods

In the section to follow each of the items in Table 1 will be discussed sequentially with descriptions of possible sources and methods for creating monthly estimates in these areas. Where possible, intermediate tables of results will be provided. The empirical results are based on data which were published as of March 1990, and have not been updated to incorporate more recent revisions.

1. Wages, Salaries and Supplementary Labour Income

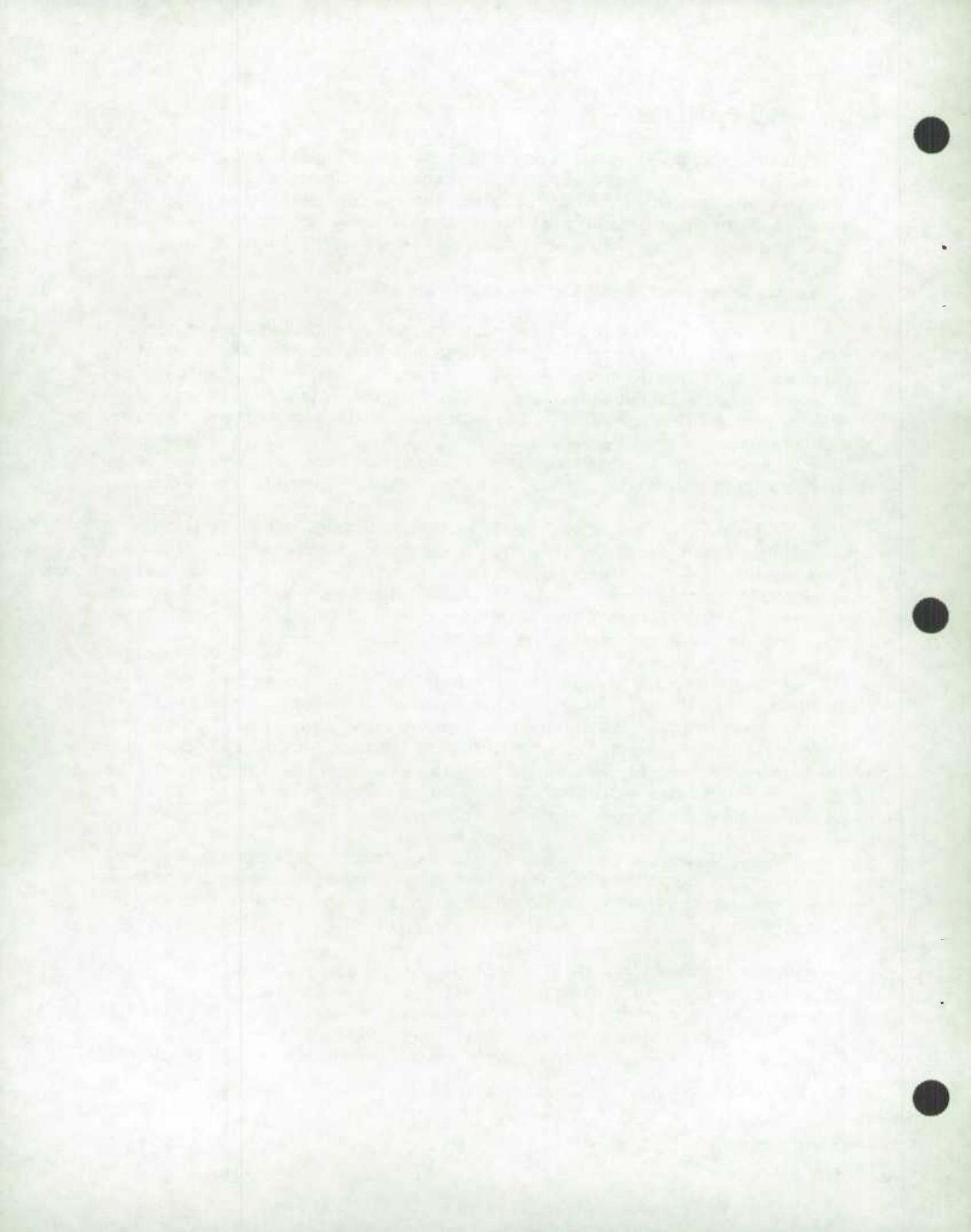
Estimates of wages, salaries and supplementary labour income are prepared on a monthly basis in the Labour Division. These estimates draw on a wide variety of data sources, among them, Revenue Canada - Taxation's annual "T-4 Supplementary" file, the monthly Survey of Employment, Payrolls and Hours and the monthly Labour Force Survey. The data are made available broken down by industry and province on a monthly basis, but the labour income from each of the sector groups (business, government and persons) figuring on Table 1 can not be derived directly from this breakdown. These data are normally prepared only on a quarterly basis.

To create IEAD's quarterly sector estimates, detailed annual tabulations of labour income from each level of government and from persons are distributed and extrapolated using known monthly information. Military pay and allowances are estimated by month in the Public Institutions Division. Wages, salaries and supplementary labour income from business is calculated as a residual, equal to total labour income less labour income from government and persons.

Annual estimates of labour income from the federal government sector are distributed and extrapolated using the movement in labour income from the federal administration industry. Labour income from the provincial and local government sectors is likewise distributed using the provincial and local administration industries. The municipal schools sector is moved using total education, and the hospital sector using the hospital and welfare services industries. The "other government" sector labour income is distributed using "other administration".

Wages, salaries and supplementary labour income from persons is distributed by the sum of labour income from the education and related services and the religious organisations and private households industries. All series used for the distribution and extrapolation of annual estimates are regularly published monthly series.

An important adjustment is made to labour income for strike effects. These constitute the amount of labour income lost due to a strike in a particular sector. These estimates are prepared for each of the government sector categories as well as for persons. They must be added back to the labour income estimates for each of the sectors before seasonal adjustment with X11 ARIMA is undertaken, then subtracted



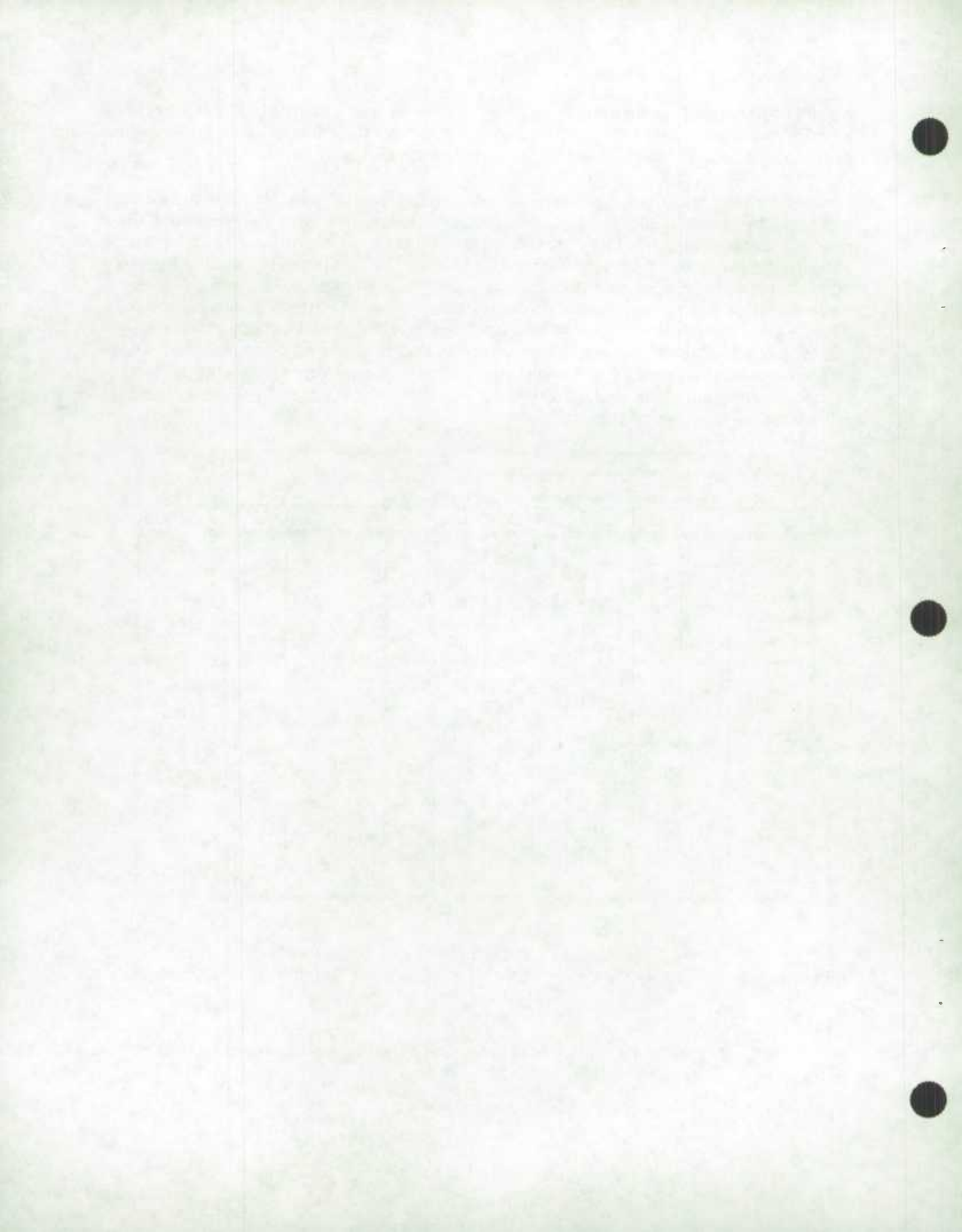
out again when the procedure is complete. This process ensures that the irregular shocks to labour income caused by strikes do not distort the seasonal adjustment process and retains their impact in the appropriate quarter.

As all the information required to produce the quarterly sector estimates is also available by month, all of the operations outlined above can be replicated on a monthly basis. In the course of this study, unadjusted monthly estimates for all sector categories were obtained from the Labour Division, and seasonally adjusted according to the procedures described above. The results are shown in Table 2. Because of differences in the treatment of monthly and quarterly series by the X11 ARIMA seasonal adjustment program, slight discrepancies exist between the quarterly seasonally adjusted estimate and the sum of the corresponding three months. These differences can be prorated to force months to sum to quarterly values. In the future, if monthly estimation is undertaken on a regular monthly basis, quarters could be calculated as the sum of months.

1989	Jan	Feb	Mar	April	May	June	July	Aug	Sept	Oct	Nov	Dec
Total	28393	28745	28864	29131	29270	29905	29838	30119	30141	30384	30592	30716
From Business	20986	21270	21451	21609	21738	21988	22140	22378	22458	22573	22742	22774
From Gov't (Civilian)	8042	8090	8128	8137	8152	8470	8285	8322	8281	8380	8408	8488
Federal	1015	1023	1025	1023	1022	1324	1095	1084	1080	1086	1090	1097
Provincial	1520	1522	1527	1538	1548	1557	1581	1571	1564	1588	1604	1611
Local	960	978	988	992	997	1008	1011	1018	1027	1031	1038	1035
Municipal Schools	1374	1393	1392	1402	1400	1410	1420	1431	1400	1436	1450	1481
Hospitals	1183	1185	1184	1172	1175	1181	1187	1198	1199	1218	1219	1233
Other	10	10	10	10	10	10	10	10	10	10	10	10
Military pay & allowances	275	278	279	271	274	333	288	291	291	292	294	297
From Persons	1090	1108	1107	1113	1105	1114	1121	1128	1110	1139	1147	1178

In the United States, the published format of the sources and disposition of personal income is slightly different from the Canadian version. The U.S. table of

^aFull series, beginning in January 1981, for all tables presented in this report are contained in Appendix A.



personal income by source shows estimates of wages and salaries broken down by type of industry (commodity producing, distributive, service, and government and government enterprises) rather than by "sector groups" as in the Canadian tables. The U.S. monthly estimates are prepared by interpolating and extrapolating annuals with monthly indicators derived from a variety of sources, including data from the Bureau of Labour Statistics survey of nonagricultural establishments, monthly employment data from the Current Population Survey, U.S. Department of Agriculture data on farm employment and earnings, information from the Department of Defense for military pay and allowances, and Bureau of Economic Analysis estimates of average earnings.

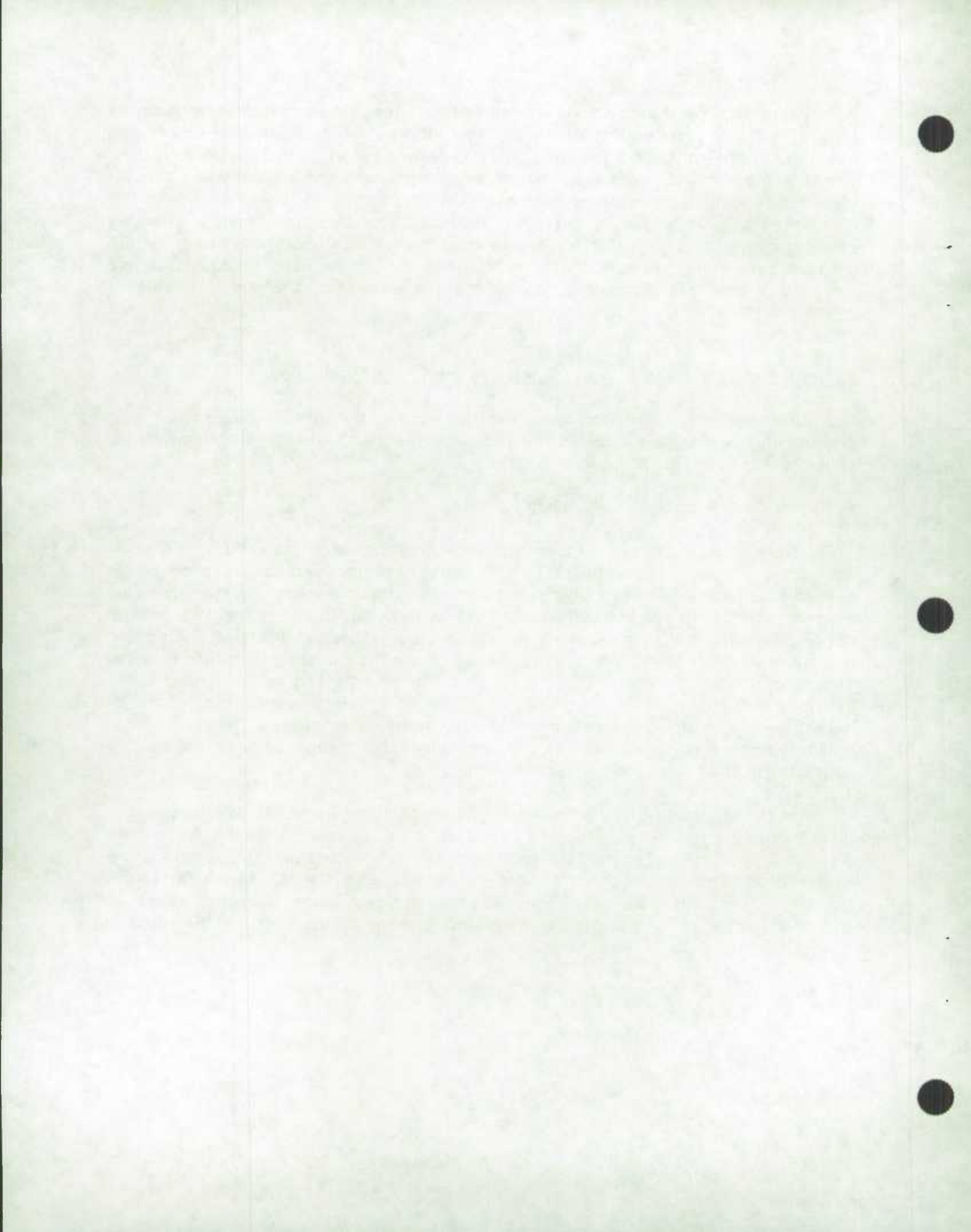
2. Net Income Received By Farm Operators from Farm Production

The quarterly estimation of net income received by farm operators from farm production involves a number of components, each of which will be examined separately in the sections to follow.

2.1 Farm Cash Receipts and Subsidy Payments

Data on farm cash receipts, or monetary receipts of farmers from the sale of agricultural products, encompassing a wide range of crops, livestock and produce are available from the Agriculture Division on a monthly basis. Agricultural subsidies paid by governments are also available monthly. To date, since IEAD has historically been concerned with producing quarterly estimates of farm income, seasonal adjustment and aggregation of farm cash receipts has only been undertaken on a quarterly basis. The seasonal adjustment process is carried out for nineteen crops series, seven livestock and produce series, and six categories of agricultural subsidies. Since all necessary inputs are available on a monthly basis, it is possible to replicate all established quarterly procedures to produce high quality seasonally adjusted monthly estimates of total farm cash receipts and subsidies.

In the course of this study, the seasonal adjustment process was undertaken on a monthly basis. Disaggregated raw data were obtained from the Agriculture division for 55 series of farm cash receipts for crops, livestock and subsidies. Before seasonal adjustment, these data were aggregated into the 32 series for which seasonal adjustment is normally undertaken on a quarterly basis. The data were then seasonally adjusted following quarterly methods as closely as possible. Seasonally



adjusted monthly estimates for all farm cash receipts and subsidies are shown in Table 3⁷.

In most cases the seasonally adjusted series is obtained from the X11 ARIMA program. Because of the nature of some farm series, special cases require other measures to be taken. These exceptions to the X11 ARIMA seasonal adjustment methodology are outlined below:

1. In the case of wheat, due to erratic behaviour from large price variations in the series, the seasonally adjusted monthly values for 1988 and 1989 are derived using the advanced seasonal factors calculated by the X11 ARIMA program for the period 1981 to 1985.

2. Canadian Wheat Board Payments are received by farmers a few times per year, and not at regular intervals. To derive the seasonally adjusted monthly value the annual value is simply divided by 12.

3. For Crop Insurance, the seasonally adjusted monthly values are the annual values divided by 12.

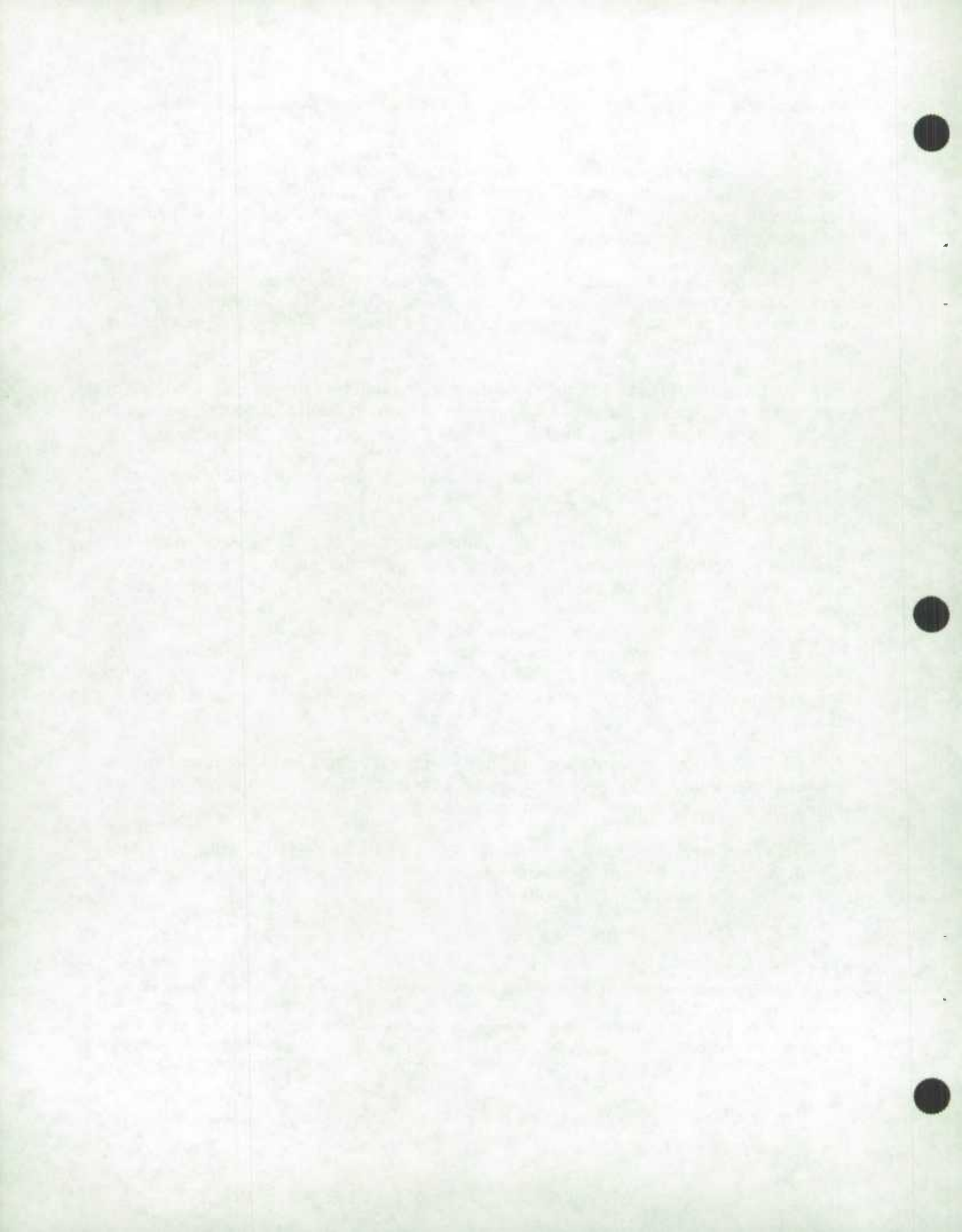
4. For Western Grain Stabilization payments for 1981 to 1984, no seasonal adjustment procedures are undertaken as no distinguishable seasonality exists in the series. From 1985 to the present the seasonally adjusted values are derived by dividing the annual by 12.

5. For "other" payments no seasonal adjustment is undertaken as no seasonality can be detected in the series. There appears to be a problem in the source data, however and it may be necessary to adopt an alternative methodology in the future.

6. Deficiency Payments are allocated into the raw data in the various crops or livestock series where they were received and from 1985 forward are regarded separately and as such have no identifiable seasonality.

7. Provincial Stabilization Payments are seasonally adjusted using X11, but some adjustments are made to the data as erratic behaviour in the series causes the program to yield unreasonable results.

⁷Following the calculation of these data, the treatment of agricultural subsidies was changed from a cash to an accrual basis in the Income and Expenditure Accounts. This change does not affect the estimate of the net income of farm operators from farm production that appears in personal income, as personal income is presented on a cash basis, but does affect significantly the estimate of accrued net income of farm operators from farm production, a component of Gross Domestic Product.



Net cash receipts, or net cash advance payments are included in farm cash receipts up to 1984, with the seasonally adjusted values derived from the X11 ARIMA program. After 1984, it was decided that these payments should not have been included in the accounts, as they represent a loan rather than a subsidy payment, and as such have no associated production. These payments were excluded from 1985 forward. In the monthly time series, to remain consistent with quarterly methods employed in the past, the payments were included from 1981 to 1984.

In almost all cases, the methodology adopted for deriving the monthly estimates is entirely consistent with what is implemented in IEAD on a quarterly basis. In a few cases, however, notably in some subsidies series, methods employed for monthly estimates differ. This is the case because the series behaves differently on a monthly basis than on a quarterly basis. For example, if a series is more erratic on a monthly basis, or if it exhibits a seasonal pattern on a quarterly basis, and no identifiable seasonality can be found in the same series when considered on a monthly basis. Some examples where the quarterly methodology was not followed exactly are:

1. Provincial Stabilization Payments: Adjustments were made to the monthly seasonally adjusted values to eliminate unreasonable (negative) values; these discrepancies were neither large nor numerous.

2. Other payments: Between 1981 and 1984 quarterly seasonally adjusted values were derived using X11. This methodology was perhaps not appropriate at that time as no identifiable seasonality is present in the series. For the monthly estimates no seasonal adjustment procedures were undertaken for that period. As mentioned above, however, there appear to be problems in the source data and some adjustments may need to be made in the future.

3. Deficiency Payments: These payments were included in the quarterly estimates for the crops or livestock to which they applied from 1981 to 1984. From 1985 on they were considered as a separate series. For the monthly estimates data was available separately for the entire period. For this reason from 1981 to 1984, in order to be consistent with the quarterly estimates, deficiency payments were allocated into the crops and livestock series based on a priori information as follows:

1981	100% in receipts for hogs
1982	75% in receipts for fruits, 25% in receipts for hogs
1983	75% in receipts for soybean, 25% in receipts for sugarbeets
1984	60% in receipts for hogs, 20% in receipts for fruits, 20% in receipts for vegetables.

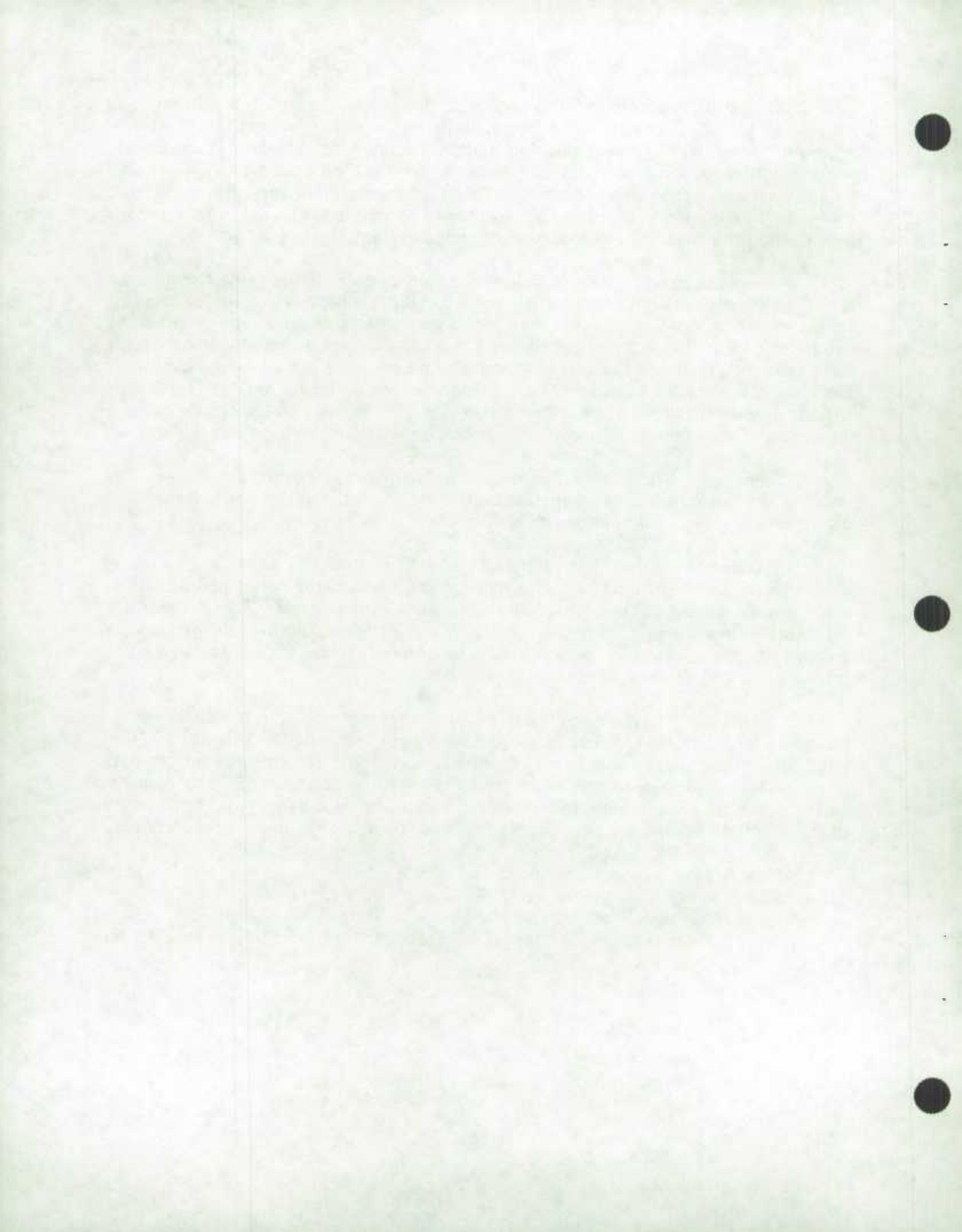
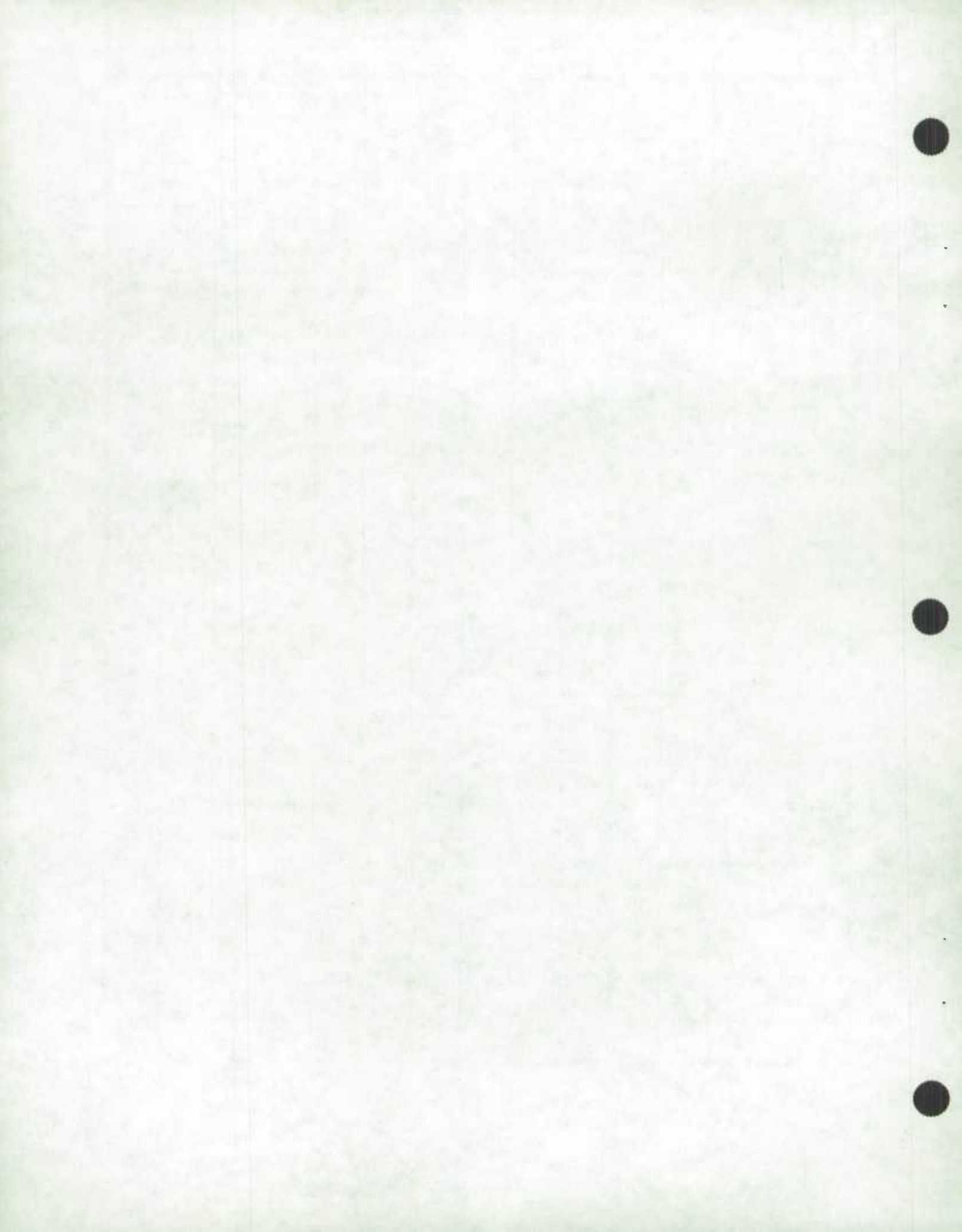


Table 3: Farm Cash Receipts including Subsidies, Seasonally Adjusted, Thousands of Dollars

1988	Jan	Feb	March	April	May	June	July	Aug	Sept	Oct	Nov	Dec
Wheat	137122	178312	220081	140262	101024	112242	129238	357810	204002	242915	258082	108308
Oats	16486	18494	18650	13897	13268	14867	13859	7425	10018	7373	6488	5545
Barley	63181	83048	81147	80829	83081	59342	80849	45378	52188	50267	68200	40627
Canadian Wheat Board Payments	19541	19541	19541	19541	19541	19541	19541	19541	19541	19541	19541	19541
Ontario Wheat Board Payments	750	750	750	750	750	750	750	750	750	750	750	750
Rye	1137	1240	2878	1755	1593	1207	2341	5778	2248	1958	2039	1582
Flaxseed	11037	11130	22748	9613	8797	8737	8738	15087	21142	12588	8828	3887
Rapeseed	43678	58514	171708	78441	77454	45254	84321	100028	88547	40518	77859	48851
Soybeans	28170	17408	20334	11002	17280	24848	25420	27018	21828	14430	15011	18452
Corn	47583	38647	34707	35405	43092	39028	40859	35284	48118	35231	35812	39284
Sugarbeets	2274	2248	2835	2175	2115	2940	2231	2344	3788	2183	10457	1547
Potatoes	29522	32117	34843	34778	38828	34185	32924	37445	34828	33281	41182	38851
Fruit	30000	28852	30024	30007	29398	28470	25484	25724	22031	18820	21847	22895
Vegetables	53888	55135	55887	55778	55945	54984	54378	55542	55184	54373	54873	54897
Horticulture and nursery	48808	48888	51288	51851	51388	51585	52142	52485	52814	53803	54485	55335
Tobacco	18858	51288	22882	18521	15881	18758	23788	24180	24387	23587	35877	18513
Other Crops	24788	23814	24890	30891	84180	22082	25822	25308	18282	20141	20888	21802
Forest and Maple Products	12823	12812	12722	11774	11807	12108	14028	13270	12454	12818	12588	12522
Net Cash Advance Payments	0	0	0	0	0	0	0	0	0	0	0	0
Total Crops	578440	683998	807425	609031	633658	551017	618583	850384	670167	644878	740815	508888
Cattle	270386	271108	278881	284224	288500	288488	289342	289118	282415	288881	288007	288258
Calves	34428	34493	31784	32513	33885	35888	38144	35581	38512	35454	34880	38844
Sheep	2488	2588	2582	2355	2323	2822	2411	2307	2188	2200	2188	2088
Poultry	88430	101218	88888	87771	88583	87888	100185	88487	87152	88878	101208	88457
Dairy	282828	282848	282008	288138	257548	254308	244858	251025	252057	255455	258488	257478
Eggs	43782	43545	44588	44408	44804	45071	44878	44371	43108	44211	44420	44872
Other Livestock and Produce	34058	18030	22918	22718	21428	23338	23423	21543	18388	20880	20884	11388
Total Livestock and Produce	883811	880755	883085	889513	888444	804917	803388	889781	887337	812007	818488	804707
Western Grain Stabilization Payments	14885	14885	14885	14885	14885	14885	14885	14885	14885	14885	14885	14885
Crop Insurance	80884	80884	80884	80884	80884	80884	80884	80884	80884	80884	80884	80884
Provincial Stabilization Payments	18383	40017	24389	18772	75401	3500	14433	58880	28100	24063	52778	5000
Dairy Payments	24883	24780	25032	24822	18734	27788	22580	21748	17431	21349	18540	25778
Deficiency Payments	20813	48258	74878	37142	94888	10703	2574	84888	8878	27025	130751	8803
Other Payments	802	314	58881	0	0	228849	380	0	515204	0	0	103318
Total Subsidies	180481	210058	278887	178215	285703	383827	135846	258282	688383	188118	287748	238878
Total Farm Cash Receipts and Subsidies	1832512	1754810	1887476	1888818	1888105	1818581	1855827	2008435	2223887	1724888	1858058	1854251



Seasonally adjusted monthly estimates of farm cash receipts will not be entirely consistent with the quarterly estimates used in producing net income of farm operators from farm production, not only because of slight methodological differences, but also because of differences between the monthly and the quarterly seasonal adjustment processes by the X11 ARIMA seasonal adjustment program. In practise these unavoidable differences between the sum of the 3 months and the corresponding quarter are slight, and they appear to be random in nature. A prorate adjustment can be carried out to force monthly seasonally adjusted values to sum to previously estimated quarterly values. If estimation were undertaken regularly on a monthly basis, quarters could be calculated as the sum of monthly estimates.

Seasonally adjusted total farm cash receipts are depicted in graphical form in Figure 1 both at a quarterly and a monthly frequency. As the graph demonstrates, farm cash receipts are extremely volatile and unpredictable in their period to period movements, partially due to irregular subsidy payments. Despite the fact these estimates have a relatively small weight in total personal income, their erratic movements contribute a great deal to the volatility of the aggregate. In comparing the two graphs in Figure 1, it can be seen that a great deal of month to month variation exists in farm cash receipts which less marked in the quarterly estimates. This variation contains valuable information pertaining to the month to month movement of farm income, data which is of equivalent quality to the quarterly estimates.

2.2 Income in Kind

Farm income in kind, that is, food and forest products grown and consumed on farms, is estimated on a monthly basis by Agriculture Division. These estimates need only be seasonally adjusted on a monthly basis to be used as an input to the calculation of net income of farm operators from farm production. Time did not permit a trial of this exercise, but no problems are anticipated.

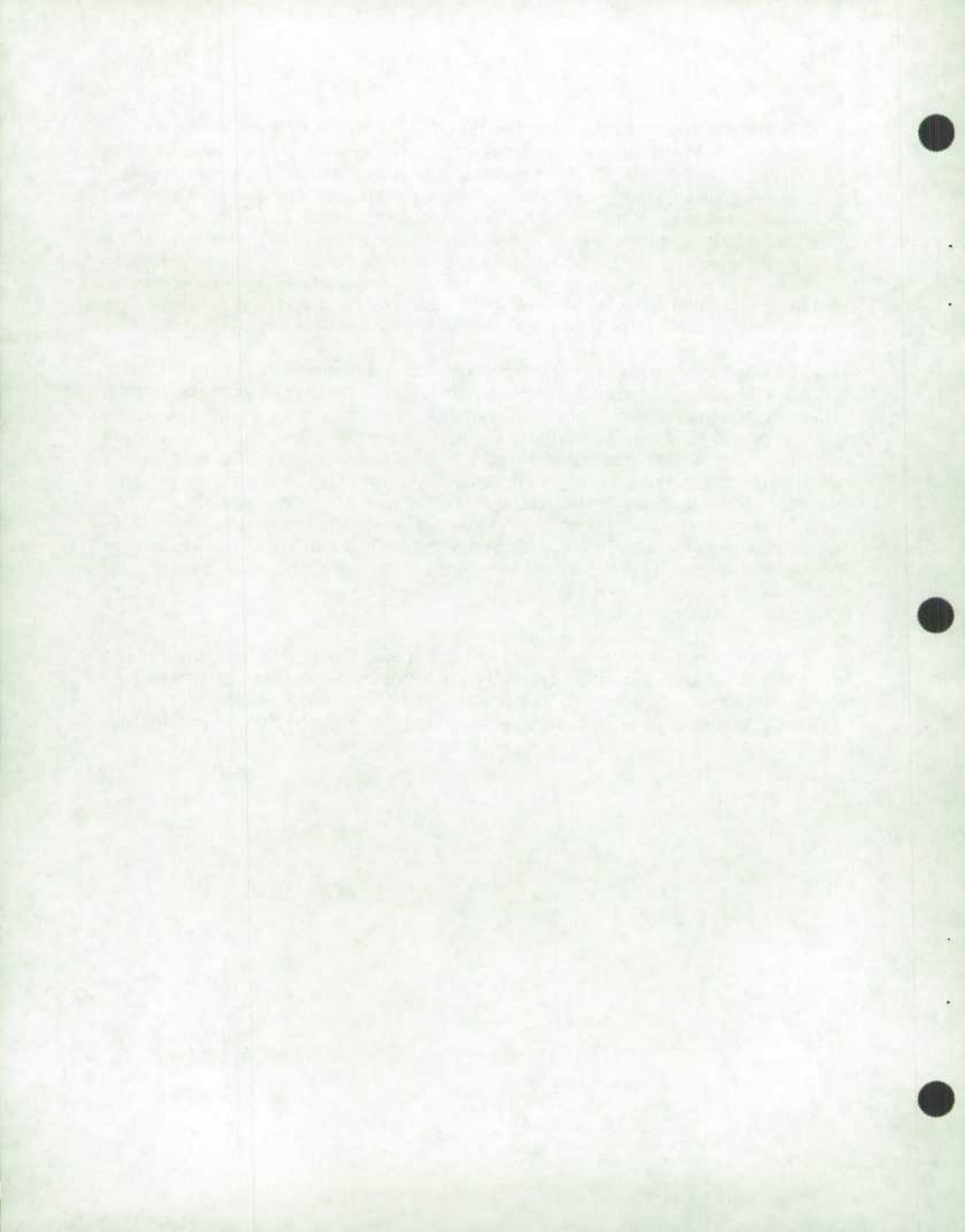
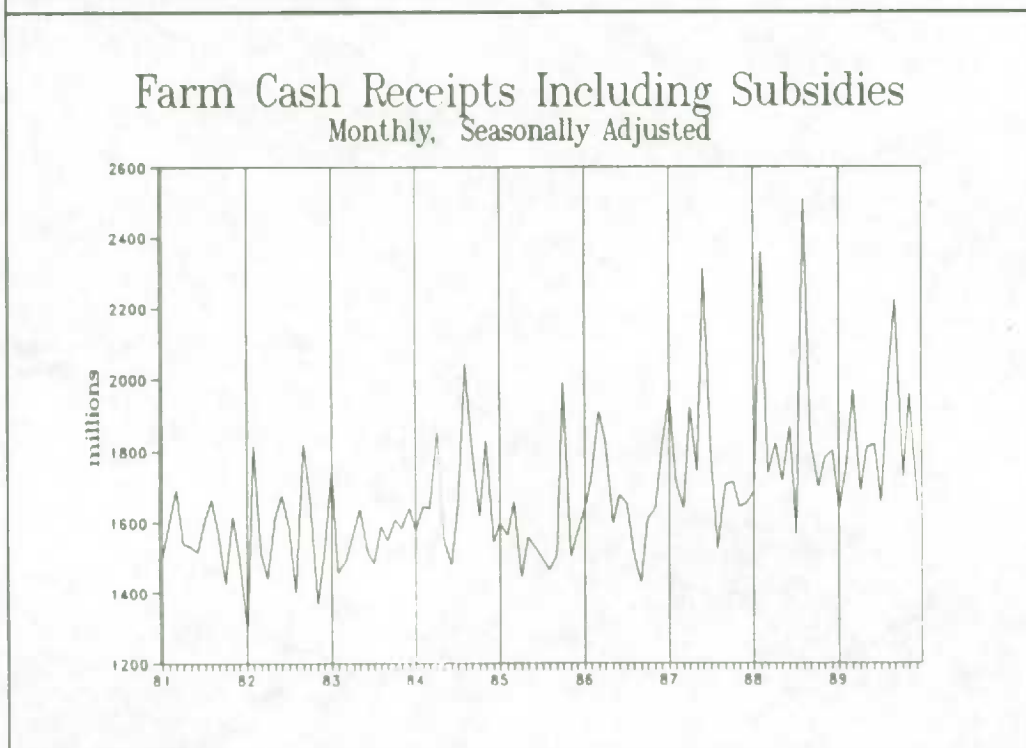
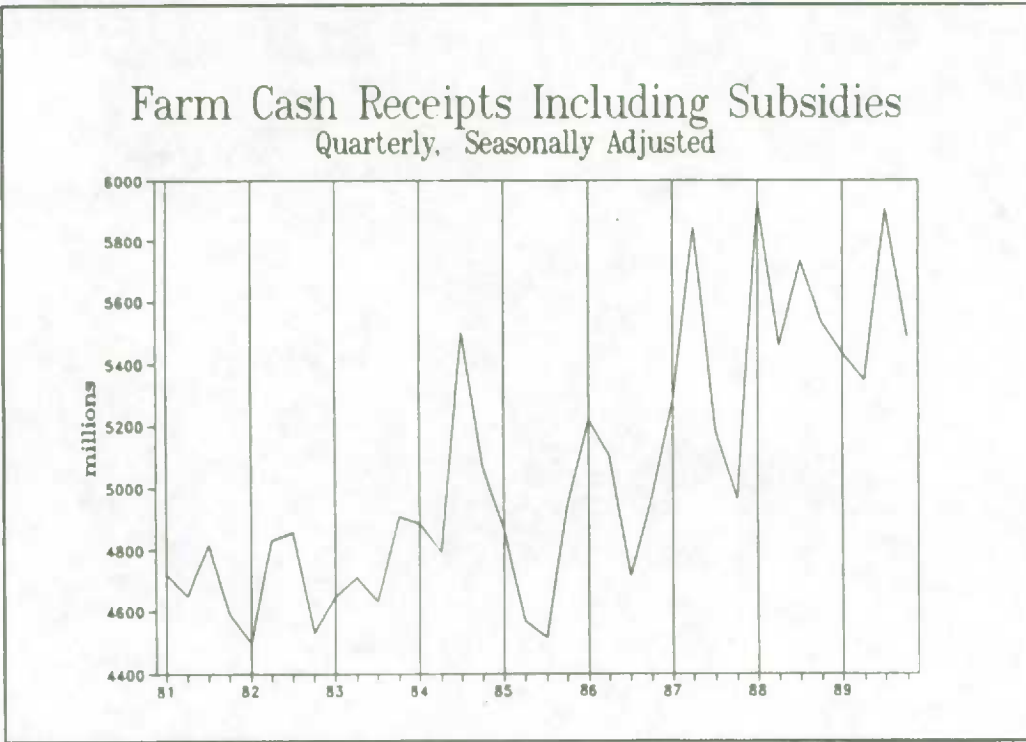
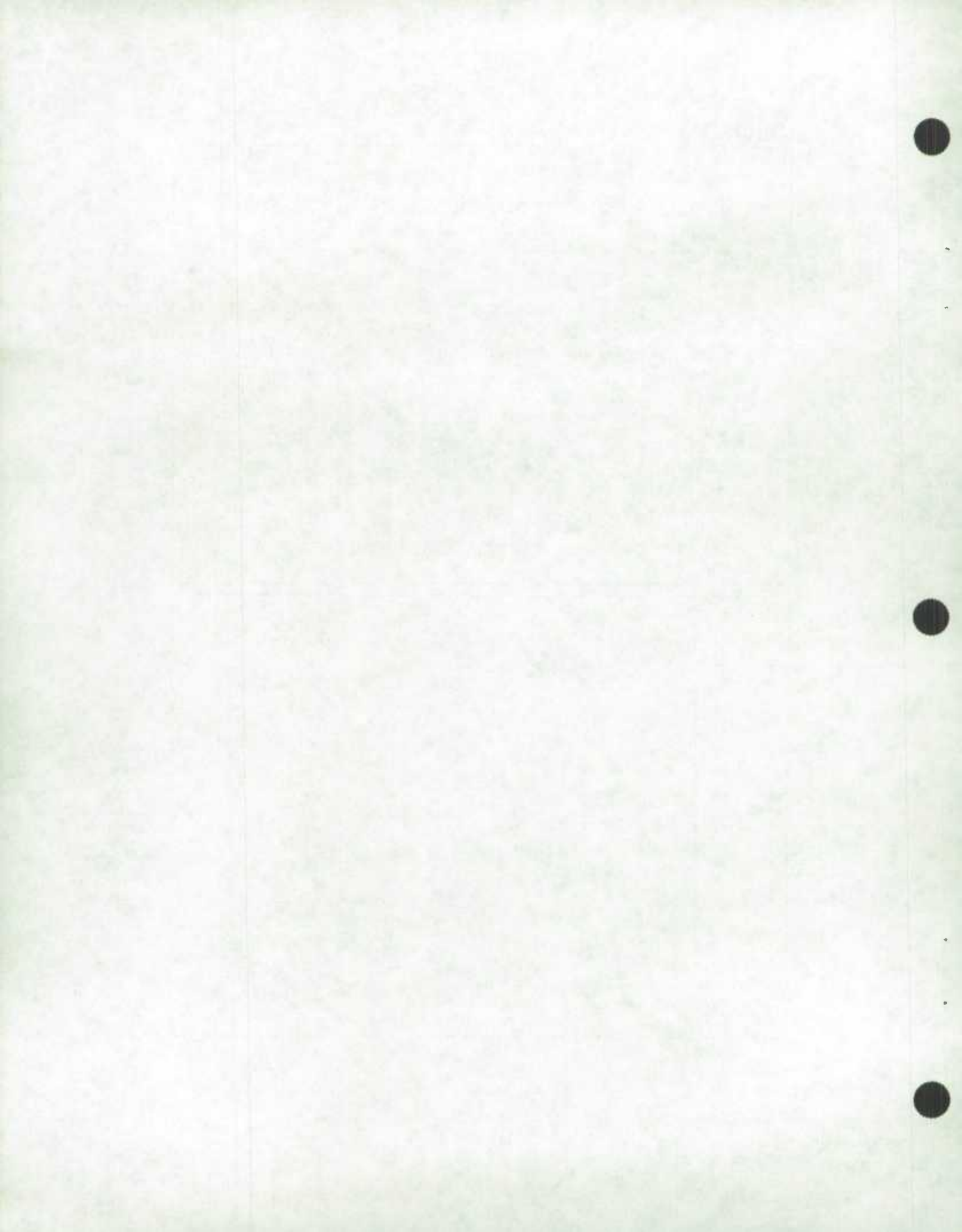


Figure 1





2.3 Farm Inventory Change

The value of physical change in farm inventories is estimated by measuring the physical change in stock of each non-perishable commodity (eight types of grains, potatoes and tobacco) multiplied by an average market price for the period. The necessary inputs are available to carry out this procedure on a monthly basis, but results obtained would not be consistent with previously calculated quarterly values. In the quarterly calculation, it is assumed that the average prices of each month have equal weights in the average price for the quarter. When the practice is undertaken on a monthly basis, monthly weights will be incorporated into the calculation, which may result in large discrepancies between the sum of the months and previously estimated quarters, depending on the degree of price variation between months.

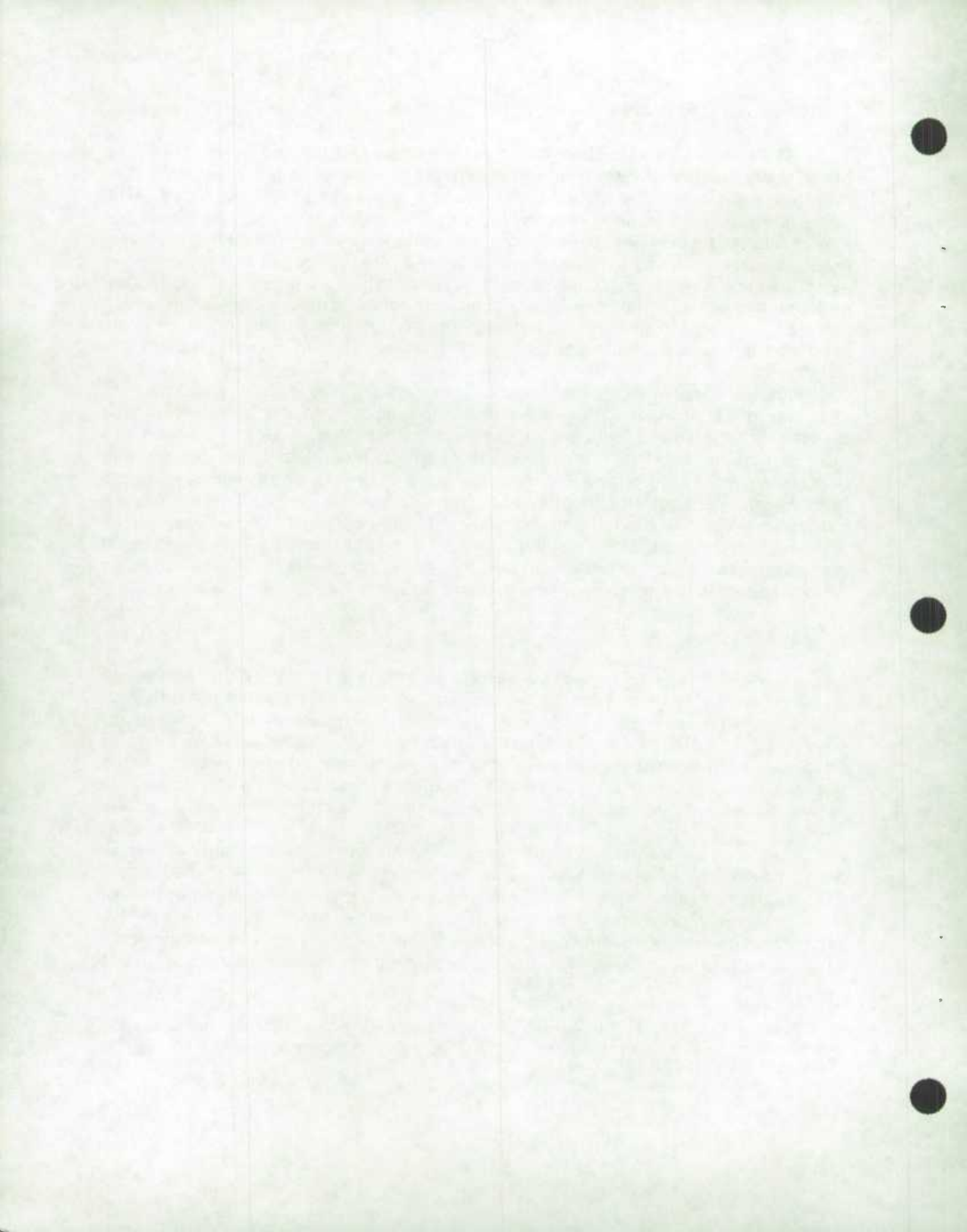
From a conceptual standpoint, if substantial month to month variation exists in stocks of farm commodities, average prices employed in the estimates should reflect this variation. Due to a lack of time and resources, it was not possible to attempt monthly estimation in the course of this study. A separate project was undertaken in the Income and Expenditure Accounts Division, however, to estimate farm inventory change on a monthly basis. The differences between the sum of the months derived from the monthly calculation and the corresponding values derived from the quarterly calculation did, in fact, prove to be substantial⁸. This would imply that adopting a monthly estimation of farm inventory change would have an important impact on regularly published quarterly estimates.

2.4 Farm Expenses

A varied range of farm expenses are estimated annually by the Agriculture division. Annual estimates for 25 expense categories are distributed over the four quarters of the year on the basis of proportions established in a 1982 study conducted by IEAD. Seasonally adjusted quarterly values include an adjustment for price variation over the period, derived from quarterly farm input price indexes. In the quarterly estimates, two large categories of expenses, interest and depreciation, are separated out and distributed and projected using related information.

The proportions used to distribute annual values to obtain quarterly estimates are also available on a monthly basis, but the farm input price indexes needed for the price adjustment are only available quarterly. A partial solution to the problem of lacking monthly price data would be to calculate seasonally adjusted monthly estimates without any adjustment for price variation. The result could be benchmarked to quarterly price-adjusted estimates using a quadratic minimization technique. In this

⁸See Perrault, Estelle, "Calcul mensuel des valeurs de la variation matérielle des stocks agricoles détenus sur les fermes", an unpublished study in the Income and Expenditure Accounts Division, Statistics Canada, 1991.



way, although monthly price variation is unknown, known quarterly information is incorporated into the monthly estimates. Estimates obtained in this way would not be entirely reflective of actual monthly movements in farm expenses, but may constitute a reasonable proxy, making use of all available information.

A trial of this procedure was carried out in an aggregate fashion, using fixed proportions to distribute total farm expenses on a monthly basis, seasonally adjusting the result with X11 ARIMA, and benchmarking it to seasonally adjusted quarterly farm expenses. The fixed proportions used to distribute the total expenses monthly were based on a weighted average of the proportions for the 25 expense categories. The weights in the calculation were the 1986 annual values for each of the categories. The year 1986 was chosen as it was a census year, but a test was conducted using 1989 weights, and the resulting distribution was only very slightly changed.

Data on total farm expenses obtained following this procedure are presented in tabular form in Table 4 in Appendix A, and in graphical form in Figure 2. For these estimates, the categories of interest and depreciation were not estimated separately as in the quarterly estimates. Quarterly estimates prepared with related indicators for these series are believed to be similar to those prepared with fixed proportions, however, and monthly estimates omitting this aspect of the quarterly methodology are not likely to be substantially affected.

It is possible to estimate each expense category separately based on the fixed proportions available, but without the necessary data for the price adjustment such an endeavour may not yield improved results. It may also be possible to create monthly estimates of farm expenses by separating out some of the larger categories in the farm expenses estimate and attempting to find current dollar monthly distributor series for these. Monthly distributions of these larger items could be used in turn to distribute quarterly estimates, ensuring consistency between the two frequencies. Alternatively, perhaps means could be developed to derive monthly values for farm input price indexes. Further study in this area could entail estimation with alternative methods and a comparison of results.

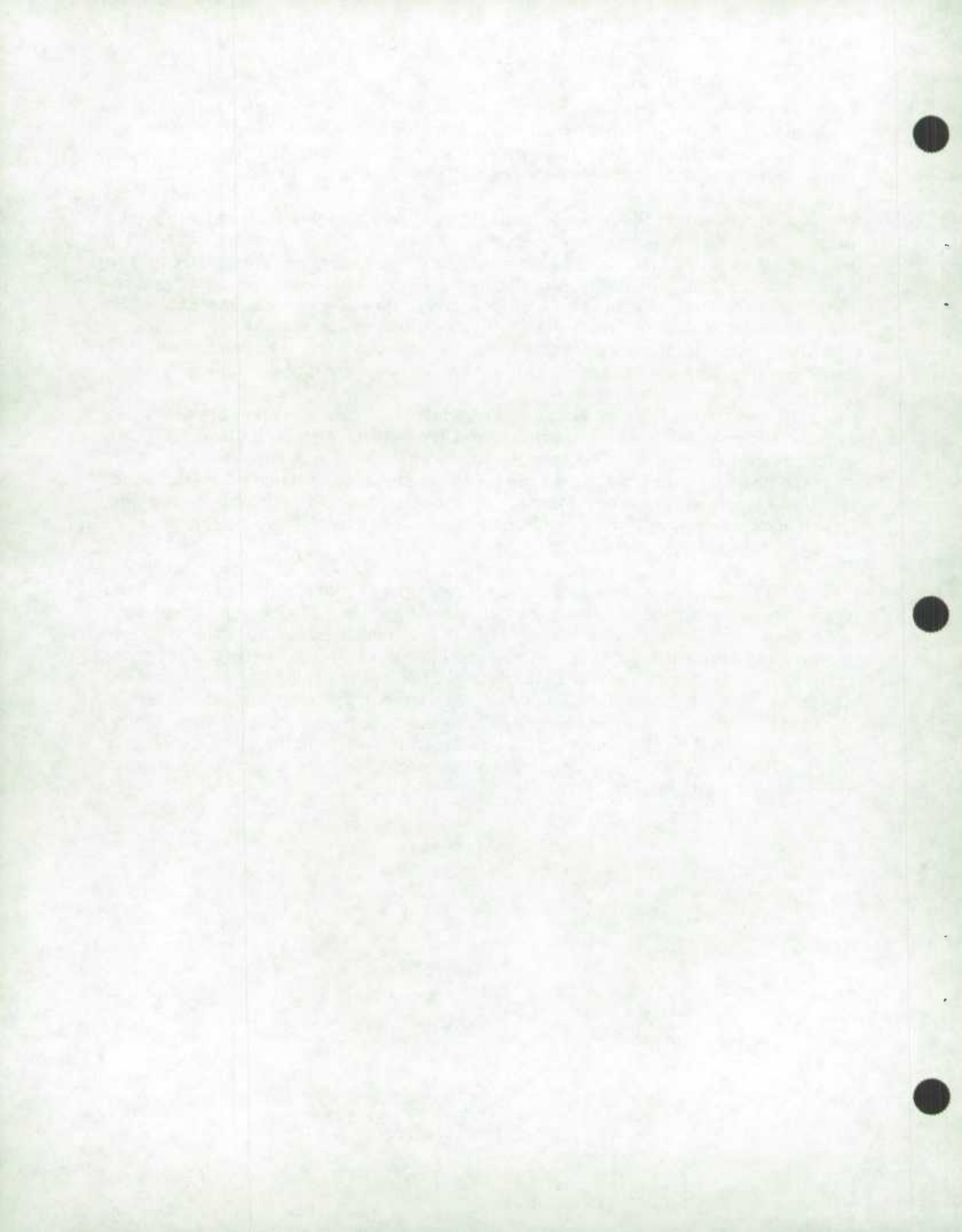
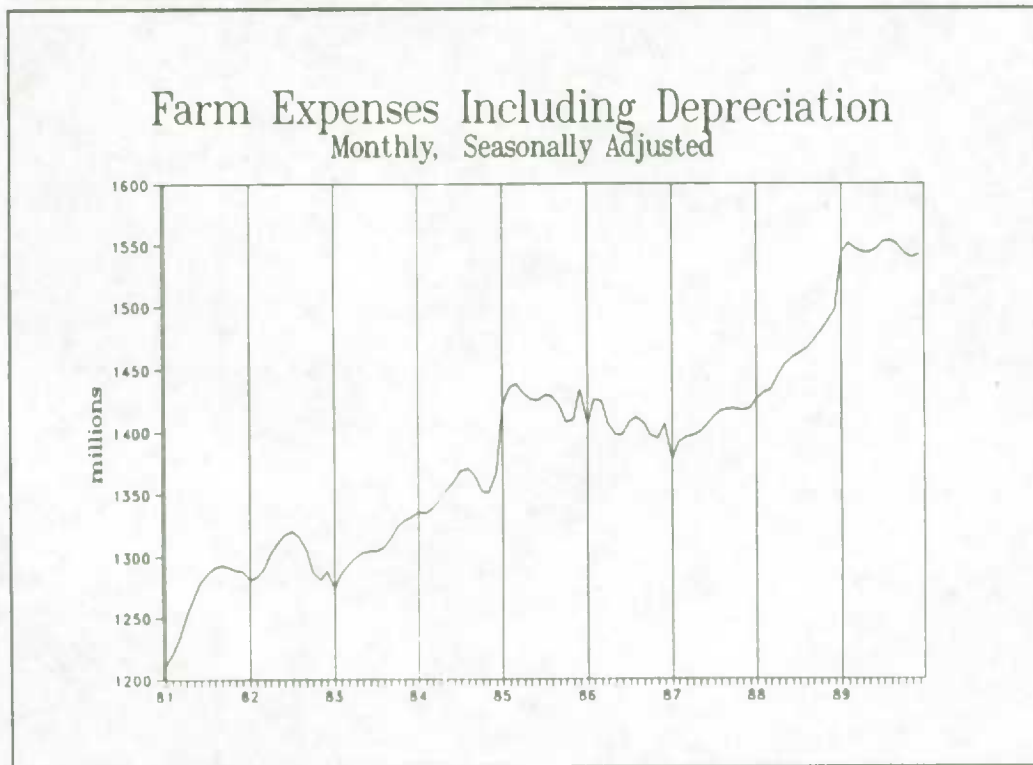
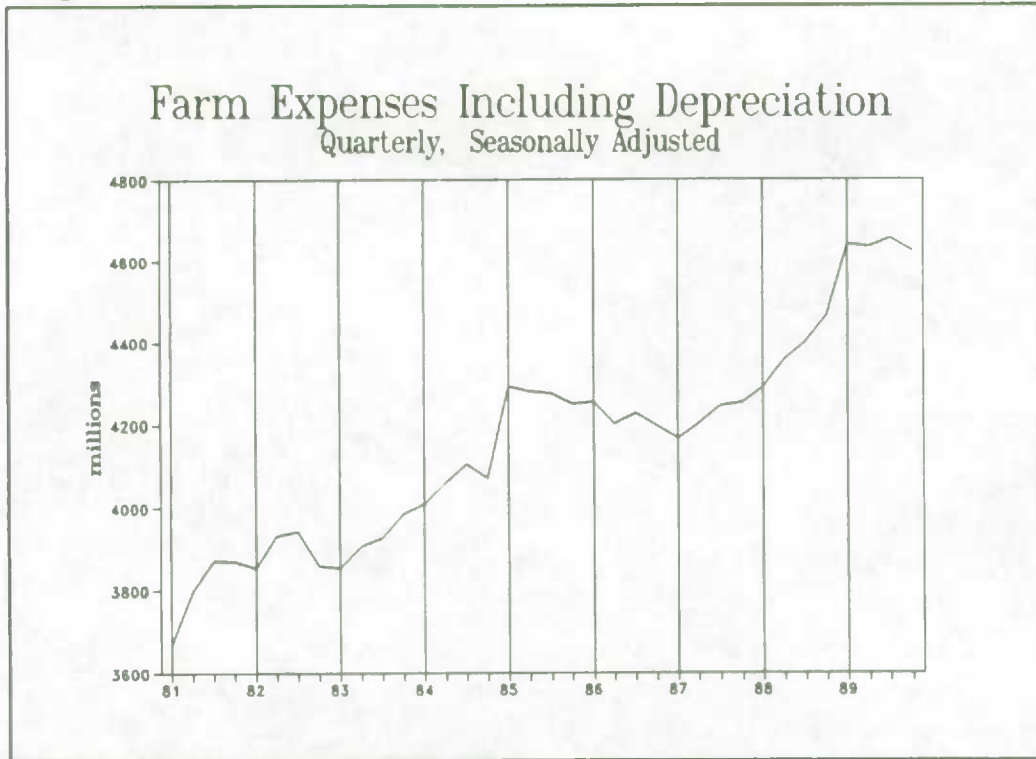
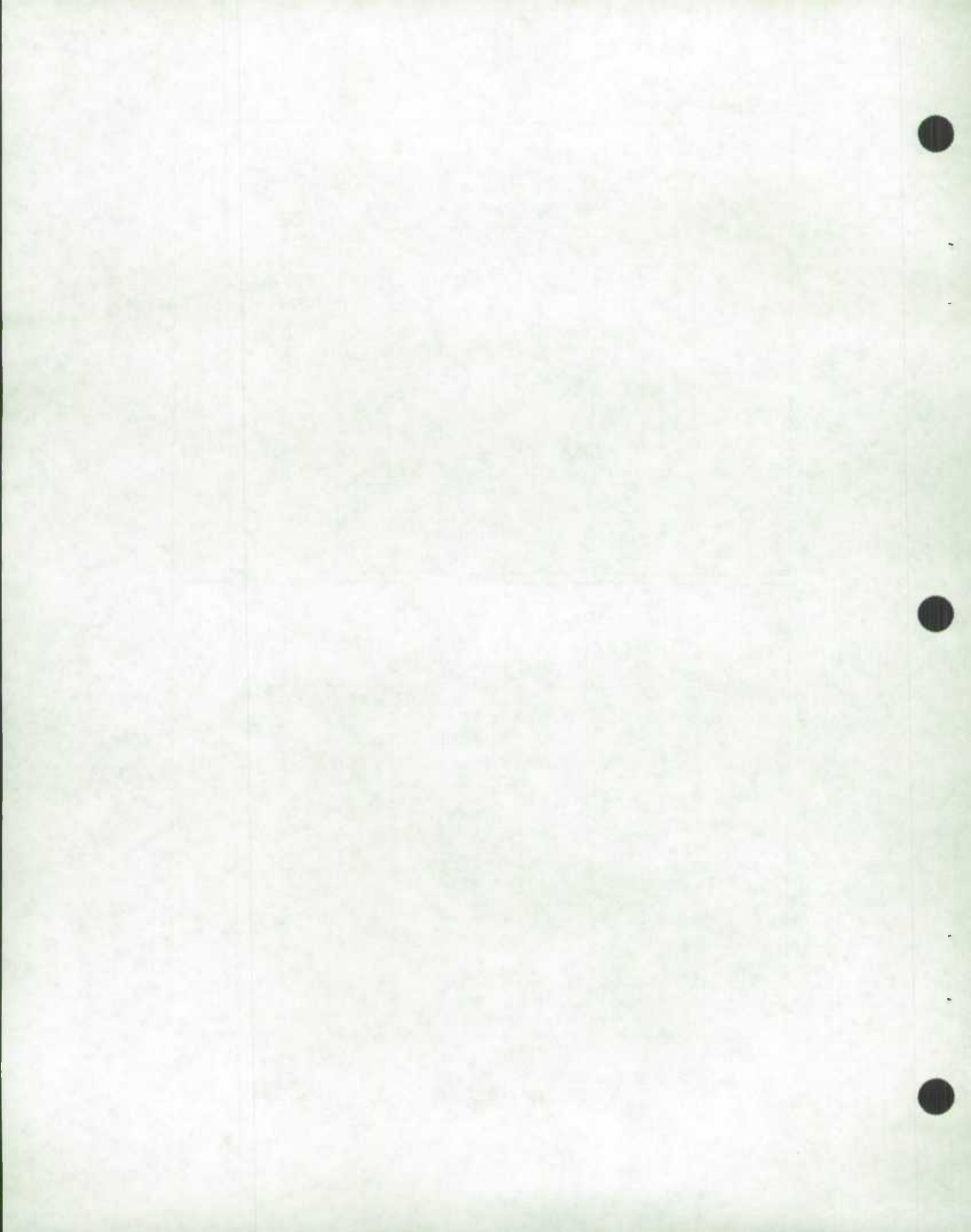


Figure 2





2.5 Corporate Profits in Agriculture

The current quarterly methodology for producing seasonally adjusted quarterly estimates of corporate profits in agriculture consists simply of dividing annual values by 4. Consistent monthly values could be calculated by dividing by 12 in this case.

2.6 Sources and Methods in the U.S.

Monthly estimates of "farm proprietor's income" published among the American sources of personal income are based on quarterly net farm income estimates prepared by the United States Department of Agriculture. These quarterly estimates are interpolated and extrapolated, and results are modified by special factors such as natural disasters, or unusual changes in prices, subsidy payments, or crop yields.

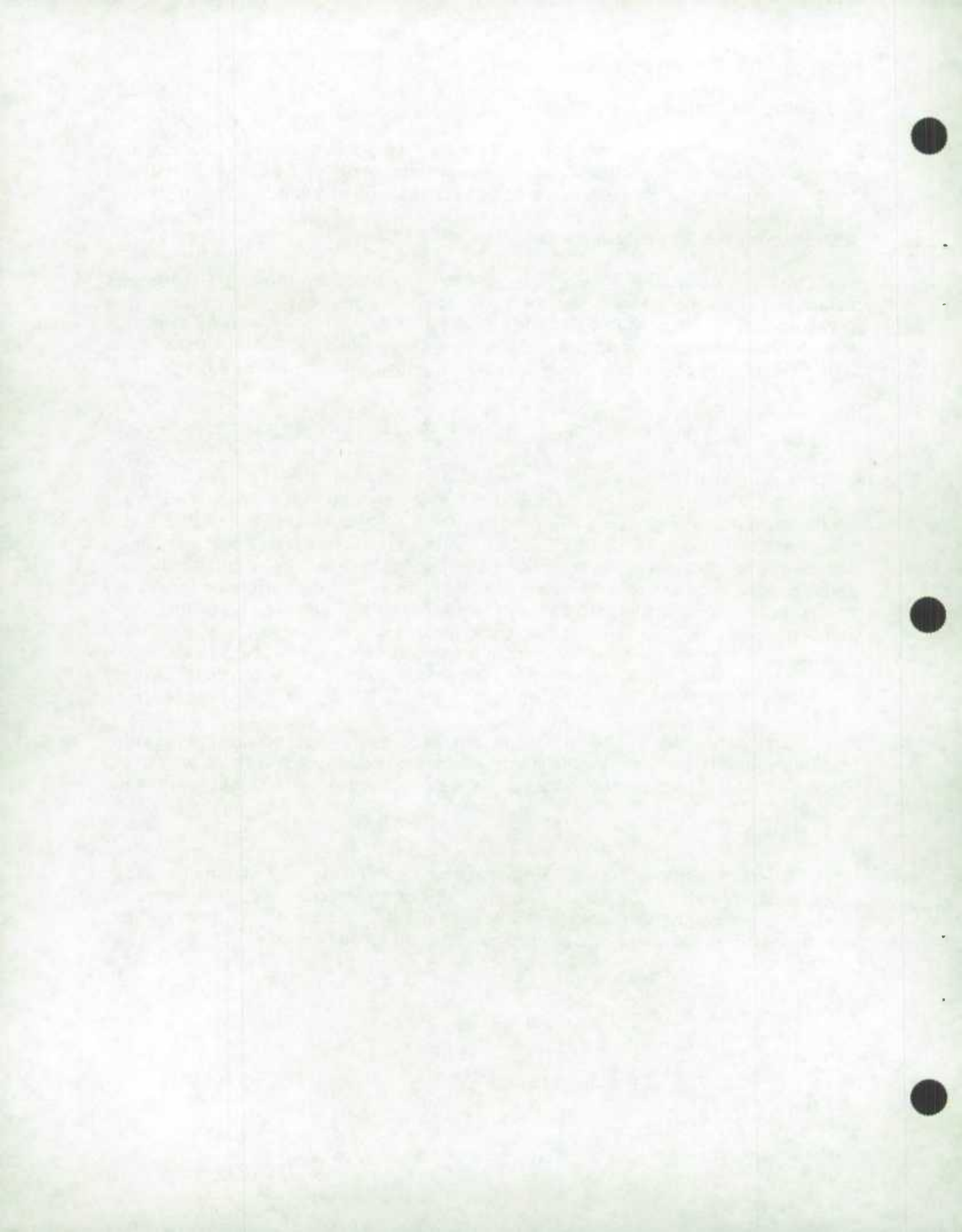
3. Net Income of Non-Farm Unincorporated Business

Net income of non-farm unincorporated business, that is, the net earnings of proprietors from their own businesses, is estimated on a quarterly basis for 25 types of unincorporated businesses. Good quality annual information is available in this area, based on Revenue Canada - Taxation Statistics, but there is no direct sub-annual survey source. Related indicators from a variety of sources are used to distribute these benchmarks by quarter and to project them forward in the current period. Many of the related indicators used to derive quarterly data are available on a monthly basis. In these cases, monthly estimates can be produced which are equal in quality to the quarterly. For some series, however, no monthly information is known to be available and the only method to obtain monthly estimates is through a smooth distribution of quarters.

Distribution by simple proportions was chosen to produce the monthly estimates in all cases, as it is consistent with methods employed on a quarterly basis. Possible methods for each of the categories are described in the paragraphs to follow.

3.1 Fishing

Quarterly estimates up to 1986 were based on a distribution of annual taxation data using the value of fish landed. From 1986 to the present, these estimates are derived using wages and salaries in the fishing industry. For the purposes of the monthly estimates, wages and salaries can be used for the entire period, from 1981 to date.



3.2 Forestry

For the period up to 1988 the number of own account operators in the forestry industry was used as a related indicator for creating the quarterly estimates. These data are available from the Labour Force Survey on a monthly basis and can be used to distribute quarterly estimates. From 1989 to date wages and salaries in the fishing industry were used as a distributor. These are also available on a monthly basis and can be applied to distribute quarterly data.

3.3 Hunting and Trapping

Quarterly data for net income of unincorporated business in hunting and trapping are derived using fixed proportions which allocate annual figures over the four quarters to obtain unadjusted estimates. No equivalent distribution is available for deriving monthly data.

3.4 Mining

Quarterly data for net income of unincorporated business in the mining industry up until the end of 1988 were based on monthly information on the production of minerals from Energy Mines and Resources. After 1988, as this information was no longer available, wages and salaries in the mining industry are used to compute quarterly estimates in this area. Equivalent monthly estimates can be produced using the same information.

3.5 Manufacturing

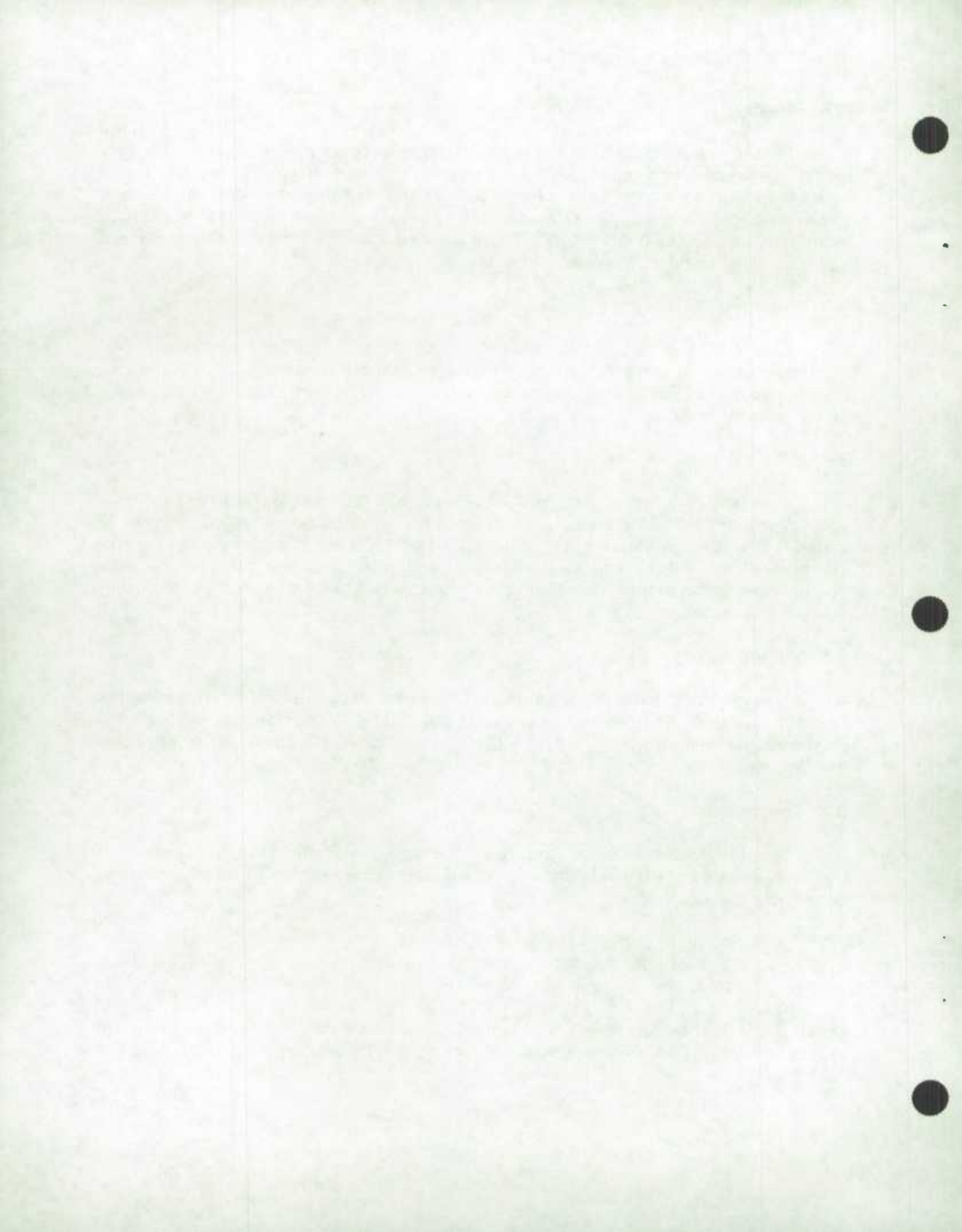
The value of shipments in manufacturing is used to compute quarterly estimates of net income of unincorporated business in this industry. This information is available on a monthly basis from the Industry Division and can be used as a distributor for deriving monthly estimates.

3.6 Construction

Quarterly estimates of the net income of unincorporated business in construction are based on a distribution of annuals using the sum of three residential construction series:

1. Work put in place, singles
2. Work put in place, doubles and rows
3. Alterations and improvements

Monthly information is readily available for the first two series, but for alterations and improvements it is not. A monthly series for this can be derived, however, using the



sum of four monthly retail trade series as a distributor for the quarterly alterations and improvements series. These four series are retail trade in hardware, furniture, appliances and "other". The resulting series can be added to the two other construction series to derive a monthly distributor series for the net income of unincorporated business.

3.7 Transportation

Annual estimates of the net income of unincorporated business in the transportation industry are distributed by quarter using the number of own account operators multiplied by average weekly earnings in that industry. These data are available monthly and can be used to derive estimates on a monthly basis.

3.8 Retail and Wholesale Trade

The net income of unincorporated business in retail and in wholesale trade is derived on a quarterly basis using the value of total retail trade and total wholesale sales, respectively. Both these series are available on a monthly basis from the Industry Division and can be used to derive monthly estimates of the net income of unincorporated business in retail and wholesale trade.

3.9 Finance, Insurance and Real Estate

The series employed for quarterly estimates in this area is monthly information from the Canadian Real Estate Association. This information can also be used to derive monthly estimates.

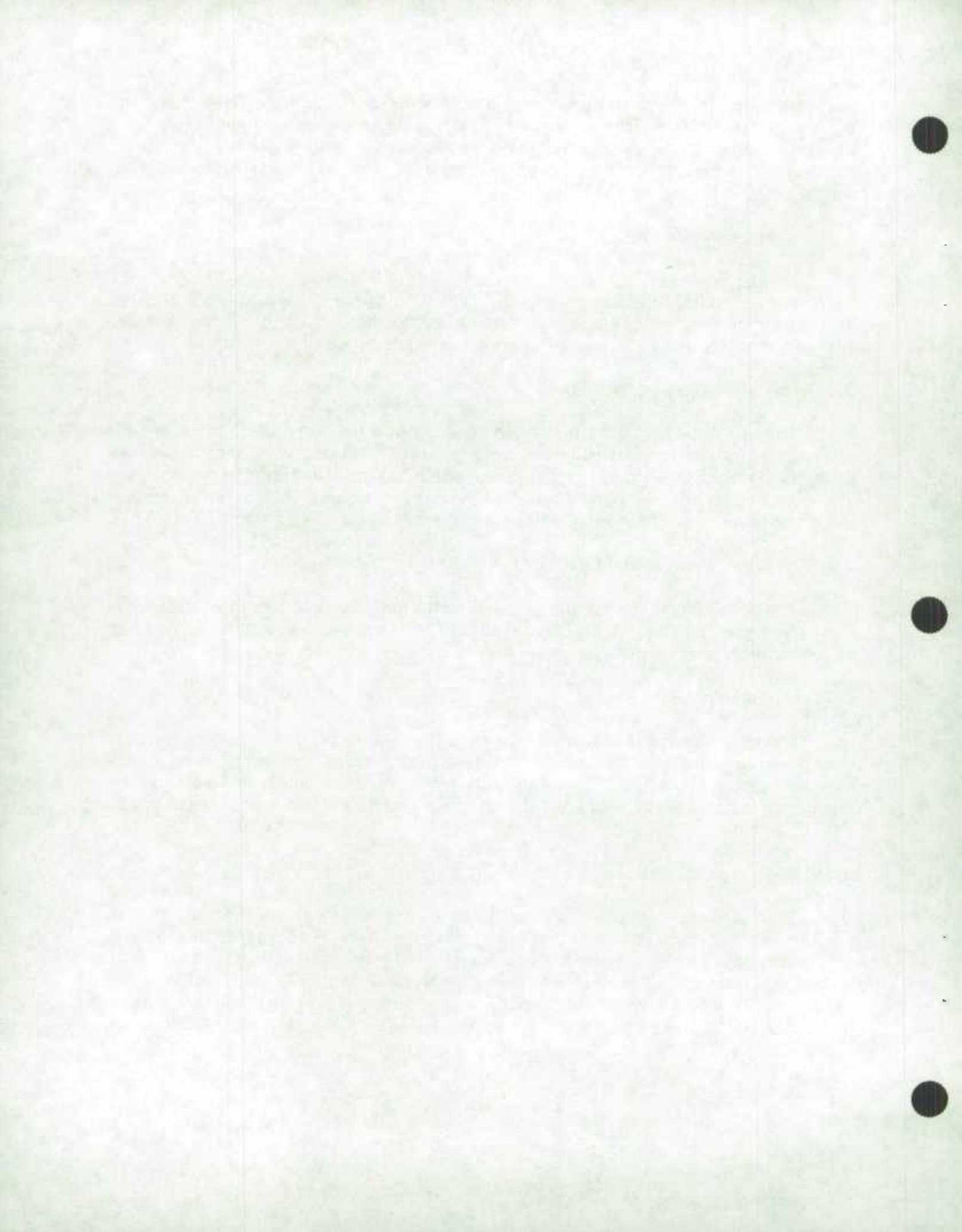
3.10 Community Services

Quarterly estimates of the net income of unincorporated business in community services are calculated based on the movement of personal expenditures on health care and of provincial government current expenditure on goods and services for medicare. Unfortunately, monthly information is available for neither of these series.

3.11 Business Services

Estimates are derived for the net income of unincorporated business for four categories of business services: that of lawyers, engineers, accountants and "other".

Quarterly series for each category are derived using constant dollar estimates of GDP by industry from the Industry Measures and Analysis Division. These constant dollar estimates are inflated with an appropriate price index from the Prices Division to obtain current dollar distributors. All of the necessary inputs to these series are



available on a monthly basis and the same process can be carried out to distribute quarterly data to obtain monthly estimates.

3.12 Recreational Services

Quarterly estimates for the net income of unincorporated business in recreational services are constructed using estimates of personal expenditure on recreational services. This information is available only on a quarterly basis.

3.13 Services Incidental to Agriculture

Quarterly data for the net income of unincorporated business in services incidental to agriculture are calculated using the movement of personal expenditure on pet care services. This personal expenditure item is not available on a monthly basis.

3.14 Personal Services

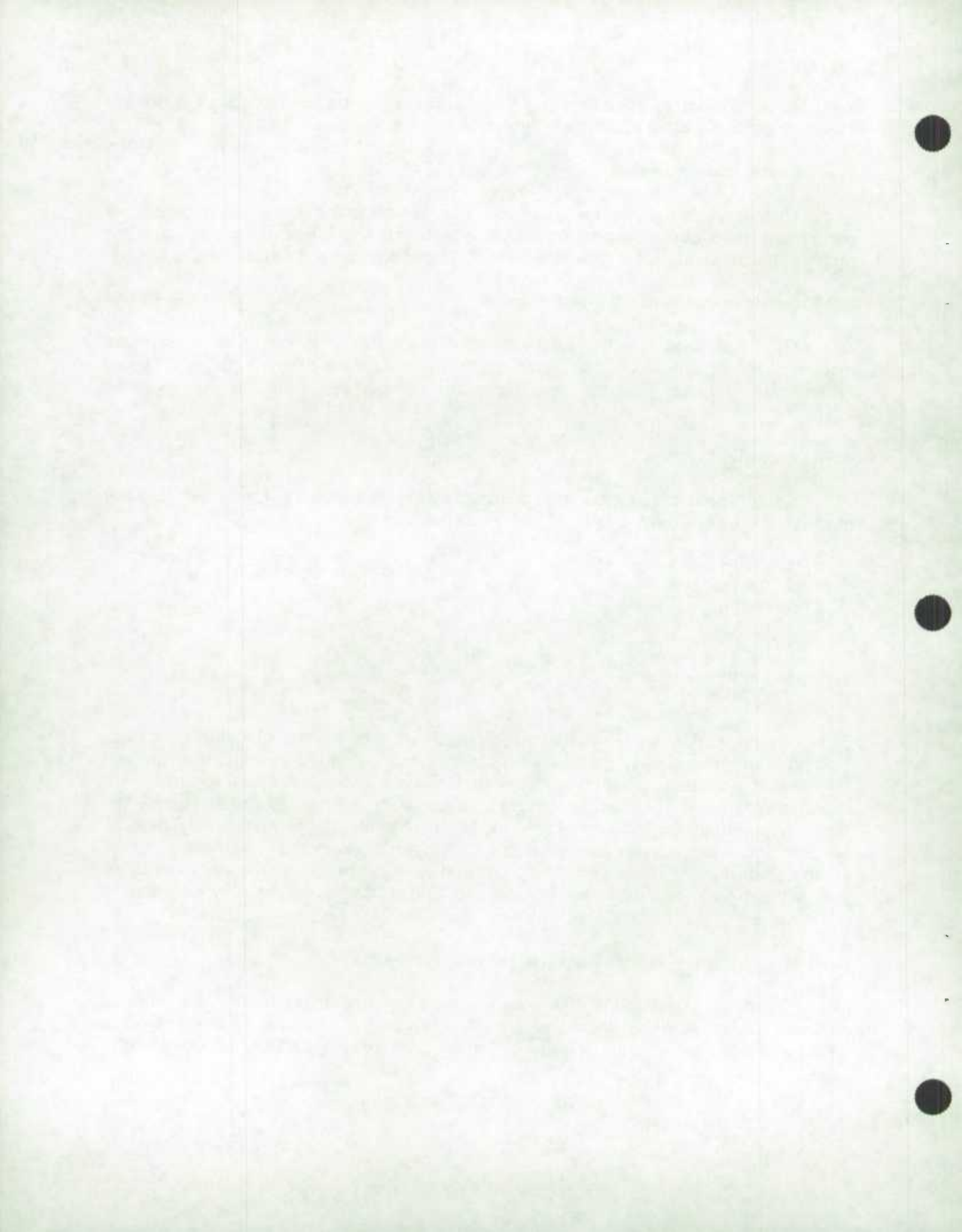
Seven series of net income of unincorporated business in personal services are calculated on a quarterly basis:

1. Board and Lodging
2. Restaurants
3. Hotels
4. Barbers
5. Funeral Services
6. Laundry
7. Childcare

Quarterly estimation is based on personal expenditure on services in all these cases, which is not currently estimated on a monthly basis. Monthly series can be derived for some of the personal expenditure series, however, and this will be explained more fully in the paragraphs on personal expenditure on consumer goods and services later. Monthly personal expenditure estimates can be calculated for restaurants, hotels, barbers and funeral services and these can in turn be used to distribute annual estimates of the net income of unincorporated business in these areas. For the other personal services, board and lodging, laundry and childcare, no monthly information is available.

3.15 Miscellaneous Services to Businesses and Persons

Quarterly estimates in this area are based on the movement in the sum of personal expenditure on photography and personal expenditure on miscellaneous household services. Personal expenditure on photography can be calculated on a

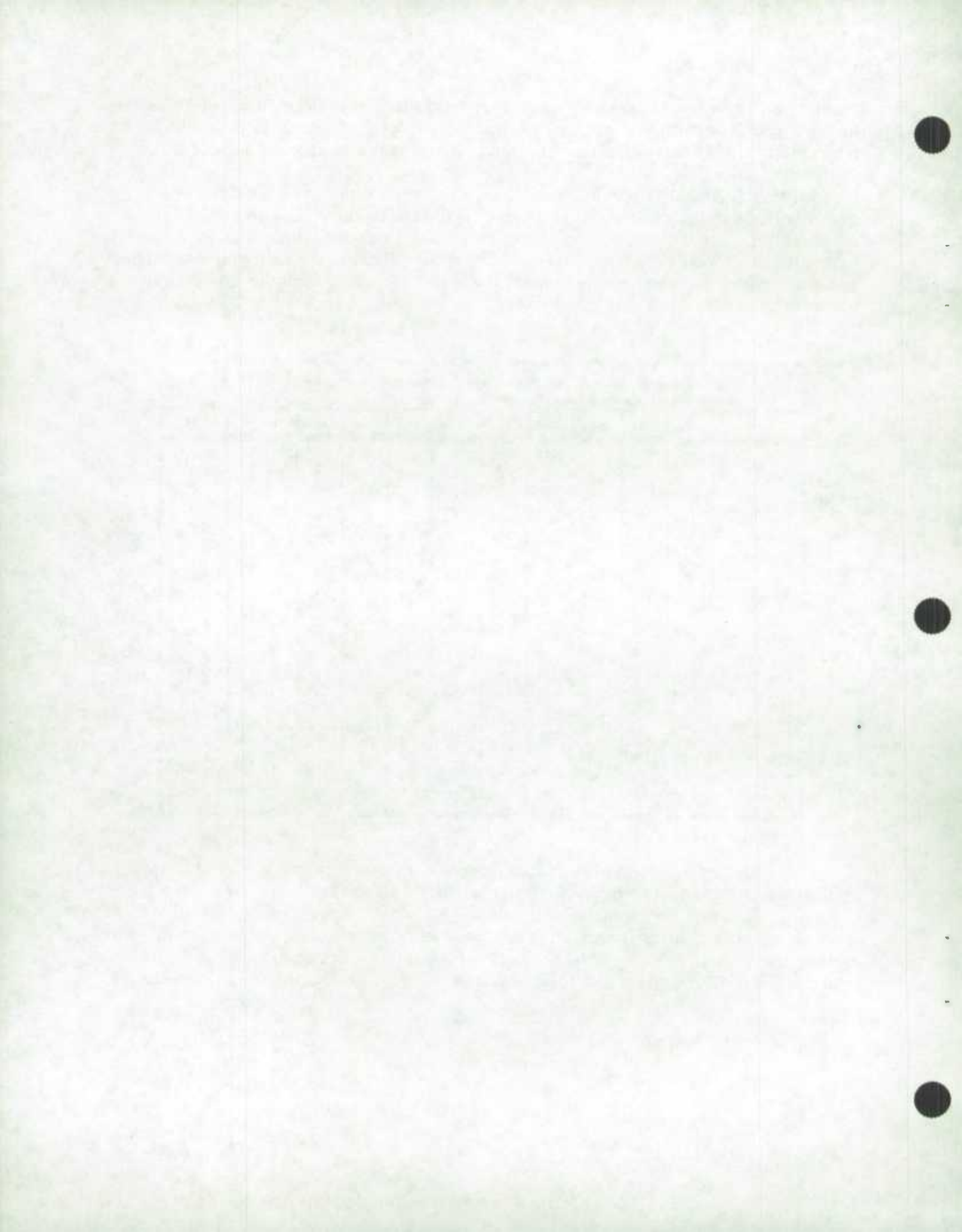


monthly basis, whereas miscellaneous household services cannot. It may be possible to construct a monthly distributor series as the sum of personal expenditure on photography and a smooth distribution of miscellaneous household services.

Table 5 presents a number of unincorporated business series derived on a monthly basis in the course of this study. The data in Table 5 were prepared using seasonally adjusted monthly indicators to distribute seasonally adjusted quarterly estimates. This was simply a convenient short cut to obtain the adjusted values, and the quarterly series are normally prepared using unadjusted estimates, then the result seasonally adjusted with X11 ARIMA.

Table 5: Net Income of Non-Farm Unincorporated Business, Selected Monthly Series Seasonally Adjusted, Millions of Dollars												
1989	Jan	Feb	March	April	May	June	July	Aug	Sept	Oct	Nov	Dec
Fishing	47	30	47	39	42	46	51	54	55	52	54	51
Business												
Lawyers	147	146	147	147	149	149	146	160	164	164	170	165
Engineers	27	27	28	28	29	29	29	30	32	32	32	32
Accountants	63	64	66	68	70	69	70	75	76	75	76	76
Other	42	42	44	45	45	44	45	47	48	50	49	47
Construction	320	326	333	333	325	317	323	327	325	333	333	327
Retail Trade	184	184	184	189	190	191	190	190	193	189	191	192
Wholesale	44	44	43	41	41	40	41	41	41	41	41	41
Personal												
Restaurants	44	46	48	47	47	48	48	48	48	46	49	53
Hotels	17	17	17	17	17	18	18	17	17	17	18	18
Barbers	39	39	40	40	40	40	41	40	41	42	43	43

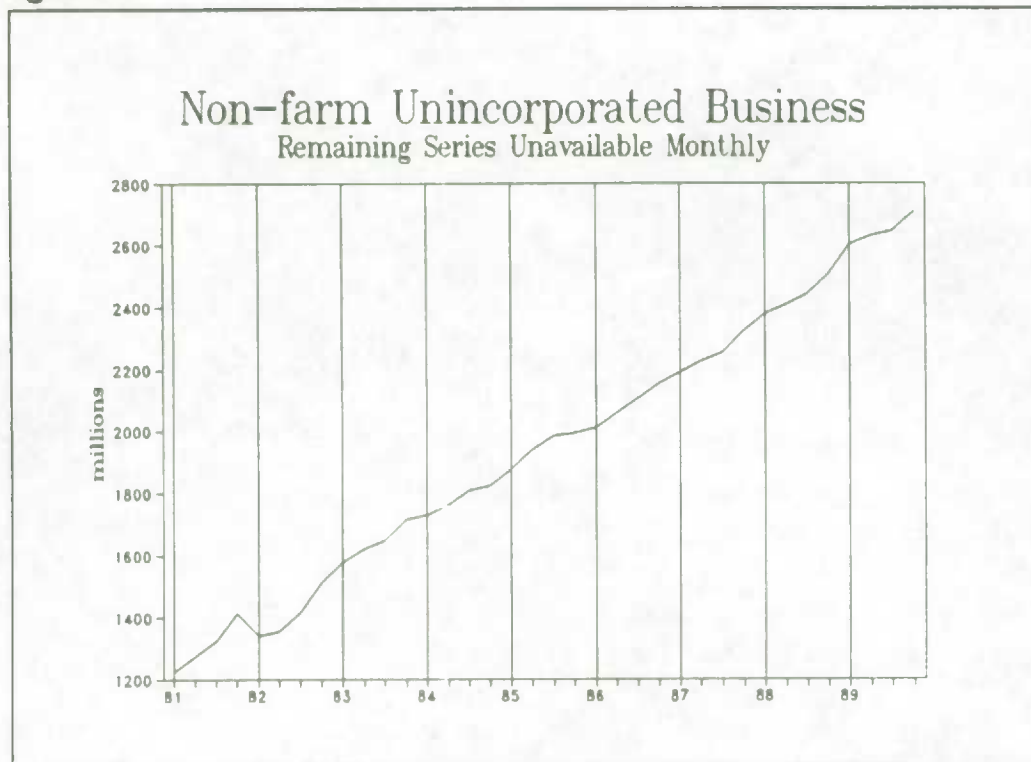
A number of categories of unincorporated business remain which employ indicators available only on a quarterly basis. This is the case for hunting and trapping, community services, recreational services, and services incidental to agriculture. In the area of personal services, means have not yet been developed to derive the required monthly personal expenditure series for board and lodging, laundry and childcare. The same is true for miscellaneous services to businesses and persons.



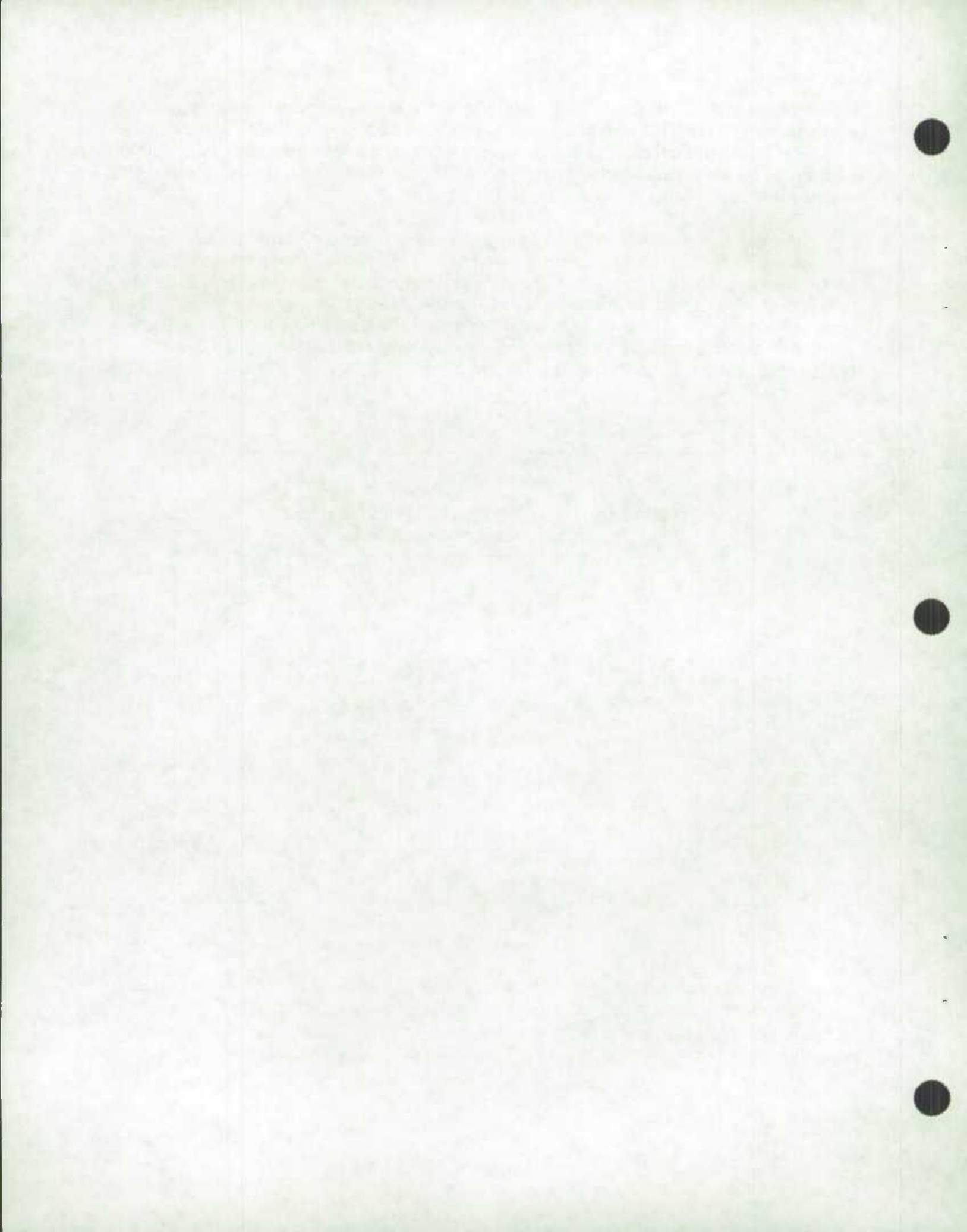
When indicators used for quarterly estimates are unavailable on a monthly basis, it may be possible to find substitutes. If no adequate substitute can be found, it may be feasible in certain cases to compute monthly values as a smooth distribution and extrapolation of quarterly estimates. Adequate results can be obtained in this manner if the quarterly series is of a stable nature.

A case can be made that the series for which related monthly indicators have not yet been found could be estimated reasonably well with a smooth distribution and extrapolation of quarters. The quarterly estimates are presented in graphical form in Figure 3, and as can be noted from this representation they exhibit a fairly smooth upward movement. The predictable movement of the quarterly series suggests that a smooth distribution and extrapolation of quarterly estimates might constitute a reasonable proxy for actual monthly information.

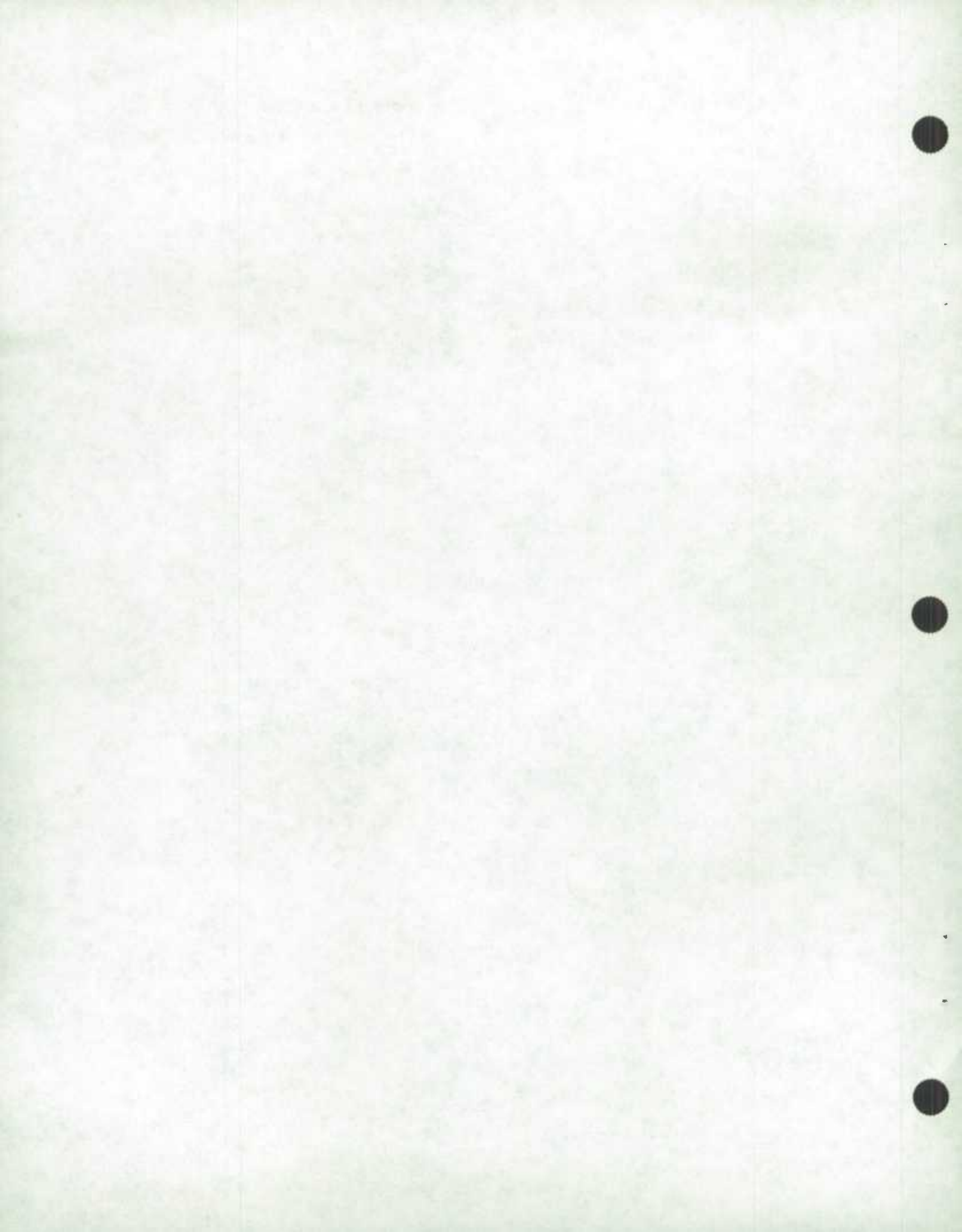
Figure 3



The U.S. monthly estimate of non-farm proprietor's income, like the Canadian net income of non-farm unincorporated business, is the sum of separate industry estimates, which are prepared by interpolating and extrapolating annual tax-based estimates, sometimes using related economic indicators (construction, retail trade,

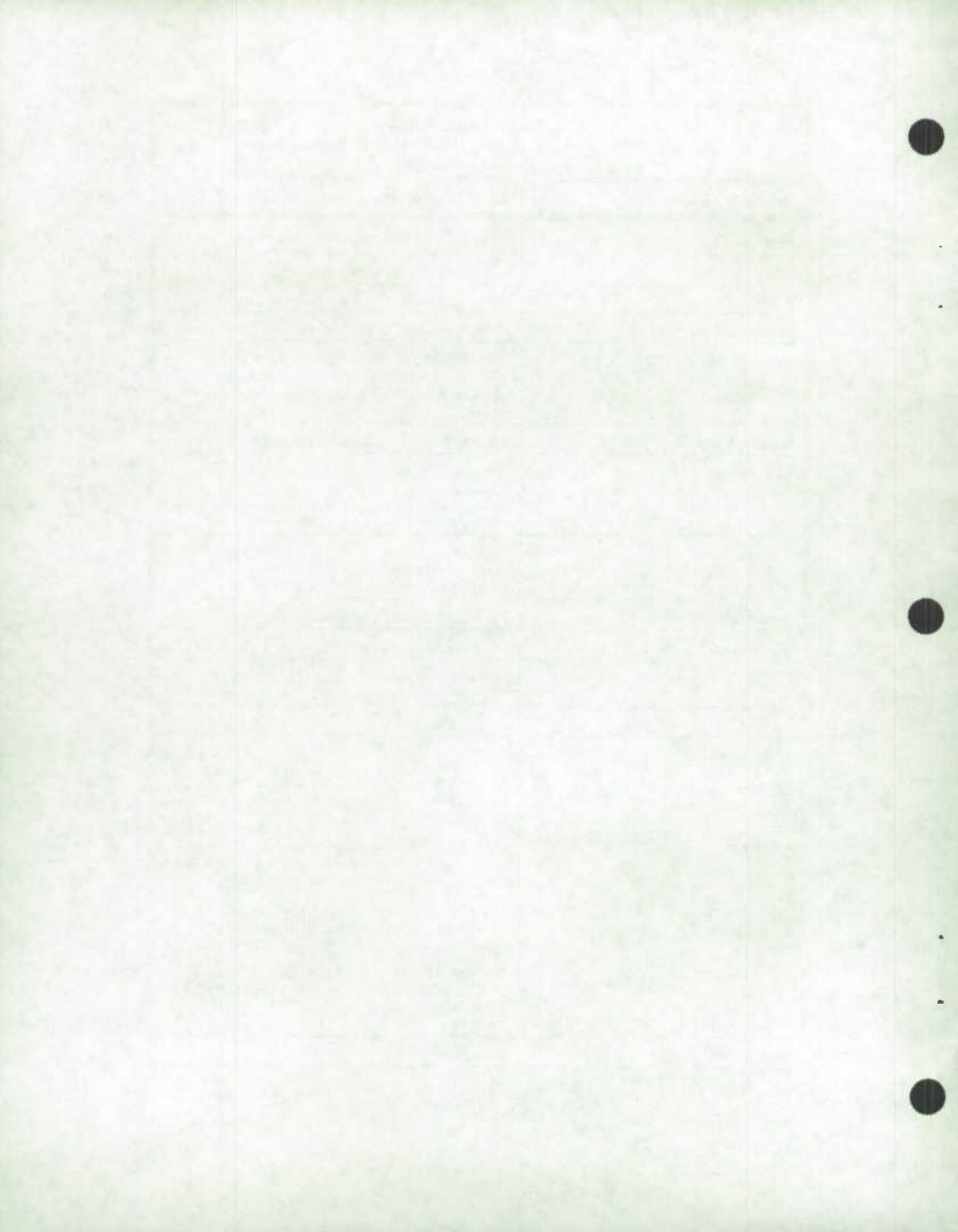


wholesale trade, services). For most remaining industries, past trends dictate the monthly movement.

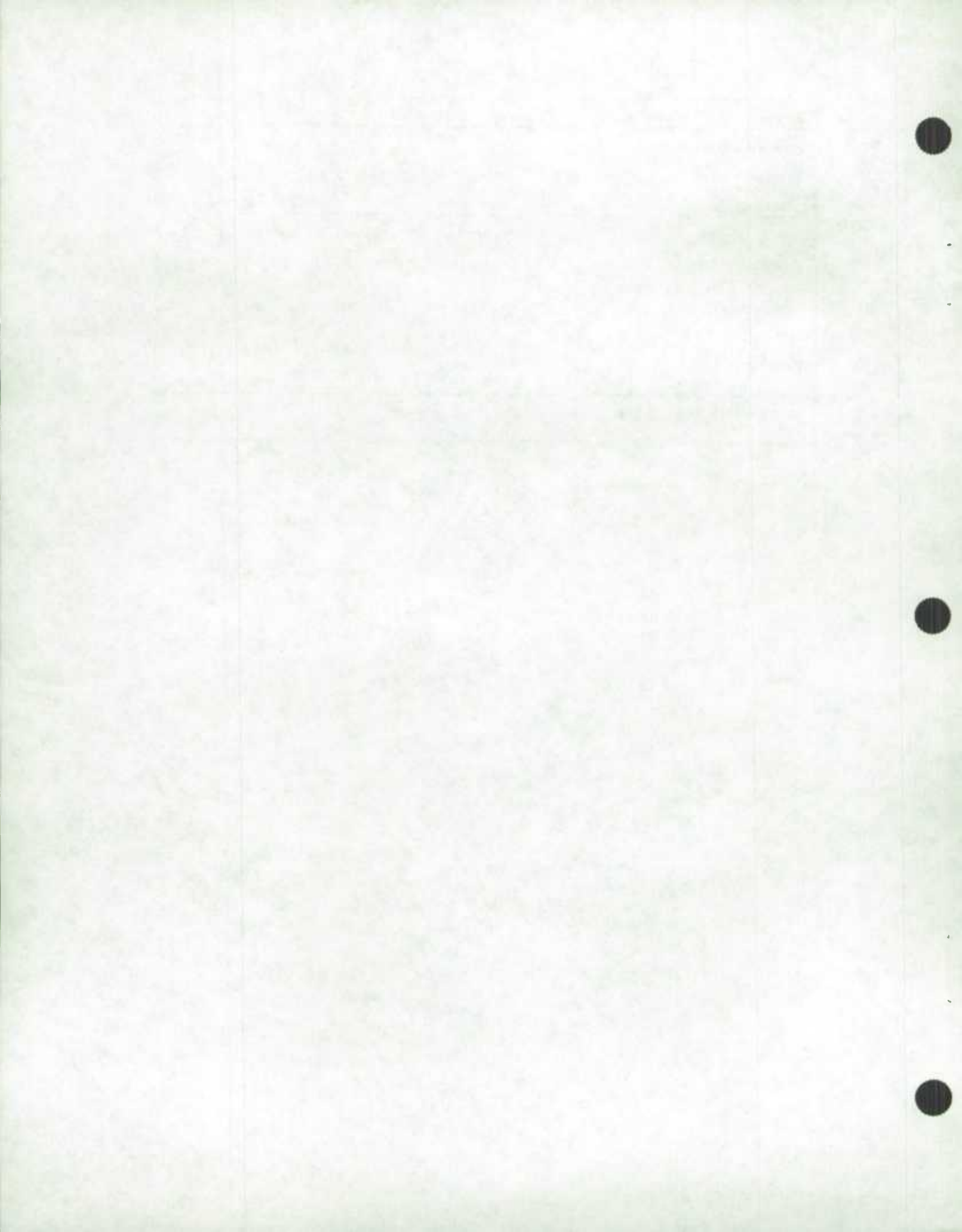


Summary Table 1
Quarterly Net Income of Non-Farm Unincorporated Business Series
and Monthly Related Indicators

Quarterly series	Series used for monthly estimation
Forestry	Up to end of 1988 the number of own account operators in the forestry industry. From 1989 on, wages and salaries in the industry.
Fishing	Wages and salaries in the fishing industry.
Hunting and trapping	Methodology yet to be determined.
Mining	Up to end of 1988 information on production of minerals from Energy, Mines and Resources. From 1989 on, wages and salaries in the mining industry.
Manufacturing	Value of shipments in manufacturing.
Construction	The sum of three residential construction series: work put in place for single dwellings, work put in place for multiple dwellings and a derived monthly series for alterations and improvements.
Transportation	The product of the number of own account operators and average weekly earnings in the transportation industry.
Retail trade	The value of total retail trade.
Wholesale trade	The value of wholesale sales.
Finance, insurance and real estate	Monthly information on real estate commissions from the Canadian Real Estate Association.
Community services	Judgemental trend.
Business services:	
Lawyers	The product of constant price GDP by industry for lawyers and the CPI for legal, accounting and other services.
Engineers	The product of constant price GDP for the architectural services industry and the CPI for legal, accounting and other services.
Accountants	The product of constant price GDP for the accounting services industry and the CPI for legal, accounting and other services.
Other business services	The product of constant price GDP for the "miscellaneous business services industry and the CPI for legal, accounting and other services.
Recreational services	Judgemental trend.



Services incidental to agriculture	Judgemental trend.
Personal services:	
Board and lodging	Judgemental trend.
Restaurants	Personal expenditure on meals outside the home.
Hotels	Personal expenditure on accommodation.
Barbers	Personal expenditure on hairstyling for men and women.
Funeral services	Personal expenditure on funerals and burials.
Laundry	Judgemental trend.
Childcare	Judgemental trend.
Miscellaneous services to businesses and persons	Judgemental trend.



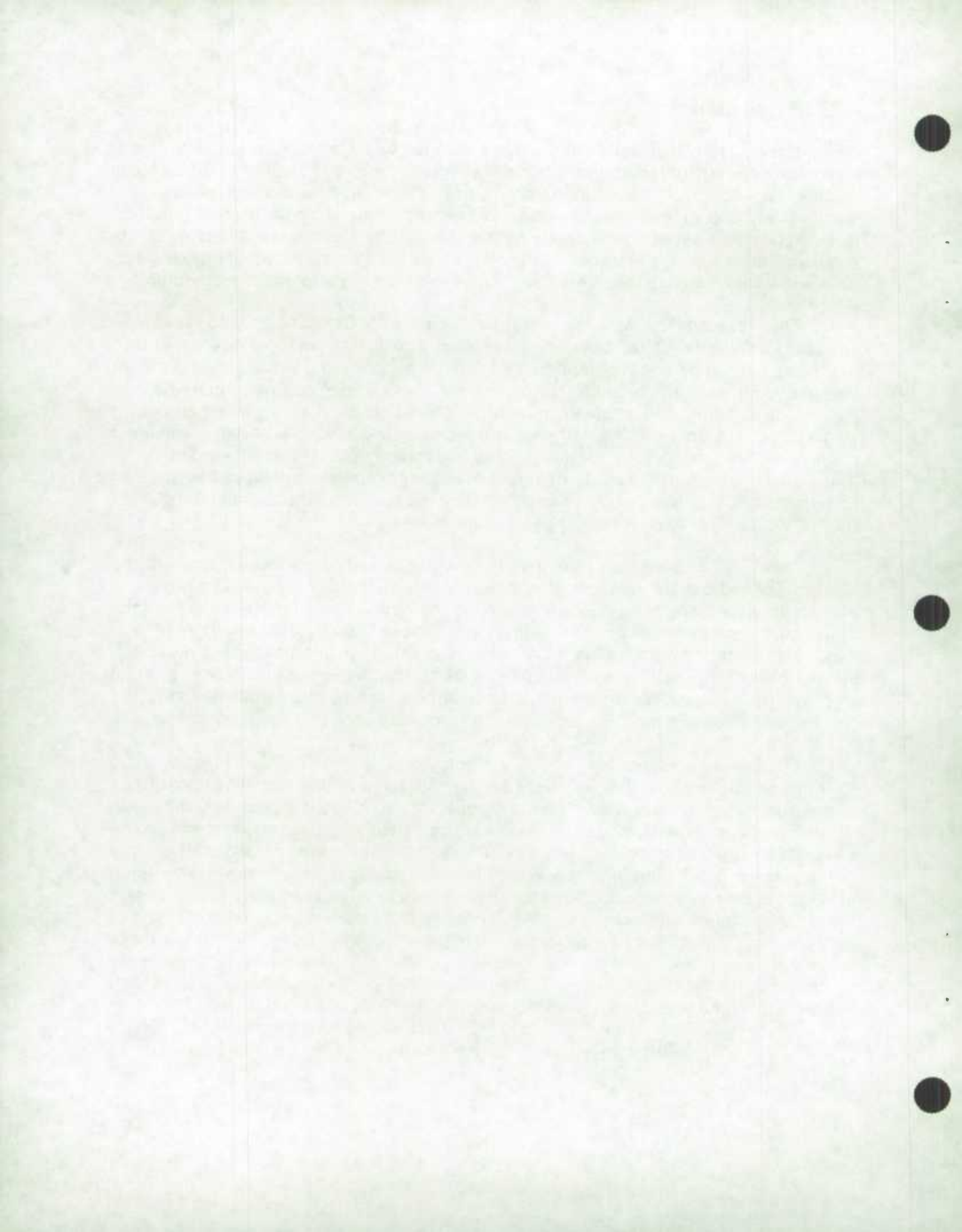
4. Net Rental Income

The quarterly calculation of net rental income, which appears together with net income of non-farm unincorporated business in the sources and disposition of personal income, is a complex procedure involving the estimation of a number of landlord, facility costs and space expenses. It would be extremely difficult, if at all possible, to estimate these series on a monthly basis. Since rental income is a relatively stable and predictable series, the results obtained from such an exercise would probably not be of superior quality to those obtained by a simpler, more aggregate methodology.

The first stage in producing net rental income is the estimation of gross imputed and gross paid rents. These items appear in the disposition of personal income, as part of the estimate of personal expenditure on consumer goods and services. An attempt was made to derive a monthly distributor for gross imputed rent (imputed rental income of dwelling owners) with monthly information on dwelling completions of single units as a proxy for movements in housing stock, multiplied by the consumer price index for rent, a proxy for movements in average rent. A monthly indicator for gross paid rents (rental income of renters) was derived in a similar fashion, using completions of multiple dwellings as a proxy for movements in stock, and the CPI for rent as a proxy for movements in average price.

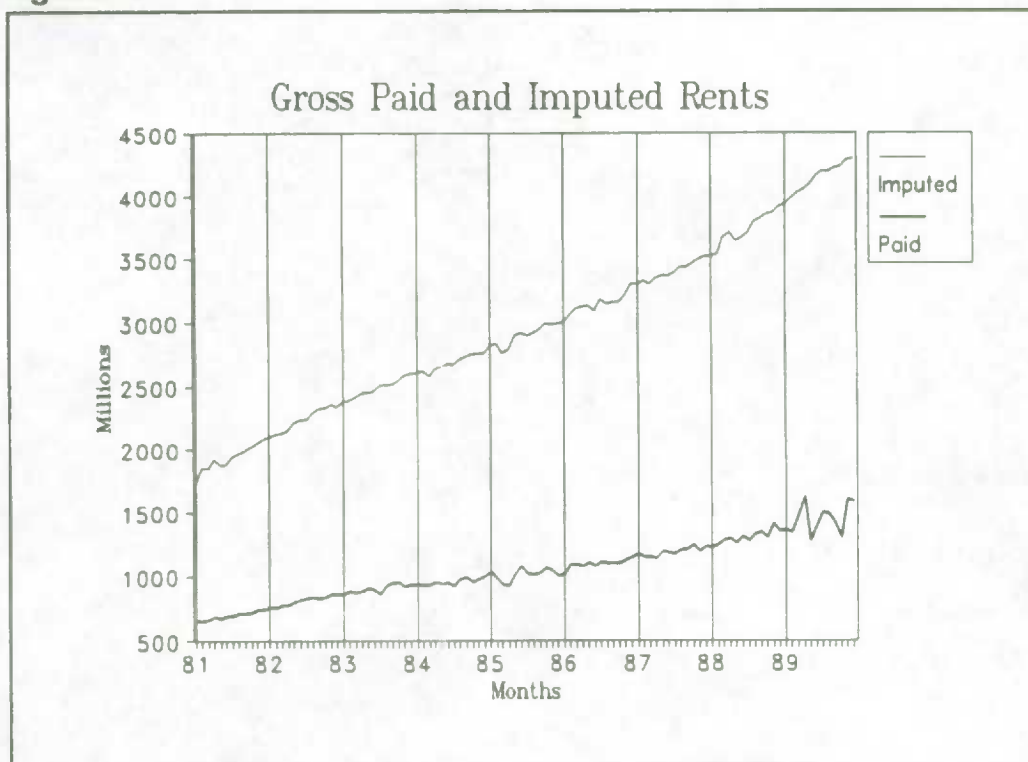
Dwelling completions series tend to be volatile, and to combine them with the CPI for rent and use the result directly as a monthly distributor for gross imputed and paid rents would grossly overstate the month to month variation of rental income. The erratic movements of the completions series were first smoothed with a six-term moving average, centred on the fourth term (6 months covering exactly 2 quarters), applied to both the singles and multiples dwelling completions series. The resulting smoothed series was seasonally adjusted and multiplied by the seasonally adjusted CPI for rent to obtain monthly indicators for gross imputed and paid rents.

Results are presented in Table 6 in Appendix A, and in graphical form in Figure 4. Monthly movements in the current period estimated in this manner appear to be unrealistically volatile, as shown on the graph. This volatility is due to movements in the completions series, particularly that of multiples completions, which proved to be erratic even after the smoothing process. These erratic movements translated into the gross paid rent series are not believed to be representative of actual movements in gross rents paid by persons. They are rather reflective of extraordinary conditions on the housing market during the period which led to large movements in completions of multiple dwellings. This implies that the completions series alone, since they make up only a tiny proportion of the entire housing stock, are probably not a good proxy for movements in stock as a whole. Monthly housing stock estimates are, in fact, available from the Investment and Capital Stock Division, and are based on the latest census data projected with monthly completions data. Further study could involve a trial of a monthly methodology based on these data.



Net rental income is gross rental income less expenses relating to the space provided for occupancy ("space expenses"). These space expenses include such things as depreciation, mortgage interest and taxes. Means could be explored for estimating some of the larger space expenses by month, but since space expenses constitute relatively stable proportion of gross rents, and net rents themselves tend to be stable and predictable, it might be possible to calculate reasonable monthly estimates of net imputed and paid rents with the indicators used for gross rents. Time did not permit estimation of net rental income in the course of this study. Further study is required to assess the quality of estimates arrived at in this manner.

Figure 4



In the United States, monthly estimates of the rental income of persons are prepared by distributing annuals and extrapolating past trends, with modifications for natural disasters and changes in property taxes. The American estimate of rental income differs from the Canadian in that it includes royalties received by persons from patents, copyrights, and rights to natural resources. This figure is included in interest, dividends and miscellaneous investment income in the Canadian estimate.

5. Interest, Dividends and Miscellaneous Investment Income

Quarterly estimates of interest, dividends, and miscellaneous investment contain a rather heterogeneous mixture of items. Very little of the information required to estimate these series is available by month, but in many cases related indicators can be constructed with monthly information from the *Bank of Canada Review* and other sources. These indicators can be applied to distribute unadjusted quarterly estimates and used in the current period to project these values forward. The resulting series can then be seasonally adjusted with the X11 ARIMA program. Possible sources and methods for deriving monthly distributors for each of the items in the investment income aggregate are discussed below.

5.1 Bond Interest Received

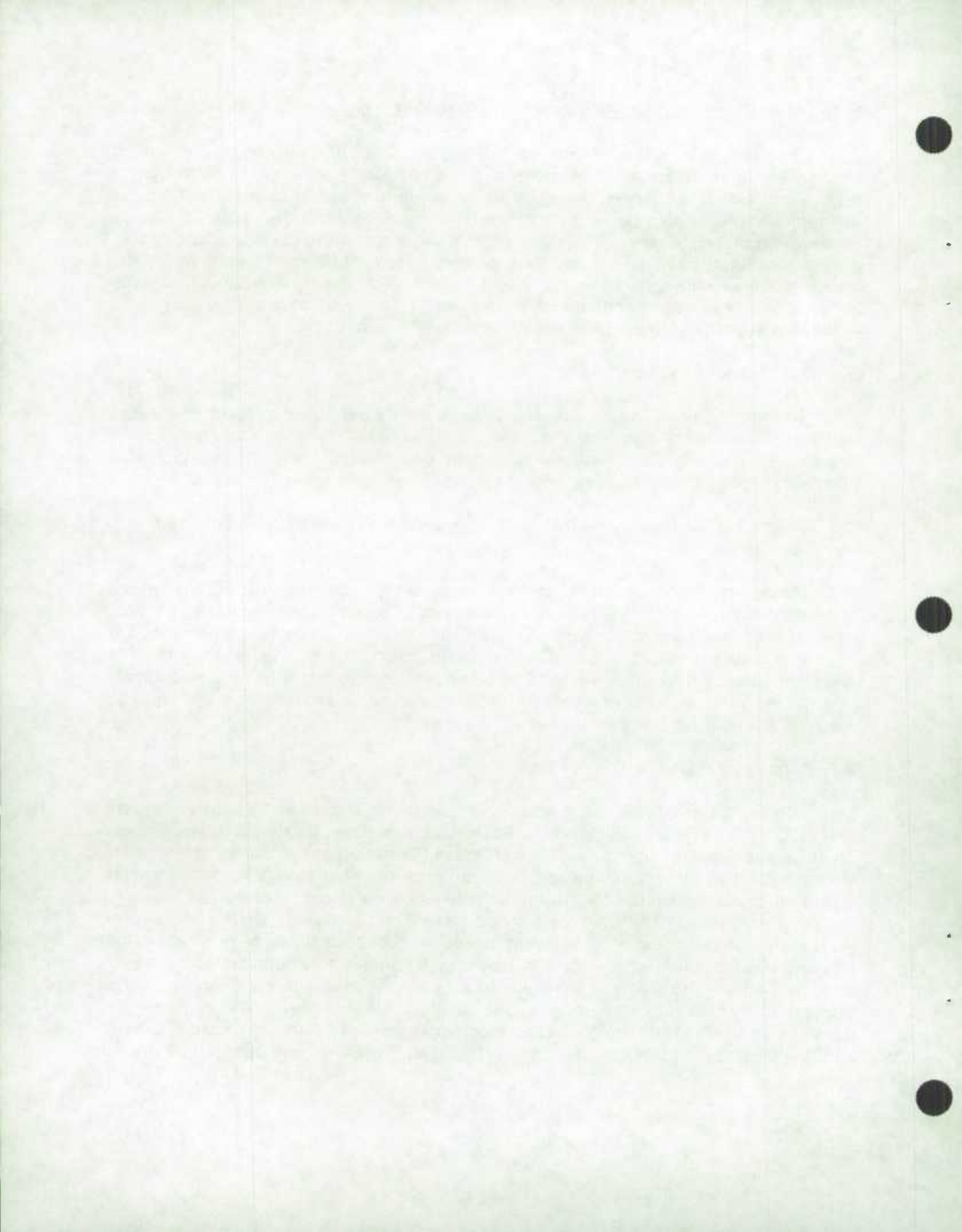
Monthly information on Canada Savings Bonds published in *Bank of Canada Review* can be used to distribute the more comprehensive quarterly estimates of bond interest. A monthly distributor series can be constructed using the product of a monthly stock of Canada Savings Bonds and an applicable rate of interest.

5.2 Investment Income of Life Insurance Companies, Fraternal, and Trusteed Pension Plans

Finding a suitable monthly indicator for these types of organizations may prove to be very difficult as their sources of investment income are diverse and as a whole they do not tend to behave according to any one indicator. Since the three series are all of this nature it seems reasonable to consider their combined investment income and attempt to find monthly information on returns on mutual funds or something of that genre to simulate the movement of this aggregate. More research and study is required to unearth such a series.

5.3 Deposit Interest

On a quarterly basis, six series are estimated in the area of deposit interest: that of Chartered Banks, Government Business Enterprises, Quebec Savings Banks, Trust Companies, Mortgage Loan Companies, and Credit Unions. Monthly information is not available for personal deposits and rates of all these types of financial institutions, but a great deal of information on deposit liabilities of chartered banks is published monthly in the *Bank of Canada Review*. It is likely that the short-term movements of chartered bank liabilities would be similar to those of other types of financial institutions where the behaviour of persons is concerned. More comprehensive estimates are available on a quarterly basis from the Office of the Superintendent of Financial Institutions (OSFI). A monthly indicator can be constructed using information on chartered banks from the *Bank of Canada Review* and benchmarked to these quarterly estimates, which encompass all financial



institutions. This indicator can be used to distribute and extrapolate aggregate quarterly estimates of deposit interest of persons.

The first task in creating such an indicator would be to find an interest rate which is reflective of returns on personal savings deposits. A weighted average of a personal non-chequable savings deposit rate and a five-year fixed term rate can be employed for this purpose, the weights in the calculation being personal non-chequable savings deposits and personal fixed-term savings deposits. The resulting rate can be benchmarked, using a quadratic minimization technique, to a quarterly implicit rate of interest on personal deposits from OSFI. The implicit rate is equal to interest paid on personal deposits divided by total personal deposits, annualized to be comparable to annualized rates in *Bank of Canada Review*.

Data coming from OSFI are not based on the regular calendar year, but rather on the financial fiscal year which starts in November and ends in October. Since the monthly chartered banks data are based on the calendar year, a two month lag must be introduced to the benchmarking procedure to ensure a match in time frame between the monthly series and the quarterly benchmarks. This procedure is operationally possible using a recently developed quadratic minimization benchmarking technique⁹.

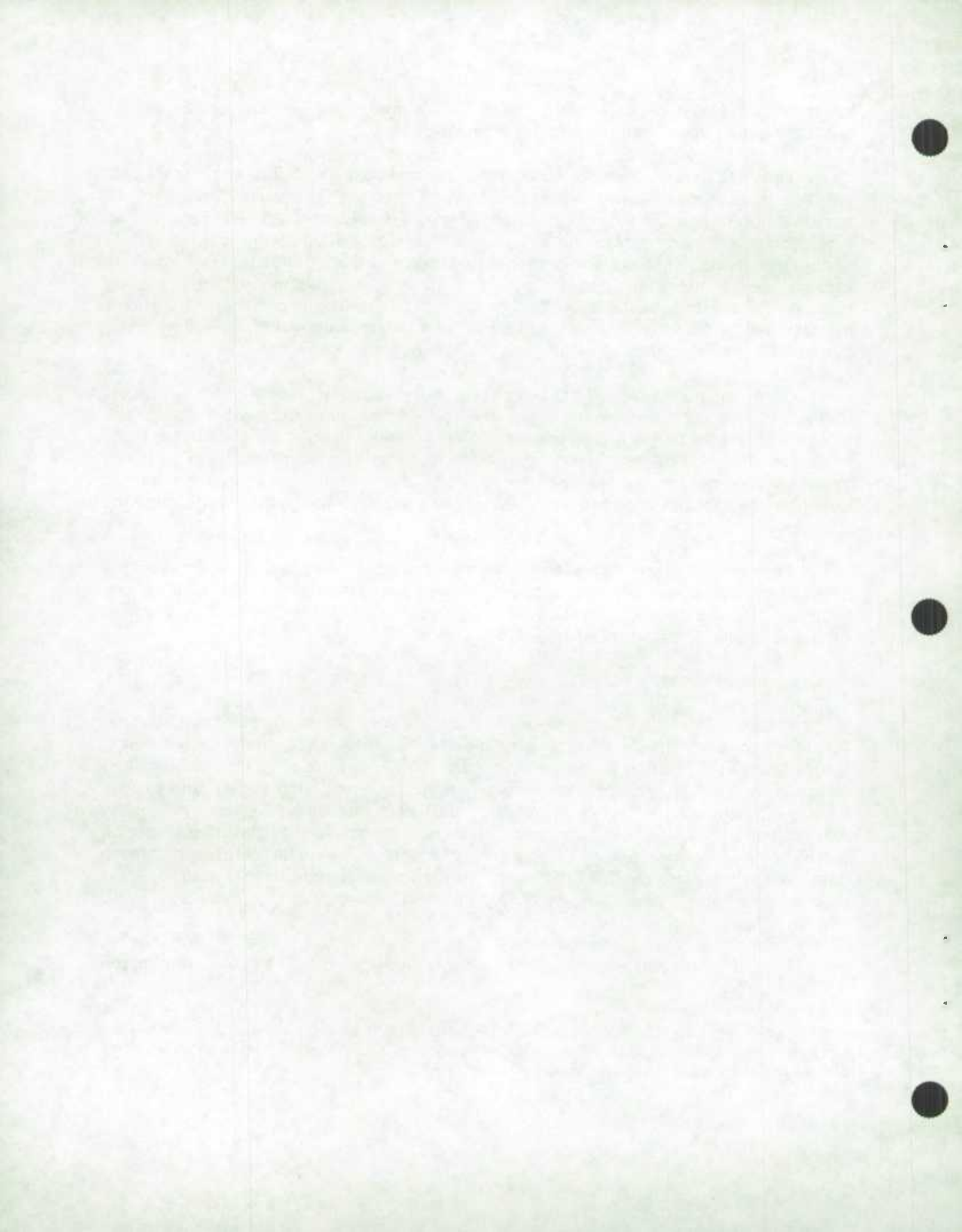
The benchmarked interest rate can be multiplied by total personal savings deposits of chartered banks, the product being a monthly distributor for total deposit liabilities. IEAD's quarterly unadjusted estimates can be distributed with this series, then seasonally adjusted using X11 ARIMA.

5.4 Imputed Interest

Imputed interest is defined as interest received in the form of services by financial institutions for which there is no explicit charge. On a quarterly basis, it is calculated by subtracting total interest paid on deposits from total interest received on loans for each of the types of financial institution mentioned above, and for the Bank of Canada. As with deposit interest, sufficient information is not available to carry out all of the quarterly calculations on a monthly basis. An aggregate approach can be taken, however, using monthly data on chartered banks benchmarked to more comprehensive quarterly OSFI data to create monthly distributors for total interest received and total interest paid by all financial institutions.

An interest rate for interest received on loans can be taken as an 8-term moving average of the previous eight months of the Bank Rate from the *Bank of Canada*

⁹See Cholette, P.A. (1989), "Transforming Fiscal Quarter Data into Calendar Quarter Values", Working Paper No. TSRA-89-017EF, appearing in the *Proceedings of the Symposium on the Analysis of Data in Time*, held at Statistics Canada, October 1989.



Review. The length of moving average depends on the average duration of personal loans. The choice of eight months is an arbitrary one; further research might reveal another, more representative time span. The rate can be benchmarked to an implicit rate from OSFI, of the same nature as that employed for deposit interest, and applied to a monthly stock of general loans of chartered banks and mortgage loan companies from the Bank of Canada Review. The result can be used as a monthly distributor for total interest received on loans of all financial institutions.

Quarterly estimates of total interest paid on deposits can be distributed by month using total personal deposits of chartered banks multiplied by the interest rate described for interpolating deposit interest above. Monthly total interest received minus total interest paid yields an estimate of imputed interest for all types of financial institutions.

American annual estimates of net interest (including imputed interest) are essentially based on IRS tax return tabulations, supplemented with data from regulatory agencies and other sources. Monthly estimates are prepared by interpolating and extrapolating annual estimates by past trends or by an indicator series based on the product of debt outstanding, primarily from regulatory reports and appropriate interest rates.

5.5 Mortgage Interest Received

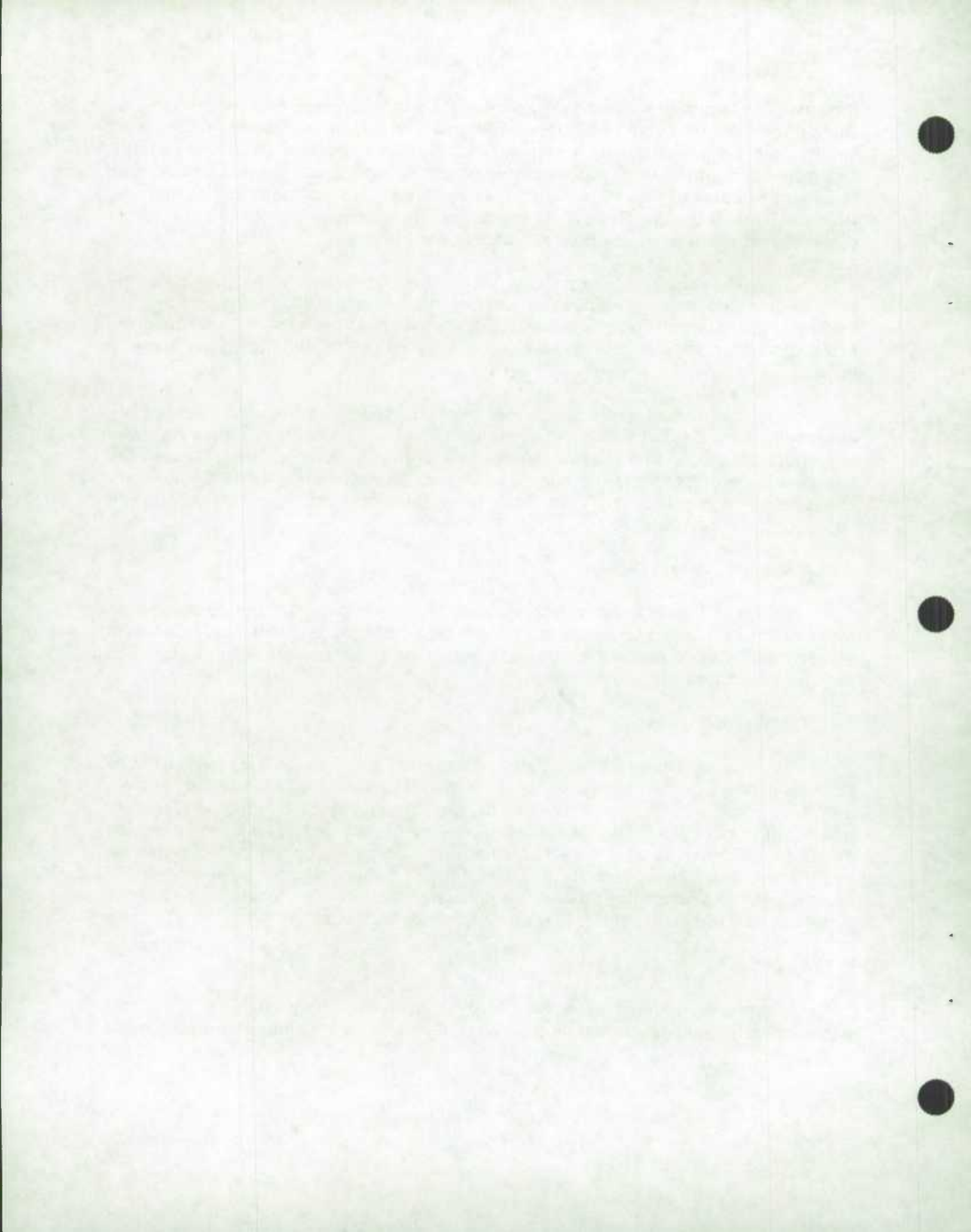
Mortgage interest received is a stable series which tends not to follow the movement of other financial indicators. The predictable nature of the series permits reasonable monthly estimates to be calculated as a smooth distribution and extrapolation of quarterly estimates.

5.6 Treasury Bill Discounts

To distribute quarterly estimates of Treasury bill discounts of persons, one could apply a six-term moving average to a rate of interest on Treasury bills of a six month duration. The resulting rate can be applied to a smoothed stock of Treasury bills. The stock should be smoothed as it can be reasonably assumed that the personal proportion considered alone is not as sensitive to economic circumstances as the total, which includes the business sector. A three-month moving average could be employed to smooth this stock. The resulting series (rate x stock) can be used to distribute quarterly estimates of Treasury bill discounts of persons.

5.7 Royalties

Information is limited in the area of royalties and quarterly estimates are in fact based on a straight line interpolation between the most recent annual information and



an annual projection for the next fiscal year. Monthly estimates can be derived in a similar manner.

5.8 Government Annuities and Profits and Interest of Mutual Non-life Insurance Companies

Government annuities and profits and interest of mutual non-life insurance companies are small and relatively predictable series for which monthly data can be estimated as a distribution and extrapolation of the quarterly estimates. It may be possible to combine these series for distribution and extrapolation in constructing the monthly estimates.

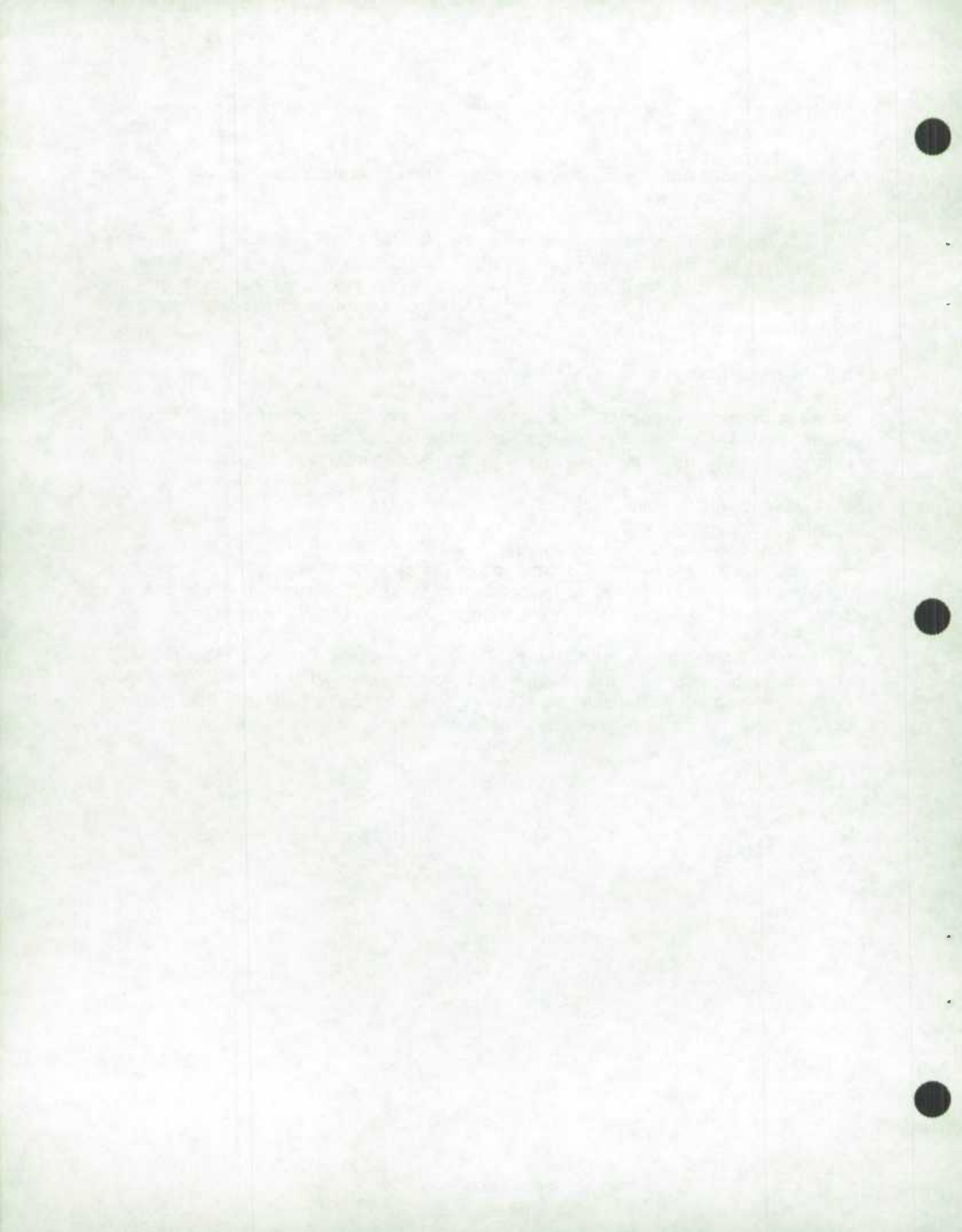
5.9 Receipts from Non-residents

Receipts from non-residents do not have a large weight in the estimate of interest, dividends and miscellaneous investment income and are stable in nature. Monthly estimates can be derived from a smooth monthly distribution of the quarterly.

5.10 Canadian Dividends Received

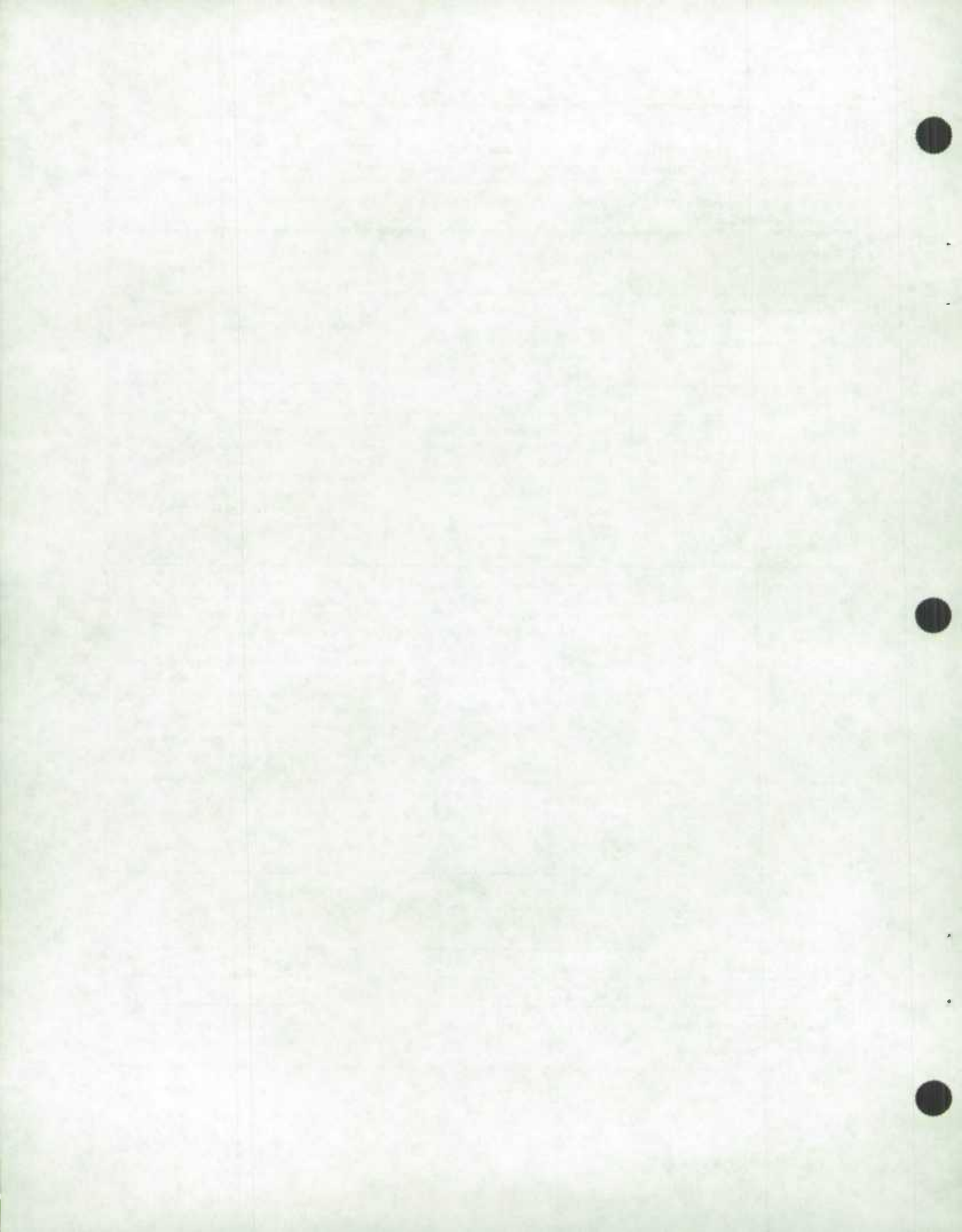
A possible means for distributing quarterly estimates of Canadian dividends might be found in the monthly information published by the Toronto Stock Exchange. Further research would need to be conducted to find a suitable indicator, but one could begin by looking at data on earnings per share and total shares outstanding.

American annual estimates of dividends are based on IRS tabulations of corporate income tax returns. Monthly estimates are derived at the all-industry level by interpolation and extrapolation of the annual estimates by dividends paid by large corporations, from a Bureau of Economic Analysis sample.



Summary Table 2
Interest, Dividends and Miscellaneous Investment Income
Groupings for Monthly Estimation and Related Indicators

Grouping level possible for monthly estimation	Breakdown of quarterly series in group	Monthly distributor series
Bond interest received by persons	- Bond interest received by persons	Monthly information on Canada Savings Bonds multiplied by an applicable rate of return.
Investment income of life insurance companies, fraternal and trustee pension plans.	- Investment income of life insurance companies - Investment income of fraternal - Investment income of trustee pension plans	Methodology employing information on returns to mutual funds to be determined.
Mortgage interest	- Mortgage interest	Judgemental trend.
Deposit interest	- Deposit interest of chartered banks - Deposit interest of Quebec savings banks - Deposit interest of trust companies - Deposit interest of mortgage loan companies - Deposit interest of credit unions - Deposit interest of government business enterprises	The product of weighted average of personal non-chequable and personal fixed-term savings deposit interest rates for chartered banks, benchmarked to a quarterly implicit rate of interest for all financial institutions, and total personal savings deposits of chartered banks.
Imputed interest	- Imputed interest of chartered banks - Imputed interest of Quebec savings banks - Imputed interest of trust companies - Imputed interest of mortgage loan companies - Imputed interest of credit unions	Total interest received on loans for all financial institutions is interpolated using the product of an eight term backward moving average of the Bank Rate, benchmarked to a quarterly implicit rate of interest for all financial institutions and the monthly stock of general loans from chartered banks and mortgage loan companies. Total interest paid on deposits is interpolated using the product of the interest rate described above for deposit interest and total personal deposits of chartered banks.
Treasury bill discounts	- Treasury bill discounts	The product of a six-term moving average of a rate of interest on treasury bills of a six month duration and a three-term moving average of the stock of treasury bills.
Government annuities, investment income of mutual non-life insurance companies and other investment income	- Government annuities - Investment income of mutual non-life insurance companies - Other investment income	Judgemental trend.
Royalties to persons	- Royalties to persons	Judgemental trend.
Foreign investment income	- Foreign investment income	Judgemental trend.
Canadian dividends received	- Canadian dividends received	Methodology using monthly information from the Toronto Stock Exchange to be determined.



6. Current Transfers from Government

6.1 Federal

Current transfers from the federal government to persons include such items as Old Age Security benefits, Unemployment Insurance benefits, Family Allowance Payments, Government Pension benefits and payments from a variety of smaller programs. These statistics are compiled by the Public Institutions Division, most of them originating from monthly Statements of Financial Operations published by the Department of Supply and Services. These data can be compiled and aggregated on a monthly basis.

Also included in federal transfers is capital assistance to unincorporated business. These data are available on a monthly basis as well.

6.2 Provincial

Current transfers from provincial governments, although varying by province, generally include payments to persons from social assistance programs, payments to non-profit organizations and post-secondary education and contributions to benevolent institutions. These items are not compiled by month by the Public Institutions Division, but may exist on a monthly basis in some of the provinces. It may be worthwhile to conduct further investigation, especially for the larger provinces of Quebec and Ontario, to assess whether this information is obtainable in a form usable for the purposes of this project.

6.3 Local

Local government transfers to persons are only available on an annual basis from surveys and administrative records, and quarterly estimates are based on an arithmetic projection. Monthly estimates could undoubtedly be produced in a similar manner.

6.4 Canada and Quebec Pension Plans

Transfers to persons from Canada and Quebec Pension Plans are available on a monthly basis and can be gathered and compiled for the purposes of this study.

In the United States the situation appears to be similar. Federal government transfers are based largely on monthly Treasury Department data, while state and local government transfers are prepared by interpolating between annuals and extrapolating past trends.

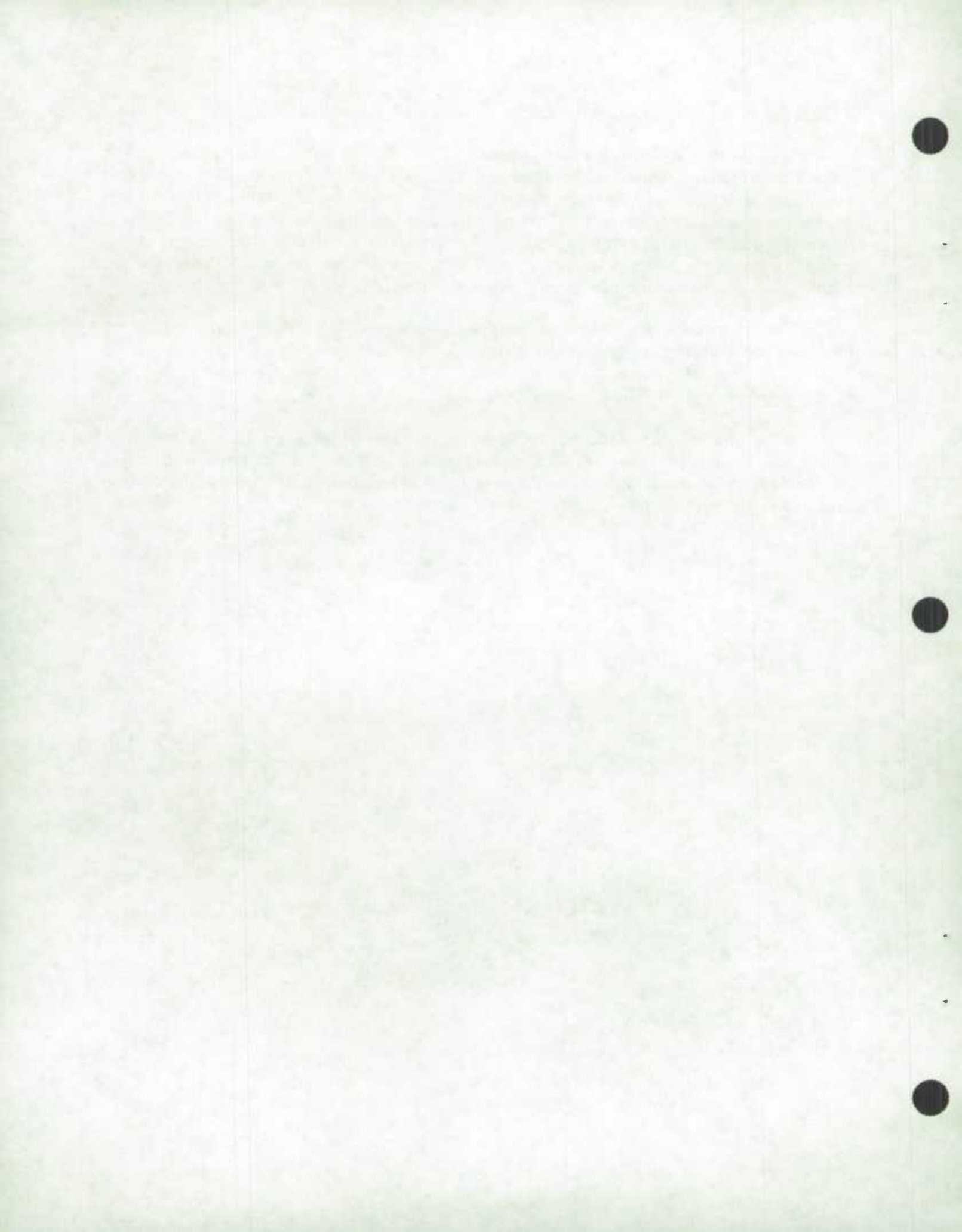
7. Current Transfers from Corporations

Quarterly data on current transfers from corporations to persons and unincorporated businesses are composed of two types of information: bad debts and charitable contributions. Information used to distribute annual benchmarks comes from a quarterly survey conducted by the Industrial Organisation and Finance Division and is not available at a monthly frequency. Further research and study might reveal suitable monthly indicators, but it is likely that monthly values would be based on distribution and extrapolation of quarterly estimates.

Similar monthly estimates of "business transfers" are prepared in the U.S. by interpolating annual data and extrapolating quarters with no related information.

8. Current Transfers from Non-Residents

Time and resources did not allow an exploration of possible monthly methods in the area of current transfers from non-residents. Since this is a small and stable component of personal income, monthly estimates could be prepared by distributing and extrapolating quarters with no related information.



9. Personal Expenditure on Consumer Goods and Services

Personal expenditure on consumer goods is currently estimated on a monthly basis within the Income and Expenditure Accounts Division using data from the Retail Trade Survey. Current and constant dollar estimates are prepared for 60 durable, non-durable and semi-durable categories. The current dollar, seasonally adjusted estimates can be used directly in the aggregate personal expenditure estimate.

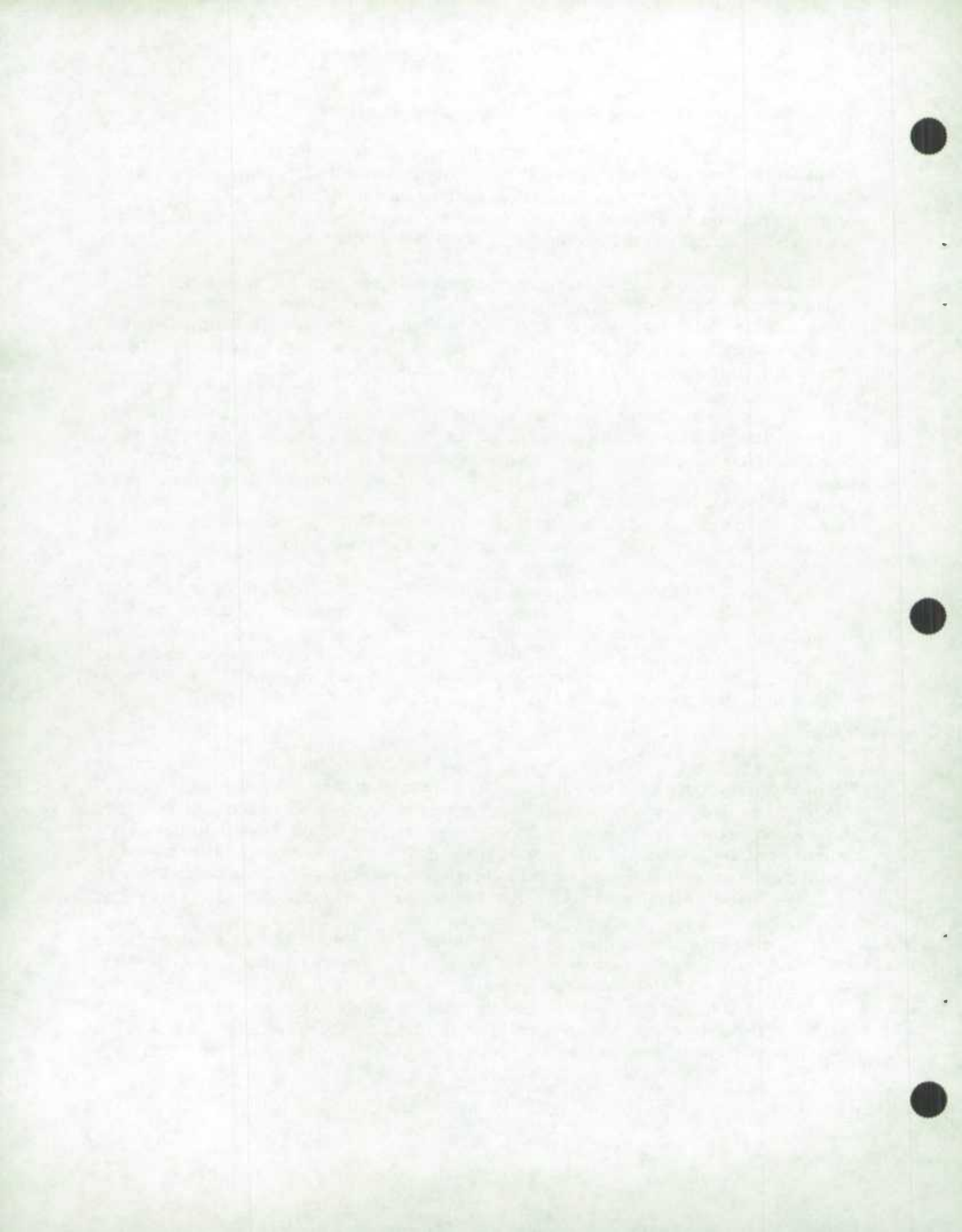
Unlike the goods estimates, personal expenditure on consumer services is much more difficult to derive on a monthly basis. Data sources for the 75 series estimated on a quarterly basis are diverse, and quality varies considerably among estimates. Monthly source data exist for a few of the series and many others can be estimated by month using related indicators to distribute quarterly estimates.

The level of aggregation at which personal expenditure series can be prepared depends largely on the availability of data. Often it is possible to estimate at the same level at which the quarterly estimates are prepared. In some cases, series are grouped together for the distribution process. For the purposes of monthly estimation, the 75 series estimated on a quarterly basis are grouped into 29 series. The breakdown of these groupings, along with the monthly series used for their distribution and extrapolation is shown in the synopsis at the end of this section.

One of the largest service categories in the personal expenditure aggregate is gross rent. This item is also included in the sources of personal income, under the item of net income of non-farm incorporated business, including rent. Much of the data used to derive gross paid and imputed rent is available on a monthly basis, and a methodology for their monthly estimation can be developed. Prospective methodologies are described earlier in this report, under the heading "Net Rental Income".

Direct monthly information is available for a few other personal expenditure series, namely, personal expenditure on food away from home, the service portion of alcoholic beverages and lotteries. Monthly estimates of consumer expenditure on food away from home are available from the Restaurant, Caterer, and Tavern Survey. The service portion of alcoholic beverages can be distributed with monthly information on total alcoholic beverages consumed in licensed premises. Personal expenditure on lotteries, net of prizes, is available from provincial lottery corporations.

Constant price monthly distributor series of GDP by industry can be obtained for many of the services series from the Industry Measures and Analysis Division. These are generally intermediate estimates, at a level of disaggregation below the published level. Constant price indicators must be inflated with an appropriate price index in order to obtain relevant distributors for current dollar series. Since IEAD estimates personal expenditure in both current and constant dollars, appropriate



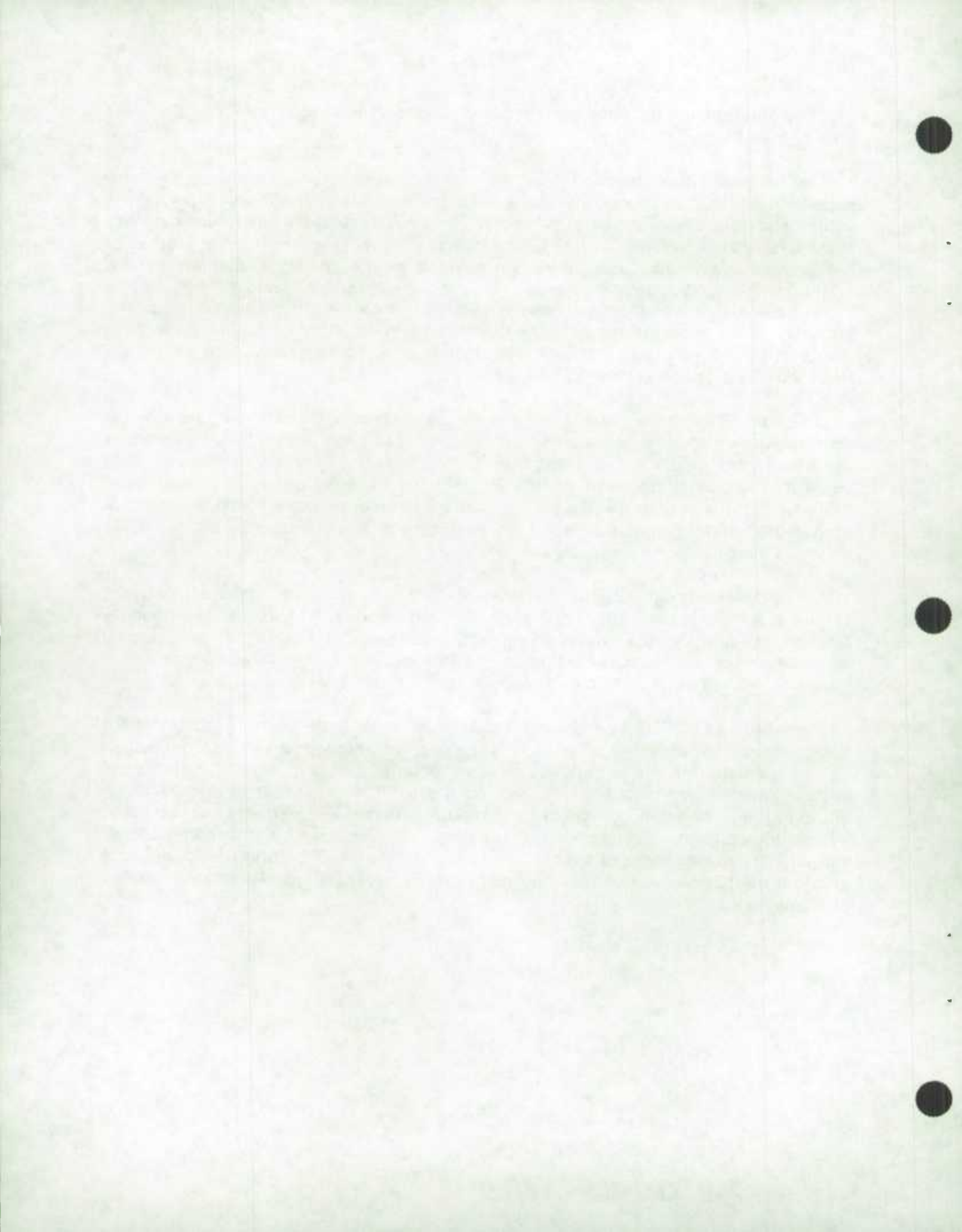
monthly deflators are obtained from prices division for all personal expenditure series on a regular basis.

The problem with using GDP by industry series for distributing personal expenditure is that the suitability of the indicator depends on what proportion of the estimate is reflective of the personal sector. In service industries where business has a relatively large weight, the GDP by industry series may not be reflective of movements in personal expenditure. An example of this is personal expenditure in water transport. Quarterly movements in personal expenditure and GDP by industry in the water transport industry are not at all similar, probably largely due to the strong presence of the business sector in the GDP estimates. In other cases, movements in the GDP by industry series reflect movements in personal expenditure very well. Hairstyling is a good example of this.

Often GDP by industry series are the only series known to be available for distributing certain personal expenditure categories. In these cases, the question that must be addressed is whether using them to distribute the quarterly estimates would be better than taking a smooth distribution with no related information. Often, even if the indicator is of poor quality, taking its month to month movements as indicative of personal expenditure is better than assuming a stable rate of change exists between months within a quarter.

As constant dollar GDP by industry series are derived series, further study might involve research on the sources and methods used in Industry Measures and Analysis Division to prepare the intermediate estimates used for distributing personal expenditure series. It is possible that source data exist for some of these series which would be more indicative of monthly movements in personal expenditure.

A number of GDP by industry appear to be acceptable monthly indicators for personal expenditure series. These series, along with appropriate price indexes can be used to distribute and extrapolate quarterly estimates of taxi services, pari-mutuel betting, other recreational services, cable and pay TV, movie theatres and drive-ins, photography, hairstyling, other personal services, funerals and burials, accommodation, and insurance. For urban transit and intercity transport GDP by industry series can be used from 1986 to the present, but before 1986, due to a different methodology in use at the time, monthly revenue series are more suitable distributor series.

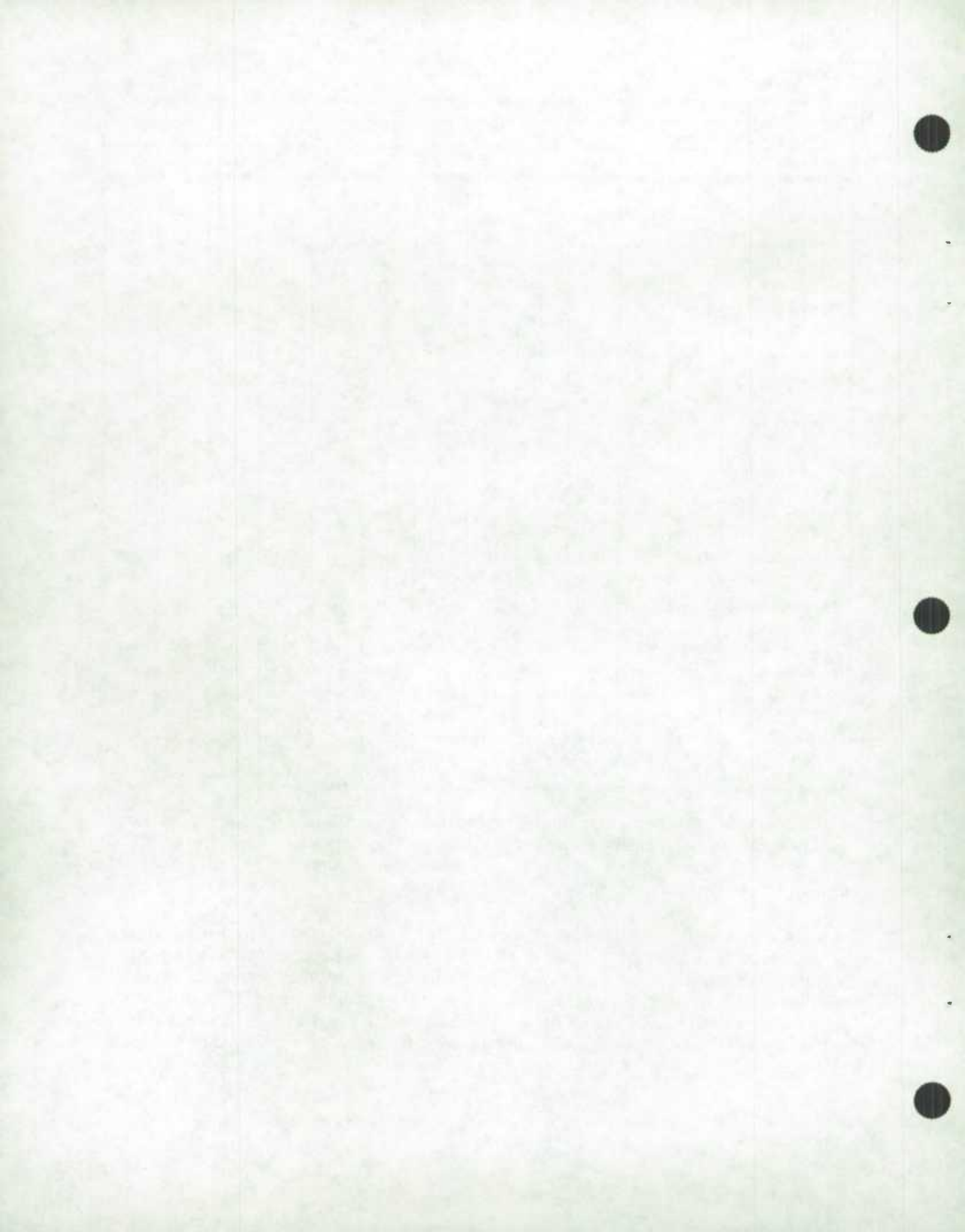


**Table 7: Personal Expenditure on Consumer Services, Selected Monthly Series
Seasonally Adjusted, Millions of Dollars**

1989	Jan	Feb	March	April	May	June	July	Aug	Sept	Oct	Nov	Dec
Urban Transit	90	92	89	93	91	93	93	93	91	92	92	94
Rail Transport	19	19	20	18	20	20	21	21	21	20	18	19
Intercity Transit	42	44	43	43	46	45	46	47	48	50	47	45
Water Transport	10	10	10	10	10	10	11	11	11	10	10	10
Taxi Services	32	31	31	32	32	33	33	33	34	34	34	34
Telecommunications	402	408	409	412	415	413	415	430	420	420	431	428
Postal Services	40	38	39	37	39	39	39	38	39	41	40	38
Lotteries	167	165	173	176	169	172	168	151	160	179	168	180
Cable and Pay TV	125	130	131	138	137	139	142	143	153	153	153	156
Movie Theatres and Drive-ins	39	38	39	41	42	42	42	43	43	43	43	43
Hairstyling	168	168	169	171	172	174	177	177	179	180	184	183
Other Personal Services	38	38	39	39	39	39	40	40	40	41	41	41
Meals Outside the Home	1338	1381	1440	1426	1419	1439	1444	1445	1443	1404	1488	1600
Accommodation	214	215	220	216	220	229	228	223	224	223	228	233
Domestic Services	530	534	539	548	554	559	563	567	572	578	582	584
Health Services	782	787	790	792	796	802	812	821	828	837	843	845
Education and Cultural Services	837	840	845	854	860	865	870	875	881	888	893	895
Non-profit Organizations	597	596	598	606	612	617	621	624	627	630	632	633

Monthly information on operating revenue for industries producing consumer services can sometimes be employed for distributing personal expenditure. Cases where this is possible are urban and intercity transit, as mentioned above, rail transport, telecommunications and postal services.

Certain monthly interpolators may be found which are more representative of a real movement than of a current dollar variation. A case in point is a possible monthly interpolator for travel expenditure abroad, the total of Canadian residents abroad, which is probably more indicative of real spending than of current dollar spending. In such cases, the monthly series can be used to distribute and extrapolate constant dollar quarterly estimates, then current dollar estimates can be derived with appropriate price indexes.

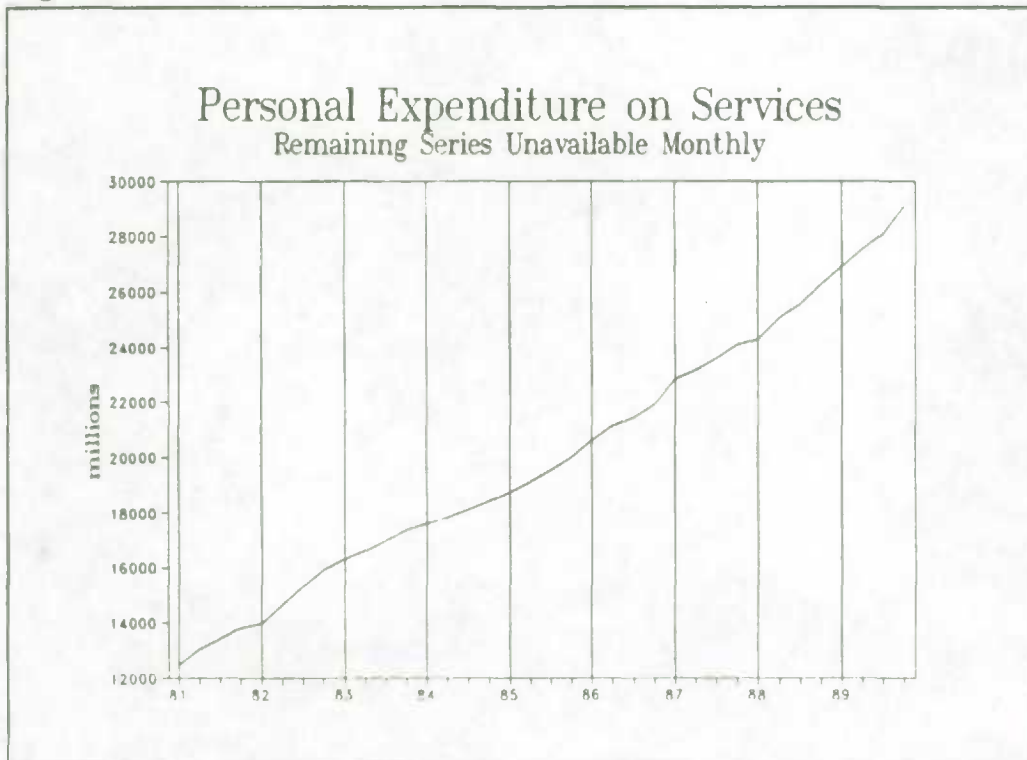


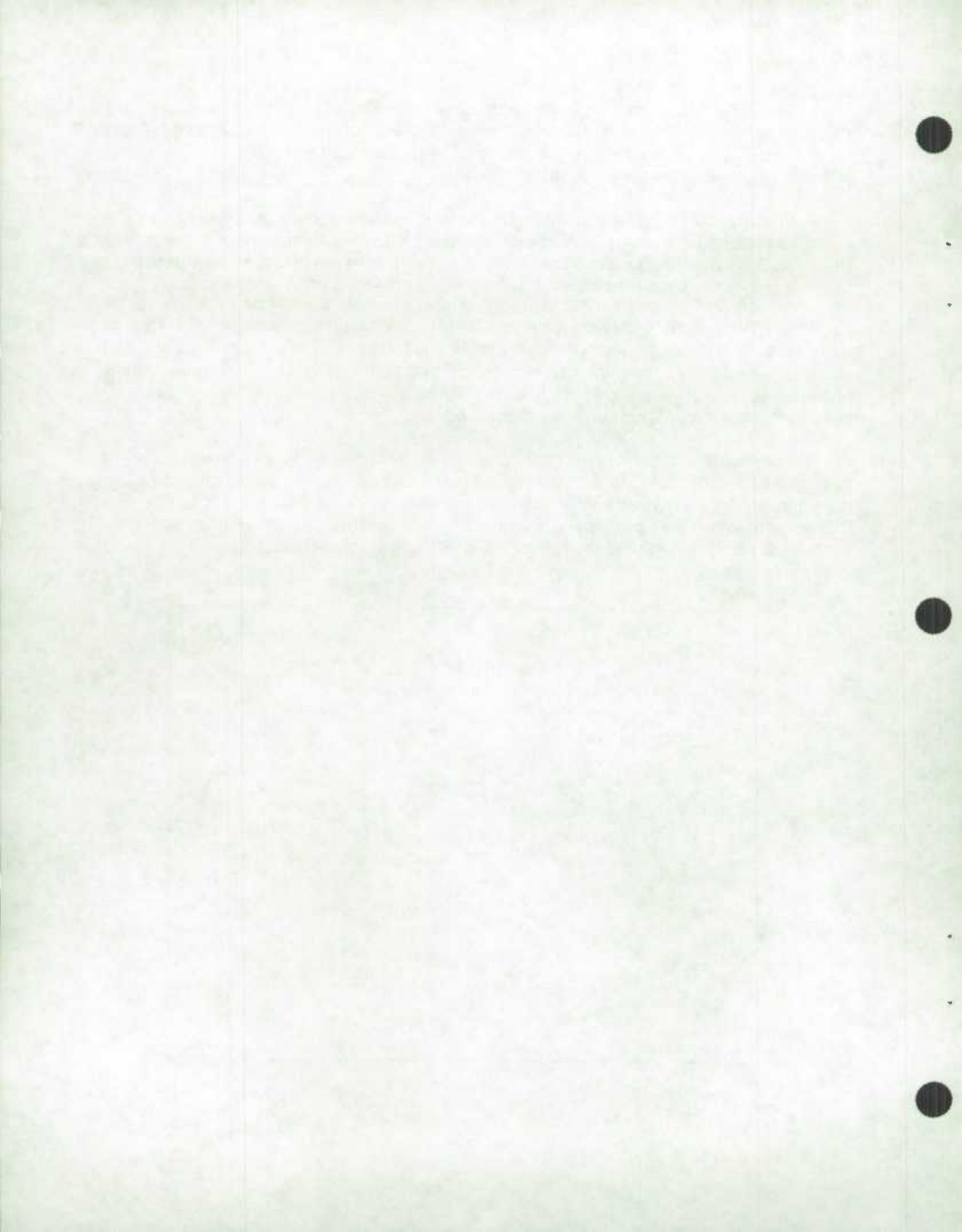
Series for which monthly estimates have been developed in the course of this study are presented in Table 7. It was not possible to assemble the necessary data for a few of the series mentioned above in time for inclusion in this report, but creation of these estimates is also feasible.

Monthly series have not been found to distribute a number of series in the personal expenditure area. In these cases, the best means for generating monthly estimates is to distribute quarters with no related information and to extrapolate past trends. This is the case for domestic services, health services, education and cultural services, non-profit organizations and for water transport. Estimates for these items figuring in Table 7 are based on a smooth distribution using a quadratic minimization technique. A methodology can probably be developed to estimate financial, legal, and other services, but will require further research and study. It will be in part dependent on what is found in the area of imputed interest, under the heading of interest, dividends, and miscellaneous investment income.

The series for which no related monthly information is available represent approximately 20% of total services. The current dollar series, when considered in the aggregate, exhibit a very stable upward movement, demonstrated in Figure 5. For this reason, it is highly probable a smooth distribution and extrapolation of quarterly estimates would furnish reasonably accurate monthly estimates.

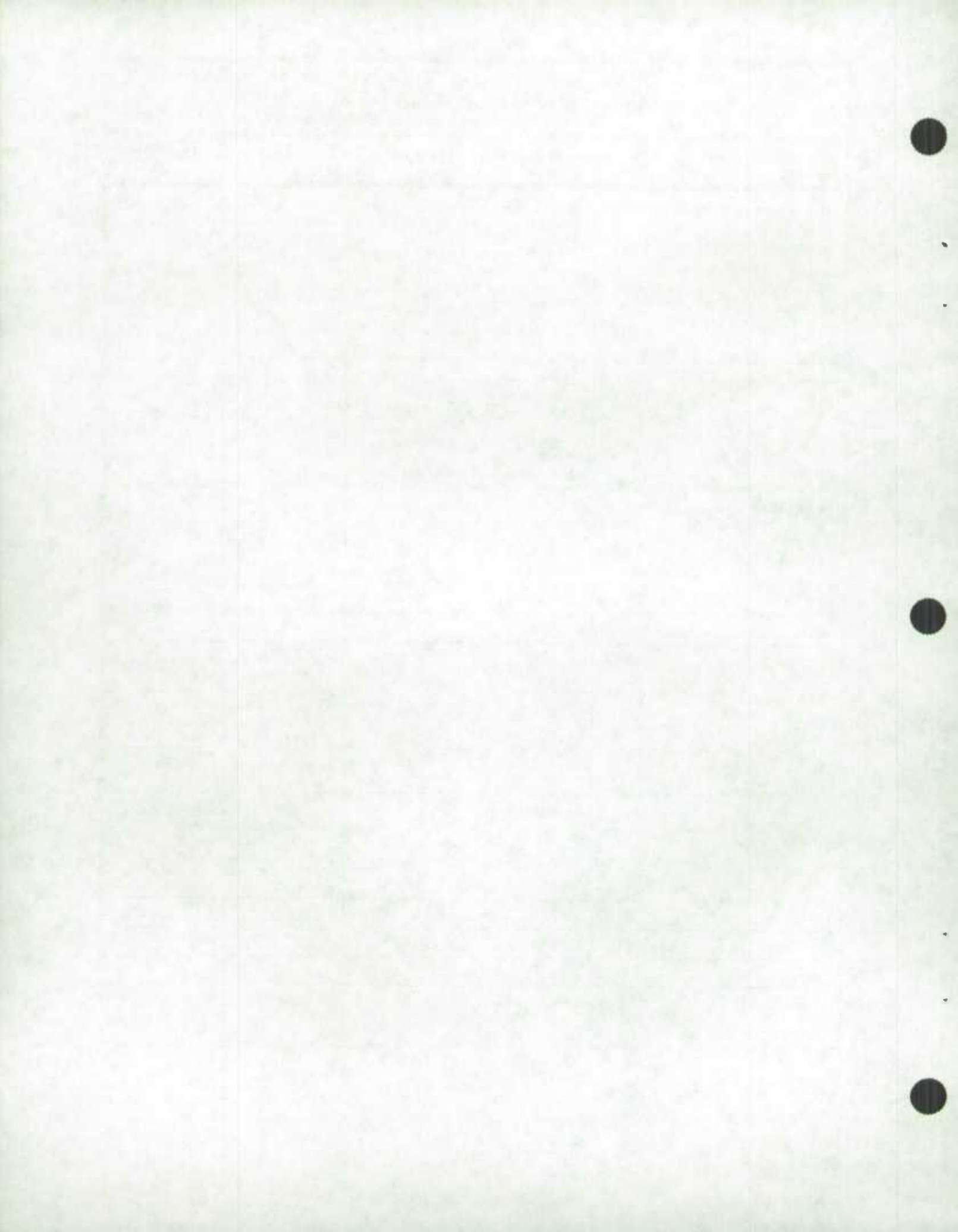
Figure 5



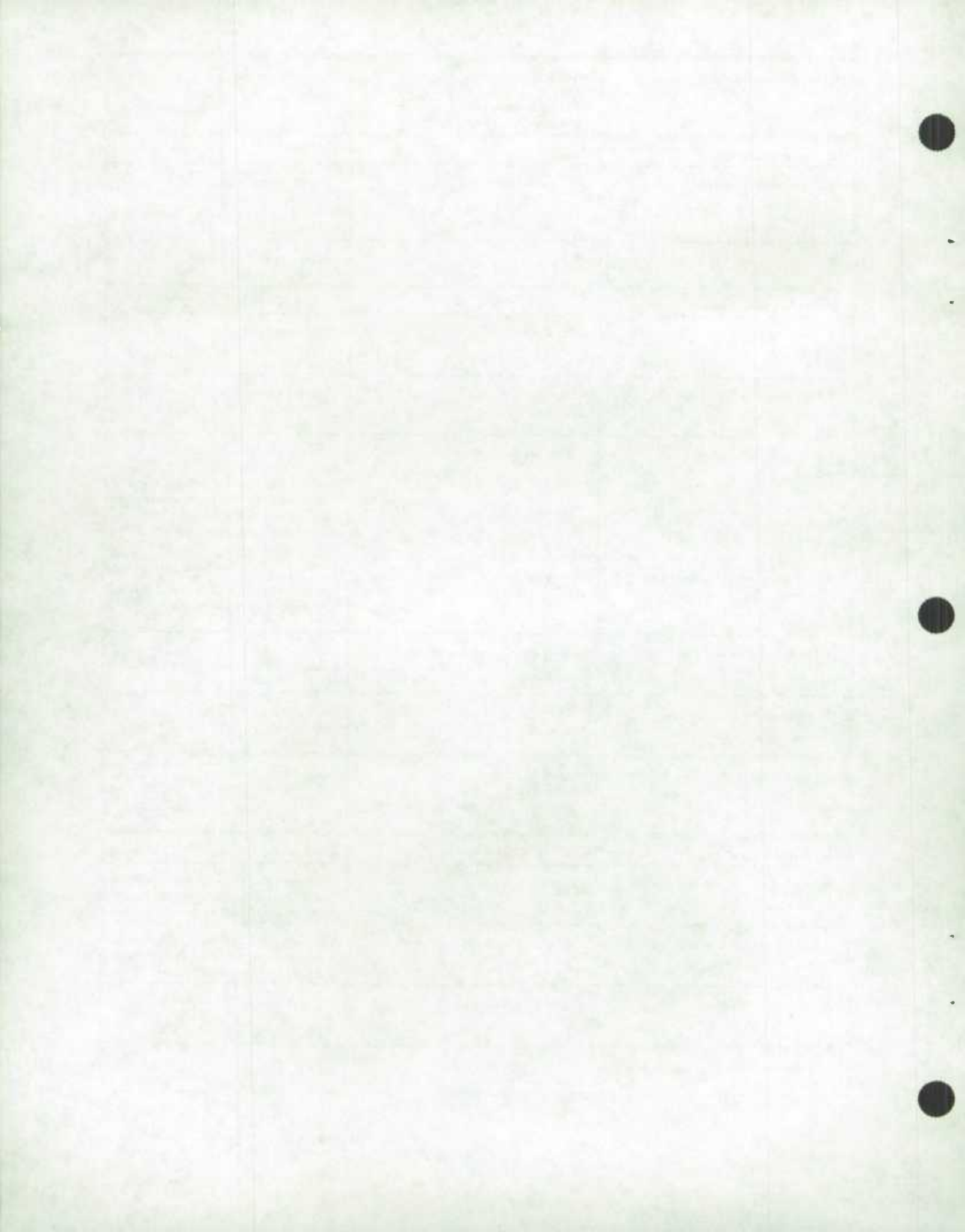


Summary Table 3
Personal Expenditure on Consumer Services
Groupings for Monthly Estimation and Related Monthly Indicators

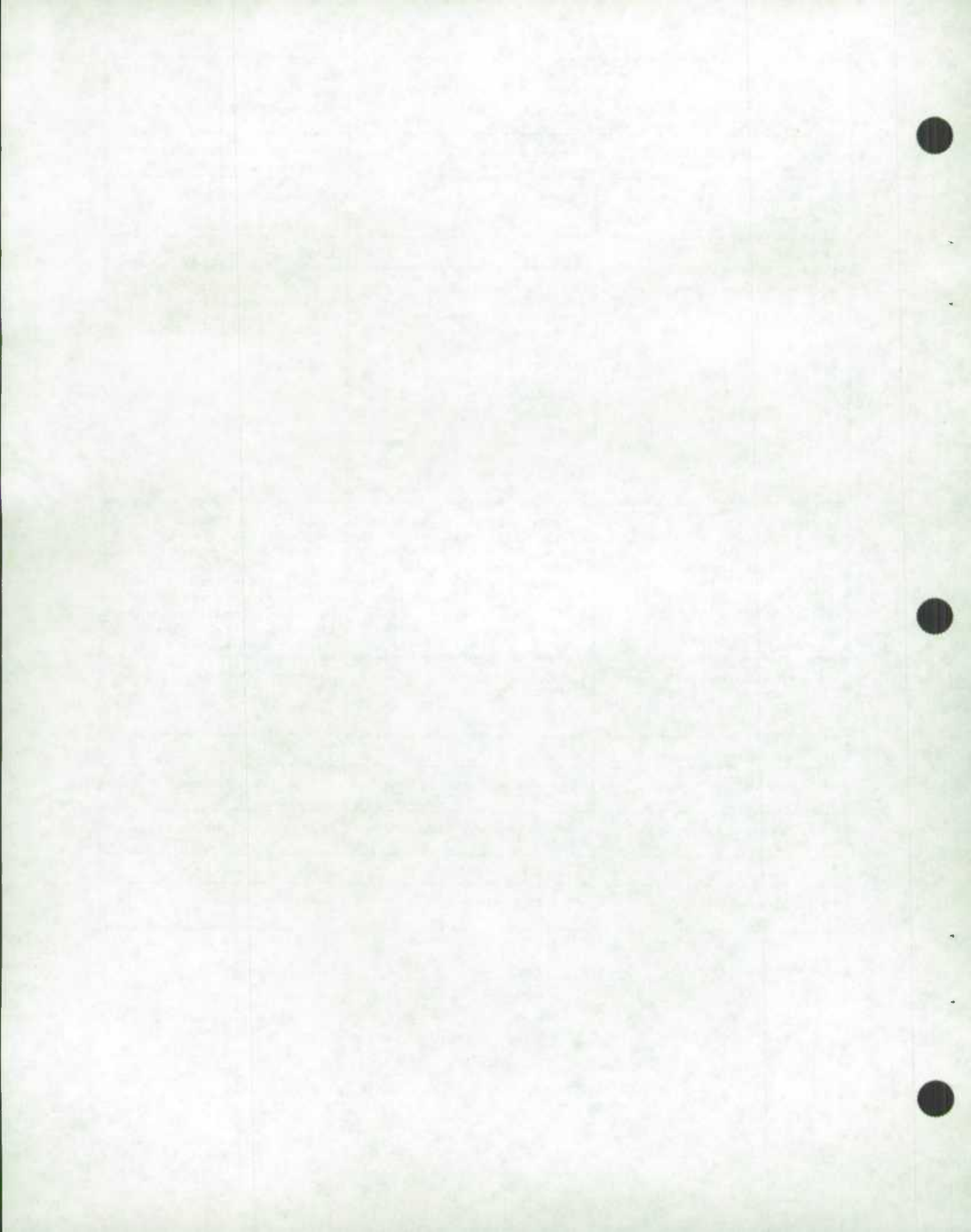
Grouping level possible for monthly estimation	Breakdown of quarterly series in group	Series used for monthly estimation
I Gross paid and imputed rent	<ul style="list-style-type: none"> - Gross imputed rent - Water charges (imputed rent) - Gross rent paid - Water charges (rent paid) - Furniture and appliance rental - Janitorial services - Imputed lodging - Lodging paid - Lodging in universities 	Methodology to be determined. See paragraphs under heading "Net Rental Income" for details.
II Domestic Services	<ul style="list-style-type: none"> - Laundry and dry cleaning - Domestic service - Childcare in the home - Childcare outside the home - Property insurance, cost of service - Pet care - Miscellaneous household services 	Judgemental trend.
III Health Services	<ul style="list-style-type: none"> - Medical care, dental care and the like - Special care facilities - Other health care - Hospital care and the like - Workmen's Compensation Board and railway payments 	Judgemental trend.
IV Purchased Transportation		
◆ Urban transit	- Urban transit	Passenger revenue, urban and suburban transit up to end of 1985. Constant price GDP for the urban transit industry and the CPI for streetcar, city bus and subway transportation from 1986 on.
◆ Railway transport	- Railway transport	Passenger revenue from Via Rail Canada.
◆ Intercity and rural bus transport	- Intercity and rural bus transport	Passenger revenue of intercity and rural buses up to end of 1985. Constant price GDP for the interurban transport industry and the CPI for highway bus transportation from 1986 on.
◆ Air transport	- Air transport	Passenger expenditure on air travel.
◆ Commissions of tour operators	- Commissions of tour operators	Judgemental trend.
◆ Water transport	- Water transport	Judgemental trend.
◆ Taxi services	- Taxi services	Constant price GDP for the taxi industry and the CPI for local taxi services.



V Other Auto Related Services	- Bridge, highway and ferry tolls - Parking - Driving lessons and tests - Motor vehicle renting and leasing	Judgemental trend.
VI Communications		
◆ Telecommunications	- Telecommunications	Total operating revenue of telephone companies from the monthly Survey of Major Telephone Systems.
◆ Postal services	- Postal services	Operating revenue from financial reports of Canada Post Corporation.
VII Recreational Services		
◆ Lotteries	- Lotteries	Expenditure on lotteries, net of prizes from provincial lottery corporations.
◆ Pari-mutuel betting	- Pari-mutuel betting	Constant priced GDP by industry for racetracks and a derived CPI for pari-mutuel betting.
◆ Other recreational services	- Other recreational services	Sum of constant price GDP for the "other amusement" and the professional sports industries and a combined CPI for live sports spectacles, live staged performances and membership fees and dues for clubs.
◆ Cable and pay television	- Cable and pay television	Sum of constant price GDP for the cablevision and pay T.V. industries and the CPI for cablevision, including pay T.V.
◆ Movie theatres and drive-ins	- Movie theatres and drive-ins	Constant price GDP for the motion picture theatre industry and the CPI for motion picture showings.
◆ Photography	- Photography	Constant price GDP for the photography industry and the CPI for photographic film processing.
VIII Education and Cultural Services	- Universities - Private schools - Other education and cultural services	Judgemental trend.
IX Personal Care		
◆ Hairstyling for men and women	- Hairstyling for men and women	Constant price GDP for the hairstyling industry and the CPI for personal care services.
◆ Other personal services	- Other personal care	Constant price GDP for the "other personal services" industry and the CPI for personal care services.
◆ Funerals and burials	- Funerals and burials	Constant price GDP for the funeral services industry and the CPI for the coffin and casket industry.
X Expenditure on Restaurants and Hotels		



◆ Meals outside the home	- Meals outside the home	Consumer expenditure on food away from home from the Restaurant, Caterer and Tavern Survey.
◆ Service portion of alcoholic beverages	- Service portion of alcoholic beverages	Total alcoholic beverages consumed in licensed premises.
◆ Accommodation	- Accommodation	The product of constant price GDP for the hotels industry and the CPI for traveller accommodation.
◆ Board paid	- Board paid	Judgemental trend.
XI Financial, Legal and Other Services	<ul style="list-style-type: none"> - Trust companies, imputed interest - Bank of Canada, imputed interest - Stock and bond commissions - Interest on consumer debt - Credit unions, imputed interest - Life insurance, cost of service - Bank service charges paid - Bank service charges imputed - Credit unions, cost of service - Pension funds, cost of service - Mortgage loan companies, imputed interest - Mutual funds, cost of services - Legal, accounting and other services 	Methodology to be determined. For details see paragraphs under heading "Interest, Dividends and Miscellaneous Investment Income".
XI Insurance	<ul style="list-style-type: none"> - Property insurance, cost of service - Accident and sickness, cost of service - Automobile insurance, cost of service 	Constant price GDP for the insurance carriers industry and weighted average of CPIs for tenants' and homeowners' insurance premiums, a derived price index for the cost of accident and sickness insurance services and the CPI for the cost of automobile insurance services.
XII Operating Expenses of Non-profit Organizations	<ul style="list-style-type: none"> - Welfare organizations - Religious organizations - Trade unions - Political parties 	Judgemental trend.
XIII Net Expenditure Abroad		
◆ Travel expenditure abroad	- Travel expenditure abroad	Number of Canadian residents abroad.
◆ Military pay and allowances abroad	- Military pay and allowances abroad	Military pay and allowances abroad.
◆ Gifts in kind	- Gifts in kind	Judgemental trend.
◆ Travel expenditure receipts	- Travel expenditure receipts	Number of non-resident travellers in Canada.



10. Current Transfers to Government

10.1 Federal

Current transfers from persons to the federal government include such items as personal income taxes and employer and employee contributions to social insurance and government pension funds. The situation in this area is much the same as it is for federal transfers from government to persons. The information is available on a monthly basis and simply needs to be compiled and aggregated.

10.2 Provincial

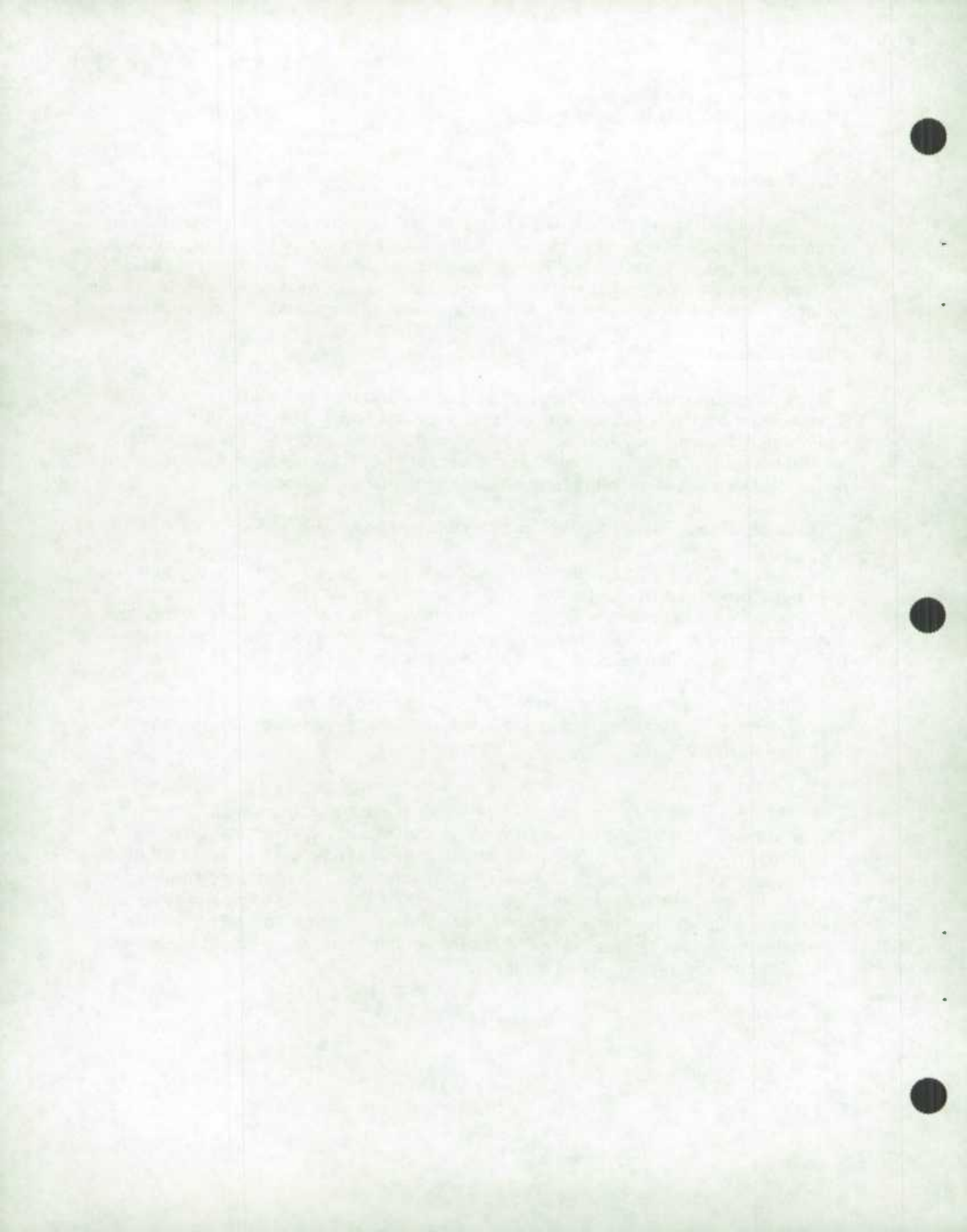
Current transfers to provincial governments consist of personal direct taxes and other current transfers for, for example, licenses and fines. The story in this area is again much the same as it is for transfers in the other direction. Direct monthly information is not readily available at present, although further investigation might reveal its existence in a usable form in some of the larger provinces.

10.3 Local, Hospitals and Canada and Quebec Pension Plans

Quarterly current transfers from persons to local governments are based on an arithmetic projection of annual figures. The same operation could be carried out to produce monthly estimates. Transfers from persons to hospitals based on surveys and administrative records are not available on a monthly basis. Like local transfers, monthly estimates can be based on a trend projection.

Current transfers from persons to Canada and Quebec Pension Plans are available on a monthly basis and simply need be gathered and compiled for the purposes of this project.

American monthly estimates of personal contributions for social insurance, which are netted from transfer payments in the sources of personal income, are prepared by interpolating and extrapolating annual estimates by the product of monthly estimates of wages and salaries and effective tax rates. In the disposition of personal income, under the heading of personal tax and nontax payments, state and local income taxes are interpolated and extrapolated by wage and salary estimates adjusted for changes in effective tax rates. Other tax and nontax payments are simple interpolations and extrapolations of annuals.

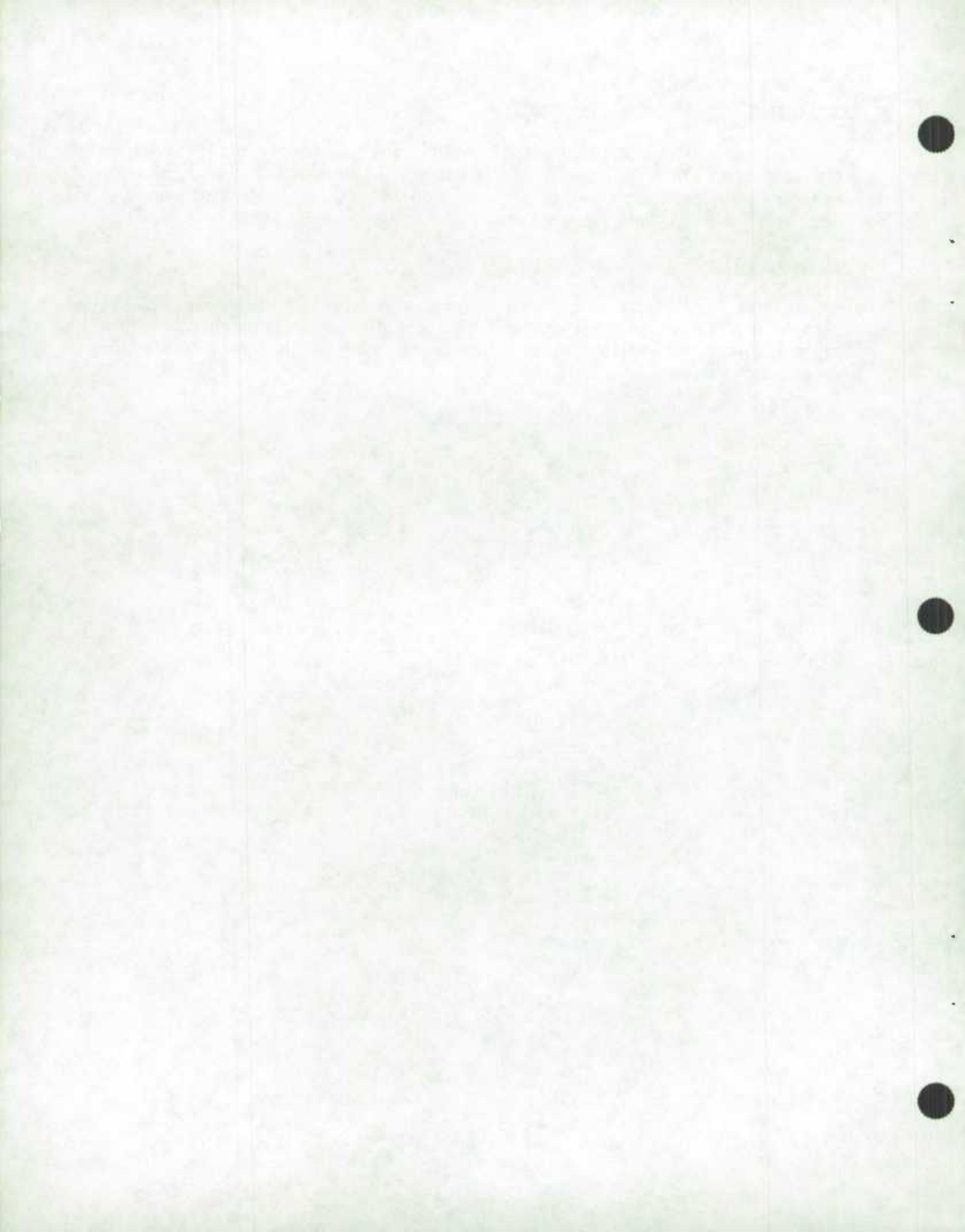


11. Current Transfers to Corporations

Current transfers to corporations consist of the transfer portion of interest on consumer credit. Time did not permit a full exploration of possible monthly methods, but the monthly estimation methodology adopted would be dependent on what was decided in the area of interest, dividends and miscellaneous investment income.

12. Current Transfers to Non-Residents

It was not possible to research monthly data sources and methods for this component in the course of this study. Since the estimate is small and stable, reasonable monthly estimates of this series can be proxied with smooth distribution and extrapolation of quarters.



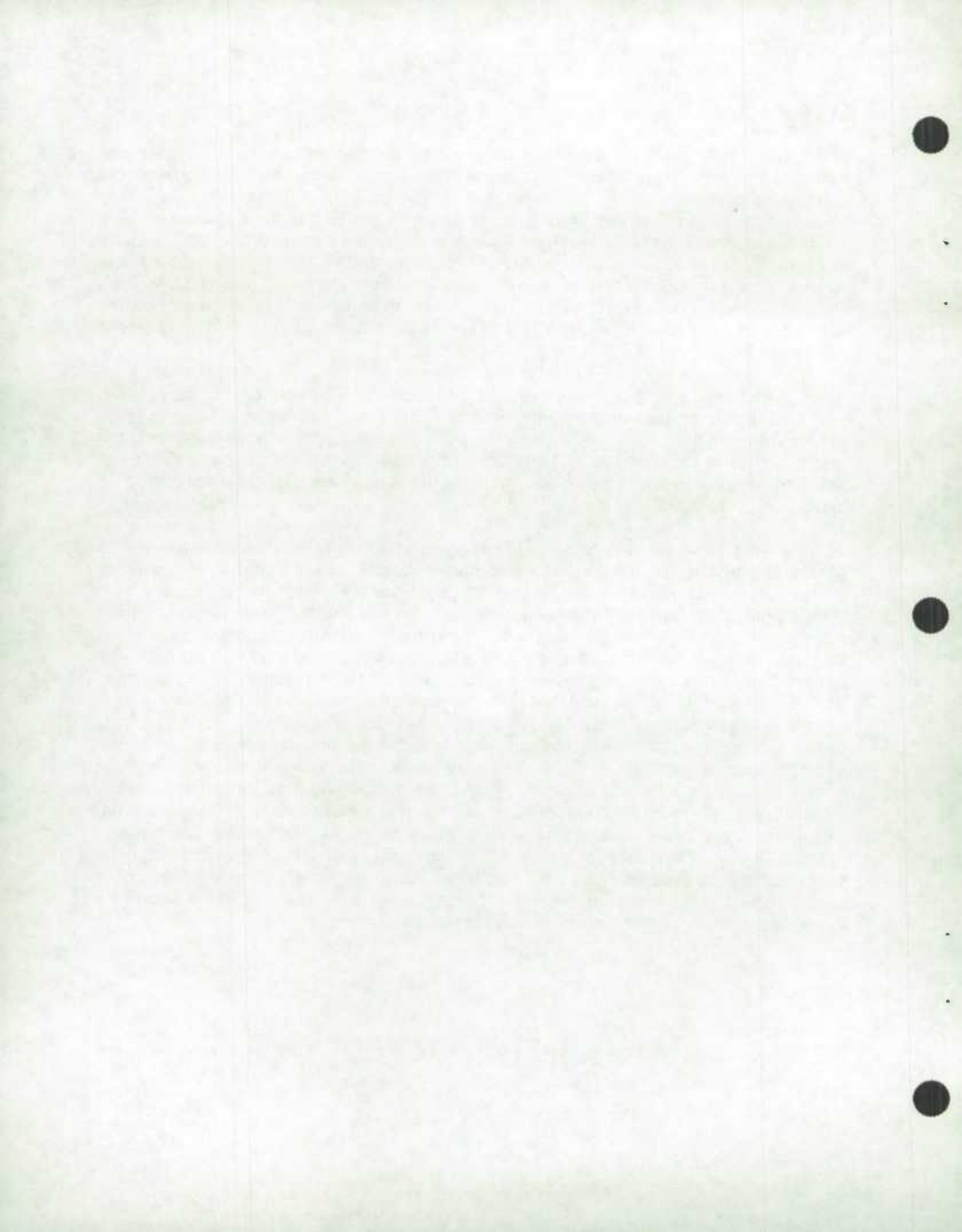
VI. Conclusions

After examining the details of prospective sources and methods for deriving monthly estimates for many of the diverse components and subcomponents comprising personal income, expenditure and savings, it is important to take a step back and consider the whole. A broader perspective requires extracting oneself from the proverbial trees to again survey the state of the entire forest. Where do we stand in terms of the availability of monthly source data and related information for the sources and disposition of personal income and can the Canadian statistical system support and sustain such an undertaking? For which items could reasonable monthly estimates be produced at present and which require substantial additional research and study?

Summary Table 4 provides a synopsis of each of the components in the sources and disposition of personal income, giving a brief account of the availability of monthly source data or related information, the current status of each component in terms of research completed in the course of this study and what additional work is required. It also includes a column showing the size of each component giving an indication of its weight in the main aggregates.

As the table demonstrates, in the sources of personal income, monthly source data are available for the largest component, wages, salaries and supplementary labour income, constituting nearly two thirds of the weight of the aggregate¹⁰. It is also available for many of the subcomponents in net income of farm operators from farm production, a small but relatively erratic item. Monthly source data are not available for net income of unincorporated business, but neither is quarterly information in this area. Many of the series used for the distribution and projection of quarterly estimates are available on a monthly basis and can be used to produce monthly data of equivalent quality. A lot of information is available in the area of net rental income, and a reasonable methodology can be developed for its monthly estimation. In interest, dividends and miscellaneous investment income, although no direct monthly source data is available, a great deal of monthly information exists which can be used to derive acceptable distributor series. Current transfers from government are available monthly at the federal level, as well as for Canada and Quebec Pension Plans. At the provincial government level some information may be found for the larger provinces with further research and study. Local government transfers and transfers from other sectors are small and stable series and can be estimated reasonably well through trend projections.

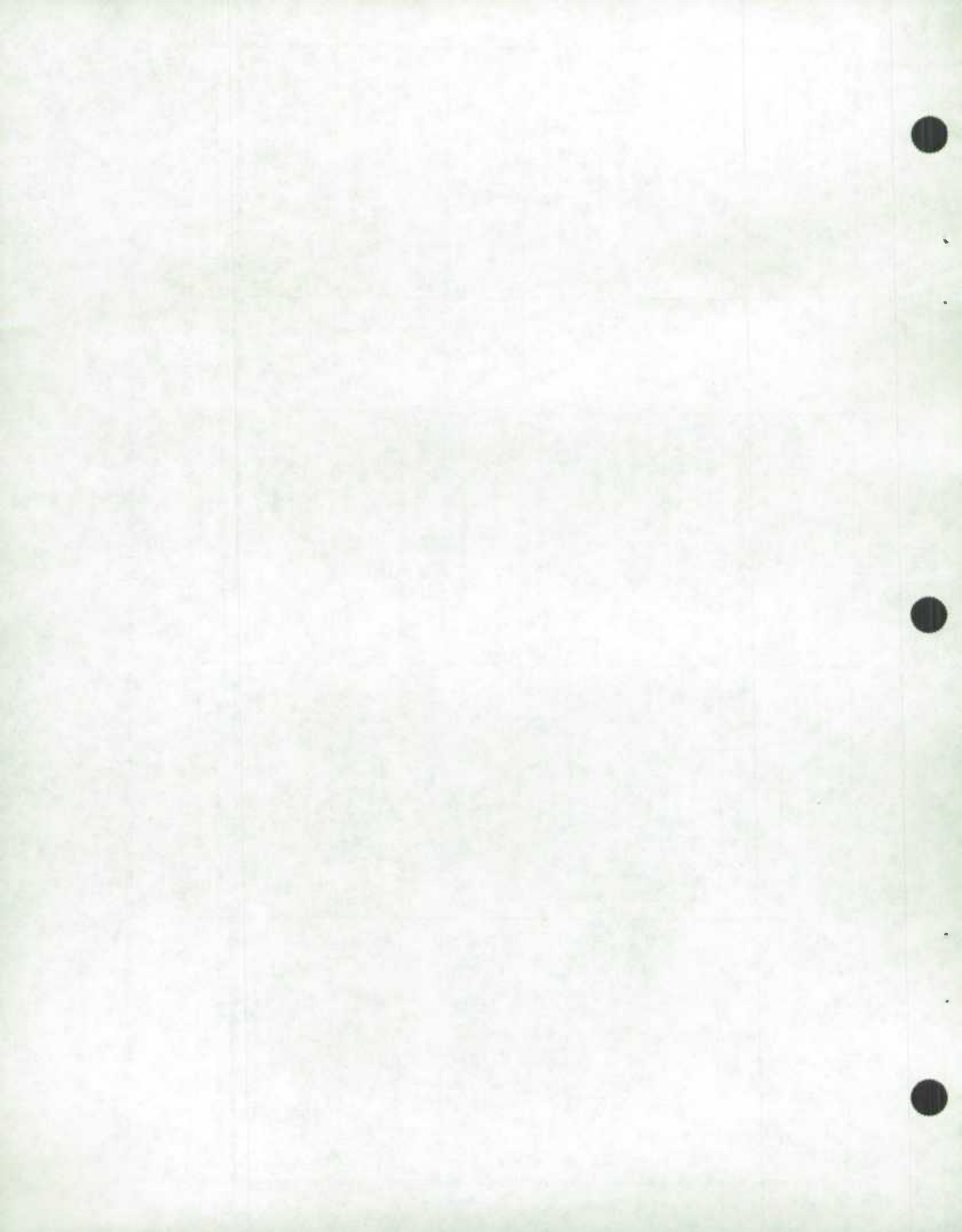
¹⁰See Table 1 on page 4 for a presentation of the relative weights of the sources and disposition of personal income.



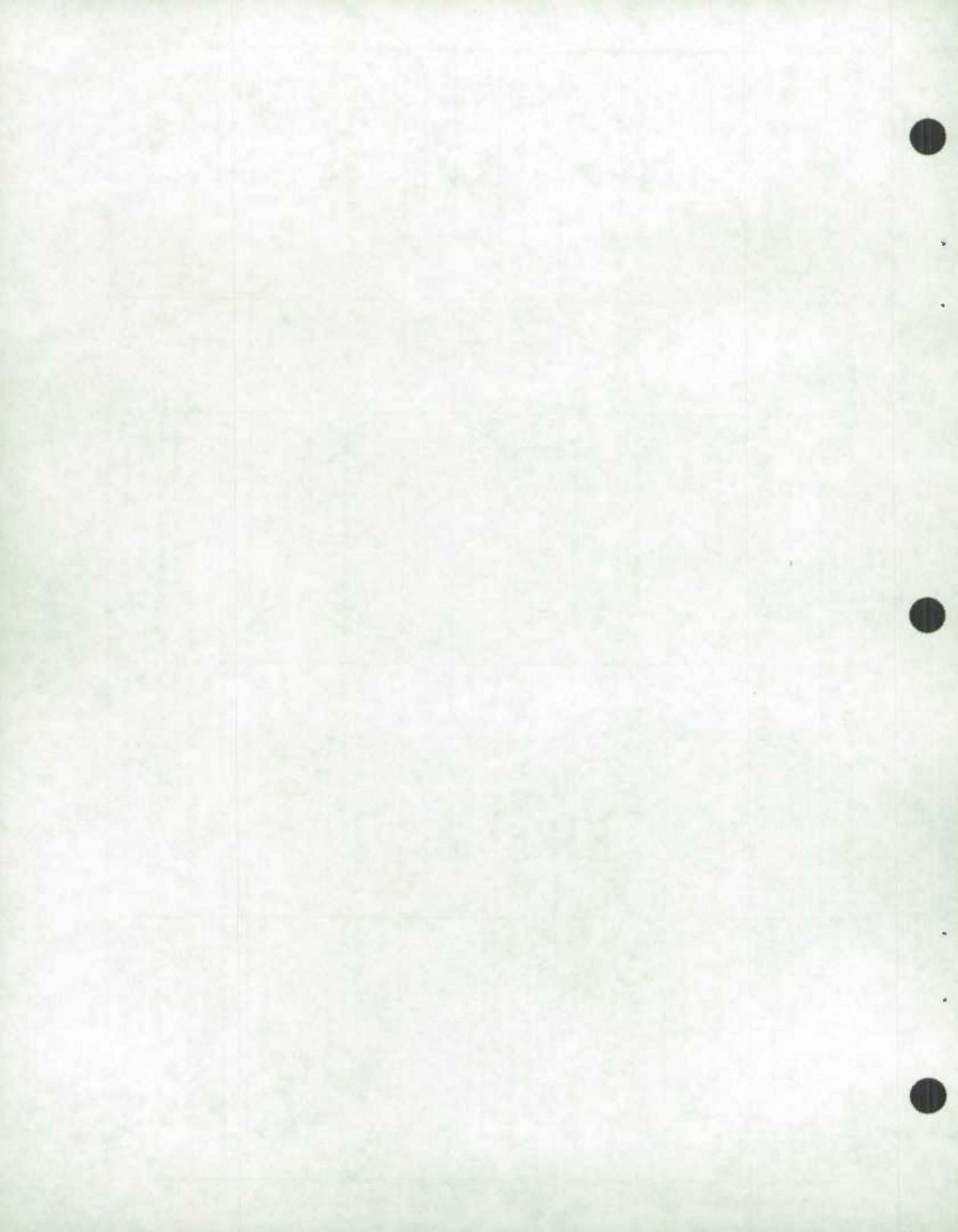
Summary Table 4

Sources and Disposition of Personal Income, Data Availability, Status and Remaining Work Necessary

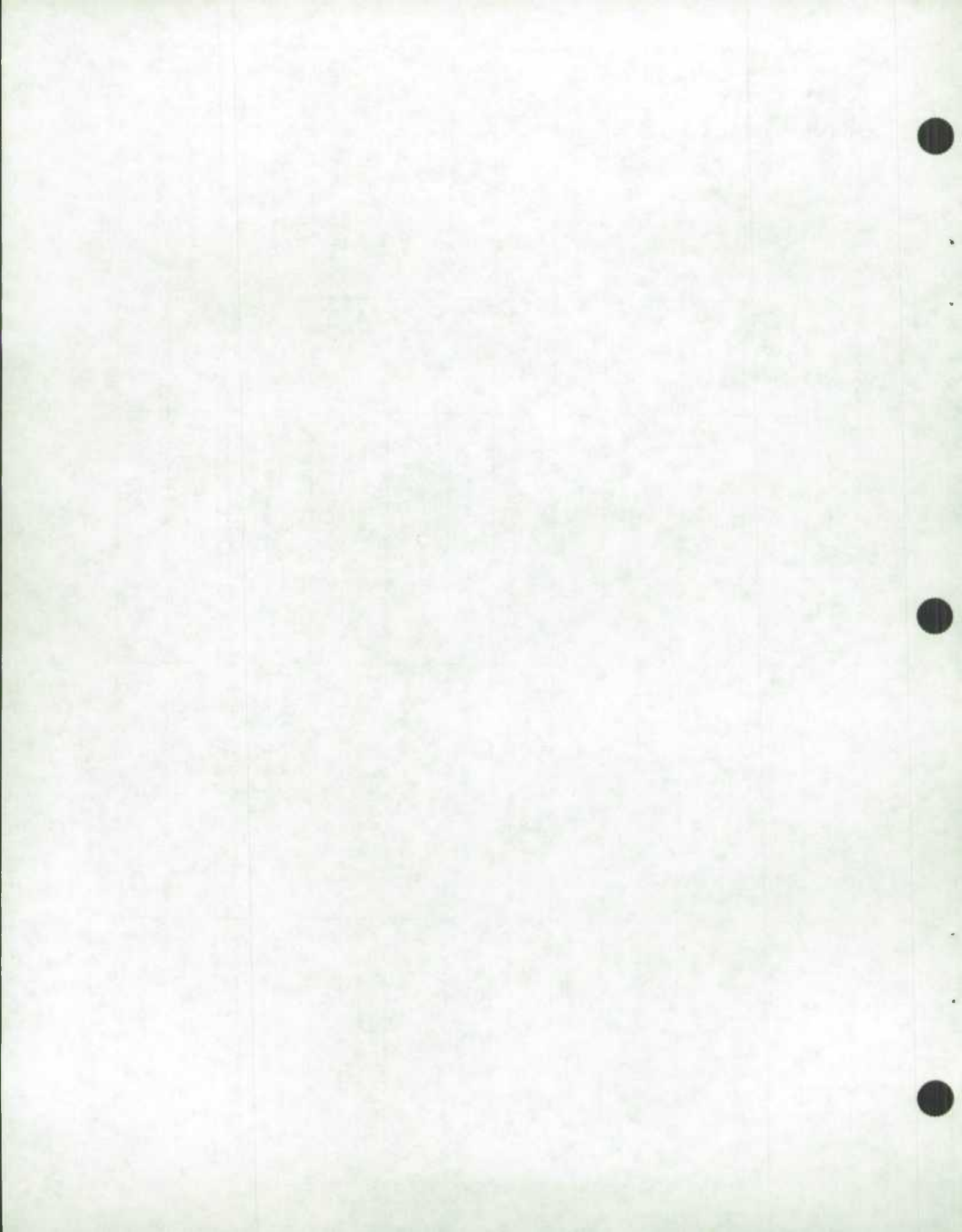
	Size in 1985	Data availability	Current Status of Component	Remaining work necessary
Wages, salaries and supplementary labour income	257,518	Monthly source data available for all sub-components.	Source data were obtained for all sectors seasonally adjusted and aggregated. Quarterly methods could be entirely replicated on a monthly basis.	No additional research required.
Net income received by farm operators from farm production	2,366			
Farm cash receipts	18,895	Monthly source data available for all sub-components.	Monthly estimates were produced with virtually all quarterly methods exactly replicated on a monthly basis.	No additional research required.
Income in kind	203	Monthly source data available.	Prospective methods determined.	Monthly source data is available and need only be seasonally adjusted on a monthly basis. No problems are anticipated.
Farm inventory change	636	Monthly source data available.	Prospective methods determined. Quarterly methods can be replicated by month, but will yield differing results due to the nature of the calculation.	The issue of reconciliation of differences in monthly and quarterly estimates yielded through the same calculation must be resolved.
Farm expenses	-17107	Most monthly series required in the calculation of farm expenses can be derived in a manner consistent with quarterly methods, but farm input prices required for an adjustment for price variation are only available on a quarterly basis.	Monthly estimates were derived omitting the adjustment for price variation and this series was benchmarked to previously estimated quarterly values. Other possible methods were considered and explored.	Further experimentation with alternative methods should be undertaken before a monthly methodology is chosen.
Corporate profits in Agriculture	-261	No monthly source data exists.	Quarterly methods are simplistic and can be entirely replicated on a monthly basis.	No additional research required.
Net income of non-farm unincorporated business, including rent	26,477			



Net income of non-farm unincorporated business	15,841	No monthly source data exists, but the interpolators employed to derive many of the quarterly sub-components are available on a monthly basis.	Seasonally adjusted monthly series were derived for the sub-components for which monthly interpolators existed. Other series were found to exhibit stable and predictable period to period movements and some were trend-projected with no related information.	Additional work could entail further research to find monthly indicators for the series for which quarterly interpolators are unavailable monthly. Remaining series are stable and predictable, however and trend-projections would likely yield adequate results.
Net rental income	10,636	Much of the information used to derive quarterly estimates is available on a monthly basis.	A fairly simplistic monthly methodology was implemented but needs improvement.	Further research is required to develop a more suitable methodology.
Interest, dividends and miscellaneous investment income	54,133	A number of monthly series are available which can be used to derive interpolators.	Prospective monthly methods were determined for most subcomponents. These methods appear to be sound a priori, but have not yet been implemented.	Further experimentation and research is required in this area to test prospective methodologies.
Current transfers from government	58,515			
Federal	31,738	Monthly source data available for all federal transfers.	Monthly data sources identified.	No further research required, but data must be compiled and consolidated.
Provincial	18,874	Monthly source data is not readily available, but possible data sources have not yet been fully explored.	Potential monthly data sources not yet exhaustively explored.	Further research could be conducted to assess data availability for larger provinces.
Local	866	No monthly source data nor related monthly information exists.	Quarterly estimates are trend projected from annuals and monthly can be obtained in the same manner.	Further research is unlikely to yield fruitful results.
Canada and Quebec Pension Plans	6,517	Monthly source data available.	Monthly data sources identified.	No further research required.
Current transfers from corporations	539	No monthly source data available. Interpolators used for quarterly estimates not available monthly.	No research yet conducted to search for alternative data.	Further research to find monthly interpolators could be conducted but estimates are small and stable and could be trend-projected.
Current transfers from non-residents	681	No monthly source data available.	Monthly methods not explored.	Further research could be conducted to develop an adequate monthly methodology but estimates are small and stable and could be trend projected.
Personal Income	400,199			



Personal expenditure on consumer goods and services	274,503			
Personal expenditure on goods	148,384	All subcomponents available on a monthly basis.	Monthly estimates are produced on a regular basis within the division.	No further research required.
Personal expenditure on services	126,119	Monthly source data exists for a few subcomponents, and related information is available for many others.	Monthly estimates were derived for many subcomponents using related indicators. Others were trend-projected.	Further research in this area might involve looking for monthly interpolators in cases where none have been found, and looking for more suitable alternatives in other cases.
Current transfers to government	78,862			
Federal	42,719	Monthly source data available.	Monthly data sources identified.	No further research required, but data must be compiled and consolidated.
Provincial	30,166	No monthly information readily available, but some monthly data may exist.	Potential data sources not yet fully explored.	Further research may uncover data sources for the larger provinces.
Local	197	No monthly information available.	Potential data sources explored.	Further research would not likely prove to be fruitful.
Hospitals	84	No monthly information available.	Quarterly estimates are trend-projected from annuals and monthly estimates can be produced in a similar manner.	Further research unlikely to prove fruitful.
Canada and Quebec Pension Plans	5,696	Monthly source data available.	Data sources identified.	No further research required.
Current transfers to corporations	4,233	No monthly source data available.	No research conducted to explore possible monthly methods, but estimates are small and stable and can be trend-projected.	Additional research could be conducted to explore possible monthly sources and methods, but is not essential.
Current transfers to non-residents	554	No monthly source data available.	Quarterly estimates are trend-projected from annuals and monthly can be obtained in the same manner.	No further research required.
Personal Saving	42,047			
Personal Disposable Income	321,333			
Personal Saving as a Percentage of Personal Disposable Income				

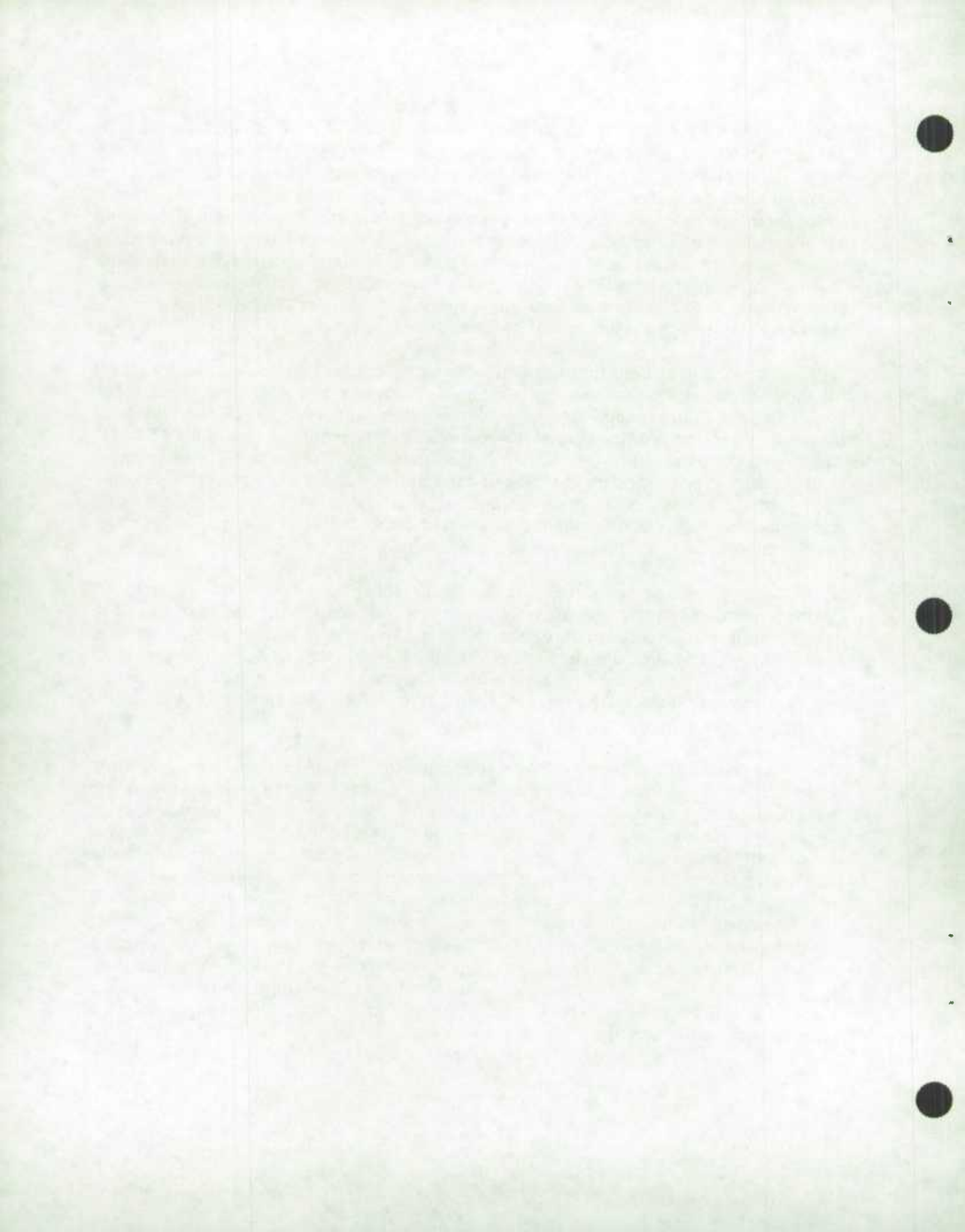


On the disposition side of personal income, personal expenditure on consumer goods, comprising about 40% of total personal outlays, is available on a monthly basis. For expenditure on personal services, monthly source data is available for some components, and reasonable distributor series exist for many others. Many of the series for which monthly information is not available are stable series which could be estimated with trend projections. In the area of current transfers to government, federal transfers are available on a monthly basis as well as transfers to Canada and Quebec Pension Plans. Some information may exist for transfers to provincial governments, and transfers to local governments, hospitals, and other sectors are small and stable series which could be trend projected.

In brief, it is evident that the Canadian statistical system could indeed support the regular production of a monthly personal sector. Our data sources in most areas appear to be of equal or superior quality to those employed over the past two decades for monthly estimates of the personal income and outlay account in the United States. Although a good deal of further research and study is required in the Canadian case, to develop, test and refine methodologies for a number of components, most notably in the areas of net rental income, and interest, dividends and miscellaneous investment income, the investigation conducted in the course of this study confirmed the overall feasibility of developing such estimates.

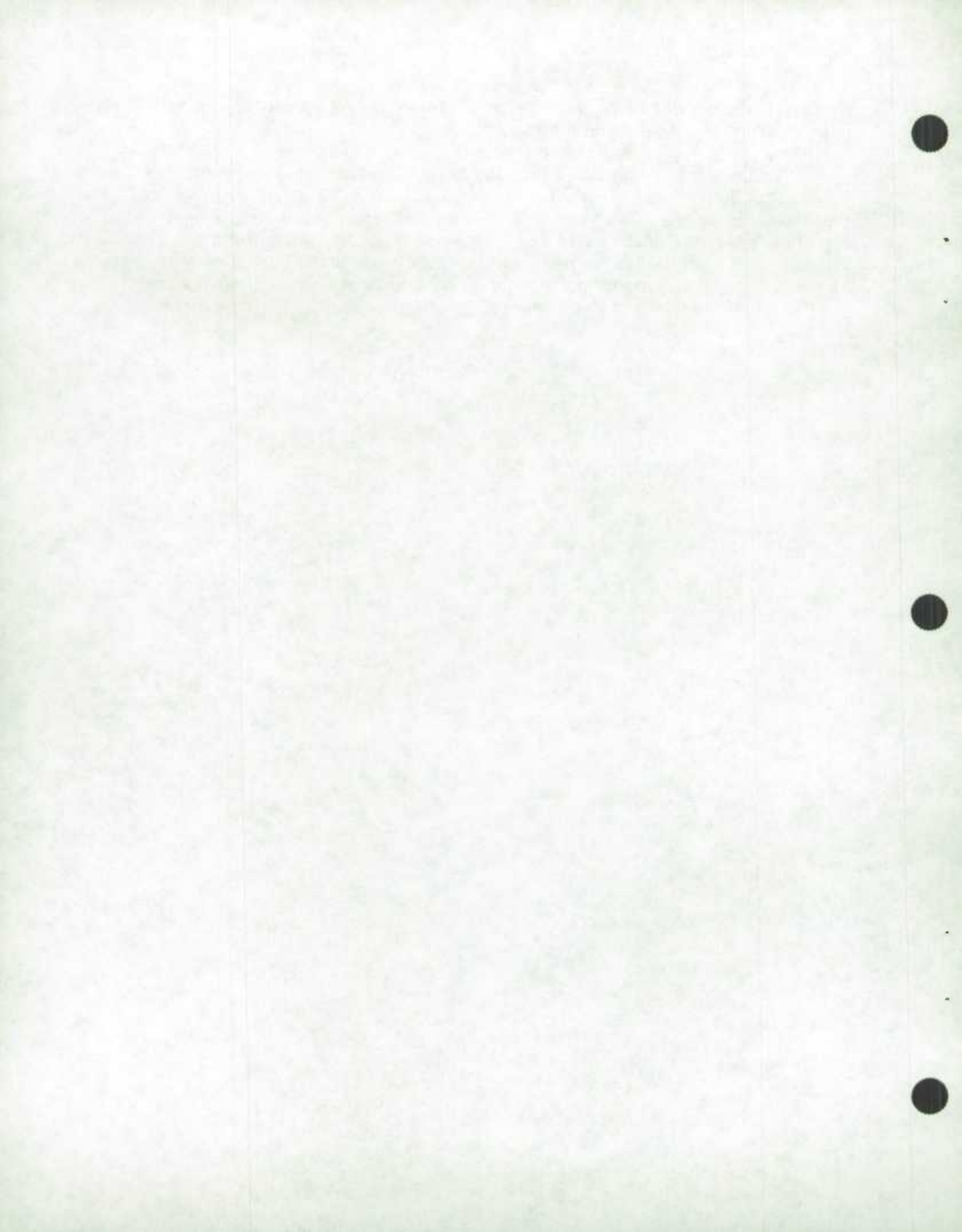
Despite the existence of a reasonable statistical base for the development of monthly estimates, additional monthly source data would nonetheless facilitate the development of methodologies for some items and improve their overall quality. Further information would be especially valuable for farm input prices, in a variety of areas interest, dividends and miscellaneous investment income, and for transfers to and from governments at the provincial and local levels. Monthly source data are lacking in many of the personal services as well.

The goals of this endeavour were to explore the feasibility of producing monthly seasonally adjusted time series from 1981 to the present, and regular production of these estimates in the future. This does not preclude the possibility of producing a longer time series, for example from 1971 to the present. In fact, research throughout the course of this study tended to indicate that such an undertaking would be possible, but since sources and methods have improved and evolved significantly over the past two decades, it would likely entail the development of separate methodologies to retain consistency with quarterly methods in place in earlier periods. It might also be possible to create and publish estimates on both a seasonally adjusted and an unadjusted basis, although this project focussed primarily on the development of seasonally adjusted series, often using seasonally adjusted inputs in the estimation process, these same series are also obtainable in unadjusted form and unadjusted estimates could be produced in all cases. Whether or not this is a necessary or desirable undertaking in terms of additional resources required is questionable as data



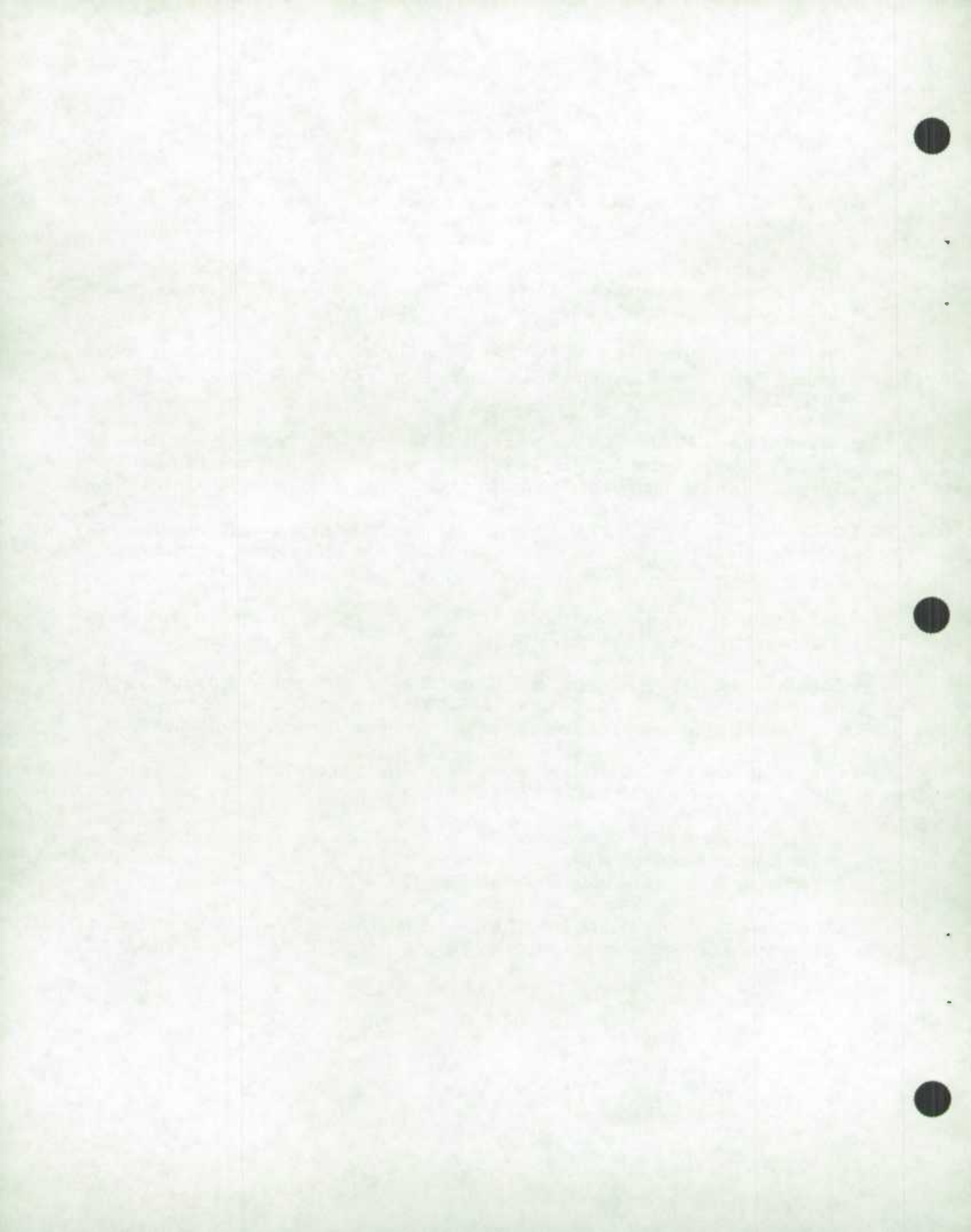
users generally afford more attention to seasonally adjusted series, and find them more relevant and meaningful for analysis.

The benefit of producing a monthly personal sector could be reaped not only in the provision of such estimates to Canadians, but in the inevitable positive repercussions to the existing quarterly estimates and indeed to the rest of the statistical system. The feasibility of producing monthly estimates of the sources and disposition of personal income being established, the issue to address is whether the benefit of producing a more frequent and timely set of economic aggregates warrants the allocation of resources to do so.



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Appendix A

Table 2	Wages, Salaries and Supplementary Labour Income
Table 3	Farm Cash Receipts Including Subsidies
Table 4	Farm Operating Expenses Including Depreciation
Table 5	Net Income of Non-Farm Unincorporated Business
Table 6	Gross Imputed and Paid Rents
Table 7	Personal Expenditure on Consumer Services

* **Note:** Tables presented in Appendix A are based on data published as of March 1990 and do not incorporate subsequent revisions back to January 1986.

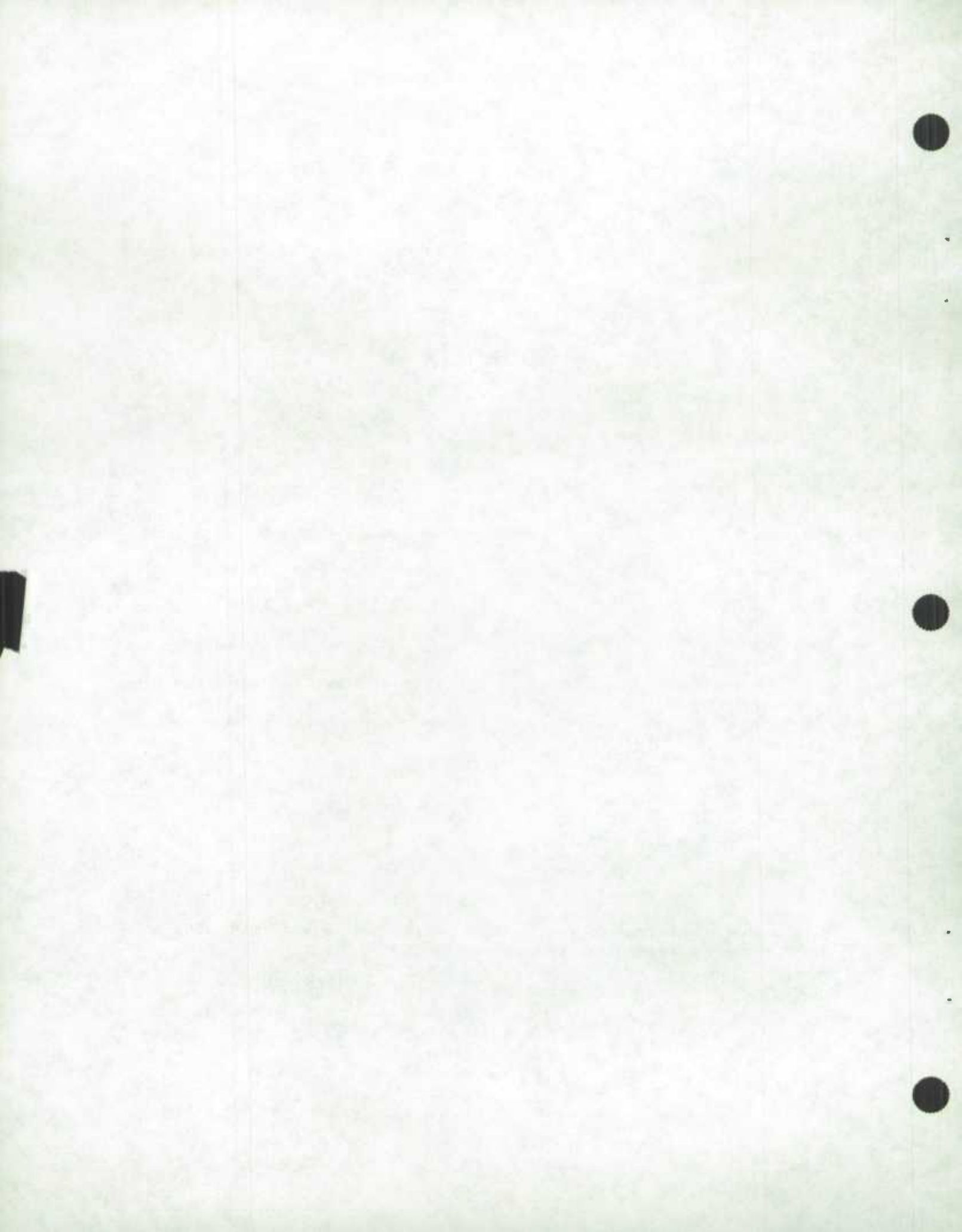


Table 2. Wages, Salaries and Supplementary Labour Income
Sector Groups, Seasonally Adjusted, Millions of Dollars

	1981	Jan	Feb	Mar	April	May	June	July	Aug	Sept	Oct	Nov	Dec
Total		15485	15610	15740	16029	16333	16602	16650	16595	17127	17101	17243	17394
From Business		11335	11433	11574	11786	12011	12212	12189	12111	12360	12515	12620	12736
From Gov't (Civilian)		3457	3478	3467	3524	3594	3652	3724	3734	3934	3816	3837	3871
Federal		621	609	610	608	635	647	672	659	676	687	694	698
Provincial		916	925	916	941	956	970	1001	999	1003	1015	1018	1027
Local		526	520	527	536	551	560	570	571	579	584	587	597
Municipal Schools		792	795	798	809	823	834	830	847	931	866	873	878
Hospitals		595	623	609	624	622	635	643	651	738	658	658	666
Other		6	6	6	6	6	6	6	6	6	6	7	7
Military pay and allowances		146	147	147	160	158	159	160	161	162	165	172	172
From Persons		548	551	553	559	570	579	578	589	672	606	614	615
	1982	Jan	Feb	Mar	April	May	June	July	Aug	Sept	Oct	Nov	Dec
Total		17492	17612	17746	17783	17551	17560	17592	17445	17623	17700	17685	17814
From Business		12672	12798	12840	12839	12635	12591	12569	12327	12463	12477	12448	12482
From Gov't (Civilian)		4009	3991	4079	4121	4074	4127	4170	4262	4292	4339	4344	4410
Federal		682	706	765	772	743	743	753	780	769	773	792	796
Provincial		1026	1024	1031	1041	1029	1046	1060	1093	1098	1107	1100	1121
Local		606	622	646	642	645	646	657	661	671	676	678	686
Municipal Schools		900	911	915	927	918	936	944	953	965	980	989	1026
Hospitals		788	721	715	732	732	749	749	768	781	795	777	773
Other		7	7	7	7	7	7	7	7	7	7	7	7
Military pay and allowances		174	175	178	167	198	184	186	187	188	189	187	188
From Persons		637	648	649	656	645	657	666	669	680	696	706	733

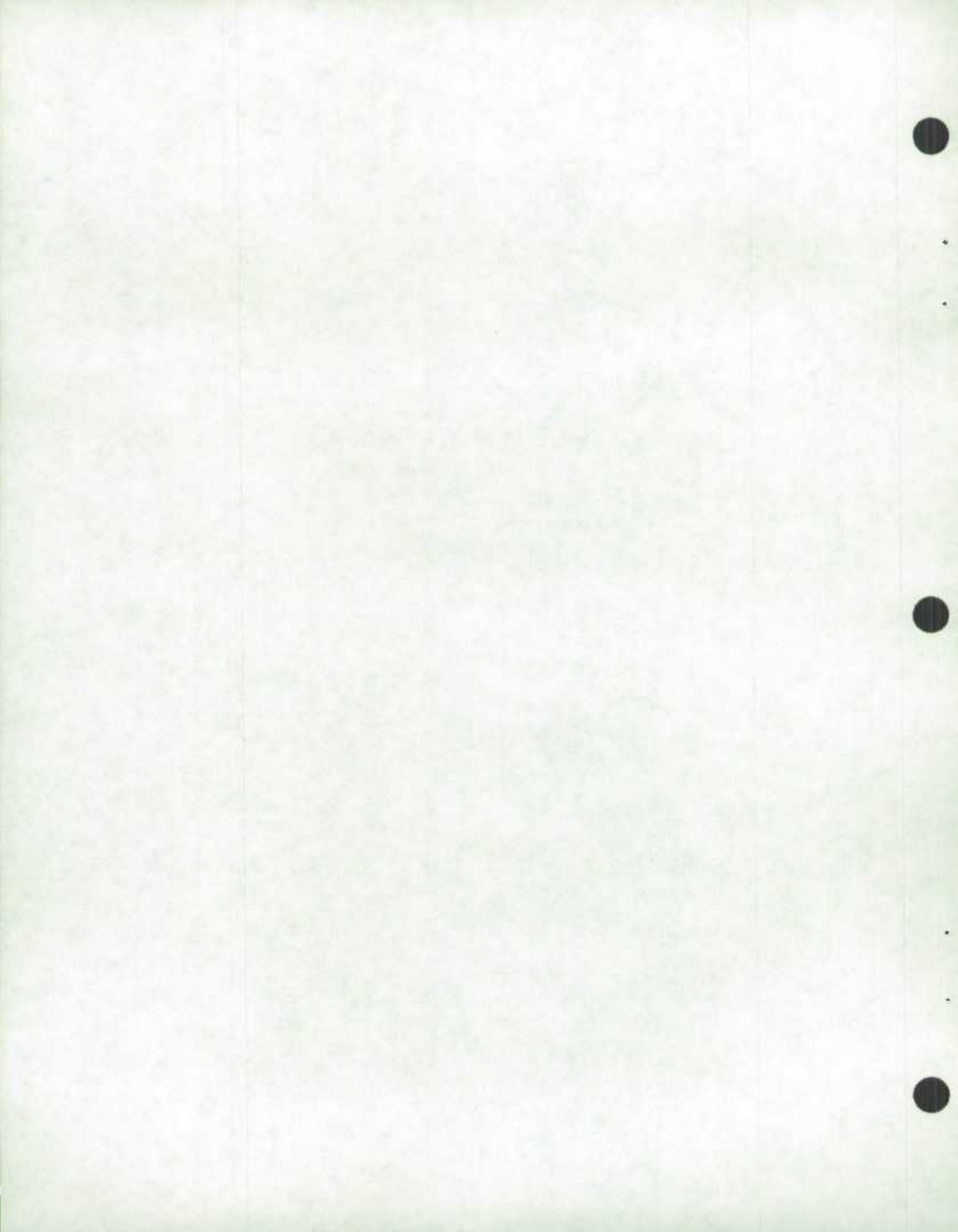


Table 2, Continued. Wages, Salaries and Supplementary Labour Income
Sector Groups, Seasonally Adjusted, Millions of Dollars

	1983	Jan	Feb	Mar	April	May	June	July	Aug	Sept	Oct	Nov	Dec
Total		17756	17803	18037	18166	18352	18583	18572	18705	18870	18887	18966	19101
From Business		12550	12695	12621	12802	12925	13090	13113	13233	13355	13351	13440	13494
From Gov't (Civilian)		4327	4290	4480	4446	4490	4531	4510	4523	4551	4561	4565	4624
Federal		798	805	806	807	806	809	809	814	817	820	820	836
Provincial		1113	1111	1142	1138	1150	1157	1153	1147	1149	1151	1162	1175
Local		694	701	711	701	693	704	704	710	716	716	720	716
Municipal Schools		953	883	1003	987	1014	1042	1017	1023	1035	1040	1021	1045
Hospitals		761	782	810	805	820	812	820	822	826	826	833	843
Other		8	8	8	8	8	8	8	8	8	8	8	8
Military pay and allowances		192	195	196	200	197	199	202	204	206	207	207	210
From Persons		687	622	741	718	740	764	748	746	758	768	754	774
	1984	Jan	Feb	Mar	April	May	June	July	Aug	Sept	Oct	Nov	Dec
Total		19286	19356	19297	19576	19728	19863	19979	20145	20193	20268	20494	20664
From Business		13644	13681	13615	13865	14005	14151	14234	14329	14420	14500	14671	14767
From Gov't (Civilian)		4644	4668	4675	4698	4711	4712	4729	4782	4752	4746	4786	4841
Federal		834	842	847	847	846	854	855	859	862	864	864	866
Provincial		1182	1190	1187	1196	1207	1210	1204	1215	1213	1213	1213	1216
Local		718	721	721	729	732	733	733	745	743	736	751	770
Municipal Schools		1046	1053	1051	1056	1054	1046	1055	1080	1050	1045	1058	1083
Hospitals		857	854	860	861	863	861	874	876	875	881	892	898
Other		8	8	8	8	8	9	9	9	9	9	9	9
Military pay and allowances		211	212	212	215	214	214	216	218	219	221	220	221
From Persons		787	795	795	799	797	787	800	816	802	800	816	835

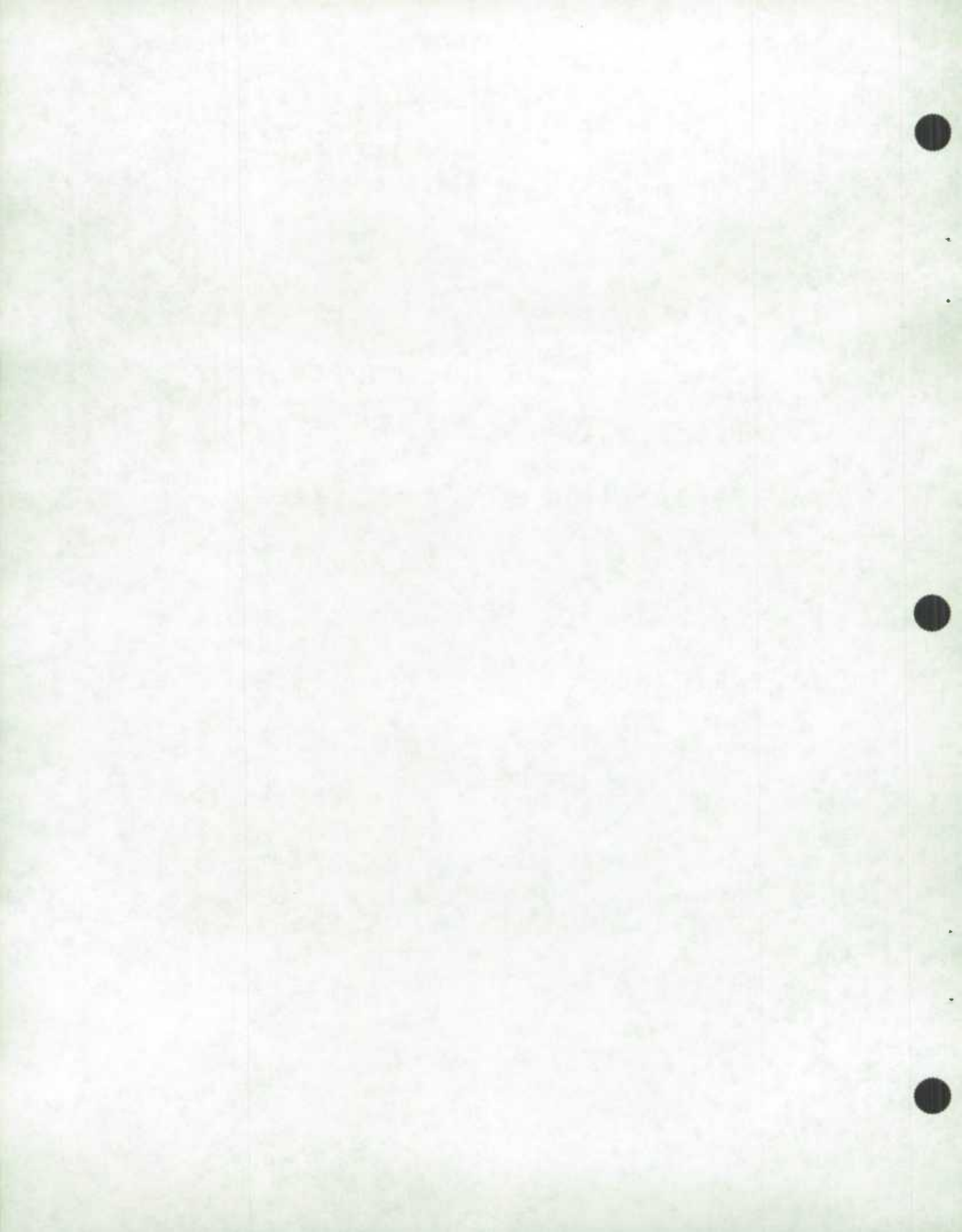


Table 2, Continued. Wages, Salaries and Supplementary Labour Income
Sector Groups, Seasonally Adjusted, Millions of Dollars

	1985	Jan	Feb	Mar	April	May	June	July	Aug	Sept	Oct	Nov	Dec
Total		20755	20891	21029	21139	21233	21351	21584	21691	21763	21874	22056	22152
From Business		14823	14965	15065	15195	15264	15332	15542	15627	15699	15743	15885	15953
From Gov't (Civilian)		4864	4856	4883	4877	4896	4917	4941	4962	4956	5009	5039	5064
Federal		872	878	879	878	878	872	871	876	876	879	884	881
Provincial		1247	1232	1232	1232	1233	1234	1244	1247	1257	1273	1282	1285
Local		764	761	771	767	769	776	778	784	781	790	798	803
Municipal Schools		1072	1075	1084	1076	1084	1093	1106	1106	1100	1110	1118	1124
Hospitals		900	902	908	916	923	933	934	940	933	947	948	961
Other		9	9	9	9	9	9	9	9	9	9	9	9
Military pay and allowances		222	223	224	219	219	240	228	231	233	233	235	236
From Persons		845	847	857	849	854	863	873	870	876	889	898	899
	1986	Jan	Feb	Mar	April	May	June	July	Aug	Sept	Oct	Nov	Dec
Total		22337	22403	22476	22636	22727	22822	23008	22934	23090	23274	23413	23639
From Business		16082	16168	16240	16399	16393	16486	16563	16511	16659	16801	16923	17114
From Gov't (Civilian)		5111	5091	5091	5091	5182	5187	5253	5239	5243	5275	5291	5326
Federal		889	888	889	878	944	933	975	949	949	969	947	944
Provincial		1316	1298	1300	1302	1303	1303	1307	1309	1309	1317	1331	1345
Local		801	804	806	809	818	823	828	809	821	826	833	840
Municipal Schools		1138	1135	1132	1140	1147	1149	1156	1176	1165	1168	1169	1170
Hospitals		958	957	954	953	961	970	978	986	989	987	1002	1018
Other		9	9	9	9	9	9	9	9	9	9	9	9
Military pay and allowances		237	238	241	236	236	233	269	246	249	253	255	255
From Persons		908	904	904	910	915	917	923	938	938	944	944	944

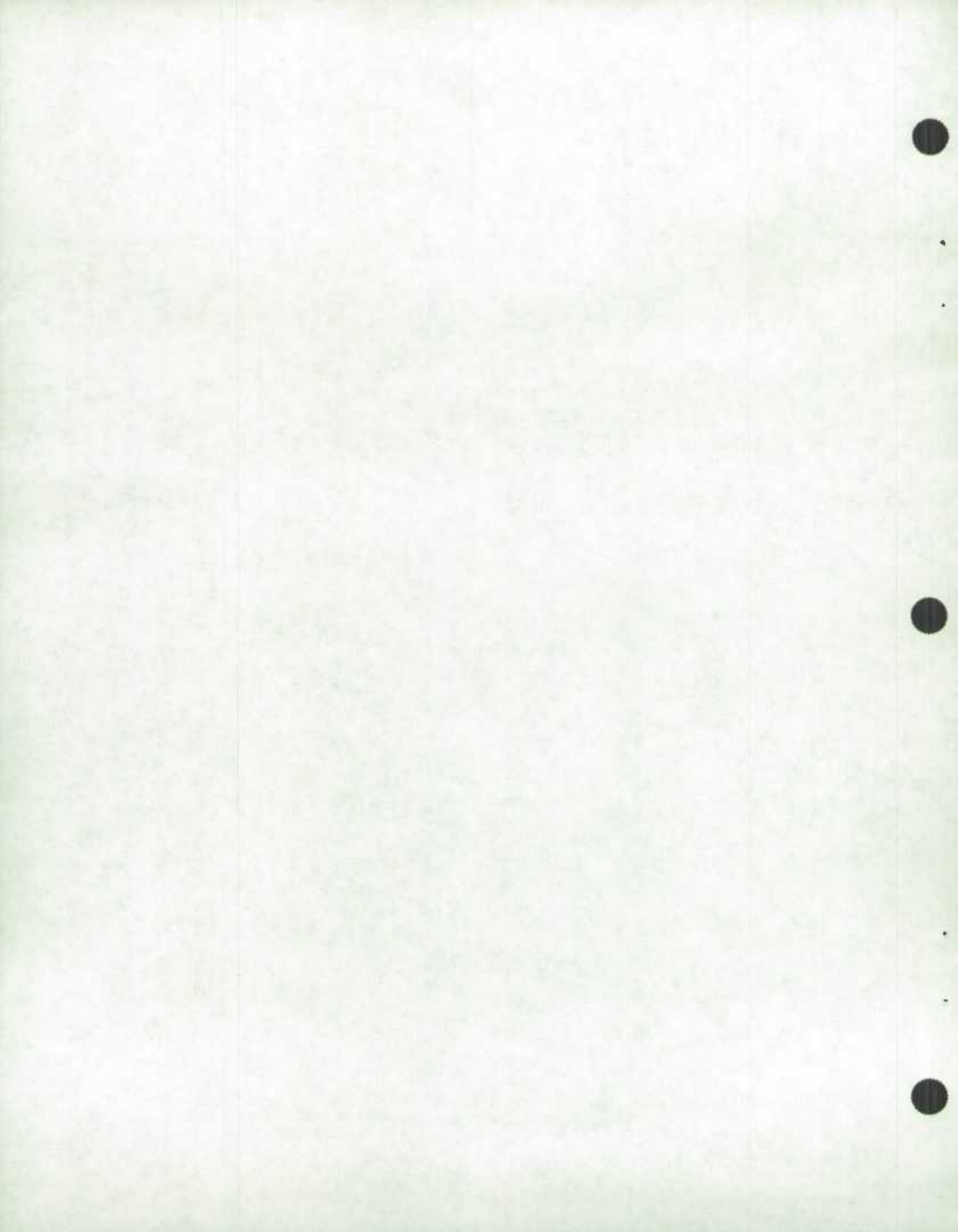


Table 2, Continued. Wages, Salaries and Supplementary Labour Income
Sector Groups, Seasonally Adjusted, Millions of Dollars

	1987	Jan	Feb	Mar	April	May	June	July	Aug	Sept	Oct	Nov	Dec
Total		23885	24116	24300	24455	24733	24949	25046	25160	25379	25611	25723	25790
From Business		17326	17538	17659	17829	17853	18105	18236	18349	18573	18755	18815	18889
From Gov't (Civilian)		5365	5375	5431	5418	5606	5560	5550	5554	5559	5597	5632	5630
Federal		950	954	962	957	947	937	948	949	958	963	968	985
Provincial		1381	1373	1397	1379	1394	1435	1420	1422	1428	1427	1429	1415
Local		844	849	850	857	866	868	890	879	885	892	897	900
Municipal Schools		1186	1192	1197	1192	1263	1279	1253	1256	1232	1248	1268	1258
Hospitals		995	997	1017	1024	1127	1032	1030	1039	1047	1057	1060	1062
Other		9	9	9	9	9	9	9	9	9	9	9	10
Military pay and allowances		256	259	260	264	263	256	262	263	264	264	265	267
From Persons		937	944	950	944	1011	1028	998	995	983	995	1012	1003
	1988	Jan	Feb	Mar	April	May	June	July	Aug	Sept	Oct	Nov	Dec
Total		26150	26372	26673	26807	26832	27031	27234	27462	27612	27756	28005	28058
From Business		19160	19362	19621	19745	19761	19960	20100	20266	20354	20470	20670	20686
From Gov't (Civilian)		5699	5720	5753	5764	5765	5771	5817	5867	5912	5934	5976	6007
Federal		987	991	996	982	985	963	974	980	997	997	1005	1011
Provincial		1438	1438	1447	1450	1448	1457	1469	1477	1483	1494	1507	1508
Local		904	912	915	928	926	932	943	945	952	953	954	965
Municipal Schools		1281	1284	1293	1293	1305	1309	1317	1337	1343	1351	1363	1367
Hospitals		1079	1085	1094	1102	1091	1100	1105	1117	1127	1128	1138	1147
Other		9	9	10	10	10	10	10	10	10	10	10	10
Military pay and allowances		273	271	271	272	272	264	273	274	275	276	277	276
From Persons		1019	1019	1028	1026	1035	1036	1044	1055	1072	1077	1081	1088

Table 2, Continued. Wages, Salaries and Supplementary Labour Income
Sector Groups, Seasonally Adjusted, Millions of Dollars

	1989	Jan	Feb	Mar	April	May	June	July	Aug	Sept	Oct	Nov	Dec
Total		28393	28745	28964	29131	29270	29905	29836	30119	30141	30384	30592	30716
From Business		20986	21270	21451	21609	21739	21988	22140	22378	22458	22573	22742	22774
From Gov't (Civilian)		6042	6090	6126	6137	6152	6470	6285	6322	6281	6380	6409	6468
Federal		1015	1023	1025	1023	1022	1324	1095	1094	1080	1086	1090	1097
Provincial		1520	1522	1527	1538	1548	1557	1561	1571	1564	1599	1604	1611
Local		960	978	988	992	997	1008	1011	1018	1027	1031	1036	1035
Municipal Schools		1374	1393	1392	1402	1400	1410	1420	1431	1400	1436	1450	1481
Hospitals		1163	1165	1184	1172	1175	1161	1187	1198	1199	1218	1219	1233
Other		10	10	10	10	10	10	10	10	10	10	10	10
Military pay and allowances		275	278	279	271	274	333	289	291	291	292	294	297
From Persons		1090	1106	1107	1113	1105	1114	1121	1129	1110	1139	1147	1178

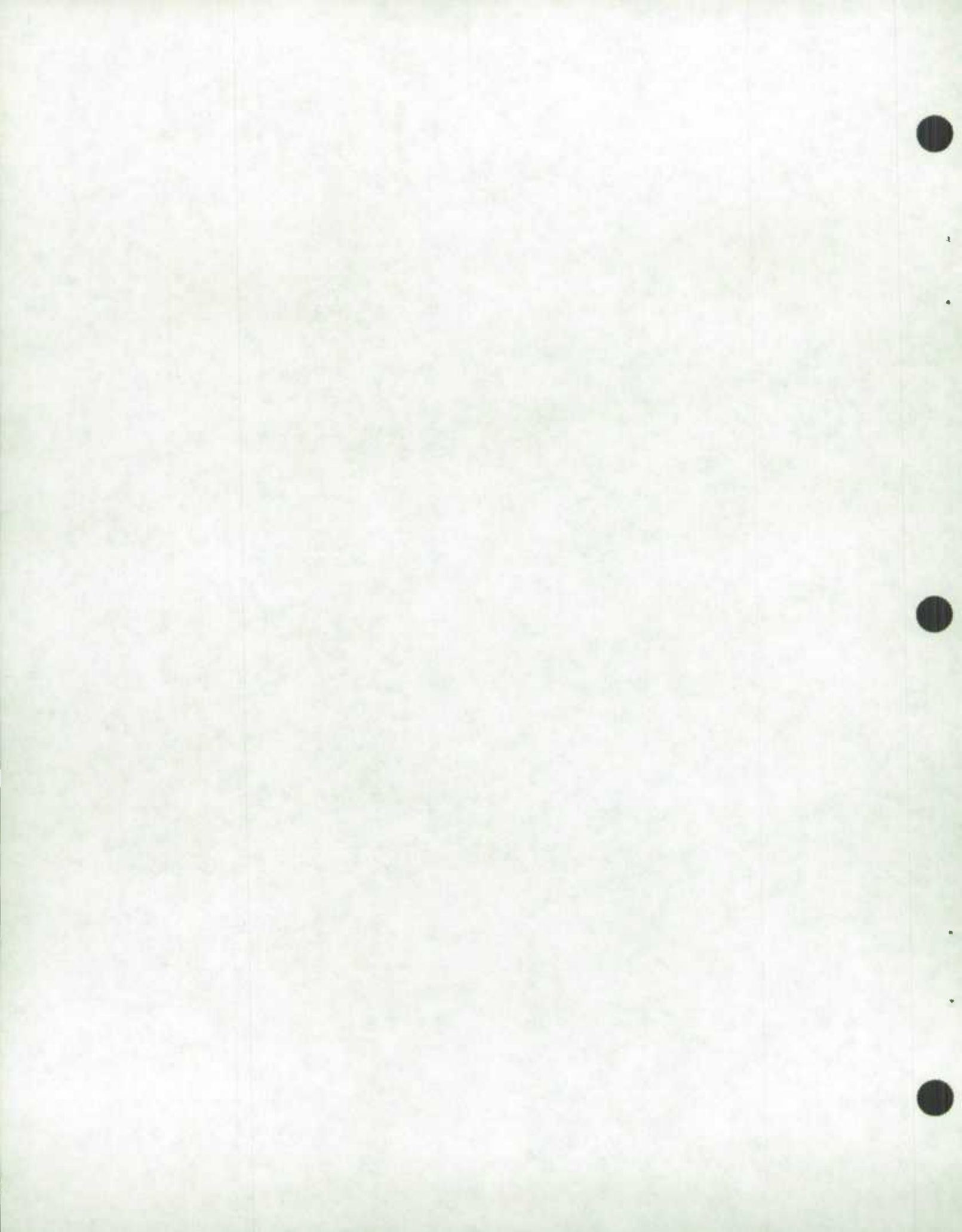


Table 3. Farm Cash Receipts including Subsidies
Seasonally Adjusted, Thousands of Dollars

	1981	Jan	Feb	March	April	May	June	July	Aug	Sept	Oct	Nov	Dec
Wheat	269932	332301	346273	253447	271376	244908	298843	252254	236215	151852	386902	215343	
Oats	8014	5800	4963	3893	2071	1567	5129	4511	5377	3405	7623	6168	
Barley	48002	45488	88108	50029	53518	65487	78760	80495	90222	48643	85060	76140	
Canadian Wheat Board Payments	101517	101517	101517	101517	101517	101517	101517	101517	101517	101517	101517	101517	
Ontario Wheat Board Payments	4575	4575	4575	4575	4575	4575	4575	4575	4575	4575	4575	4575	
Rye	9141	8236	6384	3601	1441	1141	2663	14369	9225	7383	7980	4915	
Flaxseed	13993	9584	14153	6211	10861	12096	10846	7375	3464	7044	21272	12734	
Rapeseed	29742	24331	52379	72429	70284	84157	72581	40503	28165	31555	46881	44480	
Soya beans	9958	8120	4579	11101	11812	15665	20503	23308	24412	5865	12572	19350	
Corn	40535	37756	40395	36615	31956	33492	32125	46500	43507	40993	34073	35172	
Sugarbeets	5711	9254	3563	3332	4531	3087	3315	3001	2981	4876	10025	9462	
Potatoes	31478	35189	33162	32907	30603	28387	23032	22189	22175	24355	21746	22309	
Fruit	22244	17200	16837	14802	10464	17931	20702	24334	22673	21667	25533	23577	
Vegetables	31427	31962	32636	32616	32457	34839	34881	35462	35393	35685	36323	35963	
Floriculture and nursery	23825	24081	25138	24948	24956	25048	24347	24432	25164	25345	24862	24230	
Tobacco	32993	42316	71212	42384	28943	28648	28290	28643	26225	32348	9277	31185	
Other Crops	19815	45679	30646	26784	17877	13183	14296	15579	20775	16858	18512	21008	
Forest and Maple Products	8797	8788	8942	10188	10408	10105	7548	7439	8602	8500	8365	8260	
Net Cash Advanced Payments	9072	18411	20132	16893	20020	19073	10559	7814	34839	35081	-62849	-10138	
Total Crops	720772	810587	905594	748270	739669	744905	794511	744299	745505	607545	800247	686250	
Cattle	268856	267795	274513	278993	276027	232722	261455	266240	260494	247209	266000	263030	
Calves	28249	24495	25612	26989	26076	22721	24612	24324	22969	24430	21928	22301	
Sheep	2134	1813	1349	2311	1498	1682	1844	1916	1924	1882	1864	1896	
Poultry	61591	64036	64700	63267	63217	65128	64094	66162	66968	64370	66201	67298	
Dairy	173586	177670	181265	189898	195023	200441	212748	201300	196368	197222	194035	196791	
Eggs	37963	38769	38549	38286	37706	37904	37836	37565	38381	37818	37869	37661	
Other Livestock and Produce	18109	19595	18081	18985	19106	19134	19487	14915	20715	21183	21879	20839	
Total Livestock and Produce	727192	736703	737187	750009	746530	728040	768440	780305	770255	751153	763954	751682	
Western Grain Stabilization Payments	0	0	0	0	0	0	0	0	0	0	0	0	
Crop Insurance	14367	14367	14367	14367	14367	14367	14367	14367	14367	14367	14367	14367	
Provincial Stabilization Payments	4644	6000	3000	5473	4500	2000	7561	13424	1104	13396	13556	13502	
Dairy Payments	21963	22022	21080	20899	22491	23355	24442	24397	24622	32966	20666	22230	
Deficiency Payments	0	0	0	0	0	0	0	0	0	0	0	0	
Other Payments	9651	5497	11520	3274	4933	4550	174	86658	11595	6505	5927	19248	
Total Subsidies	50625	47886	49967	44013	46291	44272	46544	138846	51688	67234	54515	69347	
Total Farm Cash Receipts and Subsidies	1498589	1595176	1692748	1542292	1532491	1517217	1609495	1663450	1567447	1425932	1618716	1507278	

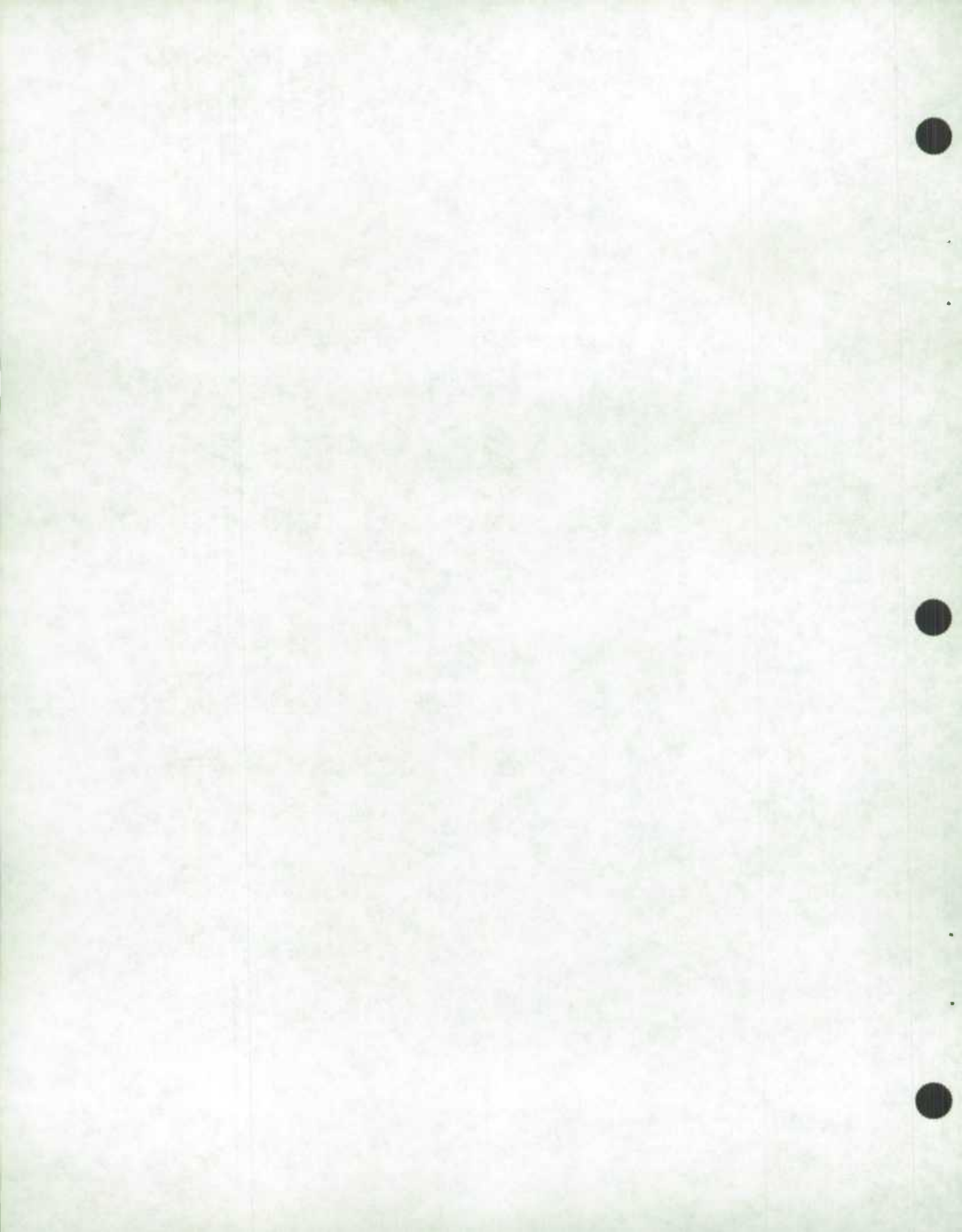


Table 3. Farm Cash Receipts including Subsidies
Seasonally Adjusted, Thousands of Dollars

	1982	Jan	Feb	March	April	May	June	July	Aug	Sept	Oct	Nov	Dec
Wheat	134664	550955	281242	145757	275750	312057	237668	219138	557524	428034	150494	268346	
Oats	4418	5144	4776	4658	5001	5564	7559	3739	4143	3610	2989	3246	
Barley	58344	84722	70914	73733	85506	85964	80343	38289	60614	61279	61637	58596	
Canadian Wheat Board Payments	45184	45184	45184	45184	45184	45184	45184	45184	45184	45184	45184	45184	
Ontario Wheat Board Payments	2058	2058	2058	2058	2058	2058	2058	2058	2058	2058	2058	2058	
Rye	5247	11465	4163	4911	5811	3252	6049	5782	4177	2445	2096	3533	
Flaxseed	12216	13880	8487	9311	10779	6029	10067	7829	11825	10812	10595	7885	
Rapeseed	35019	59675	49128	49449	61929	58117	61958	20526	44004	57019	53871	56796	
Soya beans	16251	15802	16047	20092	19672	34683	12835	6634	10785	14917	14308	16756	
Corn	30578	36460	27785	39314	38727	44051	39251	29108	31757	27022	29023	42933	
Sugarbeets	2563	3516	3496	3152	2849	2554	3028	2403	2374	2513	244	5138	
Potatoes	23581	22023	21951	18762	19591	25704	22555	21836	21359	19887	19092	21709	
Fruit	24895	27983	32032	30588	31839	21197	20611	24516	19921	18905	18620	20574	
Vegetables	34755	35199	35272	35908	37756	37530	38647	38078	37518	34897	33504	33686	
Floriculture and nursery	23859	23747	24068	23847	23862	24020	24257	24495	24499	24709	24810	24194	
Tobacco	34965	48633	37333	25170	28297	27437	27130	27417	51562	29976	31812	24082	
Other Crops	14287	32028	11779	24675	16026	16090	14877	13244	11717	15934	16266	13901	
Forest and Maple Products	8008	7839	7720	7135	6948	5636	7693	8441	7962	8028	8246	8371	
Net Cash Receipts	11459	-18051	-6869	5441	2569	-7176	5587	4981	-11238	10463	6419	-881	
Total Crops	522351	1008262	676566	569144	720153	749950	667355	543697	937743	817691	531267	656108	
Cattle	235029	257597	261528	257237	271891	276065	280311	280835	283503	275432	271453	227929	
Calves	21833	24721	26165	23637	25276	26239	25579	26177	26317	22853	26354	20475	
Sheep	1654	1796	1331	2105	2025	2657	1868	1992	1978	2112	2021	1939	
Poultry	70326	65859	63365	79212	57506	58374	69548	60434	71230	62074	58223	57394	
Dairy	199134	203630	209441	211966	212584	217276	224205	210459	219324	212756	213695	212520	
Eggs	37361	36574	36459	36199	36325	36717	36932	37169	36982	36509	36528	36142	
Other Livestock and Produce	18719	20048	20464	20452	20766	20820	21081	21366	19498	19165	19259	19030	
Total Livestock and Produce	708341	750921	784608	799519	802808	812786	827049	802665	828604	797471	782718	764318	
Western Grain Stabilization Payments	0	0	0	0	0	0	0	0	0	0	0	0	
Crop Insurance	18717	18717	18717	18717	18717	18717	18717	18717	18717	18717	18717	18717	
Provincial Stabilization Payments	5650	7000	1500	10826	7936	11704	24121	12271	12980	14680	13647	45033	
Dairy Payments	22290	22209	22771	22777	23353	23349	24080	22557	20058	24588	22498	23906	
Deficiency Payments	0	0	0	0	0	0	0	0	0	0	0	0	
Other Payments	11678	6876	7293	19304	40926	60227	20683	928	160	294	0	14465	
Total Subsidies	58335	54802	50281	71624	90932	113997	87600	54473	51914	58279	54862	85275	
Total Farm Cash Receipts and Subsidies	1289027	1813986	1511455	1440287	1613893	1676733	1582004	1400835	1818261	1673441	1368847	1505701	

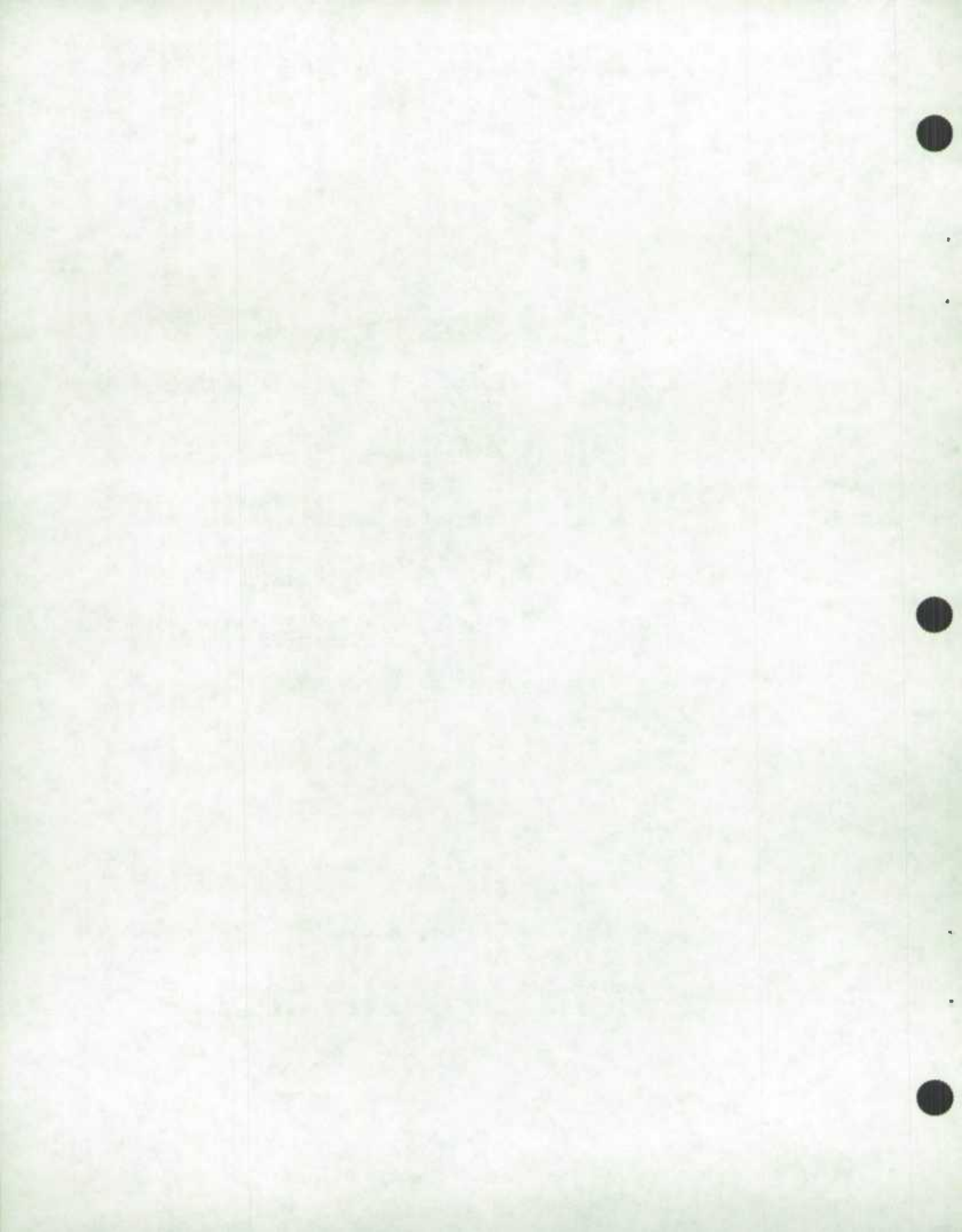


Table 3. Farm Cash Receipts including Subsidies
Seasonally Adjusted, Thousands of Dollars

	1983	Jan	Feb	March	April	May	June	July	Aug	Sept	Oct	Nov	Dec
Wheat	459311	223094	284910	357978	357883	310602	285008	299915	290966	245389	229425	229425	398743
Oats	3419	3604	4594	3769	4632	4248	4748	4964	5022	5481	5964	5964	5233
Barley	81939	72989	53414	62858	85445	56023	63299	66672	62140	82061	74525	74525	66390
Canadian Wheat Board Payments	49600	49600	49600	49600	49600	49600	49600	49600	49600	49600	49600	49600	49600
Ontario Wheat Board Payments	292	292	292	292	292	292	292	292	292	292	292	292	292
Rye	4140	3212	3682	3400	3152	5114	4828	4647	3725	8063	16312	16312	6189
Flaxseed	8625	5030	9668	16197	14110	24000	19183	19963	16962	16353	9366	9366	10810
Rapeseed	76891	48697	44964	43429	46160	33293	39923	81219	83283	87958	75462	75462	75249
Soya beans	16193	22243	19106	16220	16246	15824	30636	27620	29050	25847	25534	25534	18704
Corn	45632	40684	46610	39936	44575	40159	43977	46300	48085	90036	65238	65238	47285
Sugarbeets	3832	3271	3298	3618	3470	4035	2873	6179	4380	4270	14012	14012	1492
Potatoes	17372	17387	19477	21622	22334	22837	17507	23795	25757	23396	30466	30466	31793
Fruit	19508	18211	17985	20100	21355	23888	24905	23865	25437	25425	22771	22771	22795
Vegetables	34164	33939	33626	36002	36922	39615	35082	36284	37958	41388	43073	43073	43870
Floriculture and nursery	24976	24564	24564	24489	25446	25889	25327	25572	26188	26233	25454	25454	24717
Tobacco	22283	4301	11941	23963	23782	24572	25686	25615	24213	32415	37977	37977	33800
Other Crops	17059	9693	12972	10905	18303	17226	16763	15934	14510	15159	14363	14363	14054
Forest and Maple Products	8448	8450	8148	7767	7854	6102	7822	8077	8792	8974	8927	8927	9044
Net Cash Receipts	-2937	4407	-4712	-5022	656	6504	2714	6199	-2170	276	8206	8206	-22686
Total Crops	890746	593668	644140	737124	782215	709822	700174	772712	754188	788614	756966	756966	837372
Cattle	275724	273113	268332	273391	263875	279238	251094	260842	239767	257769	254782	254782	248609
Calves	22241	30876	21572	18746	28979	28448	22636	20945	20692	21091	24273	24273	25911
Sheep	1880	1992	2147	1439	2416	1801	1822	1880	1952	2055	2108	2108	2125
Poultry	66071	56825	58014	59094	70963	61587	60835	67659	63303	65276	72442	72442	64505
Dairy	202561	203433	203745	201053	200636	200682	197356	205928	208186	208011	209879	209879	211319
Eggs	36249	36639	36757	37614	38485	38339	38106	38388	38715	39541	40067	40067	41446
Other Livestock and Produce	19335	18877	19450	19329	19437	19895	18877	19480	20786	20906	20643	20643	20586
Total Livestock and Produce	794410	792926	770234	767994	774954	754969	721667	748076	727057	747740	757062	757062	734889
Western Grain Stabilization Payments	0	0	0	0	0	0	0	0	0	0	0	0	0
Crop Insurance	30142	30142	30142	30142	30142	30142	30142	30142	30142	30142	30142	30142	30142
Provincial Stabilization Payments	6542	18681	23997	14786	30719	1463	13608	15391	15669	20641	20426	20426	4999
Dairy Payments	23314	22175	21796	22252	20886	20826	19851	22785	22018	21284	20336	20336	28071
Deficiency Payments	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Payments	4627	1742	1665	29	-24	-17	-9	3	3	4	6	6	4538
Total Subsidies	64626	72740	77600	67210	81724	52414	63592	68321	67832	72070	70910	70910	67750
Total Farm Cash Receipts and Subsidies	1749781	1459334	1491975	1572327	1638892	1517206	1485432	1589109	1549077	1608424	1584938	1584938	1640011

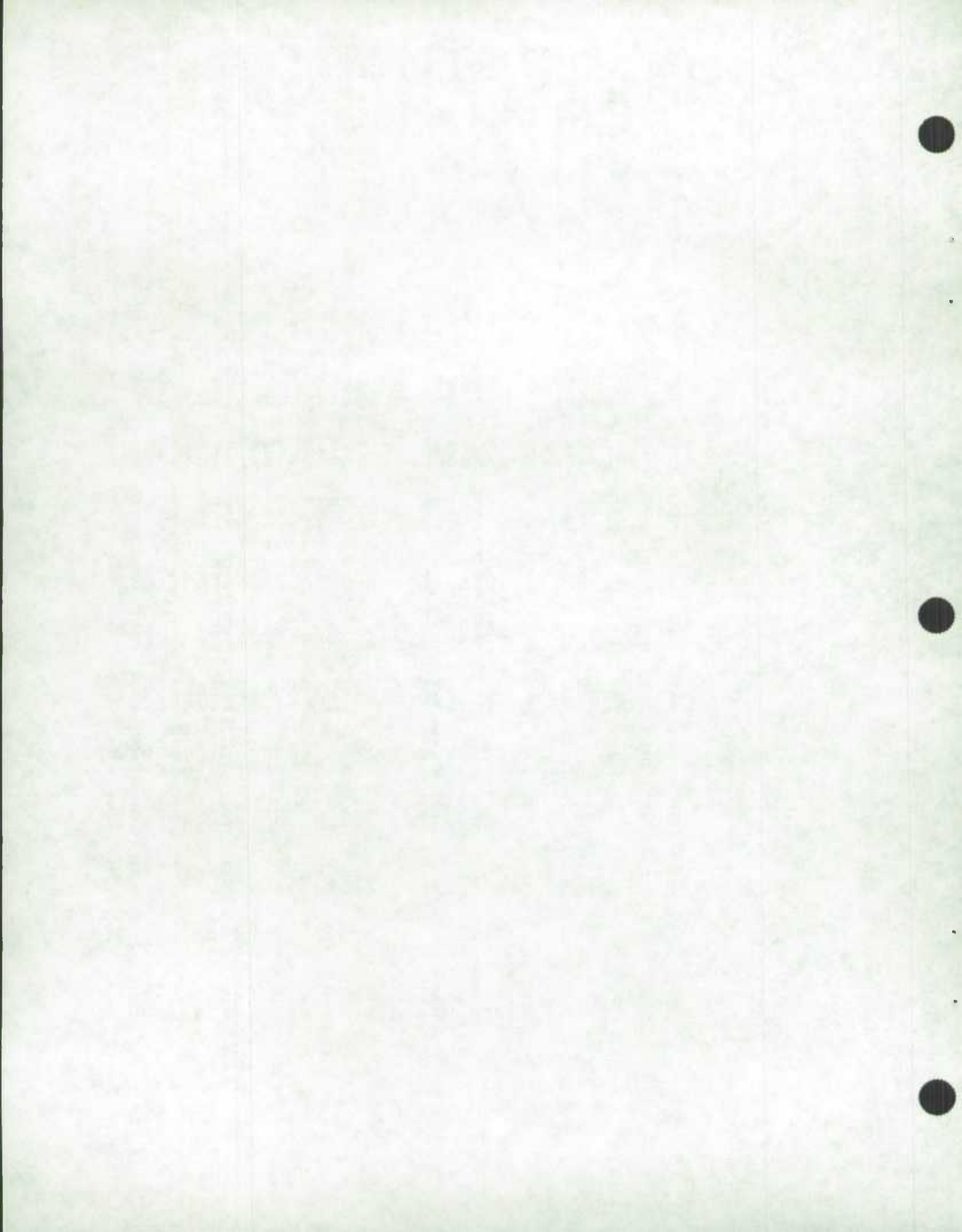


Table 3. Farm Cash Receipts including Subsidies
Seasonally Adjusted, Thousands of Dollars

	1984	Jan	Feb	March	April	May	June	July	Aug	Sept	Oct	Nov	Dec
Wheat	218566	262665	234697	499697	250520	225826	395582	450331	344130	265072	383201	228383	
Oats	5228	5557	4836	5681	4079	5118	4174	5951	8592	5285	5078	4683	
Barley	58461	55330	62226	61185	33760	35697	35544	79526	116086	48300	44708	35590	
Canadian Wheat Board Payments	37575	37575	37575	37575	37575	37575	37575	37575	37575	37575	37575	37575	
Ontario Wheat Board Payments	1708	1708	1708	1708	1708	1708	1708	1708	1708	1708	1708	1708	
Rye	5014	5025	6670	7628	6594	5677	3941	3406	3028	2665	3328	2637	
Flaxseed	12225	12532	11517	10313	11377	8762	5501	13475	28750	11783	14428	15877	
Rapeseed	88148	79162	84983	72402	48987	13538	2989	224034	121740	61787	77973	65146	
Soya beans	23474	13810	20871	16150	37438	12547	7761	11537	10824	17979	20317	16528	
Corn	48974	49770	49161	47082	49641	48628	48035	40043	50083	46873	55094	39492	
Sugarbeets	3146	2881	2834	2726	2666	2407	2516	1785	2378	2738	2376	2811	
Potatoes	32242	32767	30231	27781	25190	24275	21706	22234	22426	22048	23586	22990	
Fruit	25644	26354	26622	26674	29880	22079	21420	17872	21126	24654	23951	22926	
Vegetables	48365	50754	49029	45561	43867	42483	43683	42937	41658	42554	43297	42581	
Floriculture and nursery	31504	31531	27289	30802	27613	27248	28611	32105	27075	27768	30612	30685	
Tobacco	29646	56629	38849	22389	21441	23090	25738	25354	24983	44484	34991	42557	
Other Crops	16678	16061	30253	14876	17600	30087	18188	18857	15988	13634	14013	14964	
Forest and Maple Products	8766	8982	8676	7568	7147	5664	9001	9412	8367	8508	8688	8850	
Net Cash Receipts	10571	7376	10438	-1203	-3924	6566	2307	-2322	-3570	-1776	-62489	-16392	
Total Crops	705935	756468	738465	936595	653159	578974	715976	1035821	882947	683638	762438	619591	
Cattle	254596	258606	264268	261239	261038	272048	286579	270103	279732	271620	275769	274091	
Calves	25148	28115	27524	28462	26028	27283	27395	27323	30413	34496	27990	27775	
Sheep	2450	2226	1685	2725	2288	2400	2335	2101	2416	2222	2586	2230	
Poultry	67521	80079	72666	70544	74259	74817	71980	74179	75023	79055	77569	78878	
Dairy	215778	224162	218870	220360	225984	228346	228058	226380	224924	228018	227844	227627	
Eggs	40491	41172	41142	39336	38738	39623	39888	40712	39527	39832	39572	39633	
Other Livestock and Produce	19546	20400	21155	21174	20871	20832	21909	22137	22740	22656	22307	23809	
Total Livestock and Produce	780800	808947	803146	830367	821184	805783	845287	825601	836245	848844	845031	841053	
Western Grain Stabilization Payments	0	0	0	0	0	0	0	99963	0	0	122952	0	
Crop Insurance	37992	37992	37992	37992	37992	37992	37992	37992	37992	37992	37992	37992	
Provincial Stabilization Payments	32433	20915	34199	26610	18269	34008	18457	22653	28752	18616	20341	2619	
Dairy Payments	22044	22154	23145	22941	22691	23269	23475	23180	24881	21918	27097	23993	
Deficiency Payments	0	0	0	0	0	0	0	0	0	0	0	0	
Other Payments	5	6	2145	4	6	265	5189	1661	550	6062	16810	21306	
Total Subsidies	92473	81068	97481	87548	78958	95534	85113	185449	92175	84588	225192	85910	
Total Farm Cash Receipts and Subsidies	1579209	1646483	1639093	1854509	1553301	1480291	1646376	2046870	1811367	1617070	1832661	1546554	

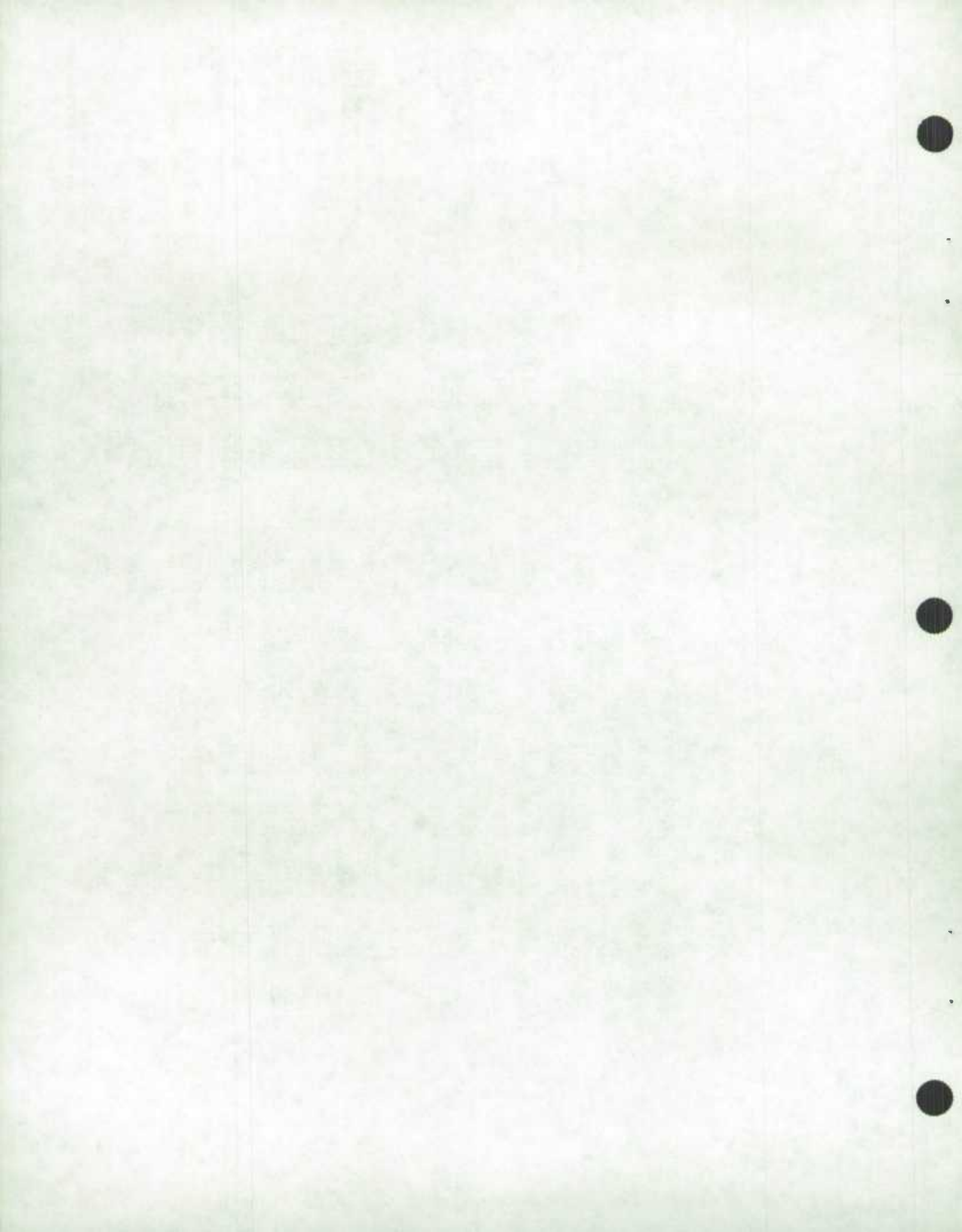


Table 3. Farm Cash Receipts including Subsidies
Seasonally Adjusted, Thousands of Dollars

	1985	Jan	Feb	March	April	May	June	July	Aug	Sept	Oct	Nov	Dec
Wheat		235360	189420	204502	97519	209169	183498	147040	178913	169770	598461	173523	112521
Oats		5013	4916	5086	4669	4930	3963	4035	4621	4052	5010	3654	4039
Barley		48958	36901	43890	36296	47536	49851	40422	35521	46052	45676	37050	62678
Canadian Wheat Board Payments		15775	15775	15775	15775	15775	15775	15775	15775	15775	15775	15775	15775
Ontario Wheat Board Payments		2308	2308	2308	2308	2308	2308	2308	2308	2308	2308	2308	2308
Rye		2549	1677	2458	2540	2089	1959	3532	1924	2263	1840	1459	2803
Flaxseed		12705	17436	23990	17441	14318	12177	9572	3464	11466	23149	24392	23743
Rapeseed		54851	78089	94967	73571	101689	71414	75710	61545	58898	110450	59469	58982
Soya beans		11821	21803	25213	17864	22226	27487	19540	23669	14938	14911	13953	18294
Corn		45842	52824	54817	56294	49067	43545	47742	27998	41372	48418	35532	81996
Sugarbeets		1647	1461	1281	1228	1212	949	1203	637	845	1194	106	498
Potatoes		23713	22997	24204	24920	26268	23666	25767	25390	20921	19015	17259	18607
Fruit		20592	20442	20585	21404	22530	30422	29366	26654	26893	26172	27471	27301
Vegetables		40917	41130	40338	41406	41575	44547	48642	46631	46214	43392	42779	43416
Floriculture and nursery		30652	30208	28355	32331	29804	29668	31025	31560	29871	30605	32722	32329
Tobacco		26443	15758	10461	13372	11023	14105	17375	15850	17031	4612	1143	3178
Other Crops		16753	12763	14741	25435	19319	18784	33062	18215	18573	16854	16453	18650
Forest and Maple Products		9358	9261	9534	9033	9009	8861	10329	12211	9540	9869	10314	10675
Net Cash Receipts		0	0	0	0	0	0	0	0	0	0	0	0
Total Crops		605255	575167	622503	493406	629845	582977	562445	532887	536781	1017709	515363	537790
Cattle		269212	275090	296180	273807	267491	265020	260668	258622	257865	275260	276449	281660
Calves		30050	26371	27226	26045	26388	26458	26322	27489	24376	26619	26087	25371
Sheep		2151	2475	2245	2191	2248	2580	3237	2650	2256	2396	2042	2215
Poultry		78320	77636	79635	76190	68908	76375	75319	73321	75956	75465	74409	79592
Dairy		228771	226828	222342	223858	222717	219237	217791	227359	229384	235561	233613	230853
Eggs		40447	39902	40004	40033	39863	38602	39023	39025	38893	38353	38132	38333
Other Livestock and Produce		19715	22480	22794	21415	21365	20503	20577	20710	21051	21134	21265	22514
Total Livestock and Produce		830665	840045	859676	812323	788307	802445	792233	785470	788247	823698	826740	843682
Western Grain Stabilization Payments		43485	43485	43485	43485	43485	43485	43485	43485	43485	43485	43485	43485
Crop Insurance		52911	52911	52911	52911	52911	52911	52911	52911	52911	52911	52911	52911
Provincial Stabilization Payments		15244	17644	32875	19331	21710	18859	20226	16313	52554	22548	18603	38770
Dairy Payments		23968	24585	23659	23909	22868	22376	22744	22183	21988	22306	28120	23369
Deficiency Payments		7892	594	803	307	237	30	52	46	11	137	3117	2583
Other Payments		16821	9931	25594	687	0	6467	1309	13786	12067	8306	18221	27233
Total Subsidies		160320	149150	179328	140630	141211	144128	140726	148724	183016	149693	164457	188351
Total Farm Cash Receipts and Subsidies		1596241	1564362	1661507	1446358	1559363	1529549	1495404	1467081	1508043	1991101	1506560	1569823

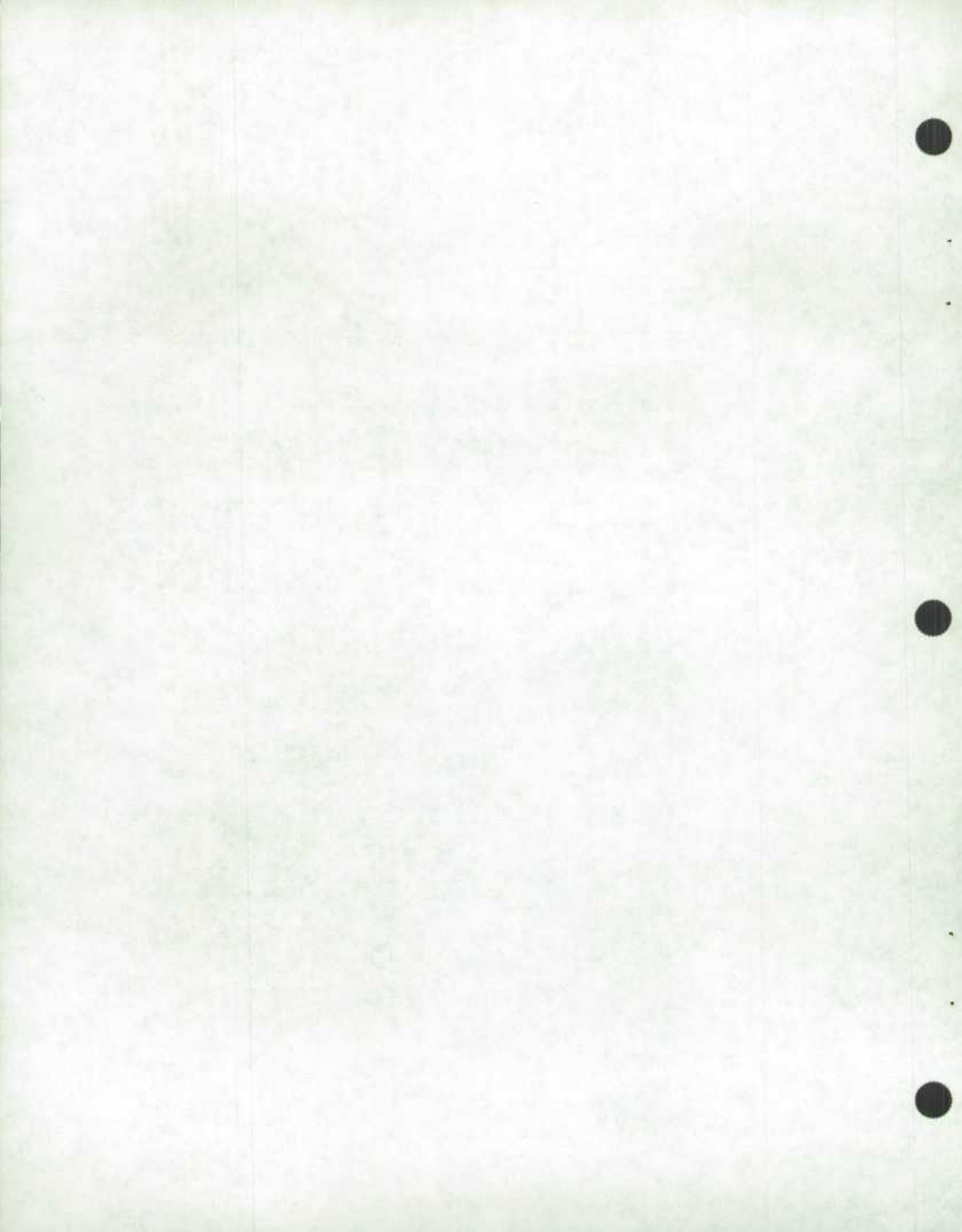


Table 3. Farm Cash Receipts including Subsidies
Seasonally Adjusted, Thousands of Dollars

	1986	Jan	Feb	March	April	May	June	July	Aug	Sept	Oct	Nov	Dec
Wheat		222616	249953	402013	244175	145289	245253	178845	116620	37260	183696	175501	260286
Oats		4430	3938	3671	4311	4327	5832	5102	2444	2749	2833	4460	4023
Barley		47529	65663	69755	71950	60087	73283	76751	25478	40328	71535	69204	71316
Canadian Wheat Board Payments		4167	4167	4167	4167	4167	4167	4167	4167	4167	4167	4167	4167
Ontario Wheat Board Payments		1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Rye		3804	2000	1070	991	1366	1125	1364	1421	1413	1935	1252	1038
Flaxseed		22061	12949	11190	10861	10460	12654	12596	3618	2874	16901	14909	9833
Rapeseed		70447	53078	49365	68471	44285	54540	63810	45734	34738	64263	61685	64802
Soya beans		17005	23270	21421	24614	22567	26028	26429	19226	6351	16172	21256	17739
Corn		33556	39163	33538	36279	40613	32712	37345	35841	29999	15700	28202	36598
Sugarbeets		1908	2337	1440	1978	1023	1233	1739	1233	839	1790	251	1975
Potatoes		19148	18982	18242	25911	21730	15884	25746	23873	25879	30438	31488	30116
Fruit		26843	26823	27501	28209	28552	26014	24197	23156	25314	25617	25774	26794
Vegetables		45350	46132	46331	47219	47559	48711	45191	47716	48682	49731	49478	50123
Floriculture and nursery		31078	32401	34249	32468	34053	34322	33473	33591	35290	35835	34104	34625
Tobacco		11201	41862	74603	105696	58389	18700	23116	22610	23425	19127	22570	30407
Other Crops		21078	26071	27089	35274	28952	29578	30199	24604	34618	40476	40155	37526
Forest and Maple Products		11052	11176	11548	12934	13072	13814	10716	9147	11954	12284	12479	12350
Net Cash Receipts		0	0	0	0	0	0	0	0	0	0	0	0
Total Crops		595021	661716	838944	757258	568240	645599	602535	442230	367630	594247	598684	695468
Cattle		278581	274317	263581	253736	246366	261291	272129	289340	278351	256415	265255	288863
Calves		25504	24371	26556	27723	27334	27597	29045	28251	30117	30509	30957	30347
Sheep		2541	2541	2588	2108	3043	2521	2698	2850	2720	2695	2624	3017
Poultry		79887	78853	80156	80699	80717	82421	80827	81274	81746	80167	84367	86629
Dairy		232343	232949	231891	233758	233530	233514	236328	237168	234188	234958	234975	236647
Eggs		37983	37947	38613	38934	39078	38964	38679	38627	38596	38736	38518	38124
Other Livestock and Produce		17395	19430	20568	21043	19939	20684	21208	21015	20619	20680	21158	10437
Total Livestock and Produce		837437	828392	821348	818700	803959	832992	862988	896008	883117	851876	871711	905787
Western Grain Stabilization Payments		71562	71562	71562	71562	71562	71562	71562	71562	71562	71562	71562	71562
Crop Insurance		48924	48924	48924	48924	48924	48924	48924	48924	48924	48924	48924	48924
Provincial Stabilization Payments		40489	25573	29609	27623	20854	21679	20757	18609	30979	20805	16395	52979
Dairy Payments		22996	23276	22971	22427	23419	23238	23248	23672	22974	22979	22821	22623
Deficiency Payments		152	70	825	2833	428	255	4548	13040	4811	153	1858	1523
Other Payments		22619	63261	75309	81372	58723	33782	17973	5721	304	617	6800	7788
Total Subsidies		206742	232666	249200	254741	223910	199440	187012	181528	179554	165040	168361	205399
Total Farm Cash Receipts and Subsidies		1639200	1722773	1909492	1830698	1596109	1678031	1652535	1519765	1430300	1611164	1638756	1806654

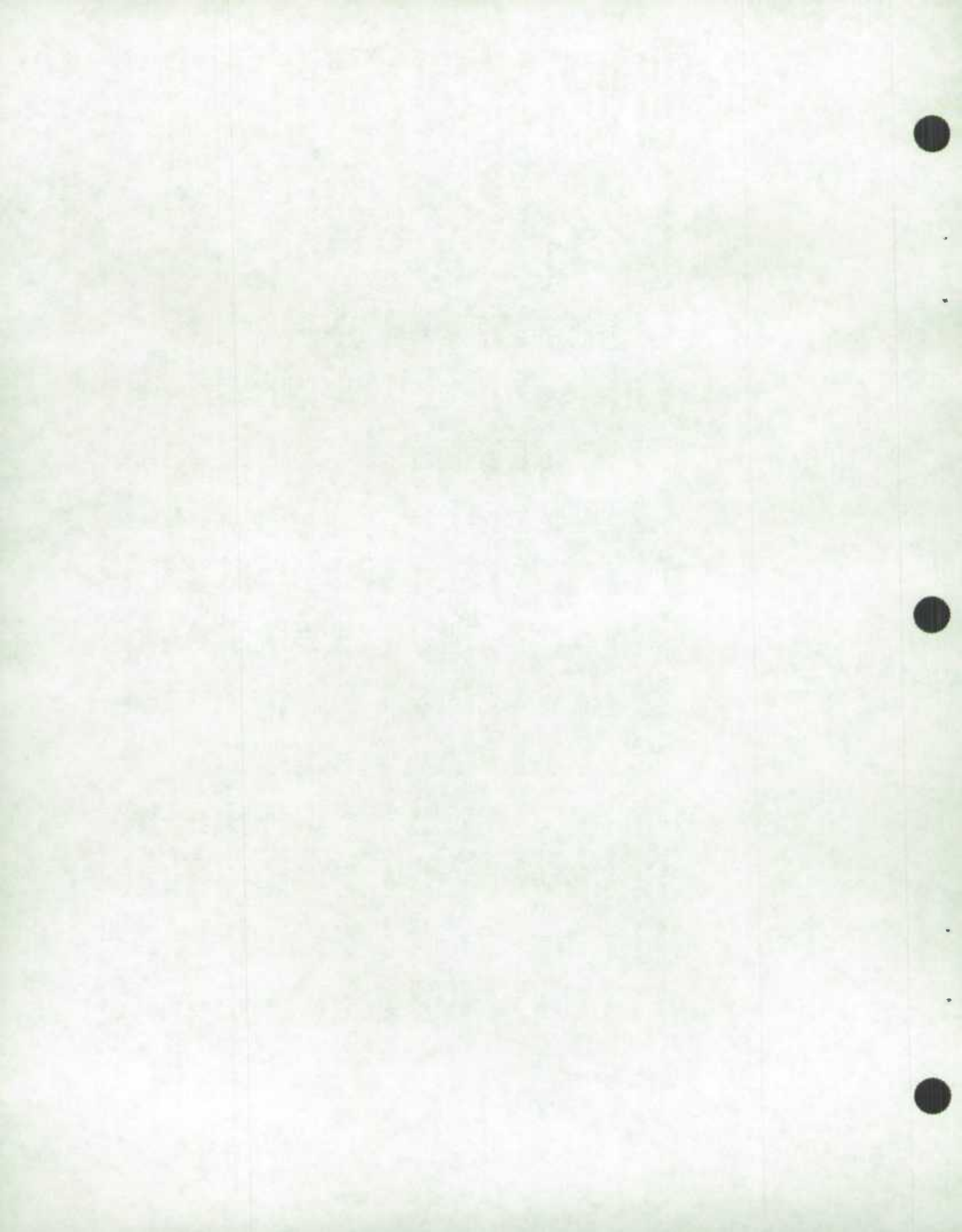


Table 3. Farm Cash Receipts including Subsidies
Seasonally Adjusted, Thousands of Dollars

	1987	Jan	Feb	March	April	May	June	July	Aug	Sept	Oct	Nov	Dec
Wheat	227914	241720	141799	428952	215792	184967	204371	48105	211293	224334	214903	203774	
Oats	4112	4376	3587	4642	4421	3147	3306	2701	3252	4096	4542	4468	
Barley	59699	52707	47658	49910	51544	47856	42786	18238	32594	28848	32436	27368	
Canadian Wheat Board Payments	20933	20933	20933	20933	20933	20933	20933	20933	20933	20933	20933	20933	
Ontario Wheat Board Payments	242	242	242	242	242	242	242	242	242	242	242	242	
Rye	1683	1573	1318	1668	1548	1214	1205	1040	1544	2043	2011	1861	
Flaxseed	8697	10666	10122	13248	13946	9413	10032	6740	7016	7196	7059	8593	
Rapeseed	55583	55711	51633	52883	79800	68365	61072	52803	67871	64708	50491	61062	
Soya beans	17537	20454	15660	23814	21761	14816	10524	24884	28029	28309	25352	28535	
Corn	33387	32387	39283	39758	28190	33174	24858	56656	25981	35420	35581	29222	
Sugarbeets	2287	2270	1989	2085	1836	1833	2001	1918	1901	2080	956	311	
Potatoes	29240	29491	30920	27516	28581	42306	26061	27516	28823	26370	21038	23465	
Fruit	27123	27138	26894	27228	27387	28909	29484	31275	29661	28402	27241	27244	
Vegetables	46601	47959	48790	49251	49375	49444	46251	48973	50248	51964	51930	51987	
Floriculture and nursery	36298	36642	36768	35754	38208	38759	38275	38493	39634	40129	38899	39844	
Tobacco	25588	7452	15734	15571	14448	19477	24328	23808	24085	30889	15789	46098	
Other Crops	20170	39465	60988	25383	22399	24127	25327	27279	31466	30175	30551	30823	
Forest and Maple Products	12203	12215	11256	11220	11157	11514	10025	9122	11852	12252	12592	12822	
Net Cash Receipts	0	0	0	0	0	0	0	0	0	0	0	0	
Total Crops	629298	643402	565572	830056	631569	600496	581080	440727	616426	638390	592546	618651	
Cattle	274690	275947	284971	282659	290363	289851	278845	279715	281091	279291	279626	284270	
Calves	29902	30852	29695	27283	31474	32415	33022	34468	38654	33450	28747	30861	
Sheep	2695	2285	1909	4431	3100	2566	2800	2716	2826	2607	2751	2844	
Poultry	78603	80775	82647	83515	89083	83814	86364	85353	86568	85918	82805	87341	
Dairy	236113	236511	239167	239571	238188	236324	238886	238335	241196	241160	251667	245469	
Eggs	38645	38168	38167	38236	38235	38474	38883	38757	38884	38589	38889	39200	
Other Livestock and Produce	55377	27244	20965	21174	23376	22068	21953	23100	23595	22311	22003	10969	
Total Livestock and Produce	888510	861471	867687	872103	903554	895291	890446	894952	899993	879035	859307	855696	
Western Grain Stabilization Payments	116289	116289	116289	116289	116289	116289	116289	116289	116289	116289	116289	116289	
Crop Insurance	32784	32784	32784	32784	32784	32784	32784	32784	32784	32784	32784	32784	
Provincial Stabilization Payments	11374	12640	7712	18953	18153	23059	19785	2160	10357	19923	9490	1354	
Dairy Payments	23190	23187	22841	22968	23575	23639	23466	23152	23345	22962	23968	23420	
Deficiency Payments	136	3974	17091	5381	16447	9645	52226	4250	4547	3984	3696	4312	
Other Payments	256964	22369	10764	21136	2473	611131	56906	8991	1544	250	4378	3139	
Total Subsidies	440737	211243	207481	217512	209721	816547	301456	187626	188866	196192	190605	181298	
Total Farm Cash Receipts and Subsidies	1958544	1716116	1640740	1919670	1744844	2312334	1772982	1523305	1705284	1713618	1642458	1655645	

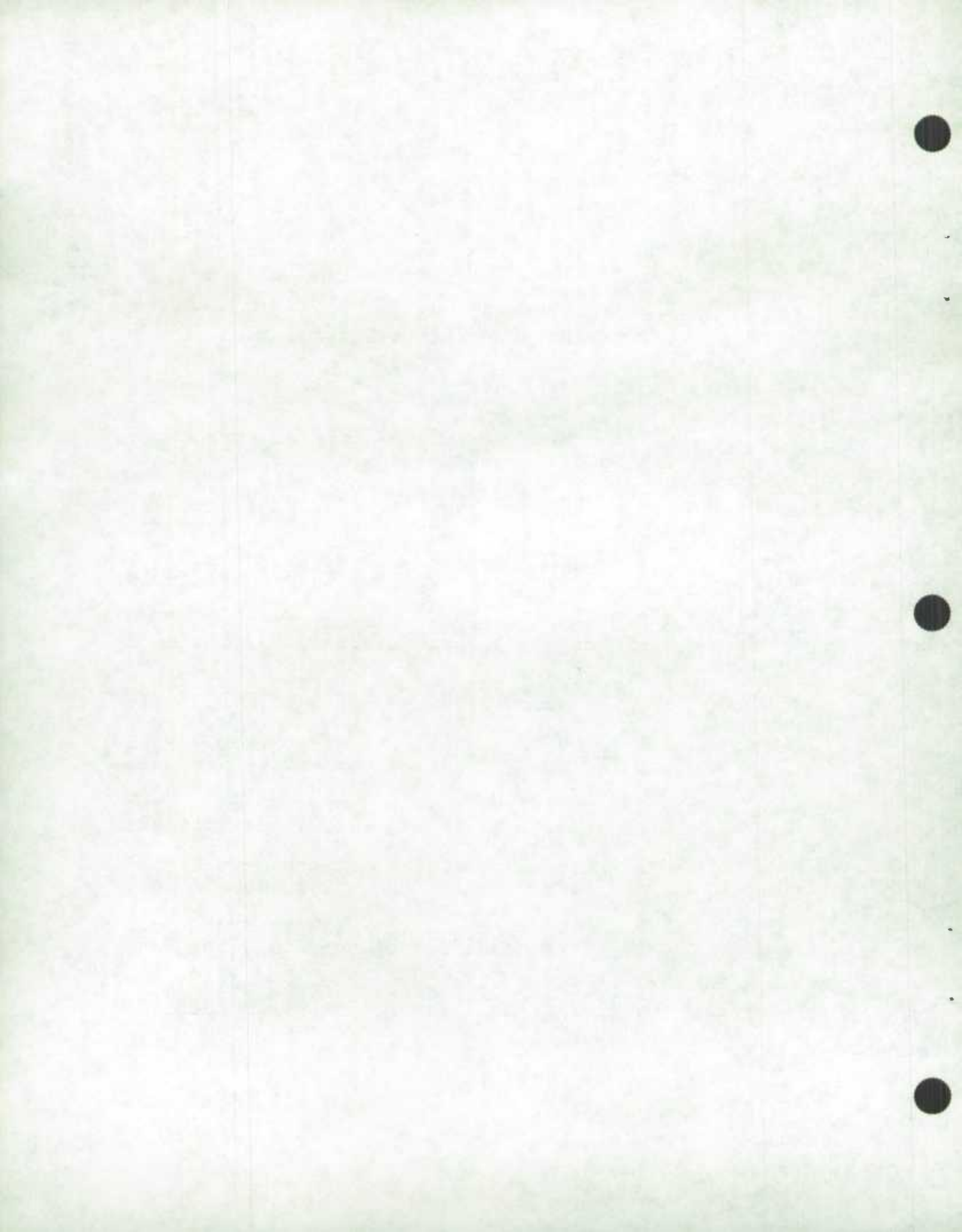


Table 3. Farm Cash Receipts including Subsidies
Seasonally Adjusted, Thousands of Dollars

	1988	Jan	Feb	March	April	May	June	July	Aug	Sept	Oct	Nov	Dec
Wheat	181686	216251	199434	331449	125384	80453	32384	633380	214764	175215	185694	190062	
Oats	4108	4297	5966	4995	3663	8055	6873	18207	18487	14915	12769	15328	
Barley	29102	24210	27331	26041	23493	20540	22885	166866	56828	27334	34120	53161	
Canadian Wheat Board Payments	39417	39417	39417	39417	39417	39417	39417	39417	39417	39417	39417	39417	
Ontario Wheat Board Payments	4108	4108	4108	4108	4108	4108	4108	4108	4108	4108	4108	4108	
Rye	1922	2660	2748	1796	1650	3212	2063	2537	1999	1334	1574	2120	
Flaxseed	9547	10607	11573	8891	10993	17912	15963	16840	11712	10970	3642	9976	
Rapeseed	73996	82432	77173	72318	55842	92371	55520	188334	96399	68289	69595	87244	
Soya beans	32453	23047	22784	25359	26593	31851	21407	23063	34207	32825	30676	26073	
Corn	36112	33506	32863	28480	36169	47530	51230	78722	54065	38888	41427	40281	
Sugarbeets	2272	2283	3022	2170	2022	2866	2155	2205	3481	2216	2377	1695	
Potatoes	24037	29928	24063	17209	23358	39181	37948	23027	29309	30696	31888	29809	
Fruit	27272	27035	26118	25734	25589	27491	30397	34870	31080	30134	30732	29704	
Vegetables	50596	52213	53506	53334	53829	52640	51888	53129	52786	52005	52317	52397	
Floriculture and nursery	44312	45072	46099	45914	46384	46656	47046	47321	47793	48440	48776	49681	
Tobacco	21597	2470	12004	15772	15149	18508	22985	22838	22961	18946	23043	16660	
Other Crops	20321	21338	25688	26572	30513	33128	27259	33643	32409	28717	27427	24946	
Forest and Maple Products	13111	13246	14668	16562	16922	19447	16367	14154	12900	13010	13035	13017	
Net Cash Receipts	0	0	0	0	0	0	0	0	0	0	0	0	
Total Crops	615967	634119	628561	746122	541077	585367	487895	1402659	764704	637459	652618	685678	
Cattle	299282	299420	292137	300681	295496	288627	272432	298877	298139	295241	300755	292677	
Calves	30734	31110	37207	32518	33140	32963	30722	32982	38122	29051	31297	35016	
Sheep	2660	2486	2634	2425	2278	2437	2533	2275	2500	2631	3265	2554	
Poultry	82536	87267	82850	89604	85680	87572	89649	91731	91786	97673	89483	92242	
Dairy	247836	258387	250275	248375	249506	253415	245152	254922	258922	270131	260824	262139	
Eggs	38713	40900	39050	39411	39458	39829	40183	42086	42112	43348	43430	43608	
Other Livestock and Produce	44667	23439	23943	24433	24359	23804	22795	22206	22120	22574	22154	11856	
Total Livestock and Produce	908026	904617	890104	903343	889682	881405	844823	871083	890574	895719	885447	881289	
Western Grain Stabilization Payments	57755	57755	57755	57755	57755	57755	57755	57755	57755	57755	57755	57755	
Crop Insurance	48983	48983	48983	48983	48983	48983	48983	48983	48983	48983	48983	48983	
Provincial Stabilization Payments	14737	20808	13003	23837	43507	4000	39592	67128	18519	25895	61970	3000	
Dairy Payments	23822	23769	24360	24231	24185	24073	23912	23746	23665	25254	20382	24811	
Deficiency Payments	15236	32166	15218	17579	52672	32159	12238	14430	14201	3485	48918	24302	
Other Payments	436	634077	57009	343	57370	233500	52558	21722	10479	3691	1694	75011	
Total Subsidies	160969	817558	216328	172727	284472	400470	235038	233764	173602	165063	239702	233862	
Total Farm Cash Receipts and Subsidies	1684962	2356293	1734994	1822192	1715231	1867242	1567755	2507505	1828879	1698240	1777767	1800829	

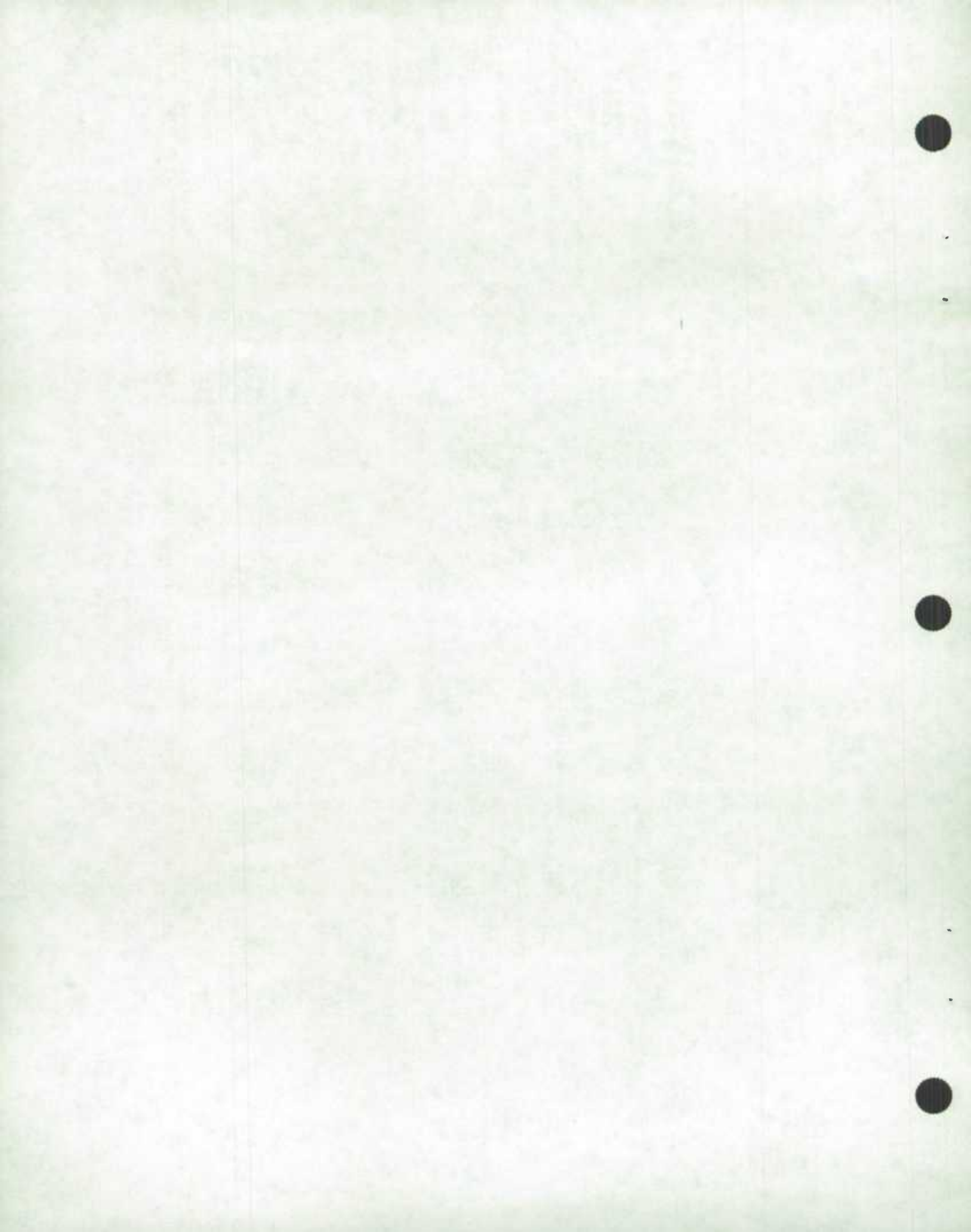


Table 3. Farm Cash Receipts including Subsidies
Seasonally Adjusted, Thousands of Dollars

	1989	Jan	Feb	March	April	May	June	July	Aug	Sept	Oct	Nov	Dec
Wheat	137122	179312	220081	140262	101024	112242	129236	357810	204002	242915	256082	106308	
Oats	16486	16494	18650	13887	13266	14867	13659	7425	10019	7373	6488	5545	
Barley	53181	63048	61147	60829	63081	59342	60949	45379	52168	50267	66200	40527	
Canadian Wheat Board Payments	19541	19541	19541	19541	19541	19541	19541	19541	19541	19541	19541	19541	
Ontario Wheat Board Payments	750	750	750	750	750	750	750	750	750	750	750	750	
Rye	1137	1240	2678	1755	1593	1207	2341	5776	2248	1858	2039	1582	
Flaxseed	11037	11130	22748	9513	6797	6737	8736	15067	21142	12588	8828	3987	
Rapeseed	43678	58514	171709	79441	77454	45254	84321	100029	68547	40516	77859	48851	
Soya beans	26170	17409	20334	11002	17280	24948	25420	27016	21829	14430	15011	19452	
Corn	47583	39547	34707	35405	43092	39026	40859	35294	46116	35231	35812	39264	
Sugarbeets	2274	2248	2835	2175	2115	2940	2231	2344	3768	2193	10457	1547	
Potatoes	29522	32117	34643	34779	39628	34195	32924	37445	34926	33261	41192	38851	
Fruit	30000	29652	30024	30007	29398	29470	25484	25724	22031	19620	21947	22695	
Vegetables	53686	55135	55987	55779	55945	54984	54376	55542	55164	54373	54873	54997	
Floriculture and nursery	48908	49866	51298	51651	51366	51565	52142	52495	52814	53603	54495	55335	
Tobacco	19655	51269	22882	19521	15861	19759	23766	24180	24387	23597	35977	16513	
Other Crops	24789	23914	24690	30961	84160	22082	25822	25306	18262	20141	20699	21602	
Forest and Maple Products	12923	12812	12722	11774	11607	12109	14026	13270	12454	12619	12566	12522	
Net Cash Receipts	0	0	0	0	0	0	0	0	0	0	0	0	
Total Crops	578440	663998	807425	609031	633958	551017	616583	850394	670167	644876	740815	509868	
Cattle	270395	271109	276681	294224	288500	298498	299342	299118	292415	299691	298307	296256	
Calves	34426	34493	31794	32513	33865	35866	38144	35561	36512	35454	34860	36944	
Sheep	2486	2586	2582	2355	2323	2822	2411	2307	2165	2200	2166	2006	
Poultry	99430	101216	99888	97771	98593	97809	100195	98497	97152	98678	101206	99457	
Dairy	262929	262948	262008	258136	257548	254306	244656	251025	252057	255455	256468	257479	
Eggs	43702	43545	44599	44406	44804	45071	44879	44371	43106	44211	44420	44872	
Other Livestock and Produce	34058	18030	22916	22719	21429	23338	23423	21543	19386	20880	20964	11386	
Total Livestock and Produce	893611	880755	883085	899553	889444	904917	903399	899761	887337	912007	919498	904707	
Western Grain Stabilization Payments	14695	14695	14695	14695	14695	14695	14695	14695	14695	14695	14695	14695	
Crop Insurance	80984	80984	80984	80984	80984	80984	80984	80984	80984	80984	80984	80984	
Provincial Stabilization Payments	18383	40017	24399	18772	75401	3500	14433	56960	29100	24063	52776	5000	
Dairy Payments	24983	24790	25032	24622	19734	27796	22580	21746	17431	21349	18540	25778	
Deficiency Payments	20813	49258	74876	37182	94889	10703	2574	84896	8979	27025	130751	9903	
Other Payments	602	314	56981	0	0	225949	380	0	515204	0	0	103316	
Total Subsidies	160461	210058	276967	176255	285703	363627	135646	259282	666393	168116	297746	239676	
Total Farm Cash Receipts and Subsidies	1632512	1754810	1967476	1684838	1809105	1819561	1655627	2009436	2223897	1724998	1958058	1654251	

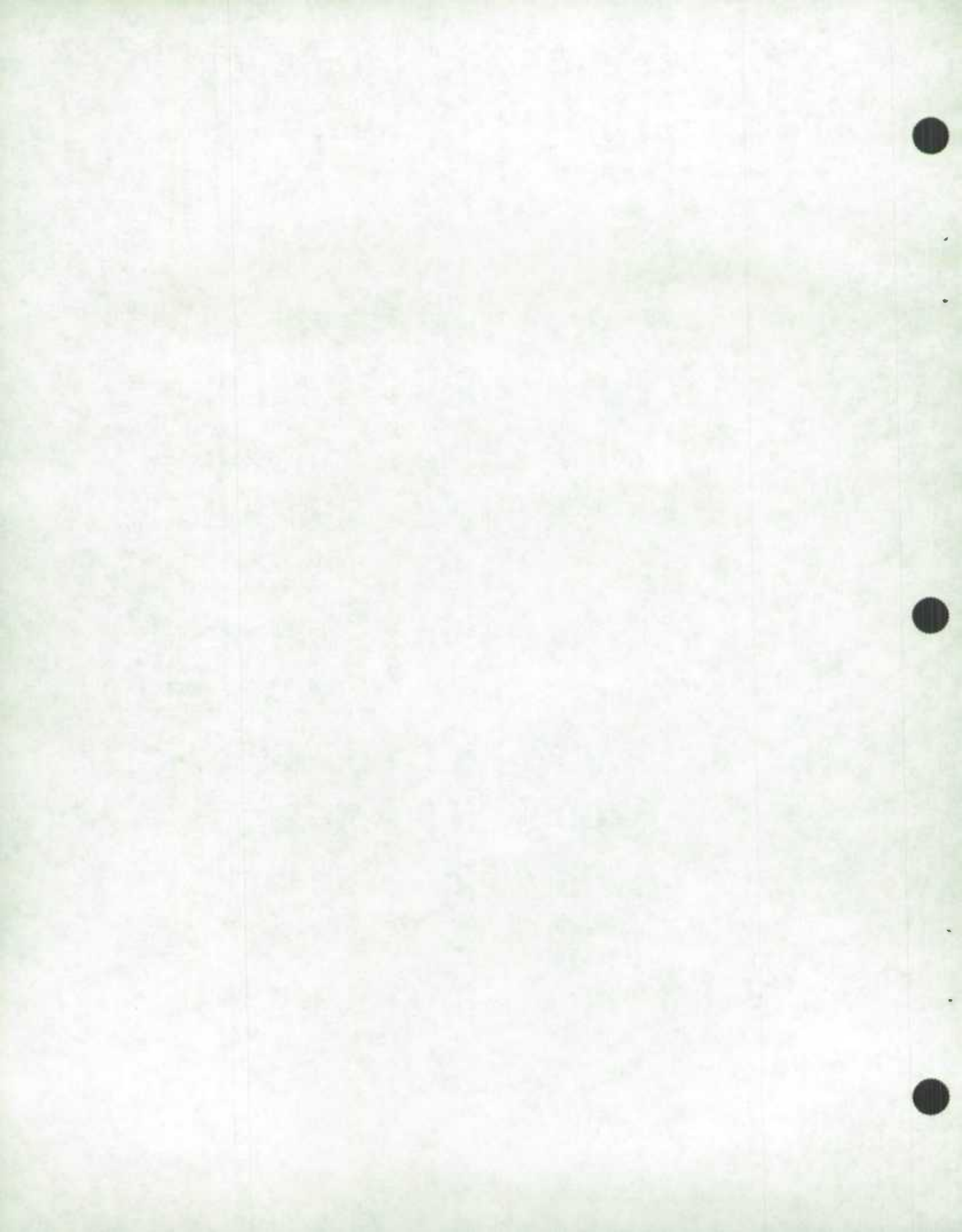
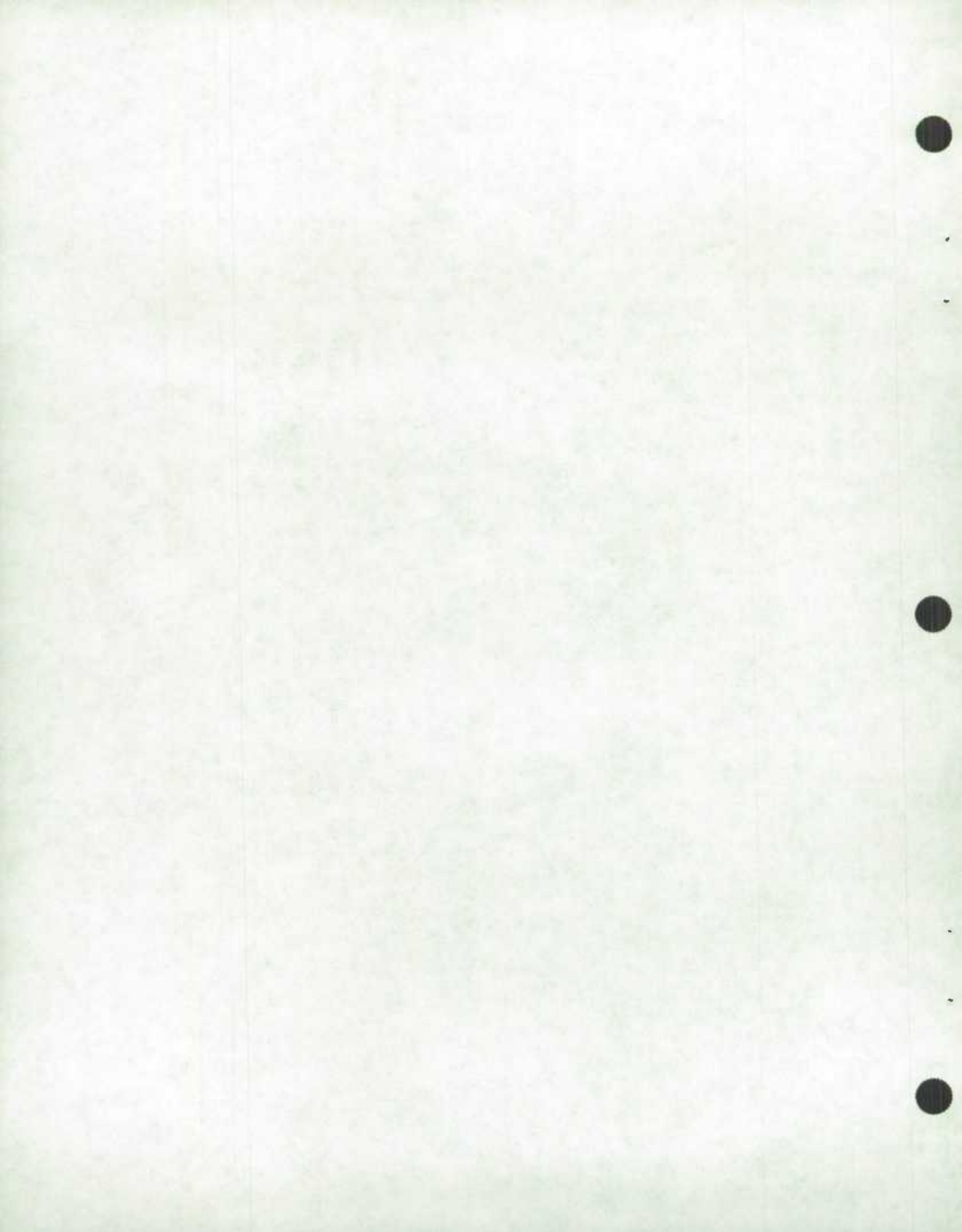


Table 4. Farm Operating Expenses Including Depreciation
Seasonally Adjusted, Millions of Dollars

	Jan	Feb	March	April	May	June	July	Aug	Sept	Oct	Nov	Dec
1981	1212	1221	1234	1252	1267	1279	1287	1291	1292	1291	1289	1289
1982	1281	1283	1290	1303	1312	1318	1321	1317	1305	1288	1281	1288
1983	1274	1286	1294	1300	1303	1305	1305	1308	1314	1324	1329	1332
1984	1336	1335	1338	1346	1354	1361	1369	1371	1365	1353	1352	1368
1985	1421	1436	1438	1430	1426	1425	1430	1428	1421	1408	1410	1434
1986	1406	1426	1424	1406	1398	1398	1409	1411	1407	1397	1395	1407
1987	1379	1392	1397	1397	1400	1405	1413	1417	1418	1418	1417	1419
1988	1426	1431	1434	1445	1454	1459	1462	1466	1472	1480	1488	1497
1989	1543	1551	1547	1544	1544	1547	1553	1554	1550	1543	1540	1543



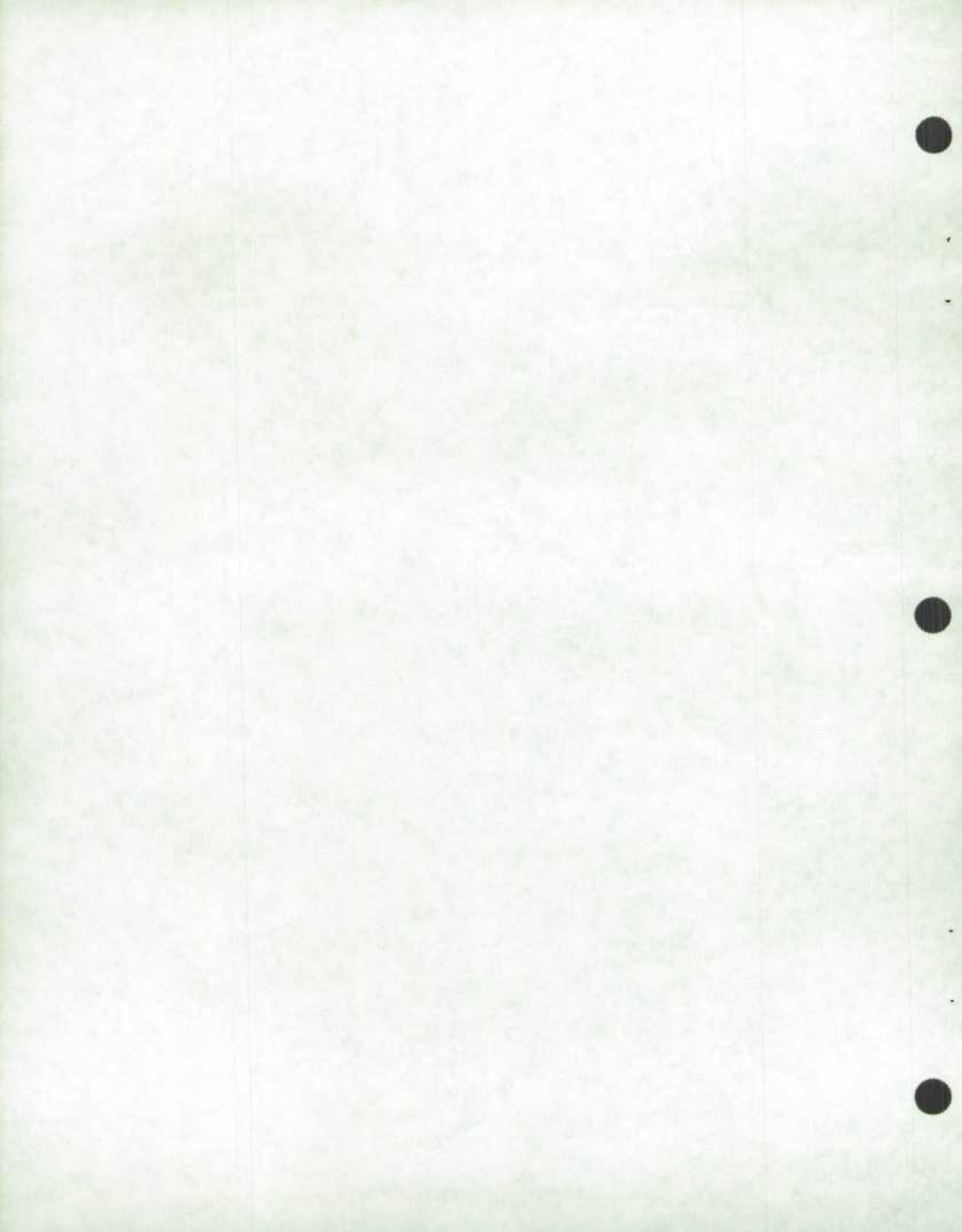


Table 5 Continued. Net Income of Nonfarm Unincorporated Business, Seasonally Adjusted, Millions of Dollars

	1983	Jan	Feb	March	April	May	June	July	August	Sept	Oct	Nov	Dec
Fishing		20	21	18	27	26	31	25	19	27	18	16	18
Business Services													
Lawyers		77	75	76	77	80	81	82	83	83	79	78	78
Engineers		18	19	18	18	18	18	18	18	18	18	18	18
Accountants		39	40	40	40	40	40	39	39	38	39	40	39
Other		14	15	15	16	17	17	17	17	17	17	17	16
Construction		121	125	128	158	175	187	183	175	164	157	158	157
Retail Trade		112	114	117	112	117	122	121	121	122	122	123	124
Wholesale Sales		24	25	25	25	26	26	26	27	27	27	27	27
Personal Services													
Restaurants		32	33	33	32	32	33	32	32	33	32	32	32
Hotels		12	13	13	14	14	15	15	15	15	14	14	14
Barbers		18	18	18	18	18	19	18	18	19	19	19	19
	1984	Jan	Feb	March	April	May	June	July	August	Sept	Oct	Nov	Dec
Fishing		27	26	23	22	22	21	25	26	24	20	24	20
Business Services													
Lawyers		92	94	91	93	92	93	92	96	92	93	97	91
Engineers		16	16	16	17	18	18	19	19	19	20	20	21
Accountants		43	42	43	45	46	46	49	48	47	45	47	48
Other		20	19	20	20	20	20	20	20	20	20	21	21
Construction		164	164	164	183	181	183	185	185	190	185	188	184
Retail Trade		133	133	133	133	132	135	133	132	134	136	137	135
Wholesale Sales		29	29	30	29	30	30	29	29	29	30	30	30
Personal Services													
Restaurants		25	26	26	26	25	26	26	26	27	26	27	27
Hotels		13	13	13	12	12	12	12	12	12	13	14	14
Barbers		21	21	21	21	21	22	22	22	22	23	24	25

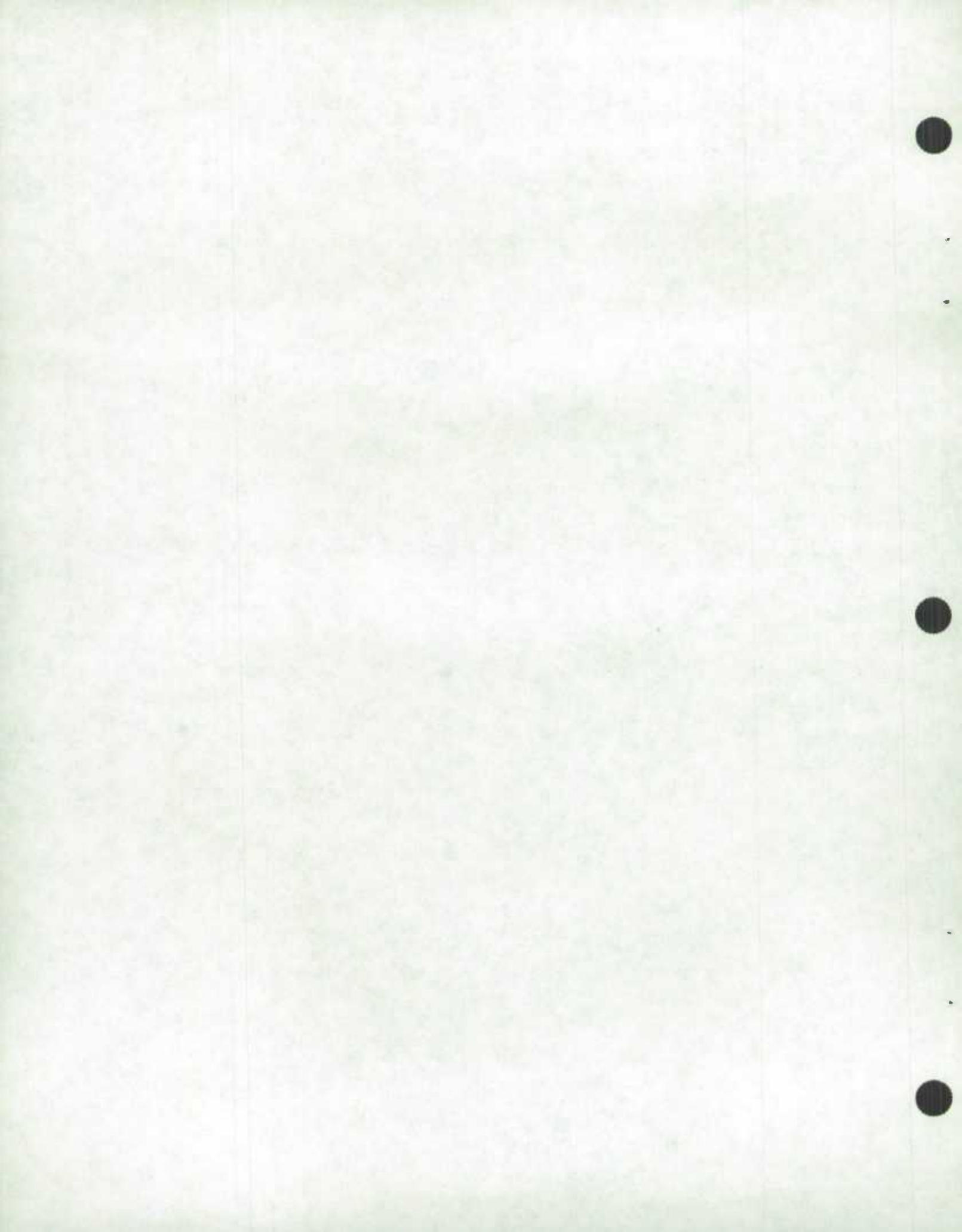


Table 5 Continued. Net Income of Nonfarm Unincorporated Business, Seasonally Adjusted, Millions of Dollars

	1985	Jan	Feb	March	April	May	June	July	August	Sept	Oct	Nov	Dec
Fishing		27	27	34	26	26	20	32	35	32	32	39	29
Business Services													
Lawyers		92	92	94	89	99	101	104	109	104	110	106	97
Engineers		19	19	19	19	20	20	20	21	21	21	20	20
Accountants		45	45	46	47	49	50	50	52	53	52	52	51
Other		22	23	23	24	24	26	26	27	27	27	26	25
Construction		186	187	192	199	205	207	207	209	218	222	230	235
Retail Trade		133	135	138	137	139	138	138	141	141	140	144	144
Wholesale Sales		29	30	30	31	31	31	31	31	32	32	33	33
Personal Services													
Restaurants		27	27	29	28	29	28	28	29	29	29	30	30
Hotels		11	11	11	11	10	10	10	10	10	11	11	11
Barbers		26	27	27	26	26	27	27	28	28	28	29	29
	1986	Jan	Feb	March	April	May	June	July	August	Sept	Oct	Nov	Dec
Fishing		36	38	39	49	41	30	34	36	39	44	34	50
Business Services													
Lawyers		104	104	98	110	105	103	108	107	114	118	114	120
Engineers		18	19	19	19	18	19	19	19	20	20	20	20
Accountants		49	50	50	51	50	51	52	53	54	54	54	53
Other		26	26	27	27	27	27	28	28	28	28	28	26
Construction		225	229	231	228	233	232	229	236	242	244	244	248
Retail Trade		148	148	148	150	150	149	151	152	155	152	153	154
Wholesale Sales		33	33	33	34	35	35	35	36	36	35	36	36
Personal Services													
Restaurants		32	32	32	33	33	33	34	35	34	34	34	34
Hotels		12	12	11	12	13	14	14	14	14	15	13	13
Barbers		29	30	30	30	29	29	29	29	29	30	30	30

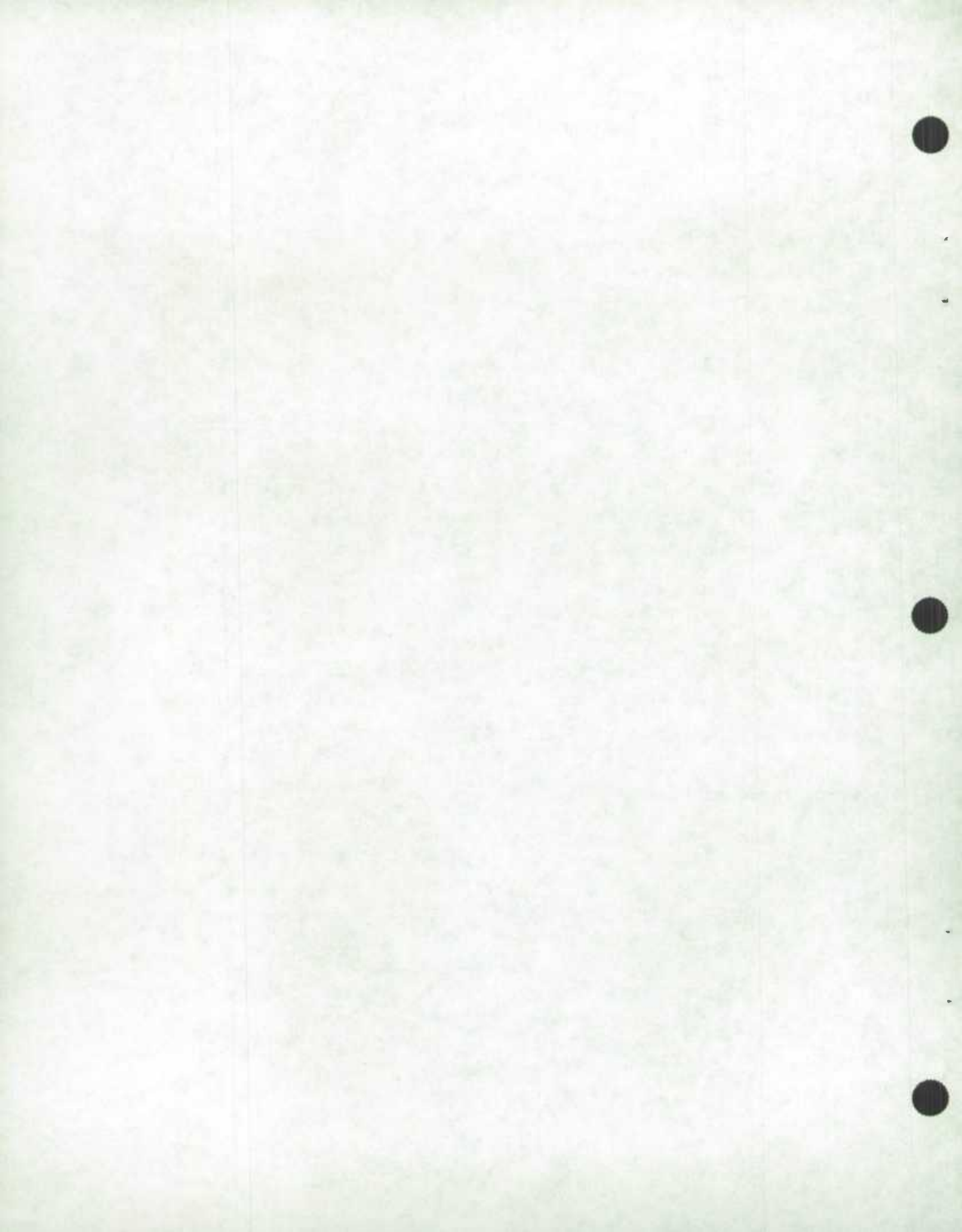


Table 5 Continued. Net Income of Nonfarm Unincorporated Business, Seasonally Adjusted, Millions of Dollars

	1987	Jan	Feb	March	April	May	June	July	August	Sept	Oct	Nov	Dec
Fishing		54	40	37	49	52	67	62	56	59	53	49	54
Business Services													
Lawyers		126	126	126	131	129	133	137	128	132	131	134	141
Engineers		22	22	21	23	23	23	24	24	24	24	25	25
Accountants		55	54	53	53	52	52	52	51	52	54	56	58
Other		36	36	36	36	36	36	37	37	36	38	39	38
Construction		241	248	255	262	274	280	286	287	287	284	285	283
Retail Trade		154	159	159	163	162	167	165	166	167	169	170	171
Wholesale Sales		36	36	37	37	37	38	38	39	39	39	40	40
Personal Services													
Restaurants		37	37	38	37	39	39	40	39	39	41	41	42
Hotels		13	14	14	14	14	14	14	14	14	15	15	15
Barbers		34	33	33	33	34	34	34	35	35	36	36	36
	1988	Jan	Feb	March	April	May	June	July	August	Sept	Oct	Nov	Dec
Fishing		46	45	46	63	51	60	64	66	62	51	46	48
Business Services													
Lawyers		137	145	145	148	146	146	145	151	148	151	152	149
Engineers		25	27	26	27	26	27	28	28	28	28	28	28
Accountants		59	63	62	63	63	63	64	63	65	64	65	66
Other		43	45	45	44	43	42	43	42	43	44	44	42
Construction		283	280	285	286	282	287	289	297	298	302	310	314
Retail Trade		174	173	178	174	177	176	177	177	180	180	180	184
Wholesale Sales		41	41	41	41	41	41	41	41	42	41	42	42
Personal Services													
Restaurants		43	43	46	42	42	44	44	44	44	43	45	46
Hotels		16	16	16	15	15	16	16	16	16	17	17	17
Barbers		36	36	36	36	36	37	37	37	37	38	38	39

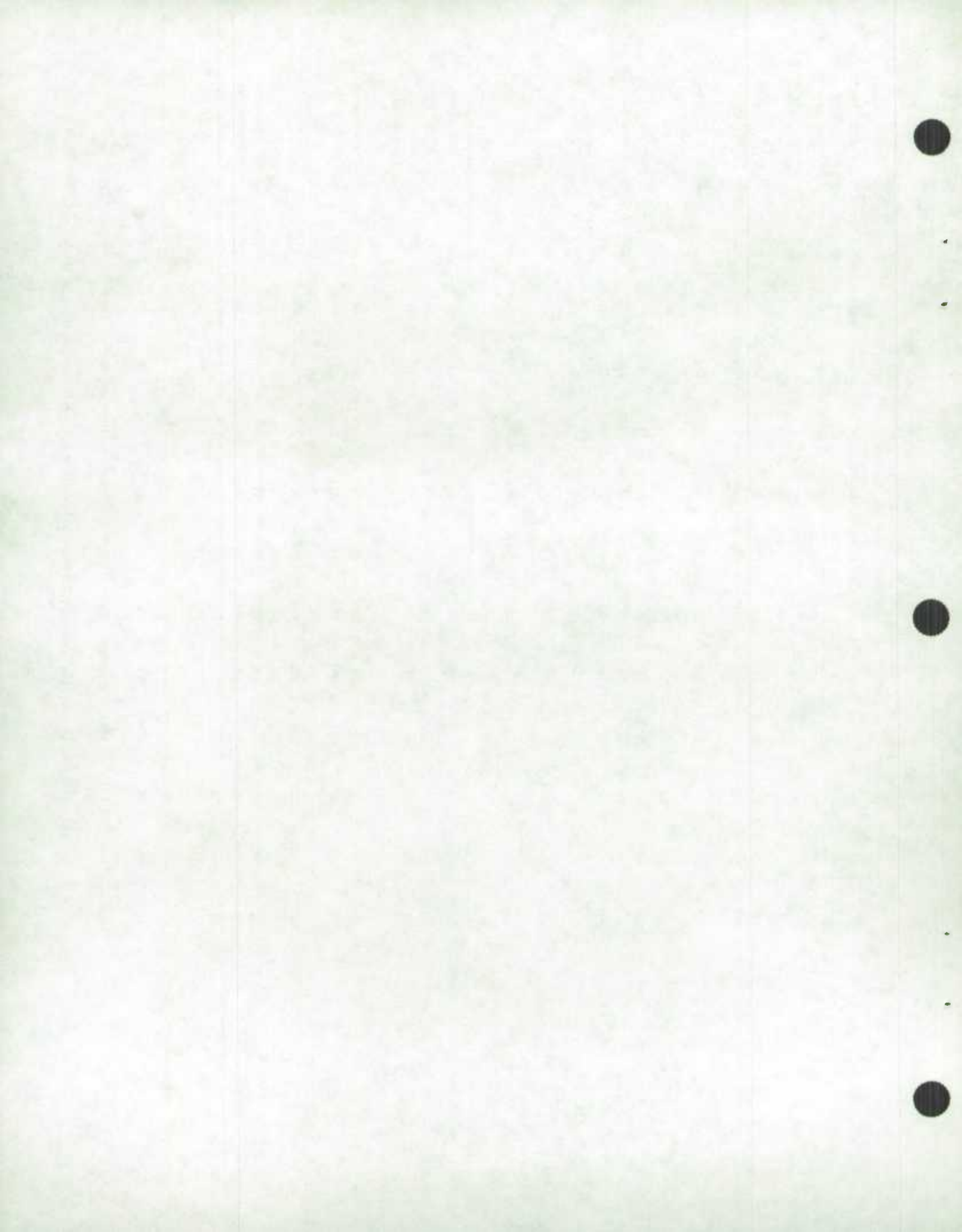


Table 5 Continued. Net Income of Nonfarm Unincorporated Business, Seasonally Adjusted, Millions of Dollars

1989	Jan	Feb	March	April	May	June	July	August	Sept	Oct	Nov	Dec
Fishing	47	30	47	39	42	46	51	54	55	52	54	51
Business Services												
Lawyers	147	146	147	147	149	149	146	160	164	164	170	165
Engineers	27	27	28	28	29	29	29	30	32	32	32	32
Accountants	63	64	66	68	70	69	70	75	76	75	76	76
Other	42	42	44	45	45	44	45	47	48	50	49	47
Construction	320	326	333	333	325	317	323	327	325	333	333	327
Retail Trade	184	184	184	189	190	191	190	190	193	189	191	192
Wholesale Sales	44	44	43	41	41	40	41	41	41	41	41	41
Personal Services												
Restaurants	44	46	48	47	47	48	48	48	48	46	49	53
Hotels	17	17	17	17	17	18	18	17	17	17	18	18
Barbers	39	39	40	40	40	40	41	40	41	42	43	43

Table 6. Gross Imputed and Paid Rents
Seasonally Adjusted, Millions of Dollars

Gross Imputed Rents

	Jan	Feb	March	April	May	June	July	Aug	Sept	Oct	Nov	Dec
1981	1735	1853	1853	1924	1872	1881	1944	1964	1995	2031	2051	2084
1982	2096	2119	2135	2157	2215	2241	2241	2295	2330	2334	2361	2336
1983	2389	2392	2424	2452	2454	2474	2516	2514	2522	2552	2588	2604
1984	2613	2628	2587	2642	2663	2680	2675	2720	2736	2757	2763	2768
1985	2830	2838	2765	2792	2899	2919	2902	2921	2951	2994	2983	2991
1986	3004	3062	3109	3128	3136	3091	3183	3144	3164	3158	3210	3304
1987	3304	3323	3302	3347	3371	3364	3394	3432	3438	3472	3501	3521
1988	3520	3542	3669	3708	3645	3668	3711	3797	3821	3859	3868	3922
1989	3943	3981	4029	4052	4088	4158	4199	4193	4220	4234	4283	4296

Gross Paid Rents

	Jan	Feb	March	April	May	June	July	Aug	Sept	Oct	Nov	Dec
1981	655	652	666	685	670	693	690	712	716	720	742	742
1982	762	760	781	774	807	820	832	840	826	840	862	861
1983	863	889	877	889	910	894	864	935	955	958	926	937
1984	937	932	941	958	944	953	924	980	993	961	980	1000
1985	1046	991	942	936	1015	1079	1023	1019	1033	1068	1050	1013
1986	1017	1095	1092	1081	1106	1082	1116	1098	1104	1101	1130	1153
1987	1180	1147	1151	1146	1198	1187	1176	1204	1214	1246	1197	1233
1988	1225	1251	1282	1295	1253	1309	1280	1336	1347	1304	1419	1351
1989	1369	1338	1474	1630	1279	1397	1504	1487	1426	1307	1600	1584

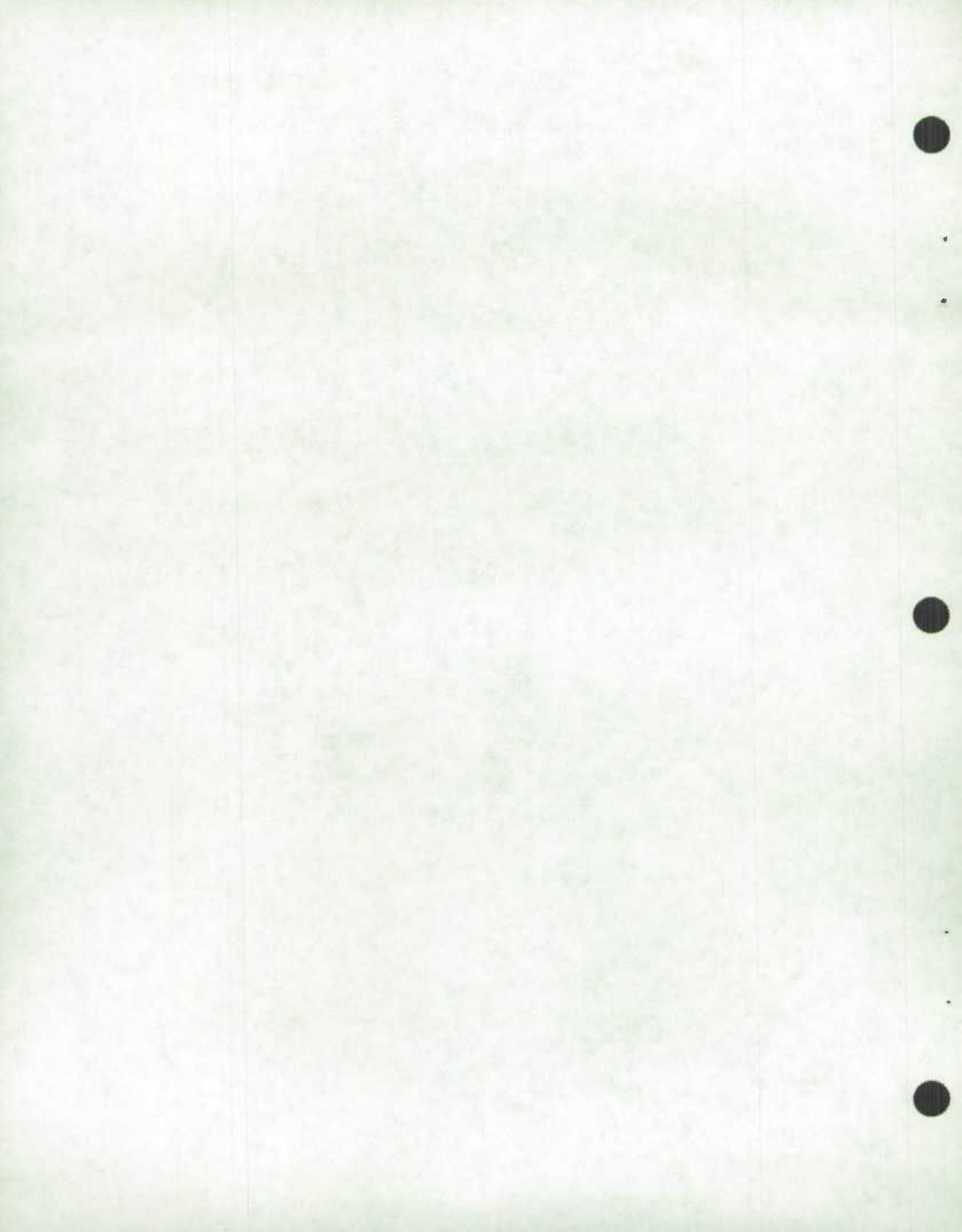


Table 7. Personal Expenditure on Consumer Services
Seasonally Adjusted, Millions of Dollars

	1981	Jan	Feb	March	April	May	June	July	Aug	Sept	Oct	Nov	Dec
Urban Transit		46	46	46	47	48	50	52	52	52	53	54	57
Rail Transport		11	11	12	12	13	13	13	13	12	11	10	12
Intercity Transit		26	26	26	25	24	24	24	25	26	30	30	31
Water Transport		6	6	6	6	6	7	7	7	7	7	7	7
Taxi Services		17	18	18	19	18	18	19	18	18	18	19	20
Telecommunications		218	223	224	231	227	232	241	232	237	248	243	250
Postal Services		21	18	19	20	19	20	2	18	21	12	31	20
Lotteries		56	56	55	55	54	52	50	50	51	54	56	57
Cable and Pay TV		34	34	34	34	35	36	36	36	37	37	38	39
Movie Theatres and Drive-ins		27	29	29	28	28	27	27	28	29	29	29	29
Hairstyling		72	74	75	76	76	75	76	77	78	79	83	76
Other Personal Services		20	21	21	21	22	23	23	23	23	23	24	24
Meals Outside the Home		778	762	766	784	799	814	805	799	788	798	796	788
Accommodation		114	114	116	118	117	119	119	124	122	125	125	126
Domestic Services		205	207	211	216	220	222	223	224	225	226	228	229
Health Services		361	361	361	362	365	371	380	385	387	384	386	393
Education and Cultural Services		437	439	443	449	456	465	476	490	509	535	542	531
Non-profit Organizations		265	266	268	270	272	275	279	281	282	283	285	288

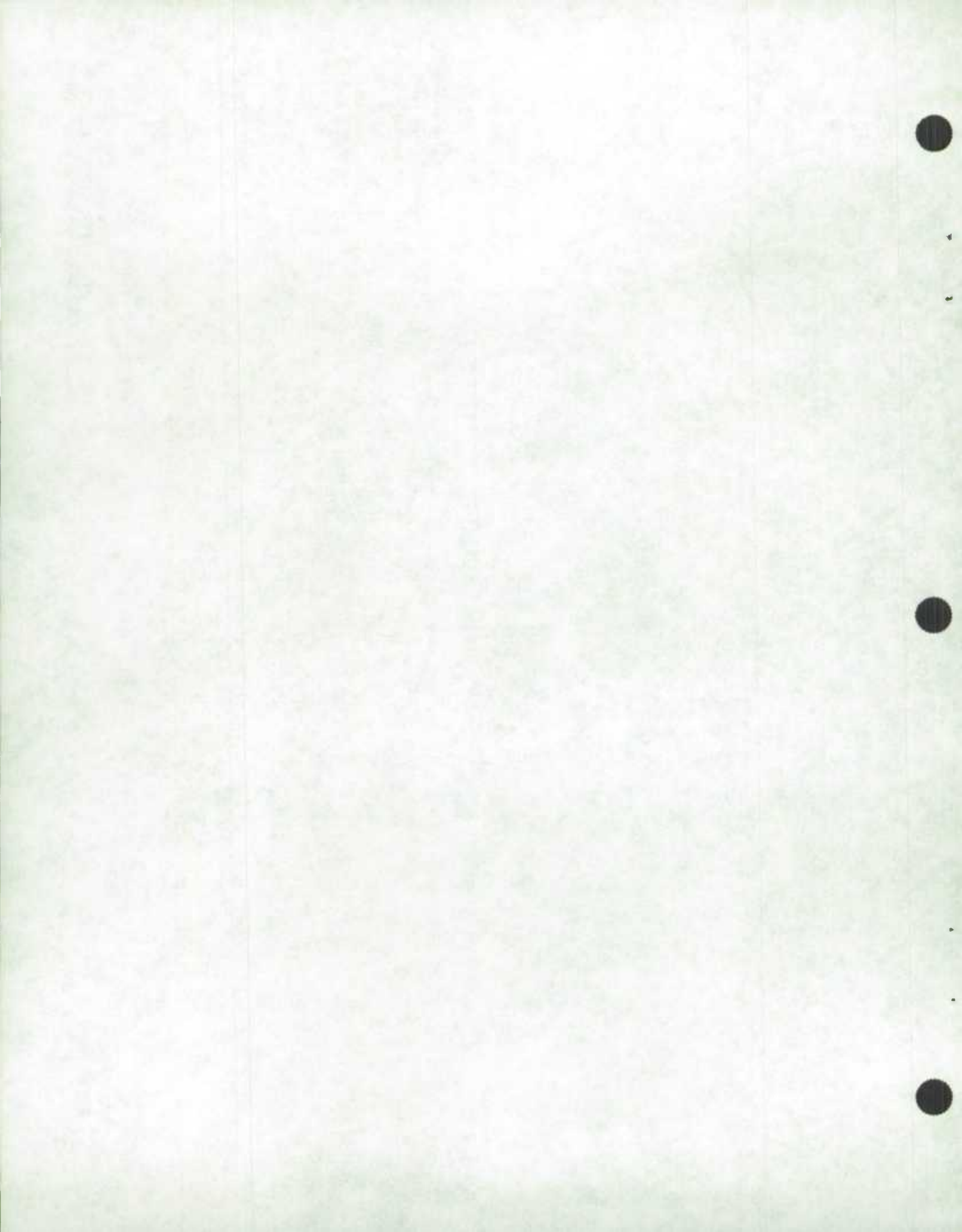


Table 7. Personal Expenditure on Consumer Services
Seasonally Adjusted, Millions of Dollars

	1982	Jan	Feb	March	April	May	June	July	Aug	Sept	Oct	Nov	Dec
Urban Transit		50	55	61	56	57	53	56	56	58	58	59	59
Rail Transport		9	11	11	12	12	12	12	13	13	15	13	12
Intercity Transit		30	32	30	33	33	33	33	33	33	33	33	35
Water Transport		7	7	7	6	6	6	6	6	6	7	7	7
Taxi Services		19	19	19	19	19	19	19	19	19	19	19	20
Telecommunications		252	253	256	255	256	257	260	262	267	266	271	278
Postal Services		35	25	25	25	24	26	27	25	26	26	26	27
Lotteries		55	55	56	58	59	61	62	62	61	60	59	58
Cable and Pay TV		40	40	41	40	41	42	41	43	42	43	45	45
Movie Theatres and Drive-ins		30	29	29	30	31	31	32	33	34	33	31	31
Hairstyling		86	80	78	81	84	84	84	84	84	86	86	83
Other Personal Services		24	24	24	24	24	24	24	24	24	25	24	24
Meals Outside the Home		808	785	781	809	813	797	805	812	819	827	816	823
Accommodation		125	123	122	123	124	122	122	119	122	113	111	109
Domestic Services		230	232	237	244	249	253	255	257	258	258	260	263
Health Services		406	413	416	413	413	415	421	427	432	439	443	446
Education and Cultural Services		502	489	490	505	518	528	535	543	551	560	566	569
Non-profit Organizations		293	298	303	309	313	317	320	323	327	332	336	339

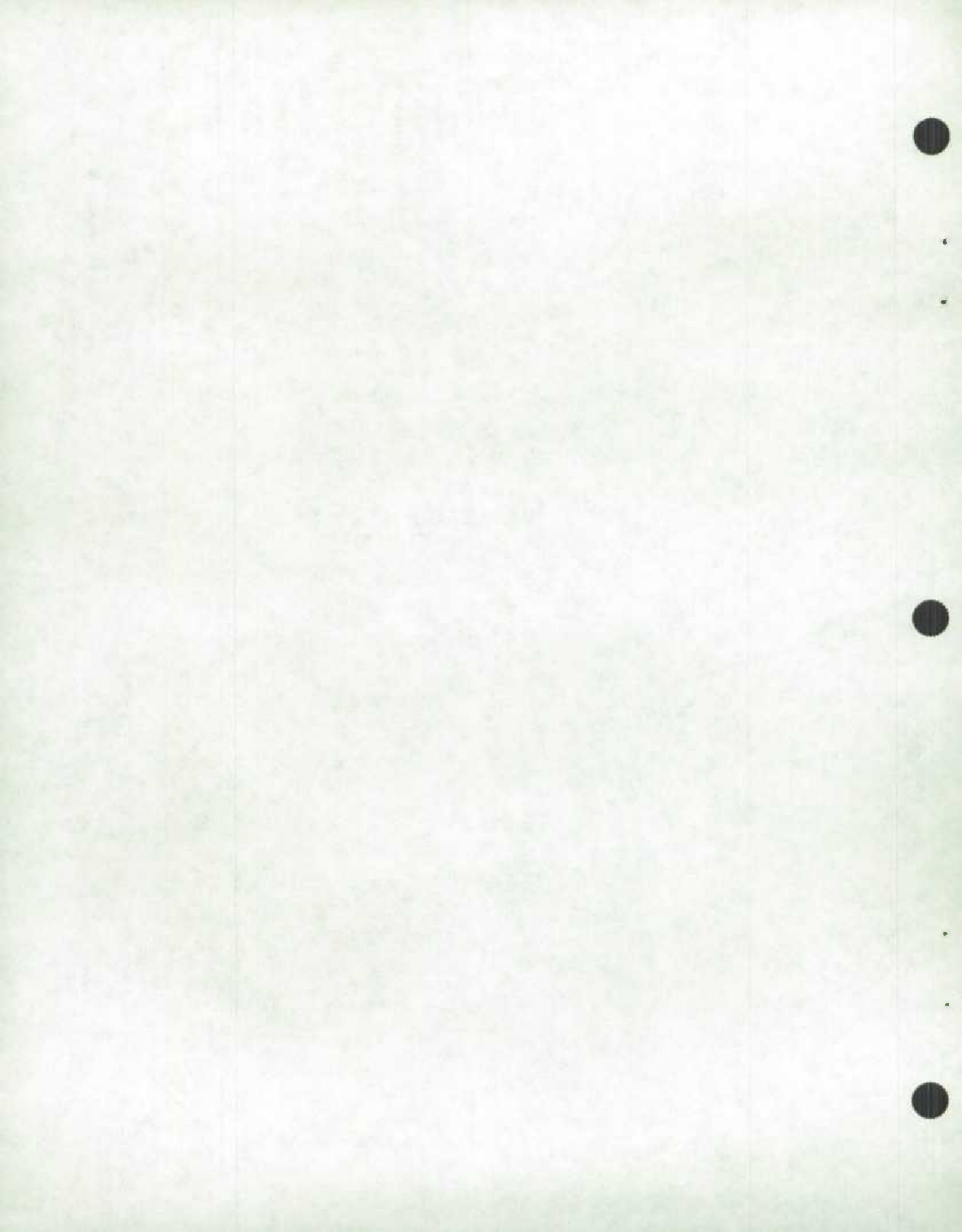


Table 7. Personal Expenditure on Consumer Services
Seasonally Adjusted, Millions of Dollars

	1983	Jan	Feb	March	April	May	June	July	Aug	Sept	Oct	Nov	Dec
Urban Transit		60	61	62	61	62	62	62	62	63	62	63	63
Rail Transport		12	12	14	12	12	13	14	12	14	13	12	15
Intercity Transit		33	32	34	34	36	36	37	36	37	36	36	37
Water Transport		7	7	7	7	7	7	7	7	7	7	7	7
Taxi Services		20	20	20	20	20	21	21	21	21	21	22	22
Telecommunications		267	270	274	273	279	283	280	281	284	278	280	286
Postal Services		24	28	28	26	27	29	28	29	29	28	29	29
Lotteries		57	58	61	68	71	70	65	63	66	71	79	81
Cable and Pay TV		45	48	49	48	49	49	54	55	56	56	57	59
Movie Theatres and Drive-ins		31	29	29	26	26	27	28	29	30	31	31	29
Hairstyling		87	85	85	86	87	88	88	88	89	90	90	91
Other Personal Services		24	24	24	24	25	24	24	24	25	25	25	25
Meals Outside the Home		820	831	839	832	834	850	853	838	881	854	850	871
Accommodation		110	112	115	121	125	132	139	138	135	125	123	126
Domestic Services		269	272	272	270	269	268	268	269	270	271	276	285
Health Services		448	452	459	469	476	480	482	484	486	489	495	505
Education and Cultural Services		570	572	576	583	586	586	582	582	584	589	596	605
Non-profit Organizations		341	345	350	359	364	367	368	370	373	376	379	382

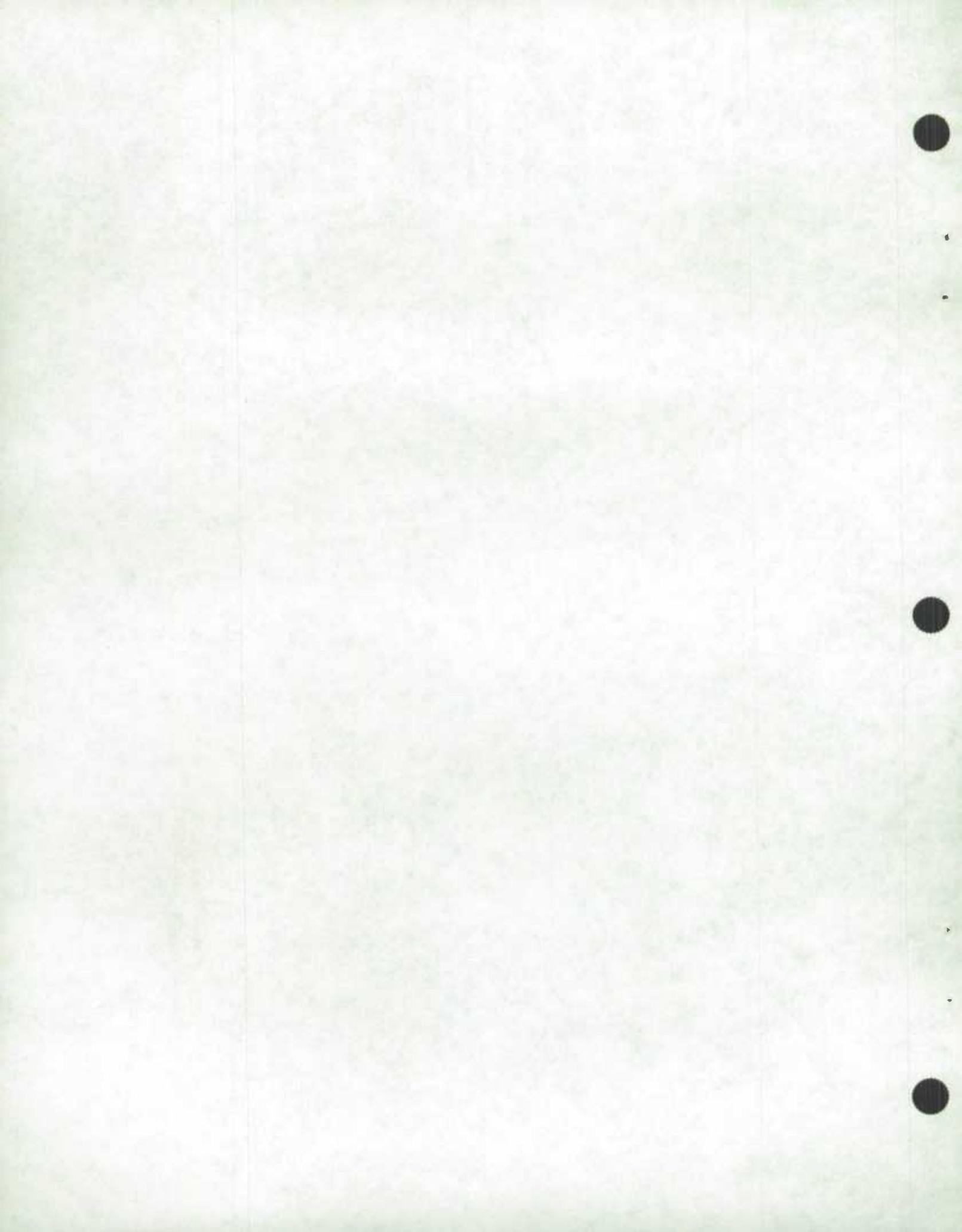


Table 7. Personal Expenditure on Consumer Services
Seasonally Adjusted, Millions of Dollars

	1984	Jan	Feb	March	April	May	June	July	Aug	Sept	Oct	Nov	Dec
Urban Transit		65	67	68	66	66	65	61	62	63	65	65	67
Rail Transport		13	13	14	14	13	14	14	14	14	13	13	14
Intercity Transit		40	41	40	38	36	34	37	37	38	39	40	38
Water Transport		7	7	7	7	7	7	7	7	7	7	7	7
Taxi Services		22	22	23	23	23	23	23	24	24	24	24	24
Telecommunications		302	314	305	304	302	298	299	307	300	305	307	305
Postal Services		28	29	28	28	30	28	28	29	29	31	30	29
Lotteries		102	99	99	96	93	91	88	87	90	93	104	104
Cable and Pay TV		59	58	61	62	63	67	67	68	71	71	72	72
Movie Theatres and Drive-ins		28	27	29	28	30	30	29	29	31	29	29	29
Hairstyling		90	91	92	92	94	95	96	98	100	101	104	108
Other Personal Services		26	26	27	28	27	28	28	29	29	30	30	32
Meals Outside the Home		858	888	871	876	869	895	890	908	926	913	950	936
Accommodation		138	143	142	132	131	124	126	129	132	140	144	149
Domestic Services		298	306	309	307	307	308	311	314	316	317	319	320
Health Services		521	531	536	536	537	540	544	548	552	556	559	562
Education and Cultural Services		617	625	629	630	631	632	632	633	633	632	635	642
Non-profit Organizations		385	388	389	390	395	403	417	425	425	420	419	421

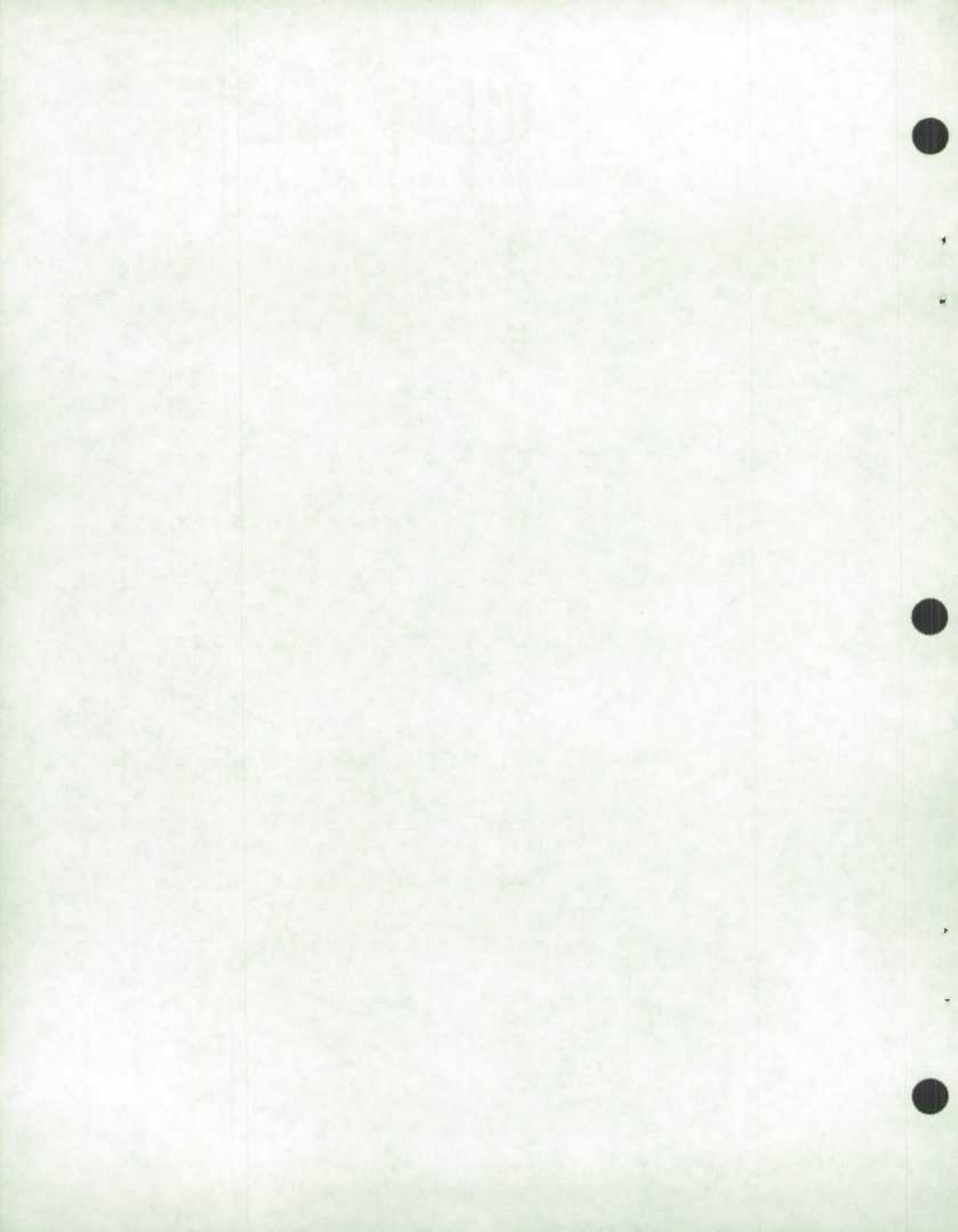


Table 7. Personal Expenditure on Consumer Services
Seasonally Adjusted, Millions of Dollars

	1987	Jan	Feb	March	April	May	June	July	Aug	Sept	Oct	Nov	Dec
Urban Transit		78	79	80	75	75	80	81	81	83	84	84	84
Rail Transport		15	15	15	15	16	14	15	11	15	16	17	20
Intercity Transit		43	41	43	44	45	46	45	44	47	44	41	44
Water Transport		9	9	9	9	10	10	10	10	10	10	10	10
Taxi Services		27	27	27	27	27	27	27	27	28	28	28	28
Telecommunications		358	356	363	363	359	375	374	370	377	376	376	377
Postal Services		31	31	32	38	34	31	31	32	34	28	35	36
Lotteries		151	144	136	144	161	148	157	184	158	145	161	147
Cable and Pay TV		100	100	99	98	100	100	101	104	109	106	111	113
Movie Theatres and Drive-ins		28	29	30	31	32	32	32	32	32	33	35	35
Hairstyling		143	141	142	145	147	149	150	151	151	153	154	153
Other Personal Services		32	32	32	33	34	34	34	34	34	35	35	34
Meals Outside the Home		1112	1127	1134	1133	1164	1165	1200	1189	1194	1224	1238	1271
Accommodation		171	174	173	174	174	175	180	184	186	185	190	190
Domestic Services		413	411	415	425	432	437	440	444	451	461	467	471
Health Services		658	662	672	691	700	701	693	690	691	698	704	709
Education and Cultural Services		737	739	744	754	762	766	769	772	776	782	786	790
Non-profit Organizations		511	511	512	513	516	522	529	536	543	550	554	554

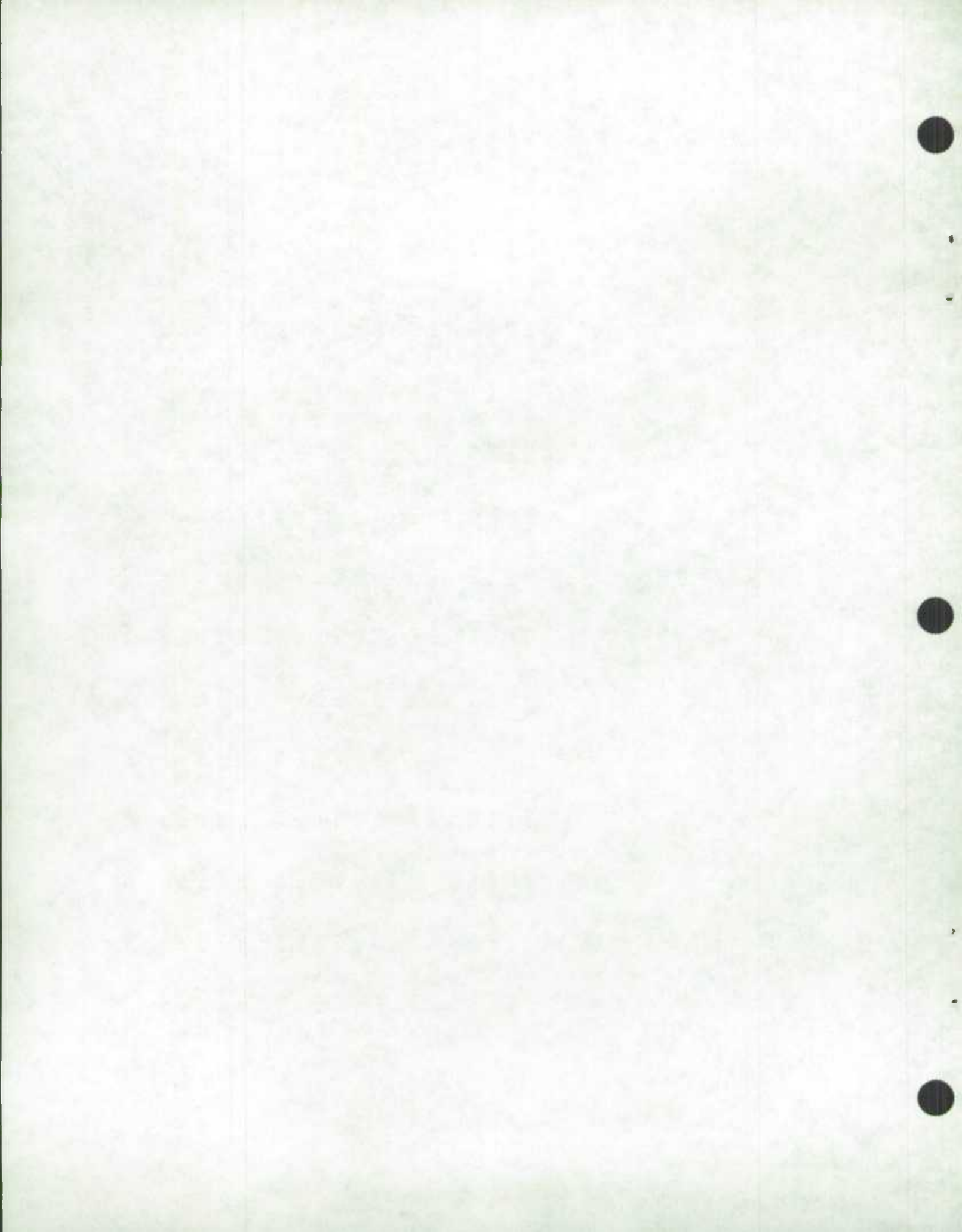


Table 7. Personal Expenditure on Consumer Services
Seasonally Adjusted, Millions of Dollars

	1988	Jan	Feb	March	April	May	June	July	Aug	Sept	Oct	Nov	Dec
Urban Transit		84	84	86	85	86	87	88	88	88	88	89	90
Rail Transport		17	17	16	18	17	19	18	18	18	18	18	19
Intercity Transit		44	49	44	43	42	39	42	42	44	43	43	43
Water Transport		10	10	10	10	10	10	10	10	10	10	10	10
Taxi Services		29	29	29	29	30	30	31	30	31	31	31	32
Telecommunications		383	391	388	379	382	378	369	380	378	381	389	398
Postal Services		36	38	39	36	35	38	37	39	36	36	39	38
Lotteries		154	165	172	155	169	158	165	175	173	184	162	179
Cable and Pay TV		115	114	115	116	116	116	115	113	124	120	123	126
Movie Theatres and Drive-ins		35	35	35	35	35	35	36	36	36	37	37	38
Hairstyling		155	154	155	157	158	159	160	161	162	163	165	166
Other Personal Services		35	35	36	36	36	36	36	36	37	37	37	37
Meals Outside the Home		1236	1249	1316	1278	1283	1319	1324	1320	1324	1286	1352	1391
Accommodation		190	192	191	197	196	202	203	203	204	211	213	216
Domestic Services		472	475	479	486	492	497	501	506	512	518	524	527
Health Services		715	720	725	732	737	742	748	753	758	763	769	774
Education and Cultural Services		795	798	802	806	810	814	819	824	827	831	834	836
Non-profit Organizations		550	551	557	568	574	577	576	579	585	598	604	604

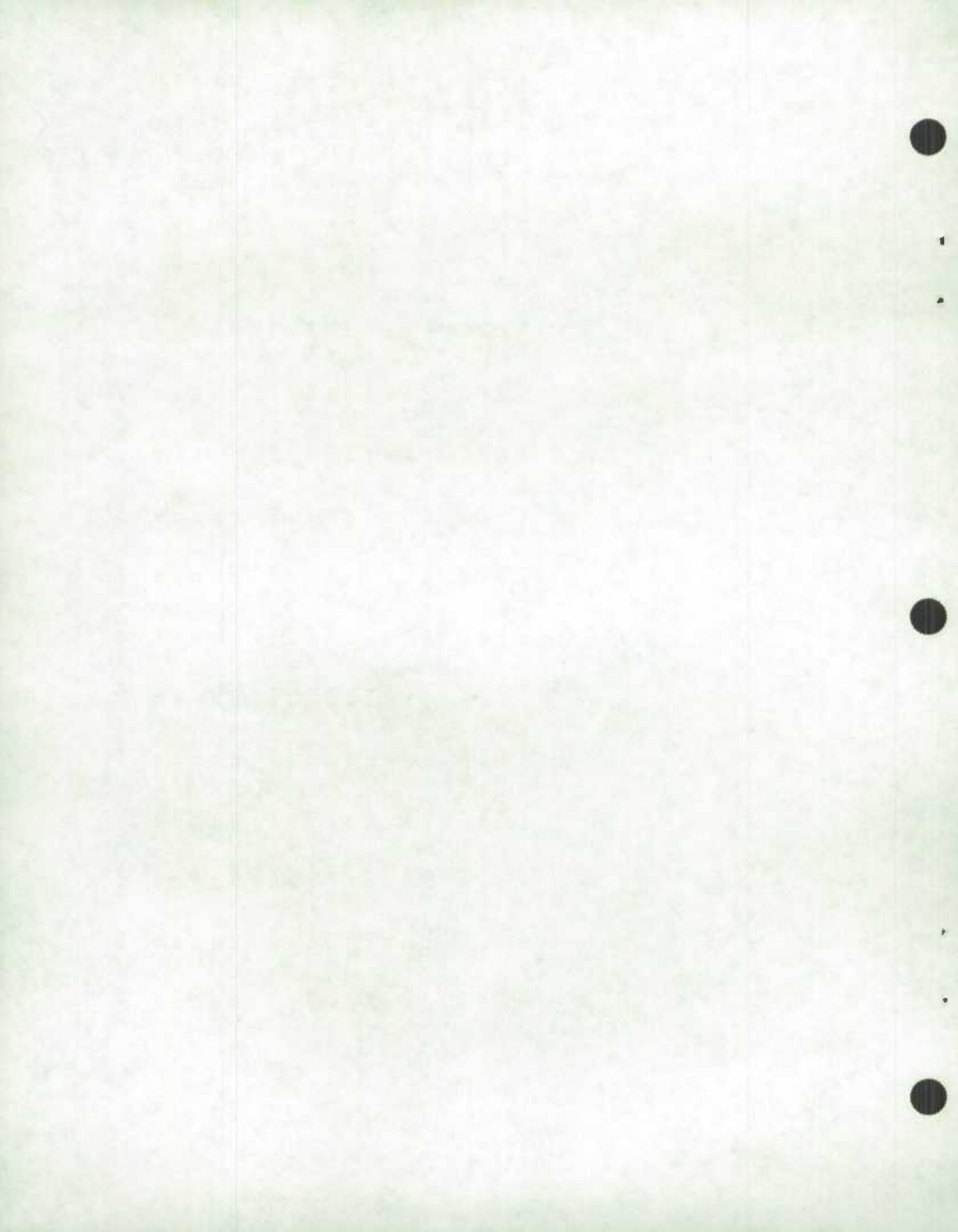


Table 7. Personal Expenditure on Consumer Services
Seasonally Adjusted, Millions of Dollars

	1989	Jan	Feb	March	April	May	June	July	Aug	Sept	Oct	Nov	Dec
Urban Transit		90	92	89	93	91	93	93	93	91	92	92	94
Rail Transport		19	19	20	18	20	20	21	21	21	20	18	19
Intercity Transit		42	44	43	43	46	45	46	47	48	50	47	45
Water Transport		10	10	10	10	10	10	11	11	11	10	10	10
Taxi Services		32	31	31	32	32	33	33	33	34	34	34	34
Telecommunications		402	408	409	412	415	413	415	430	420	420	431	428
Postal Services		40	38	39	37	39	39	39	38	39	41	40	38
Lotteries		167	165	173	176	169	172	168	151	160	179	168	180
Cable and Pay TV		125	130	131	138	137	139	142	143	153	153	153	156
Movie Theatres and Drive-ins		39	38	39	41	42	42	42	43	43	43	43	43
Hairstyling		168	168	169	171	172	174	177	177	179	180	184	183
Other Personal Services		38	38	39	39	39	39	40	40	40	41	41	41
Meals Outside the Home		1338	1381	1440	1426	1419	1439	1444	1445	1443	1404	1488	1600
Accommodation		214	215	220	216	220	229	228	223	224	223	228	233
Domestic Services		530	534	539	548	554	559	563	567	572	578	582	584
Health Services		782	787	790	792	796	802	812	821	829	837	843	845
Education and Cultural Services		837	840	845	854	860	865	870	875	881	888	893	895
Non-profit Organizations		597	596	598	606	612	617	621	624	627	630	632	633

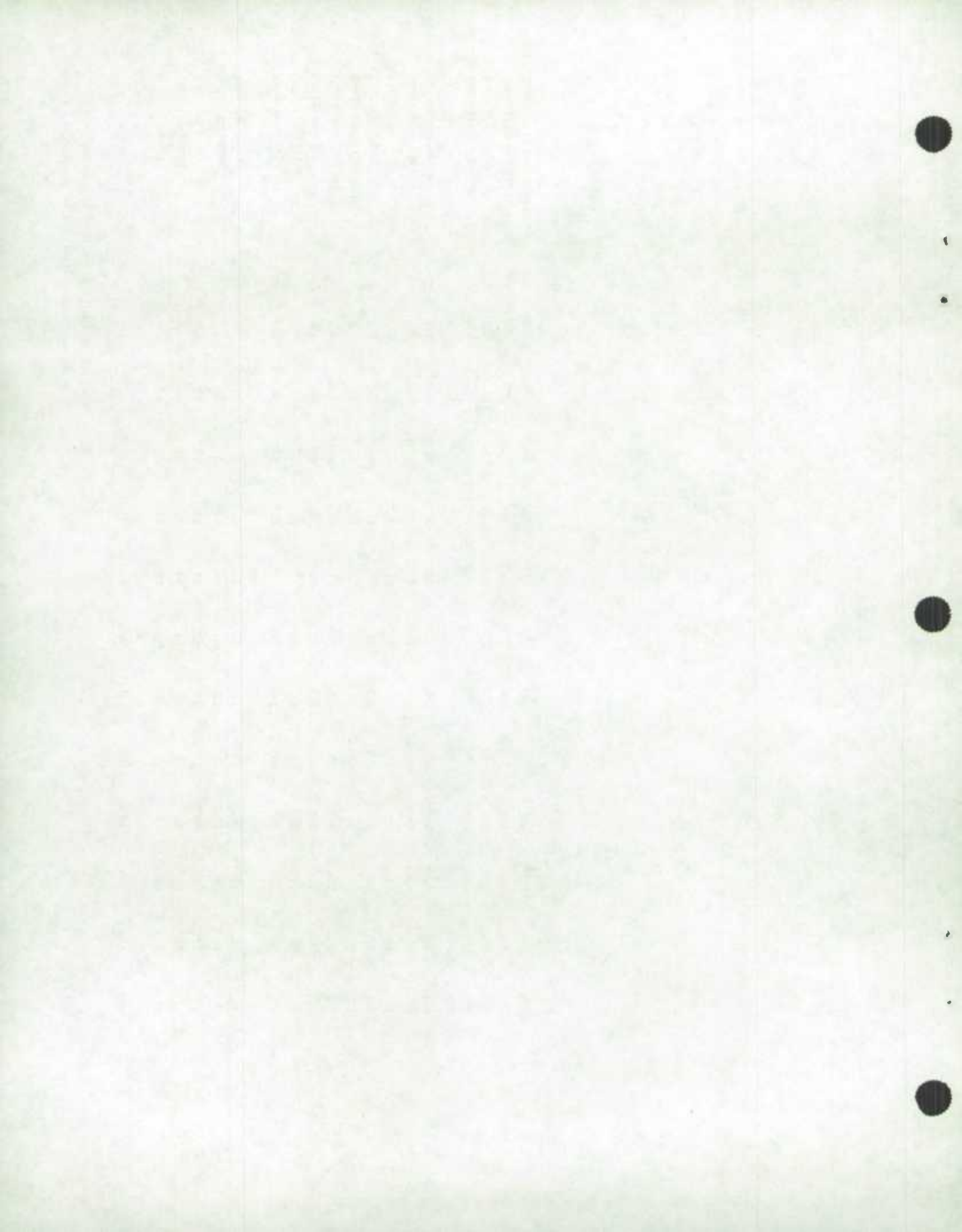
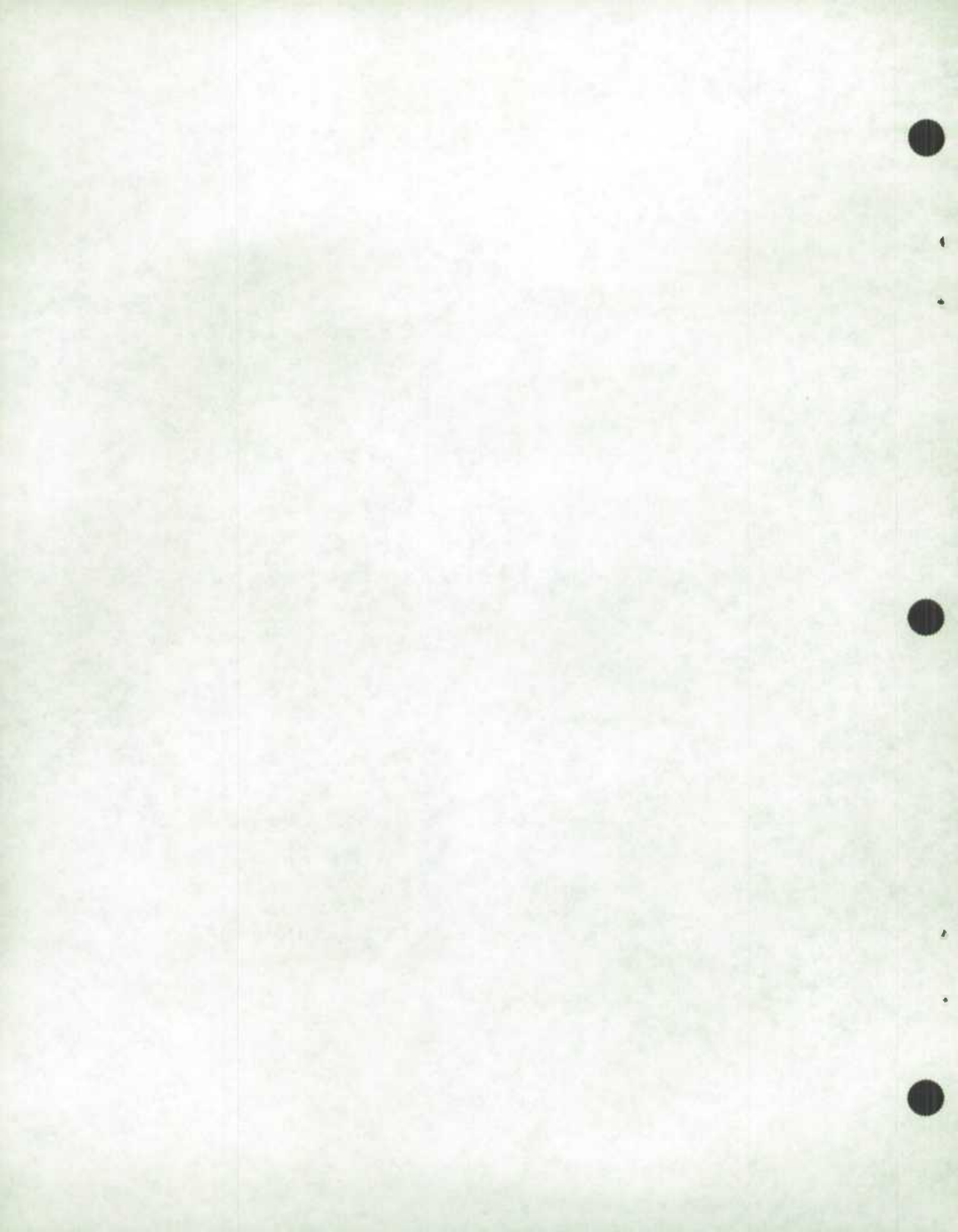


Table 7. Personal Expenditure on Consumer Services
Seasonally Adjusted, Millions of Dollars

	1985	Jan	Feb	March	April	May	June	July	Aug	Sept	Oct	Nov	Dec
Urban Transit		69	67	67	70	68	71	70	73	71	73	71	75
Rail Transport		14	15	15	15	15	15	16	16	15	16	15	15
Intercity Transit		40	41	40	39	38	39	38	40	39	40	42	41
Water Transport		7	8	8	8	8	8	8	8	8	8	8	8
Taxi Services		23	22	22	22	23	23	23	23	23	24	24	24
Telecommunications		315	317	315	320	324	324	334	336	333	339	340	343
Postal Services		31	29	28	29	29	30	35	31	31	33	32	32
Lotteries		102	98	99	97	96	104	109	112	117	111	128	121
Cable and Pay TV		73	75	75	78	76	77	80	79	81	80	80	78
Movie Theatres and Drive-ins		29	29	28	29	28	29	29	29	28	29	29	29
Hairstyling		113	117	118	117	117	120	123	125	126	125	127	130
Other Personal Services		34	33	34	35	36	36	37	37	38	40	39	36
Meals Outside the Home		922	934	978	966	981	974	984	1004	992	1009	1015	1016
Accommodation		155	156	156	152	148	145	147	152	151	153	156	158
Domestic Services		323	326	327	329	332	336	341	345	347	348	351	356
Health Services		566	569	572	577	580	583	586	589	594	600	606	611
Education and Cultural Services		653	659	661	660	660	663	670	673	672	667	669	677
Non-profit Organizations		427	432	437	442	446	449	452	456	461	467	471	472



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