

1939 PRESCRIPTION SURVEY.*

BY J. H. GOODNESS.¹

At the very outset of this report I wish to thank the secretaries of both the State Boards and the State Pharmaceutical Associations for contacting the druggists in their states and requesting reports upon which this survey is based. And it goes without saying that this report is made possible only because of the patient effort of the retail pharmacists who without desiring credit or recognition kept accurate and detailed records of their prescription work for a full month. It is hoped that some benefit, however slight, may accrue to all pharmacists as a result of their efforts.

This survey was undertaken in an attempt to answer two questions, namely: Is the Nature of Prescriptions Changing? and How Are Prescriptions Distributed through Time and Customers?

In searching for the answers to these two questions several incidental questions were answered. The findings in each case are based upon reports for new prescriptions filled during the month of June.

While it is clear that June is a "slow" prescription month, most of the findings should not be materially affected by the fact that this survey was made during the summer. Certainly the study of prescription ingredients and their percentages should not be very different, if at all, were the survey conducted during the winter months. The only difference, it would seem, would be that there would be a greater number of prescriptions to analyze.

The survey includes both narcotic and non-narcotic prescriptions. It does not include refills.

Collection of Data.—To collect the information upon which this survey is based, the author mailed a number of copies of two different report sheets to the above-mentioned officials who in turn distributed them to local pharmacists.

The first sheet bore the caption "Is the Nature of Prescriptions Changing? (New prescriptions.)" The sheet consisted of seven columns headed as follows: 1, Date; 2, One-ingredient Prescriptions, Nonproprietary; 3, One-ingredient Prescriptions, Proprietary; 4, Several-ingredient Prescriptions, All Nonproprietary; 5, Several-ingredient Prescriptions, All Proprietary; 6, Several-ingredient Prescriptions, Mixture; 7, Total Prescriptions.

A proprietary was defined as an "ingredient called for by brand or trade name." Provision was made for remarks and identification of store.

The second sheet bore the caption "How Many Prescriptions per Customer? (New prescriptions.)" This sheet contained five columns headed as follows: 1, Date; 2, One Prescription per Customer; 3, Two Prescriptions per Customer; 4, More Than Two Prescriptions per Customer; 5, Total Prescriptions for the Day.

More than 80 druggists from 28 states mailed in either one or both of these reports. The reports from 76 stores arrived before calculations had begun. A few of the conclusions of the survey follow.

Sole Proprietary Prescriptions.—It will be remembered that the "St. Louis" or National Drug Store Survey conducted in 1930-1931, during which the prescription business in four professional pharmacies was very thoroughly analyzed, revealed that "Approximately 25%... of the prescriptions... called exclusively for specialties."

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Specifically, this meant that a study of 1000 prescriptions compounded during 1910 revealed that 23.6% were for "specialties," or proprietaries. No classification was made for narcotics and non-narcotics because the Federal Narcotic Act was not then existent.

In 1920 the analysis of 1000 prescriptions from the same store revealed that 23.1% were for "specialties" or proprietaries. Divided into narcotics and non-narcotics, the percentages for specialties or proprietaries were: narcotics 9.3%, non-narcotics 25.5%.

In 1930 an analysis of 8670 prescriptions from two stores showed that 22.81% were for specialties. This figure included narcotic and non-narcotic specialties.

Summarizing, we find that specialties or proprietaries in 1910 were 23.6%, in 1920 they had decreased to 23.1%, and in 1930 were 22.81%: thus, the "approximately 25%."

In November 1937, an ingredients analysis of 535 non-narcotic prescriptions as compounded by a Greater Boston professional pharmacist revealed¹ that specialty or proprietary prescriptions totaled 46.5% of those compounded. This present survey was undertaken to see whether the national average had increased to this high point.

The 1939 condition as revealed by reports of 70 stores located in 27 states is as follows: Of the 24,259 prescriptions compounded 8634 or 35.59% were for a sole proprietary ingredient; 1022 or 4.21% were for mixtures of proprietaries only, yielding a total of 9656 or 39.80% of the prescriptions which called solely for proprietaries. The conclusion is, therefore, that prescriptions calling solely for proprietary ingredients have increased from a 20-year constant of 25% to 40%—an increase of 60% in less than a decade.

This percentage of proprietary prescriptions varied from state to state, and in Indiana, one of the states well represented, reached a total of 44.57%. For other state averages see Chart A.

The comments of druggists on this part of the survey reveal a growing tendency of physicians to prescribe for proprietaries alone. That the number was not higher in at least three of the reports was attributed to the fact that a great many prescriptions were written for "welfare" patients whose physicians were under instructions to prescribe official or non-proprietary preparations where possible and in this way keep down the cost. There is no doubt but that many other stores were operating under similar conditions but did not mention the fact in the remarks.

One druggist revealed that his rather small percentage of proprietary prescriptions was due to the fact that clinic physicians whose prescriptions he filled favored the official or non-proprietary type of medication. Such cases of decreased proprietary prescriptions are either laudable or unavoidable, but they were not the only comments listed.

A Virginia druggist estimated that his "proprietary prescription" total would have been 15% higher if customers did not turn prescription business into over-the-counter sales by orally ordering the medicines that had been prescribed by their easily read English trade names. Several druggists explained that the physicians in their neighborhoods "dispensed" (dealing with proprietary medications almost exclusively) and that at least one physician either furnished or sold to patients the large detail samples furnished him by manufacturers, all of which tended to decrease prescription business, especially in this class of medication.

Chart A reveals the percentages of proprietary prescriptions in Massachusetts, Indiana, Wisconsin, Maine, New York and Maryland, each of which had four or more reporting stores.

Prescriptions with Proprietaries.—In addition to prescriptions calling for proprietaries solely, proprietaries were also found in the "mixture" prescriptions. Occasionally these mixtures are almost exclusively proprietary. They were placed in the "mixture" class merely because they contained a diluting non-proprietary vehicle.

The St. Louis Survey reported that this type of prescription constituted 23.3% of total prescriptions in 1910, 24.9% during 1920, and in 1930 it was 23.5%.

In 1937 the Massachusetts College of Pharmacy Prescription Survey² revealed this class to be only 12.33% of the total prescriptions compounded. This present survey shows that the United States average is 12.32%. If we combine the sole proprietary prescriptions with the mixture prescriptions, we find that prescriptions containing proprietaries were 46.9% of the total in 1910, 48% in the year 1920, 46.3% in 1930, 58.87% in 1937, and this survey reveals the national per cent to be 52.12%.

¹ "A Survey of Proprietaries in Prescriptions," *JOUR. A. PH. A.* (January 1939), page 44.

² See note (1).

It can safely be said that more than one-half of the prescriptions compounded to-day contain some or only proprietary ingredients.

Miscellaneous.—The 70 drug stores whose reports constituted the basis of the ingredients study ranged in size from 30 prescriptions for the month to 1686 prescriptions, with a median value of 250 prescriptions. Only three stores reported more than 1000 prescriptions during the month.

The distribution of the reporting drug stores by the size of their prescription business is as follows:

Less than 100 Prescriptions	12
100 to 199 Prescriptions	14
200 to 299 Prescriptions	16
300 to 399 Prescriptions	10
400 to 499 Prescriptions	1
500 to 599 Prescriptions	2
600 to 699 Prescriptions	4
700 to 799 Prescriptions	3
800 to 899 Prescriptions	4
900 to 999 Prescriptions	1
1200 to 1299 Prescriptions	2
1600 to 1699 Prescriptions	1

The reports were distributed through the states as follows: Arkansas 3, California 1, Colorado 1, Connecticut 1, Indiana 7, Florida 2, Kansas 1, Kentucky 1, Maine 5, Maryland 4, Massachusetts 11, Michigan 2, Nebraska 1, New Hampshire 2, New Jersey 1, New Mexico 2, New York 5, North Carolina 1, North Dakota 3, Ohio 1, Pennsylvania 2, Tennessee 1, Vermont 1, Virginia 1, Washington 2, Wisconsin 7, Wyoming 1.

The average store according to the ingredient sheets in this survey filled 11.55 prescriptions a day, 80.85 a week, and 346.55 a month.

Of the states having four or more reporting stores, New York had the lowest averages: 4.26 a day, 29.82 a week, 127.80 a month. The Maryland averages were raised considerably because of the presence of one of the four stores which compounded 1201 prescriptions during the month. Maryland's averages were 16.39 a day, 114.74 a week, and 491.75 a month. The monthly average is more than 200 prescriptions above the median value.

These daily-weekly-monthly averages differ slightly between the ingredients-sheet study (Chart A) and the prescription-distribution-sheets findings (Chart B), because the number of stores reporting in each section is not the same, and where they are the same in number differ in identity. For example, Maine reports 5 stores in each section, but only 3 of the stores are coexisting in both lists. The remaining two stores are different and have a difference of over 700 prescriptions. This difference in number of prescriptions causes slightly more than a 50% difference in daily-weekly-monthly averages: for example, the daily average for Maine is 8.07 prescriptions in one study and 12.14 in the other. For this reason, in addition to the fact that but few stores from each state reporting are represented, the states' daily-weekly-monthly averages are not too reliable.

For comparison, Doctor Whitney's very recent figures for Michigan, based upon an annual study of very many, if not all stores in the state, showed an average of 4.5 prescriptions a day. Two Michigan stores reporting here showed an average of 16.3 prescriptions a day. In New Jersey, Doctor Fischelis, reporting on the annual conditions of Pharmacy in his state for 1936 showed an average of 9.2 prescriptions daily per store. The New Jersey average in this study, based upon but one report, is 3.4 prescriptions. The conclusion is, then, that the national average for daily prescriptions is perhaps somewhat high for all stores. This discreditment of the daily-weekly-monthly averages should not, however, seriously affect the *percentages* for 1-, 2-, 3-, and 4-prescription customers in a state, nor the distribution of these customers in time in the average pharmacy. It is as a check on these figures that the daily averages were figured.

That prescription compounding is tending toward simplification can be easily comprehended when we see that the present national average shows that 62.97% of prescriptions were of the one-ingredient type. A one-ingredient prescription usually means that the compounding

duties consist of either changing bottles or labels, or both. Bench work is reduced to a minimum in this class of prescriptions. Occasionally, however, a one-ingredient prescription may call for compounding, as for example, in the case of a prescription calling for Basham's Mixture, Solution of Potassium Citrate or like preparations that should be freshly prepared.

Again comparing the findings with the National Drug Store Survey of 1930-31, the 62.97% of single-ingredient prescriptions for 1939 is quite an increase over the 39.7% for 1910, the 43.7% for 1920 and 41.4% for 1930. The three last-named figures are each based upon a thousand prescriptions (narcotic and non-narcotic) taken from one store for each of the years represented.

The several-ingredient prescriptions in 1939 constituted only 37.03% of the total—almost a reversal of conditions as depicted by the 1930-1931 investigation.

The reports in this survey made no provision for counting separate ingredients but that the average number of ingredients per prescription is decreasing is shown by the comparison of 2.2, 2.3 and 2.1 ingredients as reported for 1910, 1920, 1930 in the National Drug Store Survey and the 1.77 ingredients revealed by the Massachusetts College of Pharmacy 1937 Prescription Survey.¹ No study of the number of ingredients in the several-ingredient prescriptions was made for 1939.

Daily Distribution.—A graph (Chart C) shows that Saturday is the best prescription day with Monday ranking a close second. Sunday is the poorest day of the week averaging less than 50% of the Saturday total, and Wednesday is average, that is, the Wednesday totals are closer to the National Daily average from week to week, even though Thursday has a closer numerical average. The beginning of the month shows a slightly less number of prescriptions for the first three days than the last three days of the month, but this cannot be taken as a conclusive tendency until a study for several months is undertaken.

The daily distribution graph is based upon 54 of the 70 ingredient-sheet reports summarized in Chart A. Five of the 70 reports were from stores that closed Sundays and 11 reports furnished only monthly summaries; thus, 16 of the 70 reports were not used. The 54 stores that were used came from 24 states. The three missing states are Michigan, New Jersey, and Pennsylvania; all other states as found in the ingredients study are represented.

Prescription Distribution.—The second report sheet which druggists were asked to fill out dealt with the distribution of prescriptions among customers and in time. Sixty-eight stores in 27 states filed such reports. The states are the same as those already listed under ingredients study except that Tennessee is missing and in its place we have West Virginia. All 68 stores are not included in the 70 stores of Chart A. Since this report classifies customers into 1-, 2-, and more-than-two-prescription customers it was possible to divide the customers into groups; namely, those presenting one prescription, two prescriptions, three prescriptions, and four prescriptions. The last two classifications were possible because of their rarity in the last column of the sheet.

It will be noted that not a single customer presented more than 4 prescriptions throughout the period of the survey. It is not to be assumed that the several prescriptions presented by any one customer were for the same patient.

One-Prescription Customers.—One-prescription customers were by far the most numerous class. The national average showed that 83.76% of the prescription customers were in this group. They were responsible for 70.48% of the total prescriptions compounded and, distributed in time, averaged 8.17 such customers per day per store. One-prescription customers in no case fell below 80% in the states summarized in Chart B—those states having four or more reporting stores. The highest average was 91.31% for Maryland.

Among customers their frequency was one in 1.18, or in more understandable terms and in round figures 6 out of every 7 customers presented one prescription for compounding.

Multiple-Prescription Customers.—Customers presenting more than one prescription are, of course, less frequent. Dealing in the order (a) two-prescription customers, (b) three-prescription customers, (c) four-prescription customers we find that the national averages are 13.76%, 2.36%, 0.11%. They were, respectively, responsible for 23.16%, 5.95%, and .38% of the total prescriptions compounded.

The daily frequency in the average store was 1.34 for the two-prescription customers or 4 such customers in 3 days; 0.23 of three-prescription customers or 3 in 13 days; and 0.011 of four-prescription customers or 1 in 89 days.

¹ See note (1), page 693.

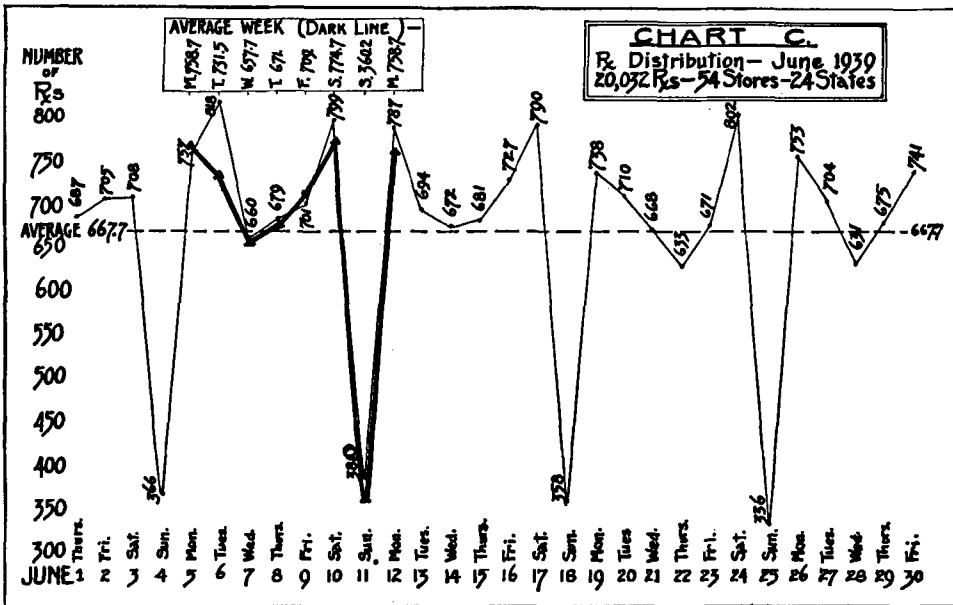
Their frequency among prescription customers was 1 in every 7.26 for two-prescription customers or 4 such customers in every 29 presenting prescriptions; 1 in every 42.3 of the three-prescription customers or 3 three-prescription customers in every 127; and the four-prescription customers were found in the frequency of 1 in every 865.

Percentages and frequencies of these multiple-prescription customers for Massachusetts, Indiana, Wisconsin, Maine, Maryland and New York can be found in Chart B.

CONCLUSION.

Summarizing the conclusions already listed, it can be said that the nature of prescriptions is changing, and the change is toward the simplification of ingredients (increase of one-ingredient prescriptions) and away from official and nonproprietary preparations.

The distribution summaries substantiated the conclusion known in a general way, that one-prescription customers constitute not less than four-fifths of those who seek professional service of the pharmacists.



What practical use can be made of these conclusions will, of course, differ with the nature of the business, the individual and the locality, or combinations of these elements. While they may mean one thing to the manufacturer of proprietaries, to the retail pharmacists, especially to those who have been in business for the last ten years or more, they mean either a change of buying policy to conform with the present conditions or the commencement of counteracting forces.

It is well understood that the profit margin is much smaller on proprietary prescriptions than on official preparations. Also that the cost to the patient is less for the latter class of medication.

Except for the manufacture of those proprietaries, the creation of which demands facilities far beyond those possessed by the retail pharmacists, an increase in proprietary prescriptions has the tendency of decreasing the professional aspects of retail work.

Those pharmacists who have been successful in their prescription departments have either specialized in this work, detailed their local physicians, manufactured as "own-brand" the simpler forms of prescription specialties, or engaged in combinations of these activities.

Every retail pharmacist must remember that both income from the prescription department, as well as income from every other department, either directly or indirectly is geared to professionalism.

CHART A.

Number of States Reporting.	Number of States Reporting.	Total Number of R's.	Lowest Number of R's.	Median Number of R's.	Highest Number of R's.	Number of R's in Average Store.			One-ingredient Nonproprietary R's. Number.	One-ingredient Nonproprietary R's. Per Cent.
						Per Month.	Per Week.	Per Day.		
27	70	24,259	30	250.0	1686	346.55	80.85	11.55	6642	27.37
5	20	5479	49	221.5	686	273.95	63.91	9.13	1611	29.40
1	11	2411	60	192.0	686	219.18	51.14	7.30	596	24.72
1	7	2923	110	353.0	853	417.57	97.43	13.91	867	29.66
1	7	1866	42	209.0	824	266.57	62.19	8.88	571	30.62
1	5	1822	137	362.0	638	364.40	85.02	12.14	536	29.41
1	5	639	63	101.0	205	127.80	29.82	4.26	222	34.74
1	4	1967	174	296.0	1201	491.75	114.74	16.39	415	21.09

* Only states with four or more reporting drug stores are here analyzed

CHART A (Continued).

Several-ingredient Nonproprietary R's. Number.	Several-ingredient Nonproprietary R's. Per Cent.	Total Nonproprietary R's.		One-ingredient Proprietary R's. Number.	One-ingredient Proprietary R's. Per Cent.	Several-ingredient Proprietary R's.		Total of Solely Proprietary R's. Number.	Total of Solely Proprietary R's. Per Cent.	Several-ingredient Mixture R's. Number.	Several-ingredient Mixture R's. Per Cent.
		Number.	Per Cent.			Number.	Per Cent.				
4972	20.49	11,614	47.87	8634	35.59	1022	4.21	9656	39.80	2989	12.32
1294	23.61	2905	53.02	1888	34.45	157	2.86	2045	37.32	529	9.65
707	29.32	1303	54.04	797	33.05	61	2.53	858	35.58	250	10.36
561	19.19	1428	48.85	1198	40.98	105	3.59	1303	44.57	192	6.56
383	20.52	954	51.12	748	40.08	51	2.73	799	42.81	113	6.05
352	19.31	888	48.72	623	34.19	89	4.88	712	39.07	222	12.18
212	33.17	434	67.91	137	21.43	15	2.34	152	23.78	53	8.29
565	28.72	980	49.82	461	23.43	162	8.23	623	31.67	364	18.50

CHART A (Continued).

	Total of R's. with Proprietaries. Number.	Per Cent.	Total of One- ingredient R's. Number.	Per Cent.	Total of Several- ingredient R's. Number.	Per Cent.	Total Number of R's.	Per Cent. of Total Number R's.
United States	12,645	52.12	15,276	62.97	8983	37.03	24,259	100
New England (No R. I. reports)	2574	46.97	3499	63.86	1980	36.13	5479	100
Massachusetts	1108	45.94	1393	57.77	1018	42.21	2411	100
Indiana	1495	51.14	2065	70.64	858	29.35	2923	100
Wisconsin	912	48.87	1319	70.68	547	29.30	1866	100
Maine	934	51.25	1159	63.60	663	36.37	1822	100
New York	205	32.08	359	56.18	280	43.81	639	100
Maryland	987	50.17	876	44.53	1091	55.46	1967	100

CHART B.

All Classes of Customers.		Number of States Report- ing.	Number of Stores Report- ing.	Per Cent of.	Number of R's from.	Average R's per Customer.	Per Cent of R's from.	Number of R's per Day.	Number of R's per Week.	Number of R's per Month.
United States	27	68	19,915	100	23,665	1.18	100	11.60	81.20	348.01
New England (No R. I. reports)	5	20	3999	100	4730	1.18	100	7.88	55.18	236.50
Massachusetts ¹	1	12	2240	100	2770	1.23	100	7.69	53.85	230.83
Indiana	1	7	2656	100	3175	1.19	100	15.11	105.83	453.57
Wisconsin	1	7	1660	100	1875	1.12	100	8.92	62.49	267.85
Maine	1	5	1078	100	1211	1.12	100	8.07	56.51	242.20
Maryland	1	4	1807	100	1976	1.09	100	16.46	115.26	494.00
New York	1	4	479	100	574	1.20	100	4.78	33.48	143.50

¹ Only states with four or more reporting drug stores are here analyzed.

CHART B (Continued).

	One-Prescription Customers.				Two-Prescription Customers.				Per Cent of Total R's from.			
	Number of.	Per Cent of.	Number of R's from.	Daily Frequency (Av. Store).	Frequency in Customers.	Per Cent of.	Number of R's from.	Daily Frequency (Av. Store).		Frequency in Customers.		
United States	16,681	83.76	16,681	8.17	1:1.18 (6 in 7)*	70.48	2741	13.76	5482	1.34	1:7.26 (4 in 29)	23.16
New England (No R. I. reports)	3364	84.11	3364	5.60	1:1.18 (6 in 7)	71.12	544	13.62	1088	0.90	1:7.35 (3 in 22)	23.00
Massachusetts	1792	80.00	1792	4.99	1:1.25 (4 in 5)	64.69	370	16.51	740	1.02	1:6.05	26.71
Indiana	2217	83.47	2217	10.55	1:1.19 (5 in 6)	69.82	360	13.55	720	1.71	1:7.39 (5 in 37)	22.67
Wisconsin	1464	88.19	1464	6.97	1:1.13 (8 in 9)	78.08	178	10.72	356	0.84	1:9.32 (3 in 28)	18.98
Maine	956	88.68	956	6.37	1:1.12 (8 in 9)	78.94	112	10.38	224	0.74	1:9.62 (3 in 29)	18.49
Maryland	1650	91.31	1650	13.75	1:1.09	83.50	145	8.02	290	1.20	1:12.46 (2 in 25)	14.67
New York	394	82.25	394	3.28	1:1.21 (5 in 6)	68.64	75	15.65	150	0.62	1:6.38 (3 in 19)	26.13

* Round figure averages.

CHART B (Continued).

	Three-Prescription Customers.				Four-Prescription Customers.				Per Cent of Total R's from.			
	Number of.	Per Cent of.	Number of R's from.	Daily Frequency (Av. Store).	Frequency in Customers.	Per Cent of Total R's from.	Number of.	Per Cent of.		Number of R's from.	Daily Frequency (Av. Store).	Frequency in Customers.
United States	470	2.36	1410	0.23	1:42.3 (3 in 127)	5.95	23	0.11	92	0.011 (1 in 89 days)	1:865.7 ^a	0.38
New England (No R. I. reports)	86	2.15	258	0.14	1:46.5 (2 in 93)	5.45	5	0.12	20	0.008 (1 in 121 days)	1:799.8	0.42
Massachusetts	74	3.30	222	0.20	1:30.2 (5 in 151)	8.01	4	0.17	16	0.011 (1 in 89 days)	1:560.0	0.57
Indiana	78	2.93	234	0.37	1:34.0	7.37	1*	0.03	4	0.004 (1 in 212 days)	1:2656*	0.12*
Wisconsin	17	1.02	51	0.08	1:97.6 (2 in 195)	2.72	1*	0.06	4	0.004	1:1660*	0.21*
Maine	9	0.83	27	0.06	1:119.7 (3 in 359)	2.22	1*	0.09	4	0.006 (1 in 152 days)	1:1078*	0.33*
Maryland	12	0.66	36	0.10	1:150.5 (2 in 301)	1.82	None	0	0	0	0	0
New York	10	2.09	30	0.08	1:47.9 (1 in 48)	5.22	None	0	0	0	0	0

* Since but one customer is present, the results are not representative ratios and per cents.

^a Equivalents in round figures.