

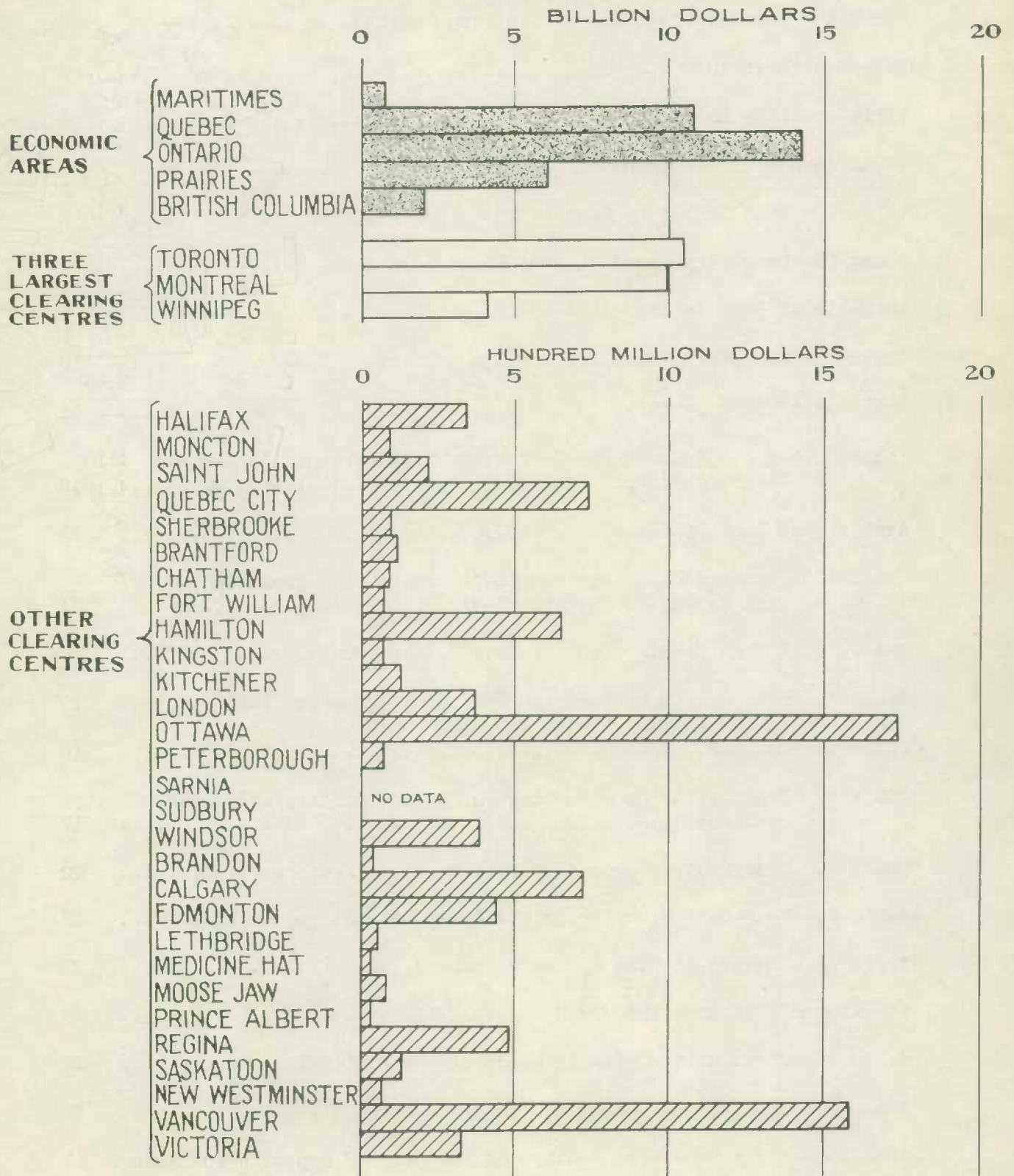
ANNUAL REPORT OF  
BANK DEBITS AND EQUATION OF EXCHANGE  
1940.

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Chart 1

# RELATIVE POSITION OF CLEARING CENTRES ACCORDING TO ANNUAL AVERAGE BANK DEBITS

1924-1940



DOMINION BUREAU OF STATISTICS - OTTAWA

GENERAL STATISTICS BRANCH

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BANK DEBITS IN 1940.

Despite the marked inactivity in stock and grain speculation, the amount of cheques cashed in clearing centres recorded a gain of nearly nine per cent in 1940 over the preceding year. The total was \$34,437 million against \$31,617 million, an increase of no less than \$2,820 million. The greater turnover of bank deposits directly reflected the expansion in productive operations. The index of the physical volume of business on the base of 1926 rose sharply from 122.4 in the preceding year to 145.4, an increase of 18.8 p.c. The increase in payrolls must have been appreciable, the index of employment for most industrial and service groups, other than agriculture, averaging 9 per cent greater than in 1939. Wage rates recorded an increase of about 3 p.c. Owing to the prevalence of overtime it is probable that payrolls rose to a greater extent than these comparisons would indicate.

The index of wholesale prices averaged nearly 9 p.c. higher in the year under review. Upon the outbreak of hostilities at the first of September, 1939, commodity prices recorded a marked advance which continued to the end of the year. An upward drift was observable during the later half of 1940 but on the whole the level of wholesale prices was remarkably steady throughout the year, especially for war time. Common stock prices receded sharply in May and June and the monthly average of the index for 1940 was 15.5 p.c. below the computation for the preceding year. Speculation in stock and grain was particularly inactive last year but heavy sales of new bond issues, especially the two war loans was an offsetting factor.

Gains in bank debits were general in each of the five economic areas. The greatest percentage increase occurred in the Maritime Provinces where each of the three centres recorded gains of about one-fifth of the total transactions in the preceding year.

Increases in the city of Quebec and Sherbrooke more than counterbalanced the minor recession in Montreal. The net result for the province was a gain of \$153 million to \$9,973 million.

Each of the thirteen centres in Ontario recorded gains over the preceding year. Ottawa, due to the expansion of governmental activities due to war operations showed the greatest gain of the economic area. The increase was 73 p.c. from \$1,266 million to \$2,191 million. Important advances were shown in Toronto, Hamilton and Windsor. The aggregate for the province was 13 p.c. greater at \$15,384 million.

Winnipeg recorded the greatest absolute gain and Brandon the greatest percentage increase of the ten centres in the Prairie area. The Winnipeg total was \$408 million greater at \$3,847 million. Due to increases in each of the ten centres the aggregate for the province showed an increase of nearly 12 p.c.



TABLE 1. TIME ANALYSIS OF BANK DEBITS BY CENTRES AND ECONOMIC AREAS 1924 - 1940.

Areas and Clearing Centres	Seventeen year . . . average million dollars	Increment (+) or Decrement (-)		Standard Deviation 1935-9 - 100	Coefficient of Corre- lation with Dominion Total
		Long-term Trend			
		At Fluctuating Prices	At Fixed Prices		
<u>Maritime Provinces -</u>					
Halifax .....	337.2	+ 1.82	+ 2.92	18.43	.67
Moncton .....	92.6	+ 2.33	+ 3.62	10.49	.62
Saint John .....	212.1	- 1.27	+ 0.46	22.86	.43
Total - Maritime Provinces .....	641.8	+ 0.68	+ 2.30	14.05	.73
<u>Quebec -</u>					
Montreal .....	9,833.9	- 0.94	+ 0.92	23.82	.92
Quebec .....	733.2	+ 2.49	+ 3.79	16.97	.46
Sherbrooke .....	9.9	- 3.92	- 1.30	28.34	.76
Total - Quebec .....	10,665.0	- 0.69	+ 1.13	22.61	.96
<u>Ontario -</u>					
Brantford .....	110.0	- 0.005	+ 1.75	21.11	.88
Chatham .....	90.4	+ 2.20	+ 2.76	14.40	.66
Fort William .....	74.9	- 3.54	- 0.98	23.84	.63
Hamilton .....	652.8	- 0.09	+ 1.85	29.18	.60
Kingston .....	68.7	+ 0.58	+ 2.25	16.20	.67
Kitchener .....	126.4	+ 1.74	+ 3.16	15.01	.79
London .....	361.1	+ 1.79	+ 3.13	11.21	.89
Ottawa .....	1,728.8	- 3.72	- 0.70	20.16	.41
Peterborough .....	72.9	- 0.77	+ 1.17	18.61	.49
Sarnia .....		No data available for early years.			
Sudbury .....					
Toronto .....	10,375.1	+ 1.18	+ 2.62	14.33	.93
Windsor .....	385.4	+ 1.02	+ 2.40	28.62	.77
Total - Ontario .....	14,124.6	+ 0.78	+ 2.34	13.43	.97
<u>Prairie Provinces -</u>					
Brandon .....	39.9	- 0.55	- 2.54	37.20	.43
Calgary .....	717.4	- 1.55	+ 0.52	28.56	.91
Edmonton .....	444.7	+ 0.43	+ 2.14	18.42	.77
Lethbridge .....	58.4	- 2.58	- 0.29	29.03	.82
Medicine Hat .....	34.2	- 5.24	- 2.31	30.36	.71
Moose Jaw .....	86.4	- 4.10	- 1.44	27.77	.68
Prince Albert .....	27.8	- 0.99	+ 1.35	20.28	.82
Regina .....	477.5	+ 1.59	+ 3.03	13.75	.77
Saskatoon .....	139.1	- 2.35	- 0.12	27.73	.88
Winnipeg .....	3,980.7	- 1.09	+ 0.98	18.56	.47
Total - Prairie Provinces .....	6,024.8	- 0.86	+ 1.04	15.98	.77
<u>British Columbia -</u>					
New Westminster .....	73.4	- 0.31	+ 1.66	23.03	.81
Vancouver .....	1,580.2	- 0.28	+ 1.50	18.05	.90
Victoria .....	328.5	- 0.30	+ 1.52	19.53	.83
Total - British Columbia .....	1,982.1	- 0.62	+ 1.48	18.06	.90
GRAND TOTAL FOR CANADA .....	33,486.7	- 0.57	+ 1.57	16.18	-

Relatively moderate gains were shown in Vancouver and Victoria but the total for the province rose \$117 million to \$2,137 million.

Toronto took first place in the amount of cheques cashed in 1940, followed by Montreal. The total in Toronto was \$10,510.5 million against \$8,714.4 million in Montreal. Winnipeg was third in this respect with debits of \$3,847 million. Other centres with average debits of more than one billion were Ottawa, Vancouver and Quebec.

#### SIGNIFICANCE OF BANK DEBITS.

In advanced industrial societies, the great bulk of monetary transfers are now made through the banks, money being regarded as merely the "small change of commerce." It has been estimated that 90 p.c. of the business transactions in Canada are financed by cheques, actual money being used only for 10 p.c. It follows that the aggregate amount of the cheques paid through the banks and charged to accounts, within a given country, constitutes an almost complete record of the volume of transactions.

Statistics regarding these payments were at first secured through the clearing houses, or meeting places for representatives of the various banks. There they daily presented for payment the notes of other banks, and the cheques drawn on other banks which had been cashed at their institutions. Clearing houses are now operating in 32 leading Canadian cities, the first having been established at Halifax in 1887.

Since 1935, the clearing-house system has been connected with the operations of the Bank of Canada. Each chartered bank maintains a balance with the Bank of Canada, at Ottawa, which is considered sufficient to settle its clearing obligations. These balances are distinct from the 5 p.c. reserve against deposit liabilities which the banks are required by statute to maintain at the Bank of Canada.

Montreal, Ottawa, Toronto, Winnipeg and Vancouver are settlement points for the clearing-houses in their respective zones. The debit or credit balances of the banks at the clearing-house centres are transmitted by the clearing-house manager to the local agent of the Bank of Canada. They are then relayed to Ottawa by telephone or telegraph. The central clearing balances maintained by all the banks at the Bank of Canada in Ottawa can thus be daily adjusted.

The "bank clearings" compilation has one great fault as a method of estimating the aggregate amount of cheque payments within Canada and, through it, the volume of business transactions. It records only dealings between two separate banks, ignoring cheque payments completed within one bank. These intra-bank payments have become steadily more important during the last two decades, with the number of separate banks declining from 18 in 1923 to 10 in 1931, at which figure it has remained. It follows that bank clearings represent a steadily decreasing proportion of the total volume of business.

These considerations led to an agreement by which the Canadian Bankers' Association secured, from January, 1924, the monthly aggregate figures of the amount of cheques charged to accounts at all banking offices situated in the clearing-house centres of Canada. Since that time, the Dominion Bureau of Statistics has published monthly and annual totals which include all cheque transactions



TABLE 2. BANK DEBITS BY CLEARING CENTRES AND ECONOMIC AREAS, IN MILLIONS OF DOLLARS, 1924 - 1940.

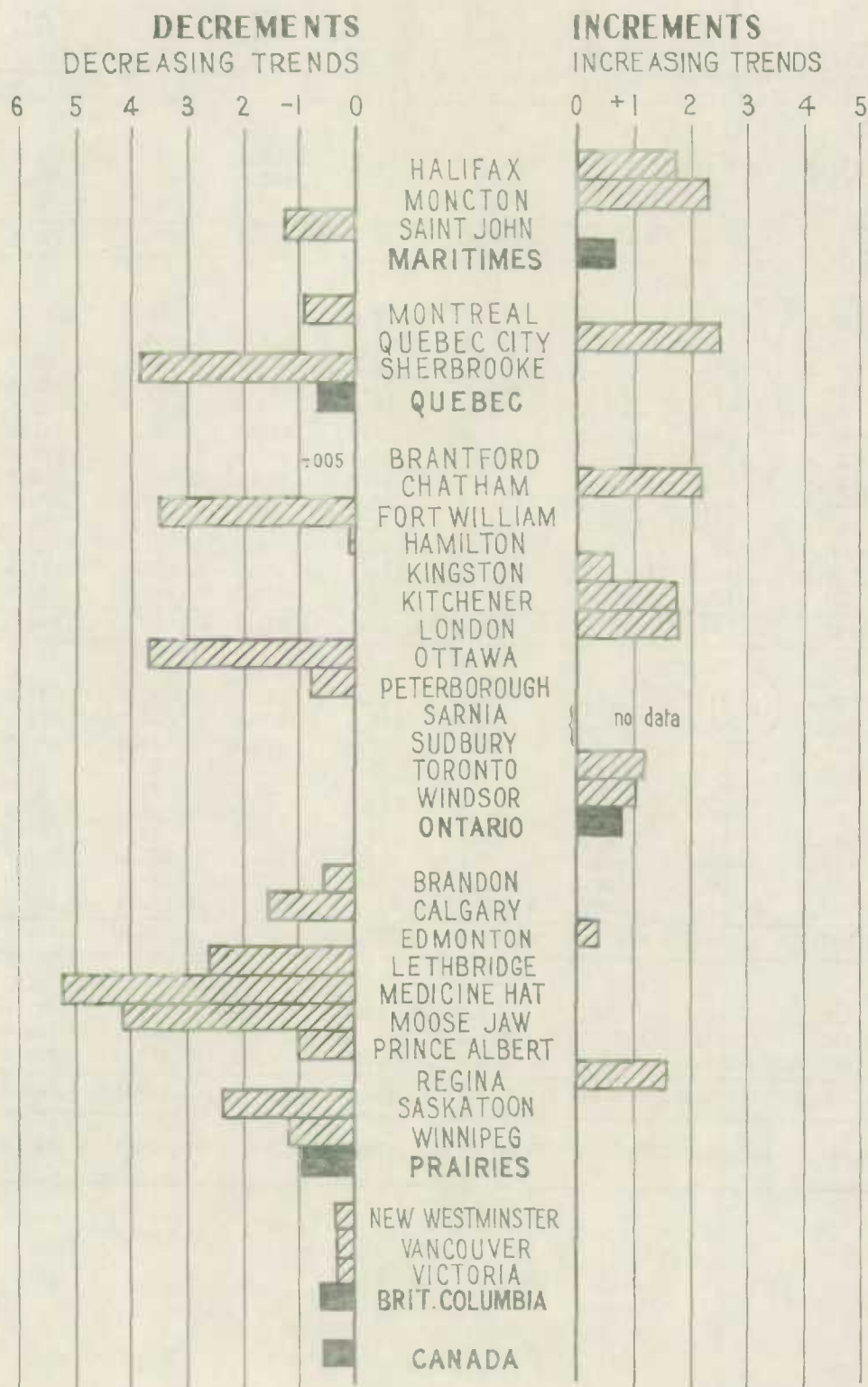
Line	Economic Areas and Clearing House Centres	1924	1925	1926	1927	1928	1929	1930
<b>Maritime Provinces</b>								
1	Halifax .....	249.1	291.5	310.2	324.5	404.7	425.5	361.7
2	Moncton .....	73.4	72.7	80.1	84.0	91.3	99.6	101.0
3	Saint John .....	262.4	208.3	214.5	219.1	249.5	272.9	245.6
4	Total - Maritime Provinces	584.9	572.5	604.7	627.7	745.5	798.0	708.4
<b>Quebec</b>								
5	Montreal .....	7,502.0	7,765.6	9,133.4	11,779.6	13,962.3	15,558.0	12,271.2
6	Quebec .....	533.8	606.3	654.0	745.1	794.8	788.1	744.9
7	Sherbrooke .....	97.2	103.3	122.1	119.0	155.5	137.4	120.9
8	Total - Quebec .....	8,133.0	8,475.2	9,909.5	12,643.9	14,912.7	16,483.7	13,137.1
<b>Ontario</b>								
9	Brantford .....	85.5	97.4	104.3	120.1	143.9	166.6	126.8
10	Chatham .....	83.8	72.6	78.1	92.6	101.4	112.3	95.5
11	Fort William .....	94.5	80.6	93.3	98.6	108.1	102.2	78.0
12	Hamilton .....	551.8	562.0	625.9	677.1	814.4	909.9	831.8
13	Kingston .....	63.6	60.7	64.8	74.5	79.6	83.9	79.8
14	Kitchener .....	95.7	101.5	107.8	123.2	143.0	159.3	139.5
15	London .....	265.6	258.4	294.4	355.6	404.7	424.8	408.2
16	Ottawa .....	1,957.4	2,019.3	1,868.0	1,922.9	2,089.4	2,001.7	1,904.8
17	Peterborough .....	69.0	74.6	76.2	84.6	92.8	93.2	84.6
18	Sarnia .....			96.8	103.2	120.9	146.8	124.5
19	Sudbury .....						34.1	87.1
20	Toronto .....	7,659.0	7,587.9	8,209.5	10,636.8	12,673.2	13,714.2	10,655.0
21	Windsor .....	283.1	321.0	379.0	452.2	541.3	594.3	428.7
22	Total - Ontario .....	11,209.4	11,236.0	11,998.3	14,641.8	17,312.8	18,543.3	15,044.3
<b>Prairie Provinces</b>								
23	Brandon .....	48.5	51.1	50.3	51.3	61.3	62.3	50.6
24	Calgary .....	638.2	622.2	717.9	734.1	1,096.7	1,253.6	898.4
25	Edmonton .....	343.5	368.3	398.0	437.3	546.8	603.9	570.3
26	Lethbridge .....	58.9	58.4	67.4	64.1	89.9	97.2	73.7
27	Medicine Hat .....	51.5	41.0	35.0	40.7	57.0	54.3	37.9
28	Moose Jaw .....	97.0	105.5	110.1	109.4	119.9	128.4	112.9
29	Prince Albert .....	24.5	24.5	28.6	31.4	35.8	39.2	32.7
30	Regina .....	299.9	376.6	404.1	441.3	552.9	630.3	570.8
31	Saskatoon .....	117.1	126.2	146.9	160.7	203.3	224.2	194.5
32	Winnipeg .....	3,794.9	4,182.6	3,877.2	4,005.0	5,187.7	4,789.0	3,712.1
33	Total - Prairie Provinces 1/	5,507.0	6,000.0	5,885.6	6,127.0	8,006.7	7,922.8	6,279.1
<b>British Columbia</b>								
34	New Westminster .....	59.4	64.3	77.0	82.7	96.7	105.4	93.8
35	Vancouver .....	1,409.9	1,475.0	1,553.2	1,695.9	1,984.5	2,365.7	1,812.7
36	Victoria .....	255.9	303.0	329.5	374.4	422.1	451.7	415.9
37	Total - British Columbia	1,725.2	1,842.2	1,959.8	2,053.0	2,503.3	2,922.8	2,322.5
38	GRAND TOTAL FOR CANADA ..	27,159.5	28,126.1	30,358.0	36,093.5	43,477.0	46,670.5	37,491.3

1/ Including Weyburn Security Bank from 1924 to 1931, inclusive.

TABLE 2. BANK DEBITS BY CLEARING CENTRES AND ECONOMIC AREAS, IN MILLIONS OF DOLLARS, 1924 - 1940. (Concluded)

1931	1932	1933	1934	1935	1936	1937	1938	1939	1940	Line
330.4	258.0	254.2	275.9	310.0	341.8	406.6	339.6	381.8	466.4	1
87.2	73.5	72.7	87.2	90.7	98.6	112.6	108.1	108.9	131.9	2
234.9	187.6	154.2	171.1	173.3	190.0	214.2	191.9	189.2	226.2	3
652.5	519.2	481.0	534.3	574.1	630.4	733.4	639.7	679.9	824.5	4
9,756.8	7,135.5	7,943.8	8,834.7	8,307.1	10,150.0	10,596.3	9,005.7	8,759.5	8,714.5	5
701.3	560.7	555.0	550.7	607.0	717.1	888.5	875.7	977.2	1,160.8	6
92.1	70.0	65.2	64.4	63.4	71.5	83.6	83.7	83.7	97.8	7
10,550.1	7,766.2	8,567.1	9,449.7	8,977.5	10,938.6	11,568.4	9,965.2	9,820.4	9,973.0	8
106.2	85.4	80.4	85.0	94.2	103.2	120.1	109.5	107.1	133.9	9
81.4	71.6	64.1	71.1	79.9	100.7	111.6	103.3	102.3	114.9	10
66.5	55.3	47.8	49.8	50.2	63.3	66.1	68.1	67.0	81.3	11
649.6	526.9	460.7	528.3	559.4	601.4	691.5	625.0	644.4	837.8	12
64.8	55.1	51.5	52.7	55.6	67.0	76.7	71.2	72.7	92.3	13
116.9	96.3	93.1	108.8	114.2	128.0	143.3	141.0	145.3	174.5	14
365.3	316.0	299.1	334.7	362.3	420.9	413.1	389.2	385.8	441.6	15
1,869.7	1,579.5	1,339.0	1,914.3	1,444.2	1,469.3	1,348.8	1,203.9	1,266.3	2,191.4	16
71.0	55.4	49.1	53.8	60.0	68.6	75.8	70.3	70.5	90.6	17
104.0	95.1	86.4	78.2	69.1	74.2	81.3	75.5	76.5	79.5	18
58.8	40.3	41.9	49.0	55.6	72.7	88.8	84.7	85.8	90.3	19
9,512.3	8,066.2	10,221.7	11,389.3	10,642.5	12,168.8	12,226.9	10,428.0	10,137.9	10,510.5	20
310.2	215.7	192.6	204.5	289.4	439.7	493.3	440.3	420.9	545.7	21
13,376.8	11,256.9	13,027.4	14,919.5	13,876.6	15,778.7	15,939.1	13,810.1	13,618.5	15,384.4	22
39.8	33.6	27.3	26.9	25.7	28.3	31.4	32.8	33.8	41.9	23
647.9	513.6	557.9	527.0	616.8	636.1	658.8	650.7	661.7	764.3	24
489.8	393.4	366.4	382.7	400.4	387.4	418.0	430.3	470.3	553.3	25
49.7	37.1	36.9	42.7	48.9	45.8	51.8	57.2	56.7	56.7	26
26.1	21.1	21.5	25.4	27.3	26.8	26.6	28.1	27.7	32.7	27
79.3	61.1	48.7	51.3	53.9	77.4	73.3	68.6	83.3	89.4	28
29.8	21.1	17.8	21.1	24.4	26.0	28.8	25.8	27.8	33.4	29
412.7	462.9	439.6	475.0	505.1	495.6	428.4	507.5	555.5	558.9	30
143.1	115.0	100.0	103.0	110.1	121.6	121.4	114.9	121.9	140.3	31
3,279.8	3,183.5	4,798.2	4,682.2	4,632.8	4,660.5	2,988.7	2,656.4	3,439.6	3,847.4	32
5,201.2	4,797.2	6,414.4	6,337.2	6,445.4	6,505.5	4,827.0	4,572.4	5,478.2	6,118.4	33
68.0	51.1	47.2	52.4	59.8	70.1	74.8	74.0	78.6	92.4	34
1,416.4	1,190.5	1,207.3	1,320.9	1,349.9	1,682.8	1,692.5	1,546.1	1,587.4	1,673.3	35
321.4	261.3	237.1	252.7	262.7	322.5	330.8	317.0	354.2	371.5	36
1,805.8	1,502.8	1,491.6	1,626.0	1,672.5	2,075.4	2,098.1	1,937.1	2,020.3	2,137.1	37
31,586.5	25,844.3	29,981.5	32,866.7	31,546.1	35,928.6	35,166.1	30,924.4	31,617.4	34,437.5	38

# LONG-TERM TRENDS IN CLEARING-HOUSE CENTRES WITHOUT PRICE ADJUSTMENT 1924 - 1940





within these centres. These statistics of "bank debits", as the cheque transactions are called, remained incomplete in that no estimate was made of the relative importance of the cheques charged to accounts in banks outside the clearing-house centres.

Finally, in January 1935, the Canadian Bankers' Association secured the grand total of all cheques charged to accounts at all branch banks throughout the Dominion, thus obtaining the first adequate measure of the full volume of Canadian cheque transactions. The results, as published in the Bureau's Monthly Review of Bank Debits for February, 1935, showed that transactions outside the clearing-house cities totalled  $12\frac{1}{2}$  p.c. of those within the centres. By regions, the corresponding ratios were as follows: Maritime Provinces, 104.2 p.c.; Quebec, 6.9 p.c.; Ontario 13.5 p.c.; Prairie Provinces, 8.4 p.c.; British Columbia, 16.7 p.c.

In four of the main economic regions, therefore, the total bank debits in the clearing-house centres appears a fair measure of the grand total of business transactions. This is definitely not the case in the Maritime Provinces. In this area there is no one banking centre which occupies the dominant position that Montreal, Toronto, Winnipeg and Vancouver hold in the other four areas, respectively. Also Charlottetown and the important mining centres of Sydney and Glace Bay are excluded. The ratio of  $12\frac{1}{2}$  p.c. obtained for all Canada, however, shows that the banking centres omitted are of secondary importance in compiling the cheque transactions for the country as a whole, and this ratio seems sufficiently small to be used in future estimates without a large margin of error.

#### ANALYSIS OF BANK DEBITS BY CENTRES AND BY AREAS FROM

1924 to 1940.

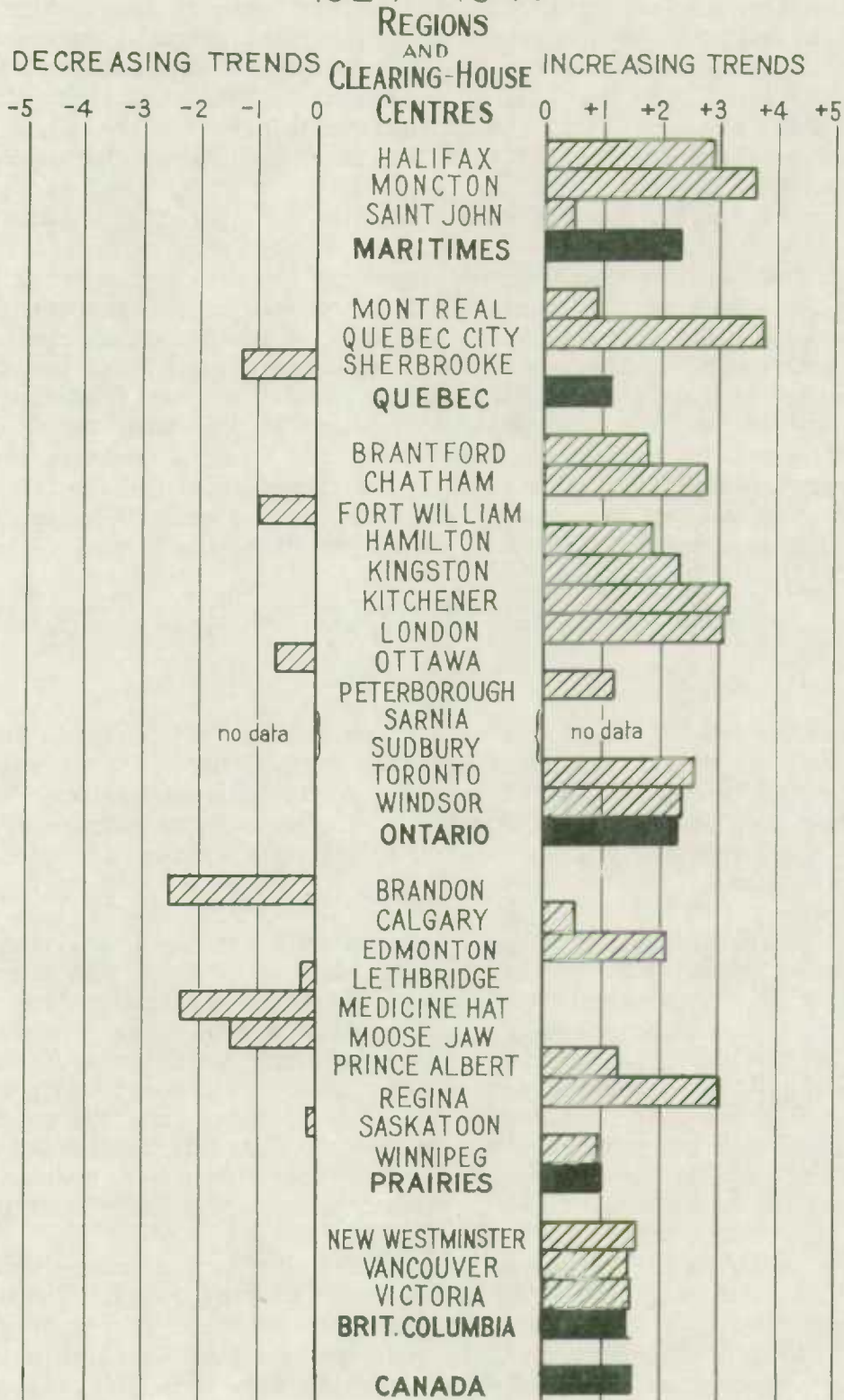
The record of the amount of cheques cashed available for the principal commercial centres over a period of seventeen years constitutes a valuable instrument for the interpretation of economic conditions in Canada. From a general viewpoint the statistics of bank debits, making up a large sample of all payments made within the Dominion, are an important link in a system of national quantitative information.

The bulk of productive activity, apart from home production for family use, is carried on at least in part through the use of money and the process of production is punctuated by money transactions. The continuous flow of money is the counterpart of the movement of commodities from the primary producer to the consumer. As goods are transferred between economic units or as factors of production are supplied by individuals or enterprises to others, the productive process involves money transactions. The flow of money from the producer to the consumer is perhaps the main stream. The return flow may be divided into two main currents, first the payment for goods and services for direct consumption, and second, the flow from consumers to producers through the investment of savings.

In addition to such money flows there are various money transactions which have little significance for the process of production. These include the sale of securities such as stocks and bonds, the transfer of property, charity and gifts. It is of interest that the gross revenues of Canadian enterprise, including government, were estimated at slightly more than \$15 billion in 1938, while total payments by cash and cheque were about \$44.2 billion. On the whole

# LONG-TERM TREND OF BANK DEBITS WITH PRICE ADJUSTMENT

1924 - 1940





and over any considerable period, the money paid out to consumers as income is of the same general magnitude as the aggregate received by producers through the marketing of goods and services and through the sale of new issues of securities. The difference between the gross revenues and total payments is partly due to the duality of the flow. The main objective of the present section is to set forth: (1) the relative importance of the 32 centres as gauged by the amount of money transactions, (2) the trend of decline or advance during the seventeen-year period and (3) the sensitivity of the different centres to the impact of depression and recovery.

RELATIVE IMPORTANCE OF CENTRES AND AREAS FROM THE VIEWPOINT  
OF BANK DEBITS.

The relative importance of the clearing centres is indicated in Table 1, and Chart 1, showing the seventeen-year average totals for each centre and economic area. The striking feature is the predominant position in the picture of cheque transactions occupied by Toronto and Montreal. The annual average in Toronto was \$10,375 million compared with \$9,834 million in Montreal. The combined total for the two cities was more than 60 p.c. of Dominion cheque payments.

The important position of the metropolitan centres was reflected in the statistics by economic areas. Ontario led with an average of \$14,125 million followed by Quebec with cheque payments of \$10,663 million. The Prairie Provinces occupied third position, while British Columbia and the Maritimes followed in the order named.

Grain transactions accounted in part for the relatively high level in Winnipeg, the average having been no less than \$3,980 million. Payments in Ottawa were less than one-half the total for Winnipeg. Vancouver debits averaged \$1,580 million, following Ottawa in order of importance in this respect. Occupying an intermediate position with bank debits in somewhat similar amounts were Quebec, Calgary and Hamilton.

THE LONG-TERM TREND BY CENTRES AND AREAS FROM 1924 TO 1940  
(a) Without Price Adjustment.

The Dominion total without price adjustment recorded a declining trend during the period under review. Measured by the method of least squares, the annual decrement was 0.57 points of the index on the base of 1935-1939.

The Maritime Provinces and Ontario, of the five economic areas, recorded an advancing trend. The largest relative increment in Ontario was shown in Chatham, while a minor gain was recorded in Kingston. Intermediate percentage increases were shown in London, Kitchener, Toronto and Windsor. The annual increment in Toronto was 1.18 points of the index on the base of 1935-1939. Considerable decline in bank debits was shown in Ottawa and Fort William. The decline in Ottawa was partly due to the important change in the method of handling government accounts initiated with the opening of the Bank of Canada in March, 1935. Minor declines were also shown in Brantford, Hamilton and Peterborough. Clearing houses for Sarnia and Sudbury were established in 1926 and 1929, respectively, and the trends were not computed.



TABLE 3. INDEX NUMBERS OF BANK DEBITS IN CANADA BASED ON THE AVERAGE FOR 1926  
EQUALLING 100, CORRECTED FOR SEASONAL VARIATION ACCORDING TO  
EXPERIENCE WITH BANK DEBITS OVER A TERM OF YEARS

Year and Month	Montreal	Toronto	Winnipeg	Vancouver	CANADA
1940					
January .....	93.5	116.5	110.3	100.6	110.7
February .....	123.6	147.5	109.5	122.2	131.8
March .....	88.6	110.9	95.7	97.7	103.9
April .....	102.3	135.5	137.5	108.5	123.0
May .....	109.1	134.5	152.5	110.2	122.7
June .....	80.5	118.3	86.1	96.8	99.0
July .....	88.5	109.0	89.9	106.9	102.5
August .....	89.3	122.0	63.6	102.4	104.6
September .....	86.9	106.7	92.6	106.9	107.1
October .....	96.5	161.0	82.1	121.0	127.9
November .....	87.0	130.9	92.7	108.8	109.7
December .....	102.7	140.0	92.2	111.7	118.3

TABLE 4. BANK DEBITS, BANK CLEARINGS AND PERCENTAGE OF BANK DEBITS TO  
CLEARINGS BY MONTHS DURING 1939 and 1940.

Year and Month	Bank Debits	Bank Clearings	Percentage of Bank Debits to Bank Clearings
1939	\$	\$	
January .....	2,511,881,724	1,455,085,952	172.6
February .....	2,050,003,522	1,162,814,624	176.3
March .....	2,428,097,769	1,285,504,289	188.9
April .....	2,473,051,928	1,378,373,757	179.4
May .....	2,839,206,623	1,644,783,457	172.6
June .....	2,851,081,944	1,487,021,085	190.4
July .....	2,576,528,320	1,360,840,080	174.6
August .....	2,589,740,956	1,411,563,009	169.3
September .....	2,831,650,702	1,700,904,086	166.5
October .....	2,898,915,767	1,626,619,338	178.2
November .....	2,930,345,995	1,612,187,620	181.8
December .....	3,056,866,581	1,617,087,154	189.0
Total .....	31,617,351,831	17,742,784,451	178.2
1940			
January .....	2,674,334,955	1,403,020,551	190.6
February .....	2,955,217,112	1,559,478,313	189.5
March .....	2,412,660,476	1,340,493,662	180.0
April .....	2,938,297,836	1,487,258,168	197.6
May .....	3,339,595,188	1,850,383,552	180.5
June .....	2,681,584,968	1,456,621,363	184.1
July .....	2,622,547,472	1,428,432,773	183.6
August .....	2,457,706,218	1,375,709,392	178.7
September .....	2,571,235,762	1,411,782,770	182.1
October .....	3,526,624,710	1,790,668,314	196.9
November .....	3,049,322,205	1,715,827,604	177.7
December .....	3,208,347,577	1,686,060,401	190.3
Total .....	34,437,474,479	18,505,951,224	186.1

The sharp advances in Halifax and Moncton accounted for the increasing trend of 0.68 points per year recorded by the aggregate for the Maritime Provinces. The advance in the city of Quebec was more than counterbalanced by recessions in Montreal and Sherbrooke, the declining trend in the province having amounted to nearly 0.69 points.

Advancing trends in the Prairie Provinces were limited to Regina and Edmonton. The declining trend in Winnipeg amounted to 1.09 points per year compared with a recession of 0.86 in the sum of the ten centres in the economic area.

Minor declines over the period were shown in the three centres of British Columbia and consequently in the aggregate for the province. The seventeen-year trend in the different locations is presented in Table 1 and Chart 2.

(b) With Price Adjustment by dividing by the index of the General Price Level as shown in Table 11, page 27.

When bank debits are adjusted for price changes, the Dominion figures recorded a definitely rising trend, with the substantial annual increment of 1.57 on the 1935-9 base. This result contrasted with the decrement of 0.57 recorded by the Dominion totals compiled without price adjustment.

Advancing trends were shown in all five economic areas, heavy increases in Halifax and Moncton giving the Maritime Province trend an increment of 2.30. In Quebec, the Quebec city trend recorded an increment of 3.79, the greatest relative advance in the Dominion. Together with the moderate Montreal increase of .92, this advance gave the province an increment of 1.13. This, again, compares with a decrement of 0.69 shown by the unadjusted trend.

The picture in Ontario is dominated by the heavy increase of 2.62 recorded in Toronto, Canada's largest banking centre. The largest increment in the province was the 3.16 shown in Kitchener. Declining trends in bank debits were recorded only in Ottawa and in Fort William, with substantial gains in most other centres, including Brantford, Chatham, Hamilton, Kingston, London and Windsor. The province as a whole showed an advance of 2.34.

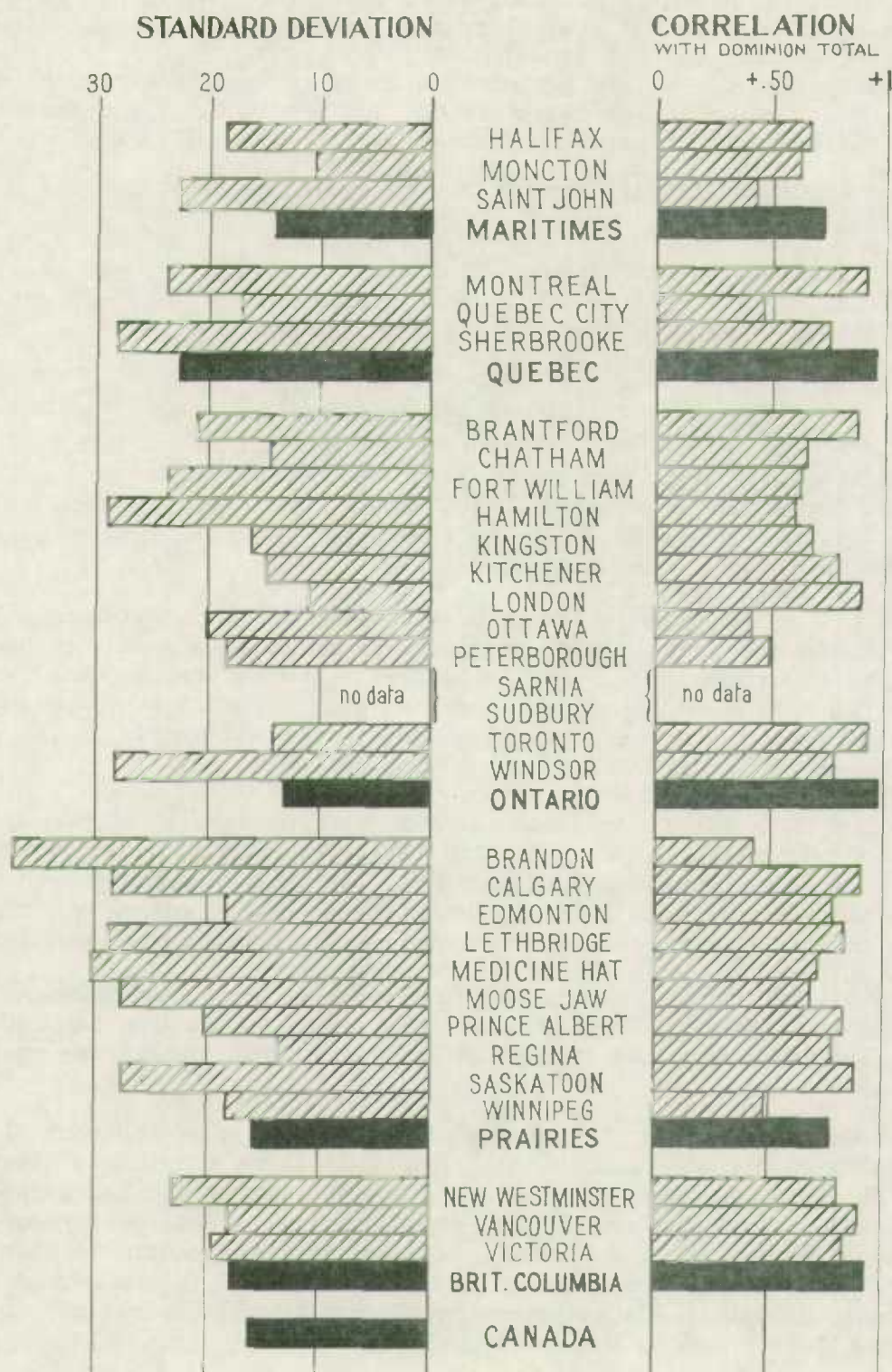
In the Prairie Provinces the clearing centres were about evenly divided between rising and falling trends, but the area as a whole recorded an increment of 1.04, very close to that of .98 observed for Winnipeg. Regina showed the largest increment in the area at 3.03, with the Edmonton trend also noting a marked advance at 2.14. The chief declines were recorded at Brandon, Medicine Hat and Moose Jaw.

Trends in British Columbia were uniformly upward, the increment for the province being 1.48 and that for Vancouver, the principal banking centre, 1.50. In both of the last two areas, the trend based on actual bank debits was reversed by price adjustments.

The adjusted trends of bank debits, therefore, show substantial advances for the Dominion as a whole, and for all five regions. In the thirty clearing centres for which statistics were available, there were twenty-two increases as compared with eight declines. Seven of the eight falling trends were recorded in centres of minor importance, Ottawa being the only important centre to show a decrement. As mentioned above, this was partly due to a change in the method of handling government accounts. The seventeen-year trend in all centres and areas, with price adjustment, is shown in Table 1 and Chart 3.



# STANDARD DEVIATION AND COEFFICIENTS OF CORRELATION OF BANK DEBITS IN CLEARING CENTRES 1924-1940





Fluctuation.- As a further step in the analysis it is well to consider the relative reaction of the centres to conditions of prosperity and depression. The method consists in the computation of the standard deviation from the line of long-term trend. The standard deviation is the most commonly used of the measures of sensitivity; the results expressed in terms of the indexes on the base of 1935-39 of bank debits for each of the centres and economic areas are presented in Table 1 and Chart 4.

Brandon and Medicine Hat of the ten centres in the Prairie Provinces showed the greatest sensitivity running over 30. Saint John recorded the widest fluctuation of the three centres in the Maritimes. The reading was nearly 23 against 18.4 for Halifax and 10.5 for Moncton.

Sherbrooke and Montreal showed relatively wide fluctuation, the standard deviations being between 20 and 30. Windsor and Hamilton were subject to fluctuating tendencies to a marked degree. While Fort William and Ottawa showed a standard deviation of more than 20, Toronto occupied an intermediate position in this respect. London and Chatham showed the least fluctuation of the Ontario centres.

Amplitudes were extreme among the centres in the Prairie Provinces. As mentioned above, Brandon and Medicine Hat recorded marked sensitivity. Four other cities with wide amplitude were Calgary, Lethbridge, Moose Jaw and Saskatoon. Regina recorded greater steadiness than any other centre in the economic area. The standard deviation for Winnipeg was 18.6 compared with 16 for the aggregate in the Prairie Provinces.

New Westminster showed the greatest variability in the coastal province, a standard deviation of slightly more than 18 having been recorded in Vancouver and in British Columbia as a whole.

Correlation with the Dominion Total.- The coefficient of correlation is a measure of the extent to which the movements of two factors correspond. Bank debits of certain cities follow the Canadian pattern closely, while others disclose an independent attitude. A coefficient of over .90 is regarded as excellent, from .70 to .90 the range is good, while below .50 the correlation is either very low or not significant.

The results of the correlation analysis are presented in Table 1 and Chart 4. Four centres recorded excellent correlation with the Dominion total. These were Montreal, Toronto, Calgary and Vancouver. As the debits of Montreal and Toronto made up such a large proportion of the grand total, excellent correlation is naturally expected. Three of the five economic areas, Quebec, Ontario and British Columbia, also followed closely the Dominion pattern.

Fair correlation was shown by Halifax and Moncton, while the fluctuations of Saint John did not significantly follow the general pattern.

Winnipeg and Brandon showed fluctuation quite unlike the Dominion aggregate. The coefficients of the other eight centres in the area ranged from .68 to .91. The correlation was rather low in Moose Jaw, excellent in Calgary and good to very good in the remaining centres other than Winnipeg and Brandon mentioned above as showing insignificant correspondence. The net result was a correlation of .77 for the economic area as a whole.

According to this measure, Saint John, Quebec City, Ottawa, Peterborough, Brandon and Winnipeg failed to follow the general pattern during the period under review.

TABLE 5. BANK DEBITS BY CLEARING CENTRES AND MONTHS, DURING 1939 and 1940.

1. MARITIME PROVINCES

Year and Month	Halifax	Moncton	Saint John	Total for Maritime Provinces
	\$	\$	\$	\$
1939				
January .....	27,897,925	7,864,955	15,094,199	50,857,079
February .....	22,795,549	7,090,180	12,934,343	42,820,072
March .....	27,886,533	7,752,969	14,890,187	50,529,689
April .....	24,857,448	7,492,229	14,078,233	46,427,910
May .....	40,536,999	9,017,000	16,227,793	65,781,792
June .....	27,719,896	9,434,332	16,037,369	53,191,597
July .....	30,651,862	9,603,251	16,116,737	56,371,850
August .....	26,779,214	9,165,541	16,244,676	52,189,431
September .....	32,592,653	9,666,988	16,392,939	58,652,580
October .....	42,057,080	10,035,837	16,659,575	58,752,492
November .....	38,866,663	10,043,139	17,315,547	66,225,349
December .....	39,182,574	11,725,128	17,240,429	68,148,131
Total .....	381,824,396	108,891,549	189,232,027	679,947,972
1940				
January .....	35,788,559	9,929,205	17,843,268	63,561,032
February .....	44,570,361	10,040,128	20,670,633	75,281,122
March .....	34,740,557	8,979,339	16,784,729	60,504,625
April .....	38,994,872	9,270,564	18,720,650	66,986,095
May .....	41,173,794	10,278,501	20,326,197	71,778,492
June .....	32,663,527	11,244,585	17,997,298	61,904,410
July .....	39,906,721	11,322,920	19,912,279	71,141,920
August .....	33,610,893	12,635,018	18,106,058	64,351,969
September .....	34,973,672	10,580,317	17,113,740	62,667,729
October .....	42,069,922	12,844,100	22,405,288	77,319,310
November .....	48,137,050	11,903,302	18,463,230	78,503,582
December .....	39,777,902	12,848,180	17,862,468	70,488,550
Total .....	466,407,830	131,876,159	226,205,847	824,489,836

2. PROVINCE OF QUEBEC

Year and Month	Montreal	Quebec	Sherbrooke	Total for Quebec Province
	\$	\$	\$	\$
1939				
January .....	737,025,257	56,464,011	5,977,366	799,466,634
February .....	592,769,680	71,079,976	5,442,158	669,291,814
March .....	757,205,084	74,782,630	5,757,543	837,745,257
April .....	722,709,985	93,050,854	5,769,571	821,530,410
May .....	793,569,516	81,232,711	7,431,947	882,234,174
June .....	837,974,982	86,546,877	7,204,378	931,726,237
July .....	702,686,811	92,269,777	7,354,960	802,311,548
August .....	685,329,642	102,822,137	6,960,847	795,118,626
September .....	723,910,437	91,499,955	6,896,508	822,306,900
October .....	686,346,296	80,346,429	7,752,175	774,444,900
November .....	728,644,857	70,222,727	8,517,266	807,384,850
December .....	791,299,562	76,893,286	8,645,254	876,838,102
Total .....	8,759,472,109	977,211,370	83,715,973	9,820,399,452

## THE FLOW OF MONEY IN CANADA

1920-1940

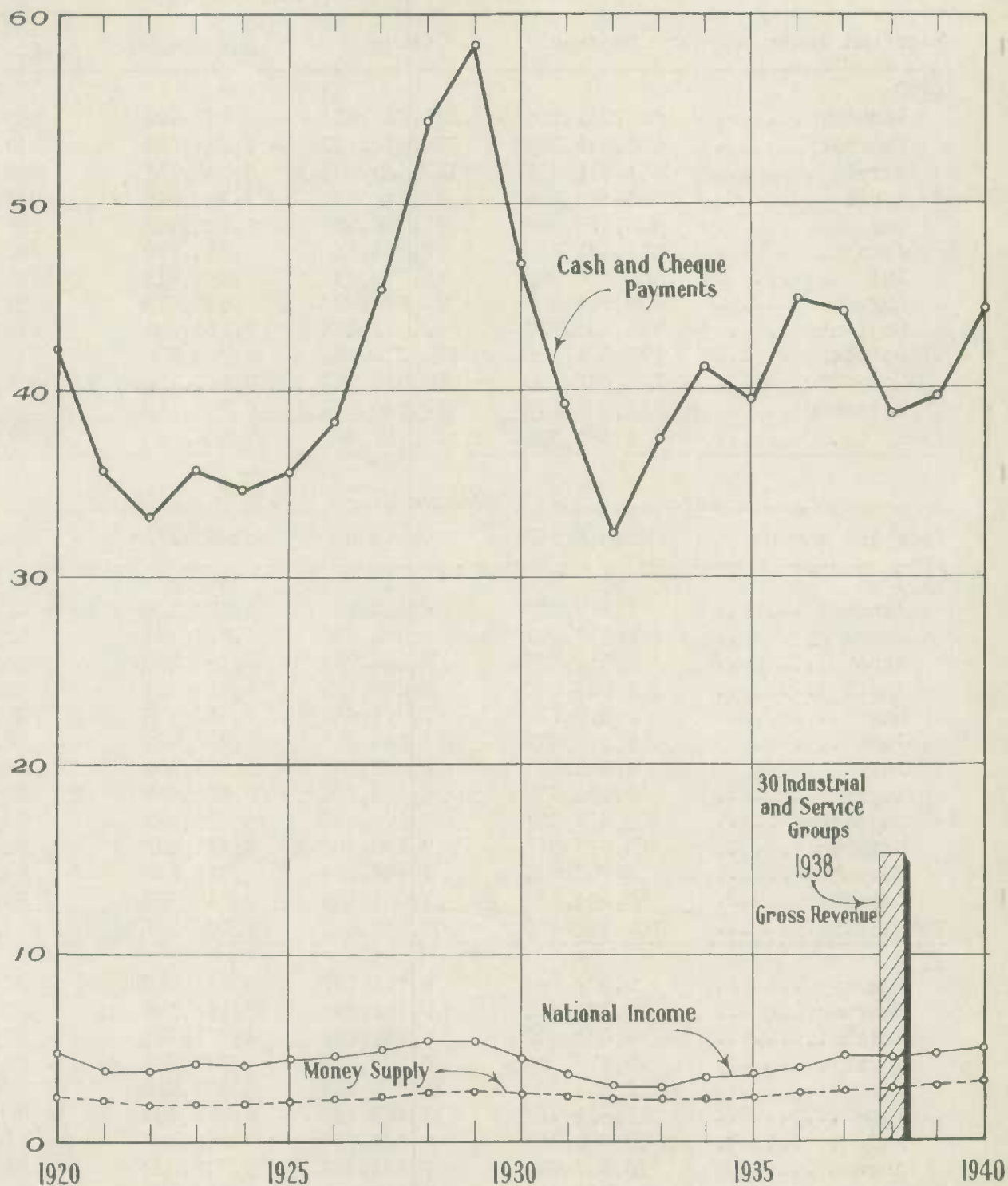
BILLION  
DOLLARS



TABLE 5. BANK DEBITS BY CLEARING CENTRES AND MONTHS, DURING 1939 and 1940.  
(Cont'd.)

2. PROVINCE OF QUEBEC (Concluded).

Year and Month	Montreal	Quebec	Sherbrooke	Total for Quebec Province
<u>1940</u>	\$	\$	\$	\$
January .....	682,031,206	119,727,915	7,147,098	808,906,219
February .....	807,449,954	133,150,752	7,364,389	947,965,095
March .....	641,811,405	115,446,663	6,986,751	764,244,819
April .....	753,445,833	66,446,337	7,280,808	827,170,978
May .....	895,255,784	73,196,977	8,785,631	977,238,392
June .....	664,521,700	72,391,150	8,344,269	745,257,119
July .....	684,638,866	76,379,642	8,682,311	769,700,819
August .....	632,814,520	83,516,384	7,841,075	724,172,589
September .....	625,495,767	82,771,182	7,834,899	716,101,848
October .....	779,621,358	123,330,768	9,758,636	917,710,762
November .....	725,385,786	89,618,367	8,993,108	823,997,261
December .....	821,987,104	119,820,482	8,787,120	950,594,706
Total .....	8,714,457,293	1,160,797,219	97,806,095	9,973,060,607

3. PROVINCE OF ONTARIO

Year and Month	Brantford	Chatham	Fort William	Hamilton
<u>1939</u>	\$	\$	\$	\$
January .....	7,243,718	9,484,737	5,076,336	46,914,196
February .....	7,048,801	8,082,655	4,816,171	42,971,014
March .....	8,315,231	8,162,756	4,190,309	45,021,969
April .....	7,897,770	5,866,135	4,317,764	46,364,157
May .....	9,919,738	7,974,689	5,402,716	52,055,374
June .....	9,334,485	13,646,811	5,637,652	54,014,347
July .....	8,842,031	7,243,545	5,525,338	53,977,407
August .....	8,155,912	6,232,399	6,311,489	58,524,239
September .....	9,893,507	7,671,052	5,949,803	54,719,331
October .....	10,314,913	7,440,403	6,421,095	65,430,234
November .....	9,702,944	9,447,574	6,872,128	64,589,335
December .....	10,444,433	11,007,124	6,512,382	64,852,701
Total .....	107,113,483	102,259,883	67,033,183	644,434,304
<u>1940</u>				
January .....	9,677,788	9,714,157	5,921,565	62,758,514
February .....	10,175,418	9,583,489	6,163,799	65,315,321
March .....	9,035,600	8,256,869	4,771,412	57,774,374
April .....	9,673,918	8,904,203	5,327,211	68,310,174
May .....	12,324,952	10,231,517	6,360,914	73,469,917
June .....	11,571,759	11,462,533	6,972,304	70,366,208
July .....	10,708,151	8,684,918	7,318,717	70,708,652
August .....	10,593,796	7,324,218	8,249,220	72,330,331
September .....	10,552,261	7,710,230	7,021,162	64,566,067
October .....	14,355,660	10,324,335	8,135,484	78,805,651
November .....	12,607,169	10,684,555	7,127,815	76,361,520
December .....	12,639,671	12,047,939	7,898,211	77,082,442
Total .....	133,916,143	114,928,963	81,267,814	837,849,771

TABLE 5. BANK DEBITS BY CLEARING CENTRES AND MONTHS, DURING 1939 and 1940. (Cont'd.)

3. PROVINCE OF ONTARIO (Cont'd.)

Year and Month	Kingston	Kitchener	London	Ottawa	Peterborough
	\$	\$	\$	\$	\$
<u>1939</u>					
January ....	5,979,093	12,239,449	35,685,352	94,417,304	5,410,261
February ...	4,330,582	9,333,467	24,594,631	69,307,245	4,576,701
March .....	5,486,558	10,475,536	28,476,138	82,599,441	5,282,327
April .....	5,571,637	10,583,264	29,352,877	107,946,009	5,328,302
May .....	7,023,556	12,825,698	35,803,733	104,771,581	5,724,649
June .....	5,886,937	11,305,133	35,199,468	113,128,164	5,916,416
July .....	5,512,168	11,710,865	28,498,473	118,660,793	6,170,251
August .....	5,456,552	10,993,369	30,139,332	86,366,658	5,758,858
September ..	6,438,158	12,300,794	31,868,252	93,064,531	6,157,941
October ....	7,519,171	13,570,155	35,395,950	113,322,349	7,012,341
November ...	6,192,376	14,544,801	32,474,715	171,411,361	6,080,498
December ...	7,315,858	15,419,495	38,279,141	111,272,768	7,077,846
Total .....	72,712,646	145,302,026	385,768,062	1,266,268,210	70,496,391

<u>1940</u>					
January ....	6,794,273	12,657,895	33,182,392	126,331,096	6,722,244
February ...	7,137,792	15,585,834	40,900,581	125,109,191	7,575,703
March .....	5,843,750	12,468,786	31,610,514	116,743,892	6,902,931
April .....	6,848,476	14,168,058	33,042,514	229,751,346	7,159,970
May .....	8,915,296	16,430,544	40,419,934	156,724,612	7,749,982
June .....	7,589,570	13,402,555	37,206,733	153,274,545	7,597,460
July .....	7,978,833	13,661,134	34,618,148	169,135,795	7,739,283
August .....	8,038,238	13,144,806	29,827,260	163,611,654	7,626,829
September ..	7,080,712	13,391,874	31,722,805	197,690,937	7,101,156
October ....	10,286,872	16,522,319	50,744,361	303,905,806	8,655,053
November ...	7,740,310	14,636,133	36,939,316	247,577,967	7,182,325
December ...	8,052,402	18,427,558	41,407,620	201,525,670	8,569,687
Total .....	92,306,524	174,437,496	441,622,178	2,191,382,511	90,582,623

Year and Month	Sarnia	Sudbury	Toronto	Windsor	Total for Ontario
	\$	\$	\$	\$	\$
<u>1939</u>					
January ....	6,089,196	6,305,489	883,736,638	37,897,060	1,161,528,829
February ...	5,047,598	5,822,558	711,020,748	33,132,864	930,135,035
March .....	6,014,312	6,339,445	843,208,185	33,964,135	1,087,536,342
April .....	6,222,671	6,185,537	860,959,127	37,476,954	1,134,072,204
May .....	7,837,302	7,630,693	998,350,322	39,895,526	1,295,215,577
June .....	8,850,089	7,244,256	972,680,594	38,641,463	1,281,485,815
July .....	5,933,322	7,199,104	706,230,931	32,392,874	997,897,108
August .....	5,586,483	7,532,565	714,839,202	30,290,778	971,187,836
September ..	6,002,504	8,207,487	840,586,361	31,342,490	1,114,202,211
October ....	6,161,896	7,775,392	839,186,701	32,012,522	1,151,563,125
November ...	6,343,689	7,914,991	847,413,416	34,540,362	1,217,528,190
December ...	6,400,714	7,654,918	950,604,721	39,296,075	1,276,138,176
Total .....	76,489,776	85,812,435	10,173,866,946	429,933,103	13,618,490,448



TABLE 5. BANK DEBITS BY CLEARING CENTRES AND MONTHS, DURING 1939 and 1940. (Cont'd.)

3. PROVINCE OF ONTARIO (Concluded)

Year and Month	Sarnia	Sudbury	Toronto	Windsor	Total for Ontario
1940	\$	\$	\$	\$	\$
January ....	6,042,577	7,027,351	811,272,943	37,482,795	1,135,585,590
February ...	6,780,599	6,660,066	975,621,035	39,304,776	1,315,913,604
March .....	5,117,671	6,714,984	748,995,181	38,572,815	1,052,808,779
April .....	5,730,668	7,407,117	889,606,147	42,305,908	1,328,235,710
May .....	6,728,327	8,398,688	1,007,802,417	47,510,721	1,403,067,821
June .....	7,275,700	8,220,177	873,848,550	44,193,892	1,253,041,986
July .....	6,787,103	7,604,994	706,095,974	38,325,358	1,089,367,060
August .....	6,643,181	7,359,324	731,806,800	40,895,921	1,107,452,178
September ..	5,993,205	7,145,612	688,973,355	44,262,511	1,093,211,887
October ....	8,048,087	8,403,503	1,141,343,633	56,752,716	1,716,283,480
November ...	6,629,858	7,548,366	939,089,913	52,722,741	1,426,847,988
December ...	7,739,215	7,787,266	996,048,433	63,361,283	1,462,587,397
Total .....	79,516,191	90,337,448	10,510,504,381	545,691,437	15,384,403,480

4. PRAIRIE PROVINCES

Year and Month	Brandon	Calgary	Edmonton	Lethbridge
1939	\$	\$	\$	\$
January ....	2,597,268	51,511,296	35,567,852	4,088,887
February ...	1,874,910	38,048,751	28,012,333	3,435,043
March .....	2,221,650	42,754,592	31,577,035	3,563,587
April .....	2,457,635	46,393,010	37,336,097	4,256,505
May .....	2,798,523	46,169,510	38,345,844	4,318,767
June .....	2,908,690	48,013,820	46,947,373	4,047,193
July .....	2,730,277	45,127,053	36,490,030	4,279,710
August .....	2,754,686	46,604,077	34,923,402	4,569,055
September ..	3,303,569	63,248,312	41,724,634	6,061,199
October ....	3,805,775	84,712,006	46,061,268	6,953,777
November ...	3,283,896	73,722,035	45,035,621	5,783,330
December ...	3,073,396	75,360,459	48,257,825	5,345,023
Total .....	33,810,275	661,675,521	470,279,314	56,702,076
1940				
January ....	2,810,554	59,737,947	40,787,728	4,274,214
February ...	2,852,912	61,340,351	40,559,061	4,042,600
March .....	2,451,420	48,863,673	39,503,125	3,664,209
April .....	2,864,880	54,112,265	40,528,207	4,277,467
May .....	3,322,726	61,248,915	42,553,270	4,588,224
June .....	3,170,140	58,605,522	45,692,507	4,502,685
July .....	3,439,481	58,503,709	41,203,296	4,132,792
August .....	3,238,913	59,518,611	43,375,508	4,319,637
September ..	4,006,839	66,676,805	49,006,295	5,726,333
October ....	5,215,146	81,549,363	58,364,806	5,921,850
November ...	4,262,886	73,552,576	53,305,034	5,758,230
December ...	4,290,596	80,609,857	58,433,843	5,499,345
Total .....	41,906,493	764,328,600	553,324,680	56,707,586



TABLE 5. BANK DEBITS BY CLEARING CENTRES AND MONTHS, DURING 1939 and 1940. (Cont'd.)

4. PRAIRIE PROVINCES (Cont'd.)

Year and Month	Medicine Hat	Moose Jaw	Prince Albert	Regina
1939	\$	\$	\$	\$
January .....	2,141,754	5,903,372	1,818,799	32,655,812
February .....	1,427,817	4,881,976	1,577,972	22,275,423
March .....	1,721,466	4,180,313	1,899,700	27,905,751
April .....	2,159,379	5,453,933	1,814,138	35,254,793
May .....	2,193,677	6,288,506	2,187,380	54,335,388
June .....	2,061,898	5,616,365	2,251,396	36,548,854
July .....	2,109,436	5,461,259	2,247,735	38,785,345
August .....	2,045,974	5,722,029	2,178,576	34,648,508
September .....	2,370,260	7,944,119	2,619,924	83,632,017
October .....	4,131,984	11,474,097	3,296,595	92,959,238
November .....	2,890,452	10,270,642	3,037,486	54,584,236
December .....	2,452,312	10,130,672	2,806,594	41,927,970
Total .....	27,707,009	83,327,283	27,796,295	555,513,335

1940				
January .....	2,025,721	6,756,536	2,465,689	37,800,850
February .....	1,998,533	6,782,876	2,288,103	32,097,070
March .....	1,943,040	5,544,083	2,206,142	31,038,348
April .....	2,197,721	8,035,762	2,591,426	35,741,708
May .....	2,245,247	6,826,739	2,752,557	49,233,266
June .....	2,278,575	6,494,517	2,521,129	38,108,904
July .....	2,329,260	7,266,267	2,632,236	60,506,287
August .....	2,388,322	7,973,167	2,834,037	37,657,579
September .....	3,865,743	7,421,624	2,930,744	67,875,573
October .....	4,346,581	9,372,600	3,731,777	73,128,059
November .....	3,770,606	8,768,229	3,187,266	50,273,844
December .....	3,316,587	8,177,619	3,251,278	45,477,574
Total .....	32,705,936	89,420,019	33,392,384	558,939,062

Year and Month	Saskatoon	Winnipeg	Total for Prairie Provinces
1939	\$	\$	\$
January .....	8,668,182	177,538,280	322,491,502
February .....	6,756,812	149,860,922	258,151,959
March .....	7,820,061	163,767,436	287,411,591
April .....	8,349,513	167,793,905	311,269,508
May .....	9,867,361	270,622,791	437,127,747
June .....	8,224,903	232,201,770	388,822,262
July .....	8,567,597	205,596,186	351,404,628
August .....	9,129,329	264,073,604	406,649,240
September .....	12,042,837	446,185,390	669,132,861
October .....	16,041,377	458,226,069	727,662,186
November .....	13,977,899	455,370,130	668,015,727
December .....	12,407,936	448,328,481	650,090,668
Total .....	121,853,807	3,439,564,964	5,478,229,879

TABLE 5. BANK DEBITS BY CLEARING CENTRES AND MONTHS, DURING 1939 and 1940.  
(Concluded).

4. PRAIRIE PROVINCES (Concluded).

Year and Month	Saskatoon	Winnipeg	Total for Prairie Provinces
1940	\$	\$	\$
January .....	10,238,309	326,850,156	493,748,304
February .....	9,469,400	264,666,088	426,076,994
March .....	8,965,490	228,429,789	372,621,325
April .....	10,254,786	378,937,196	539,541,418
May .....	12,170,724	524,867,428	709,815,096
June .....	10,970,448	283,074,253	455,418,680
July .....	10,907,796	324,818,220	515,742,344
August .....	11,115,613	211,399,390	383,820,777
September .....	12,565,251	310,908,056	530,983,263
October .....	16,509,826	353,976,048	612,116,056
November .....	13,572,745	327,896,567	544,347,983
December .....	13,526,238	311,591,974	534,174,961
Total .....	140,267,276	3,847,415,165	6,118,407,201

5. BRITISH COLUMBIA

Year and Month	New West- minster	Vancouver	Victoria	Total for British Columbia	CANADA
1939	\$	\$	\$	\$	\$
January .....	5,504,830	145,435,988	26,596,362	177,537,680	2,511,881,724
February .....	5,429,932	118,651,940	25,522,770	149,604,642	2,050,003,522
March .....	6,093,212	130,697,179	28,084,499	164,874,890	2,428,097,769
April .....	6,226,642	121,764,914	31,740,340	159,731,896	2,473,031,928
May .....	6,145,123	125,750,282	26,951,928	158,847,333	2,839,206,623
June .....	7,418,980	129,383,352	39,053,701	175,856,033	2,831,081,944
July .....	6,640,263	125,578,825	36,324,098	168,543,186	2,376,528,320
August .....	6,650,226	132,064,372	25,881,225	164,595,823	2,389,740,956
September ...	7,294,513	129,514,461	30,547,176	167,356,150	2,831,650,702
October .....	7,479,013	140,781,121	28,232,930	176,493,064	2,898,918,767
November .....	6,683,462	139,023,972	25,484,445	171,191,879	2,930,345,995
December .....	7,080,921	148,764,325	22,806,258	185,651,504	3,056,866,581
Total .....	78,647,117	1,587,410,731	354,226,232	2,020,284,080	31,617,351,831
1940					
January .....	6,913,459	136,232,753	29,387,598	172,533,810	2,674,334,955
February .....	7,494,203	151,256,360	31,229,714	189,980,297	2,955,217,112
March .....	6,663,195	126,157,018	29,660,715	162,480,928	2,412,660,476
April .....	6,705,658	141,707,618	27,950,353	176,363,635	2,938,297,836
May .....	7,362,262	142,154,301	28,178,824	177,695,387	3,339,595,188
June .....	7,299,787	126,003,922	32,658,064	165,961,773	2,681,584,968
July .....	7,547,625	138,651,735	30,395,971	176,595,329	2,622,547,472
August .....	7,987,776	135,578,949	34,341,980	177,908,705	2,457,706,218
September ...	8,377,575	128,521,022	31,372,438	168,271,035	2,571,235,762
October .....	9,673,452	159,381,708	34,139,942	203,195,102	3,526,624,710
November .....	7,722,602	138,912,629	28,990,160	175,625,391	3,049,322,205
December .....	8,632,936	148,723,512	33,145,515	190,501,963	3,208,347,577
Total .....	92,380,530	1,673,281,545	371,451,280	2,137,113,355	34,437,474,479

# BANK DEBITS COMPARED WITH FOUR OTHER FACTORS, 1924-1940

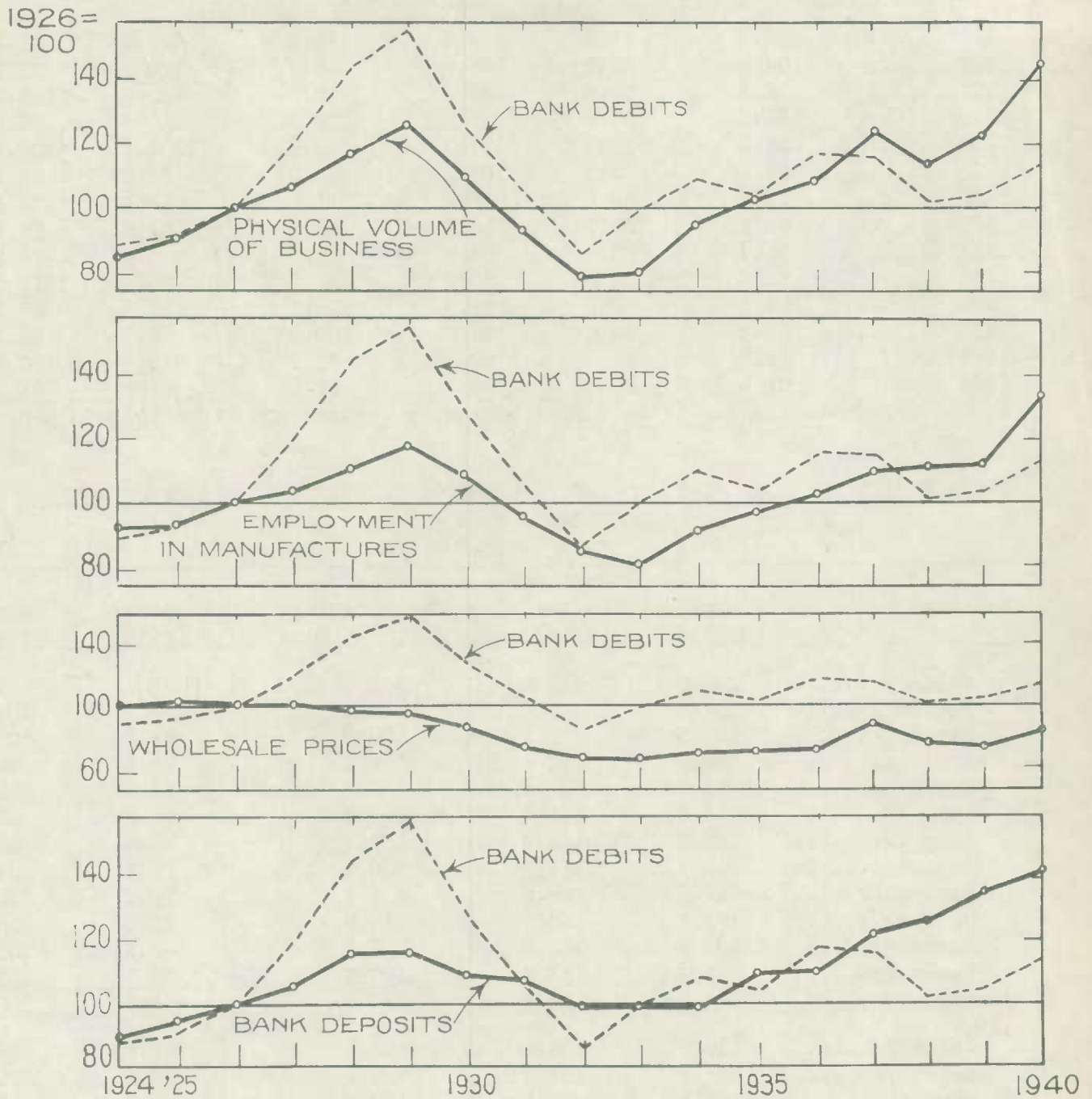




TABLE 6. BANK DEBITS IN CANADA AND IN ECONOMIC AREAS FROM 1926 to 1940.

Year	Canada	Maritime Provinces	Quebec	Ontario	Prairie Provinces	British Columbia
<u>Percentage of Preceding Years to 1940 1/</u>						
1926 .....	88.2	73.3	99.4	78.0	96.2	91.7
1927 .....	104.8	76.1	126.8	95.2	100.1	96.1
1928 .....	126.3	90.4	149.5	112.5	130.9	116.9
1929 .....	135.5	96.8	165.3	120.5	129.5	136.8
1930 .....	108.9	85.9	131.7	97.8	102.6	108.7
1931 .....	91.7	79.1	105.8	87.0	85.0	84.5
1932 .....	75.0	63.0	77.9	73.2	78.4	70.3
1933 .....	87.1	58.3	85.9	84.7	104.8	69.8
1934 .....	95.4	64.8	94.8	97.0	103.6	76.1
1935 .....	91.6	69.6	90.0	90.2	105.3	78.3
1936 .....	104.3	76.5	109.7	102.6	106.3	97.1
1937 .....	102.1	89.0	116.0	103.6	78.9	98.2
1938 .....	89.8	77.6	99.9	89.8	74.7	90.6
1939 .....	91.8	82.5	98.5	88.5	89.5	94.5

1/ For original data see table 2 Bank Debits by Centres and Areas 1924-40 p.p. 6 and 7.

TABLE 7. INDEXES OF FIVE ECONOMIC FACTORS, WITH SEASONAL ADJUSTMENT WHERE NECESSARY, 1929 - 1940.  
1926 = 100

Year and Month	Bank Debits	Physical Volume of Business	Employment in Manufacturing	Wholesale Prices	Common Stocks
<u>1939</u>					
January .....	104.0	113.0	111.3	73.2	102.9
February .....	91.5	111.7	110.0	73.2	104.1
March .....	104.5	113.2	109.3	73.2	103.7
April .....	103.6	116.7	108.0	73.4	96.2
May .....	104.3	121.4	107.5	73.7	99.2
June .....	104.5	121.4	109.4	73.3	97.0
July .....	92.9	120.5	109.1	72.6	97.3
August .....	101.7	125.2	110.3	72.4	94.2
September .....	117.9	125.8	112.1	78.2	100.1
October .....	105.1	133.1	116.0	79.3	106.0
November .....	105.4	133.0	121.0	80.3	103.6
December .....	112.7	133.3	123.6	81.7	101.2
Average .....	104.0	122.4	112.3	75.4	100.5
<u>1940</u>					
January .....	110.7	138.6	125.0	82.6	99.7
February .....	131.8	131.2	125.2	82.8	99.0
March .....	103.9	123.0	124.4	83.2	99.1
April .....	123.0	151.0	124.7	83.1	97.0
May .....	122.7	140.6	126.9	82.1	80.4
June .....	99.0	141.3	127.7	81.6	71.9
July .....	102.5	144.5	131.4	82.4	72.5
August .....	104.6	152.5	134.5	82.7	76.0
September .....	107.1	155.4	139.3	83.1	83.2
October .....	127.9	156.7	143.3	83.3	81.4
November .....	109.7	157.4	146.3	84.0	81.7
December .....	118.3	152.5	152.1	84.2	77.1
Average .....	113.4	145.4	133.4	82.9	84.9

## II. CANADA'S EQUATION OF EXCHANGE 1920 - 1940.

The following tables bearing on the equation of exchange in Canada for the last twenty-one years may be of interest. The equation takes the form of  $MV + M_1V_1 = PT$ .  $M$  signifies the amount of circulating media in the hands of the public.  $V$  is the velocity of the money in circulation or the number of times the media is used in making payments.  $MV$  consequently signifies the total amount of cash payments within a stated period.

$M_1$  signifies the amount of the bank deposits and  $V_1$  the velocity or turnover of such deposits. The symbol  $M_1V_1$  stands for the total amount of payments by cheque against individual accounts during a given period. In the present study, the year is taken as the unit.

On the other side of the equation,  $PT$  symbolizes the estimated national income.

### Method of Compilation

Bank notes in the hands of the public were obtained by deducting the "notes held by other banks" from the total circulation of bank notes. Previous to March 1935, Dominion notes in the possession of the banks and in the central gold reserves were deducted from the total issue of such notes. For the last nine months of 1935, the holdings of the chartered banks of Bank of Canada notes were deducted from the total amount of such notes outstanding. This method was continued in subsequent years.

The amount of subsidiary coin held by the Bank of Canada and the chartered banks in Canada is reported monthly. The outstanding silver, nickel and bronze coins at the end of each year are reported by the Mint. The average bank holdings were deducted from the outstanding coin to obtain the amount in the hands of the public.

Adding the notes and subsidiary coin items obtained, we have the amount of circulating media in the hands of the public.

$M_1$  The sum of the Dominion and provincial government deposits and the notice and demand deposits in Canada is regarded as  $M_1$  i.e. deposit liabilities of the banks subject to cheque. The average of the twelve month-end totals was used as annual data.

$M_1V_1$  Bank debits as published by the Bureau are available from January, 1924 for thirty-two clearing centres. By using bank clearings and a constant, determined by the relationship between clearings and debits, bank debits were interpolated for the period from January 1919 to December, 1923. By a test made for January 1935, it was found that cheques cashed outside of clearing centres amount to  $12\frac{1}{2}$  per cent of the published totals. Adding  $12\frac{1}{2}$  per cent to clearing-house returns, a series roughly equivalent to  $M_1V_1$  is obtained.

$V_1$  Upon dividing bank debits plus the  $12\frac{1}{2}$  per cent, by bank deposits, we ascertain the velocity of deposits, the  $V_1$  of the equation.

$V$  As no statistics are available showing the amount of money paid into the chartered banks during any given period, it is impossible to directly obtain the velocity of circulating media in the hands of the public.



It is inferred from experience in the United States that the turnover of money is about 16.5 per cent greater than the turnover of deposits. The estimated velocity of money in the United States from 1896 to 1909 was nearly 21 according to statistics given in Irving Fisher's "Purchasing Power of Money". The average turnover of deposits in Canada from 1919 to 1939 was 17.5. The turnover of money on this basis was regarded as being 16.5 per cent greater than that of deposits. These assumptions admittedly involve a margin of error, but money payments play a small part in comparison with cheque payments and the resulting error in total payments is not regarded as important.

MV        Multiplying the circulating media in the hands of the public by the velocity, the total cash payments were obtained. Total payments by cash and cheque,  $MV + M_1V_1$ , were obtained in millions of dollars by addition, the results being shown in Table 4.

A detailed study of the national income during the inter-war period has been carried to the point justifying the publication of the totals. The national income estimates, embracing in terms of value the entire economic activities of the Dominion, should correlate with the sum of cheque and cash payments.

As stated, statistics of bank debits as published in this bulletin are limited to returns from clearing house centres only. For the purpose of establishing the ratio of the debits in clearing centres to the total amount of debits charged to all accounts at all branch banks in Canada in a particular month, a special enquiry was made by the Canadian Bankers' Association in regard to the amount of bank debits charged to accounts at branch banks outside of clearing house centres during January 1935. It was ascertained that the total debits outside of clearing house centres were in that month only 12.5 per cent of the debits in clearing centres.

Since payments by cheque in the thirty-two clearing centres of Canada were \$34,438 million in 1940 compared with \$31,617 million in the preceding year, and since bank debits outside of clearing centres are about 12.5 per cent of the reported totals it follows that, as nearly as can be estimated, cheque payments in the Dominion as a whole were about \$38,742 million in 1940 compared with \$35,570 million in 1939. It is estimated that currency in circulation averaged about \$353 million, a new record, compared with \$251 million in the preceding year. On this basis, it is calculated that the total payments by cheque and cash were about \$44,211 million compared with \$39,595 million in 1939. The sum of cheque and cash payments constitutes one side of the equation of exchange, while the other is the total net value of commodities and services produced or the national income.

The cyclical fluctuation of bank deposits is of a more moderate character than that of bank debits, the turnover of bank deposits having been relatively high in the prosperity period culminating in 1929. Thus the rate of turnover of bank deposits in 1940, as ascertained by dividing the grand total of bank debits in all centres by the average of bank deposits, was 14.09 times as compared with 23.04 times in 1929. The present record level of bank deposits is sufficient for considerable business and speculative expansion. If the same ratio had been maintained in 1940 as in 1929, payments by cheque would have aggregated \$63.3 billion compared with the total of \$38.7 billion obtained by adding 12.5 per cent to the recorded amount of debits in the thirty-two centres.

The main factors in the equation of exchange are shown by years during the period from 1920 to the present in tables 8 to 11.

TABLE 8. CIRCULATING MEDIA IN HANDS OF PUBLIC

Millions of Dollars

Year	Dominion and Bank of Canada Notes /3	Circu- lation of Bank Notes /3	Total Notes in Hands of Public/1/3	Subsidiary Coin Out- standing	Subsidiary Coin in Hands of Public	Circulat- ing Media in Hands of Public(M)
1920	305.8	228.8	214.2	30.28	24.43	238.68
1921	271.5	194.6	171.2	30.30	24.50	195.70
1922	240.4	166.5	151.7	30.19	24.39	176.09
1923	240.9	170.4	160.1	30.23	24.43	184.53
1924	226.0	166.1	179.0	30.13	24.33	203.33
1925	212.7	165.2	175.8	30.13	24.33	200.13
1926	190.0	168.9	180.3	30.04	24.24	204.54
1927	184.9	172.1	184.1	30.00	24.20	208.30
1928	201.2	176.7	189.0	30.97	25.17	214.17
1929	204.4	178.3	191.5	32.26	26.46	217.96
1930	174.6	159.3	173.0	32.35	26.55	199.55
1931	153.1	142.0	156.7	32.83	27.03	183.73
1932	165.9	132.2	149.1	33.35	27.55	176.65
1933	179.2	130.4	149.8	33.27	27.47	177.27
1934	190.3	135.5	155.7	33.70	27.90	183.60
1935	127.3 /2	125.6	165.9	33.67	27.87	193.77
1936	105.3	119.5	179.9	34.00	28.20	208.10
1937	141.1	110.3	199.1	35.29	29.49	228.58
1938	161.1	99.9	203.7	36.63	30.97	234.67
1939	184.9	94.1	218.1	38.87	33.18	251.28
1940	277.1	91.1	294.1	45.05	39.15	333.25

/1 Holdings of chartered banks and of Central Gold Reserves are deducted from the sum of the first and second columns to give total notes in hands of public.

/2 Bank of Canada notes first appear in the last ten months of the year 1935.

/3 Average of monthly data. The letters in the headings represent symbols used in formula.

TABLE 9. DEPOSITS IN CANADA, AVERAGE OF MONTHLY DATA

Year	Notice Deposits	Demand Deposits	Dominion Government Deposits	Provincial Government Deposits	Sum of Deposits (M1)
1920	1,239.3	653.9	188.4	21.4	2,102.9
1921	1,289.3	551.9	109.4	28.8	1,979.5
1922	1,191.6	502.8	83.7	28.8	1,806.9
1923	1,197.3	523.2	50.6	34.3	1,805.3
1924	1,198.2	511.2	53.9	34.8	1,798.1
1925	1,269.5	531.2	34.5	23.8	1,859.1
1926	1,340.6	553.3	51.3	21.6	1,966.8
1927	1,399.1	596.1	45.4	25.6	2,066.1
1928	1,496.6	677.5	42.2	21.8	2,238.1
1929	1,479.9	696.4	77.8	24.5	2,278.6
1930	1,427.6	622.9	47.7	28.0	2,126.2
1931	1,438.0	578.6	49.0	24.4	2,089.9
1932	1,376.3	486.3	55.6	26.2	1,944.3
1933	1,378.5	488.5	38.8	23.2	1,929.0
1934	1,372.8	514.0	35.1	30.8	1,952.6
1935	1,445.3	568.6	25.5	39.3	2,078.7
1936	1,518.2	618.3	37.8	39.3	2,213.7
1937	1,573.7	691.3	47.2	42.7	2,354.9
1938	1,630.5	690.5	49.4	44.9	2,415.3
1939	1,699.2	741.7	92.3	53.5	2,586.7
1940	1,646.9	875.1	163.4	63.6	2,749.0



TABLE 10. BANK DEBITS AND VELOCITY OF DEPOSITS AND MONEY.

Millions of Dollars						
Year	Bank Clearings	Bank Debits in 32 Centres	Bank Debits adding 12½ p.c. (M1V1)	Velocity of Bank Deposits (V1)	Velocity of Money or 116.5 p.c. of V1 (V)	Bank Debits less five large Centres
1920	20,251.1	33,212.0	27,363.5	17.77	20.71	-
1921	17,443.1	28,526.0	32,091.8	16.21	18.89	-
1922	16,227.1	26,567.0	29,887.9	16.54	19.27	-
1923	17,332.6	28,354.0	31,898.3	17.67	20.53	-
1924	17,008.0	27,159.5	30,554.4	16.99	19.80	4,336.3
1925	16,761.5	28,126.1	31,641.3	17.02	19.83	5,095.7
1926	17,715.1	30,358.0	34,152.8	17.54	20.44	5,716.6
1927	20,568.4	36,093.5	40,605.2	19.65	22.90	6,253.1
1928	24,554.9	43,477.0	48,911.6	21.85	25.46	7,579.9
1929	25,105.2	46,670.5	52,504.3	23.04	26.85	8,241.9
1930	20,091.9	37,491.3	42,177.7	19.84	23.12	7,135.4
1931	16,827.6	31,586.5	35,534.8	17.00	19.81	5,751.4
1932	12,914.2	25,844.3	29,074.8	14.95	17.42	4,734.1
1933	14,720.6	29,981.5	33,729.1	17.49	20.38	4,471.6
1934	15,963.6	32,866.7	36,975.0	18.94	22.07	4,725.3
1935	16,927.5	31,546.1	35,489.3	17.07	19.89	5,169.6
1936	19,202.5	35,928.6	40,419.7	18.26	21.27	5,797.1
1937	18,850.4	35,166.1	39,561.8	16.80	19.59	6,312.9
1938	17,263.6	30,924.4	34,310.0	14.41	16.79	6,084.2
1939	17,742.8	31,617.4	35,569.6	13.75	16.02	6,390.8
1940	18,506.0	34,437.5	38,742.2	14.09	16.42	7,500.7

TABLE 11. TOTAL PAYMENTS BY CHEQUE AND CASH, MONEY SUPPLY AND NATIONAL INCOME.

Millions of Dollars and Indexes, 1926 = 100

Year	Cash Payments (MV)	Cash and Cheque Payments M1V1 + MV	Money Supply M1 + M	Velocity of Money Supply	National Income In Money Form	Real Income 1926 Prices	General Price Level
1920	4,943.1	42,556.6	2,342	18.06	4,614	3,791	121.7
1921	3,696.8	35,788.6	2,175	16.45	3,735	3,527	105.9
1922	3,393.3	33,281.2	1,983	16.78	3,762	3,891	96.7
1923	3,820.1	35,718.4	1,990	17.95	3,945	4,067	97.0
1924	4,025.9	34,580.3	2,001	17.28	3,854	3,937	97.9
1925	3,968.6	35,610.4	2,059	17.29	4,161	4,194	99.3
1926	4,191.0	38,343.8	2,151	17.83	4,494	4,494	100.0
1927	4,770.1	45,375.3	2,274	19.95	4,682	4,622	101.3
1928	5,452.8	54,364.4	2,452	22.17	5,138	5,022	102.3
1929	5,852.2	58,356.5	2,497	23.37	5,149	4,913	104.8
1930	4,613.6	46,791.3	2,326	20.12	4,326	4,378	98.8
1931	3,639.7	39,174.5	2,274	17.23	3,498	3,975	88.0
1932	3,077.2	32,152.0	2,121	15.16	2,893	3,608	80.2
1933	3,612.8	37,341.9	2,106	17.73	2,795	3,511	79.6
1934	4,052.1	41,027.1	2,136	19.21	3,171	3,890	81.5
1935	3,854.1	39,343.3	2,272	17.32	3,381	4,074	83.0
1936	4,426.3	44,846.0	2,422	18.52	3,829	4,547	84.2
1937	4,477.9	44,039.7	2,583	17.05	4,342	4,835	89.8
1938	3,940.1	38,728.8	2,650	14.61	4,246	4,672	90.9
1939	4,025.5	39,595.1	2,838	13.95	4,409	4,883	90.3
1940	5,472.0	44,210.8	3,082	14.34	4,784	5,090	94.0





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