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DEPARTMENT OF TRADE AND COMMERCE DOMINION BUREAU OF STATISFICS - CANADA INTERNAL TRADE BRANCH

(Issued January 9, 1937.)

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INVESTORS' INDEX NUMBERS OF SECURITY PRICES (1926:100)

Higher prices and sales volume characterized trading on Canadian stock markets for the first week in 1937 and the general index registered a gain for the fifth successive week. This index for eighty-seven common stocks mounted from 137.7 for the week of December 31 to 140.1 for the week ending January 7. The comparative index for last year was 112.8.

Utilities have come in for increasing attention during the past two weeks and have doveloped notable firmness. Consequently, the index for mineteen Utilities advanced from 64.7 for December 31 to 67.6 for January 7. For the week ending January 9, 1936, this index was 50.8. In Utilities group, greatest interest was focused on Brazilian, Montreal Light, Heat and Power, C.P.R. and Shawinigan.

Industrial stocks moved irregularly higher and the index for simty-eight Industrials reached 21967 for January 7. This compares with 217.66 for the previous week and 180.2 for the corresponding week in 1936. Oils were uniformly strong, and Pulp and Paper and Food issues were also prominent.

DAILY INVESTORS' COMMON STOCK PRICE INTEX NUMBERS

Groups	<u>);</u>	Daily Ir Janua 5	idexos iry - 6	7	Wockly Avorage
INDUSTRIALS	21.8.7	21.9.1	220.1	221.2	219.7
Machinery and Equipment Pulp and Paper Milling Oils Textiles and Clothing Food and Allied Products Boverages Building Materials Industrial Mines	184.4 34.8 115.3 227.2 74.5 131.9 141.3 71.7 545.8	186.8 35.4 115.2 223.0 75.0 182.7 140.2 71.0 546.5	1.90.5 35.9 112.9 231.5 75.8 183.5 140.5 71.2 542.3	190.3 34.9 113.2 230.3 76.0 184.4 140.3 71.2 552.9	188.0 35.2 114.1 228.7 75.2 183.3 140.5 71.2 546.9
UTILITIES Transportation Telephone and Telegraph Power and Traction	66.1. 36.9 121.1 87.4	66.6 37.1 121.4 88.2	66.6 36.6 121.7 88.6	69.3 38.9 122.0 92.2	67.6 38.1 121.6 89.6
GRAND TOTAL	138.9	139.4	139.8	141.7	140.1

CHANGES IN THE INVESTORS' SECURITY PRICE INDEX

In addition to the usual year-end revision of issues included in the Investors' index, a number of changes in method and policy are being inaugurated at the beginning of 1937. Experiments have shown that these changes will not affect the significance of comparisons with carlier periods, and it is believed that they will increase substantially the usefulness of the Investors' price index numbers. The changes made are four in number.

1. Daily indexes are being published once each week as a supplement to the regular weekly averages.

2. The Iron and Steel and Miscellaneous group indexes have been reclassified into Machinery and Equipment, Building Materials and Industrial Mines. The constituents of these new groups are listed on page Island

3. Wockly and monthly indexes will be calculated from weighted daily indexes based on daily closing quotations at Montreal and Toronto. Four lay, weekly and monthly average prices were computed from the complete record of all individual sales recorded on Montreal and Toronto Stock Exchange daily sheets. A comparison of results obtained by the two methods is shown below.

4. A considerable reduction has been made in the issues used to compile the index. For the most part these were lightly weighted inactive stocks exerting a negligible influence upon the Investors' price indexes.

In addition, the Bureau has reviewed the weighting principle and the type of average employed. Individual stock weights are based upon the aggregate of shares outstanding, and the weighted arithmetic average is used. Both of these features are being retained.

COMMENTS ON CHANGES

Daily Indexes

Daily indexes will be calculated for exactly the same sub-groups and groups shown for weekly computations. These new figures are issued to reveal day to day market fluctuations which weekly averages obscure. They are designed to supplement weekly indexes, rather than to provide a daily service. Daily closing prices at Toronto and Montreal have been weighted by the number of shares outstanding to obtain group aggregates which are compared with corresponding base period aggregates. The final index may be represented as -

Current aggregate x 100 Base period aggregate

Group Reclassification

The wide range of fluctuations in common stock prices make a thorough knowledge of group movements essential to an understanding of market behaviour. This is particularly true of Canadian markets in which trading is dominated by a comparatively small number of market leaders. It is believed that the present reclassification of Iron and Steel and Miscellaneous issues into Machinery and Equipment, Building Materials, and Industrial Minos will make possible a more clear cut appraisal of price movements. The two industrial mines, International Nickel and Consolidated Smelters, have long been a dominant influence in the general industrial index as well as in the miscellaneous section, and it will now be possible to determine more exactly the extent of this influence. The segregation of building material issues should furnish a valuable reflection of activity in the building industry. The Machinery and Equipment group might be logically subdivided again into Consumers! and Producers! goods, but the available representation of stocks so classifiable does not warrant this distinction at present.

Computation of Weekly and Monthly Indexes

The Bureau's former method of computing weekly and monthly price averages was designed with particular regard for periods of wide market fluctuations. The most reprosentative average is undoubtedly this type, based upon all sales recorded and giving each sale price a weight corresponding to sales at that price. However, with literally hundreds of transactions sometimes occurring within the space of one week in a single stock, the laborious nature of such computations is readily evident. In substituting the method described below, the Bureau sacrifices a slight degree of accuracy in weekly averages, but the new procedure still represents a more careful representation of weekly averages than is usual in the construction of this type of index, and the saving in time makes possible the computation of daily figures. To compute weekly averages for each group index, the daily indexes described above are weighted by the corresponding group totals of daily sales at Montreal and Toronto for the stocks included. This gives a result more closely comparable to that obtained by the former method than could be obtained by a simple average of daily indexes. The relationship between indexes computed by the old method, the weighted average of daily indexes, and the simple unweighted average of daily indexes may be observed from the following table, which also includes constituent daily figures for the threeweek period under review.

	Daily an	d Weekl	y Indax	es for	the Jnv	estors?	Miscellaneous	Section	n
			Da		Weekly	Index			
	1	2	3	4	5	6	Old Method	New Method	Unweighted Average
week week	429.9 433.6 419.8	436.7 433.7 438.7	424.0 429.4 415.3	435.3 424.1 420.7	426.5	427.5	428.8 422.4 422.1	429.7 424.3	430.0

The high level of these indexes and the wide range of fluctuation during the period combine to accentuate variations due to the different methods of calculation. If, for example, the indexes were in the neighbourhood of 100.0, variations would be approximately one-fourth of the amounts shown above. Actually, the decline between the first and second weeks was 1.5 p.c. when recorded by the old method and 1.3 p.c. by the new, while the absolute decreases were 6.2 and 5.4. The second week indexes were only 0.35 p.c. apart although the absolute difference was 1.9. A more serious discrepancy occurred in the figures of the third week, the new method showing a recession of 0.7 p.c. against 0.1 p.c. according to the old method. This is explained by an unusual concontration of sales at low prices in one day of the second week, and it is significant that the levels of the two indexes in the third week were again almost identical. In fact, it is physically impossible for them to differ materially for more than a short space of time.

Reductions in the List of Stocks

lst 2nd 3rd

A considerable number of closely held and inactive stocks have been deleted from the Investors' lists after careful tests to determine the effect of their removal. The tests were based upon prices in two weeks representing approximately the high and low points of prices in 1936, and quotations in the low period were chosen as the base for an index of the high period. Relationships between indexes for the 1936 list of 112 stocks and a reduced list of 79 issues are shown following:

	1936 List	Reduced Lis
Industrials	120.8	118.5
Utilities	120.3	121.3
Grand Total	120.6	119.1

The list as finally determined includes 96 stocks, a few issues of minor importance having been replaced to preserve continuity in sub-group index numbers and nine bank stocks will also be included in future weekly computations.

Weighting Principle and Type of Average

The two most logical weighting principles for an index number of common stock prices are undoubtedly those based upon shares traded and shares outstanding. The Bureau has retained the latter for two reasons. First, the logical application of trading volume to a weighting system involves frequent changes of weights which tend to make resultant indexes erratic in character and unsuitable for long period comparisons. Second, if volume weights are corrected only at infrequent intervals, they give substantially the same result as weights based upon shares outstanding, except that the importance of market leaders tends to be emphasized more strongly by the former. Since a small group of five or six Canadian issues tend to dominate sales, it seems inadvisable to increase their influence unnecessarily.

The Bureau has experimented at some length with geometric averages of stock prices but believes the weighted arithmetic type to be preferable. It is more widely understood, and the results of tests made with the simple geometric average between 1933 and 1936 compared closely with those obtained from weighted arithmetic averages.

LIST OF STOCKS IN THE INVESTORS' SECURITY PRICE INDEX

Industrials (68)

Maghinery & Equipment: (8) Canadian Car and Foundry, Cockshutt Plow Co., Ford "A", General Steel Wares, Kelvinator, Massey-Harris, National Steel Car, Page-Hersey.

Pulp and Paper: (6) Abitibi, Bathurst Power and Paper, Dryden Paper Co., Hinde and Dauch, Howard Smith, St.Lawrence Corporation.

Milling: (4) Lake of the Woods, Maple Leaf, Ogilvie, Western Ganada Flour,

Oils: (4) British American Oil, Imperial Oil, International Petroleum, McColl-Frontenac Oil,

Textiles and Clothing: (10) Bruck Silk, Canadian Celanese, Cosmos Imperial, Dominion Textile, Harding Carpets, Montreal Cottons, Penmans, Regent Knitting, Tip Top Tailors, Wabasso Cotton.

Food and Allied Products: (13) Canada Bread, Canadian Canners, Canada Packers, Consolidated Bakeries, Dominion Stores, Eastern Dairies, Fanny Farmer, Imperial Tobacco, Laura Secord, Loblaw "A" and "B", National Grocers, Weston Ltd.

Beverages: (7) Associated Breweries, Canadian Industrial Alcohol "A" and "B", Canadian Wineries, Distillers Corporation-Seagram, National Breweries, Walkers G & W.

Building Materials: (14) Building Products, Canadian Bronze, Canada Cement, Canadian Dredge and Dry Dock, Canada Wire and Cable "A" and "B", Dominion Bridge, Dominion Glass, Foundation Co., Gypsum, Lime and Alabastine, Hamilton Bridge, Sherwin-Williams, Steel of Canada, United Steel.

Industrial Mines: (2) Consolidated Mining and Smelting, International Nickels

Domestic Utilities (19)

Transportation: (2) Canada Steamship Lines, Canadian Pacific Reilway.

Telephone and Telegraph: (2) Bell Telephone, Montreal Telegraph.

Power and Traction: (15) Brazilian, Beauharnois, British Columbia Power "A" and "B", Canada Northern Power, Consumers' Gas, Montreal Light, Heat and Power, Montreal Tranways, Power Corporation, Quebec Power, Shawinigan, Southern Canada Power, Union Gas, Winnipeg Electric "A" and "B".

Banks (9)

Canada, Canadienne Nationale, Commerce, Dominion, Imperial, Montreal, Nova Scotia, Royal, Toronto.

The following issues have been removed from the list of stocks used in 1936: Agnew Surpass, Alberta Pacific Grain, Beatty Bros. Brewers and Distillers, British Columbia Packers, F.N. Burt, Canadian Converters, Canadian Cottons, Canadian General Electric, Canadian Oil, Crows Nest Coal, Dominion Steel and Coal "B", Eastern Steel Products, Chas. Gurd, Hunts "A", International Power, International Utilities "A", Moore Corporation, National Sewer Pipe "A", Ottawa Light, Heat and Power, Ottawa Traction, Photo Engravers, Pressed Metals, Riverside Silk, Simon & Sons, Simpsons "A" and "B", St-Lawrence Flour, Twin City, Viau Biscuit, Western Grocers.

New additions include: Canada Wire and Cable "A" and "B", Harding Carpets, Montreal Cottons.

INDEX NUMBER OF DOMINION OF CANADA LONG-TERM BOND PRICES AND YJELDS, 1928-1937. (1926=100)

The Dominion Bureau of Statistics index number of Pominion of Canada long-term bond prices, on the base 1926=100, remained at 118,4 for the week ending January 8. Montreal reported a quiet week with prices slightly irregular. On Wednesday, a softening in some of the more distant maturities coincided with the appearance of a long-term Ontario issue for \$20,000,000.

The index for Dominion of Canada long-term bond yields rose from 63.7 to 63.9. The average yield of the six issues used in this index was 3.03. A shifting of emphasis was noted in which the yields of the three longer-term issues increased whereas those of the three shorter-term issues were reduced.

MONTHLY IN	DEX NUMBER	is of do!	AINION O	F CANADA	LONG-TE	RM BOND	PRICES,	1928-1936	5.	
(From data issued by A.E. Ames and Co. Ltd.)										
January February March April May June July August September	(Fr <u>1928</u> 106.0 105.6 105.4 105.3 105.3 105.3 103.5 102.9 102.1 102.3 102.0	1929 101.4 101.0 99.2 100.0 100.0 98.3 98.3 99.3 99.0 98.2	<u>1930</u> 99.0 99.0 99.3 99.9 100.5 100.9 101.0 101.2 102.1 103.0	<u>1931</u> 103.1 103.1 103.1 103.7 104.5 104.0 105.4 105.3 105.3 105.3	1932 94.1 94.9 96.4 96.2 96.3 94.6 97.0 101.0 101.8	<u>1933</u> 103.3 103.3 103.4 102.1 102.9 103.5 104.9 104.5 104.5 105.6 105.7	<u>1934</u> 104.6 105.4 107.9 109.4 110.3 110.4 112.1 112.3 112.6	1928-1936 1935 115.9 114.2 115.0 114.5 115.2 114.2 114.5 114.5 114.8 110.9	1936 113.6 115.0 115.5 115.7 115.9 117.0 118.0 119.1	
November December	. 102.2 . 101.7	98.7 99.4	103.2	97°4 95°5	102.6	104.2	112.2	112.5 J.12.5	117.6	
December	. 101.7	99.4	103.1	95.5	101.2	103.6	115,2	1.12.5	118.	

MONTHLY INDEX NUMBERS OF DOMINION OF CANADA LONG-TERM BOND VIELDS, 1928-1936. (From data issued by A.E. Anes and Co. Ltd.)

	1928	1929	1930	1931	1932	1933	1934	1935	1936
January	89.2	97.3	102.1	93.9	112.7	96.3	93.2	70.9	72,4
February	89.5	98.3	101.4	93.6	112.2	96.0	91.0	73.2	70.8
March	90.1	102.3	101.1	91.9	109.1	97.7	86.1	71.4	69.9
April	90.3	100.9	99.3	90.0	109.8	96.6	83.8	72.2	69.5
May	89.5	100.2	98.4	89.3	1.09.3	95.0	81.08	71.4	68.8
June	93.3	104.0	98.2	88.3	11107	93.3	82.1	73.4	66.9
July	94.4	104.0	98.0	88.3	107.5	93.5	80.1	72.1	65.1
August	95.9	102.0	95.9	88.3	100.5	92.2	77.8	71.6	63.2
September	95.2	102.8	93.9	95.5	98.7	92.4	77.2	79.8	63.1
October	96.2	103.7	93.6	105.2	96.2	93.5	79.3	78.9	66.2
November	95.9	103.3	93.6	107.7	98.5	94.3	77.2	74.5	65.1
December	97.1	101.4	93.9	111.7	99.4	95.7	71.3	75.5	64-1

WEEKLY INDEX NUMBERSX 1936-1937.

	Date			Prices	Yields
	Oct.	9		117.8	65.1
		16		117.0	66.3
		23	**************************	116.8	66.9
		30		116.6	67.2
		-			-10
	Nov.	6	••••••••••	117.2	65.8
		13		117.3	65.4
		20	•••••	117.8	64.8
		27		117.9	64.6
				1-2	
	Dec.	4	***************************************	117.9	64.6
		11		118.0	64.5
		18		118.5	63.6
		25		118.3	63.9
		-			2-2
1937-	Jan.	1	^ • • • • • • • • • • • • • • • • • • •	118.4	63.7
		8	***************************************	11.8.4	63.9

x Based upon an average of daily figures for the week ending on dates specified.

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1926 = 100

Note: The Investors' Index measures the trend of values for the Investor who buys a fixed list of stocks and holds them over a long period.

					INDUSTR	IALS						UTI	LITIES			
	M	achinery					Food			In-			Tele-	Power		,
Number		and	Pulp			Textiles	and		Build-	dust-		Trans-	phone	and	Grand A	
of	Total	Equip-	and	Mill-	Oils	and	Allied	Bever-	ing	rial	Total	port-	Tele-	Trac-	Total	
Securities		ment	Paper	ing		Clothing	Products	ages	Materials	Mines		ation	graph	tion		
1936	68	8	6	4	4	10	13	7	14	2	19	2	2	15	87	_
1926	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	
x 1929 - High	317.6		113.4	273.4	423.5	113.5	197.8	204.6	-	-	166.0	164.1	129.6	197.6	232.6	
Low	199.3	-	70.9	196.6	251.4	77.5	135.1	84.1			126.7	119.0	107.7	134.8	154.7	
x 1933 - High	129.2		12.8	87.0	168.0	65.3	150.9	205.4	-	-	63.7	52.3	88.8	73.5	92.5	
Low	56.0	-	3.0	37.7	87.7	30.8	78.8	33.8	-	-	36.9	23.2	62.4	47.1	46.3	
x 1934 - High	133.4	-	13.9	79.0	184.1	79.1	136.8	165.8	-	-	59.8	44.5	98.8	71.8	93.6	
Low	111.8	-	7.8	64.3	141.6	60.6	117.0	80.5	-	-	45.4	28.1	85.0	56.3	78.2	
x 1935 - High	180.5	-	17.3	78.6	231.8	76.6	149.5	165.4		-	52.4	33.4	109.4	67.6	113.3	
Low	123.7	-	10.3	54.0	173.1	60.1	123.5	97.1	-	-	43.5	23.3	92.9	53.2	84.7	
x 1936 - High	226.1	-	31.9	115.4	254.5	76.5	182.9	152.6	-	-	64.7	37.6	121.7	84.5	140.8	
Low	180.2		16.5	79.5	216.5	65.6	145.2	122.8	-	-	50.6	28.1	108.8	63.2	112.8	
1936																1
January	187.7	-	18.6	80.0	231.0	75.5	153.6	151.7	-	-	52.4	29.8	111.4	66.0	117.8	σ
February	200.0		20.2	84.3	246.5	74.0	158.7	151.7	-		57.0	35.0	112.3	71.1	120.1	2
March	194.8	-	18.5	88.7	237.3	73-1	153.0	140.1	-	-	55.5	33.3	110.4	69.7	122.8	
April	194.2		17.5	91.0	244.5	71.3	150.7	131.7	-	-	53.2	30.8	109.7	67+1	121.4	
May	187.9	-	16.7	87.3	234.0	68.1	145.7	131.4	1.1.1	-	52.5	30.5	109.5	65.9	117.9	
June	189.3		17.5	86.5	228.1	67.4	149.2	129.3	-	-	53.3	31.2	112.5	66.4	119.0	
July	190.1	-	18.6	87.0	224.3	66.8	153.9	131.6	-	-	53.8	31.9	111.7	66.9	119.6	
August	191.4	-	18.0	89.8	218.9	68.0	157.1	135.7		-	53.1	29.7	113.2	67.1	119.9	
September	200.6	-	20.3	93.9	220.6	70.6	162.5	138.2	-	-	54.8	30.2	114.0	70.0	125.2	
October	212.3	-	24.4	101.9	232.5	73.4	171.7	135.6	-	-	59.8	33.4	114.6	11.1	133.4	
November	219.9	-	27.5	107.0	233.4	74.4	179.6	143.6	-	-	62.4	34.6	116.5	81.8	138.4	
Weekly Index Numbers															170 0	
January 9th, 1936	180.2	-	18.6	79.5	217.5	74.9	152.1	152.6		-	50.8	29.6	110.3	63.2	112.8	
1936													2.00.0	00.0	300.0	
December 3rd	211.9	-	29.7	110.6	216.5	73.0	180.2	142.7	-	-	61.0	33.3	120.2	80.0	133.2	
December 10th	212.7	-	28.7	110.1	220.0	73.5	178.2	141.5	-		60.7	33.1	120.6	79.4	133.4	
December 17th	216.0		29.0	113.8	219.9	73.8	182.0	143.6			61.6	33.6	121.6	80.8	135.5	
December 24th	216.0	-	29.2	114.7	218.3	74.6	182.3	141.9	-	***	62.1	33.8	121.7	81.5	135.7	
December 31st	217.6		31.9	115.4	219.3	74.6	181.2	142.2	-	-	64.7	36.9	121.0	84.5	137.7	
1937																
January 7th	219.7	188.0	35.2	114.1	228.7	75.2	183.3	140.5	71.2	546.9	67.6	38.1	121.6	89.6	140.1	-
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x Weekly figures. / Banks not included.

