

1931.
NEW ZEALAND.

BREAD:

COST OF PRODUCTION AND DISTRIBUTION IN AUCKLAND, WELLINGTON, CHRISTCHURCH,
AND DUNEDIN.

Laid on the Table of the House by Leave.

REPORT.

The Hon. the Minister of Industries and Commerce.

Department of Industries and Commerce (Board of Trade),
Wellington, 16th April, 1931.

SIR,—

An investigation was made by the Department during 1930 into the cost of production and distribution of bread as the result of a resolution submitted to the House of Representatives by the special Parliamentary Wheat Committee, which presented their report on the 1st November, 1929. The resolution read as follows: "The Committee unanimously recommends that, in view of the disparity in the cost of baking and distribution of bread in various centres, the Department of Industries and Commerce be instructed to investigate the cost of baking and distribution of bread."

The method adopted to secure the necessary data was the careful scrutiny of bakers' trading and profit and loss accounts, covering the latest trading period of each baker called upon. In some cases it was considered advisable to examine the accounts of previous trading periods in order to ascertain the effect of fluctuations of bread-prices on margins of profits.

Bakers in each centre were interviewed by District Officers of the Department and assisted the officer in securing the necessary information from accounts and other records.

The number of bakers who confine their business exclusively to the baking of bread form only a small proportion of the total. There are, however, large bakery establishments in each centre which confine their business to the baking and distribution of bread, to the exclusion of what is termed "small-goods." These establishments produce on a large-scale production basis a substantial proportion of the requirements of their respective districts.

The accounts examined represented the larger and also some of the smaller bakers in each district. In all, the accounts of twenty-three representative bakers were investigated, the number selected from each centre being as follows: Auckland, 6; Wellington, 8; Christchurch, 5; Dunedin, 4: Total, 23.

As the inquiry referred to the standard loaf only, it was considered advisable to select bakery establishments who baked and delivered bread only. In some cases bakers conducting a trade in small-goods had kept separate accounts on a proper basis, and it was therefore possible to apportion the expenses and sales and determine with a reasonable degree of accuracy the costs involved in the baking and delivery of the bread.

With these points in view, it was found necessary to discard the accounts of a number of bakers which did not disclose the full information deemed necessary. In the final analysis eleven representative bakers' accounts were dissected, and the report submitted is based on evidence disclosed in these accounts.

A fairly large proportion of bakers sell what is called "Vienna" bread, in addition to bread of standard weight. Vienna bread is sold in loaves varying in weight from 1 lb. 8 oz. to 1 lb. 12 oz., and where this class of bread forms an appreciable portion of the baker's trade it becomes difficult to apportion costs in relation to cost per standard loaf. Account must be taken of the fact that in all the accounts under review the sale of Vienna and other "short-weight" bread forms a varying proportion in the total-sales figures of the several bakers, and therefore the allocation of costs under various headings per standard loaf is not, on that account, strictly correct. The average selling-price of bread is affected by the fact that the baker receives standard prices for all bread, both full weight and what is termed "short-weight" bread.

The total cost of flour and other ingredients is also spread over the total bread produced, both standard weight and Vienna and other short-weight bread which contain a greater percentage of "improvers."

In previous investigations of the Department into bread-prices the percentage of short-weight bread was comparatively small, and consequently it was not difficult to arrive at the exact cost of a standard loaf. With the increase of many cereal foods on the market and the extensive advertising of manufacturers of these products, the baker has been forced through this increasing source of competition to offer a loaf which contains more palatable ingredients than those generally considered sufficient in the standard loaf. This competition has led to the introduction of Vienna, malt, and other varieties of bread containing "improvers" of various kinds.

WAGES AND CONDITIONS.

(a) *Bakehouse Employees.*—The wages and conditions of bakers have been determined by the Court of Arbitration under a Dominion award, which has been operating for the past three years. The award provides for wages at the following minimum rates: Foreman baker or pastrycook, £5 10s. per week; journeyman baker or pastrycook, £5 per week; baker's labourers, £4 0s. 6d. per week.

(b) *Motor and Horse Drivers.*—The wages of drivers of motor and horse-drawn vehicles have also been the subject of a Dominion award under the Industrial Conciliation and Arbitration Act, the present award operating from the 10th January, 1927. The minimum rates of wages provided are (per week): Drivers of one-horse vehicles, £4 8s.; drivers of two-horse vehicles, £4 11s.; drivers of motor-vehicles not exceeding 2 tons, £4 11s.; drivers of motor-vehicles exceeding 2 tons but not exceeding 4 tons, £4 13s. 6d.

FLOUR-PRICES.

(a) *New Zealand.*—The net prices of flour delivered to bakehouse in each main centre for the past three years is given as under:—

Date.				Dunedin.	Christchurch.	Wellington.	Auckland.
				£ s. d.	£ s. d.	£ s. d.	£ s. d.
March	1928.	..	..	..	..	..	17 11 0
July	..	..	..	16 6 8	15 16 5	17 3 5	17 11 0
July	1929.	..	..	16 6 8	15 16 5	17 3 5	17 11 0
July	1930.	..	..	16 16 5	16 6 8	17 13 2	18 0 9

In some cases bakers doing a large business have been able to secure special discounts bringing the net cost below the figures shown in the above table.

(b) *Australian.*—The sliding scale of Customs duty on flour regulates the price at which Australian flour can be landed in New Zealand. The price paid by bakers for the past eighteen months has been from £18 to £18 15s. per ton.

(c) *Canadian.*—The sliding scale of Customs duty also applies to flour imported from Canada. The price paid for Canadian flour has fluctuated between £19 and £19 18s. per ton.

A number of bakers use Australian and Canadian in varying proportions. In the production of Vienna bread some bakers use as much as 50 per cent. of imported flour. In the standard loaf the percentage of imported flour used varies from 16 to 20. In many instances bakers use only the New Zealand product.

COST OF PRODUCTION AND DELIVERY, AND MARGINS OF PROFITS.

Attached to this report is Schedule A, which gives under various headings the cost of production and distribution of bread, obtained from representative bakers in each main centre of the Dominion. The total quantity of bread, expressed in standard 4 lb. loaves distributed by the bakers selected, represents 8,250,000 loaves per annum.

In regard to figures of the Wellington bakers, due regard must be taken of the fact that the latest balance period available had to embrace the period of 5th June, 1929, to 25th April, 1930. During this period price-cutting on the part of the larger-sized bakeries was in evidence, the price to stores being as low as 10d. net delivered, and cash over counter to consumers, 1s.

The figures given in Schedule A must be read subject to the foregoing remarks regarding the production and sale of light-weight and fancy bread, and are not intended to show the cost of production and delivery of standard bread. The difficulty of ascertaining and stating the cost of standard bread has already been referred to.

Selling-prices of Bread in relation to Average Cost of New Zealand Flour.

—	Auckland.	Wellington.	Christchurch.	Dunedin.
	£ s. d.	£ s. d.	£ s. d.	£ s. d.
Flour	17 11 0	17 3 5	15 16 5	16 6 8
Bread-prices—				
Cash over counter ..	1s. 1d.	1s. 1d.	1s.	11d.
Price to store	11d. to 11½d. net	Is. less 5 per cent.	11d. less 2½ per cent.	10d. net
Price delivered ..	1s. 2d.	1s. 2d.	1s. 1d.	1s.

Retailers' Margins of Profit.—On the selling-prices above retailers' (shops) margins of profit would be :—

—	Auckland.	Wellington.	Christchurch.	Dunedin.
	Per Cent.	Per Cent.	Per Cent.	Per Cent.
Cash over counter ..	14·61*	12·3	10·64	9·09
	11·54†			
Delivered	21·43*	18·57	17·5	16·6
	17·85†			

* At 11d. † At 11½d.

Prices quoted are those which apply to the bulk of the bread sold in each district. In all these districts there are bakers who do their own baking, and, not being subject to award conditions of wages and working-hours, are able to undersell larger producing units who have to employ all outside labour and conform to arbitration award conditions.

Investigations into the cost of production of bread sold by these bakers were most difficult ; the records in the majority of cases were meagre, and any attempt to construct cost accounts was one of estimate and conjecture. In one or two instances estimates were made and it was definitely ascertained that the low selling-price was made possible by low labour-costs due to long hours worked by the proprietor for a minimum return for his labour. A further important factor in the price to the public is the small margin sought by some retailers. Many stores are now selling at margins much lower than those shown above.

In the experience of bakers from different centres it would appear that a sack of flour (200 lb.) will produce on an average between 64½ and 65 4 lb. loaves. On a tonnage basis this represents 645 to 650 loaves. With the use of Canadian or Australian flour the yield would be approximately 655.

The following table shows the cost of flour used per 4 lb. standard loaf, based on the average price of flour in each centre :—

—	Auckland.	Wellington.	Christchurch.	Dunedin.
	£ s. d.	£ s. d.	£ s. d.	£ s. d.
Cost of flour per ton ..	17 11 0	17 3 5	15 16 5	16 6 8
Cost of flour per 4 lb. loaf	6·48d.	6·34d.	5·851d.	6·031d.

Owing to the limitations of our coinage system, there are considerable difficulties in practice in reducing or increasing the price of the 4 lb. loaf to the consumer by smaller amounts than 1d.

Delivery-costs.—The delivery-costs as shown by Schedule A show the cost of delivery in each centre as under :—

—	Wellington.	Auckland.	Christchurch.	Dunedin.
	d.	d.	d.	d.
Highest	2·166	1·758	1·810	0·720
Lowest	1·254	1·600	1·712	0·410
Average of three bakers ..	1·684	1·679	1·753	0·613

In considering delivery-costs, it has not been possible or practicable to ascertain separate cost of delivery to shops and to private households. The average cost of "mixed" deliveries in Wellington, Auckland, and Christchurch is approximately 1½d. per 4 lb. loaf.

The improvement of road-construction from macadam and wood block to bitumen, while of material advantage to motor traffic, has had the opposite effect on horse-drawn vehicles. It is recognized that delivery which was previously effectively and economically undertaken by one- and two-horse vehicles has now been rendered difficult by the danger which bituminized road-construction presents to horse traffic, and in consequence horse-vehicles are being displaced by motor transport. The quicker transit now made possible by motor transport has been accompanied by the tendency of bakers to cover a wider delivery area than that previously covered by horse-vehicles.

From the above statement showing cost of delivery per loaf it would appear that an adjustment between the cash-over-counter price and the delivered price is necessary. The cost of "mixed" delivery is approximately 1½d. per loaf, and it can reasonably be suggested that a purely retail delivery would in many cases be even more expensive. The householder who receives the additional service of delivery usually obtains the same at an advance of 1d. over the purchaser who calls at the shop for his supply. It is reasonable to suggest that the householder who has the bread delivered to his home should bear the full cost of this service. An adjustment of this position could well result in a reduced price cash over counter. In the event of a more equitable price-adjustment between these two classes of customers a percentage of uneconomic and unprofitable delivery would no doubt be eliminated.

The Parliamentary Wheat Committee's resolution refers to "the disparity in the cost of baking and distribution of bread in various centres." It is most difficult in the bakery business to point to any definite set of circumstances which would form an adequate and final explanation of the disparity referred to.

In the first place, flour-costs are, of course, an important factor, and the variation between flour-costs in the different cities has been indicated. A disparity in cost arises from the varying degree in which fancy bread or short-weight bread is made and sold in the several centres. Another cause of variation in cost is the extent to which individual bakers may use, for reasons of quality, the more expensive imported flour.

Notwithstanding a Dominion award of wages, a variation exists between the centres regarding the wage-cost per loaf. This difference is particularly noticeable in the Christchurch figures, and is probably due in large measure to the extensive use of up-to-date labour-saving machinery.

In the matter of delivery expenses, differences in cost are again very evident. Delivery expenses in Dunedin are distinctly lower than in the other centres, but comparisons in delivery costs are difficult, having regard to the varying degree in which delivery includes sales to shops.

The item of general expenses also shows considerable variation. Dunedin again appears lower than the other centres.

The disparity under this heading is attributable to the following causes:—

- (a) Large bakeries with high capital charges not working to capacity:
- (b) Heavy payments for office expenses in the larger units of the industry:
- (c) Relatively expensive maintenance charges in the larger factories:
- (d) Variation in cost of management and supervision as between the smaller bakehouses and the larger company-controlled units.

While the capital required in the industry is low relative to turnover there is nothing in the nature of a reasonably constant ratio between capital costs and sales.

Matters such as those mentioned above explain the relatively low production cost in Dunedin, where, in addition, the public secures the benefit of keen competition and reduced selling-margins. The Dunedin retailer appears to work normally on a margin of 1d. per 4 lb. loaf, which is less than in any of the other main centres.

The disparity in cost of production is not peculiar to New Zealand. The report of the Royal Commission which inquired into the prices of bread in Victoria reported on the 7th January, 1930, as follows: "The final analysis of returns from those bakers who made standard bread only during the period under review revealed a wide variation in the average cost to the manufacturer of a 4 lb. standard loaf delivered, the lowest cost being 8·787d., and the highest 10·869d. This variation is due to the varying prices paid for flour, the nature, magnitude, and location of the trade done, and the differing capacities and opportunities of those responsible for the management."

It is interesting to note the relation of the cost of bread in Sydney to the cost of flour, and to compare this with the position in a representative centre such as Christchurch.

The selling-price of flour to bakers in Sydney fixed recently by the New South Wales Government is £10 per ton.

The baker, from 1 ton of flour, will obtain 660 4 lb. loaves, the present selling-price of which is 10d. per loaf, cash over counter.

						£	s.	d.
The gross sales return will therefore be	..	..	..	..	..	27	10	0
Deduct cost of flour	..	..	..	..	..	10	0	0
Gross margin	..	..	..	..	..	£17	10	0

The position of the Christchurch baker is as follows:—

650 4 lb. loaves at 1s.						..	32	10	0
Cost of 1 ton flour						..	16	6	8
Gross margin						..	£16	3	4

The gross margin in each case is the amount available to provide cost of manufacturing, delivery to shop, overhead expenses and profit, and retailers' margin.

The Department is of the opinion that, while bakers are not in general securing any very high margin of profit, there is some room for reduction in the price charged to the public. It certainly appears that retailers, who in many cases have a margin of 1½d. or 1¼d. per 4 lb. loaf, could trade on a sum of not more than 1d. per 4 lb. loaf. As already mentioned, there appears also to be good ground for suggesting some adjustment as between the prices of bread sold for cash over counter and bread delivered to householders.

APPENDIX.

SCHEDULE A.—SHOWING COST OF BAKING AND DELIVERING BREAD (PER *nominal* 4 LB. LOAF) IN THE FOUR MAIN CENTRES OF THE DOMINION.

Baker.	Flour.	Bakehouse Costs.			Delivery Costs.			General Expenses.	Total Cost of Bread delivered.	Average Selling-price.	Profit per Loaf.
		Wages.	Other Bake-house Expenses.	Total.	Wages.	Other Expenses.	Total.				
Wellington.											
A ..	d. 5·888	d. 1·169	d. 0·821	d. 7·878	d. 0·950	d. 0·304	d. 1·254	d. 1·014	d. 10·146	d. 10·945	d. 0·799
B ..	6·830	1·130	0·636	8·596	1·128	0·506	1·634	0·936	11·166	11·040	0·126*
C ..	6·400	1·498	0·866	8·764	1·294	0·872	2·166	0·602	11·532	11·080	0·452*
Average	6·372	1·266	0·774	8·412	1·124	0·561	1·684	0·851	10·948	11·022	0·074
Auckland.											
D ..	5·790	1·262	0·818	7·870	1·110	0·648	1·758	1·754	11·382	11·932	0·550
E ..	5·488	1·092	0·830	7·410	1·086	0·514	1·600	1·680	10·690	11·754	1·064
Average	5·639	1·177	0·824	7·640	1·098	0·581	1·679	1·717	11·036	11·843	0·807
Christchurch.											
F ..	5·320	0·990	0·970	7·280	1·070	0·740	1·810	1·480	10·570	11·000	0·430
G ..	6·190	0·910	0·732	7·832	1·358	0·380	1·738	1·762	11·332	11·720	0·388
H ..	5·222	1·064	0·666	6·952	1·122	0·590	1·712	1·278	9·942	11·000	1·058
Average	5·577	0·988	0·789	7·355	1·183	0·570	1·753	1·507	10·614	11·240	0·626
Dunedin.											
I ..	6·020	1·820	0·620	8·460	1·030	0·510	1·540	0·720	10·720	11·250	0·530
J ..	6·100	1·230	0·870	8·200	0·800	0·580	1·380	0·710	10·290	10·520	0·230
K ..	6·070	1·540	0·620	8·230	1·070	0·480	1·550	0·410	10·190	10·330	0·140
Average	6·063	1·530	0·703	8·297	0·967	0·523	1·490	0·613	10·400	10·700	0·300

* Loss.

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