

University of **Salford** MANCHESTER

FROZEN LION: A BUSINESS CASE

A Fresh/Chilled and Frozen Cost Comparison in a Typical British Pub

March 2013

**REPORT FOR THE
BRITISH FROZEN FOOD FEDERATION**

**Produced by the
UNIVERSITY OF SALFORD**



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EXECUTIVE SUMMARY

BFFF commissioned a cost comparison study to investigate the cost differences between fresh/chilled and frozen food if used in an average UK pub to prepare and produce a week's worth of meals. The ten most popular products from the menu (hereafter referred to as meals) of a pub were identified and the overall costs of using fresh/chilled ingredients compared to frozen and frozen ready-made (i.e. complete meal) alternatives was investigated.

The results of this investigation show that all the meals examined would typically cost less in a frozen compared to fresh/chilled form. For the sample used in the research, the results suggest that, taking into account the cost of ingredients, staffing and utilities, the pub could expect to save 21.5% by using frozen in comparison to fresh/chilled ingredients, and 49% by using frozen ready meals in comparison to fresh/chilled ingredients.



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1. INTRODUCTION

In September 2012, the British Frozen Food Federation (BFFF) commissioned an investigation into the cost difference between fresh/chilled and frozen food in a typical British pub. The ingredient costs, staff costs, and utilities costs were analysed for three types of food: fresh/chilled, frozen, and frozen ready-made meal alternatives, for the ten most popular meals served at a sample pub. The results of the investigation follow.



2. METHODOLOGY

This study examines a typical pub menu analysing the overall cost implications for a week's worth of meals prepared using fresh/chilled or, frozen ingredients, or bought in a frozen ready-made meal form.

The cost implications taken into consideration focused on the following areas:

- The ingredient costs for each meal type;
- The cost of energy and water used to prepare these meals;
- The staff costs involved in preparing and cleaning up after these meals.

2.1. Data Collection

A meeting with the chef of a medium sized pub/restaurant was held on October 2012. The pub's ten most popular meals and the average number of meals per week (i.e. 7 days) sold by the pub are shown in Table 1. These totals are used throughout this report when referring to weekly costs.

Meals	Sold at (£)	No. of meals sold per week
Steak Pie	£11.95	90
Burger & Chips	£9.95	80
Fish & Chips	£10.95	80
Hot Beef Sandwich	£7.95	100
Continental Chicken	£12.95	60
Roast Beef Dinner	£10.95	150
Lamb Shanks	£13.95	40
Nut Loaf	£8.95	30
Rhubarb Crumble	£4.95	30
Prawn Cocktail	£6.95	20

Table 1: The 10 most sold meals of a pub



2.1.1. Identifying the ingredients

The basic ingredients of each meal and their weight in grams per portion were identified through discussion with the chef and an online search of similar recipes based on the meal specifications of the pub's menu.

2.1.2. Selecting respective frozen products

A leading national foodservice supplier, supplied an extensive product price list from which the fresh/chilled and frozen components and frozen and fresh/chilled ready-made options of each fresh/chilled meal were identified and selected for subsequent cost analysis.

2.1.3. Identifying fresh/chilled and frozen food sourcing costs

The sourcing costs for each meal's ingredients in its fresh/chilled and frozen form, and the sourcing costs of a similar alternative frozen ready-made meal were identified through a leading national food supplier's catalogue. This catalogue features a representative and widely used sample of fresh/chilled and frozen food ingredients and ready-made meals.

2.2. Data Analysis

The overall costs for preparing meals over a seven day period was calculated and compared, if prepared with fresh/chilled ingredients, with frozen ingredients, or using frozen ready-made meals. This overall cost was based on food sourcing costs, staffing costs (including the level of skilled staff and required preparation time), and the energy and water consumption for the preparation of each meal (investigating such aspects as the equipment used to create each meal).

2.2.1. Food type

The total cost of buying in the ingredients of each meal per portion was calculated in its fresh/chilled, frozen and frozen ready-made form. Portion size was assumed to be the same in each case. If an ingredient was not available



in a frozen form the price of the ingredient in its ambient, dried or fresh/chilled form was used.

2.2.2. Staff cost

The staff costs were calculated based on the grade and skills of the kitchen staff needed to make each meal as well as the time taken in minutes for the preparation, washing and chopping of ingredients, plus blending, cooking and finishing activities. The time taken and grade of staff needed to clean up after food preparation and service was also calculated.

The case study pub employed five grades of kitchen staff. Their specific hourly wages are outlined below, based on average industry figures (Table 2):

Kitchen staff	Position	Annual pay	Hourly pay
Grade A	Sous Chef	£23,000	£11.06
Grade B	Chef de Partie	£19,000	£9.13
Grade C	Commis Chef	£16,000	£7.69
Grade D	Trainee/Apprentice Chef	£17,000	£8.17
Grade E	Kitchen Porter	£14,665	£7.05

Table 2: Kitchen staff wages

2.2.3. Utilities cost

The cost of the utilities used was calculated based on the energy (electricity and gas) and water consumption during the preparation of each meal.

The energy costs associated with preparation and cooking time using the kitchen equipment (hob, oven, microwave, blender, chip fryer and grill), where



applicable, were calculated as kilowatt per minute. Storage costs used are estimates.

The utilities cost of energy used per day (Table 3):

Kitchen equipment	Energy used (KWh)	£s per day (£0.12/h)
Freezer	0.67 KWh/day	£0.08
Fridge	1 KWh/day	£0.12
Hob (6 rings)	3kw/ring*6ring=18KW 18KW*6h=144KWh/day	£12.96
Oven	11KW *6h=66 KWh/day	£7.92
Microwave	1.1KW*3h= 3.3KWh/day	£0.80
Blender	1 KWh/year	£0.0004
Chip Fryer	25KW * 6h=150KWH	£18.00
Grill	25.6KWh	£0.01

Table 3: Energy costs of cooking and storage

The water costs were calculated based on the water used in preparation and cleaning up activities. It was calculated that in order to prepare a portion size meal from fresh/chilled, on average 0.015 cubic meters (15 litres) of water is used in both washing the ingredients and cleaning up. Different meals will require different amounts of washing.

The approximate cost of water per litre is £0.003 when the removal of waste water is also taken into consideration. The water cost per frozen component meal is significantly less as the frozen ingredients do not need to be washed.



The cost of water for frozen ready-made meals was negligible . as water is only used to clean up.

2.2.4. Number of meals prepared

The cost of ingredients, staff and utilities, for the forms of meal (fresh/chilled, frozen, and frozen ready-made), were calculated generally, assuming that only one meal is prepared at a time . but as shown below, where a batch is made the unit costs are appropriately calculated.

The daily cost of each meal was estimated based on the average number of meals sold per week. For example, the average number of steak pies sold per week is 90 which, if divided by 7 days, suggests approximately 13 meals were sold per day. Assuming that the pub prepares four pies together during lunch time, four pies together during dinner time, and five pies individually during the day, the cost of the steak pie per day would be:

$$\text{Steak_Pie_Cost/day} = 2 * (4 * (\text{ingredients cost}) + \text{staff cost} + \text{utilities cost}) + 5 * (\text{ingredients cost} + \text{staff cost} + \text{utilities cost})$$

Note: The cost comparisons were calculated per portion to reflect the prices supplied by a leading national foodservice supplier.

2.3. Limitations of the study

This study is based on a sample of one pub. The report has not attempted to estimate differences in the energy costs of refrigerator and freezer space used according to the form of food (fresh/chilled, frozen or frozen ready-made) used.

It does not take into consideration factors such as consumer's perception of taste, smell or texture. In addition, it does not consider consumer perceptions of price and value. The food safety and possible health benefits of different ingredient types used, is not factored into this report.



3. RESULTS

3.1. Overall cost comparison

A comparison of the total cost of producing the ten most popular meals in fresh/chilled, frozen, and frozen ready-made form is shown in Figure 1.

Note: This refers to quantities shown above in Table 1 (s 2.1).

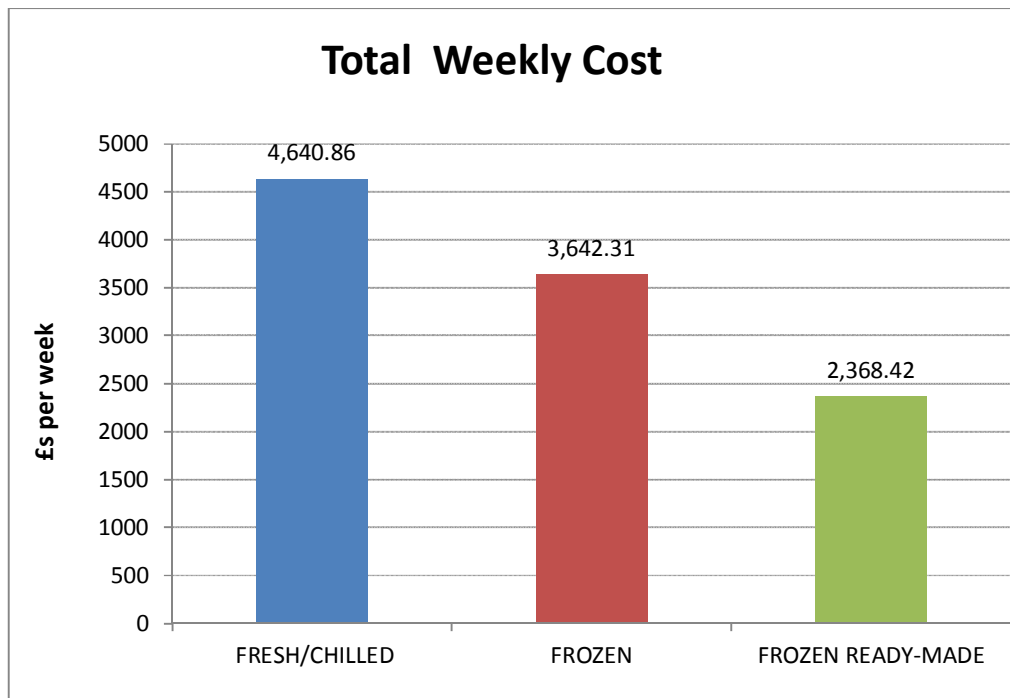


Figure 1: Total weekly cost of producing 10 most popular meals

This summary shows that on average the weekly costs of preparing the ten most popular meals from frozen is £998.55 less (21.5%) expensive than preparing from fresh/chilled. Using an alternative frozen ready-made option, the weekly costs are on average £2,272.44 (49%) less.

A detailed summary of the total weekly cost of the ten meals is presented in Appendix 1.



In Figure 2, the annual cost of producing these ten meals is depicted for illustrative purposes. Potential economies of scale between weekly and annual costs have not been taken into account.

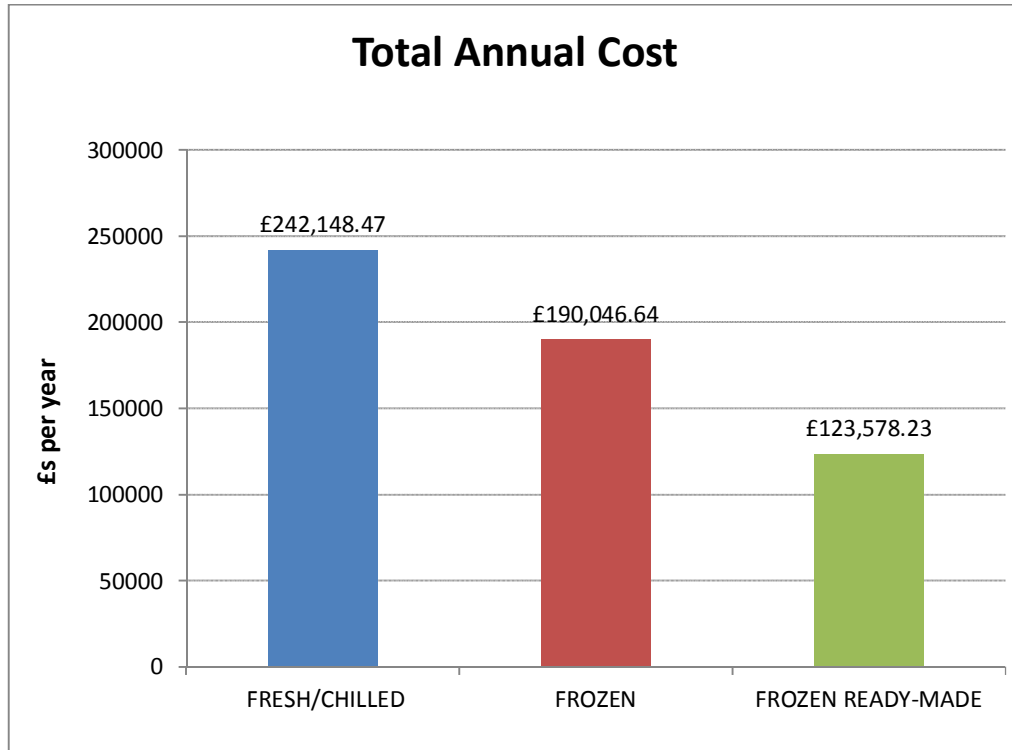


Figure 2: Total annual cost of producing 10 most popular meals

A detailed summary of the total annual cost of the ten meals is presented in Appendix 1.

The total cost of sourcing the ingredients in fresh/chilled, frozen, and frozen ready-made form per week and annually is presented in Figures 3 and 4 respectively. Further detail is available in Appendix 2.



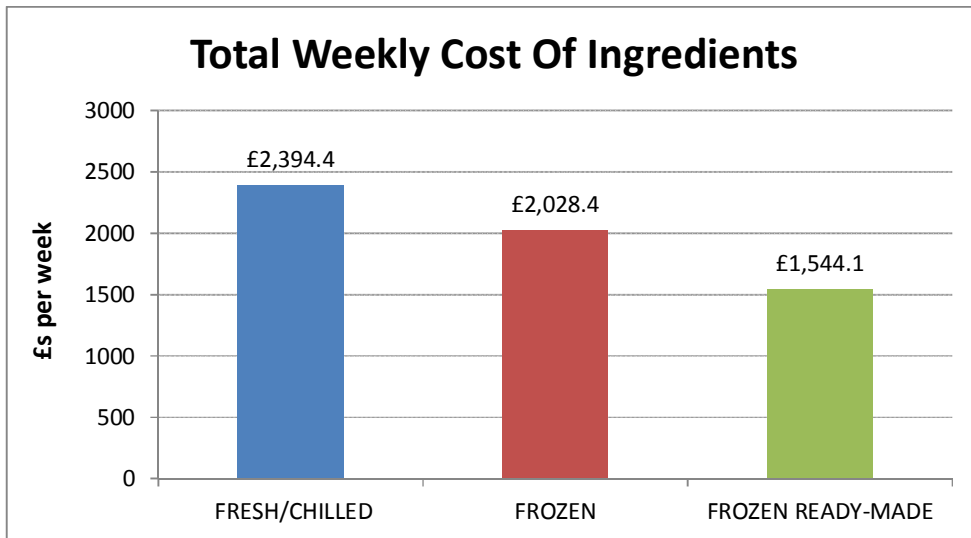


Figure 3: Weekly cost of ingredients

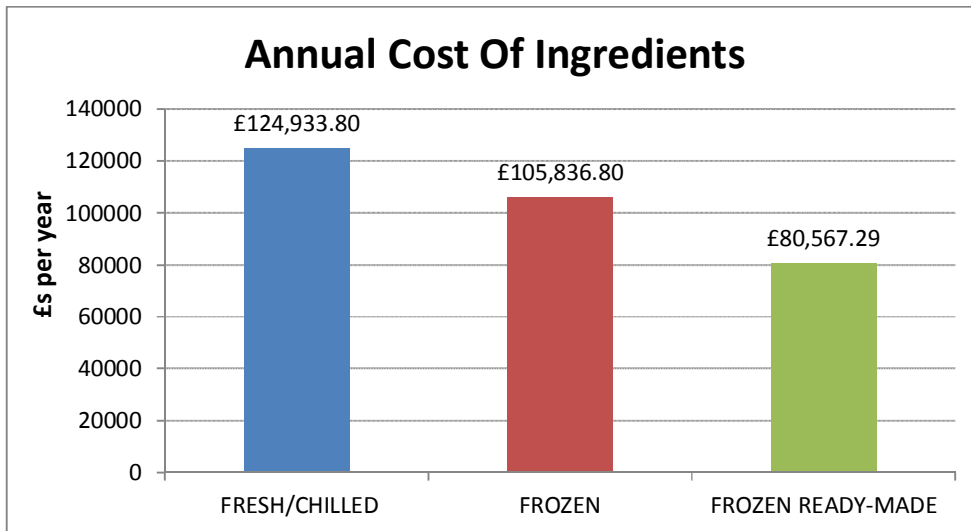


Figure 4: Annual cost of ingredients

On average, the weekly cost of frozen ingredients is £366 (15%) less expensive than sourcing fresh/chilled ingredients and £850 (36%) less expensive when using frozen ready-made meals.

3.2. Cost comparison of the 10 meals

Note: In all cases these figures refer back to weekly sales indicated in Table1.



3.2.1. Meal 1: Steak Pie

On average, the weekly costs of preparing and serving a steak pie made from frozen is £115 less than from fresh/chilled. If the meal is served using frozen ready-made, it will cost £410 less than prepared from fresh/chilled (Figure 5).

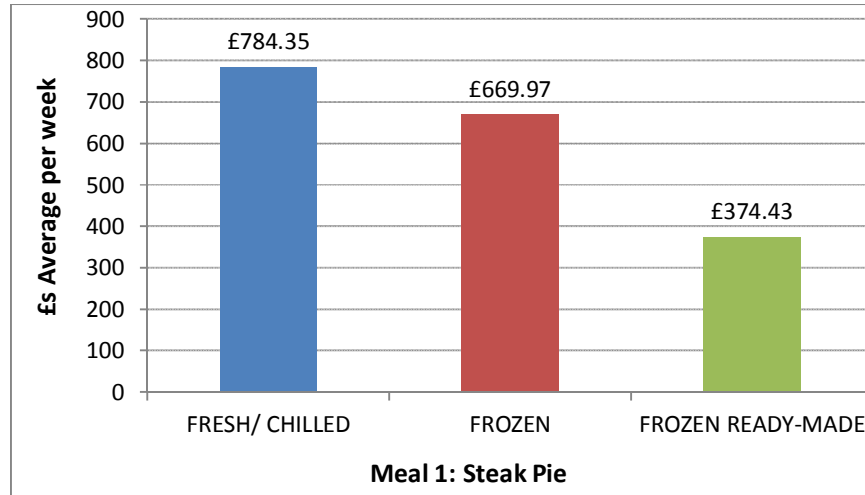


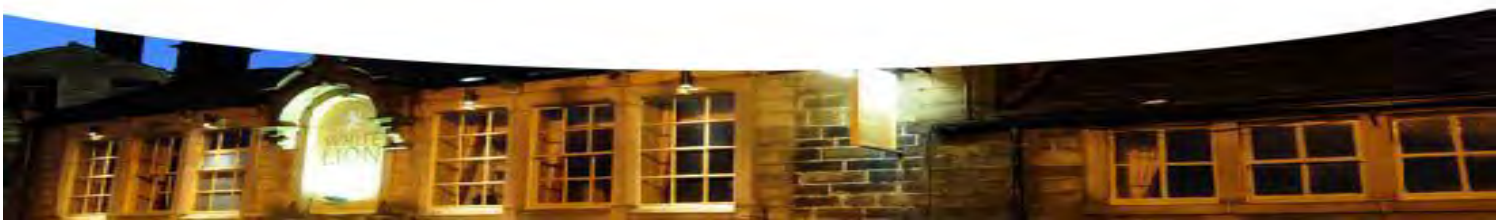
Figure 5: Total average cost of meal1 per week

A breakdown of these figures is presented in Appendix 3.

Regarding the fresh/chilled and frozen ingredient versions: the ingredient costs per portion from frozen are £0.80 higher than using fresh/chilled; however, the staff costs and preparation time are £3.82 less using frozen; and the cost of energy used is approximately the same.

The overall cost of the meal per portion is significantly less when using frozen ready-made. The cost of ingredients is £1.29 less than fresh/chilled, and the staff cost and preparation time are minimised by approximately 70% and 78% respectively.

When using frozen ready-made compared to using fresh/chilled, the cost savings for this meal are approximately 53%.



3.2.2. Meal 2: Burger & Chips

On average, the weekly costs of preparing and serving burger and chips made from frozen is £52 less than from fresh/chilled. If the meal is prepared and served using frozen ready-made, it will cost £139 less than prepared from fresh/chilled (Figure 6).

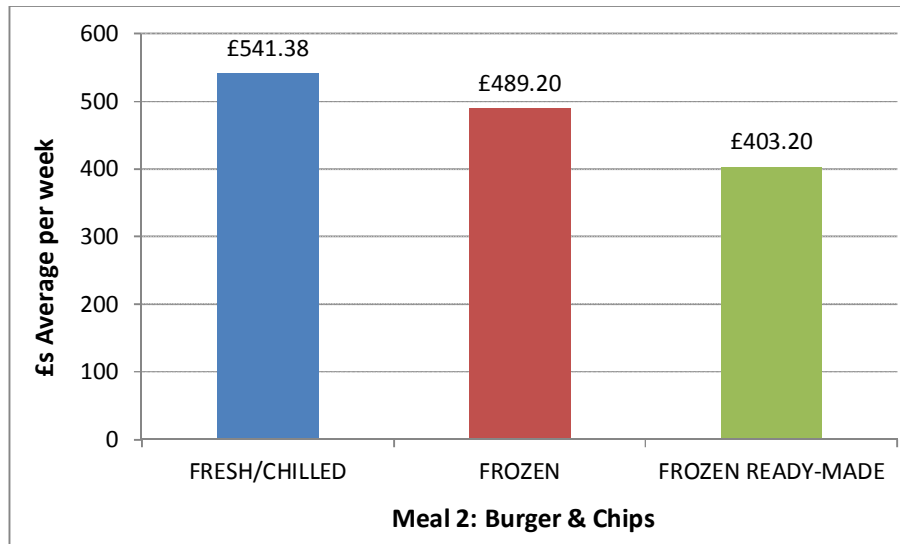


Figure 6: Total average cost of meal2 per week

A breakdown of these figures is presented in Appendix 3.

Regarding the fresh/chilled and frozen ingredient versions: The ingredient costs per portion from frozen are £0.09 higher than using fresh/chilled; the staff costs and preparation time is £1.27 less when preparing the meal from frozen; and the cost of energy used when preparing the meal from frozen is 15% less than fresh/chilled.

The overall cost of the meal per portion is significantly less when using frozen ready-made. Even though the cost of ingredients is £0.36 more than fresh/chilled, the staff cost and preparation time are minimised by approximately 63% and 50% respectively, and the cost of utilities is minimised by 42%.

When using frozen ready-made compared to using fresh/chilled, the cost savings for this meal are approximately 26%.



3.2.3. Meal 3: Fish & Chips

On average, the weekly costs of preparing and serving fish and chips made from frozen is £290 less than from fresh/chilled. If the meal is prepared and served using frozen ready-made, it will cost £460 less than prepared from fresh/chilled (Figure 7).

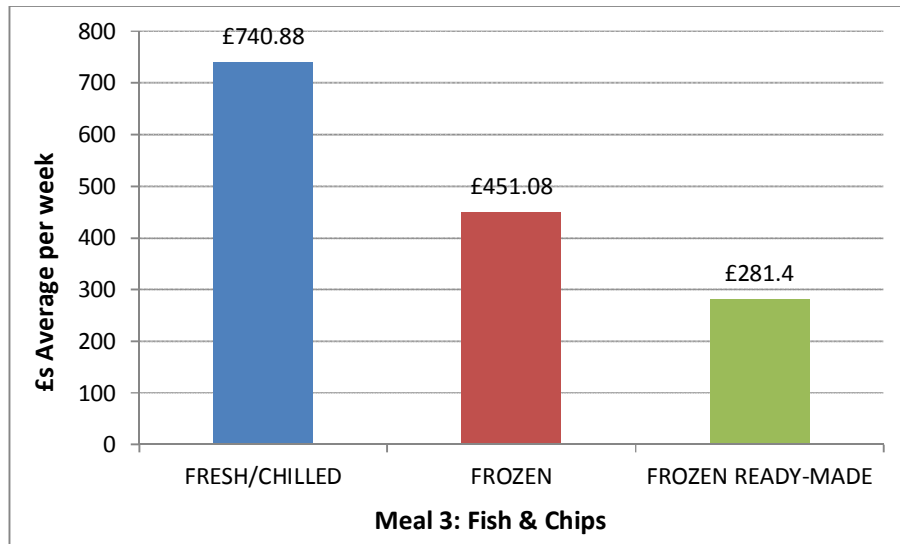


Figure 7: Total average cost of meal3 per week

A breakdown of these figures is presented in Appendix 3.

Regarding the fresh/chilled and frozen ingredient versions: the ingredient costs per portion from frozen are £2.38 less than using fresh/chilled; the staff costs and preparation are £2.15 less with frozen; and the cost of energy used is 1p more when preparing the meal from fresh/chilled.

The overall cost of the meal per portion is significantly less when using frozen ready-made. The cost of ingredients is £3.33 less than fresh/chilled, and the staff cost and preparation time are minimised by approximately 68% and 50% respectively.

When using frozen ready-made compared to using fresh/chilled, the cost savings for this meal are approximately 62%.



3.2.4. Meal 4: Hot Beef Sandwich

On average, the weekly costs of preparing and serving hot beef sandwiches made from frozen is £166 less than from fresh/chilled. If the meal is prepared and served using frozen ready-made, it will cost £223 less than prepared from fresh/chilled (Figure 8).

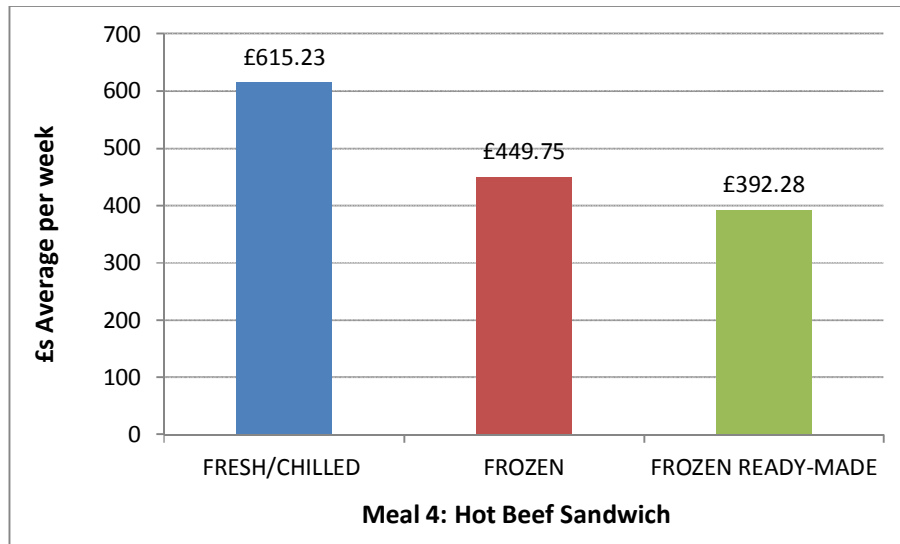


Figure 8: Total average cost of meal4 per week

A breakdown of these figures is presented in Appendix 3.

Regarding the fresh/chilled and frozen ingredient versions: the ingredient costs per portion from frozen is £0.47 less than using fresh/chilled; the staff costs and preparation time are £2.20 less if using frozen; and the cost of energy used is 17p less when preparing the meal from frozen.

The overall cost of the meal per portion is significantly less when using frozen ready-made. The cost of ingredients is £0.56 less than fresh/chilled, and the staff cost and preparation time are minimised by approximately 62% and 50% respectively, and the cost of utilities is minimised by 50%.

When using frozen ready-made compared to using fresh/chilled, the cost savings for this meal are approximately 62%.



3.2.5. Meal 5: Continental Chicken

On average, the weekly costs of preparing and serving continental chicken made from frozen is £50 less than from fresh/chilled. If the meal is prepared and served using frozen ready-made, it will cost £315 less than prepared from fresh/chilled (Figure 9).

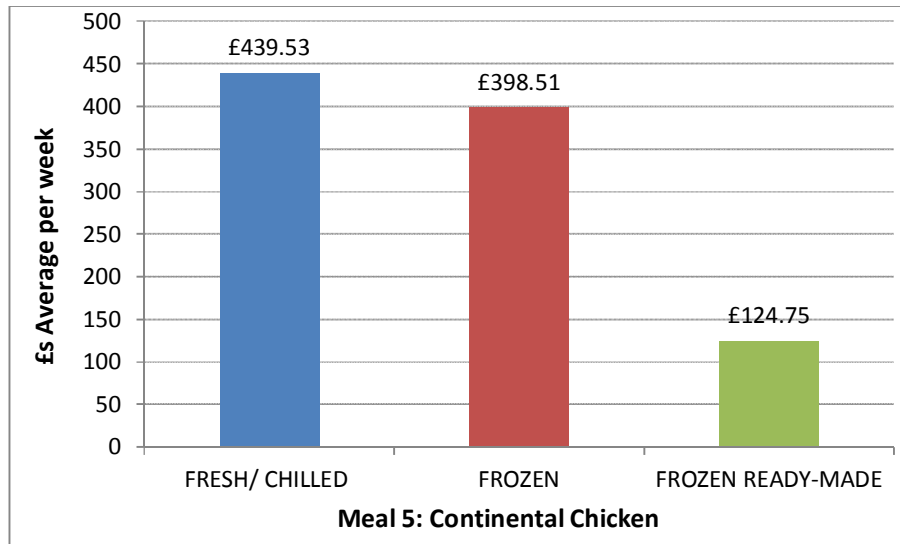


Figure 9: Total average cost of meal5 per week

A breakdown of these figures is presented in Appendix 3.

Regarding the fresh/chilled and frozen ingredient versions: the ingredient costs per portion from frozen is £0.49 less than using fresh/chilled; the staff costs and preparation time are £0.27 less with frozen; and the cost of energy used is 2p less when preparing the meal from frozen.

The overall cost of the meal per portion is significantly less when using frozen ready-made. The cost of ingredients is £1.69 less than fresh/chilled, and the staff cost and preparation time are minimised by approximately 80% and 77% respectively. The cost of utilities is minimised by 95%.

When using frozen ready-made compared to using fresh/chilled, the cost savings for this meal are approximately 72%.



3.2.6. Meal 6: Roast Beef Dinner

On average, the weekly costs of preparing and serving roast beef dinner made from frozen is £183 less than from fresh/chilled. If the meal is prepared and served using frozen ready-made, it will cost £273 less than prepared from fresh/chilled (Figure 10).

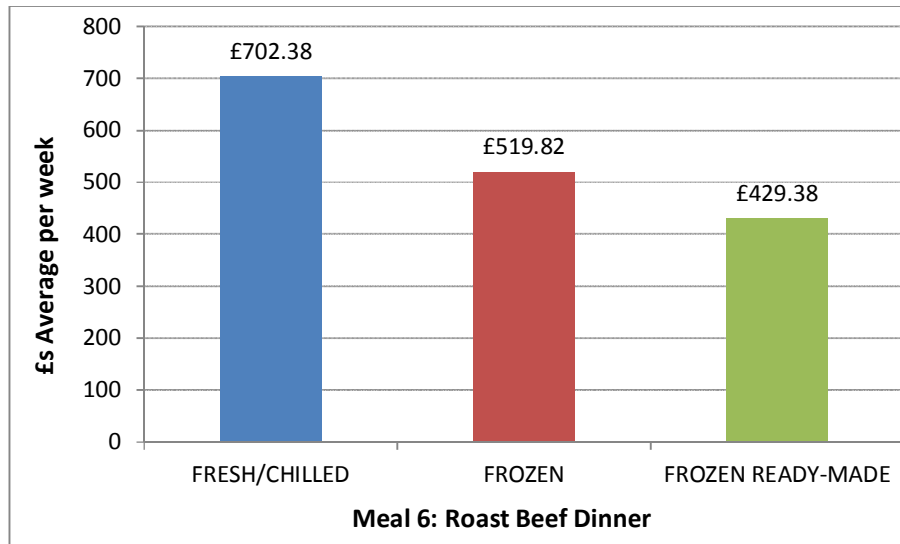


Figure 10: Total average cost of meal6 per week

A breakdown of these figures is presented in Appendix 3.

Regarding the fresh/chilled and frozen ingredient versions: the ingredient costs per portion from frozen is £0.92 less than using fresh/chilled; the staff costs and preparation time are £3.71 less with frozen; and the cost of energy used is 18p more when preparing the meal from frozen.

The overall cost of the meal per portion is significantly less when using frozen ready-made. The cost of ingredients is £1.10 less than fresh/chilled, and the staff cost and preparation time are minimised by approximately 72% and 60% respectively.

When using frozen ready-made compared to using fresh/chilled, the cost savings for this meal are approximately 39%.



3.2.7. Meal 7: Lamb Shank

On average, the weekly costs of preparing and serving lamb shank made from frozen is £39 less than from fresh/chilled. If the meal is prepared and served using frozen ready-made, it will cost £105 less than prepared from fresh/chilled (Figure 11).

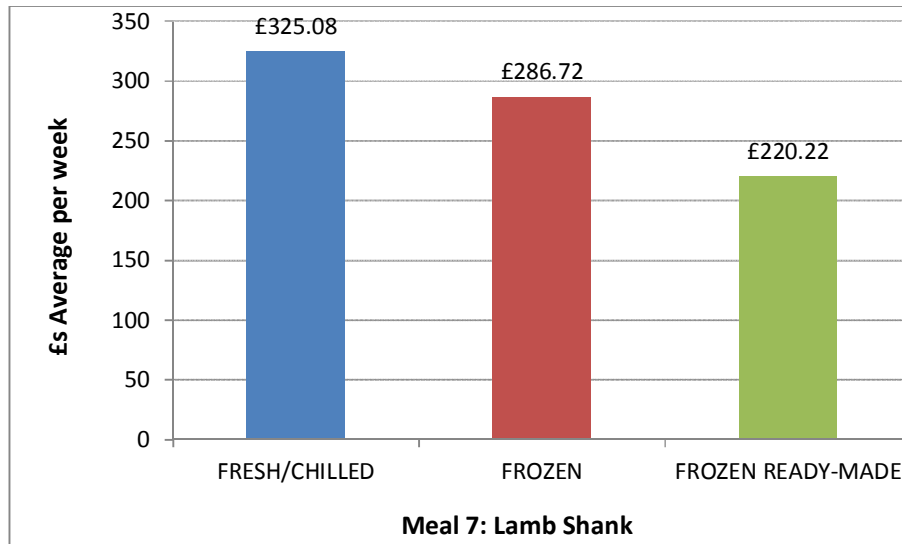


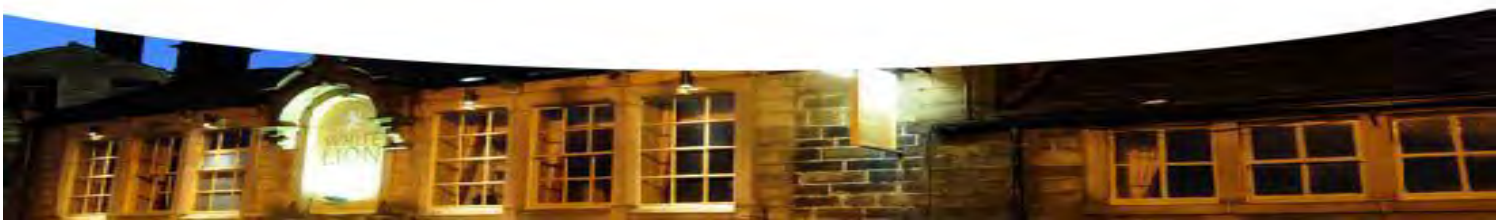
Figure 11: Total average cost of meal7 per week

A breakdown of these figures is presented in Appendix 3.

Regarding the fresh/chilled and frozen ingredient versions: the ingredient costs per portion from frozen are 20p less than using fresh/chilled; the staff costs and preparation time are 86p less with frozen; and the cost of energy used is 21p less when preparing the meal from frozen.

The overall cost of the meal per portion is significantly less when using frozen ready-made. The cost of ingredients is 59p less than fresh/chilled, and the staff costs are minimised by approximately 76%.

When using frozen ready-made compared to using fresh/chilled, the cost savings for this meal are approximately 32%.



3.2.8. Meal 8: Nut Loaf

On average, the weekly costs of preparing and serving nut loaf made from frozen is 14p more than from fresh/chilled. If the meal is prepared and served using frozen ready-made, it will cost £151 less per week compared with fresh/chilled (Figure 12).

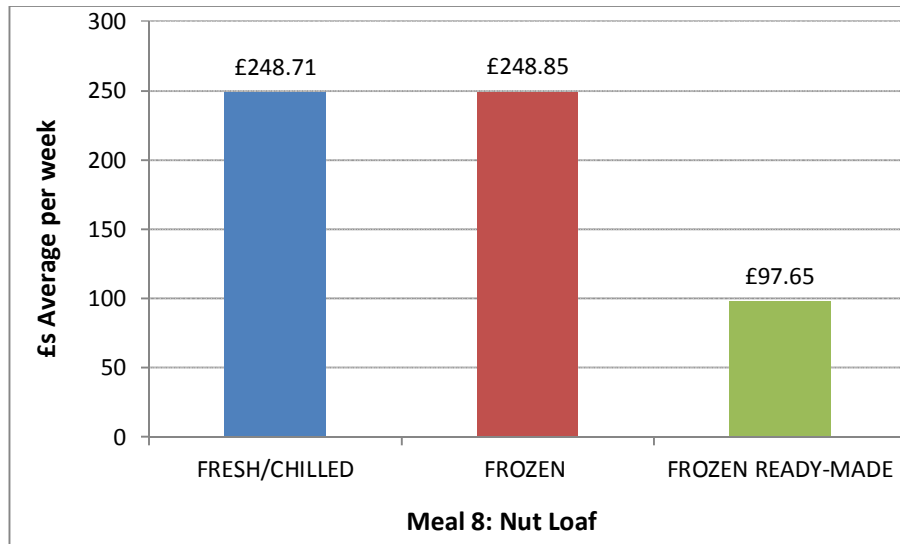


Figure 12: Total average cost of meal8 per week

A breakdown of these figures is presented in Appendix 3.

Regarding the fresh/chilled and frozen ingredient versions: the ingredient costs per portion from frozen is 16p more than using fresh/chilled; the staff costs and preparation time are 26p less with frozen; and the cost of energy used is the same when preparing the meal from frozen or fresh/chilled.

The overall cost of the meal per portion is significantly less when using frozen ready-made. The cost of ingredients is £1.40 less than fresh/chilled, and the staff cost and preparation time are minimised by approximately 84% and 75% respectively.

When using frozen ready-made compared to using fresh/chilled, the cost savings for this meal are approximately 61%.



3.2.9. Meal 9: Rhubarb Crumble

It is not possible to make rhubarb crumble using individual frozen ingredients. A similar frozen ready-made alternative is available from a national foodservice supplier. On average, the weekly cost of preparing and serving rhubarb crumble made from frozen ready-made is £53 less than from fresh/chilled (Figure 13).

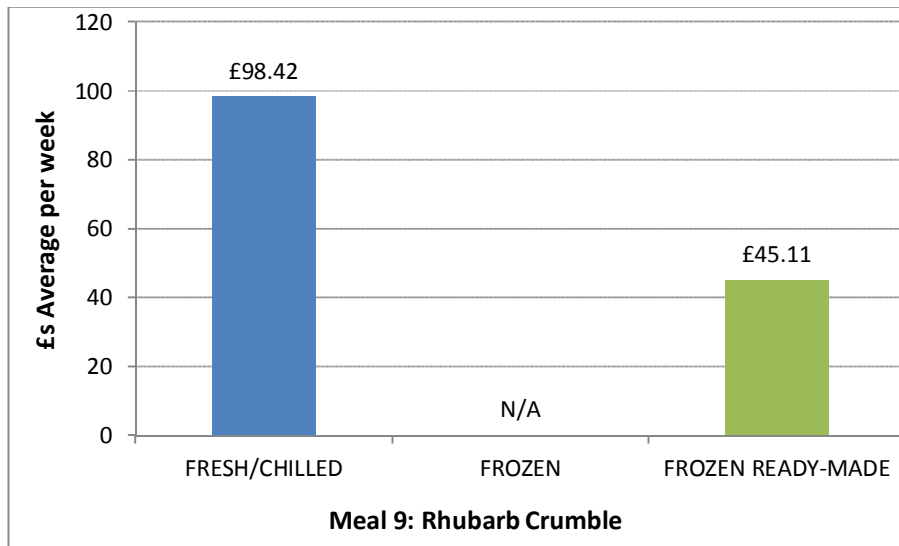


Figure 13: Total average cost of meal9 per week

A breakdown of these figures is presented in Appendix 3.

The overall cost of this dessert per portion is significantly less when using frozen ready-made. Although the cost of frozen ready-made is 36p more than using fresh/chilled ingredients, staff cost and preparation time are minimised by approximately 88% and 83% respectively. The cost of utilities and energy used to prepare this dessert can be minimised by 96% when using frozen ready-made rhubarb crumble.

When using frozen ready-made compared to using fresh/chilled, the cost savings for this meal are approximately 54%.



3.2.10. Meal 10: Prawn Cocktail

There is no frozen ready-made meal similar to this, but it is possible to replicate this meal using frozen ingredients. On average, the weekly cost of preparing and serving this meal made from frozen ingredients is £17 less than from fresh/chilled (Figure 14).

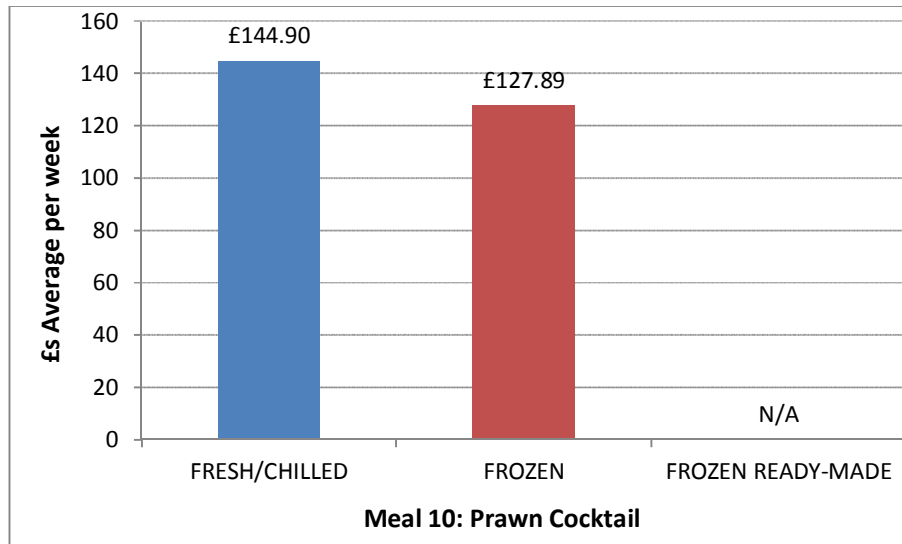


Figure 14: Total average cost of meal10 per week

A breakdown of these figures is presented in Appendix 3.

The cost of ingredients for this meal per portion is 81p less when using frozen instead of fresh/chilled ingredients. The cost of staff and preparation time, as well as the cost of utilities and energy used to prepare this meal, are the same for both food types.

When using frozen compared to fresh/chilled, the cost savings for this meal are approximately 12%.



4. DISCUSSION and CONCLUSION

The overall cost difference for a week's worth of meals if prepared from frozen or frozen ready-made instead of fresh/chilled is presented in Tables 4 and 5.

The cost difference and the % difference is based on the total cost of sourcing the ingredients, staff costs to prepare and clean up after the meals, plus the cost of energy and water used per week.

Meals	Fresh/ Chilled £	Frozen £	Cost £ Difference	Using Frozen % Saving
Steak Pie	784.35	669.97	114.38	15%
Burger & Chips	541.38	489.72	51.66	10%
Fish & Chips	740.88	451.08	289.80	39%
Hot Beef Sandwich	615.23	449.75	165.48	27%
Continental Chicken	439.53	398.51	41.02	9%
Roast Beef Dinner	702.38	519.82	182.56	26%
Lamb Shank	325.08	286.72	38.36	12%
Nut Loaf	248.71	248.85	-0.14	-0.06%
Rhubarb Crumble	98.42	N/A	N/A	N/A
Prawn Cocktail	144.90	127.89	17.01	12%

Table 4: Overall cost difference for 10 meals prepared from frozen



Meals	Fresh/ Chilled £	Frozen ready-made £	Cost £ Difference	Using Frozen ready-made % Saving
Steak Pie	784.35	374.43	409.92	52%
Burger & Chips	541.38	403.20	138.18	26%
Fish & Chips	740.88	281.40	459.48	62%
Hot Beef Sandwich	615.23	392.28	222.95	36%
Continental Chicken	439.53	124.75	314.78	72%
Roast Beef Dinner	702.38	429.38	273	39%
Lamb Shank	325.08	220.22	104.86	32%
Nut Loaf	248.81	97.65	151.16	61%
Rhubarb Crumble	98.42	45.11	53.31	54%
Prawn Cocktail	144.90	N/A	N/A	N/A

Table 5: Overall cost difference for 10 meals prepared from frozen ready-made

In general costs are reduced and profits potentially increased for a pub preparing and serving meals using frozen ingredients when compared with using fresh/chilled ingredients; cost savings are maximised when using frozen ready-made meals when this type is available. In our sample, one meal (Prawn Cocktail) was not available in this form, but 11 of the 12 were available.

The biggest cost difference appears in the Continental Chicken meal, with 72% cost savings when prepared using a frozen ready-made meal compared to using fresh/chilled ingredients. This is due to reduced costs of ingredients and the reduction of staff time needed.

Meals produced from fresh/chilled ingredients require more time for their preparation, cooking and associated cleaning up activities. As an example, a Steak Pie and Chips requires 45 minutes to be prepared by skilled staff. Using a frozen ready-made alternative requires only ten minutes preparation by a junior staff member. There is also a saving on energy costs.

Staff costs could reduce to a minimum by using frozen ingredients and ready-made meals, as less preparation time is needed. The skill levels of the staff



required to operate the kitchen are also less and thus wage costs are reduced by using frozen ingredients or ready meals.

Frozen ingredients or ready meals also result in significant savings on the amount of water used for washing and cleaning during preparation in comparison to fresh/chilled ingredients.

In terms of food wastage costs, significant savings are to be had as very little waste is produced when a meal is prepared using frozen ready-made alternatives due to portion sizes being predetermined.

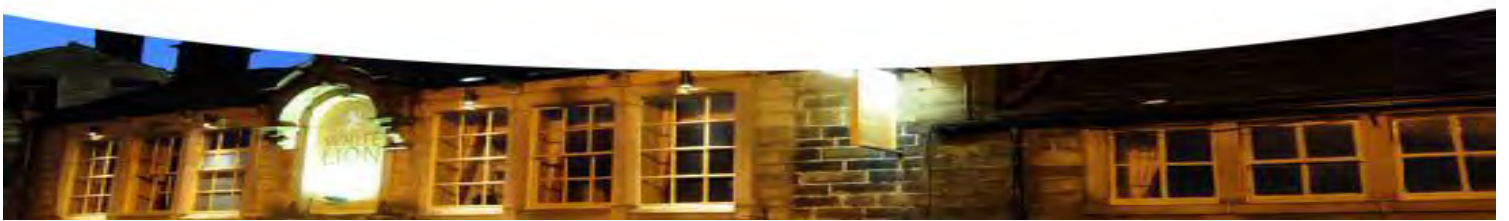
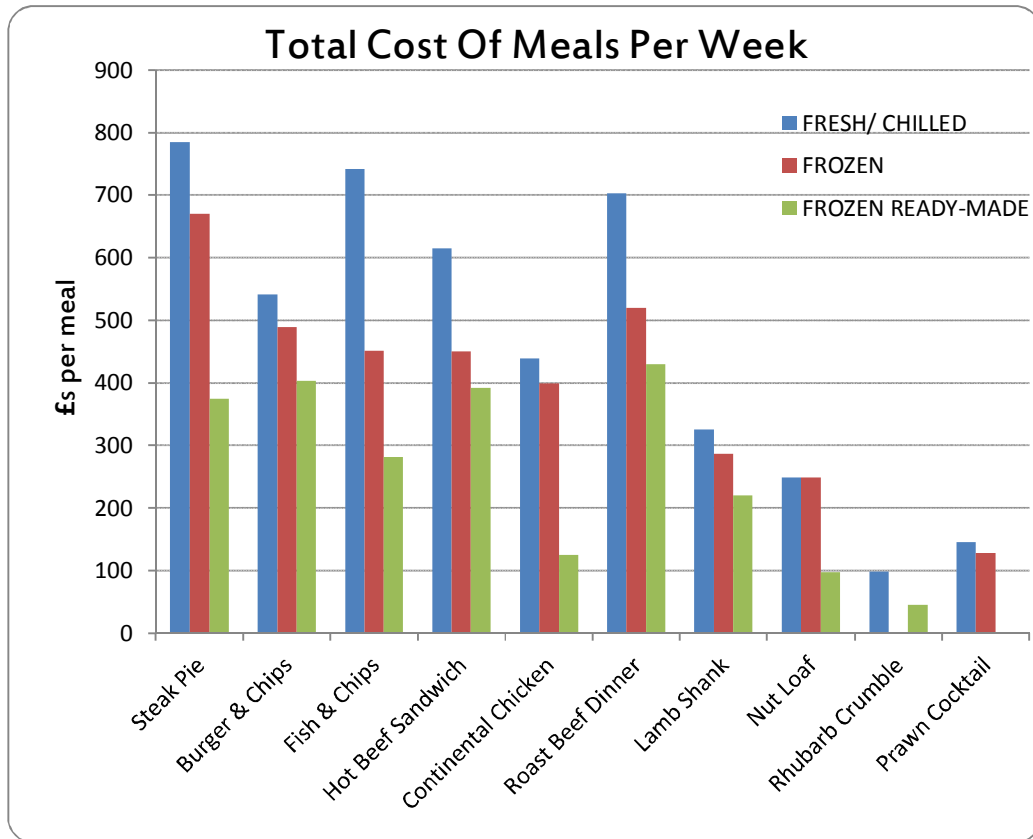
Note: This study did not take into consideration commercial waste disposal costs when estimating the cost implications of the three meal forms.

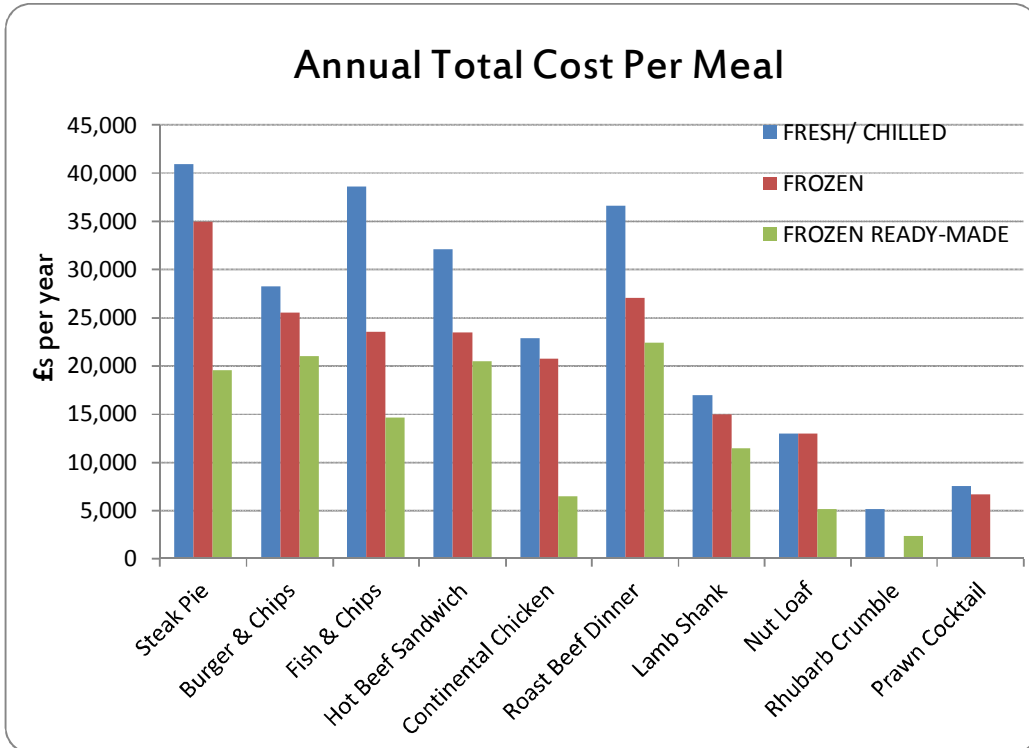
Further research could evaluate the cost implications of fresh/chilled versus frozen including waste costs and storage costs. Additionally consumer quality, taste, smell and texture perceptions, and possible health benefits of the three alternatives could be investigated in future research.



Appendix 1: Weekly and annually total cost breakdown per meal

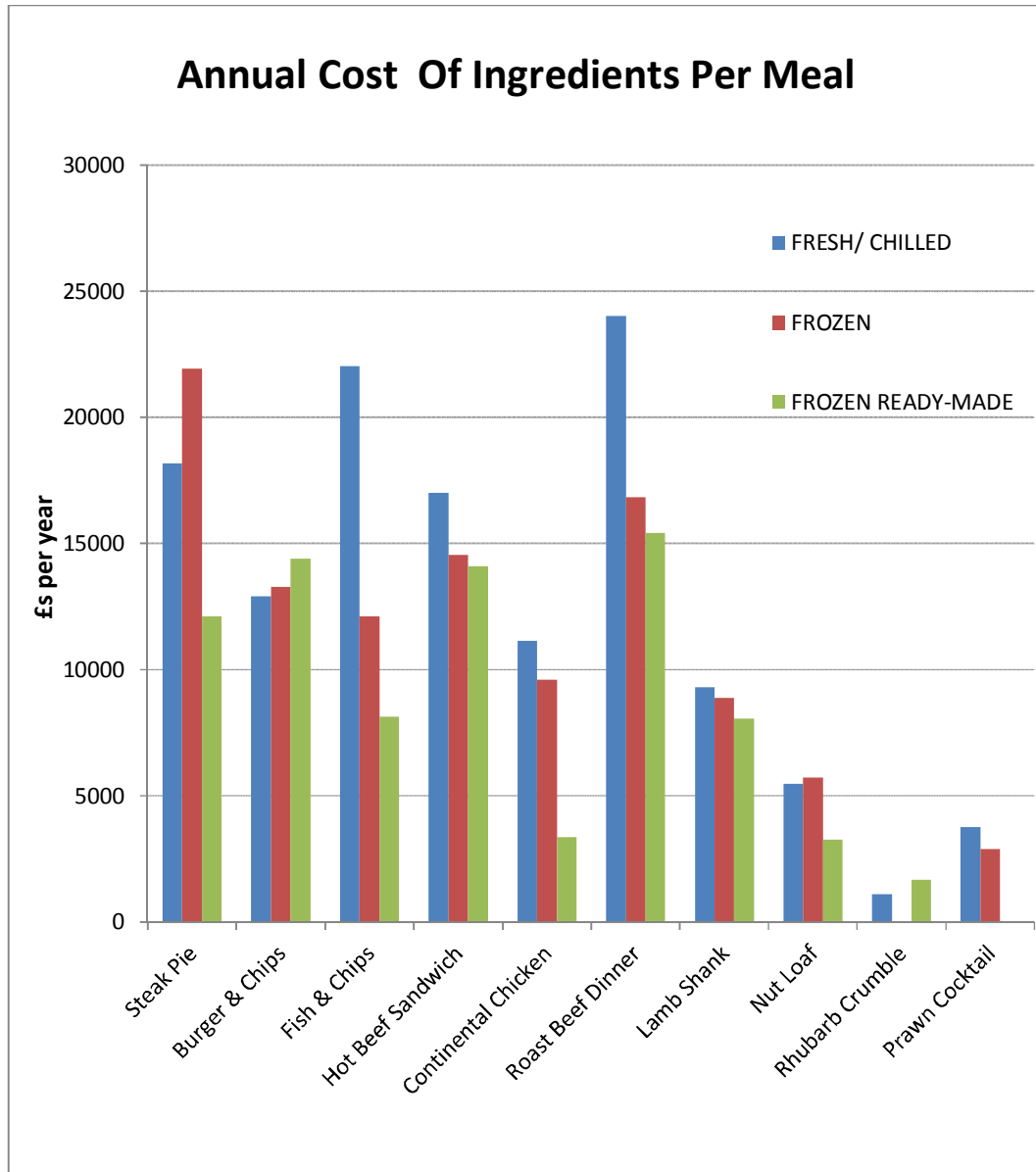
Figures relate to total number of meals sold weekly as shown in Table 1





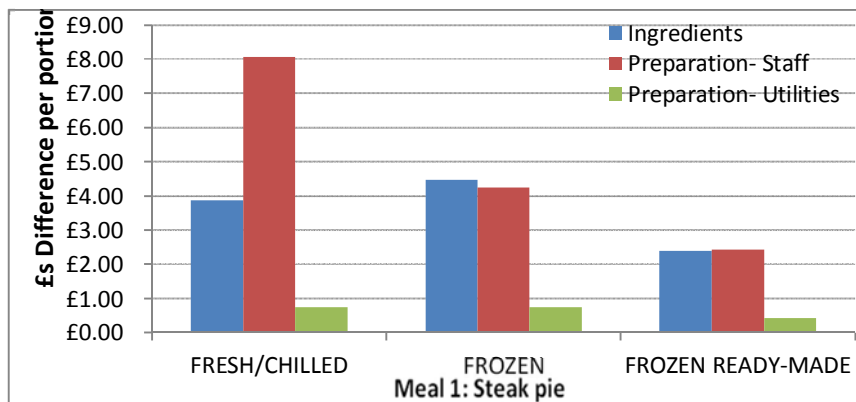
Appendix 2: Annual cost of ingredients per meal

Figures relate to total number of meals sold weekly as shown in Table 1

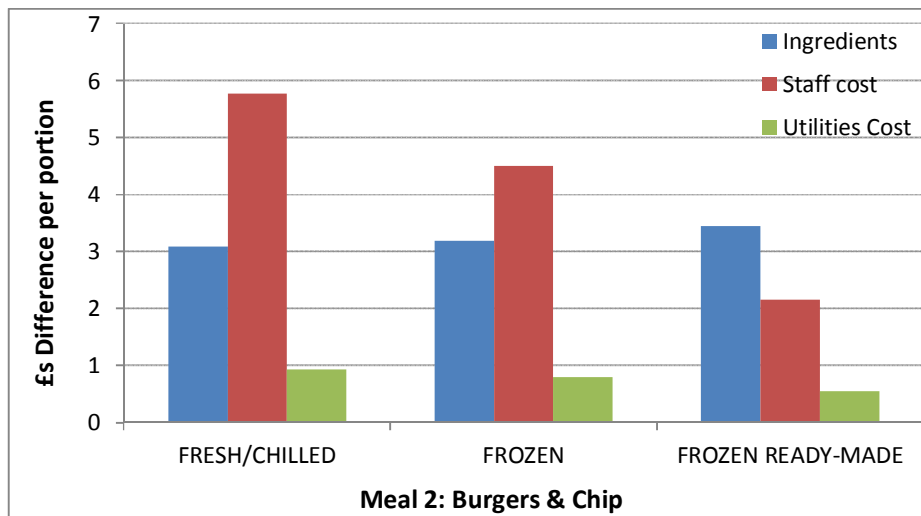


Appendix 3: Breakdown of figures for the 10 meals

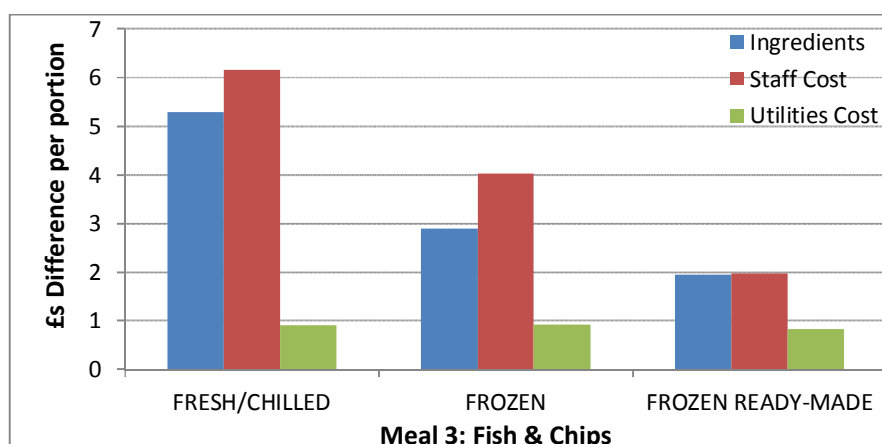
Meal 1: Steak Pie					
INGREDIENTS					
Ingredients	Weight in grams	£ per portion FRESH/CHILLED	£ per portion FROZEN	£ per portion FROZEN READY-MADE	
Steak	100g	£0.60	£0.71	£1.73	
Mushrooms	150g	£0.55	£0.42	N/A	
Onions	400g	£0.32	£0.55	N/A	
Beer-ale	400g	£0.40	£0.40	N/A	
Pastry	200g	£0.80	£1.50	N/A	
Garlic	12g	£0.07	£0.23	N/A	
Thyme	1g	£0.01	£0.01	N/A	
Chunky chips	325g	£0.46	£0.24	£0.24	
Mushy peas	150g	£0.22	£0.17	£0.17	
Salad	50g	£0.44	£0.44	£0.44	
Total cost of ingredients		£3.87	£4.67	2.58	
PREPARATION – STAFF					
FRESH/CHILLED		FROZEN		FROZEN READY-MADE	
Minutes	£ per portion	Minutes	£ per portion	Minutes	£ per portion
45min	£8.07	20min	£4.25	10min	£2.42
PREPARATION – UTILITIES					
£ per portion FRESH/CHILLED		£ per portion FROZEN		£ per portion FROZEN READY-MADE	
£0.75		£0.75		£0.43	
£ AVERAGE PER DAY					
FRESH/CHILLED		FROZEN		FROZEN READY-MADE	
£112.05		£95.71		£53.49	
£ TOTAL AVERAGE PER WEEK					
FRESH/CHILLED		FROZEN		FROZEN READY-MADE	
£784.35		£669.97		£374.43	



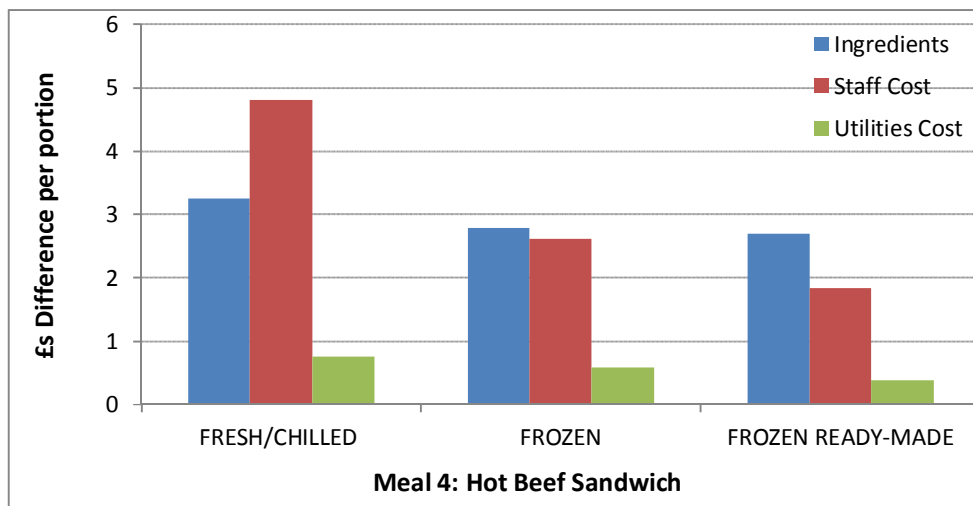
Meal 2: Burger & Chips					
INGREDIENTS					
Ingredients	Weight in grams	£ per portion FRESH/CHILLED	£ per portion FROZEN	£ per portion FROZEN READY-MADE	
minced steak	200g	£0.61	£1.03	£1.81	
ciabatta bread	80g	£0.45	£0.24	£0.24	
smoked cheese	30g	£0.23	£0.23	£0.23	
1/4 onion	50g	£0.04	£0.07	£0.37 *onion rings:	
1 garlic clove	6g	£0.04	£0.11	N/A	
egg	63g	£0.70	£0.70	N/A	
chunky chips	325g	£0.46	£0.24	£0.24	
relish		£0.12	£0.12	£0.12	
small salad	50g	£0.44	£0.44	£0.44	
Total cost of ingredients		£3.09	£3.18	£3.45	
PREPARATION – STAFF					
FRESH/CHILLED		FROZEN		FROZEN READY-MADE	
Minutes	£ per portion	Minutes	£ per portion	Minutes	£ per portion
20min	£5.77	20min	£4.50	10min	£2.15
PREPARATION – UTILITIES					
£ per portion FRESH/CHILLED		£ per portion FROZEN		£ per portion FROZEN READY-MADE	
£0.94		£0.80		£0.55	
£ AVERAGE PER DAY					
FRESH/CHILLED		FROZEN		FROZEN READY-MADE	
£77.34		£69.96		£57.60	
£ TOTAL AVERAGE PER WEEK					
FRESH/CHILLED		FROZEN		FROZEN READY-MADE	
£541.38		£489.72		£403.20	



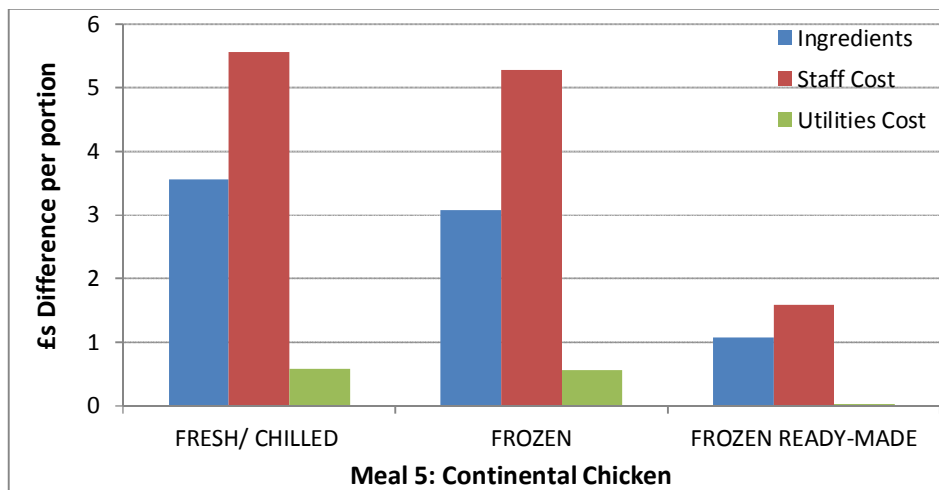
Meal 3: Fish & Chips					
INGREDIENTS					
Ingredients	Weight in grams	£ per portion FRESH/CHILLED	£ per portion FROZEN	£ per portion FROZEN READY-MADE	
haddock fillet fish	400g	£3.48	£1.37	£ 1.40	
real ale	330g	£0.80	£0.80	N/A	
sunflower oil	5g	£0.01	£0.01	£ 0.01	
flour	250g	£0.18	£0.18	N/A	
chunky chips	325g	£0.46	£0.24	£0.24	
mushy peas	150g	£0.22	£0.17	£0.17	
tartare sauce	50g	£0.13	£0.13	£0.13	
Total cost of ingredients		£5.28	£2.90	£1.95	
PREPARATION – STAFF					
FRESH/CHILLED		FROZEN		FROZEN READY-MADE	
Minutes	£ per portion	Minutes	£ per portion	Minutes	£ per portion
30min	£6.17	25min	£4.02	15min	£1.97
PREPARATION – UTILITIES					
£ per portion FRESH/CHILLED		£ per portion FROZEN		£ per portion FROZEN READY-MADE	
£0.91		£0.92		£0.83	
£ AVERAGE PER DAY					
FRESH/CHILLED		FROZEN		FROZEN READY-MADE	
£105.84		£64.44		£40.20	
£ TOTAL AVERAGE PER WEEK					
FRESH/CHILLED		FROZEN		FROZEN READY-MADE	
£740.88		£451.08		£281.40	



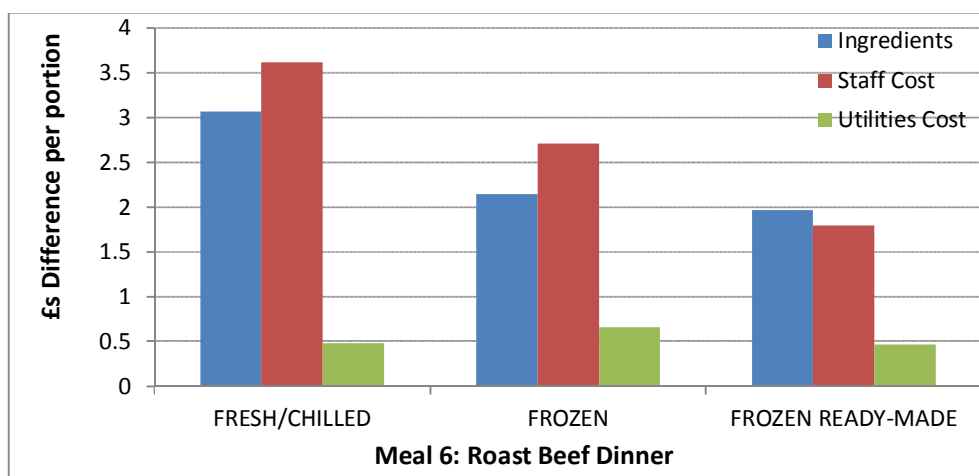
Meal 4: Hot Beef Sandwich					
INGREDIENTS					
Ingredients	Weight in grams	£ per portion FRESH/CHILLED	£ per portion FROZEN	£ per portion FROZEN READY-MADE	
roast yorkshire beef	100g	£1.19	1.19	£1.82	
bread ciabatta	100g	£0.45	£0.20	£0.20	
stilton	50g	£0.63	£0.63	N/A	
onion gravy (ready-made)	25g	£0.09	£0.09	N/A	
chunky chips	325g	£0.46	£0.24	£0.24	
small salad	100g	£0.44	£0.44	£0.44	
Total cost of ingredients		£3.26	£2.79	£2.70	
PREPARATION – STAFF					
FRESH/CHILLED		FROZEN		FROZEN READY-MADE	
Minutes	£ per portion	Minutes	£ per portion	Minutes	£ per portion
45min for 1st and then 15min per meal	£4.81	45min for 1st and then 10min per meal	£2.61	8min	£1.84
PREPARATION – UTILITIES					
£ per portion FRESH/CHILLED		£ per portion FROZEN		£ per portion FROZEN READY-MADE	
£0.76		£0.59		£0.38	
£ AVERAGE PER DAY					
FRESH/CHILLED		FROZEN		FROZEN READY-MADE	
£87.89		£64.25		£56.04	
£ TOTAL AVERAGE PER WEEK					
FRESH/CHILLED		FROZEN		FROZEN READY-MADE	
£615.23		£449.75		£392.28	



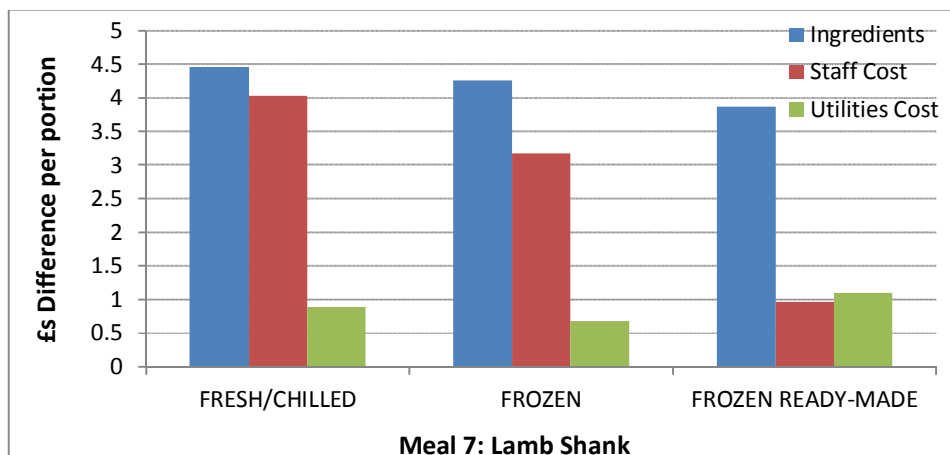
Meal 5: Continental Chicken					
INGREDIENTS					
Ingredients	Weight in grams	£ per portion FRESH/CHILLED	£ per portion FROZEN	£ per portion FROZEN READY-MADE	
chicken breast	200g	£1.33	£1.10	£1.33	
2x lemon	300g	£0.50	£0.50	N/A	
thyme	1g	£0.01	£0.01	N/A	
3x garlic cloves	18g	£0.10	£0.35	N/A	
chorizo	50g	£0.56	£0.56	N/A	
peas	50g	£0.30	£0.09	N/A	
arborio rice	70g	£0	£0.22	£0.30	
seasonal vegetables	200g	£0.54	£0.24	£0.24	
Total cost of ingredients		3.56	£3.07	£1.87	
PREPARATION – STAFF					
FRESH/CHILLED		FROZEN		FROZEN READY-MADE	
Minutes	£ per portion	Minutes	£ per portion	Minutes	£ per portion
30mins	£5.56	20min	£5.29	7min	£1.08
PREPARATION – UTILITIES					
£ per portion FRESH/CHILLED		£ per portion FROZEN		£ per portion FROZEN READY-MADE	
£0.59		£0.57		£0.031	
£ AVERAGE PER DAY					
FRESH/CHILLED		FROZEN		FROZEN READY-MADE	
£62.79		£56.93		£17.82	
£ TOTAL AVERAGE PER WEEK					
FRESH/CHILLED		FROZEN		FROZEN READY-MADE	
£439.53		£398.51		£124.75	



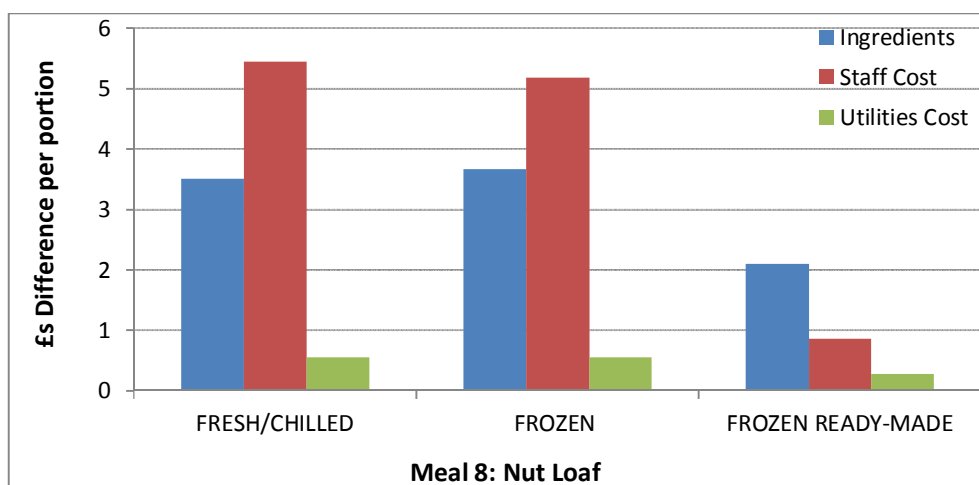
Meal 6: Roast Beef Dinner					
INGREDIENTS					
Ingredients	Weight in grams	£ per portion FRESH/CHILLED	£ per portion FROZEN	£ per portion FROZEN READY-MADE	
beef	100g	£1.08	£1.19	£1.10	
pudding - 2xegg	126g	£0.91	£0.39 Fully Baked Yorkshire Puddings	£0.39 Fully Baked Yorkshire Puddings	
pudding - flour	115g	£0.08	N/A	N/A	
pudding - milk	275g	£0.16	N/A	N/A	
roast potatoes	250g	£0.21	£0.24	£0.24	
onion gravy (ready-made)	25g	£0.09	£0.09	N/A	
seasonal vegetables	200g	£0.54	£0.24	£0.24	
Total cost of ingredients		£3.07	£2.15	£1.97	
PREPARATION – STAFF					
FRESH/CHILLED		FROZEN		FROZEN READY-MADE	
Minutes	£ per portion	Minutes	£ per portion	Minutes	£ per portion
45min for 1st and then 25min	£6.42	45min for 1st and then 20min	£2.71	10min	£1.79
PREPARATION – UTILITIES					
£ per portion FRESH/CHILLED		£ per portion FROZEN		£ per portion FROZEN READY-MADE	
£0.48		£0.66		£0.46	
£ AVERAGE PER DAY					
FRESH/CHILLED		FROZEN		FROZEN READY-MADE	
£100.34		£74.26		£61.34	
£ TOTAL AVERAGE PER WEEK					
FRESH/CHILLED		FROZEN		FROZEN READY-MADE	
£702.38		£519.82		£429.38	



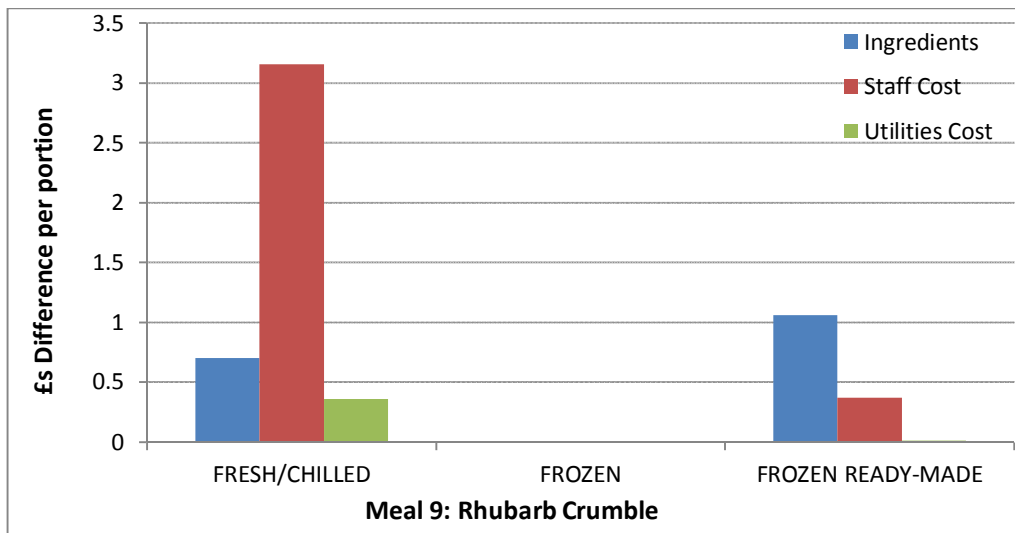
Meal 7: Lamb Shank					
INGREDIENTS					
Ingredients	Weight in grams	£ per portion FRESH/CHILLED	£ per portion FROZEN	£ per portion FROZEN READY-MADE	
lamb	400g	£3.27	£3.41	£3.50 Lamb Shank in Red Wine & Rosemary Sauce	
flour	100g	£0.07	£0.07	N/A	
1x onion	200g	£0.16	£0.27	N/A	
rosemary/bay leaves	10g	£0.13	£0.13	N/A	
oil	5g	£0.01	£0.01	N/A	
gravy (ready-made)	30g	£0.09	£0.09	N/A	
mashed potato	150g	£0.19	£0.20	£0.20	
seasonal vegetables	250g	£0.54	£0.17	£0.17	
Total cost of ingredients		£4.46	£4.26	£3.87	
PREPARATION – STAFF					
FRESH/CHILLED		FROZEN		FROZEN READY-MADE	
Minutes	£ per portion	Minutes	£ per portion	Minutes	£ per portion
35min	£4.03	35min	£3.17	30min	£0.96
PREPARATION – UTILITIES					
£ per portion FRESH/CHILLED		£ per portion FROZEN		£ per portion FROZEN READY-MADE	
£0.89		£0.68		£1.10	
£ AVERAGE PER DAY					
FRESH/CHILLED		FROZEN		FROZEN READY-MADE	
£46.44		£40.96		£31.46	
£ TOTAL AVERAGE PER WEEK					
FRESH/CHILLED		FROZEN		FROZEN READY-MADE	
£325.08		£286.72		£220.22	



Meal 8: Nut Loaf						
INGREDIENTS						
Ingredients		Weight in grams	£ per portion FRESH/CHILLED	£ per portion FROZEN	£ per portion FROZEN READY-MADE	
cashew nut		100g	£1.38	£1.38	£1.57 Nut Loaf	
mushrooms		100g	£0.37	£0.29	N/A	
parsnip		125g	£0.18	£0.22	N/A	
1x onion		75g	£0.06	£0.10	N/A	
2x garlic cloves		10g	£0.07	£0.23	N/A	
plain flour		10g	£0.01	£0.01	N/A	
rosemary & thyme		2g	£0.02	£0.02	N/A	
rice		75g	£0.11	£0.11	£0.29 Mediterranean Risotto	
tomatoes		100g	£0.25	£0.25	N/A	
rocket		50g	£0.42	£0.42	£0.24	
stilton		50g	£0.63	£0.63	N/A	
Total cost of ingredients			£3.50	£3.66	£2.10	
PREPARATION – STAFF						
FRESH/CHILLED		FROZEN		FROZEN READY-MADE		
Minutes	£ per portion	Minutes	£ per portion	Minutes	£ per portion	
20min	£5.45	20min	£5.19	5min	£0.87	
PREPARATION – UTILITIES						
£ per portion FRESH/CHILLED		£ per portion FROZEN		£ per portion FROZEN READY-MADE		
£0.56		£0.56		£0.28		
£ AVERAGE PER DAY						
FRESH/CHILLED		FROZEN		FROZEN READY-MADE		
£35.53		£35.55		£13.95		
£ TOTAL AVERAGE PER WEEK						
FRESH/CHILLED		FROZEN		FROZEN READY-MADE		
£248.71		£248.85		£97.65		



Meal 9: Rhubarb Crumble					
INGREDIENTS					
Ingredients	Weight in grams	£ per portion FRESH/CHILLED	£ per portion FROZEN	£ per portion FROZEN READY-MADE	
Rhubarb	150g	£0.28	N/A - This meal cannot be made using frozen ingredients	£1.06 Rhubarb Crumble	
Ginger	5g	£0.02	N/A		
Vanilla custard	75g	£0.09	N/A		
caster sugar	75g	£0.13	N/A		
flour	50g	£0.04	N/A		
Butter	25g	£0.14	N/A		
Total cost of ingredients		£0.70	N/A	£1.06	
PREPARATION – STAFF					
FRESH/CHILLED		FROZEN		FROZEN READY-MADE	
Minutes	£ per portion	Minutes	£ per portion	Minutes	£ per portion
12min	£3.16	N/A	N/A	2min	£0.37
PREPARATION – UTILITIES					
£ per portion FRESH/CHILLED		£ per portion FROZEN		£ per portion FROZEN READY-MADE	
£0.36		N/A		£0.012	
£ AVERAGE PER DAY					
FRESH/CHILLED		FROZEN		FROZEN READY-MADE	
£14.06		N/A		£6.44	
£ TOTAL AVERAGE PER WEEK					
FRESH/CHILLED		FROZEN		FROZEN READY-MADE	
£98.42		N/A		£45.11	



Meal 10: Prawn Cocktail					
INGREDIENTS					
Ingredients	Weight in grams	£ per portion FRESH/CHILLED	£ per portion FROZEN	£ per portion FROZEN READY-MADE	
pink prawns	75g	£1.18	£0.95	N/A - There is no frozen ready-made meal similar to this	
crayfish	75g	£1.23	£1.08	N/A	
smoked salmon	50g	£0.58	£0.35	N/A	
marie rose dressing	30g	£0.08	£0.08	N/A	
lemon	50g	£0.08	£0.08	N/A	
baby gem lettuce	50g	£0.15	£0.15	N/A	
wholemeal bread	50g	£0.30	£0.10	N/A	
Total cost of ingredients		£3.60	£2.79	N/A	
PREPARATION – STAFF					
FRESH/CHILLED		FROZEN		FROZEN READY-MADE	
Minutes	£ per portion	Minutes	£ per portion	Minutes	£ per portion
15min	£2.89	15min	£2.89	N/A	N/A
PREPARATION – UTILITIES					
£ per portion FRESH/CHILLED		£ per portion FROZEN		£ per portion FROZEN READY-MADE	
£0.41		£0.41		N/A	
£ AVERAGE PER DAY					
FRESH/CHILLED		FROZEN		FROZEN READY-MADE	
£20.70		£18.27		N/A	
£ TOTAL AVERAGE PER WEEK					
FRESH/CHILLED		FROZEN		FROZEN READY-MADE	
£144.90		£127.89		N/A	

