Chapter 5 - The Grocery Bill

The grocery bill is the largest monthly household expense in the budget and in some cases it eclipses the mortgage/rent payment. According to the U.S. Department of Agriculture Center for Nutrition Policy January 2012 Cost of Food survey, the average American family of four at the highest range is from $629.10 to $1,244.30 per month.

Age-gender groups	Thrifty plan	Low-cost plan	Moderate-cost plan	Liberal plan
Child (9-11 years)	$152.80	$200.00	$258.60	$301.70
Male (19-50 years)	$181.30	$234.20	$292.30	$359.70
Female (19-50 years)	$161.00	$203.30	$250.80	$320.70
Families of 2				
19-50 years	$376.60	$481.30	$597.40	$748.40
51-70 years	$357.30	$461.20	$568.50	$685.70
Families of 4 (Couple of 19-50 and 2 children)				
2-3 and 4-5 years	$548.00	$697.50	$861.20	$1,067.30
6-8 and 9-11 years	$629.10	$821.10	$1,024.70	$1,244.30

In general food prices rise year after year resulting in constant monitoring in the budget. There are many factors that contribute to this mainly due to globalization and how industries are connected together. For example, when gas prices go up so the does the cost of transportation and fruits and vegetables will be higher in price at the stand. Another example is supply change: in the summer of 2011 corn prices hit a record at $8 a bushel. (A bushel is equal to eight gallons) This activity this prompts more farmers to produce more corn thereby reducing supply of other products.

Food Calendar

A firm method to get organized with meal planning is to create a food calendar. The purpose is to develop sound decision making to avoid impulse purchasing while creating structure to manage spending. Just like a normal calendar the food calendar is a structured guide to remain task with commitments. The task within the food calendar is to create a plan or for each day based on at minimal for one week or as long as month.

The ***food calendar*** premise (is to list the entire meal plan for breakfast, lunch and dinner to know what needs to be on hand in the kitchen to cook the meals). Alternatively, a common method to the food calendar is to only list the dinner in the planning as it typically is more comprehensive in terms of the amount of food consumed and variety of meal choices which in turn demands more ingredients/items needed for cooking. This typically results in being the major area of the grocery budget. Moreover, breakfast and lunch tend to be more typecast, leading to less variety into what is consumed and spent in preparing home cooked meals.

~ MARCH ~						
SUN	**MON**	**TUE**	**WED**	**THU**	**FRI**	**SAT**
			29 -TV Dinner	**1** -Meatloaf -Salad -Baked Potato	**2** -Chicken Breasts -Asparagus -Breadsticks	**3** -Soup & Sandwiches -Salad
4 -Sloppy Joes -Broccoli	**5** -Mexican Night	**6** -Spaghetti -Salad -Breadsticks	**7**	**8**	**9**	**10**

Typically breakfast and lunches are predictable meals making them much easier to shop for. Hence, this is why restaurants have menus for breakfast, lunch and dinner. When it comes to dinner the types of foods and variations of preparing them are infinite. For purposes of this exercise, this calendar assumes a dinner menu. With meal planning it forces the budgeter to map out how to stay within the established weekly goal. This budget calls for $57.69 each week. The grid below details the ingredients needed for the week's meals:

Item	Have √	For	Amount	# of Meals
Ground beef	--	Sloppy Joes Meatloaf Mexican Night	3 lbs.	2
Soup	√	--	--	--
Lettuce (premix)	--	--	1 bag	4
Garlic Bread	--	--	1 loaf	2
TV Dinner	--	--	1 package	1
Taco Kit	√	--	--	--
Chicken Breast	√	--	--	--
Potatoes	--	Mashed Potatoes	2	1
Bread	√	--	--	--
Soup	√	--	--	--
Mayo	√	--	--	--
Mustard	√	--	--	--
Turkey	√	--	--	--
Sour Cream	√	--	--	--
Shredded Cheese	√	--	--	--
Black Olives	√	--	--	--
Broccoli	√	--	--	--
Asparagus	√	--	--	--

In looking at the grid the food calendar calls once meatloaf and sloppy joes, twice for garlic bread and four times for salad (lettuce). In breaking down the details shows shopping for one loaf of garlic bread, three pounds of meat and one bag of premix salad will span across multiple

meals. This charting out exercise leads to determining the quantity to shop for as well price points to stay within budget.

Item	Amount	Approximate Cost
Ground beef	3 lbs.	$10.00
Lettuce (premix)	1 bag	$3.25
Garlic Bread	1 loaf	$2.50
TV Dinner	1 package	$4.89
Potatoes	2	$1.20

In above Table the total for week comes to $21.84. (Many states tax food for consumption on premises but not food sold for off premises consumption such as restaurant) This leaves $35.85 for the breakfast and lunch meal categories.

5.1 Unit Pricing

Most stores have ***unit pricing*** (which is how much is being paid per package or multiple items in a one package). They may be displayed in forms such as ounces, liters, gallons or pounds. For example, ground beef is displayed as price per pound. When it comes to unit pricing many retailers display this information next to the products and this allows the consumer to make choices in the products they buy that suits their needs. Say a shopper is at the grocer purchasing orange juice – which is one is the best buy?

2 gallons at $3.80 or 1.5 gallons at $2.70

-$3.80 / 2 = $1.90

-$2.70 / 1.5 = $1.80

The above example is a simple determination as the quantities are single unit packaging, however it becomes more complicated with items such as sodas which have many different packaging sizes and amounts. This is where a common mistake is made by consumers when they see a lower price on an item and make an ***impulsive buy*** (an unplanned purchase for product or service just before a purchase is made) when in actuality the higher priced item next to it has a cheaper unit cost. For example, suppose a shopper is deciding on which yogurt to purchase:

Brand	Cost	Cups	Package Size	Total Amount	Unit Price
Brand X	$9.99	16	6oz.	96 oz.	.62
Brand Y	$11.00	18	6oz.	108 oz.	.61
Brand Z	$12.05	20	6oz.	120 oz.	.60

Result

Brand X has a lower total cost at $9.99 however it is actually the highest of three brands in unit price by two cents to that of Brand Z. Additionally, Brand X offers less in total amount than Brands Y and Z.

Being that the consumer is buying large amounts of yogurt the price will be relatively higher as a single purchase from the budget. However going for the cheapest price simply from a price standpoint is not the best option.

5.2 Unit Pricing Based on Consumption

When purchasing products in jumbo, multi, economy or family size packs the individual quantities may not be same when comparing products. One product may offer more individual packs while another may offer less packs but more volume. The major point to consider is a product is not a good buy if cannot be consumed in a timely matter. If it expires that is wasted cost and food. See the Table below:

Brand	Cost	Cups	Package Size	Total Amount	Unit Price
Brand X	$9.99	24	4oz.	96 oz.	.41
Brand Y	$11.00	18	6oz.	108 oz.	.61
Brand Z	$12.05	20	6oz.	120 oz.	.60

In this example the unit cost for Brand X is the best value due to 24 cups. What to consider is the amount of the package size. For some people 4 ounces may not be enough consumption at each meal or having to consume 24 cups before they expire may not be practical for some. Say, one consumer only eats 16 cups before they expire which costs $9.99. It may be cost effective to purchase single units. A single unit that calls a higher unit price at 50 cents would cost $8 for 16 cups saving $1.99.

Consumption Rate

When purchasing products there is an expected time frame before they need to be purchased again. This is a key point to a food budget because having this information allows decision making to purchase other products that are needed less frequently and for products that are more expensive. For example, a box of breakfast bars that contains 10 per package with a consumption rate of one per day will require approximately three purchases a month and 37 per year:

365 bars / 10 per box = 36.5 purchases a year

36.5 / 12 months = 3.041 purchases per month

This is a proven exercise that develops:

1) A true knowledge of consumption rate for products when completing weekly grocery lists

2) A keen grasp on food cost to develop a cost basis each month

The Table below displays a consumption rate chart for breakfast (packages per year are rounded).

Item	Consumption	Package Size	Purchases Year	Purchases Month
Bagels	1 every other day	8	23	1.9
Bananas	1 per day	5	73	6
Breakfast Bars	1 per day	10	36	3
Eggs	2 per day	12	61	5
Milk	½ cup per day	1/2 gal, 64 oz.	23	1.9
Oatmeal	1 every other day	12	15	1.25
Orange Juice	1 cup each day	1/2 gal, 64 oz.	46	3.8

Once the chart is complete the picture becomes clear as to how many purchases are required each week as displayed in the Purchases Month column. What stands out is that not all of the products can be purchased on a weekly basis. For example, bagels, breakfast bars, milk orange juice and oatmeal all require four or less purchases per month. Based on monthly budget this is simple to manage because there is no need to purchase these products on beyond the four-week average. On the inverse, bananas and eggs eclipse the four-purchase per month schedule. This means more trips are required; two additional for bananas and one for eggs each month. Furthering the analysis is looking at the package sizes to determine if there can be changes in the quantities to lessen the amount of trips each year; for bananas it calls for purchasing five per weekly trip however, purchasing seven brings the average down to one per week.

Current: 365 / 5 = 73 trips per year → 73 / 12 = 6 trips per month

Adjusted: 365 / 7 = 52 trips per year → 52 / 12 = 4.3 trips per month

(.3 accounts for the four months each year where there are 5 shopping weeks)

As for eggs raising the carton count from 12 to 18 creates an average of 3.37 trips per month. In these two instances both food items can be purchased within the four times per month goal. There is not an exact science to be able to go shopping each week and have the ability to purchase all products at the same time. Some products will last longer than others and food consumption or changes in the types and brands will vary from time to time as well. This is why it essential to utilize the food consumption chart and weekly grocery list.

5.3 Buying in bulk

Buying in bulk from warehouse clubs such as Costco and Sam's Club have increased in popularity in recent years as they have a lot to offer in the way of buying items in bulk for a less overall cost than buying in smaller quantities at the grocery store. The difference is that a membership is required often starting in the range of $50 and they typically last a year. They may also offer a small cash back to help amass enough to pay for the membership. For example, Costco offers an executive membership that features 2% cash back on purchases including gasoline (which is often in the range of 15-20 cents cheaper than the traditional gas station). In addition, these clubs offer a trial membership. Warehouse clubs will not replace the grocer as their model is to sell food items that carry a high consumption rate paired with quality,

however saving on just a handful items alone can offset a membership cost and true savings over purchasing the same products from the grocery store. This is true even in the event that someone is an individual living alone who consumes less than an average sized family. Another benefit to this it reduces trips and/or time shopping. The following example breaks down toilet paper (TP) for an individual who purchases 12 rolls at a time at 350 sheets per roll with each roll lasting six days.

350 sheets / 6 days = 58 sheets per day

6 days x 12 rolls = 72 days

365 / 72 days = 5.069 trips per year → 5.069 / 12 = .422 trips per month

.422 is just under one trip every two months.

Item	Consumption	Package	Sheets/Roll	Purchases Year	Cost per Pack
TP @ Grocer	1 per 6 days	12 rolls	350	5	$6.99
TP @ Club	1 per 6 days	30 rolls	425	2	$14.99

Grocer → $6.99 x 5 trips = $34.95

Club → $14.99 x 2 trips = $29.98

At first glance it looks like the values are very similar with only a $4.97 difference however, upon further analysis purchasing from the club is a healthier cost advantage.

425 sheets / 58 sheets per day = 7.32 days

7.32 days x 30 rolls = 219.6 days

365 / 219.6 days = 1.66 trips per year

Being that it the trips per year is 1.66 it will take 2 trips to cover the amount of supply necessary. However, there will be a spillover in the next year and eventually create a larger savings advantage by the middle of year three.

7.32 days x 60 rolls = 439.2 days

Year one (2 purchases): 439.2 - 365 = 74.2

Year two (2 purchases): 74.2 + 439.2 = 513.4 → 513.4 – 365 = 148.4

Year three: (1 purchase) 148.4 + 219.6 = 368 → 368 – 365 = 3

Due to the excess toilet paper carrying over only one purchase is made in year three thereby creating a savings of $24.93 (year to year accumulation).

(Year 1) $4.97 + (Year 2) $4.97 + (Year 3) $14.99

Points to Consider

1) Saving $24.93 is not a number that jumps out however it is still money that will eventually be saved down the road.

2) The consumption was based on an individual; for a family of five it would produce $124.65 in savings in year three.

3) The trips to the grocery store would 15 and only five for the warehouse club

The Warehouse List

Being the grocery bill is often the largest item in the budget taking the methodology to plan now to save later still creates more cash flow down the road. The savings of $24.93 on the toilet paper is just one of several products that will over time keep more money in the budget and less in the pockets of others. After performing this exercise on various items a warehouse list can be established revealing the savings as seen in a one-year chart below:

Item	Savings
Apples	$35
Beverages	$80
Cereal bars	$18
Eggs	$24
Frozen chicken	$32
Ketchup	$10
Lettuce	$25
Lunchmeat	$65
Paper towels	$15
Snack chips	$75
Soup	$15
Toilet paper	$5
Tuna fish	$25
Vitamins	$45
Yogurt	$60
Total	**$529.00**

Performing this exercise reveals a savings $529 and subtracting a warehouse fee of $50 brings the total to $479. On a monthly basis this comes to $39.91.

Other Warehouse Club Service

Often the warehouse clubs sell gasoline, auto insurance and other services at discount rates. They may also offer a cash back credit card that can allow you to save money to pay for the annual membership on top of the warehouse card discount toward purchases.

Mitigating Costs
There are a handful of ways to keep an eye on the items contained in the grocery bill. It is a constant undertaking due to individual consumption, competition pricing and as well the fluctuations in food prices.

Cheat sheet
Besides having a shopping list it is key to keep track of prices. This allows for monitoring to see if prices are raising or lowering and the ability to compare them against other products at other stores. It is difficult to do this however, there apps on cell phones that provide services to create lists compare prices and provide coupons.

Coupons
Coupons appear in the newspapers, product containers and online. They do save money however, it can be a time consuming effort to research, clip, organize and then track them for use. Another drawback is that that many offered are not the products that are desired in the grocery list. In addition, the quantities offered may not fit into the budget plan. When using coupons stacking a store and factory coupon will boost savings and sometimes local stores will accept coupons from competitor's stores.

Grocer discount cards
Grocery retailers often have their own savings card shaped like a credit card that fits into a wallet or by way of a key ring. Applying for a membership is simple and usually is free of charge. There has been consistent speculation as to whether they save money, however there are certain products that will cost more without the card.

5.5 Building the Food Cost into the Budget
When buying goods and services typically what costs the most creates the ability to cut the most. Being the grocery bill fits this category in spite of spikes in food prices, there are a set of controls that remain constant. Most notably, there are an infinite variety of foods to satisfy just about any palate creating the ability to make several different types of meals and sound decisions with money.

Predicting the cost of the grocery bill each month is difficult due to the availability of food and the fluctuations in prices. The soundest strategy is to look at what is projected in the budget and then working to meet that or number or come under it. From there, the goal is to reduce the cost burden.

The key is it to treat groceries like any other fixed bill regardless of thinking that if I go over, I still have to eat! Consequently, start by breaking the amount down to a daily amount. The psychology here is that by knowing this number it feels easier to manage and provides inspiration to beat it. The typical household shops at least once a week and this frequency provides a consistent update of the progress throughout a given month. In the budget, Jasper only needs to feed himself and his son commanding $250 per month creating this cost basis:

$250 x 12 = $3,000

$3,000 / 365 (days in the year) = $8.22 per day

This will vary depending how many days in each month ($250/number of days in month):

Month	Daily Cost	Month	Daily Cost
January (31)	$8.06	July (31)	$8.06
February (28)	$8.92	August (31)	$8.06
March (31)	$8.06	September (30)	$8.33
April (30)	$8.33	October (31)	$8.06
May (31)	$8.06	November (30)	$8.33
June (30)	$8.33	December (31)	$8.06

From the chart there is little variance from month to month. On average there is $57.69 per week to spend:

$3,000 / 52 = $57.6923 ($57.69 rounded)

$57.69 x 52 = $3,000

According to the food cost chart in beginning of chapter, the budget for a male at 35 years of age for a thrifty plan is $234.20 each month leaving $15.8 room for variance, but the budget is predicated on $250/month. It is important to note that when shopping weekly, the calendar for the new month doesn't usually fall on the same day. For example, shopping on a Wednesday in February falls on the 1st but it falls on the 7th in March.

FEBRUARY

S	M	T	W	T	F	S
			1	2	3	4
5	6	7	8	9	10	11
12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28	29			

MARCH

S	M	T	W	T	F	S
				1	2	3
4	5	6	7	8	9	10
11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28	29	30	31

This means there will be carryover into every month. Shopping on February 29th covers that day until the 6th of March. This also creates five shopping weeks in the month as whereas in March there is only four. Continuing with the 2013 calendar there are 52 Wednesday's of shopping, but each month the amount of shopping days varies ($57.69 x number of weeks in each month):

Month	Cost	Month	Cost
January (4)	$230.76	July (4)	$230.76
February (5)	$288.45	August (5)	$288.45
March (4)	$230.76	September (4)	$230.76
April (4)	$230.76	October (5)	$288.45
May (5)	$288.45	November (4)	$230.76
June (4)	$230.76	December (4)	$230.76

Hence as shopping weekly creates the additional four weeks and this money needs to be part of the Supplemental account ($250 budget amount – actual cost):

Month	To Supp	From Supp	Added Cash	New Balance in Supp
Jan	$19.24	--	--	$19.24
Feb	--	$38.45	**$19.21**	$0
Mar	$19.24	--	--	$19.24
Apr	$19.24	--		$38.48
May	--	$38.45		$.03
Jun	$19.24			$19.27
Jul	$19.24			$38.51
Aug		$38.45		$.06
Sep	$19.24			$19.30
Oct		$38.45	**$19.15**	$0
Nov	$19.24			$19.24
Dec	$19.24			$38.48
Total	**$153.92**	**$153.80**	**$38.36**	**$38.48**
The .12 overage in the New Balance in Supp is due to rounding				

Discrepancy figures due to rounding: **$3,000 / 52 = $57.6923**

$57.6923 - $57.69 = .0023

.0023 x 52 = .1196 rounded again to .12