



Convert Consumption Into Labor

“Circumstances may cause interruptions and delays, but never lose sight of your goal. Prepare yourself in every way you can by increasing your knowledge and adding to your experience, so that you can make the most of opportunity when it occurs.”

Mario Andretti

Energy balance is when the calories you consume from food and beverages is equal to the calories that your body burns through physical activity. If you are overweight, this means that your energy balance is “out of balance.” You are eating more calories than your body needs to perform daily activities and the extra calories are being stored as fat. There are just three ways to improve energy balance: take in fewer calories, burn off more calories, or a combination of both. According to University of Nebraska nutrition educator, Alice Henneman, adding more activity to your lifestyle is like getting a free “loan” every day. It increases your “calorie salary” because you can eat more if you use your feet more. Many people work in sedentary jobs, however, so it is necessary to schedule daily physical activity to improve your energy balance.

Converting consumption into labor is a useful strategy to help improve energy balance. What this means is figuring out how much exercise is required to burn off a certain number of calories. If it takes two hours on the treadmill to work off a slice of apple pie, you might think twice about having it (i.e., is it worth the calories?) or you’ll decide to eat a smaller portion or reduce calories elsewhere. In order to do the required calculation, you need to know the calorie content of foods (from nutrition facts labels or a calorie counter pocket book) and the number of calories expended per hour in common physical activities. You can also get a ballpark figure of calorie expenditure from the displays on exercise equipment, such as elliptical trainers and treadmills, especially those that are programmed to include a user’s weight.

The 2005 Dietary Guidelines For Americans report provides calorie expenditure information. It shows the number of calories burned per hour in various physical activities for a 154 pound individual. Calories burned per hour will be higher for persons who weigh more than 154 pounds and lower for persons who weigh less. This is because the energy expenditure for activities to move your own body weight (e.g., walking, running) is greater

for heavier people because they have more weight to move. Thus, a person weighing 160 pounds would burn more calories walking a mile than a person weighing 130 pounds. For an accurate calculation, it is, therefore, very important to check the body weight assumptions used in calorie expenditure charts. In addition, check the intensity of the physical activity. Some activities (e.g., walking, bicycling) can be labeled “moderate” or “vigorous” depending on the rate/speed at which they are performed, as indicated below:

Calories Expended in Common Physical Activities

| Moderate Physical Activity | Calories Expended Per Hour For a 154 lb Person |
|--|---|
| Hiking | 367 |
| Light gardening/yard work | 331 |
| Dancing | 331 |
| Golf (walking and carrying clubs) | 331 |
| Bicycling (<10 mph) | 294 |
| Walking (3.5 mph) | 279 |
| Weight lifting (general light workout) | 220 |
| Stretching | 184 |
| Vigorous Physical Activity | Calories Expended Per Hour For a 154 lb Person |
| Running/jogging | 588 |
| Bicycling (>10 mph) | 588 |
| Swimming (slow freestyle laps) | 514 |
| Aerobics | 478 |
| Walking (4.5 mph) | 464 |
| Heavy yard work (e.g., chopping wood) | 441 |
| Weight lifting (vigorous effort) | 441 |

Source: The 2005 Dietary Guidelines Advisory Committee Report

A comparable financial example is “converting spending into labor” by calculating how many hours of work are needed to earn the net (after-tax) income required to buy something. If you know how many hours of work are needed to buy something, you might think twice about making the purchase or look for a less expensive alternative.

In order to do the calculation, you need to know the cost of an item, your federal marginal tax bracket (see www.rce.rutgers.edu/money/taxinfo/default.asp) and the length of your average work week, including commuting time. Then you can do the math as shown in the example below:

1. Name of item to be purchased (e.g., coat)
2. Cost of item (e.g., \$150)

3. Before-tax (gross) weekly income (e.g., \$800)
4. Federal marginal tax rate: (e.g., 15%)
($\$800 \times 52 \text{ weeks} = \$41,600$ annual gross income; married filing jointly tax filing status)
5. Federal income tax: Line 3 x Line 4 (e.g., $\$800 \times .15 = \120)
6. After-tax (net) weekly income: Line 3 – Line 5 (e.g., $\$800 - \$120 = \$680$)
7. Number of hours worked per week, including commuting time (e.g., 50 hours)
8. Dollar value of an hour worked: Line 6 \div Line 7 (e.g., $\$680 \div 50 \text{ hours} = \13.60 per hour)
9. Number of work hours needed to buy item: Line 2 \div Line 8 (e.g., $\$150 \div \$13.60 = 11$ hours)

Use the worksheets below to create personalized calculations of the “cost,” in time spent to exercise or time spent in work, of eating or buying something:

Convert Consumption Into Labor-Health

List ten “temptation” foods, and their serving size and calorie count. Then list the approximate time that it would take to burn off the calories using one of the exercise methods listed above. A sample calculation is provided.

| Food Item | Serving Size | Calorie Count | Approximate Time Required to Burn Off the Calories and Name of Activity |
|-----------------------------|--------------|---------------|---|
| XYZ Brand Premium Ice Cream | ½ cup | 230 calories | ½ hour of vigorous walking |
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Convert Consumption Into Labor-Wealth

Complete the following calculation for items that you wish to purchase following the above sample:

1. Name of item to be purchased: _____

2. Cost of item: \$ _____
3. Before-tax (gross) weekly income: \$ _____
4. Federal marginal tax rate: _____ %
(\$ _____ annual gross income; _____ tax filing status)
5. Federal income tax: Line 3 x Line 4: (e.g., \$ _____ x . _____ = \$120)
6. After-tax (net) weekly income: Line 3 – Line 5: \$ _____
7. Number of hours worked per week, including commuting time: _____
hours
8. Dollar value of an hour worked: Line 6 ÷ Line 7: _____ ÷ _____ hours = \$ _____ (per hour)
9. Number of work hours needed to buy item: Line 2 ÷ Line 8: _____ ÷ \$ _____ = _____ hours



Action Steps

Health

- Use the Convert Consumption Into Labor worksheet to gain a better appreciation of energy balance.
- Make a list of foods that are “worth exercising for” and those that are not.
- Track your weight weekly to measure changes in energy balance over time.

Wealth

- Use the Convert Consumption Into Labor worksheet to gain a better appreciation of the cost of purchases compared to the time spent to earn the money to pay for them.
- Make a list of items that are “worth working long hours for” and those that are not.
- Track your income and expenses periodically to measure changes in cash flow over time.
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