

Egguilibrium

(Welch, Chapter 07-B)

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The Egg Approach to Finance

- ▶ Egg sellers and egg buyers.
- ▶ Consider vendor choices and the equilibrium.
- ▶ Try to convey reasoning in an overall economy.

- ▶ The insights of investments can apply to real products, just as they apply to financial investments.
- ▶ This parable is *not* in the book!

Egg Problem

- ▶ **Your problem:** Choose a portfolio of eggs to bring to the market for sale.
- ▶ You do not know for sure which eggs will sell—but you have a good idea which will.
- ▶ Some egg colors have higher likelihood of selling, others have lower (**vomit-green**).
- ▶ For your customers, egg products could have a fashion aspect—some will appeal to them, others not.
- ▶ Eggs can be imperfect substitutes.

Eggfect Market

We assume a perfect market:

1. No differences in opinion.
2. No taxes.
3. No transaction costs.
4. Many buyers and sellers
plus uncertainty.

Assume no gains to specialization, and anyone can be a vendor (or producer or consumer).

Egg Risk

- ▶ Let's presume you are a seller.
 - ▶ You care about your risk and reward.
 - ▶ Which of the two would you care about?
1. risk and reward of each egg by itself,
 - ▶ if so, what would you stock with?
 2. overall basket risk and reward?

Your Eggchandise Choice

- ▶ Key Question: Should you make/purchase just the most likely egg that will sell?

Safest Egg

- ▶ Take no risk!
- ▶ Go out of business (?!)
(Maybe yes?)

Mix Eggs?

Should you come to market with a mix of different eggs?

A Vomit-Green Egg?

- ▶ Consider a completely different type of product, which is very risky in itself. That is, you do not think it will sell.
- ▶ If you have stocked lots of the-most-likely-egg, except one vomit-green, what is the risk contribution of this one vomit-green egg?
- ▶ Does it increase your overall risk?

Egguilibrium

How much would you be willing to pay to stock the only vomit-green egg?

Eggs and Markets

- ▶ You want to understand basket selection.
- ▶ Given probabilities and prices, how would you optimally stock your basket?
 - ▶ If an asset is very different from all other assets (it pays off when other assets do not pay off), would you be willing to pay a higher price?

Risk-Reward Of Seller

- ▶ In the context of investment theory, you should like eggs that:
 1. pay off often,
 2. pay off big when other eggs do not.
- ▶ This is **optimal portfolio choice** (chapter 8)
 - ▶ If you are “only” an investor, you are done.

Risk-Reward of Market

- ▶ But maybe...
- ▶ Do you want to understand how the prices of eggs will adjust to the many vendors who want to stock baskets?
- ▶ If more sellers want the vomit-green purple egg (because it is so different), then the price of vomit-green will increase.
- ▶ Eggulilibrium is about the proper prices, given optimal choices.

EAPCM

- ▶ The Egg Asset Pricing Model is the model that tells us how risk and reward are related to:
 - ▶ how individual products are expected to perform,
 - ▶ and how individual products are different.

This is the subject of the Chapter 11 (CAPM).

Corporate Expertise

- ▶ If you are a corporate CEO making eggs, you must think about what eggs (for vendors and consumers) you want to make,
- ▶ i.e., what projects you want to offer to investors that like eggs that:
 1. pay off often, and
 2. pay off when other eggs do not.

Make an eggcellent choice, please!