# Economic Decision Making in Game Design

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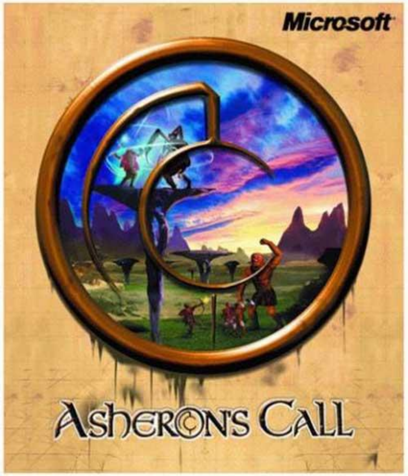
# Obligatory Bio Slide

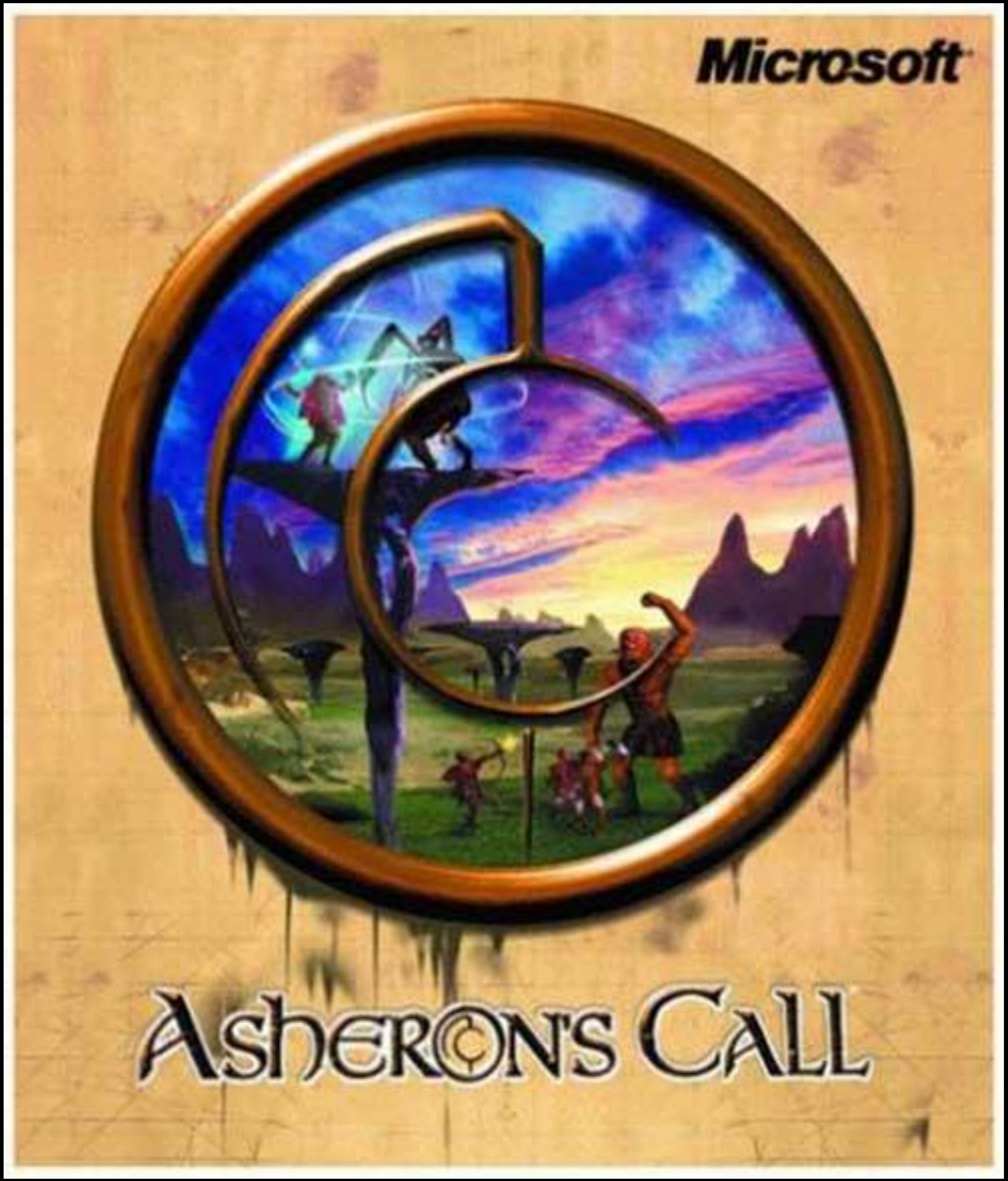



Dungeons & Dragons Online™
Stormreach™

The Lord of the Rings Online™
Shadows of Angmar™

Dungeons & Dragons®
Tiny Adventures

Marvel®
Super Hero Squad
Online


Microsoft
Asheron's Call

# The Lord of the Rings Online™

## Shadows of Angmar™

XP/hr

KPM

DPS

HtK

GP/h

TTNL

# Overview

- People make bad economic decisions, predictably
- Things that are economically equivalent are not always emotionally equivalent
- Understanding the basic principles can help us design more enjoyable experiences

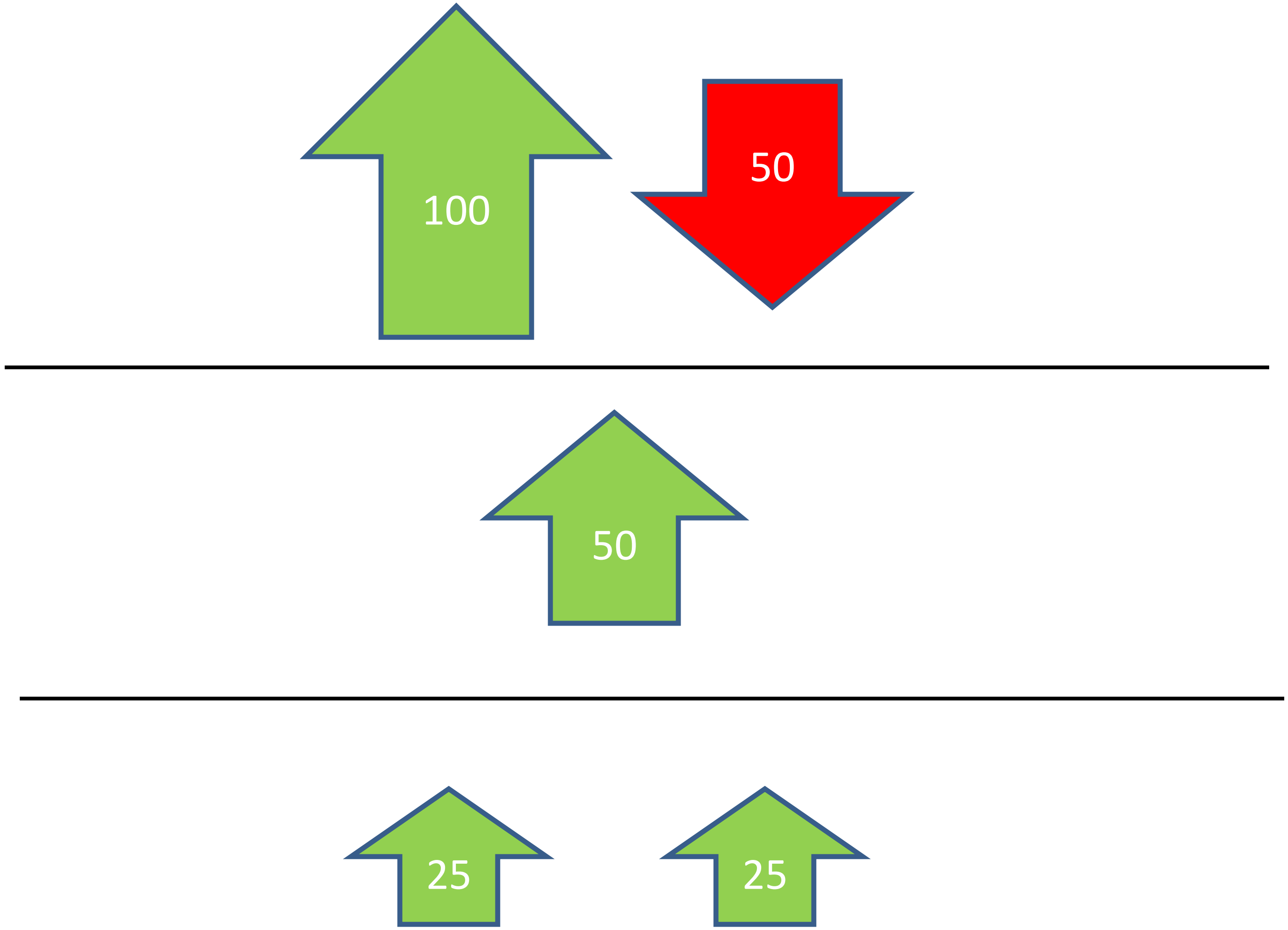
# Assumptions

- Players emotionally treat artificial economies similarly to real economies
- Players treat game gains and losses, be they levels, XP, gold, stats, in economic terms

# Agenda

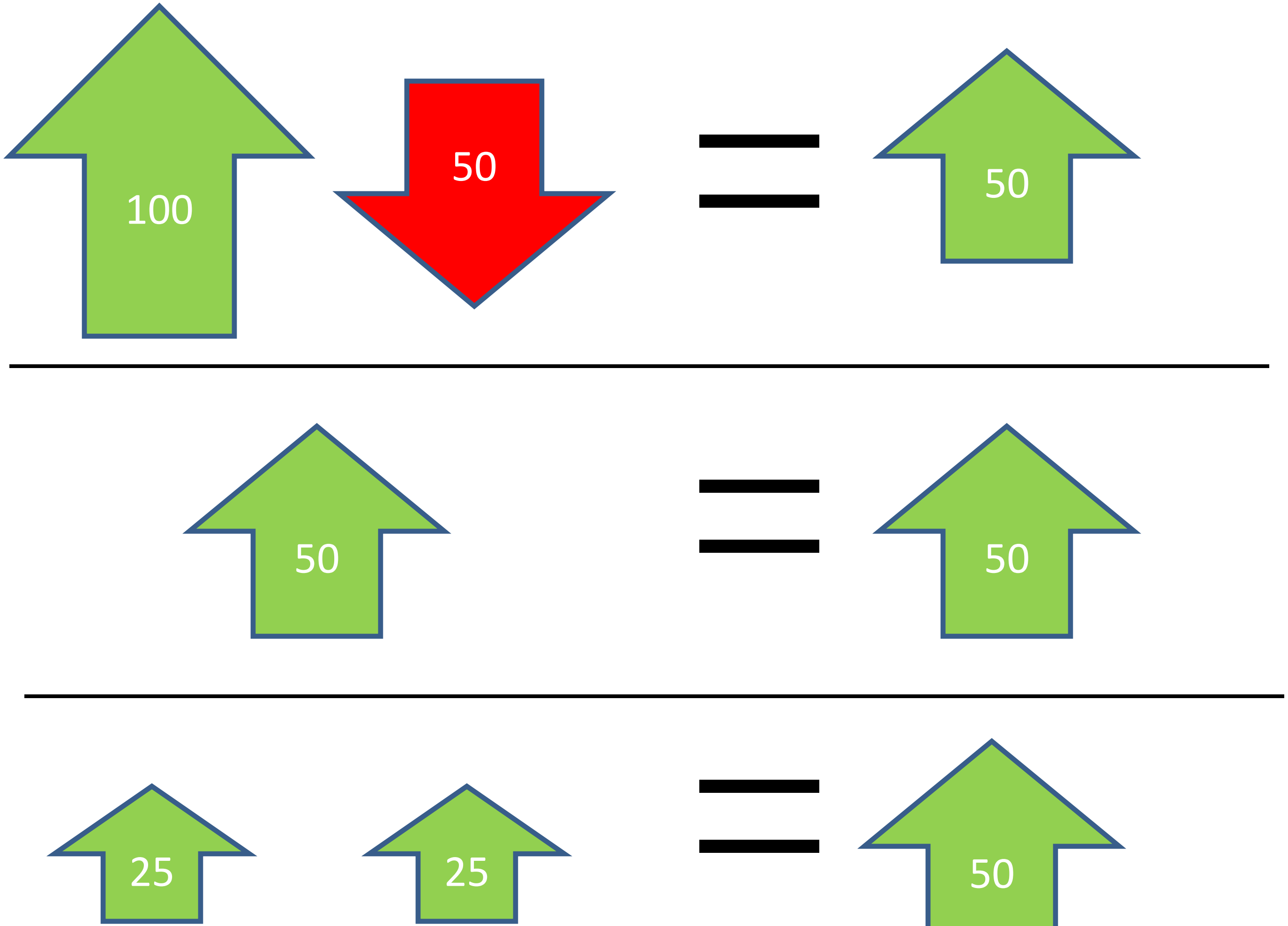
- Loss Aversion
- Mental Accounting
- Abstraction Layers
- Endowment Effect
- Sunk Costs
- Flat Rate Bias
- Priming

# Behavioral Econ 101:  Loss Aversion

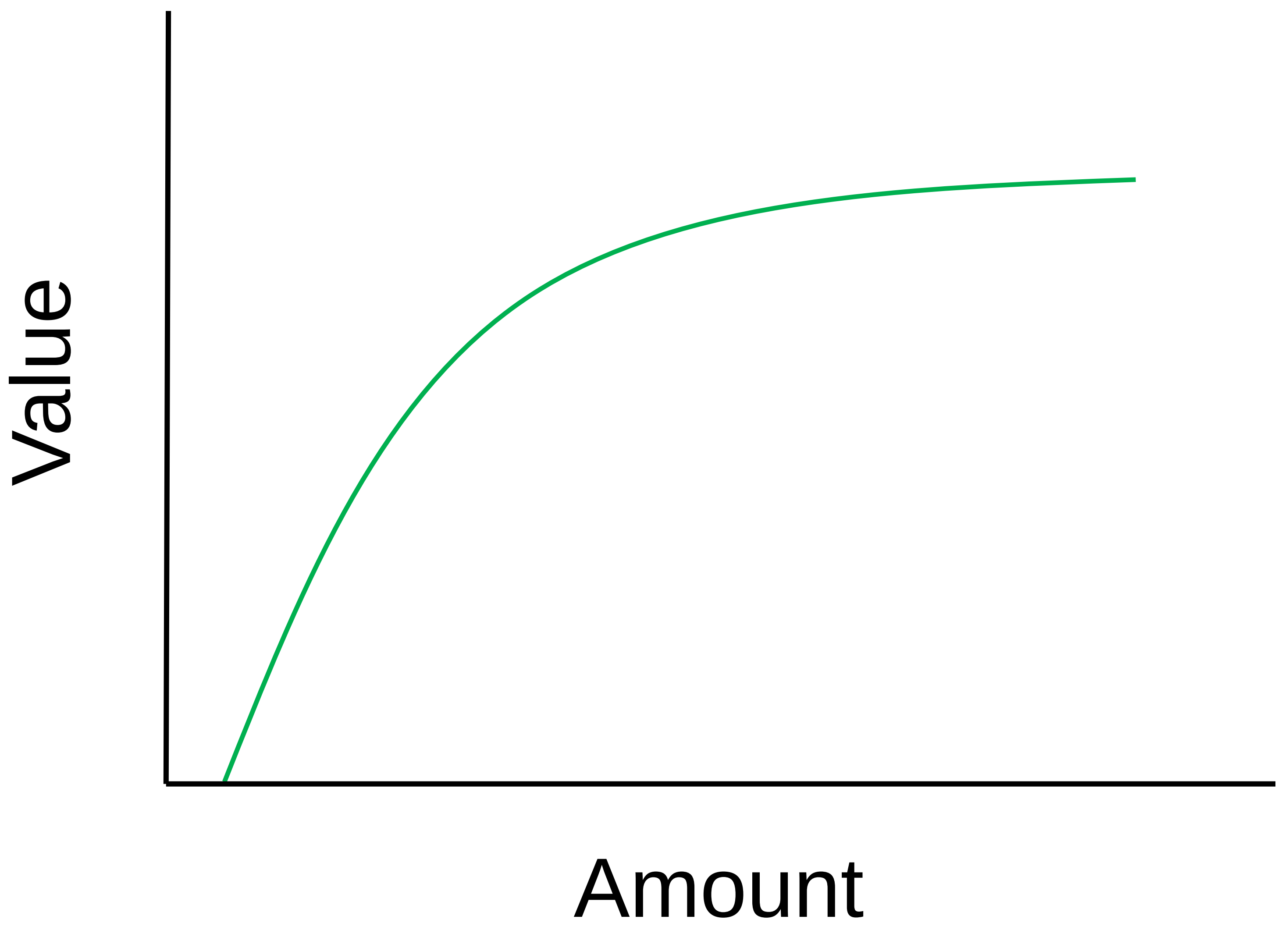



Level Down...

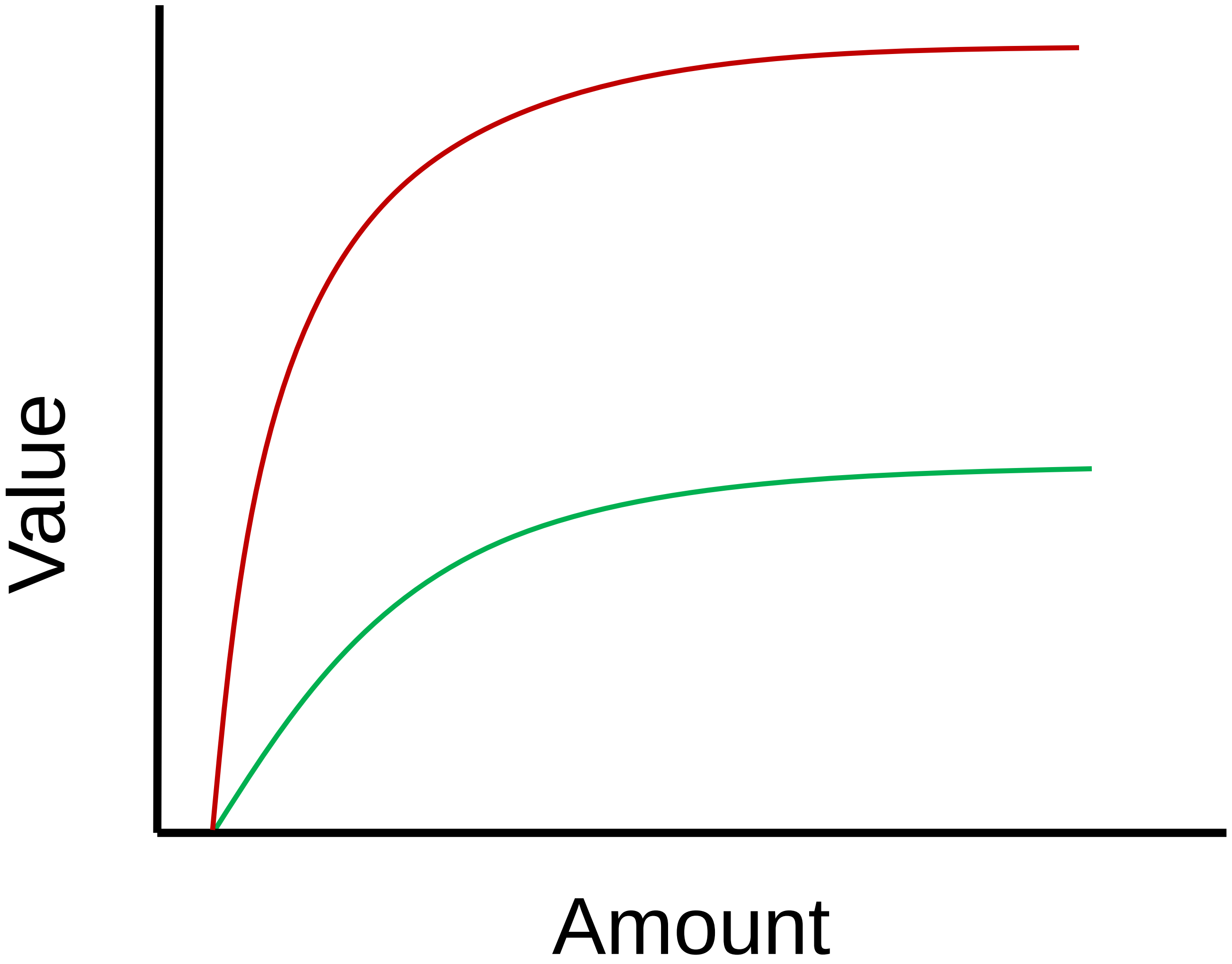
# Economic Equivalence



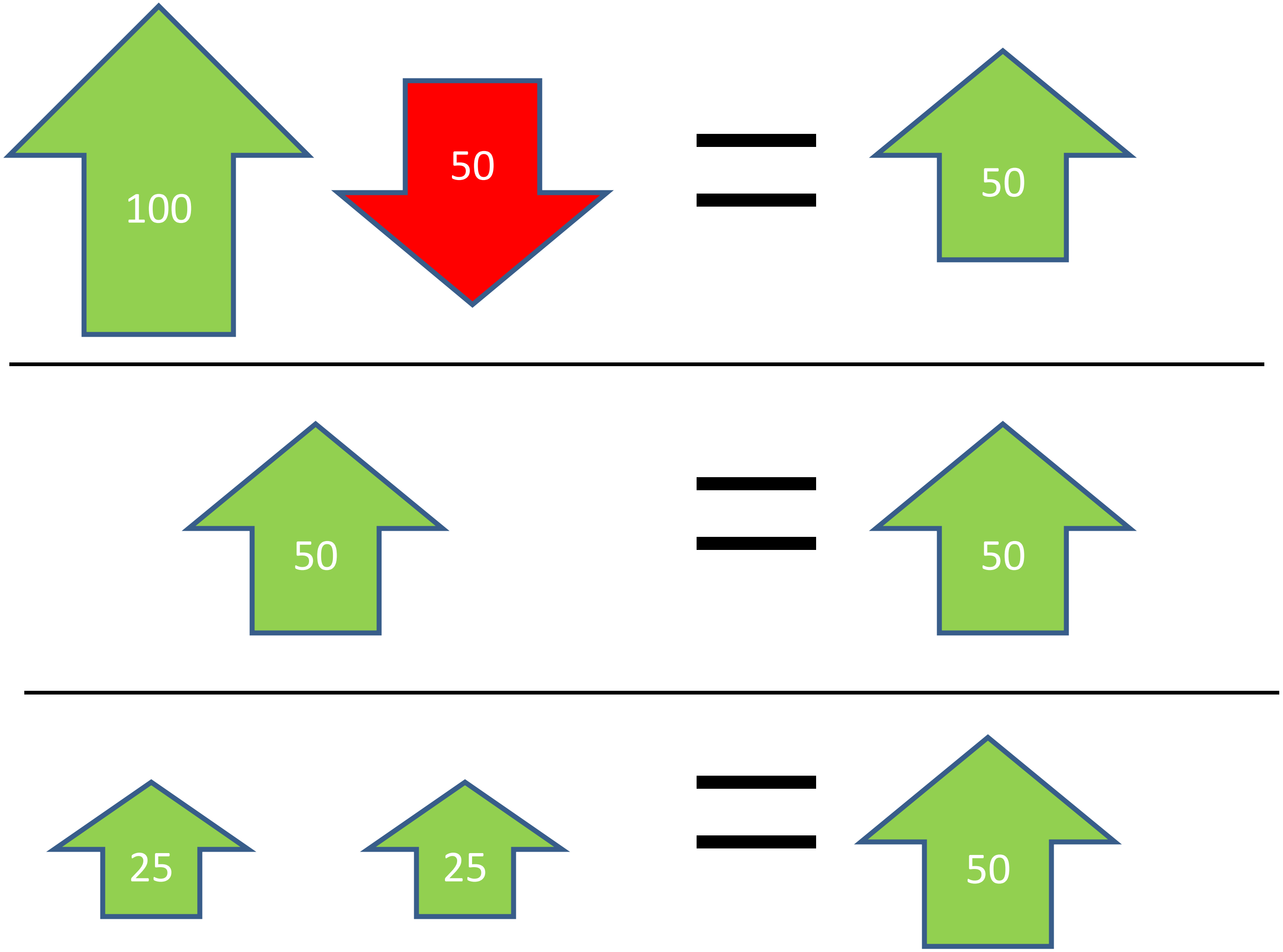
# Diminishing Sensitivity



# Losses Hurt!



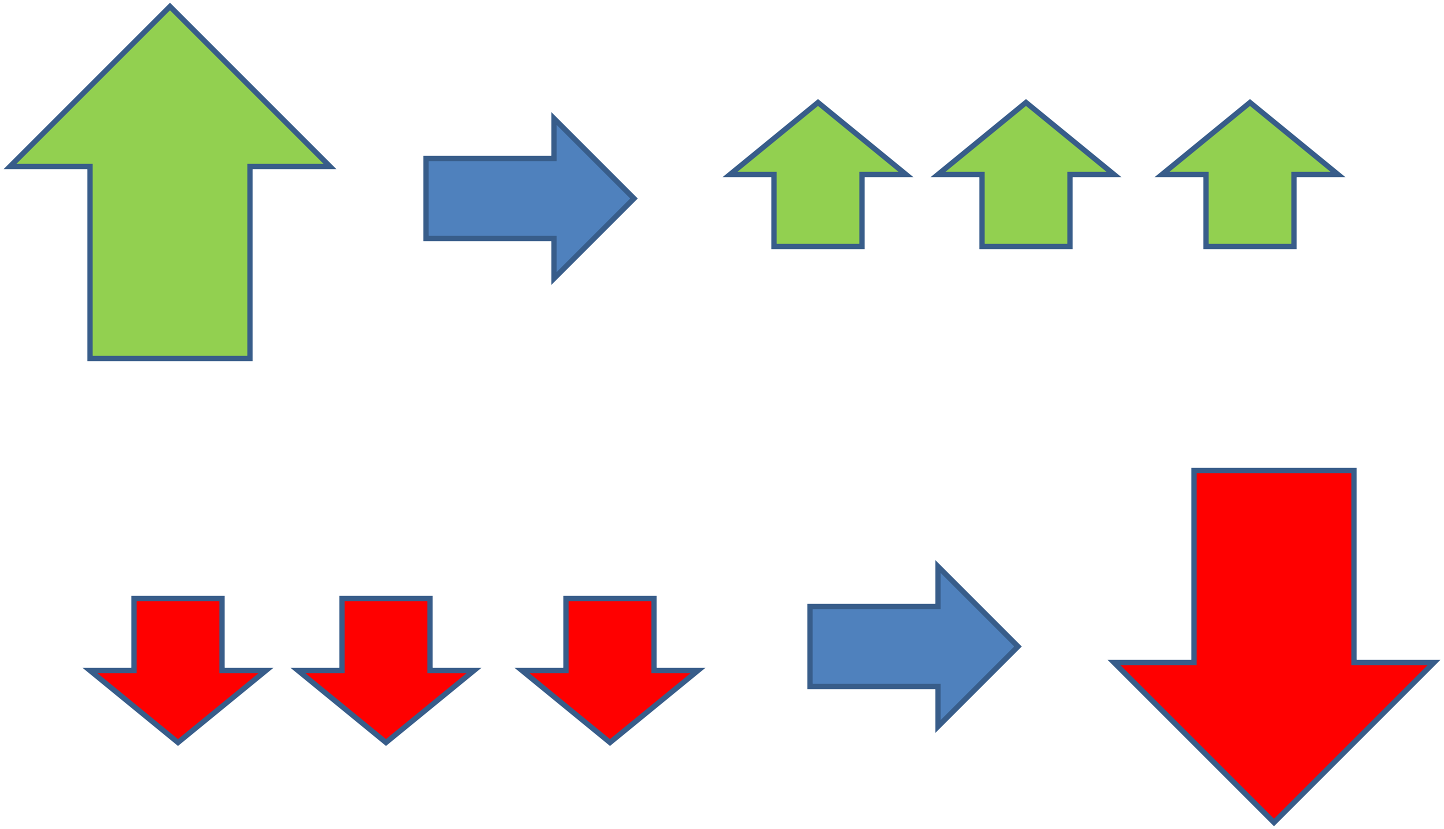
# Economic Equivalence



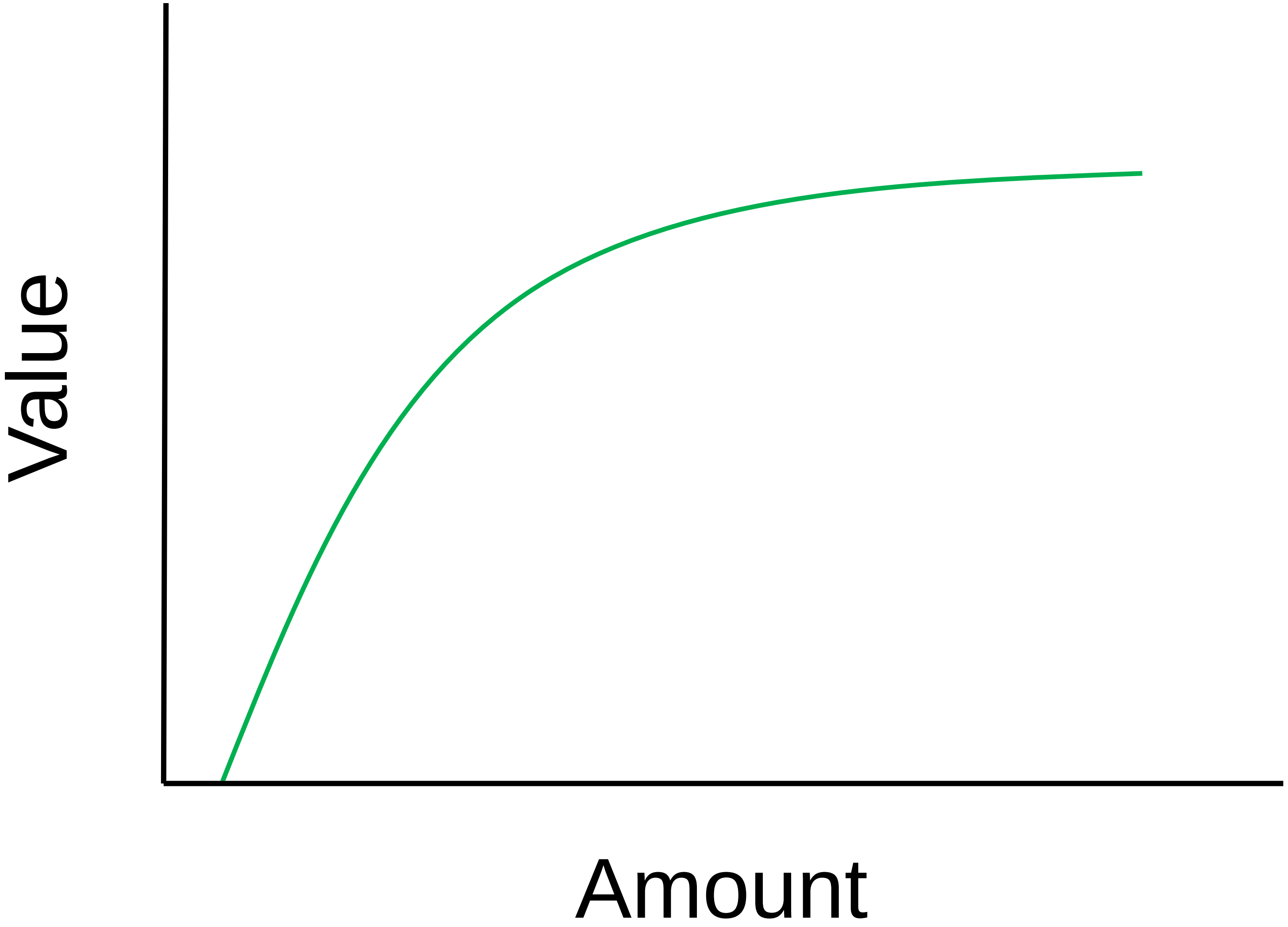
***General Rule:***

***Separate gains, and integrate losses***

# Gain / Loss Segregation



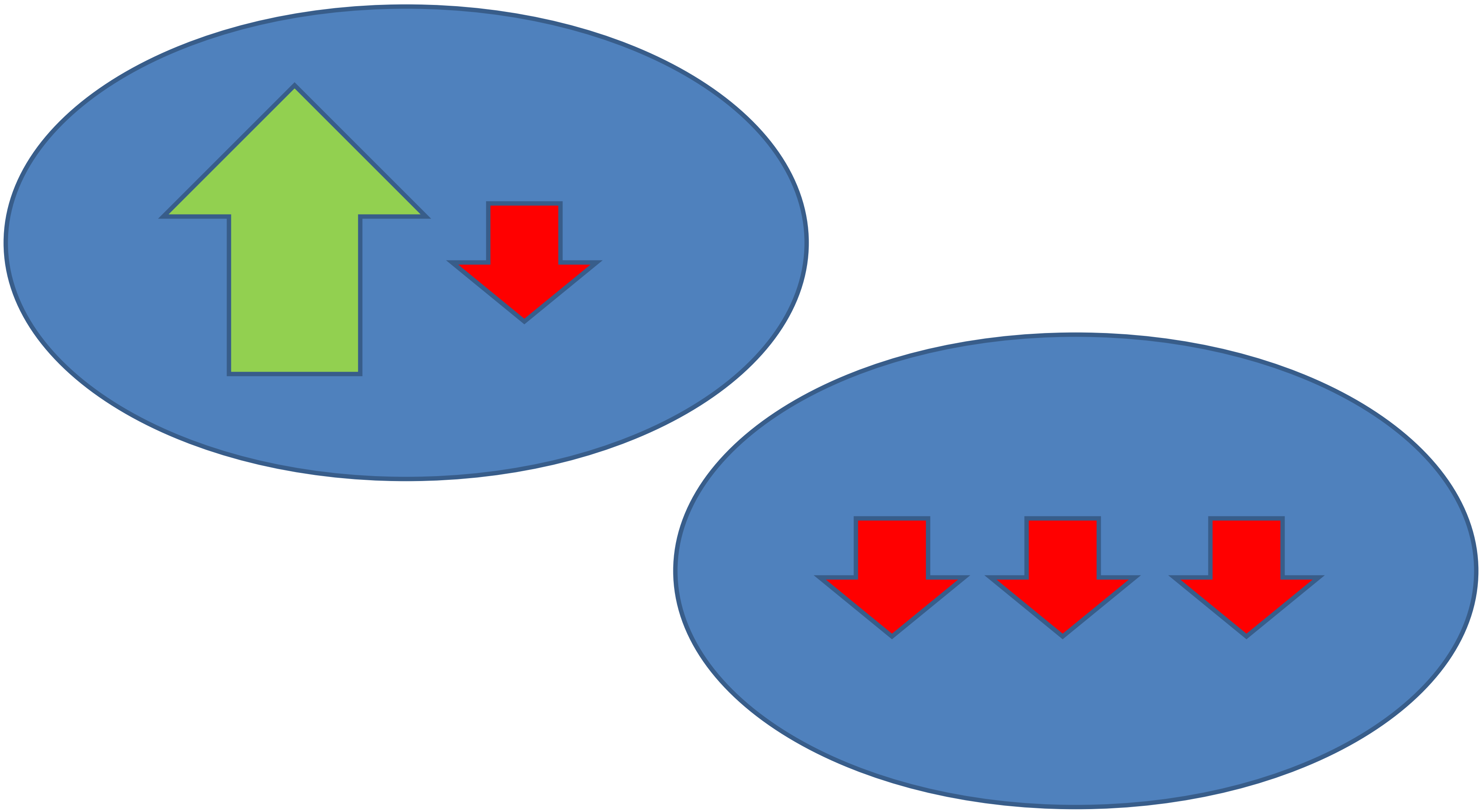
# Diminishing Sensitivity



# The Catch

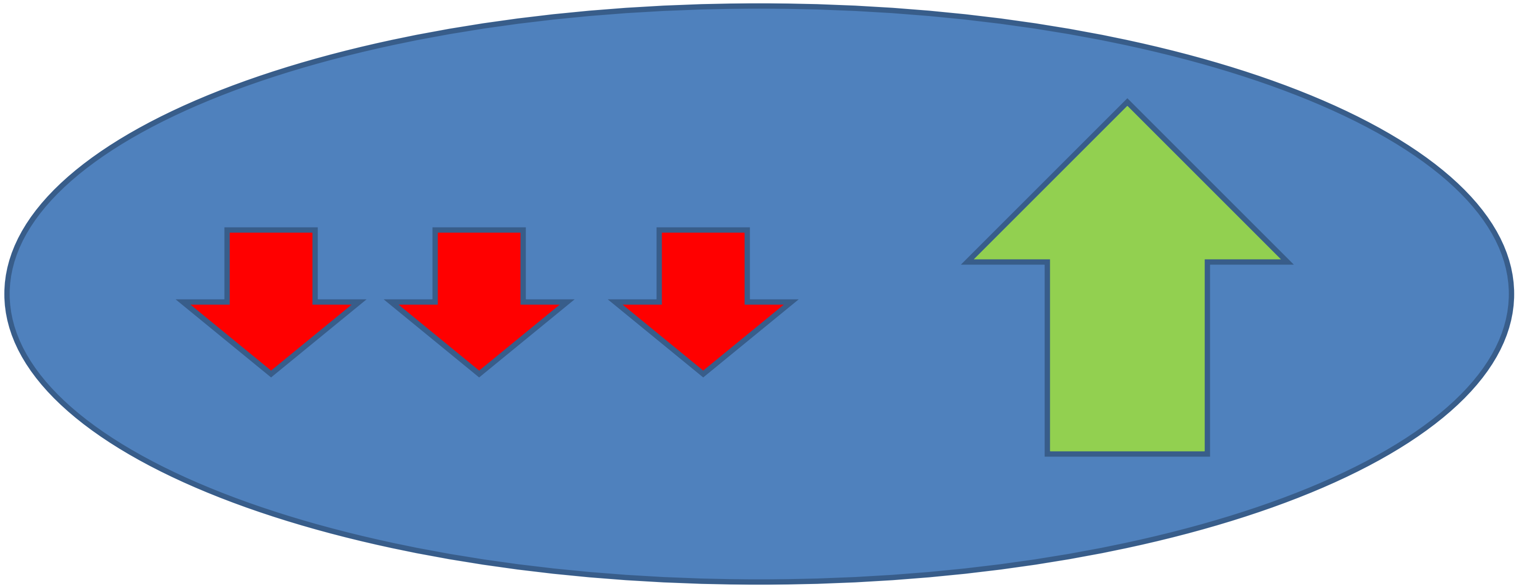
=

# The Countercatch - Accounts

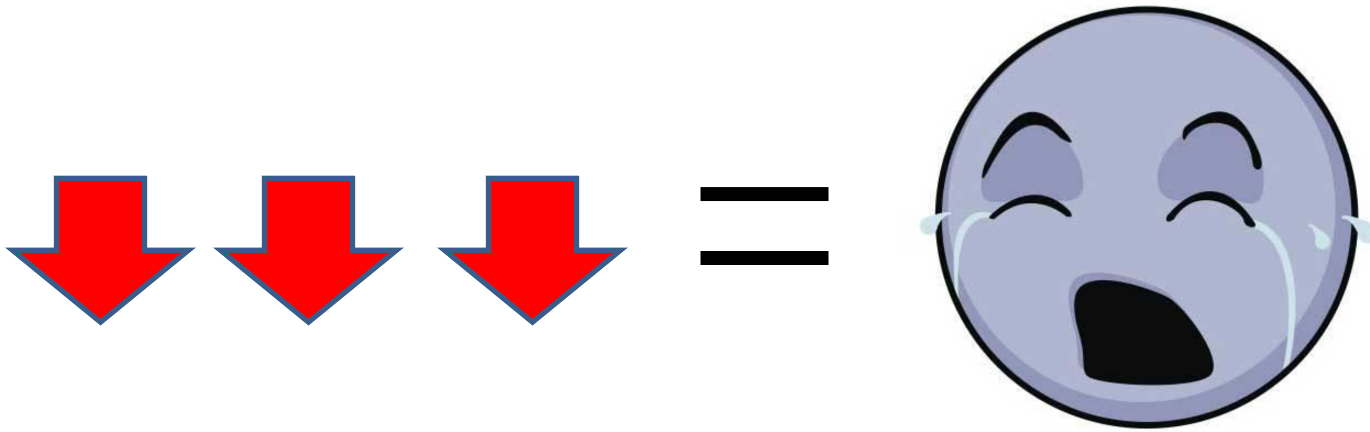


# The United Way Gambit

# How does this change things?



# Otherwise…



# How do we take advantage?

- Associate balancing costs with larger gains
- Example:  Level Up Tax
  - The “Level Up” experience is a large positive
  - Forced purchase of skills and zone unlocks get lumped together into the “Level Up” account.

# Examples

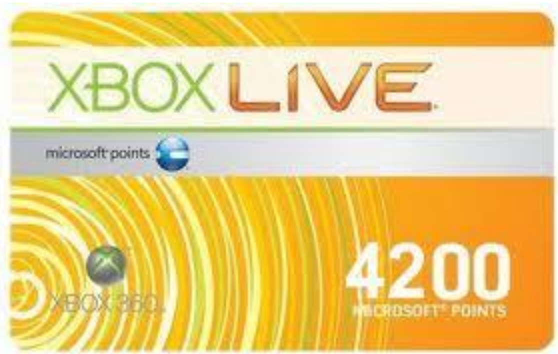
- Equipment Upgrades
  - Unlocking a vendor is a large positive which creates an account
  - Associate with a quest chain end

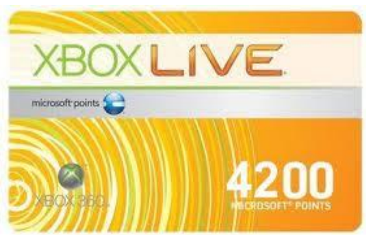
# Examples

- The more small positives associated with the new armor, the more positive the effect.
  - Visual upgrades, statistical upgrades, all felt separately

- Introduce variety into your gains

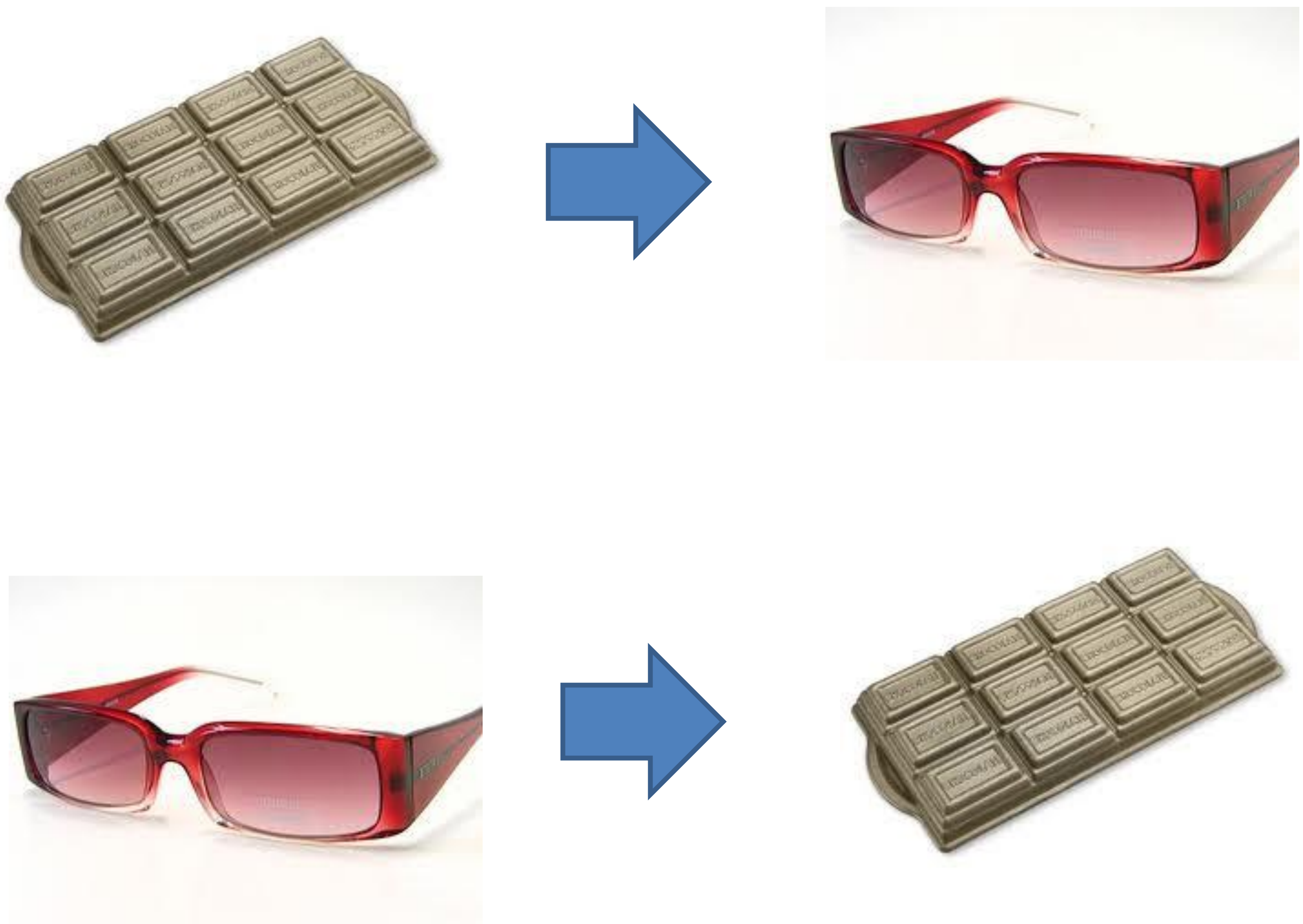
# Abstraction Layers


XBOX LIVE
microsoft points
XBOX 360.
4200
MICROSOFT POINTS


XBOX LIVE
microsoft points
4200
MICROSOFT POINTS
XBOX 360

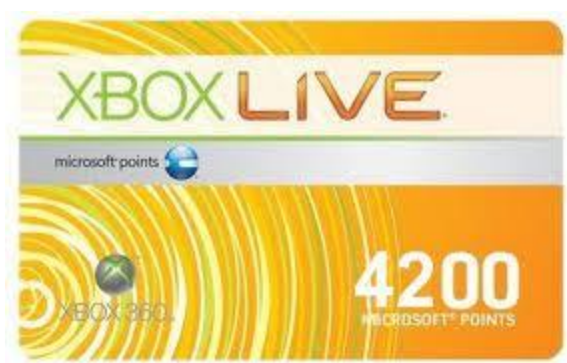

FEDERAL RESERVE NOTE
BF 04253679 A
THE UNITED STATES OF AMERICA
BF 04253679 A
FIVE DOLLARS


THE UNITED STATES OF AMERICA
TEN DOLLARS

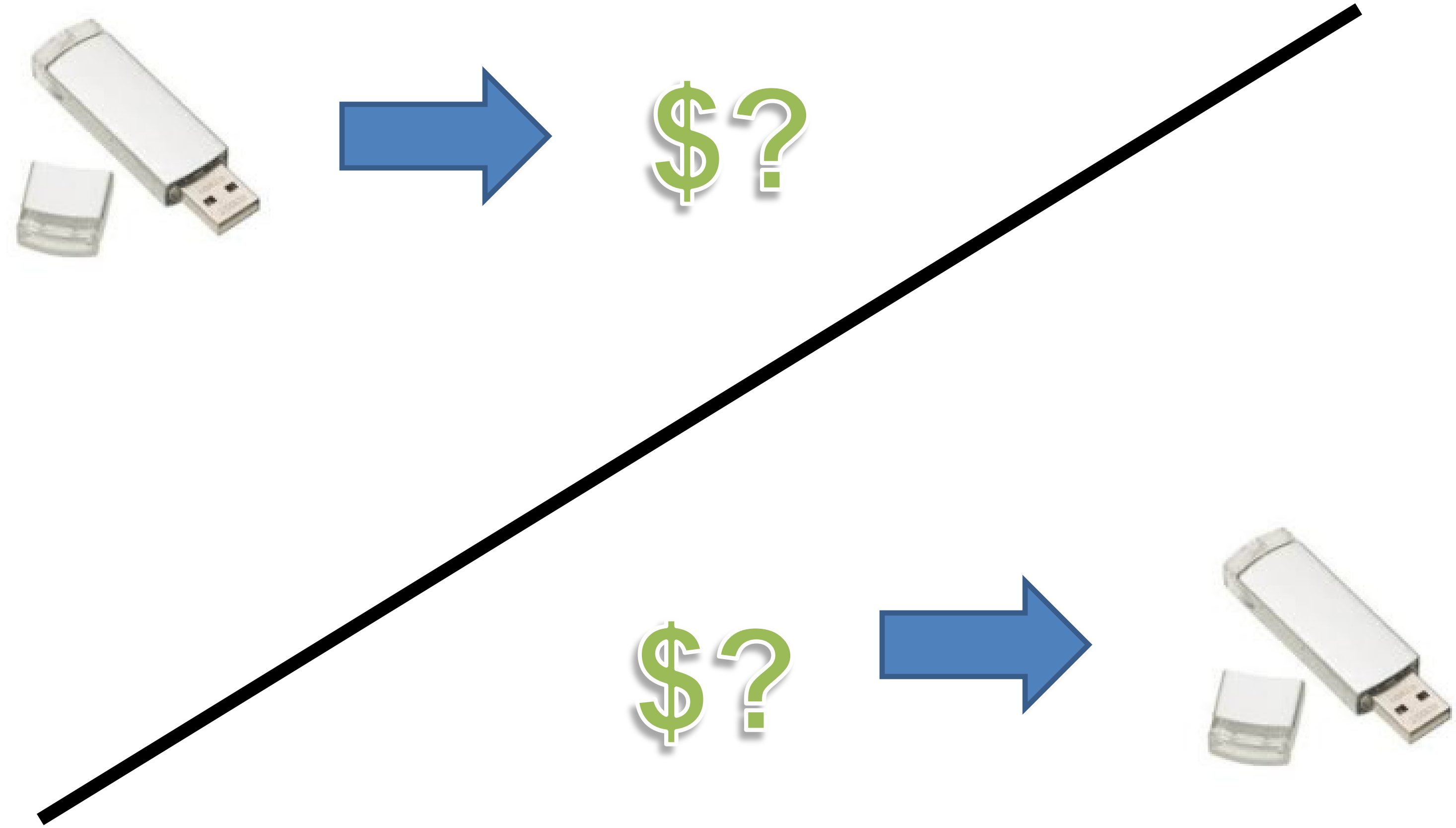



FEDERAL RESERVE NOTE
THE UNITED STATES OF AMERICA
BF 04253679 A
F6
FIVE DOLLARS


THE UNITED STATES OF AMERICA
TEN DOLLARS


XBOX LIVE
microsoft points
4200
MICROSOFT POINTS
XBOX 360

# Endowment Effect



# How do we take advantage?

- Once you give a player something, you’ll have a hard time taking it away.

- Flip it around!

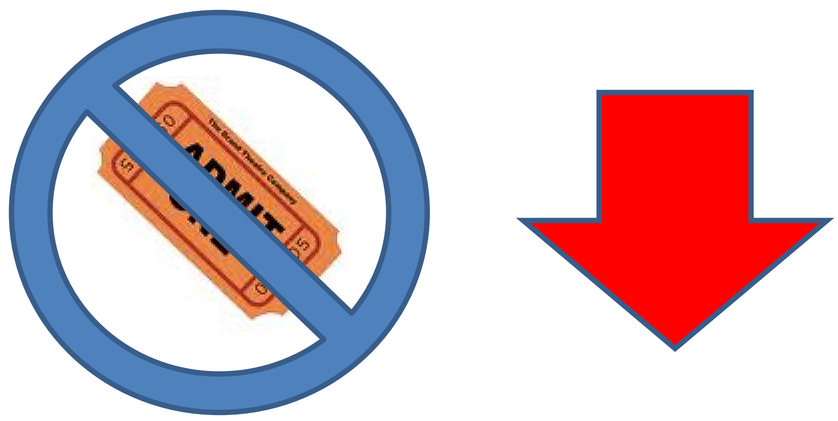
- Give away things you’d usually charge for

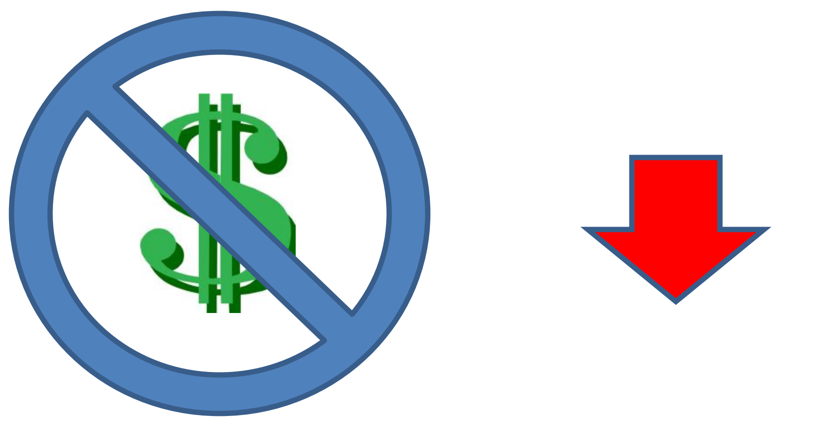
# Sunk Costs

# Sunk Cost Increase Stickiness


# Lost Ticket

# Lost Ticket





# Sunk Costs Distort Value

20$

75$

- Which of the following best captures your feeling of the cost to you of drinking this bottle?
- \$0, \$20, \$20 plus interest, \$75, and -\$55
  - (I drink a \$75 bottle I paid only \$20 for.)

# Invest Now, Drink Later, Spend Never

- Over half those surveyed answered $0, or -$55!

- The prepayment has decoupled the value from the act that consumes it.

# How do we take advantage?

- Microtransaction currency wallets decouple value
- Encouraging a large upfront currency purchase can increase the stickiness of a user
- “New player currency specials” on newly created accounts

# Examples

- Sell an “egg” that can be opened in the future for variable rewards

# Oh yeah?

# Flat Rate Bias

# Cultural Discrepancy

# How do we take advantage?

- Present multiple pricing models for users
  - Allow people to “eat too much”

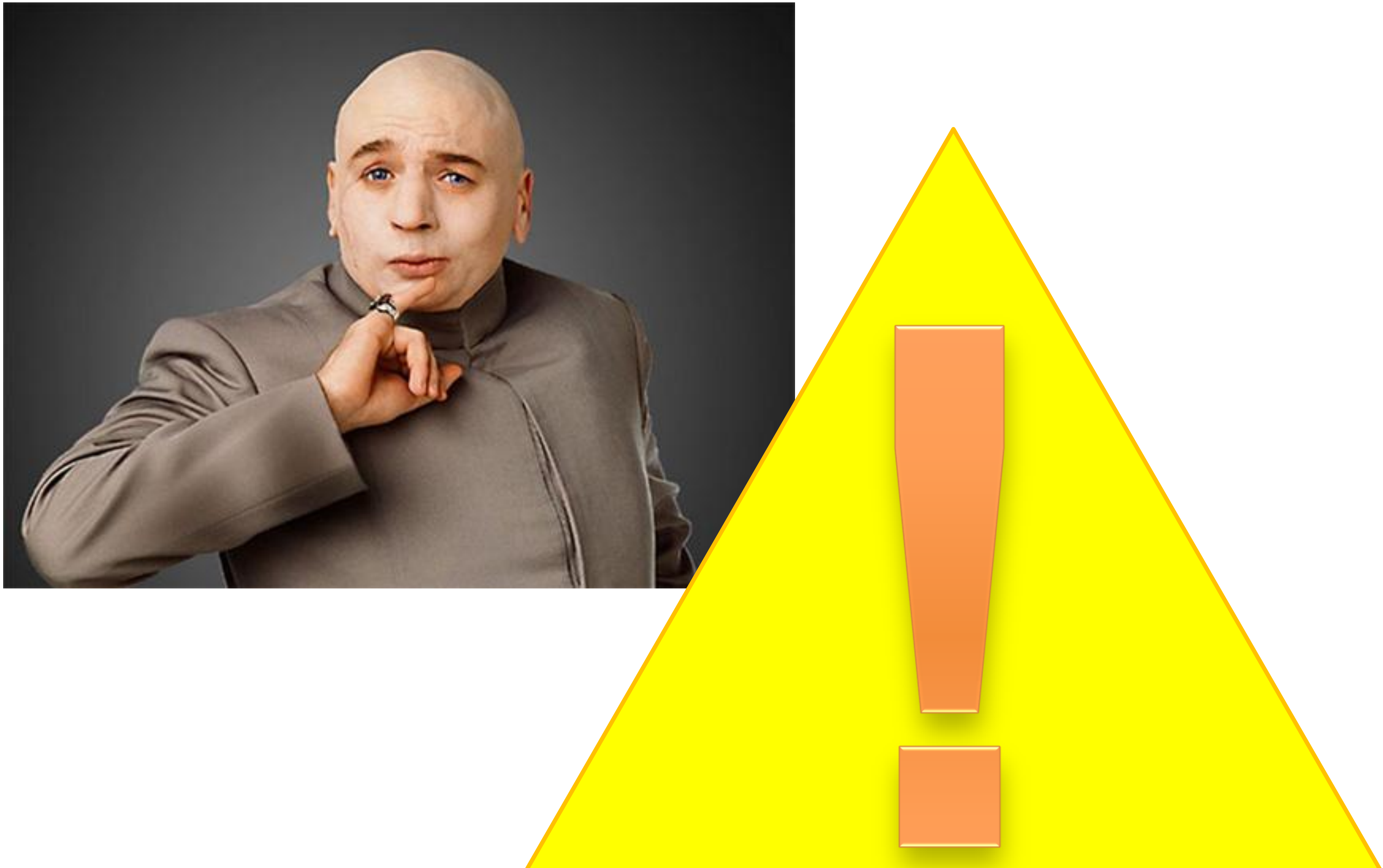
- Hybridize microtrans with subscriptions

# Examples

- LOTRO’s Lifetime Subscriptions
  – Most people never got their money’s worth
  – Still a beloved program

- Atlantica’s “Licenses”
  – Feature unlocks that behaved like mini-subscriptions
  – Flat rate pricing within a microtransaction model

# Priming



# Priming

DRAIP

REWAYFE

HAHECTE

DLEYERL

ERRETI

TRIHATIRS

# Priming

# Priming


# Priming

Izlain
Grim Stormshield
Nothing on the Mind
I must use the intellectus extractor on nearly-dead Dracurion warders or firemancers. They can be found at the tower south-west of the Sel'Nok scout camp.
0/8
Level Up!
You are now level 80
Quest Reward!
A More Dangerous Game! Test of Jaws!
Level: 80
Description:
I have passed one of many of Grim's tests! I am on my way to being a great hunter!
25
11
77
Faction: +800 Clan Stormshield
Accept
Grim Stormshield
Devourers are dispatched my friend!
Game! Test of Jaws!.
Your faction standing with Clan Stormshield got better.
Grim Stormshield says to you, "Ya tore yer bloomers it looks like. Something get ya in the back side? Har har har!"
You have joined 'Level_80' (6)
Saving screenshot.
Ping 216
Pkt Loss 0
Bps 21,098
Fps 13
80


# Takeaways

- Take emotional math into account when creating systems
- Be careful when transactions cross layers of abstraction
- Be aware of the emotional effects of endowment, sunk costs, and flat rates
- Use emotional awareness to make experiences more FUN

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