Non-Numeric Currencies
Money Without Numbers

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Abstract

Summary of the article.

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[*]Cheers!

Contents

1 Introduction

What happens if money doesn't require numbers?

2 Rounding Problems

Direct observed and estimated costs associated with rounding. Many analysis have been conducted on the topic of Rounding.

Costs, eliminating low denomination coins, etc. Often hot button topics and fairly common.

So the proposal here shouldn't be so radical I'd think in light of all that.

3 Comparisons of Value

Warren Buffet puts this distinction between Monetary Value and [what I call Transcendental Value here to emphasize value or worth that exceeds both monetary pricing valuations and utilitarian "utility"] quite well: "Price is what you pay, value is what you get".

What can be done to close these gaps or predict them better? How do we help make Warren Buffet even more profitable (can that be done - just jesting)?

Indeed, wouldn't this be of value to just about everyone? Consumers, families, governments, investors, corporations, banks, and so?

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https://www.thoughtscript-io/deploy/blog/000000000042.html
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4 Properties of Money

4.1 Aristotle

Definition 4.1 (Barter). TODO

Definition 4.2 (Money). TODO

Much remains unchanged from the original Aristotelian Theory (the "Commodity Theory") of money from 330 B.C.

4.2 Numeric Properties of Money

Definition 4.3 (Implicit Numeric Properties of Money). TODO

Something that isn't merely Barter and something that satisfies the criteria for being Money that also doesn't involve the Implicit Numeric Properties of Money.

5 Mereology

To my knowledge this is the very first use of Mereology in the definition of a money system, for finance, and so on.

Definition 5.1. (Mereology) The science of Parts and Wholes.

(Originally offered as an alternative to Set Theory.)

https://www.thoughtscript.io/papers/000000000012

5.1 Order and Other Mathematical Properties

5.2 Grouping Effects

In a sequence $S = s_0, \ldots, s_m$ where for each $s \in S$ the following holds:

- $Round(s)$

- $s_n = F(Round(s_n - 1))$

- Where F is some arbitrary Function or other operation.

Remark. We trivally observe that **Rounding Effects** are amplified moving from left to right in the sequence. They are most pronounced at s_n.

TBD

Remark. It only takes 10 such sequential Rounding Effects (across similarly priced inputs) to result in a 2.5% increase in resultant pricing. That's at inflation levels of national concern.

Scenario to explain **Grouping Effects** on Rounding:

- Suppose a Rounding Effect of $.01 is applied to each Gallon of Gasoline.

- If a customer purchases 35 Gallons, they pay \$.35 as a consequence of Rounding.

- Suppose though that if 5 Gallons are Grouped that the Rounding Effect diminshes to \$.01 only for every 5 Gallons.

- The customer then only pays \$.07 as a consequence of Rounding.

Per the above, the amplifying effects of Rounding occur to the right (Customer) and likely are found at many points in Supply Chain (left). This implies that Customrs and Businesses are overpaying for goods and services in such scenarios.

Grouping Effects go by many names: "Industries of Scale", "Batch Ordering", "Buying in Bulk", and so on.

5.3 Numeric Interconversion Extensions

6 Practical Applications

Obviously the proposal isn't necessarily an outright replacement for existing money or monetary concepts. It runs in the same vein as removing Pennies (taking to its natural logical limit), taking certain methodological stances w.r.t. Floating Point calculations, etc.

The idea would be to precisely track the value of items that are difficult to quantify to prevent deterimental rounding effects.

Here are some envisioned applications (possibly?)

6.1 Energy and At the Pump Rounding

Less cost for customers, energy stations (gas, thermal, solar, etc.), energy suppliers. Multiple rounding effects probably distort prices a bit.

Consider the \$.9999 that's common on gas station billboards. Even a \$.01 savings per gallon (at 403B gallons used annually - need to fact-check that and cite it) is roughly \$4,030,000,000 saved. (Like Office Space but for the people - I jest.)

CPI indices and essential commodities are hot button political issues that influence elections. Is there a way to reduce these kinds of downpressures on all our billfolds?

6.2 Pink Sheets and Penny Stocks

6.3 Pricing Indices and Shrinkflation

6.4 Extensions to Integrals

6.5 A General Mathematical Technique in Arithemtic Calculation

Any scenario with high Floating Point Precision or big numbers that use a Mantissa or Significand.

6.6 High Frequency Trading

7 Conclusion

Starting with difficult rounding situations, what happens if money is understood without numbers? More material prosperity?

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TBD - need to review some of these more closely

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