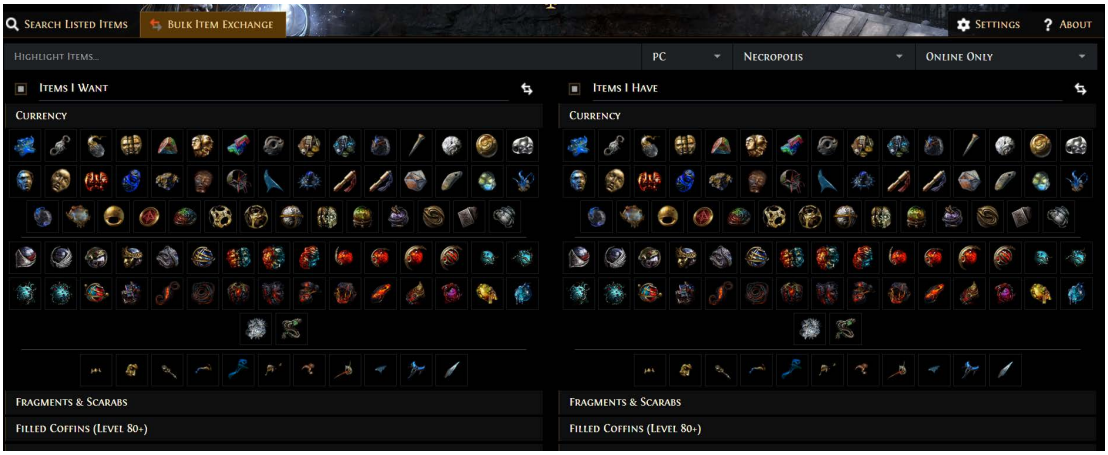
# Exploring the Intricacies and Design of Path of Exile's Dynamic Virtual Economy




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Games are no strangers to in depth virtual economies, especially in the MMO (massively multiplayer online) genres where players perform economic decisions through trading. This article will focus on the economy of Path of Exile, while also examining how players and gameplay decisions interact with the design of the trading ecosystem.

*Path of Exile* (PoE), is a growing Action RPG developed by *Grinding Gear Games* (GGG), featuring in depth and complex game mechanics such as character progression with a deep learning curve, which feeds into a complex player-driven economy that differs greatly from many other MMOs. There is no traditional universal money such as gold from *World of Warcraft*, instead 'currency-like items' drop from monsters. These items can be used to enhance character equipment or craft new ones from scratch, making the economy a dynamic bartering experience. This not only impacts gameplay and progression, but also player behavior and trading strategies.

Almost all items are obtained directly or indirectly through maps. Maps are items that create new areas containing monsters and other rewards, the rewards scale based on the difficulty of the map. Maps also drop from monsters inside the map, thus creating the core gameplay loop, but more importantly giving them an incentive to obtain better gear and clear harder content. PoE's economy carries many real-world economic concepts such as the basics of supply and demand, but also differs greatly in many areas.

**Currency**

Whilst PoE does not have a direct monetary system such as gold, universal currency items

There are hundreds of similar currency items which have their individual uses and are rewarded from different content which players can exchange, usually purchased or sold with standardized Chaos and Divine Orbs. The economy is purposely designed this way, so that newer players picking up common early game currency will still be able to build their wealth bit by bit.

**Items**

Equipment dropped by monsters or crafted by other players can be listed in stash tabs, something like a market front which is registered on PoE's official trade website that is updated by the second, acting like a massive database. Players can search for items through trade filters, narrowing down the items with specific modifiers they need. The two contributing factors that determine the value of an item are rarity, and how powerful it is. If an item is rare but not very powerful, the item will likely not have much value and would only be worth a couple chaos orbs. Likewise, if an item is powerful but easy to obtain, its price will remain low.

Unique items, despite what the name suggest, are not actually unique, copies of said item will all have mostly identical modifiers with different values. Most items follow a balanced scarcity to player power ratio, for obvious design reasons, but there are a few anomalies. As of writing, Bino's Kitchen Knife is a tier 0 unique item, making it one of the rarest naturally dropping pieces of equipment, although very powerful the weapon is niche and does not fit into any popular build (a collection of equipment and skills put together) architypes, hence the 'general player base' does not see much value in the item. A few of these high rarity and low value items exist and hurt the satisfaction of the player when they get the lucky yet unlucky drop. Considering how "random aspect of rarity contributes to a heightened feeling of drama and suspense within the player just before receiving the reward." (Yin & Xiao 2022, Page 9) You can only imagine the moment the player realizes the value of their 'lucky drop.' This is known as a near miss, "in which the player feels that they are close to winning despite a loss, even if this is not necessarily the case. " (Yin & Xiao 2022, Page 7) This phenomenon can be an overall design flaw but quite unavoidable in the context of PoE, as there are too many items with changing variables that determine whether an item will be weak or strong. This causes the price of items to shift over time as players figure out item interactions, the relative strength and rarity allows the market to determine the current price.

**Crafting**

Equipment ranges from normal, magic and rare all have randomly generated modifiers. Equipment with a good combination of modifiers are mostly crafted by players using currency and crafting materials, which requires both time and currency investment. Most

players tend to craft gear for themselves using their currency, selling off failed attempts and leftovers to players who have progressed less than they have.

There exists a group of players who craft items purely for profit, with the method known as 'profit crafting.' There is always demand for certain crafted items, not all players wish to gather all the necessary currency through multiple trades, and consider taking the risk of getting unlucky and running out of currency to finish their craft, thus a premium can be placed on already crafted items. The profit made would be through the security of a guaranteed usable item, and the process of acquiring all the necessary materials. This method usually requires a large capital investment to be consistently profitable, and is one of the fastest ways to grow your wealth as a player. When players were asked in an interview, the general consensus was that "crafting seemed to be downplayed, but all players had a strong opinion of farming," (Kaminski 2006, Page 7) farming in PoE would be going into a zone yourself and killing monsters for their loot.

The main resource of crafting is time, purchasing a bulk amount of materials is ideal to maximize profit as less time is spent on individual trades. This causes the core principle in economies of scale to become reversed which differs from the real world. Production in the real world generally incentivizes consumers to purchase larger portions with cheaper prices on almost all goods, as it is relatively cheaper to produce larger quantities due to effective production methods such as optimized factories. In the world of PoE, the producers are just players choosing to farm a certain material, where efficiency for production does not increase through a production chain. This allows players to charge higher bulk prices when selling materials, as crafters are willing to pay the premium so they can profit more from faster crafts.

The only way for players to become more efficient in farming materials is to design and optimize their character around a specific mechanic. For instance, players can choose to pay two chaos orbs to guarantee essence mobs to appear in their next map, which drops essences materials used for crafting. These mobs have high hit points but only a few spawn every map, allowing strong single-target builds to clear essence mobs much faster than a build made for weaker and higher area attacks. Many of these rewarding mechanics exist, hence some players plan and dedicate their entire character to farming a specific mechanic, and start a more well-rounded character once they have gathered enough wealth. This playstyle is a gameplay choice which players opt for based on the design of the economy.

**Leagues and League starts**

Expansions are shipped out every three to four months and are delivered in the form of a new League, think of them as the server the player can choose to play on. PoE operates on two main servers, the standard league that always runs and is similar to other MMO economies where players have traded for years. The challenge League, is a brand new

server that only runs during the three to four months. When the temporary league ends, characters are transferred back to standard.

The immediate thought for new players would be to play on standard, where they get to 'keep' their characters and progress, but the greater majority of returning players play on temporary Leagues instead, opting for a new beginning. A new league brings a fresh economy as characters, items stored in stashes as well as any progress made on the atlas (the progression for maps), are all completely reset. As Chris Wilson CEO of GGG stated in GDC 2019 "Economy resets are amazing! They are an opportunity for a fresh start and a fair playing field." These new leagues effectively simulate the excitement from the birth of a new MMO, while keeping the same gameplay mechanics. Veteran players will still progress quickly through skill and extensive knowledge, and less experienced players can feel less behind in terms of equipment and overall wealth in comparison to the economy.

A League start brings new players in and encourages veteran players to return, stimulating a large number of economic transactions through player to player trading and creating a more active community. "It is inexcusable for a player to able to leave your game without knowing the date they are returning to it," is the design philosophy Wilson shared at GDC 2019. The structure of the four-month economic cycle is used to create player retention as everyone knows a large number of players will return during this specific time. Getting a rare drop and not being able to sell the item for what it's worth would be a disappointing experience, a common flaw of smaller economies.

All items are scarce during the start of a new League, including both currency and equipment, hence the prices of items can be extremely unpredictable, which eventually falls close to equilibrium over the course of the following four months. Many strategies can be used to gain an economic advantage during this short period of rapid growth. Some of which include target farming certain currencies which have lower supply, or investing in items that will be useful in the endgame as players progress further. These strategies are developed through observing tendencies from previous leagues to find market gaps and reward the player for learning the game.

**Culture and Social Impacts**

A factor that can be overlooked when designing an economy, is player to player interactions. Trading requires players to form a temporary party and meet up in hideouts after direct messaging each other using the trade website. They often exchange farewells and express gratitude after the trade, thus building a sense of connection, which is important as most players tend to play solo. Many friendships and guilds start with a simple trade, followed by conversations such as, "hey what build are you playing?" or, "that's a nice hat, where's it from?" Trade in PoE is designed with social engagement in mind, which would not be possible with an auction house system where items are bought and sold with the click of a few buttons.

Streamers are influencers with a massive impact on both player decisions as well as the economy of items. Streamers are often the innovators and build makers of the community, hence the viewers tend to watch and follow for guidance or to see builds in action. Streamers also tend to explore different farming strategies over the league, that viewers may choose to emulate. "Watching a streamer achieve a particularly elusive in-game goal may motivate someone to continue playing, but also to follow the otherwise dull and boring gameplay strategies propagated by the content creator." (Felczak, 2022, Page 529) A follower may be inspired to follow strategies which they would not have been able to innovate themselves, allowing longer lasting player retention. As more players copy the streamer, the strategy may become over-farmed creating a surplus of loot generated, resulting in less profit to be made and overall viability over time. Streamer's builds are often replicated, making specific gear more expensive due to increased demand.

## Conclusions

Path of Exile demonstrates the complexity of virtual economies in MMOs through its unique barter system and player-driven market. Players navigate fluctuating values of currency items and engage in crafting and trading, influenced by the factors which alter supply and demand. These factors can be in the form of periodic economic resets or streamers creating popular farming strategies. Overall, PoE's economy integrates fundamental economic principles, creating a dynamic and unusual virtual marketplace.

## References


Yin, M & Xiao, R 2022, 'The Reward for Luck: Understanding the Effect of Random Reward Mechanisms in Video Games on Player Experience', , p. 9.

Kaminski, S 2006, 'The impacts of farming and crafting on MMO economies', , p. 7.

Wilson, C 2019 'Designing Path of Exile to be played forever: GDC'

Felczak, M 2022, 'Tedious by Design. Institutionalized Labor of Content Creators in the Game as a Service Model: The Path of Exile Case Study', , no. 4 (54), p. .

Kent, M 2008, 'Massive Multi-player Online Games and the Developing Political Economy of Cyberspace', , vol. 4, no. 1, p. .

Barnett, JH & Archambault, L 2010, 'How Massive Multiplayer Online Games Incorporate Principles of Economics', , vol. 54, no. 6, p. .