



On Economy

„Money makes the world go round, the world go round, the world go round...“

– *attributed to the Waterdeep Merchant Guild*

I. Introduction

Money has been an integral part of RPG systems since their inception. The earliest editions of *Dungeons & Dragons* had heroes gain 1 XP for each gold coin they found – this was supposed to be the main XP source for them. With XP requirements for later levels going to the millions, this unsurprisingly led to inflation being the norm, and in a world where magic items were assumed to be readily available for purchase, rampant power creep followed (“I’ll take that Stormbringer over there, or make that two”).

Even later, when gold and XP were rightfully disconnected, it would be difficult for the game master to resist the urge to hand out maximum loot to the players. It’s no fun without rewards, right? Consequently, the question “My heroes are too rich, what can I do?” is still a common one in our days.

However, whereas tabletop game masters have the option of introducing the party to sneaky robbers, a greedy king’s tax collectors or maybe a rust monster on the fly, we CRPG creators have to spell out everything in advance. To make sure everybody has fun, or because they didn’t really care, most designers in the earlier years handed out loot in large amounts. This would usually lead to what is commonly called “broken” economies, where players would be able to purchase the whole kingdom several times over. Needless to say, this would cause certain balancing issues¹.

Of course, deconstructing game systems and showing where they fail is somewhat easier than constructing one that works yourself. The following is an attempt to lay the foundation for the latter. (*Note: Just to make sure – all of this is for single-player CRPGs; MMOs have numerous different factors to take into account. Also, please forgive me if this isn’t actual economic science.*)

II. The Value of Fun and the Fun of Value

As with any game element, the first question we must ask is how it contributes to the fun of playing the game. There is no point in implementing a “realistic” economy if all it does is making gameplay more tedious. This is probably the number one reason economy was

¹ In more detail: <http://crpgaddict.blogspot.de/2016/09/guest-post-why-economy-sucks-in-ssi.html>



pretty much ignored for long; if the player is filthy rich and can afford everything they'd ever want, that will at least be somewhat fun, right? Definitely better than being unable to buy all those tempting magical weapons, or even not enough health potions to survive the more difficult fights. So why risk erring on the wrong side?

There are two major problems that come into play with extremely wealthy heroes. The first is that to be fun, a game should present a challenge. If I can buy my way out of any challenge, things become boring pretty quickly. The same goes for decisions, which form the very heart of any game (maybe not pure action games, but we don't cover those here anyway). Think of questions like these:

- Do I need better protection for my mage or more damage for my knight?
- Should I really steal from the temple treasury so I can purchase better armor?
- Do I have to sell that orb? It might come handy in the future...
- If I need a vehicle to cross to the Forsaken Isles, a large ship can withstand kraken attacks better – but if I stick with a small ship, I can also afford an alchemist lab at my castle. Wait, someone's offering griffin mounts? For *how much*?

All of these are irrelevant if the economy is out of balance.

The second is the nature of rewards. Money – or loot meant to be sold, essentially money on a stick – often is the primary reward for overcoming such a challenge. But if this reward has no meaning because I can already buy everything I want to, is it still a reward? There is this big chest at the end of the dungeon which contains 10,000 gold coins, numerous pieces of jewelry and a magic sword... but since the party already has millions of gold coins in their treasure chest and is equipped with the best items available, the resulting excitement is close to zero. “And that's what we did all the work for?” Not too much fun either, but probably familiar to just about any CRPG player.

So, a balanced economy can have more impact on a game's fun factor than might be initially apparent. Achieving that balance is not a trivial undertaking, though.



A well filled Diablo II stash. At this point, the only interesting loot are items which can directly improve on my current equipment, meaning 99.99% of all findings are irrelevant.



III. The Reach of Your Economy

It helps to at first get a clear view of what game elements are actually affected by the game world's economy. This can, but doesn't necessarily have to, include the following:

- **Equipment:** Probably the number one reason to gather money – that shiny new sword in the merchant's inventory
- **Character Progress:** If upgrading your character requires a trainer, the fees might sum up over time. *Might & Magic III-V* are possibly the most drastic examples for this point, with training costs for the higher levels quickly approaching (and surpassing) 100,000 gold per level.
- **Maintenance:** Recurring costs like item repairs, food, expendable items like arrows or healing potions, maybe item identification and so on. Usually minor costs, but can also be designed to take quite a toll on the party purse. *Lords of Xulima* made food extremely expensive if you loaded up for more than a few days so the player would not be able to regenerate for free and would have to plan for longer travels.
- **Party Members:** In games where you can pick up companions during the game, they might either join you for free – or they might be mercenaries demanding hefty fees. If they also have ongoing fees, this could also be counted under Maintenance. I think *Might & Magic III* had the most expensive mercenaries I have yet encountered.
- **Prestige Items:** How about a house? With full furniture? Or maybe a whole ship? The *Elder Scrolls* series has always been big in this. The gameplay value of owning a mansion has always been questionable even there, though.
- **Unique Costs:** Sometimes money can be used for alternate quest solutions – paying someone else's debts, for instance. Or you have to pay to become a guild member... the possibilities are endless, but the defining factor is that these costs are non-recurring and likely more related to the game world than basic game mechanisms.

That's a bunch of stuff. But then again, it's our choice what parts exactly we want to subject to our economy. The more ways there are to spend money, the easier it is to drain it from the player – but it also means that more areas can get out of balance if the player has too much money. Which brings us to the problematic of supply and demand.



Might & Magic V: Darkside of Xeen. My heroes are millionaires, but with these training costs, they won't stay such for long. (If I recall correctly, I think I spent about 20 million gold somewhat prior to this screenshot to get my Half-Orc Knight up to level 200. Because I could.)



IV. Supply and Demand

These are, of course, the basic factors of any economy. If we want to balance them out, we should at first take a look at the supply of gold in the game world (or whatever our currency is).

Usually, some or all of the following sources of income will be present in a CRPG:

- **Direct Loot:** An overcome opponent or an opened chest (etc.) leaves a number of gold pieces.
- **Indirect Loot:** An overcome opponent or an opened chest (etc.) leaves a number of items, which can then be sold for gold.
- **Quest Rewards:** Completing missions yields gold rewards, usually more sizable than random monster loot.
- **Harvesting:** There are herb patches, ore mines, fishing ponds etc. scattered throughout the world which can be harvested, maybe with certain items/skills. The harvest can then be sold for gold.
- **Crafting:** Basically, a step up from Harvesting – you use the harvested resources to create items that can then be sold for gold. Just gives more money per harvest.
- **Trading:** Maybe you wish to go so far as to incorporate a complete trading system? This would require a number of (otherwise irrelevant) resources, places to buy and places to sell, as well as a separate dynamic supply/demand calculation for these resources. A lot of work, but if your game is mostly about traveling around the world anyway, it might be a fun addition. *Pirates* and its ilk would be the first that come to mind as adventure-type games that also include a dynamic trading component.
- **Other:** If you become guild head in *Skyrim*, you get a monthly item delivery. *Pillars of Eternity* sends you bounty hunting for special opponents. *Starflight* gives money for discovering habitable worlds. The list goes on...

Now the methods of supplying the player with gold are one thing. But how much they really contribute will depend on two things: The structure of the game and the respawning of events. For purposes of examining the economy, let us divide CRPG structures into these categories:

- **Linear route:** The player's journey knows one direction – ahead. Normally, all the encounters and treasures are placed according to plan, and except for a secret area here and there, it is highly unlikely that the player misses any of them. *Lands of Lore: The Throne of Chaos* and *Dungeon Siege* would be two examples that follow this structure.
- **Segmented route:** The player travels from segment to segment, but within a segment is free to explore. There is a possibility that the player will not solve or even find all quests and optional dungeons. Reaching a new segment usually goes together with significant upgrades in equipment, so loot from the earlier segments



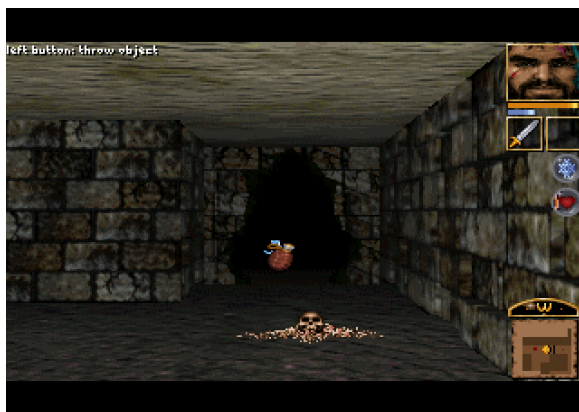
becomes pretty uninteresting. The *Might and Magic* series would be a good example – in theory, you can venture everywhere in the world from the beginning on, but in practice you will be blocked by superior monsters. So you clear the dungeons around the first town until you're ready to head to the next, which offers better spells and equipment, and so on. Same goes for *Diablo II* and *III*, obviously.

- **Open world:** The classic “sandbox” – the world is free for the player to explore. There is no saying in which order quests and dungeons will be attempted, and depending on size and layout of the world, it is quite likely that some of them will be missed. The *Elder Scrolls* series obviously comes to mind, but many parts of the *Ultima* series as well as *Realms of Arkania: Blade of Destiny* are also good examples.

As for respawning, there are also three possibilities:

- **No respawning:** Again, everything according to plan. Where should all those monsters come from anyway?
- **Limited respawn:** Monsters respawn, but only until a certain number of them in a given area have been vanquished, or their “generators” have been destroyed, a certain quest has been completed and so on. *Lords of Xulima* gives you a special reward once you have survived all random encounters in a given province (towards the end, the last monsters are actually fleeing from you and you have to chase them, which I find a nice touch).
- **Unlimited respawn:** No end to the monsters. Harvesting resources may replenish regularly. In extreme cases, even some quest events “respawn”; in *Skyrim*, the academy librarian will always have another book for you to retrieve from [randomly selected dungeon]. Income sources like Trading and Revenue really only make sense in a game world with unlimited respawn, as they basically respawn infinitely themselves.

The combination of structure and respawn will determine our ability to control the supply of gold to the player, and thus how difficult it will be for us to balance things out.



Anvil of Dawn. An enemy has left me a healing potion. The game is rather linear, the loot is predetermined, there is no respawn. Since the first few dungeons teach the player that healing opportunities are not exactly common, the correct move appears to be leaving the game alone for twenty minutes when health is low, as it slowly regenerates over time. Sounds fun?



With Supply Limits

In a *Linear/None* game (such as *Anvil of Dawn* pictured above), we are in control of every single resource. If we take careful notes either during creation or during test playthroughs, we should be able to determine how much gold the player will have available at each stage of the game. No problems, right? Well, not quite. We can't predict player behavior. As an abstract example - let's say we have six battles in our game and distribute enough resources so that the player will have five healing potions per battle, 30 overall. What happens if the player is too cautious and uses six healing potions per battle, meaning he wins the first five battles comfortably but won't stand a chance in the last? Since we have implemented a hard resource limit and his "mistakes" have actually accumulated since the very first battle, we essentially force the player to restart the game.

Experienced players will foresee such a situation and be as stingy with their resources as possible, since there is no guarantee the designer has ensured fair resource distribution throughout the whole game. In extreme cases, this will lead to behavior like reloading every time a battle used up more resources than the player thought acceptable, which also doesn't sound like fun.

As a remedy, *Linear/None* games usually introduce another resource into the economy, namely player time. An example would be a limitless healing opportunity (the temple at the nearest town, for instance) that players can use as often as they want - if they are willing to backtrack. Of course, the opportunity alone means that optimized play would be to backtrack as often as possible to conserve resources, thus turning a game with a hard supply limit into one with nearly unlimited supplies. To prevent this, backtracking has to be somewhat tedious, basically a waste of player time.

Because this is not exactly fun, I usually advocate against making such time wastes even available, but as long as we include enough supplies that using the free resources is a fallback option instead of a necessity - meaning that the player doesn't feel forced to waste time - things should be fine. Sadly, there is no quick and easy formula for figuring this out; it's a matter of playtesting. Anyway, the presence of free resources alone can give the player the feeling of security that things can't go absolutely wrong.

Without Supply Limits

This is where it gets interesting. We must start with the assumption that even players who don't solve all side quests and don't grind respawning loot sources should have sufficient resources to afford all things necessary to advance in the game (if they do have to, we could also make a linear game and save ourselves a lot of hassle). That means that those players who use their opportunities to earn loot to the fullest will quickly be able to throw our economy off balance. It is usually easier to approach this problem from the Demand side, but there are a few methods of affecting supplies as well:



- **Storage limit:** If your purse/stash can only hold a certain amount of gold, money must be spent immediately. This is interesting if the game world is built as a *Segmented Route*; it assures that money gained in one area doesn't carry over into the next, since even if players purchase tons of equipment, it will lose its value as soon as they reach the next stage. This does have the problem that it devalues loot from a certain point on, leading to player frustration, but at least only until the next stage, where we might also raise the storage limit. Well, and it solves the question how exactly how our party is carrying two million gold pieces.
I don't recommend a single storage limit that holds true over the entire game. If it is too high, it doesn't do anything. If it is too low, the player will have reached it somewhere in the midgame, meaning that all monetary rewards gained in the rest of the game lose their value, which we wanted to avoid in the first place.
- **Loot prices:** By giving out monetary rewards not in form of coin, but as sellable items, we have another factor we can influence, namely merchant prices. In most games, merchants buy items at 50% of their retail price, often with a merchant skill present for the player to raise that quota. In *Dark Disciples II*, the quota starts at 10%; we found out that's still enough. It also makes a merchant skill more meaningful, since an increase of buyer prices from 50% to 60% is only a relative increase of one fifth, whereas the same absolute increase from 10% to 20% actually doubles the player's income from sold loot.
A little more complicated to implement, but rather effective, is a price decrease depending on the number of items sold. Supply and demand – why should the merchant pay the same price for the 57th goblin sword as for the first one you brought her? She really has enough of them by now!
Bottom line: Lower purchase prices make it possible for us to let monsters drop the stuff you'd expect to find (the goblin soldier surely didn't fight with pure hands) and still keep the monetary supplies gained from selling it at a reasonable level. My personal feeling is that many designers keep this at 50% on autopilot, because everyone else did so before.
- **Purchase limit:** This is a more recent development – the merchants that buy all the stuff the player finds only can buy so much, because their own purses are limited as well. The newer *Elder Scrolls* games with their ultra-sandbox worlds resort to this approach. I'm really not a fan. If the purses replenish regularly, then all this does is wasting player time – players will usually hoard the items until they can sell them. If they don't replenish or if there is an item storage limit in place as well, then sellable loot is devalued to a point where it is extremely frustrating just to find it – that shiny diamond-studded blade is pretty much mocking the player, “ha ha, I'm sooo valuable, but that doesn't do you any good”. There are better ways to influence the economy.

So much for the supply side. Let's take a look at the other half of the equation.



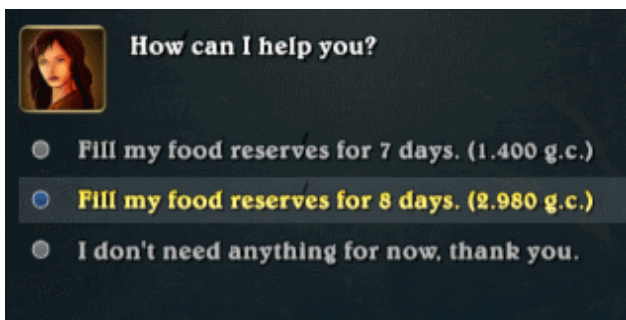
Most ways to drain money from the player can be summarized like this:

- **Maintenance:** Constant recurring expenses. Includes food, lodging, repairs, traveling, consumable items like arrows and reagents, etc.
- **Regular advancement:** Training, spell/skill purchases, equipment upgrades, often associated with a new stage in the game. These occur less frequently than the maintenance costs, but take away higher sums of money. Since better equipment might also be found as loot or given as quest rewards, it is usually less predictable whether the player has to spend money on this.
It is possible to greatly expand this sector by having the player upgrade not only the party, but a castle or settlement as well. An upgraded library might offer more spell books for sale, the level of the city watch determines the frequency of random encounters with bandits and so on.
- **Unique advancement:** Things like buying a ship so that travels to the islands can be made, upgrading a castle (as in *Pillars of Eternity*) and so on. Often real roadblocks until the player has accumulated enough money.

In many games, maintenance and regular advancement costs exert a pretty tight grip upon the players in the beginning. With continuing progress, gold supplies rise, but maintenance costs stay the same, taking away a big factor away from the balancing. This doesn't have to be so. You can have cheap +20 HP potions for the beginning game and rather pricey +200 HP potions for experiences parties; the +20 HP potions won't be of any help in battle, so they are no substitute.

However, while having the cost of maintenance items for the later stages just scale with the gold supplies does work, it is not the optimal solution. As noted above, *Lords of Xulima* made food for longer travels, which were necessary to accomplish anything in the remote ice and desert regions, extremely expensive – we're talking thousands of gold coins here. The most popular mod for the game? “Hate food”, which does away with this part of the gameplay – not because players wanted to cheat, but because they refused to accept that simple food would cost more than a new elite armor.

The thing is that at a certain point in the game, players want to feel rich. Rightfully so, since they are steering heroes. This means that the focus has to move from “I have to” costs to “I want to” expenses.



A food merchant in Lords of Xulima. Lady, I surely hope you will fill my backpack with dragon eggs and unicorn steaks for this price.



Advancement costs usually qualify; everybody wants to get more powerful, and that great new sword or mighty new spell are fine incentives to save money. In fact, this leads to the summary rule of monetary demand:

If the game always offers something worth spending money on, fine. If it always offers something worth *saving money for*, great.

The first element I would call a *money sink*; the second, an *economic goal*. There are subtle differences between the two. Economic goals will regularly serve as a bottleneck which the player has to overcome to advance in the game; without sufficiently powerful equipment, the monsters in the coming dungeons are simply too hard to defeat. Examples for such economic goals might be:

- Purchasing new spells and equipment
- Training to high levels
- Buying a ship or other vehicle (or being...) to access new areas
- Becoming a citizen, or a member of a guild, council or similar body
- Paying a ransom or someone's debt to get them free
- Offering tribute to the giants so they won't attack (then demand tribute from them once you have the power to deal with them)
- Constructing an artifact of rare materials
- Sacrificing at an ancient oracle or employing a greedy sage to get obscure lore, maps, or other information
- Raising an army to fight an oppressor's force

Using economic goals to mark the player's advancement has the advantage that the method of fulfilling them is up to the player, giving them a lot of freedom ("we don't care where the money comes from"). The disadvantage is that having to gather money for advancement interferes with maintenance expenses. If players get the feeling they must skimp on healing potions so they can collect the required amount of coins, something's wrong. Thus, equipment upgrades work particularly well as an economic goal, since they can be achieved in several steps and it might not even be necessary to fulfill them completely to advance (depending on how difficult exactly we design those tougher monsters), meaning the required amount is in some degree also up to the player.



A weapon store in Ishar III. I think I'm going to rob a bank. And the royal castle, the temple, and the orphanage, while I'm at it.



In general, it helps if the average quest reward gives players an estimate on how much gold supply they can expect and how much adventuring they have to do to fulfill the demand.

Money sinks are pretty much what's left after the necessary economic goals have been fulfilled. But as said above, they still have to feel worthy to spend money on; if they have no relevant gameplay purpose, they might not exist at all. My first own house in the game world may be a cool thing, but what am I going to need six or seven for? Economic goals that can be “overachieved” make for great money sinks, with upgrades again being a prime example: even if your party is sufficiently powerful to deal with the monsters in the current quest areas, giving them more power never feels wrong. If we include a bunch of special monsters or even whole dungeons which are more of a challenge than the actual campaign final bosses, upgrades also never cease to be useless – and if the players don't want to grind out the last coin to get the maximum upgrades, they don't have to.

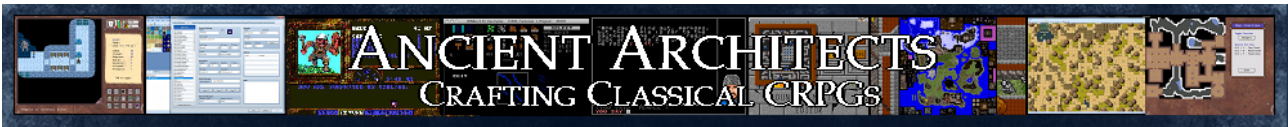
But if we give players both the option to upgrade higher than necessary even for the final encounters and the option to acquire the necessary resources, haven't we arrived at the problem we wanted to avoid in the first place? Well, not necessarily – this is where the fine tuning starts.

V. Balancing Things

What we want to do is to offer the player a generous supply of money, but control the potential effects. This means we have to influence the *efficiency* of spending money. The most important thing to consider here, in my opinion, are the relations of the various money-dependent curves in the economy.

Monetary Curves

- **The Supply Curve:** The heroes shall increase in power. For this, they need more money. This means that the later in the game, the more money the various supply sources have to yield. Hence, the supply curve will go steadily up. Personally, to get some concrete values for this curve, I like to concentrate on the average quest/treasure chamber reward, meaning bigger chunks of money in a limited number (in contrast to the potentially endless, but far smaller amounts of loot from standard encounters), on the assumption that the player won't solve all quests or explore all locations to the absolute end. Of course, this depends on the supply sources available in the specific game, but having random encounter loot or trading outperform quests and dungeon completion in terms of money yield is akin to pleading for balancing trouble.
- **The Maintenance Curve:** How much the player has to spend to, relatively speaking, achieve the same maintenance effects (healing fully after an expedition etc.). At the beginning, the maintenance curve will start not much lower than the supply curve,



meaning that a good portion of the player's income will be devoted to maintenance. But as discussed above, this has to change over time or the players will still feel like poor commoners at level 20, which is not what we want to achieve. So the maintenance curve will also go up, but at a much lower rate than the supply curve. See above for what contributes to maintenance.

- **The Economic Goals Curve:** The counterpart to the supply curve – how much the player has to spend on the bigger chunks that are demanded to advance in the game. Should also rise steadily, but a little lower than the supply curve, unless you want your players to have serious problems in the later game stages.
- **The Money Sink Curve:** How much the player has to throw into the money sinks to relatively achieve the same effect. This curve we want to rise higher than the supply curve. Basically, to linearly increase in power through money sinks, the player will have to spend exponentially more money. This works best if we have a good number of power degrees through which the heroes can advance, because then the increase in power relative to the previous degree will usually decrease to a point where a few extra degrees won't break the system: For the final fight with a level 50 monster, it is likely not all that important whether the heroes are level 49 or 52, but this doesn't mean that money spent on level increases is worthless; if players have the money to train their characters from level 50 to level 51, they'll usually gladly do so, even if it costs 50% more than training from level 49 to level 50 (and so on). If there is an optional boss of level 60 somewhere, the completionists will do so even more gladly! But at some point, if the money sink curve rises higher than the supply curve, there won't be enough money in the game world to fill all the sinks. That means the player will have to decide which sinks exactly should be filled. This is where we want to land. (Of course, this applies to all kind of power increases, be it training, equipment upgrade, spell selection or what else is available.)

Additional Tools

Besides the curves, there are a number of ways available to restrict the influence of money. These can be employed either if the system is not equipped to handle a few extra power degrees for the heroes, or simply as additional safety measures.

- **Money sinks that do not increase power, but options:** If there are four different *swords +4* available, it won't add to the party's power if the player buys all of them. However, if each of them deals different elemental damage, allowing the heroes to more efficiently damage monsters with certain resistances, it can certainly add to the player's options in a meaningful way (unless there is no other way to defeat said monsters than with such a specific weapon, in which case we are not talking about "optional" anymore). Other examples would be items that allow the party to travel faster or to places it previously couldn't reach (again, if those are locations optional to visit) or really anything that is more about offering alternatives or even just convenience rather than raw power.
- **Requirement of additional resources:** If there are game elements that the player



should be able to acquire with money, but really only a limited number of times, we can add additional resources to the purchase requirements. Crafting ingredients make a fine example: Dragonscale armor may be a cool thing, but not all party members should have it; well, turns out the party has to provide the dragon scales on their own, and there are only a limited number of them available in the game. They might be enough for two helmets and two shields, or an armor and a shield, in any case not enough to just fulfill all desires.

- **Observing additional limits:** In *Divinity: Original Sin*, near the end of the game, a class of items made from the magical metal Tenebrium is introduced. These items are more powerful than just about anything else, but since the metal also radiates with harmful energies, a character can only equip a limited number of them without suffering problematic effects, no matter how many the player might get hold of.

In *Pillars of Eternity*, the party can carry at most six camping supplies, which are the defining factor for regeneration. How many they could purchase is irrelevant. This has a definite influence on planning longer expeditions.

- **Removing from monetary economy:** The best spells in the game can't be bought, they can only be found in the deepest dungeons. End of discussion.

Parallel Economies

It is highly likely that the monetary economy is not the only one in the game². In fact, it is almost certain that at least two other resources with the whole system of supply and demand are present: Experience points and player time.

Experience points are usually the additional, if not the only resource needed to gain additional abilities. They are normally acquired through a vast variety of means and often spent on just as many, if only via a detour of "training points" or something similar. This means they will have an economy of their own associated with them, and just like the monetary economy, it can get out of hand if not regulated carefully: If our quests and monsters give the party far more XP than they'll ever need for training, we will probably be facing the same problems as we do with heroes with far too much gold.

Thus, it pays to have an idea of the supply and demand of XP in the game, of economic goals (which average level the party should have at a certain stage of the game) and even sinks (usually additional levels, although it might be quite interesting if there was an option to do something else with XP: Maybe an out-of-system option to purchase certain perks or skills that cannot be acquired via standard training and, again, give the player options, but not additional power. Maybe learning languages so you can talk and trade with some of the game world's denizens which you can otherwise only fight or ignore?).

Now if the economies are intertwined, as is the case if training takes time and money, we can balance them out by using one as a sink for the other. This may even shift during the

² Please don't get me started on the three different monetary economies of *Ultima VII: Serpent Isle*.



game: At first, the party might have sufficient money, but not enough XP to take all the training lessons; then, when the additional power gained by training would be sufficiently small, the money might be the limiting factor.

It becomes difficult if the economies are not only intertwined, but the resources can actually be used as substitutes for each other, i.e. if you can buy level advancements with money only instead of having to amass sufficient XP as well. The *Elder Scrolls* games do this to an extent so the player has the maximal amount of freedom. Predictably, the system is completely broken in *Morrowind*, where you can raise your skills up to level 100 quickly with the obscene amounts of money you quickly gather, and next to irrelevant in *Skryim*, where not only there is a limit of skill raises you can buy directly, but it also effectively raises the cost for leveling up the usual way, via XP.

In short, I can't recommend this approach, it has "balancing nightmare" written all over it.

Player Time is pretty much the fallback resource: If all else fails, the player can invest time to make up for the resources lost otherwise (usually by grinding, ultimately by restarting the game), since its supply isn't limited, except by the player's patience.

There are games that treat player time as an in-game resource, including grinding - the constant replaying of the same content to collect resources - as an essential game element. Their monetary and/or XP economies are based on the assumption that the player invests high amounts of time to make up for the otherwise limited supply of the respective resource. Personally, I find this ridiculous. In an RPG with story-based, finite advancement, this has no place. I'd much rather err on the high side of supplies and offer the players various resource sinks than go too low and force them to grind. In general, if we follow along the lines presented above, this shouldn't become a problem anyway since there should be sufficient sidequests available to fulfill all economic goals. (While doing those also costs player time, I don't qualify this as grinding since it's not replaying the same content.)

So, in short - fine to use as a fallback, just in case, but I really recommend avoiding it as a standard resource.

High Level Economies (Diablo II gems, runes, DA:I Inquisition Power)

Example Economy