

# Umbrella Coin: Peer-to-Peer Insurance

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## Abstract

The Umbrella Coin (UMC) team is building a next generation model for providing risk management for individuals and businesses. Our solution will be built on a decentralized, blockchain platform to avoid the fees and management costs associated with traditional insurance companies. We are aiming to have UMC tokens accepted as proof-of-insurance and insurance payouts for standard insurance policies such as life/health (L/H) and property/casualty (P/C). Total net premiums for L/H and P/C insurers was approximately 1.2 trillion in the United States alone in 2015<sup>3</sup>. Juxtapose net premiums with the total profits, approximately 100 billion<sup>4</sup>, and there is a clear opportunity for the insured to cut out middle men and stop overpaying for coverage. Furthermore, policyholder's requirement to pay a deductible imposes an even greater overhead when attempting to make insurance claims. Our goal is to make UMC viable for deductible payments and later expand to full insurance policies.

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<sup>3</sup> <http://www.iii.org/fact-statistic/industry-overview>

<sup>4</sup> [https://www.treasury.gov/initiatives/fio/reports-and-notice/Document/2016\\_Annual\\_Report.pdf](https://www.treasury.gov/initiatives/fio/reports-and-notice/Document/2016_Annual_Report.pdf)

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## 2 INSURANCE

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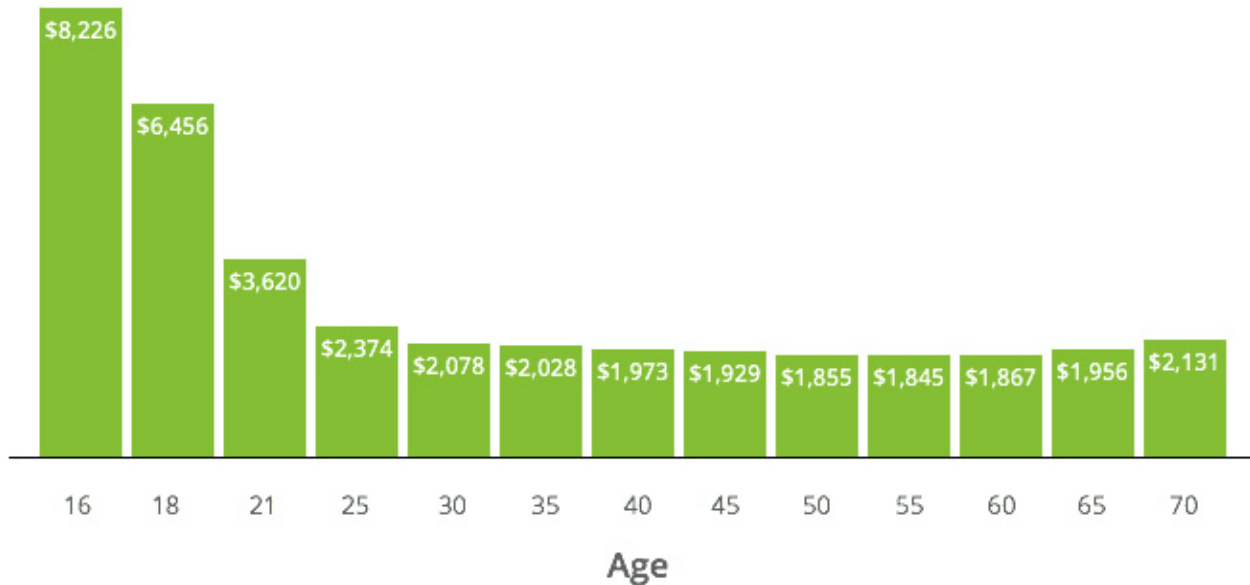


Figure 1. Car Insurance Premiums by age<sup>5</sup>

An insurance policy is a financial contract by which the buyer is protected from financial responsibility in the case of an emergency or unexpected life-event. There are a litany of items that can be insured under a given policy including homes, automobiles, health care, or personal goods. While offering peace of mind and a safeguard against risk for policyholders, insurance is a boon for insurers. Warren Buffett, famous investor and CEO of Berkshire Hathaway, referred to insurance as Berkshire's "most important sector" in his latest letter to shareholders<sup>6</sup>. Clearly, there are strides to be made for policyholders to retain their value.

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<sup>5</sup> <https://www.valuepenguin.com/average-cost-of-insurance>

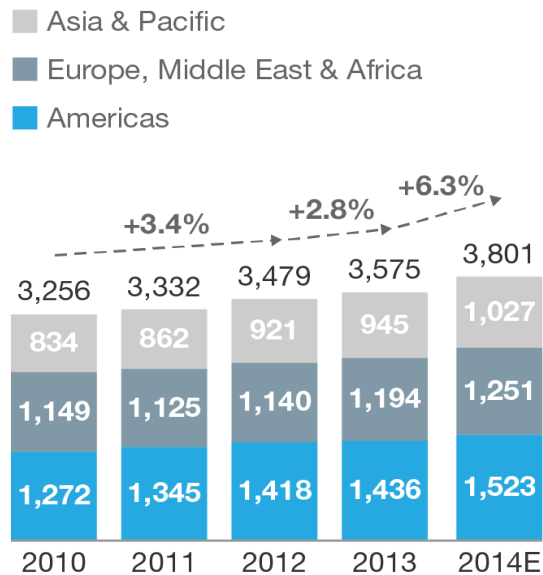
<sup>6</sup> <http://www.berkshirehathaway.com/letters/2016ltr.pdf>

This burden is shared worldwide with 10 of the 18 largest insurance companies in the world being headquartered in other countries, including Japan, Germany, China and the UK.<sup>7</sup>

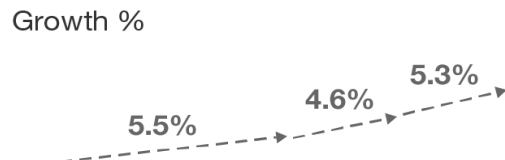
## Global insurance premiums beat GDP growth in 2014 for first time in 5 years, with Health and Life as the primary drivers.

Premiums in € billion,<sup>1</sup> CAGR in percent

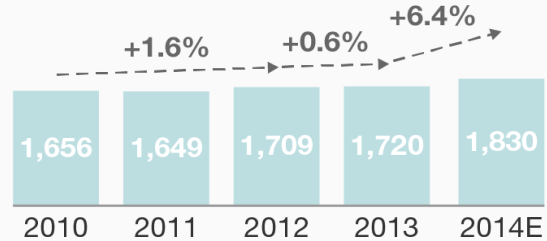
### Total insurance



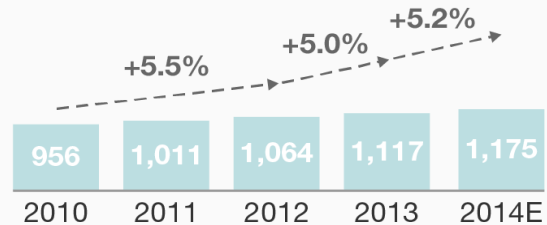
### Nominal GDP



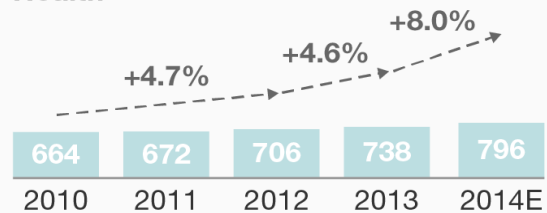
### Life



### P&C



### Health



<sup>1</sup>2014 based on available H1 or Q3 reporting; at fixed exchange rates 2013.

McKinsey&Company | Source: McKinsey Global Insurance Pools

Source: McKinsey<sup>8</sup>

<sup>7</sup> [http://www.propertycasualty360.com/2016/08/24/18-pc-insurance-companies-make-the-2016-fortune-gl?slreturn=1499729987&page=5&page\\_all=1](http://www.propertycasualty360.com/2016/08/24/18-pc-insurance-companies-make-the-2016-fortune-gl?slreturn=1499729987&page=5&page_all=1)

<sup>8</sup> <http://www.mckinsey.com/industries/financial-services/our-insights/global-insurance-insights-a-detailed-analysis-of-trends-that-shape-the-industry>

## **2.1 MIDDLE-MEN**

Many insurance policies are sold via an agent or broker. These agents are licensed to sell insurance in certain states or territories and make commission on their sale of insurance. The cost of their sale is passed on to the policyholder. While we believe that the profit insurers make off policyholders is absurd, additional parties gaining a profit even further reduces the cost/value ratio of purchasing a policy.

UMC solves this by allowing "policyholders" (or really, coin holders), to bypass the overhead of purchasing through agents and instead purchase from other coin holders.

## **2.2 HIGH PREMIUMS**

As illustrated by figure 1, insurance is sold based on the perceived risk of the policyholder. Actuaries are responsible for assessing the risk factors of a policyholder and determining an acceptable rate for the policyholder. Based on perceived risk, or previous insurance claims, policyholders may be viewed as a greater liability and forced to pay more. Of course, in the event they do not make a claim, their premium is considerable profit for the insurance agency with no monetary gain for the policyholder. As time goes on, rates increase for car insurance and life insurance as you are perceived to be more risk. Furthermore, if a policyholder makes a claim for P/C, their rates will inevitably increase to offset the risk they are perceived to have.

UMC acts as both an investment vehicle and peace-of-mind for coverage. Insurance tokens purchased are property of the policyholder and can be used as redemption for insurance claims. Holders pay what they want and their investment is buoyed and grown by other UMC coin holders.

## 2.3 DECENTRALIZED CENTRALIZATION

Most interestingly about the current insurance model is the funding source and revenue. Insurance companies pool money from policyholder premiums and invest into commodities like stocks, bonds, precious metals, and perhaps even cryptocurrency. Insurance companies therefore collect the growth and interest on policyholder money instead of the policyholder themselves. Couple this with potentially high premiums outlined above and policyholders stand to lose on both their premium costs and what they would have collected in interest. The pooling model from all policyholders essentially causes the insurance industry to crowdfund funds needed to pay claims while simply operating as overhead for the funds. Insurance companies are reduced to glorified money managers, fighting to pay as little as possible in claims to protect their bottom line.

UMC follows the same decentralized, investment funding source as traditional insurance companies. UMC funds will be deposited into an index fund to ensure growth of coin holders, with excess funds being paid out in a claim based on coin holder voting. This ensures that claims will be paid out due to rising value of UMC and more policyholders switching to this model.

## 2.4 MANDATES

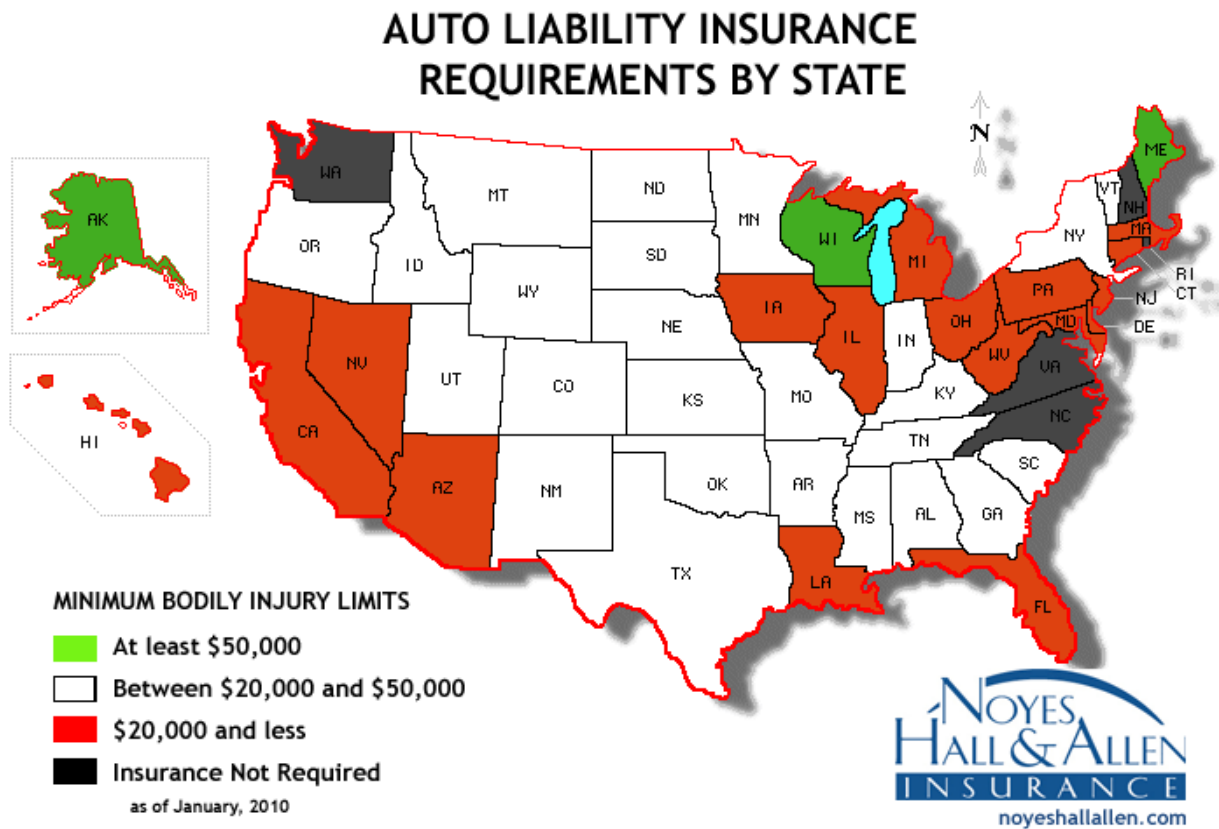


Figure 2. Insurance required by state<sup>9</sup>

While this is gaining much more prominence due to the Affordable Care Act (ACA), the march towards required insurance has been going on for some time. Car insurance has been mandated in some US states as far back as 1925<sup>10</sup>, some landlords require renter's insurance as part of lease agreements, and US employers are required to pay unemployment insurance and disability insurance<sup>11</sup>, although the latter varies by state. When mandates are coupled with the already profitable insurance business model, policyholders end up losing even larger percentages of their income with the insurance companies getting richer. An increase in policy count also highlights another problem: most insurance

<sup>9</sup> <http://rsiclub.tk/gezy/car-insurance-requirements-by-state-2170.php>

<sup>10</sup> [https://en.wikipedia.org/wiki/Vehicle\\_insurance\\_in\\_the\\_United\\_States](https://en.wikipedia.org/wiki/Vehicle_insurance_in_the_United_States)

<sup>11</sup> <https://www.sba.gov/managing-business/running-business/insurance/insurance-requirements-employers>

policies cover one liability which causes policyholders to require (and manage) multiple different policies and ensure these are in line with federal and state requirements.

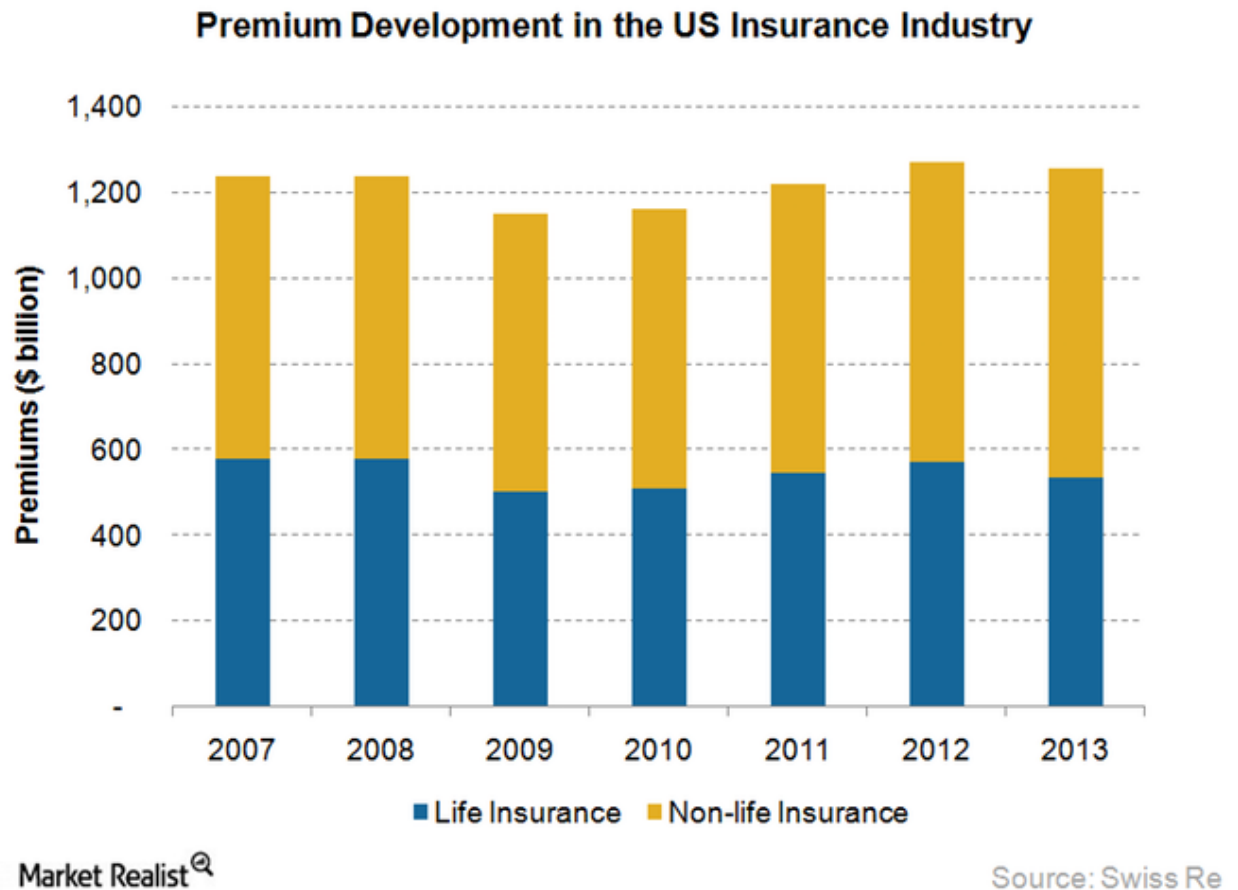


Figure 3. Insurance Premiums by year<sup>12</sup>

UMC will be a one-stop-shop for insurance. It will be sought to be accepted wherever and whenever insurance payouts are necessary, whether that be auto repair, house reconstruction, or medical bills. By retaining investment value in addition to organic growth, funds can also be withdrawn for a premium claim.

<sup>12</sup> <http://marketrealist.com/2015/02/us-insurance-industry-largest-world/>



## 2.5 DEDUCTIBLES

Most policies require holders to pay out of pocket while submitting a claim, before the insurer agrees to cover any of the damages. Many policyholders are unable to pay their deductible, either forcing people into a payment plan or avoiding making a claim due to cost. In 2014, 28% of insured Americans avoided some aspect of medical care due to cost<sup>13</sup>. There is typically a tradeoff between premium and deductible cost, but this is risky proposition for policy holders. Lower premiums mean higher deductibles, which makes it less likely you use your insurance. Higher premiums mean lower deductibles, but that falls into all the pitfalls mentioned in the section above. We believe deductibles are the first major area UMC can make an impact while a financial base is established.

## 3 UMC

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Initially, UMC will operate with coin holders acting as both policyholders and insurer, essentially combining the role of the traditional format. There will be two values stored with a coin: intrinsic and invested. The intrinsic value of the coin is self-explanatory: this is the value of UMC on open exchanges. The invested value is the portion of the investment pool which owning a token entitles the coin holder to in case of a claim. Initially, we propose the UMC network investing 0.25% of all traded funds into a fund of ETH. These coins are the lifeblood of the decentralization revolution and, as they grow, our liquidity will grow allowing UMC to pay claims while still retaining coin holder value. While there are fees to pay no matter the transaction on many blockchains, we aimed to leave ours low to encourage both buying and selling of UMC while still building future value for claim payouts.

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<sup>13</sup> [http://www.commonwealthfund.org/~media/files/publications/issue-brief/2015/jan/1800\\_collins\\_biennial\\_survey\\_brief.pdf](http://www.commonwealthfund.org/~media/files/publications/issue-brief/2015/jan/1800_collins_biennial_survey_brief.pdf)

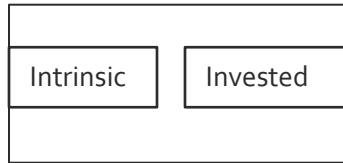


Figure 4. UMC. One coin contains multiple values

Smart contracts will allow policies to be awarded and paid out on a peer-to-peer basis. Any float which is accrued from the investing of premiums would be paid out as rebates to all policy holders. Developers will not approve or deny insurance claims, nor will they be responsible for paying out insurance claims. The investment value of a coin is tied directly to that coin and cannot be manipulated. The investment value of a coin can be redeemed by a holder if and only if they submit a request via the UMC network and have it approved. Insurance claims will be submitted to the UMC network and withdrawn from the invested funds. If your claim cannot be paid by solely the invested funds in your holding, the remaining balance will be equally drawn from all coins in the pool. Policies and claims will be tied to a user's public key and any tokens they hold.

### 3.1 INVESTMENT VALUE

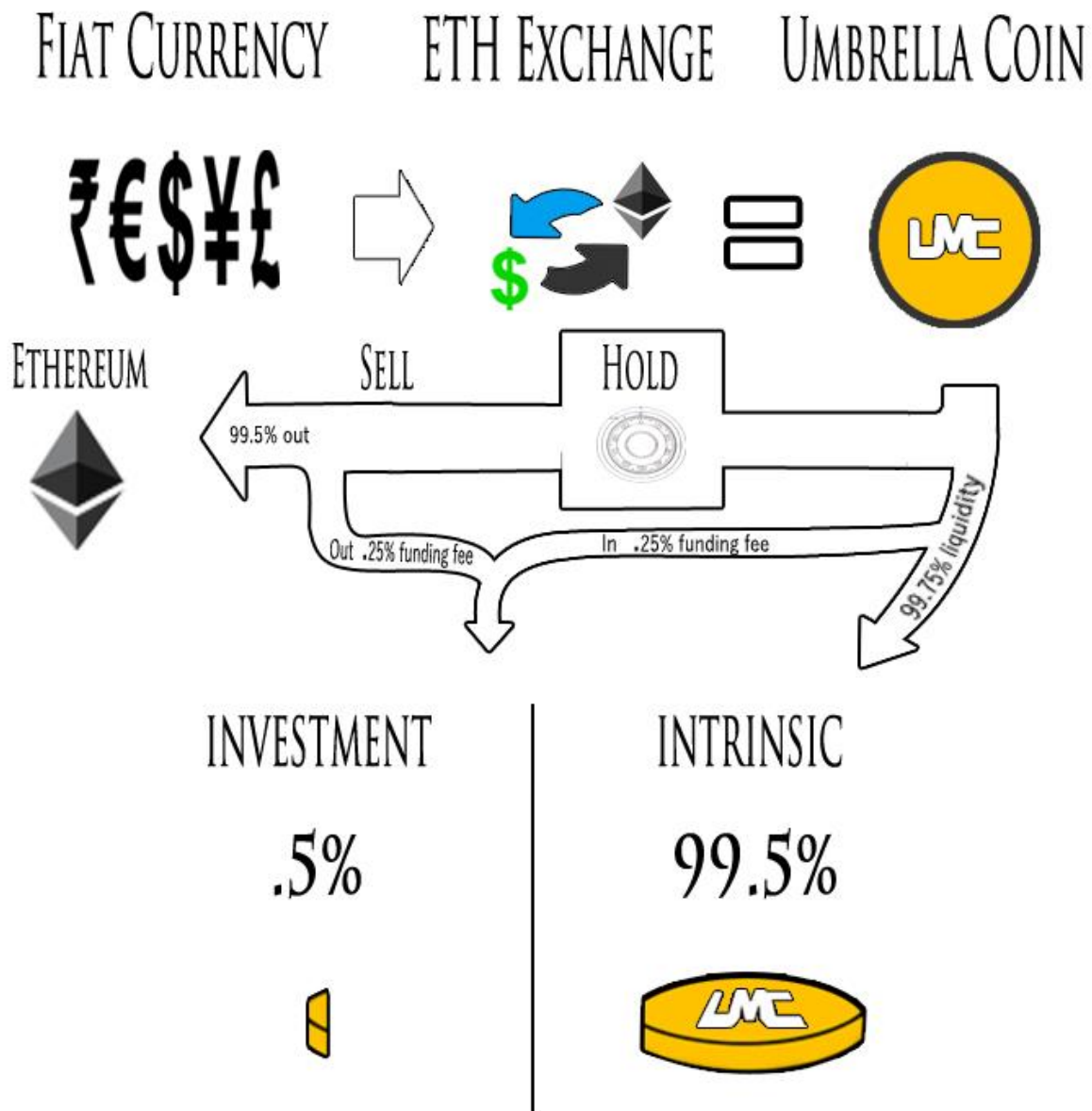


Figure 5. Basic UMC Ecosystem building value

### 3.1.1 Growing investments:

Take the following simple example:

1. UMC is valued on the open market at 1 ETH/coin

2. I initiate a buy for one token at the market rate
3. I pay an additional fee of 0.005 ETH for my one token giving my token a total value of 1.005 ETH – an intrinsic value of 1 ETH and an invested value of 0.01 ETH. The invested value is immediately converted to ETH.

This value stays with the coin until a claim is made using this coin. When a user makes a claim, all coins associated with that wallet will be drained first in the case a claim is accepted. Because policies are associated with wallets, this prevents users from creating multiple accounts with single coins to successfully submit fraudulent claims.

### **3.1.2 Dividends**

While this is not in the immediate scope of deliverables, the development team could envisage a coin holder vote in which a percentage of the invested value of each coin is redeemed for immediate payments in crypto or fiat.

## **3.2 POLICY CREATION, CLAIMS & MATURE DATE**

A policy can be created by any coin holder. Their policy will be tied to their wallet address and a claim must be made against a certain policy. You cannot make a claim against a policy not associated with your address and you cannot make a claim if your address does not have any tokens. UMC will pay out claims based on a schedule of benefits. The schedule includes death of coin owner, car accident by the coin owner, coin owner home incidents, time missed from work due to disability, diagnosis of cancer, and physical accident to one's body.

Claims will initially need to be judged by the greater community to be approved or denied. If a claim is approved, the value of the coin holder's investment portion of their UMC will be credited

first, followed by a payment from the greater UMC network drawing from other tokens. There will be a few safeguards to protect this from abuse:

### **3.2.1 Waiting Period**

Each policy will have a waiting period – ensuring these policies cannot be created and redeemed immediately. When initially launching UMC, we propose a waiting period of 90 days.

### **3.2.2 Maximum Payouts**

To avoid overdrawing or otherwise straining the finances of UMC, we will set a maximum payout for exchanges. We intend to only cover our schedule of benefits initially as they are financially less imposing and does not require the full adoption of UMC as a viable insurance alternative. As a result, we're placing the payout limit of 500 ETH per wallet every 180 days.

### **3.2.3 Regulating Policies and Claims**

We must impose some regulation on the ability to submit policies and claims. We need to rely the community for giving final approval for claims, as their money may be directly impacted. Because we are initially planning on supporting only deductibles, we will ask for verification via an insurance bill asking for the deductible amount. For example, a coin holder cannot create a policy for 500 ETH when their deductible is 100 ETH. We will attempt to have some automation in place to automatically reject claims, but the right to approve will be a 24-hour vote in the community.

We live in an age where insurance currently may not cover various out of pocket expenses from your policy, or items you may need that are not covered by a policy (ex. assistive medical equipment, flat tires). While growing UMC, it is easier to first augment existing insurance than to completely replace it.

## 4 ROADMAP

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Our main product during the ICO is to create the infrastructure and client for exchanges, and the growth of invested capital of coins. Afterwards we will explore marketing this to existing agencies accepting insurance claims directly, shareholder voting for accepting claims, and expanding policies into different areas.

*June-July 2017* – Whitepaper written, website launched

*August-October 2017* – Client and smart contract development for deductibles; intrinsic and investment architecture

*September 2017* – Client launched

*September-December 2017* – investment value tracking ETH; automatic claim review

*November-December 2017* – start working with existing partners to accept and acknowledge UMC as valid insurance after successful MVP. This will initially only target the United States

*2018* – Client improvements; policy expansion (auto, home, life); coin holder policy improvements

## 5 CONCLUSION

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UMC is being developed to decentralize insurance and put power into the hands of policyholders.

We are targeting an aggressive development and launch date for our tokens and client allowing coin holders to submit and make claims. Initially we will target paying deductibles as part of existing insurance policies before expanding into more broad areas of insurance coverage. You can learn more about the team and keep up with our progress at:

<https://www.umbrellacoin.org>

<https://www.reddit.com/r/UmbrellaCoin/>

<https://twitter.com/umbrellacoin>

<http://www.bitcointalk.org>

<https://github.com/umbrellacoin>

<https://umbrellacoin.slack.com/>