

On BitShares, Reality Keys, and Prediction Markets

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Draft 1

Summary: BitShares is not a prediction market, nor could it support one, as it has numerous practical and theoretical problems. Reality Keys is a service provider (with the associated benefits and problems of privatized centralization) which could potentially be very useful in the service of prediction markets.

BitShares

BitShares is a possible future cryptocurrency which allows users to create collateralized debt-instruments called BitAssets. These BitAssets are automatically re-priced (and even liquidated via margin call) based on their mark-to-market value, as determined solely by the price implied by the most-recent BitAsset-creation. The author claims that arbitrageurs will take advantage of differences between the BitPrice and the True Price and therefore price the asset correctly, and supports this claim by arguing that users are trading in a prediction market, and prediction markets are accurate sources of prices.

The claim that users are trading in a prediction market is false, as is the claim that there are ‘arbitrageurs’ at all. In an ‘index prediction market’, shares are repurchased at the price of an index, for example one share of “Hillary2016ElectoralCollege” may be ultimately repurchased for \$255/share, if Hillary Clinton managed 255 Electoral College votes in the 2016 election. The magic of prediction markets is that the Future Payout = Future Repurchase – Today’s Market Price, meaning that traders who perceive a positive expected future payout (ie an incorrect price) can profit by trading on and revealing that information (changing the price). In contrast, on November 9th, 2016, after the votes are counted, the world of BitShares will experience no change in state, no payout at all (!) and the “Hillary2016ElectoralCollege” shares will lack even speculative value. They may go up, down, or sideways without bound.

In fact, although the author claims to be a “self-taught Austrian Economist”, the entire microeconomic foundation of BitShares is incorrect. Fundamentally, BitShares assumes that prices are driven by arbitrageurs, when in fact they are driven by users. Arbitrageurs merely perform the simple service of aggregating and cancelling different price offerings, which prevents users from being ripped off. Speculators absorb and transfer risk, brokers call in the order, and janitors clean the trading floor to prevent slippage. It is not the employees, but the users, who set prices by expressing supply and demand preferences¹. If the market offers a price which is “too low”, such as a car for \$5, people will

¹ While short episodes of speculator-control exist, they are defined by their terminal insanity and a subsequent correction to the user-controlled price level.

buy them to use: to drive, to enjoy the latest car tech, to avoid breakdowns, for their children, or simply because \$5 is less than gasoline or oil changes. The homeless could even live in a \$5 car. If the market set the price of cars to \$5,000,000, people would sell them to use that money to buy other things to use. In BitShares, there is no use, only speculation, and so prices can move without bound.

Even if the BitShares idea were partially valid, the scourge of risk, and well-known effects of Asymmetric Information would iteratively drag the price of all BitAssets to zero, in a phenomenon called 'The Market for Lemons'. The margin call system only increases the fragility of this mysterious experiment, such that the richest or craziest agents could create and profit from immensely volatile price swings.

Reality Keys

Reality Keys² (RK) is a service that plans to offer information about the world in a format comprehensible to Bitcoin. This is very easy to do, but requires both centralization and trust. Nonetheless, it is a very exciting development for those of us passionate about prediction markets.

Bitcoin's decentralization is a result of government hostility toward alternative currencies. Governments have been similarly hostile to prediction markets (no growing player has yet been allowed to survive), yet the overwhelming response is indifference. It is the opinion of the author that most governments do not (yet) understand prediction markets enough to care about them at all, and instead close them down under confusion or after shamelessly corrupt buyouts from the gambling industry. My expectation is that, at present, a centralized service such as RK (assuming low cost and efficient management) would be able to drive decentralized Bitcoin transactions sufficiently to create a viable prediction market system. However, I also expect that the time will come, one day, when the cold splash of reality is resented by society to the same extent

However, Reality Keys in its current form has the weaknesses of centralization. Although it is probably impossible to prevent most data from escaping onto the internet in useable form, it is probably very possible to interfere with the data that RK *must keep secret until the time of the event*. The design almost certainly involves pre-event published hashes or message signing, both of which would require careful data security and management. Crazy governments, myopic managers, or disgruntled employees could steal or manipulate this data and use it to steal funds from transacting parties, or the data could be hacked, destroyed, or otherwise lost. Possibly an employee will steal the data and blame it on a hacker. Moreover, any centralized agent can go out of business, close down for personal or arbitrary reasons, get sued or arrested, etc. Reputation creates a kind of network effect: those doing the best business will get more business, w

Anyone can use RK and Truthcoin together, by owning Truthcoins and voting with RK information. RK can even fork Truthcoin, customizing fees or parameters as they choose, and giving themselves 100% of the 'RK-Truthcoins'. This would allow them, or anyone, to incorporate the Truthcoin incentive structure of contract entrepreneurship and trading.

² <http://www.coindesk.com/reality-keys-bitcoins-third-party-guarantor-contracts/>