

Glitch-games

It was typical of early video games to have glitches. Often these glitches could be exploited for the sake of gaining an advantage. In one game, a basketball game, shooting from a particular spot on the floor led to a much greater chance of making a three point field goal than any other three point shot. Knowing this, among friends, it would be customary to exploit the glitch ruthlessly until your opponent caught on and, with a laugh, an informal rule against it was made in the spirit of competition. But it is not hard to see that should the game have real consequences; say, if they were part of a tournament with cash prizes; then matters would be different. A typical 'glitch' game therefore has the following structure, depending on whether you are in-the-know or in-the-dark:

Where *ay* is in-the-dark and *ax* is in-the-know

I.

<i>ay</i> \ <i>ax</i>	<i>Law</i>	<i>Indiscriminate</i>	<i>Only as needed</i>	<i>never</i>
<i>never</i>	0\0	-5\5	-3\3	0\0

Where *ay* and *ax* are in-the-know

II.

<i>ay</i> \ <i>ax</i>	<i>Law</i>	<i>Indiscriminate</i>	<i>Only as needed</i>	<i>never</i>
<i>Law</i>	0\0	0\0	0\0	0\0
<i>Indiscriminate</i>	0\0	0\0	2\2	5\5
<i>Only as needed</i>	0\0	-2\2	0\0	3\3
<i>never</i>	0\0	-5\5	-3\3	0\0

Where it is understood that if someone is in-the-dark, then they can only use 'never' as their strategy. The strategies have the following properties:

Law: only available to those in-the-know, if someone chooses this strategy, then everyone in the group is forced into this strategy for the current game and the remainder of the other games; indicates that a law is now in effect not to use the glitch and therefore everyone knows of the glitch to no-ones advantage.

Indiscriminate: only available to those in-the-know, it indicates that the user is using the glitch to their advantage without caution as to revealing the glitch to others.

Only as needed: only available to those in-the-know, it indicates that the user is using the glitch to their advantage with caution not to reveal it to others.

Never: indicates that the user doesn't use the glitch either willfully or out of ignorance.

In general, we take this as a model of innumerable games, and simply understand the payouts mentioned as relative (dis)advantage in the various scenarios. This expands our games beyond those which are zero sum to those which are n-sum; e. g. a null payout above, 0\0, can represent 10\10 in a 10-sum game, while -3\3 represents 7\13.

Consider now a series, or tournament of such games, amongst a group. It may seem from the above description that one should always choose *indiscriminate* for this is the dominant strategy, but as you use the glitch, others may catch on. As they catch on, the games tend to switch from type I to

we may consider the possibility that they will look for glitches in other games as a result as well. And in the end, we can consider the net effect on society at large, as a result. I have touched on this a bit in a more literary work I've done, and included in the .zip. My sentiment is that this full analysis is beyond the scope of this project.

As regards finance, we can view a “glitch” as an inefficiency in the markets. If you know of the inefficiency, the question is how to go about “milking” it, under given conditions. After establishing this result, we can consider the possibility that “exploiting inefficiencies” for monetary gain may be a detriment to society at large, for the fact that it promotes exploitative behavior generally. This can be touched on in a conclusion I think, as it relates to “Lemon Markets”, but would not be a focus (again, see the more literary work).

[illegible]

My intention is to set up a battery of simulations which may spark intuitions for an analytical result, i.e. an equilibrium point in the context of classical game theory. This should not be terribly hard to set up, but analyzing the data will take work. In all, I'm very excited about this project and its prospects.