Orchestrated Crime:
the high yield investment fraud ecosystem

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APWG, 24 September 2014
High Yield Investment Programs (HYIPs) are websites that promise investors high returns on investment.
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HYIPs are fraudulent “Ponzi” schemes

- Existing investors’ returns are paid from new investors’ funds
- Eventually, of course, no new investors can be found
- Investors lose their money when the schemes collapse

- They’ve been studied before ... by Moore, Han & Clayton (2012)
- This previous work described the *aggregators* which list lots of HYIPs but didn’t properly understand how they fitted in to the ecosystem. This work fixes that...
An aggregator site gives the details of lots of HYIPs and indicates whether or not they are currently paying.
The role of aggregators

- List active HYIP websites
  - they charge for a listing (more for premium listings)
- Carry adverts for HYIPs
  - they charge for this (duh, obviously)
- Get paid a referral bonus for investments made through them
- Invest in the HYIPs and monitor if interest is paid
  - THAT IS, TO BE LISTED AN HYIP PAYS (eg $10) UP FRONT
  - THEN IT PAYS 1% (or whatever) of (eg $200) EVERY DAY
  - IF IT FAILS TO PAY IT IS MARKED TO BE IN DEFAULT

THE HYIP ITSELF PROVIDES THE CAPITAL FOR THIS INVESTMENT
An meta-aggregator site gives the details of all HYIPs that are listed on all aggregator sites.
The role of meta-aggregators

- List active HYIP websites – scraped from all the aggregators
  - this is a free service
- Carry adverts for HYIPs
  - they charge for this (duh, obviously)
- Get paid a referral bonus for investments made through them
- Provide historical data about past HYIPs, referral bonuses etc.
  etc. (which are really useful for our research)
The HYIP eco-system

- Kit developers: sell software to run HYIP and aggregator websites
- HYIPs: the ponzi scheme websites
- Investors: the people who put money into the ponzi schemes
- Aggregators: publish lists of HYIPs, promote and monitor them
- Referrers: individuals who refer investors to the HYIPs
- Meta-aggregators: collect and publish data from multiple aggregators
What we’d rather like to know

• Who invests in HYIPs?

• Can the investors make a profit?

• Where does the money go?

• How might we disrupt this ecosystem?
Location of comment posters

- USA: 15%
- Thailand: 10%
- China: 5%
- India: 5%
- Germany: 5%
- Russia: 4%
- Indonesia: 4%
- Ukraine: 3%
- Vietnam: 3%
- South Korea: 3%
- Italy: 2%
- UK: 2%
- Others: 37%

This is by count of unique IPs, but you get a similar result if count comments
Statistics for referrals

• HYIPs report their referral rates: average 5.37%

• Some HYIPs report how many investors AND how many were referred to the site: average 35.13% (Apr–Jun 2014, n=54)

• BUT they might be inflating these numbers!!
  ▪ so we rank in order of investors and find referral rates fairly constant apart from biggest 25% of sites ... if we only consider the other 75% then referral rate is 43.46%
  ▪ NB: if you avoid investing by following links you probably don’t count as referred, so this is right direction to adjust

• Some HYIPs report who referrers are (Apr–Jun 2014, n=108)
  ▪ 48.05% of these are aggregator websites
  ▪ NB: we don’t see (m)any incentives for manipulation here

• Oddment: 57% of referrals to one website were from Uganda!
Can estimate income for aggregators

- Listing fees (average $20,877, stddev $23,318)
- Advertisements (average $33,280, stddev $24,604)
- Interest from investment stakes in HYIPs
  - aggregators report payout ratios as one of their stats per HYIP
  - mean stake was $128.62, stddev $45.46
  - paid out ratios ran from 18% to 147%
  - income average $79,302 stddev $35,947
- Referral income – not generally available
  - have data for just one aggregator (uhyips.com)
  - at average rates they’d get $42,797 but report getting $73,068
  - perhaps they get better rates?
Can estimate income for kit developers

http://www.goldcoders.com

- Sells HYIP kits at $145 (plus $99 for a unique design)
- Sells HYIP aggregator kits as well ($145 or 10% of income)
- Offer to set up domain, website etc. if you’re a neophyte
- Rumoured to have back doors, so people do pay if they use it
- Market share is 75% (and has been 50%+ since 2005)
Can estimate income for HYIPs

- Infrastructure costs are low (hosting + kit) <$200 for 2 months
- Sites choose to list on an average of 4.04 aggregators
  - stddev is 4.29 (this is a trade-off between cost & exposure)
  - we estimate costs here average $94.52
- Aggregator interest payments are $303 (stddev $1216) over lifetime of site (as you can see, somewhat variable)
- Investor payments (hard to calculate since may default early on these compared to paying the aggregators)
- Additional advertising (we have no data)
- Referrer bonuses (we do not trust self-reported data here)
An overall model for the HYIP economy

- Total cash arriving from investors = $46.7 million in 2013
  - using the uhyips.com referrer data & scaling
- Payments to aggregators
  - total $3.1 million: 3 made over $200K, 4 made over $100K
- Payments to other referrers
  - total $565K
- Income for GoldCoders
  - at least $672K, on reasonable assumptions $975K
- Payment processor income
  - around $582K
Profit/Loss breakdown of a typical HYIP

Revenue

Profit/Loss

Cost

Investment

average profit: $5k

breakeven $840
... and more

• The paper has lots more data and analysis ...

• In principle an investor can make money by putting in money as early as possible... if they are smart they can do as well as the aggregators
  ▪ that means that they make money in about 16% of cases
  ▪ however, the downsides are such that average return on capital will be just 76% ... this compares badly with roulette!

• So perhaps the regulators/police should intervene ?
  ▪ their monopoly position orchestrating the whole scam suggests to us that we should start with the kit suppliers !
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http://www.lightbluetouchpaper.org