

FIGI Security Clinic

An intro to UDIS & the
MMM Cooperation
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Unlicensed Digital Investment Schemes (UDIS)

- 1) **What are they?**
- 2) **Consequences?**
- 3) **Why do they thrive? (Who invests in these things anyway?)**
- 4a) **What can be done to monitor social networks, identify the schemes and shut them down prior to mass losses? Any good examples from other countries?**
- 4b) **Corollary: changing the narrative about UDIS (Or, actually having a counter narrative).**
- 5) **An example of a multinational UDIS: the MMM scheme**
***Followed by* Tracking the flow of funds MMM Scheme = Assaf K's demo**

What is an UDIS (aka digital ponzi)?

Working Group Definition:

Digitally enabled financial fraud whereby consumers are promised unnaturally high returns to place their funds with a proffered investment opportunity.

However, *and usually* unbeknownst to the targeted investor/consumer, there isn't any underlying productive asset, nor a company from which profits can be generated. Therefore, anticipated 'returns' on one's investment actually derive from future investors' capital inputs into the scheme.

The promoters of the schemes use new, incoming funds to pay existing 'investors' until there are no more incoming funds and the scheme collapses.



The aftermath of an UDIS

Adverse physical/mental health consequences can be dire for individuals and families:

Victims experience stress related illnesses (hypertension, heart attacks and diabetes).

Victims and spouses may even divorce: friends & family no longer speak to one another.

Children are removed from school (no school fees) & in some cases kids are sent to beg or worse on the street.

Mental health deteriorates & victims have killed themselves.

EXAMPLES from the Ugandan COWE collapse sample of 65 victims stories of 3,000+: the accountant; the 'savings groups' who drowned themselves in groups, and the diabetic grandmother.

- A related problem: **VICTIMS HAVE BORROWED TO INVEST IN UDIS**

The end result is financial exclusion of countless individuals and stunted growth of the 2nd generation.

On the national level: Countless sums are not invested in productive assets, new homes or educations + the wasted resources of the state in vain attempts to prosecute perpetrators. Money would be better spent on prevention.



Why do consumers still fall for these schemes? (*see Sergei next slide)

Did you eat today?

Compare with Nigeria: *For young people aged 15 - 35 years of age there are 55.4 percent who are unemployed. (Stats from Aljazeera). Tens of thousands are emigrating or trying to every year, including through the lagers of Libya.*

Desperation is one of the key reasons combined with low financial literacy levels.

Financial literacy levels of consumers and youth in particular are low. Per OECD's PISA '15 across OECD countries 22% of youth on average test at or below level one on the scale of 1-5 for being finlit. 'At best they can tell the difference between needs and wants, make everyday spending decisions and recognize an invoice.'

In Russia, re MMM, post communist times: what did a valid investment look like?

Meet Sergei Mavrodi: 'founder' of MMM scheme(s)





More on the human mind: who really knows why?

- There is also a lack of **a counter narrative** from regulators and government & consumer protection agencies (which never have adequate funding).
- ‘Buyer beware’ or ‘do not invest’ messaging on the Central Bank’s website is a waste of funds. Consumers are not reading the CB’s website. And, often the warning is done after a ponzi has already collapsed.
- Counter narratives need to come from persons that the public trusts – similar to how fraudsters promote their schemes -- Preachers, Imams, cricket/rugby stars, Youtubers, Bollywood actors and the Kardashians & Kanye can all can be used to inform the public NOT to invest.
- Effective messaging can also come from those who lost funds; provided victims are willing to collectively organize and talk/advocate. There is a lot of shame and shaming done to ponzi victims, so associations could help. Ex. Kenya Pyramid Victims Association with 26k members.



Who is the typical UDIS target victim?

- With the **advent of the internet** – profile of a ponzi victim may have changed. Schemes used to be marketed to the retirees/elderly and/or through affinity fraud. Bernie Madoff for example preyed within his country club set and through his religious affiliations. He was also chair of the NASDAQ. Another scheme in LAC preyed on immigrant nationals to the USA.
- Now, schemes are promoted on **Facebook**, **YouTube**, **Instagram**, and even Twitter and in closed **Whatsapp** groups.
- Prediction is we will see a spike in younger victims. Research from CGAP supports this hypo bc in Kenya/Tanzania illustrated that digital borrowers are predominantly male/youth & are using their loans to gamble. In Indonesia, interim results shows that 75% of digital borrowers are between 18-35 years of age.



What can we do to prevent UDIS?

- Social Network Responsibility? Do they allow the sale of arms, or human trafficking online? Can I set up a Silk Road II on Facebook? How about posting of pornographic images?
- **How long would it take a social network to take down an advertisement for one of the above crimes?**
- Next, let's see what one social network's terms and conditions of use read...



From Facebook (& Instagram) terms & conditions

https://www.facebook.com/communitystandards/fraud_deception

- **6. Fraud and Deception**

- Policy Rationale:

In an effort to prevent and disrupt harmful or fraudulent activity, **we remove content aimed at deliberately deceiving people** to gain an unfair advantage or deprive another of money, property, or legal right ...

- **Do not post:**

- Confidence schemes, e.g. romance/military impersonation scams
- **Ponzi schemes or Pyramid schemes**
- Setting up false businesses or entities
- **Investment schemes with promise of high rates of return ...**



Enforcement of terms & conditions?

- Despite that policy; the schemes are all over the social networks.
- Search Facebook/Insta/Youtube for example using ‘high yield investment + country.’

The good news is: Given that promoters of these schemes need to advertise, key word and natural language searches locate a large number of schemes.

Regulators can also do this same activity (**Yes, we can!**) & cross reference findings with any investor mandated registration data-base. This search can be automated.

Examples of UDIS preventative techniques from regulators?





Today's featured UDIS: the MMM Cooperation (fna: Mavrodi Mondial Movement/Moneybox)



It's not a Ponzi scheme. It's a Ponzi FUND.



The history of MMM

- Scheme claims to be a mutual aid organization (yet offers as much as 1,000% ROI) & first appeared in the 1990's w/ approx. 10m Russians investing; many of whom had no idea what a legitimate investment should look like.
- Estimates of losses from the first MMM collapse in July, '94 were anywhere from \$100m - \$1bn USD.

Promotions of MMM were TV mini series like adverts. Featuring a somewhat dopey character who made it big on MMM investing and could afford a fur coat and a new car. Sergei became so popular he was elected to the Duma.

After a spell in jail for tax evasion, MMM was reborn MMM-2011 and it went digital, and people could create online accounts and transfer to others.

The site was then updated to accept bitcoin, which was preferred over fiat money.

MMM was exported to an estimated 80+ countries globally and it has had particular 'success' on the African continent, in Nigeria, Ghana and Zimbabwe to name a few.

Modern history of the MMM UDIS in Nigeria



- ITU working group followed the MMM global scheme in Nigeria for six months in 2016: collapsed there taking with it more than \$70m USD.
- This was sum transferred ONLY through interbank settlement system. We had no data on same bank deposits/transfers, nor SMS, nor crypto/exchanges so the sum could've been significantly more.
- \$70m USD is more than entire Nigerian national education budget.
- MMM uses Bitcoin.



Groundbreaking new study

- Academics from Berkeley, Qatar, Luxembourg & SL analyzed the scheme from Sept, '14 – June, '16 and published in November of 2019.
- **The study conducts temporal analysis of MMM operations; suggests metrics for investigating crypto ponzis & shares their data linking to bitcoin addresses to MMM**
- <https://arxiv.org/pdf/1910.12244.pdf>
- Viewed 2.5M user profiles on BitcoinTalk, a discussion forum, searching for Bitcoin addresses associated with MMM members, ending up with 15,736 addresses.
- Extracted the corresponding transactions from Bitcoin's blockchain, ending up with 422,953 transaction.



What researchers found:

- 41% of participants did not receive any returns in the MMM Cooperation: researchers identified probable scammers as their addresses only received transfers.
- The top-earning scammer made \$765K dollars in profit.
- **At its peak \$150 million was transferred per day.**
- The scheme had participants from **80 different member countries on 5 cont.** but a highly-asymmetrical flow of money between them.
- While India and Indonesia have the largest flow in MMM, Indonesian members received 12x more money than they transferred.
- **Another UDIS study** from Uni Cagliari: focused on **detection of ponzis on Ethereum**: search for contracts whose **bytecode** (which is always stored on the blockchain) which is similar to that of some known Ponzi scheme: using the normalized Levenshtein distance (NLD) to measure similarity between two bytecode files. Measure of the difference in characters in data strings—how many characters u have to change to transform an apple to an orange (large). Or, a **ponzi into bonzai** = 2 character changes. Study used differential of less than .35 NLD from known ponzis. Another irony in many of the smart contracts for ponzis research found bugs and vulnerabilities.



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Back to the MMM Cooperation



- In 2019, the scheme was reborn the '**MMM Cooperation**' and in Nigeria media reports it may have as may as 7m members
- As of July 2019 was reported to be in pre-collapse mode.
- Still has an online social media presence as recent as November 2019.

