ANALYSIS

On Pyramid Schemes

In order to raise awareness among financial and non-financial institutions operating in the Republic of Armenia, as well as among general public, this analysis has been conducted on basis of the local and international experience to describe the nature of pyramid schemes, their types, potential negative consequences, regulatory mechanisms, as well as the role of financial and non-financial institutions in combating such schemes.

1. General Description and Types of Pyramid Schemes

Nowadays, the extensive development of telecommunication and information technologies has resulted in a wider use of pyramid schemes, which have the potential to pull in large masses of population. Particularly, availability of internet advertisement and on-line payment methods through to modern communication means, as well as existence of mass audience (market) have given a new impetus for realization of these rather long-track schemes.

As the name implies, pyramid schemes have a hierarchic structure initiated by certain people, who try to pull in as many investors as possible in expectation of generating gains. At each level of the scheme, new investors make payments to those at higher levels and receive payments from those at lower levels of the pyramid, thus actuating a specific mechanism for redistribution of funds. To enable proper functioning of the scheme, it is necessary that the number of newly joined members increases in geometrical progression, which means that every investor needs to recruit a certain number of new members.

A specific characteristic of pyramid schemes is that, from the investors' point of view, in early stages everything goes on as expected and promised. This is to say, initially the members gain certain income thus being motivated to involve new members and act as a good word-of-mouth advertisement for the pyramid. Thereafter, the scheme expands and increases by snowball effect, at some moment reaching the stage when it is practically impossible to pull in new members, whereas the members already on board and the payments made by them have reached a quite significant amount. Hence, through the misuse of people's credulity and the attractiveness of the idea to earn a lot of money within a short period of time, the persons on the top of the pyramid manage to make super-profits while those at lower levels are not there in time to make any profit due to the inevitable collapse of the scheme.

The pyramid works in the following way: the initiator convinces a person to join the scheme by investing, for example, 100 Armenian drams[1]. This amount goes to the initiator, while the newly joined member pursuing to recoup it and to make some profit has to involve in the scheme new members with an entrance fee amounting 100 Armenian drams for each. If the newly joined member is successful enough to recruit 10 new members, he may take, for example, 500 Armenian drams against his initial investment of 100 Armenian drams, while the other 500 Armenian drams would go to the organizer of the scheme.

Each of the 10 newly joined members should recruit another 10 new members etc. The process evolves up to the point when, for objective and subjective reasons (such as the limited number of population, loss of confidence in the scheme etc.), the pyramid increasing in geometrical progression is no more able to involve new participants. The number of participants in this scheme at its 10^{th} level (10^{10}) exceeds the total number of world population by 3 billion (10 billion – 7 billion).

Hence, with this example assuming that the whole population of the world would join the scheme, the members at the 9^{th} level are no more able to recruit 10 new members. This means that the minority comprising 111.1 million persons would make a 500% profit over their investment; the absolute majority comprising 1 billion persons would lose their initial investment of 100 Armenian drams, while the organizer would gain 55.6 billion Armenian drams without having invested even one penny[2].

At that, the majority of pyramid schemes imply certain profit margin in addition to the repayment of the initial investment. At higher levels of the pyramid, everything goes on as promised, and in early stages people are able to recoup their investment plus large interests. It is obvious, however, that these interests are funded from the investments made by the new members. Given the fact that in early stages the majority of members would not request their investment back, the distribution of funds between the organizer and the ordinary members does not significantly differ from the one described in the above simplified example.

Quite often, pyramid schemes are put into operation under certainly modified rules, which basically aim at maximizing the profits made by those at higher levels of the scheme, since these are the people providing for the momentum and attractiveness of the pyramid with

[1] This is a simplified theoretical example.

[2] The calculations are based on the assumption that all members from the 1^{st} to the 9^{th} levels recruit 10 persons exactly, and those at the 10^{th} level do not manage to recruit anyone.

their profits being a word-of-mouth advertisement for all the others. This may be realized by several methods[3]:

- The membership fee (initial investment) increases over time or along with addition of new levels in the scheme. For example, the funds invested in the widely-known scheme "MMM-2011" were denominated in the conditional unit "mavro", which had an increasing "exchange rate" over time. In addition to the objectives articulated above, this also aims at maximizing profits by the collapse of the pyramid.
- Participants of the scheme may make profit not only upon recruiting new members, but also when the members once recruited by them involve new members. This results in a situation when, for example, a member at the 5th level may make bigger profits than the members at the 6th and lower levels.

It seems to be legal when people on their own free will make investments into the scheme, but it is obviously illegal when people are deceived upon creation of unrealistic expectations about the profits they would potentially make. In particular, the organizer (and perhaps some of the members) has a clear understanding that at some moment of time the scheme would stop functioning; however, unlike the organizer, ordinary members do not have any idea about the level of the pyramid they are positioned at. Pyramid schemes, in essence, are fraud scams, since the new members are promised large profits, whereas at a certain point of time this promise becomes in principle unrealizable due to certain factors which are inevitable to ensue. In addition to this obvious deception, any similar initiative, where one party takes money from the other without a contract or other legal bases, most probably comprises the risk of embezzlement through the abuse of confidence of the creditor.

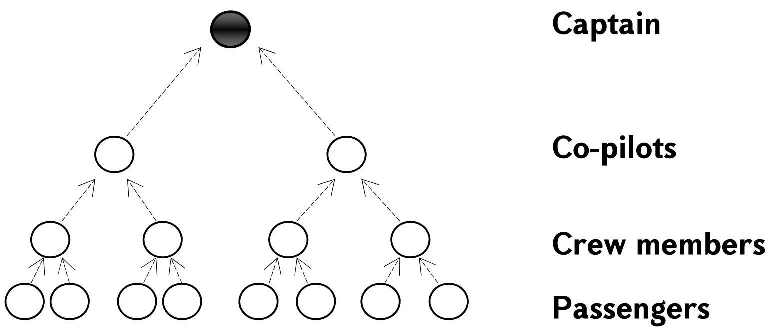
Since pyramid schemes are forbidden in many countries, they are often operated in masqueraded ways, some of which are discussed in below sections of this paper. In spite of a large number of variations, pyramid schemes have one important characteristic in common – they promise high yields to the participants based solely on recruitment of other participants into the scheme, which has nothing to do with creating added value through real economic activities (investments, trade of goods, provision of services etc.).

Below is provided a brief description of the some widespread pyramid schemes:

[3] In terms of internal distribution of profits, pyramid schemes can be defined through other methods as well; however, this analysis has not reflected on such other methods.

A) Schemes Using the "Eight Ball" Model

The "eight ball" model is a relatively simple variety of pyramid schemes, which appears to limit the number of participants involved. The hierarchy comprises 1 captain, 2 co-pilots, 4 crew members and 8 passengers. Every crew member should recruit 2 passengers with each of them having to pay, for example 1.000 Armenian drams. The collected sum (8.000 Armenian drams) goes to the captain, who leaves the game[4]. The group then is reorganized or "split" into two. Co-pilots become the captains of the newly formed groups, crew members become co-pilots (2 in each group), passengers become crew members (4 in each group), and new passengers are recruited (8 in each group).



This one scheme, while seeming to be rather limited at the first glance, in case of successful implementation transforms into two schemes, which transform into four schemes etc. Whereas in other pyramid schemes it is the number of people involved in one scheme that increases by geometrical progression, in case of "eight ball" and similar schemes the number of the schemes themselves (and consequently, the number of involved persons) increases in geometrical progression up to a point when they stop splitting and become "lifeless" cells.

The "eight ball" model may be used as a scam in non-face-to-face relationships in the following way: the captain would fill in the levels above the passengers with phony names (in fact solely acting on behalf of them) to take hold of the payouts intended for them as captains. The "eight ball" model and similar schemes are specific in a sense that at a certain moment of time the captain leaves the game ceding his position to other captains, who make an eight-times profit against their initial investment as opposed to the astronomic gains received by organizers of successful classic pyramids.

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[4] He may re-enter the game as a passenger.

B) Schemes Using the Network Marketing Model

The pyramid nature of this kind of schemes is masqueraded as network marketing, which purports selling a specific product though the customers. That is, the customers become agents in this scheme and have certain gains from recruiting new buyers.

Network or multi-level marketing is a rather widespread business scheme in nowadays world, which is specifically effective when used in the virtual environment through modern telecommunication technologies. In view of this factor, tricksters use the advertised product to conceal the pyramid nature of the scheme operated by them. Particularly, a new element is added to the classic pyramid scheme – an inadequately high payment for a low or no value product (which comes to substitute the “entrance fee” or “investment” used in classic schemes) – with the buyer becoming an agent and being entitled to recruit new customers. At that, certain material and non-material characteristics attributed to the product in an attempt to justify the inadequately large payment.

In comparison with classic pyramid schemes, those involving network marketing elements have certain “advantages” from the organizers’ standpoint. Particularly, these schemes:

- Enable circumventing the legal barrier of “illicit economic activity” usually applied to pyramid schemes insofar as it allows the organizers to present themselves as a company engaged in the trade of goods;
- Appear to be more trustworthy for the potential customers due to giving the participants an impression of having some guarantee even though in the form of low quality or low value products.

On the other hand, there are certain characteristics, which might be helpful in discerning network marketing from fraudulent pyramid schemes:

- In pyramid schemes, the real value of the sold product is significantly lower from the sales price, and this difference is “compensated” by attributing to it certain non-existent material and non-material characteristics;
- The goods in their proposed form and product features are not available for sale at public service and trade places;
- Pyramid schemes are likely to sell to the new participants such quantities of goods (without buy-back options), which cannot be sold within a reasonably short period of time;

  Whereas:

- Network marketing involves goods with certain trading efficiency and potential for making profit due to recurrent/ regular sales to customers;

- Members at any level of a network marketing scheme may make profits through the sale of goods and services, without the need of recruiting new members;
- Members at any level of a network marketing scheme may outperform the member who had once recruited them, without the need of making mandatory hierarchic contributions from their profits to that member.

C) Matrix Schemes

In matrix schemes, a waiting list is formed where the person on top of the list (not necessarily the organizer of the scheme) gets the desired product (outcome) provided that a certain number of new participants join the list. For example, for the person on the first position of the waiting list to receive a computer priced 200.000 Armenian drams, it is necessary that nine more persons join the list by means of buying a compact disc priced 50.000 Armenian drams. In this case, the first in the waiting list would get the computer and leave the list, while the second in the waiting list would make a step forward and take the first position to wait until nine more people buy the compact disc. Hence, for those holding the first 10 positions in the waiting list to get the desired product, it is necessary that another 81 people buy the compact disc at significantly overstated prices.

The organizer of the scheme, who is the seller of compact discs and giver of computers to those in the waiting list in the above example, has large gains without making any investment, since the sum of pay-ins from new participants is always greater than the sum of pay-outs to the successful waiters. In the above example, the profit made by the organizer totals 91*50,000-10*200,000 = 2,250,000 Armenian drams.

Organizers may make much bigger profits if they fill in the waiting list phony names until it comes to the real participants. This is a similarity with the pyramid schemes masquerading as network marketing; however, there are two differences in terms of arrangement:

- Getting the desired payout in matrix schemes is more difficult, since every new joiner creates a next level in the waiting list, thus increasing the pyramid only in vertical direction;
- Recruitment of new members by a person in matrix schemes does not provide for addressed and immediate benefits for that person, as the receipt of the payout depends only on his position in the waiting list.

D) Ponzi Schemes

These schemes are named after the organizer of a similar scheme, Charles Ponzi, who, promoting the idea of making large profits on price differences of postal reply coupons in different countries, involved investors promising them high yields within several months. Though the project proved to be unsuccessful, Ponzi managed to convince new investors to join it, thus paying back early investors their initial investment plus large interests funded from the contributions of later investors. Having created for him a reputation of a trustworthy and successful businessman, Ponzi expanded the scheme by snowball effect resulting in its collapse several years later and in huge losses for the investors.

Hence, the trickster in a Ponzi scheme recruits investors by promising high yields allegedly deriving from real investments or business efforts. However, instead of generating real gains, the trickster creates an outward appearance of such gains by funding payouts to the investors from their initial investments of from those of the new investors who fall victims of the fraud. Such schemes collapse when the amount of new investments is not enough to meet the current liabilities for early investments.

Ponzi schemes are different from classic pyramid schemes in that:

- The organizer of the scheme (in some cases, the small group of devoted persons) is the main actor putting efforts for recruitment of new members;
- The members pass on funds to the organizer without intermediation, in a non-hierarchic manner;
- The members have no chance to become aware of the pyramid nature of the scheme.

In spite of these differences, Ponzi schemes are considered to be a variation of pyramid schemes, since their viability depends on the uninterrupted influx of financial resources from new investors as a means to fund payouts to early investors. In some cases, the funds collected through Ponzi schemes may be partially channeled to real investment projects; however, the clue here is that no real investment project may ever provide for the profitability promised to the investors.

2. Economic Consequences of Pyramid Schemes

The last two decades have seen pyramid schemes to have found prolific soil for implementation in developing countries, where the population never dealt with similar fraud scams before. For example, by the end of the 1990s investors in Albania had a total investment amounting 1 billion US dollars in different pyramid schemes comprising 43 percent of the country's GDP at the time. These schemes, which operated in parallel and collapsed almost simultaneously involved around one thirds of the population of Albania. Due to unsound political and financial management, the country found itself on the edge of civil war. As a result, the government fell, the economy descended into chaos, and the rioting took lives of around 2.000 people.

Hundreds of thousands of investors were enmeshed in the pyramid schemes initiated in Israel in the 1980s. In these classic pyramid schemes, banks offered their own shares for sale promising investors that the price on them will only go up (sometimes by 2% daily). The banks used the last penny of depositors' money, their own capital and profits to keep this unhealthy and impossible promise. This specific pyramid scheme - arguably, the longest in history - lasted 7 years.

On one day in 1983, all the banks in Israel fell insolvent. The government faced such civil unrest that it was forced to elaborate compensation plans which lasted 9 years. The total indirect damage was hard to estimate, but the direct damage amounted to 6 billion US dollars.

Hence, the economic consequences of pyramid schemes include:

- Damage to the real sector – financial losses of the participants result in the reduction of the population's propensity to consume and save (and, consequently, to invest) in the country. More often, the organizers of schemes spend the collected funds or invest in other countries so as to avoid possible legal action in future. As a result, the funds collected through pyramid schemes and sometimes amounting to huge volumes directly reduce the GDP of the given country;
- Damage to the financial sector – pyramid schemes may have a negative impact on the financial system in two ways. First, such schemes absorb savings of the population, which would otherwise be invested in the financial system in the form of deposits, securities etc. Second, organizers of pyramid schemes sometimes intentionally discredit the financial system by presenting their scheme as an alternative more preferable in terms of profitability and other measurements in comparison with those of the banks, investment companies or other financial institutions.

3. Regulatory Mechanisms for Combatting Pyramid Schemes

In the international context, some countries consider operation of pyramid schemes as organization of games of chance. For example, in the US and in Great Britain organized pyramid schemes were forbidden through this specific mechanism. The Lottery Statute (United States Code, Section 1302) regulates this area by clearly forbidding activities of any entity without registration for organizing games of chance, whereas pyramid schemes incorporate the following three main elements specific to games of chance:

- *Consideration* is the entrance fee paid for joining the scheme;
- *Prize* is the monetary or other gain expected from participation in the scheme;

- *Chance* is the occasional nature of the possible payout from participation in the scheme depending on the level of the participant in the pyramid, as well as on the actions of the participants at lower levels.

It is worth to mention that this classification is not applicable to pyramid schemes masqueraded as network marketing for distribution of certain goods, since no special permission is required for this type of activity.

Some pyramid schemes were forbidden in the US by classifying their operation as violation of the rules for the public offer of or organized trade in securities (stock exchange trade).

A number of countries, such as Canada, France, Great Britain and the US[5] have prohibited pyramid schemes solely based on the fact that these have been recognized to be pyramid schemes. Thus, the Competition Act in Canada defines specific characteristics of pyramid schemes, which, once detected, entail criminal liability for the organizers. This has been done to introduce a clear distinction between network marketing and pyramid schemes. According to the Act, it is a criminal offense to:

- Give consideration for the right to receive compensation for recruiting another participant into the scheme;
- Establish buying of certain products as a condition for participating in the scheme;
- Supply product(s) to a participant in an amount that is commercially unreasonable;
- Fail to provide a buy-back guarantee for the products supplied to a participant.

Similar provisions can be found in normative legal acts of France and Great Britain. Furthermore, Section 327 of California Penal Code[6] defines as an offense any scheme operating on basis of an endless chain of new participants.

As to the legal mechanisms available in Armenia for combating pyramid schemes, the Criminal Code of the Republic of Armenia defines the following offenses:

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[5] In spite of a prohibition at the federal level, most of the states enacted legislative acts directly prohibiting operation of pyramid schemes.

[6] This section sets forth the following: *"Every person who contrives, prepares, sets up, proposes, or operates any endless chain is guilty of a public offense, and is punishable by imprisonment in the county jail not exceeding one year or in state prison for 16 months, two, or three years. As used in this section, an "endless chain" means any scheme for the disposal or distribution of property whereby a participant pays a valuable consideration for the chance to receive compensation for introducing one or more additional persons into participation in the scheme or for the chance to receive compensation when a person introduced by the participant introduces a new participant. Compensation, as used in this section, does not mean or include payment based upon sales made to persons who are not participants in the scheme and who are not purchasing in order to participate in the scheme."* (http://law.onecle.com/california/penal/327.html).

a) Swindling[7] – the promises which eventually cannot be kept provide the basis for attributing characteristics of swindling to pyramid schemes. This can be considered as embezzlement of property through the abuse of confidence.
b) Illegal entrepreneurial activity[8] – the promises for certain yields and payout of gains imply that this is an entrepreneurial activity aimed at making profit by means of attracting investments.

4. Role of Financial and Non-Financial Institutions in Combating Pyramid Schemes

Most often, turnover of the funds involved in the above-described pyramid schemes is facilitated through different financial institutions. Besides, at any stage of the scheme the organizer may use financial and/ or non-financial institutions to convert the funds obtained from the investors (participants) into other assets and distribute them in a way controllable by him personally.

In combating formation and operation of pyramid schemes, the possible role of financial and non-financial institutions might include:

- Disclosure of financial flows, their directions, volumes, dynamics, and participants within the schemes;
- Exchange of information between themselves and dissemination of information to competent public authorities on potential schemes;
- Building public awareness, based on the national and international experience, by spreading "anti-propaganda" among the members/ potential participants of the schemes.

[7] Article 178 of the Criminal Code of the Republic of Armenia
[8] Article 188 of the Criminal Code of the Republic of Armenia