

# **A Math Oriented Value Investing (MOVI) Methodology**

Broad Investments, LLC

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## Abstract

*The traditional value investing has been well known by many investors and the gap between stock value and price is small. That reduces the investment return rate tremendously for the traditional value investors. In this white paper we represent a Math Oriented Value Investing (MOVI) methodology. MOVI focuses on investing into companies that are armed with deep mathematics knowledge which makes them the actual monopoly in their business areas for a long time. We tested and verified the MOVI and it beats the general stock market by a decent percentage.*

*Most available paid or free investing advice nowadays is provided by people who own only financial knowledge without deep industrial knowledge, especially in technology world. We believe financial analysts who have both financial and industry knowledge can provide much better investing advice. In this paper we present a MOVI based Artificial Intelligence Driven Financial Analysis system (MOVI-FA). In the system the financial analysts know both MOVI financial knowledge and deep math based technology, the target stocks are a group of MOVI selected candidates, and the advice is powered by a well-trained Artificial Intelligence model.*

*The people especially low income people all over the world usually don't have access to investing into the elite companies that are mostly located in the United States. The MVI-COIN which is ERC-20 based cryptocurrency will serve as a bridge that allows people all over the world to indirectly invest into the most cutting edge and most profitable companies in this world. We hope this will provide a fair investment environment to all the people, and also reduce the wealth gap between the poor and the rich by providing the poor with an opportunity to invest into MOVI selected companies.*

## Disclaimer

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## Why Invest in MVI-Coin?

1. To achieve great investment return.
2. To invest indirectly into the most valuable assets/companies in the United States.
3. The MVI system is already in running stage. It is not only a concept. If you purchase the MVI coin today, your money will be invested into the MVI systems today, immediately to increase your coin value.
4. To become part of the first decentralized investment system powered by block chain technology.
5. To invest the Physical Assets backed crypto currency with great intrinsic value.
6. To become a partner of Broad Investments, LLC.
7. To invest into a coin exchangeable all over the world.
8. To invest into a coin/business that will offset inflation by a decent margin.
9. Help to connect cryptocurrency world to the real world
10. To help to reduce poverty of all over the world

Please refer to the later section for details in this white paper: [Why Invest in MVI-Coin? \[Details\]](#)

## Problem

1. Value investing has been a well-known methodology to get high reward by investing in stocks. But as more and more people learned the methodology, there are less and less opportunities on the stock market for investors to find big gap between company values and stock prices. Traditional value investing doesn't give high rewards any more as in old days. For value investing knowledge, please refer to [1], [2] and [5]. The world is calling for a new generation value investing methodology.
2. Most people all over the world won't have a convenient way to invest the most valuable companies in the United States like Facebook or Google. Investing (equal to doing business) is the only way to make a person rich, and is the only way to differ low income people from the rich capitalists. Without a proper channel to invest the most valuable assets of the world, the elite US companies, the difference of wealth between the poor and rich will become bigger and bigger, which is dividing our world. The world should give the low income classes around the world the equal opportunity to become rich as it gives to the rich.
3. Most of the financial advices (if not value based) in current days are not helping investors make profits at all. Most of the time the investors will be lucky if such advices are not helping them to lose money. The world needs a better, working financial advising service.

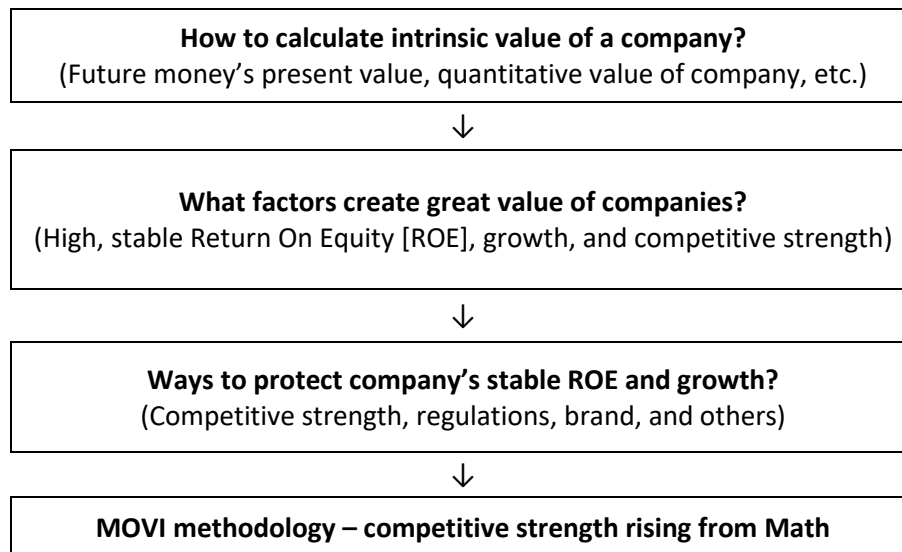
## MOVI: The Solution

Here we present a new generation value investing methodology, **Math Oriented Value Investing (MOVI)**. In this method we focus on investing in stocks of companies that implant Cutting Edge Math knowledge deeply into their products and services, which leads them to a world that either (1) they don't have any competitors in their industry at all, or (2) they are the absolute leader in the industry and no other

competitors can get even close to them. Currently such companies that we can find are usually in the United States in Information Technology or Biology industries.

This section will try to fully describe the details of MOVI. Please read through it and fully understand it before you decide to share our vision and invest into us.

Here is a flow of knowledge for you to fully understand the MOVI methodology.



### How to calculate intrinsic value of a company?

The intrinsic value of a stock (or a business) is the **discounted** value of the cash that can be taken out of the business during its remaining life. [5]

First let's use an example to introduce the concept of "**future money's present value**" to help to calculate the discounted value. Let's say you have \$1 today, and you invest it in the bank (or government bond) for interest, with interest rate of 3%. Ten years later your money becomes  $\$1 * (1.03^{10}) = \$1.34$ , with a compound accumulation at an annual rate of 1.03. That means, based on interest accumulation, your money \$1.34 in ten years later is equal to your money \$1 in present day. A further step, \$1 in ten years later will translate into  $\$1/1.34 = \$0.75$  in current day. The \$0.75 is the future money (\$1)'s present value based on the bank interest rate or government bond yield of 3%. That value of \$0.75 is the so called **discounted** value as it is actually discounted by the **interest or bond rate**. Please note the example is a simplified one. The bank interest or bond rate is changing all the time. And in the real calculation you better use the higher one between interest rate and bond rate. [5]

After clarifying the concept of "future money's present value", you can use it to calculate intrinsic value of a stock or business (total future cash you can take out from it). Here are steps to calculate the value.

- 1) Let's company A's future annual **dividends** in its remaining life is  $D_1, D_2, \dots, D_n$
- 2) The discounted value (to present date) is  $DD_1, DD_2, \dots, DD_n$

Then the stock's (intrinsic) value is  $DD_1 + DD_2 + \dots + DD_n$ .

Here we will use company's earning to replace the dividends. The reason for that is once a high-growth-rate company becomes big enough and growth rate slows down, the company will start to distribute

dividends. An example of this is Apple, Inc. When that happens, the free cash flow accumulated during its growing stage will all become candidate of dividends. The actually value calculation will be adjusted based on dividend rate. [5] (page 20). To be simple we will use **earning** when calculating the company value.

The above definition also explains why the stock values and prices are decreasing when bank interest rate and bond yield increase.

The MOVI method is focused on looking for stocks with big difference between the intrinsic value and the stock price. We buy when the difference is big and sell when the value increase is stable and matches the stock price.

### **What factors create great value of companies? Return on Equity (ROE).**

From the intrinsic value calculation we can infer that for a company to be able to create great value, it must be able to generate strong **free cash flow** for the long term. The free cash flow is usually used for (1) dividends, (2) stock buyback, or (3) reinvest into the business. 1 and 2 are obvious to increase stock intrinsic value on per share basis. 3 works well only if the reinvested capital can generate corresponding enough free cash flow.

**The key to be able to generate strong free cash flow is that a company can (1) keep a stable high Return On Equity (ROE) and (2) keep growing its sales.**

Growing sales is important for an obviously reason. It is a helpful but not necessary factor. The most necessary and important factor is the ROE. Why?

[5] (page 8) describes in detail why the ROE is the core factor to generate great value of stocks. Here are some brief points.

*For basic knowledge of Financial Statements (Balance Sheet and Income Statement), please refer to [5] page 33, "Balance Sheet and Income Statement".*

Shareholder's Equity = Assets - Liabilities

Return on equity is defined as net income returned as a percentage of shareholders equity.

**Return on Equity (ROE) = Net Income/Shareholder's Equity**

Why is ROE so important to the business? With right capital structure (assets and liabilities), high ROE will help a business to overcome the side effect of inflation and further, it will help a business to grow without requesting too much funding.

Let's use a simple example to show how the ROE plays an important role. Let's say we have two companies, A and B. Company A's ROE is 10%, and Company B's is 50%. None of them has any debt. That means Company A can use \$100 million of its equity to make \$10 million profit, and Company B can use \$20 million to make \$10 million profit. Let's say the inflation rate becomes 100%. In order to make profits with the same purchasing power, the companies has to make \$20 million profit to make even considering the inflation rate. To make the \$20 million, Company A needs additional \$100 million fund as additional equity to support the additional \$10 million profit to offset the inflation. If Company A



doesn't want to issue debts, then it needs to save the money from early years' profits to provide the necessary fund, while these profits could be distributed to stake holder as dividends or used to repurchase stocks otherwise. You will see low ROE is actually eat up some of the stock holder's money to just offset the inflation. While for the company B, it needs only additional \$20 million instead of \$100 million to make the \$10 million profit to offset inflation. It can save a small amount of its previous years' profit (1/5 of Company B's) as the funding and distribute most of its profit to stock holder as dividends (or repurchase some stocks). Obviously Company B has less funding pressure than Company A when offsetting the inflation, and will send more cash flow to the stock holders.

Same things happen when both companies start to grow its earnings. Let's say both company want to grow the earnings 10 times for a certain years, which is the case we are looking for in a great investment. For Company A, to make 10 times profit it will needs 9 times extra equity fund ( $9 \times 100 \text{ million} = \$900 \text{ million}$ ) to support that. For company B, it also needs 9 times equity fund which is  $9 \times \$20 \text{ million} = \$180 \text{ million}$ ). If they don't issue debt to support the growth, Company A will need to save \$900 million to support its growth, and Company B needs to save \$180 million to support growth and uses the extra \$720 million as dividends or for stock buyback.

Here is a simple illustration.

Company A (ROE = 10%)	Company B (ROE = 50%)
↓	↓
To make \$10 million profit, Company A needs \$100 million Equity (\$10m / \$100m = 10%)	To make \$10 million profit, Company A needs \$20 million Equity (\$10m / \$20m = 50%)
↓	↓
To offset inflation or to grow, <b>Company A</b> wants to make \$20 million profit.  To do that, A needs <b>\$100</b> million to support the profit increase.	To offset inflation or to grow, <b>Company B</b> also wants to make \$20 million profit.  To do that, B needs <b>\$20</b> million to support the profit increase.
↓	↓
<b>Company A</b> has to reserve <b>most</b> of previous years' profits to offset inflation or for future growth.	<b>Company B</b> only needs to reserve a small part of previous years' profits to offset inflation or for future growth.  In this case, the \$80 million (\$100m-\$20m) becomes extra <b>free cash flow</b> and is ready for dividends and stock buyback.

From the above example, you will see how important the ROE is. Higher ROE helps to overcome inflation, helps to grow profits, and helps to increase cash flow available to shareholders. In the meantime, the same amount of cash reserve in different companies with different ROE may have different meanings. In a higher ROE company the cash reserve is usually mostly available for distribution to shareholders or stock buyback. In a lower ROE company the cash reserve may have to be restricted to be used for offsetting inflation or for growth.

In the real world, high ROE companies are usually cutting edge high tech companies or the ones with strong brand or regulatory “monopoly” strength. Later you will see that MOVI is mainly targeting at the Math backed cutting edge high tech companies.

**Important:** ROE analysis is actually a very complicated process. We found that the traditional ROE values provided by many financial advising firms cannot reflect the real value of a company because of all type of noises in accounting system. We have our own analysis process. Here we are focused on high ROE with the following characteristics.

1. Almost no tangible asset (other than real estate) needed for operation purpose
2. High return on necessary operation fund
3. The firm can use its “soft” assets (advanced math/technology, long term patent) to generate enough cash flow.

### Ways to protect company’s stable ROE and growth?

Since high stable ROE is the key to create great intrinsic value for stocks, what will help companies to achieve high ROE? Here is partial list from [5], page 10, “What creates high ROE?”.

1. Strong brand
2. Monopoly position
3. Business with high efficiency of research and development of new products continuously

### MOVI methodology – competitive strength rising from Math

We derived a new methodology based on no. 3 of the above list, the Math Oriented Value Investing (MOVI) methodology. It is based on the following observations we have.

1. Mathematics is the most difficult science. Only some people with very special talent can go very deep into it. **There are some places where if you can go there, you will find few or no people are there.**
2. When such mathematics is applied to the real world via some channel, it usually generates great value by creating some new service or products that don’t exist before, and no one else can reproduce. The channel is the small group of talented people that hold the mathematics knowledge.
3. The companies with math based products and services don’t need any tangible asset to operate. The only valuable asset is the math knowledge and the employees who own the knowledge. That will help to achieve high ROE and business growth rate. For companies with heavy tangibles (for example, manufacturing facilities, hardware products), the tangible cost is usually very high and the hardware based inventory is always hard to manage during economic depression.
4. The deep knowledge of mathematics is a hard to obtain. The human resource is usually very limited in this area. That helps the Math based companies to keep their competitive strength for very long time, which help to protect the stability of high ROE.

5. The development of mathematics science has never been close to an end. There are so many areas waiting to be explored and so many opportunities that it will change the physical world. Plus, with more and more women joining into the math world, it will open us with a new era of math knowledge.
6. The majority of advanced mathematics academy organizations are located in the United States. The US also brings almost all the most talented mathematicians from all over the world to the US. That helps to create many cutting edge Math based companies in US. There are some other competitors in other countries that seem to have similar math based products/services, but the deepest part of the knowledge is actually very different, and therefore the long term competitive strength is different. We mainly focus on investing in US companies.
7. Keeping most talented employees armed with Math is the key to make a company to be in investment quality. Usually after years development such type of companies will start to lose their best employees to the NEXT, STRONGER companies (competitors). That is the time to sell the stocks and invest to the STRONGER. That means, we always invest in the **STRONGEST** companies.

Currently when we implement the MOVI, we find out that most companies meeting our criteria are in either **information technology or biology** industries. Biology is a more complicated field to do financial analysis and we will try to avoid as much as we can. We mainly focus on information technology companies where all type of mathematics theories and applied computer algorithms are applied by most talented employees to keep changing the physical world.

Historically there are some examples of such type of companies.

- IBM used its math based knowledge to develop all type of unique products kept growing for almost 80 years.
- Microsoft uses its computer software technology to return its stock holders 42200% in only 28 years (from 1986 to 2014). Its Windows and Office products were in the market where no one else was in there for many years.
- Google and Facebook created exploding growth and values by simply applying **GRAPH** theory to the web (web graph) and to the relationship among people.

As long as the most talented people keep applying the mathematics to the physical world, such type of companies will keep appearing and that will present us with precious investment opportunities.

### Investment Practice

We divide our investment fund into two groups. Both groups are MOVI based.

- Group 1: 95% of the investment fund will be invested in large sized companies.
- Group 2: 5% of the investment fund will be invested in a venture investment mode. The target companies in this group will be small ones with higher growth expectation and higher risk. (we may reduce the venture mode and remove it when necessary)

Although the MOVI needs some deep technology and investment knowledge, once you have those, the practice process is actually very easy.

We practiced the methodology for several years and the result is very positive, beating the general market (NASDAQ) by a decent percentage. On October 2017, we officially deployed our fund to Broad Investments, LLC. During October 2017 to January 2018 (four month period), the MOVI performance

beat general market by 47%. **PLEASE NOTE that the performance history DOES NOT guarantee the same performance in the future.**

The following screenshot is from our account on Scottrade. To protect our trade secret, we cannot release the stocks that we are holding. The detailed fundamental analysis for each stock will be released one by one on our website. Please note that we have a policy that any stock we purchased will be kept for at least 3 years. We will keep a purchased stock as long as it still meets our investment criteria.



Positions <a href="#">Edit</a>			
Symbol	Mkt Value	% G/L ▼	Total G/L \$
	35,061.00	+42.92	+10,528.50
	3,770.00	+39.79	+1,073.15
	1,377.95	+39.68	+391.45
	29,520.00	+38.55	+8,214.10
	3,312.00	+31.23	+788.13
	10,635.75	+28.43	+2,354.70
	2,125.44	+23.21	+400.32
	29,626.50	+22.42	+5,426.16
	22,237.03	+19.09	+3,564.67
	11,720.00	+18.99	+1,870.44
	671.28	+17.07	+97.88
	3,650.85	+15.58	+492.00
	663.30	+13.33	+78.02
	5,799.50	+11.38	+592.77
	9,914.80	+9.05	+823.19
	36,558.60	+8.97	+3,009.88
	1,335.00	+7.29	+90.73
	1,197.77	+5.40	+61.39
	5,077.80	+0.35	+17.70
	1,012.92	-3.82	-40.23
	6,870.00	-3.83	-273.40
	140.85	-54.12	-166.14
Total Mkt Value: <b>\$222,278.34</b> Total Mkt Chg (\$   %): <b>0.00%</b> Portfolio G/L (\$   %): <b>21.54%</b>			

### MOVI Based Financial Analyst Recruitment Process

As we will keep looking for companies that meet MOVI standard to invest, we will need to recruit quality MOVI Financial Analysts. All the financial analysts will be from the mathematics/applied computing background and have DEEP knowledge on math and applied computing science. Ideally the candidates are scientists/researchers from the top 3 universities in academic world or engineers/researchers from top 3 companies in industry. Specifically, the candidate should be familiar with the following areas and be able to answer related questions. (If the candidate is from software world, he should be able to code some of the questions.)

1. Basic and Advanced Mathematics
2. Number Theory
3. Probability and Statistics

4. Game Theory
5. Geometry
6. Quick math problem solving ability
7. Data Structure in Computing Science
  - a. Basic data structures (array, linked list, stack, queue, binary tree, BST, heap, hash table, matrix, graph, LRU cache, etc.)
  - b. Advanced data structures like XOR linked list, skip list, segment tree, interval tree, prefix tree (trie), suffix tree, suffix array, balanced BST, K-Dimension tree, spatial tree, decision tree, etc.
8. Algorithm in Computing Science
  - a. Basic: Complexity, searching and sorting (15+ sorting algorithms), geometric algorithms (Jarvis wrapping, Graham scan, etc.), greedy (Kruskal, Huffman, Prim, Dijkstra, job scheduling, etc.), dynamic programming (examples in graph theory), bit algorithms, basic graph algorithm (BFS, DFS, cycle detection, union find, shortest paths, topo-sort, minimal spanning tree, etc.), divide and conquer, recursion, backtracking, basic pattern search.
  - b. Advanced: Pattern search (KMP, Finite Automaton, Rabin Karp, Z-Algorithm, etc.), graph algorithms (Bellman Ford, Floyd Warshall, articulation points, bridge, Eulerian and Hamiltonian cycles, bi-connected and strongly connected components, transitive closure, Tarjan's, graph coloring, MaxFlow-MinCut, Bipartite matching, Ford-Fulkerson, etc.)
9. What papers did you publish? What's your research area?
10. 3 examples of graph usage in real life (other than well-known examples like traffic, telephone network, power network, etc.) – innovative ideas expected

It doesn't matter if a candidate has financial knowledge or MOVI knowledge or not. We will provide training for that area.

Why we use this way to recruit financial analysts? We firmly believe that only people with deep knowledge of Math can provide accurate analysis on the company's business characteristics (the ability to convert math into real world product and service, the degree of difficulty to create such product and service from the math knowledge, how many people are able to do it, etc.). We DO NOT trust any other type of financial analysis on math base companies.

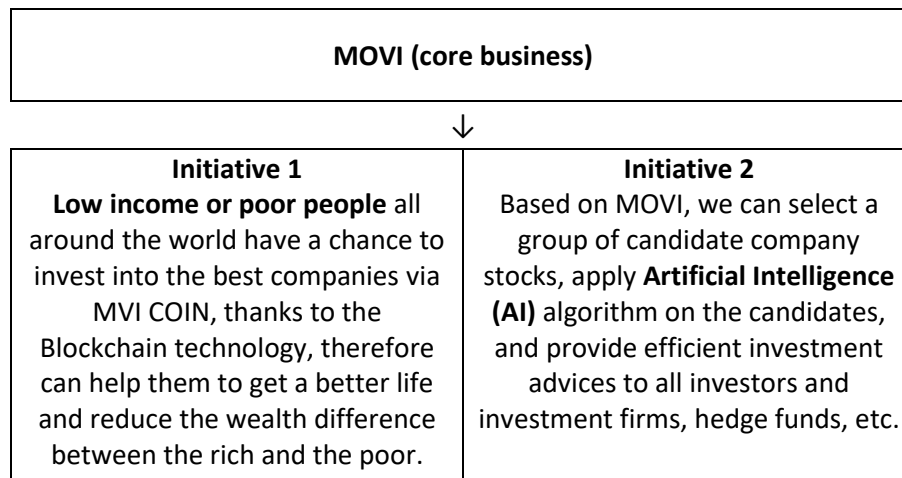
## MVI Coin

MVI COIN is issued on behalf of Broad Investments, LLC (Company). It is an equity coin and each coin represents a share of the Company. It is based on ERC-20 standard and any Ethereum wallet is able to hold the coins. For details please refer to the later section [MVI COIN Details](#).

Our contract address is [0xd03c72f57d3659478e0a20b85264fe0d4d12cd4c](https://etherscan.io/address/0xd03c72f57d3659478e0a20b85264fe0d4d12cd4c).

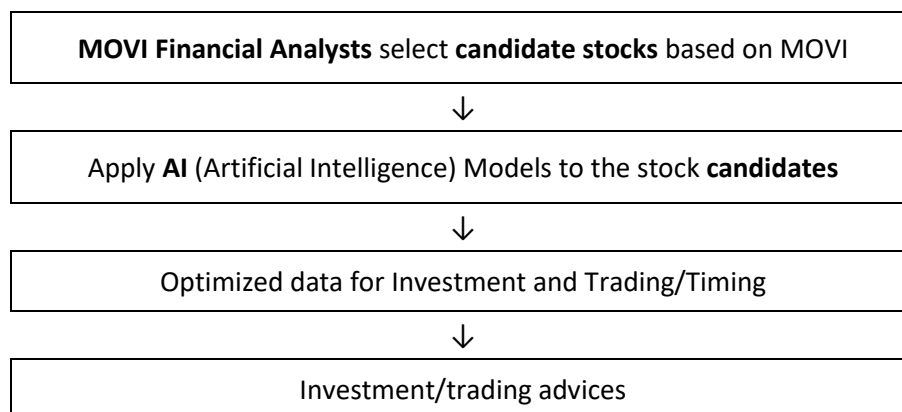
## Beyond Investment

MOVI is our core business. By investing into the best companies in the world we will keep increase the intrinsic value of our company and our MVI COIN. Beyond that we have two more business initiatives.



Initiative 1: We hope that by purchasing the MVI coins, the low income and poor people all over the world will gain the opportunities to invest in US's best quality companies. And we hope that will help them to improve their life quality. As far as details how that will work out, we will figure out a plan down the road.

Initiative 2: **AI (Artificial Intelligence)** is a new math branch that is changing the world from all perspectives. It is a very useful tool for financial analysis. We will develop an MOVI Financial Advice (MOVI-FA) system that is combining MOVI and AI together.



We will keep updating our website <http://www.movi-invest.com> for investments knowledge.

## Broad Investments LLC

The Broad Investments, LLC is initially registered in the Washington state of the United States <https://www.sos.wa.gov/corps/> as an investment club. The company was established in 2011. It is officially used from 10/2017 when we start to move fund into it after we tested and verified that the MOVI is working as we expected. Currently it holds stocks and cash worth of around USD \$222,000.

## MVI-Coin is Backed By “Growing Cash” and Increasing Intrinsic Value

The MVI-Coin represents the shares of Broad Investments, LLC. The coin holders also own the corresponding shares of the company and all its assets (cash, stocks, and any assets owned by the company). We believe that the Math Oriented Value Investing (MOVI) will keep increasing the cash (and equivalent) of the company for the long term. The intrinsic value and the earning power of the company are based on the amount of the cash equivalent and the MOVI. With the increasing amount of cash equivalent, the intrinsic value of the company will keep growing if MOVI works as we expected.

## Why Invest in MVI-Coin? [Details]

### 1. To achieve great investment return

The MOVI methodology has been tested for more than 3 years and produced excellent results, **beating the market by a decent percentage**. The methodology doesn't come out for free. It actually takes much knowledge than you could image. To develop the MOVI, the creator has to study all the following literatures [1] The Intelligent Investor [Benjamin Graham], [2] Warren Buffett's Letters to Stock Holders [Warren Buffett], [3] Security Analysis [Benjamin Graham], [4] Common Stocks and Uncommon Profits [Philip Fisher], [5] Investment 2+3 Methodology – [Broad Investments], [7] Introduction to Algorithms [Cormen] for many times and practice for a long time. In addition the creator has to possess deep knowledge of Math, computer algorithms and industrial professional experience in leading technology companies. That provides strong competitive strength which makes Broad Investments, LLC a very unique company. We believe the MOVI implementation will bring Broad Investments with tremendous growth opportunity. By investing into MVI-Coin you are also growing your wealth together with Broad Investments.

### 2. To invest indirectly into the most valuable assets/companies in this world

The MOVI-certified investment grade companies are the companies that are either the monopoly technically in their industry or area, or the absolute leader that no other company can match. For short, **such companies are in a special dimensional space of their own where no one is in**. That will ensure they can stay there for a long time to reap every good things there for themselves. From our experience, such companies are mostly located in the US, for good reasons.



The MVI system is already in running stage. It is not only a concept. If you purchase the MVI coin today, your money will be invested into the MVI systems today, immediately to increase your coin value.

**3. To become part of the first decentralized investment system powered by block chain technology**

The MVI coin will be the first decentralized investment system that touching the whole world through the block chain technology. The brain of the company will be located in the United States, and the whole investment network will reach to and benefit every corner of the world via block chain. The power of the block chain technology is far from fully released and what it can bring to the MVI coins is yet to be measured.

**4. To invest the physical assets backed crypto currency with great intrinsic value**

The MVI coin is fully backed by the real world most valuable physical asset, a group of cutting edge high-tech companies operated by the most intelligent people selected from all over the world. Broad Investments owns a group of elite companies that guide/lead the world and change the world to a better place. If ever such a GREAT depression happened so that all the companies got bankruptcy, they are the ones who are surviving to the last minute. With such a group of smart people working hard for you day and night, the only thing you need to do is celebrating that you are lucky.

**5. To become a partner of Broad Investments, LLC**

We are thinking how you feel when you invest into MVI Coins as we were in your position. We only do things if we like it if we were you. That's why we like to treat you as partners, and we like you treat us as partners too. We believe that will benefit all of us for the long term.

**6. To invest into a coin exchangeable all over the world**

The MVI coin will be exchangeable in multiple exchanges. It can be easily exchange into US dollars, other country currencies, or other cryptocurrencies.

**7. To invest into a coin/business that will offset inflation by a decent margin**

The MOVI methodology has been proved that the return on investment beats the general market with a great margin. It can easily offset the inflation that is imposed by the governments all over the world. Even in the United Stated, the Expansionary Monetary Policy [5](page 1) ensures that the yearly inflation rate stays stable at 2% - 3%. Considering the doubling of the government debt during the famous 8 years (2008 to 2016) that grows from 10 trillion to 20 trillion, you can feel the effect of inflation on all aspect of your life, including price increasing of both residency houses and food. MVI coins will be able to protect the purchasing power of your money for the long term.

**8. Help to connect cryptocurrency world to the real world**

The cryptocurrency is often called a virtual world of its own, without touching the real word. The MVI coins open a door to the real world for the cryptocurrency, and let the real world open a door

to the cryptocurrency. Basically the real world people can purchase the MVI Coins (cryptocurrency) which owns real world stocks/companies who are changing the world. The MVI coins are as a channel and communicator between the real world and cryptocurrency world.

#### **9. To help to reduce poverty of all over the world**

The MVI Coin serves as an agent for us to apply the MOVI methodology to the whole world (not only the United States). By purchasing MVI coins the poor people from all over the world can indirectly own the stocks of the most cutting edge companies in this world. We believe that will help them to get a better life, and shrink the gap between rich and the poor. How to get the MVI coins into the poor people remains a challenge for us all. We are open to all ideas here.

#### **10. MVI coins will be used by investment firms to purchase MVI based Artificial Intelligence driven financial analysis service**

After the MVI based AI driven financial analysis service is released, the investment firms that use the service will use MVI coins to purchase the subscription based service.

### **Formalized Company Development Route**

In investment world the Return on Investment (ROI) favors the long term investments. That is a firm belief we insist.

After the initial funding stage is done, we will work with attorneys to formalize and enforce the company investment process.

1. We don't sell a stock that we hold for less than 3 years, for any reason. If we made a mistake, we take the mistake and learn from it.
2. We don't issue any debt at any time. Debt is not an option to us.
3. Every two years our investment committee will review the stocks owned by the company to decide selling or buying stocks. Fundamentally degraded companies will be sold and new candidates may be purchased. The committee don't have right to do any other operations.
4. Every time when the company's asset (stocks and cash) is doubled, the investment committed can consider raising some fund with the newly evaluated corporate value. The process should be reasonable to both existing and incoming coin/stake holders. This process should stop at some stage when the company's asset grows large (half of the largest company on open market).

Any operation from the management team and committed that breaks the above rules will be considered as breaking the law in our company and will be responsible for consequence. The process will be performed and enforced by the help of two groups of lawyers. By enforcing the above process, we ensure the company RUNS ITSELF on a healthy track, immune from human factors. It will run itself by LAW, not by any management team or committee. Whenever our MOVI methodology works, the company should grows by itself for many years.

## Our Competitive Edge

There is no investment team like us in this world. We are unique.

1. We are a group of people who own the deep knowledge of Math and Computer Algorithms, and we have professional experience in the top 3 technology companies in this world who applied the deep knowledge into products and services to change the world. We value math-powered technology and we go deep into it, believing it will lead us to a world that nobody has ever been, give us absolute competitive strength, or give us a world that there is no competition at all.
2. We know company **value** from quantitative perspective, specifically deep to math level. We know what creates great value companies and we can use our deep math knowledge to identify such companies accurately. Without the math knowledge and professional experience, we don't believe an accurate analysis can be made on a company, especially a high-tech company.
3. We promise, we move fast, and we deliver. Those are embedded into our gene.

## How to Contribute in the MVI Coins?

We provide various ways for you to contribute. We are launching Initial Coin Offering (ICO) for fundraising including Pre-ICO. Here is a detailed description of how to start getting involved with the MVI system.

## MVI COIN Details

MVI COIN will be issued on behalf of and backed by Broad Investments, LLC (Company).

1. It is an equity coin and each coin represents a share of the Company. That means if you own a MVI Coin you own a share of Broad Investments, LLC. In this sense the coin has the same functionality of common stock.
2. It is based on ERC-20 standard. Any Ethereum wallet is able to hold the coins.
3. There will be total 1,000,000,000 MVI coins. All of them are pre-mined.
4. Currently Broad Solutions, LLC owns stocks worth of USD \$222,000 in the company's Scottrade account as of February 2018. Each coin contains about USD \$0.00022 cash (or cash equivalent). The per coin cash will jump to a much higher number after the ICO is finished and the ICO collected fund is injected into the company investment account during or after the ICO.

## Initial Coin Offering (ICO)

We are launching our ICO (Initial Coin Offering) on 16<sup>th</sup> April, 2018. The ICO will continue until 27<sup>rd</sup> May 2018. After that the token sale will be closed. In this phase, we will provide you with the information on the multiple exchanges available to trade your MVI coins on the day after public offering starts. The date might be adjusted.

- People who wish to support MVI-COIN will participate in the Pre-ICO or ICO by visiting our website <http://www.movi-invest.com>.
- During the Pre-ICO and the ICO sale, we will release 500,000,000 MVI coins. That is corresponding to 50% of the company shares.

- At the end of the ICO, each participant will receive MVI coins corresponding to the amount of Ether, Bitcoins or its value in US dollars they contributed.
- After the crowdfunding ends, the MVI tokens will be tradable on various exchanges where its value would be determined by supply and demand.
- 90% fund from the ICO will be used to purchase common stocks to increase intrinsic value of the company. 10% will be used for operation purposes.

Our ICO is based on Ethereum (ERC-20). We accept the following types of payment methods for you to purchase MVI coins during the ICO.

- a. Ethereum. You can contribute to the MVI token sale using MyEtherWallet or MetaMask.
- b. Bitcoin
- c. Cashier checks or certified checks

Please check out this [Purchase Instructions of MVI Coin](#) on our website to learn step by step how to purchase MVI Coins in Pre-ICO and ICO.

#### Notes:

- Do not send ETH directly to the MVI token sale **contract address**. Please follow [Purchase Instructions of MVI Coin](#) on our website on how to properly purchase MVI tokens.
- All Ether and Bitcoins transactions sent to MVI token sale are viewable on public Blockchain website. Most of the wallets you are using to transfer tokens will provide a link to the transaction on the public website.

### Coin Pricing and Bonuses (approximation and adjustable)

- Pre-ICO: \$0.03 per MVI Coin (16<sup>th</sup> April 2018 to 22<sup>nd</sup> April 2018)
- ICO Stage 1: \$0.4 per MVI Coin (23<sup>rd</sup> April to 29<sup>th</sup> April 2018)
- ICO Stage 2: \$0.5 (adjustable) per MVI Coin (30<sup>th</sup> April to 13<sup>th</sup> May 2018)
- ICO Stage 3: \$0.7 (adjustable) per MVI Coin (14<sup>th</sup> May to 27<sup>th</sup> May 2018)
- Coins will then be set at minimum purchase price of \$0.25 per MVI Coin
- Soft Cap: 1,000,000, Hard Cap: 15,000,000 (adjustable)

#### Token sales bonus:

Token Sold	Bonus %
0-100,000,000	6%
100,000,000 – 200,000,000	3%
200,000,000 – 500,000,000	0%

### Coin Distribution and Usage

#### Coin Distribution

- We aim to release a total of 50% MVI-COINS for initial coin offering.

- In the first phase, our marketing team would be conducting a Pre-ICO sale that will be available on the website.
- After the successful completion of Pre-ICO sale, we will be conducting the main ICO.
- The distribution during ICO will be as follows:
  - Pre-ICO and ICO sale: 50%
  - Incentives for employees: 10%
  - Organization: 20% - operation usage, investment
  - Co-founders: 20%

The MVI coin is backed by company's shares/ownership. There are already some existing cash and cash equivalent in the company provided by the co-founders. The co-founders will keep some percentage of the company shares/coins to keep a decision making right on investments. 10% of the coins will be reserved for company employees. 20% of the coins will be reserved by the company as cash equivalent reserve for investment and operation purposes.

### **Coin Usage**

90% of the fund from the coins sales will be reinvested into the investment account of Broad Investments, LLC to further increase intrinsic value for the coins using MOVI. 10% of the fund will be used to develop Artificial Intelligent powered financial analysis system based on MOVI model, MOVI-FA.

### **MVI Coins Price Big Increasing in Early Stage of Crowd Sales**

We like to clear an effect of the big increasing in the coin price after early stage of fund collection, especially after the Soft Cap is reached. It can be easily calculated. Currently the soft cap is decided to be \$1,000,000. The simple math here is after the initial soft cap is reached, 90% of the fund will be invested into the investment account immediately. The will increase our base fund and earning power (and therefore the corporate value) correspondingly. That is the basic reason why the coin price will have big jumps in the early stage of ICO. Actually such type of price jump would be happening during the whole process of ICO. The earlier the bigger the jump will be because the fund size is the smallest at the initial stage.

As of we are finishing the whitepaper, part of the Soft Cap is already booked. Those are our families and friends. Big thanks to their trust. The probability of the coin price early-stage jump is high. We just want to call it out here and don't want to give surprise.

### **Coin Buyback**

We have Coin Buyback program. At some stage we will consider coin buyback program. The condition will be the invested fund generated more value than the fund collected from coin price. If the coin price fluctuates to a lower price than we expected, we will start the buyback program. We will declare the details every time we start a buyback program.

At the early stage of ICO, the coin buyback is very simple. We hope you are happy with our coin offering. But if for any reason you are not happy, we can easily apply the coin buyback program to return your fund to you. Again we hope you love our company and our coin as we do.

## Roadmap

### MOVI State 1: Q2 2018

- Fund deployment into the MOVI selected company stocks
- Recruit financial analysts owning math knowledge with elite professional experience
- Create MOVI training plan to train the recruited analysts with investing knowledge

### MOVI State 2: Q3 2018

- Create a detailed investment plan based on MOVI
- Create LAW-ENFORCED investment process by working with attorneys
- Create a list of candidates based on the MOVI plan
- Start the Artificial Intelligent drive Financial Analysis MOVI system (MOVI-FA)

### MOVI State 3: Q4 2018

- First release of MOVI-FA system
- Work with industry AI leaders to jointly market the MOVI-FA system
- Create course to train the MOVI-FA users how to benefit from the system.
- Develop and train agents around world to deliver the expand the MOVI-FA system

### MOVI State 4: Q1 2019

- Develop course to explain how the MOVI works
- Develop agents to deliver the course to all over the world to increase MVI coin adoption

### MOVI State 5: Q2 2019

- Second release of MOVI-FA system with broad candidate stock base
- Increase user base of MOVI-FA system to main stream investment firms

## Our Vision

We believe in that advanced knowledge creates great value for companies. Especially we believe that the exploration and usage of advanced mathematics creates huge values for companies. We researched and profiled the companies in history and achieved solid proof of our belief. Based on that, we developed a new investment approach, the Math Oriented Value Investing (MOVI) methodology.

With our tested and verified MOVI methodology, we are bringing a new generation value investing concept and approach to the investment world. We believe in the methodology and are working on a plan to make it benefit us, you, the investors, and people all over the world. Powered by the block chain technology based MVI coins, we allow people all over the world, poor or rich, to gain access to investment on the world's most profitable and valuable companies. We hope that will shrink the wealth gap between the poor and the rich people, creating a fair investment environment.

The **MOVI selected** investment candidate stocks also present a valuable platform on which we can perform further financial analysis by leveraging the advanced Artificial Intelligence technique. We believe that will provide an efficient, accurate advising system to investment firms.

If you have the same belief with us and share the same vision, you are welcome to joining us on investing into the MVI coins, to making yourself rich, to make the poor rich, and to make a better world for all of us!

## Our Commitment to Our Investors

We always treat our investors the same way as we treat ourselves. Whatever step we go and whatever decision we make, we will make sure it is to the best interest of our investors (partners) and therefore to ourselves. We believe that integrity is the most important character we value in order for all of us to work together, grow together for a very long term. We welcome all types of frank feedback and suggestions.

## Team

### Guoyong (Michael) Liu, CEO, Chief Financial Analyst

Guoyong is a Software Engineer in **Microsoft**, focused on research of advanced math and computer algorithms to improve Microsoft products and services. On the other hand, he did deep research on the value investing theory and implementation. He researched all the literatures on equity investments, especially [1] *The Intelligent Investor* [Benjamin Graham], [2] *Warren Buffett's Letters to Stock Holders* [Warren Buffett], [3] *Security Analysis* [Benjamin Graham], [4] *Common Stocks and Uncommon Profits* [Philip Fisher], and published a series of articles on Seeking Alpha (<https://seekingalpha.com/user/40285526/>) on his early stage investment methodology "Investment 2+3".

He extracted the most valuable parts from the literature, removed the obsolete sections that don't apply to the current days, and combined the theory with his advanced Math knowledge to create a new generation investing approach: Math Oriented Value Investing (MOVI) methodology.

"A working investment methodology is like a glowing gem, it is so obvious that once you found it, you clearly know that you found it. Before that you are in the dark. Investment world is all-or-none: you either make a lot or lose a lot. There is no middle place you can stay." MOVI is the go.

Guoyong Liu is graduated from Harbin Institute of Technology with a Bachelor Degree in Mechanical Engineering and from Colorado State University with a Master Degree in Computer Science.

### Jiawen Chen, VP of Investments, CFA, FRM

As a former Vice President and Senior Quantitative Strategist of **Goldman Sachs**, Jiawen has excellent Investment Risk Management skills and brings a lot of precious investment experience to the table. He is

a solid leader who successfully follows through team goals and expectations. He is energetic and results focused with success in developing and leading diverse teams to achieve outstanding results and provide direct commercial value to their organization. He is a charter holder of Chartered Financial Analyst (CFA) and Financial Risk Manager (FRM).

He graduated from Case Western Reserve University with a Master's Degree in Finance.

### **Fei Zheng, Chief Architect**

With his experience on developing one of the main search engines in the United States in **Microsoft**, Fei has strong background of deep learning, AI (Artificial intelligence), big data and architecture of large scale systems. With his deep math and algorithms knowledge, Fei has a tracking record of delivering large scale system on schedule, scope, and with quality.

Fei graduated from University of Minnesota with a Ph.D. degree in Electrical and Computer Engineering.

## **Risk Factors**

**Please read this section carefully. Without this section, all previous sections will be of no value!**

Stock market **IS GOING TO** crash someday in future days when economic depression comes. There is absolute no doubt about that. When that happens the prices of stocks we are holding are going to drop, sometimes a lot. We expect it may drop 50% at some worst cases. It is not that it could happen, **IT IS GOING TO HAPPEN**. We will have to be prepared financially and psychologically.

When that happens, the elite stocks we hold will see their profit decrease, probably will lay off employees, and people will get panic. During that period we still firmly believe that the long term stock value remains strong and we will hold the stocks throughout the depression. **WE WON'T SELL STOCK**. In that case we expect that our stock prices will go back to historically high in 2-3 years because of the math-power and no-tangible-asset factor. Again, we will hold through the depression.

## **Conclusion**

This is more than a white paper. It layouts the big vision we have for the future of our company, and the steps we are taking to go into the future. We hope you enjoyed the reading. If you share our value and vision, believe in MOIV, you are welcome to be part of us!



## References

- [1] The Intelligent Investor [Benjamin Graham]
- [2] Warren Buffett's Letters to Stock Holders [Warren Buffett]
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- [7] Introduction to Algorithms [Cormen, Leiserson, Rivest, Clifford]