

# Joint Stock Company with Variable Capital (JSCVC)

Bijan Bidabad<sup>1</sup>

## Abstract

**Purpose:** Financial sharing funds and banks necessitate that their capital and number of shareholders be instantaneously variable. Legal personality and accounts clearing of this type of corporations are to be different from conventional companies. This is why Joint Stock Company with Variable Capital (JSCVC) is proposed.

**Design:** JSCVC is a corporation in which capital and shares of shareholders vary by new entrance or withdrawal of shareholders at any point of time.

**Findings:** Interest rate based calculations was removed and Rastin Sharing Accounting was applied for JSCVCs. Shareholders of JSCVC share the company's nominal capital proportional to nominal values of their shares. Financial outcome of JSCVC is proportional to values of shares weighted by shares duration of participation.

**Research limitations:** To prevent spoiling of shareholders' rights, legal procedure of issuing shares for JSCVC should be defined in compliance with domestic commerce laws in any country.

**Practical implications:** JSCVC can be used by majority of investment funds, credit unions, saving and loan associations, pension and provident funds, thrift saving plans as well as Islamic banks and financial sharing activities. In JSCVC, deposit at bank is treated as share of company.

**Social implications:** JSCVC has fair profit distribution and accounts clearing arrangements.

**Originality:** Different variable capital companies have been defined in many countries' laws, but essential modifications are presented in JSCVC definition to regulate financial sharing arrangements and bank's performances.

**Category:** Technical paper.

**Keywords:** Variable Capital Company, Rastin Sharing Accounting, Rastin PLS Banking, Pension Fund, Mutual Fund, Saving and Loan Association, Credit Union.

## 1. Introduction

Change of assets of a company is a nature of financial institutes. Change of capital and the number of shareholders of conventional Joint Stock Companies are due to specific formalities established by Commerce Law and are not so easy to be done repeatedly in small periods of time. For having quick varying capital capability, new legal institution should be defined. To cover this shortage, we define Joint Stock Company with Variable Capital (JSCVC) which can prepare the necessary background for financial Profit and Loss Sharing (PLS) and other financial sharing (*Mosharekah*) activities.

Generally, similar type of companies has legal founding in laws in some countries. For example, AGmVK<sup>2</sup> in Germany, SICAV<sup>3</sup> in France<sup>4</sup>, Spain<sup>5</sup>, Italy<sup>6</sup> and Malta<sup>7</sup>, ICVC<sup>8</sup> in U.K. and OEIC<sup>9</sup> in United

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<sup>1</sup> Dr. Bijan Bidabad is Professor of Economics and Chief Economic Advisor to Bank Melli Iran.

[bidabad@bidabad.com](mailto:bidabad@bidabad.com) <http://www.bidabad.com>

<sup>2</sup> Aktiengesellschaft mit Veränderlichem Kapital

<sup>3</sup> Société d'Investissement à Capital Variable. SICAV is an acronym for, French or Italian which can be translated as "Investment Company with Variable Capital".

<sup>4</sup> Société d'Investissement à Capital Variable

<sup>5</sup> Sociedad de Inversión de Capital Variable

<sup>6</sup> Società d'Investimento a Capitale Variabile

<sup>7</sup> Companies Act (Investment Companies with Variable Share Capital) Regulations. Subsidiary Legislation 386.02

<http://www.justiceservices.gov.mt/DownloadDocument.aspx?app=lom&itemid=10491>

<sup>8</sup> Investment Company with Variable Capital (ICVC)

States are more or less of this type. The latter is a kind of investment fund operates according to the Investment Company Act<sup>10</sup> approved in 1940.

Laws of each country have special fineness for companies with variable capital according to particular conditions. Elimination of interest rate and Rastin Accounting System<sup>11</sup> are considered in defining JSCVC in this paper to fulfill the operations of financial sharing.<sup>12</sup> Islamic banks also require sharing arrangement to fulfill non-usury financial operations and in this regard needs to be defined as variable capital corporations; because the deposits of banks are instantaneously changing and if the deposit of bank be treated as share, we need variable capital company arrangements and regulations.

Shareholders of JSCVC share the financial results of the company proportional to their capital and duration of their participation. This is different to conventional companies that shareholders are just are shared in the financial results of the company proportional to the amount of their nominal values of their shares. In comparison to other companies, these companies have similar functions such as issuing share, dividing profit, electing and assigning managers, holding assemblies, preparing financial reports and etc.. According to the article of association, variable capital companies should also operate under the supervision of board of managers and according to the approval of their general assemblies and votes of shareholders; and should also be under specific legal authority supervision.

JSCVC can be formed by government, private sector or mixed shares of government entities and private persons. Based on the article of association, ordinary and distinguished shares for public or founders can be defined respectively -though not recommended.

Definition of share, share document and its kinds, compulsory items of share document, share transaction and etc., are precisely defined in Commerce Laws of all countries. Therefore, in order to prevent spoiling of the rights of shareholders, the procedure of issuing shares for variable capital company from legal point of view should be precisely defined in compliance with domestic law of any country.

Change (increase/decrease) of capital of conventional companies as defined by laws is not almost compatible with variable capital companies in different countries at all and needs new legislation, though many financial institutions around the world and under different legislations use some types of variable capital operations in the framework of other companies rules and regulations and in different legislation systems. The outstanding feature of JSCVC defined in this paper refers to the participation procedures and accounting clearing of shares in such a way that the amount and duration of participation become the base for accounts clearing and settlement arrangements.

## **2. Joint Stock Company with Variable Capital (JSCVC)**

Joint Stock Company with Variable Capital (JSCVC) is a joint stock company in which the capital and shares vary by new entrance or withdrawals of stockholders or by lapse of time through changing sharing proportions because of changes of shares' durations. Amount of nominal capital of the company at any point of time is calculated by summing nominal values of the shares of shareholders at that time, but company's yields is distributed by time-duration weighted of the shares. The time points and periods for clearing accounts are predetermined according to the article of association of company. Time points or financial periods can be orderly cyclic/periodical, or disordered but predetermined.

Whenever a shareholder requests for withdrawal of his share/deposit, his share of the company's yield is calculated and paid. Thus, the share of each shareholder of the yield of company is calculated according to the ratio of the days the shareholder has kept his capital in the company multiplied by the nominal value of the shareholder's capital, divided by sum of the similar multiplications for all shareholders. Each shareholder shares the profit/loss of the company proportional to his capital and the

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<sup>9</sup> OEIC (Open-Ended Investment Company) and Open-Ended Mutual Fund.

<sup>10</sup> U.S. Securities and Exchange Commission (SEC). U.S. Securities and Exchange Commission Information on Mutual Funds. Retrieved 2011-04-06.

Pozen, Robert; Hamacher, Theresa (2011). *The Fund Industry: How your money is managed*. John Wiley & Sons.

<sup>11</sup> Bidabad, Bijan, Mahmoud Allahyarifard (2010). *Accounting Procedures for Profit and Loss Sharing (PLS) Banking*. <http://www.bidabad.com/doc/PLS-accounting-en.pdf>

<sup>12</sup> Bidabad, Bijan et. al. (2012), *Draft of Executive Regulations for Rastin Banking*, Bank Melli Iran.

days he has been participating in the company. This method of sharing is defined according to the Rastin *Mosharekah* (Sharing) Accounting principles of Rastin Profit and Loss Sharing (PLS)<sup>13</sup>. In this regard, it enjoys from a fair distribution of benefits. Justification of the activities of this kind of companies is similar to investment companies/funds and banks which operate on the basis of mutual sharing.

In contrast to legal formalities for changing the capital and number of shareholders in conventional companies, JSCVC has different formalities and each shareholder can request to withdraw from the company and put an end to his participation in the company at any time and in this regard, the capital of these companies is variable at any point of time.

JSCVC can be established as public or private entities with public and private and domestic and international shares. These companies can be with limited or unlimited legal responsibilities. To overcome the conflicts of regulations of different countries, JSCVC functions under the regulations of the country where has been registered.

### 3. Account Clearing Arrangements

Calling the nominal value of each share  $q$  and the number of shareholders  $m$  and the nominal value of the capital of the  $i^{\text{th}}$  person  $D_i$  and the duration of the participation of  $i^{\text{th}}$  person  $t_i$ , the number of shares of each shareholder and total number of shares of all shareholders of JSCVC can be calculated as follows:

The nominal value of the company capital ( $K$ ) is equal to the sum of nominal capitals for all shareholders:

$$K = \sum_{i=1}^m D_i \quad (1)$$

The ratio of share of the  $i^{\text{th}}$  shareholder of the company's yield ( $k_i$ ) is equal to the ratio of the days participating in the company multiplied to nominal value of his share divided by sum of similar multiplications for all shareholders:

$$k_i = \frac{D_i t_i}{\sum_{i=1}^m D_i t_i} \quad (2)$$

The "sharing value" of the shares of the  $i^{\text{th}}$  shareholder ( $S_i$ ) is equal to:

$$S_i = k_i \times K \quad (3)$$

Number of the shares of the  $i^{\text{th}}$  shareholder is calculated as:

$$N_i = \frac{S_i}{q} \quad (4)$$

Total number of shares of company ( $N$ ) is:

$$N = \sum_{i=1}^m N_i \quad (5)$$

The profit (or loss) of company for at the end of corresponding period ( $\pi$ ) is distributed per share ( $r$ ):

$$r = \pi/N \quad (6)$$

The profit (or loss) of the  $i^{\text{th}}$  shareholder ( $\pi_i$ ) will be equal to:

$$\pi_i = k_i \times \pi = r \times N_i = \pi \times N_i/N \quad (7)$$

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<sup>13</sup> Detailed full-text documents of Rastin Banking are accessible through <http://www.bidabad.com>

which if not received by the shareholder, will be added to the nominal value of his share at the first of the next financial period.

#### **4. Application in Financial Institutions**

Joint Stock Company with Variable Capital (JSCVC) can prepare sound background for many financial sharing activities. JSCVC can be used by majority of investment funds, credit unions, saving and loan associations, pension funds, thrift saving plans as well as Islamic banks and banking and nonbanking financial sharing activities. Concluding from JSCVC definition, deposits at bank will have the same properties as shares in Joint Stock Company with Variable Capital. The latter justification can change the bank's legal and operational performances to a faired financial discipline and market clearance and moreover tightly links money market to capital market which can dissolve both markets inherent volatilities and fluctuations.<sup>14</sup> Some applications of JSCVC are as follows:

##### 4.1. Application in Investment Funds and Mutual Funds

Joint Stock Company with Variable Capital (JSCVC) can be used for investment funds and mutual funds<sup>15</sup> as well. Investment funds are funds with professional management which accumulate the capitals of members and use them to transact shares and other valuable papers and securities.<sup>16</sup> Special characteristic of these funds is continuous variation of their capital. By using JSCVC, pre organization and pillars of the fund as: Investment advisor, Distributor, Trustee institute, Transfer agent, Management Company or Administrator, Supervising Authority will remain unchanged. Usually, supervision of mutual funds is carried out through law and regulation enactment to observe the rights of shareholders and improvement of market performance. This task often is carried out by capital market authorities in various countries.

##### 4.2. Application in Credit Unions

Credit unions can properly be Joint Stock Company with Variable Capital (JSCVC). Credit union is formed as a financing company by ownership and financing of its members and freely operates for saving and extending loan and other financial services provision to members and is managed by members. Usually, credit unions are established as nonprofit organizations<sup>17</sup>. Family, local or guilds credit unions are similar cases in many countries.

##### 4.3. Application in Interest-Free and Rastin PLS banking

Operational characteristic of Joint Stock Company with Variable Capital (JSCVC) is fully compatible with definition of Non-Usury Bank Corporation (NUBankCo)<sup>18</sup> and also from financial

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<sup>14</sup> See:

- Bidabad, Bijan, (2010), Stabilizing Business Cycles by PLS Banking and Ethic Economics. <http://www.bidabad.com/doc/pls-business-cycles-en.pdf>
- Bidabad, Bijan, (2011). Fluctuations and Business Cycles Prevention by New Financial Instruments and Banking Structure Reform. <http://www.bidabad.com/doc/Fluctuations-and-Cycles.pdf>
- Bidabad, Bijan, (2011). Deposits and Loans Interest Rates Lag Structure and Business Cycles (Case Study of United States). <http://www.bidabad.com/doc/Interest-Rates-Lags-and-Cycles.pdf>
- Bidabad, Bijan, Abul Hassan, (2011). Does Interest Rate Form Business Cycle. <http://bidabad.com/doc/interest-rate-cycle.pdf>

<sup>15</sup> Mutual funds are mostly utilized in USA. Mutual funds with variable capital (open-end funds), mutual funds with fixed capital (closed-end funds), hedge funds, unit investment trusts, exchange-traded funds (ETF) are included among these funds.

<sup>16</sup> Investment Company Institute, The Structure and Regulation of Mutnal Funds, <http://www.ici.org/pdf/chap4.pdf>

<sup>17</sup> National Federation of Community Development Credit Unions, What is a CDCU? Cdeu.coop. Retrieved 2011-10-09.

Ian MacPherson. Hands around the Globe: A History of the International Credit Union Movement and the Role and Development of the World Council of Credit Unions, Inc. Horsdal & Schubart Publishers Ltd, 1999.

Fountain, Wendell. The Credit Union World. AuthorHouse, Bloomington, Indiana, 2007.

<sup>18</sup> Bidabad, Bijan (2005), Non-Usury Bank Corporation (NUBankCo), The Solution to Islamic banking, Proceeding of the 3<sup>rd</sup> International Islamic Banking and Finance Conference, Monash University, KL, Malaysia, 16-17 November, 2005. <http://www.bidabad.com/doc/NUBankCo-en.pdf>

operations view with the concepts of the third product of Rastin Profit and Loss Sharing (PLS) banking<sup>19</sup>.

Non-Usury Bank Corporation can be private, public or mixed. For the former personality, payment of good loan (Interest-free loan) has to have its own justification. For the two latter personalities, since loans should not involve interest, procedure of extending loan is different. In governmental Non-Usury Bank Corporation extending good loans is simply done by covering people requests for consumption-interest-free loans. If Non-Usury Bank Corporation is mixed -that is government and private sector share together- government should decrease her profit share in proportion to the amount of good loan she has extended to people. In other words, if the government's capital in the company is  $D_g$  and duration of her share/deposit is  $t_g$  and as before, the nominal value of each share is  $q$  and the number of private depositors is  $m$  and the deposit (capital) of the  $i^{\text{th}}$  depositor is  $D_i$  with participation duration of  $t_i$ , the nominal value of capital of the company will be equal to:

$$K = \sum_{i=1}^m D_i + D_g \quad (8)$$

The capital ratio of government  $K_g$  to total capital of the company is equal to the ratio of the days government has kept the capital in the company multiplied by the nominal value of her capital divided by the sum of the same products for all depositors (shareholders):

$$k_g = \frac{D_g t_g}{\sum_{i=1}^m D_i t_i + D_g t_g} \quad (9)$$

The "sharing value" of the share of government ( $S_g$ ) is:

$$S_g = k_g \times K \quad (10)$$

Number of government shares ( $N_g$ ) will be:

$$N_g = \frac{S_g}{q} \quad (11)$$

Total number of shares of the company will be equal to the sum of the numbers of government's and people's shares:

$$N = \sum_{i=1}^m N_i + N_g \quad (12)$$

By considering  $\pi$  as the company profit (or loss) in corresponding financial period, the profit of each share ( $r$ ) will be calculated by (6). The profit share of the  $i^{\text{th}}$  shareholder ( $\pi_i$ ) is derived from (7) and government profit share will be:

$$\pi_g = k_g \times \pi = r \times N_g = \pi \times N_g/N \quad (13)$$

Now suppose that government wants to extend the amount of  $L$  as good loan from her share in NUBankCo for  $t$  days. If we have:

$$L \times t = D_g \times t_g \quad (14)$$

that is, government wants to allocate her total deposits to good loan and receive no profit at settlement day. Then the profit of each share will be:

<sup>19</sup> Bidabad, Bijan; Mahmoud Allahyarifard (2009). The Executive Mechanism of Profit and Loss Sharing (PLS) Banking. <http://www.bidabad.com/doc/PLS-banking-Executive-Mechanism.pdf>  
<http://www.bidabad.com/doc/pls-en.pptx>

$$\hat{r} = \frac{\pi}{N} = \frac{q\pi}{\sum_{i=1}^m D_i t_i + D_g t_g - L.t} = \frac{q\pi}{\sum_{i=1}^m D_i t_i} \quad (15)$$

Relation (15) is similar to the case that the government has not ever deposited in the company at all -which is logically correct. If the value of good loan extended by government is less than government's deposit in such a way that:

$$L \times t < D_g \times t_g \quad (16)$$

then, the value of each share will be:

$$\hat{r} = \frac{\pi}{N} = \frac{q\pi}{\sum_{i=1}^m D_i t_i + D_g t_g - L.t} \quad (17)$$

and the profit payable to the government will be:

$$\hat{r} \times (D_g t_g - L.t) \quad (18)$$

If  $L \times t > D_g \times t_g$  then the government will be in debt to the company equal to the amount of (18).

#### 4.4. Application in Saving and Loan Association (S&L)

Joint Stock Company with Variable Capital (JSCVC) has also application in Saving and Loan Associations (S&L). These associations are commonly used in USA under the name of Mutual Saving Banks. In other countries, like U.K. calls for Trustee Saving Banks<sup>20</sup>. Members of these associations have voting right and can interfere the association's management and policies as same as a credit unions.<sup>21</sup>

For example, suppose that a depositor deposits \$A in his account at saving and loan association for a duration of t (which is less than defined company's financial periods) before settlement time. In other words, financial year/period has not finished yet. The depositor decides to obtain \$B credit from the association for s periods in addition to his own deposit. If we have:

$$A \times t = B \times s \quad (19)$$

Then the S&L association should not pay any profit to depositor. But if we have the following relationship:

$$A \times t > B \times s \quad (20)$$

Then the S&L association should pay the following profit to the depositor according to deposit return rate of r:

$$(A \times t - B \times s) \times r \quad (21)$$

If the following inequation is satisfied:

$$A \times t < B \times s \quad (22)$$

<sup>20</sup> Slaughter, Joanna, (1996), Guide to Investment Trusts and Unit Trusts, London, Pitman Publishing.

<sup>21</sup> Mishler, Lon; Cole, Robert E. (1995). Consumer and Business Credit Management. Homewood, Ill: Irwin.

Norman Strunk, Fred Case (1988). Where Deregulation Went Wrong: a look at the causes behind savings and loan failures in the 1980s. Chicago: United States League of Savings Institutions.

then the S&L association should receive the following amount from the depositor:

$$(B \times s - A \times t) \times r \quad (23)$$

Calculations in this case are similar to that of (8) to (18) with the difference that the  $g^{\text{th}}$  person is a shareholder/depositor instead of government.

#### 4.5. Application in Pension Funds

Pension funds including retirement pension funds and security funds (both private and governmental) and Thrift Saving Plans (TSP)<sup>22</sup> can properly be formed as a Joint Stock Company with Variable Capital (JSCVC). Furthermore all sub-funds<sup>23</sup> of thrift plans can enjoy JSCVC personality.

In this connection in Rastin Personal Security (RPS)<sup>24</sup> subsystem of Rastin PLS banking, bank operates as an intermediary by receiving commission as agent of depositor, and in addition to providing capital management services for depositor/insured, provides necessary background for sharing depositor/insured's fund into investment plans of entrepreneurs on obligation of pension funds. In this way, depositor/insured will invest his deposit/insurance premium in Rastin PLS banking activities through pension funds as intermediary and instead, fund will be obliged to payback the deposits/premiums and the profits to the depositor/insured in lumpsum or as retirement pension periodical payments at maturity. The trustee unit of bank will supervise Rastin Personal Security (RPS) operations on behalf of the bank for better fulfilment of the job and the supervisory authority supervise the pension fund's activities. Rastin Personal Security (RPS) is carried out in Rastin PLS banking infrastructure by issuing Social, Personal and Pension Security Certificates as new financial instruments to fully implement social security system.

#### 4.6. Application in Provident Funds

Provident fund is a kind of retirement pension fund which puts the received insurance premiums of Defined Contribution (DC) insurance plans into different investments and pays pension payments to the members in lumpsum. Some of these funds allow their members to receive part of their money at retirement time and receive the rest as pension benefit in sequential periods<sup>25</sup>. Nature of these funds is also in compliance with Joint Stock Company with Variable Capital (JSCVC).

### **5. Resources**

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<http://www.bidabad.com/doc/pls-en.pptx>

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<sup>22</sup> TSP, (2011), Summary of the Thrift Savings Plan, February, <http://www.tsp.gov>

<sup>23</sup> The sub-funds of Thrift Saving Program (TSP) in USA are: Government Securities Investment Fund, Fixed Income Index Investment Fund, Common Stock Index Investment Fund, Small Capitalization Stock Index Fund, International Stock Index Investment and also all Money Market Funds.

<sup>24</sup> Bidabad, Bijan, Rastin Personal Security (RPS), 2012. <http://www.bidabad.com/doc/rps-paper-en.pdf>

<sup>25</sup> Azlan Zainol (2006), Management and Performance Challenges in the Investment of Social Security Funds: The Malaysian Employees Provident Fund Experience, ISSA Regional Conference for Asia and the Pacific.

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