



Bijan Bidabad

Rastin Banking (Volume II)

New Operational Islamic Banking System Application
Issues

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121

Rastin Banking Volume Two

New Operational Islamic Banking System

Application Issues

Bijan Bidabad

Partially Revised Edition

*In the Name of Allah
The Most Gracious The Most Merciful*

*Be glorified we have no knowledge saving that which Thou hast
taught us Thou only Thou art the Knower, the Wise*

Glorious Qur'an, Sūrah of Al-Baqarah, Verse 32

Dedicated to:

*The Knower, the Wise,
His Holiness Haj Dr. Nour Ali Tabandeh
Majzoub Ali Shah The Second,
The Master of Nimatollahi Zonabadi Sufi Order*

*His Merciful Spiritual Protection and
Compassionate Guidance Inspired the Author to
Bring Forth Rastin Banking.*

Interested readers may contact the
author for the latest revisions.

Table of Contents

Preface	23
Overview	31
<i>Introduction</i>	31
<i>Principles</i>	31
<i>Rastin PLS Banking</i>	32
<i>Contracts, Measures and Legal Institutions</i>	32
<i>Entrepreneur</i>	35
<i>Depositor</i>	37
<i>Assessment and Supervision</i>	38
<i>Rastin PLS Base System</i>	39
<i>Rastin Certificates</i>	40
<i>Rastin PLS Financial Subsystems</i>	41
<i>Complementary Systems</i>	47
<i>Ethical Banking</i>	52
<i>Preventing Squandering of Banking Resources</i>	54
<i>Restoring Uncultivated Lands</i>	55
<i>Transparency, Information Disclosure and Governance</i>	56
<i>Carrying Out the Purports of Enforceable Documents</i>	56
<i>Safeguarding of Rastin Banking</i>	56
<i>Documents and Regulations</i>	57
<i>Conclusion</i>	58
<i>Resources of Rastin Banking</i>	58

Chapter One

Rastin Profit and Loss Sharing Base System (PLS)

Introduction	61
Rastin PLS Base System	63
<i>Partnership and Subscripted Certificates</i>	65

<i>Operational Processes</i>	66
Operational Stages for Entrepreneur	66
Depositing Process	69
<i>Organization and Setup</i>	70
<i>Professional Behavior of Trustee and Assessor</i>	71
<i>Project Proposal</i>	71
<i>Assessment</i>	72
<i>Guarantees, Collaterals and Contributions</i>	72
<i>Insurance</i>	72
<i>Setting the Contract</i>	72
<i>Supervision</i>	73
<i>Entrepreneur</i>	73
<i>Financial Transparency</i>	74
<i>Information Disclosure</i>	74
<i>Governance</i>	74
<i>Auditing</i>	75
<i>Rastin Sharing Accounting</i>	75
<i>Change in Time Schedule</i>	75
<i>Settlement</i>	76
<i>Bank's Receipts</i>	76
<i>Transforming Certificate into Share</i>	77
<i>Inspection and Commodity Standard</i>	77
<i>Delivery of Goods</i>	77
<i>Auxiliary Financial Tool</i>	77
<i>Unexpected Incidents (Force Majeure)</i>	78
<i>Arbitrary</i>	78
Financial Subsystems	78
Complementary Systems	79
Instructions	79

Conclusion.....	79
Resources.....	80

Chapter Two

Joalah Financial Sharing (JFS)

Introduction	85
Joalah.....	86
Joalah Financial Sharing (JFS)	87
<i>Joalah Financial Sharing 3 (JFS3) Process</i>	<i>89</i>
<i>Joalah Financial Sharing 4 (JFS4) Process</i>	<i>90</i>
Derivatives in Global Financial Markets.....	91
Future Certificate in JFS.....	97
<i>General Executive Mechanism of Future Certificate</i>	<i>100</i>
<i>Client Relations Operations.....</i>	<i>101</i>
<i>Buyer Operations.....</i>	<i>102</i>
Conclusion.....	103
Resources.....	104

Chapter Three

Mudarabah Financial Sharing (MFS)

Introduction	109
Mudarabah	111
Mudarabah Financial Sharing (MFS)	114
<i>Distribution of Profit.....</i>	<i>117</i>
Conclusion.....	125
Resources.....	127

Chapter Four

Installment Financial Sharing (IFS)

Introduction	131
Installment Financial Sharing (IFS).....	131
<i>Mughasatah Contracts.....</i>	<i>134</i>

Mughasatah.....	134
Rental Mughasatah	134
Musharakah Mughasatah.....	135
Mughasatah Certificate.....	135
Rental Mughasatah Certificate	136
Musharakah Mughasatah Certificate.....	136
<i>Amortization Date of the Share of Depositor.....</i>	<i>137</i>
<i>Dividing Value of Project after Construction</i>	<i>137</i>
<i>Accounting Procedure for Apportionment.....</i>	<i>144</i>
<i>Mughasatah Installment in Finitude Projects.....</i>	<i>147</i>
<i>Rental Mughasatah Installment in Finitude Projects.....</i>	<i>151</i>
<i>Rental Mughasatah Installment in Endless Projects</i>	<i>154</i>
Conclusion.....	158
Resources.....	159

Chapter Five

Bail Financial Sharing (BFS)

Introduction	163
Salaf and Salam Transactions.....	165
Bail Financial Sharing	167
<i>Bail Certificate in BFS.....</i>	<i>171</i>
Conclusion.....	174
Resources.....	175

Chapter Six

Rent Financial Sharing (RFS)

Introduction	179
Rent Financial Sharing (RFS).....	180
<i>Rent Financial Sharing (RFS) Phases</i>	<i>184</i>

<i>Rent Financial Sharing Types</i>	186
Mortgage Sharing and Periodic Mortgage Sharing.....	186
Mortgage Mudarabah and Periodic Mortgage Mudarabah	187
Mortgage Muzaraah and Periodic Mortgage Muzaraah.....	187
Mortgage Mugharasah and Periodic Mortgage Mugharasah	188
Mortgage Musaqah and Periodic Mortgage Musaqah	189
Mortgage Istisna and Periodic Mortgage Istisna.....	190
Rent Sharing	190
<i>RFS Mortgage Certificates and Mortgage Securities</i>	191
<i>Rent Certificates in RFS and Ijarah Sukuk</i>	196
Conclusion	198
Resources	199

Chapter Seven

Rastin Group Funding (RGF)

Introduction	203
Rastin Group Funding (RGF)	203
Conclusion	205
Resources	206

Chapter Eight

Rastin Personal Security (RPS)

Introduction	211
Pension Funds	212
<i>Multi-Pillars Pension Systems</i>	212
<i>Necessity of Retirement System Reform</i>	214
Rastin Personal Security (RPS)	215
<i>Social Security Certificate Process</i>	217
<i>Personal Security Certificate Process</i>	219
<i>Pension Security Certificate Process</i>	221
<i>Joint Stock Company with Variable Capital</i>	222

<i>Stages of Rastin Personal Security</i>	223
Conclusion	224
Resources	225

Chapter Nine

Rastin Social Takaful (RST)

Introduction	229
Rastin Social Takaful (RST)	230
<i>Rastin Social Takaful Operations</i>	235
<i>Takaful and Loan Certificates</i>	238
Conclusion	239
Resources	240

Chapter Ten

Sponsor Crowd Funding (SCF)

Introduction	243
Sponsor Crowd Funding (SCF)	244
Conclusion	248
Resources	248

Chapter Eleven

Peer to Peer Loan (PPL)

Introduction	253
Peer-to-Peer Loan (PPL)	253
Conclusion	256
References	256

Chapter Twelve

Rastin Swap Bonds

Introduction	259
Conventional Monetary Policy Instruments	260
Rastin Swap Bonds (RSBs)	262
<i>Rastin Foreign Exchange Swap Bonds</i>	266

<i>Sharia Allowances of Rastin Swap Bonds</i>	267
<i>Monetary Effects of Rastin Swap Bonds</i>	269
<i>Fiscal Effects of Rastin Swap Bonds</i>	272
<i>Financial Effects of Rastin Swap Bonds</i>	275
<i>Effects on Inflation, Interest and Exchange Rates</i>	276
<i>Transaction of Rastin Swap Bonds</i>	279
<i>Collaterals</i>	280
Conclusion	281
Resources	282

Chapter Thirteen

Rastin Swap Deposit (RSD)

Introduction	287
Rastin Swap Deposit (RSD)	288
Summary	293
References	293

Chapter Fourteen

Rastin Swap Card (RSC)

Introduction	299
Bank Cards	300
Rastin Swap Card (RSC)	302
Summary	305
References	306

Chapter Fifteen

Rastin Certificate Market (RCM)

Introduction	311
Rastin Certificate Market (RCM)	311
<i>Rastin Certificates</i>	312
<i>Rastin Swap Bond (RSB)</i>	314
<i>Operational Flow in Rastin Certificate Market</i>	314

<i>Operational Instruction of RCM</i>	318
Conclusion	330
Resources	330

Chapter Sixteen

Crowd Funding System (CFS)

Introduction	335
Crowd Funding System (CFS)	335
Resources	341

Chapter Seventeen

Serial Commitments Clearance (SCC)

Introduction	345
Commitment, a Legal View	345
Serial Commitments Clearance (SCC)	347
Serial Chain of Obligations and Claims	349
An Algorithm for Recognizing Serial Commitments	354
Operational Considerations	357
Summary	359
References	360

Chapter Eighteen

Interbank Withdrawal Protocol (IWP)

Introduction	365
Interbank Withdrawal Protocol (IWP)	365
<i>IWP Operational Process</i>	367
<i>Withdrawal Algorithm through IWP</i>	368
<i>IWP in Action</i>	372
Conclusion	374
Resources	375

Chapter Nineteen

Mortgage Securitization System (MSS)

Introduction	379
Mortgage	379
Mortgage Securitization System (MSS)	381
<i>Guarantee Certificate</i>	382
<i>MSS Operations</i>	382
Conclusion	385
Resources	386

Chapter Twenty

Operations Control and Monitoring (OCM)

Introduction	389
Operations Control and Monitor (OCM) System	389
Resources	391

Chapter Twenty One

Collateral Registration System (CRS)

Introduction	395
Collateral Registration System (CRS)	395
Resources	396

Chapter Twenty Two

Non-usury Scripless Security Settlement System (NSSSS)

Introduction	399
Non-usury Scripless Security Settlement System	400
Resources	402

Chapter Twenty Three

Money Laundering Detection (MLD)

Introduction	407
Types of Economic-Financial Behavior	408
<i>Family Sector</i>	410

<i>Unofficial Sector</i>	410
<i>Unusual (Abnormal) Sector</i>	411
<i>Illegal Sector</i>	412
<i>Hidden and Underground Sectors</i>	413
<i>Ordinary</i>	413
Money Laundering	414
Value Added Tax	419
Money Laundering Detection System (MLD)	421
<i>Transaction and Money</i>	422
<i>Matching Transaction and Monetary Information</i>	425
<i>Money Laundering Detection Organization</i>	426
<i>MLD System Necessitations</i>	427
Conclusion	428
Resources	429

Chapter Twenty Four

Sovereign Wealth Fund ALM

Introduction	433
Investment Process in NDFI	436
SWF ALM through Rastin Certificates	438
SWF ALM through Rastin Swap Bonds (RSBs)	441
Conclusion	442
Resources	443

Chapter Twenty Five

Insurance Products

Introduction	447
Insurance Products	447
Insurance Products in Rastin Banking	449
Conclusion	453
Resources	454

Chapter Twenty Six

Profit and Loss Sharing Accounting

Introduction	457
PLS Accounting Experiences	457
<i>Assets and Liabilities Structure in PLS Banking</i>	<i>461</i>
<i>PLS Banking Balance Sheet and Accounting Operations.....</i>	<i>463</i>
<i>Profit Calculation and Distribution in PLS Banking.....</i>	<i>468</i>
<i>Accounting Finitude Projects in PLS Banking</i>	<i>469</i>
<i>Estimation of Base Price for Auctions in Finitude Projects.....</i>	<i>471</i>
<i>Accounting Operations for Endless PLS Projects.....</i>	<i>473</i>
<i>Inflation Impact on Return of Projects.....</i>	<i>474</i>
<i>Basis of PLS Banking Accounting.....</i>	<i>476</i>
Conclusion.....	478
Resources.....	480

Annex

Rastin Banking Documents

<i>Rastin Banking Bill and Executive Regulations.....</i>	<i>483</i>
<i>Rastin Banking Books</i>	<i>484</i>
<i>Rastin Banking Generals</i>	<i>486</i>
<i>Rastin Banking General Topics</i>	<i>487</i>
<i>Rastin Banking Detailed Documents</i>	<i>495</i>
<i>Rastin Banking Base System</i>	<i>499</i>
<i>Rastin Banking Financial Subsystems</i>	<i>503</i>
<i>Complementary Systems of Rastin Banking.....</i>	<i>509</i>
<i>Financial Instrument in Rastin Banking.....</i>	<i>512</i>

Thee art the Owner of up and down
Do not know who thou art, but, whatever thou art Thee art

Hakīm Abul-Qāsim Ferdowsī Tūsī
(Persian poet; 940 – 1020 CE)

Preface

The recent economic recession was predictable since few years before, even if its depth cannot be imagined yet. A new solution matching the current turmoil was being confectioned since several years to remedy this type of economic crises. In these crises, monetary policy would not be efficient enough and fiscal policy is not a fast recovery remedy. Thus, protectionism policy should be attained to solve the problem for long run. Refection of financial system is the most important step to make.

The global economy shows the lowest interest rate and the United States economy's recession was propagated to west and east of the world, where the recent increase of oil price caused the markup prices grew at global level and the expensiveness has been prevailed in public sustenance, especially for food grains. The bankruptcy and deficits of some western globe banks and higher financial risks at international financial markets and sequential crises in these markets illustrate a crisis similar to 1929 world crisis. However, this one was accelerated by several impacts on the economy such as natural disasters in West and risk-increasing Bush's policies in the East. Based on detailed economic researches it has been

proved that the volatilities of financial sector cause the fluctuations of the real economy and starts business cycles. In 1929 crisis, investment and saving inconsistency in western economies especially in the United States pushed the globe economy to the phenomena of liquidity trap. There were only negative interest rates that were able to motivate economy to pull it up from the bottom of the cycle. Monetary policy did not work, because interest rate was too low to be pushed to lower rates by increasing money supply. When the economy falls into the liquidity trap, there is no monetary policy solution via either increasing the volume of liquidity or decreasing the interest rate to motivate investment demand to recover the economy back to prosperity. Principally, liquidity trap is caused due to a weak relationship between the rate of return in real sector and the interest rate in monetary sector; when the interest rate moves to lower rates but nominal investment rate of return does not. One reason for such occurrence is the increase of investment risks, which decreases the net return of capital. The risk becomes a wide premium of capital market's interest rate and investment market's return rate. On the other hand, the difference of interest rate and investment rate of return increases.

The president of the United States of America Mr. Barak Hussein Obama's "Change Strategy" is a worthy decision to be taken at this point of time. This decision would change the world economy as well if it becomes successful to change the economic infrastructure of the United States. If his policy ends to monetary sector reform, he will be able to revive the economy from deep crisis; because the business cycle happens because of increase of risk in financial markets due to usury financial systems.

If the risk and the profit of investment were shared with depositors, financial enterprises would be confronted with lowest risk, and the risk would be transferred to depositors and debtors both, so the real and the

financial sectors will be immunized from volatility. The solution is to peg the interest rate to real economy return rate. Whereas by sharing the risk and the profit, the distance between real sector and financial sector rates is reduced and the premium of the risk will diminish. This will enable investment with lower cost for production. In fact, where the monetary solutions cannot be efficient (like current situation) by application of risk sharing we can balance and revive the economy. This is why theosophically divine religions pose: “Usury is forbidden”.

A solution to solve this deficiency has been expressed by religious legislators through deletion of usury from the economy. The religious legislations in Torah and Bible and Quran actually have removed the intermediate monetary market between depositors and investors by prohibition of usury and establishing a proportional relationship between profit and loss of investors (debtors) and the receipts of depositors. Thus, it is not an exaggeration to say that the solution to prevent global crisis similar to the previous century crisis is to change the nature of usury in the monetary sector and establishing profit and loss sharing between depositors and investors (entrepreneurs). Real sector return rate is a more stable rate, due to stability of productivity and will not fall down or rise up drastically. Establishment of profit and loss sharing will stabilize interest rate due to strengthening of the link between interest rate in money market and rate of return of investment in real sector. Thus, inconsistency between investment and saving and, also the liquidity trap will not happen in the economy to push the economy to crisis. Although, business cycle will not vanish from the economy but the cycles' swings will have narrow volatility domain.

Many countries have taken important steps to establish profit and loss sharing (PLS) banking systems. Regarding to the lower risk of this type of banking some western countries have been interested to test this non-usury

banking system for the sake of risk averting. According to the IMF reports, the Islamic banking has increased 10-15% annual growth in last decade and the same growth is predicted for the future years. Despite of the interest of many bankers for using Profit and Loss Sharing (PLS) banking for the last decades, it has not been prevailed yet executively. The existence of different definitions of *Riba*, absence of appropriate operational, supervisory and managing mechanism on PLS are some reasons that haven't allowed this kind of banking to be practical yet.

As said before the growth of Islamic financial institutions and their share of capital reaching one trillion dollars is a fact of world financial sector interest to this type of banking. Due to this fact Islamic banking products have already absorbed the trust of a huge part of investors in Mid-East, and Eastern countries and despite all its insufficiencies and restrictions it is developing in western countries. So the first target could be Islamic countries. The advantage of ease of transaction and sell/purchase of the certificate of investments even on internet with the custom and easiest popular means of transactions is quite convincing for all customers to switch to new PLS Banking System. By this method the investor/depositor has the possibility to cash his investment at any real-time market price.

Rastin PLS Banking System fully covers Islamic Banking and solves its operational restrictions. It is a generalized system of banking which let any entrepreneur/borrower be financed by any investor/depositor around the world. All certificates can be sold / bought in a bank, a financial broker agency, or on internet. So it is quite reasonable to expect a very large range of entrepreneurs/depositors be interested to use or invest in PLS Banking System around the whole world. The proposed system, based on Non Usury (embedding Islamic) financing can harvest the opportunity caused by lack of trust to actual usury financial system in all countries and

specially Muslim people residing in western countries having no access to such kind of facility and investment opportunity. A brief look at expansion of Islamic products in market of food industry in Europe ensures a wide range of potentials in absorption of funds for PLS Banking System.

Here, we are going to introduce a practical method for Profit and Loss Sharing (PLS) banking to overcome these problems. In this bank, the basis of determination of interest rate of loans is the real economy sector return. The bank operates as an intermediate that gets commissions and collects saving resources and as an attorney or legal representative of depositor allocate them to investment projects, and supervises the detailed operation of contractor. The yields of investment will be transferred to resources owners who are depositors whatever the profit or loss is. Moreover, to remove *Riba* in banking activities, and by observing Islamic banking principles, and creating safe and public confidence environment, Rastin Banking can lead to positive important effects on growth and economic welfare through money and capital markets. PLS banking not only can regain the trust of investors and depositors to financial market, but also will reduce costs of investment and production by reducing the risks of investment and producing stable markets. In this book the other positive effects of PLS such as creation of new job opportunities, easy flow of capital and transactions, increase of investments and productivity resulting to global wealth and the attenuations of international political complications also equity and peace, will not be explained. I adopted the name “Rastin” for my proposition as “Rastin Banking”. “Rastin” means “true” and “real” in Persian language and it also refers to the name of my first dear spiritual mentor Mr. Haj Mohammad Khan Rastin a Sheikh of Nimatollahi Gonabadi Sufi Order who taught me how to think and see the world. This is my least appreciation to his uncountable kindness.

Some colleagues proposed me to write book as a general text for more debates and discussion about Rastin Banking to introduce and promote its acceptance and technicalities at international level. Their proposition was desirable and I started to write three volumes books about the subject. The three volumes consist of theory, application and operation aspects of Rastin Banking, and the presented book is the second volume of the series. Moreover, I intended to insert meeting my Sunnite Muslim brothers in my plan to Hajj pilgrimage in order to get their opinions about Rastin Banking.

I dedicate my sincere appreciations to my Great Sage His Excellency Haj Dr. Nour Ali Tabandeh The Master of Nimatollahi Gonabadi Sufi Order and distinguished professor and scholar of Islamic and comparative law. His spiritual protection and apparent teaching were dominant factors to bring forth the Rastin Banking. I also indebted to my other teachers Dr. Naser Katouzian, emeritus professor of civil law and Dr. Ali Azmayesh full professor of criminal law for their kind guides. Moreover, I should give my thanks to my hundreds colleagues in Bank Melli Iran that citing their names lasts long; specially to my assistant and colleague Mr. Mahmoud Allahyarifard in Research, Planning and Risk Management Department of Bank Melli Iran. Each one of them had continuous sincere cooperation with me in their fields of expertise and experiences that lasted to completion and execution of Rastin Banking. Some of them have written lots of joint papers and detailed reports with me and those documents are the main sources for compilation of Rastin Banking as well as this book. Their names are cited in the last part of this book by listing the documents of Rastin Banking.

Rastin Banking is the fruit of my last one and half decade hard working on Islamic Banking and is gifted to all people of the world who seek to improve their lives' conditions and those who are interested to

follow the command of God to wash out Riba whether Muslim or non. I am sure that, applying this system will promote the life of all the people around the world; and whenever the flow of money in the economy be established correctly, all other sectors of income, employment and welfare would flourish.

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Overview

Introduction

Many economists around the world have done their best to eliminate *Riba* from banking activities, but have not achieved much. In this direction, Rastin Banking, in compliance with *Sharia* commands, has been compiled to not only eliminate *Riba*, but also to institutionalize various teachings of justice and Islamic ethics in banking activities. Good points of Rastin Banking in all fields of banking, financial, economic, ethical, social and international activities are so expanded that it can be regarded as a base to improve banking structure. To preserve the achievements and technicalities of Rastin Banking, Draft of Rastin Banking Bill and Operational Bylaw of Rastin Banking were compiled. Here we go touch just the heads of general topics of Rastin Banking and interested people can refer to the detailed texts of this method.²

Principles

To increase the compliance of banking system with principles and regulations of Islamic religion, and better access to safe financial activity and helping the economy to bloom, fare distribution of possibilities and opportunities, job creation and increasing the welfare of the society, Rastin Banking System was designed and all banks can carry out their activities on this basis. Rastin Banking System is based on special operational, financial, economic, ethical, social, legal, international and organizational principles that based upon the latest scientific achievements of humankind in the field of science and technology with the aim of economic and

² To access detailed full-text documents of Rastin Banking: <http://www.bidabad.ir>

banking growth and development of the society.

Collection of Rastin Banking approaches are defined in Rastin Banking Bill and Operational Bylaw of Rastin Banking. Regulations of this banking system and all developments, improvements and designing its subsystems and new processes or concordance new subsystems with prevailing processes should be carried out by considering the content of the cited Bill and Bylaw. In addition, all future supplements and operational workflows should be designed in a way that not to contain fixed interest (*Riba*) whether in cash or in other forms of future payment promises, or by superficial contracts including abstruse or disguised interest rate.

Rastin PLS Banking

In Rastin PLS banking subsection, on behalf of depositor, bank finances entrepreneur for investment according to compiled regulations and at the end of project, entrepreneur will distribute the profit/loss of the project in proportion to capital and duration of using that capital with the depositor. Entrepreneur is responsible for all consequences of violating regulations of Rastin PLS Banking. Bank will have full supervision over the investment activity of entrepreneur in contract period. All documents of Rastin PLS Banking are regarded as official documents.

Contracts, Measures and Legal Institutions

To facilitate legal activities of Rastin Banking, some improvements have been carried out on auxiliary Islamic contracts, because today business conditions have been changed. For instance, in Rastin Banking *Mudarabah*, both sides can provide some of necessary fund. The same is true in *Muzaraah and Musaqah* contracts and both sides of the contract can provide portions of fund, land and other factors of production. These are of

some corrections that Rastin Banking applied on Civil Law.

New contracts also were defined in Rastin Banking in Rastin Banking Bill as follows:

Intermediation (*Muvasatah*): is a contract, which one of the parties provides the capital under the condition that the other party by considering discretion and interest of the first party transacts with third party and receives wage. In this contract, the capital owner is called "*Mosit*", the agent is called Intermediate or "*Wasit*" and the third person is called Entrepreneur.

Installing contract (*Mughasatah*): is a contract, which a person provides the total or a portion of the capital for an economic activity and the other part will pay him back his share in the results of the activity by installments. In this case, capital provider is called "*Moghsit*" (Installer), the agent is called "*Ghasit*" (Installment payer) and the result is called *Moghsatah* (Installed). *Mughasatah* has three kinds: ordinary, rental and sharing. The share of *Moghsit* in rental *Mughasatah* includes price and value of the substance; and in sharing *Mughasatah* is the price of substance and value of return of *Mughasatah* activity.

Exchange (*Mubadalah*): is a contract in which one person (*Mobadil*) (exchanger) undertakes to give the ownership of a certain asset (*Badal*) / (exchanged asset) to the other party (*Motabadil*)/(one who receives the exchanged asset) for a defined period; and the other person also undertakes to give the ownership of same amount (*Mobaddal*) to the first person (*Mobadil*) for equal period.

Planting (*Mugharasah*): is a contract between the owner (s) of a land and the agent (s) who implant on the land and they share jointly (like

Muzaraah) the results whether it is timber, fruit, leaf, flower, pick, straw, haft, stem, nectar, bulb, root and etc.

In order to fulfill the necessary legislative needs of bank sharing activities, joint investment funds and facilitating social insurance activities some new legal institutions are defined by Rastin Banking:

Fund with variable capital: is a kind of fund in which the capital of fund varies along time through entering or exiting new shareholders and by changing their capital shares, or duration of sharing in fund. Funds with varying capital have been defined in the laws of many countries, but in laws of Iran, a few mentions are available about these types of fund. These funds can facilitate the operations of mutual funds, credit unions and bank sharing activities.

Pension fund: includes the funds for obligatory social security insurance with governmental personality and optional pension (saving thrift plans) with private or public legal personality. Pension fund, whether private or public, should operate under the high supervision of Social Security Board. In addition to observe the regulations concerning Rastin Personal Security regulations, these funds are obliged to deposit their resources in Rastin PLS banks.

Measures to discern *Riba*: to distinguish profit from *Riba* the following measures were defined:

1. In forward deals, the price of the contracted subject should not depend on duration period involved.
2. Financer should share the profit and loss of the economic activity of borrower.
3. Exact profit rate should not be determined and prefixed.

4. No profit should be charged for consumption financing.
5. In transaction of foreign exchange, price should not depend on duration period of transaction, whether spot, or forward.
6. Exchange of funds or assets should be equal in values and durations. Values and durations of first and second exchanged assets can be different if multiplications of duration by value for both exchanges are equal.

Entrepreneur

In Rastin PLS banking, the entrepreneur is the applicant of fund resources. He will be bound to do his executional activities in accordance to his project proposal, which is approved by bank. Therefore, his technical, financial and executive capabilities should be verified and should have managerial capability in connection to the project and be able to absorb necessary experts and experienced or skilled labor, and be able to internally provide some of the project expenses. It is necessary to review his previous financial performances through auditing reports and financial and tax clearance certificates. He should also be bound to his previous obligations and should not have outstanding or delayed debts to banking network. For goodness and virtue of applicant's activities, he should submit collaterals and guarantees to bank. Bank should refer to CRS (Collateral Registration System) and other authorities to confirm that the offered collaterals are free and have not been mortgaged before.

The information of the project proposal of entrepreneur, after the approval of assessment unit of bank is reliable against him. The entrepreneur is bound to be transparent and to follow and comply all his activities with auditing standards of Rastin Banking and he has to follow the procedures of dividing profits, wage payment, bonuses, wage increase,

overtime payments, accumulated profit and capitalization as reported in project proposal. These items will be fixed from the beginning to the end of the project execution, and cannot be changed. If the provided information, documents, statistics by entrepreneur are fabricated, tricky or made by fraudulently maneuvers and cause losses to depositors or bank, bank can compensate the losses from the collaterals and guarantees.

To safeguard the benefits of depositor and continue the obligations of entrepreneur to fulfill the contract, bank deprives the entrepreneur from the right of terminating the contract. In Rastin PLS banking contracts, it is necessary to cite the stewardship of bank. If entrepreneur does not want or cannot carry out his tasks for any reason such as stopover, bankruptcy, dissolution, death, failure, insanity and so on, and the project halts, bank itself, or by selecting new entrepreneur will continue the project, or compensate the legal claims of the contract through collaterals and guarantees of entrepreneur. On the other side, the entrepreneur is bound to provide insurance coverage for probable risks. The kind of insurance coverage, costs, benefits and the beneficent are due to Rastin Banking regulations.

The entrepreneur is not allowed to transact, transfer or change the ownership or possession of the assets of the subject of the contract including the collaterals during contract term without informing the trustee unit of bank PLS department. If he violates without informing the bank and the operational activities of the project stops or be disrupted, the entrepreneur will be responsible to compensate the loss from the time of transaction or transference. To prevent such seizures, the trustee unit of PLS department of the bank will conduct periodic and ad hoc supervisions and even bank is allowed to bound the entrepreneur to install monitoring

devices as RFID³, camera and GPS⁴ to control replacement and movement of equipment. In addition, the entrepreneur is obliged to inform trustee unit and obtain permission of PLS department of bank for further finance from other financial institutes. The entrepreneur is not allowed to sell the assessed assets of his company during the contract.

The entrepreneur is bound to provide periodic and ad hoc reports according to national accounting and financial standards defined by Auditing Organization according to laws and regulations, commensurate to the volume of investment and applied technology, and submit to trustee unit. Entrepreneur's auditor is selected among the officially approved auditors by bank and entrepreneur is obliged to provide the necessary arrangements and document monitoring for auditor during the contract.

If the financial provision of the project is not sufficient, by request of entrepreneur, bank can review the subject and after confirmation of trustee unit, by issuing new Rastin Certificates, finance the extra resources needs of the project.

Depositor

Those depositors, who are willing to participate in economic projects of entrepreneur, in form of Rastin PLS banking, will receive Rastin Certificates. The owners of these certificates share the results of the project proportional to nominal price and participation period of certificate.

Bank is not allowed to consider any privilege or priority for some depositors, buyers or sellers of Rastin Certificates or discriminates among them. Entrepreneur is allowed like other real or legal persons to buy Rastin

³ Radio Frequency Identification (RFID).

⁴ Global Positioning System (GPS).

Certificates of his own project or other projects from Rastin Certificate Market.

Depositor can negotiate his certificate before the end of the contract or transfer it others at market price. Transaction and transfer of Rastin Certificates are carried out on the website of the bank or dealing companies and other financial and banking institutions connected to bank website. All the transactions should be registered at the issuer bank website. The periodic or final settlement of the certificate will be carried out with the latest owner of the certificate according to the kind of certificate and the concerning regulations of Rastin Banking.

Assessment and Supervision

To safeguard the benefits of depositor (purchaser of Rastin Certificate); and obtaining confidence about the design, explanations, calculations and feasibility of the project from various economic, technical and financial views; and good performance of the entrepreneur, bank uses internal or external real persons or legal entities services whom have necessary capabilities and equipment including hardware and software. Assessment and supervision groups of trustee and assessment units of bank consist of technical, engineering, financial and economic sections and conduct the assessment and supervision on the basis of activity type, project sophistication and technicalities, amount of investment, duration of project and etc. according to Rastin Banking regulations. The capabilities of entrepreneur are assessed by prevailing financial measures and criteria. Thus, entrepreneurs are ranked according to their incapability risks. Bank signs participation contract with those entrepreneur who has lower risk.

Assessor examines the reality of the project proposal and gives his view about the capability of entrepreneur and feasibility of project. Project

proposal should have necessary economic, technical and financial justifications and will be financed by the bank if it is approved by assessment unit of PLS department of bank.

Trustee is responsible for supervision and monitoring of operational activities and expenditures of allocated fund, account keeping and financial reports of the project. The settlement with the entrepreneur in each phase and at the end of the project is due to final confirmation of trustee unit according to Rastin Banking regulations.

If actual timing of project implementation does not match with the approved proposal, the related losses and fines will be deduced from the profit of entrepreneur, or his collaterals and guarantees according to Rastin Banking regulations.

Bank receives two commissions for preliminary and detailed assessments of project plan. These commissions will be included in acceptable costs of the project. If the project is rejected during assessment process, assessments cost will not be returned to entrepreneur. In addition, at each time of allocating fund to project, bank receives commission for supervision, trustee, financial engineering, examination and other services, which will be included in acceptable costs of the project. At the end of project, if it gains profit, bank will receive a share of profit proportional to contributed fund of the project as bank's income.

Rastin PLS Base System

Rastin PLS Base system refers to the main process and general regulations of Rastin Profit and Loss Sharing (PLS) Banking system. On request and on behalf of depositor, bank invests his fund in one of Rastin PLS products and instead, gives Rastin Certificate of the selected project to

him and allocates his fund to selected project of entrepreneur; and supervises the implementation and execution of project. At the end, after deducting its own commission, bank divides the profit/loss (if any) among engaged sides (depositors and entrepreneur). Bank is agent of depositor, and is responsible for observing his rights (depositor). He must use all his expertise to reach this end. In Rastin Base PLS system for finite projects, *Musharakah* (Participation) Certificates, and for infinite projects *Pazireh* (Subscribed) Certificates are used. These activities are done under Rastin Banking regulations.

Fixed profit rate is eliminated in Rastin PLS banking and return rate is calculated according to the real return of capital in real economy. Most of the regulations of Rastin PLS Base system are extended to its financial subsystems.

To make the bank capable to reach his goals in a proper way, this system has its own organization, structure and working process. Major topics in Rastin PLS Base system consist of organizational, professional behavior of assessor and trustee, project proposal, assessment, guarantees, collaterals and entrepreneur cash contribution (brought), insurance, contract set-out, supervision, entrepreneur, financial transparency, information disclosure, governance, auditing, Rastin Participation Accounting, change of project timing, settlement, bank receipts, transforming *Pazireh* (Subscribed) Certificates into shares of entrepreneur company, inspection and commodity standard, auxiliary financial tools, unexpected accidents (*Force Majeure*) and arbitration.

Rastin Certificates

Rastin Certificates are collection of designed certificates in Rastin PLS Banking Base system and its financial subsystems. These certificates

can be anonymous or named papers, which are transferable and negotiable online through the website of bank and are issued with a nominal price and for a certain period. The owners of these certificates share the results of the project proportional to nominal price and participation period of certificate.

Bank by issuing and creating market and basket of Rastin Certificates, provides various opportunities for transaction of these papers. Various Rastin Certificates and their characteristics according to the kind of participation in the PLS Base system or its financial subsystems regarding the type of project and the asset used will be bound to Rastin Banking regulations.

Regarding the supervisory role of trustee unit of banks over entrepreneurs, these certificates are distinguished from ordinary papers with “certificate” prefix. Being anonymous, transferability, negotiability in secondary virtual market (Rastin Certificate market), profitability of their transactions for bank, pricing according to supply and demand mechanism of Rastin Certificate Market, periodic settlement with the latest certificate owner, are some of characteristics of these certificates.

Rastin PLS Financial Subsystems

Rastin PLS financial subsystems refer to specific financing methods or services in Rastin PLS Banking. These subsystems work under general regulations of Rastin PLS Base system, and are:

1. Joalah Financial Sharing (JFS): is a method in which, bank finances entrepreneur (producer) from depositor's resources or the provided sources by buyer; by selling Future Certificates (to depositor or buyer) and in framework of another *joalah* contract, entrepreneur produces the buyer requested commodity. Future Certificate is used in JFS.

2. Mudarabah Financial Sharing (MFS): is a kind of *mudarabah* under Rastin PLS banking in which bank introduces the entrepreneur project proposal in the field of trade or transaction of commodities (commerce) to depositors and by selling them *Mudarabah* Certificates, finances the entrepreneur (*modarib*). In MFS *Mudarabah* and Periodic *Mudarabah* Certificates are used.
3. Installment Financial Sharing (IFS): in IFS, installer (*moghsit* or depositor) will finance a portion of the needed fund of entrepreneur through the bank for a certain period of time (amortization period). The entrepreneur will pay back his share by installments and will own the total property of the project and IFS ends. IFS can be carried out through one of the contracts of Ordinary *Mughasatah* (Installment), Rental *Mughasatah* (installment) and *Musharakah* (sharing) *Mughasatah* (installment); and by application of three related kinds of certificates of Ordinary *Mughasatah* and Rental *Mughasatah* Certificates for finite projects and *Musharakah Mughasatah* Certificate for infinite projects.
4. Rent Financial Sharing (RFS): entrepreneur temporarily donates the ownership of a part of his productive asset⁵, rental asset⁶ or dead asset⁷ to depositor who finance him but keeps it as mortgage. Then pays back the fund received from the yields of the asset proportional to depositor's share to depositor at the end of contract, or periodically. The original deposit of depositor will be given back to him after the end of project. The profit of the project will be given to depositor

⁵ "Productive assets" refers to the assets of an operating firm.

⁶ "Rental assets" refers to those assets, which can be let.

⁷ "Dead assets" refers to non-operating (suspended) firms or uncultivated lands assets.

periodically or in a lump. Mortgage Sharing, Periodic Mortgage Sharing, Mortgage *Mudarabah* (commerce), Periodic Mortgage *Mudarabah*, Mortgage *Muzaraah* (cultivating), Periodic *Muzaraah*, Mortgage *Mugharasah* (planting), Periodic Mortgage *Mugharasah*, Mortgage *Musaghah* (irrigation), Periodic Mortgage *Musaghah*, Mortgage *Istisna* (industrial / manufacturing), Periodic Mortgage *Istisna* and Rental Certificates are used in RFS.

5. Bail Financial Sharing (BFS): is the application of deposit of depositor by entrepreneur to produce a defined commodity and delivering the commodity or paying back its value in future specific time. BFS uses Bail Certificate.
6. Rastin Group Funding (RGF): is collecting of deposits of specific depositors for specific beneficial project under the regulations of Rastin Banking. In RGF, Rastin certificate is not issued.
7. Rastin Personal Security (RPS): to create competitive conditions and to increase the efficiency of social security insurance and diminishing antitrust of social security systems and pension funds, private and public pension funds are established according to Rastin Banking regulations. People and firms can allocate a portion of their obligatory (or optional) insurance premium payments (for himself or his employees) for social security to the funds that operate under Rastin Personal Security (RPS) and enjoy its benefits. Therefore, they will be exempted from obligatory insurance premium payments equal to the payment they have paid to these funds. In addition, those employers who have obtained Rastin Personal Security coverage for their employees will enjoy 50 percent deduction in their obligatory social

security payments. This also encourages them to increase employment. RPS uses Social Security Certificate, Personal Security Certificate and Pension Security Certificates.

8. Rastin Social Takaful (RST): benevolent people can deposit their funds at banks for charity purposes, and bank will be allowed to pay profit (or the principal as well) of deposit to needy people, in form of loan or non-returnable payments (according to the depositor request). RST works under Rastin Banking regulations as "public takaful" (humanistic duty of people to resolve others' needs), or "*ziman-e-I'alih*" (government duty to provide people's livelihood of the society). In addition, bank can collect *Waqf* (devoted) deposits to raise fund. *Waqf* deposit is a kind of deposit devoted by depositor (benefactor) to bank; and bank will use the yields of this deposit to support needy people in the framework of Rastin Banking regulations.

Those people, who need financial support and cannot afford their basic livelihoods are: needy people, poor, indigent, helpless, mentally or bodily sick, disabled or handicapped, insane, bedridden, elderly, vagrant, captive, deserted child, exiled, orphan, infant without parent, damaged, those who cannot afford blood money of unintentional faults, families with no guardians or poor guardians, and similar cases; and those who are eligible to receive *Fetriah*, *Zakat*, *Kaffarah*, and charity payments. Moreover, those people whom private (not governmental) benevolent depositor introduces to bank to receive charity payments or loans, even be included or not included in the above list are considered as needy and should be supported through benevolent specified deposit.

Ensuring minimum livelihood in forms of monthly or lump payment can be done through Rastin Social Takaful insurances such as: Housing

insurance, Marriage insurance, Job insurance, Education insurance, Medical and Medicare insurance, Incident insurance, Food insurance, Clothing insurance, Insurance for defending rights, Orphan insurance, Disabled insurance, Guardianship insurance and Relief insurance under Rastin Banking regulations.

Social Security Organization, charity institutions and supportive organizations cannot conduct takaful activities directly and they must do the job through bank to support people. Bank will pay the needy according to the issued draft of benevolent.

Bank and governmental benevolent are obliged to release their supporting payments information in their website in such a way that would not harm the prestige of the supported people. The bank that acts under RST should provide its performance report according to central bank regulations. Central bank controls the performance of bank in connection to RST activities and reports any violations to legal or disciplinary authorities. Supervisory organizations and institutions, whether including General Inspection Organization of the country, or General Accounting Authority will have proper supervision on the proper execution of Rastin Social Takaful. Rastin Social Takaful is applicable by issuing Takaful Certificate and Loan Certificate.

9. Sponsor Crowd Funding (SCF): is the process of collecting non-returnable funds for a specific protective goal of entrepreneur through the bank via social networks. In SCF, Rastin certificate is not issued.
10. Peer to Peer Loan (PPL): is the process of collecting funds for loan-financing the entrepreneur through the bank and via social networks. In PPL, Rastin certificate is not issued.

11. Rastin Swap Bond (RSB): is based upon *Mubadalah* (swap) contract between *Mobadil* (swaper) and *Motebadil* (swapee) in which the durations and substances of swaps are equal for first and second swaps. *Motebadil* (swapee) issues the bond and owes to *Mobadil* equal to the nominal value of bond; and should pay this amount (*badal*) to *Mobadil* (swaper) at maturity. The issuer (*Motebadil*) is obliged to give the *mobaadal* for the same amount and period as *badal* to *mobadil*. He can choose a combination of amount and period that the multiplication of amount by period of *mobaddal* be equal to that of *badal*. At second maturity, *mobadil* is committed to return *mobaddal* to *motebadil*.

No interest rate is involved in these bonds and they are of four kinds: Central Bank Rastin Swap Bond, Treasury Rastin Swap Bond, Bank Rastin Swap Bond, and Commercial Rastin Swap Bond. They can be in domestic money or foreign exchange. Regarding the fact that these bonds are not based upon participation and just indicate swapping of assets, is not covered by regulations of the Rastin PLS Base system, but uses its infrastructure such as organization and Rastin Certificate Market.

12. Rastin Swap Deposit (RSD): is a new banking deposit account, which is interest-free and is based on Swap Contract in Rastin Banking. In this depositing by opening the deposit, depositor is entitled to use interest-free loan to the amount and duration that his resources has been being deposited and then return the money back to the bank. Depositor and bank agree that a combination of money and duration to be selected in such a way that the products of amount and duration in both operations of depositing and loaning be the same. From the time of depositing to the first maturity (the date that depositor requests

loan), depositor is lender and bank is borrower; and from the time of first maturity to second maturity (the date that depositor returns the money back to the bank) depositor is borrower and bank is lender.

13. Rastin Swap Card (RSC): is a bankcard, and has no interest rate and is issued based on the Swap Contract in Rastin Banking. In Rastin Swap Card there are two periods. In the first period card issuer lends money to card holder; and in the second period borrows money from card holder instead. At the first stage card issuer credits a certain amount of money for specific time duration to the card of cardholder and requests the cardholder to deposit the same amount for the same period at the end of the cited time duration (first maturity) in the issuer's deposit account. Card issuer and cardholder can agree for a combination of amount and duration for which the product of them (amount by duration) be equal for both operations of lending money by issuer and depositing by card holder. Rastin Swap Card can be issued in both local and foreign currencies. Bank receives fee by offering Rastin Swap Card service.

Complementary Systems

Rastin Banking Complementary Systems refer to innovations, systems and complement methods in Rastin Banking system; and are as follow:

1. Rastin Certificate Market (RCM): bank establishes RCM with specific characteristics and capabilities. Different Rastin Certificates and Rastin Swap Bonds can be transacted in this market. Bank activates the information portal about projects and entrepreneurs of Rastin PLS bank through RCM and releases information about Rastin PLS financial projects to public. The system should be capable of online

updating the information about available certificates, transactions, settlements, capitalization, transfer or any other activity on Rastin Certificates transactions.

2. Crowd Funding System (CFS): this system is a web-based system, which collects funds for Sponsor Crowd Funding (SCF) and Peer to Peer Loan (PPL) projects via social networks.
3. Operation Control and Monitor (OCM): this system is a web-based inspection and monitoring system, which controls the activities of bank personnel. By establishes this system, bank has online control over the personnel activities to be in accordance with operational instructions of Rastin Banking system. Online unnoticeable monitoring of all activities of bank units, clients and personnel of different departments and branches, incompatibility of accounts and documents, embezzlement, cheating and fraud detection and etc. with various levels of accessibility, reporting and analysis routines, data mining, distinguishing and follow up systems for cyber-attacks and establishment of internal control are of the tasks of this system.
4. Collateral Registration System (CRS): Department of Registry of Documents and Properties establishes the integrated Collateral Registration System (CRS) for registering movable and immovable collaterals and introduces it to notary offices. Banks, notary offices and other related authorities (determined by Department of Registry of Documents and Properties) at the time of mortgaging collaterals or restraining properties should register all mortgage information in this system. This system is integrated and each asset has a unique identification number. Therefore, it can easily show whether an asset

has been collateralized or restrained before or not. Department of Registry of Documents and Properties provides this capability for banks and other organizations and real persons and legal entities to find out online whether an asset has been collateralized or restrained before or not. On the other hand, in order to provide a safer environment for conducting collaterals auction and sale and enforcing the subjects of enforceable documents, Department of Registry of Documents and Properties establishes a website for auction with Relational Database Management System, auction and sale capabilities and dynamically connected to CRS.

5. Serial Commitments Clearance (SCC): provides the necessary arrangements for settlement of obligations of people who are in debt to someone from one hand, while they are creditors to someone else in a chain of debits and credits in a set of people. Accordingly, banks, notary offices and other authorized authorities can clear serial obligations of persons according to laws and regulations and based on their requests and release their collaterals and guarantees as far as their debts are equivalent. Bank will gain commission for rendering this service.

6. Mortgage Securitization System (MSS): by assessing the value of asset, bank can issue Guarantee Certificate in different lots and periods for owner of the asset. The holder of this certificate can apply to banks and other institutions or real persons and legal entities (who accept these certificates as guaranty) for themselves or on behalf of other people. Obtaining these certificates can be through ordinary or official contracts.

The issuer bank by using Interbank Withdrawal Protocol (IWP) can gain

his claims from the accounts of the indebted after restraining the Guarantee Certificate. If the issuer bank becomes bankrupt, the beneficiary of Guarantee Certificate can obtain his nominal claim from settlement manager.

7. Interbank Withdrawal Protocol (IWP): allows bank to obtain his claim created through binding contracts or commercial documents (check, promissory note and draft) from other accounts of the debtor at other banks, or accounts belonging to his guarantors at other banks in an online way, after the debtor's first bank account is depleted. This activity takes place under central bank supervision. Bank is not allowed to use IWP in relation to ministries and other governmental organizations accounts that have a row in government budget bill. However, bank is allowed to use IWP in relation to the accounts of governmental companies and other affiliated organizations and institutes to government, and non-governmental public institutions that do not use public budget, including pension and social security organizations, revolutionary foundations and organizations and holly shrines.

To implement this protocol, central bank provides necessary legal and electronic obligations to all banks, financial and credit institutes. Based on claimer request, the IWP software will carry to account of creditor if any money is carried into account of the debtor automatically at the same time. Therefore, every bank client should have a unique identity number in the banking system; in addition, all commercial documents should have a unique identity number.

According to this protocol, bank provides the necessary conditions for receiving outstanding and delayed debts, doubtful debts, unpaid debts of his own claims and his client's claims that initiated through loan,

check, promissory notes, drafts, that had been initiated in traditional system before.

8. Non-Usury Scripless Security Settlement System (NSSSS): Central bank establishes the integrated Usury-free Scripless Security Settlement System with specific characteristics and capabilities and activates the registration portal for entrepreneurs of Rastin PLS banking. Compliance with Sharia is the necessary condition for entrance of financial documents and instruments in this portal.

Portals of Rastin Certificate Markets (RCM) of banks are to be designed in accordance to central bank's standards, so that the information concerning financing projects through Rastin PLS banking, entrepreneurs and Rastin Certificates will be updated online in NSSSS system. This system should be capable of online updating of information concerning Rastin Certificates and Rastin Swap Bonds of bank's portal for each transaction, settlement, capitalization or any other kinds of transaction and transition of Rastin Certificates and Bond by registering them in the system.

9. Money Laundering Detection System (MLD): all commercial and financial transactions, whether with the aim of gaining profit or not, are regarded as economic transaction and are included in Value Added Tax System. In addition, there should be a spot or delayed payment for each transaction of commodity or service. The two information of each transaction, that is transaction of commodity (or service) and its payment, should be matching; otherwise, there will be suspicion of money laundering. The MLD system will provide the structural and electronic conditions for comparing and matching banking and tax information. If necessary conditions be forced that underground

economy parties be obliged to use banking system; and tax authorities do special supervision on large and medium transactions and transition of commodities, money-laundering activities can be detected and traced through matching tax information and banking information. To do so, a special organization is to be established at the Ministry of Finance and Economic Affairs to collect and process the information.

Ethical Banking

Although in the current literature there is not universally accepted definition of ethical banking, but it can be placed under the issue of ethic economics. Ethic economics is defined as using resources and placing the object in its proper position in order to achieve human perfection. Placing object in its proper position conceptualizes the justice in philosophy of religion and from philosophy of mathematics viewpoint, it is consistent with optimal use of resources; and achieving perfection is natural purpose of any creature. That is to maximize profit , the resources should be used in a way that provide maximum growth and transcendent of human being while his material needs are to be satisfied in optimal.

Ethical banking is now used more about issues such as improving the environment, increasing prosperity, creating equal and appropriate opportunities and etc. for the people of the society. In other words, the doctrine of humanitarian is considered in fringe of banking activities. Given the breadth and depth of the moral teachings of various religions, especially Islam, the Islamic banking principles surround ethical banking. In this way, ethical banking is a narrow expression of some aspects of Islamic banking. Issues such as support of needy, activities related to sustainable development, establishment of trust, transparency, considering

moral principles that are beyond the legal principles and other similar issues that are currently of interest to theorists of ethical banking , all are tenth of title of attitudes and teachings of Islamic ethics.

Promotion of various aspects of ethics in human and social issues in ethical banking versus conventional banking that is based only upon the profit is fully observable. Islamic banking as same as ethical banking has no concrete definition. To achieve functional expression of Islamic banking, Rastin Banking was designed as a modern solution to Islamic banking to resolve theoretical and practical banking problems based on the latest scientific and technical achievements.

Features of Islamic banking, from the ethical banking perspective were operationalized in Rastin Banking under the headings of true operational, financial, economic, ethical, social, legal, institutional and international principles that are far over what is called ethical banking in contemporay literatures. Rastin Banking fulfills the virtues of justice, charity and generosity regarding dispositions to act in ways that benefits both the person possessing them and the person's society⁸ and benefits both the financial institution that adopts it and broader society. In Rastin Banking humans are bound, from knowledge of their duty as rational beings, to obey the categorical imperative to respect other rational beings (Kant definition). This is extended in Rastin Banking that everybody has specific duties in relation to his role and endowed ability for financial intermediation. Moreover, in Rastin Banking, based on utilitarianism approach that asserts the guiding principle of conduct should be the greatest happiness or benefit of the greatest number is observable. In this context, Rastin Banking has been developed to ensure the facilitation of benefit for the greatest number of people, while not harm to anyone. Rastin Banking

⁸ Definitions from the Oxford Dictionary.

fulfills Islamic principles of ethics, wherein individuals and bank are duty bound to be accountable for each and every actions conducted by them and to do right in the context of God's laws.⁹

Preventing Squandering of Banking Resources

To prevent squandering and to reform banking sources consumptions, which have worse economic and social consequences than *Riba*, and to increase efficiency, bank is obliged to follow specific regulations concerning his activities. To decrease operational costs and to increase efficiency, and facilitate rendering banking services to clients; banks should mechanize their operational systems and by reengineering their operational processes, make them more economical and safer and by gradual diminishing of the number of their physical branches, prevent the useless branch accumulation. Moreover, by interbank transactions and transfer of their surplus personnel to complementary banking services such as assessor, supervisor (trustee), intermediate, dealer, investment adviser, market operator, publisher, transactor, financial basket operator, financing company, investment fund, rating agency, financial information processing, credit rating institute, financial IT services institute etc., after training them; provide convenient conditions for financial services activities.

Banks will be obliged to finance only projects, which have observed the following considerations and criteria in their project proposal.

- Decreased costs of investment, production, consumption and distribution.
- Increased efficiency with lowest amount of damages, wastes, defected

⁹ Accounting and Auditing Organization for Islamic Financial Institutions (GSIFI) Governance Standard No. 7: Corporate Social Responsibility Conduct and Disclosure for Islamic Financial Institutions.

and low standard products.

- The useful production life of the investment and durable and semi durable productions, constructions, skeletons, installations and machinery should be long enough.
- Road and transportation projects should be designed in such a way to stay for a long period.
- Considerations should be observed about optimum use of energy and fuel in constructions, installations and machinery.
- Cultivating soil erosion should be prevented.
- Decreases the mortality and extends the life of human being.
- Creates clean production and prevents environmental pollution and lead to sustainable production by creating ecological production loops.
- Prevent incorrect mine extraction.
- Encountering natural incidents in project proposal to preserve the invested capital and prevents rapid or gradual product deterioration or erosion because of temperature, natural and atmospheric incidents such as humidity and acidity climates.
- Unique standards should be used in joints, machineries, systems, parts and various mechanical apparatuses.
- Prevent waste of resources due to non-optimal resource combination.

Restoring Uncultivated Lands

By observing financing regulations, bank can finance projects of restoring uncultivated lands. Government can provide its own uncultivated lands to the applicants of projects for restoring uncultivated lands, and if these lands are restored, government will transfer the restored land to restorer agent; or shares it between restorer and bank if it were financed by bank according to regulations. Lands authorities are obliged to support qualified applicants for promotion of employment and development of

agriculture, industry, mining, housing and tourism in development of different regions of the country.

Transparency, Information Disclosure and Governance

Bank and parties involved in Rastin Banking contracts should observe the supervisory regulations of central bank and Stock Exchange Organization concerning financial transparency, information disclosure and corporate governance.

Carrying Out the Purports of Enforceable Documents

In implementing Rastin Banking system, all contracts with bank are considered as official documents and enforceable. These contracts will be carried out by unit of execution of enforceable documents in bank, through the personnel of this unit. If debtor would not fulfill his commitment, after assessing the subject of the contract, the collateral will be sold through an auction; and after paying back the debt, the surplus will be paid to the owner of mortgaged. The organization, management, supervision and implementation of execution of enforceable documents will be according to banking regulations concerning Execution of Bank's Enforceable Documents and Method of Investigation of Complain of Executional Process in Rastin Banking regulations.

Safeguarding of Rastin Banking

Regarding the importance of Rastin Banking system achievements, it is necessary to establish a committee composed of experienced experts in this field as “Safeguarding Rastin Banking Committee” for five years under the supervision of central bank for the virtue of the implication, training, development and solving the probable deficiencies and obstacles of Rastin

Banking system. The organization and activities of this committee has been specified and compiled in Rastin Banking regulations. The Ministry of Science, Technology and Research will also define Rastin Banking and related financial services courses and degrees for universities such as financial marketing, assessing, supervision, intermediation and consultancy with observing the concepts and regulations of Rastin Banking system and its future reforms and developments.

In order to safeguard Rastin Banking system and the rights of depositors and entrepreneurs and all those who trust the bank, all banking personnel, from the top to bottom, at managerial and executional levels should precisely implement the regulations of Rastin Banking system and abstain any violation; otherwise, the wrongdoer will be encountered legally. Various violations and punishments and the method of investigation of violations of the employees have been defined in Rastin Banking regulations.

Documents and Regulations

All Rastin Banking Documents are accessible in full-text. There are more than sixty complementary projects to develop and extend Rastin Banking. The following legal documents have been compiled for Rastin Banking until this time:

1. Draft of Rastin Banking Bill
2. Draft of Operational Bylaw of Rastin Banking
3. Draft of Operational Bylaw of Financial Transparency, Governance and Banking Information Disclosure in Rastin Banking.
4. Draft of Bylaw of Execution of Bank's Enforceable Documents and Method of Investigation of Complain of Executional Process in Rastin Banking.

These drafts are fully adoptable for all countries that prefer to enjoy interest-free banking partially or in an integrated way.

Conclusion

Removal of *Riba* from banking operations has been one of the aspirations of religious scholars during history. To achieve this goal, we tried to mix our theoretical and experimental knowledge to develop Rastin Banking. Rastin Banking is a complete solution to banking based on Islamic and ethical teachings with scientific and technological approach. Some parts and modules of Rastin Banking have been implemented in Bank Melli Iran. The installed parts of the system are now functioning and have attracted depositors and investors, and since the procedures and instructions are well defined, the bank's staff is performing its procedures easily. The results of the test system are very satisfactory, but it needs more time for more analysis of the weak and strong points of the system.

Rastin Banking is an open-source banking model and all banks around the globe can easily install and use it. We wish Rastin banking can put important steps to remove *Riba* and establish Islamic banking.

Resources of Rastin Banking

List of Rastin Banking documents are cited at the end of this book. The Persian and English documents including detailed explanation of this banking method can be accessed through <http://www.bidabad.ir> in full texts.

Chapter One

Rastin Profit and Loss Sharing Base System (PLS)

Introduction

The similarity of transaction and usury has always created much theoretical and operational confusion for designers of interest-free banking, and the subject has been disputable as the holy Quran orders¹⁰: "*Those who take Riba (usury), resurrect messy (drunk) by contact with devil, this is because they have said: transaction is like Riba and God has made transaction Halal (acceptable) and has made Riba Haram (forbidden), therefore, whom ever has received an advice from the God and does not accept it, will be confronting with God and he will perpetuate with fire (in hell)*". The warning of this honorable verse makes human being to be cautious about the involvement of *Riba* in financial activities. Many studies of dedicated scholars in this field have led to various solutions to prevent financial activities from misgiving of involvement of *Riba*, but they are more or less with many theoretical and operational problems.¹¹

¹⁰ Baqarah: 275.

الَّذِينَ يَأْكُلُونَ الرِّبَا لَا يَقُومُونَ إِلَّا كَمَا يَقُومُ الَّذِي يَتَخَبَّطُهُ الشَّيْطَانُ مِنَ الْمَسِّ ذَلِكَ بِأَنَّهُمْ قَالُوا إِنَّمَا الْبَيْعُ مِثْلُ الرِّبَا وَأَحَلَّ اللَّهُ الْبَيْعَ وَحَرَّمَ الرِّبَا فَمَنْ جَاءَهُ مَوْعِظَةٌ مِنْ رَبِّهِ فَانْتَهَى فَلَهُ مَا سَلَفَ وَأَمْرُهُ إِلَى اللَّهِ وَمَنْ عَادَ فَأُولَئِكَ أَصْحَابُ النَّارِ هُمْ فِيهَا خَالِدُونَ.

¹¹ For example see:

- Imran Tahir, Mark Brimble, Islamic investment behavior, International Journal of Islamic and Middle Eastern Finance and Management, Vol. 4 No. 2, 2011, pp. 116-130, Emerald Group Publishing Limited.
- Masudul Alam Choudhury, The "impossibility theorems" of Islamic economics, International Journal of Islamic and Middle Eastern Finance and Management, Vol. 5 No. 3, 2012, pp. 179-202, Emerald Group Publishing Limited.
- Rasem N. Kayed, The entrepreneurial role of profit-and-loss sharing modes of finance: theory and practice, International Journal of Islamic and Middle Eastern Finance and Management, Vol. 5 No. 3, 2012, pp. 203-228, Emerald Group Publishing Limited.
- Rashid Ameer, Radiah Othman, Nurmazilah Mahzan, Information asymmetry and regulatory shortcomings in profit sharing investment accounts. International Journal

Footnote continues in next page:

One of these solutions is participation of the lender in profit and loss of the receiver of loan. This is the base of PLS banking which related scholars always observe, but in spite of simplicity of the concept, it is not easily applicable in present world and needs designing a capable system to manage sharing activities in banking organization.

To achieve the above-cited objective and rendering participation of loaner and debtor, Rastin Profit and Loss Sharing Banking is introduced. Rastin PLS banking itself is a subset of Rastin Banking. Rastin Banking system is a collection of banking operations designed to implement real Islamic banking and has tried to consider all processes, instructions, approaches, pillars, regulations and sharing organization in an inclusive way and develop a comprehensive solution in this regard which is unprecedented in its kind. Rastin Banking consists of three major parts of Rastin PLS banking (including PLS base system and its financial subsystems), complementary systems, and laws and regulations. In this chapter, we try explain the Rastin PLS banking base system.

Rastin PLS Banking facilitates real participation of depositor in profit and loss of the entrepreneur's project in a transparent framework. Bank as intermediate of funds and agent of depositor, offers him capital management services and allocates depositor's deposit to entrepreneur's projects.

Rastin Banking is a national wide project with lots of subtle technical points and we try to introduce its parts in different papers. All the terms and systems definitions are described in the Rastin Banking documents.

Footnote is continued from last page:

of Islamic and Middle Eastern Finance and Management, Vol. 5 No. 4, 2012, pp. 371-387, Emerald Group Publishing Limited.

- M. Kabir Hassan and Mervyn K. Lewis (Editors). Handbook of Islamic Banking. Edward Elgar Publishing Company, UK and USA, April 2007: 443 Pages.

Rastin PLS Base System

Rastin PLS Banking Base System refers to the main processes and general procedures of Rastin PLS Banking. On behalf and according to depositor's choice, bank invests depositor's deposit in one of Rastin PLS Products and gives him Rastin Certificate, by allocating depositor's funds to the entrepreneur's selected appraised, evaluated and assessed investment project. Bank fully supervises the project and finally distributes the principal and return of the investment among depositors and entrepreneur after deducting bank's commission. Bank as agent of depositor is responsible to use all its proficiency to preserve depositor's rights and benefits. In Base System of Rastin PLS Banking, Partnership (*Musharakah*) Certificate is used for finite projects and Subscribed (*Pazireh*) Certificate is used for infinite projects.

The rate of return in Rastin PLS Banking is calculated upon the basis of actual profit obtained in real economy and pre-fixed interest rate is overthrown. Most of rules and procedures of the Base System are applied to Rastin PLS Financial Subsystems. To enable the bank to reach the goal, this banking system has designed for its own organizational structure and workflows. New innovative financial instruments have been designed for Rastin PLS Banking and by issuing Rastin Certificates and forming block baskets of certificates; bank provides distinct conditions for depositors / transactors of these valuable papers.

Depositor can deposit and participate through the following three banking products:

Product I: Profit and loss sharing in a particular project: According to compiled rules and regulations, depositor can invest and share in a specific project by buying its Rastin Certificate and participate in the project yields

according to the nominal value of the bought certificate and duration of his participation.

Product II: Profit and loss sharing in basket of projects: By buying Rastin Certificate, depositor can invest in basket of assessed and approved (by bank) projects and participate in the yields of the project basket according to the nominal value of the bought certificates and duration of his participation.

Product III: Profit and loss sharing in profit/loss of branch/bank: By buying Rastin Certificate from a bank, depositor will participate in the profit and loss of the branch/bank according to the compiled rules and regulations. Branch/bank will provide financial reports at the end of financial year and distribute the profit/loss between the branch/bank and depositors according to the nominal value of the certificates and duration of their participation.

Finitude projects are those projects that after the end of construction period are not productive for depositors. On the other hand, these projects are not productive for depositor during utilization period. Although in some PLS financial subsystems, depositor receives installments for his principal capital and the rent of finitude projects after the construction/operational period, but these projects are not productive for depositor from the beginning of the operation period and depositor does not share the productive return of the project. Participation in finitude projects starts by buying Rastin Certificates of one of the above-mentioned products. In the first and second products, after the end of construction/operational activities of the project and its sale, and in the third kind product at the end of financial year, profit and loss will be settled according to instructions and agreements between depositor, bank and entrepreneur. The finitude projects end for bank and depositor after the construction period and

entrepreneur starts project utilization.

Infinitude projects are those projects that start operations when construction period ends. These projects can be shared via buying Subscribed Certificates and at the end of construction period and beginning of utilization period of the project, instead of distributing the return and settlement, the Subscribed Certificates of depositors will be transformed into shares of the entrepreneur's company. This will be done by bank -or by supervision of bank- and each depositor will share the capital of the company proportional to the nominal value of his certificate and duration of participation. After transforming Subscribed Certificates into shares of company, the financial participation with bank ends. Infinitude projects are productive after construction period and become operational and depositors and entrepreneur can benefit from the project return during the project lifetime according to their shares.

Partnership and Subscribed Certificates

Generally, Rastin Certificates are collection of designed certificates in Rastin PLS banking (in the Base System and its subsystems) and are defined and issued according to Rastin PLS banking regulations. Regarding the supervisory role of the trustee unit of bank, Rastin Certificates are different from prevailed valuable papers and securities and are with "certificate" prefix. Anonymity, transferability in virtual secondary market (Rastin Certificate Market), profitability for bank, market price determination according to supply and demand mechanism of Rastin Certificate Market, periodic settlement with the last owner of the certificate, allowing private, public, real, legal, national or international depositors to transact them are some characteristics of these certificates.

Partnership (*Musharakah*) Certificate is an anonymous -or named-

paper which expresses the participation of depositor in one of the PLS banking products with a defined value and is issued by bank for a defined period and its owner shares the profit and loss of the subject of participation proportional to its nominal value and duration of participation according to rules and regulations of Rastin PLS banking.

Subscribed (*Pazireh*) Certificate is an anonymous -or named- paper which expresses the participation of depositors in one of the first or second kind of PLS banking products with a defined value which is issued by bank for construction period for infinitude projects and its owner shares the profit and loss of the subject of participation proportional to its nominal value and duration of participation by becoming the shareholder of the company according to rules and regulations of Rastin PLS banking.

Rastin PLS Base System uses the two Partnership and Subscribed Certificates.

Operational Processes

Operational Stages for Entrepreneur

To participate in Rastin PLS Base System and receive financial resources, entrepreneur would take the following steps:

- 1- Getting informed about participation conditions and regulations through information portal or information counter of PLS bank branch.
- 2- Submitting project proposal to bank.
- 3- Payment of preliminary assessment fee, and submission of related information including justification report, registration documents, necessary licenses and documents to assessment unit of bank.
- 4- Assessment unit will assess the project proposal after evaluating and

confirming entrepreneur's technical, financial and managerial capability and report to PLS department of the bank.

- 5- The assessment unit will use available databases and backgrounds of the execution of similar projects by other entrepreneurs and if the project passes necessary justification criteria, - after receiving commission fee from entrepreneur - will assess the project in detail and will determine the type and amount of collaterals, guarantees and entrepreneur's amount of share.
- 6- Banks' accounting and inspection unit will evaluate the value of collaterals and guarantees according to assessment unit report.
- 7- Information of the project (regarding entrepreneur's contribution and his collaterals and guarantees) will be registered after scrutiny.
- 8- Under the guidance of bank's legal unit, Rastin bank PLS branch will sign the contract with entrepreneur. The related information will be registered in system database and entrepreneur information file.
- 9- Information portal or information counter of bank offers the information of the signed agreement and the amount of needed finance to depositors.
- 10- PLS department of bank will deliver a copy of information records of entrepreneur and all documents of project proposal including budgeting, time and phasing plan, necessary funds, method of expending resources, operational method of project, quality control, reporting method and the way of finishing and delivering the project and other necessary documents to trustee unit of the bank.
- 11- By buying the selected project's Rastin Certificates, depositors finance the project.
- 12- After providing necessary fund, bank will hand to entrepreneur according to defined schedule in project proposal.
- 13- The trustee unit supervises the project and continues supervising until

the end of project.

- 14- All documents relating to incurred costs, work schedules, operational and financial reports of the project and management letters concerning the observed inconsistencies in the process of auditing and financial reports and other necessary information will be delivered to the bank trustee unit by entrepreneur.
- 15- Supervisory reports of trustee unit concerning the physical progress of the project and executional quality of entrepreneur's execution will be handed to inspection and accounting unit of the bank on predetermined time points.
- 16- The reports of the trustee of the project under the supervision of the trustee unit of PLS department of the bank are measures for next payment of the bank to entrepreneur. All probable discontinuances of the project and its reasons should be reported and confirmed by the trustee unit; otherwise, delays will not be accepted by bank.
- 17- If the funds were not enough for the project, by studying the related document of entrepreneur's request and after confirming trustee unit, bank will issue new certificates to finance the project - during the process of the project execution.
- 18- At the end of operational activities, the profit/loss will be calculated by inspection and accounting software according to compiled instructions and "Rastin Sharing Accounting" formulas and will be distributed among depositors and entrepreneur. In the case of delay report existence, the losses incurred will be calculated.
- 19- If entrepreneur complain about the trustee's reports, the case will be put forward in Dispute Settlement Unit of PLS department. If the complaint is not settled, it will be settled by predefined arbitration process.
- 20- After deduction of bank's commission, the principal and profit/loss of

the project will be credited to depositors account and the corresponding certificates will be closed in Rastin Certificate Market.

Depositing Process

Depositor's stages to participate in entrepreneur's project through Rastin PLS bank are as follows:

- 1- By applying to information portal of Rastin Certificate Market website, or a branch of Rastin PLS bank, depositor consults with expert of information counter of PLS bank and gets familiar with Rastin PLS products, terms and regulations of depositing and select one of the Rastin PLS projects for investment.
- 2- After getting informed and selecting financial product depositor will enter the computer system and buys the related Rastin Certificate by paying its price. Moreover, specified informational forms of portal/counter, which comprises the obligations and duties of depositor and mutual agreements, are to be signed electronically.
- 3- By identifying the depositor, the computer system of Rastin Certificate Market will confirm him through his account information and finalize his registration. Regarding the kind of the selected certificate, depositor's identification code will be generated in the system.
- 4- Depositor's identification and transaction record including account number, amount of deposit, details of depositor's information and so on will be kept in the integrated Rastin Certificate Market database.
- 5- After digital conclusion of the contract, registration and receiving money, the system will automatically issue corresponding Rastin Certificate in the name of depositor according to the kind of certificate and product.
- 6- Depositor can negotiate his Rastin Certificate at market price before

maturity. Price is determined through the supply and demand of Rastin Certificates. This transaction should take place via Rastin Certificate Market of the bank. Project final settlement will be carried out with the latest owner of the certificate.

- 7- At the end of the contract (for first and second banking products) or at the end of financial year (for the third banking product) the inspection and accounting unit of bank will calculate the profit/loss by considering duration and amount of participation and kind of certificate. The settlement procedure and payment of principal and profit (if any) will take place automatically into depositor's account at the bank. Calculation of the profit of newer participants (depositors) will be carried out according to "Rastin Sharing Accounting".

Organization and Setup

The organization of Rastin PLS Banking includes steering and experts committees and PLS department with clear member's qualifications and their responsibilities and duties. PLS department of bank (with its subordinate units) manages Rastin PLS Banking and is responsible for the process of information service, absorption and allocation of funds, assessment, supervision, accounting, Rastin Certificate Market and arrangement of required coordination between depositor, entrepreneur, trustee, assessor, inspector, and other sides. PLS department enjoys from legal, assessment, accounting and auditing, financial engineering, trustee, dispute settlement committee, secretary and other necessary subordinate departments.

Rastin PLS bank branches are selected by PLS department and operate under the supervision of the branches supervision department. In addition, to possessing customary organizational and operational structure for

rendering conventional banking services (like other branches), these branches should enjoy extra PLS information and consultation services sections and cashier sections should be able to process special Rastin PLS Banking functions.

Professional Behavior of Trustee and Assessor

General regulations and fundamental pillars of professional behavior of the trustee and assessor and in general, all people involved in professions of supervision and assessment in Rastin PLS Banking has been defined and compiled in this banking method. Regarding the importance of the assessor and supervisor professions and emphasis on observing the rights of people, in case of deficiency and waste, assessor and supervisor are responsible and respondent for their behavior to stack holders.

Project Proposal

Project proposal is a signed document by entrepreneur, and comprehensively shows the justifiability of a project from economic, technical and financial points of views. Entrepreneur is responsible on the context of this document. Therefore, the entrepreneur should be certain about the correctness, precision and commonness of the information, data, calculations, forecasts and estimations of the project plan and provide documents and evidences confirming their correctness. Project plan should have detailed schedule of operations for management and supervision and accordingly, the assessor should provide checklists and supervision program for monitoring the process of physical development of all phases of the project.

Entrepreneur is obliged to provide the method of dividing the profit of the company by considering bonuses, wage increase, overtime,

accumulated profit and capitalization methods. These items should not be changed during project implementation period.

Assessment

Assessment refers to those activities and studies carried out by the bank to confirm the operational capabilities of the entrepreneur and his project proposal from economic, technical, financial and operational points of views to preserve the interests of depositors. Observing various standards and assessment necessities of projects are according to the compiled instructions. Assessment unit of the bank can perform do his duties through internal assessors, or external (legal or real) assessors.

Guarantees, Collaterals and Contributions

To assure the return and the expected profit of depositor, entrepreneur must provide enough and reliable guarantees and collaterals. Entrepreneur must also have cash and noncash contribution in the proposed project.

Insurance

To promote relative certainty and prevention of probable losses and to cover depositor, bank, entrepreneur and other involving persons against risks; various kinds of predefined insurances regarding different PLS products and certificates are to be engaged according to compiled instructions.

Setting the Contract

To provide possibilities for people to implement profitable economic projects, depositors receive Rastin Certificate equal to their deposits. Method of setting contract and necessary items to be set in the contracts

among bank, depositor, entrepreneur, trustee and assessor have been defined and anticipated in contract forms and procedures.

Supervision

Supervision refers to activities and policies carried out by PLS bank to observe depositor's right for better implementation of project operation. During the execution of project, bank supervises the goodness of the operational works of the project via trustee unit of PLS department and adopts necessary policies. Observing all necessary standards and supervisory obligations are in accordance to the prepared instructions. Trustee unit supervises the project by employing trustee from inside or outside the bank. Outsourced trustees may have real or legal personalities. Trustee unit is formed of financial and technical (engineering) trustee persons. Trustee should have a good experience, technical skills, past related operational records in the subject of the project and had expert personnel and necessary capabilities.

Entrepreneur

To select entrepreneur properly, the assessment unit of the PLS department should assess the capabilities of entrepreneur from technical, performance and management viewpoints. Entrepreneur should have experience, expertise and technical knowledge related to the project accompanying with technical and managerial capabilities of absorbing and using experts for proper exploitation of depositors' resources. Professional experiences, past acceptable operational record, with the subject of project are among major measures in admitting technical capability of entrepreneur. Moreover, entrepreneur should possess acceptable reputation, bound to meet his obligations in his past records and should not have outstanding debts to banking network.

Financial Transparency

To assure observing legal regulations and entrepreneur's company approvals and preventing various forms of corruptions in relation to financial reporting, entrepreneur is obliged to provide transparent information and he or the head and members of management board and executive director of the entrepreneur company are responsible and responsive about company financial reports. Necessary financial transparency of entrepreneur firm has been compiled and is compulsory for participating firms in PLS banking.

Information Disclosure

To acquire transparency of Rastin Certificate Market transactions, and provision of fair conditions for all market actors, the entrepreneur firm is obliged to disclose financial, operational, physical development of the project and other important information. This should be done in bank's website, vis-à-vis entrepreneur firm's website publicly after approving project proposal and during the executional stages of the project from the time of signing contract until the end of settlement.

Governance

Corporate governance is a collection of rules, regulations, structures, processes, cultures and systems, which make the firm to act according to laws and regulations in observing rules, regulations, responsiveness, transparency, fairness, truthfulness and keeping the rights of stack-holders and the contract parties. Necessary contents of governance instructions have been defined in Rastin PLS Banking and are obligatory.

Auditing

Auditor will be selected from members of the Official Auditor Society of country with bank's agreement to audit entrepreneur firm accounts. The entrepreneur has to provide necessary conditions for implementing various phases of auditing, especially implicit auditing during the implementation of project.

Rastin Sharing Accounting

Interest rate is not used in Rastin PLS banking to calculate present or future values income streams or assets values. The base for calculating timed-based-values of capital in Rastin Sharing Accounting system is the value and the duration of participation in every sharing activity. Accounting documents and financial operations of each project are kept separately and profit/loss and all financial results of each project affects only to that project. The share of depositors and entrepreneur from the sale price of the project is in accordance to Euler's value added (income distribution) theorem, which is based on the added values of the factors of production (labor and capital) according to their productivity.¹²

Change in Time Schedule

By supervising financial and operational activities of the project, bank will calculate the amount of delay and work-stop. If the project is not finished at due date, the trustee will assess the cost and income by obtaining estimated prices from similar available commodities at the market, accompanying with the documents to estimate the losses due to project delay. The effects of price changes because of delayed schedule will

¹² Tibor Scitovsky (1964), The Behavior of Income Shares: Selected Theoretical and Empirical Issues, National Bureau of Economic Research, <http://www.nber.org/books/unkn64-1>

be calculated according to Rastin Sharing Accounting system instructions without interfering interest rate and will be received from the entrepreneur and paid to depositors.

Settlement

Auditing authority for expenses of entrepreneur is trustee unit of PLS Department. Trustee unit is responsible to supervise entrepreneur fund consumption, bookkeeping, financial reporting and executive operations of the project. Unconfirmed expenses of entrepreneur are not regarded as project's expenditures or cost and should be paid by entrepreneur himself. Legal costs such as tax and other legal charges accepted by the trustee unit are acceptable project costs.

For finitude and infinitude projects, with any productive asset¹³, rental asset¹⁴ and dead asset¹⁵, settlement methods for clearing accounts with depositor and entrepreneur has been defined in compiled instructions considering the corresponding subsystem and the type of Rastin Certificate. If the certificate-holder wants to terminate his participation before the end of his participated project, he can sell his certificate in Rastin Certificate Market.

Bank's Receipts

To cover the costs for providing capital management services, including assessment, supervision, financial engineering, auditing and other costs during the execution of project, bank will receive commission from entrepreneur proportion to fund allocation in each phase. These costs are included as accepted costs of the project.

¹³ "Productive assets" refers to the assets of an operating firm.

¹⁴ "Rental assets" refers to those assets, which can be let.

¹⁵ "Dead assets" refers to non-operating (suspended) firms or uncultivated lands assets.

Transforming Certificate into Share

At the end of the sharing contract in infinitude projects, bank transforms Subscribed Certificates into shares of the company according to the nominal value and duration of certificate participation in the project. The ownership of the project will be transferred to certificates-holders as shareholders and settlement with depositor is done. This procedure has been defined in related compiled instructions.

Inspection and Commodity Standard

The inspection of raw, intermediate and consumption materials (including quality, amount, kind of packing, defined standards and other related matters according to the contract) bought, and the final product of the project will be carried out by trustee unit or inspection companies confirmed by the trustee unit of bank's PLS Department.

Delivery of Goods

At the end of contract, the commodity will be inspected and sampled at entrepreneur's warehouse by predefined authorities.

Auxiliary Financial Tool

Rastin Certificate basket is a financial basket, which includes Rastin Certificates of various projects financed through Rastin PLS Bank. In order to maximize the return and minimize the risk, the financial engineering unit of bank's PLS Department defines various baskets of Rastin PLS products and offers them to depositors.

Unexpected Incidents (Force Majeure)

Unexpected and unavoidable incidents (force majeure) are those incidents, which are not under the control and prevention of the contract parties and prevent meeting of the contract obligations. The settlement of these incidents has been defined in related instruction.

Arbitrary

The settlement of all conflicts between bank, depositor, entrepreneur and others engaged in Rastin PLS Banking are done by applying to pre-assigned arbiter and admitted by both sides of the conflict and will be according to General and Revolutionary Courts Procedure Law.

Financial Subsystems

Financial subsystems of Rastin PLS Banking are defined as financial methods for financing specific financial needs. These subsystems work under the general regulations of the Rastin PLS Base System and are as follows:

1. Joalah Financial Sharing (JFS).
2. Mudarabah Financial Sharing (MFS).
3. Installment Financial Sharing (IFS).
4. Rent Financial Sharing (RFS).
5. Bail Financial Sharing (BFS).
6. Rastin Group Funding (RGF).
7. Rastin Personal Security (RPS).
8. Rastin Social Takaful (RST).
9. Sponsor Crowd Funding (SCF).
10. Peer to Peer Loan (PPL).

11.Rastin Swap Bond (RSB).

Complementary Systems

Complementary systems of Rastin Banking refer to innovations, platforms and supplementary Rastin Banking methods and include the following systems:

- 1- Rastin Certificate Market (RCM).
- 2- Crowd Funding System (CFS).
- 3- Operation Control and Monitoring System (OCM).
- 4- Mortgage Securitization System (MSS).
- 5- Collateral Registration System (CRS).
- 6- Interbank Withdrawal Protocol (IWP).
- 7- Non-usury Scripless Security Settlement System (NSSSS).
- 8- Money Laundering Detection System (MLD).

Instructions

Draft of Rastin Banking Bill and Draft of Operational Bylaw of Rastin Banking compromise all necessary regulations to perform Rastin Banking.

Conclusion

In this chapter, we had a glance at Rastin PLS Banking Base System. Rate of return in Rastin PLS Banking is calculated upon the basis of real actual profit obtained from real economy; and prefixed interest rates are eliminated. The Base System of Rastin PLS Banking constitutes the main processes and general regulations of Rastin PLS Banking. On behalf of depositor, bank invests his deposit in one of Rastin PLS products and receives a Rastin Certificate for the related project. Bank allocates the

depositors' financial resources to entrepreneur of the project and supervises his activities; and finally distributes the profit/loss of the project according to the compiled regulations and instructions and receives commission from both sides for offering this capital management service. In Base System of Rastin PLS Banking, Partnership (Musharakah) Certificate is used in finitude projects and Subscribed (Pazireh) Certificate is used for infinitude projects.

This system is completely new and has just been installed in some branches of Bank Melli Iran. However, the system is now functioning and has attracted depositors and investors and since the procedures and instructions are well defined, the bank's staff could perform it well. The results of the test system are very satisfactory, but it needs more time for more analysis of the weak and strong points of the system.

Resources

The Persian and English documents of Rastin Banking including detailed explanation of this banking method can be accessed through <http://www.bidabad.ir> in full texts.

- Imran Tahir, Mark Brimble, Islamic investment behavior, International Journal of Islamic and Middle Eastern Finance and Management, Vol. 4 No. 2, 2011, pp. 116-130, Emerald Group Publishing Limited.
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Chapter Two

Joalah Financial Sharing (JFS)

Introduction

Many firms plan to receive their input materials or intermediate commodities for their future production. Financing working capital of the firms is a usual need of bank's clients. In order to finance working capital for productive firms, "Joalah Financial Sharing (JFS)"¹⁶ as a financial subsystem Rastin PLS banking is introduced. In this system, regardless of bank to be governmental or private, bank works as monetary intermediate or as an attorney or agent for providing capital management services for the buyer of goods and provides financial needs to provide working capital for production of specified goods.

Accordingly, in JFS, bank receives producer's proposal and financing proposals from two different firms. In this case, the borrower is considered as the seller (producer) of the commodity. In order to provide necessary facilities for expansion of productive activities and specially financing working capital and providing raw material and equipment, JFS is used. Bank manages the financial needs of the producer (seller) of goods according to the request of the buyer by issuing Future Certificate for the buyer. Bank is financial intermediate, and collects necessary fund from the buyers or depositors and pays it to the producer (agent). The agent (producer) is necessarily a legal entity. *Joalah* Financial Sharing (JFS) works under the regulations and general instructions of Rastin PLS banking.

Based on JFS mechanism, a new financial instrument called "Future Certificate" is defined with general characteristics of Rastin Certificates

¹⁶ بیژن بیدآباد و همکاران. مشارکت مالی جعاله (JFS)، زیرسیستم بانکداری مشارکت در سود و زیان (PLS)، بانک ملی ایران، تهران ۱۳۸۹.

and clear differences with prevailing future contracts in global bourse markets. Future Certificate is issued according to *Joalah* contract as a financial instrument on the request of the borrower to finance revolving working capital through purchaser or depositor. This certificate is anonym, and can be transacted in Rastin Certificate Market and the latest certificate holder will be the owner of the subject of contract to receive the produced good.

All the activities will be carried out according to the prepared compiled instructions. The structure and organization of PLS banking is used in JFS accordingly.

Joalah

Joalah terminologically means carrying a job for receiving wage; and in epithet is the process of doing something to obtain a benefit in return¹⁷, or in other words, it is the obligation of superposer (*Jael*) to pay a wage to the agent to perform a Sharia-compliant or wisd-accepted task.¹⁸ *Joalah* is a Sharia-signed commandment, and had been prevailing before the Prophet Muhammad (PBUH)¹⁹. In *Joalah*, superposer (*Jael*) should propose the job²⁰ and it is a revocable contract by the agent.²¹ Civil Law defines *Joalah*

¹⁷ شهید ثانی، الروضه البهیة، ج ۲، ص ۲۴۹. مصحح: حسن قاروبی تبریزی. دارالتقریر قم، چاپ سوم، ۱۳۸۲. و شهید ثانی، مسالک الافهام فی شرح شرایع؛ ج ۱۱، ص ۱۶۳، موسسه نشر معارف اسلامی، چاپ سوم، ۱۴۲۵.

¹⁸ خمینی، روح الله موسوی، تحریر الوسیله، ج ۱، ص ۵۳۸، موسسه نشر اسلامی، چاپ دوم، ۱۳۶۵.

¹⁹ Quran, Josef: 72: *we have lost king's vas and I guarantee to pay him back a camel of cargo if any one finds it.* «قَالُوا نَفَقْدُ صَوَاعَ الْمَلِكِ وَلَمَنْ جَاءَ بِهِ حِمْلُ بَعِيرٍ وَأَنَا بِهِ زَعِيمٌ». See Tafsir al Mizan, Allameh Saied Muhammad Husain Tabatabaee, Islamic Dar ul Kotob, 4th printing, Vol. 11, P. 2415, Tehran, 1982.

²⁰ کاتوزیان، ناصر، حقوق مدنی، درس‌هایی از عقود معین، تهران، گنج دانش، ۱۳۷۸، چاپ دوم،

Footnote continues in next page:

as²²: “*Joalah* is obligation of doing a job for a defined bonus, whether the agent is defined or not. One who promises is called superposer (*Jael*), and the other side is called agent and the bonus (wage) is called *Jol*. In *Joalah* it is not necessary to define the bonus for all points of view; therefore, if someone promises to give the agent a share of a lost asset, the *Joalah* is correct. In addition to undefined agent, it is not necessary to define exactly the quality of action. *Joalah* is a breakable commitment and each side can put an end to the contract before it is finished, but if the *Jael* cancels the job, he should compensate the agent proportional to the work agent has done at similar job rates. If the job has different parts, and each part was necessary for the *Jael*, and the contract is cancelled, *Jael* should pay agent proportional to the job the agent has done according to the wage or commission they have had agreed (whether the *Joalah* is cancelled by *Jael*, or by the agent). The agent can claim the total wage (*Jol*) when he has finished the job or delivered the subject of *Joalah*. If different agents have been working on the job, they receive wages proportional to the amount of the work they have done. The commodity that is the subject of *Joalah* is considered as safekeeping in hands of agent, before delivery to the *Jael*. *Joalah* for non-Sharia or irrational work is nullified.²³

Joalah Financial Sharing (JFS)

Joalah is the obligation of superposer (*Jael*) to pay some known wage

Footnote is continued from last page:

صص ۲۷۰-۲۸۰. و امامی، سید حسن، حقوق مدنی، تهران، انتشارات اسلامی، ۱۳۵۲، چاپ چهارم، ص ۱۲۳.

^{۲۱} شهید اول، دروس ج ۳، ص ۱۰۰، موسسه نشر اسلامی، قم، چاپ اول، ۱۴۱۴. شهید ثانی الروضه البهیه، مصحح، حسن قاروبی تبریزی، ج ۲، ص ۲۵۱ و ۲۵۲، دارالتقریر، چاپ سوم، ۱۳۸۲.

²² Civil Law of Iran, articles: 561-570.

²³ Article 16th of Usury-free banking operations law: Banks can facilitate production and commerce by *Joalah*.

(*Jol*) for conducting a special job according to the contract. The one who carries the job out is “entrepreneur” or “producer”. In JFS, the one who needs resources for working capital offers his proposal to PLS bank. In this case, the person who requests for fund is buyer of commodity and the supplier is regarded as seller (producer/entrepreneur) of the commodity. Meanwhile, bank finances the supplier according to the demand of buyer after receiving the fund (from the buyer or depositor) by issuing Future Certificate for the buyer or depositor. Bank is a financial intermediate in this approach, and collects funds from the buyers/depositors and pays to producer /entrepreneur.

The agent should necessarily be a legal entity. *Joalah* activities under JFS are defined under the general regulations and standards of Rastin PLS banking in addition to particular own JFS specifications and considerations. The trustee unit of bank’s PLS department carries out all supervision to fulfill the commitments of both sides.

The subject of *Joalah* is engaging the capital of buyer by production firm for provision of intermediate and auxiliary internal or imported raw material, spare parts and equipment. Regarding the subject of contract and its conditions, phases of carrying out the working production process and time of deliverance of goods to buyer and by observing the Rastin banking PLS instructions; duration of *Joalah* contract is set.

First, bank signs a preliminary contract with buyer and the latter undertakes to pay the *Jol*. *Jol* is defined by bank by considering the subject of *Joalah* activity and bank services and meanwhile, bank obtains the right to partial or complete turnover right of the *Joalah* activity to a third party by a secondary *Joalah* contract and works as buyer’s agent.

Joalah Financial Sharing 3 (JFS3) Process

In this process, we have three parties of bank, agent (producer /entrepreneur) and buyer. That is why it is called JFS3. This process is a simple kind of *Joalah* Financial Sharing (JFS). We have the following phases in this process as shown by figure 1:

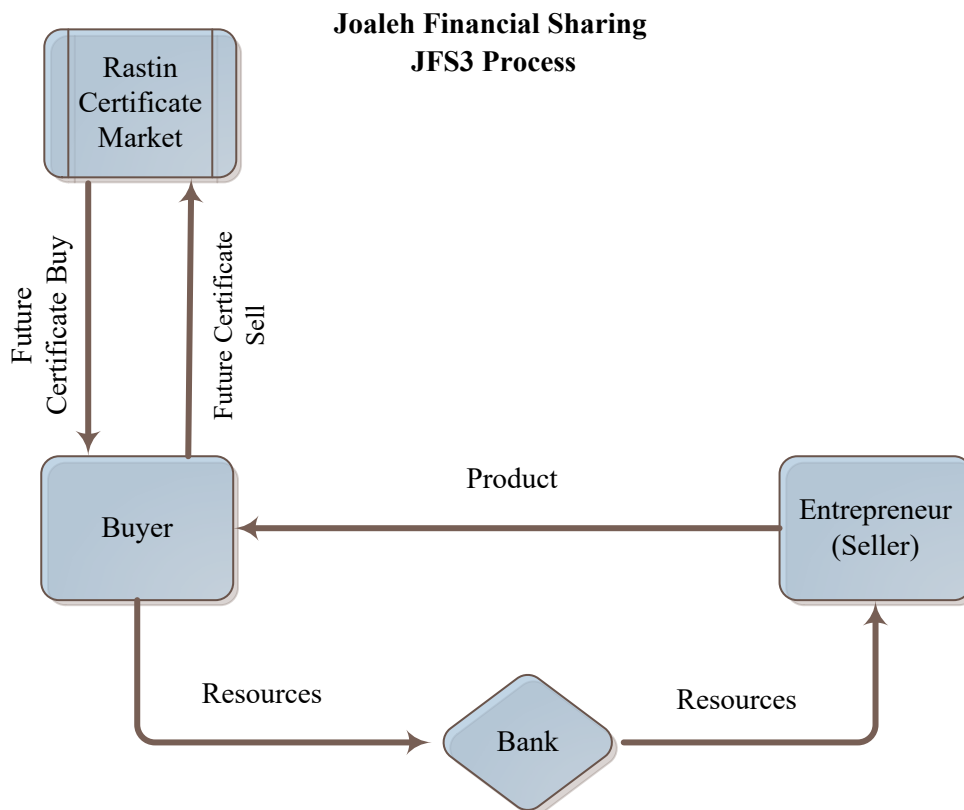


Figure 1

1. Bank receives the sources from the buyer, and issues Future Certificate and pays it to the buyer.
2. According to the signed *Joalah* contract with the agent, bank will provide the necessary fund for entrepreneur.
3. The agent (entrepreneur/producer) will produce the commodity and delivers it to the buyer – under the supervision of trustee unit of PLS department of bank.

Joalah Financial Sharing 4 (JFS4) Process

In JFS4 process, there are four parties which are: bank, agent (producer/entrepreneur), buyer and depositor and that is why called JFS4. We have the following phases in this process as shown by figure 2:

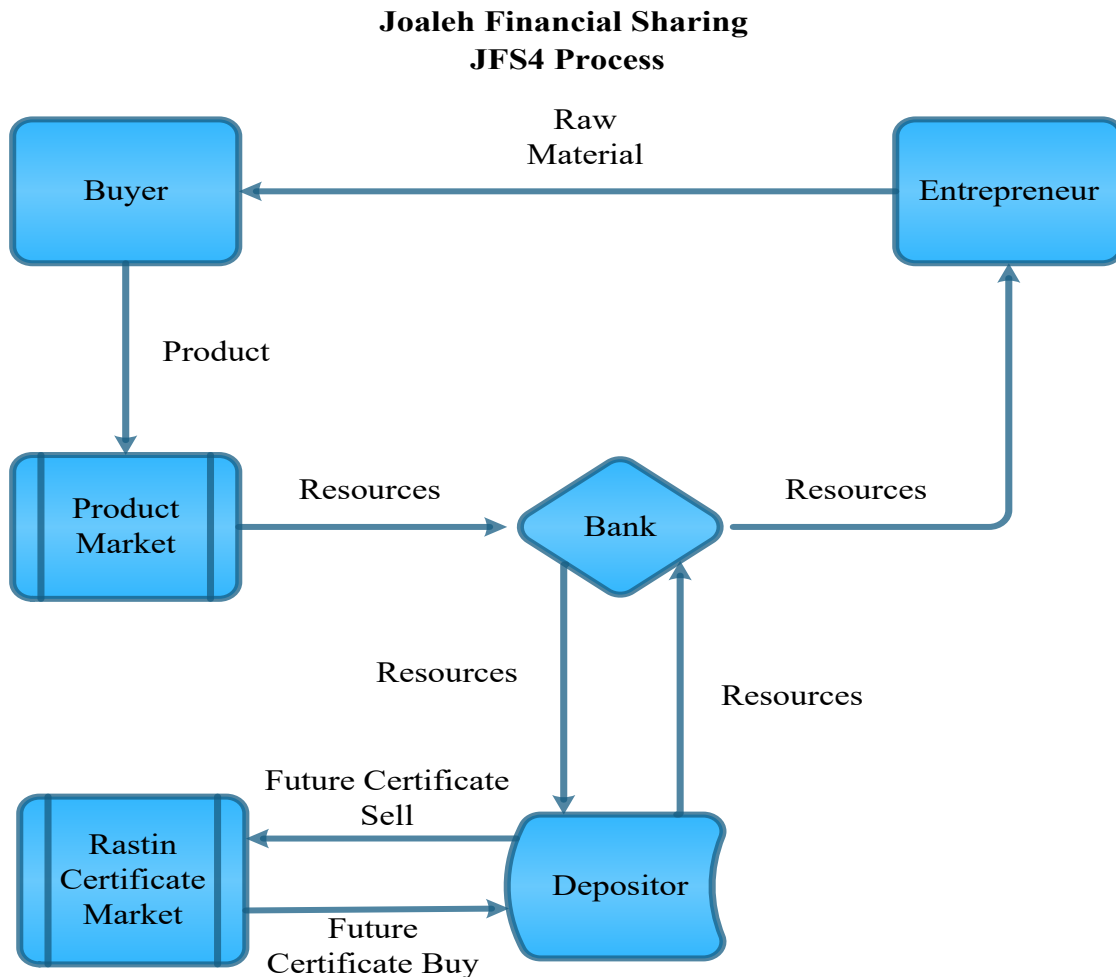


Figure 2

1. Bank receives funds from depositor and gives Future Certificate to depositor.
2. According to a *Joalah* contract with the agent, bank provides him resources for providing raw material for the firm.
3. According to another contract, the buyer's firm produces the products and sells them in the market under the supervision of trustee unit of PLS department of bank.

4. Buyer pays the selling price to bank.
5. Bank settles with depositor by paying him.

Derivatives in Global Financial Markets

Derivatives are kinds of financial contracts, which explain a kind of value derived from a commodity or asset (base asset) and can be share, commodity, interest rates, foreign exchange or other assets. Derivatives today are defined in forms of Futures, Forwards, Options, and Swaps with particular characteristics.

Future contract: is an agreement for buying or selling a specific asset with a specified price at a specific time in future. Parties in future contract commit to transact a commodity with specific quality at specific price and time and according to the signed contract and thereof, the buyer is not worried about the future price increase, and the seller is not concerned about the future price decrease. Future contracts are made in official markets or bourses and they somehow prevent future price fluctuations. The price of base asset is not paid until the maturity, but the both sides deposit certain amounts at clearing house as a guarantee for goodness of promises. Those who buy future contracts commit to deliver the asset at delivery date or final settlement date, and take a long (selling) position. The position of deliverer of the asset to the buyer is called short (buying) position. Future contracts are usually negotiable in secondary markets.

Forward contract: is similar to future contract with the exception that the future contract can be transacted in bourse, but forward contracts are transacted in over-the-counter (OTC) markets. Over-the-counter market is formed on the neighborhood of bourse markets, and has no specific location and is formed by cable or internet connections of dealers. Because

of the credibility of the contract parties, total amount of transaction is paid at the time of delivering goods.

Many believe that selling shares and future contracts by installment in which the interest rate calculation is involved -considering duration- enter the realm of usury (*Riba*). But the other instruments such as “production order papers” or, “*Istisna*” are not included in this category. Of course, those instruments involving interest rate based calculation are considered in the realm of *Riba* in juristic point of view. Therefore, there are two views about future contract. One asserts that future contract is (*Kali-be-Kali*)²⁴ transaction of a debt. That is the seller will sell and deliver the commodity at maturity to the buyer and the buyer will obtain the commodity and buy it at maturity. In this contract, money is paid in future at time of delivery. If we consider the future contract under this concept, it can be regarded as *Kali-be-Kali* transaction and the doubt of transacting *Kali-be-Kali* or debt-by-debt can be raised in this concept. At present or cash transaction, money and the good are interchanged without involving time. In credit transaction, the commodity is delivered at present time, but the money is paid later. In *Salaf*, the commodity is delivered later, and in *Kali-be-Kali* transaction, both commodity and money are delivered at maturity. That is why interest might involve in transaction. Therefore, if payment of money and delivery of good are made in future, the transaction might become *Kali-be-Kali*. In the second view, no transaction takes place, but both parties commit to transact in future time, which means that a seller promises to sell a specified commodity at specified time and price to the buyer. Meanwhile, the other party (buyer) promises to buy the specified commodity at specified time and price from the seller. In other words, they are just transacting their commitments. Sunni jurists believe future contracts and

²⁴ *Kali-be-Kali* is a transaction that seller sells specific amount of a commodity to be delivered in future; and buyer purchases the commodity to be received in future.

transactions as term selling for term payment, which is a *Kali-be-Kali* transaction and enters into the realm of *Riba*. But, this would not be true, if interest rate is not involved, that is transaction is of the form of term-buying (*Bayae Moajjal*). From legal point of view, future contract is a selling commitment facing a buying commitment and is considered as a purchase order.

Option: generally, option contracts are divided into two groups: “call option” and “put option”. In this contract, option holder or option issuer or option writer has the right to transact (sell or buy) a base asset. The call option holder has the right to buy the subject of contract at certain price up to a certain time, but is not obliged to do so. In addition, a put option holder has the right to sell the subject of contract at certain price up to a certain time, but is not obliged to do so. The written price in the contract is called “strike price” or “exercise price”. The written date in the contract is called “expiration date” or “exercise date” or “maturity”. The “European (call/put option)” permits the action only at the maturity, while “American (call/put option)” allows transaction from the beginning to the maturity period. Another kind of option is called “Bermudan option” which can be carried out a few days before the expiration date of contract. Asian options, also called “Average options”, are settled at the average price of asset in the option period. Option certificate is negotiable at secondary market.

In call option, after paying some specified amount of money to the seller of option, the buyer will have the right to buy the specified asset with specified quality before expiration date, but is not obliged to buy. The seller is also obliged to sell and deliver it to him if the buyer applies before contract time is expired. If option holder does not apply his right within the agreed period, his right will be taken away. In put option contract, the buyer of put option will have the right to sell the specified asset with

specified price within the specified time to seller of put option after paying him the contracted amount of money. This is just a right or privilege to sell and not obligation to sell. When the buyer of put option uses his right at maturity, the seller of put option is obliged to carry out his commitment according to the context of contract.

Options are applicable in any kind of contract. For example, it is possible to give the right of extending rental period to one who has leased; or an issuer of a valuable paper can give the put option of the papers at special price to buyer for a period of, say, 3 years. In addition, a person can for example buy an option conditioned to sell his own one hundred shares within future six months at certain price.

Islamic jurists have different views about options. Some believe option necessitates a major loss for seller and is not fair and rational.²⁵ Since in option paper it is not specified that the buyer or seller is obliged to carry out the action, and we do not know whether price goes up or down until maturity date, this view is not right. Some do not consider option as “transaction”, because in transaction price should be specified, while in option it should not.²⁶ This criticism is because of narrow description of transaction. In broad description, transaction is a contracts in

²⁵ احمد محيى الدين حسن، عمل شركات الاستثمار الاسلاميه. نگاه كنيد به: عصمت پاشا، عبيدالله، فلسفه و سير تكاملى ابزارهاى مالى مشتقه و ديدگاههاى فقهي، ترجمه على صالح آبادى، فصلنامه تخصصى اقتصاد اسلامى، شماره ۹، بهار ۱۳۸۲.

عبدالحميد الرضوان، سمير، اسواق الاوراق المالىه، قاهره المعهد العالمى للفكر الاسلامى الطبعه الاولى ۱۴۱۷ق. ص ۳۶۳-۳۶۱.

البروارى، شعبان محمد اسلام، بورصه الاوراق المالىه من منظور اسلامى. دمشق، دارالفكر، ۲۰۰۲م/۱۴۲۳ق. البروارى، ۲۰۰۲. ص ۳۴.

²⁶ الزحيلي، وهبه، المعاملات المالىه المعاصره بحوث و فتاوى و حلول، دمشق، دار الفكر، الطبعه الاولى ۱۴۲۳ق. صص ۵۰۹-۵۰۲.

which any legal condition can be agreed on by counterparties. The view of Islamic jurisprudents about the similarity of option to “*Araboob/Oroban* transaction” has created controversial views. *Araboob* transaction is a transaction in which some money as down payment is prepaid to the owner for buying the commodity. If the buyer buys the commodity at mature date, the down payment will be considered as a part of the total payment; otherwise, the down payment will not be paid back to buyer and will be owned by seller. This type of transaction is prevailing in housing sector of Iran by the title: “written promise” or “preliminary agreement”. Some Sunni jurisprudents believe these agreements are false because of narration reasons.

The probability of deceiving (*Qarar*) and misappropriating of money and the existence of granting and rejection are raised because of dissatisfaction conditions and buying without payments that make the transaction false, because of irrationality. This is because, in signing transaction contract, both parties consider the aptness of each other and sign the contract willingly. Of the conditions of aptness is being sane, and not being bankrupt or unwilling. Therefore, deceiving (*Qarar*) and misappropriating of money and the existence of granting and rejection because of dissatisfaction conditions and buying without payment are canceled and its risk is not more than spot buying. This transaction cannot be compared with unknown cancelation option, which has no dead line. This is because in spite of unknown cancelation option, the conditions for ownership of buyer at the maturity date are explicitly described in the contract.

Some believe option is false, because in this contract, commodity and money is not interchanged, and principles of transaction are not assured, and it cannot be changed to conditional cancelation option. If this is true,

forward deal also should be false. In options, goods and money are exchanged, because selling and buying are accompanied with giving and obtaining.

Some others believe options are kind of gamble on future prices and therefore, it is false²⁷. If this is a true conclusion, all other transactions, especially forward deals should be considered as gamble, because by changing prices, the profit of the parties will change and similarly, trade and commerce looks like a legitimate gamble. Some others consider this contract illegal because it is included in non-propertied transactions, conditional benefits for one party is in opposite to option right in contradiction to necessities of contract, and because of including extra expedience with usury doubt and having mortgage nature.²⁸

Some do not consider transaction on right to be true. While if something is customary considered as fair and the subject of transaction complies with Sharia, and it is not considered as prohibitions, it can legally be transacted. Some others have gone so far to say that this is a new-artificial contract and is not in the domain of *Sharia*-complied contracts.²⁹ This view is against jurisprudence (*fiq'h*) dynamism, which is a discussing matter between Sunni and Shiite ways of thinking.

Forward transaction (*Salaf*): is a contract in which both parties commit to transact a commodity with special specifications and with special price at

²⁷ البروارى، شعبان محمد اسلام، بورصه الاوراق الماليه من منظور اسلامى. دمشق، دارالفكر، ٢٠٠٢م/١٤٢٣ق.، ص ٢٣٥.

²⁸ عبدالحميد الرضوان ، سمير ، اسواق الاوراق الماليه ، قاهره المعهد العالمى للفكر الاسلامى الطبعه الاولى ١٤١٧ق. صص ٣٧٢-٣٦٣.

²⁹ الزحيلي، وهبه، المعاملات الماليه المعاصره بحوث و فتاوى و حلول، دمشق ، دار الفكر، الطبعه الاولى ١٤٢٣ق. ص ٥١٢.

specific future time. Total amount of transaction money is given to seller at beginning and at the end; the commodity is transferred to the buyer. Forward transaction is a kind of future contracts, and even though they are often signed outside the bourse; but have not much difference with futures and their most important difference is the higher amount of down payment.

Istisna: is a kind of future contract in which parties commit to transact a commodity with specific specifications and with specific price at specific future time but the payment is by installments along the contract period.

Swap contract: is a kind of contract in which, parties commit to interchange two specified assets or their yields for a certain period.

Future Certificate in JFS

By implementing JFS, bank offers a new financial instrument of “Future Certificate” which has special specification quite different to prevailing future contracts in global bourse markets. Standard future contracts are issued in bourse transaction markets for selling a certain amount of specific goods in future, in which buyer deposits a percent of total price with a third party (usually bourse organization) and seller commits to render the good to buyer at mature, otherwise, the deposit will be given to buyer. These contracts are negotiable in bourse market and can be changed by an offsetting contract or cancelled by agreement. This is the “scalability” of future/forward contracts. In this contract, buyer and seller agree on the future price of the commodity. Arbitrage operation on buying and selling future contract will change the transaction value of the contracts and future price and spot price of commodity tend to each other. Usually, close out of the contract or offsetting contract in clearing house can put an end to the contract. Commodity future contracts are different from interest

rates future contracts on bonds, and to some extent, on foreign exchanges in which interest rate is involved in discount calculation of spot price by considering margin money and good-faith deposited or earnest money for which may include *Riba*. This is because; some of future contracts have specific yield and time will change the discounted spot value equal to the interest of margin money. In other words, it involves *Riba* at least equal to the amount of interest of the deposited money. The more is deposited money, the more *Riba* is involved. Future contracts with different subjects such as grains, meat, metals, edibles and fibers, energy and wood are prevailing in nowadays bourses.

Future contracts are usually have standard definitions, but some of them are defined as “Mini contracts” which is a fraction of a standard future contract and has more applications for contractors or for exchanging with standard future contracts.

Future prices of these contracts involve many considerations such as supply and demand and future price forecasts at maturity, which are different for various commodities and different seasons.

Margin money kept for future contracts does not create any ownership right on the subject of contract and it is just a guarantee for undertaking the committed contract. Future contracts are negotiable in bourse halls and people willing to enter these contracts can announce their wishes. In addition, this activity is carried out on internet easily. In ordering forward deals (purchase order/sell offer), it should be mentioned whether order is for selling or buying, the amount, name and specifications of the commodity, delivery time and price range are considered. Usually bourse dealers carry out the orders.

Future contracts can be carried out on real and absent commodities.

Since future contracts are exchangeable, we can see many contracts in bourses without exchanging any commodity and they just indicate some obligation between buyers and sellers. This will increase financial papers in circulation in, and involves them in broad definition of money and have increasing effects on volume of quasi money and therefore, affects the economy through weakening monetary policy in the country. Because monetary authorities do not supervise these transactions; moreover, exchanged physical commodities is less than the exchanged papers. This is one of the defects of these transactions, which can create economic crisis in country.

Differences between future contracts in nowadays bourses and Future Certificates of JFS can be put forward as follows:

1. In Future Certificate, 100% of the future price should be submitted to seller at beginning.
2. Each issued Future Certificate is related to a real specific good and cannot be changed with a compensatory or offsetting contract.
3. The seller is a producing firm with a legal personality.
4. Bank works as financial intermediate by absorbing funds and allocating to seller.
5. Good-faith deposit is only taken from the seller (producer) as guarantees or other collaterals.
6. After the end of contract, the subjected commodity will be delivered to buyer according to signed contract and under supervision of bank commodity is delivered and contract is finished.
7. Future Certificate can be transacted in Rastin Certificate Market but has not exchangeable or offsetting properties and therefore, the latest holder of Future Certificate will be the owner of the subjected commodity of contract at maturity.

8. Trustee unit of PLS bank supervises the allocated funds to producer and his production operation to fulfill his commitments.
9. Future Certificate can be used for financing working capital of producing firms and cannot be used to finance firm's fixed capital.

General Executive Mechanism of Future Certificate

PLS bank issues Future Certificates to respond the request of the applicant firm (buyer) to finance working capital of the producing firm according to primary and secondary *Joalah* contracts as a financial instrument based on JFS instructions. The face value of Future Certificate is equal to the price of the real commodity of the *Joalah* contract and has not the offsetting and exchangeable properties similar to conventional futures contracts. Bank obtains guarantee or collaterals for the fund delivered to producer and issues Future Certificate for buyer (or depositor) in substitute of his fund. The maturity date of Future Certificate is determined according to the *Joalah* contract and *Joalah* contract will be terminated after delivery of commodity to buyer.

Future contracts are anonym digital transferable papers and can be transacted in secondary market of Rastin Certificate Market; the latest certificate holder will be the owner of the produced commodity at maturity. The certificate is just used to finance working capital and cannot be used to finance fixed capital of producing firms. Future Certificates are issued at the time of signing *Joalah* contracts and are valid until maturity and delivery date. The maturity date of Future Certificate is the end of *Joalah* contract. Of course, if the *Joalah* contract is extended according to PLS banking instructions and regulations, the maturity date of Future Certificate will be extended accordingly. If producer does not deliver commodity at maturity, the case will be treated according to JFS and PLS banking

instructions considering the written agreements of the contracts, regarding instructions of delay and dishonoring. According to general Rastin PLS banking instructions, Future Certificate market price is determined according to supply and demand of certificates in Rastin Certificate Market. By supervising the goodness of activities of producer/entrepreneur, bank will monitor the delivery of commodity and in the case of producer dishonoring; and will seize the claims through the guarantees and collaterals of entrepreneur according to regulations.

Client Relations Operations

By applying to information portal of Rastin Certificate Market on internet, and studying regulations concerning various products and services, producer and buyer get familiar with JFS facilities and if necessary, consult with PLS banking branch expert. Assessment unit of PLS bank assesses the competency of producer and buyer by and if acceptable, then bank will sign up contract with them. If the applicants' information is already available in the databank of the bank, the procedure of assessment will be shorter. After passing assessment process, producer and buyer should provide all documents concerning their mutual written agreement on price, and amount of commodity, method of providing raw material, packaging and delivery, quality and characteristics of the raw material and final good, obligatory and national standards and buyer's optional standards, controlling method of raw material and final good, production and delivery timing, production procedures and other related instances. Documents and information together with filled forms will be entered into computer system of information desk. The proposed projects, together with information about the clients are saved in proposed projects file and a copy will be sent to agent assessment unit for detailed assessment.

Buyer Operations

By agreement with producer and applying to Rastin Certificate Market on internet, or after applying to one of the PLS branches and consulting with the expert at information desk, the buyer will become acquainted with participation products, conditions and JFS. After selecting project, forms will be given to him to be filled, then, the related documents together with related information will be preliminary entered into computer system and the client will be introduced to cashier desk. After receiving the related fees and assessing the registered data, the cashier desk will confirm and finalize the registered data. The follow up code will be issued for client. The related record, including client's code, account number, the amount of his deposit, identity card information ... will be saved simultaneously in bank's integrated core system.

After receiving money and opening an account, the client will be introduced to contract conclusion desk and after uploading the registered code information, contract forms and the method of application of internet Rastin Certificate Market will be provided for the client. After studying the details of the contract, the client will sign it. Meanwhile, information and the disciplinary number of the contract will be saved in the PLS information system. After conclusion of the contract and registering it, the system will automatically issue Future Certificate in the name of depositor.

After end of project and receiving information about calculating profit and loss of the project, accounting/auditing desk will calculate it by considering participation period and kind of commodity. Profit can be automatically carried into client's account if he wishes. Bank's commission will be deducted according to related instructions and the mutual contract and will be carried into the bank's account.

Conclusion

The basis of determining interest rate is the Islamic banking is real sector economy rate of return. Future contracts in conventional global bourse markets increase financial papers in circulation, and put the economy to an unstable position through debt leverage. In this context, JFS designed to fulfill some banking services needs that do not suffer from the existing shortages in conventional banking. JFS and its financial instrument of Future Certificate is one of the Rastin PLS banking solution to the problem.

Joalah Financial Sharing (JFS) paves the way for financing the working capital of productive firms. JFS is a financial subsystem of Rastin Profit and Loss Sharing (PLS) banking system and in this regard, its instructions, organization, working procedures, electronic structure, contracts and forms works under Rastin PLS banking Base System rules and regulations. In JFS, bank by obtaining commission works as monetary intermediate for providing capital management services to productive activities of the firms and his engaged clients.

New financial innovation of “Future Certificate” is proposed in JFS, which can create major developments in increasing efficiency and stability of money and financial markets. The financier of specific project will receive digital “Future Certificate” which can be transacted in Rastin Certificate Market of the bank on internet. Future Certificate prevents un-real paper market formation. At maturity, the latest owner of the certificate will be the owner of produced good of the productive firm, and after deliverance, the corresponding certificate is closed.

Detailed characteristics of JFS have been setup, and now are applicable and adaptable by other banks throughout the world.

Resources

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Chapter Three

Mudarabah Financial Sharing (MFS)

Introduction

Mudarabah Financial Sharing (MFS) provides the ground for depositors to share in commercial project of entrepreneur. This method is a financial subsystem of Rastin Profit and Loss sharing (PLS) banking system and works under general instructions, organizations, working procedures, electronic software, contracts and related forms of Rastin PLS banking.

Rate of return determination in this kind of sharing – whether bank is private or public- is the rate of return of real economy. Bank receives commission for providing capital management services to depositor as agent or attorney, and works as intermediary of funds to allocate depositor's funds in *Mudarabah* commercial activity of entrepreneur. Bank signs “*Joalah* contract” with depositor and “*Mudarabah* contract” with *Mudarib* (agent/entrepreneur) to join them in *Mudarabah* sharing project according to their views. In this subsystem, bank offers the deposited funds to those seeking financial credit for *Mudarabah* and the outcome of *Mudarabah* is divided between depositor and *Mudarib* according to instructions. Distribution of profit will be done among depositors and agent and bank receives commission. In the case that bank deposits in a project, of course will receive profit share in proportion to his extra fund depositing. The agent (*Mudarib* or entrepreneur) is a real or legal entity who receives the cash funds of depositor via the bank and according to the contract starts specific *Mudarabah* activity. Depositor will fund the *Mudarib* and *Mudarib* provides acceptable guarantees to bank for certainty of conducting his job properly. Trustee (*Amin*) is a unit of Rastin PLS bank that supervises the implementation of the project.

New financial innovations of “*Mudarabah Certificate*” and “*Periodic Mudarabah Certificate*” are used in MFS. *Mudarabah Certificate* are bearer certificates issued by Rastin PLS banks for specified period of the project with nominal price. The owners of these certificates share the profits of *Mudarabah* in proportion to the nominal price of the certificate and the period they had depositing. These certificates are issued digitally over internet to provide web-based digital transactions. The owners of this certificate can transact it on internet or over the counter of PLS bank branches. Therefore, these certificates can be transacted internationally.

“*Periodic Mudarabah Certificate*” is similar to “*Mudarabah Certificate*”, but depositor receives his yield after each period and entrepreneur with the fund of depositor can do the job multiple times.

By applying to internet information portal of Rastin Certificate Market, or a PLS bank branch, depositor acquaint with depositing and dispensing through consulting with bank expert and selects the project she desires. By depositing and after signing and registering contract, the system will automatically issue the certificate. At the end of sharing period, the accounting/auditing counter will calculate and pay the profit to certificate holder.

By applying to bank branch, *Mudarib* also offers his *Mudarabah* project proposal to bank. Then, while informing the *Mudarib* (agent) about the conditions and regulations concerning participation through internet information portal of Rastin Certificate Market or information counter of PLS bank branches, the necessary registration fee (according to instruction) with the written proposal, and economic, technical and financial justification of the project will be received from entrepreneur (agent).

The assessment unit of the PLS bank will assess the credibility of the

agent on the basis of available historical background of the agent and according to the compiled instructions if the agent possesses necessary technical and other capabilities, will report to project assessment unit. If the assessment report is positive, the necessary guarantees and collaterals will be determined according to instructions. After signing contract with the agent, bank delivers the required fund to agent according to the *Mudarabah* contract. All *Mudarabah* documents according to the contract including detail of *Mudarabah* commodities, budgeting, time-table, fund needed, and the method of consumption of funds and implementing the project, phasing, quality control and reporting and finishing the plan will be given to the trustee unit of bank. The supervision reports of trustee unit will be delivered to accounting/auditing unit on pre-determined intervals. Surely, the trustee reports will be the basis for *Mudarabah* settlements. At the end of project or specific periods, accounting/auditing unit of the bank will calculate profit or loss and bank commission according to instructions. The share of depositor and agent will be carried to their accounts. If there is a stoppage report provided by the trustee, the resulted losses will be calculated according to instruction.

Mudarabah

Terminologically, *Mudarabah* denotes interaction and cooperation between two sides. In Islamic jurisprudence (*fiq'h*), it is a transaction contract between two persons according to which a person conducts economic activity by the capital of another person, and the derived profit is divided according to pre-agreed ratios. In other words, *Mudarabah* is a contract between depositor (The owner of capital) and *Mudarib* (agent) for conducting economic activity by the capital of depositor and dividing the profit by agreed percentages. If the activity ends to profit, it will be divided

between them, but if it ends to loss, only depositor bears the loss and agent's loss is his unfruitful efforts, except when it is proved that the loss has been caused by the agent's fault. The condition for *Mudarabah* is that the depositor should accept probable loss; otherwise, the deal will not be a *Mudarabah*, but a loan. If it is agreed to transfer all the profit to owner of capital, again the deal will not be a *Mudarabah*, but *Ibza*³⁰. Defining the shares of profit of each party is of important conditions of *Mudarabah*. *Mudarabah* is a two-sided contract and needs the approval of both sides³¹.

Some believe that the capital of *Mudarabah* should be in cash³² and conducting *Mudarabah* with commodities is not valid³³. On the other hand, by restricted definition of *Mudarabah* some believe that *Mudarabah* should only be used in commercial activities³⁴. Of course, these beliefs do not reject primary rules of contracts; and types of this contract can be made by goods as capital, or be done on other non-commercial activities³⁵. On the other hand, there is no reason to limit all contracts to contracts in *fiq'h* books and narrated contracts; therefore, even if the capital is not cash, and it is not considered as a *Mudarabah* contract, the contract is yet legal. The narration-based reasoning for *Mudarabah* is based on epithet (*laqab*)³⁶

³⁰ In *Ibza* the agent works for the owner of capital and earns commission.

³¹ Tabatabaee Yazdi, Saied Muhammad Kazem; Orvatol-Vosgha, Qom, Islamic Publication Institute, 1420 Lunar Hijri.

Khomeini, Rouhullah Musavi; Tahrir-ul-Vasileh, Qom, Islamic Publication Institute, 1420 Lunar Hijri, Vol. 1, pp. 558-567.

Al-Husaini Shirazi, Seyyed Muhammad; Al-Fiq'h (Vol. *Mudarabah*), Qom, Seyyed-u-Shohada Publication, Pp 5-8.

³² Civil Law, article No. 547.

³³ Allameh Helli, Al Jame-u-sharaye, ed. by Murvarid, Ali Asghar, Birea: Al Shiah Fiq'h Institute, 1410 Lunar Hijri.

³⁴ Khomeini, Rouhul-Allah Musavi; Tahrir-ul-Vasileh, Qom, Islamic Publication Institute, 1420 Lunar Hijri.

³⁵ Article 560, Civil Law: Mudarabah contract follows the conditions and regulations considered between two sides of the contract.

³⁶ Epithet is discussed in *Fiq'h* Principles. It is to say that if a title or name is the subject of a commandment, what is not generally covered by this name, is not included in that commandment. Muzaffar, Muhammad Reza, *Osoule Fiq'h*, vol. 1, *Ismaelian*

Footnote continues in next page:

concept, which is the weakest logic in *fiq'h* and is not a proof. On the other side, there are narrations that commodity can be regarded as capital of *Mudarabah*³⁷.

Some of Sunni jurists admit commodity *Mudarabah* by evaluating the price of commodities and considering the price as *Mudarabah* capital, or if a debt were created by transacting measurable/weighable property, it will be quite similar to money in cash, and the *Mudarib* receives what he is rightful and there will be no guarantee-less profit (*Rebh-e-la'yozman*)³⁸. In addition, it is possible for *Mudarib* to give back the original capital (commodity) at the end of *Mudarabah*³⁹.

Mudarabah is a definite and revocable contract⁴⁰. The Civil Law prescribes: "*Mudarabah* is a contract according to which one part of the contract provides the capital and specifies that the other part should trade with it and divide the profit between them⁴¹. The share of each partner in the profit should be specified from the joined ownership such as a quarter, a third or else⁴². These shares should be specified unless it is generally known, and if it is not specified by the partners, it is considered as a prevalent general case⁴³. It is mentioned in the Civil Law that the subject of *Mudarabah* can be any general and unconditional commercial activity - if any specific activity is not mentioned in the contract⁴⁴. *Mudarib* works as

Footnote is continued from last page:
publication.

³⁷ See: Tafreshi, Muhammed Isa, and Jalil Ghanavati Khalafabadi, Foundation of *Mudarabah* contract in Islamic jurisprudence and Iran Civil Law. <http://www.ghavanin.ir/PaperDetail.asp?id=839>

³⁸ This is a kind of profit for which the person has no guarantee about it.

³⁹ Al Fatehul Ghozat, Zakaria Muhammad, *Al-Salam val-Mudarabah*, Amman, Darul Fekr Lelnashr va Tozie, 1984.

⁴⁰ Article 550, Civil Law of Iran.

⁴¹ Article 546, Civil Law of Iran.

⁴² Article 548, Civil Law of Iran.

⁴³ Article 549, Civil Law of Iran.

⁴⁴ Article 553, Civil Law of Iran.

an *amin* (trustee) and is not guarantor of the capital of depositor, except he has wasted or oppressed it⁴⁵. Specifying the capital is another condition of *Mudarabah*. If someone provides the capital and mentions that all the profit should be returned to him, the other party only receives commission; unless it is proved that, the agent has carried out the task freely⁴⁶. If it is mentioned in the contract that the agent is responsible and guarantor of the *Mudarabah* capital, the contract will be nullified, unless it was mentioned that the *Mudarib* compensates the losses freely from his own wealth⁴⁷.

Mudarabah Financial Sharing (MFS)

The legal basis of *Mudarabah* Financial Sharing (MFS) is the definition referred to in Civil Law. In addition, there are some other regulations and disciplines, which are designed for detailed application. Also in *Mudarabah* Financial Sharing (MFS), one party provides the capital and the other one trades with that capital and the profit is shared. The necessary activities to be carried out by agent (*Mudarib*) should be defined in the contract. Agent can be real person or legal entity. The *Mudarabah* financial sharing activities should be carried out under the general instructions of Rastin PLS banking, unless the deviation from it is mentioned.

In MFS, bank obtains the *Mudarabah* proposal from *Mudarib*. After careful assessing proposal and agent according to compiled instructions, the proposal is introduced to depositors; and by issuing *Mudarabah* Certificates bank will provide necessary fund for *Mudarabah* activity. Bank allocates the fund to entrepreneur and *Mudarabah* starts under the supervision of bank's trustee unit and after the end of *Mudarabah* activity,

⁴⁵ Article 556, Civil Law of Iran.

⁴⁶ Article 557, Civil Law of Iran.

⁴⁷ Article 558, Civil Law of Iran.

bank pays the principal capital and profit shares back to depositor and agent, and bank receives his commission. If the activity fails to obtain profit, bank will receive no commission. The issuance and transaction of *Mudarabah* Certificate base on Rastin PLS banking instructions.

Mudarabah subject is in transaction (trade) to be carried out in following fields:

- a- Transaction of goods inside the country (domestic commerce)
- b- Exporting goods for selling abroad (export)
- c- Importing goods to sell in the country (import)
- d- Importing goods to re-export (transit)
- e- Interchanging foreign trade commodities (swap).

The *Mudarabah* capital is defined with acceptable costs (including price of buying goods for *Mudarabah*, insurance, transportation, warehousing, packaging, order registration, custom fee, commercial and banking fees) for a complete transaction (buying and selling) period. Depositing a percent of import value, as a guarantee for letter of credit at central bank, is not regarded as cost, because it will be paid back to agent when customhouse releases the imported commodity. This payment should be carried out by agent.

Other related and unexpected costs are accepted if the bank's trustee unit confirms them; otherwise should be paid by agent. The cash capital of *Mudarabah* is paid to the agent once or in different phases.

If the quest of agent for extra funds is accepted by trustee, because of price increase or increase in some of the above-mentioned accepted costs, this will be financed through complimentary contract according to instruction. If it is necessary, bank will decide about extra collaterals.

Financing extra fund will be through issuing new *Mudarabah* Certificates for new depositors.

Contract duration is proportional to a complete period of buying and selling of the *Mudarabah* commodity. Export *Mudarabah* contract duration is defined by considering the maturity of letter of credit (LC) and should be more than that. *Mudarabah* duration can only be extended by providing documents to the trustee unit of bank about the delay according to instructions of PLS banking and trustee approval. Overall, this period cannot be longer than 6 and 9 months for internal and external trade contracts respectively.

All bank supervisions will be carried out by trustee unit. All the sell receipts will be transferred to specific account of the bank immediately. The agent should promptly inform the trustee about his purchase and trustee will supervise his warehousing and sale. The trustee is obliged to supervise the flow of goods purchased from the supplier to warehouse and details of sell and outgoing from the warehouse. *Mudarib* is obliged to inform the trustee about all physical movement of goods from place of sell to warehouse, loading and delivery of goods and move them by trustee permission. If there is any delay, violation, fault, or any other similar trouble, the trustee will reconsider the competency of the agent to preserve the rights of depositor.

Regarding the nature of *Mudarabah* in which the capital will be in ownership of bank for preserving depositor's rights, after receiving information about stoppage of *Mudarabah* activity, or bankruptcy of agent, bank will promptly provide the list of commodities and confiscates commodity into the hands of bank. Then, by selling commodities under supervision of trustee, bank will settle the claims of depositor. The agent allows the bank with an irrevocable power of attorney for after his death to

permit the bank to refer to his firm, warehouse or other places related to the subject of *Mudarabah*, and confiscates the related commodities, and draw depositor claim from his accounts in any bank to perform and settle the obligations of the *Mudarib* if necessary.

The organizational structure applied in MFS banking, its processing procedures, regulations and instructions and obligations designed for bank, depositor, *Mudarib* and necessary organizational structure work under Rastin PLS banking regulations. Rastin PLS banking organization is defined in chart framework of “PLS Banking Leading Committee”, “Reviewing Group for PLS Banking Regulations” and “PLS Department”, together with “Legal Unit” and “Assessment Unit” and “Auditing Unit” and “Financial Engineering Management Unit” and “Trustee Unit” and “PLS Branch” with “Information and Consulting Section” and “Cashier Section”. The same structure will be used for MFS.

Distribution of Profit

Dividing profit between *Mudarib* and depositor is one of the important problems in *Mudarabah*. Traditionally, this dividing is made by mutual agreement, but it is not possible to leave the decision to bank branches in MFS and it is necessary to compile special regulation for it. Before discussing this subject, we should consider that *Mudarabah* activity is a process, which creates value added in economic concept and in framework of national accounting is considered as production of goods and services.

Different schools of thoughts have different views about value of work along the history and different people believed different sources for creation of value⁴⁸. Their views in different schools of thoughts are so

⁴⁸ These topics are discussed in history of economic thoughts.

different that some of them believe that labor is not a source of value creation, and others believe that labor is the only source of creation of value.

Physiocrats were the first who discussed the source of “value added” and extended it from transaction to production⁴⁹. They considered value in the framework of material tangible goods with meaning of “use value”, not transaction value. Therefore, the concept of value added was just in the form of value of production over the value of goods used to produce the good, which is called “net production”, and only exists in agriculture sector. According to Physiocrats’ belief, that only shape of materials changes in manufactory and no added value is created in industry and only farmer creates added value⁵⁰.

In Marxian literature, “The theory of value” is described as the amount of used social labor which is equal to the value of good, and labor should produce relative added value in addition to good’s absolute added value in competitive scene. In order to create relative added value, his personal value of produced good should be less than his social current value of that product. In producing absolute added value, the labor should use capital. Producing absolute added value is material manifestation of capital by labor⁵¹. If we regard total production process from production viewpoint, production means are the tools by which production takes place according to Marx; and it is only the labor, which is creative. As far as

⁴⁹ Physiocrats did not believe to social concept of value and “surplus value” in Marxian literature.

⁵⁰ Physiocrats believed that this is because of the power of growth in plants, which is seen only in agriculture and not in industry. In their view, the added value is not because of labor, but it is created by the cooperation of land and nature and it is the creativity or fertility power of the land which changes the amount of planted seeds to larger amounts of seeds. Accordingly, the dividend of proprietor or additional value in agriculture is a natural endowment that is because of relationship of human being and land, and not because of his social relations.

⁵¹ Marx, Karl, *Capital*, vol. 1, Penguin, England, pp. 1019-1026.

work is a personal process, a labor carries out all the work until the product is made and human being cannot have hegemony on nature by himself solely, and force the nature to produce crops as Physiocrats believed. Therefore, the direct production of a single worker will change into a joint production of labors. According to Marx, the concept of capitalistic production is not just the production of goods, but it has the nature of surplus value. The labor is not producing for himself, but for the owner of capital and increase of his capital, and he is not just producing, but he is also producing surplus value.

In Ricardo view, surplus value is an inherent and inseparable part of capitalistic production. He is not searching for the very reason for existence of surplus value, but is looking for the cause, which defines the amount of this value. Mercantilists believed that the surplus price of a commodity over its production cost is because of transaction and selling it by a price above its original value. John Stewart Mill believed that the origin of profit is the extra production of labor more than his own needs and the reason for creation of profit from capital is because of durability of raw materials and production means more than the time needed for producing them. Therefore, according to this economic school of thought, profit is not caused by transaction, but it is because of productivity power of labor.

These theories have not the application merit for distributing the outcomes of *Mudarabah*, but the firm theory in neoclassical microeconomics has a vast and deep analytical base⁵². In simple words, according to neoclassic opinion, “firm” is a place, which produces goods

⁵² For more detailed discussions see microeconomics books, specially:

- Henderson, R., Quandt, P. (1982), *Microeconomic Theory, a Mathematical Approach*. Mc-Graw Hill.
- Savabi Asl, Farhad; Bidabad, Bijan and Shahrestani, Hamid, 1993. *Estimating Aggregate Investment Function of Iran by Considering Various Functions*, M.S. dissertation, Islamic Azad University, Tehran.

by using factors of production of labor and capital. The production function of the firm is a mathematical presentation of relation between labor, capital and product. Now consider the *Mudarabah* procedure in which *Mudarib* uses two variable factors of production: capital of the depositor (K) and labor of *Mudarib* (L) together with his own fixed production factor to produce value added. The value added function of *Mudarabah* (Q) as a mathematical function of variable factors of production (K, L) will be as follows:

$$Q = f(K, L) \quad (1)$$

The above function is defined without fixed factor of production; and the amount of production is defined by variable factors of production K, and L. The production structure is defined for a special period in which the investment does not change and fixed cost does not enter into calculations. The applied technology, technical information of the *Mudarib* about the method of using capital is included in mathematical form of the production function. Often production function is supposed to be a continuous single-valued, non-negative, increasing function in the domain and usually regular strictly quasi-concave. The scope of *Mudarib* and his activity and capital of depositor are defined for a specific period. The period in which the amount of K and L and thereof the *Mudarabah* function are defined has three constrains: Firstly this time should be so short in which *Mudarib* cannot change the fixed factor of production. Secondly, it should be so short that the production function cannot be changed because of improvement of *Mudarabah* technology. Thirdly, it should be long enough to cover all the process of *Mudarabah*. The marginal efficiency of factors of production or the capital of depositor and the labor of *Mudarib* are defined as MP_K and MP_L respectively:

$$MP_K = \frac{\partial Q}{\partial K} = f_K(K, L) = f_K \tag{2}$$

$$MP_L = \frac{\partial Q}{\partial L} = f_L(K, L) = f_L$$

The “decreasing marginal productivity of factors of production” law explains that increasing the amount of a variable factor of production will increase its marginal productivity for a while and then decreases the marginal productivity of that factor after diminishing point of return. It means that the more we use that variable production factor, after reaching a point of production; we will achieve a lower amount of extra production⁵³. This law has special effects on distribution of *Mudarabah* profit, which can be understood from the forthcoming profit distribution relation.

“Economies of scale” describes the method of proportional increase of all factors of production. If *Mudarabah* is increased proportional to labor and capital increments, the economies of scale in the defined range of their combination is fixed. Increasing return to scale can be seen when the increased use of factors of production leads to more production increase, and it is decreasing when it leads to lower increase in production. “Return to scale” is defined by concept of homogeneity. A homogeneous production function has a degree of “j” if:

$$f(tK, tL) = t^j \cdot f(K, L) \tag{3}$$

By t times increasing depositor capital factor of production and *Mudarib* labor factor of production for amounts of $j > 1$, $j = 1$, $0 < j < 1$, return to scale will be increasing, constant and decreasing respectively. A linear production function can be obtained from a collection of linear

⁵³ This point is the intersection point of average and marginal productivity curves.

simultaneous activities⁵⁴. Linear production functions are homogeneous of degree one and hence, have constant return to scale. The concept of homogeneity in production function means that if we increase (or decrease) all factors of production proportionally, production will increase (or decrease). If production increase was proportional to the increase of factors of production, the production function is homogeneous of degree one. If production increase was less than the increase of factors of production, the homogeneity is less than one. Otherwise will be more than one. In these three cases of homogeneity of degree one, less than and more than one, the return to scale is defined to be constant, decreasing and increasing respectively. This condition in the production function is mathematically understood by equation (3).

Homogeneity of degree one assumption in *Mudarabah* function is quite meaningful and therefore, by this assumption we can obtain the distribution of yield of *Mudarabah* by Euler theorem. In other words, in case of homogeneity of degree one, if all factors increase (or decrease) proportionally, the production will also increase (decrease) proportionally. In this case, because of stability of average productivity of production factors, total productivity will not change. Euler's theorem explains that the following equation is established in homogeneous production function of degree j :

$$L.f_L + K.f_K = j.f(K, L) \quad (4)$$

By substituting (1) into (4) and assuming the homogeneity of degree one ($j=1$), the following relation is obtained:

⁵⁴ Many production functions are under consideration for various economic and mathematical aspects. See: Eatwell, J., M. Milgate, P. Newman (1988). The New Palgrave Dictionary of Economics. MacMillan Publication.

$$L.f_L + K.f_K = Q \quad (5)$$

By this theorem, we can understand that the total value of *Mudarabah* is equal to the total of multiplication of marginal production of the labor of *Mudarib* (f_L) by his labor (L) and marginal production of capital of depositor (f_K) by the amount of his capital (K). In other words, if we want to distribute the outcome of *Mudarabah* according to marginal productivity of labor and capital, the total outcome exhausts. Euler's theorem has a basic role in marginal production theory, and each factor of production will receive its marginal production and *Mudarabah* outcome is distributed accordingly. It should be mentioned that the homogeneity of degree one causes the *Mudarabah* function to be homogeneous as well. Moreover, when the production function is linear, marginal productivity of a production factor is equal to its average productivity. In other words, let π be profit of *Mudarabah*, we have:

$$t.\pi = f(tL, tK) - tL - tK \quad (6)$$

This means that if the amount of labor of *Mudarib* and capital of depositor increase at the same ratio, the *Mudarabah* profit will increase proportionally. Using this analysis, we can calculate the share of depositor and *Mudarib* according to the ratio of marginal capital and labor productivities by using the following formula. In the following relation, the capital value is the *Mudarabah* sharing capital; and the marginal labor productivity is *Mudarabah* profit, and the value added is the selling profit, and the value of commodity sold is the amount of *Mudarabah* commodity sold. In other words, we have:

$$K+L=Q=C+V \quad (7)$$

That is the total of value added (V) plus cost (C) is equal to *Mudarabah*

value (Q) and is equal to the values of labor (L) and capital (K). This is because:

$$\pi = V \quad (8)$$

This means that the value added is equal to *Mudarabah* profit and the value of goods sold is equal to the total of value added and cost:

$$C+V=Q \quad (9)$$

Therefore, the value of the *Mudarib* labor will be equal to the value of the sold value of commodity minus the capital of depositor:

$$L=Q-K \quad (10)$$

Therefore, the profit share of depositor from the created value added (R_K) is equal to the ratio of the capital of depositor to the value of the sold goods and the profit share of the *Mudarib* from the created value added (R_L) is equal to the ratio of value added to the value of commodities sold. In other words:

$$R_K = K/Q \quad (11)$$

$$R_L = V/Q \quad (12)$$

The profit share of depositor (π_K) and *Mudarib* (π_L) are obtained by multiplying their profit shares into the value added. Alternatively:

$$\pi_K = R_K \times V \quad (13)$$

$$\pi_L = R_L \times V \quad (14)$$

Accordingly, each part of the *Mudarabah* (depositor and *Mudarib*) share proportionally to their productivity ratios in creating value added. In other words, if we sum up the above relations, we come to the following relation

in which, value added is equal to the total productivity (output) of labor and capital:

$$\pi_K + \pi_L = V \quad (15)$$

which is compatible with Euler's theorem of distribution of value added among labor and capital according to the marginal productivity of worker (*Mudarib*) and owners of capital (depositor). Therefore, the amount received by depositor for the principal and profit of the activity will be:

$$P_K = \pi_K + K \quad (16)$$

That is the amount of payment to depositor at end of *Mudarabah* is equal to the total value of his original capital plus his profit. The amount paid to *Mudarib* will be equal to his profit share:

$$P_L = \pi_L \quad (17)$$

Sum of these two relations shows that after the end of *Mudarabah* and distribution of principal capital and *Mudarabah* profit, payment to *Mudarib* and payment to depositor is equal to the total value of depositor capital and profits of depositor and *Mudarib*:

$$P_K + P_L = \pi_K + \pi_L + K \quad (18)$$

On the other hand, the total amount paid to depositor and *Mudarib* is equal to the total value of depositor capital and *Mudarabah* profit:

$$P_K + P_L = \pi + K \quad (19)$$

Conclusion

Real establishment of Usury-free banking system can solve many

important financial and economic problems such as crises at global level. Mudarabah Financial Sharing (MFS) as a financial subsystem of Rastin PLS banking designed to response to financing commercial activities. This subsystem works under Base System of Rastin PLS banking. Mudarabah Financial Sharing (MFS) provides an opportunity for depositors to participate in commercial (buy and sell) projects. This method is a financial subsystem of Rastin Profit and Loss Sharing (PLS) banking system and in this connection, the instructions, organizations; working procedures, electronic bases, contracts and related forms are highly similar to Rastin PLS base system. The basis for determining rate of return in this kind of sharing is the yield rate in real sector economy and bank receives commission for providing capital management services for depositors as an agent or attorney, and works as an intermediary of funds to allocate depositor's funds into *Mudarabah* commercial activity of entrepreneur. Bank distributes the outcome of the project to depositors and agent/entrepreneur (*Mudarib*).

MFS uses the financial innovations of “*Mudarabah Certificate*” and “*Periodic Mudarabah Certificate*”. Depositor receives a *Mudarabah Certificate* when joins to a special *Mudarabah* project that can be transacted in Rastin Certificate Market. Profit or loss share is paid to the latest holder of certificate after the end of project. Profit share settlement between the *Mudarabah Certificate* holder and *Mudarib* (agent or entrepreneur of the project) will be based upon neoclassic theory of shares of factors of production, and specifically on the Euler theorem of income distribution. In practice, MFS showed efficient performances to finance merchant's needs in Bank Melli Iran.

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Chapter Four

Installment Financial Sharing (IFS)

Introduction

Rastin PLS banking was designed to implement usury-free Islamic banking. The base system of this type of banking actually provides the necessary structure and organization for financial participation. But it was necessary to paste some new financial subsystems to the base system to satisfy the needs of the banking clients. Installment Financial Sharing (IFS) was designed to fulfill Rastin PLS Banking System to complete some of its shortcomings. IFS⁵⁵ provides the background for depositor participation in investment project in which entrepreneur desires to preserve his own ownership, and depositor wishes to obtain periodic income (monthly, seasonal or yearly). IFS is a subsystem of Rastin PLS Banking System, its guidelines, instructions, organization, workflow, electronic mechanism and contracts works under Rastin PLS Base system.

In IFS, bank is a firm that works on behalf of depositor, and allocates his deposit to entrepreneur and divides the profit or loss of the entrepreneur's investment between depositor and the entrepreneur according to the signed contract and receives commission for providing financial management services.

Installment Financial Sharing (IFS)

In this subsystem, interest rate of installments and rents are in accordance to investment real return and bank is intermediary of funds, and receives commission like an attorney or agent and provides financial and capital management services for his clients. In IFS the return of principal

⁵⁵ Bidabad, Bijan. Installment Financial Sharing (IFS), a subsystem of Rastin PLS banking, Planning and Research Department of Bank Melli Iran, Tehran, 2011. <http://www.bidabad.ir/doc/detailed-ifs.pdf>

capital and yield of conducting activities are paid to depositors periodically and the ownership of investment project will be transferred to entrepreneur after the payment of the last installment. Accordingly, bank allocates the capital (deposit) of depositor in IFS projects based on the will of depositor and finally divide the profit among depositor and entrepreneur and payback the principal and profit of investment to the depositor by installment and transfer the ownership of the project to entrepreneur. Profit and loss will be divided between them according to their agreement in the contract based on the Rastin PLS banking instructions, after deduction of bank commission.

Bank deals with depositor through *Joalah* contract and goes through three new contracts of “*Mughasatah*”, “*Rental Mughasatah*” and “*Musharakah Mughasatah*” with entrepreneur and according to depositor desire, will provide the conditions for his financial participation within the entrepreneur's project.

Entrepreneur is a legal or real entity who receives deposited funds of depositor via the bank and according to the agreement will invest in the pre-agreed project. Depositor provides part of the fund for the entrepreneur's project and entrepreneur provides the bank with appropriate guarantees to cover his obligations fulfillment. “Trustee” is a unit that supervises the process of IFS on behalf of bank in order to make sure about the goodness of fulfillment of the project operations.

There are several financial innovations in IFS such as “*Mughasatah Certificate*”, “*Rental Mughasatah Certificate*” and “*Musharakah Mughasatah Certificate*” which provide new preparations for investment projects. These certificates are digitally negotiable on internet in Rastin Certificate Market (RCM) of the bank. The certificate holder (depositor) can transact his certificate over internet; hence, they are negotiable at international level.

By applying to Rastin PLS bank branch, the entrepreneur proposes IFS project proposal to bank. In addition to informing the entrepreneur about the conditions and regulations concerning IFS (according to written instructions), the necessary documents, information and analysis about the project, including economic, technical and financial justification and other related information of the project will be received from entrepreneur. According to available previous records of entrepreneur activities, the assessment unit will assess entrepreneur's capability and ability according to written instructions and will report to PLS department. If the assessment is positive, according to the related instructions, the quality and quantity of needed collaterals or guarantees will be defined and after signing contract, the needed funds will be paid to entrepreneur. All documents including the detail of sharing subject, budgeting, time schedule, funds and the way of fund consuming, implementation of project and its phases, quality control method, reporting and fulfillment of the project and its installments will be provided by entrepreneur to the bank assessment unit. Reports provided by the bank trustee unit will be the basis for all entrepreneur activities evaluations.

By applying to information portal (website) of Rastin Certificate Market (RCM), depositor becomes familiar to rules and conditions and selects his desired entrepreneur's investment proposal. By signing and registering the contract, and after the payment, the system automatically issues the certificate. After each financial period and at the end of the contract, under the supervision of the bank's trustee, entrepreneur calculates the share of principal and profit of the project and passes it to depositor via bank.

According to the written instructions and related formulas, amount of installments, rent or periodic yield and commission share of bank will be

calculated by accounting/auditing unit. The share of entrepreneur and depositor will be defined by considering the kind of IFS financing and the method of installment payment and rent (profit or loss). In case of discontinuance of project, the occurred losses will be calculated according to the compiled instructions. The structure and organization of Rastin PLS banking is also applied to the subsystem of IFS.

Mughasatah Contracts

To perform IFS mechanism, new contract by the title "*Mughasatah*" is defined:

Mughasatah

"*Mughasatah*" is defined as a contract in which the *moghsit* (depositor) will provide a part or total amount of funds and by providing the remainder, *ghasit* (entrepreneur) will invest and payback the borrowed amount to *moghsit* (depositor) in periodic installments and finally becomes the owner of the project. This contract is used for those projects that can be finished after a period. *Moghsit* (depositor) has the right to receive the installments until he is paid off and entrepreneur becomes the owner of the project. If the project is to be concluded to receive rent at compromising contract time, the procedure in this types of projects works by issuing "Rental Mughasatah Certificate".

Rental Mughasatah

In finitude projects, "Rental *Mughasatah*", the entrepreneur can be a real person or legal entity. *Moghsit* (depositor) has the right to receive installments plus the rent until the end of the project and the entrepreneur will own total project after then. The rent will be defined in the contract to be paid by installment, or calculated as a share of the finished project as

assessed at the beginning of the contract. It is not necessary to pre-fix the amount of rent for all periods, but this must be cited in the contract. "*Rental Mughasatah*" is a kind of contract in which *moghsit* (depositor) provides a part or total fund for project and *ghasit* (entrepreneur) will finance the remainder and invest the funds in the *moghsatah* (project) and pays rent to the *moghsit* (depositor). Then, the share of the depositor from the assessed (valuated) value of the constructed project is calculated according to the amount of his fund and the period of his participation and will be paid by installment to the depositor in addition to rent payment. At the end, the ownership of the project will be transferred to entrepreneur. The amount of periodic rent might be different according to the signed contract.

Musharakah Mughasatah

The entrepreneur of prolong (endless) projects should be legal entity. In this case also the depositor has right to receive his own share back, plus a share of the yields of the project until the contract terminates. Then, the entrepreneur will become the owner of the constructed project. In this case, bank issues "*Musharakah Mughasatah Certificate*". "*Musharakah Mughasatah*" is a contract, in which depositor provides a part or total amount of resources needed for project financing and entrepreneur provides the remainder, then, the share of the depositor from the valuated (assessed) of constructed project and its yields (productivity) is calculated according to the amount of his share and the period of his participation and will be paid by installment to depositor.

Mughasatah Certificate

"Mughasatah Certificate" is an anonym document issued by Rastin PLS bank with a nominal price for real financial participation (sharing) for a certain period. The bearer of this paper receives periodic payments

relative to his share and the period of participation. Payments will be paid at end of each period. At the end, the entrepreneur will own the project.

Rental Mughasatah Certificate

"Rental Mughasatah Certificate" is an anonym document with defined nominal price for a defined period of time (rental tenure) issued by Rastin PLS bank who conducts Rastin PLS activity. The owners of these certificates have right on the results of the sharing project which is proportional to the nominal value of the certificate and the duration of holding certificate until the end and receive periodic rent and installment of the valuation of the project at the end of each period. At the end of contract, the entrepreneur will become the owner of the project.

Musharakah Mughasatah Certificate

"*Musharakah* Mughasatah Certificate" is an anonym document with defined nominal price for a defined period of time (*Musharakah* tenure) issued by Rastin PLS bank who conducts PLS activities. The owner of this certificate has right on the result of the sharing project proportional to the nominal value of the certificate and the duration of holding the certificate until the end of contract, and receive periodic installment plus income (positive/negative) yields of the project at the end of each period. At the end, the entrepreneur will become the owner of the project.

All *Mughasatah* certificates are kinds of Rastin Certificates⁵⁶ and obtain rent, or yield plus installment until the end of contract and after the settlement of contract, the entrepreneur becomes the owner of the project. The settlement of the project differs in finitude and endless (productive)

⁵⁶ Rastin certificates are the name for collection of certificates designed for Rastin PLS banking and operate under the supervision of trustee unit of bank and are issued with prefix of certificate.

projects. The settlement is after the pay out of the last installment for "Mughasatah Certificate". In "Rental Mughasatah Certificate", after the payment of last installment and rent, the contract is settled. In "*Musharakah* Mughasatah Certificate", when the last payment of installments and profit or loss (yield) is paid, the settlement takes place.

Amortization Date of the Share of Depositor

This is the time when depositor has received all installments (including principal, rent, or the yield of investment) from the *ghasit* (entrepreneur) and has no more share in the project that belongs to the entrepreneur thereafter. This calculating is in connection with the duration of project after its construction period and the share of each party (regarding the tenure of their participations), the amount of share of depositors, the brought capital of entrepreneur, and the value added of the project (and dismantled value of the project at the end of its useful life – if applicable).

Amortization date calculations of all *Mughasatah* contracts are similar. However, this point of time can be agreed upon by the bank on behalf of depositor and entrepreneur when contract is signed.

Dividing Value of Project after Construction

Allotment of profit of the project between *moghsits* (depositors) and *ghasit* (entrepreneur) is one of the important issues of *Mughasatah*. Traditionally, this type of apportionment bases on mutual agreement, but in Installment Financial Sharing (IFS) this apportionment cannot be left to bank; therefore, it was necessary to compile necessary rules for carrying it out accordingly. But, when installment enters the process of apportionment, conventionally it involves interest rate which is not acceptable because of

Riba. Hence, we should find a rational usury-free solution for it. Here we should answer two questions: first, how much are the values of work and capital in this project? Second, what rate of yield should be applied for installment of the share of depositor to be non-usury?

Before entering this discussion, we should pay attention that *Mughasatah* activity is economically a production process that creates value added and therefore, we can answer the above questions from this viewpoint. In simple words, according to Neoclassical theory⁵⁷, firm is a unit in which products are produced by using factors of production (labor and capital). Mathematically, the production function of the firm is a relation of the labor and capital in the process of production. Now consider the process of a *Mughasatah* in which *ghasit* uses the factors of production of depositor as capital (K) and capital brought of entrepreneur (B) from one hand, and his factor of production (entrepreneur's labor work (L)) for production of project. The value of production function (Q) mathematically is a function of factors of production and can be described as follows:

$$Q = f(K + B, L) \tag{1}$$

The above function does not have a fixed production factor and the amount of production is defined by variable factors of production (labor and capital). The production structure is defined in such a period that investment does not change, and fixed cost does not enter the calculations. The applied technology, knowhow of entrepreneur in applying capital and labor in *Mughasatah* is defined as in the above function. Usually, production function is defined as a single-valued continuous increasing function for non-negative values within the regarded domain and is usually regularly strictly quasi-concave. Contribution of depositor and entrepreneur

⁵⁷ For more information, see microeconomic texts, as: Henderson, R., Quandt, P. (1982), *Microeconomic theory, a mathematical approach*. Mc-Graw Hill.

are defined within a period. In this period, factors and the amount of production are defined to have three constraints: First, it should be enough short so that the *ghasit* cannot change the production factors. Second, it should be short enough that the production function cannot be changed due to improvement of technology. Third, it should be long enough to cover all the process of *Mughasatah*. Marginal productivity of capital (K of *moghsit* plus B of *ghasit*) and *ghasit's* labor work (L) are noted as MP_{K+B} and MP_L , and can be defined as follows:

$$MP_{K+B} = \frac{\partial Q}{\partial(K+B)} = f_{K+B}(K+B, L) = f_{K+B} \quad (2)$$

$$MP_L = \frac{\partial Q}{\partial L} = f_L(K+B, L) = f_L$$

The law of marginal decreasing return explains that by increasing one factor of production, marginal production increases at first, but after a while, marginal production starts to decrease. That is to say, the more we use one of production factor, after a while, the less will be marginal production⁵⁸. This law has distinct effects on apportionment of the yields of *Mughasatah* that can be understood from dividing profit relationship that we will explain.

Economies of scale show the way of increasing production through proportional increase of all factors of production. If *Mughasatah* value increases proportional to the increase of labor and capital (deposit plus capital brought contribution of entrepreneur), the return to scale in domain of the related factors of production is constant. The return to scale is positive if proportional increase of labor, capital would increase the production more and it is negative if proportional increase of labor, capital results in less increase in production. Return to scale is defined by the

⁵⁸ This is the intersection point of marginal and average production curves.

concept of homogeneity of production function. A production function is homogeneous of degree j if:

$$f(t(K + B), tL) = t^j . f(K + B, L) \quad (3)$$

In which by increase of t times of labor and capital (sum of deposits and brought) for amounts of $0 < j < 1$, $j = 1$, $j > 1$, the return to scale will be (t^j) increasing, constant and decreasing respectively. A linear production function can be resulted from several linear production activities simultaneously⁵⁹. Linear production functions are homogeneous of degree one and therefore, have constant return to scale. Homogeneity in production function means that if we increase/decrease all factors of production proportionally, production will also increase/decrease proportionally. If production increases/decreases proportionally as increase / decrease of factors of production, the production function is homogeneous of degree one. If the ratio of production increase is less than the increase of factors of production, homogeneity has a less than one degree, and otherwise has a degree of more than one. In these three cases, the return to scale is constant, increasing and decreasing respectively. This condition mathematically is understandable from relation (3).

The degree one homogeneity condition in *Mughasatah* function is quite meaningful; therefore, according to Euler theorem of income distribution⁶⁰, we can use this condition to divide the yields of *Mughasatah* contract between depositors and entrepreneur. In other words, in

⁵⁹ There are many production functions with different economic and mathematical characteristics. See: Eatwell, J. M. & Milgate, P. Newman (1988). The new Palgrave dictionary of economics. MacMillan.

Savabi Asl, Farhad; Bidabad, Bijan and Shahrestani, H., (1993). Estimating Aggregate Investment Function of Iran, Considering Various Functions, MS. Dissertation, Islamic Azad University, Tehran.

⁶⁰ See: George J. Stigler (1946), Production and Distribution Theories: The Formative Period, New York, Mac Millan.

homogeneity condition if all factors of production increase/decrease proportionally, production will also increase/decrease proportionally. Moreover, when the production function is linear, marginal productivity of a production factor is equal to its average productivity. In this case, since the average productivities of factors of production are unchanged, production productivity will not change. Euler theorem explains that in a homogeneous function of degree j , the following relation exists:

$$L.f_L + (K + B).f_{K+B} = j.f(K + B, L) \quad (4)$$

Where, f_L and f_{K+B} are marginal productivities of labor (work of entrepreneur) and capital (deposit + brought) respectively. By replacing (1) in relation (4), with the assumption of homogeneity of degree one ($j=1$) we obtain the following relation:

$$L.f_L + (K + B).f_{K+B} = Q \quad (5)$$

By this theorem we can understand that total value of *Mughasatah* is equal to the sum of multiplication of marginal productivities of labor (f_L) by L and multiplication of marginal productivity of total capital of depositor and entrepreneur (f_{K+B}) by total capital of *moghsit* and *ghasit* ($K+B$). In other words, if we want to divide the result of *Mughasatah* based on marginal productivities of labor work of entrepreneur and his capital brought plus the capital of depositor, total value of *Mughasatah* are distributed. Euler theorem has a basic role in marginal productivity theory of distribution and accordingly each part of the *Mughasatah* will receive his share from the results of *Mughasatah*. It should be mentioned that homogeneity of degree one causes the profit function of *Mughasatah* to be also homogeneous of degree one. In other words, if we consider π as *Mughasatah* profit, we will have:

$$t.\pi = f(t(K + B), tL) - t(K + B) - tL \quad (6)$$

That is to say, if the labor-work of entrepreneur and the capital of depositor plus the capital brought of entrepreneur increase proportionally (by t), *Mughasatah* profit will also increase proportionally (by t). By applying above analysis, we can distribute the profits of each part of *Mughasatah* based on productivity ratio of capital (including capital of depositor and capital brought of entrepreneur) and labor work of entrepreneur from the value added of *Mughasatah* activity according to the following formula. In the following formula, the capital value means the deposit of depositor; capital brought is the total fund and asset (cash and noncash) brought by entrepreneur into the project; and value added is the total profit or value added obtained by the work of entrepreneur, through financial participation; and total value added is the value created by using all factors of production in *Mughasatah* activity; and the project value is the assessed (valuated) value of *Mughasatah* project. In other words, we have:

$$K+B+L=Q=C+V \quad (7)$$

which means that sum of value added (V) and cost (C) is equal to *Mughasatah* value (Q) and is equal to total value of labor work (L) and deposit (K) and capital brought (B). This is because:

$$\pi=V \quad (8)$$

That is value added is equal to the profit of *Mughasatah* activity. Moreover, the assessed value of the project is equal to total value added plus cost:

$$C+V=Q \quad (9)$$

Accordingly, the value added emanated by labor work of entrepreneur in *Mughasatah* will be equal to the assessed value of the project minus the value of deposit minus capital brought of the entrepreneur:

$$L=Q-K-B \quad (10)$$

Therefore, the profit share ratios of *moghsit* from the created value added (R_K) plus profit share ratio of *ghasit* from the value added (R_B) will be equal to the ratio of the value of *moghsit* capital, plus the capital brought of *ghasit* to the total value of project (Q); and also, the profit share ratio of *ghasit* emanated from his labor work in the created value added will be equal to the ratio of assessed value added of the project to the total value of project. In other words:

$$R_K + R_B = \frac{(K + B)}{Q} \quad (11)$$

$$R_L = \frac{V}{Q} \quad (12)$$

The profit shares of *moghsit* and *ghasit* are calculated by multiplying their profit share ratios by the assessed value added of project. Or:

$$\pi_K = R_K \times V \quad (13)$$

$$\pi_B = R_B \times V \quad (14)$$

$$\pi_L = R_L \times V \quad (15)$$

Accordingly, each part of the *Mughasatah* (*moghsit* and *ghasit*) will share the created value added based on their productivity ratios. In other words, if we add up the above relations, we will reach the following relation in which the value added is equal to the labor work yield, plus capital yield, plus the value added of capital brought:

$$\pi_K + \pi_B + \pi_L = V \quad (16)$$

This distribution is in accordance to Euler theorem of marginal income distribution into capital and labor in which each party (labor work, deposit and capital brought) receives according to his productivity. Therefore, the amount of ownership of *moghsit* in principal and profit will be:

$$P_K = \pi_K + K \quad (17)$$

This means that the dividend of *moghsit* (P_K) at the time of assessing the project (at the end of construction period) is equal to the *moghsit's* capital value (deposit) and his profit. The dividends of *ghasit* (P_L) at the end of construction period will be equal to the total profit of *ghasit* plus the value of his capital brought:

$$P_L = \pi_L + B \quad (18)$$

Adding these two relations show that after the end of construction period, dividend of *ghasit* plus dividend of *moghsit* is equal to the total value of deposit plus capital brought of entrepreneur, plus profits of *ghasit* and *moghsit*:

$$P_K + P_L = \pi_K + \pi_L + K + B \quad (19)$$

In other words, the total payments to *ghasit* and *moghsit* are equal to total deposit and capital brought of entrepreneur and *Mughasatah* profit:

$$P_K + P_L = \pi + K + B \quad (20)$$

Accounting Procedure for Apportionment

In simpler words, ratios of the dividends of each part of the project

from the value added of the *Mughasatah* activity at the end of construction period is calculated on the basis of the yield of capital (deposit) and capital brought (capital contribution of entrepreneur) and labor work (of entrepreneur) on the basis of following formulas. In following relations, capital value is the amount of depositor's deposit, and capital brought is the contribution of entrepreneur and labor value is the labor work of entrepreneur resulted from his activity. On the other hand, value added is the produced value in excess of original capital of depositor plus the capital brought of entrepreneur, which is cleared by assessing the project value. In other words, the market value of the project at the end of the construction period minus depositor's capital and capital brought of the entrepreneur is the project value added at the end of construction period.

Therefore, markup cost of the project is equal to capital value of depositor plus capital brought of entrepreneur:

$$C = K + B \quad (21)$$

Value added plus markup cost is equal to the value of labor work plus value of brought capital plus value of depositor's capital:

$$K + B + L = C + V \quad (22)$$

The assessed value of the project is equal to value added plus markup production cost:

$$C + V = Q \quad (23)$$

Alternatively, the assessed value of the project is equal to value of labor work productivity plus value of brought capital plus depositor's capital (deposit) value:

$$K + B + L = Q \quad (24)$$

Accordingly, the yield of depositor of the created value added will be equal to the ratio of depositor capital to assessed value of the project at the end of construction period. The ratio of the yield of the entrepreneur from the project from the created value added will be equal to the total of the ratios of his contribution (brought and work) to the assessed (valuated) value added:

$$R_K = K/Q \quad (25)$$

$$R_B = B/Q \quad (26)$$

$$R_L = V/Q \quad (27)$$

The dividends of depositor and entrepreneur from value added are calculated by multiplying their yield ratios by project value added at the end of construction period. In other words, the dividend of depositor from value added is equal to depositor yield ratio multiplied by created value added:

$$\pi_K = R_K \times V \quad (28)$$

Entrepreneur's capital brought dividend from value added is equal to his capital brought yield ratio multiplied by value added:

$$\pi_B = R_B \times V \quad (29)$$

Entrepreneur's labor work dividend from value added is equal to his labor work yield ratio multiplied by value added:

$$\pi_L = R_L \times V \quad (30)$$

In other words, depositor's dividend from value added is equal to his capital yield from value added. And Entrepreneur's capital brought dividend from value added is equal to his brought yield from value added.

And Entrepreneur's labor work dividend from value added is equal to his labor work yield from value added.

The share of depositor from assessed value of the project is calculated by adding his share from value added and his deposit. The share of entrepreneur from assessed value of the project is calculated by adding up his capital brought share from value added and his labor work contribution from value added, plus his capital brought. In other words:

$$P_K = \pi_K + K \quad (31)$$

$$P_{B+L} = \pi_B + \pi_L + B \quad (32)$$

Sum of the last two relations shows that after distribution: The share of depositor from the project plus the share of entrepreneur from the project is equal to value added plus deposit of the depositor plus entrepreneur's capital brought.

$$P_K + P_{B+L} = V + K + B \quad (33)$$

If we add up the above relations, we reach to the following relation in which: depositor's capital yield + entrepreneur's capital yield + entrepreneur's labor yield is equal to value added of *Mughasatah*. This economically is adapted to Euler income distribution of value added to labor and capital according to their productivity (yield).

Mughasatah Installment in Finitude Projects

"Mughasatah Certificate" is issued for finitude projects through *Mughasatah* contract. In this process, depositor provides funds and entrepreneur mixes it with his own capital brought and executes the project. At the end of construction period, bank assesses the project and based on duration and amortization date of depositor's sources, the installment

method to pay depositor back is defined. In this case, the calculation of installments includes two parts. One is the installments for paying back the principal capital of depositor, and the other is the return or yield of his capital.

Parameters used to calculate the installments for finitude projects contracts are: the amount of deposit (K), entrepreneur's capital brought (B), construction period (M), and operational life of the project after construction (T).

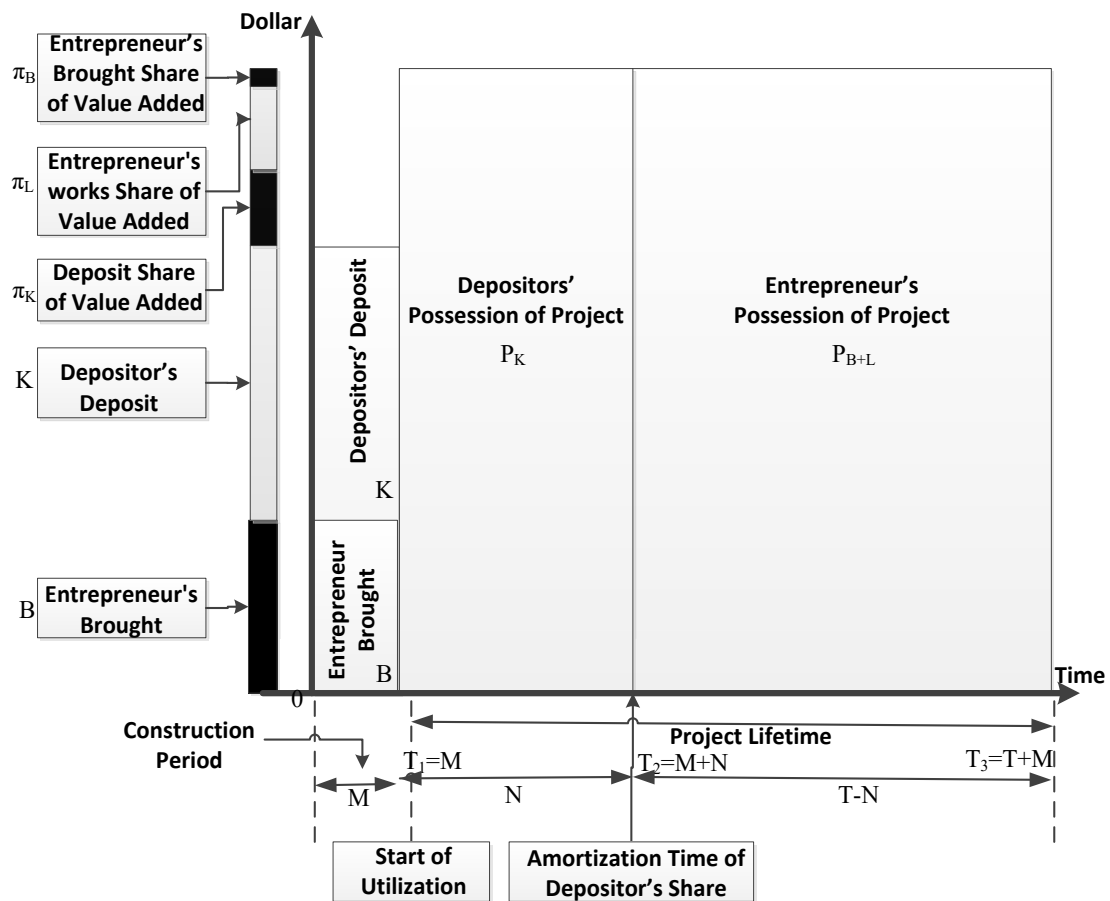


Figure 1

Considering figure 1, the entrepreneur together with his capital brought (B) receives deposit of depositor (K) at the beginning of construction period and starts construction according to the contract. Construction period is M. At the end of construction and start of utilization

of project; bank assesses (valuate) the value of project (Q) at market price. If the project were sold at this time, the shares of depositor and entrepreneur would be calculated by the following relations:

$$P_K = \pi_K + K \quad (34)$$

$$P_{B+L} = \pi_B + \pi_L + B \quad (35)$$

That is the claims of depositors and entrepreneur from the project are obtained by the above relations. Now, the entrepreneur buys the share of depositor in installment and becomes the owner of parts of the project gradually, and finally by paying back all installments, becomes owner of the whole project. Now suppose that the useful lifetime of the project from beginning of exploitation is T periods (years). If we want to show the shares of depositor and entrepreneur through the figure 1, it means that from time $T_1=M$ to $T_2=M+N$ the ownership belongs to depositors and from $T_2=M+N$ to $T_3=T+M$ the entrepreneur will be owner of the project. T_2 is the time that participation concludes. If the entrepreneur pays back the share of depositor until T_2 , he will gain the total ownership from T_2 to T_3 .

Now suppose the entrepreneur obtains the possession of the project from time $T_1=M$ and pays back depositor's share by installment. In this case, we need to calculate the amount of his installments. Here, we should consider few issues. First, when the final date of amortization of depositor's share is? Second, what the preferential rate or capital time-yield of depositor's deposit (which is in the possession of the entrepreneur) is?

To calculate amortization period (N), we use the following relation:

$$N = \frac{P_K}{P_K + P_{B+L}} \cdot T \quad (36)$$

To obtain the time-yield rate (r) of depositor's deposit, we use the ratio

of total yield of the project which is equal to the value added (V) of project to total capital resources used (deposit and capital brought of entrepreneur). The time-yield rate of the project at the beginning and during the construction period is indefinite and will be assessed afterwards at the end of construction period by assessing the value of project; and therefore, it is not *Riba* (usury) to be prefixed at beginning. That is:

$$r = \pi_K / (K \times M) \quad (37)$$

And r is the time-yield rate of depositor's deposit. Considering the fact that construction period might be longer than one period (year), inserting M in the denominator, will estimate the time-yield rate of capital for each period (such as year). This return rate (r) is calculated only for the deposit of depositor that is obtained practically in process of construction and it is not interest rate and is capital return rate. This rate suggests that if depositor and entrepreneur wanted to invest in a similar project by using depositor's deposits, the entrepreneur should pay depositor at capital rate of return (r). Therefore, the capital yield rate of depositor in next periods will be calculated by this rate of return (r).

If entrepreneur had to pay back all the share of depositor at time T_2 he should pay the amount of $P_K (1 + N \times r)$. If entrepreneur wants to pay back depositor's principal and profit by equal installments, his monthly payments would be equal to:

$$I_t = P_K (1 + 0.5 \times N \times r) / N \quad t=1, \dots, N \quad (38)$$

In which, t is for periods of 1 to N . It is clear that:

$$\sum_{i=1}^N I_t = P_K (1 + 0.5 \times N \times r) \quad (39)$$

The 0.5 multiplier in the above relations is because the installment payment

starts from the beginning.

Entrepreneur and depositors can unambiguously agree to change the schedule of the installment from equal payments via the bank.

Rental Mughasatah Installment in Finitude Projects

"Rental Mughasatah Certificate" is issued for finitude projects by Rental *Mughasatah* contract. In this process, depositor provides funds for entrepreneur and he mixes depositor's deposit with his own capital brought and carries out the project. Bank assesses the project at the end of construction period and according to preliminary agreement; the project will be at possession of entrepreneur as a rented property until the amortization date of depositor's share. According to the assessed value of the project and the amortization date, bank calculates the amount of rent and installment. Bank (on behalf of depositor) and entrepreneur will agree upon the rent. The defined installment consists of two parts: one for the principal deposit, and other for the periodic rent which entrepreneur should pay to depositor. The difference between *Mughasatah* and Rental *Mughasatah* is fixing the rent from the beginning in Rental *Mughasatah*.

Effective parameters in calculations of Rental *Mughasatah* are the amount of deposit of depositors (K), capital brought of entrepreneur (B), construction period (M), and operating lifetime of the project after construction (T), the agreed rent according to the signed contract (S).

Consider the previous diagram of figure 1. The entrepreneur, with his own capital brought (B) and deposits of depositors (K), starts the construction of the project. Construction takes M periods. At the end of construction, when the project becomes operational, bank assesses (valuates) the market value of the project (Q). As in the previous case, if

the project were to sale, the share of entrepreneur and depositor would be as (34) and (35), which means their claims at the end of construction period would be defined according to these relations. Now, the entrepreneur buys depositor's share by installments, and by paying each installment, his own share increases until he becomes the owner of total project. During this period, in addition to pay installment for principal, entrepreneur has to pay a rent to depositors according to the pre-agreed contract. The forecasted operating lifetime of the project after construction period is (T) (e.g. years). If we want to show time ownership of depositor and entrepreneur in the graph, it means that from time $T_1=M$ until $T_2=M+N$, ownership belongs to depositors, and from time $T_2=M+N$ until $T_3=T+M$, the entrepreneur will be the owner. T_2 is the expiration date of contract with depositor. If entrepreneur pays back depositor's shares at this time, he will become the owner of the project from then after.

Now consider a case in which the entrepreneur takes the possession of the project from the beginning and starts to pay back the principal capital of depositor and its rent for using the property. Then, we have to calculate his installment and rent. First we have to define T_2 which is amortization date for depositor's claim. To obtain amortization date (N), we use the previous relation of (36) which means that the entrepreneur should pay back depositor's claim on assessed value of the project in N periods (years). Since the value of the project is not defined at the beginning of the project and can be assessed at the end of construction date of the project, the share of depositors cannot be calculated at beginning.

If they had agreed to pay back the share of depositor at time T_2 , he had to pay P_K . Since he wants to pay this amount in N equal installments, his periodic installment will be P_K / N . His installment plus his rent is extracted as in following relation:

$$I_t = S_t + P_K / N \quad t=1, \dots, N \quad (40)$$

In which, S_t is the amount of rent for periods of $t=1, \dots, N$. Rent installments can be unequal for all these periods according to the agreed contract.

The total amount of payment to depositors for principal and rent will be equal to:

$$\sum_{i=1}^N I_t = P_K + \sum_{i=1}^N S_t \quad (41)$$

By the agreement of entrepreneur and bank on behalf of depositor, N can be defined without using the above method. Rent can be defined as a percent of the value of the project at the time of signing the contract. In other words, the entrepreneur and bank (on behalf of depositor), can define the rent as a percent of the value of the project when it is constructed and becomes operational. In this case, periodic (annual) rent is calculated by the following relation:

$$S_t = s \times (P_K / N) \quad (42)$$

S_t is periodic rent and s is the ratio of the share of total rent from the assessed value of the project. " s " is a condition of the contract. In this case, rent has exact legal justification of using the benefits of a rental property. Depositor leaves rental property to be at possession of entrepreneur and he is legally the one who has rented the object. The amount of rent can be variable and this is not against Civil Law. It is necessary to mention that the assessed value of the project at the beginning of the project is unknown and will be determined (valuated) by bank at end of construction period at market prices.

Rental Mughasatah Installment in Endless Projects

If the project is endless, calculation of the shares of depositor and entrepreneur at the end of construction period is the same as in finitude projects. Now, if the project is defined as an endless (productive) project in the contract, depositor will also have a periodic share in the productivity of project during exploitation period plus periodic installment. In this case, depositor is not just lessors, but he participates in the profit and loss of the project.

"*Musharakah Mughasatah Certificate*" is issued for endless project through "*Musharakah Mughasatah*" contract. In this process, depositor provides fund and entrepreneur mixes it with his own resources and starts constructing the project. At the end of construction period, bank assesses the project and according to amortization period duration calculates the installments and adds it to depositor's share from the value added for every period according to entrepreneur's financial reports. According to the signed contract, the project will be monitored by bank's trustee until depositor's claim is amortized. In addition, in this case, payments to depositor by entrepreneur consist of two parts: installment concerning the return of the principal deposit of depositor, and his share from periodic value added of the project. The difference between "*Musharakah Mughasatah*" and previous case of "*Rental Mughasatah*", is that in "*Musharakah Mughasatah*", periodic value added is calculated and depositor's share is added to the assessed depositor's share value of the project.

Effective parameters used in fixing contract and calculations are: the amount of depositor's deposit (K), capital brought of entrepreneur (B), construction period (M), and operational lifetime of project after

construction period (T).

In this case, the amount of installment for principal deposit of depositor is similar with the case of finitude project contract. Amortization period for depositor's share is similarly obtained as in the previous case by (36). To calculate the amount of each installment, if entrepreneur had to pay back the whole share of depositor at the time T_2 , he had to pay the amount of P_K . In this case, the amount of periodic installment for the assessed value of the project (P_K) will be P_K/N . The productivity of the project is as the share of depositor from the value added by the project from the end of construction period $T_1=M$ up to the date of amortization of depositors' claim $T_2=M+N$ which should be paid him annually. Total share of depositor from his principal deposit plus the assessed value of the project and his value added (due to project productivity) share will be paid by entrepreneur. At every time period ($t=1, \dots, N$), depositor receives his value added share in that period (V_t^K) in addition to the installment for his principal deposit plus his share from assessed value of the project. Therefore, the total amount of year on year installment will be:

$$I_t = V_t^K + P_K/N \quad t=1, \dots, N \quad (43)$$

In which, t is for the periods from 1 to N . It is clear that:

$$\sum_{i=1}^N I_t = P_K + \sum_{i=1}^N V_t^K \quad (44)$$

Keeping in mind that capital time-yield rate for deposit (r) is not considered for endless projects. But instead, entrepreneur has to pay his periodic share value added up to the end of amortization period.

If we name the periodic value added of the project for periods of $t=1, \dots, N$ as V_t which can be positive, negative, or zero, it should be divided proportionally according to the shares of depositors and entrepreneur. The

dividend is paid to "*Musharakah* Mughasatah Certificate" holder at the end of each period. Therefore, at the end of each financial period and calculating profit and loss, the share of "*Musharakah* Mughasatah Certificate" holder from the project yield (V_t^K) will be calculated and plus the installment for principal deposit will be calculated by entrepreneur and paid to certificate holder via bank. Arithmetically we have:

$$V_t^K = \frac{P_K}{P_K + P_{B+L}} \cdot V_t \quad (45)$$

Considering the above explanation, total shares of depositor for his installment and periodic value added will be equal to: $V_t^K + P_K/N$. P_K/N is depositor's share for his capital contribution from the assessed value of the project, and V_t^K is his share from the periodic value added of project which will be paid to depositor ("*Musharakah* Mughasatah Certificate" holders).

Considerations for Installment Financial Sharing

Since in *Mughasatah*, the deposit of depositor and capital brought of entrepreneur mix together, they have mutual rights. The entrepreneur can insure the share of depositor to cover the probable risk. If the assessed value of the project was less than its cost, it is possible to use "loss insurance" to cover the probable loss. Therefore, the entrepreneur insures depositor's loss. This insurance is obligatory for all three kinds of *Mughasatah* (*Mughasatah*, *Rental Mughasatah* and *Musharakah Mughasatah*). In this case, according to signed contract, the project will be sold by auction under the supervision of bank's trustee, and the contract will be settled and bank receives no commission. This process is only applicable in "*Mughasatah*" and is not applicable in *Rental Mughasatah* and *Musharakah Mughasatah*.

Installment Financial Sharing (IFS) operational mechanism⁶¹, organization⁶² and instructions comply with Rastin PLS banking instructions. These instructions include:

1. Checking capability of the entrepreneur
2. Guarantees, collaterals and brought
3. Providing economic, technical and financial justification proposal
4. Documents and evidences necessary for project evaluation
5. Bank yields
6. Supervision standards and regulations
7. Entrepreneur reporting
8. Accounting and auditing
9. Timing and cost changing
10. Inflation effects on income, cost and net outcome of the project
11. Failure because of entrepreneur's delay and timing change
12. New sharing (capitalization during the operation)
13. Settlement with entrepreneur
14. Arbitration
15. Force majeure
16. Compilation of PLS banking contracts
17. General conditions of PLS contracts
18. Trustee competency
19. Depositor dispensing and immature settlement
20. Replacing *Pazireh* Certificates with shares in endless projects
21. Insurance coverage

⁶¹ Bidabad, Bijan, Mahmoud Allahyarifard, The Executive Mechanism of Profit and Loss Sharing (PLS) Banking.

<http://www.bidabad.ir/doc/PLS-banking-Executive-Mechanism.pdf>

⁶² Bidabad, Bijan, Nasaji Safarzadeh Masoud, Aghabeigi, Jina, Organization of Profit and Loss Sharing (PLS) Banking in Bank Melli Iran. Planning and Research Department of Bank Melli Iran, Tehran, 2010. <http://www.bidabad.ir/doc/PLS-organization.pdf>

22. Certificates transaction
23. Future certificate issuance
24. Future certificate purchase and sale order
25. Types of guarantees and collaterals for goodness of carrying activities and playing commitments in compliance with general PLS instruction
26. Banks receipts
27. Commodity checking and control
28. Raw material and final goods standards
29. Delivering final goods and termination
30. Insurance instruction in *Joalah* Financial Sharing (JFS)
31. Delay in payment and abstaining from fulfilling of obligations
32. Entrepreneur's company corporate governance
33. Professional behavior of trustee and appraiser
34. Entrepreneur's company information disclosure

Conclusion

To reach this goal Rastin Banking with Islamic and ethic essence was designed and developed. Rastin Banking should be developed to fulfill the needs of clients and to become a good substitute for conventional banking. In this regards Installment Financial Sharing (IFS) was designed. IFS is a fully new financial innovation and works under Rastin PLS Banking. It provides the background for depositor participation in investment project in which entrepreneur desires to preserve his own ownership, and depositor wishes to obtain periodic income (monthly, seasonal or yearly). These two needs are of most important desires of banks clients in both realm of borrowing and lending. IFS fill this gap in profit and loss sharing mechanism.

Installment Financial Sharing (IFS) is a subsystem of Rastin Profit and

Loss Sharing (PLS) Banking System and the guidelines, instructions, organization, workflow and electronic mechanism of Rastin PLS Banking have been put forward for this subsystem as well. Profit in this financial sharing method is based upon the yield of real sector, and bank as intermediary of funds, receives commission like an agent, and provides capital management and financial services to financier (depositor) and participates in investment project of entrepreneur on behalf of depositor. In installment Financial Sharing, contribution of depositor is paid back by installments and ownership of the project is finally transferred to entrepreneur.

Financial innovations of "Mughasatah Certificate" and "Musharakah Mughasatah Certificate" and "Rental Mughasatah Certificate" are used in this subsystem. The financier (depositor) of sharing project receives certificate, which is negotiable in Rastin Certificate Market via internet.

Resources

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Chapter Five

Bail Financial Sharing (BFS)

Introduction

When future price fluctuation is expected, producers and consumers need risk coverage for buying future raw materials and commodities to prevent price effect on their future operational plan or consumption pattern. To design a solution for this, Bail Financial Sharing (BFS) is introduced as a financial subsystem of Rastin Profit and Loss Sharing (PLS) Banking system. Bail Financial Sharing (BFS) might also be helpful for those who do not want to hoard cash money and desire to hold their assets as commodities for a period and meanwhile do not want to deliver the commodity or keep it in their own warehouse and just want to save the purchasing power of their money funds. Moreover, BFS finance is also used for financing firms that need working capital or fund to produce or buy commodities for future sale.

This approach can stabilize the economy in price fluctuations in financial and political crises. This is because during rapid price fluctuations or future expected price fluctuations the yield and productivity of various capital markets start to change and in order to keep their purchasing power, or obtaining more yields, the owners of financial resources try to move their funds from a market to another market. This action itself will exacerbate the market fluctuations.

Some new Islamic papers have been defined in Islamic countries. Some kinds of *Sukuk* papers have some similarity to Bail Certificate in Bail Financial Sharing but are completely different from supervision and structure viewpoints of Rastin PLS banking.⁶³

⁶³ See:

- Zubair Hasan, Credit creation and control: an unresolved issue in Islamic banking, International Journal of Islamic and Middle Eastern Finance and Management, Vol. 1

Footnote continues in next page:

The BFS subsystem creates the background of risk fluctuation coverage for producers and consumers in buying commodities and raw materials and venturing in economic activities and investment project in various fields. In this way, depositor will buy firms products in advance (via PLS bank) and in return for his funds, the entrepreneur promises to deliver the commodity or its value to depositor at maturity. The bank's trustee unit will supervise the obligations carry out of entrepreneur on behalf of depositor and bank receives commission for his financial intermediation.

BFS is a financial subsystem of Rastin PLS banking and in this regard, instructions, organization and application methods and electronic frameworks and contracts are very similar to the context defined in the Base Rastin PLS banking system and therefore, many of the necessities of this subsystem can be accessed in detailed instructions of Rastin PLS banking.

In BFS financing, like other subsystems of Rastin PLS banking, bank can be private or public. Bank as financial intermediate works as the attorney or agent of depositor and in addition to providing capital management, provides the necessary conditions for sharing his funds in investment activities and receives commission.

Rastin Certificates financial innovations are used in Rastin PLS banking and by issuing these certificates, bank activates secondary markets and efficiency of money and financial markets increases. BFS is applicable by using Rastin PLS infrastructure and issuance of Bail Certificate as a type of Rastin Certificates provides new conditions for participation of

Footnote is continued from last page:

No. 1, 2008, pp. 69-81.

- M. Kabir Hassan and Mervyn K. Lewis (Editors). Handbook of Islamic Banking. Edward Elgar Publishing Company, UK, 2007.

depositors in economic project of entrepreneur.

Salaf and Salam Transactions

Terminologically, *Salam* means advance payment, acceptance and obey⁶⁴. *Salam* transaction is synonymous to *Salaf* transaction⁶⁵ in which the price of the transacted is paid at time of making contract, but the commodity (or service) is delivered (rendered) in future and is regarded as debt of seller to buyer. In other words, *Salaf* or *Salam* contract is a forward-purchase or forward-sell⁶⁶ considering buyer's or seller's viewpoints⁶⁷. In this contract, the commodity is delivered at the end of contract (not at the time of signing contract). In contrast to credit transaction, in *Salam* or *Salaf* contracts, delivery of commodity is done at maturity, but the price is paid in advance. In other words, they are future commodity term-transaction with cash payment.

Religious jurists consider this contract as an allowable contract. The price of what is sold in forward deal could be cash money or commodity. There is consensus that forward deals with cash payment are allowable. But the term payment of price of a commodity is a credit deal. Forward deal of similar commodities is critical from *Riba* viewpoint. The same is the case of transaction of term money with cash; this is because if their value are equal at the time of signing contract and the delivery time, it will not be considered as a transaction (*Baie*) contract, but it is considered as a loan and if it has different values at the signing of contract and delivery

⁶⁴ Ansari, Masood, Taheri, Mohammad, Private Law Encyclopedia, Mehrab Fekr publication, Tehran, 2005, 1st ed., 2nd Vol., P. 1091.

⁶⁵ Jafari Langeroudi, Mohammad Jafar, Detailed Law Terminology, Tehran, Ganj-e-Danesh Publication, 1999, 1st ed., Vol.2, P. 978.

⁶⁶ Taheri Habib Allah, Civil Law (6 and 7), Islamic Publication, Qom, Vol. 4, P. 42.

⁶⁷ Katouzian Naser, Specified Contracts, Publication Co. LTD, 2008, 10th ed. Vol. 1, P. 174.

times, it becomes discounting and transaction enters into *Riba* realm.

The two parties of the contract (seller and the buyer) and their agreement and subject of transaction which should be typical and not specific are the three main pillars of *Salam/Salaf* contract. The substance, kind, quality, amount, price, time and place of delivery should be determined in advance and at the time of signing contract.⁶⁸ In addition, the subject of contract must not cause *Riba*. In *Salam* contract, the price could be defined as a substance, or a general commodity⁶⁹. If only a part of the price is paid, the *Salam* contract is correct for just the corresponding part. If the seller delays to deliver the commodity, the buyer has the right of cancellation (right of excuse).

If the price at *Salam* contract is a previous debt of buyer to seller, the contract will be correct and then seller will have no debts to him any longer. Therefore, credit payment of the price can be correct and buyer can consider his claims from seller as the price of purchased commodity. The prompt payment of price at beginning of *Salam* contract is not mentioned in Civil Law of Iran; therefore, the prompt payment of price at the time of signing contract is not the necessary condition of deal. The Civil Law⁷⁰ permits the two parts of the contract to define a date for payment of price and delivery of commodity.

Some jurisprudents critic that selling the subject of contract (commodity) before maturity (end of contract period) is not acceptable; while others consider it acceptable. Selling the subject of contract to the seller before delivery of it and after the end of contract period is correct, but there is no consensus about selling it to other person before delivery.

⁶⁸ Jafari Langeroudi, Mohammad Jafar, *elementology Dictionary*, Tehran, Ganj-e-Danesh Publication, 2003, 1st ed., P. 367.

⁶⁹ Imami Hassan, *Civil Law*, Islamieh Publication, 1961, 3rd ed., Vol. 1, P. 455.

⁷⁰ Article 341 of Civil Law.

Some consider this action detestable (*Makrouh*) but not against law, and some others consider it detestable only if the subject of contract is edible, and some others consider it detestable only if the subject of contract is measurable or weighable (*Makil* or *Mozoun*).

Rules of the second chapter of Usury-free Banking Law describe *Salaf* contracts⁷¹ as: Forward-purchase of produced commodities at defined price (by considering *Sharia* principles).

Bail Financial Sharing

In BFS, the entrepreneur can be a producer with real or legal entity. The entrepreneur submits his proposal to PLS bank to finance the necessary resources to purchase or import raw or auxiliary materials for his firm working capital for production or commodities for transaction under the regulations of PLS banking base system.

The proposal contains the present price of commodity, the amount and duration of needed finance and technical, executive, economic and financial information of the project. The entrepreneur should prepare his proposal according to the necessary standards and submit it to the PLS bank. After approval of proposal by assessment unit of the bank, its items can be used against the entrepreneur formally. The entrepreneur should approve his capability for implementing the project by offering necessary documents.

In case of approval of the competence and technical capability of the entrepreneur by the bank, assessment unit will assess the proposal and accepts it on behalf of depositor. After approval, bank will introduce the

⁷¹ Regulations of the Second Chapter of Usury-free Banking Law, approved by Council of Ministers, No. 81962, 1983.

proposal to depositors and by selling Bail Certificates to depositors, will provide the necessary resources for implementation of the entrepreneur's project under supervision of trustee unit of the bank. In this method bank is financial intermediate.

Entrepreneur is responsible for provision of preliminaries, raw, auxiliary and construction materials and other necessary requisites of the project. All usages of resources should be mentioned in the proposal and assessment unit should have approved its technical, financial and economic justification. The entrepreneur can spend the received funds according to the approved proposal for items such as fixed and variable costs, working capital, wages and salaries of his firm, raw material, auxiliary and necessary spare parts or import of necessary items. He can buy and sell the necessary items for several times, but he has to settle the contract according to the approved proposal at maturity.

In BFS, bank enters into contract with entrepreneur through *Joalah* or *Salaf/Salam* contracts. The maximum duration of BFS is restricted to one year. The contract parties are obliged to pay commission to bank according to the Rastin PLS banking instructions and bank receives its commission before final settlement of the contract.

The entrepreneur is obliged to provide necessary guarantees and collaterals according to the related instruction at the time of signing contract with bank. Also in special cases, according to the decision of assessment unit of the bank the entrepreneur has to provide relevant insurance coverage. According to the production cycle, the entrepreneur has to provide the commodity of the contract in his warehouse as inventory.

Entrepreneur is also obliged to present periodic financial reports to trustee unit of the bank according to the standard accounting principles

confirmed by auditing authorities and bank instructions and cooperate with trustee unit or supervisory companies specified by the bank. All activity should be carried out by entrepreneur according to the contract and under the supervision of trustee unit of PLS department of the bank. Supervisory obligations and standards for BFS projects are according to the instructions and standards of Rastin PLS banking.

The entrepreneur has to deliver the commodity or its price to the depositor at maturity through the bank and bank will render it to depositor after deduction of his commission.

Depositor can transact his Bail Certificate in Rastin Certificate Market. The commodity will be delivered at the place of production to the latest owner of certificate. Two weeks before the end of contract, the symbol of transaction of this contract will be closed at market website and the owner of that certificate will not be able to transfer it to other. The owner of the certificate has the grace period to apply to producer and receive the product during these two weeks and in case of finding anything in contrast to the contract, he can apply to defined authority as cited in related instruction within one week.

The latest owner of the certificate can ask the bank that entrepreneur sells the commodity of the contract under supervision of trustee unit of bank and after deducting commission, passes the remainder to him.

The contract duration is defined according to relevant conditions and production process based on the contract and approved proposal. Contract duration of BFS cannot be extended and entrepreneur's request for extra fund is not acceptable. New financing is possible through a new contract with new depositor and issuance of new Rastin Certificates. Extension of contract duration is possible only by confirmation of trustee unit of the

bank according to Rastin PLS banking instructions and related considerations.

Any delay in carrying out the contract should be in accordance to related Rastin PLS banking instructions. The entrepreneur has to use the allocated funds according to the defined tasks in project proposal. He is not allowed to use the fund in other fields without obtaining bank's acceptance.

In case of not fulfilling the obligations at the end of the contract, bank can compensate losses through selling guarantees and collaterals received. The entrepreneur has to report all his physical and financial activities to trustee unit of the bank personally and if trustee unit approve these activities, he can continue the job. In case of any delay, violation, incapability of entrepreneur or any other difficulties, the trustee unit will scrutinize the case and will observe entrepreneur's activities and if needed will do necessary actions to protect the rights of depositor. Considering the nature of BFS activity, in case of halt of activity or bankruptcy or death of entrepreneur, the state of capital will be reported to bank and the case will be followed up until settlement. Bank will settle with depositors according to his share from the sold collaterals and guarantees and under the supervision of bank's trustee unit. The entrepreneur undertakes not to withdraw from the contract before complete settlement and through a will, advocates the bank to settle the contract after his death by selling guarantees and drawing from his bank accounts.

Regarding the concepts applied in Rastin PLS banking and its processes and instructions for implementing BFS and the functions defined in this regard for bank, depositor and entrepreneur, structure and organization are according to what defined by Rastin PLS banking.

Bail Certificate in BFS

Bail Certificate is an anonymous paper with a defined face value and duration issued by Rastin PLS bank branch. The owner of this certificate will receive the commodity or its price (at market price) from the entrepreneur who is obliged for this certificate.

Bail Certificate, like other Rastin certificates is issued digitally and is negotiable at bank's web-based Rastin Certificate Market. The price of certificate is determined through supply and demand mechanism and bank receives a specified transaction fee. Settlement is carried out with the latest owner of the certificate at maturity.

The financial instrument of "Bail Certificate" is quite different from prevailing derivatives in global bourse markets. Standard future contracts are issued in bourse transaction markets for selling a certain amount of goods with specific characteristics in future time, in which the buyer deposits a percent of total price with a third party (usually bourse organization) and the seller commits to render the good to him at a certain time, otherwise, the deposit is given to the buyer. These contracts are negotiable in bourse market and can be changed by an offsetting contract or cancelled by their agreement. This is called the "scalability" of future/forward contracts. In this contract, buyer and seller agree on the future price of the commodity. Arbitrage operation on buying and selling future contract will change the transaction value of the contracts and future price and spot price of the commodity tend to each other. Usually, close out of the contract or offsetting contract in a clearing house can put an end to the contract. Commodity future contracts are different from interest rates future contracts on bonds, and to some extent, on foreign exchanges in which interest rate is involved in discount calculation of spot price by

considering margin money and good-faith deposited or earnest money for which may include *Riba*. This is because; some of these future contracts have specific yield and time and increase of duration of contract will change the discounted spot value equal to the interest of margin money. In other words, it involves *Riba* at least equal to the amount of interest of the deposited money. The more is the deposited money, the more *Riba* is involved. Future contracts with different subjects such as grains, meat, metals, edibles and fibers, energy and wood are prevailing in nowadays bourses.

Margin money kept for future contracts does not create any ownership right on the subject of contract and it just a guarantee for undertaking the committed contract. Future contracts are negotiable in bourse halls and people willing to enter these contracts can announce their wishes. Future contracts can be carried out on real and absent commodities. Since future contracts are exchangeable, we can see many contracts in bourses without exchanging any commodity and they just indicate some obligations between buyer and seller. This will increase the financial papers in circulation in the economy, and involves them in the broad definition of money and has similar effects on quasi money and therefore, affects the economy that weakens monetary policy effectiveness in these countries, because monetary authorities do not supervise these transactions; moreover, no physical commodity is exchanged in real sector economy. This is one of the defects of these transactions that can create economic crisis in countries.

The same problems exist for "forward transaction (*Salaf*)" derivatives, because as it was mentioned forward transactions are a kind of future contracts but with higher amount of down payment.

Differences between Bail Certificate (in BFS) and future contracts of

nowadays bourses can be put forward as:

1. In Bail Certificate, 100% of the present price should be paid to seller at the beginning.
2. Each issued Bail Certificate is assigned to a specific real good and cannot be changed with a compensatory or offsetting contract.
3. Bail Certificate is based on *Salaf* transaction.
4. In BFS, Bank works as financial intermediate by absorbing funds and allocating them to seller.
5. Good-faith deposit is only taken from the seller (producer) as bank guarantee or other collaterals.
6. The trustee unit of the bank is in charge of supervision of allocated funds to the producer.
7. After the end of the contract, the subjected commodity will be delivered to buyer according to the contract and under the supervision of bank and the contract will be terminated.
8. Bail Certificate can be transacted in secondary market but has not exchangeable or offsetting properties and therefore, the latest holder of Bail Certificate will be the owner of the subjected commodity of the contract at maturity. This characteristic prevents formation of paper markets and financial instability of economy.
9. Nominal value of Bail Certificate is equal to the price of real commodity. This price should not be discounted by interest rate.
10. Nominal price of Bail Certificate is predetermined by bank with respect to the customary size and packing of the subjected commodity.
11. Bank supervises entrepreneur's operations and deliverance of commodity and in the case of non-fulfillment of obligation will receive depositor's claims through entrepreneur's collaterals and guarantees according to compiled instructions and regulations.
12. Bail Certificate is issued at the time of contracting and is credible till

maturity and deliverance of commodity or receiving market price of the commodity.

13. Maturity of Bail Certificate is the end of contract. In the case of non-fulfillment of obligation at maturity, the delay of entrepreneur will be quantified and measured in dollars and will be levied on entrepreneur according to Rastin PLS banking instructions.

Conclusion

Paper markets have high debt leverage effect on the economy and are cause of economic fluctuations and crises. Bail Financial Sharing (BFS) introduces an efficient substitute based on Islamic interest-free thoughts. Bail Certificate is a good substitute for future markets papers and contracts without their deficiencies. This new financial innovation works under defined structure of Rastin PLS banking.

To cover producers and consumers against future prices fluctuation risk, depositors can forward-purchase raw materials or products to be delivered at specified time in future through Bail Financial Sharing (BFS). Bail Financial Sharing is a subsystem of Rastin Profit and Loss Sharing (PLS) banking system and in this regard, instructions, organization and application methods and electronic devices and contracts are similar to the context defined in the Base System of Rastin PLS banking system.

Bail Financial Sharing (BFS) enjoys from Bail Certificate innovation, which can play an important role in stabilizing and increasing efficiency of money and financial markets. Depositor (financer) receives digital Bail Certificate for this kind of participation, which is negotiable in the secondary Rastin Certificate market. Regarding the characteristics of this certificate and its clear substantial differences with futures derivative, it

prevents unreal paper markets formation. The latest owner of the certificate is owner of the commodity. Moreover, depositor can ask bank that the entrepreneur sells the commodity and pays the money –instead of commodity- to him at the end of contract.

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Chapter Six

Rent Financial Sharing (RFS)

Introduction

Financial innovations of Islamic banking and finance need more development to expand non-usury banking around the world. Innovation levels of Islamic financial institutions are low owing to the development of Islamic finance as a new activity.⁷² Rent Financial Sharing (RFS)⁷³ designed as a financial subsystem of Rastin Profit and Loss Sharing (PLS) Banking System to fulfill some of Islamic banking shortcomings. Instructions, organizations⁷⁴, electronic methods and contracts in this subsystem are executable under Rastin PLS Base System.

The objective of designing RFS is to provide financing conditions for all asset holders, whether a working or not working firm, land, construction etc. In this regard, new financial innovations and instruments are designed and introduced, which have better performances than other competent.

Rent Financial Sharing (RFS) provides necessary background for depositors' participation in economic activities of small and large finitude and endless investment projects in various fields of business, production, agricultural and revival of deceased assets⁷⁵ and exploitation of productive⁷⁶ and rental assets⁷⁷. When entrepreneur wills to preserve his proprietorship on the project property and depositor desires to obtain periodic (such as monthly, seasonal or annual) yield from his deposit, RFS

⁷² Fouad H. Al-Salem, Islamic financial product innovation, International Journal of Islamic and Middle Eastern Finance and Management, Vol. 2 No. 3, 2009, pp. 187-200.

⁷³ Bidabad, Bijan. Rent Financial Sharing (RFS), a subsystem of Rastin PLS Banking, Planning and Research Department of Bank Melli Iran, Tehran, 2011.
<http://www.bidabad.ir/doc/detailed-rfs.pdf>

⁷⁴ Bidabad, Bijan, Safarzadeh Nasaji, Masoud, Aghabeigi, Jina, PLS banking organization. Department of Research and Planning, Bank Melli Iran, 2010.

⁷⁵ Deceased assets are inactive assets including closed firms, uncultivated lands and similar.

⁷⁶ Productive assets are those assets, which are productive.

⁷⁷ Rentable assets are those assets that can be lend to others.

is a good financing manner.

RFS has many applications to finance the firms⁷⁸ that need working capital, or to buy commodities for sale. RFS can also be helpful for those property possessors who want to obtain their rental yields in lump sum at the time of financing and pay back the borrowed sources to the bank (on behalf of depositor) from the periodic rent of their assets.

Innovative financial instruments such as Rastin Certificates are used in Rastin Profit and Loss Sharing banking and bank by issuing these certificates and creating secondary market for transaction of Rastin Certificates provides new participation conditions for financing economic activities and by increasing financial efficiency, important international infrastructure for absorbing funds from all over the world is prepared. Rastin Certificates as negotiable securities are issued at the internet website of the bank. These papers are of asset types and like a share can be transacted legally and its transaction is Sharia-complied. The owners of these certificates can buy and sell them on internet, therefore, these certificates can be transacted internationally.

In RFS, we introduce a subset of Rastin Certificates for the category of Rent Financial Sharing method. These certificates are defined with periodic and non-periodic maturities and customized for different economic activities.

Rent Financial Sharing (RFS)

Regardless of the bank, being private or government owned, without predetermined interest rate, the rate of return is determined according to the

⁷⁸ William J. Donaldson, Sharecropping in the Yemen, A Study in Islamic Theory, Custom and Pragmatism, 2000, Koninklijke Brill NV, Leiden, The Netherland.

real sector yield. Bank works as intermediary of funds and receives commission while provides capital management services to participate depositor deposit in entrepreneur's economic activity. At the end of sharing activity, the yield and the deposit are paid back to depositor and finally, entrepreneur becomes the owner of the project or property.

By receiving “*jol*” (commission fee), bank provides capital management services to depositor and invests his funds in one of the PLS banking projects – selected by depositor- and gives him: Mortgage Sharing Certificate, Periodic Mortgage Sharing Certificate, Mortgage *Mudarabah* Certificate, Periodic Mortgage *Mudarabah* Certificate, Mortgage *Muzaraah*⁷⁹ Certificate, Periodic Mortgage *Muzaraah* Certificate, Mortgage *Mugharasah*⁸⁰ Certificate, Periodic Mortgage *Mugharasah* Certificate, Mortgage *Musaqah*⁸¹ Certificate, Periodic Mortgage *Musaqah* Certificate, Mortgage *Istisna* Certificate, Periodic Mortgage *Istisna* Certificate or Rent Certificate.

In RFS, entrepreneur puts a portion of his assets (goods or services productive firm, business entity or rentable building, equipment or installations) at temporary possession of depositor. In return, depositor provides deposit funds to entrepreneur and the depositor mortgages the cited asset portion to entrepreneur and entrepreneur shares out the yield of the asset according to depositor's share -at once or periodically. Bank provides necessary conditions for this participation between depositor and entrepreneur through civil partnership (*musharakat-e-madani*) or other sharing contracts such as *Muzaraah* and *Musaqah*.

Profit is distributed between depositor and entrepreneur, and bank

⁷⁹ *Muzaraah* is participation in farming.

⁸⁰ *Mugharasah* is participation in tree planting.

⁸¹ *Musaqah* is participation in fruit gardening.

receives commission. If bank contributes in project funding, he will be in the same position as depositor and obtains profit proportional to his contribution. Entrepreneur may be real or legal entity. Entrepreneur provides bank with suitable guarantees and collaterals for good performance of the job. Trustee unit of the bank supervises the process of Rent Financial Sharing (RFS) on behalf of the bank, and bank is obliged to preserve deposit's rights.

By applying to branch of PLS bank, entrepreneur presents his proposal to bank. While informing the entrepreneur about sharing conditions through information portal of Rastin Certificate Market or information counter of PLS branch, entrepreneur delivers detailed information including written project, which contains economic, technical and financial justification and other information about the project to bank.

The assessment unit of bank will assess the entrepreneur's proposal and his previous records according to instructions; and if he is capable and qualified for conducting the job, his file will be sent to the PLS department. If the preliminary assessment is positive, the detailed assessment of the project proposal will start and the needed amounts of collaterals and guarantees will be specified and informed to entrepreneur. Entrepreneur provides all documents, including the subject of sharing, budgeting, time schedule, sources needed and methods of consuming the resources, method of executing the project, phasing, quality control and reporting and method of delivering project, to assessment unit for detailed evaluation. After signing the contract, requested and agreed funds in the signed contract will be introduced to depositors through the bank's Rastin Certificate Market website and after mobilizing deposits, funds will be paid to entrepreneur according to pre-signed contract. Supervision reports and quality of handling entrepreneur's activities should be delivered to trustee unit of

bank periodically according to the pre-determined time schedule. Trustee's reports will be the base for judgment of correctness or falseness activities of entrepreneur. After construction period, the rent and share of the yield of the project and bank's commission will be calculated by accounting /auditing unit. The share of entrepreneur and depositors will be determined by considering the method of funding (whether it is as a rent, or profit or loss sharing) and will be paid to them. The amount of delay and thereof losses will be calculated according to instructions if there is any delay report prepared by trustee unit.

By applying to information portal of Rastin Certificate Market or through consulting with expert of PLS counter of the bank, PLS products, conditions and regulations of depositing and withdrawal of funds, are introduced to depositor and he will select a specific project. After signing the contract, the system will automatically issue Rastin Certificates related to the selected project. After each financial period, the accounting/auditing unit of bank will calculate profit, or rent of the project and receive it from entrepreneur and pay to depositor according to his share. Bank will receive initial fund from entrepreneur and deliver to depositor at the end of contract. This process is shown by figure 1.

All activities will be carried out according to Rastin PLS banking instructions. The amount of delay and thereof losses will be calculated according to instructions if there is any delay reported by trustee unit. Meanwhile, delays caused by force majeure will be defined and assessed according to instructions. In the case of entrepreneur dissatisfaction of trustee unit report, the case will be solved through arbitration according to instruction.

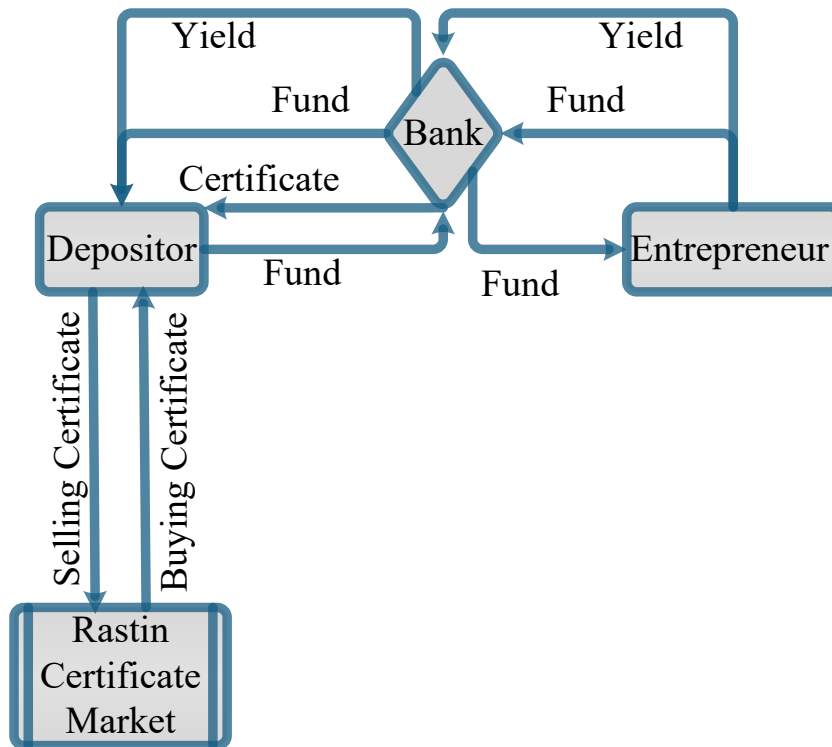


Figure 1 Rent Financial Sharing (RFS) process

Rent Financial Sharing (RFS) Phases

1. Entrepreneur applies his proposal to bank for financing his economic activity through depositors' participation.
2. Project proposal for Rent Financial Sharing (RFS) includes information on spot value of entrepreneur's assets and the period he needs the fund with technical, financial and economic justification of the project.
3. If the bank confirms the competency and technical capability of entrepreneur and his project proposal, will firstly assess the spot Dollar value of the project assets according to market prices and norms and the amount of fund and duration of the needed fund.
4. After final confirmation of the project proposal, bank introduce it to depositors and by selling the corresponding RFS Rastin Certificates to depositors, will provide necessary funds and will pay them to entrepreneur under supervision of the trustee unit of the bank.

5. Paying fund to entrepreneur is regarded as giving the possession of the entrepreneur's asset to depositors for the period of contract.
6. Depositor gives (mortgages) his possessed share to entrepreneur and instead, participates in entrepreneur activity proportional to his contribution.
7. Depositor receives profit of sharing during contracted period from productive assets or receives rent for rental assets during that period.
8. Bank receives the profit gained from depositor's funds (at hands of entrepreneur) regarding Periodic Certificates for productive assets during the contract period from entrepreneur, and after deducting commission, pays to depositor. In the case of rental assets, regarding Non-Periodic Certificates at the end of contract bank receives the profit from entrepreneur and after deducting commission, pays the remainder to depositors.
9. At the end of contract, bank receives depositor's funds back from entrepreneur and pays them to depositor and participation contract terminates.

All executive activities in Rent Financial Sharing (RFS) is carried out under the supervision of trustee unit of PLS department of the bank. In RFS, regarding the type of asset (productive asset, or rental asset) and by considering the amount of capital and bank's decision, the entrepreneur can be real person or legal entity, or just legal entity. At the end of RFS, the original funds will be refunded to depositor, but the profit can be paid to him periodically (in periodic certificates), or at the end of contract (in non-periodic certificates) according to the type of contract. The due date of profit or rent payment to depositor starts from the end of the first period and continues until the end of contract in periodic certificates. All these certificates are nameless and negotiable in Rastin Certificates Market. Market prices of these papers are determined according to supply and

demand mechanism in secondary internet market and bank receives 0.05% of transaction value from each side as commission for transaction. Periodic settlement will be carried out with latest certificate owner.

Since entrepreneur works on behalf of depositor, and shares his asset and invests from depositor's fund (deposit), he has a joint right in the asset (in RFS) with depositor. Since there may be risk of losing the asset, the entrepreneur will insure depositor's asset share in the name and benefit of bank. Bank also receives appropriate collaterals and guarantees from the entrepreneur for risk coverage and good performance of him. Insurance coverage is obligatory in Rent Financial Sharing. These insurances are formed in supplementary contracts and are *Sharia*-complied.

Rent Financial Sharing Types

Rent Financial Sharing can be arranged in different fields based on the activity of entrepreneur and kind of asset as follows:

Mortgage Sharing and Periodic Mortgage Sharing

Mortgage Sharing and Periodic Mortgage Sharing are used to finance projects with productive assets including working capital of productive firms. Based on the bank decision, firm can be real or legal, small or large entity. The settlement of Mortgage Sharing project financing with depositor is at the end of contract after deduction of bank commission; but in Periodic Mortgage Sharing, settlement is at the end of each period and the original fund is paid back to depositor at the end of contract. Mortgage Sharing Certificate and Periodic Mortgage Sharing Certificate are issued for these processes.

Mortgage Sharing Certificate is an anonym (nameless) document with a nominal price, which is issued for a certain period by a Rastin PLS bank.

Holder of these certificates shares in the yield of the asset of the project proportional to his share to nominal price of the assessed value of the asset considering his participation period. The principal and return of sharing of these certificates will be paid to depositor at the end of contract. Periodic Mortgage Sharing Certificate has all characteristics of Mortgage Sharing Certificate but, the return of the certificate is periodically paid to the certificate holder.

Mortgage Mudarabah and Periodic Mortgage Mudarabah

Mortgage *Mudarabah* and Periodic Mortgage *Mudarabah* are used to finance commercial projects that have productive asset for purchasing and selling commercial financing in small and large firms. Based on the bank decision, firm can be real or legal, small or large entity. Mortgage *Mudarabah* and Periodic Mortgage *Mudarabah* observe regulations of *Mudarabah* Financial Sharing (MFS) financial subsystem in addition to the Base system rules of Rastin PLS banking.

Mortgage *Mudarabah* projects are financed by Mortgage *Mudarabah* Certificates. Settlement will be at the end of the contract, but projects financed by issuing Periodic Mortgage *Mudarabah* Certificates, settlement takes place periodically and the original funds will be paid back to depositor at the end of contract. Mortgage *Mudarabah* Certificates and Periodic Mortgage *Mudarabah* Certificates are similar to Mortgage Sharing Certificate and Periodic Mortgage Sharing Certificate, but these certificates are used for commercial financing services.

Mortgage Muzaraah and Periodic Mortgage Muzaraah

Mortgage Muzaraah is used to finance agricultural projects, which have productive or uncultivated (unused) assets and is used to finance

working capital for planting, harvesting and selling the products in small and large agricultural firms. Firm can be either real or legal entity. If the product (crop) is harvested at once, the settlement time for profit and original fund is at the end of contract after deduction of bank's commission. Quality, transportation, storing, packing and selling products in this financing method are under the regulations of *Joalah* Financial Sharing (JFS) and *Mudarabah* Financial Sharing (MFS) subsystems.

In Mortgage *Muzaraah* projects, which are financed by Periodic Mortgage *Muzaraah*, distribution of profit is periodic after deduction of bank commission but at the end of contract the original funds will be paid back to depositor and the contract is settled. Mortgage *Muzaraah* Certificates and Periodic Mortgage *Muzaraah* Certificates are similar to Mortgage *Mudarabah* Certificates and Periodic Mortgage *Mudarabah* Certificates but for agricultural financing.

Mortgage *Mugharasah* and Periodic Mortgage *Mugharasah*

Mortgage *Mugharasah* is used to finance tree-planting projects. In *Mugharasah* the asset of entrepreneur (usually including land, technical experience of planting and tree preserving and more), becomes productive. *Mugharasah* includes financing of working capital for planting, husbandry, harvesting, packing and transporting the products of small and large agricultural firms. Bank can decide about personality and size of the firm. If the product (crop) is harvested at once, the settlement time for profit/loss and original fund is at the end of contract after deduction of bank's commission. Quality, transportation, storing, packing and selling products in this type of financing are under the regulations of *Joalah* Financial Sharing (JFS) and *Mudarabah* Financial Sharing (MFS) subsystems.

In those Mortgage *Mugharasah* projects, which are financed by

Periodic Mortgage *Mugharasah* Certificate, distribution of profit is periodic after deduction of bank commission but at the end of contract the original fund will be paid back to depositor and the contract is settled. Mortgage *Mugharasah* Certificates and Periodic Mortgage *Mugharasah* Certificates are similar to Mortgage *Muzaraah* Certificates and Periodic Mortgage *Muzaraah* Certificates but for planting and restoring tree gardens financing.

Mortgage *Musaqah* and Periodic Mortgage *Musaqah*

Mortgage *Musaqah* is used to finance husbandry and harvest of fruit gardens. The entrepreneur's asset (usually includes tree garden, technical experience of planting and tree husbandry and more) becomes productive by Mortgage *Musaqah*. Mortgage *Musaqah* is used to finance working capital of planting, husbandry, harvesting, packing and transporting production of small and large agricultural firms for either legal or real entities. In Mortgage *Musaqah* projects, which are financed by Periodic Mortgage *Musaqah*, distribution of profit is periodic after deduction of bank commission but at the end of contract the original deposit of depositor will be paid back to him and the contract is settled. Quality, transportation, storing, packing and selling product in this kind of financing are done under the regulations of *Joalah* Financial Sharing (JFS) and *Mudarabah* Financial Sharing (MFS) subsystems.

Mortgage *Musaqah* Certificates and Periodic Mortgage *Musaqah* Certificates are similar to Mortgage *Muzaraah* Certificates and Periodic Mortgage *Muzaraah* Certificates but for maintaining and harvesting fruit gardens financing.

Mortgage Istisna and Periodic Mortgage Istisna

Mortgage *Istisna* is used for financing industrial and agro-industrial firms. Mortgage *Istisna* also includes financing working capital of industrial and agro-industrial firms for production and selling products in small and large real or legal firms. Regarding the production whether is produced at one time, or is carried out along a period of time, the payment of profit/loss will be at one time, or periodically; after deduction of bank's commission. Quality, transportation, storing, packing and selling products in this type of financing are under the regulations of *Joalah* Financial Sharing (JFS) and *Mudarabah* Financial Sharing (MFS) subsystems.

In projects that are financed by Mortgage *Istisna* Certificate, settlement is at the end of contract and the original deposit and sharing profit is paid back after deducting bank's commission. Nevertheless, if the contract is Periodic Mortgage *Istisna* Certificate, profit/loss is divided after each period and the settlement of the principal shared asset with depositor takes place at the end of contract. Mortgage *Istisna* Certificates and Periodic Mortgage *Istisna* Certificates are similar to Mortgage *Muzaraah* Certificates and Periodic Mortgage *Muzaraah* Certificates but for financing industrial and agricultural firms.

Rent Sharing

Rent Sharing is used for financing the owner of rentable assets such as houses, commercial buildings, office buildings, workshops, gardens, farms or installations. The owner of these assets can be real person or legal entity. While presenting rental documents of these assets (to the third party) and his project to the bank simultaneously, the owner will ask the bank to convince the depositors about the rent income flow of the asset and bank will also assess and evaluate his asset and rental income stream. After

signing the contract, the periodic rent will be paid to depositor under the bank supervision. At the end of contract, the entrepreneur will pay back the fund received to depositor in wholesome through the bank.

In projects financed by Rent Certificates, the profit is paid to depositor after deduction of bank's commission at the end of each period and the original deposit will be returned to depositor at the end of contract. Rent Certificate is an anonym document, which is issued with a defined nominal price and for a certain period by Rastin PLS bank. The owner of this certificate shares the rent of asset proportional to its assessed asset nominal price. The original fund plus the rent will be paid to depositor at the end of contract period.

RFS Mortgage Certificates and Mortgage Securities

Valuable papers backed with mortgage loans are those securities issued with mortgage loan guarantees. Mortgage loan the loan for which the ownership document is mortgaged as guarantee by bank. Usually, in conventional mortgage papers, an institution⁸² guarantees the payment of interest and principal fund. Guarantees of these loans means guarantee of payment of monthly installments.

By guaranteeing the principal and interest of loans by institutes and using insurance for mortgage-backed securities, these loans will be negotiable in secondary market. The existence of secondary market will develop the primary mortgage market, which is long-term loan market. In this way, bank uses free resources to increase his own loan extending capability. By supplying mortgage securities in the secondary market, banks absorb new resources.

⁸² For example in USA: the Government National Mortgage Association.

In the process of asset securitization (including mortgage loans) to valuable papers (securities), the company or firm who needs financing establishes an intermediary company. The intermediate company issues papers and offers them to investors. Then, the intermediate company buys bank's financial assets from these funds. The possessors of these papers/securities will gain monthly profit for their purchase from the cash payment caused by periodical (monthly) loan re-payments. Thus:

1. Bank extends loan to client and receives installments on pre-determined periods.
2. Bank sells its claims (receivable documents) to intermediate company and receives money.
3. The intermediate company will issue valuable papers (securities) based on these claims, and sells them to investors and pays the obtained funds to the bank and receives commission.
4. Again, bank uses the new resources for extending new loans.

Practically, in this method, bank loan is shifted to intermediate company. This means that bank sells its long-term claims and finances. Mortgage papers have defined and fixed return and the asset remains at possession of the bank until the last installment (periodic rent) is paid, or bank can receive its equivalent as mortgage.

Money and Credit Council on November 17th, 2007⁸³ approved debt purchase activities based on the Provisional Regulation of Discounting Commercial Papers. Notable Islamic jurists believe that if debt purchase paper has been raised from real transaction, which means has been raised from extended loan for buying an asset, this debt can be transacted and sold to other people. Therefore, discounting commercial

⁸³ Musavian, Abbas, 2007, *Islamic Financial Instruments (Sukuk)*, Islamic Thought and Culture Research Center, Tehran, Iran

papers (debt purchase), for example in Installment Sell (*Foroosh-e-Aghsati*) based on Installment Sell Contract has no problem from jurisprudential point of view.⁸⁴ On the other hand, notable Shiite scholars believe that purchase of debt by debt and “*Kali be Kali*”⁸⁵ transaction are not right. Therefore, the papers should be in such a way that it would not be involved in this subject. For example, the intermediate company should not start debt purchase before issuing paper, but should issue paper after defining the kind and amount of debt, discount rate and other effective variables, and then start to publish debt paper and by the acquired money from, starts to buy debts⁸⁶. The Stock Exchange Jurisprudential Committee believe that since debts are raised from Installment Sell contract, therefore, asset documents should be transferred to intermediate company (who issues papers) and since, when bank extends these facilities to intermediate company, in fact, should transfer all documents to the issuing company. In this way, issuing valuable papers backed by mortgage loans by considering the above conditions have no problem from the Stock Exchange Jurisprudential Committee viewpoint. But, since Installment Sell itself is a *Riba* contract⁸⁷, the recent reasoning and maneuvers face problem⁸⁸.

⁸⁴ Jurisprudential Specialized Committee of Stocks Exchange and Valuable Papers Organization, 2007.

⁸⁵ *Kali-be-Kali* is a transaction that seller sells specific amount of a commodity to be delivered in future; and buyer purchases the commodity to be received in future.

⁸⁶ Jurisprudential Specialized Committee, Stocks Exchange and Valuable Papers Organization, 2007.

⁸⁷ Bidabad, Bijan and Abdulreza Harsini, Non-usury bank Corporation and contemporary usury and non-usury banking operations. Proceeding of the 3rd biennial Islamic economics conference (Islamic economic theory and Iranian economy), pp. 193-224, Economic Research Institute, Tarbiat Modarres University, Tehran, Iran, 24-25 Dec. 2003. <http://www.bidabad.ir/doc/sherkat-sahami-bank.pdf>
<http://www.bidabad.ir/doc/sherkatbank.ppt>

⁸⁸ Debt transaction is accepted in Malaysia from Sharia point of view (Islamic Financial Instruments Research Group of Malaysia, the 8th meeting session, 1996. Valuable Papers Commission of Malaysia, 2006. See: Soroush, Abouzar, Mortgage Sharing Papers as a New Instrument for Banks Financing. Islamic Economy Scientific Research Quarterly Journal, Vol. 8, No. 29, Spring 2008, pp. 163-188.

Murabahah Mortgage Security or Installment Sell Mortgage Security is one of the kinds of mortgage securities. In this case, by securitizing its claim from extended loan alongside with the mortgage, the bank which has transferred his resources to others by *Murabahah* mortgage or Installment Sell mortgage, can renew his funds. That is to say, bank transfers the asset to client by Installment Sell and receives installments, then can change the securities of this installment into money and provide new fund for new clients. Therefore, by applying to custodian and establishing intermediate company, will ask him to issue mortgage securities equal to the extended loan and thereof, transfers his claim to investors who buy the securities. By arranging a prospectus and obtaining credit rating agency confirmation, intermediate company publishes and sell *Murabahah* Mortgage Securities to public, and then on behalf of the claimers (security holders) will buy the asset from the bank and is replaced with bank in Installment Sell contract; and from that time, collects installments through financing company and distributes it among security holders.⁸⁹

In the case of “*Ijarah bi Sharte Tamlik*” (Rent Conditioned to Possession) mortgage securities, bank transfers the asset to others by *Ijarah bi Sharte Tamlik* Contract and receives the rent periodically, and can sell the *Ijarah bi Sharte Tamlik* mortgage securities and refund his resources. Detail of this procedure is similar to *Murabahah* or installment sell mortgage securities.

By studying the juristic dimensions of *Murabahah* mortgage securities and *Ijarah* mortgage securities, Jurisprudential Committee accepted them in accordance to *Ijarah* and *Murabahah* papers, and approved their issuance, but with precaution. While Installment Sell and *Ijarah bi Sharte*

⁸⁹ See: Soroush, Abouzar, Mortgage Sharing Papers as a New Instrument for Banks Financing. *Islamic Economy Scientific Research Quarterly Journal*, Vol. 8, No. 29, Spring 2008, pp. 163-188.

Tamlík (Rent Conditioned to Possession) contracts are superficial Islamic contracts, that invented to escape from *Riba* - this is because both these contracts involve pre-fixed interest rates.⁹⁰ As far as these two contracts use pre-fixed interest, they involve *Riba* and the papers issued on their basis create doubt of *Riba* involvement, which means that *Riba* contract papers are being transacted.⁹¹

Sharing mortgage securities are those sharing papers issued for purchasing mortgage loans by intermediate company. Mortgage loans are those banking loans based on debt with maturity of more than one year and are extended to purchase land and building.⁹² In mortgage sharing securities, similar to mortgage-loan-backed papers, the right of using the benefits (yield) of an asset which is transferred to another person by installment sell, will be transferred from bank to another person for a certain price and pre-determined installments. Mortgage sharing securities have the meaning of joint sharing and are negotiable in secondary market at market price. In mortgage sharing securities, the intermediate company starts to issue and sell papers, and absorbs fund and then, starts to buy debt purchase on behalf. This means that on behalf of the buyers, the issuer is allowed to use their funds jointly for buying debt from the bank and instead, bank will transfer some of his claims for which the bank has mortgaged possessory documents to the investing company after

⁹⁰ Bidabad, Bijan, Economic-juristic analysis of usury in consumption and investment loans and contemporary jurisprudence shortages in exploring legislator commandments. Proceeding of the 2nd International Islamic Banking Conference. Monash University of Malaysia, 9-10 September 2004. Reprinted in: National Interest, Journal of the Center for Strategic Research, Vol. 2, No. 1, winter 2006, pp. 72-90. Tehran, Iran.

<http://www.bidabad.ir/doc/reba-en.pdf>

⁹¹ Bidabad, Bijan and Abdulreza Harsini, Non-usury bank Corporation and contemporary usury and non-usury banking operations. Proceeding of the 3rd biennial Islamic economics conference (Islamic economic theory and Iranian economy), pp. 193-224, Economic Research Institute, Tarbiat Modarres University, Tehran, Iran, 24-25 Dec. 2003. <http://www.bidabad.ir/doc/sherkat-sahami-bank.pdf>

<http://www.bidabad.ir/doc/sherkatbank.ppt>

⁹² Stocks Exchange and Valuable Papers Organization, 2008.

discounting. These kinds of papers are also doubtful concerning *Riba* involvement because of application of Installment Sell Contract.

In fact, in Rent Financial Sharing, the owner of the asset will mortgage a portion of his asset to depositor through bank and depositor shares the profit (yield) of that asset until the end of the contract. There is no involvement of *Riba* in this method.

Rent Certificates in RFS and Ijarah Sukuk

Generally, various types of *Sukuks* are valuable papers, which are issued based on contract, and show the joint ownership of the owners of these papers on the asset subject of *Sukuk* issuance. The asset can be movable, or immovable. Originator is a legal entity, which offers his asset for *Sukuk* issuance and these papers are issued to finance him. Intermediate⁹³ is formed as a legal entity to redeploy the assets on behalf of the *Sukuk* papers owners. In *Sukuk* process custodian is a legal entity who is responsible to supervise the whole process on behalf of the *Sukuk* owners to keep their interests. Custodian can be a bank or a non-bank financial institute. Likewise, prospectus is an information collection that the issuer of the papers has to provide for the supervisory organization (stock exchange) and *Sukuk* buyers. *Sukuk* follows Stock Exchange Organization regulations.

In the process of *Ijarah Sukuk*, the originator starts by dividing a portion of his asset and gives its ownership to the intermediate (SPV). SPV assigns a custodian and the asset is valued. He also provides the prospectus and by issuing *Sukuk* papers starts *Ijarah Sukuk* subscription. A credit rating agency will assess the *Sukuk* paper price. *Sukuk* buyers will jointly possess the asset. In the next phase, on behalf of the owners of the

⁹³ Special Purpose Vehicle (SPV), Special Purpose Entity (SPE), Especial Purpose Company (EPC).

papers (*Sukuk Ijarah* Papers), intermediate will lend the asset to originator and receives periodic rent, and pays it to *Sukuk* papers holders. At the end of *Ijarah* contract, SPV stops rent payments to *Sukuk* papers holders. If the *Ijarah* contract is with *Ijarah bi Sharte Tamlik* (Rent Conditioned to Possession), the intermediate will transfer the ownership of the asset freely or with a substitute to the originator according to the pre-signed *Ijarah* contract. And, if it is an ordinary *Ijarah*, he will receive the asset and sell it in the market and will divide the result between the *Sukuk* owners (after deducting the lawyer's fee, custodian commission and credit rating agency of the *Sukuk*).

The problem in issuing *Sukuk* is that the *Ijarah* contract can be arranged superficially to conceal *Riba*. While the contract seems to be correct (*Riba*-free) and does not show *Riba* involvement, it can be a superficial *Ijarah* contract and in fact the rent has been calculated by interest rate and application of *Sukuk* is just a juristic factitive cover or juristic slyness (deceit). Occurrence of this case in the subsystem of RFS is seldom occurs because in the process of issuing *Ijarah* Certificate, after possessing the asset of the contract, the entrepreneur will not rent it from the bank, but he has to present his rental contracts with the lessees to the bank. In this case, the possibility of *Riba* occurrence is very low.

Custodian and intermediate are two different entities in *Sukuk* papers, but in *Ijarah* (Rent) Certificate (in RFS) the intermediate is PLS department of the bank, and custodian is the trustee unit of the PLS bank. Meanwhile, pricing and thereof, credit rating agency is not necessary in *Ijarah* Certificate (in RFS) because *Ijarah* (Rent) Certificate is transacted in primary market of Rastin Certificate Market at a nominal price and according to the supply and demand mechanism in the secondary market of Rastin Certificate Market. In *Sukuk* paper, the asset can be sold after the

end of *Ijarah* contract and the obtained fund can be distributed to *Ijarah Sukuk* holders. In this case, since the originator knows that he will not possess the asset at the end of contract, he uses the asset vigorously and depreciates it. This problem does not occur in *Ijarah Certificate*, because at the end of *Ijarah* contract, the asset is delivered back to the original owner, and entrepreneur (originator) gives the borrowed funds of the certificate holder back to him (depositor). Regarding the fact that a third party becomes lessee (tenant), the owner of the asset himself is responsible to taking care of the asset. Therefore, in this case, in contrary to *Sukuk*, the entrepreneur and depositor benefits are preserved. In addition, in order to prevent violation of commitment to return the principal fund, bank receives necessary collaterals from entrepreneur.

Conclusion

Rent Financial Sharing (RFS) is a flexible financial subsystem of Rastin PLS banking from economic activities viewpoint. Any asset holder can use this financing method to expand and develop his asset or activity. RFS can be used to revive deceased assets including closed firms, uncultivated lands and similar, and productive and rentable assets of any kind and size with any legal and real personalities.

This subsystem provides necessary background for depositors and their participation in economic activities of small and large finitude and endless investment projects. RFS works in various fields of business, production, agricultural and revival of deceased assets and exploitation of productive and rental assets; that entrepreneur wills to preserve his proprietorship on the project property, and depositor desires to obtain periodic (such as monthly, seasonal or annual) yield.

The entrepreneur in Rent Financial Sharing (RFS) will put a portion of his asset (productive, service or commercial firm or rentable) at hands of depositor for temporary proprietorship and depositor provides him funds with his deposit. Depositor mortgages his new informal property (in previous step) to entrepreneur. Thus, entrepreneur shares out his asset to the amount of depositor's deposit. Accordingly, depositor receives some amount of the yields of entrepreneur's firm/asset proportional to his share at once at maturity or periodically. New financial innovations of Rastin Certificates are introduced in this subsystem. Depositor receives Rastin digital certificates, which are negotiable in Rastin Certificate Market.

This subsystem and its certificates do not suffer from the disadvantages of conventional mortgage loans and *Sukuks* and is *Riba*-free. The system is completely adoptable by all banks and financial institutes.

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Chapter Seven

Rastin Group Funding (RGF)

Introduction

Rastin Group Funding (RGF), in action, invites (real/legal) persons to participate in specific project of the entrepreneur to finance a part or all of the needed money resources for execution of the project. Science financing processes needs application of many different technical, financial, economic and legal issues; therefore, without providing necessary conditions for these operations, and without benefiting a sufficient infrastructure to perform these types of operations, there would not be success to reach the goals of the project and intents of depositors. Rastin Banking provides a confident and sufficient infrastructure for Musharakah and sponsoring activities. Thus, using this structure, and also the standards, processes, workflow and operations, Rastin Group Funding can be implemented.

Rastin Banking has a modular design, so when the bank desires to develop the operations can activate the corresponding part. Many of instruments, Financial Subsystems and Complementary Systems will be used correspondingly when the full system of Rastin Banking is installed. Rastin Group Funding just uses some particular parts of the Rastin Banking infrastructure and operations.

Rastin Group Funding (RGF)

In Rastin Group Funding, bank according to the request of specified (limited and determined) depositors mobilizes their resources to be allocated and participated in a specific project under the regulations of Rastin Banking. The entrepreneur can be a real person or legal entity subject to considering the rules of PLS Base System or applied Financial Subsystem. Observing the related rules corresponding to the PLS Base

System and applied Financial Subsystem for the project is obligatory. Bank by observing the rules of Rastin Banking Executive Bylaw⁹⁴ and after evaluation of the project proposal and without issuing Rastin Certificate mobilizes the specified depositor's resources for the evaluated project and after receiving necessary guarantees and collaterals allocates them to the entrepreneur and start supervision over the operation of project.

Bank according to the pre-specified dates in project proposal reduces his wage from the outcome of the project and regarding the type of the applied PLS Base System or Financial Subsystem and the detailed cited services in the contract and considering the rules of Rastin Banking Executive Bylaw returns the whole or part of the capital (deposit) principle to the depositors. Final settlement will be at the end of participation period or periodically or once in specific times according to the applied PLS Base System or Financial Subsystem.

In Rastin Group Funding, bank can insert necessary obligations when signing contract with depositors and entrepreneur. These obligations must not be in conflict with Rastin Banking Executive Bylaw. Bank revenue for evaluation and supervision according to Rastin Banking Executive Bylaw and by considering the other rules and regulations can be increased by half due to supplying better services. However, in all cases the contents of the rules of the applied PLS Base System or Financial Subsystem are obligatory.

⁹⁴ - بیژن بیدآباد، آذرنگ امیراستوار، سعید عبداللهی، محمود الهیاری فرد، اسکندر پردل، مریم حیدری، علیرضا شفیعی، محمدعلی پوربهرروز، پیشنویس لایحه قانونی بانکداری راستین، بانک ملی ایران، ۱۳۹۱.

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<http://www.bidabad.ir/doc/rastin-banking-regulation.pdf>

Evaluation of the project proposal must be done by the assessment unit of the bank either directly or with instrumentality via outsourcing the task of evaluation of the project proposal to other confident assessment corporations or in special case to real assessors. But bank can supply better-quality evaluation of the project proposal due to depositors request and receiving higher evaluation fee. Supervision over the project execution must also be done by trustee unit of the bank either directly or with instrumentality through outsourcing the task of supervision over the project execution to other confident supervision corporations. But bank can also supply better-quality supervision over the project according to depositors request and receiving higher supervision fee. In all cases the responsibilities of assessment and supervision are loaded to bank.

Since in Rastin Group Funding, the relation between depositors and entrepreneur is established via the bank and from the depositor's resources and depositors are aware of the economic and financial condition of entrepreneur, in evaluation of entrepreneur bank dismiss some items of assessments that should be fulfilled in other Financial Subsystems such as: not having returned back cheque and tax settlement certificate relating to previous years entrepreneur's activities. Bank dismisses these items from its evaluation according to depositor's written agreement. Moreover, public information disclosure of entrepreneur as defined in Rastin Banking Executive Bylaw is restricted to depositors.

Conclusion

Rastin Group Funding (RGF) makes mobilization of limited and determined depositor's resources for a specific project possible and shares depositors in outcome of the projects with intent of benefit and via the bank according to Rastin Banking rules. In Rastin Group Funding, after

evaluation of the project proposal, and by observing the rules of the PLS Base System or the applied Financial Subsystem defined in Rastin Banking and considering the Rastin Banking Executive Bylaw; bank mobilizes the pre-specified depositors' resources for a specific project; and after receiving necessary collaterals and guarantees allocates them to entrepreneur and performs supervision over the project execution. Bank receives capital management fee by supplying capital management services to depositors.

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Chapter Eight

Rastin Personal Security (RPS)

Introduction

Government retirement plans have been confronted with important problems in most countries around the world. Most of these plans create outstanding debt for governments and thus, many countries are trying to revise their retirement systems and pension funds. Defects and deep financial and structural problems of social security systems are among the main problems of welfare and social security policy making. Low return of funds and capital of social security organizations' and pension funds does not practically lead the insured people to obtain the real power of the accumulated capital from their insurance premium payments in the long run. This results to poor financial coverage during retirement period of insured peoples. To solve this problem, establishment of private pension funds, multi-pillars pension funds and individual private account (thrift) for insured people have been introduced. However, these plans work better than governmental pension funds and security organizations, but suffer from relative inefficiency due to weak supervision and concentration of activities in one place. To remove these deficiencies, Rastin Personal Security (RPS) is introduced under Rastin PLS banking.

In Rastin Personal Security (RPS), bank intermediates between depositor/insured person, pension fund, and makes contracts with entrepreneurs and provides necessary participation in investment projects. RPS is a financial subsystem of PLS banking and works under the regulations of Rastin PLS banking base system. By application of Rastin PLS infrastructure, the RPS can be applied, and by issuing Social Security Certificate, Personal Security Certificate and Pension Security Certificate, provides new conditions for participation of insured persons/depositors to achieve the goals of social security and pension funds.

Pension Funds

Pension plans are programs according to which, after the end of service, member receives benefits in the form of pension benefits and payments. Pension fund is an independent legal entity that operates under the titles such as fund, institute and so on according to law, articles of association or special instruction, in the field of supplying pension benefits for members. Members include employed and retired persons who enjoy pension benefits. Pension benefits include pension and other benefits which are expected to be paid to the members in proportion to their years of membership and amount of insurance premium payments.

Pension funds have important effects on capital market and its efficiency; and are a permanent source for financing investment projects. The income sources of these funds can relatively be more stable than income sources of other financial institutes. This is because people permanently allocate portion of their incomes as insurance premium to these funds during their membership period.⁹⁵

Multi-Pillars Pension Systems

Pension systems around the world are very diverse⁹⁶. Multi pillars systems are formed from mandatory and voluntary pillars. The base pillars, generally, have redistributive role for securing retired people livelihood and

⁹⁵ Claudio Raddatz ; Sergio L. Schmukler. (2008), Pension Funds and Capital Market Development. How Much Bang for the Buck? The World Bank Development Research Group Macroeconomics and Growth Team.

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⁹⁶ World Bank; OECD (2008). Pensions at a glance: Asia/ Pacific edition.

Whitehouse, Edward. (2007), Pensions panorama: retirement-income systems in 53 countries. World Bank. Washington D.C.

insurance pillars have the role of income substitution during unemployment and preserving income level of the retired persons. Redistributive pillar provides minimum standard of living, and insurance pillars make assurance of obtaining living standards of membership time during retirement.

Social securities are generally mandatory and accordingly, the member of the fund is confident to obtain minimum income coverage for retirement time. The supplemental pension plans are considered as part of retirement system for better financing of retirement life, which can be voluntary or mandatory and is conducted by cooperation of employer and employee and if it is voluntary, some persuasive privileges are introduced for the employee to consider it as an investment for retirement. Supplementary retirement plans are divided into job retirement plans and personal account (thrift) retirement plans. Job retirement is in connection to the job of the person and in order to participate in this plan, the person has to be employed. But, in thrift plan there is no need of having job relationship.

Proposed pillars⁹⁷ of OECD⁹⁸ include the following:

1. Retirement plans managed by government and are financed in form of DB-PAYG.⁹⁹

⁹⁷ OECD (2008), Complementary and private pensions throughout the world, 2008. ISSA, IOPS.

⁹⁸ OECD (2006), Guidelines on pension fund asset management.

⁹⁹ Retirement plans may be classified as "Defined Contribution" (DC) and "Defined Benefit"(DB) according to how the benefits are determined. In a DC plan, contribution is saved in member account and then is invested, and (positive or negative) return of the investment is credited to the member's account. On retirement, member's account is used to pay retirement benefits to him and provides him a regular income. A DB plan guarantees a certain fixed-formula payout at retirement depending on the member's salary and membership duration. In an unfunded DB plan, no assets are set aside, and pension sponsor pays benefits when they are to be paid. Governments in most countries use this method as Pay-as-you-go (PAYG).

See: OECD Classification and Glossary, Private Pensions.2005, OECD.

Footnote continues in next page:

2. Retirement plans managed by private sector and are financed through the cooperation of employee and employer.
3. Personal account retirement plans as thrift saving plans.

World Bank proposes the following pillars¹⁰⁰:

1. Supportive pillar, with government finance.
2. Small supportive pillar with government management via DB-PAYG.
3. Mandatory pillar with private management.
4. Voluntary pillar with personal account thrift saving retirement plan, with private management.

Prudential funds are also a kind of saving funds for retirement, that invest the defined contributions (DC) and pays pension benefits in lump sum when the person becomes retired. Members of some of these funds are allowed to receive a portion of their retirement benefit in lump sum and the left in monthly payment.

Necessity of Retirement System Reform

Improvement of economic, social conditions and increase of health level and decrease of birth rate more or less in all countries cause aging of population as a common phenomenon that has vast effects in social security and pension policies performances. Oldness of population causes social security costs and demand for health care, in-door services, old vulnerable people housing services and elderly houses to increase. This needs financing sources increase in the long run. Therefore, pension plans face big problems in most countries and have huge debts to governments.

Footnote is continued from last page:

<http://www.oecd.org/insurance/private-pensions/38356329.pdf>

¹⁰⁰ Richard Hinz (2008), Voluntary Retirement, Savings: Motivations, Incentives and Design; World Bank.

Although governments find solutions from public resources to finance government employees, but finally these employees covered by social security systems suffer from poor performance of pension funds¹⁰¹.

Countries' struggle¹⁰² for facing unstable PAYG private sector pension systems in which private sector is responsible for managing pension plans, has developed considerably and has obvious role beside government retirement systems. OECD has undertaken guiding of member countries in pension policies in recent years.¹⁰³

Responsive and supporting members' rights necessitate precise supervision structure on huge turnover of social security institutes. The insurance premium streams obtained from retirement plans and returns of their investments in turn should be managed and supervised in such a way that compensation of retirement benefits and other obligations be feasible. In this regard, by proper supervision, the permanent and stable operations of funds should be secured.¹⁰⁴

Rastin Personal Security (RPS)

Rastin Personal Security (RPS) practically introduces a complementary process for social security and retirement. In addition to providing proper background for investment by pension funds, the main application of this system is summarized as follow:

¹⁰¹ Karen Eilers Lahey, T. Leigh Anenson. Public pension liability: Why reform is necessary to save the retirement of state employees, Notre Dame journal of law, ethics & public policy. Notre Dame Journal of Law, Ethics and Public Policy, Vol. 21, No. 1, 2007, pp. 307-333.

¹⁰² Tapia,W. (2008). Description of private pension systems. OECD working papers on insurance and private pensions. No.22.

¹⁰³ OECD (2008), Survey of investment regulations of pension funds.

¹⁰⁴ Gajek L.; Ostaszewski K. M. (2004), Financial Risk Management for Pension Plans, Elsevier.

1. Providing the second pillar for multi-pillars pension systems.
2. Providing the third thrift pillar for everybody (employed or non-employed).

In order to differentiate between mandatory and voluntary pension systems in Rastin Personal Security, hereafter, we use the terms “security fund” and “retirement fund” for mandatory and voluntary funds respectively. The term insurance premium will be used in mandatory systems and deposit will be used in voluntary systems.

Pension fund is an independent legal entity that operates under the titles such as fund, institute, and organization and so on according to law, articles of association or special instructions, in fulfilling pension defined benefits (DC) for members. Pension funds are of two types:

1. Security fund that operates under the mandatory social security laws.
2. Retirement fund, which operates voluntarily to fulfill pension needs.

In RPS, pension fund (security fund or retirement fund) as the agent of employed or unemployed (insured/depositor) invests the accumulated fund received from insurance premium/deposit in PLS bank. Bank issues Rastin Certificates against receiving deposits of pension fund. On the other side, fund requests bank to issue Security Certificate in the name of depositor/insured equal to his deposit/insurance premium paid. The issued certificate is regarded as the share of insured/depositor from the capital of the fund.

Here we define the two types of Rastin Certificate as “Social Security Certificate” and “Personal Security Certificates”. Both these certificates are issued in the name of person who pays insurance premium/deposit. Social Security Certificate is included in the second pillar of multi pillars

retirement system and therefore, it is called “Social Security Certificate”. Personal Security Certificate is the third pillar of multi pillars pension system, which considers personal account, or self-insured saving thrift plan, therefore, it is called “Personal Security Certificate”. Social Security and Personal Security Certificates have their own characteristics.

Rastin Security Certificate includes Social Security Certificates, Personal Security Certificates and Pension Certificates (transformed form of Personal Security Certificate to pension payments). Similar to other Rastin Certificates, Rastin Security Certificates are issued as negotiable assets at banks’ Rastin Certificate Market websites. The owners of these certificates can transact them via internet network or bank counter and therefore, they can be transacted internationally.

Security/pension funds obtain commission for administrative costs from depositor or insured in issuing certificates according to instructions. These costs are in addition to operations and supervision costs on investment projects defined in PLS banking.

Regarding the defined techniques and procedures, risk study, actuary calculation and supervision of these funds are important. Actuary calculations should visualize the future years' flow of funds clearly and observe international standards. All activities will be carried out according to instructions, structure and organization of Rastin PLS banking.

Social Security Certificate Process

Social Security Certificate is based upon the necessities and obligations of social security system of country and is classified in the domain of mandatory pension pillar in which the insured persons and employees pay a percent of employers’ earning to social security fund to

receive Social Security Certificate. In this case, the payer is the insured person and will be included to receive pension after retirement according to laws and regulations. Pension fund is governmental or under the supervision of the government. Regulations of these funds are those in prevailing laws and regulations of country. These security funds can sell their Rastin Certificates in the Rastin Certificate Market. Security fund will pay pension according to the share of the owner of certificate considering actuary calculations. Financial management and the share of each person will be carried out according to "Variable Capital Joint Stock Company" regulations. Special regulations and mandatory insurance should govern the transaction of these certificates for securing pensions of employees during retirement. Mandatory insurance regulations define regulations concerning transaction of Social Security Certificates. This process is depicted by figure 1.

Social Security Certificate is an anonymous or named document with defined nominal price issued and given to the insured person by Rastin PLS bank for a certain period in exchange for payment of insurance premium to a security fund. The owner of this certificate shares the fund according to the value of his certificate and duration of keeping that certificate and will receive pension fee at maturity according to mandatory social security regulations and laws.

Rastin Personal Security (RPS) Social Security Certificate Process

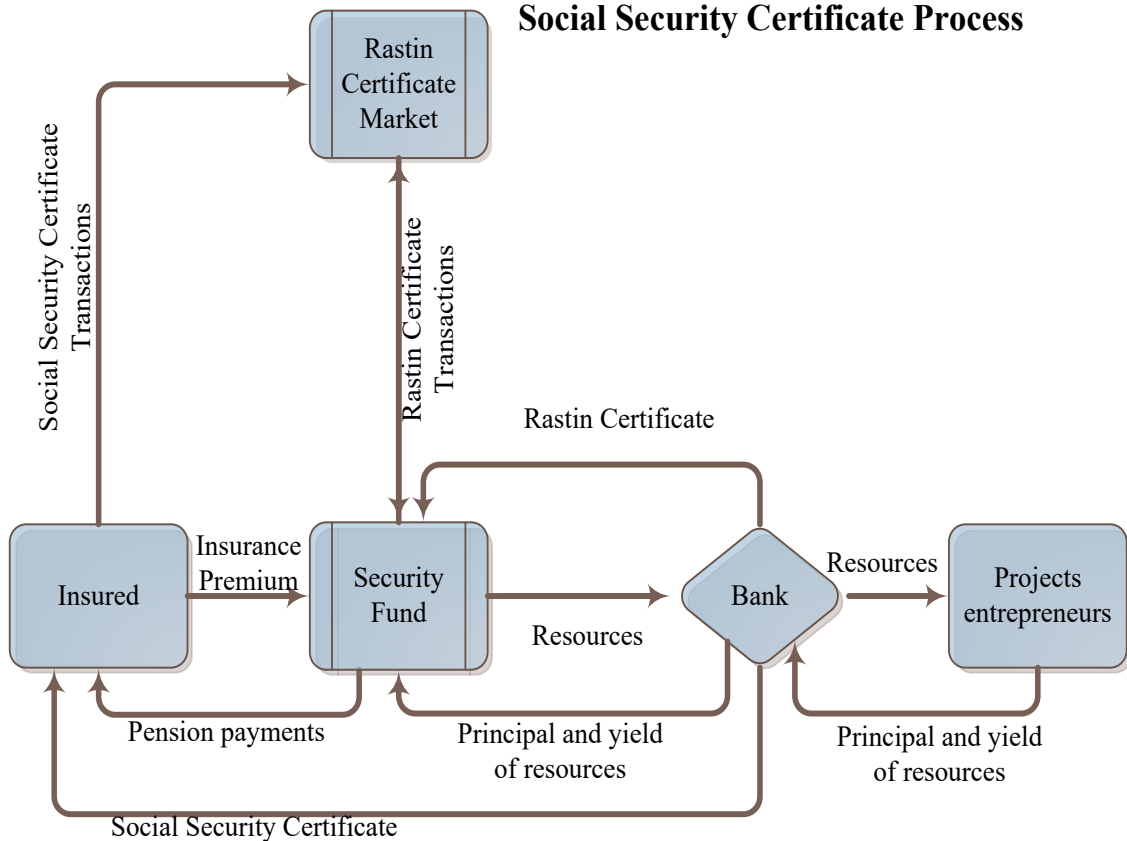


Figure 1

Personal Security Certificate Process

Personal Security Certificate is voluntary. People arbitrarily may pay pension fees to a retirement fund and receive Personal Security Certificate and after a certain period which is defined in the certificate, receive back his payments in addition to the profit of the share in the fund (not in bank financed projects). In contrast to Social Security Certificate, Personal Security Certificate does not necessarily leads to obtaining pension payment; however, its principal and profit can be exchanged into several pension payments at the end of contract. In this case, retirement fund can be private or governmental institute. Anyhow, it should be under the supervision of a governmental organization such as Welfare High Council for Social Security. People can negotiate their Personal Security

Certificates in Rastin Certificate Market. These certificates have a maturity date and after that, the owner can apply to the fund and receive back his principal and the earned profit. His participation in the fund is considered as a full sharing in activities of the fund. Therefore, he will share in the profit and loss of the fund proportional to his share and period of sharing. Fund is obliged to deposit her resources in Rastin PLS banking activities. For each deposit, bank will issue Rastin Certificate in the name of the fund and fund asks bank to issue Personal Security Certificate in the name of depositor on behalf and responsibility of the fund. Management approach and the share of participation of people in the fund will be according to Variable Capital Joint Stock Company regulations. The calculating profile of the share of each shareholder is at the end of each month. The profit received by the depositor is from total diversified activities of the fund and therefore, he will not face the risk of one single project. The owner of certificate can apply to the fund and receive the principal and profit of his deposit at maturity. The minimum maturity date will be five years after depositing date. People can deposit in several times according to their desire and receive Personal Security Certificates. This process is depicted by figure 2.

Personal Security Certificate is an anonymous or named document with a defined nominal value and maturity, and is issued by Rastin PLS bank for depositor. The owner of this certificate shares the capital of the fund in proportion to his deposit and the duration of the deposit and receives his share (principal and profit) from the fund at maturity.

Rastin Personal Security (RPS) Personal Security Certificate Process

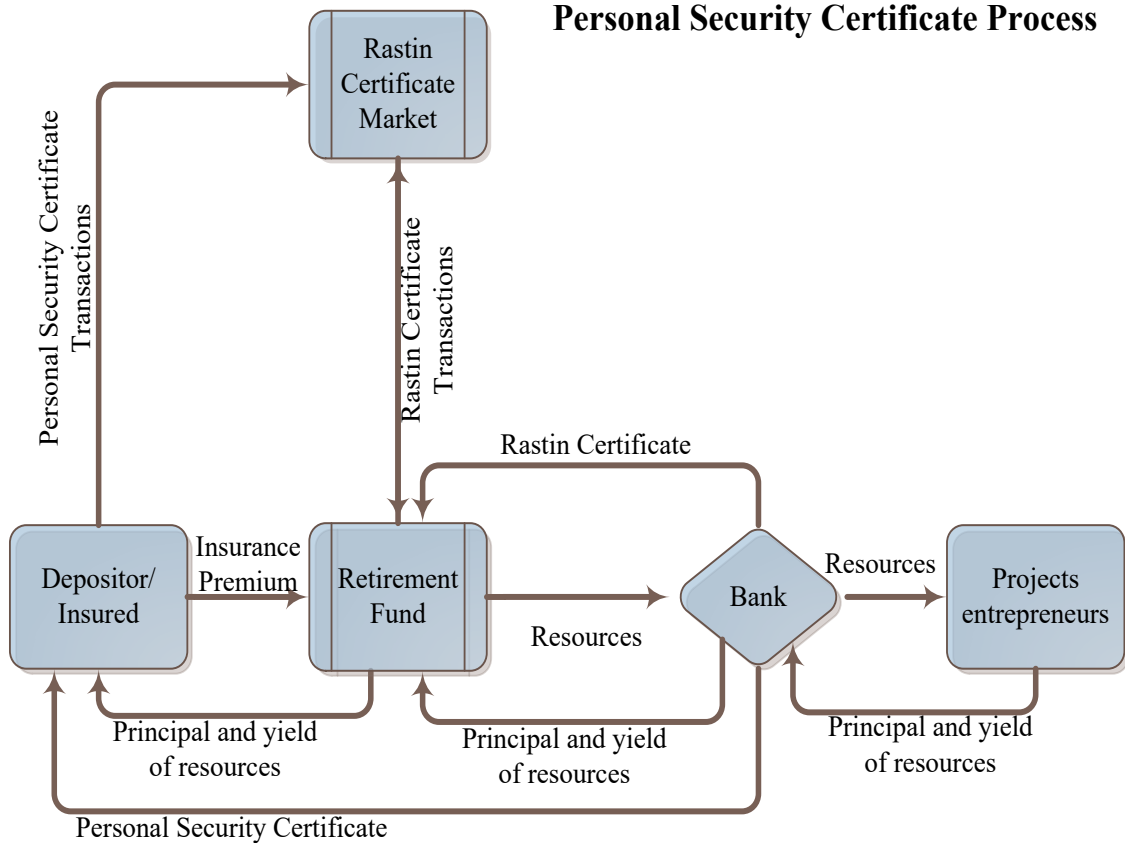


Figure 2

Pension Security Certificate Process

If depositor or the owner of certificate does not want to receive back his share from the fund in lump sum, at maturity he can ask the fund to change his certificate into several smaller certificates with continual maturities via the agent bank. Then he can apply to the bank after each maturity and receive a flow of income, which consists of his principal and the profit. In fact, these certificates are similar to personal security coupons. On the other hand, depositor can ask the fund to pay him at different maturities. The share of depositor at each maturity date will be calculated according to Variable Capital Joint Stock Company regulations. Pension Security Certificate like other Rastin Certificates is negotiable at Rastin Certificate Market. By settlement of each certificate, its serial

number will be closed at Rastin Certificate Market website.

Pension Security Certificate is an anonymous or named document, which is issued from changing the share of depositor into several small lots at maturity, so that the owner can receive continuous pension payments from the fund.

Joint Stock Company with Variable Capital

Variable Capital Joint Stock Company¹⁰⁵ is a company where its capital varies by entrance or exit of shareholders. This company can be governmental, private or mixed. Its operational features are compatible with the definition of Non-Usury Bank Company (NUBankCo)¹⁰⁶ and from financial operation are compatible with the third Rastin PLS banking product of bank participation. In fact, Variable Capital Joint Stock Company is a company in which the amount of capital is varying and the shares of shareholders are calculated at predefined time intervals.

Consider Variable Capital Joint Stock Company as a company established among shareholders whose capital is shared according to the members' own capital and durations of participation. The capital of the company can vary from time to time and is equal to the total shares weighted with (proportional to) the number of days shareholders keep their shares in the company. Assume the number of shares equals to the number of days the shareholders have kept the nominal value of each unit of share in the company. In this company, all shareholders own the capital (and profit or loss) of the company proportional to their original capital

¹⁰⁵ Bijan Bidabad, Variable Capital Joint Stock Company, 2011.

<http://www.bidabad.ir/doc/vjsc-paper-en.pdf>

¹⁰⁶ Bijan Bidabad, Non-Usury Bank Corporation (NUBankCo), The Solution to Islamic banking, Proceeding of the 3rd International Islamic Banking and Finance Conference, Monash University, KL, Malaysia, 16-17 November, 2005.

<http://www.bidabad.ir/doc/NUBankCo-en.pdf>

weighted by the time they have hold their capital in the company.

Stages of Rastin Personal Security

1. Depositors accumulate their resources in a pension fund and receive Rastin Security Certificates (Social/Personal) via agent bank (and not from pension fund).
2. Bank introduces confirmed assessed project proposals of assessment unit of the bank to pension fund. By buying Rastin Certificates related to the confirmed proposals of the bank, pension fund, similar to other bank's depositors, provides the necessary fund for sharing with entrepreneurs of projects under the supervision of trustee unit of the bank.
3. By receiving the funds from the pension fund, bank issues Rastin Certificates according to the selected projects.
4. The nominal values of Rastin Security Certificates are predetermined by bank.
5. Depositor/insured can negotiate his Rastin Security Certificates in Rastin Certificate Market.
6. Pension fund can negotiate his Rastin Certificates in Rastin Certificate Market.
7. At the end of each project, after deduction of commission, bank will pay the profit to pension fund.
8. Participation of the pension fund and the bank is in various projects and at the end of each project the sources will be settled with the fund.
9. Operational activities of entrepreneurs in connection to the pension fund are carried out by entrepreneurs under the supervision of trustee unit of PLS department of the bank.
10. In order to decrease probable risk of financial activities and to ensure confidence for the parties engaged in RPS, if possible and confirmed

by assessment unit of the bank, this unit will oblige insurance coverage of the project.

11. For the virtue of carrying out obligations by entrepreneur in RPS, bank obtains proper guarantees and collaterals from entrepreneur on behalf of the fund.
12. Bank on behalf of depositors/insured does not ask for collateral from the pension fund in lieu of payment of pension fee by depositors or insured persons. The pension fund is directly responsible to depositor/insured for the received resources.
13. In relation to depositors and fund, bank has only the role of agent to issue Rastin Security Certificates.
14. Contracts between the fund and entrepreneurs are according to the regulations of base system of Rastin PLS banking and its financial subsystems if applicable.
15. By considering the applied concepts of Rastin PLS banking, the tasks of all parties of contracts, the necessary structure, organization and instructions will be in accordance to the regulations of Rastin PLS banking.

Conclusion

Social security systems around the world are highly inefficient. Low return of social security organizations' funds and retirement pension funds does not lead the insured people to obtain the real power of their accumulated capitals from their insurance premium payments. Therefore, in order to solve this problem, establishment of private multi pillar pension funds and thrifts systems have been considered. In direction of providing necessary operational background for this task, Rastin Personal Security (RPS) as a subsystem of Rastin Profit and Loss Sharing (PLS) banking was designed.

In RPS, bank makes contracts among depositor/insured person, pension fund and entrepreneur as intermediate and provides necessary participation background for financing investment projects. By applying infrastructure of Rastin PLS banking, Rastin Personal Security will be practical and by issuing Social Security Certificate, Personal Security Certificate and Pension Security Certificates, provides new conditions for sharing of insured persons/depositors to fulfill the goals of social security and pension funds systems.

Rastin Personal Security (RPS) designed to remove this problem. RPS separates the authority of pension funds and put each part of it in a different institution (bank and fund). Designed executive mechanism is in a way to cause clear financial operations with less malfunctioning and corruption. RPS works under Rastin PLS banking and through this channel benefits from all instructions and structure of this type of banking that in turn will increase the efficiency of both governmental and private social security systems. The system is completely adoptable in all countries.

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Chapter Nine

Rastin Social Takaful (RST)

Introduction

Real establishment of Islamic banking system can remove many important economic, social and financial problems of the society. Many discussions have been done in the topic of poverty alleviation, but among them Islamic provisions are more general and effective. Social Takaful includes two parts of Social Takaful, which involves the duty of people of the society in alleviation of each other; and "Ensure Dependency" (*Zemane I'alih*) as obligation of government in fulfilling minimum livelihoods of the people of the society. In this regards we try to design effective executive methods to implement Islamic Social Takaful under Rastin Profit and Loss Sharing (PLS) banking. Rastin Financial Sharing (RST) is a financial subsystem of Rastin PLS banking system and works under its instruction, organization, regulations and electronic infrastructure.

The mechanism of fulfilling Social Takaful, including grants and interest-free loans are defined in this direction with operational methods and instruments to fulfill this benevolent approach. Similar to other financial subsystems of Rastin PLS banking, in Rastin Social Takaful, bank can be private or public. By receiving commission, as an intermediate or agent, bank offers capital management services to benevolent depositor and provides the necessary background for takaful and interest-free loan activities. Depositor permits the bank to invest his funds in Rastin PLS projects in order to finance takaful and interest-free loan from the principal or the yields of investments. Innovations such as Rastin Certificates are used in Rastin PLS banking. By using foundation of Rastin PLS banking, Rastin Social Takaful is applicable and by issuing Takaful Certificate and Loan Certificate, Takaful payments and interest-free loan are implemented according to instructions.

Rastin Social Takaful (RST)

Rastin Social Takaful is based upon two principles of unity, and association in risk. This approach of financial support, which is quite similar to prevailing insurance at present time, flourished in Islamic and other countries since three decades ago. At present time, this approach has assigned a new global market to itself. There are various definitions for takaful with similar conceptual meaning. Takaful meaning considered mostly in Islamic countries has an insurance viewpoint, but the meaning we consider here has the guardianship or deputy viewpoint.

Alvan¹⁰⁷ defines Social Takaful as backing up and bailing each other in the society, personally or collectively, by affirmative operational guidelines (like patronage of orphan) or privative (such as prohibition of *Riba*) with motivation of inner sense and conscience originated from Islamic beliefs to protect human beings to live in the society under the shelter and patronage of the society. In this direction, the society assists the man in a way that all people help each other to establish a superior society and eliminate losses and harms from the members. On the other hand, from Islamic point of view, Social Takaful means support, patronage and bailment of people of a society by themselves.

In Rastin Social Takaful, benevolent depositors (private or public) can deposit their funds under Rastin PLS banking regulations for public charity activities so that the depositor allows the bank to use the principal or the profit of his specific deposits to help the poor people and their family. In addition to depositors, all people, organizations, religious authorities, institutes, religious centers, government, government institutes and

¹⁰⁷ Alvan, Naseh, (1409 Lunar Hijri), Al takaful Al ijtemaee fi Islam, Dar Alsalam publications.

affiliated organizations, non-government organizations (NGOs), can help the people through Social Takaful by allocating their own funds. They can allocate all their resources such as targeted subsidies, ransom (*Kaffarah*), alms (*Sadaqah*), tithes (*Zakat*), one-fifth (*Khoms*), charity (*Infaq*), consecration (*Waqf*), will of dead person (*Wasiat*), blood money of killed person (*Diyah*), trophy (*Qanimah*), vows (*Nazr*), sacrifice (*Qorbani/Fadiyah*), tribute (*Kharaj*), inheritance with no inheritor, pol tax (*Jaziyah*), properties with no owner, government owned mines and treasury (*Anfal*), benevolence (*Khair*), financial fine of convicted, confiscated illegal properties, smuggling yield, received usury (*Riba*) and similar sources through RST.

Funds owners (depositors) can ask the bank to allocate their funds or returns of their funds to predetermined persons, group of persons or those introduced by Social Welfare Organization. Bank is obliged to facilitate this procedure, and report the details of its payments to depositors annually. The provided information should be in detail and make it possible for case by case inspection of the payments by fund provider.

Charity and protective organizations can have private or public legal personalities. The central bank with help of Social Welfare Organization and consecration organizations will compile the operational regulations and pass it through relevant authorities. Consecration and Charity Organization will provide the supplementary rules for financial consecration (tangible or in-tangible) assets subject to Rastin Social Takaful subsystem and pass it through relevant authorities. People can deposit their funds at banks for takaful activities according to these rules and regulations. Social Welfare Organization will be obliged to compile the operational procedures of recognition, supporting shelter, payment and supervision of the payments of Social Takaful and Ensure Dependency by consulting central bank and

passing it through relevant authorities.

Feeble and incapable people who cannot afford their necessary needs and all people who deserve to receive alms (*Sadaqah*), ransom (*Kaffarah*) and tithes (*Zakat*) is the subject of this donation.

Safeguarding the minimum needs through Rastin Social Takaful insurance includes the following subjects¹⁰⁸:

1. Financial insurance: is used to finance needy people including bankrupts.
2. Dwelling insurance: everybody has to have dwelling and dwelling insurance is to provide the minimum dwelling for everyone in the society. Financial help for home repair is also included in this insurance.
3. Marriage insurance: providing necessary conditions for marriage and removing marriage barriers in the society.
4. Job insurance: everybody has the right to have a job and job insurance will provide job for the unemployed people. In contrary to unemployment insurance, which gives financial support, job insurance provides job.
5. Education insurance: anybody who wants education or training should have the suitable possibilities.
6. Medicare insurance: all members of the society should have medical care insurance when they become sick and this is the duty for this

¹⁰⁸ See:

- Bidabad, Bijan, Economic-Juristic Analysis of Obligatory Insurance, 2010. <http://www.bidabad.ir/doc/bimeh-ejbari.pdf>
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insurance to care them.

7. Nursing insurance: all disabled persons are under the coverage of this insurance to receive nursing care.
8. Incident insurance: all people deserve to have this kind of insurance against natural and unnatural incidents.
9. Food insurance: food insurance is the nutritional shelter of the society; so that no one is to be left hungry. According to this insurance, minimum foods should be accessible for everybody.
10. Right advocacy insurance: whenever the right of a person is overwhelmed or oppressed, he must have the protection of prosecuting attorney.
11. Attorney insurance: helping people to achieve their rights is the task of this insurance.
12. Orphan insurance: providing living conditions for orphans and underage with no guardian and protecting their rights are the task of this insurance.
13. Retirement and disability insurance: elderlies who cannot work permanently or temporarily because of ageing, handicap or illness are covered by this insurance.
14. Wardship insurance: patronage of people with no guardian, elderlies, widowed, incapable, insane and thereof are covered by this insurance.
15. Adjutancy insurance: resolving problems of disabled people in all social affairs is the responsibility of this insurance.
16. Cultural insurance: helping disabled people in preserving their good traditions and manners is the task of this insurance.
17. Clothing insurance: nakedness is not admissible for anyone and providing minimum needed clothing of all needy people is the task of this insurance.

Social Welfare Organization, charity institutions and protective organizations cannot obtain the principal and profits of deposits directly and are obliged to issue draft and money order to bank to pay the needy people or their family. These organizations and banks are not allowed to hand out aid payments in a way (such as publishing the aids in their websites) which affects the prestige of the poor; while they are obliged to present separate annual report to the President, Central Bank, Public Inspection Organization, Steering Council of Social Welfare Organization and Supreme Council of Consecration. The Central Bank and Public Inspection Organization have to review and report the condition of activities of the banks, charity and supportive organizations to the president and in case of abjuration or breach, should take legal action. For rendering services, bank can receive assessment and supervision fees only, and is not allowed to ask for profit.

Humanitarian and governmental supports and other allocated funds to supportive institutions can be collected in takaful account at the bank. Bank also collects deposits from his clients and supportive institutions or depositors for investing their funds. Bank works according to intermediary (*Muvasitah*) contract for his clients. Bank will use the funds in PLS projects and the profit of the activity belongs to takaful account. In this system, bank should observe client's benefits and expedience in PLS investment activities. The returns of benevolent deposits are saved into bank accounts and the benevolent person or institution will issue the payment order and the bank is obliged to pay the order amount to the needy persons. Since receipts and payments of money in the Rastin Social Takaful is carried out by bank under the supervision of trustee and supportive institutions, therefore, the efficiency of charity institutions will considerably increase and corruption will notably decrease.

Rastin Social Takaful Operations

- 1- Two kinds of activities are performed in Rastin Social Takaful subsystem. The first is the payments of depositors for takaful activities from the principal or return of invested funds to be paid to the needy people within the framework of Rastin Social Takaful subsystem. The second group is the payments of depositors for loans in which the principal, return or both are paid as loan to needy people and the principal should be returned to depositor at maturity.
- 2- The following cases are considered in takaful operations:
 - a) Depositor agrees to pay his fund to needy people as grant without investing his fund in investment projects.
 - b) Depositor agrees to pay his fund to needy people periodically as grant without investing his fund in investment projects.
 - c) Depositor agrees to pay return of his fund to needy people as grant after investing his fund in investment projects.
 - d) Depositor agrees to pay returns of his fund to needy people periodically as grant after investing his fund in investment projects.
 - e) Depositor agrees to pay principal and returns of his fund to needy people as grant after investing his fund in investment projects.
 - f) Depositor agrees to pay principal and returns of his fund to needy people periodically as grant after investing his fund in investment projects.
- 3- The following cases are considered in loan operations:
 - a) Depositor agrees to pay his fund to needy people as loan without investing his fund in investment projects.
 - b) Depositor agrees to pay returns of his fund to needy people as loan after investing his fund in investment projects.
 - c) Depositor agrees to pay principal and returns of his fund to needy

people as loan after investing his fund in investment projects.

- 4- Bank will issue Takaful Certificate for takaful depositing and Loan Certificate for depositing with the aim extending loan to needy people.
- 5- Needy people under takaful coverage who cannot afford their living includes: individuals and families of needy, poor, indigent, helpless, tired out, poverty stricken families, ill, blind, disabled, handicap, mad, retarded, mentally sick, insane, paralytic, elderly, without guardian, homeless, captive, imprisoned, exiled, waif, orphan (without father or without mother), deserted child, child without guardian (permanently or temporarily), under debt, detriment, force majeure and forcible affected, unintentionally punished or those who are condemned and cannot pay the fine (or blood money), those who have no livelihood, no guardian family or with women guardians (divorced, separated, or with a dead, missing, exiled, imprisoned, soldier, fugitive, insane husband) and similar cases and all those who deserve alms, tithes, guilt compensation and charitable fund.
- 6- Peoples who deserve Rastin Social Takaful loan are those who cannot afford marriage, trousseau, illness, home repair, education costs or rural housing and other similar.
- 7- All real persons and legal entities, government, government affiliated institutes, charity institutions and non-governmental organizations (NGOs) can deposit their funds under the subsystem of Rastin Social Takaful for takaful and loan.
- 8- Minimum and maximum limits for the amounts of payments are determined by Central Bank with consulting Social Welfare Organization. Payments for takaful, loan, installments, also debt payment period cannot exceed the minimum and maximum limits determined by central bank for each person.
- 9- Rastin Social Takaful payments are tax-free for all parties including

depositor (benevolent), bank and needy.

- 10- Entrepreneur can introduce his investment project for Rastin Social Takaful to bank. The profit of the investment project will be delivered to the deserved needy people thereof. In this case, the project will be tax-exempted.
- 11- Depositor can introduce needy persons or group of persons to bank for receiving takaful and loan payments and bank is obliged to pay to the nominated persons.
- 12- If depositor did not introduce needy person, bank will pay to nominated people by Social Welfare Organization.
- 13- Bank has to report the received and paid amounts of money in takaful activities to depositor and supervisory institutions.
- 14- If the agreement was made to allocate depositor's fund in PLS investment projects, then the activities will be according to Rastin PLS banking regulations and entrepreneur and project proposal will be assessed and supervised in every step from the start to end as other projects.
- 15- Bank can only receive commission for takaful activities for handling and covering his management, assessment and supervision expenditures, and cannot receive cited profit in Rastin PLS banking instructions.
- 16- Depositor can transact Rastin Social Takaful Certificates in Rastin Certificate Market or transfer them to others.
- 17- Operational activities of Rastin Social Takaful will be carried out according to the signed contract between depositor and bank. Trustee unit supervises the operating department performances and prepares necessary reports for upstream inspection and surveillance.
- 18- The operations of Rastin Social Takaful follow the general regulations and instructions of Rastin PLS banking.

- 19- Bank is allowed to invest deposited funds in the assessed and approved projects by assessment unit of the bank.
- 20- Bank has to keep the money obtained from Rastin Social Takaful in separate accounts and is not allowed to use it for other cases except for what has been mentioned above.
- 21- In extending loan to needy people as subject of Rastin Social Takaful loans, bank has to obtain sufficient collateral and guarantee from the borrower.
- 22- Regarding the concepts, procedures and instructions of implementing Rastin Social Takaful, and the defined tasks of bank, depositor and entrepreneur, structure and organization¹⁰⁹ and functions are as explained in Rastin PLS banking.
- 23- Rastin Social Takaful generally conforms to Rastin PLS banking instructions, except to explicated notes.

Takaful and Loan Certificates

New financial innovations of Takaful Certificate and Loan Certificate are used in Rastin Social Takaful subsystem. By using Rastin PLS banking infrastructure, the Rastin Social Takaful scheme is applicable and by issuing Takaful and Loan Certificates, this scheme can run.

Takaful Certificate is a bearer document with a defined face value and term which is issued by Rastin PLS bank branch. The owners of these certificates give the choice to PLS bank to use their deposits for granting to needy people for a specific period and report his activities to depositor and supervisory authorities.

Loan Certificate is a bearer document with a defined face value and

¹⁰⁹ Bidabad, Bijan, M. Safarzadeh and J. Aghabeigi, Organization of Profit and Loss Sharing (PLS) Banking in Bank Melli Iran. Bank Melli Iran, 2011.
<http://www.bidabad.ir/doc/PLS-organization.pdf>

term that is issued by Rastin PLS bank. The owners of these certificates give the choice to bank to use their deposits for extending interest-free loans to needy people for a specific period, and return the principal money back to depositor after that period and report his activity to depositor and supervisory authorities.

These negotiable certificates are issued at bank's website. The owners of these certificates can negotiate them in Rastin Certificate Market of the bank on internet and put an end to their godly charity work whenever they need their funds back. These certificates are negotiable to let the depositor deviate his funds from benevolent activity when he wants. In order to start large takaful activities that need large amount of funds, government and supportive organizations and people can finance large investment projects by themselves and then, by supplying Takaful and Loan Certificates to public, call for their partial participation in Rastin Social Takaful.

Conclusion

Rastin Social Takaful (RST) is a financial subsystem of Rastin PLS banking system. RST provides necessary background for depositors' participation in benevolent activities of takaful and interest-free loans in various fields. Social Takaful includes two sections of "Social Takaful" which involves the duty of people of society in alleviation of other's penury, and "Ensure Dependency" that is obligation of government in fulfilling minimum livelihood of the people of the society. Mechanism of fulfilling Social Takaful, including grants and interest-free loans are defined under Rastin PLS banking. In this scheme, depositor permits the bank to invest their funds through Rastin PLS banking to donate takaful payments or interest-free loans from the principal, or profit of his investments to needy persons introduced by depositors or Social Welfare

Organization, and report to depositor and supervisory authorities. Specific governmental authorities are responsible for supervision and surveillance of takaful payments.

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Chapter Ten

Sponsor Crowd Funding (SCF)

Introduction

Crowd funding/sourcing is a kind of financing based on collecting and participating people in profit and non-profit activities in various fields.¹¹⁰ In a general classification, Crowd funding can be considered as participation of all people, whether acquaintances or not, in relation to implementing a task/project. An idea or a topic is shared in crowd funding to collect and accumulate resources to implement the idea or the introduced project. The proposed project can be a charity and non-profit or a profit activity.

In Rastin Banking, crowd funding practically invites people to finance partially or totally a defined project of an entrepreneur through financial grant, or loan. Regarding the mentioned characteristics, the method of work is mostly based on the cognition of the entrepreneur; therefore, social networks, which have produced circles of people and friends, can be used as an informative base for introducing the entrepreneur's project. Regarding this method of financing, various kinds of crowd financing can be introduced in form of grants (without repayment and as gift), or, loans (with repayment but without interest return).

Since financial procedures require various technical, financial, economic and legal bases and rules, therefore, without providing necessary rules and in absence of necessary background for these activities, there is no guarantee that the goals of the project and intentions of the participants

¹¹⁰ See:

- Brabham, Daren C. (2008), Crowdsourcing as a Model for Problem Solving: An Introduction and Cases. *Convergence: The International Journal of Research into New Media Technologies* 14:1, 75-90.
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be achieved. Rastin Banking provides necessary background for financial participation of people; therefore, by using this infrastructure and based on standards, processes and working procedures of Rastin Banking, crowd funding can also be installed and executed. Rastin Banking has been designed in modular form, so it enables the bank to expand Rastin Banking activities whit activating corresponding module. Many of instruments, subsystems and supplementary systems can be applied according to the selected module, and crowd financing uses specific parts of these systems.

Two kinds of crowd financing are defined here as Sponsor Crowd Funding (SCF) and Peer to Peer Loan (PPL) as financial subsystems in the framework of other Rastin Banking financial subsystems. Crowd Funding System (CFS) is also designed to facilitate web-based marketing and money transfer in the two latter subsystems through social networks.

Sponsor Crowd Funding (SCF)

Sponsor Crowd funding is absorption and collection of peoples' funds for a specified protective goal in which according to the proposal of entrepreneur for a specified protective activity, bank after assessment of entrepreneur's proposal will collect needed fund from people and after deducting its own commission without receiving any interest will pay it to entrepreneur. No Rastin certificate is issued in SCF financing. In SCF, the sponsors can pay their protective fund to a person, group of people, or governmental and non-governmental organizations. Entrepreneur or beneficiary can be a real person or legal entity. The domicile of entrepreneur and place of the project can be inside or outside of country. In any case, the guarantees should be placed within country and be enforceable and executable in the country. In any case, goal of entrepreneur should be specified and be in accordance with regular laws and regulations

of the country. Goals of proposal can be protection and financing various projects among which are:

1. Hygiene, Medicare and rehabilitation
2. Education and research
3. Innovations and inventions
4. Ceremonies, memorials, celebrations and mourning
5. Sport and competition
6. Unexpected events and emergencies
7. Electoral, political, social, and cultural campaigns to protect specific person/s or subject/s
8. Establishment of scientific, political, social, religious and cultural societies
9. Environmental, animals and plants
10. Travel and accommodation
11. Marriage, dowry, marital gift (*Mahriah*) and family
12. Gifts and celebrity respects
13. Repairs, equipment and parts
14. Patronage
15. Books, journals and multimedia
16. Unitarian fates and religions
17. Art, music and film
18. Release of prisoner
19. Job creation
20. Establishment and construction

Bank will introduce the proposal of entrepreneur to people interested in participation in entrepreneur's project via web-based Crowd Funding System (CFS) and social networks. Financing a project via the Base System or Financial Subsystems of Rastin PLS banking will not prevent

financing a portion of the project resources through SCF. However, in the latter case (twin financing), the entrepreneur is obliged to include both methods in the project proposal delivers to the bank at the same time. Application of twin methods for venture capitals and risky investments, knowledge-based companies, innovations and inventions is necessary due to risky quality of this type of projects.

The total amount of the project resource requirement could cover assessment, supervision and bank commission expenses. The project proposal includes a maximum amount of the project's required resources, starting and finishing date of the project. After the deadline or fulfilling the necessary collected fund; bank will close the project in its website and will not accept deposit (sponsors) payments for the project any more.

Assessment of project proposal in SCF will be in direction of legitimacy and truth checking. The assessment unit will not assess the profitability of the project. The degree and method of applying Rastin Banking regulations concerning financial transparency of entrepreneur and information disclosure and corporate governance of entrepreneur's company and auditing will be determined according to assessor's conclusion considering avoiding unnecessary formalities and requirements.

Entrepreneur will be bound to provide the bank with necessary guarantees for better implementation of the project and true usage of the collected resources according to proposal. Cheques and drafts of entrepreneur or other persons are accepted by bank in this subsystem, as far as they can maintain the confidence of bank. The amount of guarantee will be equal to the amount of the proposal plus a prevailing margin of bank in determining guarantees' amounts. After fulfillment of the project, guarantees will be released after confirmation of trustee unit according to the proposal. In addition, all legal options rights of the sponsor are negated

and s/he cannot ask for refund her/his money back.

Trustee unit supervision is limited to good performance and supervision on the way of spending the collected fund from sponsors according to the project proposal. The collected funds are safe-kept and are registered according to Rastin PLS Accounting Regulations.¹¹¹ Bank commission for SCF subsystem services is one percent of the total amount of collected fund, which will be deducted from the provided collected fund. For providing SCF services for assessment and supervision, bank will also charge entrepreneur at most equal to one third of the costs of assessment and supervision in Rastin Banking Operational Bylaw for economic-beneficial projects.

In case of finding any corruption in the project proposal or delinquency in implementing it, or in any case that implementation of proposal is excused or stopped for any kind of reason, the entrepreneur must pay back the received fund to bank and compensate the occurred losses. In the case of his refusal, without going into legal processes, bank is allowed to confiscate the principle and losses from entrepreneur's guarantees and is obliged to pay the collected money back to sponsors. If bank cannot reach the sponsors for any reason, it has to keep the money in its intermediary account for up to 10 years and after that consider it as "unknown owner" asset.

SCF financing of a project can be carried out by using other banking network channels at the same time. Bank is obliged to publish the details of

¹¹¹ بیژن بیدآباد، آذرنگ امیراستوار، سعید عبداللهی، محمود الهیاری فرد، اسکندر پردل، مریم حیدری، علیرضا شفیع، محمدعلی پوربهروز، پیشنویس آئین نامه اجرایی بانکداری راستین، بانک ملی ایران، ۱۳۹۱. <http://www.bidabad.ir/doc/rastin-banking-regulation.pdf>

activities and documents of the project proposal from the time of accepting it until a year after the end of the project in its CFS website.

Bank will provide necessary conditions for introducing SCF subsystem at its CFS website and provide the link of its electronic payment port in social networks. Bank will design its CFS website in such a way that the information regarding SCF projects will automatically be updated in bank's user accounts and fan pages in prevailing social networks. The amount of collected fund should be online shown publicly at social fan pages of bank and entrepreneur. Entrepreneur in SCF project has to announce his user identification and social fan pages codes and addresses to the bank so the bank could update information in regarded pages.

Conclusion

Expansion and development of social networks have provided new backgrounds for financial activities. Based on Rastin Banking Regulations, crowd funding can be installed to apply social networks in the direction of Islamic finance. Two methods of crowd funding are introduced in Rastin Crowd Funding. Sponsor Crowd Funding (SCF) is for absorption of peoples' funds for special protective goals in form of non-profit and free payments to entrepreneur through banks.

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Chapter Eleven

Peer to Peer Loan (PPL)

Introduction

Crowd funding/sourcing is a kind of financing based on collecting and participating people in profit and non-profit activities in various fields.¹¹² In Rastin Banking, crowd funding practically invites people to finance partially or totally a defined project of an entrepreneur through financial grant, or loan. Two kinds of crowd financing are defined here as Sponsor Crowd Funding (SCF) and Peer to Peer Loan (PPL) as financial subsystems in the framework of other Rastin Banking financial subsystems. Crowd Funding System (CFS) is also designed to facilitate web-based marketing and money transfer in the two latter subsystems through social networks.

Peer-to-Peer Loan (PPL)

Peer-to-Peer Loan is defined as a financial subsystem in Rastin Banking. It is absorption and collection of individual funds for extending interest-free loans to entrepreneur's project through bank. No Rastin certificate is issued in PPL financing.

Bank after receiving project proposal of entrepreneur and related documents concerning the details of the proposed project, will assess them and if needed, will obtain necessary inquiries about the documents from authorized persons, and prepares a memorandum of understanding (MOU) concerning the proposal with entrepreneur. Depositors will provide the

¹¹² See:

- Brabham, Daren C. (2008), Crowdsourcing as a Model for Problem Solving: An Introduction and Cases. *Convergence: The International Journal of Research into New Media Technologies* 14:1, 75-90.
- Brabham, D. C. (2009). Crowdsourcing the public participation process for planning projects. *Planning Theory*, 8(3), 242-262.
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bank with funds for financing the entrepreneur. After absorption and collection of the necessary fund according to the proposal, the collected fund will be extended to entrepreneur in lump sum, or at predefined dates (as specified in proposal) based on interest-free loan contracts and after receiving or deducting bank's commission fee and assessment and supervision costs. Entrepreneur can be a real person or legal entity. Entrepreneur's place of residence and place of implementing project may be within or outside of country. In the latter case, the collaterals and guarantees should be located within the country and should be enforceable and executable by internal laws.

Bank will announce the project proposal through its CFS portal and social networks to interested people for collection of fund. Financing the project through other Rastin Banking Financial Subsystems does not conflict with financing through PPL; but in this case (twin financing), entrepreneur should mention all applied financing methods in his project proposal.

The amount of project finance can include assessment, supervision and commission fees of the bank. The project proposal has a specified ceiling amount, starting and finishing and due dates and after specified termination date in the project, or after collection of the specified fund, bank will close the project proposal in its CFS portal and fan pages of social networks and after then no more funds for the project is accepted.

The assessment of PPL project proposal will be in direction of its legitimacy and truth testing. The degree and method of applying Rastin Banking regulations concerning financial transparency, information disclosure, corporate governance and auditing about entrepreneur's company will be considered and ruled according to the needs while assessment will take place to avoid unnecessary steps and complexities.

The assessment unit will not assess the profitability or cost-benefit analysis of the project.

Entrepreneur is obliged to provide the bank with necessary guaranties and collaterals for good performance of the project. The amount of these guaranties and collaterals should be equal to the amount of the extended fund plus the prevailing bank's margin. Guaranties and collaterals will be released after finalizing the project. The lender who has financed the project has no right to withdraw his total or a part of the fund he has paid to the project before maturity. The aggregated funds are safe-kept and are registered according to Executive Bylaw of Rastin Banking Accounting standards. In PPL financing, entrepreneur is obliged to pay the received fund back to the bank according to the due dates defined in project proposal and after deducting commission, bank will pay the remaining fund back to lenders. In case of un-fulfillment of the obligations of entrepreneur, bank will compensate the losses of the lenders through guaranties and collaterals of entrepreneur. The commission of bank for providing PPL services is equal to one and half percent of the provided funds that will be deducted from the extended fund. For providing PPL subsystem services of assessment and supervision, bank will also charge at most one third of the costs of assessment and supervision in Rastin Banking Operational Bylaw for economic-beneficial projects.

Bank will provide necessary conditions for introducing PPL subsystem in its CFS portal and social networks' pages. Bank will design its CFS portal in such a way that the included information regarding PPL projects will be automatically updated in social networks' pages and accounts of bank and entrepreneur. The collected funds should be shown online at social network fan pages of bank and entrepreneur at any moment (online) to the public.

Conclusion

Expansion and development of social networks have provided new backgrounds for financial activities. Based on Rastin Banking Regulations, crowd funding can be installed to apply social networks in the direction of Islamic finance. Two methods of crowd funding are introduced in Rastin Crowd Funding. Peer to Peer Loan (PPL) is defined for absorption and collection of peoples' funds for extending interest-free loans to specific project of entrepreneur.

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Chapter Tweleve

Rastin Swap Bonds

Introduction

The main constraint of financial instrument is that its operations must have a counterpart with the real project(s)/asset(s) in the real sector. From a conventional viewpoint, monetary contractionary/expansionary operations may not directly link with the real projects or business activities (Rabin, 2004). For instance, monetary contraction is done by selling central bank monetary securities which do not need to have a counterpart or asset backed in the real sector.

Interest is involved in the most of the conventional banking instruments. When interest rate is very low, we cannot use monetary policy to increase investment by decreasing interest rate; so, there is needed to innovate new interest-neutral financial instruments that can be implemented in critical economic situations. Those instruments must be able to run at low level interest rates, especially at the time of crises, liquidity trap, inconsistency between investment and saving schedules that looks for unattainable negative interest rates.

Islamic securities have become increasingly popular over the last decade, both as a means of rising government finance through sovereign issues, and as a way of corporate entities obtaining funding through the offer of corporate *Sukuk* (Moody's, 2007; 2008). The advantage of *Sukuk* is that they are expressed to be compliant with *Sharia* (Wilson, 2008).

In spite of financial and economic needs for debt-based papers, there is dirt of study which concentrated to use bond as a central bank's monetary instrument. We examine the potential for Rastin Swap Bonds (RSB) as new instruments for financial operations, which could be attractive for generating funds by the central and commercial banks and

entities and organizations under both conventional as well as Islamic banking/financial systems. To our knowledge, this is in the first series of the paper to address a theoretical background for such issue (Bidabad, Allahyarifard 2010).

Conventional Monetary Policy Instruments

In general, monetary policy is a collection of instruments which are used to fulfill macro-economic goals or reduction of damages of the performance of monetary system and controlling liquidity in the economy. The monetary authorities use different instruments which can be generally classified into two groups: quantitative and qualitative monetary instruments. Usually, quantitative monetary instruments change money supply through monetary expansion mechanism. This mechanism is practically the way that money in the economy is created. Qualitative instruments are those monetary arrangements which guide the distribution and allocation of credit within different economic sectors. Interest rate is a central concept in this regard.

In economic literature, interest rate is defined as a variable which is created by supply and demand intersection of money resources. It is not regarded as a monetary instrument. But it has a vast capability for re-allocation of resources which can act an important role in the economy. In other words, banks can decrease the demand for money by increasing interest rate and increase the supply of deposit sources. Since monetary expansion mechanism operates through money circulation between people and commercial banks, hence all quantitative monetary instruments affect both liquidity and the economy. But playing role of monetary instruments is at a time that interest rate is not so low. At the time of crises, liquidity trap and when inconsistency exists between investment and saving

schedules that looks for unattainable negative interest rates conventional monetary policies do not work.

Open market operation is one of the most important quantitative instruments. In this method, monetary authorities buy or sell bonds and valuable papers and change the amount of *high powered money* in the economy. Transaction of bonds is based upon interest rates.

As a part of the monetary policy, in order to control liquidity, monetary authorities sometimes force the banks to keep a certain percentage of their assets in the form of bonds. The purpose of this *reserve requirement* policy is to prevent money expansion through reduction of free reserves of banks. This instrument does not work at the crises too.

Discount window is also a third type of quantitative monetary instruments. In this instrument, the commercial banks can sell some of their financial papers at discounted interest rates to central bank to solve their liquidity needs. By changing this rate, central bank can affect the banks' resources and credit capability. This instrument is very helpful when banks need loan to get enough liquidity. This method uses again interest rate.

Legal reserve rate is known as credit brake, is another quantitative monetary instrument. It has many capabilities in harnessing banking credits. This rate has a vast range of effects on liquidity in the economy, therefore, it is considered as an important monetary instrument in controlling credit loans through controlling monetary expansion mechanism. With this rate, an obligation is applied on banks which is not an interest-bearing. However, slightly increasing this rate may become costly for banks, since, it blocks some of their resources in central bank. Furthermore it does not work at the time of crises.

Another group of monetary instruments are called qualitative which practically tries to divert the financial resources through limiting or encouraging credits to those sectors that authorities prefer. Limiting banks in providing credit, defining credit ceilings for banks, and defining the method of allocation of deposit funds are also considered as qualitative instruments. Generally, it is considered that the qualitative instruments do not have the necessary capabilities of helping monetary authorities to reach economic goals efficiently.

In view of the above discussions, it should be mentioned here that the monetary instruments of the conventional banking system cannot help a central bank for controlling liquidity at the time that interest rate is very low in the economy. Therefore, there is a need to innovate appropriate monetary instruments suitable for low interest conditions or the cases in where the interest rate is prohibited in the economy as Islamic banking systems.

Rastin Swap Bonds (RSBs)

Rastin Swap Bond is a financial paper that observes the right for the lender to borrow an equal amount to his lending from the borrower. The lender can sell his paper in market at market price. In this bond, no interest rate is determined, but the market price of bond is determined at each transaction in the market and thus the return of bond is not fixed and not predetermined.

Four types of Rastin Swap Bonds are: (i) Central Bank RSB to be issued by central bank, (ii) Bank RSB to be issued by commercial banks, and money and credit institutions supervised by central bank, (iii) Treasury RSB to be issued by government treasury, and (iv) Commercial RSB to be

issued by private or corporate entities through an agent bank. All these bonds are issued by the new exchange (*Mubadalah*) contract¹¹³ defined in Rastin Banking.

Financial structure of Rastin Swap Bonds is substantially different from conventional bonds and bills. In RSBs, while there is no interest, the funds will be offered to other party in form of “debt equal to future loan”, or “loan equal to future debt” with "time-drawing right". This also differentiates RSBs from conventional bonds, as the latter are interest-bearing securities, whereas RSBs are basically, non-interest-bearing financial investment certificates and with ownership claims. Similar to conventional debt securities, RSBs may be issued for a fixed period. The period variation is due to specific rules.

Each type of RSBs can be transacted in secondary market but the transactions are permitted for different groups of seller and buyers (central bank, commercial banks, treasury and public) for specific types of RSBs. RSBs pricing will be formed on a base of demand for and supply of money rather than fixed interest rate for fixed period. The interest rate of RSBs is zero but the return is not fixed due to market bonds' prices changes. Thus, interest rate rigidity is vanished and when the economy goes toward the recession, price (return) of RSBs become lower and reduces the cost of using money resources; and vice versa for the case of going toward prosperity. That is, RSBs has a built-in automatic adjustment mechanism, which stabilizes the economy. In other world, we can say that RSBs prices will be commensurate to capital return of real economy.

¹¹³ In exchange (*Mubadalah*) contract, one person (*Mobadil*) (exchanger) undertakes to give the ownership of a certain asset (*Badal*)/(exchanged asset) to the other party (*Motabadil*)/(one who receives the exchanged asset) for a defined period; and the other person also undertakes to give the ownership of same amount (*Mobaddal*) to the first person (*Mobadil*) for equal period.

Rastin Swap Bonds are issued under certain conditions with a face value. Accordingly, by buying \$A bonds with maturity of N months, the buyer will have the right to obtain \$A interest-free loan for a period of N months from the issuer of bonds. The buyer and seller will agree on fixing combinations of \$A and N months so that the buyer can choose smaller, equal or larger than one ratios from \$A in proportion with N months in such a way that the result of the amount of money multiplied by time, be equal to $A \times N$. For example, buyer instead of A Dollars, can borrow $A/2$ Dollars for $2N$ months at the N^{th} month, or $A/3$ for $3N$ months at the N^{th} month. Where, in all cases the result will be equal to $A \times N$. That is: $(A/2) \times (2N) = (A/3) \times (3N) = A \times N$ or generally speaking, instead of \$A, we will receive A/k for $k \times N$ months after the N months. The parameter k can be agreed mutually by the parties, or offered by the buyer. This procedure is depicted by figure 1.

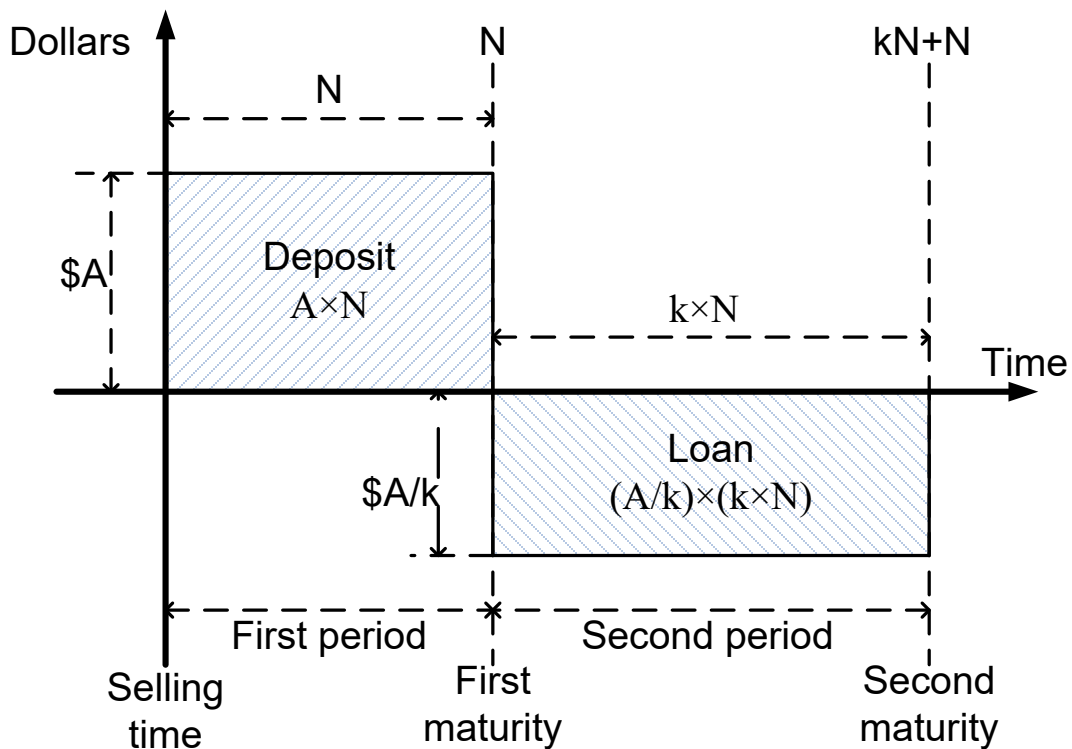


Figure 1 Two Phases Maturities of Rastin Swap Bonds

Generally, RSBs have two periods and two maturity dates. The first period is equal to N months from the selling time to first maturity, and the second period is from the first maturity date (N) until the payback date of funds ($kN+N$) or second maturity date. The first maturity is when the seller of papers is obliged to provide the loan equal to A dollars for N months, or A/k dollars for kN months to the buyer. Therefore, the first maturity occurs at the end of N months. The second maturity is the end of contract when the seller will receive back his funds after $kN+N$ months after selling time.

The buyers are limited to buy specific types of RSBs. (i) If the issuer is treasury (Treasury RSB), then the buyer is central bank. (ii) If the issuer is central bank (Central Bank RSB), then the buyers are government, banks and those financial institutes who have prudential and legal reserves beside central bank. Since banks have prudential and legal reserves at central bank, they will not face loan defaults. (iii) If the issuers are commercial banks and financial institutes (Bank RSB), then the buyers are central bank, treasury, other banks and financial institutes. (iv) If an agent bank is issuer (Commercial RSB), then all people, banks, entities and government can buy the RSB. Accordingly, they can transact RSBs in secondary market.

For the first three types of RSBs there is no need for extra collaterals due to the existing legal arrangements; but Commercial Rastin Swap Bonds need appropriate mechanism to be arranged to decrease default probability to zero. For this reason, the seller provides a (first) guarantee equal to the face value of bonds at the time of issuance and surrenders it to buyers. At the end of the first period, the buyer will be obliged to surrender the same bank guarantee to seller of bonds. After returning the funds back from the seller to buyer – at the end of the first period – the first guarantee is canceled. Another (second) guarantee is to be issued again for the second part of borrowing. At the end of the second period –after returning the

funds back from buyer to seller – the second guarantee will also be cancelled. All these operations are done through an agent bank.

Rastin Foreign Exchange Swap Bonds

Similar to RSBs in domestic money, foreign exchange nominated RSBs can also be issued. The only difference is that both loans of Rastin Foreign Exchange Swap Bonds should be in one unique currency; except for the Central Bank Rastin Foreign Exchange Swap Bonds that can be in two different currencies for the first and second periods. Similar to RSBs, the four kinds of Rastin Foreign Exchange Swap Bonds can be issued. The issuers, sellers and buyers of Rastin Foreign Exchange Swap Bonds are as cited before.

In neither cases especially when one foreign exchange is used for the first period, and another foreign exchange is used in the other period, no skepticism of usury exists.

The monetary effect of issuing Rastin Foreign Exchange Swap Bonds is similar to issuing RSBs in domestic money and in addition, it has stabilizing effect on supply and demand of foreign exchange. Central bank can use it to manage exchange rate and balance of payments by changing short-term supply of various foreign exchanges. When the bonds' face values for both periods would be the same foreign exchange, there will be possibility for risk coverage (hedging) arrangement for the second period. This instrument has different effects when the foreign exchanges are unique or different in the two periods of RSB. If the exchange rates are the same in both periods, it will hedge the buyer for future fluctuation of exchange rate in the second period; and if different exchanges are used in the two periods, the hedging effect will be on the second period exchange.

Sharia Allowances of Rastin Swap Bonds

Essentially, usury occurs in loans, and loans have two different kinds of consumption and investment loans. Investment loans result in profit/loss and the loan itself is not for spending or consumption. Consumption loans are used for everyday life uses.¹¹⁴ Sharia prohibition reasoning mostly concern consumption loans¹¹⁵.

“Transaction usury” is defined as transacting a measurable commodity/money with a surplus amount of the same commodity/money. Because of the excessive amount paid to other party; this transaction involves usury, and is prohibited by Sharia. In “transaction usury”, transacting equal amount along a period is not considered, but transacting with an extra amount is at the focus of attention. That is why Rastin Swap Bonds do not enter into the domain of “usury transaction”; because its financial activity is not based upon transaction of extra amount, just equal amounts are bartered along two periods, and creditor obtains no surplus.

In “loan usury”, a person gives a loan (money or commodity) and receives it back with a surplus. In “loan usury”, the surplus has not necessarily the same type or quality of the original commodity and includes any kind of surplus. Rastin Swap Bonds are not “loan usury” as well.

The spiritual reference of the verses 278-281 of Surah of *Baqarah*:
“Your capitals will be yours, you won’t suppress and will not be

¹¹⁴ Bidabad, Bijan, Economic-juristic analysis of usury in consumption and investment loans and contemporary jurisprudence shortages in exploring legislator commandments. Proceeding of the 2nd International Islamic Banking Conference. Monash University of Malaysia. 9-10 September 2004. Reprinted in: National Interest, Journal of the Center for Strategic Research, Vol. 2, No. 1, winter 2006, pp. 72-90. Tehran, Iran. <http://www.bidabad.ir/doc/reba-en.pdf>

¹¹⁵ Baqarah: 267. God erases usury and increases charity. «يَمْحَقُ اللَّهُ الرِّبَا وَيُزِيهِ الصَّدَقَاتِ».

suppressed” approves the correctness of Rastin Swap Bonds¹¹⁶. This is because according to “*your capitals will be yours*”, the principal loan will be returned to the lender, and in order to prevent doing any oppression, or being oppressed “*you won’t suppress and will not be suppressed*”, he will receive loan in an equal amount of what he had lend, which exactly complies the meaning of this verse.

Many of monetary and banking activities are regarded as new subjects in civil laws of many countries. Civil laws have not reckoned all transaction contracts and has just mentioned some evidences such as pure transaction contract, conditional transaction, forward deal, spot transaction, over the counter transaction, future (*Salaf*) and prepaid (*Salam*) purchase, irrevocable transaction, optional transaction, valuable metals transaction, unauthorized transaction and etc. Therefore, we will not be wrong if we consider RSB with its similarities to “transaction contract”, while possessory right is suspended during the period of contract.

Promissory contracts seem to be a solution for legal framework for RSB. New “counter-loaned contract” in which two parties decide to deposit a specific asset with the other party for a same period, and also “counter-trust contract” can be defined in this regard. But, revocability of promissory contracts creates difficulty for application of “counter-loaned contract” and “counter-trust contract” and “donation against loan contract” with zero

¹¹⁶ Baqarah: 278-281:

«يَا أَيُّهَا الَّذِينَ آمَنُوا اتَّقُوا اللَّهَ وَذَرُوا مَا بَقِيَ مِنَ الرِّبَا إِن كُنْتُمْ مُؤْمِنِينَ. فَإِن لَّمْ تَفْعَلُوا فَأْذَنُوا بِحَرْبٍ مِّنَ اللَّهِ وَرَسُولِهِ وَإِن تُبْتُمْ فَلَكُمْ رُؤُوسُ أَمْوَالِكُمْ لَا تَظْلِمُونَ وَلَا تُظْلَمُونَ. وَإِن كَانَ ذُو عُسْرَةٍ فَنَظِرَةٌ إِلَىٰ مَيْسَرَةٍ وَأَن تَصَدَّقُوا خَيْرٌ لَّكُمْ إِن كُنْتُمْ تَعْلَمُونَ. وَاتَّقُوا يَوْمًا تُرْجَعُونَ فِيهِ إِلَى اللَّهِ ثُمَّ تُوَفَّىٰ كُلُّ نَفْسٍ مَّا كَسَبَتْ وَهُمْ لَا يُظْلَمُونَ.»

O! Believers, care about God; leave what is left through usury. But if you don’t, you should know that you are fighting against God and his messengers; and if you repent, your capitals will be yours. You won’t suppress and will not be suppressed. If your debtors are poor, give them time until they obtain money; and if you bestow, it will be much better for you if you understand. Beware of the day you return to God, and then whatever obtained, will be returned to everybody; and they will not be suppressed.

donations in applying Rastin Swap Bonds¹¹⁷. In this connection, application of “time-barter contract” is not meaningless. Accordingly, we define “time-barter contract” in which a party lends an asset to other party, in order to receive the same asset from him in future without considering that one of them is assets and the other is its price. If we consider the loan contract without surplus, “time-loan contract” might also be defined. We may define “time-loan contract” according to which each party loans the possession of his own specific asset to the other and the other party will loan back the similar asset with similar quality and amount to him at maturity, and if he cannot render the same asset, he should pay its spot price at the time of contracting. In all of these frames, one deposits some asset with the other person and he will pay back the same amount at the maturity without any surplus or privilege.

Monetary Effects of Rastin Swap Bonds

Rastin Swap Bond will serve as an important instrument for resource mobilization and will be a primary vehicle for development of Islamic capital market. Sole¹¹⁸ argues that expanding range of financing opportunities by different institutions by developing *Sukuk* is likely to deepen the financial sector as well as economy as a whole. Therefore, the effects of issuing RSBs by central bank, commercial banks, government treasury and private entities separately will enormously contribute in real sector economy.¹¹⁹

Central Bank Rastin Swap Bond practically decreases the free

¹¹⁷ Bidabad, Bijan, Legal analysis of Interest-Free Bonds

<http://www.bidabad.ir/doc/legal-analysis-of-non-usury-bonds.pdf>

¹¹⁸ Sole, J. (2007). Introducing Islamic banks into conventional banking system. Working Paper No. 07/175, IMF, Washington, DC.

¹¹⁹ Bidabad, Bijan, Mahmoud Allahyarifard. Usury-Free Bonds and Islamic Central Banking Monetary Instruments. 2010. <http://www.bidabad.ir/doc/Islamic-banking-bond-en.pdf>

balances of banks and blocks them by central bank in the first period. It will also oblige the central bank to provide banks with the same amount in the second period. After the end of the second period, central bank will line out the issued papers. Since these operations will affect high-powered money, it may create the contractionary monetary effects in the first period and expansionary monetary effects in the second period. Central bank can define A, N, and k parameters according to the position of the economy in recovery, prosperity, recession and crisis during business cycles to decrease the severity of economic fluctuation. This policy is similar to fine tuning monetary policy in conventional central banking.

Since these bonds can be transacted in the secondary market, they will have automatic adjustment mechanism through relationship of bond price and interest rate. Whenever interest rate is high, the transaction price of the RSBs will fall in the first period, and will increase the incentive for banks to put their sources beside central bank. Hence, they can obtain more funds in the second period. During prosperity, when interest rate is high, it will limit the free balances of banks and will prevent the expansion of business cycle domain. On the contrary, when interest rates are low, the price of RSB will increase during the first period and decrease the incentive for banks to buy these papers from central bank to obtain more funds in the second period. This means that during economic crisis, when interest rates are low, it will expand the free bank balances and will not let business cycle expands and aggravate the crisis. Central bank can adjust supply of these bonds through their prices; and by changing volume of high-powered money affects liquidity and hence will affect interest rates. Accordingly, RSBs can substitute conventional bonds in Islamic central banking, because they have zero interest rate.

When expected inflation and expected interest rates are different in

first and second periods, the result will be somehow different. If expected natural interest rate in the second period is more or less than the first period, it will have different effects on supply and demand of RSBs. The more is the expected natural interest rate in the second period, the more will be the price of RSBs in the first period and vice versa. Similarly, the less is the expected natural interest rate in the second period, the less will be the bond price in the first period. This issue is very important from monetary policy viewpoint in adjusting and stabilizing economic activities. In addition, it causes expectations to have essential role in credit behavior of banks. That is if banks expect increase (or decrease) in natural interest rate during the second period, they will adapt increasing (or decreasing) supply policy for RSBs. From economic point of view, this mechanism can be a factor that dampens business cycles oscillation.

The RSBs' effects are different in continuous stable inflation. If expected inflation rate is not different in both periods, inflation will not affect the RSBs' prices. Because, both the buyer and seller expect that the rate of returns of RSBs are the same in two successive periods with fixed expected inflation rate (*Ceteris Paribus*); and the price of RSB does not change due to inflation expectation. Otherwise, different RSB prices will be expected in secondary market. If the average expected inflation rate in the first period is less than average expected inflation rate in the second period, then the RSBs prices will be higher in the first period than the second period. On the other hand, if the average expected inflation rate in the first period is higher than average expected interest rate in the second period, we will have an opposite case and RSB prices in the first period will be less than the second period.

The interest rates of deposits and credits in other markets also have important effects on supply, demand and price of RSBs in secondary

market in the first and second periods regarding the length of the periods and different positioning of business cycle.

Foreign Exchange RSBs affects exchange rates through the monetary and exchange effects. Changes in supply of domestic currency will affect the economy through monetary channels and will make differences in internal and external interest rates.

When central bank buys Treasury Rastin Swap Bonds, it will have expansionary monetary effects in the first period and contractionary monetary effects in the second period.

Fiscal Effects of Rastin Swap Bonds

Managing government fiscal policies in usury-free environment as well as implementing monetary policy is facing with basic trouble of usury nature of conventional bonds. Therefore, it is necessary to introduce non-usury treasury bills to manage government budget deficit/surplus for successive years¹²⁰. Fiscal policies are generally a collection of policies applied to fulfill macroeconomic targets or to prevent losses causing from government fiscal performance. Government treasury in managing government income and expenditure flows uses different instruments to adjust government budget in such a way that the government not to be faced with deficit/surplus and provide necessary maneuvers for expansionary/contractionary fiscal policies. Fiscal tune policy similar to monetary tune policy is done through government bonds managements. Bond prices are set in secondary market commensurate to other financial assets. If interest rate increases, the price of bonds will decrease, and if the involved risk of the other assets increase, the price of bonds will increase

¹²⁰ Fouad H. Al-Salem, Islamic financial product innovation, International Journal of Islamic and Middle Eastern Finance and Management Volume: 2 Issue: 3, 2009.

because bonds have collaterals and guarantees and they usually have less default risk. Variation of bank interest rates and rate of return and maturity of other assets and bonds will change the supply and demand of bonds. Inflation expectation will also decrease the real yields of bonds and their prices. But the most important instrument for fiscal policy which is Treasury bill, cannot be applied in usury-free systems because it involves usury.

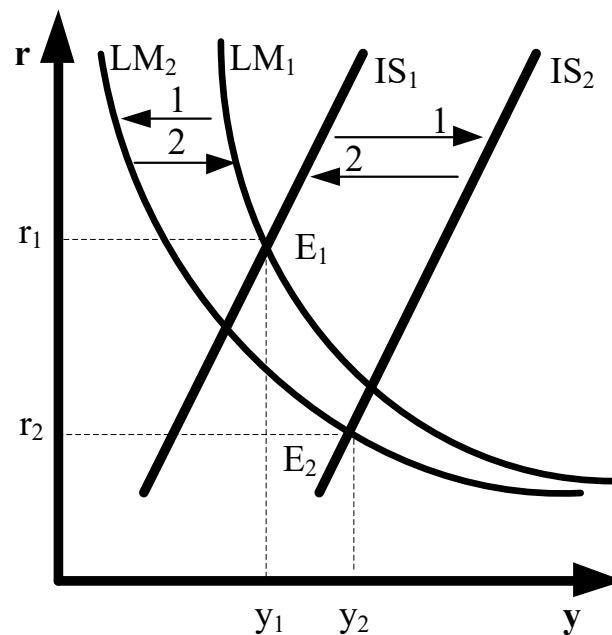


Figure 2 Financing government budget deficit effects by Treasury RSB

Treasury RSB provide necessary conditions for financing government deficit and the government can adjust her budget policies by transacting these papers. When central bank buys these papers, in first period increases the supply of high-powered money in the economy and creates a commitment for the government to deposit the same amount with central bank at the second period. After the second maturity, receiving back the deposited funds by central bank, the issued Treasury RSB will get out of circulation. Since these activities affect monetary base, it will have monetary and fiscal expansionary effects at the first period and

contractionary effects at the second period.¹²¹

These effects are shown by figure 2 through IS and LM curves. At first, the equilibrium is at point E_1 and moves to point E_2 after the purchasing Treasury RSB by central bank and then at the beginning of the second period moves back to point E_1 again. Therefore, in the first period, the interest rate (r) will decrease and production (y) will increase, but at the second period, the effects are reversed.

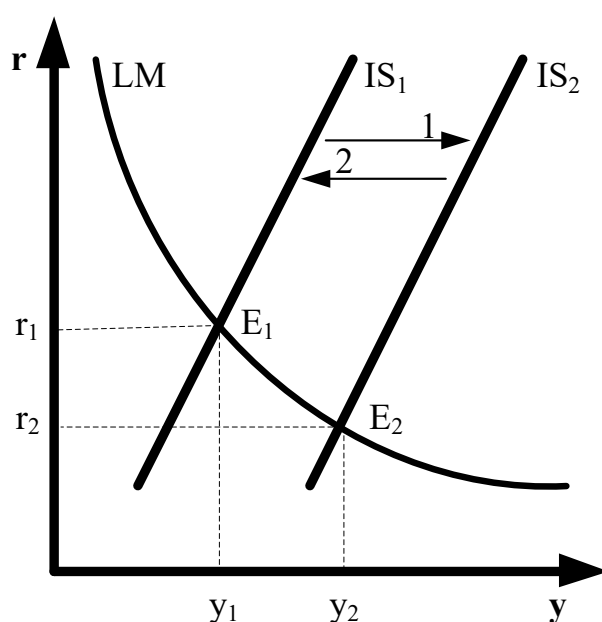


Figure 3 Financing government budget deficit effects by Bank RSB

When government buys Bank RSB, lead to increase government fiscal resources in the first period, but volume of liquidity is not affected. In the second period, the same amount of banks' free reserves, which had been reduced in the first period will increase and will have fiscal contractionary effect on government budget. Volume of liquidity in the economy will not change in neither of periods. This effect is shown by the movement of IS

¹²¹ Bidabad, Bijan, Interest-Free Treasury Bonds (IFTB), Islamic Finance and Legal Clarifications, 2011. <http://www.bidabad.ir/doc/interest-free-t-bond-fiq'hi-en.pdf>

curve in figure 3. Equilibrium is at E_1 at the beginning; after government purchase of Bank RSB it will move to equilibrium point of E_2 . The IS curve will return to E_1 at the beginning of the second period. Therefore, it decreases interest rate (r) and increases production (y) at the first period, but in the second period, the reaction will be reversed. Government purchase of Commercial RSB has similar effects.

Financial Effects of Rastin Swap Bonds

When Rastin Swap Bonds are issued by central bank, practically it will decrease the free balances of banks and blocks them by central bank. It will also oblige the central bank to provide banks with the same amount in the second time period. After the end of the second period, central bank will line out the issued papers. Since these operations will affect *high powered money*, it may create the contractionary effects in the first period and expansionary effects in the second period.

When the Rastin Swap Bonds are issued and sold by commercial, specialized or development banks, - in addition to increase the amount of these papers in the market - will not increase the liquidity. This is because these operations will likely to be lagged borrowing of banks from each other. Hence, as much as free balances of one bank will decrease, the free balances of others will increase in the first time period, and vice versa will be in the second period. This will result no changes in liquidity of the economy. It will only finance the needs of banks which may not have enough liquidity and will adjust liquidity risk of the banks. In this case, seller and buyer seem to be from the same category of banks. If government or people buy these bonds, there will be no change in the liquidity. However, if central bank buys these papers, it will have expansionary effects in the first period and contractionary effects in the

second period on the economy.

As cited before, Rastin Swap Bonds can be issued and supplied by government treasury. In this case, necessary conditions will be available for government to finance government budget and government can adjust her fiscal policies by buying and selling these bonds. If banks or private people/entities buy the government-issued Rastin Swap Bonds, then it will have no practically effect on the level of liquidity. In other case, if central bank buys these papers, it will have expansionary effects in the first time period and contractionary effects in the second period.

Private corporate entities and institutes can also issue Rastin Swap Bonds through agent bank. In this case, appropriate mechanism should be arranged to decrease the probability of default to zero. For this reason, the seller will provide a (first) bank guarantee equal to the face value of bonds at the time of issuance and surrenders it to buyers. At the end of the first time period the buyer will be obliged to surrender the same bank guarantee to seller of bonds. After returning the funds back from the seller to buyer – at the end of the first period – the first guarantee is canceled. Another (second) bank guarantee is to be issued again for the second part of borrowing. At the end of the second time period –after returning the funds back from buyer to seller – the second guarantee will also be cancelled. The monetary effect in this case again is neutral, but it makes the allocation of money resources better.

Effects on Inflation, Interest and Exchange Rates

As previously shown, buying and selling Rastin Swap Bonds by central bank have contractionary effects in the first time period and expansionary effects in the second period. Therefore, central bank will define A, N, or k according to the position of the economy in recovery,

prosperity, recession and crisis during business cycles to decrease the severity of economic fluctuation. This policy is similar to *fine tuning* monetary policy in conventional central banking.

Since these bonds can be transacted in the secondary Rastin Swap Bonds market, they can have automatic adjustment mechanism through relationship of the price of the papers and interest rate. Whenever interest rate is high, the transaction price of the Rastin Swap Bonds will fall in the first time period, and will increase the incentive for banks to put their sources at central bank. Hence, they can obtain more funds in the second time period. During prosperity, when interest rate is high, it will limit the free balances of banks and will prevent the expansion of business cycle domain. On the contrary, when interest rates are low, the price of Rastin Swap Bonds will increase during the first time period and decrease the incentive for banks to buy these papers from central bank to obtain more funds in the second time period. This means that during economic crisis, when interest rates are low, it will expand the free bank balances and will not let business cycle to be expanded and aggravate the crisis. Central bank can adjust the supply of these bonds through their prices and by changing supply of *high powered money* affects liquidity and hence will affect the interest rates. Accordingly, Rastin Swap Bonds can be substituted instead of conventional bonds in Islamic central banking, because they have zero interest rate.

When expected inflation and expected interest rates are different in first and second time periods, analysis of the performance of these papers will be somehow different. If the expected natural interest rate in the second time period is more or less than the first time period, it will have different effects on supply and demand of Rastin Swap Bonds. The more is the expected natural interest rate in the second period, the more will be the

price of bonds in the first period and vice versa. Similarly, the less is the expected natural interest rate in the second period, the less will be the bond price in the first financial period. This issue is very important from central banks' point of view in adjusting proper monetary policy for stabilizing economic activities. In addition, it causes expectations to have essential role in credit behavior of banks. This means that if banks expect increase (or decrease) in natural interest rate during the second period, they will adapt increasing (or decreasing) policy for supplying bonds. From economic point of view, this mechanism can be a factor in dampening oscillation of business cycles.

The mechanism of issuing bonds is different in continuous stable inflation case. If expected inflation rate is not different in both periods, inflation will not affect the bonds' prices. Because, both the buyer and seller expect that the rate of returns of Rastin Swap Bonds are the same in two successive periods with fixed expected inflation rate (*Ceteris Paribus*); and the price of Rastin Swap Bonds does not change due to inflation expectation. If it is different, it will be expected different prices for bonds in secondary market. If the average expected inflation rate in the first period is less than average expected inflation rate in the second period, then the bond prices will be higher in the first period than the second period. On the other hand, if the average expected inflation rate in the first period is higher than average expected interest rate in the second period, we will have an opposite case and bond prices in the first period will be less than the second period.

The interest rates of deposits and credit loans in other markets have also important effects on supply and demand and price of Rastin Swap Bonds in the secondary market can be studied in two financial periods and according to the length of these periods and at different parts of business

cycle.

The effects of issuance of Rastin Swap Bonds on exchange rate flows to foreign exchange sector through the created monetary and exchange effects. Change of supply of domestic currency encountering foreign exchange supply, will affect the economy through monetary channels and internal and external interest rates parity.

Transaction of Rastin Swap Bonds

Rastin Swap Bonds transactions will be based on Information and Communication Technology (ICT) infrastructures. With a defined face value, these Rastin Swap Bonds will be issued on internet platform of Rastin Certificate Market (RCM) as the primary market and without base price.

The issuer will fix a deadline for the tender and receive competitive bids from the buyers. After the deadline, papers will be sold according to the highest bid to the buyer. The bonds can be re-transacted on the same internet platform of RCM as the secondary market. Transactions in both markets will be held according to purchase contract and through the tender procedure.

Rastin Swap Bonds can be issued in domestic or foreign exchange on RCM as well. These bonds can also be sold by the issuer in primary market. Buyers should have an electronic account or ATM (Automatic Teller Machine) card accepted by the network or a creditable international exchange card for identification.

International Bank Account Number (IBAN) for transaction of Rastin Swap Bonds is used in electronic payments and settlements. When the bonds are bought in primary market, the secondary market is created in

RCM system. Customers can enter into this market and may transact the bonds before maturity at competitive prices even for speculative purposes. Transaction records of people and entities will be traced in RCM and “Non-usury Scripless Security Settlement System (NSSSS)” systems. The bonds will be sold in the first and second time periods at highest price offered in the secondary market. Using Automatic Clearing House (ACH), and Real Time Gross Settlement System (RTGS), for interbank settlement of small and large payments are inevitable.

Collaterals

For the first three types of Rastin Swap Bonds there is no need for extra collaterals due to the existing legal arrangements; but for the Commercial Rastin Swap Bonds to be issued by private entities request, certain collaterals are to be used through agent bank. In order to have information technology-based transaction efficiency in the secondary market, special mechanisms should be designed in the software so that the guarantees can also be bought and sold through confident banks when bonds will be issued, bought, sold or settled.

It may also be possible to use other collaterals instead of bank guarantees, but may in turn reduce the efficiency of transaction of private Rastin Swap Bonds. To solve the problem, it is possible to establish an institution to have the authority to provide guarantees on the basis of collaterals. In this case, the issuer of papers may offer collaterals to these institutions and obtain guarantee certificate. In case, the issuer defaults to pay back the fund at maturity to the bond buyer, then the cited institution will transfer the ownership of the collateral to buyer. Furthermore, in the second time period of the bond, the same institution will obtain the same amount of collateral from the buyer for the interest of the seller and after

the end of the second time period and paying back the fund – after the settlement – the guarantee will be canceled. These institutions can be affiliated, for instance, to Justice Department like notary public offices and may be supervised by that department.

Conclusion

Financial instruments must be efficient in application for monetary policies, finance and liquidity management of monetary authorities, government and financial institutes (including banks and non-banks). Rastin Swap Bonds are based on participatory structures with risk sharing by investors. Moreover, Rastin Swap Bonds under the central banking operation will be one of the best monetary instruments especially at the time of crises, liquidity trap and inconsistency between investment and saving schedules that looks for unattainable negative interest rates and show how attractive the Islamic finance regime can be. The open market operation of these Rastin Swap Bonds can affect liquidity and other monetary variables such as general price level and interest and exchange rates and thereof, aggregate supply and demand in the economy and balance of payments through monetary expansion mechanism. Rastin Swap Bond offers a substitute for conventional bonds so that in addition to be interest-free, it can efficiently affect monetary policy, and makes financing and liquidity management possible for monetary and banking sector of the economy. Rastin Swap Bonds are simply applicable in both Islamic and conventional (interest-based) economies without any trouble.

In order to apply efficient policies through monetary expansion mechanism, central bank can issue Rastin Swap Bonds in NSSSS system and sell the bonds with a face value and without any coupon and with zero interest rate. These securities can be bought by commercial, specialized and

those monetary institutes who have prudential and legal reserves at central bank. The purchase of these bonds will decrease the monetary base and thereof, liquidity of the economy in the first time period and increase it with the same amount at the second time period. These bonds can be issued and bought back in the framework of treasury Rastin Swap Bonds by government to perform appropriate fiscal policy. Issuance of these bonds by banks and other corporate entities to use excess balances of others entities has no effect on liquidity of the economy and can be used as a solution for decreasing liquidity risk cost and debt leverage. These bonds can also be accomplished by bank guarantees for payback guarantee and establishing some collateral institutes for providing digital guarantee certificates.

The secondary market of these bonds on the RCM system with tenders with base price equal to face value and competitive offer during tender time, will give suitable transaction capability to the Rastin Swap Bonds. The yield of the bonds will depend on the market price. No base price below its face value will be considered for the Rastin Swap Bonds and competitive prices are offered by buyers on the basis of expected interest, exchange and inflation rates. On other words, expected natural interest rate in the first and second time periods will play a dominant role in the market to perform Rastin Swap Bonds' prices. In addition, the transaction mechanism designed for the Rastin Swap Bonds will create market efficiency and bonds' yields rates converge to real sector rate of return.

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Chapter Thirteen

Rastin Swap Deposit (RSD)

Introduction

Banking account is an agreement between bank and a person (real/legal entity), whereby the bank agrees to hold money and/or other assets on behalf of the person, or institution. What the holder may do with those assets depends upon the nature of the account. In a checking account and a savings account, a bank holds money for the client and pays him a certain percentage in interest. This payment gives the bank the right to lend the money to other clients or invest it within the confines of law and banking regulation. However, the client has the right to withdraw the total amount of money on demand. In a brokerage account, a brokerage holds money and securities for the client and makes transactions with them at the client's request. In exchange, the brokerage charges commissions for the transactions.¹²²

The main debt items in non-usury banks' balance sheet are various deposits of customers, which private or public clients have deposited at the bank. Generally, Islamic bank's deposits can be categorized into Qard-ul-Hasanah and investment (time) deposits. Qard-ul-Hasanah deposits are cheap resources and include *jari* (current/checking) account, *Pasandaz* (saving) account which all of them are free of financial cost (payable interest) for depositor. Another type of banking resources is investment (time) deposits which Islamic bank can use them on the base of profit and loss sharing (PLS), and bank as intermediate agent applies them in different investment projects and the investment return will be paid to depositors according to their proportions and durations. As a rule, all Qard-ul-Hasanah deposits should be allocated to Qard-ul-Hasanah loans. Qard-ul-Hasanah (current and saving accounts both) and also short-term time-

¹²² Financial Glossary. (2011). Retrieved February 18, 2015.
<http://financial-dictionary.thefreedictionary.com/Account>

deposit accounts might also be connected to a banking debit card, and depositor can withdraw money by the card; though the Qard-ul-Hasanah current account holder also benefits from check services.

Certificate of Deposit (CD) as public or specific deposits is known as other financing instrument. The financing through CD has been approved by the Central Bank of Iran (CBI) in 2001 to encourage investors to make short term deposit with transaction capability in secondary markets. Foreign exchange CD also was considered on the basis of the CBI's back up in 2007 a foreign exchange financing instrument for absorbing international resources particularly of Iranians resident at foreign countries.

This paper introduces Rastin Swap Deposit account as a new banking deposit which is interest-free and is based on Swap Contract¹²³ in Rastin Banking¹²⁴. In this type of depositing by opening the deposit, depositor is entitled to use interest-free loan to the amount and duration that his resources has been being deposited in bank and then return the money back to the bank.

Rastin Swap Deposit (RSD)

Rastin Swap Deposit (RSD) is a kind of banking account which is opened in Rastin Banking. Rastin Swap Deposit (RSD) has lots of similarities to Rastin Swap Bond (RSB) and Rastin Swap Card (RSC)¹²⁵. In both Rastin Swap Deposit (RSD) and Rastin Swap Bonds (RSBs)

¹²³ Bijan Bidabad, Azarang Amirostovar, Saeed Abdollahi, Mahmoud Allahyarifard, Eskandar Pordel, Maryam Heidari, Alireza Shafiei, Mohammad Ali Pourbehrouz, Draft of Rastin Banking Bill, Bank Melli Iran, 2012.

<http://www.bidabad.ir/doc/rastin-banking-bill.pdf>

¹²⁴ Rastin Banking documents are accessible through: <http://www.bidabad.ir>

¹²⁵ Bijan Bidabad, Rastin Swap Card, 2015, <http://www.bidabad.ir/doc/rsc-paper-en.pdf>

depositing is done at first and then loan occurs; as it is cleared by figures 1.

By depositing in bank in a Rastin Swap Deposit (RSD) account, bank accepts that with respect to depositing a certain amount of money of depositor for certain time duration, (bank) is obliged to loan the same amount for the same duration to depositor. They can also agree a combination of amount and duration for both stages of depositing and lending be selected in such a way that multiplication of amount and duration for the money deposited and money lent be equal. At the first maturity, the depositor receives the money back and the bank lends depositor an amount equivalent to the amount depositor had deposited for the same duration in the bank in his RSD account. After reaching the second maturity, depositor will return the lent money to bank.

Rastin Swap Deposit (RSD) account is opened under certain conditions. Accordingly, by depositing \$A with duration of N months, the bank will be obliged to lend \$A interest-free loan for a period of N months to depositor. The depositor and bank agree on fixing combinations of \$A and N months so that the depositor can choose smaller, equal or larger than one ratios from \$A in proportion with N months in such a way that the result of the amount of money multiplied by time, be equal to $A \times N$. For example, depositor instead of \$A, can borrow $\$A/2$ for 2N months at the N^{th} month, or $\$A/3$ for 3N months at the N^{th} month. Where, in all cases the result will be equal to $A \times N$. That is: $(A/2) \times (2N) = (A/3) \times (3N) = A \times N$ or generally speaking, instead of \$A, depositor receives $\$A/k$ for $k \times N$ months after the N months. The parameter k can be agreed upon mutually by the parties, or offered by the depositor. This procedure is depicted by figure 1.

Generally, RSD has two periods and two maturity dates. The first period is equal to N months from the depositing time to the first maturity, and the second period is from the first maturity date (N) until the payback

date of funds ($kN+N$) or second maturity date. The first maturity is when the depositor withdraws his deposit and bank is obliged to provide the loan equal to $\$A$ for N months, or $\$A/k$ for kN months to the depositor. Therefore, the first maturity occurs at the end of N months. The second maturity is the end of contract when the bank will receive back its funds after $kN+N$ months after depositing time.

The depositor is obliged to give necessary guarantee or collateral to bank to bring faith to fulfill his obligations when he borrows from the bank at the second stage. Type of pledge or guarantee is determined by bank due to its understanding about the depositor's financial history and the amount of the loan. At the second maturity, guarantee or collateral of the depositor is released when the obligation is fulfilled.

This Rastin Swap Deposit is contracted upon *Mubadalah* (swap) contract¹²⁶ between *Mobadil* (swapper) and *Motabadil* (swappee) in which the durations and substances of swaps are equal for first and second swaps. *Mobadil* (swapper) is the depositor and is creditor from *Motabadil* (bank) equal to the nominal value of deposit; and *Motabadil* (bank) should pay this amount (*badal*) (swapped) to *Mobadil* (swapper/depositor) at first maturity. The bank (*Motabadil*) is obliged to lend the *mobaadal* (re-swapped) for the same amount and period as *badal* to *mobadil* (depositor). Bank can choose a combination of amount and duration that the multiplication of amount by duration of *mobaddal* (re-swapped) be equal to that of *badal* (swapped). At the second maturity, *mobadil* (depositor) is committed to return *mobaddal* (re-swapped) to *motabadil* (bank).¹²⁷No

¹²⁶ Bijan Bidabad, Azarang Amirostovar, Saeed Abdollahi, Mahmoud Allahyarifard, Eskandar Pordel, Maryam Heidari, Alireza Shafiei, Mohammad Ali Pourbehrouz, Draft of Rastin Banking Executive Regulation, Bank Melli Iran, 2012.

<http://www.bidabad.ir/doc/rastin-banking-regulation.pdf>

¹²⁷ Bijan Bidabad, Azarang Amirostovar, Saeed Abdollahi, Mahmoud Allahyarifard, Eskandar Pordel, Maryam Heidari, Alireza Shafiei, Mohammad Ali Pourbehrouz, Draft

Footnote continues in next page:

interest rate is involved in this deposit. The durations of swapped and re-swapped and interregnum duration are determined when contract is signed. End of the *Badal* duration is called *Badal* (first) maturity; and the end of *Mobaddal* duration is called *Mobaddal* (second) maturity. Interregnum duration in Rastin Swap Deposit is the time interval between *Badal* maturity and the start of *Mobaddal* duration.

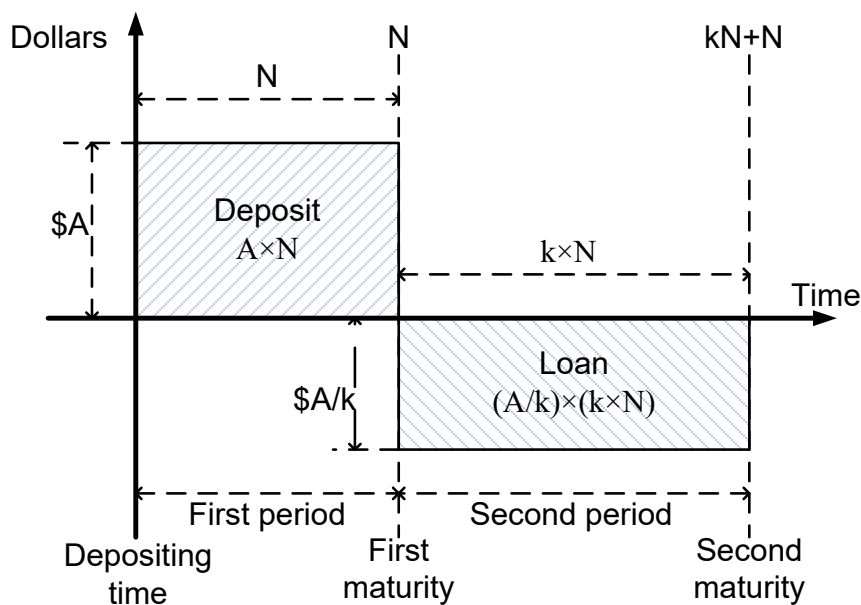


Figure 1. Two-Phases Maturity of Rastin Swap Deposit (RSD)

In case of nonfulfillment of obligations at second maturity, *Mobadil* (bank) after receiving *Badal* can hold the *Mobaddal* beside itself in such a way that the multiplication of *Badal* duration by the amount of *Badal* is equal to the same multiplication for the sum of *Mobaddal* duration plus delayed duration by *Mobaddal* amount.

Rastin Swap Deposit can be both issued in foreign currencies as well as local currency. In this connection there is no significant difference between the two in local and foreign currencies except that the nominal

Footnote is continued from last page:

of Rastin Banking Executive Regulation, Bank Melli Iran, 2012.

<http://www.bidabad.ir/doc/rastin-banking-regulation.pdf>

amounts at both durations could be a foreign exchange. In any case, the currency type of *Baddal* and *Mobaddal* should be the same. If the deposit is opened for the case of different currencies for *Badal* and *Mobaddal*, there would be no *Riba* skepticism in the transaction yet. But to ascertain the case both sides of the contracts commit that at the first maturity, rate of currency exchange be applied to convert *Badal* in first currency into *Mabaddal* in the second currency.

Regarding the fact that this deposit is not based upon participation and just swaps the money, it is not covered by regulations of the Rastin PLS Base system¹²⁸, but uses its infrastructure and organization.¹²⁹ The monetary and fiscal effects as well as the economic effects of issuing Rastin Swap Deposit are similar to Rastin Swap Bonds that have been discussed in other papers.¹³⁰ Operational details of Rastin Swap Deposit

¹²⁸ Bijan Bidabad, Rastin Profit and Loss Sharing (PLS) Base System. Journal of Islamic Economics, Banking and Finance, pp. 32-57, Vol. 9 No. 4, Oct - Dec 2013.

http://ibtra.com/pdf/journal/v9_n4_article2.pdf

<http://www.bidabad.ir/doc/pls-base-en.pdf>

¹²⁹ Bijan Bidabad, M. Safarzadeh and J. Aghabeigi, Organization of Profit and Loss Sharing (PLS) Banking in Bank Melli Iran. Bank Meli Iran, 2011.

<http://www.bidabad.ir/doc/PLS-organization.pdf>

¹³⁰ See:

- Bijan Bidabad, Islamic Monetary Policy, 2013.
<http://www.bidabad.ir/doc/islamic-monetary-policy-en.pdf>
- Bidabad, Bijan, Mahmoud Allahyarifard. Usury-Free Bonds and Islamic Central Banking Monetary Instruments. 2010.
<http://www.bidabad.ir/doc/Islamic-banking-bond-en.pdf>
- Bidabad, Bijan, Abul Hassan, Ben Ali Mohamed Sami, Mahmoud Allahyarifard. Interest-Free Bonds and Central Banking Monetary Instruments. International Journal of Economics and Finance. Vol. 3, no. 3, Aug 2011, pp.234-241.
<http://www.ccsenet.org/journal/index.php/ijef/article/download/11665/8300>
- Bidabad, Bijan, Interest-Free Treasury Bonds (IFTB), 2011.
<http://www.bidabad.ir/doc/interest-free-t-bond-en.pdf>
<http://www.bidabad.ir/doc/iftb-en.pptx>
- Bidabad, Bijan, Interest-Free Treasury Bonds (IFTB), Islamic Finance and Legal Clarifications, 2011. <http://www.bidabad.ir/doc/interest-free-t-bond-feqhi-en.pdf>
- Bidabad, Bijan, Abul Hassan, Ben Ali Mohamed Sami, Mahmoud Allahyarifard. Interest-Free Bonds Financial Innovation, A Monetary Instrument for Economy at Crisis. Journal of Economic Cooperation and Development (JECED). 32, 1, 2011, 55-70. http://www.sesric.org/jeced/jeced_articles/ART10102201-2.pdf

(RSD) have been explained in Rastin Banking Bylaw¹³¹.

Rastin Swap Deposit is contracted based upon *Mubadalah* (swap) contract. But without legislation of this contract as law, the Rastin Swap Deposit can be contracted based upon the principle of sovereignty of contracts that is well known in law.

Summary

This chapter introduced Rastin Swap Deposit account as a new banking deposit account which is interest-free and is based on Swap Contract in Rastin Banking. In this depositing by opening the deposit, depositor is entitled to use interest-free loan to the amount and duration that his resources has been being deposited and then return the money back to the bank. Depositor and bank agree that a combination of money and duration to be selected in such a way that the products of amount and duration in both operations of depositing and loaning be the same. From the time of depositing to the first maturity (the date that depositor requests loan), depositor is lender and bank is borrower; and from the time of first maturity to second maturity (the date that depositor returns the money back to the bank) depositor is borrower and bank is lender. Rastin Swap Deposit (RSD) can be issued in both local and foreign currencies.

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<http://financial-dictionary.thefreedictionary.com/Account>

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¹³¹ Bijan Bidabad, Azarang Amirostovar, Saeed Abdollahi, Mahmoud Allahyarifard, Eskandar Pordel, Maryam Heidari, Alireza Shafiei, Mohammad Ali Pourbehrouz, Draft of Rastin Banking Executive Regulation, Bank Melli Iran, 2012.

<http://www.bidabad.ir/doc/rastin-banking-regulation.pdf>

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- Bijan Bidabad, Rastin Swap Card, 2015, <http://www.bidabad.ir/doc/rsc-paper-en.pdf>
- Bijan Bidabad, Azarang Amirostovar, Saeed Abdollahi, Mahmoud Allahyarifard, Eskandar Pordel, Maryam Heidari, Alireza Shafiei, Mohammad Ali Pourbehrouz, Draft of Rastin Banking Executive Regulation, Bank Melli Iran, 2012.

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<http://www.bidabad.ir/doc/interest-free-t-bond-en.pdf>
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<http://www.bidabad.ir/doc/rastin-banking-regulation.pdf>
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<http://www.bidabad.ir/doc/legal-analysis-of-non-usury-bonds.pdf>

Chapter Fourteen

Rastin Swap Card (RSC)

Introduction

Prohibition of Reba in divine religions especially in Islam prevents using traditional financial instruments which has skepticism of involving Reba. Interest is involved in calculation of the most of conventional banking instruments, and therefore, for facilitating Islamic financial activities, new financial instruments should be innovated in compliance with Sharia and in direction of Reba prohibition.

In conventional banking credit card is one of the important financial instruments that are not applicable to Islamic banking. This paper introduces a new substitute for credit card that is compliant with Sharia and is interest-free and can be used for financing purposes.

Rastin Swap Card is defined in Rastin Banking¹³². This card is interest-free and is issued according to Swap Contract as defined in Rastin Banking Bill¹³³ or based on the legal rule of sovereignty of contracts. The card issuer for a specified amount and duration that is credited into the card, requests the cardholder to deposit the same amount of money for the same duration to the issuer's deposit account. Issuer and holder can agree to select a combination of amount and duration for which the product of them is equal for both credited and deposited (amounts and durations multiplications). Operational mechanism of Rastin Swap Card (RSC) is highly similar to Rastin Swap Bond which the latter is also issued in Rastin Banking.

¹³² Rastin Banking documents are accessible through: <http://www.bidabad.ir>

¹³³ Bijan Bidabad, Azarang Amirostovar, Saeed Abdollahi, Mahmoud Allahyarifard, Eskandar Pordel, Maryam Heidari, Alireza Shafiei, Mohammad Ali Pourbehrouz, Draft of Rastin Banking Bill, Bank Melli Iran, 2012.
<http://www.bidabad.ir/doc/rastin-banking-bill.pdf>

Bank Cards

Two main groups of bank cards are used in banks as debit cards and credit cards. Both groups are processed and managed through electronic banking systems.

Debit Card: are in form of magnetic or smart cards and are processed online or offline. This type of cards is connected to a customer's account and withdrawal over the account balance is not allowed. Debit card is also used for cash payment purchase through Point of Sale (POS) or via the internet and withdrawal from Automatic Teller Machines (ATM). Some banks by offering this service levy bank fees and receive it from customer. Once debit card is credited, it can be used by customer.

Credit Card: is a card that issuer (bank) gives to the customer and the customer without paying funds into his account can withdraw money for a certain amount as borrowing and or purchase through this card; and at maturity s/he is obliged to pay the fund back to the bank wholly or by installment. In case of non-fulfillment of obligation in the determined time period, bank will pose an interest rate to the amount of fund for the delayed time and customer and his guarantor are obliged to pay the principal and interest amounts.¹³⁴

Companies, banks, financial and credit institutions finance the necessary resources for this activity to the bank or card issuer companies (such as Visa, MasterCard, and other companies with different names in monetary regions and different countries) and banks or cited companies shall manage them through their electronic payment systems. Credit limit

¹³⁴ Martin, Andrew (January 4, 2010). How Visa, Using Card Fees, Dominates a Market. New York Times.

CreditCards.com (2006). Prepaid debit card benefits and disadvantages. Creditcards.com.

granted to each customer depends on customer's financial history and ability to repay the fund back to the bank.

This card is a usury financial instrument. Banks and intermediary companies in Islamic countries have tried to change the card characteristics and its operations to allege it as Islamic through use of formal Islamic contracts (eg *Joalah* and *Murabaha* contracts); but it is clear enough that interest is certainly not negligible in credit cards. Credit cards are often used in the context of people's consumption as consumer loans and are subject to the aggravated usury character. By this card, banks in most countries receive high interest rate from customers and in cases the interest rate is compounded as well as the status of the Doubled Riba. Bank justifies the higher interest rates for this card because of its higher credit risk. This card is functionally compatible with the culture of consumerism. So that when the cardholder goes shopping centers with his family usually buys what his family or accompanies request to satisfy them and falls actually in the trap of unwanted loan and interest. Subprime Credit Cards are issued with low credit and high interest and Secured Credit Cards are issued on the basis of guarantees or collateral.

Credit card holders are usually granted various facilities. For example, offering discounts or services such as travel, accident and health insurances and lack of interest on delayed payments for specific periods, etc. are among these facilities given to customers.

Different types of banking credit exist in the banks. Loans in general are credit operations which are done in different ways and with different pledges. There is another type of credit operation that is served to ranked customers' checking accounts. Using this type of credit, checking account holder can draw checks (or use his connected card to his checking account) more than his account balance. Customer is also charged by applying

interest rate as other conventional loans. Thus it is also a usury loan and is not acceptable in Islamic banking.

Rastin Swap Card (RSC)

Operational mechanism of Rastin Swap Card (RSC) is highly similar to Rastin Swap Bond. Rastin Swap Card (RSC) is a kind of bank card which is issued in Rastin Banking. Rastin Swap Card (RSC) is highly similar to Rastin Swap Bond as mentioned above. The main difference being that, unlike the Swap Bonds that depositing is done at first and then loan occurs; in Rastin Swap Card (RSC) loan is firstly occurred and then depositing will be. The distinction is cleared as by comparing the figures in their chapters.

Customer (buyer/holder) requests the card issuer to issue the card with respect to a certain amount of money for certain time duration to be credited into the card. After then, for this service, the cardholder is obliged to deposit the same amount for the same duration in bank's account, or a combination of amount and duration can be agreed based upon the multiplication of amount and duration of the money the bank lent customer through the card be equivalent to the money and duration that customer will deposit in the bank. At the first maturity, the cardholder returns the money back to the bank and deposits an amount equivalent to the amount he had borrowed for the same duration in the bank's account. After reaching the second maturity, the bank will release the deposited money from his account and transfer it to a customer's account.

The customer is obliged to give necessary guarantee or collateral to bank to bring faith to fulfill his obligations. Type of pledge or guarantee is determined by the bank due to his understanding about the customer

financial history and the credited amount to the card. At the second maturity, guarantee or collateral of the customer is released when the obligation is fulfilled.

Rastin Swap Card is contracted based upon *Mubadalah* (swap) contract between *Mobadil* (swapper) and *Motebadil* (swappee) in which the durations and substances of swaps are equal for first and second swaps. *Mobadil* (swapper) is the card issuer and is creditor from *Motebadil* equal to the nominal value of card; and *Motebadil* (customer) should pay this amount (*badal*) (swapped) to *Mobadil* (swapper/card issuer) at first maturity. The customer (*Motebadil*) is obliged to give the *mobaadal* (re-swapped) for the same amount and period of *badal* to *mobadil*. He can choose a combination of amount and duration that the multiplication of amount by duration of *mobaddal* (re-swapped) be equal to that of *badal* (swapped). At second maturity, *motebadil* (customer) is committed to return *mobaddal* (re-swapped) to *mobadil* (card issuer).¹³⁵ No interest rate is involved in this card. They can be in domestic money or foreign exchange currencies. The durations of swapped and re-swapped and interregnum duration are determined when contract is signed. End of the *Badal* duration is called *Badal* (first) maturity; and the end of *Mobaddal* duration is called *Mobaddal* (second) maturity. Interregnum duration in Rastin Swap Card is the time interval between *Badal* maturity and the start of *Mobaddal* duration.

In case of nonfulfillment of obligations at first maturity, *Mobadil* (card issuer) after receiving *Badal* can hold the *Mobaddal* beside himself in such a way that the multiplication of *Badal* duration by the amount of

¹³⁵ Bijan Bidabad, Azarang Amirostovar, Saeed Abdollahi, Mahmoud Allahyarifard, Eskandar Pordel, Maryam Heidari, Alireza Shafiei, Mohammad Ali Pourbehrouz, Draft of Rastin Banking Executive Regulation, Bank Melli Iran, 2012.
<http://www.bidabad.ir/doc/rastin-banking-regulation.pdf>

Badal is equal to the same multiplication for the sum of *Mobaddal* duration plus delayed duration by *Mobaddal* amount.

Rastin Swap Card can be both issued in foreign currencies as well as local currency. In this connection there is no significant difference between the two above cards issued in local and foreign currencies except that the nominal amounts of both stages of the card could be a foreign exchange. In any case, the currency type of *Baddal* and *Mobaddal* should be the same. If the card is issued for the case of different types of currencies for *Badal* and *Mobaddal*, there would be no Riba skepticism in the transaction yet. But to ascertain the case both sides of the contracts commit that at the first maturity, rate of currency exchange be applied to convert *Badal* in first currency into *Mabaddal* in the second currency.

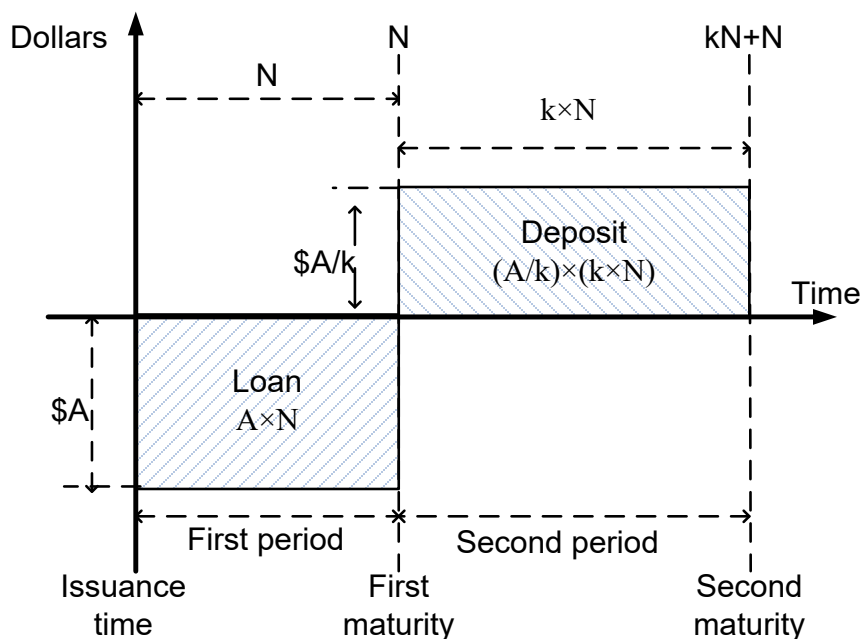


Figure 1. Two-Phases Maturity of Rastin Swap Card

Bank or card issuer receives service fee for offering this service to customers. Regarding the fact that this card is not based upon participation and just swaps the money, it is not covered by regulation of the Rastin PLS

Base system¹³⁶, but uses its infrastructure and organization.¹³⁷

Rastin Swap Card is contracted based upon *Mubadalah* (swap) contract. But without legislation of this contract as law, the Rastin Swap Card can be contracted based upon the principle of sovereignty of contracts that is well known in law.

Summary

Rastin Swap Card is defined in Rastin Banking. This card is issued based on the Swap Contract in Rastin Banking or principle of sovereignty rights of contracts. In Rastin Swap Card there are two periods. In the first period card issuer lends money to card holder; and in the second period borrows money from card holder instead. At the first stage card issuer credits a certain amount of money for specific time duration to the card of cardholder and requests the cardholder to deposit the same amount for the same period at the end of the cited time duration (first maturity) in the issuer's deposit account. Card issuer and card holder can agree for a combination of amount and duration for which the product of them (amount by duration) be equal for both operations of lending money by issuer and depositing by card holder.

Rastin Swap Card (RSD) has no interest rate and is different from conventional debit and credit cards, but considering the ICT-based systems RSD is being processed and managed through electronic banking systems. Rastin Swap Card can be issued in both local and foreign currencies. Bank

¹³⁶ Bijan Bidabad, Rastin Profit and Loss Sharing (PLS) Base System. Journal of Islamic Economics, Banking and Finance, pp. 32-57, Vol. 9 No. 4, Oct - Dec 2013.

http://ibtra.com/pdf/journal/v9_n4_article2.pdf

<http://www.bidabad.ir/doc/pls-base-en.pdf>

¹³⁷ Bijan Bidabad, M. Safarzadeh and J. Aghabeigi, Organization of Profit and Loss Sharing (PLS) Banking in Bank Melli Iran. Bank Meli Iran, 2011. <http://www.bidabad.ir/doc/PLS-organization.pdf>

receives fee by offering Rastin Swap Card service.

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Chapter Fifteen

Rastin Certificate Market (RCM)

Introduction

Web-based Over the Counter (OTC) software is extensively used as transaction markets for financial papers and derivatives at present time. Financial intermediation between borrowers and lenders as a web based commercial approach has found its own ground in financial markets. For example, in Zopa¹³⁸ method, lender supplies the fund and borrower obtains his loan through Zopa Company. Most of these activities take place through online webs and transactions are settled online. Of course, marginal problems created through collaterals and guarantees for observing obligations in larger loans or obligations created through derivatives lead to inefficiency of these systems.

Rastin Certificate Market (RCM)

In addition to removal of this defect, Rastin banking is a framework for true Islamic banking that not only removes the prevailing difficulties, but also increases the efficiency of banks in extending financial intermediation by applying new financial instruments such as Rastin Certificates and Rastin Swap Bonds. The web-based Rastin Certificate Market is established and administered by agent bank and is used for transaction of various Rastin Certificates and Rastin Swap Bonds. Rastin Certificate Market practically provides electronic subsystem for transaction of these digital papers in framework of Rastin banking activities. This market works as both primary and secondary markets. This system has been installed in Bank Melli Iran¹³⁹.

¹³⁸ <http://uk.zopa.com/>

¹³⁹ <http://pls.bmi.ir/>

Rastin Certificates

Rastin Certificates are collection of designed certificates in Rastin PLS Banking Base system and its financial subsystems. These certificates can be anonymous or named papers, which are transferable and negotiable online through the website of bank and are issued with a nominal price and for a certain period. The owners of these certificates share the results of the project proportional to nominal price and participation period of certificate.

Various Rastin Certificates and their characteristics according to the kind of participation in the PLS Base system or its financial subsystems regarding the type of project and the asset used as:

- PLS Base: *Musharakah* (Participation) and *Pazireh* (Subscribed) Certificates.¹⁴⁰
- JFS: Future Certificate.¹⁴¹
- MFS: *Mudarabah* and Periodic *Mudarabah* Certificates.¹⁴²
- IFS: Ordinary *Mughasatah* (installment), Rental *Mughasatah* and *Musharakah Mughasatah* Certificates.¹⁴³
- RFS: Mortgage Sharing, Periodic Mortgage Sharing, Mortgage

¹⁴⁰ Bidabad, Bijan, Rastin Profit and Loss Sharing (PLS) Base System, 2012.

<http://www.bidabad.ir/doc/pls-base-en.pdf>

¹⁴¹ Joalah Financial Sharing (JFS): is a method in which, bank finances entrepreneur (producer) from depositor's resources or the provided sources by buyer.

Bidabad, Bijan, Joalah Finance Sharing (JFS), 2011.

<http://www.bidabad.ir/doc/jfs-paper-en.pdf>

¹⁴² Mudarabah Financial Sharing (MFS): is a kind of *mudarabah* under Rastin PLS banking in which bank introduces the entrepreneur project proposal in the field of trade or transaction of commodities (commerce) to depositors.

Bidabad, Bijan, *Mudarabah* Financial Sharing (MFS). 2011.

<http://www.bidabad.ir/doc/mfs-paper-en.pdf>

¹⁴³ Installment Financial Sharing (IFS): in IFS, installer (depositor) will finance a portion of the needed fund of entrepreneur through the bank for a certain period of time (amortization period). The entrepreneur will pay back his share by installments and will own the total property of the project and IFS ends.

Bidabad, Bijan, Installment Financial Sharing (IFS), 2011.

<http://www.bidabad.ir/doc/ifs-paper-en.pdf>

Mudarabah (commerce), Periodic Mortgage *Mudarabah*, Mortgage *Muzaraah* (cultivating), Periodic *Muzaraah*, Mortgage *Mugharasah* (planting), Periodic Mortgage *Mugharasah*, Mortgage *Musaghah* (irrigation), Periodic Mortgage *Musaghah*, Mortgage *Istisna* (industrial/manufacturing), Periodic Mortgage *Istisna* and Rental Certificates.¹⁴⁴

- BFS: Bail Certificate.¹⁴⁵
- RPS: Social Security, Personal Security and Pension Security Certificates.¹⁴⁶
- RST: Takaful and Loan Certificates.¹⁴⁷

¹⁴⁴ Rent Financial Sharing (RFS): entrepreneur temporarily donates the ownership of a part of his productive asset (assets of an operating firm), rental asset (those assets, which can be let) or dead asset (non-operating or suspended firms or uncultivated lands assets) to depositor who finances him but keeps it as mortgage. Then pays back the fund received from the yields of the asset proportional to depositor's share to depositor at the end of contract, or periodically. The original deposit of depositor will be given back to him after the end of project. The profit of the project will be given to depositor periodically or in a lump.

Bidabad, Bijan, Rent Financial Sharing (RFS), 2012.

<http://www.bidabad.ir/doc/rfs-paper-en.pdf>

¹⁴⁵ Bail Financial Sharing (BFS): is the application of deposit of depositor by entrepreneur to produce a defined commodity and delivering the commodity or paying back its value in future specific time.

Bidabad, Bijan, Bail Financial Sharing (BFS), 2012.

<http://www.bidabad.ir/doc/bfs-paper-en.pdf>

¹⁴⁶ Rastin Personal Security (RPS): to create competitive conditions and to increase the efficiency of social security insurance and diminishing antitrust of social security systems and pension funds, private and public pension funds are established according to Rastin Banking regulations. People and firms can allocate a portion of their obligatory (or optional) insurance premium payments (for himself or his employees) for social security to the funds that operate under Rastin Personal Security (RPS) and enjoy its benefits. Therefore, they will be exempted from obligatory insurance premium payments equal to the payment they have paid to these funds.

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

¹⁴⁷ Rastin Social Takaful (RST): benevolent people can deposit their funds at banks for charity purposes, and bank will be allowed to pay profit (or the principal as well) of deposit to needy people, in form of loan or non-returnable payments (according to the depositor request).

Bidabad, Bijan, Rastin Social Takaful (RST), 2012.

<http://www.bidabad.ir/doc/rst-paper-en.pdf>

Rastin Swap Bond (RSB)

Rastin Swap Bond (RSB) is based upon *Mubadalah* (swap) contract between *Mobadil* (swaper) and *Motebadil* (swapee) in which the durations and substances of swaps are equal for first and second swaps. *Motebadil* (swapee) issues the bond and owes to *Mobadil* equal to the nominal value of bond; and should pay this amount (*badal*) to *Mobadil* (swaper) at maturity. The issuer (*Motebadil*) is obliged to give the *mobaadal* for the same amount and period as *badal* to *mobadil*. He can choose a combination of amount and period that the multiplication of amount by period of *mobaddal* be equal to that of *badal*. At second maturity, *mobadil* is committed to return *mobaddal* to *motebadil*.

No interest rate is involved in these bonds and they are of four kinds: Central Bank Rastin Swap Bond, Treasury Rastin Swap Bond, Bank Rastin Swap Bond, and Commercial Rastin Swap Bond. They can be in domestic money or foreign exchange.¹⁴⁸

Operational Flow in Rastin Certificate Market

Generally, Rastin Certificate Market has the following sections:

1. **Information Portal:** Information about Rastin Certificates and Rastin Swap Bonds are presented in this section. The information includes number and latest transaction prices and also PLS branch information such as balance sheet, profit and loss report and other financial report of the branch to be offered to the clients. Introduction to application of the portal and membership procedure of the portal are also explained in this section. The portal has the duty of information unit in Rastin

¹⁴⁸ Bidabad, Bijan, Abul Hassan, Ben Ali Mohamed Sami, Mahmoud Allahyarifard. Interest-Free Bonds and Central Banking Monetary Instruments. *International Journal of Economics and Finance*. Vol. 3, no. 3, August 2011, pp.234-241.
<http://www.ccsenet.org/journal/index.php/ijef/article/download/11665/8300>

PLS branches and therefore, it has vast and various topics so that it can respond to most of the clients' questions about Rastin PLS banking system.

2. **Registration and Membership:** To enter and use various services (such as transaction or transfer) of the portal, client should fill the related forms. Those clients who want to use both selling and buying services of the portal, in addition to confirming their (electronic) signature and observing regulations concerning electronic transaction of Rastin Certificate or Rastin Swap Bond, should open a deposit account with a cash deposit equal to the amount of their purchase and its commission. After filling the form, and entering and uploading necessary information, client will receive a unique identification code. After entering into the electronic Rastin Certificate transaction site, the client will be directed to registration and membership page and the client enters his code and electronic mailing address. Then, his username and password will be emailed to him.
3. **Buy/Sell Bid:** To offer a purchasing bid, client will enter his username and password and after confirming the regulations concerning purchase/sell and commission, will be allowed to enter into this section and see the latest information about certificates conditions including products and latest price offers made. If he is inclined to buy any of the certificates, he can include it in his purchasing basket by a click. After selecting the item, the client should propose a new price. In order to accept and register client's proposed price (bid), the proposal should be higher than the latest proposed price. In order to persuade competition between the clients, the portal will email the latest information about proposals (including the highest proposal and

the highest amount proposed to buy) on the project offered for sale to the clients. The amount of purchase of each client and its commission should not be more than the available amount of client account. If his account position is not enough for the purchase, he will receive a message to drop some items from his purchasing basket.

After confirmation, a copy of his proposal will be sent to the client's outbox. Client's account will be blocked for the amount of his purchase plus its commission while his proposal has the highest priority. By receiving client's proposal, the computer database will be updated. Blocking and unblocking client's account will be emailed to his inbox.

Also in the case of offering some certificate for sale, the client has to enter his username and password similar to purchasing case, and after confirming the conditions and regulations concerning electronic transaction of Rastin Certificates or Rastin Swap Bonds, he will obtain entrance permission to the site, and then will fill his offer in related form. Sale duration is predefined and specified. The period considered by the portal is 24 working hours according to Tehran time zone. Client is allowed to increase his sale duration up to 15 days.

It is necessary to enter the serial number of the concerned certificate or bond at this stage. After entering the serial number, all related information including the related product, its nominal value and... will be shown. The portal will match the serial number, username, and password and in case of controversy, will send error message to the client. In case of no error, the client will be able to confirm and send his sale proposal. A copy of his proposal will be left in his outbox and product selection page will be updated automatically.

4. **Buyer and Seller Connection:** After the end of allowed sale duration

(one day for predefined period), the portal will disable the possibility of offering new proposal for the item in question. System will consider the latest (highest) offered proposal as its price and settle the purchaser's account equal to this amount plus its commission (0.5 per thousand of total value) from his account that had been blocked before. Before settlement of seller's account, the commission will be deducted. The portal will automatically change the ownership of the certificate or bond from the seller to the buyer and send the bill to the inbox of seller and buyer and updates the product selection database.

5. **Registration and Inquiry:** If buyer and seller do not want to go through buy/purchase page of the portal and want to contract by mutual agreement for transacting certificates or bonds, they have to register the activity in registration section of the portal. The seller will enter his username and password and after confirming the concerning conditions and regulations (including commission involved), will enter the serial number of his asset. This number will be matched by other related information and if they do not match, the transaction will be stopped. Then, username and password of the buyer will be entered and his information will be displayed. If his identity specification is correct, the seller will confirm the activity. Then, bank will deduct 0.5 per thousand as commission (according to the latest transaction price of similar product) from the accounts of transaction sides, and changes the ownership of certificate/bond and updates the database.
6. **Settlement:** At the end, the profit/loss of the last holder of certificate/bond will be calculated and settled with client's account and he will be informed. In case of loss, the amount of loss will be deducted from the nominal value of the latest certificate/bond holder

and he will receive a bill. After settlement, transaction of the concerned certificate/bond will be disabled until the final condition of the project is obtained. After settlement of clients' accounts, the serial numbers of the concerned project will be disabled and databases of the market and branches will be updated. Those settled serial numbers will also be dropped from client's profile.

7. **Social Networks:** Bank by signing up user accounts and establishing fan pages in usual social networks will publish necessary information and announcements of Rastin Certificate Market (RCM) webpages into the cited bank's user and fan pages in social networks automatically; till the depositors and social network users can access Rastin Certificate Market services through this facility.
8. **Data Entry:** Bank for data entry and evaluation of project proposal and entrepreneur designs and installs necessary webpages in Rastin Certificate Market by observing the latest release of COMFAR software of UNIDO¹⁴⁹. Entrepreneurs can entry their data and project proposal data according to COMFAR input fields. The cited webpages should be able to analyze the information of project proposal according to COMFAR output format.

Operational Instruction of RCM

Article (1) Transaction definitions:

1. **The latest transaction day:** the latest day in which transaction of a certificate/bond is possible in Rastin Certificate Market.
2. **Value of contract:** the value of undertaken products by entrepreneur at the time of forming the contract.
3. **Certificate transaction notice:** is the information released to inform

¹⁴⁹ United Nations Industrial Development Organization.
<http://www.unido.org/en/resources/publications/publications-by-type/software/comfar.html>

buyers about the conditions and states of concerned product.

4. **Delivery notice:** is a notice offered to buyers by PLS department of bank about delivery of product.
5. **Risk manifest:** is a form to be signed by buyer before activity in the market and is about observing the risks involved in transaction
6. **Delivery:** is the delivery of the product of the matured certificate by the seller or entrepreneur according to the related contract.
7. **Ordinary transaction period:** is a time period that transaction of certificate is done according to Rastin Certificate Market defined procedures.
8. **Customer's operational account:** this is client's (buyer, or seller) account used by bank for settlement.
9. **Base asset:** is the nominal value of the product of accepted certificates at maturity.
10. **Deadline of transaction:** is the time at which transaction of certificate ends.
11. **Settlement date:** is the time of settlement.
12. **Transaction duration:** is defined as the time span between the starting and final date of transaction.
13. **Warehouse receipt:** is a document issued by warehouse that has been confirmed by PLS department of bank and certifies the ownership of the bearer to a certain amount of commodity.
14. **Working day:** is day and night hours of day and weekends and other holidays are not excluded.
15. **Order:** is the purchase or sale order of buyer or seller that leads him to obligation conditions for purchasing or selling.
16. **Delivery readiness certificate:** is the document through which the entrepreneur informs the bank about his readiness to deliver the commodity subject of the certificate.

17. **Market maker:** is an intermediate or transactor delegated by bank to transact Rastin Certificates at market price by considering financial regulations.

Article (2) Bank is bound to establish RCM website with the following capabilities:

1. Electronic payment through smart ATM cards (SHETAB members) and credible international cards such as VISA, MASTER, EXPRESS and AMERICAN cards (subject to accessibility to international cards gates).
2. Support various exchanges.
3. Support various languages.
4. Connection to international ultra-bank integrated networks such as SEPA¹⁵⁰, SWIFT¹⁵¹ and other transaction service providers such as PAYPAL and API¹⁵² (in case of agreement with card issuer and money transfer service providers).
5. Using ACH¹⁵³ for small and ARTGS¹⁵⁴ for large amounts.
6. Using IBAN¹⁵⁵ international identification and other integrated identification methods.
7. Electronic payment system.
8. Connection to electronic money transfer systems such as RTGS¹⁵⁶, ACH, Inter-Bank Information Exchange network (SHETAB) and SSSS¹⁵⁷.

¹⁵⁰ Single Euro Payment Area (SEPA)

¹⁵¹ The Society For Worldwide Interbank Financial Telecommunication (SWIFT)

¹⁵² Arab Payments and Securities Settlement Initiative (API)

¹⁵³ Automated Clearing House

¹⁵⁴ Automated Real-Time Gross Settlement (ARTGS)

¹⁵⁵ International Bank Account Number (IBAN)

¹⁵⁶ Real Time Gross settlement System (RTGS)

¹⁵⁷ Scripless Security Settlement System (SSSS)

9. Connection to NSSSS¹⁵⁸ of Central Bank.
10. Electronic integrated registration and keeping information of papers holders, ownership transfer, issuance, selling and buying operations on certificates and negotiable papers in database.
11. Information system for available investment projects.
12. Establishment of different electronic showcases for offering Rastin Certificates and Rastin Swap Bonds.
13. Possibility to show the queues of buyers and sellers and price proposals.
14. Providing selling and buying usury-free documents and certificates tenders based on competitive prices.
15. Automatic repayment settlement after dropping from tender list and acceptance of higher bids.
16. Integration with other internal and external financial systems and Core banking subsystems.
17. International data transfer standards.
18. Accounting and registering records operations, client's desk, record tracing and workflow management, auditing, monitoring, controlling and supervision.
19. Report generating according to the needs of various management levels, experts and clients.
20. Business intelligence and comparison of expected profit, maturity, competency of entrepreneur and other quality characteristics affecting risk and productivity of different papers.
21. System risk management including liquidity, credit, operational and market risk management.
22. Designing and offering units and baskets of certificates and bonds.
23. Providing financial engineering tools and analytical services.

¹⁵⁸ Non-Usury Scripless Security Settlement System (NSSSS)

24. Coding of certificates and financial documents according to prevailed international standards.
25. Transaction relation capability with websites of Central Bank, other banks and internal and international bourses and agents by concentrating information at Central Bank databases.
26. Payment transfer insurance through systems such as FDIC¹⁵⁹ and others.
27. Mobile, telephone and other communication support of transaction and payment.
28. Webpages should be responsive to be automatically resized in different sizes of monitors and smart phones.
29. Should possess the abilities of using Content Management Systems (CMS) and interconnection to social networks characteristics.

Article (3) Bank and depositors can transact Rastin Certificates and Rastin Swap Bonds at Rastin Certificate Market (RCM) at market prices or transfer by agreed prices.

Article (4) All transactions, transfers and payments should be registered at the paper issuer bank's website so that can be traced in case of need.

Article (5) Entrepreneur, like other real and legal persons, can enter, transact and transfer in Rastin Certificate Market.

Article (6) Bank can use of bourse agents and market-makers in connection to Rastin Certificate transactions. In this regard, bank is bound to design its website in a way to force them using it. The detail of their transactions, similar to any other transactions should be registered (Article 11) in bank's database.

¹⁵⁹ Federal Deposit Insurance Corporation (FDIC)

Article (7) Dealers and market-makers can cover the risk of Rastin Certificates through offering insurance companies services fully or partially.

Article (8) Bank is bound to establish primary and secondary markets of Rastin Certificates at its website.

Article (9) At the time of purchase and selling or transfer operations, before finalizing the proposal, a webpage opens on client's monitor showing the detail of the obligations involved in the operation and he must accept regarding conditions by click before obtaining transaction permission.

Article (10) Each Rastin Certificate presented at primary market should have a unique serial number in banking system.

Article (11) All Rastin Certificates and Bonds transaction activities and corresponding payment information should be registered at bank's database. The information includes buyer's and seller's identities, bank card number, account number, national identity number for real persons and identity number for legal entities and all other identification information of the parties involved, serial numbers of transferred certificates and bonds, login system information of client at time of transaction and other similar information.

Article (12) By installing necessary security systems, bank is bound to provide proper security for clients' operations. Security definition should be based on multi-factor authentication. Firewalls, account activity auditing, Virtual Private Network (IPsec VPN, SSL VPN), Intrusion Prevention System (IPS), Webguard, Syslog, Simple Network Management Protocol (SNMP), Computer Security Incident Response Team (CSIRT),

Penetration Test, Network Security and Operation Center, standards and considerations of data security should be observed in bank's data network architecture.

Article (13) Bank is bound to consider more advanced security systems for large transactions. Definition of "large transaction" is done by bank's management.

Article (14) By receiving client's account number and security codes, bank should upload all other client's information at webpage. By clicking the accept button, client confirms the information.

Article (15) At each stage of transaction, the client's identity and account numbers are the bases for verification. Bank is obliged to define a unique identification number for each client.

Article (16) By using unique international identification and account numbers, bank is obliged to design its system in such a way that client can interacted internationally.

Article (17) Bank is bound to provide the possibility of managerial reporting for different accessing levels with different query parameters in its website.

Article (18) During any transaction and transfer of paper, all the details will be shown to buyer and sellers before finalizing transaction or transfer. Complete texts of the corresponding contracts and enclosures will be emailed to buyer's inbox at the end.

Article (19) Bank by signing up user accounts and establishing fan pages in usual social networks will publish necessary information and announcements of Rastin Certificate Market (RCM) webpages into the

cited bank's user and fan pages in social networks automatically; till the depositors and social network users can access Rastin Certificate Market services through this facility.

Article (20) Bank for data entry and evaluation of project proposal and entrepreneur designs and installs necessary webpages in Rastin Certificate Market by observing the latest release of COMFAR software of UNIDO¹⁶⁰. Entrepreneurs can enter their data and project proposal data according to COMFAR input fields. The cited webpages should be able to analyze the information of project proposal according to COMFAR output format.

Article (21) Main parts of Rastin Certificate Market portal include: informative, registration and membership, purchase and sale, primary and secondary markets, communication of buyer and seller, registration and inquiry, payment gate, managerial reporting, agreed transfer, follow-up and other necessary capabilities.

1. Informative portal includes all information about projects and their conditions and progresses, and Rastin Certificate Market for the public. Balance sheet information, profit and loss sheet and other financial report of Rastin PLS activities of the branch or bank are shown at this portal.
2. Instruction for introducing to Rastin Certificate Market, the forming parts, entrance and application procedure in the market are described in information portal. This section should be designed in a way that could answer the main clients' questions about Rastin PLS system.
3. All clients should fill the specified forms (purchase, sale and transfer) at registration portal according to the selected services. Those clients who want to use purchase and sell services, in addition to confirming

¹⁶⁰ United Nations Industrial Development Organization.
<http://www.unido.org/en/resources/publications/publications-by-type/software/comfar.html>

their electronic signature and regulations concerning electronic transaction of Rastin Certificates, should have opened special account for this purpose with a sum equal to the value of transaction plus its commission.

4. After opening an acceptable e-account and filling the related forms in the system, each client will receive a unique application code. This code will be used for identification hereafter. After entering the website of Rastin Certificate Market of the bank, client will enter registration and membership page and will enter his identification code and email address. Username and application code will be emailed to him.
5. The buy/sell page is specified for proposing purchasing and selling proposals. For offering a proposal, the client should enter his username and application (user) code and after confirming regulations and commission concerning the transaction, will be allowed to enter into this section. Client can monitor the latest information concerning offered certificates for sale including the kind of product related to certificates and the latest price proposal. If the client is inclined to buy a certificate, he can enter purchasing portal, click that certificate, and include it in his purchasing basket. Then he has to offer his inclined price that should be higher than the latest price offered for that certificate; otherwise, his proposed price will not be registered.
6. To stimulate purchasing desire of clients, bank can email information concerning the proposals (highest price and amount proposed) to all members of website. The value of client's purchase, plus commission charged should not be more than the amount left in his specified account. If the value exceeds the value of his specified account, the client will receive a message to drop some items of his purchasing basket.

7. After confirming and sending proposal, the client will have a copy of his proposal in his inbox.
8. The specified account of the client will be blocked for his purchase equal the bid amount until he has purchasing priority (highest proposed price). Product selection section of the e-market will be updated after receiving each new proposal. Blocking/unblocking activity of client's account will be announced to him through email.
9. In order to offer a purchase proposal, client has to enter his username and application code (password) and after confirming concerned regulations, can enter to purchasing page of the portal. By filling forms for selling his certificates, his proposal will be enlisted among sellers list.
10. Selling time span is predefined. In this case, this time is 24 working hours according to Tehran time zone. In other cases, client can define a selling time span of up to 15 days.
11. After the end of time span, if the certificate is not sold, client can offer a new selling time span. The seller cannot cancel his selling proposal before the end of each time span.
12. It is necessary to enter serial number of selling certificates at this stage. After entering the serial number, which is unique, other information such as the product related to the certificate, nominal value and... will be displayed on the monitor. By matching serial number with user application code, the application will send error message if does not match, and he will not be able to sell the certificate.
13. In case of no error, client can confirm his proposal. A copy of his proposal will be sent to his email and system will upgrade the database.
14. At buyer-seller communication part, the portal will disable the

possibility of receiving new proposal for the regarded certificate and the latest price proposal will be considered as the purchasing price of the buyer. Total value of purchase, plus its commission (0.5 per thousand) will be deducted from the specified account of the buyer, which had been already blocked for this amount systematically and seller's share will be paid to his specified account. Bank's commission will be carried into the specified account of the bank.

15. After transferring the sums, the software will transfer the ownership of the bought certificate to buyer systematically and transaction bill will be sent to buyer and seller. Regarding the transaction, product selection page will be updated.
16. Buyer and seller can transfer Rastin Certificate directly by going through registration and inquiry page. The portal will transfer the ownership and update its database.
17. After entering his username and password at registration page and confirming the involved regulation concerning electronic transaction of Rastin Certificate, commission, and electronic signature, seller should enter the his certificate serial numbers. By entering serial number, all information about the certificate will be displayed and owner's name and other information will be checked. In case of mismatch, the seller cannot continue to transfer the ownership. Then, buyer's username and password will be entered and the portal will display his other characteristics. If the information were correct, the seller will confirm the transaction. The 0.5 per thousand commission of the bank will be calculated based on the latest price of the similar previously transacted certificates, and will be systematically deducted from specified accounts of the seller and buyer and be carried to the specified account of the bank. Both sides should have specified account to use RCM and their account numbers will be displayed on

monitor which should be confirmed by clients. After transferring money, the system will update the database of Rastin Certificate Market systematically.

Note: In case of absence of similar previous transaction record, the nominal value of the certificate will be the basis for calculation of transfer commission of bank.

18. If the client is inclined to have a printed copy of the transaction, it will be provided according to the Operational Bylaw of Rastin Banking.
19. At the end of the project and calculating profit/loss, the share of depositors will be calculated proportional to their shares (deposits) and durations of deposits according to chapter of Rastin PLS Accounting of Operational Bylaw of Rastin Banking about timed-share and other related instructions. The calculated profit will be paid to the account of the latest certificate holder and he will be informed through sending him a bill. In case of loss, the loss will be covered up to the ceiling of nominal price of certificate by provided insurances.

Note: In exceptional cases, if the insurance coverage were not enough to compensate loss, the difference will be deducted from the nominal value of the certificate and remainder will be paid to certificate holder's account. The client will be informed about this fact through sending him a bill.

20. Before settlement, the clients of Rastin Certificate Market will be informed about the action. After starting settlement process, the possibility of transaction will be disabled until the end when the profit or loss condition has been determined.
21. After carrying the profit to client's specified account, or deducting the loss from his account, all settled Rastin Certificates will be systematically tagged and the Rastin Certificate database will be updated. The serial numbers of settled certificates will be dropped

from the owner's profile.

22. Holders of endless projects certificates can transact these papers at Rastin Certificate Market before they are transformed into shares.

Conclusion

New financial instruments as Rastin Certificates and Rastin Swap Bonds are used in Rastin banking. Rastin Certificate Market (RCM) provides necessary conditions for transaction and transfer of these instruments based on information technology and the integrated Rastin banking subsystems. This market is accessible for electronic account holders on World Wide Web.

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Chapter Sixteen

Crowd Funding System (CFS)

Introduction

Regarding the characteristics of crowd funding and application of social networks, the Crowd Funding System (CFS) is used as a web-based portal for absorption and collection of money resources for crowd funding project through social networks in Rastin Banking.

Crowd Funding System (CFS)

Crowd Funding System (CFS) is a web-based system for collection of funds for financing SCF and PPL projects in Rastin Banking through social networks. Bank will design its CFS portal in such a way to possess following capabilities:

1. Content Management System (CMS) and social networks connection capabilities.
2. Dimensions of webpages should be responsive and adjustable to different sizes of monitors and smartphones.
3. Should possess Rich Site Summary (RSS) capabilities and consider its standards.
4. The portal information should be automatically sent to and update fan pages in prevailing social networks.
5. In showcase of the projects, the portal should have shortcuts to social networks so that the user could be able to share, recommend, like or follow the posts.
6. The graph of the trend of promoters and patrons activities of the project should be displayed during the project implementation period.
7. URL of each project should be automatically shared or tweeted in social networks during defined period (promoter capability).
8. Tagging, status updating, plugins, questioning and application

programs (App) characteristics should be used in social networks in case of need.

9. Customized strategies and marketing advertisements should be used in social networks for introducing the products.
10. Necessary strategies for creating fan pages and advertisements based on the bank's brand should be used in social networks' pages.
11. Interactive relationship between audience and success of messages, necessary tools for monitoring the traffic and number of Link Clicks, Forwards or Retweets, Comments (feedbacks), Sharing, Recommendations, Likes or Follows and other concepts should be considered.

Bank is bound to establish CFS website with following capabilities:

1. Electronic payment through smart ATM domestic cards and international cards such as VISA, MASTER, EXPRESS and AMERICAN cards (subject to accessibility to international payment ports).
2. Support various exchanges.
3. Support various languages.
4. Connection to international integrated networks such as SEPA¹⁶¹, SWIFT¹⁶² and other transaction service providers such as PAYPAL and API¹⁶³ (in case of agreement with card issuer and money transfer service providers).
5. Using ACH¹⁶⁴ for small and ARTGS¹⁶⁵ for large amounts of money transfer.

¹⁶¹ Single Euro Payment Area (SEPA)

¹⁶² The Society For Worldwide Interbank Financial Telecommunication (SWIFT)

¹⁶³ Arab Payments and Securities Settlement Initiative (API)

¹⁶⁴ Automated Clearing House

¹⁶⁵ Automated Real-Time Gross Settlement (ARTGS)

6. Using IBAN¹⁶⁶ international identification and other integrated identification methods.
7. Electronic payment system.
8. Connection to electronic money transfer systems such as RTGS¹⁶⁷, ACH, Inter-Bank Information Exchange network and SSSS¹⁶⁸.
9. Connection to NSSSS¹⁶⁹ of Central Bank.
10. Electronic capabilities for authentication, integrated registration and keeping information of clients, technical specification and necessary capital of the project, documents and contracts to be launched systematically into Crowd Funding System (CFS) and social network pages.
11. Links to information of entrepreneurs and projects without need to launching in Crowd Funding System (CFS).
12. Possibility of filtering and other database tools for resorting different projects and entrepreneurs according to different regions, cities and other conventional parameters in reporting systems.
13. Information portal for Rastin Crowd Funding (RCF) projects via different distributive channels.
14. Providing showcases, complete bar, number of participants and other necessary options.
15. Integration with other internal and external financial systems and corebanking subsystems.
16. International data transfer standards.
17. Accounting and records registering operations, client's desk, record tracing and workflow management, auditing, monitoring, controlling and supervision.

¹⁶⁶ International Bank Account Number (IBAN)

¹⁶⁷ Real Time Gross settlement System (RTGS)

¹⁶⁸ ScripLess Security Settlement System (SSSS)

¹⁶⁹ Non-Usury ScripLess Security Settlement System (NSSSS)

18. Report generating according to the needs of various management levels, experts and clients.
19. Providing financial engineering tools and analytical services.
20. Coding of projects and financial documents according to international standards.
21. Payment transfer insurance through systems such as FDIC¹⁷⁰ and others.
22. Mobile, telephone and other communication support for transactions and payments.
23. Possibility of using Unstructured Supplementary Service Data (USSD) to prepare facilities for client payment through phone communication operators.
24. Possibility of using Near Field Communication (NFC) to prepare smart phone transactional operations.

Bank will provide the appropriate Apps for smartphones with different operating systems for easy access to CFS financing portal. Bank will provide necessary conditions for connection to electronic payment portal for CFS website and social networks.

By installing necessary security systems, bank is bound to provide proper security for clients' operations. Security definition should be based on multi-factor authentication. Firewalls, account activity auditing, Virtual Private Network (IPsec VPN, SSL VPN), Intrusion Prevention System (IPS), Webguard, Syslog, Simple Network Management Protocol (SNMP), Computer Security Incident Response Team (CSIRT), Penetration Test, Network Security and Operation Center, standards and considerations of data security should be observed in bank's data network architecture.

¹⁷⁰ Federal Deposit Insurance Corporation (FDIC)

Bank is bound to consider more advanced security systems for large transactions. Definition of “large transaction” is done by bank’s management. By receiving client’s account number and security codes, bank should upload all other client's information at webpage. By clicking the accept button, client confirms the information. At each stage of transaction, the client's identity and account numbers are the bases for verification. Bank is obliged to define a unique identification number for each client. By using unique international identification and account numbers, bank is obliged to design its system in such a way that client can interact internationally. Bank is bound to provide the possibility of managerial reporting for different accessing levels with different query parameters in its website.

Bank is obliged to design its CFS system in such a way that in the cases of excuse (impossibility of executing) and termination of the project that necessitates refunding the money back to sponsor or lender, the possibility of restoring their account numbers be provided.

The main sections of CFS include information portal, registration and membership, project profiles, number and amount of participation (sharing) in each project, place (country) of the project, accessible social networks for the projects, links of social networks to the projects, links to electronic payment portal of bank, management reporting, staged registration software, entrepreneur’s profile and uploading necessary documents and confirming them according to user’s authorization.

1. Information and conditions of all projects are presented to public at information portal. Project proposal and information about entrepreneur (real or legal) (balance sheet, profit and loss statement and other financial reports for legal entities) and other necessary documents should be published at information portal.

2. Manuals of using website, introduction to CFS, different sections and method of membership and entrance to website should be explained at information portal. This section should be so defined to fulfill the main part of the questions of clients about CFS website.
3. All clients should fill an application form for using CFS services at registration page.
4. By obtaining an electronic banking account number, after registration client will have a unique identification code. This user code will be used to identify him at the website. After entering CFS portal, the client will go to registration page and enters his identification code and electronic mail address. Name and user code of the client will be emailed to him.
5. For financial participation, client should enter his name and user code and after approving the conditions of CFS and its commission fee, will be allowed to enter to this section. At this page, client can monitor conditions of all projects' information and their latest amounts and number of participants. In case of willingness to participate in a project, after entering to financial page of the website, he will click the considered project and will put it in his purchasing basket. Then he will go to pay for his sponsoring money.
6. Bank can announce all information about the latest conditions of the projects to all CFS website members through social networks as well.
7. Total amount of client's purchasing basket should not exceed the amount of money he has at his banking account. In case of deficit, he will receive a message to eliminate some items from his purchasing basket.
8. After confirmation of client's offer, a copy of it will be left in his mailbox. All activities on this confirmed offer will be sent to him by short messages and other available distributive channels.

Entrepreneur will announce his user code and social network pages addresses to bank so that the bank can send them information updates systematically. The collected amount for each project at any time interval according to ACH information timing will be shown and updated at CFS website, and social networks of the bank will be updated and published publicly. Bank is bound to provide backup-monitoring for all CFS activities to trace and follow up. After accomplishment of the project, all collected fund through the website will be settled with entrepreneur and the project will be closed in the website showcase and related social networks pages.

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Chapter Seventeen

Serial Commitments Clearance (SCC)

Introduction

Rastin Banking is a new operational Islamic banking system which, by studying theoretical and operational banking difficulties and on the basis of the latest scientific and technical innovations in the field, presents legal and operational solutions. Each of the complimentary systems and financial subsystems of Rastin Banking has been designed for solving specific problems.¹⁷¹ Serial Commitments Clearance (SCC) system was designed to provide necessary arrangements for settlement of obligations of those who, on the one hand serially owe someone, and on the other hand are creditors to other persons.

Commitment, a Legal View

Commitment is created through a legal relationship resulted from a contract, cadence or by force according to which a person is obliged to transfer a property or wealth, or due to do or not to do a specific action. Terminologically, commitment means agreement and making a treaty; and the two words of commitment and agreement are used with their infinitive meanings as contract.¹⁷² ‘Commitment’ is used as meanings of ‘condition’, ‘obligation’, ‘treaty’ and ‘guarantee’ regarding the concerned case, but any kind of enforced guarantee, transfer of property or wealth, forcing to do something or preventing from doing something in general, can be

¹⁷¹ Bijan Bidabad, Mohammad Safaeipour. Components of the Integrated System of Rastin Profit and Loss Sharing Banking System, Operations and Processes Management Approach. Proceeding of The First International Conference on Electronic Banking and Payment Systems, Vol. 1, Persian papers, pp. 76-126, 19-20 February, 2012, Monetary and Banking Research Academy, Central Bank of Iran, Tehran, Iran. <http://www.bidabad.ir/doc/ajza-system-rastin.pdf>
<http://www.bidabad.ir/doc/ajza-system-rastin.ppt>

¹⁷² Jalil Ghanavati et al., Contract Rights in Imamate Feqh, Mostafa Mohaghegh Damad. Tehran, 2000, Vol. 1, P. 68.

considered as the subjects of a commitment.¹⁷³ Commitment is the primary source of all legal relationships, which creates the rights of the two parties of a contract (obligor and obligee). Therefore, each contract or cadence which has been formed by a decision to do so (legal action), or happened without decision (legal event), has legal effects.¹⁷⁴ The concept of ‘*Zemme*’ in Islamic Fiq’h (debt or due) and ‘obligation’ in many Islamic countries are other expressions of the concept of commitment,¹⁷⁵ which obligates the commitment of debts due to civil responsibilities and binding contracts.¹⁷⁶ Civil Law of Iran¹⁷⁷ expresses commitment as an initiated action from a contract and defines: ‘contract is the agreement of commitment of one or some persons to one or more other persons to do something that is accepted by them’. Commitment is a duty of the obligor and a right of the obligee; and nonfulfillment of commitment causes the enforcement of the obligor and compensation of the losses of the obligee in case of making loss, according to the legal rule of causality.¹⁷⁸ Subjects such as proving, enforcement and termination of commitment are among the main subjects of commitment rights. The subjects such as suspension, substitution and clearing of commitments are among the secondary subjects, the latter is under consideration in SCC here in this study.¹⁷⁹ In addition to annulment option and canceling the contract, termination of commitment¹⁸⁰ includes subjects such as fulfillment of obligation (when the committed person

¹⁷³ Mohammad Jafar Langeroudi, *Civil Law Course, Commitment Legal Rights*, Tehran, 2003, Vol. 1, P. 27.

¹⁷⁴ Mohammad Jafar Langeroudi, *Civil Law Course, Commitment Legal Rights*, Tehran, 2003, Vol. 1, P. 9.

¹⁷⁵ Jalil Ghanavati et al., *Contract Rights in Imamate Feqh*, Mostafa Mohaghegh Damad. Tehran, 2000, Vol.1, P. 67.

¹⁷⁶ Hasan Imami, *Civil Law*, Tehran, 1971.

¹⁷⁷ Naser, Katouzian, *Civil Law, General Theory of Commitments*, Tehran, 2003, Vol. 1, P. 67.

¹⁷⁸ Abualghasem Gorgi, *Law Papers*, Tehran, 1986, Vol.1, pp. 42-46.

¹⁷⁹ Abdulmajid Ghaemmaghani, *Commitment Rights*, Tehran, 1999, Vol. 1, P. 21.

¹⁸⁰ Naser, Katouzian, *Civil Law, General Theory of Commitments*, Tehran, 2003, Mizan Publications.

fulfills his commitment, the commitment is terminated), mutual rescission (two parts of the contract agree to cancel the contract), release (obligee waives his own right), substitution (both parties agree to substitute the previous commitment), set off (clearance of two homogeneous debts between two persons in oppositeness) and acquisition of debt (unity in the attribute of the claimer and debtor of a commitment in one person).¹⁸¹

Serial Commitments Clearance (SCC)

Serials commitments is referred to the commitments of several persons each of them is a debtor to the previous person and is a creditor to the next person—except the first person, who is only a creditor to the next person, and the last person, who is only in debt to the previous one.

Suppose that individuals of a society have no financial relationship with other societies and all their transactions are spot and not time-based-contracts. In this case, total debt of the people of the society is equal to the total claim (credit) to all people. For example, consider a three-person society where each person is in deal with another. Now, suppose that the first person claims \$100 to the second person and the second person claims \$100 to the third person. In this case, total credits and debts of the society is \$200 above the accounting line, which is equal to the amount of registered collaterals and guarantees below the accounting line in the consolidated debit–credit account of the society. In the simplest case, suppose that person 1 accepts to claim to person 3 instead of claiming to person 2; then the commitments and claims of person 2 are settled and only the third person is indebted to the first person for \$100. In this case, total debits and credits of the society is \$100 above the accounting line, which is equal to

¹⁸¹ Civil Law, article 264.

the collaterals and guarantees booked below the accounting line. This means that by acceptance of the first person for transferring commitments to the third person—instead of the second person—the commitments of the second person is settled. SCC is based on the generalization of this example. In our example, suppose the first person is a bank, and the second and third persons are economic activists. In this case, by receiving commission from the second person, the bank can substitute the second person's commitments with the third person's when all the three are satisfied to this clearance.

SCC is a Complementary System in Rastin Banking and works under its regulations and operational bylaw. ¹⁸²Different properties, documents and assets are used as pledge guarantee to secure the right fulfillment of commitments in financial relations of people. In SCC, only those properties, documents and assets which are acceptable by bank according to Rastin Banking regulation can be used for clearing. The cited regulation defines the type of guarantees and collaterals for different cases, individuals and activities. Practically, bank substitutes the commitment of the second person by the guarantee and collateral of the third person and releases the collateral and guarantee of the second person and transfers its own claims from the second person to the third person and voids the claim document of the second person, as in our example.

Now, suppose that the number of persons of the mentioned example is more than three and let us say it is ten; and the first person (bank) claims \$100 from the second person and the second person claims \$100 from the

¹⁸² Bijan Bidabad, Azarang Amirostovar, Saeed Abdollahi, Mahmoud Allahyarifard, Eskandar Pordel, Maryam Heidari, Alireza Shafiei, Mohammad Ali Pourbehrouz, (Book) Draft of Rastin Banking Executive Regulation, Bank Melli Iran, 2012.
<http://www.bidabad.ir/doc/rastin-banking-regulation.pdf>

third person and so on for the tenth person. If these persons agree, the bank can receive commission from the second to the ninth persons and transfer the commitments of the tenth person to the bank. In this way, the claims of the person 2 to 3, the person 3 to 4, and the person 4 to 5 ... up to the person 9 to 10 will be cleared and the guarantee and collateral of the second, third to the ninth persons are released.

According to Rastin Banking regulation, banks, notaries and other authorized authorities recognized by Properties and Deeds Registration Organization can clear the commitments of a series of people who request for a serial clearance of their commitments to the extent that their debts are equivalent; release their collaterals and guarantees and transfer the commitment of the last person in the series to his previous person—a process that continues to the first person in the chain.

This method causes financial release of economic firms and increases mobility and financial efficiency of the firms. The bank also yields revenue through rendering this service.

Serial Chain of Obligations and Claims

Theory of bankruptcy chain was explained about serial financial relationship of traders and how insurance hedges it.¹⁸³ Let us now adapt

¹⁸³ Bijan Bidabad, Nikos Mastorakis. Insurance and chain bankruptcy theory. Proceeding of the 3rd International Conference on Economics, Political, Law and Fiscal Sciences (EPLS '14), World Scientific and Engineering Academy and Society (WSEAS). Transilvania University of Brasov, Brasov, Romania, pp. 258-261, June 26-28, 2014. Advances in Environmental Sciences, Development and Chemistry, Proceedings of the 2014 International Conference on Energy, Environment, Development and Economics (EEDS 2014), Santorini Island, Greece, July 17-21, 2014. pp. 51-54.

<http://www.bidabad.ir/doc/bimeh-varshekastegi-en.pdf>

Footnote continues in next page:

‘bankruptcy chain’ in form of serial obligations and claims. Any firm (or person) at time t has some assets and liabilities. Its total assets (W_i) is equal to the value of all goods, physical capital and other acceptable items in firm’s portfolio (C_i) plus its claims (F_i) to others. That is

$$W_i = C_i + F_i \quad (1)$$

On the other side, debit (D_i) of the firm is equal to its financial obligations. Altogether, in an economy with n firms, all claims will be equal to all obligations, or

$$\sum_{i=1}^n F_i = \sum_{i=1}^n D_i \quad (2)$$

The net worth (asset) of each firm is equal to

$$W_i^n = C_i + F_i - D_i \quad (3)$$

By summing up the above equation for n , and replacing (2), the inventory of the economy will be equal to net worth of assets:

$$\sum_{i=1}^n W_i^n = \sum_{i=1}^n C_i \quad (4)$$

Now, suppose n firms have transactions with each other and the i^{th} firm buys C_i amount of goods from the $(i-1)^{\text{th}}$ firm and sells it to the $(i+1)^{\text{th}}$ firm. If the purchase is credit based, it will transmit bankruptcy from one firm to the next, when the first firm fails to fulfill its obligations. As commodities are sold on credit, they should be settled and paid at maturity. The i^{th} buyer promises the $(i-1)^{\text{th}}$ seller to pay him D_i at maturity. On the

Footnote is continued from last page:

<http://www.bidabad.ir/doc/bimeh-varshekastegi-en.pptx>
<http://www.europment.org/library/2014/santorini/ENVIR.pdf>

other hand, he sells goods to the $(i+1)^{\text{th}}$ buyer and receives a payable written document equal to F_i and the commodity goes from firm $i-1$ to firm i and then to firm $i+1$. This simple sequence will go on several times for different values of i . To simplify the subject, let us assume that the face value of commodity C_i increases by α percent in each transaction between firms, and these firms have no other assets except this commodity and all

$$\begin{aligned}
C_0 &= (1+\alpha)C_0 \rightarrow C_1 = (1+\alpha)C_0 \rightarrow C_2 = (1+\alpha)C_1 \rightarrow \dots C_j = (1+\alpha)C_{j-1} \rightarrow \dots C_n = (1+\alpha)C_{n-1} \\
C_0 &\rightarrow (1+\alpha)C_0 \rightarrow (1+\alpha)^2 C_0 \rightarrow \dots (1+\alpha)^j C_0 \rightarrow \dots (1+\alpha)^n C_0 \\
D_0 &= 0 \rightarrow D_1 = C_0 \rightarrow D_2 = C_1 \rightarrow \dots D_i = C_{i-1} \rightarrow \dots D_n = C_{n-1} \\
F_0 &= C_0 \rightarrow F_1 = (1+\alpha)C_0 \rightarrow F_2 = (1+\alpha)C_1 \rightarrow \dots F_j = (1+\alpha)C_{j-1} \rightarrow \dots F_n = (1+\alpha)C_{n-1} \\
\pi_0 &= C_0 \rightarrow \pi_1 = \alpha C_0 \rightarrow \pi_2 = \alpha C_1 \dots \rightarrow \pi_j = \alpha C_{j-1} \rightarrow \dots \pi_n = \alpha C_{n-1}
\end{aligned}$$

their claims and obligations are just related to this commodity which creates their assets and liabilities accounting items. Now, we can express a chain for transaction of firms as follows:

(5)

Sale of the firm zero to firm n^{th} is shown as the first row of (5) and each term in that row shows the value of the commodity for the firm j . This process is in the form of a difference equation; therefore, the second row—by replacing C_i in terms of C_0 —is essentially the solution of the first row. The third row shows the debt flow of the firms and the fourth row shows the firms' claims. The fifth row shows the profit of the firms. Total profit of transactions in the economy will be equal to

$$\pi = \sum_{i=0}^n \pi_i = C_0 + \sum_{i=1}^n \alpha(1+\alpha)^{i-1} C_0 = C_0 + \alpha C_0 \sum_{i=1}^n (1+\alpha)^{i-1} \quad (6)$$

Total debts of the economy will be

$$D = \sum_{i=0}^n D_i = \sum_{i=0}^n C_{i-1} = \sum_{i=0}^n (1+\alpha)^{i-1} C_0 = C_0 \sum_{i=0}^n (1+\alpha)^{i-1} \quad (7)$$

Total claims in the economy will be

$$F = \sum_{i=0}^n F_i = \sum_{i=0}^n (1 + \alpha)^i C_0 = C_0 \sum_{i=0}^n (1 + \alpha)^i \quad (8)$$

All the above relations have a geometric progression summation term as

$$\sum_{i=0}^n (1 + \alpha)^i = \frac{(1 + \alpha)^{n+1} - 1}{\alpha} \quad (9)$$

Therefore, we have:

$$\pi = C_0 (1 + \alpha)^n \quad (10)$$

$$D = C_0 \left(\frac{(1 + \alpha)^n - 1}{\alpha} \right) \quad (11)$$

$$F = C_0 \left(\frac{(1 + \alpha)^{n+1} - 1}{\alpha} \right) \quad (12)$$

Again, we can find the trueness of the above relations by replacing (11) and (12) into (10) which results to the net credits of the economy as

$$\pi = F - D \quad (13)$$

Now, suppose that the inventory of the last firm C_n is spoiled or damaged due to any reason. Therefore, the n^{th} person's claims which were supposed to be created after selling goods to the next firm and could compensate its debts (D_n) and leave some profit $\pi_n = \alpha(1 + \alpha)^{n-1}$ for the firm n have been ruined. That is to say, his claims, which are regarded as its assets (in his accounts), become zero but his debts and obligations remain unchanged. Therefore, $F_n = 0$

(14)

$$\pi_n = -D_n \quad (15)$$

Now, its loss is equal to its debt to the firm n-1. His unfulfilled financial obligations in equations (5) will follow a reverse trend; that is equal to D_n of claims to the (n-1)th firm (F_{n-1}) is not paid and profit of the (n-1)th firm is also lost. Using equations (5) we can write

$$F_n = (1 + \alpha)D_n = (1 + \alpha)(1 + \alpha)C_{n-2} = (1 + \alpha)F_{n-1} \quad (16)$$

Therefore,

$$F_{n-1} = \frac{1}{(1 + \alpha)}F_n \quad (17)$$

That is to say, the claim of the firm n-1 to the firm n is not fulfilled, because of the destroyed commodities of the nth firm. That is actually it has zero receipt. General form of the above equation is applicable to all firms as

$$F_{i-1} = \frac{1}{(1 + \alpha)}F_i \quad (18)$$

Since this is a recursive equation, when $F_n = 0$, all F_0, \dots, F_{n-1} will be zero too. That is, in business of the commodity C, all merchants get bankrupt and since they cannot receive their claims, they cannot pay their debts as well. Therefore, all merchants in relation to this commodity will get bankrupt. In this case, the losses of all merchants will be

$$\pi_j = -D_j \quad (19)$$

which can be extracted from the set of equations in (5). The nominal loss to the economy will be

$$\sum_{i=0}^n \pi_i = -\sum_{i=0}^n D_i = -C_0 \left(\frac{(1+\alpha)^n - 1}{\alpha} \right) \quad (20)$$

As shown by (5), the third row depicts the debt flow of firms, and the fourth row depicts the claims flow of the firms. Considering the third row, the i^{th} buyer promises the previous seller $(i-1)^{\text{th}}$ to pay him D_i at maturity. He also sells the commodity to the next buyer $(i+1)^{\text{th}}$ and receives a document that he claims F_i to the $(i+1)^{\text{th}}$ buyer as shown by the fourth row.

Commitments are defined according to the market norms and have a vast range of oral commitment, official and ordinary documents, various kinds of cheques, notes and legal documents, bank and non-bank guarantees, and moveable and immoveable collaterals. There will be always a series of commitment documents in the economy from the committed person—related to the third row of the sequences of (5) and shown by the fourth row from the obligee side. If $\alpha > 0$, the sequence of serial documents will form the set: $\{F_i \mid i = 1, \dots, n\}$. Each i^{th} person has a debt equal to D_i from one hand, and has a claim of F_i from the other hand. If we assume $\alpha = 0$, the document of claim of the i^{th} person will be equal to the nominal value of his debt document. This assumption can be used for clearing the debt of the i^{th} and $(i+1)^{\text{th}}$ person through SCC.

An Algorithm for Recognizing Serial Commitments

Consider two $n \times n$ square matrices of \mathbf{D} and \mathbf{F} in which n is number of economic activists:

$$\mathbf{F} = \begin{bmatrix} 0 & f_{12} & \dots & f_{1,n-1} & f_{1n} \\ f_{21} & 0 & \dots & f_{2,n-1} & f_{2n} \\ \vdots & \vdots & \ddots & \vdots & \vdots \\ f_{n-1,1} & f_{n-1,2} & \dots & 0 & f_{n-1,n} \\ f_{n1} & f_{n2} & \dots & f_{n,n-1} & 0 \end{bmatrix} =$$

$$\mathbf{D}^T = \begin{bmatrix} 0 & d_{21} & \dots & d_{n-1,1} & d_{n1} \\ d_{12} & 0 & \dots & d_{n-1,2} & d_{n2} \\ \vdots & \vdots & \ddots & \vdots & \vdots \\ d_{1,n-1} & d_{2,n-1} & \dots & 0 & d_{n,n-1} \\ d_{1n} & d_{2n} & \dots & d_{n-1,n} & 0 \end{bmatrix} \quad (21)$$

Each element of f_{ij} in matrix \mathbf{F} represents the claim of person i to j , and each element of d_{ij} in matrix \mathbf{D} represents the debt of person j to person i . Theoretically, the following equality exists between the two persons i and j :

$$f_{ij} = d_{ji} \quad (22)$$

If we sum up both sides of the above equality for i and j , we will have:

$$f = \sum_{i=1}^n \sum_{j=1}^n f_{ij} = \sum_{i=1}^n \sum_{j=1}^n d_{ji} = d \quad (23)$$

The scalars ‘ f ’ and ‘ d ’ in (23) are equal to the total amount of all the people’s claims and debts which are theoretically equal. This relation redefines relation (2).

To show identification procedure for serial commitments in matrix \mathbf{F} , consider the case for a 6×6 \mathbf{F} matrix including bank and 5 persons in which bank is shown by ‘ B ’ in the last row and column as

$$\begin{array}{cccccc} & 1 & 2 & 3 & 4 & 5 & B \\ 1 & 0 & & f_{13} & & f_{15} & \\ 2 & & 0 & & f_{24} & & \\ 3 & & f_{32} & 0 & & & \\ 4 & & & & 0 & & \\ 5 & & f_{52} & & & 0 & \\ B & f_{B1} & & & & & 0 \end{array} \quad (24)$$

Now, suppose that the bank claims f_{B1} to person 1. Bank searches the related database of \mathbf{F} matrix, and reviews line 1 which is the column index of f_{B1} and realizes that the first person claims f_{13} and f_{15} to person 3 and 5 respectively. The columns indices of f_{13} and f_{15} (3 and 1) are selected to

obtain the claims of the third and fifth persons to next persons in next round. Therefore, bank reviews rows 3 and 5 of \mathbf{F} matrix. Bank finds out that person 3 and 5 claim f_{32} and f_{52} to person 2, respectively. So, bank selects the columns indices of f_{32} and f_{52} (which both are 2) and reviews person 2 in the new round. Bank realizes that person 2 claims f_{24} to person 4. Bank selects the column index of f_{24} (person 4) and reviews the row 4 and realizes that all items of this row are zero. Therefore, person 4 is the last person of the chain. The result of the bank survey of person 1 is briefed as

$$f_{B1} \leftarrow \begin{matrix} f_{13} \leftarrow f_{32} \\ f_{15} \leftarrow f_{52} \end{matrix} \leftarrow f_{24} \quad (25)$$

In other words, the algorithm stages will be

Step 1: Search the elements of the row B. And select the column j in \mathbf{F} .

Step 2: Select the row with positive element in column j of \mathbf{F} .

Step 3: Search the selected row and find the positive element (elements) in it.

Step 4: Go to step 2 and repeat the algorithm until the chains of serial commitments are completely found.

In our 6×6 \mathbf{F} matrix example, two separate chains are obtained:

$$B \rightarrow 1 \rightarrow 3 \rightarrow 2 \rightarrow 4 \quad (26)$$

$$B \rightarrow 1 \rightarrow 5 \rightarrow 2 \rightarrow 4 \quad (27)$$

The chained claims of bank are derived from the first person and from person 1 to the third and fifth persons (both); and from the latter two persons (3 and 5) to the second person; and from the second person to the fourth person. Now, assume that there is the following quantitative relation among the persons in our example:

$$f_{B1} = (f_{13} + f_{15}) = (f_{32} + f_{52}) = f_{24} \quad (28)$$

Or, at least, there exists a minimum claim of 'f_{B1}^{*}' as:

$$f_{B1}^* = \min \{ f_{B1}, (f_{13} + f_{15}), (f_{32} + f_{52}), f_{24} \} \quad (29)$$

In this case, we can clear the claims in (25) with the amount of f_{B1} regarding the assumption (28) or with the amount of f_{B1}^{*} in case of assumption (29), and let only bank claims to person 4 instead; and claims of the persons 1, 2, 3 and 5 be cleared and their guarantees and collaterals be released. The matrix **F** after clearance will be as follows:

	1	2	3	4	5	B	
1	0						
2		0					
3			0				
4				0			
5					0		
B				f _{B1}		0	(30)

Operational Considerations

From the operational perspective the following notes should be considered regarding the explained algorithm.

First, a proper database should be provided for serial commitments search. This is considered and designed in Rastin Banking as Collateral Registration System (CRS). CRS is an integrated web-based online database in which, banks, notaries and other authorized organizations and authorities are obliged to register the pledged properties when they accept them as collateral or guarantee.

Second, a procedure should be selected for breaking large-value

commitments to smaller pieces. This will cause to find long serial commitments sequences and increases the efficiency of SCC both for bank and clients. In this context, the Mortgage Securitization System (MSS)¹⁸⁴ in Rastin Banking can be used to issue ‘Guarantee Certificates’. The benefit of this system is that a high-valued pledged property can be divided into many small-valued Guarantee Certificates and each of them can be used in separate transaction as separate pledge. Guarantee Certificate is an unanimous document concerning guarantee of a specific amount of commitment (debit) for a defined time period and is issued by the bank against accepting some property as collateral and in case of nonfulfillment of commitment, the owner is obliged to pay the nominal value of the certificate, otherwise, the pledged property will be sold by bank through tender and the commitment will be fulfilled by the money obtained from the auction. This certificate is defined and issued through the MSS in Rastin Banking.

Third, in the above algorithm, it has been implicitly assumed that the person 1 has only one commitment to bank, while practically, number of commitments of each person may be more than one. In other words, by extending the cited algorithm, we can expand number of rows of matrix **F**. Another solution is to sum up all claims of person 1 and process the algorithm for each summed-up row. The process of the algorithm will be similar as before for all added rows or summed-up commitments of the first person to bank.

Fourth, the possibility of clearing commitments should be checked and accepted by bank from a legal perspective. Therefore, by using

¹⁸⁴ Bijan Bidabad, Mortgage Securitization System (MSS), Complementary System of Rastin Banking., 2012. <http://www.bidabad.ir/doc/mss-paper-en.pdf>

assessment¹⁸⁵, legal¹⁸⁶ and auditing and computation¹⁸⁷ departments/units which are defined and described in Rastin Banking organization, bank can fulfill this task in an appropriate way. Applying special restrictions, the bank can implement the SCC system subject to extra conditions. For example, the bank can select special kinds of collaterals and guarantees for implementing SCC. Moreover, obtaining the acceptance of contract parties is among the cases which must be considered and the bank has to provide necessary facilities to achieve it while negotiates clients.

Summary

The system of Serial Commitments Clearance (SCC) provides necessary arrangements for settlement of obligations of those who, on the one hand serially owe someone, and on the other hand are creditors to other persons. By considering laws and regulations of commitment clearance, and introducing theory of serial chain of debits and credits, this system proposes an algorithm for recognition of serial commitments. This process is set in connection to the Collateral Registration System (CRS) and Mortgage Securitization System (MSS) in Rastin Banking, while considers legal and operational problems. Accordingly, banks, notary offices and other authorized authorities can clear serial obligations of persons due to their requests and agreements and release their collaterals and guarantees as far as the debts of the persons are equivalent. This system will cause financial release and efficiency of many economic firms. In addition, banks will gain commission for rendering this service. SCC is a model that can be

¹⁸⁵ - Assessment unit is a unit in PLS department of Rastin PLS bank which assesses the competence and capabilities of entrepreneur and his proposal.

¹⁸⁶ Legal unit is a unit in PLS department of Rastin Banking and includes aware insurance and law experts in Rastin Banking.

¹⁸⁷ Auditing and Computation Unit is a unit in PLS department of Rastin PLS bank and includes accountants and auditing experts.

used in all countries, especially those which have more uncertainties and traders need more pledges for their transactions.

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Chapter Eighteen

Interbank Withdrawal Protocol (IWP)

Introduction

In conventional banking, specifically, in those countries that inflation rate is high and executive process for debt collection is weak, there are many cases, that a person is indebted considerable amounts to one or some banks but put his deposits into his other accounts in other banks, and does financial transactions just through the latter bank. Consequently, the debts are made outstanding claims in former banks. Moreover, the volumes of bounced checks are increasing and too many of dishonored check issuers keep their money resources in different banks and the claimer is not able to obtain his claim. Legal support of claimer does not solve the claimer's trouble due to being tough, lengthy and costly judicial processes. This subject also causes behavioral exasperation of debtors in drawing dishonored checks and fear not to take up.

In order to solve these difficulties, Interbank Withdrawal Protocol (IWP) has been devised in Rastin Banking that based on Information and Communication Technology (ICT) to collect the bank and his customer claims which have been put in other banks and are out of access the claimer.

Interbank Withdrawal Protocol (IWP)

Interbank Withdrawal Protocol (IWP) is an interbank agreement under central bank supervision that allows bank to obtain his or customer claims from other accounts of the debtor at other banks after depleting the debtor's bank accounts in the issuing bank online.

Central bank provides the legal and electronic infrastructures for operation of this protocol. The software of IWP should contain withdrawal

capability from debtor accounts. In the case that any money has been carried in a debtor account, at the same time it will be transferred to the claimer account automatically and consequently the transactions under this process is registered in central bank databases and information systems. Moreover, central bank hands over the withdrawal information from debtor's account or gives permission to access to the information to judicial authorities for monitoring and making confidence about the amounts of the debts of debtors as real time before passing any sentences by legal authorities.

All banks and non-banking financial institutions are obliged to accept IWP and create the required preparation for operation of this protocol. Each person including legal entity or real person must have just one banking identification number in all banks throughout the banking system. Implementation of this arrangement is determined by central bank. All checks, promissory notes and drafts must contain unique serial number. Implementation of this subject is arranged by central bank and is announced to banks and financial institutions. According to this protocol, bank provides the necessary conditions for receiving outstanding and delayed debts, doubtful debts, unpaid debts of his own claims and his client's claims that initiated through loan, check, promissory notes, drafts, that had been initiated in traditional system before.

Banking identifier must be published in a specified place on checks, promissory notes and drafts. The debtors and guarantors of check, promissory note or draft at the time of signing must write down own banking identifier accompanying with other required information on the documents. The manner of this preparation is arranged and informed by finance ministry with central bank cooperation. It is necessary that finance ministry cooperates with central bank in compiling the operational

regulation of trade law regarding draft, note and check with respect to contents of this protocol and pass it through the legal authorities. The mentioned regulation should simplify protest and debt collection steps of check, promissory note and bill and prepares to obtain claim document from debtor or guarantor accounts in all banks through IWP. Banks on basis of IWP are allowed to obtain all claims, which initiated from loans, check, promissory note or draft at maturity. Banks also obliged to provide required preparations for collection of his own or customer's claims whose are mature, outstanding, delayed, doubtful or bad debts arising from loans, check, promissory note or draft through IWP for all claims that have ever been created through the old non-integrated traditional system.

Bank is not allowed to use IWP in relation to ministries and other governmental organizations accounts that have a row in government budget bill. However, bank is allowed to use IWP in relation to the accounts of governmental companies and other affiliated organizations and institutes to government, and non-governmental public institutions that do not use public budget, including pension and social security organizations, revolutionary foundations and organizations and holly shrines.

IWP Operational Process

Claim document including check, promissory note and draft could be withdrawn with respect to authentication standard characteristics after IT and legal infrastructures preparations and identifying connected accounts to unique identity number of debtor through IWP section of Automatic Clearing House (ACH) under central bank supervision. Operational process should be designed in a way that all operations be conducted in a secure platform. Based on IWP, claimer gives his claim document to bank officer and gets receipt. Bank after authentication of claimer loads the digital

image of claim document into IWP section of ACH through interactive and IT-based channels after authentication of debtor; attaches Magnetic Ink Character Recognition (MICR)¹⁸⁸ code line or Radio-Frequency Identification (RFID)¹⁸⁹ label and uses asymmetric cryptography with digital signatures on the document into the interface. ACH uses the public key of issuing bank for decrypting document signature and makes confidence about document authenticity and accuracy and other fields such as unique identity numbers of the claimer and debtor then make query for loading debtor's accounts balance and other financial assets including trust assets or dealing assets like bonds in all banks or non-bank financial institutes. The system bases upon a logical algorithm withdraw the amount of the claim document from debtor's accounts and consequently carry to claimer's account through Real Time Gross Settlement (RTGS) system.

Withdrawal Algorithm through IWP

IWP and its dependent systems will reduce executive processes of Department of Documents and Properties Registry and Execution and opened cases in courts and consequently related costs as well. IWP algorithm accompanying with IT, legal and organizational infrastructures is based upon the following steps:

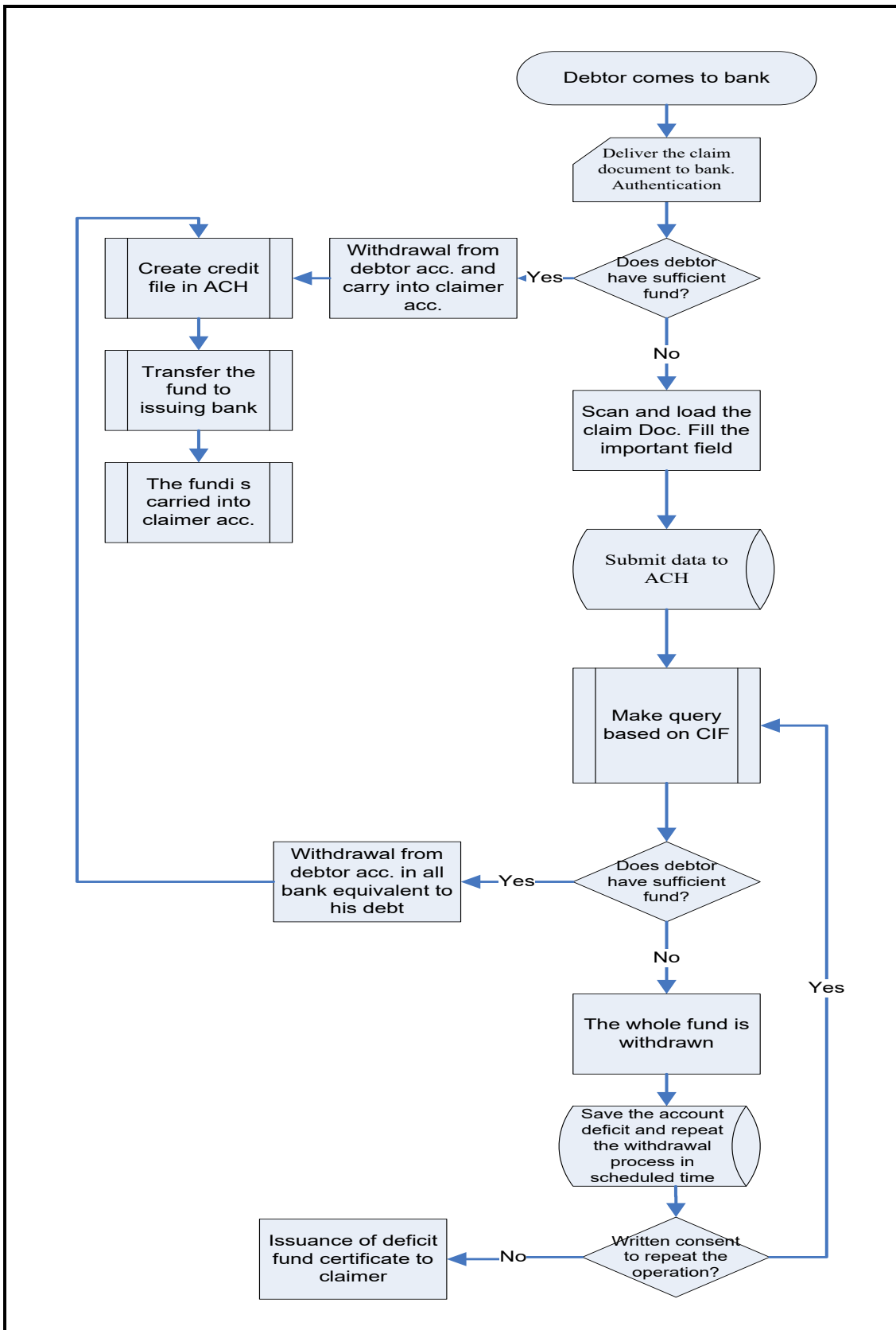
¹⁸⁸ Magnetic Ink Character Recognition (MICR) is a character-recognition technology used mainly by banks to ease the processing and clearance of checks and other documents. The MICR encoding is called MICR line. It is at the bottom of checks and other vouchers and typically includes the document-type indicator, bank code, bank account number, check number, check amount, and control indicator. The technology allows MICR readers to scan and read the information directly into a data-collection device. Unlike barcodes and similar technologies, MICR characters can be read easily by humans. For more information see: Troy group (2010), MICR - Magnetic Ink Character Recognition, What is MICR, <http://www.whatismicr.com/index.html>

¹⁸⁹ RFID is an automatic authentication technology that uses less energy and short-range electromagnetic wave which increase the ability to access data significantly. For more information refer to following link:
Tektronix, (2004), Radio Frequency Identification (RFID) Overview, <http://www.isotest.es/web/Soporte/Formacion/Notas%20de%20aplicacion/TEKTRONIX/TEKTRONIX%20RSA/RFID.pdf>

1. The amount of claimed document is withdrawn from debtor's accounts in issuing bank.
2. In case of insufficient cash balance in the debtor's accounts at the issuing bank, the image of claim document is submitted to ACH through IWP using MICR or RFID attached with digital signature to document with asymmetric cryptography.
3. ACH on basis of central bank permission makes query from debtors' accounts according to his unique identification number.
4. Balance of all accounts in different banks is determined by aggregate function in Relational Database Management System (RDBMS)¹⁹⁰.
5. In case of sufficient cash balance and equal possible withdrawal: the amount of the claim document is withdrawn in equal amounts from existing accounts in the banking network and debt documents of banks are submitted through IWP.
6. In case of sufficient cash balance and impossible equal withdrawal from debtors' accounts, the output records from query operations are sorted in descending order.
7. Depletion of debtor's bank accounts is done from high to low amounts.
8. In case of insufficient cash balance, depletion process from debtor's accounts is done with respect to withdrawal algorithm then insufficient cash balance document is issued and delivered to claimer.
9. Based on the customer request, withdrawal operations repeat on basis of scheduled time through ACH until the full settlement of the claim.
10. Withdrawal figure from banking accounts is informed to bank.

¹⁹⁰ A relational database management system (RDBMS) is a database management system (DBMS) that is based on the relational model as introduced by Codd. What constitutes a relational database system is composed of Codd's 12 rules.

E. F. Codd, (1970), A Relational Model of Data for Large Shared Data Banks, IBM's San Jose Research Laboratory. <http://www.seas.upenn.edu/~zives/03f/cis550/codd.pdf>



Regarding the above algorithm, the priorities of debtor accounts for withdrawal operations through IWP are as follow:

1. Current deposit account.
2. Saving deposit account.
3. Time deposit account from low to high durations respectively.
4. Other accounts
5. Bonds
6. Foreign exchange accounts according to above priorities for domestic currency.

The following legal and formal arrangements are mandatory for IWP implementation:

1. Banks and non-banking financial institutions are obliged to accept this protocol and provide required preparations.
2. Every real or legal person must just have a unique banking customer identification number in all banks in the banking system.
3. All checks, promissory notes and drafts must have a unique serial number.
4. The insert location for banking identification number of the debtor must be considered and printed on check, promissory note and draft.
5. Debtor and endorsers insert their banking identification numbers and other required information on check, promissory note and draft when sign or endorse the document.
6. It is necessary that finance minister with central bank cooperation to compile the operational regulation of trade law about draft, obligation note and check respect to the contents of this protocol and gets legal authorities approval.
7. Banks are obliged to provide required arrangements for debt collection of his own or client's claims in any types of matured, outstanding, delayed, doubtful or bad debts, checks, promissory notes and drafts through IWP even all the claims that have been created

before through the old non-integrated traditional system.

IWP in Action

Article (1): IWP is an interbank contract under central bank supervision that allows bank to obtain his claim (which could be created through binding contracts or commercial documents) and his client's claims regarding commercial documents (check, promissory note and draft) after depleting the debtor's accounts in bank and then other debtor's accounts in other banks and then after the accounts belonging to his guarantors at any bank online.

Note (1): Ministries and government agencies whose incomes and expenditures are recorded in government budget bill and have budget row are not included to withdrawal from debtor's account through IWP.

Note (2): Government companies and other organizations and institutions affiliated to government and non-governmental public organizations that do not use government budget as municipalities, insurance, healthcare, pension and social security funds, foundations, revolutionary organs and holy shrines are included and subjected to this protocol.

Article (2): For IWP implementation, Interbank Withdrawal Protocol Unit (IWPU) at the ACH and Interbank Withdrawal Protocol System (IWPS) under central bank supervision are established and activated.

1. IWPU is responsible for settlement of claim document from debtor's accounts in banking system and submits daily electronic reports of the received and paid amounts under central bank supervision.
2. IWPS is responsible for the whole processes of recording claim documents, withdrawal and funds transfer from debtor's accounts in all banks, authentication of debtor based upon unique banking

customer identification number and notice of withdrawal issuance to banks, management reports, settlement process and work-in-process management according to definable parameters at IWP.

3. It is necessary that every banking customer (including real persons or legal entities) have unique identification numbers in banking system.
4. All check and promissory notes and drafts must have unique serial numbers.
5. It is mandatory that debtor and guarantor, at time of signing and endorsing check, promissory notes and draft to insert their banking identification numbers.

Article (3): Operational process of IWP is as follows:

1. The beneficiary of the claim document submits the document to bank and after authentication and verifying the document, bank issues a receipt in favor of beneficiary.
2. The claim document is withdrawn from debtor's accounts in agent bank.
3. In case of insufficient funds in all existing accounts of debtor or his and guarantors in agent bank, the bank submits and loads the image of claim document and banking identification and amounts of claimed funds of claimer to IWPU of ACH through secure communications channels.
4. The ACH after getting confidence regarding document authenticity and available data in the received file makes query about debtor's accounts and other trust financial assets in different banks and non-banking financial institutions automatically. Accounts balances in different banks are sorted in descending order and are reported to the ACH. ACH respectively makes withdrawal from highest balance account to lowest.

5. The amounts of claim document is withdrawn from debtor's accounts and carried into beneficent accounts in agent bank through Real Time Gross Settlement System (RTGS) then debt document is submitted to banks through IWP.
6. In case of insufficient fund in debtor's accounts in all banks, depletion of accounts are carried out with respect to this algorithm and deficit document is issued to claimer thereby obtain his claim in other ways.
7. On basis of client's request, withdrawal operation could be repeated at frequent intervals until the claim be collected.

Article (4): Regarding the algorithm of the above article (3), the priority debtor accounts for withdrawal through this protocol is as follow:

1. Current Qard-ul-Hasanah account.
2. Saving Qard-ul-Hasanah account.
3. Time deposit investment account from low to high durations respectively.
4. Other accounts
5. Foreign exchange accounts according to above priorities for domestic currency.

Note: Regarding withdrawal from time deposit investment accounts including local and foreign exchange currencies, primarily bank blocks the account equal to claim and withdrawal operation from the accounts will be delayed for 10 days after then. The debtor is noticed in appropriated ways. If debtor pays his debt within the specified period, bank unblocks the blocked deposit.

Conclusion

Despite of taking collaterals, guarantees and binding of contracts,

executive debt collection process through Department of Documents and Properties Registry and Execution or courts are major challenges that banks, non-banking financial institutions and persons are facing. The legal and executional process of debt collection through collaterals and guarantees are complicated, lengthy and costly. Interbank Withdrawal Protocol (IWP) is a protocol whereby bring the required preparations for the bank to withdraw from debtor account in all banks and financial institutions that have signed the protocol. On the basis of this protocol and under central bank supervision, the bank as claimer of check, promissory note, draft (as owner or attorney of the third party) or whereby a permission from Department of Documents and Properties Registry and Execution or courts, or has been initiated by customer's commitment based on collaterals or guarantees, withdraws his claim from all customer's accounts (according to a unique identification number) in all banks and financial institutions through Automatic Clearing House (ACH) and notifies the debtor.

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Chapter Nineteen

Mortgage Securitization System (MSS)

Introduction

Rastin banking studies theoretical and empirical problems of banking system and introduces legal and executive solutions according to the latest scientific and technical findings. Each subsystem of Rastin banking has been designed to remove specific problems of banking operations. Mortgage Securitization System (MSS) is designed to provide necessary arrangements for transforming assets into negotiable papers – specifically: Guarantee Certificates.

Many properties and assets can be used as guarantee for observing obligations. The available ways for changing properties into guarantees are not so easy. MSS which works under the Rastin Banking System law and regulations was designed to fulfill this purpose. Issuance system of Guarantee Certificate by notaries is defined under the supervision of Documents and Properties Registration Organization of the country.

Mortgage

Etymologically, mortgage means to be pledged or obliged in something and is synonym to the word collateral. In other words, mortgage is pledging (mortgaging) some assets for obtaining loan until the repayment. In Islamic jurisprudence mortgage is defined as a contract for reliance of the creditor to debt to the debtor¹⁹¹. The pledged (mortgaged) asset is called "mortgaged" or beholden (*rahn* or *marhouneh*) and the one who gives the asset as mortgage is called "mortgager/ mortgagor" (*rahen*) and the receiver of this asset is called "mortgagee" (*mortahen*). For mortgage contract to be correct, it needs the assertion of the mortgager and

¹⁹¹ Rouhollah Khomeini, *Tahrir Alvasilah*, translated to Persian by M. B. Mousavi Hamadani, 1986, Darol'ilm Publications.

acceptance of the mortgagee. Other qualifications of these persons are similar to those necessary for other contracts, including maturity, insaneness, free decision and etc. In Civil Law¹⁹², mortgage¹⁹³ is a contract according which the debtor gives some asset to the creditor as collateral. This contract is revocable for mortgagee and irrevocable for mortgager¹⁹⁴. But this issue does not mean that other regulations of revocable contracts cover this contract; this is because mortgage contract is not cancelled by death, or insaneness of each party of the contract¹⁹⁵. Mortgaging any movable and immovable asset is possible if it is a financial asset and has rational benefit. There are six elements in mortgage contract¹⁹⁶:

1. Existence of a debt, even if the debt is not created simultaneously with mortgage contract.
2. The mortgaged asset must be substance.
3. Taking the possession of the mortgaged asset is for a certain (short) period.
4. The term of the mortgage must not be stipulated in the contract.
5. Taking the possession of the mortgaged asset must be possible.
6. Transaction of the mortgaged asset must not have any legal prohibition; therefore, a devoted asset to child cannot be mortgaged.

In addition to the above conditions:

7. The mortgaged asset must be substance and mortgage of a debt and profit is null.
8. The mortgaged asset must be determined.
9. The mortgaged asset must be transferable and legally nontransferable assets such as devoted assets cannot be mortgaged.

¹⁹² Chapter 18th of Civil Law.

¹⁹³ Article 771, Civil Law.

¹⁹⁴ Article 787, Civil Law.

¹⁹⁵ Article 778, Civil Law.

¹⁹⁶ Mohammad Jafar Langaroudi, *Detailed Terminology of Law*, Vol. 3, pp. 2071-84.

Mortgage Securitization System (MSS)

By assessing the value of the assets of the clients with less than a margin percent, and deducting registration, auction, commission, and other acceptable costs, notary will issue guarantee certificates lots for certain period of time. The margin is defined by the Documents and Property Registration Organization. The owner of these certificates can offer their certificates as guarantees or collaterals to banks and other real and legal entities and institutions, for themselves or on behalf of the other peoples.

After fulfillment of his obligations, the owner of certificate will deliver his certificate back to notary can make his asset free from mortgage. In case of un-fulfillment of his obligations, the certificate acceptor (which can be bank) can apply to notary and notary will sell the mortgaged through auction and give the value of certificate or make the property at possession of acceptor after deducting commission and other costs from the owner of the certificate and update the related information in Collateral Registration System (CRS). If the acceptor of the Guarantee Certificate is a bank, bank can obtain its claims through Interbank Withdrawal Protocol (IWP) from the account of the owner of the certificate, and return him the related certificate back and if the owner were not available bank can return back the certificate to the notary. The operation settles through Non-Usury Scripless Security Settlement System (NSSSS) and simultaneous registration in CRS. In addition, if the acceptor of the Guaranty Certificate is a bank and the debtor account is not enough to compensate the debt, bank can clear his claim through "Bank Document Execution" defined in Rastin banking system.

Documents and Property Registration Organization will compile and execute the supervisory instructions of notary operations for MSS

operations. Mortgage Securitization System is carried out under the law and regulations of Rastin Banking Law and its Executive Regulations.

This system provides the reliance and security upon collaterals and conditions for clearing the claims with low formalities and time consuming and does not need to apply to legal authorities and passing time-consuming adjudication processes.

Guarantee Certificate

New and innovative financial instrument such as Rastin Certificates are used in Rastin PLS banking system. Guarantee Certificate is a named document which shows the guarantee of a certain amount of money and is issued by notary upon mortgaged asset and if the obligation is not fulfilled, the owner must compensate it, otherwise, the mortgaged asset will be sold through auction and the claim of the acceptor will be settled.

MSS Operations

1. Movable assets which are imperishable and can be used in a foreseeable period can be used as mortgage.
2. Immovable (realty) assets used as mortgage should have the following qualifications:
 - a. The immovable mortgage asset must (site and superstructure) entirely and legally be registered, easily negotiable and must be confirmed through municipality and other relevant authorities that it is not located in urban development plans.
 - b. The immovable asset with a devotional land can be mortgaged only when the owner has separate ownership document for the building itself and has a permission for mortgaging the building from the devotee for a long enough period of time.

- c. Mortgage asset (site and superstructure) should entirely and legally be registered, easily negotiable, and the ownership of the asset should be proved before mortgage transaction.
3. At the beginning, the owner applies necessary documents to notary and requests for appraisal of the property and issuance of Guarantee Certificate.
4. After appraisal of the property by Ministry of Justice official expert, the notary will mortgage the property and issue Guarantee Certificate with a value lower than the assessed value. All ownership documents will be deposited at the notary.
5. The property is assessed according to market price by Ministry of Justice official expert.
6. The margin amount deducted from the assessed value for mortgage transaction is equal to the total registration, auction, commission and other acceptable costs. This amount is defined by Documents and Properties Registration Organization.
7. The notary receives registration and writing fees for issuing Guarantee Certificate.
8. Notary mortgages the property and instead, issues Guarantee Certificate for the property owner.
9. Notary can divide Guarantee Certificate into several lots according to the request of the owner. Each lot of Guarantee Certificate represents a specific amount of guarantee independently.
10. Each lot of Certificate should have a separate serial number. The certificates will be registered according to their serial numbers in CRS and can be traced according to its serial number or other identifications related to property or its owner.
11. All real and legal entities (public or private) and those affiliated to government can apply to notary for mortgaging their properties and

requesting Guarantee Certificate.

12. Guarantee Certificates don't have due date.
13. All Guarantee Certificate operations should be registered in CRS system.
14. Banks can accept Guarantee Certificates as guarantee or collateral.
15. In order to compensate the probable losses to property, bank can ask the owner to insure it for the bank.
16. Guarantee Certificates in Rastin PLS banking and its subsystems are not considered as contribution of the entrepreneur and is only accepted as guarantee and collateral.
17. Guarantee Certificates are not negotiable at Rastin Certificate Market (RCM).
18. The owner of Guarantee Certificates can negotiate their certificates or use them as guarantee in other markets.
19. All benefits of the mortgaged asset during mortgage duration belong to the owner of property.
20. Whenever the owner of the certificate deposits the certificate as guarantee to a person, he has to fill a written form with the signature of the owner as well as the acceptor of the certificate to the issuing notary and the notary register the action in a special registry book and in CRS.
21. The acceptor of the Guarantee Certificate must inquire the validity of the certificate from the issuer notary or from CRS site. The issuer notary is obliged to inform the acceptor about the certificate condition within 2 days.
22. The Guarantee Certificate is valid until the owner returns it back to the issuing notary.
23. If the owner of the Guarantee Certificate could not fulfill his obligations and the mortgaged asset is not dividable, the asset will be

sold at an auction and the remainder of the amount sold will be deposited at Documents and Properties Registration Organization.

24. If the owner of the guarantee certificate could not fulfill his obligations, after selling the mortgaged asset, notary can compensate registration, auction, commission and other acceptable costs from the amount of sale after paying back the claims of the Guarantee Certificate acceptor. If the acceptor is bank, bank can receive his claims due to Guarantee Certificate from the accounts of the certificate owner through IWP at maturity and delivers the certificate to certificate owner or in the case that certificate owner is not accessible delivers the certificate to issuing notary.
25. After receiving the Guarantee Certificate when the debtor cannot fulfill his obligations, the notary has to execute the concluding activities within 10 days.
26. Whenever the Guarantee Certificate is freed, it should be informed to the notary in written and be registered in registry book and in CRS.

Conclusion

Several systems have been designed in Rastin banking to solve prevailing problems of the banking system of Iran. Mortgage Securitization System (MSS) is one of these systems which facilitate obtaining collaterals and guarantees for financial activities. This system makes it possible for people to change their movable/immovable assets into negotiable papers called "Guarantee Certificates". These operations are carried out through notary offices. Guarantee Certificates can be used as guarantee or collateral for all related activities.

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Chapter Twenty

Operations Control and Monitoring (OCM)

Introduction

Operations Control and Monitor (OCM) system is a web-based inspection and monitoring system, which controls the activities of bank personnel. By establishing this system, bank has online control over the personnel activities to be in accordance with operational instructions and regulations of Rastin Banking. Online unnoticeable monitoring of all activities of bank units, personnel of different departments and branches, incompatibility of accounts and bills, embezzlement, cheating and fraud detection and etc. with various levels of accessibility, reporting and analysis routines, data mining, distinguishing and follow up systems for cyber-attacks and establishment of internal control are of the tasks of this system.

Operations Control and Monitor (OCM) System

Bank establishes the net-based Operations Control and Monitor (OCM) system with following features:

1. Online inspection of all operations according to Rastin Banking instructions and regulations.
2. Online imperceptible monitoring of all personnel and various units of bank.
3. Establishment of internal control systems.
4. Detection of unfamiliar and irregular operations.
5. Detection of accounts mismatch.
6. Detection of non-compliance of bills and accounts.
7. Embezzlement, collusion and fraud detection.
8. Having different access levels.
9. Reporting, data analysis and data mining routines.

10. Security systems with different barriers.
11. Identification and tracking system for cyber-attacks.

Bank is also obliged to design and activate tools and filters of Operations Control and Monitor (OCM) system with the following features to inspect and monitor transactions:

1. Daily Velocity Filter: This filter by defining thresholds for large volumes of transactions prevents typical frauds.
2. Amount Filter: By defining high and low thresholds to limit the risk of transactions that often done to check the credibility of account holder or account number or card number.
3. Hourly Velocity Filter: This filter poses transaction thresholds that prevent frauds with large number of common attack.
4. Shipping-Billing Mismatch Filter such as shipping address-invoicing: If the billing address and shipping documents be inconsistent, this filter will detect stolen payment cards.
5. Transaction IP Velocity Filter: This filter detects suspect activities of a unique source with different identities through identifying multiple transactions from a single IP (Internet Protocol).
6. Transaction IP Velocity Filter: This filter is responsible to compare suspicious transactions with previous data of client in the database of bank.
7. Authorized AIM IP Addresses: Allows the client to transact by certain IPs through Advanced Integration Method (AIM).
8. IP Address Blocking: Blocks identified IP addresses that are known for fraudulent activities.
9. Enhanced AVS Handling Filter: Address Verification Service (AVS) is a component of electronic payment gateway that compares the address of client who requests for transaction with client's addresses

in the file. In case of inconsistency, the system should be able to store the information of transaction applicant to be used for future monitoring.

10. Enhanced AVS Handling Filter: The system must be able to store the information of Card Code Verification (CCV) provided by transaction applicant to be used for future monitoring.
11. Shipping Address Verification Filter: This filter checks the validity of postal addresses.
12. IP Shipping Address Mismatch Filter: This filter controls the IP address of the applicant with his mailing address.
13. Regional IP Address Filter: This filter controls the operations in different countries and regions with IP address of the transaction applicant.

Resources

- بیژن بیدآباد، آذرنگ امیراستوار، سعید عبداللهی، محمود الهیاری فرد، اسکندر پردل، مریم حیدری، علیرضا شفیعی، محمدعلی پوربهرروز، (کتاب) پیشنویس لایحه قانونی بانکداری راستین، بانک ملی ایران، ۱۳۹۱.

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Chapter Twenty One

Collateral Registration System (CRS)

Introduction

In the current banking operations it is viewed that applicants for banking loans and services introduce their immovable property as collateral to bank. Bank must have means to control the validity of the property as collateral. Otherwise when client does not perform his commitments and his obligations are not fulfilled, in the best case, only one bank or creditor can receive his claims through enforcing the collateral and other banks and creditors that the same property has been taken the pledge will lose. Collateral Registration System (CRS) is designed for solving this problem not to allow clients to pledge their property to more than one place at one time to be on the mortgage. This system provides an accessible database for registration of movable and immovable properties in an integrated online web-based way. Banks and other legal institutions can go to the portal of CRS and check and get aware of the last situation of the property.

Collateral Registration System (CRS)

Department of Registry of Documents and Properties establishes the integrated Collateral Registration System (CRS) for registering movable and immovable collaterals and introduces it to notary offices. Banks, notary offices and other related authorities (determined by Department of Registry of Documents and Properties) at the time of mortgaging collaterals or restraining properties should register all mortgage information in this system. This system is integrated and each asset has a unique identification number. Therefore, it can easily show whether an asset has been collateralized or restrained before or not. Department of Registry of Documents and Properties provides this capability for banks and other organizations and real persons and legal entities to find out online whether

an asset has been collateralized or restrained before or not. On the other hand, in order to provide a safer environment for conducting collaterals auction and sale and enforcing the subjects of enforceable documents, Department of Registry of Documents and Properties establishes a website for auction with Relational Database Management System, auction and sale capabilities and dynamically connected to CRS.

Resources

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Chapter Twenty Two

Non-usury Scripless Security Settlement System (NSSSS)

Introduction

The IT role in fulfillment of non-usury financial innovations is inevitable¹⁹⁷. In spite of expansion of Islamic and conventional financial methods at international level, electronic transmission of funds, whether through loan or non-loan moreover, expansion of Real time Gross Settlement System (RTGS), lack of electronic payment system in information technology systems for investment projects, Automatic Clearing House (ACH), Clearing House of Valuable Electronic Papers and International Bank Account Number (IBAN) and on the other side, the expansion of international inter-bank integrated networks such as Single Euro Payment Area (SEPA), The Society For Worldwide Interbank Financial Telecommunication (SWIFT), Inter Bank Information Network and carried out activities for absorbing international cooperation in financing by exchange sources of different countries this field needs more consideration. In this regard, the role of application of electronic payment systems for absorbing foreign investments from retail sources and designing negotiable financial instruments for internet secondary markets should be considered. This plan introduces a new model based upon information technology to complete the circle of Islamic financing.

The compliance with Sharia on one hand, and easy access to international retail exchange funds are two main factors in usury-free innovations. IT infrastructures in different dimensions give rise to

¹⁹⁷ For more information see:

- Bidabad, Bijan and Mahmoud Allahyarifard, "Implementing IT to fulfill the profit and loss sharing mechanism", Islamic Finance News (IFN) Journals, Vol. 3, Issue 3, 6th February 2006. <http://bidabad.ir/doc/summery-pls-it-1.pdf>
- Bidabad, Bijan and Mahmoud Allahyarifard, "IT role in fulfillment of profit and loss sharing", Proceeding of The 3rd International Islamic Banking and Finance Conference, Monash University, Kuala Lumpur, Malaysia, 16th and 17th November 2005. <http://www.bidabad.ir/doc/english-pls-5.pdf>

development of the markets of this kind for Islamic financial innovations and transactions. However, the growth of Rastin Profit and Loss Sharing banking system and development of its financial instruments need an integrated system for registration, control and monitoring of traded financial instruments. In this direction, designing a new system called “Non-Usury Scripless Security Settlement System (NSSSS)” with usury-free instruments and without any Sharia tricks, and by new innovation of usury-free financial instruments based upon information technology is necessary.¹⁹⁸

Non-usury Scripless Security Settlement System (NSSSS) is an integrated online web-based system under supervision of central bank to control, supervise and settle the transactions of Rastin Certificates and Rastin Swap Bonds through Rastin Certificate Markets’ systems of banks. Difference between NSSSS and SSSS systems is in their negotiable papers’ transaction instruments. Transactions and settlement process in NSSSS are based upon usury-free transactions and those usury-free transactions which are not dubious in usury content, while SSSS system is designed for conventional transactions.

Non-usury Scripless Security Settlement System

Central bank establishes the integrated Non-usury Scripless Security Settlement System (NSSSS) with specific characteristics and capabilities and activates the registration portal for entrepreneurs of Rastin PLS banking. Compliance with Sharia is the necessary condition for entrance of

¹⁹⁸ Bidabad, Bijan; M. Allahyarifard, IT-Based Usury-Free Financial Innovations. Proceeding of ECDC 2010, 5th International Conference on e-Commerce in Developing Countries: with focus on e-Banking & e-Insurance. ECDC 2010, 15-16 September 2010. <http://www.bidabad.ir/doc/non-usury-finance-it-en.pdf>
<http://www.bidabad.ir/doc/non-usury-finance-it-fa.pdf>

financial documents and instruments in this portal.

Portals of Rastin Certificate Markets (RCM) of banks are to be designed in accordance to central bank's standards, so that the information concerning financing projects through Rastin PLS banking, entrepreneurs and Rastin Certificates will be updated online in NSSSS system. This system should be capable of online updating of information concerning Rastin Certificates and Rastin Swap Bonds of bank's portal for each transaction, settlement, capitalization or any other kinds of transaction and transition of Rastin Certificates and Bonds by registering them in the system. Generally the specifications and capabilities of this system are as follows:

1. Performing E-payment processes through the Banks' cards of the internal networks or through reputable global cards namely Visa, Master and American Express (needs necessary agreements and connectivity to the cards ports of the e-payment service providers).
2. Multi-currency support.
3. Multilingual support.
4. SWIFT connectivity to other E-payment service providers switches namely PayPal (needs necessary agreements with cards issuer and Electronic File Transfer (EFT) service providers as well).
5. Applying ACH for retail payments and RTGS for bulk payments.
6. Using IBAN and other integrated authentication facilities.¹⁹⁹
7. Electronic Payment System (EPS)
8. Relationship with Electronic Funds Transfer systems such as Real Gross Settlement System (RTGS) Electronic Clearing System (ACH), bank information exchange networks and electronic securities

¹⁹⁹ The integrated authentication system is compiling at the Organization and Skills Department of Bank Melli Iran under supervision of the PLS banking experts.

settlement systems.

9. Communication with Scripless Securities Settlement System (SSSS).
10. Non-cash transfer ability.
11. Registration and storage of information of security holders, transfer of ownership, transactions, acquisition and resale of certificates and bonds, paper holders authentication, issuance of certificates and bonds electronically; and data integrity of electronic papers.
12. Information portal for investment projects.
13. Integration with domestic and international financial systems and subsystems through integrated Core-banking.
14. International standards for data transmission.
15. Accounting operations of record keeping, customer desk, customer tracking and Workflow Management, auditing, monitoring, control and surveillance.
16. Management reporting system for different levels of expertise, management and clients.
17. Providing analytical and financial engineering tools and services.
18. Coding certificates and bond according to international standards.
19. Ability to communicate with internal and international banks and brokers' websites focusing on concentrated information database in central bank.

Resources

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<http://www.bidabad.ir/doc/english-pls-5.pdf>
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- <http://www.bidabad.ir/doc/non-usury-finance-it-en.pdf>

Chapter Twenty Three

Money Laundering Detection (MLD)

Introduction

Together with development of societies, law-evasion also develops. Therefore, in order to oblige the public to obey the law, in compliance with the conditions of society, new modern updated scientific and technological procedures should be applied to extend the sovereignty of law over defined dimensions of people behaviors. The virtues of Rastin Banking in extended fields of banking, financial, economic, ethical, social and international activities is so spread that it can be used as a base in improving economic structure of countries.

One of the important systems, which can be effective in money laundering, is Value Added Tax (VAT) system. If completely conducted, VAT can almost cover and supervise all basic financial transactions in the economy and prevent tax evasion. VAT is an auto-executive system and practically, “tax payers” are “tax collectors” themselves. Regarding the fact that tax payers are bound to offer invoices (factors), this provides the necessary condition to automatic recognition of other tax payers' transactions. If VAT is conducted properly, it creates a perfect information system of commercial transactions that leads to transaction transparency of economic activities.

All commercial and financial activities, whether for profit or non-profit purposes, are financially regarded as economic transactions, and are subject of VAT information system. In addition, each transaction of commodities and services require money payment (in cash or credit). These two (commodity and money) information about each transaction can be matched together and compared. If they do not match, there should be

some laundering suspicion in that transaction. MLD system²⁰⁰ provides the necessary structural and electronic background for matching tax information and banking information. If the conditions forces underground transactors to go through banking network for payments and the tax authorities have special supervision on large transactions and transportation of commodities, underground activities can be detected by matching transaction information and banking information. To do so, a special organization should be established at Ministry of Finance and Economic Affairs to receive banking and tax information to process and analyze them.

Money Laundering Detection (MLD) leads to financial efficiency and transparency in economy and practically provide the base for stabilization, economic, ethical and confidence growth and thereof, riches the social capital of the society. MLD system performance with coordination of general principles of Rastin Banking is promoted.

Types of Economic-Financial Behavior

Activities of economic actives are classified as classes of official, unofficial, disclosed and hidden from performance viewpoint.²⁰¹ Ordinary economic activities are those activities that are legitimate whether legally or customarily; and society accepts them. On the border of ordinary activities, many activities are hidden from data collectors and economic analysts. Generally, all economic activities, which are counted in System of

²⁰⁰ Bidabad, Bijan (2013) Money Laundering Detection System (MLD), Bank Melli Iran, Tehran. <http://www.bidabad.ir/doc/detailed-mld.pdf>

²⁰¹ Bidabad, Bijan (2003), Typology of financial institutions and economic decision making kernels in Iran economic structure, Proceeding of the 13th conference of monetary and exchange rate policies, pp. 391-446. Monetary and Banking Research Academy, Central Bank of Iran, 2003. <http://www.bidabad.ir/doc/nahadhayeh-mali.pdf>

National Accounting (SNA), are included in disclosed sector; and those activities that are not counted in national accounting are included in hidden economic sector. Activities of family sector, unofficial sector, abnormal and illegal sectors are considered as hidden sector of the economy.

Official, family and unofficial sectors are those sectors with legal activities. In official sector, production and transaction are legally carried out, and in family sector, there is no economic transaction. In unofficial sector, we have production and transaction, and commodities and services are priced, but are not registered in national accounting. Therefore, these two sectors are called “hidden economy”. In the other two sectors, which we call them as “abnormal and illegal” sectors; commodity and service production are legal, but some illegal activities are involved. In illegal sector, production of commodities and services are principally illegal, let alone their transaction and distribution. These two sectors can be called “underground” sectors.

Hidden economy is not complained in societies from social justice point of view; and does not harm the economy. This is because that small-scale production of families and small-size production workhouses exist ordinary in the societies and their activities are supported by law or at least there are no complain about them. In contrary to hidden economy, underground economy is accompanied with some kind of social injustice and spoiling other people rights and except for the activists of this sector, other people are disadvantaged or suffer losses from their activities. Hidden economy does not harm the economy; but underground economy severely affects the efficiency of other sectors of the economy, especially when government employees engage in these activities, and gradually, this habit prevents them in doing their official job without receiving illegal revenues. This behavior practically will obstruct the executional network of the

country and spreads illegalities. Economic reform and establishment of financial discipline to prevent this kind of activities is one of the preconditions of economic and social development of a country.

Family Sector

Families produce lots of goods and services, which are used in the family and scarcely supplied to the market. For example, the activities of housewives are without payments and if their value added were added to national accounts, it could increase GNP by nearly half. Home activities of men such as repairs during their free time are also included in this class. These activities are more exposed in rural area, especially because of low-income level in developing countries and therefore, because of self-sufficiency in many kinds of goods and services, there are no market prices for them and their value added cannot be added to GNP practicably. In addition, many transactions in these communities are in barter form that increases calculation difficulties.

Unofficial Sector

This sector includes small producers and their employees, and small tradespeople and craftsmen who have no employees; and laborers and workmen in commerce, transportation and other services. Most prevailing activities of this kind in less developed countries are: peddler badgers, criers, and small workhouses with no employee, which are often in houses and are considerable in number. The main difference of this sector to family sector is that in contrary to family sector, their products are supplied as intermediate goods and services to other firms, or supplied directly to market as final product, which means they have market transactions. The existence of market transaction creates market price and as a rule, their

value should be included in GNP, but because of data collection difficulties and high expenses, are practically dropped from calculations. It should be noticed that production and consumption of goods and services of unofficial sector are not legally forbidden and are legitimate in the economy.

Unusual (Abnormal) Sector

Activities in this sector include all economic activities whose production are legal; but somehow involve unlawful activities. In economic literature, these activities are called with various names such as: black, underground, hidden, covered, unofficial, invisible, illegal, parallel, second, shadow, unseen, unreported and similar words, which differs from each other according to the special focus of the writer²⁰². The main characteristic of the activities of this sector is the legality of its production; but their methods of production or distribution involve some illegalities. There are many examples of these activities, for example, we can mention: tax evasion in various ways, disobedience of regulations such as workshops safety regulations, not introducing employees for social insurance, manipulating legal accounting books, not issuing invoices or factors, disobedience of minimum obligatory wages and salaries, not registering some transactions, having no license, misusing insurance policies, conspiracy with tax auditors, using illegal emigrant workers, illegal transfer of foreign exchange, smuggling and similar actions.

Appearance of these activities in public sector has special impresses. For example, power misuses of governmental authority in all levels are included in this sector. For instance, embezzlement, conspiracy,

²⁰² Nourbakhsh, Mohsen; Kamran Sepehri (1995) Unofficial Economy, Monetary and Banking Research Academy, Central Bank of Iran.

manipulating tenders and auctions, government transactions, false assessment, disobedience of rules and regulations, disregarding neutrality in distributing quotas, accepting bribe for speeding up applicants' affairs, pushing forward the turn, misusing of government capital, especially those capitals which are in hands of state authorities (civil or military). While there are regulations for those capitals that are left in hands of managers in all countries, but violation of these regulations, takes the application of these capitals into the abnormal sector activities.

Volume of this sector is very much in most countries and some surveys explain that un-counting the activities of this sector in national accounts decreases the comparative value of the results. The extension of this sector varies from country to country; but essentially, in countries with low institutionalized laws and regulation among institutions, this sector is larger.

Illegal Sector

Production of commodity and service in this sector is essentially illegal. In other words, all activities included in this sector are illegal. All illegal activities are dropped from national accounts. The spread and kinds of illegal activities vary from country to country. Because of different and sometimes, opposition of rules and regulations of countries concerning illegal activities, comparison of this sector in different countries is very complex. For example, cultivation of poppies is legal in one country and is illegal in another. Prostitution, gambling, transaction of narcotics and alcoholic beverages are similar activities. But there are some activities such as forgery, illegal printing of money and credit documents, extortion, pick pocketing, fraud, production and distribution of illegal goods and services, smuggling, theft at work, bribery, shop lifting and generally theft activities,

seizing other's properties, organized crimes etc. are illegal in most countries.

Hidden and Underground Sectors

Regarding the above discussions, three sectors of ordinary, family and unofficial are producing legally. Production and transaction in the first sector are carried out easily. In the second sector, transaction is carried out but not in form of economic transaction. In the unofficial sector, transaction is carried out; goods and services transacted have market prices. Perhaps we can call the two latter sectors as hidden sectors.

In the other sector, which are mentioned as abnormal and illegal sectors, activist does some illegal acts accompanying with his activity. In abnormal sector, production of good and service is essentially legal; but accompanying with illegal acts. Production of good and service in illegal sector is essentially illegal, let alone its distribution. These two sectors can be called underground sectors. By classifying the sectors into two classes of hidden and underground, it always reminds us their two characteristics of being legal or illegal.

Table1. Behavioral types: Production, Transaction Price, Registration

Sector	Production	Transaction	Price	National account
Ordinary	Legal	Has	Has	Registered
Family	Legal	Hasn't	Hasn't	Not Registered
Unofficial	Legal	Has	Has	Not Registered
Abnormal	Legal (Violation)	Has (Violation)	Fuzzy	Registered
Illegal	Illegal	Illegal	Fuzzy	Not Registered

Regarding the volume and extension of hidden economic activities, some estimates might be reached; but because of the illegal nature of underground activities, volume of this sector cannot be estimated easily. The existence of unofficial sector in hidden economy may be because of the low-income level of the society. Decrease of income level because of poverty increase is a reason for increase of underground activities. This phenomenon, when poverty increases in the society or real income decreases, is exacerbating, and increases progressively. Cross-section studies in various countries show that underground activities in low-income countries prevail among low-income level people as well as people with high-income level; but in high-income level countries, underground activities are mostly seen among high-income people and low-income people are less facing this phenomenon. The more government employees become engaged in underground activities, improvement of economy and financial discipline to overcome these activities become more difficult. Especially when these activities are prevailing vastly, and judiciary and disciplinary powers are unclean, improvement of the society becomes very difficult. On the other words, this infection has become institutionalized.

Money Laundering

Money laundering expression was first used after the “Watergate” scandal. ²⁰³Many people, whether real or legal, private or governmental and related to government and politicians by going beyond laws and regulations borders, obtain illegitimate and unlawful incomes and purify the income through money laundering. In other words, money laundering is an illegal activity through which obtained incomes from illegal activities, become legitimate. On the other words, money laundering is referred to a set of

²⁰³ Watergate: The scandal that brought down Richard Nixon.
<http://www.watergate.info/>

activities carried out by people to legitimate the acquired illegal incomes.

Money laundering is not just limited to transfer and transaction. It has wider meaning and has many sophisticated methods. All start by creation of income through illegal activities of firms or individuals. These people and firms create dirty money through illegal methods beyond the laws and regulations. Then, dirty money enters banking network through banks or financial institutes and funds. Practically, implementing monetary transactions through intermediate institutes or dealers covers up any hint about the transactions and money laundering obtains its goal.²⁰⁴

The UN defines Money laundering as a process, which disguises illegal profits without compromising the criminals who wish to benefit from the proceeds. It is a dynamic three-stage process that requires: first, moving the funds from direct association with the crime; second, disguising the trail to foil pursuit; and third, making the money available to the criminal once again with the occupational and geographic origins hidden from view.²⁰⁵ These three stages are usually called placement, layering and integration. At placement stage, movement of cash from its source occurs and by places into circulation through financial institutions, casinos, bureau de change, shops, and other businesses in forms of currency smuggling,

²⁰⁴ See:

- Peter Lilley, *Dirty Dealing: The Untold Truth about Global Money Laundering*, (2000), Kogan Page Limited, London.
- N.C. DeAssis; S.M. Yikona, *Financial Sector Development and Money Laundering*, (1996), Mission Press, Zambia.
- Guy Stessens, *Money Laundering*, (2000) Cambridge University Press, Cambridge.
- Peter Temple, *Essential Elements of the Prevention of Money Laundering*, (2001), Securities Institute Washington DC.
- William C Gilmore, *International Efforts to Combat Money Laundering*, (1992) Grotius Publications, Cambridge.
- Sandeep Savla, *Money Laundering and Financial Intermediaries*, (2001), Kluwer Academic Publishers Group, Dordrecht.

²⁰⁵ United Nations Global Program against Money Laundering.

<http://www.imolin.org/gpml.htm>

currency exchanges, securities brokers, bank complicity, blending of funds and asset purchase. At layering stage, launderer makes laundering difficult to uncover and detect for law enforcement authorities through conversion of cash into monetary instruments, buying material assets with cash then sell. At the stage of integration, laundered money moves into the economy mainly through banking system such as front companies and false Loans, foreign bank complicity, property dealing, false Invoices and appears to be normal business earnings. This is not similar to layering, in detection and identification.²⁰⁶ This scheme is shown by figure 1.

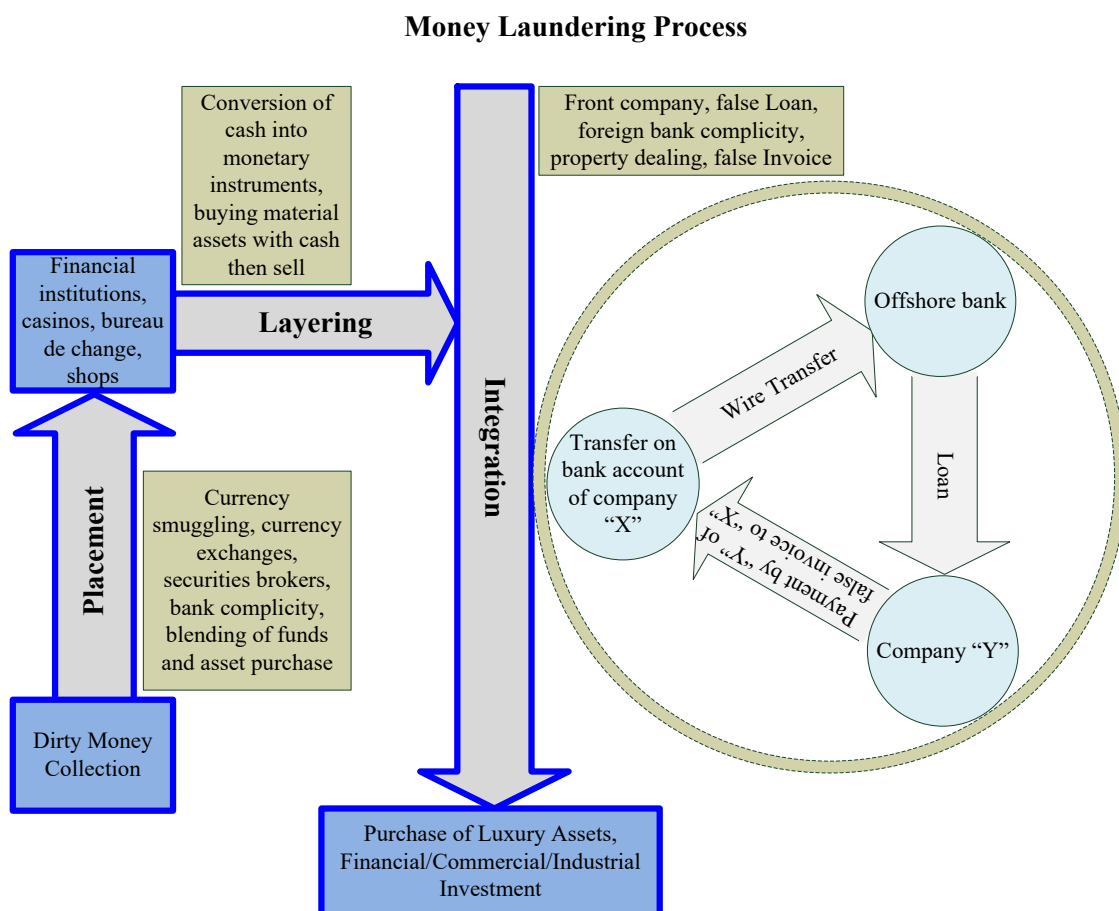


Figure 1

²⁰⁶ United Nations Office on Drugs and Crime, UNDOC.
<http://www.unodc.org/unodc/en/money-laundering/laundrycycle.html>

In the directions of European Union, money laundering is defined as:²⁰⁷

- a. The conversion or transfer of property²⁰⁸, knowing that such property is proceeds²⁰⁹, for the purpose of concealing or disguising the illicit origin of the property or of assisting any person who is involved in the commission of the predicate offence²¹⁰ to evade the legal consequences of his actions;
- b. The concealment or disguise of the true nature, source, location, disposition, movement, rights with respect to, or ownership of, property, knowing that such property is proceeds; and, subject to its constitutional principles and the basic concepts of its legal system;
- c. The acquisition, possession or use of property, knowing, at the time of receipt, that such property was proceeds;
- d. Participation in, association or conspiracy to commit, attempts to commit and aiding, abetting, facilitating and counseling the commission of any of the offences established in accordance with this article.

In the process of money laundering, obtained incomes from illegal activities are so mixed with obtained incomes from legal business activities that they cannot be distinguished and separated from each other. When channels of criminal and illegal activities are open in the economy and unofficial sector of the economy is active, or the official sector is not

²⁰⁷ Article 6 of the 1990 European Communities (EC) Convention on Laundering, Search, Seizure and Confiscation of the Proceeds from Crime. Strasbourg, 8.XI.1990. <http://www.conventions.coe.int/Treaty/EN/Treaties/Html/141.htm>

²⁰⁸ "Property" includes property of any description, whether corporeal or incorporeal, movable or immovable, and legal documents or instrument evidencing title to, or interest in such property. Article 1 of the Convention.

²⁰⁹ "Proceeds" means any economic advantage from criminal offences. Article 1 of the Convention.

²¹⁰ "Predicate offence" means any criminal offence as a result of which proceeds were generated that may become the subject of an offence. Article 1 of the Convention.

enough efficient or anti-money laundering laws are not effective, and law-evasion penalties are not considerable, the occurrence of money laundering is quite probable.

Illegal incomes in the underground economy, known as dirty money, are classified into three groups of grey, black and bloody. Grey money is obtained from underground channels and far from law supervision. Black money is obtained from activities of commodity smuggling and other illegitimate wealth. Bloody money is obtained from anti-human, treacherous activities and narcotics and so on. Income obtained from selling commodities or producing products that are hidden from legal supervision of government and is evaded from tax payment are grey moneys. Incomes obtained from commodity smuggling and participating in government transactions outside of official arrangements (tender) is included in black money.

Measuring the negative effects of money laundering is not easily possible. The approximate assessment of money laundering of the world, which is carried out by IMF is between 2 to 5 percent of GNP of all countries.²¹¹ This huge amount of money laundering explains the vast negative effects of it on the countries' economies. Obviously, criminal activities are the causes of various financial corruptions, social crimes and by destroying financial markets, initiate the bankruptcy of legal actors of private sector and decrease the efficiency of economy and increase risk and instability and unequal distribution of income and wealth in the economy,

²¹¹ International Monetary Fund. Enhancing Contributions to Combating Money Laundering: Policy Paper. Prepared by the staffs of the International Monetary Fund and the World Bank. Washington, D.C.: IMF, 2001.

<http://www.imf.org/external/np/ml/2001/eng/042601.htm>

World Bank website, deals primarily with macro-economic consequences of money laundering.

<http://www.worldbank.org/fandd/english/0397/articles/0110397.htm>

which all lead to decrease of economic growth and development. On the other side, spoils the validity and confidence of people in financial activities and prevails dishonesty and untruth in the society.

Value Added Tax

One of the important taxation systems, which can be effective in money laundering detection, is Value Added Tax (VAT) system. If this system be implemented completely, will almost cover and supervise all financial transactions in economy and prevents tax evasion. This system is an auto-executive system and practically all taxpayers are tax collectors themselves. In VAT, taxpayers are obliged to provide factors and receipts for claiming tax exemption, thus will provide the necessary information for detecting transactions of other taxpayers. If VAT is implemented correctly, it creates a complete information system of all commercial transactions, which leads to information transparency of economic transactions and activities.

From economic point of view, value added is the difference between values of output and input for each transaction. In value added tax system, each seller of goods or services adds the value added tax to the price and receives it from the client. In the chain of transactions, the first seller pays the tax to government and in each sequent phase, each seller pays the tax premium (after deduction of the tax the previous seller had paid before) to government. VAT covers all activities and transactions of commodities and services in the economy; therefore, it has an extended coverage over all transactions.²¹² From another point of view, sum of the value added of all

²¹² Komijani, Akbar; Bijan Bidabad; Zahra Aabedi; Fariba F. Yahyai; Mohammed Eisazadeh; Fariba Shirkhani (1992). Analysis of value added tax, preliminary feasibility study for implementing in Iran. Ministry of Finance and Economic Affairs. Reprinted 1995.

economic transactions conform National Production. Because by deducting intermediate transactions (bought from other) from all transactions, the result will be equal to all wage payments, interest paid, rent and other payments to factors of production at national level. In other words:

$$\begin{aligned}\text{Total value added} &= \text{Value of all transactions} - \text{Value of intermediate transactions} \\ &= \text{Total sale} \\ &= \text{Wages} + \text{Interest} + \text{Profit} + \text{Rent} + \text{Depreciation} \\ &= \text{GDP (Gross Domestic Product)}\end{aligned}\quad (1)$$

Value added tax is a kind of phasic sale tax, which exempts the purchase of intermediate goods and services from tax payment, equal to the amount of the tax paid by previous seller before. In other words, VAT is a kind of sale price tax that is burdened on final consumer through taxation over each phase of production as percentage of value added created in each phase. Therefore, detection and tracing of financial transaction is one of the characteristics of VAT. On the basis that total value added of all firms in production phases is another definition of GDP, thus, VAT is taxation over domestic product or national income. In other words, VAT is levied on total sale of firm and tax exemption for buying from other firms is given to latest firm. Therefore, applying VAT necessitates the listing of all factors (invoices) and accounts at firm level; because, to obtain tax exemption, each firm should provide the previous seller's paid-tax information. Therefore, encourages the buyer to push the seller to pay his tax. There are four methods for applying VAT.²¹³

²¹³ For more information see: A. A Tait, Value Added Tax, International Practice, and Problems, IMF, Washington DC, 1988; P. 219.
Richard W. Lindholm, The Value Added Tax, A Short Review of the Literature, Journal of Economic Literature, December 1970.

Money Laundering Detection System (MLD)

Money laundering detection is much more possible by development of Information and Communication Technology (ICT). By matching tax information and banking information, we can identify the original parties of transactions and financial real owners. It is obvious that application of any new technology faces difficulties at preliminary stages, but by development of MLD gradually, its ambiguous parts will decrease and can be hoped that by gradual public acceptance and provision of necessary backgrounds for tax system and electronic banking, efficiency of MLD increase.

All financial and commercial activities with profit and non-profit intentions are of the following types:

1. Exchange of money with goods or services (transaction)
2. Exchange goods or services with goods or services (barter exchange)
3. Exchange money with money (loan)
4. Money transfer payment
5. Transfer of goods or services
6. Money relocation
7. Goods relocation

Many of the above items are financially economic and profitable and therefore, are taxable. On the other hand, the above transactions need the process of money (cash or termed) payment and receipt. Thus, according to every transaction of goods and services, there should be a receipt and a payment including cash or termed. If these transactions go through banking system and monetary institutions, the two money and commodity information can be matched and compared together. If they are not matching, there will be suspicion of probable money laundering.

Generally, one of side of money laundering occurs in banking system, which purifies and penetrates dirty money into the economy. On the other side, tax authority, which should monitor transactions and income of all people, is an important point for detecting monetary laundering. MLD provides the structural and electronic infrastructure and conditions for matching tax information and banking information.

Money Laundering Detection system can lead to financial efficiency and transparency of the economy and practically provide the basis for stabilization, economic, ethical and confidence growth and thereof, enriches society social capital. Generally, the following benefits for MLD system are:

1. Smuggling reduction
2. Reducing financial crimes and help to detect other crimes
3. Reducing money laundering
4. Reducing tax evasion
5. Preventing conspiracy of taxpayer and tax auditor and reducing corruption in tax organization
6. Broadening tax base
7. Reducing tax rate
8. Reducing money multiplier
9. Stabilization of the economy
10. Increasing confidence in the society
11. Economic development, production and employment growth
12. Increasing welfare of the society

Transaction and Money

In conducting any transaction, two actions of commodity or service delivery and money payment take place. This general rule exists in all

transactions, whether it is a purchase or a sale. For example, wage payment is also regarded as purchase of service and money is paid in exchange of the service rendered. This causes us to be able to put the flow of money payment (cash or termed) against transaction of commodities and services. The Fisher Quantity Theory of Money is the most important theory regarding the synchronized equilibrium of money and commodity markets. He shows²¹⁴ that there is always the following linear relationship between money and transaction:

$$\text{Velocity of money} \times \text{Volume of money} = \text{Amount of transacted commodity} \times \text{Commodity price} \quad (2)$$

In order to describe this theory, he uses a bascule and regarding the existence of mechanical relationship between the variables of the above equation, the above mathematical relationship is always established - *ceteris paribus* - and similar to the physical rule of scale, it is a rule in economics.²¹⁵

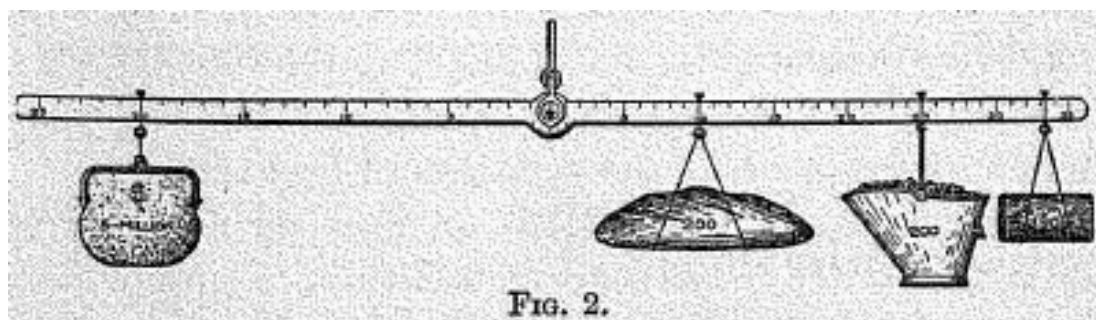


Figure 2

Source: Irving Fisher, (1911), *The Purchasing Power of Money*

²¹⁴ Fisher, Irving, (1911). *The Purchasing Power of Money: Its Determination and Relation to Credit, Interest, and Crises*. Reprints of Economic Classics, New York.

²¹⁵ Mahnaz Rabiei, (2006). *Relation between interest rate and exchange rate in the economy of Iran*. Ph.D dissertation, guided by Bijan Bidabad, Islamic Azad University, Science and Research Center, Tehran.

Bijan Bidabad, Mahnaz Rabiei, (2009). *Relation between interest rate and exchange rate in the economy of Iran (reevaluation and development of Quantity Theory of Money)*. *Economic Research Magazine*, No. 9, pp. 67-96.

<http://www.bidabad.ir/doc/nerkhe-arz-bahreh-1.pdf>

What are not included in the above process are barter transactions in which commodities and services are exchanged with commodities and services. Loan transactions are also included in this category. In loan transaction, present financial payment is transacted with future financial transactions.

Imports and exports, similar to domestic transactions, have two sides of transaction and payment. These items are included in current account of balance of payments. Transfer payments and capital inflow and outflow, which are reflected in capital account of balance of payments, can also be traced if they are carried out through banking system. Commercial rules and documents of every foreign trade such as purchase and sell invoices, letter of credit, certificate and declaration of origin, goods and freight declarations, cargo declaration, bill of landing, commodity inspection documents, custom supervision and releasing documents and etc. can help in tracing foreign transactions.

What can be regarded ambiguous in banking system is transaction of foreign exchange between people of a country with foreigners. Suppose that the first person pays domestic money to the second person in the country, so that the third person in a foreign country pays foreign exchange to the fourth person who is counterpart of the first person. Even though this action is a barter exchange, it can be traced if the first payment from the first person to the second is done through banking system.

Smuggling has a wide spectrum and the main flow of each kind of smuggling goes through its special channel. If the conditions somehow force the parties to go through banking system; or tax authority has special supervision on wholesale transactions and transportation, smuggling can be

traced through MLD system.

Matching Transaction and Monetary Information

Consider two square matrices of \mathbf{T} and \mathbf{P} with dimensions of $n \times n$ in which n is the number of transactors in the economy:

$$\mathbf{T} = \begin{bmatrix} t_{11} & \cdots & t_{1n} \\ \vdots & \ddots & \vdots \\ t_{n1} & \cdots & t_{nn} \end{bmatrix} = \mathbf{P} = \begin{bmatrix} p_{11} & \cdots & p_{1n} \\ \vdots & \ddots & \vdots \\ p_{n1} & \cdots & p_{nn} \end{bmatrix} \quad (3)$$

Each item of t_{ij} in \mathbf{T} matrix shows the amount of goods or services sold by person i to person j . also, each item p_{ij} in \mathbf{P} matrix shows the amount of money transacted from i person to j . Theoretically, for each purchase, there should be equal amount of payment and transaction. That is:

$$P_{ij} = t_{ij} \quad (4)$$

If we sum up two sides of the equation for i and j , we will have:

$$t = \sum_{i=1}^n \sum_{j=1}^n t_{ij} = \sum_{i=1}^n \sum_{j=1}^n p_{ji} = p \quad (5)$$

t and p scalars are total amount of transaction and total payments in the economy respectively, which should be theoretically equal. Obviously, occurrences of small financial and commercial transactions in the economy are inevitable. Therefore, we have to drop many small transactions from the survey for the sake of money laundering system to perform properly. In this regard, classifying transactions is very important. Transactions and classification method should be changed according to behavioral custom of individuals in the economy each year. In this connection, appropriate tools and transaction instruments such as electronic cards, coins and banknotes and marked checks should be defined commensurate to this classification.

Each contract should have a unique serial number in order to be well mechanized traced. In this way, matching banking and tax information will be eased. Issuance of this serial number can be available for public through a web site.

Money Laundering Detection Organization

To implement MLD, there should establish a special organization in Ministry of Finance and Economic Affairs to receive and process the banking and tax information. The functions of MLD organization are:

1. Collecting tax information of taxpayers. By mechanizing tax information system, all taxpayers' information will be compiled in the Ministry of Finance and Economic Affairs in an integrated database.
2. Collecting transaction information. All people will be obliged to register their contracts and transactions at a portal provided by the Ministry of Finance and Economic Affairs through internet.
3. Collecting people's banking information. All banks, financial-credit institutes and funds will be obliged to provide information about payments and receipts, and money transactions of the accounts of their clients and their parties to MLD organization through mechanized internet channels. Central bank will be bound to have full supervision on this issue.
4. Compiling regulation for MLD system. Ministry of Finance and Economic Affairs together with Central Bank will be bound to compile regulations concerning MLD system, which will be approved by concerned authorities. The necessary regulations for establishment of necessary coordination for implementing MLD system should be in this direction.
5. Matching individual's information and their transactions. MLD

organization is bound to provide the necessary hardware and software for mechanized matching of individual's information and their transactions.

6. Compiling necessary documents for legal prosecution of violators. MLD system should compile the necessary methods for legal prosecution of the violators. In this direction, the Ministry of Justice will be bound to organize the necessary personnel for investigating these violations.
7. Compiling, developing and improving necessary IT-based information and communication systems for MLD system. Development and improvement of MLD system is one of the tasks of this organization.
8. Coordination with other supervising and executive institutions. MLD organization is obliged to coordinate with other executive and supervisory organizations and all of these organizations are obliged to cooperate with MLD organization in direction of MLD goal and legal duties.

MLD System Necessitations

1. Binding supervision of Central Bank on financial, credit institutes and funds.
2. Uniformization and decrease of tax rate to 10% for all transactions.
3. Correct and full coverage of mechanized implementation of VAT.
4. Promotion of electronic transactions.
5. Creation of modules and reporting systems of electronic transactions for MLD organization.
6. Decreasing the amount of banknotes and replacing it with electronic money.
7. Each actor in his transaction should use his own unique identity number (national number for real persons and national identity for

- legal entities).
8. Every person should have only a unique client identity number in banking system.
 9. Every person should only use his unique banking client identity number in his transactions.
 10. All transaction documents, checks, drafts, promissory notes and contracts should have a unique serial number.

Conclusion

Prevailing deficiencies in money laundering prevention is one of the important difficulties that has harmed individual and government rights and economies. Financial crimes, tax evasion, smuggling, conspiracy, embezzlement and various other offences are included in money laundering and its detection can lead to important improvements in economy. Money Laundering Detection System (MLD) provides the necessary background for detecting penetrations and thereof, protecting those who have legal economic activities. This system, as a complimentary system of Rastin Banking system, can also be executed as a separate module.

If conditions concerning underground economic transactions be in such a way that oblige the parties to carry their transactions through banking network; and further, tax authorities have special supervision on large transactions and commodity transportation; then the underground economic activities can be detected and traced by matching banking information and transaction information in MLD system. MLD system provides structural and electronic conditions for matching tax information and banking information.

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Chapter Twenty Four

Sovereign Wealth Fund ALM

Introduction

Assets and Liabilities Management (ALM) consists of technical instruments and methods, which consider both value creation and risk control. A Financial institute applies ALM techniques to increase more benefits by covering himself from risks, and minimize losses due to transactions.

Dissimilarities between ALM approaches in Islamic finance and conventional financing come from differences on usury illegality and accounting system in Islamic finance in comparison to conventional one. Jurisprudence specifications indicate that time is not the sole effective factor on increasing equity (deposited capital) return; but profit and loss sharing resulted from investment in real economy sector is the essential base for monetary transactions. These two important factors are considerable in Islamic ALM of any financial fund. Non-usury financing requires specific ALM approach to improve efficiency and effectiveness of this type of financing. Islamic finance same as conventional one follows maximizing shareholders assets, but subject to observe Islamic laws and ethics.²¹⁶

International Working Group of Sovereign Wealth Funds (IWG) defines Sovereign Wealth Fund (SWF) as: special purpose investment funds or arrangements that are established and owned by governments for macroeconomic purposes to hold, manage or administer assets to achieve financial objectives and to employ various investment strategies, including

²¹⁶ Bidabad, Bijan, Mahmoud Allahyarifard (2010). Assets and Liabilities Management in Islamic Banking. Proceeding of the 3rd International Conference on Islamic Banking and Finance. Bidakara, Jakarta, Indonesia, 23 -26 February, 2010. Risk Management, Regulation and Supervision, pp. 396-413.
<http://www.bidabad.ir/doc/alm-english.pdf>

investment in foreign financial assets.²¹⁷ The term SWF is usually used to cover a spectrum of government investment vehicles from central banks and monetary authorities to government-owned enterprises that invest in specific economic sectors.²¹⁸ Several organizations and commentators have offered somewhat different definitions that can affect whether certain institutions would be considered as SWF.²¹⁹ The appropriate assessment of Sovereign Wealth Fund (SWF)'s ALM requires deep understanding of assets and liabilities, investments, customers, economics environment and competition conditions of the capital and monetary sectors. SWF is also defined as an investment vehicle that:²²⁰

1. Is owned directly by a sovereign government,
2. Is managed independently of other state financial institutions,
3. Does not predominately have explicit pension obligations,
4. Invests in a diverse set of financial asset classes in pursuit of commercial returns
5. Has made a significant proportion of its publicly reported investments internationally.

SWFs invest in a broad range of assets such as public equities and fixed income investments assets. Recently SWFs' funds have been directed toward the assets other than stocks, bonds and cash. Proportion of private

²¹⁷ International Working Group of Sovereign Wealth Funds, (2008) Sovereign Wealth Funds: Generally Accepted Principles and Practices. The "Santiago Principles". <http://www.iwg-swf.org/pubs/eng/santiagoprinciples.pdf>

²¹⁸ C. O'brien, T. Mattei, N. Thomas (2012). Sovereign Wealth Funds: Evolving Perceptions and Strategies. International Developments, Vol 44, No. 50. December 24.

²¹⁹ Preqin Ltd., (2012), The 2012 Preqin Sovereign Wealth Fund Review, Preqin Review. <https://www.preqin.com/item/2012-preqin-sovereign-wealth-fund-review/1/4985>

²²⁰ International Working Group of Sovereign Wealth Funds, (October 2008), Sovereign Wealth Funds: Generally Accepted Principles and Practices. "Santiago Principles" <http://www.iwg-swf.org/pubs/eng/santiagoprinciples.pdf>

equity, real estate and infrastructure is increasing significantly.²²¹

Actually, size of investments, ability to act quickly, autonomy and immediate access to large amount of capital, fewer public reporting obligations are positive characteristics of SWFs, and enable them to be crucially effective in crises and natural disasters financing and saving bankruptcy of different private and public entities. But, the concern regarding SWFs motivations and incentives to distort financing toward those investments and companies that are influenced by different political pressure groups and other types of corruptions²²² are very important and have been led to push SWFs to increase their transparencies.²²³

To reduce this concern, we try to propose a slightly different financing procedure by using Rastin Banking mechanism and standards to fulfill both non-usury financial operations and fruitful supervised investments. This goal is done through Rastin Profit and Loss Sharing (PLS) system through Rastin Certificates financial instruments.

Moreover, the governments operationally construct SWFs to use their surplus resources of the prosperity period in recession and crises years. In this chapter, we also show that ALM of SWFs can be done by using Rastin Swap Bonds (RSBs) that are other Rastin Banking financial instruments.

²²¹ Preqin Ltd., (2012), The 2012 Preqin Sovereign Wealth Fund Review, Preqin Review.

<https://www.preqin.com/item/2012-preqin-sovereign-wealth-fund-review/1/4985>

²²² L. Cadigan, R. Hadley, E. Robertson, A. (April 2012). FCPA and Other Anti-Corruption Concerns Facing Sovereign Wealth Funds. The Sovereign Wealth Fund Initiative, Sommers, K&L Gates LLP. The Fletcher School, TUFTS University. <http://fletcher.tufts.edu/SWFI/~media/Fletcher/Microsites/swfi/pdfs/2012/FCPA%20K L%20Final.pdf>

²²³ C. O'brien, T. Mattei, N. Thomas (2012). Sovereign Wealth Funds: Evolving Perceptions and Strategies. International Developments, Vol 44, No. 50. December 24. <http://fletcher.tufts.edu/SWFI/~media/Fletcher/Microsites/swfi/pdfs/2012/FCPA%20K L%20Final.pdf>

Investment Process in NDFI

National Development Fund of Iran (NDFI) was established to allocate some portions of Iran's oil revenue to durable wealth and productive capital to preserve oil and gas resources for future generations. NDFI strategies include²²⁴:

1. To spotlight outcomes of spatial plans in country for a regional sustainable and balanced development.
2. To make plans for reaching the goals of the development plans.
3. Supporting private sector to improve economic infrastructure.
4. Supporting investment opportunities in deprived areas.
5. Providing financial resources for energy consumption optimization plans.
6. Participation in foreign monetary and financial markets.
7. Ensuring return of NDFI's resources to be preserved for future generations.

As it is simply understood from the by-laws²²⁵ and regulations of NDFI financing procedures and measures, a lot of NDFI's financial operations are usury broadly due to fixing interest rate.²²⁶ As it was underlined before, Islamic Asset and Liability Management is restricted to use interest-free Islamic financial instruments. This restriction mostly distinguishes Islamic ALM from conventional one. If NDFI is going to operate usury-free, should adopt different procedures to reach Islamic ALM. This is why we introduce Rastin Banking mechanism to remove usury from NDFI financial operations and increase automatic built-in supervision to reduce corruption concerns. Accordingly, NDFI allocates

²²⁴ National Development Fund of Iran. <http://en.ndfi.ir/guidelines.aspx>

²²⁵ National Development Fund of Iran. <http://en.ndf.ir/about-us/by-law.aspx>

²²⁶ National Development Fund of Iran. <http://www.ndf.ir/Portals/0/farayand.zip>

her resources to investment projects via an agent bank as in Figure 1.

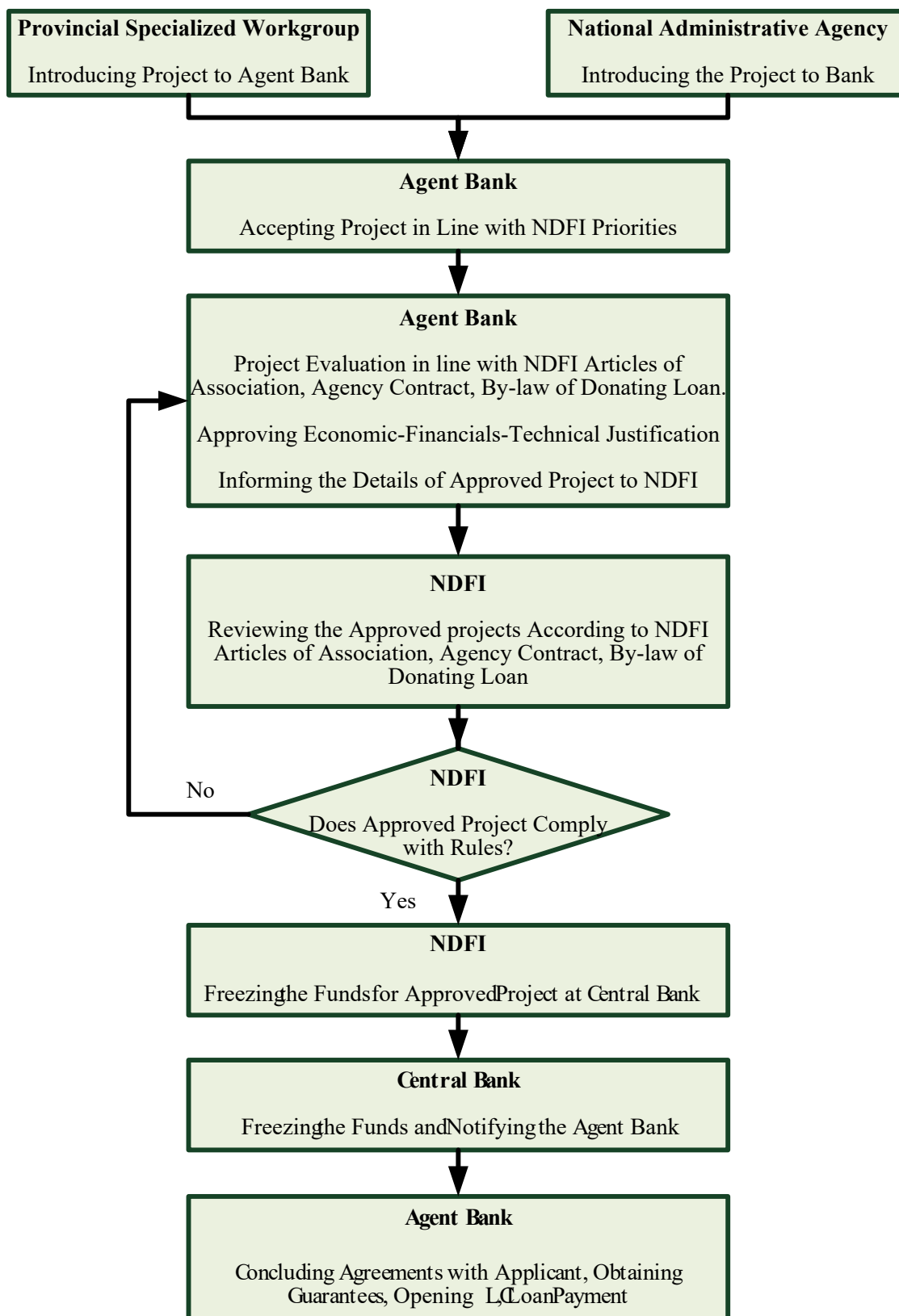


Figure 1. Acceptance, Evaluation, Approval and Allocation of Funds Process in NDFI

Source: National Development Fund of Iran. <http://en.ndf.ir/about-us/procedures.aspx>

SWF ALM through Rastin Certificates

Rastin Certificates are collection of designed certificates in Rastin PLS Banking Base system and its Financial Subsystems. These certificates can be anonymous or named papers, which are transferable and negotiable online through the website of bank and are issued with a nominal price and for a certain period. The owners of these certificates share the results of the project proportional to nominal price and participation period of certificate. Bank by issuing and creating market and basket of Rastin Certificates, provides various opportunities for transaction of these papers. Various Rastin Certificates and their characteristics according to the kind of participation in the PLS Base system or its Financial Subsystems regarding the type of project and the asset used will be bound to Rastin Banking regulations.

Regarding the supervisory role of trustee unit of banks over entrepreneurs, these certificates are distinguished from ordinary papers with “certificate” prefix. Being anonymous, transferability, negotiability in secondary virtual market (Rastin Certificate Market), profitability of their transactions for bank, pricing according to supply and demand mechanism of Rastin Certificate Market (RCM), periodic settlement with the latest certificate owner, are some of characteristics of these certificates.

By applying Rastin Banking and using Rastin Certificates, NDFI can reach a more safe and efficient resource allocation and investment as depicted by Figure 2.

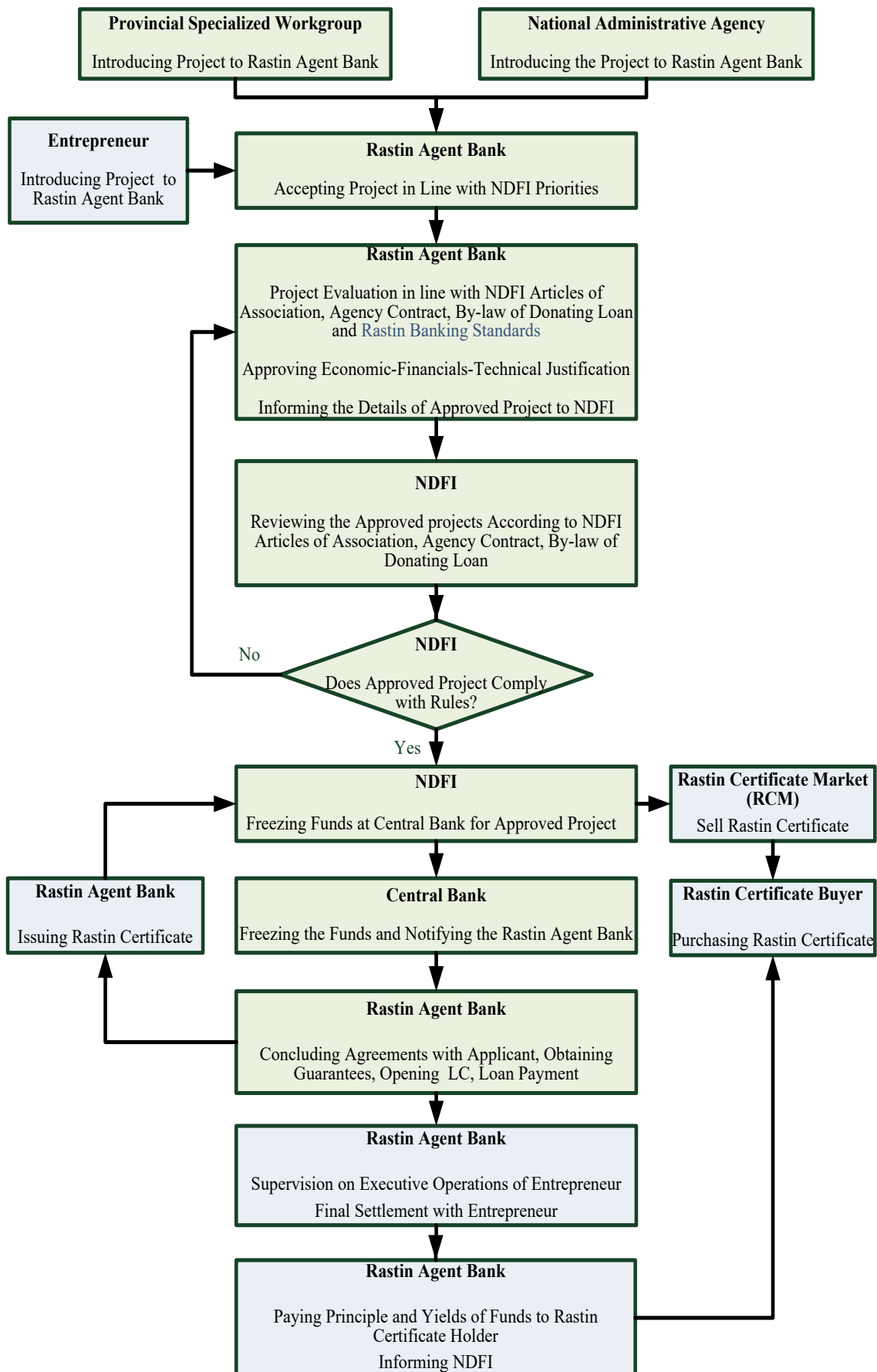


Figure 2. Acceptance, Evaluation, Approval and Allocation of Funds Process in NDFI through Rastin Banking

As compared by Figure 1, in Figure 2, entrepreneur can also deliver his project proposal to Rastin Agent Bank to finance his project. After assessment and evaluation of his proposal according to the rules depicted by Figure 1, the proposal is assessed and evaluated according to Rastin Banking standards which are more subtle and well measured. This step closes many doors of unachievement and malfunctioning and even corruption in using fund resources. As before other national governmental agency and workgroup can introduce their proposals, but subject to observing Rastin Banking rules, regulations, measures and standards. When the proposal is approved, Rastin Agent Bank signs the contract with entrepreneur and issues corresponding Rastin Certificates according to the specified Rastin Banking product that were cited before in the name of NDFI and delivers these digital certificates to NDFI. NDFI can sell his certificates in Rastin Certificate Market (RCM) at market prices. The certificate holder will owe the principle and benefit of the certificate. He can also transact his certificate in Rastin Certificate Market (RCM) at market price. Bank at the end of project will settle with certificate holders. According to the rules and regulations of Rastin Banking, bank supervises the execution of project and at the end, account settlement will be done by bank and the shares of entrepreneur, certificate holders and bank's commission will be paid. This procedure actually has the following major positive effects on NDFI Asset and Liability Management:

- 1- Corruption reduction
- 2- Supervising the execution of project
- 3- Prevents usury
- 4- NDFI has certificates for his resources that can be transacted
- 5- Asset and Liability Management of NDFI can be done by transacting certificates
- 6- Rate of return of the funds will be increased due to profit and loss

sharing

- 7- Risk of bad or delayed loans, outstanding claims, doubtful financing or loans decreases
- 8- Transparency of operations will increase
- 9- By supplying certificate to Rastin Certificate Market, resources of NDFI will be replaced back by other certificate buyers
- 10- Will stabilize NDFI's funds due to participation of NDFI in real project through PLS

SWF ALM through Rastin Swap Bonds (RSBs)

Rastin Swap Bond will serve as an important instrument for resource mobilization and will be a primary vehicle for development of Islamic capital market. Sole²²⁷ argues that expanding range of financing opportunities by different institutions by developing *Sukuk* is likely to deepen the financial sector as well as economy as a whole. Therefore, the effects of issuing RSBs by central bank, commercial banks, government treasury and private entities separately will enormously contribute in real sector economy.

To show the applied ALM procedure, suppose that economy is at the top of a business cycle. The economy is in prosperity and as a matter of the fact it will go to recession in next period. At this position NDFI's resources are high and government will be confronted to fiscal deficit in next period due to recession. NDFI start to buy RSB and decrease his cash. The RSB issuer is obliged to return NDFI's fund and lend him an equal amount in the next period that economy is in recession and government needs some resources to cover her fiscal deficit. At the contrary, in recession or crises

²²⁷ Sole, J. (2007). Introducing Islamic banks into conventional banking system. Working Paper No. 07/175, IMF, Washington, DC.

period NDFI can issue RSB and finance government fiscal deficit and in next period that the economy grows up to prosperity return his loan back and give equal loan to RSB holders. NDFI can transact RSBs in Rastin Certificate Market to perform Asset and Liability Management.

The monetary effect of Commercial Rastin Swap Bonds is neutral, and will not increase the liquidity, but promotes money resources allocation. This is because these operations will likely to be lagged borrowing from each other. This will result no changes in liquidity of the economy and is neutral in sense of monetary effect.

Conclusion

Low rate of return of National Development Fund (NDFI) resources and the concern regarding Sovereign Wealth Funds (SWFs) motivations and incentives to distort financing toward those investments and companies that are influenced by different political pressure groups and other types of corruptions are important problems with these funds.

We try to propose a different financing procedure by using Rastin Banking mechanism and standards to fulfill both non-usury financial operations and fruitful supervised investments. This goal is achieved through Rastin Profit and Loss Sharing (PLS) system through Rastin Certificates financial instruments. Moreover, the governments operationally construct SWFs to use their surplus resources of the prosperity period in recession and crises years. We also show that Asset and Liability Management (ALM) of SWFs can be done by using Rastin Swap Bonds (RSBs) that are other Rastin Banking financial instruments. The proposed procedures positively improve NDFI regarding corruption reduction, supervision, preventing usury, availability of resources, funds

stability, transactable instruments, operational ALM, rate of return, risk of bad loans, outstanding claims and transparency.

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Chapter Twenty Five

Insurance Products

Introduction

Insurance in Persian is called “*Bimeh*” derived from the word “*Bima*”, and has Sanskrit root²²⁸ and has also the same root of the verb “*Bim*” (to fear) in Persian. Some others believe that this term comes from the translation of a Russian word of “*Astrakhan*” from philological point of view that means as opposite of fear; this is because Russians introduced insurance in Iran for the first time. Some others believe “*Bimeh*” is the name of a town in *Tabaristan* and *Deilam*.²²⁹

Daily applied meaning of *Bimeh* is the organized grouped guarantee or coverage for facing the aftermaths of perils and losses or future unwelcoming events in socioeconomic life. Insurance is defined as a contract according to which the insurer underwrites to indemnify another (insured person) in the event of loss or damage. Insurer is a person or company offering insurance policies in return for premiums. Insured person is a person whose interests are protected by an insurance policy. On the other hand, he is a person who contracts for an insurance policy that indemnifies him against loss of property or life or health etc. (insured article).²³⁰ In other words, the insurer and insured person will transact and share the costs of a specific risk of the article insured.²³¹

Insurance Products

Economic/business insurances have a long previous record of about

²²⁸ Moin, Mohammad (1971) Moin Persian Dictionary. AmirKabir Publishing Institute. In Persian.

²²⁹ Salehi, Jan Ali Mahmoud, (2002). Insurance law. Bimeh Markazi, Iran. Training and Publication Department. In Persian.

²³⁰ <http://www.thefreedictionary.com/insurance>

²³¹ See: Mehr, Robert I., (1985) Principles of Insurance. Richard D Irwin; 8th edition. Vaughn, Emmett J.(1989) Fundamentals of Risk and Insurance.5th edition, Wiley.

6500 years. According to discovered Papyrus, stonecutters of ancient Egypt had established a joint fund to protect themselves in case of accident. Hammurabi the king of Babylon enacted a law in which those in charge of transportation were responsible to safeguarding of merchandises in 2250 BC. Also in Greece, there were associations, which helped their members who paid fees to an established fund if they had suffered any loss in 588-640 BC. Similar activity has also been seen in ancient Rome.²³² Many similar activities have also been observed in medieval times.²³³ Business insurances today are as more or less in the following context:

1. Life insurance
2. Personal accident insurance
3. Medical and Medicare insurance
4. Fire insurance and subordinate dangers such as explosion, theft, earthquake, flood, air crash and even terrorism attack
5. Transportation insurance
6. Civil responsibility of transportation means (marine, air and land transportations)
7. General responsibility (legal and professional) insurance
8. Full risk coverage insurance of contractual works, installing and related civil responsibly
9. Money in fund and in action insurance
10. Staff's honesty and trust insurance
11. Oil exploration and extraction and related industries insurances
12. Agricultural products insurance
13. Export insurances

²³² Salehi, JanAli Mahmoud, (2002). Insurance law, Bimeh Markazi Iran. Training and Publication Department. In Persian, pp. 65-73.

²³³ Various insurances, at least, commercial insurances were used in Arabian Peninsula before Islam. This may be the reason why the holy Prophet has not mention about it explicitly because he only entered economic subjects whenever necessary.

In all the above-mentioned insurances, by receiving insurance fee, the insurer will provide financial risk coverage for the insured person about the article insured.

Insurance Products in Rastin Banking

Financial activities of Rastin banking need new insurance products and policies. In addition to prevailing insurances, some new insurance products were cited here. To safeguard the interests of depositors and to decrease risk and cover the probable losses of financial activities and also to alleviate confidence of the parties of Rastin PLS banking contracts (in Base System and in its Subsystems), some insurance coverage have been anticipated as follows:

1. **Certificate Insurance:** By paying fee, bank or depositors can ask insurer companies to insure the total or a portion of the nominal value of their Rastin Certificate according to the request of depositor or Rastin Certificate holder in charge and interest and name of depositor or Rastin Certificate holder. Bank and insurance company can offer Rastin Certificate insurance rate and policy in Rastin Certificate Market web portal. Insuring Rastin Certificate is optional for depositor in Rastin Banking.
2. **Insurance of Market Value of Certificate:** Rastin Certificate holder can insure his certificate against market price fluctuations at a higher price than nominal value in his charge and interest and name. This insurance is also optional.
3. **Responsibility/Engineering Insurance:** Responsibility/engineering insurance for covering probable losses of unexpected technical and human accidents during the execution of project period is compulsory for entrepreneurs of PLS projects. Entrepreneur must buy

corresponding insurance policies to cover the unexpected accidents in his charge and interest and name.

4. **Insurance of Accidents Concerning the Article of Sharing:** Entrepreneur must insure the article of sharing against natural calamities, fire accident, explosion, and other unexpected accidents at least equal to the amount of provided and used sources in charge of project, and in interest and name of bank. This insurance fee is an acceptable cost item of the project.
5. **Collateral Insurance:** Entrepreneur must insure his provided collaterals in charge of himself and interest and name of bank at least equal to the value of bank share in project during the project execution period. Entrepreneur must reinsure the collateral until the end of execution period so that the collaterals should be insured for all times of execution period.
6. **Loss Margin Insurance:** Entrepreneur can insure the project against probable loss equal to the amount of loss he expects. This insurance is optional or compulsory in various Rastin PLS Banking Subsystems. In the case of being compulsory, the entrepreneur is responsible to compensate the occurred losses according to the regulations of that subsystem if he had not bought the necessary insurance policy.
7. **Profit Margin Insurance:** In order to guarantee the probable profit margin, entrepreneur can insure this margin in his charge and interest and name. This insurance is optional or compulsory according to different Rastin PLS Banking Subsystems applications.
8. **Merchandise Transportation Insurance:** Contract parties can insure the merchandises of the article of contract against probable risks of transportation, by mutual agreement. The assessment unit of PLS department of bank will determine the necessity of this insurance according to the financial Subsystem used. If transported commodity,

raw material and intermediate good comprise the interests of both parties, this insurance will be compulsory for both sender and receiver of the goods. The parties should provide this insurance policy at specified time determined by assessment unit in charge of sender and receiver and in name and interest of bank.

9. **Production Equipment and Installations Insurance:** For better safe and performance of Rastin PLS Banking activity, entrepreneur can insure his production equipment and installations against fire accidents, explosion, natural accidents, and calamities, and the risk concerns of the second party at his own charge, interest and name. According to the applied financial subsystem, assessment unit of PLS department of bank will determine the compulsion or optionality of this insurance.
10. **Product Quality Insurance:** In order to ensure quality of the produced goods and attracting buyers, entrepreneur can insure the quality of his products according to conventional standards. The subject of this insurance policy is compensation of probable vital and financial losses to consumers and third party regarding the produced commodities because of unsafe, defective and shortcomings processes of production. This insurance policy is optional.
11. **Insurance of Commodity under Production:** Entrepreneur must insure the producing commodity at least equal to the nominal value of the raw material bought or delivered, beside an insurer company confirmed by bank for production period, in charge of entrepreneur and in name and interest of bank.
12. **Inventory Insurance:** For better safeguarding of performance of Rastin PLS Banking activities, entrepreneur can insure the raw materials and products inventories against risks of fire accident, explosion, natural accidents and calamities, theft and also other

party's risk concerns at his charge, name and interest. According to the applied financial Subsystem, the assessment unit of PLS department of bank will determine compulsion or optionality of this insurance.

13. **Production Limited Loss Insurance:** If the market or estimated price of the construction project (at the end of construction period) is less than its cost price, "production limited loss insurance" can be used to compensate the loss.
14. **Transaction Limited Loss Insurance:** Entrepreneur can insure the risk of transaction activities equal to the amount he is concerned about probable failure in his transaction activity at his own charge, name and interest. If entrepreneur does not insure this risk, he will bear the probable risk.
15. **Transfer of Money Insurance:** Bank can insure risk of transfer of money equal to the amount he is concerned about probable failure in money transaction at his own charge, name and interest. If bank does not insure this risk, he will bear the probable risk.

It is possible to use coinsurance and reinsurance in all above cases. Insurer can use these kinds of insurances to pro rata the aftermaths of the occurred risks. In coinsurance, several companies will jointly insure a risk. This insurance is usually used to cover large risks such as fire accident or explosion and similar things in factories and each insurer company bears a portion of the risk. In reinsurance, the first (direct) insurer company covers a portion of the risk, and the remaining risk will be covered by second insurer company. In other words, the direct insurance company will insure a portion of risk in another company.

Complementary insurances are a kind of insurance used by insuring companies to obtain more support for other accidents concerning the article

insured. This is different from double insurance, which is referred to multiple insurances of an article insured. By considering the applied financial Subsystem, the assessment unit of the PLS department will define the necessity and kind of needed insurance before signing contracts. Several kinds of insurances as complementary insurances can be used. The necessary insurances for various financial Subsystems are documented in Draft of Operational Bylaw of Rastin Banking²³⁴.

The listed insurance products have no conflict with well-known legal principles. Insurer companies can supply these insurance policies according to their actuary calculations to bank, depositor and entrepreneur.²³⁵

Conclusion

Financial activities defined in Rastin Banking need new insurance products and policies. Therefore, in addition to usual insurance products, some new insurance products will also be defined. We will refer to 14 kinds of insurance products, some of which are new products, which have not been used before. Insurance products in Rastin banking are Certificate Insurance, Insurance of Market Value of Certificate, Responsibility /Engineering Insurance, Insurance of Accidents Concerning the Article of Sharing, Collateral Insurance, Loss Margin Insurance, Profit Margin Insurance, Merchandise Transportation Insurance, Production Equipment and Installations Insurance, Product Quality Insurance, Insurance of Commodity under Production, Inventory Insurance, Production Limited

²³⁴ بیژن بیدآباد، آذرنگ امیراستوار، سعید عبداللہی، محمود الہیاری فرد، اسکندر پردل، مریم حیدری، علیرضا شفیعی، محمدعلی پوربہروز، پیشنویس آئین نامہ اجرائی بانکداری راستین، بانک ملی ایران، <http://www.bidabad.ir/doc/rastin-banking-regulation.pdf>. ۱۳۹۱

²³⁵ Erfani, Tofigh, (1992). Insurance Contract in Islam and Iran, Keyhan Publications. In Persian.

Loss Insurance, Transaction Limited Loss Insurance. The mentioned insurance policies have no conflict with indisputable legal principles, and insurance companies can supply these insurance products to banks, depositors and entrepreneurs based on their own actuary calculations.

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Chapter Twenty Six

Profit and Loss Sharing Accounting

Introduction

Profit and Loss sharing (PLS) can be considered as a doubtless approach for fulfillment of Islamic Banking. Despite of extending of Islamic banking in last decades, the fulfillment of this approach due to inadequate executive infrastructures namely regulation, supervision and management mechanisms and in other words, due to increasing of operational risk and lack of compiled and designed practical mechanisms always mixed with usury banking processes. This chapter clarifies a part of executive solution package for PLS banking and we are going to highlight accounting and financial system processes as accounting documents, non-usury profit calculation method and settlement with all parties.

PLS Accounting Experiences

The international accounting standards and procedures of institutions Offering Islamic Financial Services (IIFS) indicate three main categories of transactions in balance sheet as “Sales Financing”, “Lease Financing” and “Equity Financing”.

Sales Financing: In this kind of transactions, bank buys required goods of applicants as cash and books it in her own assets side then the transacted goods are resold to applicants by bank. Based on IIFS, this kind of transactions is based on Murabahah, Bay’e Muajjal (Foroush Aghsati) and Salam (Salaf); and the price is determined on the basis of cost price plus markup.

Lease Financing: In this kind of transactions, bank provides services derived from an asset to the customer and in addition to keep herself as

owner of the asset, makes income for both depositors and herself from asset returns. The main product based on this kind of transactions that is prepared by Institutions Offering Islamic Financial Services (IIFS) is based on floating profit rate and "*Ijarah be sharte tamlik*" (*Ijarah muntahia bi tamleek*) is one of these contracts.

Equity Financing: In this kind of transactions, bank as a financier prepares a fraction of required capital for project financing on behalf of depositors and finally at the time of exploitation, depositors will become as shareholders of project of newly established corporation and subsequently they will provide her partnership in investment project return as well. The main financial instruments on this kind of transactions are Mudarabah and Musharakah.

Considering accounting standards, it is inferred that the main compiled standards at both sides of assets and liabilities a dual-type usury and non-usury banking accounting methods with fixed and floating rates of returns of transactions are used. The international accounting standards and procedures for profit sharing transactions titled by Profit-Sharing Investment Account (PSIA) in balance sheet have been written by Accounting and Auditing for Islamic Financial Institutions (AAOIFI) in which the allocation manner of profit among Investment Account Holders (IAH) is considered on PSIA basis by “The Separate Investment Account” and “Pooling” Methods:

Separate Investment Account Method: In this method, the yields of assets are separable into joint and non-joint. Based on this method, direct costs and other related costs namely non-performing loan (NPL) reserves and also other disclosed reserves are deducted from gross income of bank then profit will be distributed between IAH and IIFS. In other words, the net profit is distributed between shareholders and financiers. On the other

side, proportion to the share of partnership in profit, a fraction of distributable income between IIFS and IAH is deducted as Profit Equalization Reserve (PER).²³⁶

Pooling Method: Based on this method, the whole cost are paid through a joint account including direct or indirect costs related to either financing or operational costs in which they are deducted from gross income. In this method a fraction of net income under title PER is also considered as well before the profit is distributed between IAH and IIFS according to the approved mutual agreement.²³⁷

After approving "non-usury banking law" in early 1980's in Iran, despite of the concepts and theoretical bases complied with Islamic Sharia, accounting processes for Musharekat Madani (civil partnership) and Mudarabah, similar to other countries mingled with usury banking in such a way that there is not any systematic connection between liability items (deposits) and asset items (credit loans) on Islamic contracts based transactions. Lack of well-suited backbones and infrastructures for accounting systems, information technology and also accounting processes for separating detailed accounts of deposits and lack of systematic connection between account numbers on debt side and credit loans on asset side, despite of considering an account as "joint current account for Musharekat Madani", in real executive process, the profit of transactions is calculated just on expected profit that comes from cost of fund plus markup and not based on real return of capital. On the debt side, based on attorney

²³⁶ Profit Equalization Reserve (PER): is a fraction of income that is considered and is payable to IAH for equalization of profit that comes from investment in different stages of business cycles. The essential purpose of this reserve is to prevent the decrease of profit of this kind of accounts. On the other words it is considered for mitigating the risk that comes from falling down of investment return in different economic conditions. For more information see: IFSB Capital Adequacy Standard (CAS), December 2005. http://www.ifsb.org/docs/compilation_guide.pdf

²³⁷ For more information see the above references.

contract (Wakalah) the banks make contract with investment account holders, but due to infrastructural bottlenecks similar to transactions on asset side, investment account holders receive a pre-determined interest rate in part in advance (as transitory interest) and at the end of the fiscal year, final interest rate is calculated by adding a small (one or two) percentage to transitory interest rate to make final interest payments.

Table 1 :General structure of assets and liabilities in PLS branch/Bank

<p><u>Assets</u></p> <p><u>Current Assets</u></p> <p>Cash and short-term funds</p> <p>Investment accounts for specific finitude projects</p> <p>Investment accounts for endless projects</p> <p>Rastin certificates</p> <p>Receivable accounts</p> <p>Claims</p> <p><u>Fixed Assets</u></p> <p>Tangible assets</p> <p>Intangible assets (i.e. goodwill)</p> <p>Other assets</p> <p><u>TOTAL ASSETS</u></p> <p><u>Off Assets</u></p> <p>Entrepreneur's commitments and contingencies (collaterals, guarantees and insurance)</p>
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Liabilities and owner's equity

Liabilities

Current accounts for depositors, entrepreneurs and other partners

Rastin certificates for specific finitude project

Rastin certificates for basket of projects

Musharakah certificates for sharing in PLS branch's profit and loss

Pazireh (subscribed) certificates for endless projects

Other liabilities

Provision for taxation and zakat

Equity

Ordinary share capital

The share premium account

Reserves

Accumulated profit /Loss

Shareholder's equity

TOTAL LIABILITIES AND SHAREHOLDERS'

Off Liabilities

Bank commitment and contingencies for PLS banking products

Assets and Liabilities Structure in PLS Banking

Acquaintance with PLS banking accounting system processes entails to get familiar with PLS banking products, services and also asset and liability structure of this kind of banking method. Generally the whole PLS banking operations, whether on the PLS branch or bank, are illustrated in the following simulated balance sheet. One of the specifications of PLS

banking in view of financial statements, particularly balance sheet is the relation manner of the main items of liabilities (resources) and assets (utilizations). Resources and utilizations equality as a fundamental pillar in the proposed PLS banking mechanism is known as a significant advantage of this method. Although resources and utilizations gap might be happened in this kind of banking as well because of different reasons; namely due to the lack of appropriate assessment of project resources needs, entrepreneur's fault or delinquency and increasing of inflation rate. But all events and risks will be mitigated and managed by compiled instructions regarding risk management. For example in case of resource deficit for completing the project if there is not any fault or deficiency from entrepreneur side the logistics for issuance of new Rastin Certificates will be considered by bank. The gravity center of financial activities in this proposed sketch is revolved on Rastin certificates pivot that are issued by bank respectively for specific end (finitude) and endless projects in debt side based on *Joalah* and *Solh* contracts.

In table 1 the simulated balance sheet of PLS bank is shown. Before introducing the accounting items of this table we will have a bird's eye view on the financial operations of this banking method. Based on on PLS banking architecture²³⁸, the products in debts side encompass different types of Rastin certificates for specific finitude projects (e.g. certificate for profit and loss sharing of PLS branch, for a specific project, for basket of projects), and endless projects financing. The main debts items in the balance sheet of PLS branch or bank compromises of Rastin certificates. In the assets side of PLS banking accounts, the main asset based items are investment accounts for specific finitude and endless projects as well.

²³⁸ Bidabad, Bijan and Mahmoud Allahyarifard, The Executive Mechanism of Profit and Loss Sharing (PLS) Banking Mechanism of Profit and Loss Sharing (PLS) Banking. <http://www.bidabad.ir/doc/PLS-banking-Executive-Mechanism.pdf>

PLS Banking Balance Sheet and Accounting Operations

The PLS banking accounting operations can be separated into three parts of balance sheet (i.e. assets, liabilities, equities). At the beginning, we discuss core items from equities and liabilities side of balance sheet.

The Owner's Equity in PLS Banking: The owner's equity indicates the balance of the benefits of beneficiaries after deducting debts items in PLS bank assets. In PLS bank similar to other commercial businesses, owner's equity follows the main strategic aims of the organization, namely legal and booked capital determination, distribution policy for equities' profit. According to table 1, equity owner encompasses equity shares, share premium (deficit), reserves either legal or prudential and accumulated profit (loss).

Share capital: Share capital is equal to the par value of issued shares for both legal equity and increase in PLS bank capital (equity capital).

Share premium: In case of selling PLS bank shares more than par value at market is termed share premium otherwise share deficit.

Reserves: Reserves in PLS banking is divided into two parts of legal and prudential reserves. Prudential reserve is established for strengthening financial stability of bank against future uncertainty from transacting Rastin certificates. Basically contrary to prudential reserve, legal reserve is not mandatory in which the rate or amount of this kind of reserve is considered by general assembly of shareholders and accordingly becomes indispensable.

Accumulated Profit /Loss: Accumulated profit is applied to undivided net profit of PLS bank and it is formed by previous fiscal year profit plus current not distributed profit among shareholders. Accumulated loss is also

an indicator of current profit plus previous fiscal years losses. Accumulated profit/loss doesn't indicate the amount of cash funds in PLS bank. On the other hand, undivided profit would be considered for the sake of keeping liquidity position of PLS bank strong.

Debt Items in PLS Banking: The debt items in PLS banking are in terms of PLS product types, e.g. Musharakah and Pazireh (subscribed) certificates (for endless projects) as follows:

- Rastin certificate for projects with specific end
- Musharakah certificate for the bank's branch
- Rastin certificate for a basket of projects
- Pazireh certificate for endless projects
- Intermediate current account for Rastin certificates and entrepreneur account.

Musharakah certificates for finitude projects with specific end: In this kind of debt item, depositors invest her money resources on specific participatory project to participate on profit and loss of an investment project. Booking disciplinary article for concluded contracts with depositors is formed in form of Joalah and Solh according to Islamic banking contracts. Accounting operations in this kind of debts are as follows (it is necessary that a disciplinary article be booked for each contract and they must be shown at the off-balance part of balance sheet):

Entry = Debit: Disciplinary account for contracts- Joalah/Solh

Credit: Counterpart of disciplinary account for contracts

Entry = Debit: Depositors integrated accounts (depositor's IBAN)

Credit: Musharakah certificate for specific project (detailed customer account number for specific project)

Musharakah certificate for PLS bank's branch: This kind of debt item is similar to Musharakah certificate for specific project with this difference that depositor purchases this type of Musharakah certificate to participate in profit and loss of PLS bank's branch to attain risk coverage. The accounting operations are as same as above item.

Musharakah certificate for basket of projects: The accounting specification of this kind of debt is as same as latter case with this difference that depositors for decreasing risk and participating in profit and loss of a basket of projects (provided by bank) would prefer to purchase this type of Musharakah certificate. The accounting operations in this type of debt are as same as pervious one.

Pazireh certificate for endless projects: For participating on construction of manufacturing units and for transforming depositing to shareholding of Pazireh certificate, depositors purchase Pazireh certificates. The accounting operations are as follows:

Entry = Debit: Disciplinary accounts for contracts-Joalah/Solh

Credit: Counterpart of disciplinary for contracts

Entry = Debit: Deposit integrated accounts (depositor's IBAN²³⁹)

Credit: Pazireh certificate for specific project (detailed customer account number for specific project)

Assets: The main asset side items in PLS banking are as follows:

- Investment accounts for finitude projects (with specific end)
- Investment accounts for endless projects

Investment accounts for (finitude and endless projects): These accounts indicate the money payment to projects through provided resources of

²³⁹ International Banking Account Number (IBAN)

depositors and entrepreneur for investment projects and should be shown in asset side. The accounting documents at time of contracting with entrepreneur, disciplinary documents for taken collaterals received from entrepreneur and also the accounting disciplinary articles for Musharekat Madani (civil partnership) contract signed by entrepreneur should be booked according to corresponding instructions as follows:

Entry = Debit: Disciplinary accounts for collaterals and guarantees (for mortgaged collaterals)

Credit: Counterpart of disciplinary accounts for collaterals and guarantees

Entry = Debit: Disciplinary account for contracts with entrepreneur-Musharekat Madani

Credit: Counterpart of disciplinary accounts for contracts

Accounting articles at the time of booking required capital for specific project or a basket of projects financing are as follows:

Entry = Debit: Investment accounts for finitude project-Musharekat Madani (detailed account for PLS project) share of depositors brought (debt equity)

Debit: Entrepreneur's integrated accounts (entrepreneur IBAN)

Credit: Musharekat Madani account (detailed account for PLS project)

The accounting documents for bank's commitments for future money resources payments according to confirmed physical project progress by Amin (trustee agent) as follows. These accounting items are shown at the off balance sheet:

Entry = Debit: Counterpart of bank commitments account for Musharekat

Madani (detailed account on PLS project)

Credit: Bank commitments account for PLS transactions (detailed account on PLS project)

If a fraction of entrepreneur's brought is as non-cash then accounting article will be booked as:

Entry = Debit: Temporary debtors account (detailed account for PLS project)

Credit: Musharekat Madani joint account (detailed account for PLS project)

Accounting article at the time of presenting non-cash brought of entrepreneur is as follows:

Entry = Debit: Musharekat Madani joint account (detailed account for PLS)

Credit: Temporary debtors account (detailed account for PLS project account)

At the time of issuing deposits or mortgaged collaterals insurances in favor of bank, the accounting articles are as booked as follows (The articles for insurance and collaterals must be booked equal to the same amount as exposure separately).

Entry = Debit: Disciplinary account for Insurance of collaterals and guarantees (detailed account for PLS project)

Credit: Counterpart of disciplinary account for insurance of collaterals and guarantees (detailed account for PLS project)

The whole payments procedures of money resources to entrepreneur by bank are prepared by the supervisory unit of PLS bank (Amin). Accounting

articles for utilization of required capital for injecting money resources to the investment project are as follows:

Entry = Debit: Musharekat Madani joint account (detailed account for PLS project)

Credit: Entrepreneur's integrated accounts (IBAN)

Profit Calculation and Distribution in PLS Banking

Equation (1) indicates the calculating manner of rate of return in PLS banking products for specific project or basket of projects (Products 1 or 2).

$$r = \frac{L - A^a}{A^a} \quad (1)$$

L : The sold value of project or basket of projects

A^a : Investment expenditure

Based on the following conditional relation, in case of equality between estimated required money resources and money allocations for PLS product type 1 (for specific project) or product type 2 (for basket of projects) then the estimated rate of return is equal to real rate of return of the project(s) and profit share for each depositor can be calculated by equation 2.

$$\text{If } \sum_{i=1}^n D_i^e t_i^e = \sum_{i=1}^m D_i^a t_i^a \implies r^e_{PLS} = r^a_{PLS}$$

$$a_i = \frac{D_i t_i \pi}{\sum_{i=1}^n D_i t_i} \quad \text{Share of depositor I in participation} \quad (2)$$

D_i : Amount of deposit brought by depositor i for PLS project

t_i : Duration of deposit on project by depositor i for PLS project

π : Specific project return or a basket of projects return or net profit of PLS

branch

Equation (3) shows the total shares of sharing in profit and loss for specific project, basket of projects and PLS bank's branch and equation (4) indicates number of shares of a specific depositor (i).

$$n = \frac{\sum_{i=1}^m D_i^a t_i^a}{q_0} \quad (3)$$

q_0 : Par value of each share

n : Total number of shares

$$n_i = \frac{D_i^a t_i^a}{q_0} \quad (4)$$

n_i : Number of shares belong to specific depositor (i)

Accounting Finitude Projects in PLS Banking

After completion of the project on Musharekat Madani (civil partnership) and selling project by entrepreneur under supervision of bank through auction practices and at the time of getting the amount of the sold project or basket of projects from the entrepreneur or related integrated account, the following articles are issued:

Entry = Debit: Entrepreneur's integrated accounts (IBAN)

Credit: Musharekat Madani joint account (detailed account for PLS project account) as equal amount of the sold project.

At the time of paying entrepreneur share back and settlement accounting for pulling the investment account items out from asset side through

Musharekat Madani joint account, the following articles are issued:

Entry = Debit: Musharekat Madani (Civil partnership) joint account
(detailed account for PLS project) equal to the sold project amount
Credit: Investment account for specific end projects –Musharekat
Madani (detailed account for PLS project) share brought by
depositors
Credit: Entrepreneur's integrated accounts (IBAN) for settlement
of brought share of entrepreneur

At the time of settlement of the amount of Musharakah for specific project or basket of projects by paying back depositors share at the debt side, the pulling out procedures are done through the following accounting articles:

Entry = Debit: Musharakah certificate for specific project, basket of
projects (detailed account for PLS project)
Credit: Depositors integrated accounts (IBAN) for share of
Musharakah certificate (principle amount of Musharakah
certificate)

The remainder balance of Musharekat Madani joint account on the detailed account for considered project after paying back of the principle of capital indicates the amount of profit (loss). So based on the same above equation (2) the profit share of depositors, entrepreneur and bank can be calculated and also the commission amount (*Karmozd*) of bank can be calculated according to the corresponding instructions and the accounting procedures for the settlement of Musharakah certificate for specific end projects as follows:

Entry = Debit: Musharekat Madani joint account (detailed account for PLS
project)

Credit: Transaction gain (detailed account on PLS project) share of bank commission (Karmozd) for *Haqul-Amal*, supervision and project management

Credit: Entrepreneur's integrated accounts (IBAN) for profit share including cash or non-cash brought

Credit: Depositors integrated accounts (IBAN) for share of Musharakah certificate returns

At the end of settlement operations, the disciplinary accounts including contracts, insurances, and collaterals must be closed as follows:

Entry = Debit: Counterpart of disciplinary accounts for contracts

Credit: Disciplinary account for contracts, Joalah, Solh

Entry = Debit: Counterpart of disciplinary accounts for insurance of collaterals and guarantees (detailed account for PLS project)

Credit: Disciplinary account for insurance of collaterals and guarantees (detailed account for PLS project)

Entry = Debit: Contracts disciplinary account

Credit: Contracts disciplinary account for Musharekat Madani

The above issued articles are applicable for all products (Musharakah certificates) on specific end (finitude) projects basis.

Estimation of Base Price for Auctions in Finitude Projects

In British auction method, a low base price is determined and offered then on auction basis, the property is sold at the highest offered price. Whereas in Dutch auction a base price that has not any demand is offered and then by sorting offered prices for purchasing property the property is sold. In both methods a base price is necessary. In Profit and Loss Sharing

(PLS) banking to estimate the base price for specific end (finitude) projects is calculated through the following procedure, then it is offered on the internet based PLS banking portal, and the purchasers are invited to offer their priced. To estimate the base price the equations (5) is used. This equation indicates the estimated base price equal to the total nominal principle capital inflated by coefficients of inflation rates (p_i) over the constructing duration, bank income for primary and supplementary assessments and supervision (Co), entrepreneur brought in terms of management, entrepreneurship and technology (TME) and also opportunity cost of capital (OCC). Equation 6 indicates the adjusting coefficient of the par value of the project (principle).

$$BP = \sum_{i=1}^m D_i^a t^a_i (1 + \sum_{i=1}^n p_i + Co + TME + OCC) \quad (5)$$

$$BP\% = \frac{BP - \sum_{i=1}^m D_i^a t^a_i}{\sum_{i=1}^m D_i^a t^a_i} \quad (6)$$

BP: The estimated base price for auction

BP%: Adjustment coefficient

p_i : Inflation rate at i^{th} year

Co : Coefficient for bank incomes for assessment, supervision and capital management services

TME : Coefficient for entrepreneur's brought (technology, management, entrepreneurship)

OCC : Coefficient for opportunity cost of capital over construction duration

Accounting Operations for Endless PLS Projects

The whole entries and accounting procedures till doing settlement time for Pazireh certificate holders are same as the accounting procedures for Musharakah certificates. After finishing the endless project construction period and at the beginning of the exploitation period, depending on issuance of Pazireh certificates for either entrepreneur's corporation or a newly established corporation, bank transforms Pazireh certificates to shares, anyhow all Pazireh certificates holders must be transformed to shareholders of investment project or newly established corporation in proportion to the brought capital and duration of partnership according to equation (2). All issued Pazireh will be transformed to corporation's capital account and based on equation (2) equities are issued. For settlement accounting, bank's supervision and capital management services fees and other expenditures must be deducted from the entrepreneur's or newly established corporation account as follows:

Entry = Debit: Entrepreneur's or newly established corporation integrated account (IBAN) equal to bank's capital management and supervision fees
Credit: Transactions income (detailed account for PLS project) share of bank equal to commission (*Karmoza*) for *Haqul-Amal* (wage), supervision and project management

For pulling out the Pazireh certificates items for endless projects from debt side of the balance sheet and for performing settlement procedures in accounting system the following entries are issued:

Entry = Debit: Pazirh certificates for endless projects (detailed account for PLS project)
Credit: Investment project account for endless projects (detailed

account for PLS project)

Closing disciplinary accounts for contracts, insurance, collaterals are done similar to accounting procedures for specific ends (finitude) projects.

Inflation Impact on Return of Projects

Case 1: Inflation impacts on investment expenditures can be calculated by applying equation (7). Inflation coefficient ρ_{Cost} can be known as adjusting coefficient for increasing investment expenditures of PLS products either type 1 or type 2.

$$\rho_{Cost1} = \sum_i \frac{p^a_i q^e_i}{p^e_i q^e_i} \quad (7)$$

p^a_i : Actual cost price of i^{th} used material in PLS project

p^e_i : Estimated cost price of i^{th} used material in PLS project

q^e_i : Estimated quantity of i^{th} used material in PLS project

Case 2: Effect of cunctation of entrepreneur in doing her commitments on the net return of project is calculated by following equation (8). Based on Amin (trustee agent) evaluation and bank approval, if the cunctation of entrepreneur has increased project expenditures then the effects of inflation on investment expenditures can be calculated by applying equation (8) and finally can be deducted from the share of entrepreneur's gain.

$$\rho_{Cost2} = \sum_i \frac{p^a_i q^a_i}{p^e_i q^e_i} \quad (8)$$

Inflation effects on PLS project revenues can be calculated by equation (10). Inflation coefficient $\rho_{Benefit}$ is used as increscent coefficient

of investment expenditures for PLS products of type 1 or type 2.

$$\rho_{benefit} = \sum_j \frac{L^a_j V^e_j}{L^e_j V^e_j} \quad (9)$$

L^a : Actual sold price based on market price of PLS project

L^e : Estimated sold price of PLS project

V^e_j : Quantity of j^{th} marketable products in PLS project

Using the two calculated coefficients on PLS products (type 1 and type 2), the inflation effect on revenue and expenditure flows is calculated according to equation (10):

$$\rho = \frac{\rho_{benefit}}{\rho_{Cost}} \quad (10)$$

- If the two coefficients ratio indicated by ρ is greater than 1, the inflation flow effect on revenue is greater than the inflation effect on expenditure flow. In other words inflation effect will have more benefits for depositors. In this case, mathematical expectation of the market price of Musharakah certificates will be increased by ρ coefficient.
- If ρ is equal to 1, inflation on revenue and expenditure flows will have a similar effect on investment project. Therefore, because of inflation, mathematical expectation of market price of Musharakah certificates will not be changed.
- If ρ is less than 1, the revenue flow is less affected by inflation than the expenditure flow. In this case mathematical expectation of market price of Musharakah certificates will be decreased with ρ coefficient.

Case 3: Entrepreneur's cunctation from delaying in her duties and

commitments in comparison with scheduled timetable: In case of occurring entrepreneur cunctation in which the allocated resources were not utilized according to the contract context and the written commitments, then entrepreneur will be obliged to compensate as same amount as occurring overcharge of project financial flows resulted from her delay to depositors. Based on the entrepreneur reporting instruction, bank monitors the whole financial operations on project and at the time of settlement, the amount of penalty of delay in completing project will be calculated.

$$\text{If } \sum_{i=1}^n D_i^e t_i^e < \sum_{i=1}^n D_i^a t_i^a \rightarrow r_{PLS}^e > r_{PLS}^a$$

The penalty rate for delay will be deducted from share of entrepreneur according to equation (11) at the end of project

$$p = \frac{(\sum_{i=1}^n D_i^a t_i^a - \sum_{i=1}^n D_i^e t_i^e) \sum_{i=1}^n D_i^e}{\sum_{i=1}^n D_i^e t_i^e} \quad (11)$$

By multiplying the rate of penalty of above equation to total par value (disregard to duration) of the estimated amount of required resources for completing the project, the amount of collectable penalty can be calculated. Evaluation procedure of bank must include profit changes resulted from delay to completion of project regarding increase of project value due to delay.

Basis of PLS Banking Accounting

There are two accounting methods for booking income and expenditure financial flows as follows:

Cash accounting: In this method, incomes and expenditures are recognized and booked at the same time of receipt or payment. In other words, before

fulfillment of receipt or payment of cash the transaction is not booked in. In this method, cash profit for a fiscal year is equal to the balance of the whole cash receipts and payments of income and expenditure flows.

Accrual accounting: In this method income and expenditure are recognized and booked according to time of performance of transaction, even any receipt or payment not made. Accrual accounting is based on two accounting principles of “realization principle” (Income must be recognized and booked at the time of transaction disregarding occurrence of cash payment or receipt) and “accordance principle”(expenditures of each fiscal year should be deducted from the incomes generated at the same period).

In PLS banking, since one of the PLS products is profit and loss sharing on PLS bank outcomes and Musharakah certificate holders participate on real profit or loss of the branch, so income and expenditure flows must be recognized and booked on accrual-based accounting system. In other words, in case of allocating PLS resources on long term investment projects by bank, and investment returns of the project might be fulfilled gradually in subsequent future years, based on the portion of each expenditures for a project at each year the estimated investment return for each year must be recognized and booked as accrual accounting system. But bank needs to settle profit and loss with Musharakah certificate holders at the end of fiscal year. This process needs some accounting elaborations and inventions such as purchasing the remainder of the certificate holders’ right by bank at end of fiscal year. Another solution is that at the end of each fiscal year a temporary amount equal to net balance of completed projects is paid to certificate holders and final settlement with certificate holders will be done when all the projects corresponding to the year that depositor has participated in profit and loss of bank are completed. In this method income and expenditure are recognized and booked according to

time of performance of transaction, and no receipt or payment is made up to the cash realization of transaction. In other words expenditures of each fiscal year should be deducted from the incomes of that year which affected in generation of income. But the payment of cash is due to receipt.

Conclusion

The foundation of profit and Loss Sharing (PLS) banking is based on participation of depositors in investment returns of real economy sector, so the dissimilarity of PLS banking accounting system and conventional banking accounting system is inevitable and it is necessary to define a new specific skeleton for PLS banking to fulfill a specific accounting system for this kind of banking method. The PLS banking accounting system must be designed in such a way that the PLS bank become empowered to trace and recognize the money resources of depositors on different investment projects. In other words, in PLS banking financial statements particularly in the balance sheet, the monetary resources of depositors at debt side must be recognized and traceable at the asset side of the PLS bank. The reason for this capability is to create ability to allocate the real profit of capital among depositors based on the duration of investment.

Money resources and utilizations equality in this banking method is necessary. In other words it is necessary to have enough resources for project financing of approved projects by PLS bank. In case of coming up some specific risks namely unreliable forecast of required resources for project financing, increasing inflation rate, cunctation or fault of entrepreneur and increasing required capital for project financing will be solved according to compiled instructions in PLS banking. If a project needs more resources, issuance of Rastin certificates possibility in case of approval of trustee agent of the PLS bank will be considered for

recapitalization of the project financing. Separation of financial flows for accounts of each investment project for calculating profit or loss of each project or basket of projects is necessary and inevitable. Accounting entries for PLS banking products for specific end (finitude) and endless projects at both debts and assets sides will be booked in accordance with the process flow for each project financing. After approving the project including finitude or endless projects and starting money resource payment, issuance and selling of Rastin certificates accounts at the debt side of balance sheet are created. Specific accounts will be created namely Musharakah certificate for specific end, Musharakah certificate for sharing on profit and loss of PLS branch/bank, Musharakah certificate for basket of finitude projects and Pazireh certificate for endless projects in separation of detailed accounts (as parent and child features in database structure). These detailed accounts are booked on basis of integrated account numbers. Value of issued Rastin certificates by the PLS bank must be equal to required capital for investment project financing approved by PLS bank. In assets side, some investment accounts will be created namely investment project accounts (specific end), investment project accounts (endless) in such a way that the detailed accounts at each category indicate the amount of investment on each project. Value of commitments of PLS bank for investment projects and the related counterpart accounts that come from taking required collaterals from entrepreneurs must be shown in order at the off balance sheet both at assets and debts sides. Accounting articles for insurance of deposits similar to collaterals and guarantees and the disciplinary accounts related to *Joalah* and *Solh* contracts (agreement with depositors) and *Musharekat Madani* (civil partnership) contract with entrepreneur will be issued as same as conventional Islamic banking accounting system. Recognizing and booking of income and expenditure flows in PLS banking is issued on accrual accounting system basis.

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Annex

Rastin Banking Documents

Rastin Banking Bill and Executive Regulations

۱ - **لایحه:** پیشنهاد لایحه قانونی بانکداری راستین

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Rastin Banking General Topics

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Bijan Bidabad

Professor Bijan Bidabad is a multidisciplinary experienced scientist. He received B.A. in Political Science, M.S. and Ph.D. in Economics from Iran and Switzerland and has written more than 420 papers and books. Largest Macroeconometric Model of Iran, Rastin Banking and proposition of different international law declarations are of his recent works.



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