

**An-Najah National University
Faculty of Graduate Studies**

**Application of Equity Cash Flow and
Residual Income Approaches in Valuing
Commercial Banks: A Case Study of
Commercial Banks Operate in Palestine**

**By
Majdal Nasser Ahmad Khazem**

**Supervisor
Dr. Ghassan Daas
Co-supervisor
Dr. Khaled Zedan**

**This Thesis is Submitted in Partial Fulfillment of the
Requirements for the Degree of Masters of Accounting,
Faculty of Graduate Studies, An-Najah National University,
Nablus, Palestine.**

2018

Application of Equity Cash Flow and Residual Income Approaches in Valuing Commercial Banks: A Case Study of Commercial Banks Operate in Palestine

**By
Majdal Nasser**

This thesis was defended successfully on 09/09/2018 and approved by:

Defense Committee Members

1- Dr. Ghassan Daas / Supervisor

2- Dr. Khaled Zedan / Co-supervisor

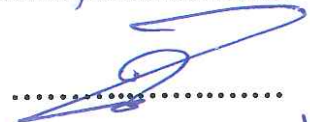
3- Dr. Saher Aqel / External Examiner

4- Dr. Ra'fat Jallad / Internal Examiner

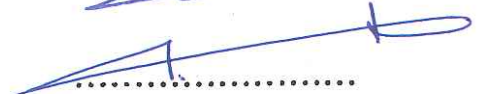
Signature



.....



.....



.....



.....

Acknowledgment

“Always remember people who have helped you along the way, and don’t forget to lift someone up.”

[Roy T. Bennett](#)

I would first like to thank my thesis advisors Dr. Ghassan Daas and Dr. Khaled Zedan. Dr. Daas’s office door was always open whenever I ran into a trouble spot or had a question about my paper. Dr. Zedan also helped me and gave me the valuable comments and directions. They consistently allowed this paper to be my own work, but steered me in the right direction whenever I needed.

I would like to thank my first teacher and supporter, dad. Who taught me to believe in Allah and never give up, and a Special thanks for my mom for being patient all the time and giving me the power to keep going. They have always supported me and believed in my inner strength. Also, I would like to thank my sisters and my brothers who have always encouraged me and stood by my side. Another thanks for my husband, Ahmad for being my friend all the time.

Majdal Nasser

الإقرار

أنا الموقعة أدناه مقدمة الرسالة التي تحمل عنوان:

تطبيق طريقة التدفقات النقدية وطريقة الدخل المتبقي في تقييم
البنوك التجارية: دراسة على البنوك التجارية العاملة في فلسطين

Application of Equity Cash Flow and Residual Income Approaches in Valuing Commercial Banks: A Case Study of Commercial Banks Operate in Palestine

أقر بأن ما اشتملت عليه الرسالة إنما هو نتاج جهدي الخاص باستثناء ما تمت الإشارة
إليه حيثما ورد وأن هذه الرسالة ككل أو أي جزء منها لم يقدم من قبل لنيل أي درجة علمية أو
بحث علمي لدى أي مؤسسة تعليمية أو بحثية أخرى.

Declaration

The work provided in this thesis, unless otherwise referenced, is the
researcher's own work, and not has been submitted elsewhere for any other
degree or qualification.

Student's Name: **Majdal Nasser Ahmad Khazem** اسم الطالب:

Signature: *Majdal Nasser* التوقيع:

Date: **09/09/2018** التاريخ:

Table of Contents

Subject	Page
Defense Committee Members	ii
Acknowledgment	iii
Declaration	vi
Table of Contents	v
List of Tables	vii
List of Figures	viii
Abbreviations	ix
Abstract	x
Chapter One: General Framework of the Study	1
1.1 Introduction	2
1.2 Problem Statement	4
1.3 Study Objectives	5
1.4 Significance of the Study	6
1.5 Research Hypotheses	7
1.6 Methodology of Study	8
1.7 Structure of Study	10
Chapter two: Theoretical Framework	11
2.1 introduction	12
2.2 Overview of Business Valuation	13
2.3 Bank's Particularity in the context of valuation	20
2.3.1 Definition and business structure of banks	22
2.3.2 Basic stages in valuation process of a bank.	24
2.3. Financial Statements of banks for Valuing Purposes	26
2.4 Over view of the Palestinian Banking System	28
2.5 CAMELS Rating System	33
2.6 Discounted Equity Cash Flow Model	36
2.7 Discounted Residual Income RI model	38
2.8 Overview of empirical evidence on performance indicators	39
2.9 Value Drivers for the bank	41
Chapter Three: Methodology	44
3.1 Introduction	45
3.2 research approach	45
3.3 Sample Population and Participants	45
3.4 Data Collection	46
3.5 Data Limitations	47
3.6 Methodology	48
3.7 Variables' Definitions	50

Subject	Page
3.7.1 Dependent Variable – Bank's Value	50
3.7.2 Independent Variables	51
3.7.2.1 Equity Cash Flows ECF	51
3.7.2.2 Cost of Equity	52
3.7.2.2.1 CAPM and Dividends growth model	53
3.7.2.3 Terminal Value	54
3.7.2.4 Residual Income	54
Chapter Four: Empirical Findings and Results	57
4.1 Introduction	58
4.2 Research Data Used	58
4.3 Data Analysis	62
4.4 Hypotheses test related to the research framework	62
Chapter Five: Concluding Remarks	74
5.1 Introduction	75
5.2 Conclusion	75
5.3 Recommendations	79
References	83
Appendix	91
الملخص	ب

List of Tables

Table No.	Title	Page
Table (1)	Methods of valuation	17
Table (2)	Balance sheet template for bank valuation	27
Table (3)	Profit and loss statement template for bank valuation	27
Table (4)	Prior research with their results about residual income model	40
Table (5)	Gross model for value drivers for banks	42
Table (6)	Local banks in the sample	46
Table (7)	Foreign banks in the sample	46
Table (8)	Variables of study	55
Table (9)	Data Items	58
Table (10)	Variables for Gordon Model	59
Table (11)	Discounted Equity Cash Flow Model Variables Items	60
Table (12)	Discounted Residual Income Model Variables' Items	61
Table (13)	ECF Model Coefficients	64
Table (14)	ECF Model ANOVA test	65
Table (15)	ECF Model Regression Statistics	65
Table (16)	ECF Model Stepwise Analysis	66
Table (17)	RI Model Regression Analysis	69
Table (18)	RI Model ANONA Test	69
Table (19)	RI Model Coefficients	69
Table (20)	RI Model Stepwise Analysis	70

List of Figures

Figure No.	Title	Page
Figure (1)	The difference between characteristics of banks and industrial companies	21
Figure (2)	Bank's Particularity in the context of valuation	24
Figure (3)	Critical perspectives of banks valuations	25
Figure (4)	The basic process of banks valuation	26
Figure (5)	Branches of banks operating in Palestine, 2012-2016	30
Figure (6)	PMA's liabilities structure, 2016	31
Figure (7)	Factors affecting domestic liquidity, 2012-2016	31
Figure (8)	Total and customer deposits, 2012-2016	32
Figure (9)	Structure of deposits, 2016	32
Figure (10)	The relative importance of banks' balances at PMA, 2015-2016	32
Figure (11)	Model for value drivers for banks	34
Figure (12)	Model for value drivers for banks	43
Figure (13)	Variables of study	56
Figure (14)	Equations needed for model of ECF	80
	Equations needed for model of RI	81

Abbreviations

Abbreviation	Definition
ROIC	Return on invested capital
NI	Net income
DCF	Discounted cash flow
DECF	Discounted equity cash flow
E	Book value of Equity
RI	Residual income
ECF	Equity cash flows
OCI	Other Comprehensive Income
CAPM	Capital Assets Pricing Model
PEX	Palestinian Exchange
COE	Cost of Equity
ROE	Return on Equity
PMA	Palestinian Monetary Authority
PNA	Palestinian National Authority
P/E	Price Earnings Ratio
M/B	Market-to-Book ratio
WACC	Weighted average Cost of Capital
LEV	Financial Leverage
IAS	International Accounting Standards
IFRS	International Financial Reporting Standards
APV	Adjusted Present Value
LLP	Loan Loss Provisions
USA	United States of America
TNB	The National Bank
g	Growth rate of the constant growth
IASC	International Accounting Standard Committee
IASB	International Accounting Standard Board

**Application of Equity Cash Flow and
Residual Income Approaches in Valuing
Commercial Banks: A Case Study of
Commercial Banks Operate in Palestine**

By

Majdal Nasser Ahmad Khazem

Supervisor

Dr. Ghassan Daas

Co- Supervisor

Dr. Khaled Zedan

Abstract

The main idea of this study is examining the value of commercial banks operate in Palestine; excluding Islamic banks. The study presents guidelines to value banks and provides a framework for banks' valuation based on two generally acceptable valuation models: model of discounted residual income (RI) and the model of discounted equity cash flows (ECF) applied for banks in Palestine. Both models are used to calculate the equity value of banks in Palestine and provide an equivalent results and they are highly recommended. Commercial Banking sector that are operating in Palestine has been chosen for conducting this research, excluding Islamic banks due to the analogy purposes of the sample, in which thirteen (13) commercial banks remain as research sample as in 2016. All the necessary data are collected from each bank's annual audited financial statements and Palestinian Monetary Authority PMA annual Reports. This data is collected from 2008 to 2016 and future data is forecasted for the next five years.

High correlation between both models is a consequence of the T-Test analysis for the difference between values of banks using the

recommended models. This result is similar to previous studies such as (Halsey, 2001) which discussed that the discounted residual income model is equivalent to the discounted equity cash flow model. The significant 2 tailed is less than 0.05, this insures that there is no difference between values of banks using the two models. All factors in both models affect the bank's value except the depreciation in ECF model. The main two factors that affect value in ECF model are net income and net increase in loans. For the RI model, NI and RI are the main two factors that affect value. Due to estimation issues, the equity banks values for both models were equivalent not the exact.

Keywords: Banks Valuation, Bank value, equity cash flows, residual income approach.

Chapter One

General Framework of the Study

1.1 Introduction

1.2. Problem Statement

1.3. Study Objectives

1.4. Significance of the Study

1.5. Research Hypotheses

1.6. Methodology of Study

1.7 Structure of Study

Chapter One

General Framework of the Study

1.1 Introduction

Investors in market are always concerned about companies' performance which leads to higher profits for shareholders and investors and is a good sign for creditors. Good and healthy performance leads to higher value of companies, so if a company wants to measure its performance its value should be evaluated.

There is a difference between accounting earnings and company's value as a whole that is because accounting earnings assess the interest of shareholders, so it assesses the short-term interest only. The measurement of employee's satisfaction measures employee's satisfaction only, while value assesses all concerned interests. Previous literature explained that the company which focused on maximizing its value, have recorded more satisfied employees, contented customers and high earnings. In addition, it creates more employment, uses resources efficiently and tides over competitors. This explains why Koller considered value as the defining dimension of measurement in his book (Koller, Goedhart, & Wessels, 2010). The principle that guides value creation is generating future cash flows that exceeds cost of capital. So there is a link between cost of capital and cash flows, the connection between growth and the rate of invested capital ROIC derives value. The more value a company creates, the faster it

grows and increases its return. Company can sustain its growth by improving its competitive advantage, accordingly, there is a link between the competitive advantage and the guiding principle of creating value.

All the methods of valuation share one specific characteristic for asset that would be evaluated; any asset can have value only if it can generate positive cash flow (Leister, 2015) . Since banks are multi-business companies, they are too complex and difficult to value. Published numbers about bank's financial information may give an image about bank's performance, but it depends on the accounting decisions of management that have been taken. Therefore, the opinion of external analysts is needed to judge the appropriateness of those decisions. However, Analysis may be restricted because of the limited vital information about bank economics, such as the mismatch between bank's assets and liabilities (Koller, Goedhart, & Wessels, 2010). Bank performance after all can affect the overall economy (Wittrup & Jensen, 2012).

Valuation of banks is different than valuation of industrial institutions because of the characteristics of banks and financial companies in general. First of all, financial companies work under restricted rules and regulations, added to the complexity of the financial statements. Secondly, for banks, the profits and loss statement and financial position statements differ from the traditional financial statements because almost assets and liabilities are financial. IAS 39 implies, this may be replaced by IFRS 9 at the beginning of 2018. IASs were issued by IASC and IFRSs were issued

by IASB. Third one represents the difference between the financial accounts and the operating accounts. Fourth, working capital needs and financial expenditure may be difficult to define(Moreno de Alborán de Cominges, 2016).

The main aim of this study is to present a framework to banks valuation, and justify the applicability of discounted residual income (RI) model and discounted equity cash flows (ECF) model in valuing companies such as banks. For achieving the study purpose, accounting and financial data for all commercial banks operate in Palestine for eight years was collected and the following five years were forecasted. Study sample gathered, codified, entered to computer and statistically processed to calculate banks value.

1.2 Problem Statement

The main difference between banking industry and industrial institutions is that banks provide banking services not physical goods (Gross, 2006).

Previous researches such as (Aggelopoulos, 2017) discussed that valuation processes of the financial institutions faced fundamental difficulties because of the function of banking. For example, lack of information about critical banks data and restricted regulations on banks. This study discusses an analytical guidelines and a framework to bank valuation based on two generally acceptable valuation models; model of

discounted residual income (RI) and the model of discounted equity cash flow (ECF).

The DCF (discounted cash flows) method is based upon predicted data and therefore requires a relatively lots of predictions for the future business situation of the company and the economy in general. Minor changes in the underlying assumptions is a main cause of the large differences in the company's value. Therefore, it is very important to know which assumptions are used and how they influence the outcome of the analysis. For this cause, this study will introduce the key input factors that are needed for the DCF analysis and examine the consequences of changes in the assumptions that affect the company value.

1.3. Study Objectives

The main aim of this study is to present a framework to banks valuation and provide recommendations about this valuation .To explore this, the research aims to cover the following specific topics:

- a) Examine input factors that have critical impact on Banks' value to give valuable recommendations for managers to manage banks.
- b) present a framework for banks' valuation based on two generally Acceptable valuation models: model of discounted Residual Income (RI) and the model of discounted Equity Cash Flow to Equity (ECF)

1.4. Significance of the Study

Valuation of companies is vital for many users, for example chief financial officer needs valuations to understand what derives value. Auditors besides auditing services, they have to evaluate companies and know how much they are worth as consultants. Investors need valuations for their estimations of value to seek companies with high return and limited risks. Consultants use valuations to give information and opinions about mergers and acquisitions (Leister, 2015). Analysts face many challenges in attempts to value financial institutions like banks and insurance companies because of the nature of the business and restricted regulations on these companies in addition to the difficulties of accounting rules for financial companies in comparisons of other companies. (Damodaran, Valuing Financial Service Firms, 2013). The general goal for business valuation is to provide an approximate of what a company is worth. This is essential for owners, investors and other interested users (Steiger, 2008). This research helps in providing a guidelines to evaluate financial companies especially banks and to build a framework for bank valuations applicable on Palestinian banks.

The basic principles of valuation apply as much to banks as to other firms. There are, however, few aspects relating to banks that could affect how they are valued. Definition of these specific characteristics of the banking business allows for the selection of the most accurate valuation

method. Hence, the key question of the study is whether the valuation methods exemplify and consider the special characteristics of banking.

Valuation represents an important tool for internal strategic planning process and helps in merger and acquisition decisions (Gross, 2006).

1.5. Research Hypotheses

In the light of study objectives, the present study sought to test the following hypotheses:

Hypotheses can be classified into three major hypothesis subdivided into other sub-hypotheses:

H1: The model of discounted equity cash flow (ECF) can be used to explain bank valuations in Palestine.

A sub-hypotheses emerge from this one:

Sub-H1: Net interest's income, net fees and commission's income and the other components of operating income have a positive impact on banks' value.

Sub-H2: Depreciation has no impact on banks' value.

Sub-H3: Changes in loans, securities and investments have a negative impact on banks' value.

Sub-H4: Changes in due from banks has a negative impact on banks' value.

Sub-H5: Net capital expenditure has a negative impact on banks' value.

Sub-H6: Changes in deposits has a positive impact on banks' value.

Sub-H7: Changes in interbank fund has a positive impact on banks' value.

H2: The model of discounted Residual Income (RI) can be used to explain bank valuations in Palestine.

A sub-hypothesis emerges from this one:

Sub-H1: Cost of equity employed has a negative impact on banks' value.

H3: The model of discounted residual income (RI)) and the model of discounted equity cash flow (ECF) both produce equivalent equity value for the bank in case of Palestine.

1.6 Methodology of Study

To achieve the objectives of study, data of commercial banks operate in Palestine was collected from many sources as audited financial statements, Palestinian Monetary Authority PMA bulletins and Palestinian banks association. The quantitative approach used in a time series analysis to answer the main question of study to present a framework for bank evaluation in Palestine. Two methods were used to value the sample banks which are: The model of discounted residual income (RI)) and the model of discounted equity cash flow (ECF). Gordon model used to determine cost of equity instead of CAPM model because of the limitations of CAPM

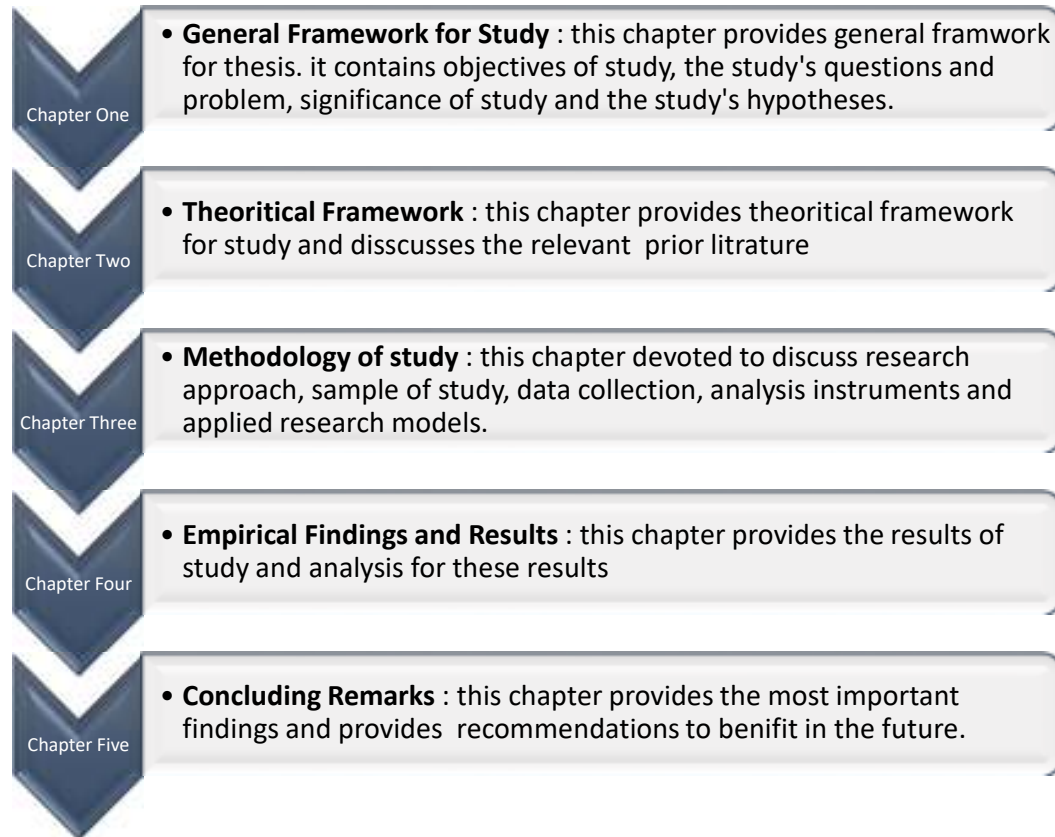
model which are discussed in chapter three of this study. Operating net income used in the calculation of banks' value because it is applicability of forecasting purposes.

The question of study answered after applying the both methods of valuation, drivers of costs determined in the last chapter when results were discussed. Accounting and financial data for all commercial banks operate in Palestine for eight years collected and the following five years forecasted .Research sample will be gathered, codified, entered to computer and statistically processed to calculate banks value.

Commercial banking sector operating in Palestine has been chosen for conducting this study, excluding Islamic banks, in which thirteen (13) commercial banks remain as research sample. The necessary data collected from each bank's annual audited financial statements, association of banks in Palestine and from PMA annual reports. These data are collected from 2008 to 2016. Then, future data for the next five years forecasted. Besides these data, interviews with interested parties were conducted.

1.7 Structure of Study

The structure of the thesis will be organized as follows:



Chapter Two

Theoretical Framework

2.1 Introduction

2.2 Overview of Business Valuation

2.3 Bank's Particularity in the Context of Valuation

2.3.1 Definition and business structure of banks

2.3.2 Basic stages in valuation process of a bank

2.3.3 Accounting Financial Statements of banks for Valuing Purposes

2.4 Over View of the Palestinian Banking System

2.5 CAMELSs Rating System

2.6 Discounted Equity Cash Flow Model

2.7 Discounted Residual Income (RI)

2.8 Overview of Empirical Evidence on Performance Indicators

2.9 Value drivers for the Bank

Chapter Two

Theoretical Framework

2.1 Introduction

This chapter discussed the previous literature. At the beginning of chapter, an overview of business valuation is presented. The particularity of banks in the context of valuation is discussed after that. The third section of chapter includes an overview of banking system in Palestine. This chapter discussed the opinions and papers of researchers about the methods used and the banking valuations.

The banking sector still considered to be the most important financing source (Alkhatib & Harsheh , 2012). Bank is a financial institution that provides banking services and has a banking licenses. The banking licenses refer to licenses that allow a bank to perform banking services. Banking services include: deposit, transport, provision of liquid fund and exchange (Gross, 2006).

It is important to illustrate in practice the existing methods of valuation that were be accepted through the financial crisis in order to build a clear framework for measuring bank's value and assessing its performance (Aggelopoulos, 2017).

The following part of literature tries to provide a comprehensive and practical guide to compute the value of banks through giving an overview

of business valuation in general. This part is to answer a question that arise here: what are the methods of business valuation and which are applicable to banks and saving associations?

To answer the question, the following part examines the most used approaches for business valuation. (Gross, 2006) concluded that equity approach is the most appropriate method for bank valuation.

2.2 Overview of Business Valuation

Valuation can be defined as the steps of determining the value of a business. However, (Charumathi & Suraj, 2014) expressed valuation as the forecasting of the presents value for the payments to shareholders, and the value at the end can be expressed as a number that examines the value of the valuated business. Financial performance represents the measurement of the results of company's polices and operations in monetary expressions (Adam, 2014).

Corporate finance consider what is the best to increase firm value by changing investing, financing and dividends decisions. In studying market efficiency, drivers that determine value of a firm should be understood. In portfolio management, investors find firms that trade less than its true value and try to generate profits. As a consequence, the way of how to evaluate business should be researched (Damodaran, Valuation Approaches and Metrics: A Survey of the Theory and Evidence, 2007). The financial theory concludes that value is equals to the total cash flows expected to be

generated in the future discounted at an exact discount rate. (Charumathi & Suraj, 2014).

Previous researches discussed three approaches for business valuations: Assets approach, market approach and income approach.

Assets approach depends on the economic principle of substitution that address the following question: what would it cost to create or produce a similar business with similar economic profit? so this approach view business as consists of assets and liabilities, the difference between them represents business value. However, market approach view business from different point of view. It determines value of business according to market signs which can affect business value and determine what business is worth.

Assets approach depends either on replacement or liquidation value. It assesses only a part of the bank's value and it is difficult to determine from outside party. It is not taking in consideration the future growth. In addition, the net assets approach is not expressive from the economic perspective, because the relevant value of the company should represents the future incomes not the value of assets owned. (Gross, 2006)

Another method of business valuation examined in (Owoloko, Omoregbe & Okedoye, 2014), the contingent claim model of business valuation that reflects the operating activities of a company, revenue sources and structure of cost.

Market approach addresses the economic principle of competition and to determine any business's value it tries to answer the following question: what might another business like this worth? The third approach is income approach, this approach values businesses according to their core goal which is making money. So, income approach depends on economic principle of expectation.

If owner invests money, time and effort in a business, what and when can business provide him economic benefits? In this approach, there are some measures of risk of not receiving all or part of what you expect.

Capital-market oriented approach compares assets value with values of market for comparable assets. This requires careful analysis for company to be valued. Choosing the appropriate benchmark is vital. Market multiples that are applicable for bank valuations are P/E and M/B ratio. (Gross, 2006). P/E ratio equals price per share divided by earnings per share. For instance, banks set aside provisions for bad loans this reduces income and affects P/E ratio (Damodaran, Valuing Financial Service Firms, 2013).

The challenge in assets approach represents the standards would be followed to determine what assets and liabilities are actually worth. (Deev, 2011) discussed another approach which is contingent claim valuation each approach is applicable for bank valuations. However, according to his research, income approach is the most approach used in practice, because in this approach bank value is determined through future performance of a

bank which represents a major concern for investors, creditors, and other parties in market.

Income approach uses two ways to valuation which are capitalization and discounting. In this research, income approach has been chosen to value banks of research's sample using two models of discounting.

The cash oriented approach depends on the future perspective principle. The value of the business equals the net present value of outcomes and benefits. The approach takes in consideration the time value of money and estimates the future cash flows. There are three concepts should be known here, the equity approach that uses cost of equity as the discount factor. Entity approach uses WACC as the discount factor, and the APV that computes all value that is equity financed and adds tax benefits from debt financing (Gross, 2006).

However, (Fernández, Company valuation methods. The most common errors in valuations, 2007) summarized methods of valuation, and examined that they can be divided to six groups:

Table (1): Methods of valuation

BALANCE SHEET	INCOME STATEMENT	MIXED (GOODWILL)	CASH FLOW DISCOUNTING	VALUE CREATION	OPTIONS
Book value	Multiples	Classic	Equity cash flow	EVA	Black and Scholes
Adjusted book value	PER	Union of European Accounting Experts	Dividends	Economic profit	Investment option
Liquidation value	Sales	Abbreviated income	Free cash flow	Cash value added	Expand the project
Substantial value	P/EBITDA	Others	Capital cash flow	CFROI	Delay the investment
	Other multiples		APV		Alternative uses

Source: (Fernández, Valuing Companies with cash flow discounting: Ten methods and nine theories, 2006)

For more details about any method refer to (Fernández, Company valuation methods. The most common errors in valuations, 2007).

Prior literature has reported the disadvantages for business valuation approaches. For instance : contingent claim approach difficult to apply because it requires mathematical model while assets based approach which records value as the difference between assets and liabilities is the most simplified valuation model that require an access to all of the bank's internal data . In the same time it doesn't take the long term perspective in the account. For market based approach, despite is uses actual data, in this model many important assumptions about valuations are hidden such as, the expected growth of company's earnings, margins and risks. Besides that market based approach like the assets based approach do not take long term perspectives into account (Deev, 2011). Banks can manipulate multiples of capital or market oriented approach by changing provisions,

market oriented approach cannot be stand alone because it may lack transparency(Gross, 2006).However, Income approach is the most flexible approach that considers future expectations for the long run and look at market performance that exceeds return on market (Deev, 2011). Indeed, (Fernández, Company valuation methods. The most common errors in valuations, 2007) indicated that the most suitable approach is discounting the expected future cash flows. All other approaches depend on historical data, if there are two companies with the same income statement and balance sheet but have different prospects, one has high sales and earnings but the other has stabilized situation. The first company would be given high value than another. In addition, DCF is perceived to be the best method for business valuation only if company is profitable. (Kramna`, 2014).

Past valuation models that based on dividends discount model may give unrealistic assumptions about dividends polices. (Dechow, Hutton, & Sloan, 1999). In addition, the study of (Gross, 2006) made a comparison between the dividends discount model and the residual income model, according to the results the residual income model had lower prediction error than dividends discount model.

Value creation guided by increasing future cash flows through investing capital and generating high revenues and returns against risk investors took. Return should exceeds cost of capital so maximizes value of company and benefits stakeholders. Changing accounting techniques will

affect the appearance of cash flow rather than increasing it, so it will not create value. Any transaction that doesn't increase cash flow, doesn't maximize value. For instance, if company issues debts to repurchase shares, it doesn't increase the available cash flow in total instead, it conserved value rather than created it. This is what known conservatism of value.(Koller, Goedhart, & Wessels, 2010). When looking at company's worth or other asset, two values should be distinguished, one is the market value of company or assets which represents the price or value one has to pay to become the owner of that asset or company. Another one represents the underlying value or intrinsic value that an asset truly worth. (Leister, 2015).The increase the commitment of social responsibilities help companies to create value, through improving company's reputation and developing relationships with customers and other companies.(Koller, Goedhart, & Wessels, 2010). When company applies value-based management and focuses on value drivers, its value will be improved (Wittrup & Jensen, 2012).

Value creation represents the difference between cash inflows and cost of capital, the difference should be adjusted to reflect the riskiness of cash in future and effects of time value of money. Cash inflows comes from revenue growth and return on invested capital.(Koller, Goedhart, & Wessels, 2010). In general, all valuation methods discussed earlier are applicable to banks with different degree of tendency and appropriateness.

Prior literature gave a superiority to RI method to measure the value creation. (Gross, 2006).

2.3 Bank's Particularity in the context of valuation

Few studies have focused on the banks valuation and determinants that drive market value in banks, However, (Wittrup & Jensen, 2012) discussed in their work that (Koller, Goedhart Wessels 2010), (Dermine 2008) and (Rappaport 1998) were the main sources of inspiration about the importance of shareholder value and valuation process. The strategy of shareholders value has affected banks and the way that they carry their duties and business. The core goal of this strategy is to create the value of shareholders. As the shareholder value approach basically exists for industrial companies, almost literature talk about industrial companies and few prior literature studies the shareholder's value for banks (Gross, 2006).

Prior literature about business valuation is directed toward industrial companies. However, banks have specifics that differ than industrial companies because of the nature of banks as financial companies and services providers. In addition, banks have their restated financial statements that are adjusted according to banking role. Laws and regulations in banks differ also. Valuation of banks should be relevant to banks role and has its own specifics (Gross, 2006).

(Moreno de Alborán de Cominges, 2016) examined four points that show the difference between characteristics of banks and industrial companies, discussed in the introduction earlier.

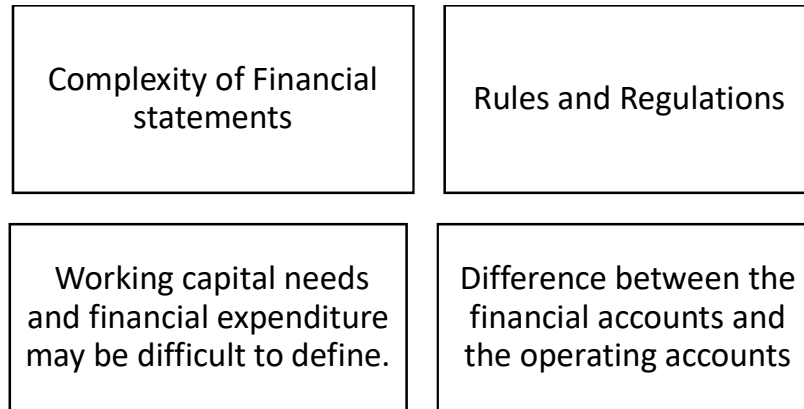


Figure (1): The difference between characteristics of banks and industrial companies.

Financial service companies pose special challenges for analysts trying to value them, for three reasons. First one is the nature of business that cause difficulty in defining both reinvestment and debt, making estimation of cash flow much more difficult. Second reason represents the changes in regulations. The changes in regulatory requirements can have significant impact on value. The third represents accounting rules that govern accounting of banks which are difficult from accounting rules for other firms, and the assets being marked more frequently for financial service companies (Damodaran, Valuing Financial Service Firms, 2013).

Section 2.2 discussed various valuation methods and concluded that income approach is recommended for valuation purposes. Especially, equity approach is appropriate for banks valuations and it is the most qualified for measuring shareholders value. Debts are part of operating

rather than financing function for the financial companies. The DCF method is recommended for valuing financial companies as for other companies. DCF is future looking method and take in consideration time value of money so, it depends on computing future cash flow. RI method measure the economic profit in respect to accounting expenses in addition to the opportunity cost. The RI models and the cash flow models can be categorized in the equity and the entity approaches that are discussed earlier (Gross, 2006).

2.3.1 Definition and business structure of banks

Bank can be defined as a financial institution that has a banking licenses. The banking licenses are licenses that allow the bank to perform banking services. Banking services include: deposit, transport, provision of liquid fund and exchange (Gross, 2006). However, other literatures defined bank as every institution that its normal job is receiving deposits in all their types and granting credits. (Tameesa, 2014)banks are customer oriented organizations. Debt represents a raw material for banks unlike the industrial companies. The financing function represents the major revenue source in bank. Therefore, this is the major particularity of banks in context of valuation process, the valuation of a bank is correct if all financing elements included in valuation. In addition, Liquidity represents another particularity of banks. Liquidity plays a vital role in the bank's business. As a result, cash flows are more difficult to forecast in banks. The financial market risk also can affect the value of banks since the risks in banks are

more than industrial companies. Banks affected by macroeconomics factors (Gross, 2006).

For the purpose of financial valuation and analysis, the banks' income can be divided into four types of income: net interest income, fees and commission's income, trading income and a small group named other income which represents residual income from activities other than main banking activities (Koller, Goedhart, & Wessels, 2010). Banks act as intermediary between people who have surplus in their money and people who have deficit. The bank saves the money of the people who have surplus as deposits and gives them interests, and gives loans for people who have deficit then takes interests from them. The difference between interest's income and interest's expense from both sides represents net interest income for banks. In addition, banks earn fees for services they provide including advisory and managing investments services. Also, banks earn income from trading a wide variety of instruments and from nonbanking activities such as insurance and distribution of investment.

Not all of net interest income creates value because of maturity mismatch that may happen when bank uses short-term deposits to fund long term loans, which cause risks to shareholders (Koller, Goedhart, & Wessels, 2010). Because of the intangible characteristics of banking services, there are no differentiation between banks and no bank's products with patent (Gross, 2006).

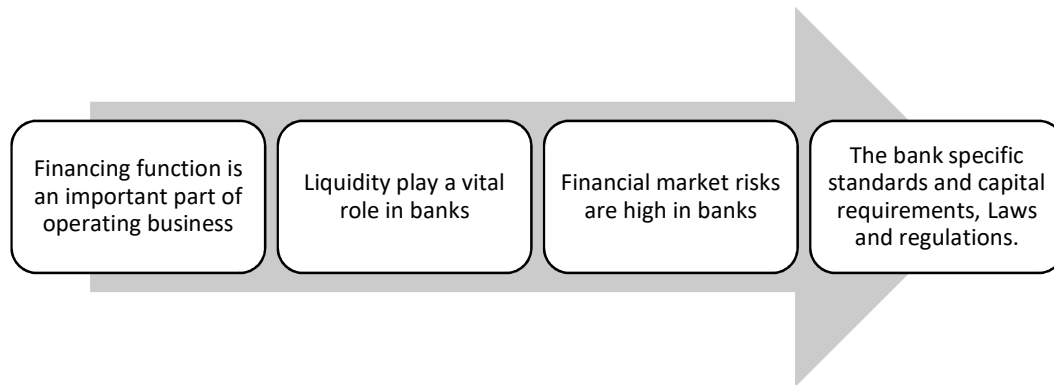


Figure (2): Bank's Particularity in the context of valuation.

2.3.2 Basic stages in valuation process of a bank

Valuation of banks has process that should be performed. (Fernández, Company valuation methods. The most common errors in valuations, 2007) examined basic stages that enable the accurate valuation of a business. First of all, company should be analyzed from strategic and financial perspective in his step, financial analysis should include analysis of business risk and financial health of a company. Income statement and balance sheet should be prepared for evaluation purposes, cash flows of a company and company's investment should be projected also. By side the financial analysis, strategic analysis should be done. Strategic analysis includes analysis of competitors, value drivers and value chain examination. Second step, financial and strategic forecasts should be projected. The third step represents the determination of required return of capital. Forth step, compute the net present value of cash flows. Last step, represents results and recommendations. In addition to the basic process of valuation, (Fernández, Company valuation methods. The most common errors in valuations, 2007). Examined the critical perspectives of valuation.

Not only the process of valuation should be followed from a dynamic aspect, company's managers must be involved, managers from other section must be involved in cash flow estimation to enable multifunctional aspect. To determine forecasting consistency, historical figures must be correct, and to increase the quality of valuation, goals must be specified to managers and compensations to achieve goals must be fair.

Critical perspectives of banks valuations:

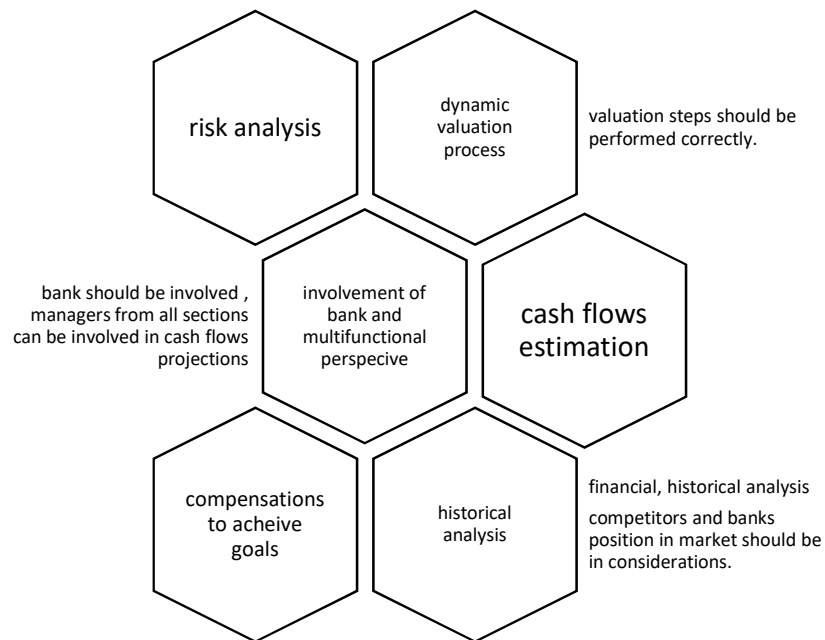


Figure (3): Critical perspectives of banks valuations.

The basic process of banks valuation can be as follows:

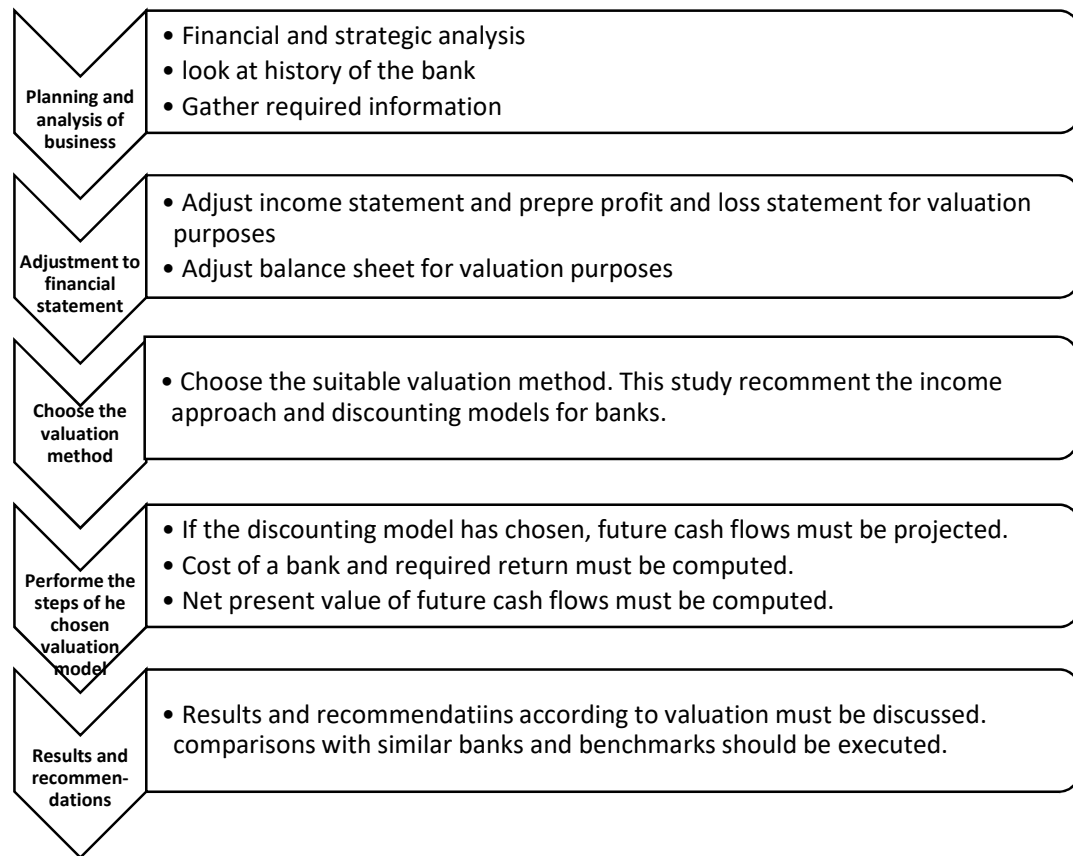


Figure (4): The basic process of banks valuation.

2.3.3 Financial Statements of banks for Valuing Purposes

The following financial statement templates (Table 2: Balance sheet, Table 3: Profit and loss statement) are utilized for the valuation purposes in this paper as presented by (Aggelopoulos, 2017). The analysis of banks' financial statements show the importance of financing function in the banks unlike the industrial companies. Financing function represents a vital section in the operating business of a bank (Gross, 2006).

Table (2): Balance sheet template for bank valuation.

Assets	Liabilities
Cash	Due to Banks
Balances with PMA	Deposits
Due from Banks	Bonds Issued
Securities & Investments	Deferred Tax Liability
Loans (net)	Other Liabilities
Property Plants and Equipment	Total Shareholders' Equity
Accrued Income	
Other Assets	
Total Assets	Total liabilities and Shareholder Equity

Table (3): Profit and loss statement template for bank valuation

(+) Interest & Similar Income
(-) Interest Expense & Similar Charges
Net Interest Income
(+) Fee & Commission Income
(-) Fee & Commission Expense
Net Fee & Commission Income
(+) Other Operating Income
Total Operating Income
(+) Depreciation
(+) Other General Administrative Expenses
(-) Operating Expenses
(-) Provision for Impairment
Profit Before Tax
(-) Income Tax
Net Profit

Source: (Aggelopoulos, 2017)

2.4 Over view of the Palestinian banking system

Palestine financial system represents the backbone of the overall economy of Palestine. The Palestine financial system consists of many components in order to reach to the efficient use of money in the economy. It consists of surplus units which represents parties that have money extend their needs, and deficit units that represents parties who need money and experience a shortage. Banking sector is one of the most important components of the Palestine financial system since it represents an intermediary between surplus and deficit units in the society. Banks are the most influential factor in the financial stability in general, because they are the major funding channel for the private and public sector. Therefore, the changes witnessed by the banking sector have indirect and direct impact on the overall economic.

In the period of the Israeli occupation (1967-1994), the Israeli policies towards Palestinian economy of Gaza strip and West Bank were responsible for the weaknesses in the productive sectors in the economy(Naqib, 2002). About 122 military orders govern banking activities in West Bank and Gaza Strip which are issued from June 1967 up to 1983. (UNCTAD & Economic and Social Commission for Western Asia, 1989). At the time of the Arab-Israeli war of 1967, there were eight commercial banks in the West Bank and three banks in the Gaza Strip.(UNCTAD & Economic and Social Commission for Western Asia,

1989). The Israeli military government at that time, was the only legislative authority in the Palestinian territories for 27 years.

The banking law of the Gaza Strip was the British Mandate Palestine Banking Ordinance of 1941. While, the banking law of the West Bank was the Jordanian Banking law of 1966. (Oslo Accords, 1993). In 1994, PMA was created. It has formed many economic laws and regulations to organize the economic activities and sectors, including banking.

The PMA works as the central bank of Palestine, it has been established in 1994 by Presidential Decree No. (184) following the Oslo Agreement between the Palestine Liberation Organization and the State of Israel. Later it was established as an independent institution by an act of the Palestine Legislative Council under Law No. 2 of 1997 with full autonomy to pursue its objective of monetary and banking policies (Palestinian Monetary Authority, 2017).

The PMA has been able to operate within a difficult environment that uses multiple currencies, establishing a financial sector that offers most services, such as banking, a securities market, and insurance. Palestinian banking system recorded many achievements in 2016. The PMA has continued to develop the regulatory systems and issue a number of laws and regulations to banking institutions. The consolidated financial statements of 2016 indicated a rapid growth in the total assets (liabilities) of the banking system to 12.7 percent (to USD 14,196.4 million) fifteen banks operated in Palestine at the end of 2016 with a total of 311 branches

and offices. Seven banks are locally owned (seven of which are listed on the Palestine Exchange, five are commercial banks, the other two are Islamic banks) and operate 187 branches and offices. Eight foreign banks with 124 branches. 276 money changers operate in Palestine include 52 individuals and 224 institutions. The specialized lending institutions are 6. The PMA branching policy aims at reducing the population per bank branch density in order to enhance the quality of services, see figure 5. In Palestine, the domestic liquidity rose by 10.1 percent in 2016 reaching to USD 9,760.5 million, see figure 7 that show factors that affect liquidity (Palestinian Monetary Authority, 2016).

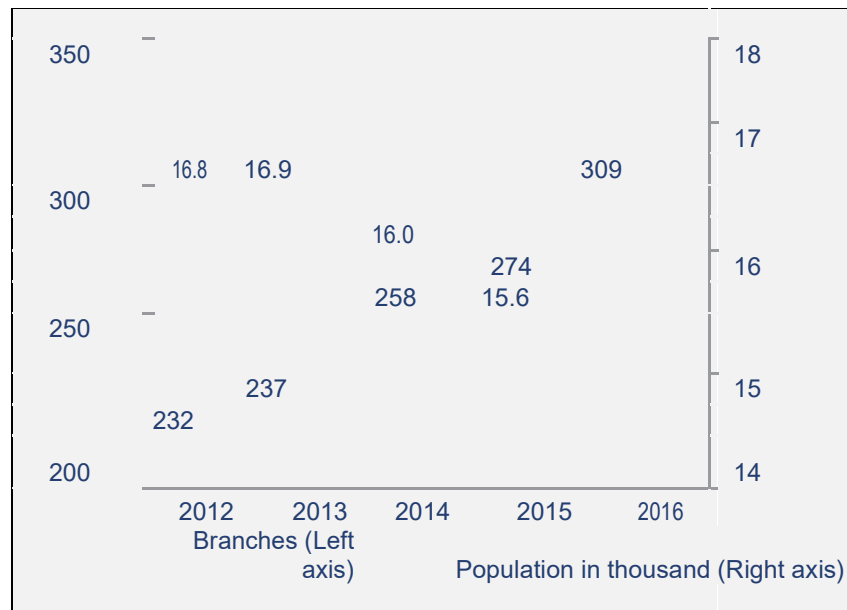


Figure (5): Branches of banks operating in Palestine, 2012-2016.

Source: PMA database

Total liabilities & equity 1,428.7							(USD millions)
Ownership equity 109.6			Provisions & other liabilities 34.6		Banks & financial institutions 1,284.5		
Revalue on reserve 1.9	General reserve 28.8	Paid-up capital 78.9		Others 1.1	PIDC Deposits & invest. 18.9	Banks deposits & invest. 344.1	Required reserve 920.4

Figure (6): PMA's liabilities structure, 2016

Source: PMA database

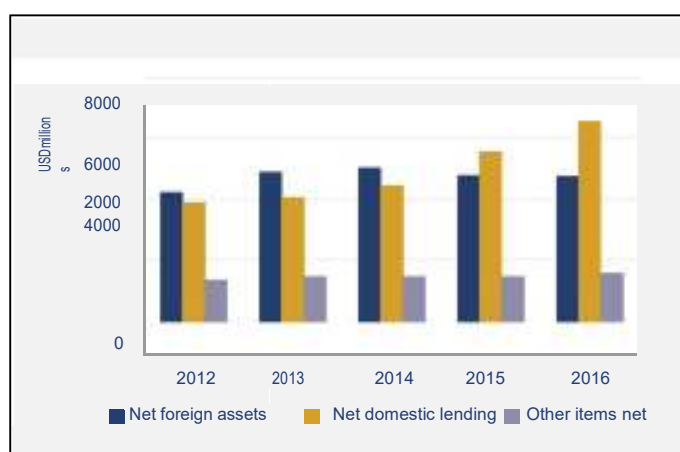


Figure (7): Factors affecting domestic liquidity, 2012-2016

Source: PMA database

The Analysis of the financial data of the banking sector in Palestine indicates a clear improvement in the performance of several indicators, such as increased the better-quality assets, creation of provisions and strengthening of capital. Deposits also increased in 2016 see figure7, figure 8, figure 9 and figure 10.

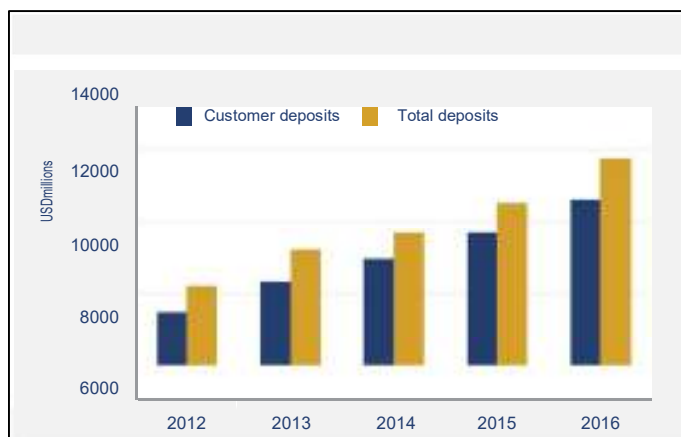


Figure (8): Total and customer deposits, 2012-2016.

Source: PMA database.

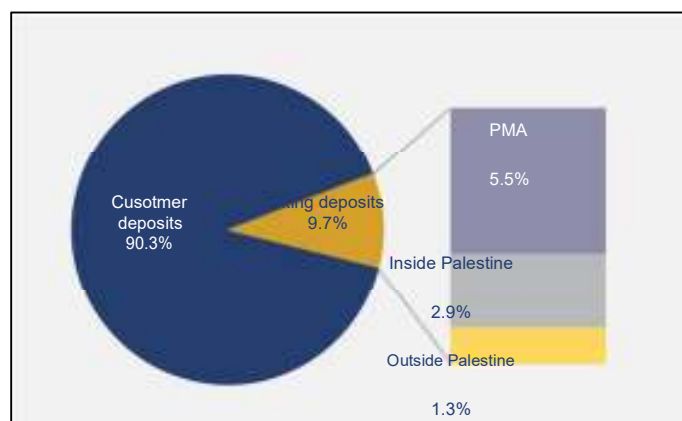


Figure (9): Structure of deposits, 2016.

Source: PMA database.

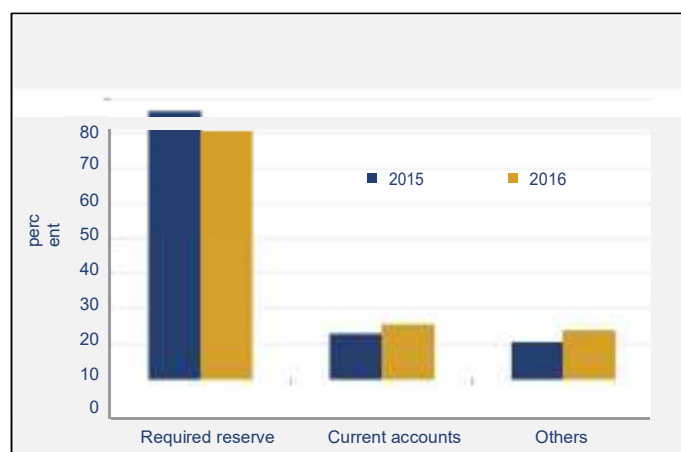


Figure (10): The relative importance of banks' balances at PMA, 2015-2016.

Source: PMA database.

The Palestinian banking system's data related to the income statement shows a net income of USD 148.0 million at the end of 2016, marking an increase of 12.0 percent as compared to the end of 2015(Palestinian Monetary Authority, 2016).

2.5 CAMELS Rating System

The global innovation and integration between markets enlarged the role of banks in general. The sound financial supervision have a vital attention. In light, central banks developed techniques and tools to ensure that supervision of banks acts well (Sarker, 2005). Sound financial statements assist in the development of economy (Jabr, 2003). Performance measure means quantitative presentation of the capacity and outcomes of the assessment of performance. Performance management is a tool that a company establish to prepare parameters to measure the performance and design programs to help in that (Kabir & Dey, 2012).In 1979, US created a new type of controls besides the preventive and protective controls named supervisory banking rating system (Khulkhal, 2012). In addition, for monitoring and inspection purposes US developed a rating system to monitor banks performance after the financial crises that happened in US, called CAMELS rating system (Tameesa, 2014).

PMA evaluates the performance of banks in Palestine from a control point view to examine if bank perform its duties in right way. PMA use CAMELS rating system to examine the performance of banks (Awawda, 2017). CAMELS is a rating system that is used by the central banks,

government policy circle, regulating studies and research centers of non-government to assess the soundness of banks or saving associations (Kabir & Dey, 2012).

For the purpose of evaluating banks' performance, financial ratios can be used. In this direction, many criteria like assets quality, management strategies, profits and liquidity should be considered. However, financial ratios method does not take that criteria in consideration (Wirnkar & Tanko , 2008) . Early 1970s, US developed CAMELS rating system to help check and structure examination process for banks(Siems & Barr, 1998).

CAMELS rating system consists of factors:

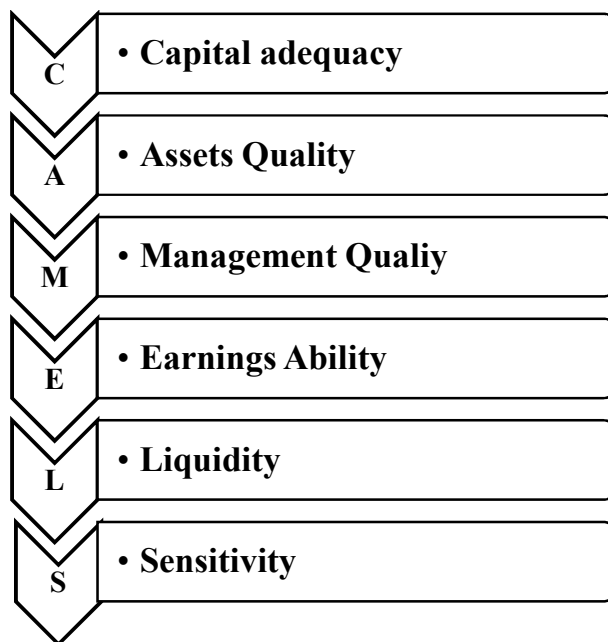


Figure (11): CAMELS rating system.

Each factor of CAMELS considers as parameter that can be rated from 1-5 to determine strong or weak bank (Nazir, 2010). 1 for CAMELS

means basically sound in every item, 2 means fundamentally sound but there is modest weakness, 3 means there is weakness may be financial ,compliance or operational, 4 means vital weakness that may affect the future and 5 means huge weakness that may lead to failure (Wirnkar & Tanko , 2008).

Capital adequacy represents an important factor that protect bank and its shareholders from bankruptcy. This indicator determines the ability of the bank to face the sudden losses that may happen in the future. This ability comes when capital is enough (Misra & Aspal, 2013). It is vital to maintain the confidence of depositors (Prasada & Ravinderb, 2012).

Assets quality is the measure of financial strength. It can be determined by computing the nonperforming assets as a percentage from the total assets (Misra & Aspal, 2013).

Management quality represents a criterion to measure the efficiency and effectiveness of management (Prasada & Ravinderb, 2012). It states the adherence to instructions and the ability to deal with the changing environment besides the leadership capabilities. (Misra & Aspal, 2013). The ability of good planning determines the efficiency of management. (Khulkhal, 2012).

Earnings quality is the ability of bank to earn profits consistently. This indicator measures the profitability of the bank. (Misra & Aspal,

2013). The quality of assets affects the quality of earning at a large degree (Khulkhal, 2012).

Liquidity represents the ability of the bank to meet its short term obligation.

Market risk sensitivity assessment represents the sensitivity to the risks in the market. This indicator does not depend on certain ratios, it depends on the elements of the balance sheet and their sensitivity to the market risk. This indicator required expert inspectors (Khulkhal, 2012). Many prior studies ignored this components because of its nature.

2.6 Discounted Equity Cash Flow Model

Business valuation models are mostly based on discounted cash flow approaches (Eva, 2010). Discounted equity cash flow method indicates that value of equity equal present value of expected equity discounted at required return on equity (Fernández, Valuing Companies with cash flow discounting: Ten methods and nine theories, 2006). Discounted equity cash flow model is appropriate for valuing financial institutions (Aggelopoulos, 2017). In the valuation of nonfinancial institutions where operating and financing activities are separate, discounted free cash flow can be used. However, the financial institutions such as banks, financing and operating activities are difficult to be separated. Interest income and expense represents main categories in core business. Equity discounted cash flow

method is therefore recommended to be used (Koller, Goedhart, & Wessels, 2010)

Discounted equity cash flow method is theoretically correct but it have some pitfalls such as difficulties in determining sources of cash creation, this method does not tell us how and where the bank creates value in its operations. This pitfall can be overcome by using economic-spread analysis, because ECF approach does not represents sources of value creations and to understand how much the bank creates value from its different product lines, economic-spread analysis can be used. Equity is unlike debt and deposits, it provides no tax shield, this make holding equity risk capital costly. This represents another pitfall for discounted equity cash flow method. In the absence of tax, the extra issuing of equity and investing in free risk assets have no impact on value, and no cost. However, equity has no tax shield because dividends are not tax deductible. The true cost of holding equity capital is called tax penalty that's presents value equals equity capital times the tax rate. As long as the cost of equity reflects business risk and bank's leverage, the tax penalty is implicitly included in ECF. However, the tax penalty is explicitly included in the economic-spread analysis.

When the bank decrease its equity capital ratio, its expected return on equity would rise. However, in the absence of taxes this should not rise the intrinsic value of equity because the cost of equity would increase and cash flow would become risky (Koller, Goedhart, & Wessels, 2010).

2.7 Discounted Residual Income RI model

The discounted residual income model can be considered as equivalent to the discounted equity cash flow model (Halsey, 2001). Residual Income is the difference between operating profits after taxes and the cost of equity capital employed (Aggelopoulos, 2017), and represent the value that company has created after a certain period of time. (Gross, 2006) .

The study of (Gross, 2006) conclude the residual income model is most appropriate measure for shareholders' value for banks because it is more reliable according to analysis of this research. This approach takes in consideration the opportunity cost of capital employed in addition to the reported accounting expenses and measures the economic profits. When calculating residual income, operating income and expenses from debt financing are included.

Residual income approach can be applied to traditional ratios analysis when computing ROA, ROE and LEV (Halsey, 2001).

Residual income = Invested capital x (*ROIC* - *WACC*)

Residual income = Operating earnings - {*WACC* x Invested capital}

Source: (Gross, 2006).

According to residual income approach, value of a company can be expressed as follows:

Value = Invested capital + Present value of expected residual incomes

Residual income approach represents a useful tool for value-based management. Because it is a good tool for periodic planning and controlling and it is easily communicated (Gross, 2006). RI method measure the economic profit in respect to accounting expenses in addition to the opportunity cost. The RI models and the cash flow models can be categorized in the equity and the entity approaches that are discussed earlier (Gross, 2006).

However, some researchers considered residual income approaches as approaches that have a lack of relevance since this approach does not have a forward looking perspective. But this in case of single period that does not have a future period expectations about residual incomes (Gross, 2006).

2.8 Overview of empirical evidence on performance indicators

Some prior researches discussed the superiority of some valuation methods over another. In the study of (Gross, 2006) for example, table 4 has made contains prior research with their results about residual income model and it's superiority over another models.

Table (4): Prior research with their results about residual income model

<i>Article and Year</i>	<i>Scope of Analysis</i>	<i>Empirical Results</i>
Biddle et al. (1997)	Residual income, CF, and earnings	No superiority of residual income model
Frankel and Lee (1998)	Residual income vs. traditional performance measures	Superiority of residual income model
Lee (1999)	Residual income vs. traditional performance measures	Superiority of residual income model
Fiordelisi (2002)	Residual income vs. traditional performance measures	Superiority of residual income model
Bernard (1995)	Residual income model vs. discounted dividend model	Superiority of residual income model
Penman and Sougiannis (1998)	Residual income model, discounted dividend model vs. DCF model	Superiority of residual income model
Dechow et al. (1999)	Residual income model vs. DCF model	No superiority of residual income model
Courteau et al. (2000)	Residual income model, discounted dividend model vs. DCF model	No superiority of residual income model
Francis et al. (2000)	Residual income model, discounted dividend model vs. DCF model	Superiority of residual income model
Subrahmanyam and Venkatachalam (2004)	Residual income model vs. DCF model	Superiority of residual income model

Source: (Gross, 2006)

Residual income approach comparing to discounted cash flow approach represents a tool for measuring the periodic performance and the equity's value of the bank and is a measure to understand the operating performance of a company in a certain year. However, discounted cash flows approach is not (Gross, 2006).

Residual income approach and discounted cash flows leads to equivalent results from a mathematical perspective given the same assumptions (Gross, 2006)

2.9 Value Drivers for the bank

Value based management is a tool that focus on the better decisions in company. According to value based management, value drivers should be organized to help managers determine which has bigger impact on value so they concentrate attention on it and develop better decisions (Koller T. , 1994).

Value drivers represents items that may affect the value of a business. (Gross, 2006) derived a model for value drivers for banks. Value driver can be defined as factors that influence value creations of the bank as banking practices, quality of stuff and customers satisfaction. Value drivers can be divided to four types presented in the next table. The external factors represents the macroeconomics and microeconomics factors around the bank while the internal represents factors inside the bank. The qualitative factors are difficult to study and their influence on bank difficult to measure. In this study the focus will be on the quantitative factors and the internal factors because these variables can be affected and can be studied in the same time. So, the study focus on the internal variables that affect the shareholders' value of the banks.

Table (5): Gross model for value drivers for banks

	Qualitative	Quantitative
Internal	• Quality of management • Customer satisfaction • Brand strength and reputation • Business strategy	• Cost-income ratio • Assets per customer • Customers per branch
External	• National banking practices • Economic trends • Industry regulations • Consumer behavior	• Interest rate changes • Industry concentration • Economic growth rate • Demographic factors

Source :(Gross, 2006).

To best understand value drivers, they should be organized to assist managers determine responsibilities of individuals and meet the company's targets. Value drivers divided to three levels first one generic, the second is specific represents business unit and the third level is operational (Koller T. , 1994).

The study of (Gross, 2006) insert a model for value drivers for the retail bank. Starting with residual income on equity measure that presents the intrinsic value of the retail bank. After that, the indicators concerned are presented to help determine the operational drivers of bank's value. The study examined four internal operational value drivers: business mix that represents the diversification of income of a bank. The low diversification of income means that income sources are traditional and the lending system is not updated. However, the high degree of diversification means updated and modern sources of income that depends on free-based banking

services. Cost efficiency plays a vital role as value driver for banks. It has indicators like total cos/ employee. The branch structure also considers as driver of value. It is about the ratio of customer per branch indicator and the optimal characteristics of the bank's branch. Finally, the risk capabilities and its indicator LLP/interest income also considered as value driver.

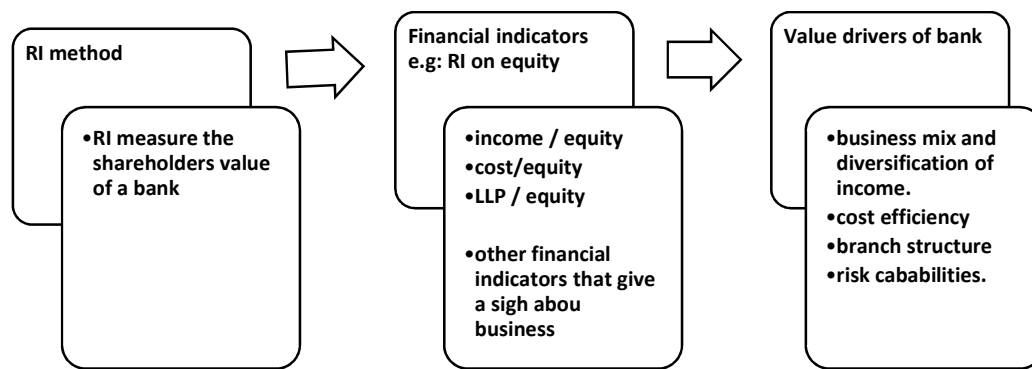


Figure (12): Model for value drivers for banks.

The importance of determining value drivers can be expressed through strategy development. Value drivers determination assist managers to assign responsibilities for employees based on tasks that have the greatest impact on value so, it help creates value to the bank.

Chapter Three

Methodology

3.1 Introduction

3.2 Research Approach

3.3 Sample Population and Participants

3.4 Data Collection

3.5 Data Limitations

3.6 Methodology

3.7 Variables' Definitions

3.7.1 Dependent Variable– Bank's Value

3.7.2 Independent Variables

Chapter Three

Methodology

3.1 Introduction

This chapter includes the methodology of study, sample used and the data collection. The chapter discusses the methodology of study and the research approaches and define the variables of study.

3.2 Research approach

This study calculates the bank's value using two generally acceptable valuation models: model of discounted residual income (RI) and the model of discounted equity cash flow (ECF).

3.3 Sample Population and Participants

Commercial Banking sector that are operating in Palestine has been chosen for conducting this research, excluding Islamic banks, in which thirteen (13) commercial banks remain as research sample as in 2016. The necessary data was collected from each bank's annual audited financial statements, association of banks in Palestine and from Palestinian Monetary Authority PMA annual reports. These data are collected from 2008 to 2016. Then, future data for the next five years will be forecasted. Besides these data, interviews with interested parties will be conducted.

The following tables represent banks operate in Palestine that are chosen for the sample and their number of representative offices.

Table (6): Local banks in the sample

Local banks	
Bank name	Number of branches
Commercial Bank of Palestine	8
Palestinian Investment Bank	15
Bank of Palestine	56
National Bank TNB	13
Al-Quds Bank	31

Table (7): Foreign banks in the sample

Foreign Banks	
Bank name	Number of branches
Cairo Amman Bank	21
Arab Bank	29
Bank of Jordan	35
Egyptian Arab Land Bank	6
Jordan commercial Bank	5
Jordan Ahli Bank	6
Housing Bank for Trade & Finance	13
Jordan Kuwait Bank	2

3.4 Data Collection

The primary data used for the research were from secondary sources especially from Annual Reports for 8 years 2008-2016 and forecasted data for the next five years. The research necessitates looking into financial statements and notes to financial statements within the annual reports of the

sample banks. In Palestine, banks must submit its annual reports to the PMA, so it's easy to get all annual reports of selected banks from PMA and from published annual reports in the Web. In addition, interviews may help to enhance the knowledge about policies and practices adopted by the sample banks. The interviews' answers will not be used to produce analysis or conclusion of this dissertation.

So data collected are classified into two categories:

- Primary data from secondary sources that will be used in analysis.
- Data from primary source which represents interviews that will give an insight about current practices of sample banks in Palestine.

3.5 Data Limitations

Banks mergers may have an effect on data trend. A bank can merge with another bank making profits goes up for example, on Thursday, 19/5/2016, the final draft of the merger agreement between bank of Palestine and Palestine commercial bank was signed. So, in 2016, there was no data for Palestine commercial bank. In addition, National Bank TNB was born as a result of a merger between Al Rafah Bank and Arab Palestinian Investment Bank in 2012. Besides that, TNB acquired al Etihad's Bank to be the first Palestinian bank acquire a Jordanian Bank. (The National Bank, 2018). This merger has an effect on data and numbers for both banks. In this research, if there any effects it will be presented in the analysis stage.

Banks' reserves represent fund held by the bank to meet future goals or legal requirements (Keister & McAndrews , 2009). Banks' reserves differ according to the circumstances of each bank, so data relevance may be affected, any effects will be discussed in analysis stage of research.

The usefulness of profit measures can be affected by tax laws and regulations.(Gilbert & Wheelock, 2007). Banks may need laws and regulations because of the nature and characteristics of the banking role.(Beatty & Liao, 2014).

3.6 Methodology

For achieving the study purpose, accounting and financial data for all banks operating in Palestine for 8 years are collected then forecast the following five years. Study sample is gathered, codified, entered to computer and statistically processed to calculate banks value.

The methodological steps as proposed in (Aggelopoulos, 2017) are as follows:

For discounted equity cash flow model, the following steps are used:

First, cash flows with indirect method are calculated. Starting from the accounting net profit after tax which can be derived from income statement.

Net Income
(+) Depreciation
(-) Net Increase in Loans
(-) Net Increase in Securities and Investments
(-) Net Increase in Amounts due from Banks
(-) Net Capital Expenditure
(+) Net Increase in Deposits
(+) Net Increase in Interbank Funds
Equity Cash Flow

Operational net income is used because of forecasting purposes:

(+) Interest & Similar Income
(-) Interest Expense & Similar Charges
Net Interest Income
(+) Fee & Commission Income
(-) Fee & Commission Expense
Net Fee & Commission Income
(+) Other Operating Income
Total Operating Income
(+) Depreciation
(+) Other General Administrative Expenses
(-) Operating Expenses
(-) Provision for Impairment
Profit Before Tax
(-) Income Tax
Net Profit

Source: (Aggelopoulos, 2017)

The second step, terminal value of the bank is determined for the period. Terminal period can be calculated by dividing the net income after tax for the first year of the end of the analytical period by cost of equity for the bank.

The final step is the discounting of cash flows and terminal value in present values using discount rate as cost of equity.

Equity value = Present Value of ECF + Present Value of terminal value.

To calculate cost of equity, capital assets pricing model can be utilized.

For discounted residual income RI model, the following steps are used:

First, RI residual income for analytical period is calculated. RI represents the difference between operating profits after taxes and the cost of equity capital employed.

Second step, derived residual income is discounted and present value of residual income is obtained.

3.7 Variables' Definitions

3.7.1 Dependent Variable – Bank's Value

Value is a measure of performance because it takes into account the long-term interests of all stakeholders in companies (Koller, Goedhart,

&Wessels, 2010) . According to (Adam, 2014) financial performance represents the measurement of the results of company's policies and operations in monetary expressions. Company's value driven by its ability to generate a healthy return on its invested capital and its ability to grow (Koller, Goedhart, & Wessels, 2010).

Business valuation means the set of process and procedures that are used to determine what a business is really worth, so business value represents the expected price that business would be sold for. This research will calculate the bank's value using two generally acceptable valuation models: model of discounted residual income (RI) and the model of discounted equity cash flow (ECF).

3.7.2 Independent Variables

The independent factors represents the elements of selected models that may have an effect on the value of banks. The following sections represents the two selected models for research which are the model of discounted residual income (RI)) and the model of discounted equity cash flow (ECF) and elements of each model that represents independent variables for banks' value.

3.7.2.1 Equity Cash Flows ECF

Equity cash flows for the bank can be calculated either by direct or indirect approach, where both lead to the same value (Aggelopoulos, 2017) . When banks' grow, their equity value should increase otherwise their debt

plus deposits over equity ratio will rise causing customers' and investors' worries about banks' solvency. As equity increased, equity cash flow will decrease because that means the bank issued more shares or setting aside earnings that could otherwise be paid out to shareholders (Koller, Goedhart, & Wessels, 2010).

Equity value for company equals present value of its future cash flow to equity discounted at cost of equity. Equity cash flow equals net income minus earnings retained in company. As follows:

$$CFE_t = NI_t - \Delta E_t + OCI_t$$

Where CFE_t represents equity cash flow, NI is net income, ΔE increase in book value of equity and OCI other comprehensive income such as net unrealized gains and losses on equity and debt investment, adjustments to the minimum pension liability, hedging activities and foreign currency translation items to cancel out any noncash adjustments of equity. (Koller, Goedhart, & Wessels, 2010).

3.7.2.2 Cost of Equity

Return on Equity ROE represents the required return an investor demand for bearing the risk of holding the companies share so it is equivalent for COE (Steiger, 2008). Cost of equity should reflect business risk and leverage so when there are significant changes in equity capital ratio and assets and liability compositions, cost of equity should not be

unchanged (Koller, Goedhart, & Wessels, 2010). Cost of equity can be computed either by CAPM or by dividends growth model.

3.7.2.2.1 CAPM and Dividends growth model

CAPM is a model that can be used to calculate cost of equity

$COE = r_f + \beta (r_m - r_f)$ where:

COE = Cost of equity

r_f = Risk—free rate of return

r_m = Expected rate of return on the market portfolio

$(r_m - r_f)$ = Market risk premium constant over time

Beta = Systematic risk of the bank

(Aggelopoulos, 2017),(Steiger, 2008).

Equity beta of the bank represents weighted average of betas of all its deposits and loans. (Koller, Goedhart, & Wessels, 2010).

Dividends growth model also called Gordon or constant growth model. It is the easiest way to compute cost of equity. (Ross , Westerfield, & Jordan, 2007).

$R = (Div. 1 / P_0) + g$ where:

R : cost of equity

Div. 1: The dividends estimated for the next year.

P0: The price of stock

g: growth rate.

In this study, Gordon model was used because of the availability of data needed for this model. Besides that, the applicability of this model for banks. However, CAPM is difficult to apply for banks since, risk free rate and beta cannot be computed exactly. Banks affected by macroeconomics factors those CAPM rates are difficult to compute exactly. In this study, dividends growth model can reflect credibility more than CAPM model due the limitations of banks data and the effects of qualitative factors on banks.

3.7.2.3 Terminal Value

Terminal value represents the NPV of all future cash flows that occur after the time period covered by scenario analysis, because it is difficult to estimate it is calculated based on average growth expectations which are easier for prediction (Steiger, 2008), it represents the residual value of business at the end of discrete income projection period that used in the discount cash flow business valuation method.

3.7.2.4 Residual Income

Residual Income is the difference between operating profits after taxes and the cost of equity capital employed (Aggelopoulos, 2017).

Table (8): Variables of study.

Type of variable	Variable	Concept	How to be measured
Dependent variable	Bank's value	Companies' Value is a relatively informal term, typically used to determine the welfare and financial health of a company (in this research, a bank) in the long run. (Deev, 2011).	In this research, using the model of discounted residual income (RI) and the model of discounted equity cash flow to Equity (ECF)
Independent variable	Equity cash flow ECF	The company's future cash flow to equity. Cash flows with indirect method will be calculated. Starting from the accounting net profit after tax which can be derived from income statement. (Aggelopoulos, 2017)	Net Income (+) Depreciation (-) Net Increase in Loans (-) Net Increase in Securities and Investments (-) Net Increase in Amounts due from Banks (-) Net Capital Expenditure (+) Net Increase in Deposits (+) Net Increase in Interbank Funds Equity Cash Flow (Aggelopoulos, 2017)
Independent variable	Cost of Equity	Return on Equity ROE represents the required return an investor demand for bearing the risk of holding the companies share so it is equivalent for COE cost of equity (Steiger, 2008). To calculate cost of equity, Dividends growth model can be utilized. (Ross , Westerfield, & Jordan, 2007)	Value of stock = $D_1 / (R - g)$ where: D_1 = next year's expected annual dividend per share R = the investor's discount rate or required rate of return, which can be estimated using Dividend Growth Model g = the expected dividend growth rate so, cost of equity $R = (Div. 1 / P_0) + g$ (Ross , Westerfield, & Jordan, 2007).
Independent variable	Terminal Value	Terminal value represents the NPV of all future cash flows that occur after the time period covered by scenario analysis. (Steiger, 2008)	net profit of last year / the cost of equity
Independent variable	Residual income	It is the difference between operating profits after taxes and the cost of equity capital employed. (Aggelopoulos, 2017)	NI –cost of capital employed. Cost of capital employed = cost of equity × equity beg. Of the year. (Aggelopoulos, 2017)

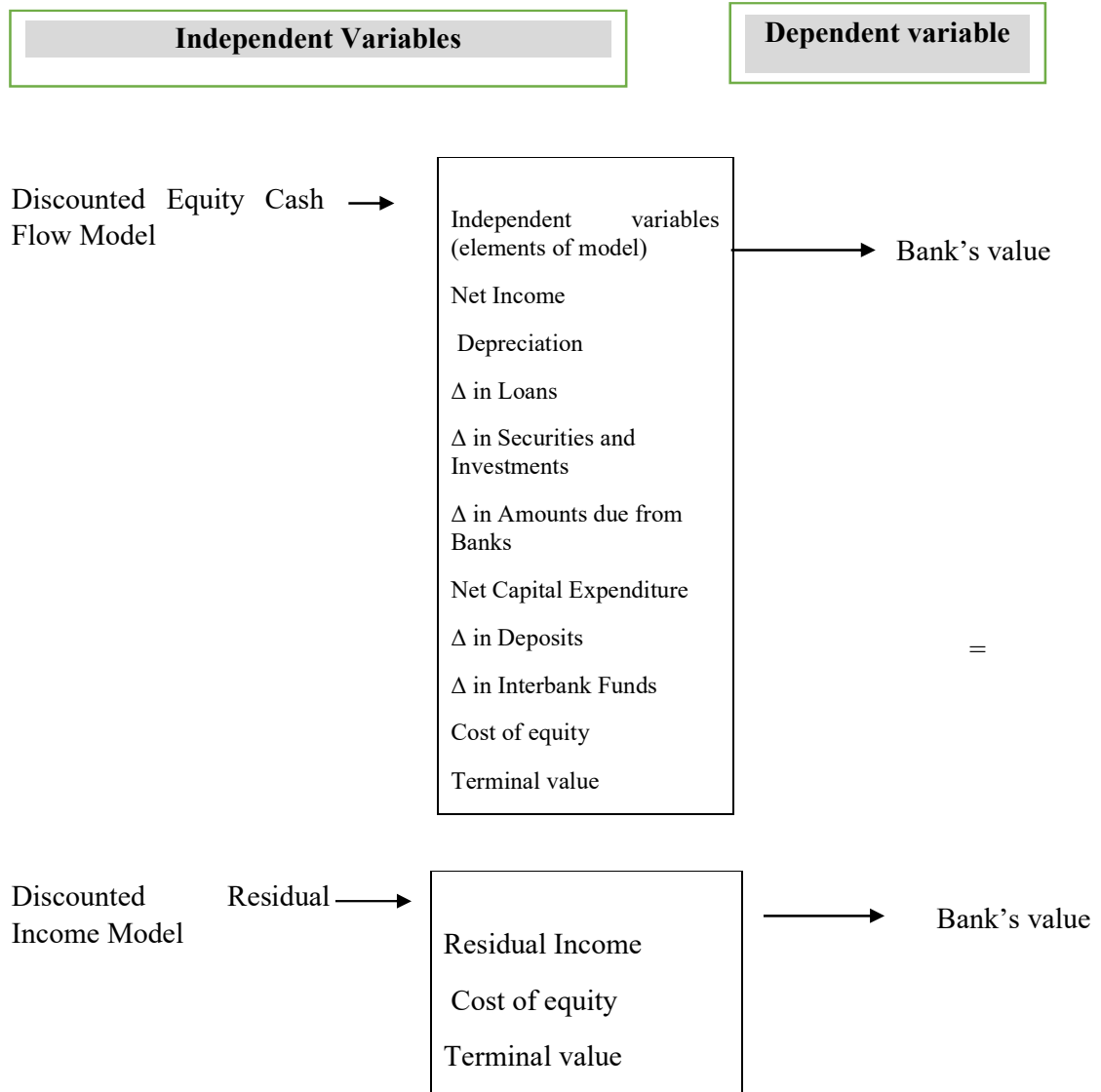


Figure (12): Variables of study.

Chapter Four

Empirical Findings and Results

4.1 Introduction

4.2 Research Data Used

4.3 Data Analysis

4.3.1 Data Analysis for DECF

4.3.2 Data Analysis for RI

Chapter Four

Empirical Findings and Results

4.1 Introduction

This chapter includes the analysis of study, data used and hypotheses discussion. The chapter discusses the application of the research approaches and contains the variables of study.

4.2 Research Data Used

In order to compute the value of each bank in the sample, data was collected to determine the variables of study. The following table includes data items needed for each bank.

Table (9): Data Items

Depreciation
Net Income
Net Capital Expenditure
Dividends
Stock price
Balances with PMA
Due from Banks
Securities & Investments
Loans (net)
Due to Banks
Securities & Investments
Loans (net)
Due to Banks
Deposits
Equity
number of shares

These items collected for each bank for the periods from 2008 to 2016, then the following variables are computed for each bank for the same periods, these variables used in the Gordon Model.

Table (10): Variables for Gordon Model

DPS
ROE
Payout ratio
Retention ratio
G
R

The Prior Literature used CAPM model to calculate the cost of equity but, this study used Gordon Model Because in Palestine CAPM model is not applicable. There is no bonds in Palestine so, risk free rate estimation is difficult to estimate. This was one of the limitations of study that may affect the results. So, r was computed according to Gordon Model of constant growth and the growth rate for each bank considered constant through years according to the assumption of constant growth rate model. (Ross , Westerfield, & Jordan, 2007). In the analysis stage, g was computed for each bank according to the historical data from 2008 to 2016. Average g was computed for Gordon Model to compute r according to the model.

$$R = (Div. 1 / P_0) + g \text{ where:}$$

R : cost of equity

$Div. 1$: The dividends estimated for the next year.

P_0 : The price of stock

g : growth rate.

After that, variables for models are presented for the period (2008 _ 2016) and the following 5 years were estimated to compute the value of the bank.

First model, the model of Discounted Equity Cash Flow to Equity (ECF) and the second model, Discounted Residual Income Model (RI). Both models' variable items are presented in this section.

Table (11): Discounted Equity Cash Flow Model Variables Items

Discounted Equity Cash Flow Model Variables' Items
Net Income
(+) Depreciation
(-) Net Increase in Loans
(-) Net Increase in Securities and Investments
(-) Net Increase in Amounts due from Banks
(-) Net Capital Expenditure
(+) Net Increase in Deposits
(+) Net Increase in Interbank Funds
Equity Cash Flow
PV
number of years n
terminal value
PV of terminal value
equity value

Table (12): Discounted Residual Income Model Variables' Items

Discounted Residual Income Model Variables' Items
Equity
Net Income
(-) cost of equity capital employed
RI
PV
PV of terminal value

In RI model, Equity estimated for the following 5 years in order to compute cost of equity capital employed by multiply equity at the beginning of the year by cost of equity computed according to Gordon model.

After this step, equity value for each bank was computed. In ECF model, Equity value equal the sum of the present values of equity cash flows for the estimated periods (2017-2021) and the present value of the terminal value of the bank.

Equity value = Present Value of ECF + Present Value of terminal value (Aggelopoulos, 2017).

Terminal value computed by dividing net income of the last year by the cost of equity. In RI model, equity value of each bank equals the equity of the beginning year of calculation period plus the present value of the RI and present value of terminal value for the bank. Where, terminal value computed by dividing RI of the last year by the cost of equity.

4.3 Data Analysis

This section presents data and variables of models for each bank as discussed in section 4.2 of study and apply the steps of each model.

Numbers and calculations are presented in the appendix 4.3.1.

4.4 Hypotheses test related to the research framework

Hypotheses classified into three major hypothesis subdivided into other sub-hypotheses discussed earlier in section 1.5.

H1: The model of discounted equity cash flow (ECF) can be used to explain bank valuations in Palestine.

A sub-hypotheses emerge from this one:

Sub-H1: Net interest's income, net fees and commission's income and the other components of operating income have a positive impact on banks' value.

Sub-H2: Depreciation has no impact on banks' value.

Sub-H3: Changes in loans, securities and investments have a negative impact on banks' value.

Sub-H4: Changes in due from banks has a negative impact on banks' value.

Sub-H5: Net capital expenditure has a negative impact on banks' value.

Sub-H6: Changes in deposits has a positive impact on banks' value.

Sub-H7: Changes in interbank fund has a positive impact on banks' value.

Value of a bank can be computed through the model of discounted Equity Cash Flow as showed in the previous section 4.3.1 where the equity values of sample banks were as follows: bank of Palestine equal \$867,785,584.36, Al Quds bank \$216,318,769.84, the National Bank TNB \$176,120,676.87, commercial bank of Palestine \$48,134,100.01, Palestinian investment bank \$68,792,024.32, Housing Bank for Trade & Finance \$112,906,786.13, Jordan Kuwait Bank \$8,077,925.57, Cairo Amman Bank \$104,700,522.90, Arab Bank \$685,416,883.13, Bank of Jordan \$35,966,724.51, Jordan Commercial Bank \$39,781,736.42 and Jordan Ahli Bank \$59,472,714.81.

So, the model of discounted equity cash flow can be used to explain bank valuations and compute value of banks in Palestine.

The components of operating income such as Net interest's income, net fees and commission's income have appositive impact on banks' value, in calculations, when NI is large this result in a large equity cash flows since NI is added to calculate ECF. So, NI has appositive effect. In addition, changes in deposits and changes in interbank fund has a positive impact on banks' value. Since, they are added to NI if there is an increase so, NI will increase causing ECF to increase also.

Depreciation has no impact on banks' value as indicated in table 13 below, since it is excluded when compute ECF and it is deducted from NI to calculate ECF. In addition, depreciation is low in banks because there is few tangible assets with depreciable value. Whereas, changes in loans, securities and investments, changes in due from banks and net capital expenditure has a negative impact on banks' value. Since, any increase of them deducted to calculate ECFs.

The following analysis represents the coefficients of this model:

Table (13): ECF Model Coefficients

	Coefficients
Intercept	31,734,157.32
Net Income	46.40
(+) Depreciation	-
(-) Net Increase in Loans	(35.82)
(-) Net Increase in Securities and Investments	(31.21)
(-) Net Increase in Amounts due from Banks	(38.19)
(-) Net Capital Expenditure	(41.05)
(+) Net Increase in Deposits	38.98
(+) Net Increase in Interbank Funds	35.32
Equity Cash Flow	(38.18)

Equations:

$$Y = b_1x_1 + b_2x_2 + \dots + b_nx_n + a$$

Bank value = (46.40 NI - 35.82 net increase in loans - 31.21 net increase in securities and investments - 38.19 net increase in amounts due from banks - 41.04 net capital expenditure + 38.98 net increase in deposits + 35.32 net increase in interbank funds + 31,734,157.32).

ANOVA test provides that significance F is less than 0.05 so, H0 rejected and H1 accepted, the model of discounted equity cash flow (ECF) can be used to explain bank valuations in Palestine.

Table (14): ECF Model ANOVA test

ANOVA	df	SS	MS	F	Significance F
Regression	9	8.44828E+17	9.38698E+16	87.17	0.011
Residual	3	3.63424E+15	1.21141E+15		
Total	12	8.48463E+17			

Table (15): ECF Model Regression Statistics

<i>Regression Statistics</i>	
Multiple R	99.8%
R Square	99.6%
Adjusted R Square	65%

R Square “*Coefficient* of determination equal 99.6% so the model explains in a large degree the value of bank as indicated in table 15. Stepwise analysis for ECF model in table 16 indicated that the most factors that affect the value of a bank are the net increase in loans and the net income. This result is logical because the banks are credit institutions and giving loans represents a basic task for banks to increase NI.

Table (16): ECF Model Stepwise Analysis

Variables Entered/Removed			
Model	Variables Entered	Variables Removed	Method
1	(-) Net Increase in Loans		Stepwise (Criteria: Probability-of-F-to-enter <= .050, Probability-of-F-to-remove >= .100).
2	Net Income		Stepwise (Criteria: Probability-of-F-to-enter <= .050, Probability-of-F-to-remove >= .100).

a. Dependent Variable: ECF value

Coefficients					
Sig.	t	Standardized Coefficients	Unstandardized Coefficients		Model
		Beta	Std. Error	B	
.915	.109		326146 98.223	3568382.858	(Constant) 1
.000	9.863	.952	.429	4.228	(-) Net Increase in Loans
.889	-.144		125315 24.172	-1802059.188	(Constant) 2
.000	10.156	.599	.262	2.661	(-) Net Increase in Loans
.000	7.678	.453	.994	7.631	Net Income

a. Dependent Variable: ECF value

Excluded Variables ^a					
Collinearity Statistics	Partial Correlation	Sig.	T	Beta In	Model
Tolerance					
.394	.931	.000	7.678	.453 ^b	Net Income 1
.134	.206	.543	.632	.172 ^b	(+) Depreciation
.307	-.469	.146	-1.593	-.259 ^b	(-) Net Increase in Securities and Investments
.900	-.750	.008	-3.406	-.242 ^b	(-) Net Increase in Amounts due from Banks
.956	-.275	.414	-.857	-.086 ^b	(-) Net Capital Expenditure
.041	-.688	.019	-2.842	-1.043 ^b	(+) Net Increase in Deposits
.956	-.550	.080	-1.975	-.172 ^b	(+) Net Increase in Interbank Funds
.114	-.459	.182	-1.463	-.151 ^c	(+) Depreciation 2
.200	.276	.441	.811	.069 ^c	(-) Net Increase in Securities and Investments

.424	-.292	.412	-.865	-.050 ^c	(-) Net Increase in Amounts due from Banks
.908	-.185	.610	-.531	-.022 ^c	(-) Net Capital Expenditure
.023	-.303	.395	-.899	-.220 ^c	(+) Net Increase in Deposits
.831	-.628	.052	-2.284	-.077 ^c	(+) Net Increase in Interbank Funds

a. Dependent Variable: ECF value

b. Predictors in the Model: (Constant), (-) Net Increase in Loans

c. Predictors in the Model: (Constant), (-) Net Increase in Loans , Net Income

Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.759	.880	9

Cronbach's alpha is **.759**, which indicates acceptable level of internal consistency.

Coefficients ^a

Model	Collinearity Statistics	
	Tolerance	VIF
1		
Net Income	.125	7.969
(+) Depreciation	.055	18.216
(-) Net Increase in Loans	.047	21.446
(-) Net Increase in Securities and Investments	.151	6.638
(-) Net Increase in Amounts due from Banks	.164	6.093
(-) Net Capital Expenditure	.784	1.276
(+) Net Increase in Interbank Funds	.269	3.723
Equity Cash Flow	.074	13.569

a. Dependent Variable: ECF value

Using collinearity statistics, VIF should be less than 4 and tolerance more than 0.2 according to the above test, there is multicollinearity in some

variables, this because the model includes a variable which is ECF that is computed from other variables in the equation .

H2: The model of discounted residual Income (RI) can be used to explain bank valuations in Palestine.

A sub-hypothesis emerges from this one:

Sub-H1: Cost of equity employed has a negative impact on banks' value.

Value of a bank can be computed through the model of RI as showed in the previous section 4.3.2 where the equity values of sample banks were as follows: bank of Palestine equal \$816,656,034.78 , Al Quds bank \$235,102,479.70 , the National Bank TNB \$185,041,615.69 , commercial bank of Palestine \$45,017,144.17, Palestinian investment bank \$72,000,436.55 , Housing Bank for Trade & Finance \$102,603,670.58 , Jordan Kuwait Bank \$9,550,351.19, Cairo Amman Bank \$104,812,867.66, Arab Bank \$312,268,736.00, Bank of Jordan \$50,026,291.79 Jordan Commercial Bank \$40,147,644.34 and Jordan Ahli Bank \$56,024,739.44.

Cost of equity employed has a negative impact on banks' value because it reduces the value of residual income since it is deducted from NI. So, value of bank reduced.

Egyptian Arab Land Bank was excluded from analysis due to the unavailability of its data. (Al-Kurdi, 2018) Expressed that the Egyptian

Arab Land Bank is a governmental bank in Egypt, the Egyptian governmental banks are conservative and don't publish the financial data.

The following analysis represents that RI model explains the value of bank.

Table (17): RI Model Regression Analysis

<i>Regression Statistics</i>	
Multiple R	99.29%
R Square	98.59%
Adjusted R Square	85.57%

ANOVA test provides that significance F is less than 0.05 so, H0 rejected and H1 accepted, the model of discounted Residual Income (RI) can be used to explain bank valuations in Palestine.

Table (18): RI Model ANOVA Test

ANOVA					
	<i>df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>Significance F</i>
Regression	4	5.39E+17	1.34798E+17	187.3481863	0.000
Residual	8	7.67E+15	9.59338E+14		
Total	12	5.47E+17			

The following analysis represents the coefficients of this model:

Table (19): RI Model Coefficients

	<i>Coefficients</i>
Intercept	64723592.33
NI	13.98
Cost of equity employed	-12.705
RI	0
PV	5.84

Equations:

$$Y = b_1x_1 + b_2x_2 + \dots + b_nx_n + a$$

$$\text{Bank value} = (13.98 \text{ NI} - 12.705 \text{ cost of equity} + 64723592.33)$$

So, the prediction model can be presented as follows:

RI=	Intercept	NI	Cost of equity employed	RI	PV
I=	64,723,592	13.98	(12.71)	-	5.85

Stepwise analysis in table 20 indicates that residual income value and net income value are the most factors that affect the value of bank when RI model is used.

Table (20): RI Model Stepwise Analysis

Variables Entered/Removed			
Model	Variables Entered	Variables Removed	Method
1	RI-RI		Stepwise (Criteria: Probability-of-F-to-enter $\leq$.050, Probability-of-F-to-remove $\geq$.100).
2	NI-RI		Stepwise (Criteria: Probability-of-F-to-enter $\leq$.050, Probability-of-F-to-remove $\geq$.100).

a. Dependent Variable: RI Value

Model	R	R Square	Adjusted R Square
1	.981 ^a	.962	.958
2	.989 ^b	.977	.972

a. Predictors:

(Constant), RI-RI

b. Predictors:

(Constant), RI-RI ,

NI-RI

Coefficients^a

Sig.	t	Standardized Coefficients	Unstandardized Coefficients		Model
		Beta	Std. Error	B	
.002	4.229		14788943.841	62549615.457	(Constant) 1
.000	15.923	.981	1.262	20.088	RI-RI
.002	4.223		12593107.374	53178728.273	(Constant) 2
.000	12.402	.861	1.422	17.640	RI-RI
.035	2.481	.172	.511	1.268	NI-RI

a. Dependent Variable: RI Value

Excluded Variables^a

Collinearity Statistics	Partial				
Tolerance	Correlation	Sig.	T	Beta In	Model
.519	.637	.035	2.481	.172 ^b	NI-RI 1
.828	.636	.036	2.471	.136 ^b	Cost of equity employed
.008	-.283	.399	-.885	-.621 ^b	PV
.001	-.051	.888	-.145	-.270 ^c	Cost of equity employed 2
.005	.183	.614	.525	.393 ^c	PV

a. Dependent Variable: RI Value

b. Predictors in the Model: (Constant), RI-RI

c. Predictors in the Model: (Constant), RI-RI , NI-RI

Coefficients^a

Model	Collinearity Statistics	
	Tolerance	VIF
1		
RI Value	.022	44.497
NI-RI	.001	1971.245
Cost of equity employed	.001	1230.892
RI-RI	.003	287.643

a. Dependent Variable: PV

Using collinearity statistics, VIF should be more than 4 and tolerance less than 0.2 according to the above test, there is multicollinearity in variables, this because the model includes a variable which is RI that is computed from other variables in the equation .

H3: The model of discounted Residual Income (RI)) and the model of discounted Equity Cash Flow to Equity (ECF) both produce equivalent equity value for the Bank in case of Palestine.

T-Test			
	N	Mean	Std. Deviation
ECF value	12	201956204.11	277728210.99
RI Value	12	163104297.94	226755878.26

	t	df	Sig. (2-tailed)	Mean Difference	95% Confidence Interval of the Difference	
					Lower	Upper
ECF value	2.519	11	.029	201,956,204.11	25,496,117.53	378,416,290.70
RI Value	2.492	11	.030	163,104,297.95	19,030,486.47	307,178,109.42

T-Test indicates high correlation between both models. The significant 2 tailed is less than .05 this indicates that H0 is rejected, there is no difference between the two models. Both models explain the value of banks in Palestine as showed in previous sections. The equity values through models were equivalent not the same due to estimation issues. Some banks' values of net income have a large variation through years due to external factors like political and economic issues in Palestine so, this affects the future estimations. However, some banks expressed a little variation like Cairo Amman Bank, its value according to ECF model is \$104,700,522.90 and according to RI model the value is \$104,812,867.66, In addition, the models suggest the sustainable growth, but the existence of external and internal factors makes it not possible.

Some banks work with a high risk like bank of Palestine, its investments increase extremely while its equity is not. The internal growth rate (ROE* retention ratio) of bank of Palestine in 2016 equal 8.5 %. This

means that if assets of bank increased more than 8.5% this will be risky. Equity to Assets ratio in 2016 equal 11% means that the bank finance just 11\$ from each 100\$ from its own equity. The increase in assets equal 48%. So, the bank work in risky condition, this makes variations in NI increase by the time and affects the valuations. Palestine monetary authority should put laws to protect banks from risky conditions.

Chapter Five

Concluding Remarks

5.1 Introduction

5.2 Conclusion

5.3 Recommendations

Chapter Five

Concluding Remarks

5.1 Introduction

This chapter represents the concluding points of the study and provides recommendations for further researches.

5.2 Conclusion

The study presents guidelines to value banks and provides a framework for banks' valuation based on two generally acceptable valuation models: model of discounted residual income (RI) and the model of discounted equity cash flow to equity (ECF) applied for banks in Palestine. Both models are used to calculate the equity value of banks in Palestine and provide an equivalent results. There might be some differences in value due to estimation issues and large variations of net income caused by external and internal factors like the current political situation in Palestine and risky policies of some banks. In addition, the study examines the input factors that have critical impact on banks' value and discusses value drivers that affect value of banks.

The main idea of this study is examining the value of commercial banks operate in Palestine; excluding Islamic banks. All the necessary data are collected from every bank's annual audited financial statements and

Palestinian Monetary Authority PMA annual Reports. This data is collected from 2008 to 2016 and future data is forecasted for the next five years.

The discounted equity cash flow model explains the value of bank. First, equity cash flow value should be calculated as explained:

Net Income
(+) Depreciation
(-) Net Increase in Loans
(-) Net Increase in Securities and Investments
(-) Net Increase in Amounts due from Banks
(-) Net Capital Expenditure
(+) Net Increase in Deposits
(+) Net Increase in Interbank Funds
Equity Cash Flow

Next, discounting the cash flows and terminal value to present values using discount rate as the cost of equity.

The discounted residual income RI model can be used to calculate the value of bank. First, residual income for analytical period will be

calculated. RI represents the difference between operating profits after taxes and the cost of equity capital employed.

Secondly, derived residual income will be discounted and present value of residual income will be computed.

High correlation between both models is a consequence of the T-Test analysis for the difference between values of banks using the recommended models. This result is similar to previous studies such as (Halsey, 2001) which discussed that the discounted residual income model is equivalent to the discounted equity cash flow model. The significant 2 tailed is less than 0.05, this insures that there is no difference between values of banks using the two models. Both models explain the value of banks in Palestine as shown in previous sections. All factors in both models affect the bank's value except the depreciation in ECF model. The main two factors that affect value in ECF model are net income and net increase in loans. For the RI model, NI and RI are the main two factors that affect value. Due to estimation issues, the equity banks values for both models were equivalent not the exact.

The significance F for both models is less than 0.05, so H_0 is rejected and H_1 is accepted. Since there are little differences raised between them, the correlation of both models is high.

The following table represents the value of each bank in the sample according to both models used.

Name of the bank	Bank's value using ECF method	Bank's value using RI method
Commercial Bank of Palestine	48,134,100.01	45,017,144.17
Palestinian Investment Bank	68,792,024.32	72,000,436.55
Bank of Palestine	867,785,584.36	816,656,034.78
National Bank TNB	176,120,676.87	185,041,615.69
Al-Quds Bank	216,318,769.84	235,102,479.70
Cairo Amman Bank	104,700,522.90	104,812,867.66
Arab Bank	685,416,883.13	312,268,736.00
Bank of Jordan	35,966,724.51	50,026,291.79
Jordan commercial Bank	39,781,736.42	40,147,644.34
Jordan Ahli Bank	59,472,714.81	56,024,739.44
Housing Bank for Trade & Finance	112,906,786.13	102,603,670.58
Jordan Kuwait Bank	8,077,925.57	9,550,351.19

The variation of values through the periods discussed above is affected by the external factors like political and economic issues in Palestine.

Consequently, it may affect the future estimations. However, some banks expressed a little variation, such as, Cairo Amman Bank. According to ECF model, this bank's value is \$104,700,522.90 and according to RI model the value is \$104,812,867.66.

5.3 Recommendations

Banks are difficult to value because they are considered to be complex business. Previous studies such as (Aggelopoulos, 2017) indicated that valuation process for the financial institutions such as banks face difficulties due to the function of banking. Most commonly, the lack of information about critical banks' data and the regulations on banks. As mentioned above, this study recommends a framework to bank valuation based on two generally acceptable valuation models: model of discounted residual income (RI) and the model of discounted equity cash flow (ECF). Analytical guidelines and steps of calculating the bank's value are discussed in previous sections and highly recommended. The following graphs represent the recommended steps of calculating value using the recommended models.

Figure 13 represents how users can compute the value of banks using equations in model of discounted equity cash flow (ECF). Whereas, figure 14 represents how users can compute the value of banks using RI model.

discounted equity cash flow model

Net Income

(+) Depreciation

(-) Net Increase in Loans

(-) Net Increase in Securities and Investments

(-) Net Increase in Amounts due from Banks

(-) Net Capital Expenditure

(+) Net Increase in Deposits

(+) Net Increase in Interbank Funds

Equity Cash Flow

PV of cash flows

where ;

$r = \text{DPS}_1 / p + g$

$g = \text{ROE} * \text{Retention ratio}$

$\text{ROE} = \text{NI} / \text{Equity}$

$\text{Retention ratio} = 1 - \text{payout ratio}$

$\text{payout ratio} = \text{DPS} / \text{NI}$

Terminal value = NI for last year / r

bank value = pv of cash flows + pv of terminal value

Figure (14): Equations needed for model of ECF.

RI model

Net Income

(-) cost of equity

RI

where :

cost of equity = r * equity beg . of year

$r = \text{DPS}_1 / p + g$

$g = \text{ROE} * \text{Retention ratio}$

$\text{ROE} = \text{NI} / \text{Equity}$

Retention ratio = $1 - \text{payout ratio}$

payout ratio = DPS / NI

PV of RI

Terminal value = $\text{RI for last year} / r$

bank value = $\text{pv of RI} + \text{pv of terminal value} + \text{equity beg . of year}$

Figure (15): Equations needed for model of RI.

The net income and the net increase in loans are the most effective factors of bank's value so, managers are recommended to maintain high net income, in the same time, protect the bank from high risk. Some banks works in risky situations like bank of Palestine, it is investments increase extremely while its equity has a little increase. The internal growth rate ($\text{ROE} * \text{retention ratio}$) of bank of Palestine in 2016 equal 8.5 %. This

means that if assets of bank increased more than 8.5% this will be risky. Equity to Assets ratio in 2016 equal 11% means that the bank finance just 11\$ from each 100\$ from its own equity. The increase in assets equal 48%. So, the bank work in risky condition, this makes variations in NI increase by the time and affects the valuations. Palestinian Monetary Authority is recommended to protect banks from high risk by enforcing laws that prevent banks from increase assets without increase its equity in a relevant portion.

For future researches, researchers can prepare a framework for Islamic banks valuations in Palestine.

References

- Adam, M. H. (2014). *Evaluating the Financial Performance of Banks using Financial Ratios- A Case study of ERBIL Bank for Investment and finance*. **European Journal of Accounting Auditing and Finance Research**, pp. 156-170.

- Aggelopoulos, E. (2017). *Understanding Bank Valuation: An Application of the Equity Cash Flow and the Residual Income in Bank Financial Accounting Statements*. **Open Journal of Accounting**, 1-10.

- Al- Kurdi, T. (2018, march 28). **Personal interview. Supervisory Unit Chief, Supervision and Inspection Department, Palestine Monetary Authority.**

- Al Quds Bank. (2018, Feb. 15). **Quds Bank Annual Reports**. Retrieved from Quds Bank: <http://www.qudsbank.ps>

- Alkhatib, A., & Harsheh, M. (2012). *Financial Performance of Palestinian Commercial Banks*. **International Journal of Business and Social Science**, Vol. 3 No. 3.

- Amman Stock Exchange. (2018, March 14). **Amman Stock Exchange- historical records**. Retrieved from Amman Stock Exchange: <https://www.exchange.jo>

- Arab Bank. (2018, Jan. 2). **Arab Bank**. Retrieved from Arab Bank Annual Reports: <http://www.arabbank.ps>.
- Association of banks in Palestine. (2018, Feb. 20). **Banking Figures**. Retrieved from Association of Banks in Palestine: <http://www.abp.ps>
- Awawda, R. (2017, Nov. 27). Personal interview. **Risk Analyst**, Supervision and Inspection Department, Palestine Monetary Authority.
- Bank of Jordan. (2018, Jan. 2). **Bank of Jordan Annual Reports**. Retrieved from Bank of Jordan: <http://www.bankofjordan.com>
- Bank of Palestine. (2018, Feb. 10). **Annual Reports**. Retrieved from Bank of Palestine: <https://www.bankofpalestine.com>
- Beatty, A., & Liao, S. (2014). *Financial Accounting in the Banking Industry: A review of the empirical literature*. **Journal of Accounting & Economics**, 58(2), 339-383.
- Cairo Amman Bank. (2018, Feb. 2). **Cairo Amman Bank, Annual Reports**. Retrieved from Cairo Amman Bank: <http://www.cab.ps>
- Charumathi, B., & Suraj, E. (2014). *Comparing Stock Valuation Models for Indian Bank Stocks*. **International Journal of Accounting and Taxation**, 2(2), 111-127.

- Damodaran, A. (2007). *Valuation Approaches and Metrics: A Survey of the Theory and Evidence*. **Foundations and Trends® in Finance**, 1(8), 693-784.
- Damodaran, A. (2013). *Valuing Financial Service Firms*. **The journal of financial perspectives**, 1-34.
- Dechow, P. M., Hutton, A. P., & Sloan, R. G. (1999). *An empirical assessment of the residual income valuation model*. **Journal of accounting and economics**, 26(1-3), 1-34.
- Deev, O. (2011). *Methods of Bank Valuation: A critical overview*. **Financial Assets and Investing**, 3(3), 33-44.
- Egyptian Arab Land Bank. (2018, Jan. 5). **Egyptian Arab Land Bank Annual Reports**. Retrieved from Egyptian Arab Land Bank: <https://www.aqaribank.jo>
- Eid, M. Y. (2015). **The Impact of Information Asymmetry on the cost of equity capital in the Palestine Exchange** (Doctoral dissertation, Islamic University-Gaza).
- Eva, H. (2010). *Method of Banks Valuation*. **Economic Analysis** (0013-3213).
- Fernández, P. (2006). **Company valuation methods. The most common errors in valuations**. Research paper no, 449.

- Fernández, P. (2007). *Valuing Companies with cash flow discounting: Ten methods and nine theories*. *Managerial Finance*, 33(11), 853-876.
- Gilbert, R., & Wheelock, D. (2007). **Measuring Commercial Bank Profitability: Proceed with Caution.**
- Gross, S. (2006). *Banks and shareholders value. An Overview of Bank Valuation and Empirical Evidence on shareholders' value for banks*: Springer Science & Business Media. 1-296.
- Halsey, R. F. (2001). *Using the Residual-Income Stock Price Valuation Model To Teach and Learn Ratio Analysis*. *Issues in Accounting Education*, 16, 285-272.
- Housing Bank for Trade & Finance. (2018, Feb. 7). **Housing Bank for Trade & Finance Annual Reports**. Retrieved from Housing Bank for Trade & Finance: <https://www.hbtf.com>
- Jabr, H. (2003). **Islamic Banking in Palestine Challenges and Prospects**. 17(1).
- Jordan Ahli Bank. (2018, Feb. 5). **Jordan Ahli Bank**. Retrieved from Jordan Ahli Bank Annual Reports: <http://ahli.com>
- Jordan Commercial Bank. (2018, Feb. 5). **Jordan Commercial Bank**. Retrieved from Jordan Commercial Bank Annual Reports: <http://www.jcbank.com.jo>

- Jordan Kuwait Bank. (2018, march 3). **Jordan Kuwait Bank Annual Reports**. Retrieved from Jordan Kuwait Bank: <http://jkb.com/>
- Kabir, A., & Dey, S. (2012). *Performance Analysis through CAMELS Rating: A Comparative Study of Selected Private Commercial Banks in Bangladesh*. **Journal of Politics & Governance**, 1(2/3), 16-25.
- Keister, T., & McAndrew's, J. (2009). **Why Are Banks Holding So Many Excess Reserves?** New York: Federal Reserve Bank of New York.
- Khulkhal, Y. b. (2012). *Impact of the US Banking Valuation System CAMELS on the effectiveness of the system of control of commercial banks- case study of the Bank of Agriculture and Rural Development*. **Al baheth journal** (10), 205-216.
- Koller, T. (1994). *What is value-based management?* **The Mckinsay Quarterly**, (3), 87-102.
- Koller, T., Goedhart, M., & Wessels, D. (2010). **Valuation: Measuring and managing the value of companies**. (Vol. 499): john Wiley and sons.

- Kramna', E. (2014). *Key input factors for discounted cash flow valuations*. WSEAS Transactions on Business and Economics. 11, 454-464.
- Leister, F. (2015). **Valuation Methods for Banks: An Empirical Comparison of Intrinsic Valuation Methods for banks**. Bachelor Thesis IUBH School of Business and Management, Bad Honef, Germany, <https://doi.org/10.13140/RG.1.167>.
- Misra, S. K., & Aspal, P. K. (2013). *A CAMELS Model Analysis of State Bank Group*. World Journal of Social Sciences, 3(4), 36-55.
- Moreno de Alborán de Cominges, Á. (2016). **Bankia: It's Valuation Using Different Methodologies**.
- Naqib, F. M. (2003). *Economic aspects of the Palestinian-Israeli conflict: The collapse of the Oslo accord*. Journal of International Development: The Journal of the Development Studies Association, 15(4), 499-512.
- Nazir, T. (2010). *Analyzing Financial Performance of Commercial Banks in India: Application of CAMELS Model*. Pakistan Journal of Commerce & Social Sciences, 4(1), 40-55.
- Oslo Accords. (1993).

- Owoloko, E. A., Omoregbe, N. A., & Okedoye, M. A. (2014). A *Contingent Claim Approach to Bank Valuation*. **Journal of Mathematical Finance**, 234-244.
- Palestine Exchange. (2018, march 14). **Palestine Exchange**. Retrieved from Palestine Exchange: <http://www.pex.ps/>
- Palestine Investment Bank. (2018, Jan. 20). **Palestine Investment Bank**. Retrieved from Annual Reports: <http://www.pibbank.com/>
- Palestinian Monetary Authority. (2017). **Fact sheet**. Palestine: Palestinian Monetary Authority.
- Palestinian Monetary Authority. (2016). **Annual Report**. Palestine: Palestinian Monetary Authority.
- Prasada, K. V., & Ravinderb, G. (2012). *A CAMELS Model Analysis of Nationalized Banks in India*. **International Journal of Trade and Commerce-IIARTC**, 1(1), 23-33.
- Ross, S. A., Westerfield, R., & Jordan, B. D. (2007). **Essentials of Corporate Finance** : Tata McGraw-Hill Education.
- Sarker, A. A. (2005). *CAMELS Rating System in the Context of Islamic Banking: A Proposed 'S' for Shariah Framework*. **Journal of Islamic economics and finance**, 1(1), 78-84.

- Siems, T. F., & Barr, R. S. (1998). **Benchmarking the Productive Efficiency of U.S. Banks**. Financial Industry Studies.
- Steiger, F. (2008). **The Validity of Company Valuation Using Discounted Cash Flow Methods**. 1-21.
- Tameesa, S. (2014). **Evaluating the performance of commercial banks using CAMELS model-case study of the Algerian National Bank 2008-2012**.
- The National Bank. (2018, Feb. 3). **TNB الوطني**. Retrieved from Profile: <https://www.tnb.ps>
- UNCTAD & Economic and Social Commission for Western Asia. (1989). **The Palestinian financial sector under Israeli occupation**. United Nations - New York: United Nation Publications.
- Wirnkar, D. A., & Tanko, M. (2008). **CAMELS and Banks Performance Evaluation: The Way Forward**. Retrieved from available at: [ssrn 1150968](https://ssrn.com/abstract=1150968).
- Wittrup, K., & Jensen, J. A. (2012). **Shareholder Value in Banks**. 1-101.

Appendix

4.3.1 Data Analysis for Discounted Equity Cash Flow Model

The model of discounted equity cash flows applied in this section and steps were discussed with numbers for each bank in the sample.

4.3.1.1 Data Analysis for Bank of Palestine

Discounted equity cash flow model	Actual Data								
	2008	2009	2010	2011	2012	2013	2014	2015	2016
Net Income	23,610,956	28,371,928	30,119,469	33,980,673	38,347,397	40,438,831	40,222,506	43,167,433	53,055,980
(+) Depreciation	2,495,579	2,594,179	3,383,350	4,683,157	4,444,780	4,581,007	4,997,087	6,065,634	8,157,934
(-) Net Increase in Loans	41,749,498	57,974,219	201,715,161	175,146,657	256,221,880	127,246,090	48,184,626	236,979,797	824,658,324
(-) Net Increase in Securities & Investments	100,483,566	117,395,925	-198,164,984	3,517,633	-11,707,172	5,545,731	1,622,207	83,449	2,134,250
(-) Net Increase in Amounts due from Banks	70,837,214	-49,088,556	-19,632,130	26,582,380	27,456,974	-65,109,379	231,010,509	-262,387,651	301,687,550
(-) Net Capital Expenditure	2,650,994	7,043,216	5,542,913	7,357,193	3,638,282	3,227,985	3,621,273	6,966,189	12,746,738
(+) Net Increase in Deposits	158,995,856	172,785,346	272,890,837	42,734,628	257,924,771	191,069,563	316,960,810	180,258,223	900,369,293
(+) Net Increase in Interbank Funds	-4,763,852	1,797,031	17,505,328	12,978,265	37,303,476	72,191,643	-141,645,922	100,519,839	-12,048,309
Equity Cash Flow	-35,382,733	72,223,680	334,438,024	-118,227,140	62,410,460	237,370,617	-63,904,134	348,369,345	-191,691,964

Estimation of net income and equity cash flow and the calculation of present value:

Item	2017	2018	2019	2020	2021
Net income	58311160.63	64086865.49	70434652.37	77411185.84	85078743.09
ECF	78839252.44	86648259.3	95230746.2	104663326.1	115030200.6
PV	\$78,839,252.44	\$77,775,312.25	\$76,725,730.00	\$75,690,311.91	\$74,668,866.86

r	0.114084364
g	0.099049732

Equity value of Bank of Palestine according to ECF model:

Present Value of ECF + Present Value of terminal value. =		Equity value
\$383,699,473.45	\$484,086,110.91	\$ 867,785,584.36

4.3.1.2 Data Analysis for Al Quds Bank in Palestine

Discounted equity cash flow model	Actual data								
	2008	2009	2010	2011	2012	2013	2014	2015	2016
Net Income	-5,971,848	2,677,253	4,404,155	4,581,794	3,267,925	4,739,649	7,232,904	8,018,747	10,470,704
(+) Depreciation	276,868	922,429	1,243,220	1,651,761	2,247,037	1,780,260	2,023,485	2,387,178	2,479,257
(-) Net Increase in Loans	85,205,676	-7,331,884	77,762,067	89,425,355	4,486,990	-5,513,018	48,821,657	96,224,927	183,970,356
(-) Net Increase in Securities & Investments	872,708	0	0	0	-872,708	0	0	0	0
(-) Net Increase in Amounts due from Banks	-101,791,616	58,866,853	-17,924,434	-52,691,294	-25,616,769	63,220,586	32,614,376	4,671,789	-78,029,935
(-) Net Capital Expenditure	4425733	6847028	2081372	9127137	2338290	1408550	5481093	3238705	7554140
(+) Net Increase in Deposits	45,826,260	56,101,813	105,720,231	30,545,802	15,535,772	66,848,759	93,578,822	132,974,780	130,654,141
(+) Net Increase in Interbank Funds	-59,716,478	-3,703,046	-15,531,074	5,490,725	13,080,346	-10,007,105	46,188,521	-8,462,497	-21,482,746
Equity Cash Flow	-8,297,699	-2,383,548	33,917,527	-3,591,116	53,795,277	4,245,445	62,106,606	30,782,787	8,626,795

Estimation of net income and equity cash flow and the calculation of present value:

Item	2017	2018	2019	2020	2021
Net income	11083143.86	11731405.81	12417585.13	13143899.62	13912696.83
ECF	9131383.144	9665485.053	10230827.01	10829236.27	11462646.97
PV	\$9,131,383.14	\$9,087,917.61	\$9,044,658.98	\$9,001,606.25	\$8,958,758.46

0.0584908	g
0.06355333	r

Equity value of Bank according to ECF model:

Present Value of ECF + Present Value of terminal value. =		Equity value
\$45,224,324.44	\$171,094,445.40	\$216,318,769.84

4.3.1.3 Data Analysis for the National Bank TNB in Palestine

Discounted equity cash flow model	Actual data								
	2008	2009	2010	2011	2012	2013	2014	2015	2016
Net Income	-3,250,468	1,853,977	211,087	568,262	2,021,100	3,600,243	4,438,380	5,441,591	7,402,240
(+) Depreciation	413,793	566,861	699,267	746,374	1,077,314	1,188,778	1,391,949	1,750,829	1,674,181
(-) Net Increase in Loans	39,962,615	5,886,961	-2,851,678	33,302,030	66,492,459	85,497,130	70,341,168	103,150,577	117,536,056
(-) Net Increase in Securities and Investments	46,686	242,253	2,182,161	727,702	1,106,488	40,000	-68,346	-805,403	171,276
(-) Net Increase in Amounts due from Banks	34,426,167	27,959,342	3,246,649	49,266,081	428,512	64,093,533	50,280,137	-15,668,092	-28,142,840
(-) Net Capital Expenditure	1121814	1065965	407873	5095150	1,268,948	1781393	1871145	2675590	1014492
(+) Net Increase in Deposits	32,010,017	32,116,188	16,162,291	49,386,999	86,503,719	86,449,248	111,366,693	124,611,744	117,357,299
(+) Net Increase in Interbank Funds	27,796,635	2,358,123	-4,458,340	40,539,624	-2,816,833	67,749,555	23,795,929	-42,810,973	32,424,517
Equity Cash Flow	-18,587,305	1,740,628	9,629,300	2,850,296	17,488,893	7,575,768	18,568,847	-359,481	68,279,253

Estimation of net income and equity cash flow and the calculation of present value:

Item	2017	2018	2019	2020	2021
Net income	7590691.725	7783941.195	7982110.553	8185325.054	8393713.14
ECF	12212780.54	12523702.58	12842540.31	13169495.24	13504774.04
PV	\$12,212,780.54	\$11,850,995.45	\$11,499,927.69	\$11,159,259.78	\$10,828,683.65

0.025458743	g
0.056763766	r

Equity value of Bank according to ECF model:

Present Value of ECF	+	Present Value of terminal value.	=	Equity value
\$57,551,647.12		\$118,569,029.75		\$176,120,676.87

4.3.1.4 Data Analysis for commercial bank of Palestine

Discounted equity cash flow model	Actual data								
	2008	2009	2010	2011	2012	2013	2014	2015	2016
Net Income	217,038	2,001,967	1,794,022	589,127	62,167	114,682	1,198,637	1,394,788	0
(+) Depreciation	129,874	163,151	372,887	511,067	569,101	672,272	810,519	1,013,806	0
(-) Net Increase in Loans	-6,392,800	17,028,807	17,504,698	-9,623,981	33,989,507	25,623,910	29,312,224	22,499,150	-151,292,553
(-) Net Increase in Securities and Investments	1,317,812	53,816	-1,371,628	0	0	0	0	0	0
(-) Net Increase in Amounts due from Banks	-6,633,097	2,791,814	643,425	15,928,864	-22,227,692	45,463,518	6,346,973	-31,658,833	-58,660,619
(-) Net Capital Expenditure	464198	1446446	1100228	1425393	296770	602209	772003	2245893	0
(+) Net Increase in Deposits	5,268,051	13,071,194	28,104,741	-55,921,024	68,234,788	33,073,432	13,374,972	17,261,729	-186,828,640
(+) Net Increase in Interbank Funds	-118,605	11,088,574	14,296,167	-155,318	1,561,192	18,156,021	18,269,270	-16,110,472	-48,434,720
Equity Cash Flow	16,740,245	5,004,003	26,691,094	-62,706,424	58,368,663	-19,673,230	-2,777,802	10,473,641	-25,310,188

Estimation of net income and equity cash flow and the calculation of present value:

Item	2017	2018	2019	2020	2021
Net income	841578.4653	864611.8781	888275.6992	912587.1826	937564.0542
ECF	777376.3313	798652.5767	820511.138	842967.9528	866039.3949
PV	\$777,376.33	\$783,276.59	\$789,221.63	\$795,211.79	\$801,247.42

0.027369299	G
0.019630343	r

Equity value of Bank according to ECF model:

Present Value of ECF	+	Present Value of terminal value.	=	Equity value
\$3,946,333.76		\$44,187,766.25		\$48,134,100.01

4.3.1.5 Data Analysis for Palestinian investment bank

Discounted equity cash flow model	Actual data								
	2008	2009	2010	2011	2012	2013	2014	2015	2016
Net Income	2,949,311	2,928,340	789,682	2,552,984	1,826,277	1,958,574	2,829,494	1,721,150	3,388,202
(+) Depreciation	361,697	380,390	412,599	724,159	646,083	667,197	708,707	891,105	826,325
(-) Net Increase in Loans	-23,863,136	29,671,984	14,364,775	-16,691,635	16,349,300	4,132,355	2,895,934	39,521,242	39,804,768
(-) Net Increase in Securities and Investments	801,426	8,264	4,384,623	240,988	-156,353	-5,278,948	0	2,771,699	2,086,009
(-) Net Increase in Amounts due from Banks	-12,944,626	-1,595,407	-24,892,936	-18,131,065	-27,567,626	35,846,682	32,258,364	-52,313,074	-21,794,695
(-) Net Capital Expenditure	355400	400045	2241589	498368	420223	512838	3632828	2771699	4857708
(+) Net Increase in Deposits	12,868,600	8,185,492	43,689,021	-20,242,251	15,848,414	29,926,518	17,021,201	9,409,643	36,241,152
(+) Net Increase in Interbank Funds	-5,904,736	-107,656	17,850,084	-4,736,719	-3,719,714	-2,622,205	13,157,456	-7,838,770	-15,909,791
Equity Cash Flow	45,925,808	-17,098,320	66,643,335	12,381,517	25,555,516	-5,282,843	-5,070,268	11,431,562	-407,902

Estimation of net income and equity cash flow and the calculation of present value:

Item	2017	2018	2019	2020	2021
Net income	3448818.779	3510520.025	3573325.14	3637253.873	3702326.326
ECF	-415199.5889	-422627.7357	-430188.7761	-437885.0876	-445719.0903
PV	\$415,199.59	\$403,949.50	\$393,004.25	\$382,355.56	\$371,995.40

0.017890545	g
0.046239027	r

Equity value of Bank according to ECF model:

Present Value of ECF	+	Present Value of terminal value.	=	Equity value
\$1,966,504.30		\$66,825,520.02		\$68,792,024.32

4.3.1.6 Data Analysis for Housing Bank for Trade & Finance

Discounted equity cash flow model	Actual data								
	2008	2009	2010	2011	2012	2013	2014	2015	2016
Net Income	6,719,605	3,521,929	3,581,749	3,154,001	4,850,706	6,520,038	6,929,932	7,708,736	4,755,870
(+) Depreciation	852,275	1,243,144	1,675,041	1,757,858	2,087,568	1,970,389	1,857,134	1,491,446	1,399,825
(-) Net Increase in Loans	65,102,100	67,624,165	-9,250,484	-11,610,182	97,885,005	5,591,986	-8,442,993	-30,230,064	15,692,447
(-) Net Increase in Securities and Investments	1,572,110	141,523	402,285	-2,115,918	0	0	0	0	0
(-) Net Increase in Amounts due from Banks	51,857,197	110,500,680	29,950,131	-49,072,904	-21,928,798	9,511,102	3,786,239	38,155,022	-65,473,917
(-) Net Capital Expenditure	2380976	2380976	598469.69	4266634.66	2380975	1494014	501512	997523	1058512
(+) Net Increase in Deposits	287,900,080	28,037,247	29,972,625	3,747,209	30,019,891	47,160,298	19,497,529	28,993,431	7,496,969
(+) Net Increase in Interbank Funds	437,725	12,780,068	-4,126,718	-1,780,507	20,568,257	20,229,002	-34,158,122	-13,930,797	15,909,009
Equity Cash Flow	174,997,302	-135,064,956	9,402,295	65,410,930	-20,810,760	59,282,625	-1,718,285	15,340,335	78,284,631

Estimation of net income and equity cash flow and the calculation of present value:

Item	2017	2018	2019	2020	2021
Net income	5127277.798	5527690.543	5959373.363	6424768.284	6926508.037
ECF	9450417.719	10188444.38	10984106.94	11841906.45	12766695.48
PV	\$9,450,417.72	\$9,450,417.72	\$9,450,417.72	\$9,450,417.72	\$9,450,417.72

0.078094607	g
0.078094607	r

Equity value of Bank according to ECF model:

Present Value of ECF	+	Present Value of terminal value.	=	Equity value
\$47,252,088.60		\$65,654,697.53		\$112,906,786.13

4.3.1.7 Data Analysis for Jordan Kuwait Bank

Discounted equity cash flow model	Actual data								
	2008	2009	2010	2011	2012	2013	2014	2015	2016
Net Income	846,179	-316,484	-640,086	-202,461	729,282	1,017,819	392,949	-344,587	-971,250
(+) Depreciation	213,037	208,344	193,821	227,862	94,016	36,976	40,378	252,453	479,819
(-) Net Increase in Loans	3,160,859	-1,883,010	833,378	1,423,628	10,633,097	-346,932	-909,924	292,567	1,784,264
(-) Net Increase in Securities and Investments	0	4,192,408	-4,192,408	0	0	0	0	0	0
(-) Net Increase in Amounts due from Banks	9,095,295	17,026,900	47,458	-3,322,965	20,584,563	5,031,114	-3,697,038	-13,042,781	-157,341
(-) Net Capital Expenditure	29997.29	52472.97	69807.79	19394.28	23371.65	59209.02	2955.43	1553591.79	1553952
(+) Net Increase in Deposits	44,328,611	5,049,100	-3,556,844	6,065,632	-1,549,132	3,677,933	1,750,442	-948,052	1,022,493
(+) Net Increase in Interbank Funds	2,677,798	322,718	-3,000,516	0	0	0	9,003,042	-1,503,042	-2,500,000
Equity Cash Flow	35,779,474	-14,125,093	-3,761,861	7,970,976	-31,966,866	-10,663	15,790,818	8,653,394	-5,149,813

Estimation of net income and equity cash flow and the calculation of present value:

Item	2017	2018	2019	2020	2021
Net income	56895.49132	56973.19974	57051.0143	57128.93514	57206.9624
ECF	-2828746.752	-2832610.282	-2836479.089	-2840353.18	-2844232.562
PV	\$2,828,746.75	\$2,806,142.29	\$2,783,718.46	\$2,761,473.82	\$2,739,406.94

0.00136581	g
0.009432163	r

Equity value of Bank according to ECF model:

Present Value of ECF	+	Present Value of terminal value.	=	Equity value
\$13,919,488.26		(\$5,841,562.69)		\$8,077,925.57

4.3.1.8 Data Analysis for Cairo Amman Bank

Discounted equity cash flow model	Actual data								
	2008	2009	2010	2011	2012	2013	2014	2015	2016
Net Income	9,865,769	5,901,924	9,902,670	11,766,272	8,298,062	7,489,299	9,897,513	7,521,024	8,386,738
(+) Depreciation	1,622,004	1,894,687	1,900,729	2,258,836	2,462,478	2,259,866	2,144,604	2,197,482	3,115,859
(-) Net Increase in Loans	126,690,080	61,815,903	49,858,553	25,532,173	1,811,628	2,880,343	28,320,757	6,715,524	78,264,710
(-) Net Increase in Securities and Investments	0	0	0	0	0	0	0	0	0
(-) Net Increase in Amounts due from Banks	130,585,130	-20,990,921	-32,869,129	15,412,731	13,588,193	-28,669,981	1,969,457	30,429,758	-33,529,194
(-) Net Capital Expenditure	0	0	5566579	4632617	0	1607239	1829767	1462286	7245614
(+) Net Increase in Deposits	662,504,638	-23,130,307	12,060,737	-26,952,043	-29,906,221	26,857,969	7,993,676	-2,429,620	41,759,391
(+) Net Increase in Interbank Funds	14,268,772	16,568,238	-3,766,017	-3,365,862	7,623,189	14,683,765	37,753,297	-788,132	98,215,976
Equity Cash Flow	430,985,973	-39,590,440	-2,457,884	-61,870,318	-26,922,313	75,473,298	25,669,109	-32,106,814	99,496,834

Estimation of net income and equity cash flow and the calculation of present value:

Item	2017	2018	2019	2020	2021
Net income	9392542.589	10518971.3	11780490.33	13193300.79	14775546.77
ECF	5276466.786	5909262.815	6617948.797	7411626.061	8300487.44
PV	\$5,276,466.79	\$5,276,466.79	\$5,276,466.79	\$5,276,466.79	\$5,276,466.79

0.119927985	g
0.119927985	r

Equity value of Bank according to ECF model:

Present Value of ECF	+	Present Value of terminal value.	=	Equity value
\$26,382,333.93		\$78,318,188.97		\$104,700,522.90

4.3.1.9 Data Analysis for Arab Bank

Discounted equity cash flow model	Actual data								
	2008	2009	2010	2011	2012	2013	2014	2015	2016
Net Income	50,071,619	35,418,192	78,008,086	56,075,326	46,826,007	58,911,233	50,129,179	48,158,838	47,519,910
(+) Depreciation	4,336,592	3,476,635	2,944,165	2,157,432	2,136,920	2,330,549	2,575,928	3,265,839	3,063,433
(-) Net Increase in Loans	0	160,731,601	247,245,548	236,682,333	61,670,057	-66,650,103	64,012,484	221,092,630	23,216,992
(-) Net Increase in Securities and Investments	0	2,115,686	141,206	-193	-2,256,640	204	-316	-7	33
(-) Net Increase in Amounts due from Banks	0	259,535,229	40,769,765	-20,938,350	-132,777,517	51,280,026	-218,702,093	-136,011,359	-98,263,632
(-) Net Capital Expenditure	1000670	456010	2174455	1130878	2405990	544058	4058628	1000670	456010
(+) Net Increase in Deposits	0	87,363,535	237,669,448	123,212,445	26,331,484	171,955,184	-56,488,117	2,644,391,313	2,910,310,518
(+) Net Increase in Interbank Funds	0	-109,468,522	74,627,533	47,271,398	-50,467,882	-38,526,526	-2,599,094	2,635,561,714	-2,588,316,026
Equity Cash Flow	53,407,541	-406,048,686	102,918,258	11,841,933	95,784,639	209,496,255	144,249,193	-43,486,856	447,168,432

Estimation of net income and equity cash flow and the calculation of present value:

Item	2017	2018	2019	2020	2021
Net income	58509947.57	72041676.09	88702918.22	109217443.7	134476410.1
ECF	86485051.99	106486646.5	131114055.2	161437100.7	198773025.8
PV	\$86,485,051.99	\$86,485,051.99	\$86,485,051.99	\$86,485,051.99	\$86,485,051.99

0.231272272	G
0.231272272	r

Equity value of Bank according to ECF model:

Present Value of ECF	+	Present Value of terminal value.	=	Equity value
\$432,425,259.95		\$252,991,623.18		\$685,416,883.13

4.3.1.10 Data Analysis for Bank of Jordan

Discounted equity cash flow model	Actual data								
	2008	2009	2010	2011	2012	2013	2014	2015	2016
Net Income	9,180,996	7,790,312	4,743,502	5,720,092	6,351,458	4,995,629	5,660,886	-2,431,575	3,848,677
(+) Depreciation	1,292,117	1,393,492	1,403,006	1,232,475	1,377,069	1,492,661	1,399,193	1,089,614	924,898
(-) Net Increase in Loans	0	2,299,323	20,993,723	28,865,963	-18,770,382	25,116,481	-22,503,484	52,485,099	19,330,129
(-) Net Increase in Securities and Investments	0	0	0	0	0	0	0	0	0
(-) Net Increase in Amounts due from Banks	0	16,239,444	16,219,627	-29,969,126	36,920,111	-11,169,779	17,341,524	-43,327,561	-18,933,114
(-) Net Capital Expenditure	0	2529768	0	1561881	2295842	0	0	434156	49646
(+) Net Increase in Deposits	0	20,052,492	31,282,199	-29,826,137	-13,811,969	28,467,231	-20,477,609	1,932,574	12,336,498
(+) Net Increase in Interbank Funds	0	-6,406,231	0	120	7,052,066	0	-4,231,312	1,410,438	0
Equity Cash Flow	10,473,113	1,761,530	215,357	-23,332,168	-19,476,947	21,008,819	-12,486,882	-7,590,643	16,663,412

Estimation of net income and equity cash flow and the calculation of present value:

Item	2017	2018	2019	2020	2021
Net income	4145370.953	4464937	4809138.348	5179874.127	5579189.875
ECF	17947992.02	19331600.13	20821870.39	22427025.36	24155921.5
PV	\$17,947,992.02	\$17,947,992.02	\$17,947,992.02	\$17,947,992.02	\$17,947,992.02

0.077089855	g
0.077089855	r

Equity value of Bank according to ECF model:

Present Value of ECF	+	Present Value of terminal value.	=	Equity value
\$89,739,960.10		(\$53,773,235.59)		\$35,966,724.51

4.3.1.11 Data Analysis for Jordan Commercial Bank

Discounted equity cash flow model	Actual data								
	2008	2009	2010	2011	2012	2013	2014	2015	2016
Net Income	2,426,109	4,585,882	1,921,090	4,102,461	1,018,138	1,394,566	3,953,337	1,397,496	1,475,867
(+) Depreciation	171,628	184,178	183,574	197,339	283,415	376,598	344,080	372,121	468,391
(-) Net Increase in Loans	7,955,066	15,678,858	206,881	16,026,957	11,535,502	-2,605,254	5,556,946	16,873,607	15,964,912
(-) Net Increase in Securities and Investments	0	0	0	0	0	0	0	0	0
(-) Net Increase in Amounts due from Banks	13,682,547	14,363,535	6,443,962	8,015,080	-821,736	-117,542	1,393,897	-14,859,702	2,224,715
(-) Net Capital Expenditure	76800	96000	14252	4629719	1361525	597143	87672	3094832.8	426319
(+) Net Increase in Deposits	43,308,587	1,461,183	6,172,006	3,941,943	10,026,933	9,020,488	8,592,768	40,019,583	-6,714,937
(+) Net Increase in Interbank Funds	6,767,904	4,121,814	8,998,252	6,670,739	7,772,787	-12,272,210	-92,601	516,156	12,279,543
Equity Cash Flow	30,959,815	-19,785,336	10,609,827	-13,759,274	7,025,982	645,095	5,759,069	37,196,618	-11,107,082

Estimation of net income and equity cash flow and the calculation of present value:

Item	2017	2018	2019	2020	2021
Net income	1509574.719	1544052.297	1579317.319	1615387.767	1652282.038
ECF	2120460.766	2168890.533	2218426.401	2269093.631	2320918.064
PV	\$2,120,460.77	\$2,072,575.16	\$2,025,770.94	\$1,980,023.68	\$1,935,309.52

0.022839266	g
0.046471353	r

Equity value of Bank according to ECF model:

Present Value of ECF	+	Present Value of terminal value.	=	Equity value
\$10,134,140.07		\$29,647,596.35		\$39,781,736.42

4.3.1.12 Data Analysis for Jordan Ahli Bank

Discounted equity cash flow model	Actual data								
	2008	2009	2010	2011	2012	2013	2014	2015	2016
Net Income	3,644,223	2,303,430	3,343,893	2,198,788	3,896,048	3,620,412	3,744,042	2,716,628	2,953,161
(+) Depreciation	271,035	392,677	424,953	488,629	548,085	544,315	617,440	641,302	612,584
(-) Net Increase in Loans	27,424,793	38,487,557	-4,564,412	133,846	37,271,131	12,348,232	7,190,149	10,552,330	59,676,632
(-) Net Increase in Securities and Investments	0	12,256,700	-12,256,700	0	0	0	0	0	0
(-) Net Increase in Amounts due from Banks	31,310,669	4,226,169	5,747,176	2,843,267	-15,322,935	4,691,725	-4,571,443	-9,899,995	3,005,045
(-) Net Capital Expenditure	9028916	17762972	7466561.8	8055174	11020846	17645894	18013816	19727566	21603657.5
(+) Net Increase in Deposits	145,397,038	-382,644	20,188,847	-5,075,702	11,061,513	9,281,701	2,546,851	23,306,846	50,437,539
(+) Net Increase in Interbank Funds	4,285,071	-2,801,947	26,392	1,654,964	16,708	9,963,533	435,055	-12,624,357	29,207,842
Equity Cash Flow	85,832,989	-73,221,882	27,591,459	-11,765,608	-17,446,688	-11,275,890	-13,289,134	-6,339,482	-1,074,209

Estimation of net income and equity cash flow and the calculation of present value:

Item	2017	2018	2019	2020	2021
Net income	3124714.114	3306232.98	3498296.523	3701517.296	3916543.439
ECF	-1136610.752	-1202638.007	-1272500.874	-1346422.17	-1424637.653
PV	\$1,136,610.75	\$1,136,610.75	\$1,136,610.75	\$1,136,610.75	\$1,136,610.75

0.058091352	g
0.058091352	r

Equity value of Bank according to ECF model:

Present Value of ECF	+	Present Value of terminal value.	=	Equity value
\$5,683,053.76		\$53,789,661.05		\$59,472,714.81

4.3.2 Data Analysis for Discounted Residual Income Model

The model of discounted RI applied in this section and steps were discussed with numbers for each bank in the sample.

4.3.2.1 Data Analysis for Bank of Palestine

Estimation of cost of equity and Residual income and the calculation of present value:

	2017	2018	2019	2020	2021
NI	58311160.63	64086865.49	70434652.37	77411185.84	85078743.09
Cost of equity employed	26552589.58	29182616.47	32073146.82	35249983.44	38741484.87
RI	31,758,571	34904249.02	38361505.54	42161202.4	46337258.22
PV	\$31,758,571.05	\$26,194,260.87	\$30,907,187.37	\$30,490,093.12	\$30,078,627.59

r	0.114084364
g	0.099049732

Equity value of Bank according to RI model:

Present Value of RI	+	Present Value of terminal value	+	Equity beg. of year	=	Equity value
\$149,428,740.00		\$263,652,497.78		403,574,797		\$816,656,034.78

4.3.2.2 Data Analysis for Al Quds Bank in Palestine

Estimation of cost of equity and Residual income and the calculation of present value:

	2017	2018	2019	2020	2021
NI	11083143.86	11731405.81	12417585.13	13143899.62	13912696.83
Cost of equity employed	3921039.135	4150383.853	4393143.126	4650101.584	4922089.747
RI	7162104.722	7581021.96	8024442.002	8493798.037	8990607.083
PV	\$7,162,104.72	\$7,128,012.99	\$7,094,083.53	\$7,060,315.58	\$7,026,708.36

G	0.0584908
R	0.06355333

Equity value of Bank according to RI model:

Present Value of RI	+	Present Value of terminal value	+	Equity beg. of year	=	Equity value
\$35,471,225.17		\$110,563,965.52		\$89,067,289		\$235,102,479.70

4.3.2.3 Data Analysis the National Bank TNB in Palestine

Estimation of cost of equity and Residual income and the calculation of present value:

	2017	2018	2019	2020	2021
NI	7,590,692	7,783,941	7,982,111	8,185,325	8,393,713
Cost of equity employed	3039111.667	3116483.63	3195825.385	3277187.082	3360620.146
RI	4,551,580	4667457.565	4,786,285	4908137.972	5033092.995
PV	\$4,551,580.06	\$4,416,746.41	\$4,285,907.00	\$4,158,943.50	\$4,035,741.11

g	0.025458743
r	0.056763766

Equity value of Bank according to RI model:

Present Value of RI	+	Present Value of terminal value	+	Equity beg. of year	=	Equity value
\$21,448,918.0		\$71,097,134.61		92,495,563		\$185,041,615.69

4.3.2.4 Data Analysis for commercial bank of Palestine

Estimation of cost of equity and Residual income and the calculation of present value:

	2017	2018	2019	2020	2021
NI	841,578	864611.8781	888275.6992	912587.1826	937564.0542
Cost of equity employed	518446.7551	532636.2794	547214.1611	562191.0292	577577.8037
RI	323,132	331975.5986	341061.5381	350396.1534	359986.2505
PV	\$323,131.71	\$325,584.27	\$328,055.44	\$330,545.37	\$333,054.20

g	0.027369299
r	0.019630343

Equity value of Bank according to RI model:

Present Value of RI	+	Present Value of terminal value	+	Equity beg. of year	=	Equity value
\$1,640,370.98		\$16,966,294.97		26,410,478		\$45,017,144.17

4.3.2.5 Data Analysis for Palestinian investment bank

Estimation of cost of equity and Residual income and the calculation of present value:

	2017	2018	2019	2020	2021
NI	3448818.779	3510520.025	3573325.14	3637253.873	3702326.326
Cost of equity employed	3700925.413	3167601.135	3224271.245	3281955.213	3340671.18
RI	-252106.6344	342918.89	349053.8957	355298.66	361655.1465
PV	(\$252,106.63)	(\$327,763.43)	(\$318,882.48)	(\$310,242.16)	(\$301,835.96)

g	0.017890545
r	0.046239027

Equity value of Bank according to RI model:

Present Value of RI	+	Present Value of terminal value	+	Equity beg. of year	=	Equity value
(\$1,510,830.67)		(\$6,527,731.78)		80,038,999		\$72,000,436.55

4.3.2.6 Data Analysis for Housing Bank for Trade & Finance

Estimation of cost of equity and Residual income and the calculation of present value:

	2017	2018	2019	2020	2021
NI	5127277.798	5527690.543	5959373.363	6424768.284	6926508.037
Cost of equity employed	5643254.721	6083962.48	6559087.139	7071316.471	7623548.152
RI	-515976.9227	-556271.9376	-599713.776	-646548.1876	-697040.1142
PV	515,977	515,977	515,977	515,977	515,977

g	0.078094607
r	0.078094607

Equity value of Bank according to RI model:

Present Value of RI	+	Present Value of terminal value	+	Equity beg. of year	=	Equity value
2,579,885		\$6,607,074.97		93,416,711		\$102,603,670.58

4.3.2.7 Data Analysis for Jordan Kuwait Bank in Palestine

Estimation of cost of equity and Residual income and the calculation of present value:

	2017	2018	2019	2020	2021
NI	56895.49132	56973.19974	57051.0143	57128.93514	57206.9624
Cost of equity employed	455987.2355	486658.857	487323.5404	487989.1317	488655.6321
RI	-399091.7441	-429685.6572	-430272.5261	-430860.1966	-431448.6697
PV	399,092	425,671	422,269	418,895	415,547

g	0.00136581
r	0.009432163

Equity value of Bank according to RI model:

Present Value of RI	+	Present Value of terminal value	+	Equity beg. of year	=	Equity value
\$2,081,473.75 (\$44,056,428.55)				51,525,306		\$9,550,351.19

4.3.2.8 Data Analysis for Cairo Amman Bank

Estimation of cost of equity and Residual income and the calculation of present value:

	2017	2018	2019	2020	2021
NI	56895.49132	56973.19974	57051.0143	57128.93514	57206.9624
Cost of equity employed	455987.2355	486658.857	487323.5404	487989.1317	488655.6321
RI	-399091.7441	-429685.6572	-430272.5261	-430860.1966	-431448.6697
PV	399,092	425,671	422,269	418,895	415,547

g	0.00136581
r	0.009432163

Equity value of Bank according to RI model:

Present Value of RI	+	Present Value of terminal value	+	Equity beg. of year	=	Equity value
\$2,081,473.75(\$44,056,428.55)				51,525,306		\$9,550,351.19

4.3.2.9 Data Analysis for Arab Bank in Palestine

Estimation of cost of equity and Residual income and the calculation of present value:

	2017	2018	2019	2020	2021
NI	58509947.57	72041676.09	88702918.22	109217443.7	134476410.1
Cost of equity employed	53484436.2	65853903.29	81084085.15	99836585.77	122926019.8
RI	5025511.365	6187772.797	7618833.073	9380857.91	11550390.23
PV	\$5,025,511.36	\$5,025,511.36	\$5,025,511.36	\$5,025,511.36	\$5,025,511.36

g	0.231272272
r	0.231272272

Equity value of Bank according to RI model:

Present Value of RI	+	Present Value of terminal value	+	Equity beg. of year	=	Equity value
\$25,127,556.82		\$21,729,848.18		265,411,331		\$312,268,736.00

4.3.2.10 Data Analysis for Bank of Jordan in Palestine

Estimation of cost of equity and Residual income and the calculation of present value:

	2017	2018	2019	2020	2021
NI	4145370.953	4464937	4809138.348	5179874.127	5579189.875
Cost of equity employed	5371381.337	6971211.529	7508621.218	8087459.741	8710920.843
RI	-1226010.383	-2506274.529	-2699482.87	-2907585.614	-3131730.968
PV	1,226,010	2,326,895	2,326,895	2,326,895	2,326,895

g	0.077089855
r	0.077089855

Equity value of Bank according to RI model:

Present Value of RI	+	Present Value of terminal value	+	Equity beg. of year	=	Equity value
10,533,589(\$30,184,186.41)				69,676,890		\$50,026,291.79

4.3.2.11 Data Analysis for Jordan Commercial Bank in Palestine

Estimation of cost of equity and Residual income and the calculation of present value:

	2017	2018	2019	2020	2021
NI	1509574.719	1544052.297	1579317.319	1615387.767	1652282.038
Cost of equity employed	2433620.262	2762391.188	2825482.175	2890014.114	2956019.915
RI	-924045.5434	-1218338.891	-1246164.857	-1274626.348	-1303737.878
PV	924,046	1,164,235	1,137,944	1,112,246	1,087,129

g	0.022839266
r	0.046471353

Equity value of Bank according to RI model:

Present Value of RI	+	Present Value of terminal value	+	Equity beg. of year	=	Equity value
5,425,599(\$23,393,520.87)				58,115,566		\$40,147,644.34

4.3.2.12 Data Analysis Jordan Ahli Bank in Palestine

Estimation of cost of equity and Residual income and the calculation of present value:

	2017	2018	2019	2020	2021
NI	3124714.114	3306232.98	3498296.523	3701517.296	3916543.439
Cost of equity employed	4272512.953	3593843.253	3802614.465	4023513.479	4257244.815
RI	-1147798.839	-287610.2723	-304317.9418	-321996.1823	-340701.3758
PV	1,147,799	271,820	271,820	271,820	271,820

g	0.058091352
r	0.058091352

Equity value of Bank according to RI model:

Present Value of RI	+	Present Value of terminal value	+	Equity beg. of year	=	Equity value
2,235,078(\$4,679,179.95)				58,468,841		\$56,024,739.44

جامعة النجاح الوطنية

كلية الدراسات العليا

تطبيق طريقة التدفقات النقدية وطريقة الدخل المتبقي في تقييم
البنوك التجارية: دراسة على البنوك التجارية العاملة في فلسطين

اعداد

مجدل ناصر أحمد خازم

إشراف

د. غسان دعاس

د. خالد زيدان

قدمت هذه الأطروحة استكمالاً لمتطلبات الحصول على درجة الماجستير في
المحاسبة بكلية الدراسات العليا في جامعة النجاح الوطنية في نابلس، فلسطين.

2018

ب

تطبيق طريقة التدفقات النقدية وطريقة الدخل المتبقي في تقييم البنوك التجارية: دراسة على البنوك التجارية العاملة في فلسطين

اعداد

مجدل ناصر أحمد خازم

إشراف

د. غسان دعاس

د. خالد زيدان

الملخص

الفكرة الرئيسية لهذه الدراسة هي دراسة قيمة البنوك التجارية العاملة في فلسطين. باستثناء البنوك الإسلامية. تعرض الدراسة الخطوط العريضة لتقييم البنوك وتوفير إطاراً لعملية التقييم بناءً على نموذجين تقييم مقبولين عموماً: نموذج خصم الدخل المتبقي ونموذج خصم التدفقات النقدية (ECF) المطبقة على البنوك في فلسطين. يتم استخدام كلا النموذجين لحساب قيمة البنوك في فلسطين بحيث تكون نتائجهما مماثلة. ضمن القطاع المصرفي الفلسطيني تم اختيار البنوك التجارية العاملة في فلسطين لتمثل العينة وتم استثناء البنوك الإسلامية لأغراض تجانس العينة بحيث تبقى 13 بنك في عينة الدراسة. تم جمع البيانات الضرورية من البيانات المالية السنوية المدققة لكل بنك، والتقارير السنوية الصادرة عن سلطة النقد الفلسطينية في الفترة ما بين 2008 إلى 2016 وقد تم التنبؤ بالبيانات المستقبلية للسنوات الخمس المقبلة.

الترابط عالي بين النموذجين هذا ما اشار اليه تحليل T-Test الذي يستخدم لتحديد ما اذا كان هناك فروقات بين قيم البنوك باستخدام النماذج الموصى بها. كانت هذه النتيجة مشابهة للدراسات السابقة مثل (هالسي، 2001) التي ناقشت أن نموذج خصم الدخل المتبقي يعادل نموذج خصم التدفقات النقدية. كانت نتيجة التحليل الاحصائي (Significant 2 tailed) أقل من 0.05، وهذا يضمن عدم وجود فرق بين قيم البنوك باستخدام النموذجين. تؤثر جميع العوامل في كلا النموذجين على قيمة البنك باستثناء الاهتلاك في نموذج خصم التدفقات النقدية. العاملان الرئيسيان اللذان يؤثران على القيمة في نموذج خصم التدفقات النقدية هما صافي الدخل وصافي

ج

الزيادة في القروض. أما بالنسبة لنموذج خصم الدخل المتبقي، فإن صافي الدخل والدخل المتبقي هما العاملان الرئيسيان اللذان يؤثران في القيمة. نظرًا لقضايا التقدير، كانت قيم بنوك الأسهم لكلا النموذجين متكافئة وليست متطابقة.

الكلمات المفتاحية: تقييم البنوك، قيمة البنك، التدفقات النقدية، طريقة خصم الدخل المتبقي.