Electronic Credit Cards Usage and Their Impact on Bank’s Profitability: The Rate of Return on Owners Equity Model

"An Empirical Study"

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Abstract
The Purpose of this study was to know the effect of Using the electronic credit cards included the number of electronic credit cards the proportion of Investment in credit cards, and the Operation Expenses to the credit cards, and Explaining its effect in the net Income from credit cards and showing the effect of the net income from credit cards for the bank's profitability by Using return on equity model. This study was applied on a sample of Commercial banks working in Jordan, the information and data were collected from Annual reports given by the banks and by returning to the credit management in Commercial banks. To analyze the study data and to test its hypothesis, the (SPSS) system was used. Moreover, In order to answer the Questions of this study, the equation a simple Regression was used. This study found that there is the effect between the number of credit cards. Furthermore, there is effect the net Income from credit cards. The proportion of Investment and net Income from credit cards. Moreover there is effect between operation expenses to credit cards and net income from credit cards, and there is a positive effect between net income from credit cards and of profitability (ROE). The recommendations of this study, the commercial banks working in Jordan must Increase the Issues the credit cards of all kinds, and it must also Increase the operation expenses, Investment for credit cards to Increase the potential of Investment in credit cards in the commercial banks working in Jordan.

Keywords: Electronic Credit Cards, Profitability, Rate of Return, Owners Equity Model, Bank, Jordan

1. Introduction

Previous decades have seen a great development due to the rapid development in the world of technology and communication, which in turn led to the emergence of electronic means and their usage in all fields, until it became indispensable means to everyone in society, making many of the contractual procedures done through computerized electronic systems as a modern alternative to traditional contracts done by correspondence and telegrams; due to their speed and accuracy in drawing up contracts, and easily recognized by electronic means. One product of this progress in the field of technology and communications technology was the emergence electronic credit cards (Abu Al-Ezz, 2008). Based on the above, credit cards have became due to many advantages one of the strongest competitors of liquid money in all purchasing...
transactions, and thus, became the spearhead that will kill liquid money (Kamel, 2000, p 300). While banks are a part of the global environment, commercial banks operating in Jordan have been affected by this technological progress in the world of communications, which requires these banks to adapt and cope with these rapid changes in a world of competition in order to ensure their survival.

The importance of the study springs from the importance of credit cards. It tries to investigate the relationship between credit cards and profitability of commercial banks. In addition, an increase in the sales of credit cards have an impact on increasing income from those cards that necessarily leads to the return on equity. Review of previous studies showed that there are few Arab studies in this topic, therefore, the study tried to contribute clearly to explore the impact of electronic credit cards on profitability of commercial banks operating in Jordan, especially since banking sector is characterized by its rapidly lead due to technological progress and globalization of information. Due to the lack of studies relevant to this issue in Jordan, this study came to discuss the impact of the use of electronic credit cards on profitability of commercial banks operating in Jordan, using a rate of return on owners equity model.

2. Literature review

2.1 The concept of credit cards

Money had gone through different stages, passing through money made of gold, silver, bronze, copper, iron, and up to today paper money (Ababneh, 2008). For fear of money loss, there is a need for places where money can be deposited for their owners, banks and financial institutions of various types were established to meet this goal. These banks and financial institutions provide means all to facilitate transactions of depositors and provide the highest degree of safety for their money. When there is a need to combine the ease of dealing with money and carry it, bills of exchange (Chques) were used. With the acceleration of buying and selling transactions, consumers need a more speed and secure means that facilitate their ability get their purchases anywhere and in any time, banking institutions issued what is known as credit card, which provided the holder to ability to get his purchases, even if they did not have the money at that time.

There are several definitions of credit card. One of these definitions (Naim, 1995) states that credit card is “a contract whereby the card issuer be committed to credit a certain amount of money for someone who is the cardholder in order to meet her or his personal purchases from shops that are associated with the issuer of the card with a contract to accept the fulfillment of cardholder’s purchases, and that is the final settlement after each specified period”. According to (Al-Zubaidi, 2002), credit card was defined as “a card that gives the holder the right to deal with many shops that are consistent with the issuer of the card to accept the granting of credit for the cardholder to pay off her or his purchases, who will repay the value of purchases to the bank through 25 days from the date of the purchase. The customer pays no interest to the bank for this service if the payment was done during the period, but she or he bears an interest of 1.5% on the remaining balance without payment. The bank earns a commission of 3-5% from the seller of the total value of the invoice”. Another definition by (Ababneh, 2008) indicate that it is “a contract between two parties, namely, the financial institution (the card issuer) and the customer (the cardholder), whereby the card issuer be committed to pay the consequences of client funds to commercial entities, and the cardholder will payback these funds to the bank. In fact, this definition may look similar to a large extent to the previous definition in terms of the idea, so that both definitions show that the credit card is a contract between the bank who issued the card and the customer who hold the card.
Finally, Al-Swah (2006) defined credit card as “a banking tool used to meet the obligations, issued by a financial institution (issuer) to a natural or legal person (the cardholder), in order to make her or him able to make cash withdrawals from banks or buying goods and services from Merchants, with a commitment to rules and conditions specified by the contract between them.

2.2 The emergence of electronic credit cards

The usage of credit cards was in 1914 when western Union in USA issued the payment card (Robert, 2005). In 1917, some major hotels, shops and oil companies, railroads, telegraph following the same idea. In 1924, The General Petroleum Corporation Mobil Oil in California issued the first real credit card that distributed to customers to pay for oil sold for them from their stations scattered across the country. In 1931, airline companies issued credit cards, and in 1936, The Universal Air Travel Plan system was owned by air transportation sector (Rosita, 2004). From the beginning of the fifties and the mid-seventies of the previous century a club called "Diners Club" was introduced a plastic card through which customers can access goods and services from shops and major hotels (Diane, 1998).

In 1958, the largest two banks in the world, namely Bank of America and Chase Manhattan Bank, issued The Bank of America Card", which has become accepted in all parts of the United States of America and has evolved to have a separate institution named National Bank Americard Corp (Al-Saudi, 2001). In 1977, some U.S. banks, which were issued "Bank Americard", agreed to establish an association or non-profit organization for the issuance of a new card called Visa card (Drury & Ferrier, 1984). In March 1985, the agreement between MasterCard and The U.S.A Visa was announced to conduct collection among their systems. Therefore, banks have been able to make sure about the presence or absence of balance in the account of a person carrying a card issued by another bank (Al-Qkdah, 1998, p 395). In the Arab world, the credit card has used in the early eighties, adopted by some Arab countries, and become one of the most important economic factors, as in the case of Lebanon and the Gulf states, especially Saudi Arabia. Most of the Arab banks look forward towards linking its systems to global networks such as Master Card and Visa. For example, the Bank of Afro-Arab in Egypt issued Visa card in 1981. In 1992, The Egyptian Arab Land Bank issued a special card called Arab Bank Visa Card. Additionally; the Syrian Land Bank issued a card called Syria Card in 2001 (Al-Ulaby, 2005).

At the local level, credit cards have used in 1981 when the Petra Bank introduced a credit card in the Jordanian market, then later became a part of a global network of Visa cards. Petra Card was initially slow due to the need to educate customers and retailers how to use this card. In 1982, Cairo Amman Bank issued a card named Cairo Card in cooperation with Petra Bank (Al-Shoura, 2008). In 1991, five Jordanian banks, namely: The Housing Bank for Trade and Finance, the Cairo Amman Bank, Arab Banking Corporation, Bank of Jordan Investment and Finance, and the Arab Investment Bank, decided to establish a Jordanian company for electronic services payment, and give this company an authorization to contract with the Visa International company, as well as contracting with merchants to accept Visa cards. This company purchased a license and assets circle Visa department in Petra Bank (under liquidation) (Al-Qkdah, 1998). In 1993, the Jordan Ahli Bank issued the first MasterCard in Jordan, and then eight Jordanian banks announced the establishment of Jordan company in cooperation with Visa International company (Habashneh, 2008).

2.3 The Concept of Profitability in Commercial Banks

Profits are very important because of confidence of depositors and creditors of the bank. In addition, profits increase bank’s reserves, and therefore face any losses. No doubt that
commercial banks are seeking to increase the value of owners wealth through gaining profits that are not less than those generated by other projects, which are exposed to the same degree of risk, and distribute these profits after retaining a portion in the form of compulsory and optional reserves, allocations and profits is not intended for distribution (Ramadan, 1996). In order to achieve these profits, banks must employ the funds obtained from different sources and reduce its expenses and costs; due to the fact that profit is the difference between total revenue and total expenditure.

Profits are considered a measure of management effectiveness of commercial banks assets, as well as profits are the main goal of the commercial banks - like any other project. Moreover, profits are important tool intended to measure management efficiency in the use of resources, so that, a major part of financial management effort is directed primarily to the optimal use of available resources in order to achieve the best return appropriate for the owners, to face of the credit risk and investments, and to gain the necessary capital. Profitability has been defined as the relationship between profits generated by the firm and investments that contributed to the achievement of these profits, and profitability is a goal of the firm and a benchmark to judge the efficiency of the unit level or partial units (Joseph, 2002).

Profitability also defined as "the ability of the firm to achieve an increase in the value of invested assets, therefore, it is the increase of cash generated by the capital owner, because of, it is the difference between the cash paid to buy the investment components, represented by benefits paid on deposits of all kinds and the cash received on sales of investment components (Aknan, 2000). Based on previous argument, profitability is a strategic goal that allow commercial banks to grow, survive and achieve significant returns. Moreover; loss and inability to grow eventually leads to the erosion of owners rights and thus to liquidation.

2.4 Measuring Profitability in Commercial Banks

The aim of the financial management is to maximize the wealth of the owners, the achievement of this goal depends on the ability of banks to make a profit. Usually, profitability is measured by calculating the relationship between the net profit after tax, and net owners equity represented by the capital paid and reserves. This rate is frequently used by commercial and industrial organizations because of its importance to illustrate the relationship between net profits divided by total owners equity (Al-Zoubi, 1998). This rate is calculated according to the following equation:

\[ \text{ROE} = \frac{\text{Net profit after tax}}{\text{Owners equity}} \times 100 \]

ROE is related to ROA through Equity Multiplier (EM). EM is calculated according to the following equation:

\[ \text{EM} = \frac{\text{Total Assets}}{\text{Total Owners Equity}}. \text{Therefore, (Timothy et.al, 2000)} \]

\[ \text{ROE} = \left( \frac{\text{Net Income}}{\text{Total Assets}} \right) \times \left( \frac{\text{Total Assets}}{\text{Total Owners Equity}} \right) \]

That is, \( \text{ROE} = \text{ROA} \times \text{EM} \)

And therefore,

\[ \text{ROE} = \text{ROA} \times \text{Financial Leverage.} \]
Table 1. Rate of return on equity of commercial banks operating in Jordan for the period 2003 - 2007.

<table>
<thead>
<tr>
<th>Bank</th>
<th>2003</th>
<th>2004</th>
<th>2005</th>
<th>2006</th>
<th>2007</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cairo Amman Bank</td>
<td>9.27</td>
<td>14.5</td>
<td>19.28</td>
<td>13.92</td>
<td>14.5</td>
</tr>
<tr>
<td>The Housing Bank for Trade and Finance</td>
<td>7.68</td>
<td>9.16</td>
<td>19.21</td>
<td>11.43</td>
<td>12.52</td>
</tr>
<tr>
<td>Jordan Commercial Bank</td>
<td>3.22</td>
<td>8.30</td>
<td>19.47</td>
<td>14.15</td>
<td>15.29</td>
</tr>
<tr>
<td>Arab Banking Corporation</td>
<td>23</td>
<td>17</td>
<td>22.41</td>
<td>16.71</td>
<td>13.65</td>
</tr>
</tbody>
</table>

Source: percentage was calculated by the researcher based on the financial statements of commercial banks and annual reports.

The above table shows that the rate of return on equity fluctuates up and down from year to year. It has risen from (10.80%) in 2003 to (12.24%) in the same year, and up to the highest percentage (20.10%) in 2005, and declined in 2006 - 2007 to (14.05% - 13.99%). Perhaps the low rate of return on equity in 2003-2004 is due to the vulnerability of the U.S. invasion of Iraq, which impact the national economy of Jordan. In the period from the end of 2004 to the end of 2006, ROE has returned for a high rate of return because Jordan overcome this economic crisis, the increase if the financial resources of the banks, and the increased economic activity which had a positive impact on this rate.

In 2007, ROE has decreased due to the low performance of some commercial banks, and their inability to achieve an excellent rate of profit is, which result in erosion of owners equity and a low rate of return. In addition, this decline is caused by the increase of global oil prices.

3. Evolution of Credit Card Issuing Data by the Sample Banks

The aim of this section is to illustrate data related to study variables, which are represents the independent variables of the study.

1) Number of Credit Cards

Table (2) shows that the Housing Bank for Trade and Finance is the first one among the sample banks in relation to the size of the issuance of credit cards, and for various years cards versions. The issuance of credit cards in 2003 was approximately (36036) cards, and (89158) cards in 2007, i.e. a percentage growth of (147%). The second bank is Cairo Amman Bank, as the volume credit cards issued in 2005 was (15026) cards, and (33735) cards in 2007, with a percentage growth of (124%). Arab Banking Corporation is the third one with a percentage growth of (172%), followed by Jordan Commercial Bank with a percentage growth of (5.57%). It is clear that the Housing Bank for Trade and Finance accounts for a large proportion of the credit card market in Jordan as to in the volume of electronic credit cards issuance.

Table 2. Number of Credit Cards of commercial banks operating in Jordan (in Millions JD)

<table>
<thead>
<tr>
<th>Year</th>
<th>Cairo Amman Bank</th>
<th>The Housing Bank for Trade and Finance</th>
<th>Jordan Commercial Bank</th>
<th>Arab Banking Corporation</th>
</tr>
</thead>
<tbody>
<tr>
<td>2003</td>
<td>N.A</td>
<td>36036</td>
<td>N.A</td>
<td>2323</td>
</tr>
<tr>
<td>2004</td>
<td>N.A</td>
<td>37973</td>
<td>350</td>
<td>4969</td>
</tr>
<tr>
<td>2005</td>
<td>15026</td>
<td>60301</td>
<td>600</td>
<td>5585</td>
</tr>
<tr>
<td>2006</td>
<td>28502</td>
<td>82351</td>
<td>1000</td>
<td>5616</td>
</tr>
<tr>
<td>2007</td>
<td>33735</td>
<td>89158</td>
<td>2300</td>
<td>6325</td>
</tr>
</tbody>
</table>

Source: Commercial banks, Annual reports, Different issues, Credit cards departments.
2) Capital Investment of Credit Card

Table 3. Capital Investment of Credit Card of commercial banks operating in Jordan (in Millions JD)

<table>
<thead>
<tr>
<th>Year</th>
<th>Cairo Amman Bank</th>
<th>The Housing Bank for Trade and Finance</th>
<th>Jordan Commercial Bank</th>
<th>Arab Banking Corporation</th>
</tr>
</thead>
<tbody>
<tr>
<td>2003</td>
<td>N.A</td>
<td>1579415</td>
<td>N.A</td>
<td>1223830</td>
</tr>
<tr>
<td>2004</td>
<td>N.A</td>
<td>2488795</td>
<td>192188</td>
<td>1899695</td>
</tr>
<tr>
<td>2005</td>
<td>14230216</td>
<td>5477870</td>
<td>1061916</td>
<td>2604021</td>
</tr>
<tr>
<td>2006</td>
<td>15302286</td>
<td>8288372</td>
<td>2397781</td>
<td>3865857</td>
</tr>
<tr>
<td>2007</td>
<td>16174356</td>
<td>10533992</td>
<td>2889776</td>
<td>5736862</td>
</tr>
</tbody>
</table>

Source: Commercial banks, Annual reports, Different issues, Credit cards departments.

Table (3) shows that Cairo Amman Bank is the first one among other sample banks in relation to the volume of investment in electronic credit cards, as the volume of investment in these cards in 2005 was (14,230,216) JDs, and increased to (16,174,356) JDs in 2007 with a percentage growth of (14%). This is possibly due to the total assets such as cash and as there are many branches of the bank in different countries. The Housing Bank for Trade and Finance is the second one, where the investment these cards was (1579415) JDs in 2003 and (10533992) JDs in 2007; representing (6%), and this is due to the bank's acquisition of a large market share in general.

3) Operations Expenses of Credit Card

Table 4. Operating expenses of Credit Card of commercial banks operating in Jordan (in Millions JD)

<table>
<thead>
<tr>
<th>Year</th>
<th>Cairo Amman Bank</th>
<th>The Housing Bank for Trade and Finance</th>
<th>Jordan Commercial Bank</th>
<th>Arab Banking Corporation</th>
</tr>
</thead>
<tbody>
<tr>
<td>2003</td>
<td>N.A</td>
<td>343720</td>
<td>N.A</td>
<td>167014</td>
</tr>
<tr>
<td>2004</td>
<td>N.A</td>
<td>459117</td>
<td>70000</td>
<td>248814</td>
</tr>
<tr>
<td>2005</td>
<td>1441575</td>
<td>803349</td>
<td>122394</td>
<td>406702</td>
</tr>
<tr>
<td>2006</td>
<td>1716161</td>
<td>1295315</td>
<td>322678</td>
<td>650554</td>
</tr>
<tr>
<td>2007</td>
<td>1991847</td>
<td>1795812</td>
<td>369707</td>
<td>930533</td>
</tr>
</tbody>
</table>

Source: Commercial banks, Annual reports, Different issues, Credit cards departments.

Table (4) shows that the Cairo Amman Bank still the first one among commercial banks in Jordan with respect to the volume of operating expenses allocated to spending on credit cards, as the volume of operating expenses for this bank in 2005 was (1,441,575) JDs, and (1991847) JDs in 2007 with a percentage growth of (42%). No doubt that there is a relationship between the investment volume in credit cards and the operational spending for these cards.
4) Income from Credit Cards

Table 5. Income from Credit Card of commercial banks operating in Jordan (in Millions JD)

<table>
<thead>
<tr>
<th>Year</th>
<th>Cairo Amman Bank</th>
<th>The Housing Bank for Trade and Finance</th>
<th>Jordan Commercial Bank</th>
<th>Arab Banking Corporation</th>
</tr>
</thead>
<tbody>
<tr>
<td>2003</td>
<td>N.A</td>
<td>1406215</td>
<td>N.A</td>
<td>420020</td>
</tr>
<tr>
<td>2004</td>
<td>N.A</td>
<td>1893258</td>
<td>163168</td>
<td>430964</td>
</tr>
<tr>
<td>2005</td>
<td>1346379</td>
<td>2310692</td>
<td>114708</td>
<td>512107</td>
</tr>
<tr>
<td>2006</td>
<td>1417241</td>
<td>2690847</td>
<td>246653</td>
<td>634783</td>
</tr>
<tr>
<td>2007</td>
<td>1489535</td>
<td>3131448</td>
<td>329309</td>
<td>684105</td>
</tr>
</tbody>
</table>

Table (5) shows that the Housing Bank for Trade and Finance is the leading bank in terms of income gained from electronic credit cards in view of the fact that the income generated by these cards was (1406215) JDs in 2003 and (3131448) JDs in 2007 with a percentage of growth of (120%), followed by the Cairo Amman Bank, where the income added up to (1346379) JDs in 2005 and (1489535) JDs in 2007, with a percentage growth of (11%). In fact, this increase is due to the large portion of investment volume and operational spending.

Table 6. Data of commercial banks operating in Jordan regarding Electronic Credit Cards

<table>
<thead>
<tr>
<th>Year</th>
<th>Number Of Credit Card</th>
<th>Operations Expenses of Credit Card</th>
<th>Capital Investment of Credit Card</th>
<th>Income From Credit cards</th>
</tr>
</thead>
<tbody>
<tr>
<td>2003</td>
<td>38359</td>
<td>510734</td>
<td>2803245</td>
<td>1826235</td>
</tr>
<tr>
<td>2004</td>
<td>43292</td>
<td>777931</td>
<td>4580678</td>
<td>2487390</td>
</tr>
<tr>
<td>2005</td>
<td>81512</td>
<td>1476602</td>
<td>23374023</td>
<td>4283886</td>
</tr>
<tr>
<td>2006</td>
<td>117469</td>
<td>2774020</td>
<td>29854296</td>
<td>4989524</td>
</tr>
<tr>
<td>2007</td>
<td>131518</td>
<td>3295236</td>
<td>35334986</td>
<td>5634397</td>
</tr>
</tbody>
</table>

Source: Commercial banks, Annual reports, Different issues, Credit cards departments.

Table (6) shows that there is an evident volatility in issuance years of the electronic credit cards and related variables such as operational expenses, income generated from credit cards, investment size and the number of credit cards. The table shows that there is an increase started from 2005 until 2007. Perhaps this increase in the issuance of credit cards, the increase in the volume of investment in the credit card, the size of operating expenses, is due to the recent technological evolution, improvement in living standards among Jordanians. In 2003/2004, there was a clear decline with respect to the number of credit card issued, the size of investment, operating expenses, and income generated from these cards. This decrease maybe due to lack of sufficient knowledge of customers on how to these cards work. Additionally, banking services were affected by the political events, particularly the US invasion of Iraq in 2003.
4. Study hypotheses

1st Hypothesis: there is a statistically significant impact of the number of credit cards on the net income from these cards. The aim of this hypothesis is to investigate the relationship between these constructs according to the following mathematical method:

\[ NI = \alpha + \beta NC_i + e \]

Where:
- : Net Income from Credit Cards \( NI \)
- Number Of Credit Card : \( NC \)
- : Error \( e \)

2nd Hypothesis: there is a statistically significant impact of operating expenses allocated to the credit cards income from credit cards. The hypothesis designed to investigate this relationship in accordance with the following mathematical model:

\[ NI = \alpha + \beta OE_i + e \]

Where:
- : Net Income from Credit Cards \( NI \)
- Operation Expenses Of Credit Card: \( OE \)
- : Error \( e \)

3rd Hypothesis: there is a statistically significant impact of investment size allocated to the credit cards on income generated from credit cards. The hypothesis is designed to investigate this relationship in accordance with the following mathematical model:

\[ NI = \alpha + \beta IC_i + e \]

Where:
- : Net Income from Credit Cards \( NI \)
- Investment Of Credit Card: \( IC \)
- : Error \( e \)

4th Hypothesis: there is a statistically significant impact of net income from credit cards on profitability represented by ROE. The hypothesis is designed to investigate this relationship in accordance with the following mathematical model:

\[ ROE = \alpha + \beta NI_i + e \]

Where:
- : Net Income from Credit Cards \( NI \)
- Return on Equity: \( ROE \)
- : Error \( e \)
5. Study Methodology

5.1 The study population

The study population consists of commercial banks operating in Jordan that listed in the Amman Financial Market for the period (2003-2007). The study sample is commercial banks operating in Jordan that issue credit card and have available financial data to calculate the values of variables for the period 2003-2007. Table (1) shows the population of the study.

5.2 Description of the study sample

The study sample included the following characteristics:

1) Commercial banks operating in Jordan that listed in Amman Financial Market for the period 2003-2007, and thus commercial banks operating in Jordan that began work after 2003 were excluded from the sample.

Table 7. Commercial Banks operating in Jordan

<table>
<thead>
<tr>
<th>Jordanian commercial banks</th>
<th>Non-Jordanian commercial banks</th>
</tr>
</thead>
<tbody>
<tr>
<td>Arab Bank</td>
<td>HSBC Bank Middle East</td>
</tr>
<tr>
<td>Jordan Ahli Bank</td>
<td>Egyptian Arab Land Bank</td>
</tr>
<tr>
<td>Jordan Bank</td>
<td>Rafidain bank</td>
</tr>
<tr>
<td>Cairo Amman Bank</td>
<td>CITY BANK</td>
</tr>
<tr>
<td>The Housing Bank for Trade and Finance</td>
<td>Standard Chartered Bank</td>
</tr>
<tr>
<td>Jordan Kuwait Bank</td>
<td>National Bank of Kuwait</td>
</tr>
<tr>
<td>Jordan Commercial Bank</td>
<td>Bank Audi</td>
</tr>
<tr>
<td>Arab Jordan Investment Bank</td>
<td>BLOM Bank</td>
</tr>
<tr>
<td>Arab Banking Corporation(Jordan)</td>
<td></td>
</tr>
<tr>
<td>Jordan Investment &amp; Finance Bank</td>
<td></td>
</tr>
<tr>
<td>Union Bank for Savings and Investment</td>
<td></td>
</tr>
<tr>
<td>Societe Generale Bank - Jordan</td>
<td></td>
</tr>
<tr>
<td>Export and Finance Bank</td>
<td></td>
</tr>
</tbody>
</table>

Source: Central Bank of Jordan (2007)

2) Commercial banks operating in Jordan listed in Amman Financial Market that issue credit cards before 2003, and thus commercial banks do not issue credit cards or issued credit cards after 2003 were excluded from the sample.

3) The study sample included four commercial banks operating in Jordan, namely: The Housing Bank for Trade and Finance, Cairo Amman Bank, Arab Banking Corporation and Jordan Commercial Bank. While these banks responded to give the necessary data for the study, the rest of banks apologized because of information security.

5.3 Operational definitions (study variables):

- Electronic credit card (ECC): cards that give the holder the ability to buy goods and services at any time, so that she or he can repay the bank in a late time. If the cardholder cannot fully repay the loan amount in this month, she or he allowed to rotate a part or all of the amount borrowed to the next month in retain to added interest to the debit balance.
- Electronic credit card number (NECC): the number of credit cards issued by the Bank during a certain period of time.

- Types of electronic credit card (TECC): The different types of credit cards issued by the Bank, such as Visa cards and MasterCard cards.

- Operating expenses for electronic credit cards (OECC): the expenses allocated to the issued electronic cards during a specific time period.

- The volume of investment in the electronic credit card (IOCC): The allocation of a part of the Bank's financial resources in the field of electronic credit cards so that leads to maximize the return from this resource.

- Income from credit cards electronic (NICC): The sum of profits generated from electronic credit cards after deducting the value if electronic.

- Profitability (PR): The use of financial indicators to measure the achievement of the bank’s financial goals that set during a specific time period. Based on the previous studies, the rate of return on equity (ROE) as a measurement of bank’s profitability was chosen. ROE can be calculated as follows:

\[
ROE = \frac{\text{Net Income}}{\text{Average Total Assets}} \times \frac{\text{Average Total Equity}}{\text{Average Total Assets}}
\]

\[ROE = \text{ROA} \times EM\] (Timothy et.al, 2000)

5.4 Test of Hypotheses and Discussion of Results

1st Hypothesis: There is a statistically significant impact of the number of credit cards on the net income from these cards. The aim of this hypothesis is to investigate the relationship between these constructs according to the following mathematical method:

\[NI = \alpha + \beta_1 NC_i + e\]

The simple regression test was used to test this hypothesis. The results are illustrated as follows:

\[NI = 7191.79_{(1.832)} + 37.912_{(8.753)} \times NC\]

\[R^2 = 0.950\]

\[F = 76.611\]

According to the above results, the number of credit cards have a positive impact on income generated from credit cards, with a significance level of (0.003), as the increase in the number of credit cards (1%) card lead to increased income by (37.912) JDs.

On the other hand, the results indicate that the change in the number of credit cards explain about (95%) of the change in the net income from credit cards. As for the F-test, it measures the significance of the model as a whole, its value indicate that it is significant at the level of less than (1%), which indicates a high level of confidence of the model. Thus, the hypothesis accepted.

2nd Hypothesis: There is a statistically significant impact of operating expenses allocated to the credit cards income from credit cards. The hypothesis designed to investigate this relationship in accordance with the following mathematical model:
\[ NI = \alpha + \beta_1 OE_i + e \]

The simple regression test was used to test this hypothesis. The results are illustrated as follows:

\[ NI = 1562.725_{(3.357)} + 1.342_{(5.745^p)} OE_i \]

\[ R^2 = 0.889\% \]

\[ F = 33.002 \]

According to the previous results, the operating expenses have a positive impact on net income from credit cards, with a significance level of (0.010), as the increase in operating expenses by (1) JD will lead to an increase in income from credit cards by (1.342) JD. In addition, the change in operating expenses explained about (88.9%) of income resulting from these cards. This result may be due to the increased advertising, which leads to an increase in the volume of the credit cards issued. The effect of operating expenses on the income from credit cards is accepted at the level less than (1%), and therefore the results of the analysis confirm the hypothesis. F-test indicates that its value is significant at the level less than (1%), which reveals out a high confidence of the model.

3rd Hypothesis: there is a statistically significant impact of investment size allocated to the credit cards on income generated from credit cards. The hypothesis is designed to investigate this relationship in accordance with the following mathematical model:

\[ NI = \alpha + \beta_1 IC_i + e \]

The simple regression test was used to test this hypothesis. The results are illustrated as follows:

\[ NI = 1739.536_{(11.507)} + 0.110_{(16.908^p)} IC_i \]

\[ R^2 = 0.986\% \]

\[ F = 285.873 \]

According to the previous results, the volume of investment in credit cards have a positive impact on net income resulting from credit cards, with a significance level of (0.000), as the increase in the volume of investment in the credit card by (1) JD will lead to an increase in income from credit cards by (0.110) JDs, and the change in the volume of investment explained about (98.6%) of income from the credit cards. The impact of the volume of investment in credit cards on the income from these cards is acceptable at a level less than (1%), and therefore the results of the analysis confirm the hypothesis. F test results indicate that its value is significant at a level less than (1%), which indicates a high level of confidence of the model. Therefore, there is a positive impact of the volume of investment in the credit cards on the resulting net income.

4th Hypothesis: there is a statistically significant impact of net income from credit cards on profitability represented by ROE. The hypothesis is designed to investigate this relationship in accordance with the following mathematical model:

\[ ROE = \alpha + \beta_1 NI_i + e \]
The simple regression test was used to test this hypothesis. The results are illustrated as follows:

\[ ROE = 1743.78 (0.012) + 9.104 (2.56) NI_t \]

\[ R^2 = (0.582\%) \]

\[ F = 6.559 \]

According to the previous results, income from credit cards has a positive impact on profitability, with significance level of (.083), as the increase in income from credit cards by (%1) JD will lead to an increase in profitability by (9.104) JDs, the change in income from credit cards explained about (58.2\%) of profitability represented by ROE. The impact of income from credit cards on profitability (ROE) is acceptable at a level less than (1\%), and therefore the results of the analysis suggested that the hypothesis is accepted. F-test, as a measures the significance of the model as a whole, indicate that its value is significant at a level of less than (1\%), which indicates a high confidence of the model and, therefore, we accept the hypothesis that there is a positive impact of income from credit cards and profitability (ROE).

6. Conclusions

Based on the literature review and tests of hypotheses, the study concluded that the commercial banks operating in Jordan focused on increasing the issuance of credit cards as a service of electronic banking; because of it has a positive impact on the increase of net income generating from credit cards, which in turn leads to increased rate of ROE. The commercial banks also allocate a large part of the financial assets for the operating expenses relating to credit cards due to its significant impact on increasing the financial assets of the banks. In addition, commercial banks operating in Jordan a large portion of the financial to increase the volume of investment in credit cards due to its significant impact in increasing the banks' financial assets, and because of its positive impact in increasing the proportion of net income from these cards. Finally, commercial banks operating in Jordan try to increase the income resulting from credit cards, because it is a resource of financial banks resources, which is due to the high profitability of commercial banks operating in Jordan represented by return on equity.

7. Recommendations

Based on the above results, researchers recommend managers and decision and policy makers in commercial banks operating in Jordan to increase the issuance of credit cards of all kinds, as well as to increase allocation of investment volume in credit cards, and increase the return of the net income from credit cards, in addition to increasing the size of allocations operating expenses for credit cards, in order to increase the power of advertising, and clarify the whole picture from credit cards customers.

Researchers also believe that commercial banks operating in Jordan should apply banking restrictions on customers who use credit cards in order to reduce credit cards that negatively affect commercial banks. Moreover, commercial banks should notify customers of the importance of credit cards with an implementation of precautionary on using credit cards. Finally, commercial banks should expand the range of banking and commercial services covered by credit cards.
References

Ababneh, Omar. (2008), Payment in Installments by Credit Cards, Dar Al-N’faes, Amman, Jordan.


Al-Saudi, Mohammed. (2001), Credit Cards and Their Legal Foundations, Al-ameen House, Cairo, Egypt.


Al-Ulaby, Anas. (2005), The Legal System for Credit Cards, Al-Halabi Legal publications, Lebanon.


Goel, Ritendra. (2007), E- commerce, New Age International, USA.


Kamal, Mustafa and Bondoq, Wael. (2005), Commercial Papers and Modern Electronic Payment Methods, Dar Al-Feker Al-Jamee, Alexandria, Egypt.


Naim, Fayez. (1995), Credit Cards, Modern Arab Press, Cairo, Egypt.


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