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# Qard Al-Hassan Model as an Institutionalised Method of Islamic Finance

## HASAN KAZAK HASAN BASRI ALIM

#### ABSTRACT

This study aims to show that it is possible to apply Qard Al-Hassan (interest-free loan) within a corporate structure, enabling extra earnings rather than a decrease in money for businesses. It is obvious that this model can create a considerable solution for financial problems if it is fully understood and disseminated. As an effective solution, it aids businesses having Islamic concerns and sensitivity to stay away from interest. The purpose of this research is to propose that Qard Al-Hassan, a significant part of interest-free financial system, should become active again as it leads the businesses to increased value rather than financial losses. This study is based on a theoretical and conceptual framework and reveals a basic model in which an institutional Qard fund is established. This research considers a simple model in the form of a corporate Qard fund to show that Qard Al-Hassan will bring about overall financial benefits rather than losses. Further studies on this topic are likely to show improved and detailed versions of Qard fund. Researchers carrying out such studies on this topic will contribute to the financial world and literature. It has been pointed out that a Qard Al-Hassan fund would allow corporations to meet their financial needs, and the money corporations invest in this fund would not result in any kind of loss for them; rather, it would bring more benefits than estimated.

Keywords: Qard Al-Hassan; interest-free finance; Islamic finance; help loan

#### INTRODUCTION

In today's world of finance, it is often not possible for companies to fund their assets only with their own resources and to compete in nationalinternational markets with the resources obtained. They are required to use both foreign assets and their own funds when financing their investments and operations. This is due to the necessity on the one hand, and on the other hand, it allows the shareholders of the company to obtain more equity profitability (ROE) by leveraging the leverage effect. This is also similar when the situation is evaluated in terms of Islamic finance. When the shareholders of the company have insufficient resources, they can use Islamic financing instruments such as musharakah (partnership) to provide the resources they need. Also, in the Islamic mode of financing, the quasi leveraging is possible (also often observed) by off-balancing the murabahah or ijarah (lease) contracts aiming to increase the return on equity (ROE). Although the development and use of these Islamic financial instruments and others similar is important, they still have not reached the desired levels in the financial systems of Islamic countries. Nonetheless, Islamic funds and financial systems display a swift development. Today, due to this rapid development of the Islamic finance sector and the

fact that Islamic funds are approaching 3 billion dollars, interest in this field has increased gradually, as a result of which publications in this field have increased while Islamic financial institutions have become institutionalized to a large extent (Okka & Kazak 2021). In the light of these developments, companies with Islamic sensitivity benefit from these Islamic instruments, including their own resources, and still have to outsource their ongoing needs.

Given that it is necessary to use foreign assets in the financing of resources, companies with Islamic sensitivity also have an obligation to obtain these resources without dealing with interest because Islam forbids all exchanges involving interest. Almighty Allah said in the Quran that, 'Those who consume interest cannot stand [on the Day of Resurrection] except as one stands who is being beaten by Satan into insanity. That is because they say, "Trade is [just] like interest." But Allah has permitted trade and has forbidden interest ... '(al-Bagarah, 2/275). It was also said by Almighty Allah that he will deprive usury of all blessing but will give increase for deeds of charity (al-Baqarah, 2/276); furthermore, he clearly states that interest spoils properties and resources rather than increase them.

Because of Islam's disapproval of the use of interest, companies need to apply Islamic ways to solve the problem of how to obtain the funds required for their operations. Studies about this issue have been conducted for years by Islamic scholars, who have been able to come up with various financial solutions. Many of the solutions are now being provided for businesses, especially by Islamic banks (in the form of participation banks in Turkey) in many Islamic countries. As well as these financial institutions, Islamic stock market instruments and other Islamic solutions are available for companies to utilise (Okka & Kazak 2021).

One of the most important solutions for businesses and individuals to find the funds they need is the institution of 'Qard Al-Hassan'. This method has, however, not been able to develop much, despite its being a promising Islamic financial solution. Although it was practised in some countries (such as in the Ottoman Empire) throughout history, and it is still observed in different forms today, it failed to develop or grow. However, it would be a promising financial instrument to contribute as a significant solution for many of today's economic problems, and firms' financial troubles, if it were accurately understood, utilized and disseminated.

The main purpose of this study is to draw attention to an Islamic financial instrument which the firms are not very aware of and to pave the way for the use of Qard Al-Hassan method in the solution of the fund needs of the firms. The advances of using Qard Al-Hassan for the firms have been revealed in order to provide this awareness.

Firms needs the usage of foreign sources when they are inadequate to meet their funding needs with their own sources. In this study, the advantages and disadvantages of providing the funds from financing sources with interest or the Qard Al-Hassan fund model are introduced. For this purpose, a corporate Qard Al-Hassan fund model have been proposed in which firms can obtain funds they need. Then, the costs incurred due to raise funds for this model and the cost advantage of using the funds when the firm needs are compared.

In our literature survey, the micro finance and Qard Al-Hassan terms have been considered by many authors and some authors expressed the need to develop this structure by institutional structures such as banks. Qard Al-Hassan is mainly reviewed under the title of economic growth and development. Especially for the countries that are at the beginning of their economic growth process, for providing the involvement of low-income citizens into the economy with interest-free supports the by micro credits, achieving the economic growth and justice in distribution of income and solution of social problems, Qard Al-Hassan model is frequently mentioned with the concept of zakat.

However, in this study, the subject has been considered for the firms which are important dynamics of the economy with a different point of perspective and a model that can be applied to all countries without distinction of considering developed or undeveloped status of the countries has been presented. In case of using the proposed model, it has been shown that Qard Al-Hassan is found to have a cost advantage for the firms rather than an additional cost.

This study is based on a theoretical and conceptual framework. The supporting and the confirming of the model with empirical evidences and practices will increase the strength of the proposed model. In addition, revealing the problems and their possible solutions of this system in terms of Islamic rules –if any- will contribute to the model by adding more value and helps the model to get developed.

#### QARD AL-HASSAN

'Qard' (القرض) is defined as 'cut off, to respond' in dictionaries; it also means 'to walk about crossway' when it is used about a space especially (Apaydın 2002). It actually refers in technical terms to lending property to someone else. The reason for having named it 'Qard', meaning striking off the money lent, is because the loan is separated from the entire property and delivered (Şirvani 1882). Qard means someone gives cash or a property to be used by somebody else, on the condition that he receives it back in its original form without adding any surplus (without interest) (İbn Âbidîn 1992; Kâsânî 1982; Zuhayli 1989).

As is understood from the definition above, the word 'Qard' does not have the same meaning as the words 'borç' in Turkish, 'debt' in English and 'dette' in French. The equivalent word for debt in Arabic is not 'Qard' (القرض) but 'deyn' (دين). 'Qard' is more specific, while 'deyn' is general. 'Qard', which is the main topic of this article, is the same as 'deyn', which is a more general term. In other words, 'deyn' takes in 'Qard'. To illustrate, getting into debt by buying something on hire is not an instance of 'Qard' but rather of 'deyn'. To illustrate, while there may be a due date in the "deyn" process, it is debatable whether there will be one in the "Qard" contract. Some factors, such as the determination of the due date, are considered contrary to the purpose of the Qard contract, according to the views of the majority of jurists. The reason for this is that the contract of Qard is basically based on welfare and assistance to the debtor, and the time limit for payment is contrary to the purpose of welfare and assistance. Although there is a logical justification, the sharia allows such a practice based on the validity of placing a payment term limit on other debt transactions in general, as in verse 282 of Surat al-Baqara. This is the view of Maliki (Ibn 'Abd al-Barr 1986) and Zahiri (Ibn-Hazm 1970) school (Yusoff & Zain 2017). Therefore, the main topic of this study is not the conditions of 'deyn' but of 'Qard', which is a specific form of it.

Another vital issue in the definition above, which should also be taken into account, is that the operation of 'Qard' is different from the operations referred to by the words 'ödünç' in Turkish, 'loaned' in English, 'pret' in French and 'ariyet' (عارة) in Arabic. In an instance of 'Qard', the money or property taken on debt is used up and it is paid back in kind. Similarly, in the operation of borrowing, the property received is rendered in the same amount and form.

In many parts of the Quran, Qard Al-Hassan is praised with the use of the words 'favorable debtloan' and is generally promoted. Almighty Allah willed it in numerous verses of the Quran:

'Who is it that would loan Allah a goodly loan so He will multiply it for him and he will have a noble reward?' (al-Hadid, 57/11).

'Who is it that would loan Allah a goodly loan so He may multiply it for him many times over? And it is Allah who withholds and grants abundance, and to Him you will be returned' (al-Baqarah, 2/245).

'If you loan Allah a goodly loan, He will multiply it for you and forgive you. And Allah is Most Appreciative and Forbearing' (at-taghabun, 64/17).

<sup>6</sup> ... Establish worship and pay the poor due and (so) lend unto Allah a goodly loan. Whatsoever good ye send before you far your souls, ye will surely find it with Allah, better and greater in the recompense ... <sup>2</sup> (al-Muzzammil, 73/20).

<sup>c</sup> ... If ye (but) establish regular prayers, practise regular charity, believe in my messengers, honour and assist them, and loan to Allah a beautiful loan (interest-free), verily I will wipe out from you your evils, and admit you to gardens with rivers flowing beneath ... ' (al Ma'idah, 5/12).

Although the term 'favorable debt-loan' mentioned in these verses of the Quran is considered

to mean aid that will be provided in eternity, a loan which is given to others without expecting interest or reward is regarded as that which is given for Allah. Prophet Muhammad encouraged the use of Qard Al-Hassan by believers, saying:

'At the night of ascension, I saw this clause written on the door of heaven: 'Alms will be rewarded with its tenfold, and loan is rewarded with its eighteenfold form'. I asked to Gabriel: 'Why is the money loaned superior to Alms?' He said: 'Because, the beggar asks for money while he has it (mostly). Those who asks for loan wants it because he needs' (İbn-i Mâce, Sadakât, 19).

'If a muslim gives Qard Al-Hassan to another twice, it is accepted as if he has given an alm once' (İbn-i Mâce, Sadakât, 19).

Considering these verses of the Quran and Prophet Muhammad's sayings, Qard Al-Hassan has proven to be an important means of worship.

#### **REVIEW OF LITERATURE**

In this part of the study, previous studies in literature on Qard Al-Hassan and its practices will be mentioned.

#### GENERAL STUDIES ABOUT QARD AL-HASSAN AND ITS IMPORTANCE

Zarqa (1988) indicated that there existed diverse institutions and structures recommended in Islam which arranged the distribution of income and wealth in a way to meet fundamental needs across the community. Among all the practices, zakat, charity and Qard Al-Hassan came first.

Al-Amine & Al-Bashir (2001) discussed the difficulties of Islamic bill market in their study. In that study of theirs, they considered the government bills and bonds introduced in similar form to Qard Al-Hassan.

Jaafar (2018) stated that mixed opinions and criticisms about the economic and social effects of microfinance have emerged and microfinance industry has been trying to introduce new alternative funding techniques as a response to these criticisms. It mentioned that the interest to the microfinance model based in Qard Al-Hassan has begun to increase. In his study, MFI Akhuwat based in Qard Al-Hassan (focusing on funding sources and offering interest-free microcredit to the poor) has been examined.

#### STUDIES ON QARD AL-HASSAN VOLUME

Qard Al-Hassan has its place in banks' credit usage operations in some Islamic countries. Yasseri (1999) gave a place in his published study to a table of credit facilities combination, provided by Iranian banks. According to this table, in Iranian banking system, the rate of Qard Al-Hassan credits in total amount of all credits was 4,7% in 1995, 4,5% in 1996 and 4,5% in 1997.

Samad, Gardner and Cook (2005) attempted, within their study on the Bank Islam Malaysia (Berhad) and the Bahrain Islamic Bank, to identify the relative intensity of various Islamic finance instruments. In this study, a system like Qard Al-Hassan has been observed in Malesia and Bahrain, amounting 8,09% and 0,08% respectively.

Ab Manan and Shafiai (2015) shed on light on Qard Al-Hassan in the study where Islamic microfinance risk management in Malesia was scrutinized, claiming that it was the least recruited finance instrument. Although it didn't occupy a big place in size, 32,4% of those who provided financing opportunities reported in questionnaire in which they were involved that they gave Qard Al-Hassan at least once in one year.

#### QARD AL-HASSAN IN TERMS OF MICRO CREDIT AND BANKING SYSTEM

Honohan (2001) focused in his study on Islamic finance instruments and their functions. This study also included the consideration of Qard Al-Hassan deposit money and credits in terms of banking system.

Muljawan (2003) shed light, in his study where he considered Islamic financial structure within the frames of risk management and financial stability, on Qard Al-Hassan as a banking product holding the aim to promote social welfare.

Seibel (2005) mentioned Qard Al-Hassan as a micro finance product in his study in which he investigated about Islamic micro finance system in Indonesia. Micro credits in the form of Qard Al-Hassan were considered in that study to be an assistive financing method which could be provided to clients, constituting a small minority group which had no previous records of their operations and were claimed to be too risky to be credited. It was also stated in this study that of all credit products available in Islamic finance cooperative structures, Murabahah led others with the share as 61,5%, while Mudarabah was represented with the rate of 32% and Qard Al-Hassan was the least preferred with 3,5%.

Muthalib (2002) claimed, in his doctorate study where the impact of religion on capital structure decisions of firms in Malesia was investigated, that interest was forbidden, therefore Islamic instruments were preferred, as well as those of Qard Al-Hassan although they referred to a small part of the pie. However, it was also stated that this was a loaning system which was hardly ever recruited by especially Islamic banks.

El-Gari (2004) supported the idea that Islam civilization showed improvement and that a community which was active and able to produce solutions could constitute foundations clearly demonstrating core values of Islamic system. Financial institutions which had their roots from Islam were claimed to reflect the features of justice, equality and social peace. He also proposed the idea to establish a Qard Al-Hassan bank, one of the most significant of these institutions. This bank would seek no profit and survive with donations to be raised from the affluent and gathered fund would be distributed to the poor interest free.

Syaibili (2009) stated that if the participants in takaful operations made through foundations are unable to continue the payment after the first one, the problem can be solved through the Qard Al-Hassan application - by lending through the takaful savings account (Rahaman & Yaacob 2014).

Latief (2013) states that apart from zakat and charity, Islamic banks also consider Qard Al-Hassan resources as an important title to finance social projects.

In the study conducted by Zada & Saba (2013), suggestions were made that would allow Qard Al-Hassan to be spread in countries with a Muslim majority such as Pakistan and Malaysia, revealing its importance for them. The authors feel that the success of this form of finance will help to revive the spirit of Islamic finance demanded by many segments of society, including scholars.

#### QARD AL-HASSAN AND DEVELOPMENT

Atia (2011) claimed in his study that in Egypt, Islamic economic system was not practiced or recruited completely. This study also considered the practices of zakat, almsgiving, and Qard Al-Hassan. Finally, it was claimed in this study that all these Islamic finance methods would directly contribute to development of Islam countries. Musari (2016) stated in his study on Indonesian model that all institutions in finance sector of the country proposed an approach, which allowed them to work cooperatively and had its roots from charity/ noninterest-bearing note method, so that they could finance real sector and maintain economic sustainability. Qard Al-Hassan was pointed in this study to be an instrument used to finance the poor or low-income people through their micro ventures.

Saqib et al. (2015) has revealed in their study, where Qard Al-Hassan was approached within a theoretical and conceptual frame, that it had a very significant place in promoting especially the agrarian population in countries like Pakistan to grow and have development. They also emphasized the need for further empirical evidence in order that they could verify the findings of this study, claiming that this system is crucial and to be practiced.

Aziz & Mohamad (2016) claimed in their research study, where they attempted to propose a model to solve social problems and reduce poverty (Islamic Social Business Model), that Qard Al-Hassan is similar in significance to zakat, almsgiving, and charities. Two types of subprocess models were presented within this study, and Qard Al-Hassan and Islamic micro finance found their places under the title, Type 1.

The study by Mahmood (2019) analyses microfinance services provided by Akhuwat (Qard Al-Hassan and other methods) and the effects on borrowers' income and consumptions by qualitative research methods.

Lawal & Ajayi (2019) focus on the role of Islamic financial instruments (Zakat, Qard Al-Hassan and other methods) on alleviating humanitarian crises in Northeast Nigeria.

Selim (2019) investigate the macroeconomic effects of Qard al-Hassan as a monetary policy tool and its effectiveness in achieving full employment and price stability in economy.

In this and similar other studies investigated, Qard Al-Hassan was usually considered as a micro finance method but was observed to have a very small share of the total funding in countries where it was practiced.

#### APPLICATIONS OF QARD AL-HASSAN IN THE WORLD

Practically, QardAl-Hassan has had its place ensuring there is progress in cooperation among individuals, instead of its aid in meeting the financial needs of corporations. Similar applications to Qard Al-Hassan are also utilised in the form of interest-free microcredit, so that the individual needs of people can be met within the frames of social cooperation. While banking activities which depend on Islamic finance have globally reached significantly bigger sizes, the applications of Qard Al-Hassan have not been able to achieve a demanded growth and have only been used in limited parts of Islamic areas.

Islamic microfinance depends on four basic models Akhuwat (2018). These are:

- 1. Group-Oriented Loan (Grameen Bank Model)
- 2. Country Bank Model
- 3. Credit Union
- 4. Individual Assist Groups

1 - Group-Oriented Loan (Grameen Bank Model): This model is the most popular one, ahead of the other models. It works in the form of grouporiented credit, where group members securitise each other and minimise the risk of default. One of the Grameen Bank Model applications, which have proved to be very successful, has been practiced in Bangladesh.

2 - Country Bank Model: In this microcredit model, a country bank including about 30 members (with a maximum of 50) is established. The country bank supplies the initial capital from outside sources and distributes it to members as a loan. Loans are repaid in weekly instalments, and the expiry time is usually 16 weeks. This model gathers the savings of its members; as these savings reach an expected growth, the bank stops relying on outside sources and starts to provide its members with credit from its own fund. This system is frequently used in Latin America and Africa. This system's taking its place in Islamic finance is conditional on there being no interest in the repayment of the initial capital and the loan provided. The members of a country bank are able to receive an interest-free loan from the system and repay mostly in the form of a weekly instalment.

3 - Credit Union: Credit unions are non-profit cooperatives, which are comprised of a group of people with a common bond. Cooperative members manage the union and provide a range of services, from mobilisation to credit expansion and rescue. Furthermore, credit unions are connected with an upper structure responsible for checking their operations, providing education and monitoring their performance. To make this model Islamic, the gathered funds should not be used for instruments with interest, and interest should not be demanded for the repayment of a loan provided. 4 - Individual Assist Groups: As is understood from its name, this model is based on a group constituted of people with similar incomes who gather together. This is a model where the groups mostly pool the savings of all the members, and the collected money is used for loans by all these members individually. These groups can search for outside sources when needed. The group members can, with the necessary regulations and arrangements, decide upon and shape all the conditions regarding the goods and services to be provided.

For all of the four models described above to be considered as Islam-based, this depends on these following conditions:

- 1. The outside funds should be obtained from interest-free sources. The funds desired should be Islamic and gathered from Islamic finance corporations or philanthropists having Islamic sensitivities.
- 2. The funds gathered, but remaining undistributed to the members, should be put to good use through interest-free investment instruments. The remaining funds are not to be put to use in banks offering interest or in instruments with interest.
- 3. When the gathered funds are used by the members and suitable bodies to provide funds, a surplus involving interest is not to be added.
- 4. Within the same crediting processes, goods or services forbidden by Islam cannot be used as a loan or danism credit.
- 5. It is important to consider the rules which are based upon Islamic facts when establishing fund-providing institutions and carrying out their operations to gather and distribute the fund.

The development and examples of Qard Al-Hassan or microcredit applications implemented throughout the world are as follows:

- 1. Mit Ghamr, which was developed in Egypt by A. Muhammed Abdülaziz en-Enccar, who was inspired by German saving banks. He established a system to provide interest-free loans. This was put into operation in the rural centre of a state in Mit Ghamr, Nile River Delta in 1963, to conform to Islamic rules (Wilson 2012).
- Mit Ghamr became a source of inspiration for many Islamic banks, social banks and Islamic funds. Soon after the foundation of Mit Ghamr, Nasser Social Bank was established in Egypt in

1971. It was not dependent on Islam but aiming more to serve low-income groups than to operate as interbank level, without being based upon making a profit. Afterwards, in Jeddah (Saudi Arabia) in 1975, the Islamic Development Bank was established as a governmental foundation, and Dubai Islamic Bank was issued to support member countries' financial and social development. The advent of the first Islamic Commercial Bank in 1975 and its success led to the establishment of this kind of banks (Chachi 2005).

- 3. In 1989, the Muslim Community Co-operative (Australia) Limited (MCCA), which was started as a cooperative of ten persons with \$22,300 in an interior suburb of Burwood, was established with the vision of dealing with the financial, banking and investment needs of the Muslim community in Australia by providing them with Islamic finance instruments. Today, MCCA is a national organisation that has facilitated over \$2 Billion in Islamic home finance and manages close to \$50 million in investments. MCCA manages five kinds of funds. These are Murabahah, Musharakah, Mudarabah, Qard hasan and Zakat (MCCA 2021).
- 4. In 1995 in Bangladesh, where more than 30% of people live at the poverty line, the Rural Development Scheme (RDS) was established by the Islamic Bank Bangladesh Limited to encourage female entrepreneurs. It is still utilised in 60 regions of the country and benefits from 520,000 members. This programme, with 94% of its members consisting of females, continues to operate at a greater pace to help decrease poverty. RDS predominantly uses the Murabahah and Bai-muajjal methods for finance (Rahman & Ahmad 2010).
- 5. In 2001, the Akhuwat Microfinance Model was started by Dr. Amjad Saqib, working as GM in the Pencap Rural Support Program, to show how to carry out small-scale interest-free microfinance. In 2003, donations reached 1.5 million rupia, and the credit gain rate became 100%. Today, Dr. Saqid is still the GM of this foundation (Akhuwat 2019).
- 6. 'Ar Rahnu', which especially finds an opportunity to operate in Malaysia, is a loaned credit application. It depends mainly on three fundamental bases. These are:
  - a. The debtor is just supposed to repay the amount which is borrowed (Qard Al-

Hassan).

- b. For the debtor to be able to receive a loan and pay it afterwards, it is necessary to state and prove the existence of a valuable property (like a mortgage loan) (Ar Rahnu ve El-Wadi'ah).
- c. The creditor can demand a certain fee for the protection of the mortgaged properties (El-Ujrah).
- Consumer-oriented Islamic microfinance is seen to be more common in three countries (Indonesia, Bangladesh and Afghanistan), and constitutes 80% of global social aids (Karim, Tarazi & Reille 2008).

As seen in these examples, many microcredit applications have been put into action in Islamic areas; however, Qard Al-Hassan-based approaches were partly observed in only some of them. Despite all these developments, the application of Microfinance in the form of corporate banking model has not reached a very large size. While the share of Islamic banking sector in the Islamic finance sector is 81%, takaful is 2%, Sukuk is 11% and microfinance is 1% (Mughal 2019).

## THE NEED FOR THE INSTITUTIONALISATION OF QARD AL-HASSAN

Although there exists a great deal of resistance to Qard Al-Hassan, it has not become widespread within Islamic communities because of issues that are not being figured out fully. Today, there are many philanthropic foundations in Islamic countries that carry out critical charity activities in many parts of the world. These activities provide help for the oppressed and those suffering, supporting them to recover from their tough conditions.

Although this help is perceived to be essential and required, the practice of Qard Al-Hassan holds greater benefits. One of the biggest problems of Islamic countries today is the challenge they face to reach a certain level of development. Their recovery from such hardships depends on the increase in added value of the financial operations in their countries, thus on the building up of institutions. Such a building up of institutions will bring about progress in the financial structure of the countries and enable individuals to thrive financially, with a potential rise in employment. Qard Al-Hassan, therefore, leads to greater value for individuals than the individual support provided to them.

The build-up of businesses depends on their having a sufficient amount of financing, as well as deciding upon a number of strategic judgements. These businesses' investment in technology, their having access to new manufacturing technologies and their being involved in active marketing operations are directly proportional to their affordability. All sources of financing required in all economies have their own costs. This cost is priced with interest. By becoming indebted with interest, businesses both commit what is strictly forbidden by the Islamic religion and face a condition where they have to transfer their profits to the international interest rate lobby due to the repayments with high interest rates.

In terms of economic and commercial life, the institutionalization and dissemination of Qard Al-Hassan will enable the firms to reach the financial resources they need without bearing an additional interest burden and facing the divine threat.

There exist two fundamental obstacles for the institutionalisation of Qard Al-Hassan. The first is that Islamic communities do not have much concrete and deep information about Qard Al-Hassan and its significance in Islam, as well as the relevant suggestions provided by the religion. The second, on the other hand, is the fear that the money collected into the funding will run out due to the potential value loss, although some institutions have sufficient information about this issue.

Regarding the first concern mentioned above, it is necessary to execute a process to make individuals and businesses in Islamic countries aware of it. The second aforementioned concern is the subject of this study. It should be clarified that there is no reason for any worries, and that Qard Al-Hassan gives rise to added value, rather than causing a decrease in the value of a fund.

#### CORPORATE QARD AL-HASSAN MODEL

In this study, the basic model to constitute a corporate Qard fund will be considered. While it will be taken into consideration as a simple model, its aim will be to show that the notion of Qard Al-Hassan will bring about, in total, financial benefits rather than losses. Further studies on this topic are likely to show its improved and detailed versions. Researchers carrying out studies on this topic will contribute to the financial world and to the literature.

### QARD AL-HASSAN FUND

In this model, it is first necessary to create a fund management structure at a corporate level. This fund management can be formed with different names and in different structures, with respect to the countries' regulations. The structure will be responsible for the collection of the funds and their management. It would organise the operations, such as integrating new participants into the fund, carrying out fund marketing operations, and distributing and collecting funds.

The functioning of the Qard Al-Hassan fund, financing of the expenditures, and corporate structure will not be considered. The main goal of this study is to show that the decrease in the value of the capital provided by the businesses involved in this fund will be less than the cost lost resulting from the use of the fund. After this remarkable finding comes to light with this study, the corporate structure of this fund will be considered in further studies.

A specific unit of currency will be used for investing money in the fund. This will be called the Qard Al-Hassan Fund Stock Unit (QHSU). In this example, 1 QHSU is considered to be equal to 100 dollars (1 QHSU = 100). This may also consist of a combination of more than one unit of currency. To illustrate:

1 QHSU =  $$50 + 20 \notin +1$  gram of gold + 100 ₺

Such a stock unit may be more protective and keep the balance for the structures of the countries in the event of a loss of value. Therefore, our advice would be the creation of such a combined QHSU unit.

The firms which are the members of the fund will be able to extend their memberships up to the periods of 12-18-24 months. They will be required to invest at least one QHSU (it can be more than one QHSU) with regards to Qard Al-Hassan during their selected periods. The conditions of the firms involved are as follows:

- 1. They will only invest the money with the intention of Qard Al-Hassan. In other words, they will accept the distribution of that money to businesses in need of funds, without demanding any interest in return.
- 2. The firms which invest their money into the fund will not be able to take it back for a period that is three times longer than their memberships. To illustrate, if they select a membership lasting 12 months, they can only take back their money invested after 36 months. This is essential to

avoid any disruption in the functioning of the fund.

- 3. The firms involved in the fund will only be able to get back the money they invested. They are not supposed to get any surplus or benefits.
- 4. The corporations which invest their money into the fund have their own privilege to benefit from the fund. They will have at least one right to use the money they need from the fund within the period of, for example, 18 months for their membership. When a corporation chooses the 18-month membership period, it will automatically benefit from that fund three times, as their membership will last three periods (18 \* 3 = 54).
- 5. Depending on their membership periods (12-18-24), the corporations are supposed to repay the money they loan in the same number of instalments as that of the months (12-18-24) of their membership periods.
- 6. In addition to the member corporations which are privileged to use the fund, others are also allowed if the fund is available for use. This is because some member businesses may choose not to use money from the fund in other periods after taking it a first time, or because strong businesses may choose to partake in the fund to help other corporations and to do a good deed of Qard Al-Hassan.

#### QARD AL-HASSAN FUNDS FOR ADDED VALUE

It has been mentioned that there are two reasons for individuals and corporations not to provide a loan within the framework of Qard Al-Hassan. First, it is not known or has been forgotten in Islamic areas that Qard Al-Hassan is more of a good deed than almsgiving. Second, they are afraid of the possible loss in the value of the money credited to other businesses when it is taken back. To illustrate, let us suppose that one gives \$1.000 as a loan to somebody else for a period of 24 months. After this 24-month period, the value of the money taken back will not be the same as when it was first given. In a conventional finance system, the value loss of money is measured with interest rates. Considering that the interest rate is 0,55% in that example country, today's value of the money to be taken back after 24 months is measured as follows:

$$PV = \frac{FV}{(1+i)^n} \Rightarrow PV = \frac{\$1.000}{(1+0,005)^{24}} \Rightarrow PV = \$887,19$$

As is seen, today's value of \$1.000, to be taken back after 24 months, is \$887,19. Consequently, the creditor will face a loss amounting to \$112,81 (\$1.000 - \$887,19 = \$112,81). One who cares about that loss will be unlikely to loan money without interest. This will prevent Qard Al-Hassan from being implemented.

Considering the situation with regards to corporations, it is observed that even the ones with Islamic sensitivity gather their needed money from outside sources and try to tolerate possible extra cost. If the business does not have a sensitivity to interest use, it chooses to obtain credit from conventional banks. However, it recruits Islamic finance foundations or other Islamic finance tools for funding if it has this sensitivity. For instance, Business A, which has Islamic sensitivity, obtains the feedstock it needs from Islamic finance foundations through the method of 'murabahah', and it pays an extra delay interest to those foundations due to forward purchasing operations. As the structure does not depend on the use of cash credit but on the financial corporation's forward purchasing of the property, bought in cash, by adding extra profit and delaying interest on it, that corporation may have to tolerate extra costs. While interest does not exist in the system, this cost, today, communicates a parallel to current interest rates.

Considering that almost all businesses experience the need for funds today, or have to tolerate extra costs for their potential additional funding needs, can Qard Al-Hassan change this situation into one with minimum costs? This study shows that it is possible, and corporations will be able to meet their financial needs with little cost if they become members of such a fund and obtain their loans from it.

To illustrate, assume that 18 corporations make up the members of the fund, Qard Al-Hassan, and that the QHSU is \$100. Also considering that each business has chosen an 18-month membership and that the monthly dollar interest rate is 0,55%, these businesses will need to repay as follows:

TABLE 1. Table for fundraising from members of Qard Al-Hassan

Comp 1. Mn. 2 Mn 3 Mn 4 Mn 5 Mn 6 Mn 7 Mn 8 Mn 9 Mn 10 Mn 11 Mn 12 Mn 13. Mn. 14 Mn 15. Mn 16. Mn. 17. Mn 18. Mn. a1 \$100 \$100 \$100 \$100 \$100 \$100 \$100 \$100 \$100 \$100 \$100 \$100 \$100 \$100 \$100 \$100 \$100 \$100 a2 \$100 \$100 \$100 \$100 \$100 \$100 \$100 \$100 \$100 \$100 \$100 \$100 \$100 \$100 \$100 \$100 \$100 \$100 \$100 a3 \$100 a4 \$100 \$100 \$100 \$100 \$100 \$100 \$100 \$100 a5 \$100 a6 \$100 a7 \$100 \$100 \$100 \$100 \$100 \$100 \$100 \$100 \$100 \$100 \$100 \$100 \$100 \$100 \$100 \$100 \$100 a8 \$100 \$100 \$100 \$100 \$100 \$100 \$100 \$100 \$100 \$100 \$100 \$100 \$100 \$100 \$100 \$100 \$100 \$100 a9 \$100 \$100 \$100 \$100 \$100 \$100 \$100 \$100 \$100 \$100 \$100 \$100 \$100 \$100 \$100 \$100 \$100 \$100 a10 \$100 \$100 \$100 \$100 \$100 \$100 \$100 \$100 \$100 \$100 \$100 \$100 \$100 \$100 \$100 \$100 \$100 \$100 \$100 a11 \$100 a12 \$100 \$100 \$100 \$100 \$100 \$100 \$100 \$100 \$100 \$100 \$100 \$100 \$100 \$100 \$100 a13 \$100 \$100 \$100 \$100 \$100 \$100 \$100 \$100 \$100 \$100 \$100 \$100 \$100 \$100 \$100 \$100 \$100 \$100 a14 \$100 a15 \$100 \$100 \$100 \$100 \$100 \$100 \$100 \$100 \$100 \$100 \$100 \$100 \$100 \$100 \$100 \$100 \$100 a16 \$100 \$100 \$100 \$100 \$100 \$100 \$100 \$100 \$100 \$100 \$100 \$100 \$100 \$100 \$100 \$100 \$100 a17 \$100 \$100 \$100 \$100 \$100 \$100 \$100 \$100 \$100 \$100 \$100 \$100 \$100 \$100 \$100 \$100 \$100 \$100 a18 \$100 \$100 \$100 \$100 \$100 \$100 \$100 \$100 \$100 \$100 \$100 \$100 \$100 \$100 \$100 \$100 \$100 \$100 \$1.800 \$1.800 \$1.800 \$1.800 \$1.800 \$1.800 \$1.800 \$1.800 \$1.800 \$1.800 \$1.800 \$1.800 \$1.800 \$1.800 \$1.800 \$1.800 \$1.800 \$1.800 Total

As the corporations which invest their money in the fund have the privilege to get credit primarily when they need it, let us assume that each of them uses their rights to benefit from the fund. In this case, starting with the first month of the membership period, both the amount of \$1,800 and that amount repaid by the corporation which benefitted from the fund will be received by the system. Because the fund allows these businesses to use the money, they need with the promise to repay it before the end of their membership periods (18 months), they will not be required to pay any interest or surplus.

TABLE 2. Table for back pay of the money + loan raised by Qard Al-Hassan fund members

|                |            |          |          |          |          |          | · ·      |          |          |          |          |
|----------------|------------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|
| Companies      | 1.Mn.      | 2.Mn.    | 3.Mn.    | 4.Mn.    | 5.Mn.    | 6.Mn.    | 7.Mn.    | 8.Mn.    | 9.Mn.    | 10.Mn.   | 11.Mn.   |
| Collected Mone | y 1.800,00 | 1.900,00 | 2.005,56 | 2.116,98 | 2.234,59 | 2.358,73 | 2.489,77 | 2.628,09 | 2.774,09 | 2.928,21 | 3.090,89 |
| axl            |            | 100,00   | 100,00   | 100,00   | 100,00   | 100,00   | 100,00   | 100,00   | 100,00   | 100,00   | 100,00   |
| ax2            | !          |          | 105,56   | 105,56   | 105,56   | 105,56   | 105,56   | 105,56   | 105,56   | 105,56   | 105,56   |
| ax3            |            |          |          | 111,42   | 111,42   | 111,42   | 111,42   | 111,42   | 111,42   | 111,42   | 111,42   |
| ax4            | ļ          |          |          |          | 117,61   | 117,61   | 117,61   | 117,61   | 117,61   | 117,61   | 117,61   |
| ax5            |            |          |          |          |          | 124,14   | 124,14   | 124,14   | 124,14   | 124,14   | 124,14   |
| axe            | <u>,</u>   |          |          |          |          |          | 131,04   | 131,04   | 131,04   | 131,04   | 131,04   |
| ax7            | ,          |          |          |          |          |          |          | 138,32   | 138,32   | 138,32   | 138,32   |
| ax8            | ;          |          |          |          |          |          |          |          | 146,00   | 146,00   | 146,00   |
| ax9            | )          |          |          |          |          |          |          |          |          | 154,12   | 154,12   |
| axl            | 0          |          |          |          |          |          |          |          |          |          | 162,68   |

As seen above, after the 1st month, the money accumulated in the fund increases by being added the installment of the debts previously given to the money collected from the members. The \$ 1.800 collected at the end of the first month was first given to ax1 company as a loan to be paid in equal amounts in 18 months, and the ax1 company paid the first instalment at the end of the 2nd month. In this case, 1.800 + 100 = 1.900 had accumulated at the end of the second month, and that amount was lent to another firm, ax2. This firm will also be obliged to repay the amount 1.8 - 100 - 18 = 105,56 in monthly instalments during 18 months. Lending

the cash money collected monthly to another firm, the process continues to be carried out.

An important issue appears at this point. The credited firms, ax1, ax2, ax3,..., would have to get the money they needed as a loan with extra interest from conventional banks, or from other interest-free finance corporations with extra funding costs amounting to almost as much as the interest rates of those conventional banks, if they were not the members of this funding system. In such a case, the monthly back pay of the businesses to this fund, and that to conventional banks, could be illustrated in the following table:

| Companies   |       |        | 2.Mn.    | 3.Mn.    | 4.Mn.    | 5.Mn.    | 6.Mn.    | 7.Mn.    | 8.Mn.    | 9.Mn.    | 10.Mn.   |
|-------------|-------|--------|----------|----------|----------|----------|----------|----------|----------|----------|----------|
| Collected M | Ioney |        | 1.900,00 | 2.005,56 | 2.116,98 | 2.234,59 | 2.358,73 | 2.489,77 | 2.628,09 | 2.774,09 | 2.928,21 |
|             | ax1   | normal | 100,00   | 100,00   | 100,00   | 100,00   | 100,00   | 100,00   | 100,00   | 100,00   | 100,00   |
|             |       | conv.  | 104,82   | 104,82   | 104,82   | 104,82   | 104,82   | 104,82   | 104,82   | 104,82   | 104,82   |
|             | ax2   | normal |          | 105,56   | 105,56   | 105,56   | 105,56   | 105,56   | 105,56   | 105,56   | 105,56   |
|             |       | conv.  |          | 110,64   | 110,64   | 110,64   | 110,64   | 110,64   | 110,64   | 110,64   | 110,64   |
|             | ax3   | normal |          |          | 111,42   | 111,42   | 111,42   | 111,42   | 111,42   | 111,42   | 111,42   |
|             |       | conv.  |          |          | 116,79   | 116,79   | 116,79   | 116,79   | 116,79   | 116,79   | 116,79   |
|             | ax4   | normal |          |          |          | 117,61   | 117,61   | 117,61   | 117,61   | 117,61   | 117,61   |
|             |       | conv.  |          |          |          | 123,28   | 123,28   | 123,28   | 123,28   | 123,28   | 123,28   |
| Cradit      | ax5   | normal |          |          |          |          | 124,14   | 124,14   | 124,14   | 124,14   | 124,14   |
| Cleuit      |       | conv.  |          |          |          |          | 130,12   | 130,12   | 130,12   | 130,12   | 130,12   |
|             | ax6   | normal |          |          |          |          |          | 131,04   | 131,04   | 131,04   | 131,04   |
|             |       | conv.  |          |          |          |          |          | 137,35   | 137,35   | 137,35   | 137,35   |
|             | ax7   | normal |          |          |          |          |          |          | 138,32   | 138,32   | 138,32   |
|             |       | conv.  |          |          |          |          |          |          | 144,98   | 144,98   | 144,98   |
|             | ax8   | normal |          |          |          |          |          |          |          | 146,00   | 146,00   |
|             |       | conv.  |          |          |          |          |          |          |          | 153,04   | 153,04   |
|             | ax9   | normal |          |          |          |          |          |          |          |          | 154,12   |
|             |       | conv.  |          |          |          |          |          |          |          |          | 161,54   |

TABLE 3. Monthly back pays of the fund members (the comparison of the fund and conventional foundations)

As is seen in this table, there is a quite significant difference between the businesses being credited by the fund and getting the capital they need from market sources. For instance, while firm ax1 repays the money it received (1.800) back to the fund in 18 equal instalments (100 \* 18 = 1.800), it would face a payment plan as illustrated below if it were not a member of this fund and obtained the capital with market interest rates:

$$A = PV \frac{(1+i)^n i}{(1+i)^n - 1} \Rightarrow A = \$1.800 \frac{(1+0,005)^{18} 0,005}{(1+0,005)^{18} - 1} = A = \$104,82$$

At this stage, firm ax1 would have to pay \$104,82 monthly and \$1.886,76 in total. Similarly, firms ax2 and ax3 would have the following payment plans, respectively:

$$ax2 \Rightarrow A = PV \frac{(1+i)^n i}{(1+i)^n - 1} \Rightarrow A = \$1.900 \frac{(1+0,005)^{18} 0,005}{(1+0,005)^{18} - 1} = A = \$105,56 \text{ for } 18 \text{ months}$$

$$ax3 \Rightarrow A = PV \frac{(1+i)^n i}{(1+i)^n - 1} \Rightarrow A = \$2.005, 56 \frac{(1+0,005)^{18} 0,005}{(1+0,005)^{18} - 1} = A = \$116, 79 \text{ for } 18 \text{ months}$$

With this respect, is there a difference between the amount of time value loss resulting from the corporations' being involved in the fund and the extra cost of getting the needed money from the outside sources in market, in the case that they were not in this fund? This is one important question to be answered. At this point, it is reasonable to consider the balance of profit and loss. Therefore, it would be suitable to take the situation after the 18th month into consideration. Appendix 1 reveals the whole table below.

The time value losses resulting from the firms' back pays of the actual loaned money after the 18th month, and the possible cost of getting the money from conventional sources with interest have been calculated.

TABLE 4. The possible cost of getting the money from the conventional sources with interest

|      |         |                   |        |        |        | 18. END OF |        |        |        |        |        |
|------|---------|-------------------|--------|--------|--------|------------|--------|--------|--------|--------|--------|
| =    | 0,005   | 15 Mn 16 Mn 17 Mn |        |        |        | THE MONTH  | -      |        |        |        | -      |
| Con  | npanies | 15.Mn.            | 16.Mn. | 17.Mn. | 18.Mn. | FV/PV      | 19.Mn. | 20.Mn. | 21.Mn. | 22.Mn. | 23.Mn. |
| ax1  | normal  | 100,00            | 100,00 | 100,00 | 100,00 | 1.869,23   | 100,00 |        |        |        |        |
|      | conv.   | 104,82            | 104,82 | 104,82 | 104,82 | 1.959,28   | 104,82 |        |        |        |        |
| ax2  | normal  | 105,56            | 105,56 | 105,56 | 105,56 | 1.963,26   | 105,56 | 105,56 |        |        |        |
|      | conv.   | 110,64            | 110,64 | 110,64 | 110,64 | 2.057,84   | 110,64 | 110,64 |        |        |        |
| ax3  | normal  | 111,42            | 111,42 | 111,42 | 111,42 | 2.062,02   | 111,42 | 111,42 | 111,42 |        |        |
|      | conv.   | 116,79            | 116,79 | 116,79 | 116,79 | 2.161,35   | 116,79 | 116,79 | 116,79 |        |        |
| ax4  | normal  | 117,61            | 117,61 | 117,61 | 117,61 | 2.165,75   | 117,61 | 117,61 | 117,61 | 117,61 |        |
|      | conv.   | 123,28            | 123,28 | 123,28 | 123,28 | 2.270,08   | 123,28 | 123,28 | 123,28 | 123,28 |        |
| ax5  | normal  | 124,14            | 124,14 | 124,14 | 124,14 | 2.274,70   | 124,14 | 124,14 | 124,14 | 124,14 | 124,14 |
|      | conv.   | 130,12            | 130,12 | 130,12 | 130,12 | 2.384,27   | 130,12 | 130,12 | 130,12 | 130,12 | 130,12 |
| ax6  | normal  | 131,04            | 131,04 | 131,04 | 131,04 | 2.389,12   | 131,04 | 131,04 | 131,04 | 131,04 | 131,04 |
|      | conv.   | 137,35            | 137,35 | 137,35 | 137,35 | 2.504,21   | 137,35 | 137,35 | 137,35 | 137,35 | 137,35 |
| ax7  | normal  | 138,32            | 138,32 | 138,32 | 138,32 | 2.509,31   | 138,32 | 138,32 | 138,32 | 138,32 | 138,32 |
|      | conv.   | 144,98            | 144,98 | 144,98 | 144,98 | 2.630,18   | 144,98 | 144,98 | 144,98 | 144,98 | 144,98 |
| ax8  | normal  | 146,00            | 146,00 | 146,00 | 146,00 | 2.635,53   | 146,00 | 146,00 | 146,00 | 146,00 | 146,00 |
|      | conv.   | 153,04            | 153,04 | 153,04 | 153,04 | 2.762,49   | 153,04 | 153,04 | 153,04 | 153,04 | 153,04 |
| ax9  | normal  | 154,12            | 154,12 | 154,12 | 154,12 | 2.768,11   | 154,12 | 154,12 | 154,12 | 154,12 | 154,12 |
|      | conv.   | 161,54            | 161,54 | 161,54 | 161,54 | 2.901,45   | 161,54 | 161,54 | 161,54 | 161,54 | 161,54 |
| ax10 | normal  | 162,68            | 162,68 | 162,68 | 162,68 | 2.907,36   | 162,68 | 162,68 | 162,68 | 162,68 | 162,68 |
|      | conv.   | 170,51            | 170,51 | 170,51 | 170,51 | 3.047,41   | 170,51 | 170,51 | 170,51 | 170,51 | 170,51 |
| ax11 | normal  | 171,72            | 171,72 | 171,72 | 171,72 | 3.053,61   | 171,72 | 171,72 | 171,72 | 171,72 | 171,72 |
|      | conv.   | 179,99            | 179,99 | 179,99 | 179,99 | 3.200,71   | 179,99 | 179,99 | 179,99 | 179,99 | 179,99 |
| ax12 | normal  | 181,26            | 181,26 | 181,26 | 181,26 | 3.207,22   | 181,26 | 181,26 | 181,26 | 181,26 | 181,26 |
|      | conv.   | 189,99            | 189,99 | 189,99 | 189,99 | 3.361,72   | 189,99 | 189,99 | 189,99 | 189,99 | 189,99 |

continue ...

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| contint | uea    |        |        |        |        |          |        |        |        |        |        |
|---------|--------|--------|--------|--------|--------|----------|--------|--------|--------|--------|--------|
| ax13    | normal | 191,33 | 191,33 | 191,33 | 191,33 | 3.368,56 | 191,33 | 191,33 | 191,33 | 191,33 | 191,33 |
|         | conv.  | 200,54 | 200,54 | 200,54 | 200,54 | 3.530,82 | 200,54 | 200,54 | 200,54 | 200,54 | 200,54 |
| ax14    | normal | 201,95 | 201,95 | 201,95 | 201,95 | 3.538,01 | 201,95 | 201,95 | 201,95 | 201,95 | 201,95 |
|         | conv.  | 211,68 | 211,68 | 211,68 | 211,68 | 3.708,44 | 211,68 | 211,68 | 211,68 | 211,68 | 211,68 |
| ax15    | normal |        | 213,17 | 213,17 | 213,17 | 3.715,98 | 213,17 | 213,17 | 213,17 | 213,17 | 213,17 |
|         | conv.  |        | 223,44 | 223,44 | 223,44 | 3.894,99 | 223,44 | 223,44 | 223,44 | 223,44 | 223,44 |
| ax16    | normal |        |        | 225,02 | 225,02 | 3.902,91 | 225,02 | 225,02 | 225,02 | 225,02 | 225,02 |
|         | conv.  |        |        | 235,86 | 235,86 | 4.090,92 | 235,86 | 235,86 | 235,86 | 235,86 | 235,86 |
| ax17    | normal |        |        |        | 237,52 | 4.099,25 | 237,52 | 237,52 | 237,52 | 237,52 | 237,52 |
|         | conv.  |        |        |        | 248,96 | 4.296,71 | 248,96 | 248,96 | 248,96 | 248,96 | 248,96 |
| ax18    | normal |        |        |        |        | 4.305,45 | 250,71 | 250,71 | 250,71 | 250,71 | 250,71 |
|         | conv.  |        |        |        |        | 4.512,85 | 262,79 | 262,79 | 262,79 | 262,79 | 262,79 |

As observed in the table above, firm ax1 received \$1.800 from the fund and repaid it in 18 equal instalments without any extra cost. The value loss of the money has been calculated, and the value of the money after those 18 months has been estimated. A conventional interest rate (i = 0,005) has been considered within these calculations.

With this consideration:

$$FV = A[\frac{(1+i)^n - 1}{i}] \Rightarrow FV = \$100[\frac{(1+0,005)^{17} - 1}{0,005}] \Rightarrow FV = \$1.769,73$$
  
+  
$$PV = A\frac{(1+i)^n - 1}{(1+i)^n i} = PV = \$100\frac{(1+0,005)^1 - 1}{(1+0,005)^1 0,005} = PV = \$99,50$$

In this case, \$1.769,73 + \$99,50 = \$1.869,23

If firm ax1 chose to obtain credit from outside sources in the market instead of being involved in the fund, it would have to pay \$104,82 per month. Calculating the total value of the instalments, as is after those 18 months in the same way as the formulas stated in the table above, it will be \$1.959,28. At this point, the added value that this fund structure constitutes is 1.869,23 - 1.769,73 = 90,04.

Another example is that the firm ax3 has borrowed \$2.005,56 from the fund and is supposed to pay it back in 18 equal instalments, each of which amounts to \$111,42, without extra costs. At this point, considering the value loss of the money, the actual value of the collected money starting from the first month until the end of the 18th month has been calculated. To detect the possible value loss of the money, a conventional interest rate (i = 0,005) has been considered. With this in mind, we calculate:

$$FV = A[\frac{(1+i)^n - 1}{i}] \Rightarrow FV = \$111, 42[\frac{(1+0,005)^{15} - 1}{0,005}] \Rightarrow FV = \$1.731,08$$
  
+  
$$PV = A\frac{(1+i)^n - 1}{(1+i)^n i} = PV = \$111, 42\frac{(1+0,005)^3 - 1}{(1+0,005)^30,005} = PV = \$330,94$$

In this case, 1.731,08 + 330,94 = 2.062,02

As another example, suppose firm ax5 has borrowed \$2.234,59 from the fund and pays it back in 18 equal instalments, each of which amounts to \$124,14, without any extra costs. At this point, considering the value loss of the money, the actual value of the collected money starting from the first month until the end of the 18th month has been calculated. To detect the possible value loss of the money, a conventional interest rate (i = 0,005) has been considered.

$$FV = A[\frac{(1+i)^n - 1}{i}] \Rightarrow FV = \$124, 14[\frac{(1+0,005)^{13} - 1}{0,005}] \Rightarrow FV = \$1.663, 18$$
  
+  
$$PV = A\frac{(1+i)^n - 1}{(1+i)^n i} = PV = \$124, 14\frac{(1+0,005)^5 - 1}{(1+0,005)^5 0,005} = PV = \$611, 51$$

In this case, 1.663, 18 + 611, 51 = 2.274, 70

If the firm ax5 obtained credit through outside sources instead of borrowing from the fund, it would have to pay \$130,12 back. Consequently, when the value of the repaid instalments from the first until the 18th month is calculated according to the formulas above, it will amount to \$2.384,27. Therefore, the added value constituted by the fund can be calculated as 2.384,27 - 22.274,70 = 109,57.

Considering the total amount of all these values after the end of month 18, the table below is obtained:

contini

Qard Al-Hassan Model as an Institutionalised Method of Islamic Finance

| Companies | Conventional | Normal      | Difference |
|-----------|--------------|-------------|------------|
| ax1       | \$1.959,28   | \$1.869,23  | \$90,04    |
| ax2       | \$2.057,84   | \$1.963,26  | \$94,57    |
| ax3       | \$2.161,35   | \$2.062,02  | \$99,33    |
| ax4       | \$2.270,08   | \$2.165,75  | \$104,33   |
| ax5       | \$2.384,27   | \$2.274,70  | \$109,57   |
| ax6       | \$2.504,21   | \$2.389,12  | \$115,09   |
| ax7       | \$2.630,18   | \$2.509,31  | \$120,88   |
| ax8       | \$2.762,49   | \$2.635,53  | \$126,96   |
| ax9       | \$2.901,45   | \$2.768,11  | \$133,34   |
| ax10      | \$3.047,41   | \$2.907,36  | \$140,05   |
| ax11      | \$3.200,71   | \$3.053,61  | \$147,10   |
| ax12      | \$3.361,72   | \$3.207,22  | \$154,50   |
| ax13      | \$3.530,82   | \$3.368,56  | \$162,27   |
| ax14      | \$3.708,44   | \$3.538,01  | \$170,43   |
| ax15      | \$3.894,99   | \$3.715,98  | \$179,00   |
| ax16      | \$4.090,92   | \$3.902,91  | \$188,01   |
| ax17      | \$4.296,71   | \$4.099,25  | \$197,47   |
| ax18      | \$4.512,85   | \$4.305,45  | \$207,40   |
|           | \$55.275,71  | \$52.735,39 | \$2.540,32 |

As is easily observed, the firms have gained an advantage of \$2.540,32 in total after the last month of their memberships, as they met their needs by borrowing from the fund rather than applying outside credit with interest. It is apparent that these firms involved in the fund of course face some value loss in their money, if they do not put it to good use. If such a loss is calculated after the 18th month, the following figures may be obtained:

$$FV = A[\frac{(1+i)^n - 1}{i}] \Rightarrow FV = \$100[\frac{(1+0,005)^{18} - 1}{0,005}] \Rightarrow FV = \$1.878,58$$

The same figures are valid for each firm, as their repayments and the due date are the same. In this case, the value for the annual repayments after the end of month 18 will be:

#### $18 \times 1.878, 58 = 33.814, 42$

As there is no change in the amount of the money that is invested by the firms to the funding, there is the amount of  $1.800 \times 18 = 32.400$  in the fund. At this point, the value loss of the money at the end of the 18th month amounts to 33.814,42 - 32.400 = 1.414,42.

While this mentioned value loss of the money, invested by the firms to the funding, at the end of the last (18th) month is calculated as \$1.412,42, their return due to their not borrowing any money from outside sources rather than the fund amounts to \$2.540,32. As is clearly observed, Qard Al-Hassan and other similar funds enable the businesses to obtain more earnings than losses, and such a structure has proved its validity as an alternative funding source.

#### DRAWBACKS OF THE PROPOSED QARD AL-HASSAN FUND

Although Qard Al-Hassan, as proposed in this study, is considered to be a financially valid alternative source of Islamic finance, the researchers are required to consider some of its drawbacks.

## QARD AL-HASSAN FUND'S STRUCTURE BASED ON ISLAMIC LAW

While this study considers this notion with respect to finance, it should also be discussed by experts according to how relevant it is to Islamic laws (fiqh). These aspects to be analysed are as follows:

- In some sources of figh, it is stated that the 1. creditor can recollect the money he lent whenever he wants as the Qard fund is an unnecessary one (Ceker 1999). In this proposed system, the firms which provide this fund with the money are in the position as the debtor. These firms primarily provide free-of-charge credit under the terms of Qard Al-Hassan so that it is distributed to the needy entities. It is assumed within this proposed system that the firms crediting the fund cannot unregister off the funding whenever they desire. It is recommended, again, in this system that they unregister only after the period that is three times longer than their membership. It is necessary that this issue be considered by figh scholars, so as to conclude whether it can constitute a drawback in terms of Islamic laws.
- 2. The saying that all loans enabling any kinds of profit are forbidden by religion as they are considered to involve interest (Åbidîn 2008) proves that all personal earnings from loans provided to others can bring about the risk of interest. In this case, does it cause an Islamic problem that the firms crediting the fund have their own privileges to be allowed to draw money primarily when they need? If so, what kind of an alternative system can be proposed as a solution to this problem? This issue should also be considered by fiqh scholars.

### QARD AL-HASSAN FUND'S INSTITUTIONAL PROCESS AND FINANCIAL SOURCES

In this study, it has been claimed that the collection and distribution of money via Qard Al-Hassan brings about financial advantages for corporations. Much thought is required regarding the issues of the establishment and functioning of this corporate structure. An additional study is needed to carry out this discussion in a detailed way.

# QARD AL-HASSAN FUND, AVAILABLE TO BOTH CORPORATE AND PERSONAL SOURCES

Qard Al-Hassan, which is recommended to be established, can bring about advantages not only for corporations, which have a need for funds and could use the money in the future, but also for individuals who would like to do a good deed by being involved in this system. If advice from Islam about Qard Al-Hassan is explained thoroughly to individuals through marketing operations, it would be possible to generate additional promising sources. At this point, the answers to the following questions should be sought in future research:

- 1. Is a structure allowing the collection of money not only from the businesses but also from individuals who will have no rights to use that money appropriate according to Islamic laws?
- 2. How can the use of these collected individual funds in the finance of corporate bodies be made possible?

The consideration of these issues, and possible new drawbacks to be proposed on this matter, by future researchers will enable the accurate understanding of the system.

### CONCLUSION

Islam clearly states that trade is permissible (halal), but interest is forbidden. Therefore, interest, which is strictly forbidden by Allah with serious warnings, is a dangerous way that Muslim individuals and corporations should avoid following. Additionally, as it was centuries ago, individuals and institutional bodies are obliged to meet their financial needs with funds from outside sources, which are constituted through interest-free approaches and methods (within the framework of what Islam allows).

A great deal of research has been conducted on the topic of Islamic funding sources, and further studies continue to be conducted. Although numerous methods have been proposed within these studies, the notion of Qard Al-Hassan, as recommended by verses of the Quran, has not been able to be disseminated successfully.

It has been pointed out in this study that a Qard Al-Hassan fund would allow corporations to meet their financial needs, and the money these corporations would invest in this fund would not result in any kind of loss for them; rather, it would bring more benefits than estimated.

It is anticipated that this system will play a significant role in boosting Islamic economies. Furthermore, if this proposed system is further investigated by fiqh scholars and improved in such a way as to eliminate its weaknesses, this will help institutions with Islamic beliefs breathe a sigh of relief.

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#### AUTHORS

Dr. Hasan Kazak (corresponding author) Necmettin Erbakan University Konya/Turkey hsnkazak@gmail.com

Hasan Basri Alim (second author) KTO Karatay University Konya/Turkey, hbasri.alim@karatay.edu.tr

|               | i=        | 0,005  |          |          |          |          |          |          |          |          |          |          |          |
|---------------|-----------|--------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|
|               | Companies |        | 2. Mnt   | 3. Mnt   | 4. Mnt   | 5. Mnt   | 6. Mnt   | 7. Mnt   | 8. Mnt   | 9. Mnt   | 10 . Mnt | 11. Mnt  | 12 . Mnt |
| Collected Mon | ey        |        | 1.900,00 | 2.005,56 | 2.116,98 | 2.234,59 | 2.358,73 | 2.489,77 | 2.628,09 | 2.774,09 | 2.928,21 | 3.090,89 | 3.262,61 |
|               | ax1       | normal | 100,00   | 100,00   | 100,00   | 100,00   | 100,00   | 100,00   | 100,00   | 100,00   | 100,00   | 100,00   | 100,00   |
|               |           | conv.  | 104,82   | 104,82   | 104,82   | 104,82   | 104,82   | 104,82   | 104,82   | 104,82   | 104,82   | 104,82   | 104,82   |
|               | ax2       | normal |          | 105,56   | 105,56   | 105,56   | 105,56   | 105,56   | 105,56   | 105,56   | 105,56   | 105,56   | 105,56   |
|               |           | conv.  |          | 110,64   | 110,64   | 110,64   | 110,64   | 110,64   | 110,64   | 110,64   | 110,64   | 110,64   | 110,64   |
|               | ax3       | normal |          |          | 111,42   | 111,42   | 111,42   | 111,42   | 111,42   | 111,42   | 111,42   | 111,42   | 111,42   |
|               |           | conv.  |          |          | 116,79   | 116,79   | 116,79   | 116,79   | 116,79   | 116,79   | 116,79   | 116,79   | 116,79   |
| Credit        | ax4       | normal |          |          |          | 117,61   | 117,61   | 117,61   | 117,61   | 117,61   | 117,61   | 117,61   | 117,61   |
|               |           | conv.  |          |          |          | 123,28   | 123,28   | 123,28   | 123,28   | 123,28   | 123,28   | 123,28   | 123,28   |
|               | ax5       | normal |          |          |          |          | 124,14   | 124,14   | 124,14   | 124,14   | 124,14   | 124,14   | 124,14   |
|               |           | conv.  |          |          |          |          | 130,12   | 130,12   | 130,12   | 130,12   | 130,12   | 130,12   | 130,12   |
|               | ax6       | normal |          |          |          |          |          | 131,04   | 131,04   | 131,04   | 131,04   | 131,04   | 131,04   |
|               |           | conv.  |          |          |          |          |          | 137,35   | 137,35   | 137,35   | 137,35   | 137,35   | 137,35   |
|               | ax7       | normal |          |          |          |          |          |          | 138,32   | 138,32   | 138,32   | 138,32   | 138,32   |
|               |           | conv.  |          |          |          |          |          |          | 144,98   | 144,98   | 144,98   | 144,98   | 144,98   |
|               | ax8       | normal |          |          |          |          |          |          |          | 146,00   | 146,00   | 146,00   | 146,00   |
|               |           | conv.  |          |          |          |          |          |          |          | 153,04   | 153,04   | 153,04   | 153,04   |
|               | ax9       | normal |          |          |          |          |          |          |          |          | 154,12   | 154,12   | 154,12   |
|               |           | conv.  |          |          |          |          |          |          |          |          | 161,54   | 161,54   | 161,54   |
|               | ax10      | normal |          |          |          |          |          |          |          |          |          | 162,68   | 162,68   |
|               |           | conv.  |          |          |          |          |          |          |          |          |          | 170,51   | 170,51   |
|               | ax11      | normal |          |          |          |          |          |          |          |          |          |          | 171,72   |
|               |           | conv.  |          |          |          |          |          |          |          |          |          |          | 179,99   |
|               | ax12      | normal |          |          |          |          |          |          |          |          |          |          |          |
|               |           | conv.  |          |          |          |          |          |          |          |          |          |          |          |
|               | ax13      | normal |          |          |          |          |          |          |          |          |          |          |          |
|               |           | conv.  |          |          |          |          |          |          |          |          |          |          |          |
|               | ax14      | normal |          |          |          |          |          |          |          |          |          |          |          |
|               |           | conv.  |          |          |          |          |          |          |          |          |          |          |          |
|               | ax15      | normal |          |          |          |          |          |          |          |          |          |          |          |
|               |           | conv.  |          |          |          |          |          |          |          |          |          |          |          |
|               | ax16      | normal |          |          |          |          |          |          |          |          |          |          |          |
|               |           | conv.  |          |          |          |          |          |          |          |          |          |          |          |
|               | ax17      | normal |          |          |          |          |          |          |          |          |          |          |          |
|               |           | conv.  |          |          |          |          |          |          |          |          |          |          |          |
|               | ax18      | normal |          |          |          |          |          |          |          |          |          |          |          |
|               |           | conv.  |          |          |          |          |          |          |          |          |          |          |          |

|               |           |           |          |          |          |          |          |          | 18. END OF |          |          |          |
|---------------|-----------|-----------|----------|----------|----------|----------|----------|----------|------------|----------|----------|----------|
|               | 1=        | 0,005     |          |          |          |          |          | 1        | THE MONTH  |          |          |          |
|               | Companies | 1.18.703  | 13 . Mnt | 14 . Mnt | 15 . Mnt | 16 . Mnt | 17 . Mnt | 18. Mnt  | FV/PV      | 19 . Mnt | 20 . Mnt | 21 . Mnt |
| Collected Mon | ey        | 1.000,000 | 3.443,86 | 3.635,19 | 3.837,14 | 4.050,32 | 4.275,33 | 4.512,85 |            |          |          |          |
|               | ax1       | normal    | 100,00   | 100,00   | 100,00   | 100,00   | 100,00   | 100,00   | 1.869,23   | 100,00   |          |          |
|               |           | conv.     | 104,82   | 104,82   | 104,82   | 104,82   | 104,82   | 104,82   | 1.959,28   | 104,82   |          |          |
|               | ax2       | normal    | 105,56   | 105,56   | 105,56   | 105,56   | 105,56   | 105,56   | 1.963,26   | 105,56   | 105,56   |          |
|               |           | conv.     | 110,64   | 110,64   | 110,64   | 110,64   | 110,64   | 110,64   | 2.057,84   | 110,64   | 110,64   |          |
|               | ax3       | normal    | 111,42   | 111,42   | 111,42   | 111,42   | 111,42   | 111,42   | 2.062,02   | 111,42   | 111,42   | 111,42   |
|               |           | conv.     | 116,79   | 116,79   | 116,79   | 116,79   | 116,79   | 116,79   | 2.161,35   | 116,79   | 116,79   | 116,79   |
| Credit        | ax4       | normal    | 117,61   | 117,61   | 117,61   | 117,61   | 117,61   | 117,61   | 2.165,75   | 117,61   | 117,61   | 117,61   |
|               |           | conv.     | 123,28   | 123,28   | 123,28   | 123,28   | 123,28   | 123,28   | 2.270,08   | 123,28   | 123,28   | 123,28   |
|               | ax5       | normal    | 124,14   | 124,14   | 124,14   | 124,14   | 124,14   | 124,14   | 2.274,70   | 124,14   | 124,14   | 124,14   |
|               |           | conv.     | 130,12   | 130,12   | 130,12   | 130,12   | 130,12   | 130,12   | 2.384,27   | 130,12   | 130,12   | 130,12   |
|               | ax6       | normal    | 131,04   | 131,04   | 131,04   | 131,04   | 131,04   | 131,04   | 2.389,12   | 131,04   | 131,04   | 131,04   |
|               |           | conv.     | 137,35   | 137,35   | 137,35   | 137,35   | 137,35   | 137,35   | 2.504,21   | 137,35   | 137,35   | 137,35   |
|               | ax7       | normal    | 138,32   | 138,32   | 138,32   | 138,32   | 138,32   | 138,32   | 2.509,31   | 138,32   | 138,32   | 138,32   |
|               |           | conv.     | 144,98   | 144,98   | 144,98   | 144,98   | 144,98   | 144,98   | 2.630,18   | 144,98   | 144,98   | 144,98   |
|               | ax8       | normal    | 146,00   | 146,00   | 146,00   | 146,00   | 146,00   | 146,00   | 2.635,53   | 146,00   | 146,00   | 146,00   |
|               |           | conv.     | 153,04   | 153,04   | 153,04   | 153,04   | 153,04   | 153,04   | 2.762,49   | 153,04   | 153,04   | 153,04   |
|               | ax9       | normal    | 154,12   | 154,12   | 154,12   | 154,12   | 154,12   | 154,12   | 2.768,11   | 154,12   | 154,12   | 154,12   |
|               |           | conv.     | 161,54   | 161,54   | 161,54   | 161,54   | 161,54   | 161,54   | 2.901,45   | 161,54   | 161,54   | 161,54   |
|               | ax10      | normal    | 162,68   | 162,68   | 162,68   | 162,68   | 162,68   | 162,68   | 2.907,36   | 162,68   | 162,68   | 162,68   |
|               |           | conv.     | 170,51   | 170,51   | 170,51   | 170,51   | 170,51   | 170,51   | 3.047,41   | 170,51   | 170,51   | 170,51   |
|               | ax11      | normal    | 171,72   | 171,72   | 171,72   | 171,72   | 171,72   | 171,72   | 3.053,61   | 171,72   | 171,72   | 171,72   |
|               |           | conv.     | 179,99   | 179,99   | 179,99   | 179,99   | 179,99   | 179,99   | 3.200,71   | 179,99   | 179,99   | 179,99   |
|               | ax12      | normal    | 181,26   | 181,26   | 181,26   | 181,26   | 181,26   | 181,26   | 3.207,22   | 181,26   | 181,26   | 181,26   |
|               |           | conv.     | 189,99   | 189,99   | 189,99   | 189,99   | 189,99   | 189,99   | 3.361,72   | 189,99   | 189,99   | 189,99   |
|               | ax13      | normal    |          | 191,33   | 191,33   | 191,33   | 191,33   | 191,33   | 3.368,56   | 191,33   | 191,33   | 191,33   |
|               |           | conv.     |          | 200,54   | 200,54   | 200,54   | 200,54   | 200,54   | 3.530,82   | 200,54   | 200,54   | 200,54   |
|               | ax14      | normal    |          |          | 201,95   | 201,95   | 201,95   | 201,95   | 3.538,01   | 201,95   | 201,95   | 201,95   |
|               |           | conv.     |          |          | 211,68   | 211,68   | 211,68   | 211,68   | 3.708,44   | 211,68   | 211,68   | 211,68   |
|               | ax15      | normal    |          |          |          | 213,17   | 213,17   | 213,17   | 3.715,98   | 213,17   | 213,17   | 213,17   |
|               |           | conv.     |          |          |          | 223,44   | 223,44   | 223,44   | 3.894,99   | 223,44   | 223,44   | 223,44   |
|               | ax16      | normal    |          |          |          |          | 225,02   | 225,02   | 3.902,91   | 225,02   | 225,02   | 225,02   |
|               |           | conv.     |          |          |          |          | 235,86   | 235,86   | 4.090,92   | 235,86   | 235,86   | 235,86   |
|               | ax17      | normal    |          |          |          |          |          | 237,52   | 4.099,25   | 237,52   | 237,52   | 237,52   |
|               |           | conv.     |          |          |          |          |          | 248,96   | 4.296,71   | 248,96   | 248,96   | 248,96   |
|               | ax18      | normal    |          |          |          |          |          |          | 4.305,45   | 250,71   | 250,71   | 250,71   |
|               |           | conv.     |          |          |          |          |          |          | 4.512,85   | 262,79   | 262,79   | 262,79   |
|               |           |           |          |          |          |          |          |          |            |          |          |          |

| 52.735,39 |
|-----------|
| 55.275,71 |
| 2.540,32  |
|           |
| 32.400,00 |
| 33.814,42 |
| 1 414 42  |
|           |

|               | i=        | 0,005  |          |          |         |          |         |          |         |         |         |          |         |          |          |          |          |
|---------------|-----------|--------|----------|----------|---------|----------|---------|----------|---------|---------|---------|----------|---------|----------|----------|----------|----------|
|               | Companies |        | 22 . Mnt | 23 . Mnt | 24. Mnt | 25 . Mnt | 26. Mnt | 27 . Mnt | 28. Mnt | 29. Mnt | 30. Mnt | 31 . Mnt | 32. Mnt | 33 . Mnt | 34 . Mnt | 35 . Mnt | 36 . Mnt |
| Collected Mon | ey        |        |          |          |         |          |         |          |         |         |         |          |         |          |          |          |          |
|               | ax1       | normal |          |          |         |          |         |          |         |         |         |          |         |          |          |          |          |
|               |           | conv.  |          |          |         |          |         |          |         |         |         |          |         |          |          |          |          |
|               | ax2       | normal |          |          |         |          |         |          |         |         |         |          |         |          |          |          |          |
|               |           | conv.  |          |          |         |          |         |          |         |         |         |          |         |          |          |          |          |
|               | ax3       | normal |          |          |         |          |         |          |         |         |         |          |         |          |          |          |          |
|               |           | conv.  |          |          |         |          |         |          |         |         |         |          |         |          |          |          |          |
| Credit        | ax4       | normal | 117,61   |          |         |          |         |          |         |         |         |          |         |          |          |          |          |
|               |           | conv.  | 123,28   |          |         |          |         |          |         |         |         |          |         |          |          |          |          |
|               | ax5       | normal | 124,14   | 124,14   |         |          |         |          |         |         |         |          |         |          |          |          |          |
|               |           | conv.  | 130,12   | 130,12   |         |          |         |          |         |         |         |          |         |          |          |          |          |
|               | ax6       | normal | 131,04   | 131,04   | 131,04  |          |         |          |         |         |         |          |         |          |          |          |          |
|               |           | conv.  | 137,35   | 137,35   | 137,35  |          |         |          |         |         |         |          |         |          |          |          |          |
|               | ax7       | normal | 138,32   | 138,32   | 138, 32 | 138,32   |         |          |         |         |         |          |         |          |          |          |          |
|               |           | conv.  | 144,98   | 144,98   | 144,98  | 144,98   |         |          |         |         |         |          |         |          |          |          |          |
|               | ax8       | normal | 146,00   | 146,00   | 146,00  | 146,00   | 146,00  |          |         |         |         |          |         |          |          |          |          |
|               |           | conv.  | 153,04   | 153,04   | 153,04  | 153,04   | 153,04  |          |         |         |         |          |         |          |          |          |          |
|               | ax9       | normal | 154,12   | 154,12   | 154,12  | 154,12   | 154,12  | 154,12   |         |         |         |          |         |          |          |          |          |
|               |           | conv.  | 161,54   | 161,54   | 161,54  | 161,54   | 161,54  | 161,54   |         |         |         |          |         |          |          |          |          |
|               | ax10      | normal | 162,68   | 162,68   | 162,68  | 162,68   | 162,68  | 162,68   | 162,68  |         |         |          |         |          |          |          |          |
|               |           | conv.  | 170,51   | 170,51   | 170,51  | 170,51   | 170,51  | 170,51   | 170,51  |         |         |          |         |          |          |          |          |
|               | ax11      | normal | 171,72   | 171,72   | 171,72  | 171,72   | 171,72  | 171,72   | 171,72  | 171,72  |         |          |         |          |          |          |          |
|               |           | conv.  | 179,99   | 179,99   | 179,99  | 179,99   | 179,99  | 179,99   | 179,99  | 179,99  |         |          |         |          |          |          |          |
|               | ax12      | normal | 181,26   | 181,26   | 181,26  | 181,26   | 181,26  | 181,26   | 181,26  | 181,26  | 181,26  |          |         |          |          |          |          |
|               |           | conv.  | 189,99   | 189,99   | 189,99  | 189,99   | 189,99  | 189,99   | 189,99  | 189,99  | 189,99  |          |         |          |          |          |          |
|               | ax13      | normal | 191,33   | 191,33   | 191,33  | 191,33   | 191,33  | 191,33   | 191,33  | 191,33  | 191,33  | 191,33   |         |          |          |          |          |
|               |           | conv.  | 200,54   | 200,54   | 200,54  | 200,54   | 200,54  | 200,54   | 200,54  | 200,54  | 200,54  | 200,54   |         |          |          |          |          |
|               | ax14      | normal | 201,95   | 201,95   | 201,95  | 201,95   | 201,95  | 201,95   | 201,95  | 201,95  | 201,95  | 201,95   | 201,95  |          |          |          |          |
|               |           | conv.  | 211,68   | 211,68   | 211,68  | 211,68   | 211,68  | 211,68   | 211,68  | 211,68  | 211,68  | 211,68   | 211,68  |          |          |          |          |
|               | ax15      | normal | 213,17   | 213,17   | 213,17  | 213,17   | 213,17  | 213,17   | 213,17  | 213,17  | 213,17  | 213,17   | 213,17  | 213,17   |          |          |          |
|               |           | conv.  | 223,44   | 223,44   | 223,44  | 223,44   | 223,44  | 223,44   | 223,44  | 223,44  | 223,44  | 223,44   | 223,44  | 223,44   |          |          |          |
|               | ax16      | normal | 225,02   | 225,02   | 225,02  | 225,02   | 225,02  | 225,02   | 225,02  | 225,02  | 225,02  | 225,02   | 225,02  | 225,02   | 225,02   |          |          |
|               |           | conv.  | 235,86   | 235,86   | 235,86  | 235,86   | 235,86  | 235,86   | 235,86  | 235,86  | 235,86  | 235,86   | 235,86  | 235,86   | 235,86   |          |          |
|               | ax17      | normal | 237,52   | 237,52   | 237,52  | 237,52   | 237,52  | 237,52   | 237,52  | 237,52  | 237,52  | 237,52   | 237,52  | 237,52   | 237,52   | 237,52   |          |
|               |           | conv.  | 248,96   | 248,96   | 248,96  | 248,96   | 248,96  | 248,96   | 248,96  | 248,96  | 248,96  | 248,96   | 248,96  | 248,96   | 248,96   | 248,96   |          |
|               | ax18      | normal | 250,71   | 250,71   | 250,71  | 250,71   | 250,71  | 250,71   | 250,71  | 250,71  | 250,71  | 250,71   | 250,71  | 250,71   | 250,71   | 250,71   | 250,71   |
|               |           | conv   | 262.79   | 262 79   | 262 79  | 262 79   | 262 79  | 262 79   | 262 79  | 262 79  | 262 79  | 262 79   | 262 79  | 262 79   | 262 79   | 262 79   | 262 79   |