Chapter 6
The Circular Economy and Its Possible Collaboration with Islamic Economics and Finance

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Abstract This chapter examines the possible relationship between the Circular Economy and Islamic (economics and finance). The fundamental idea at the base of this article is that the circular economy, with all its limitations, does present a different model of decision-making, i.e., one that sees decisions being made not based on a narrow individual self-interest. The circular economy promotes the view that economics and finance must incorporate "others" into one's decision-making. Islamic Banking/Finance has developed over the last three decades and while it has served the needs of providing a Shariah (read legal) compliant financing, reservations have been voiced as to its social impact and its contribution to the real economy that seems to have also contributed to the positive shift in the direction taken in IBF in the last decade. The chapter then presents the main highlights of the circular economy discourse and takes a critical look at some of its limitations. The authors argue that, despite its limitations, the circular economy provides an opportunity to further strengthen the preliminary re-alignment that has taken place in current Islamic Banking/Finance discourse, especially the development of social finance. The goals and overall approach of IBF must be reformulated to serve the needs of achieving socio-economic justice. Since Islamic finance is still dominated by Islamic banking, reforms made by Islamic banking authorities and IF educators will have a significant impact on developing the direction of the discipline. Instead of narrow focus on maximizing shareholder returns, these reforms will allow for promoting a genuine stakeholder model where decisions made by individual agents must include a concern for others, including the environment. The chapter generally uses secondary data and discourse/content analysis involving literature written over the last three decades.

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6.1 Introduction

Circular economy (CE) is a regenerative system in which resources either as input of production or waste from consumption are minimized through lifespan extension, repairing, maintaining, reusing, remanufacturing, refurbishing, and recycling (Geissddoerfer et al., 2016). In other words, the designed products need to be of high quality, durable, and long-lasting so that it can reduce new consumptions. Since the products sold are high quality, they can be reused to preserve and prevent resources from being injected into the market. When the reused period has passed, the products can be remanufactured to improve their performance. The last part is recycling the products so that they can be reused for other purposes.

CE promotes a sustainable solution to use and manage scarce natural resources in an efficient way where the product wastes are reused as inputs of new production to ensure the resources can keep circulating in the market system (see Fig. 6.1). Circular economy aims to achieve balance and systematic integration in three aspects: economic, environment, and social (Korhonen et al., 2018; Purvis, Mao & Robinson 2018; Murray et al., 2017; Homrich, 2017; Stahel, 2016). Circular economy is not only minimizing the waste and cost of production,[1] it also intends to build long-term resilience, generates business and economic opportunities, and provides environmental and societal benefits[2] (Ellen MacArthur Foundation, 2017). Due to its promising benefits, many recent studies have been conducted to discuss the concept of CE (Geisdoerfer et al., 2017; Berg et al., 2018; Korhonen, Honkasalo and Seppala 2018; Murray et al., 2017), its possible implementation (Genovese et al., 2017; Mrowiec, 2018; Murray et al., 2017; Zhu et al., 2010), assessment methods (Elia et al., 2017; Geng et al., 2011; Su et al., 2013), and ways on how to promote it (Nunes et al., 2018; Buil et al., 2017).

6.2 Limitations of Circular Economy

Despite its various potential benefits, sustainability of circular economy is questionable. Four arguments are given below to justify its limitations.

Implicit Costs—Cost of Maintaining, Recovering, Recycling, and Extending Products' Lifetime

The implicit costs of CE are not taken into account. First, the cost of maintaining the goods to be used for a longer period may not be justifiable. After certain period of time, the quality of the products will be diminished, and maintaining this kind of product in the system requires new resource inflow and may incur some costs

[1] It reduces resource inflow and energy costs of production.

[2] Its societal benefits are promoting sharing economy where the waste of one firm is the input of another firm, creating cooperation between firms and consumers in managing the products lifecycle, and offering job opportunity for new cleaner market.

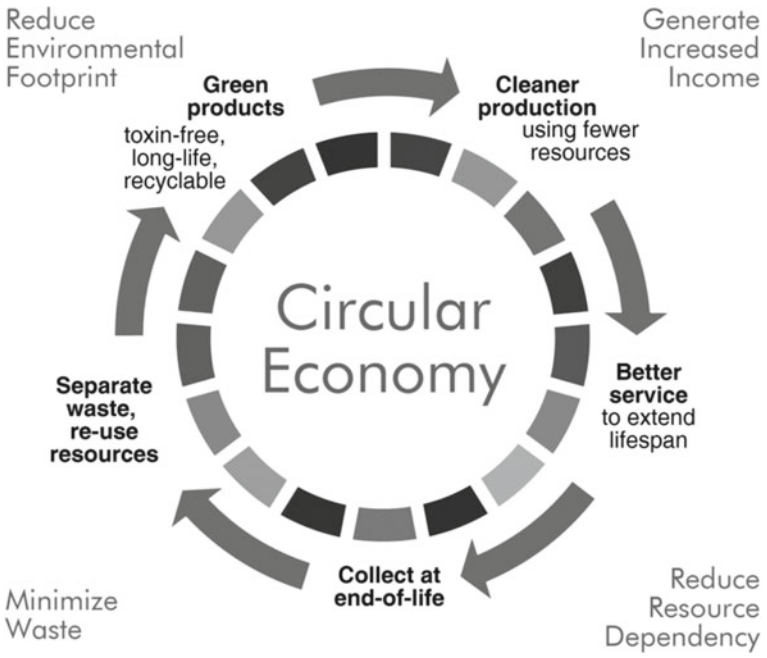

Fig. 6.1 Circular Economy process *Source* United Nations Industrial Development Organization (n.d)

to repair and improve it. Maintaining goods might be difficult due to the stigma of owning outdated goods (Cooper, 2005) and also not efficient if the new products can be produced at a cheaper price with a better quality.

Second, recovering materials from the used products may not be economically efficient. Although for the case of rare earth elements, expensive and vital ingredients in modern and green technologies, recovering the elements from the used products is less likely to occur. Most of the time, the cost of recovering is not worth of the metals extracted from the end products (Schüler et al., 2011).

Third, CE cannot provide recycling in perpetuity (Andersen, 2007) because some goods especially electronic, chemical, and medical products are difficult or may not be able to be recycled. Although some can be recycled, it is difficult to ensure the quality of the products over time (Winans and Deng 2017), and low-quality products will be less demanded. In addition, treatment of lower quality products will give lower benefits regardless of how they are valorized (Huysman et al., 2017). Furthermore, it cannot be denied that at certain point of time, recycling will become difficult to yield a net benefit (Anderson 2007).

Last, when products are designed to be long-lasting, the chemical used to ensure the longevity of the products may result in pollution, both in production process and after the end-of-lifecycle of the products. The life extension products are hardly to breakdown, energy expensive, and consume more energy in manufacturing process

and release more entropy than those designed with shorter life (Murray et al., 2017). A wooden chair, for example, is easy to perish and more environmental friendly than the finely manufactured office chair. Everything on earth such as molecules and atoms have their own lifecycle. For instance, evaporated water from the ocean forms rain clouds, and the rain falls on the land goes back to the oceans through river flow (Murray et al., 2017). A viable concept of circular economy should respect and not alter the biogeochemical cycle of the earth. However, prolonging the lifecycle of products may affect the environmental assimilative capacity due to its durability characteristic.

Invalid Assumptions

CE assumes that when the lifecycle of products is extended and the products are designed to be of high quality, consumption will decrease due to low rate of displacement, and thus reduce resource used (Murray et al., 2017). This assumption is not applicable to those who have/have no purchasing power. It is very common for the rich people to purchase more of high-quality and expensive shoes/watches to satisfy their utility. It is also less likely for the low-income group to purchase high-quality goods, associated with high price, with the intention to reduce their consumption. Rational behavior theory suggests that consumers will opt for expensive and durable good if the goods can reduce his/her costs and maximize utility. However, consumers are not always rational (Planing, 2015), especially for fashionable (i.e., clothing) and electronic goods (i.e., phone).

It is also assumed that prolonging products lifespan could reduce the need of raw materials and waste creation (Elia et al., 2017) because it allows resources to grow naturally before extracting the new resources, and the earth can tolerate the limited/minimum amount of waste generated. However, durability of the products will affect the capacity of earth to absorb the waste, and these products might be more polluted, for example, electronic waste, than the short-life goods. Also, the demand is higher than what the resources can sustainably produce, and hence will affect the resource reproductive rate.

Rebound Effects

CE aims to preserve natural resource and reduce environmental footprint caused by linear economy (make, use, dispose) through efficient use of raw materials, water, and energy (Elia et al., 2017; Geng et al. 2013). When products' efficiency is improved, it leads to cheaper cost of production and the price of goods (Zink & Geyer, 2017). As a result, it boosts up production and consumption which partially or fully offset the environmental gain created from improved efficiency. Consequently, overall production and consumption are increased and lead to high demand for resource extraction and increase waste generation.

Zink and Geyer (2017) argued that nothing is "green" about transferring waste of one firm as an input of another firm if it does not reduce the environmental impact in both during production and consumption stages. They further emphasized that the merit of circular economy is that whether the used products can reduce or prevent production of new products so that the resources can be preserved for future

use and low demand for landfills. Substitutability of goods depends on consumers' perceptions of using the used goods (Thomas, 2003), and the type of products. Daily used products such as clothing, toiletries, or stationaries may not be feasible because the prices are affordable. However, durable goods like cars, furniture, or expensive items (i.e., branded clothes, handbags, or shoes) may work due to their high costs or the need of having them.

According to Zink and Geyer (2017), low quality of inferior goods will not make them a good substitute for new products. For example, used clothes/items hardly compete with the new clothes. There is a possibility that the used or inferior goods reduces demand for new products due to their price advantage. When the reused goods enter the market, the low-income group might demand for the products due to their lower prices compared to the newly designed products. Thus, the presence of these good is likely to increase the overall production and consumption (Thomas, 2003), and hence contributes to waste generation. Increased supply of both new and old goods will reduce the overall price and encourage more consumption. Therefore, 3Rs (reduce, reuse, recycle) may lead to resource depletion, pollution, and waste generation if the growth of its physical scale is unchecked (Korhonen et al., 2018).

Silent on Social Aspect

There is a clear impact of circular economy in achieving environmental and economic objectives. However, the social aspect seems to be missing in the system (Homrich et al., 2017) especially its role in promoting greater social equality in terms of inter- and intra-generational equity (Murray et al., 2017). Although job creation in the green sector is highlighted as a result of circular economy, there is no clear justification of the extent of how circular economy could improve social well-being (Geissdoerfer et al., 2016). Circular economy emphasizes on redesigning of waste (Ellen MacArthur Foundation 2013) to be cycled and reused in the system which require engineers to design and manufacture the products (Winans and Deng 2017).

In addition, the concept stresses on efficiency improvement in production process, indicating the use of high technological machines and skillful workers. Although low-skilled workers could also benefit from circular economy through waste collection and sorting activities (Ellen MacArthur Foundation 2013), circular economy offers more professional job opportunities to the society which in turn widens the intra-generational inequality. However, from a different angle, creating more skilled workers is desirable for economic growth which can be achieved by upskilling as many people as possible to reduce the earning gaps.

Given the above limitations, we propose the following concepts to complement the CE.

6.3 Interdependent Utility Function and Social Finance

6.3.1 Interdependent Utility Function

Many may not realize that one's utility/profit depends on not only one's own consumption/production, but on the consumption/production of others. For instance, during the Covid-19 period, one's utility increases (in terms of lower risk of infection) when people around him wear masks. If we look at it from a wider perspective, preservation of scare resources by planting more trees in Bhutan, for example, will positively affect the well-being of other countries as a whole by slowing down the impact of climate change. Conventional economics discusses these under the topic "externalities,"[3] which is seen as a distortion to the market function.

Interdependence of utility is not a new concept. If one was to just search for references on interdependent utility functions, one would be amazed that much theoretical work has been written. My utility depends on the utilities of others.[4] Drakopoulos (2012) carries out a historical study that states:

> "*The notion of interdependent preferences has a long history in economic thought. In its general form, it can be found in the works of authors such as Hume, Rae, Genovesi, Smith, Marx, and Mill, among others. In the twentieth century, the idea became more widespread mainly through the works of Veblen and Duesenberry……However, such preferences were never part of the corpus of orthodox theory. For instance, although Pareto and Marshall were aware of their existence, they did not advocate their incorporation into orthodox economic theory.*"

A possible reason for its exclusion from the orthodox economic theories might probably because interdependent utility contradicts with the very basic economic concept of utility advocated by Strigler (1950) and other well-accepted concepts such as Zero-sum game[5] and Pareto optimality.[6] Ironically, on the other side of the argument, interdependent utility function is recognized when we talk about interdependence in oligopoly behavior. Two distinct characteristics of interdependent utility outlined by Dave and Dodds (2012) are (i) a purely altruistic concern for the others' well-being—termed as benevolence and (ii) concern with the action taken by others—termed as nosiness. Oligopoly refers to the latter because actions taken by one company will have an impact on the utility/profit function of other companies. The former is supported by Bergstorm (1999). He extended the utility function of a person beyond one generation—not only depending on the intra, but also intergenerational utility—because parents gain pleasure by observing the happiness of

[3] In these cases, we say positive externalities. Conversely, if we were talking about some polluting examples that would be termed a "negative externality."

[4] See Oxford Reference (2021). Retrieved 28 March 2021, from https://www.oxfordreference.com/view/10.1093/oi/authority.20110803100006606.

[5] A situation in a game theory in which one's gain is equivalent to another person's loss so that the net change in wealth is equal to zero.

[6] A similar situation to zero-sum game in which no person will be better off without making at least one person worse off.

their children (and grandchildren), while the children feel the same way when they could make their parents proud of their achievements.

Benevolence utility is acknowledged in the teachings of Islam—the willingness to trade one's happiness for the happiness of others for mutual/overall satisfaction. For instance, when we help the needy, our utility will increase although our money has reduced because we are happy when we could help the less fortunate and we believe that the reward from Allah will be greater. This condition is called as altruistic value, satisfaction gain when other humans benefit from it. If altruism is a linear function, as the degrees of altruism increase, altruistic utility functions of different persons will converge to a single function (Hori 2006). Ignoring the fact that everyone's utility is dependent on each other will lead to market failure, and its extreme example is the tragedy of the commons—maximizing my own utility by ignoring others' best interest led to overuse/depletion of resources. Elinor Ostrom won the Nobel Prize in Economics detailing the solution to address this issue, indicating the problem is real and needs fundamental changes in economic concepts. Similarly with the current practice of IBF, maximizing their profit by imposing high "profit" with the intention to replace "interest" and providing loans only to a certain group of people will not only defeat its purpose to serve the *ummah*, but will limit the money flow into their system. Tragedy of the commons teaches us when our decision-makings have a significant impact on public utility, altruistic/benevolence behavior should be adopted to sustain the system.

6.3.2 Social Finance

What is social finance? In the finance paradigm, social finance is seen as "investment decisions that not only give a financial return, but also have positive social and/or environmental impact."[7] Hence, social finance still makes a financial return (could be less than return under pure business criteria), but also does greater good to others in the process. It can include schemes and programs that make economic resources (including funds/financing) available to those segments of society who otherwise may not have access to these resources. It could also involve a social/environmental goal that requires funding due to lack of public funds per se. It seeks to balance between material profits and social good. This is where social finance can serve/complement the circular economy paradigm. It works by taking the individual, society, and the environment into account when making decisions. Put in another way, it requires a "multi-objective profit function" that also incorporates "interdependent utility functions" as discussed above.

[7] The four broad areas covered under this include socially responsible investing/finance, environment finance, development finance (including microfinance), and impact investing. See Tim Rourke, *From ESG to SRI,* Knowledge Leadership, CIBC Mellon a Canadian Company that specializes in social finance.

In recent years, there has been interest in talking about Islamic Social Finance (ISF). While welcome, the effort has been limited to discussing zakat, waqf, and Islamic microfinance. While these three institutions are important areas/institutions of ISF, it is still a very narrow approach to the social finance discourse mentioned above. It is very important that ISF discourse be widened to include all areas of finance—including Islamic banking—since what is crucial is to see a new model of decision-making being developed. Hence, ISF should also argue for a banking, capital market (for example, sukuk) as well as all other investment funds that have a "social impact." The circular economy paradigm is an ideal project to combine with social finance discourse since the central idea is about a new decision-making model.

Many may not be aware, but this is not new to Islamic economics. In the late 1970s and early 1980s, pioneers of Islamic economics asked this question "is the goal of the firm only to maximize their financial profit"? While the answer was a firm "no" (no pun intended), the details of how you would do this and show this theoretically did not get sufficient attention. This discourse slowly waned over the years. Faced with the available calculus tools of analysis used in standard economics, it was counter-argued that we should continue to use the "maximization" hypothesis but change the function/goal that was to be maximized.[8] This argument may have been a good "solution" to the debate, but unfortunately not enough theoretical work followed to build on these ideas. How one would actually modify the profit function, what were the components and "Islamic values" to be added, how these would be formulated, etc. and developed. Hence, the standard maximization rule just modified in "intention" without detailing out the components that had to be included in the profit/objective function and the constraints or limitations that represented Islamic considerations. This is quite puzzling since many young Islamic economists are actually well trained in the mathematics and quantitative techniques of modern economics. Hence, the renewed discourse on interdependent utility functions must be brought back into the research agenda.

As time went on, the stated standard view was that Islamic economics utilized a modified maximization rule. If the details were not developed in Islamic economic theory debates and discourse—an area that has not really been given sufficient attention—what more when we go to the discourse in Islamic banking and finance. In the world of Islamic banking, the "modified" maximization rule was taken as "given"—the goal of the Islamic bank is to maximize profit or to maximize shareholder income/wealth—but following *Shari'ah* (read as fiqh or law) requirements.[9] It is always re-iterated by proponents of current IBF industry that IBs are "*tijari*" entities and not welfare organizations. Without the capital of the shareholders, there would be no business, hence we should be fair to the shareholders. While this was

[8] Mahmoud Saud in the 1970s and later Zubair Hasan put forward this view and generally made the theoretical argument.

[9] It may also be the case that this question was never really a concern. Islamic banking and finance never really based its development on Islamic Economics Foundations (which in themselves were also not very well developed). Most research in IBF was focused on instrument development.

the discourse 30 years ago, things have changes drastically. From Corporate Social Responsibility (CSR) discussions in the later part of the 1990s, this question of "role of corporate entities" and especially banks have come under scrutiny. With the advent of social business discussions and more recently the circular economy discourse, the idea of greedy, self-interested maximizers has come under scrutiny again. While no one sees commercial enterprises as having to be welfare entities, the issue of interdependent utility functions would allow us to re-evaluate our decision-making. Social impact that is at the core of social finance can certainly make IBF a more relevant approach to human well-being.

6.4 Current Performance and the Need for New Directions

In this section, we begin with a brief mention of the evolution of contemporary IBF with some examples, particularly focusing on Malaysia. The second part of this section describes the current agenda put forward by the Central Bank of Malaysia that emphasize on the Value-Based Intermediation (VBI), and the last part discusses the possible application of circular economy in environmental policy. Some lessons can be learnt from the current practice of Malaysia's waste management. Both IBF and environmental issues attract a lot of attention especially in the last decade or so with the Sustainable Development Framework and the United Nation's Sustainable Development Goals discourse. Given these developments, it is worth to note that the new direction of IBF (social finance) could be used as a tool to finance green technologies for a better environmental quality.

6.4.1 The Evolution of Islamic Banking and Finance (IBF):

From Commercial IBF to Social Finance (SF)

According to the Global Islamic Economy Report 2020/21, Islamic financial assets were estimated to have grown by 13.9% to approximately USD 2.88 trillion at the end of 2019 (from USD 2.52 trillion in 2018). From this figure, approximately USD 2.2 trillion is in the banking sector, USD 536 billion in sukuk while USD 237 in Islamic funds. In addition, there were 1462 financial institutions globally.[10] This means that other sub-sectors of finance are yet to challenge the dominance of banks in the IF space. This is quite different in the conventional scene, where banks face stiff pressures from other sub-areas of finance, especially with the rise of the *financialization* process. Hence, many of the arguments made for IF can actually still refer to the example of IB. However, IB has also evolved over the last four decades.

[10] COVID-19 and its impact have been widespread. There is no growth expected in Islamic Finance in 2020, but expectations are for a 5% annual growth from 2021 to 2024 to reach USD 3.69 trillion by 2024.

Notwithstanding the growth of Islamic banking and finance from the various data and reports produced by so many parties, there has also been criticism targeting both the conceptual and practical levels of IB. The following paragraphs summarize some of these tensions.[11] Firstly, one finds the "questioning of Islamicity" of Islamic banking. In the 1980s, the debate was between the types of contracts used and the legalities of contracts. Fast forward almost three decades later—the discussion is no longer about mere contracts. There is also a questioning about the efficacy of debt-based instruments. Today, with the greater concern for the environment, proliferation of writings on CSR and the whole Sustainable Development Goals (SDG) agenda, people now ask what is IBF doing to promote the well-being of the *ummah* and humanity as a whole. With COVID-19 and its tremendous impact on the lives of people, this question is even more fundamental. No more should the goal of the bank be just to maximize profits or shareholders' wealth. Shareholders are one stakeholder of the bank. These developments provide a renewed opportunity to adopt a much more inclusive view of "Islamicity." Rather than just being financial intermediaries that were divorced from the pain and suffering of the less advantaged, Islamic banks must be proponents of economic development.

Secondly, there is also a need to clearly reduce the "theory–practice gap of the debt-based IB." Even if we accept debt-based instruments (like BBA, *tawarruq* and *bayᶜ al-inah*-based contracts in Malaysia), the theory—practice divide is further aggravated when the practice of debt-based IBF does not necessarily follow the requirements of the theory of debt-based IBF. A 2008 High Court judgement in Malaysia[12] gave a verdict that stated explicitly that the "BBA as practiced in Malaysia was not a bona-fide sale" and for all practical purposes was more like a loan contract. Of course, this was opposed by the industry. On appeal, the presiding appeal court judgement found that the High Court judge above had erred in his judgement, since *the BBA is a sale contract and not a loan.* Both judgements seem to be talking about different things: the appeal court was referring to the *theory of BBA*, while the High Court was referring to the *practice of BBA* in Malaysia. Why is there a departure between theory and practice? Why and how were the practices justified by the Shariah boards? This has brought into question the whole process of Shariah advisement and the qualifications of members of these boards, our third tension.

In the case of Malaysia, while there is no explicit requirement for Islamic law/*fiqh* qualifications, the convention is that Shariah advisors should be trained in Islamic law. While not questioning the sincerity of these scholars, the issue may be more about the qualifications and understanding of these scholars of contemporary banking and finance, and one can add, to the economic framework that banks function in. While attempts have been made to improve the knowledge of these Shariah advisors, such continuing education/training programs, there is still much to improve. Is it possible to serve the well-being of society as a whole without also knowing the economic and social implications of those instruments and how development as a whole is

[11] For a more detailed discussion of these tensions, please see Haneef (2009).

[12] See Datuk Abdul Wahab Patail, High Court Malaysia, Commercial Division, 18 July 2008. Judgement on various suits brought by a few Islamic banks against clients.

served?[13] Can we truly claim that the instruments that are being put forward are genuinely serving public interest if we do not see the bigger picture of the economic and social goals of society? Should we not also give the required attention to ethical (and not just legal) issues in the decisions that we make? Why are we satisfied to just have the "minimum legal requirement" as the standard that we want to follow?

6.4.2 *Moving Beyond Profit: The Value-Based Intermediation (VBI) Agenda*

In this regard, *Bank Negara Malaysia* or the Central Bank of Malaysia has put forward its Value-Based Intermediation (VBI) agenda. Basically, VBI argues that finance—in this case Islamic banking/finance—must look beyond the individual profit motive. No longer can the legal issues be the dominant focus, but ethical dimensions and implications of the decisions made must also be taken into consideration. The VBI initiative needs much more discussion and debate to ensure that it is a transparent, all-inclusive discourse. A recent thesis by Amin (2018) argues that the entire conventional banking system is being replicated by the Islamic banking system and calls for a "systems" approach to developing IBF. The last 10–15 years have seen efforts to establish *other types of Islamic banks*, modeled after what are called social banks that are part of social banking/finance. The last few years have also witnessed increasing discussion of the role of IBF in helping attain the United Nations' SDGs. Positive steps have also been taken to move away from just focusing on banks to *non-bank alternatives*. In addition, the numerous crises originating usually in the financial sector over the last 20 years have provided a new opportunity to re-look at the approach taken. In recent times, the circular economy discourse also provides another platform to re-consider the role of IB.

Finally, has IBF made a difference in facing the negative effects of the financialization process mentioned earlier? In terms of a definition, financialization refers to "the increasing importance of financial markets, financial motives, financial institutions, and financial elites in the operation of the economy and its governing institutions, both at the national and international levels" (Epstein 2001, p.1). It has transferred income from the real sector to the financial sector, shown by the increase in the share of return to owners of money capital vis-à-vis worker or labor,[14] and has caused a general increase in income inequality and wage stagnation. Intra-country studies have shown there is a growing inequality between the rich and poor in all countries,

[13] In this issue, M. N. Siddiqi (2007) pointed out the importance of understanding the 'macro-*fiqh*' dimensions of IBF on the economy and society as a whole as opposed to the 'micro-*fiqh*' qualifications of most legal scholars.

[14] As an example, the average trading in foreign exchange for WTO countries in April 2013 was USD 53.9 trillion whereas average total trade in goods and services for WTO countries in 2012 was USD 58.9 billion, meaning that what is traded in foreign exchange in less than a week is more than the total trade in goods and services for one year!

if not income, certainly wealth inequality.[15] Financialization may also render the economy prone to risk in financial markets that are more volatile. This is supported by the fact that many corporations even create independent financial companies and carry out credit operations. *Simply put, the financial sector no longer serves the real economy, but rather permeates and dominates the real economy.*

If we agree with even some of the arguments above, what has been the performance of leading IBF countries vis-à-vis these features of financialization? Has the introduction and development of IBF made a difference to the issue of inequality, dominance of the financial sector, the rise of debt as well as environmental degradation? Further serious research is needed. The financial sector has gained stature and importance over the trade/ manufacturing sectors. Many Muslim countries are rushing to become "Islamic finance" hubs. Huge numbers of people seek employment in the Islamic banking/ finance industry rather than become entrepreneurs or work in manufacturing. The question of inequality is still a major concern: deceasing relative inequality but rising absolute inequality.[16]

While IBF has been acknowledged in various studies to have been safer /more stable during the 2008 financial crisis, it is too early to celebrate. Islamic banks have been involved in various activities that seem to be features of financialization, but in a very cautious way. In tandem, studies need to be conducted to determine how much Islamic banks/finance have either contributed to raising inequalities, or has contributed to reduce it, or at least slow down its pace? It is also very important to conduct social impact studies of IB in various communities. Issues of basic needs as well as general well-being of society cannot be left to the government or the voluntary sector. IBs must play their role in providing for society, not just for those with money. However, we need to change the present trend and direction of development. The circular economy discourse provides an opportunity to re-look at how IE and IF can change its approach.

6.4.3 Application of Circular Economy in the Environmental Policy: Lessons Learnt from Malaysia's Waste Management

CE was initially introduced due to the environmental concern of increasing consumption of single-used products from a scarce resource. Therefore, a brief introduction of Malaysia's environmental conditions and policies is given. Prior to 1990s, traditional methods such as open dumping and waste burning were commonly practiced

[15] Thomson and Dutta (2015) quote an UNCTAD study that shows that USD 800 billions of capital flows have actually moved from developing countries to developed countries in 2008, thus showing the domination of the rich over the poor.

[16] Institutions like the United Nations University have undertaken research on poverty measurement and published a special issue of Review of Income and Wealth entitled Inequality: Measurement, trends, impacts and policies, edited by Tony Addison, Jukka Pirttilä and Finn Tarp (2017).

in Malaysia. After 1990s, landfills gradually became the most preferred solution for waste management (Al Ansari, 2012). This practice, unfortunately, is still being implemented after 3 decades of operation due to its simplicity and cost-effectiveness compared to another alternative incinerator. Currently, about 90% of waste generated are collected by concessionaires and of this number, 90% will be dumped in the landfills (Yong et al., 2019). The remaining 10% that was not collected by concessionaires (illegal dumping) will be managed traditionally (Tang et al., 2019). The waste generation is increasing due to the rise in consumption and population (about 4% per year), leading to high dependency on landfills that have approached their threshold or exceeded their maximum capacity (Moh and Manaf 2014). Also, the landfills have been poorly managed and created various types of environmental pollution (Hoe et al., 2002).

Many environmental policies and programs had been implemented since 1990s to convert valuable resources in the waste stream from being disposed in the landfills by promoting waste reduction strategy through waste management hierarchy (reduce, reuse, recovery, and recycle), setting up of buy-back centers and placement of drop off containers for recyclables at strategic locations such as schools and shopping malls, and creating awareness among Malaysian. However, the efforts made were deemed to be a failure because less than 5% of the total waste is recycled (Tahar 2017; Hassan et al., 2000) due to lack of supporting regulations and poor public participation (Ogiri 2019) as their mentality toward cleanliness, and the sense of responsibility in managing waste is lacking (Moh 2017).

Waste management hierarchy or 3Rs is a central component of circular economy, although circular economy covers a broader aspect. Nevertheless, its implementation did not achieve the expected outcome. Some people do not care about what comes out of the waste, where and how those wastes are disposed as long as they are collected from their house (Otitoju & Seng, 2014). They are not aware that their utility is also dependent on how the waste is being managed. When more land is being allocated for landfills, the opportunity cost of land will be high due to its increase in demand for other purposes such as residential areas, agriculture, manufacturing and wildlife, and therefore will affect human's life. The current situation indicates that Malaysia is not ready to move away from the traditional linear economy unless they realize that they are living in a shrinking ecosystem that requires everyone to look after one another.

6.5 Circular Economy and Social Finance Discourse (CESF): Opportunity for a New Decision-Making Model

As mentioned above, when we talk of Islamic social finance, one does not see the discussion of social finance as given in the West. Rather than discussing modifications to the business sector (as found in the conventional discourse of social finance)

as well as the potential to bring the "theory of the firm" back in focus—in Islamic discourse circles—to some extent, discourse seems to have been rather limited to our three institutions that "represent Islamic social finance": zakat, waqf, and microfinance/micro investment.[17] Hence, financing was made available to society as a whole and not just to the already well-to-do. In addition to these three institutions separately, some works have even tried to combine zakat and waqf with Islamic microfinance in order to be able to serve the *ummah* even better. However, the division of the Islamic economy into the *tijari* sector (private), *siyasi* sector (public), and *ijtima'i* sector (social/voluntary) has led to less discussion about the hybrid model as in the West. As mentioned earlier, until very recently, many "Islamic bank experts" still insisted that the role of IBF is to maximize returns for their shareholders. It is as if the three sectors cannot be integrated.

If we widen the discussion of Islamic social finance to include "overall decision-making" of all forms (banks included), we then have a new model of the firm. The 3Ps (people, planet, and profits) model is what the circular economy paradigm brings to Islamic economics and finance. Stemming from the Islamic worldview and Islamic economic philosophy discussions about the nature of resources, the nature and role of man as *'abd* and *khalifah*, the ethical principles that this brings in economics and finance plus the call for socio-economic justice and equity, naturally makes the circular economy and social finance discourse relevant. In making our personal decisions, we have to think of its impacts on others because their utility depend on ours and vice versa. Although much has been written on interdependent utility function, it has not been able to become mainstream. Bergstrom (1999) put forward a highly mathematical presentation of "benevolent utility functions" but these alternative theories of decision-making of economic agents must be developed by Islamic economists and be included in the analyses made from Islamic perspectives.

In Islamic economics, Zaman (2005) tried to present his alternative to consumer behavior that tried to separate the demand function into two so that the consumption pattern for the poor will be acknowledged clearly. Choudhury and Tageldin gave their own critique to this article. While one can find some work in this area, the reality of the matter is that these writings are just insufficient and in no comparison to the levels written by alternative economics in the West. Much more attention is needed to attract our young scholars to do research in these areas and to build theoretical models that reflect the Islamic perspectives on individual decision-making. Interdependent utility functions and putting others' welfare into our own welfare is the way to go. The CESF discourse affords a golden opportunity to revive the interest in this.

However, while CESF provides the necessary intellectual motivation to re-energize the Islamic economics and finance discourse, one must also be critical of the CESF discourse. A thorough evaluation of CE and SF from an Islamic perspective

[17] As for microfinance, Muhammad Yunus and Grameen Bank did something that many others could not. He managed to develop a system whereby the unbankable poor were the targets of microfinance schemes where group dynamics made collection and repayment an almost 100% success. There have also been criticisms, but as a whole, breaking the existing paradigm of "collateral" and credit worthiness has been achieved.

is needed, just as we would call for the critical evaluation of our *turath* and modern knowledge in the Islamization and Integration of Knowledge agenda.[18]

6.6 The Way Forward and Conclusion

Besides the overall need to situate IBF within the Islamic economic framework, other positive developments have taken place over the last 10 to 15 years or so. The CESF discourse allows a re-look at the economic and financial decision-making process of the agent—be it the consumer or producer. The rise of social/community banking has given alternative banking models other than the Anglo-Saxon commercial model. In addition, there must also be emphasis given to non-banking financial institutions such as Development Financial Institutions (DFIs) and other community-based alternatives. One could argue that companies such as Malaysia's e-hailing GRAB transport service and Air BNB's accommodation service are all examples of a democratization of asset ownership that could actually bypass established institutions such as banks.

As far as microfinance is concerned, a new area of Islamic social finance has developed rather extensively over the last 10 years. Zakat and awqaf are also part of this Islamic social finance where commercial interests are balanced with societal interests. However, everyone must be vigilant to not "overcommercialize" the institutions of zakat and waqf. Already there are writings by more commercially minded entities that are calling for a greater role of Islamic banking in zakat and waqf management. Caution needs to be taken so that the noble aims of zakat and awqaf are not corrupted by crass material intentions.

The Islamic economic system is quite unique in that it is a three-sector system: private, public, and voluntary or not for profit sectors. Each plays its own complementary role to achieve well-being for all. The private sectors, in this case, commercial Islamic banks have to work together with other institutions to achieve the wider goals of society. This can only be effectively done if IB re-aligns with its Islamic economic roots. With some of the developments post-2008 crisis, the environment has become more conducive to receive alternative approaches to develop contemporary IB. The circular economy paradigm also allows us to seriously question the narrow approach taken in developing IBF of the last 40 years. Alternative banks, non-banking alternatives as well as more holistic solutions that call for structural reforms, including those in distribution and redistribution, are now being discussed even in mainstream conferences.

Islamic economics and finance should take the opportunity to participate in this movement for reform. After all, the Islamic concepts of *tajdid, islah,* and *ijtihad* are

[18] For details on this, please see Haneef, M.A (2009) A Critical Survey of Islamization of Knowledge (2nd, Revised Edition) IIUM Press. The main argument in Islamization of Knowledge is that in order to develop contemporary Islamic perspectives in various aspects of knowledge and in the disciplines that we teach and use to understand human behavior, one has to integrate knowledge obtained from our Islamic heritage and their methodologies, with modern knowledge that has developed mainly in the West after critical evaluation of both bodies of knowledge.

all central to achieving the well-being of the *ummah*. Islamic economics, banking and finance must genuinely solve problems of the *ummah* and not just provide legally compliant instruments that do not necessarily establish justice and well-being for all, and something that is central to the objectives of the Shariah. In addition, just providing longer repayment periods to allow people to afford an already overpriced house does not genuinely solve the provision of the basic human right of shelter, which is a crucial goal of the objectives of Shariah. Solutions must be sought in a framework where finance is unified with economics and the socio-economic goals of society. Islamic banks and banking authorities must take the lead.

There is an oft-repeated and one of my favorites saying in the Malay language "*Kalau sesat, balik ke pangkal jalan*" (if you are lost, return to the beginning of the journey). In Islamic banking, there is soul-searching required and the way forward is to re-visit its Islamic economic foundations. Maybe the current discourse on circular economy and social finance will provide the incentive and impetus to re-connect IB to its roots. It is the responsibility of all to assist in bringing Islamic banking and finance home.

References

Al Ansari, M. S. (2012). Improving solid waste management in gulf co-operation council states: Developing integrated plans to achieve reduction in greenhouse gases. *Modern Applied Science, 6*(2), 60.

Amin, R. I. (2018). *The Malaysian Islamic Banking Sector Viewed Through Systems Theory (Doctoral thesis)*. International Islamic University Malaysia.

Andersen, M. S. (2007). An introductory note on the environmental economics of the circular economy. *Sustainability Science, 2*(1), 133–140.

Bergstrom, T. C. (1999). Systems of Benevolent utility functions. *J. Public Econ. Theory, 1*, 71–100.

Berg et al. 2018. Circular Economy for Sustainable Development. Reports of the Finnish Environment Institute. Helsinki: Finnish Environment Institute.

Buil et al. (2017). The Involvement of Future Generations in the Circular Economy Paradigm: An Empirical Analysis on Aluminium Packaging Recycling in Spain. https://www.mdpi.com/2071-1050/9/12/2345/pdf

Cooper, T. (2005). Slower consumption: Reflections on product lifespans and the "throwaway society." *Journal of Industrial Ecology, 9*(1), 51–67.

Dave, C., & Dodds, S. (2012). Nosy preferences, benevolence, and efficiency. *Southern Economic Journal, 78*(3), 878–894.

Drakopoulos, S. (2012). The History of Attitudes Towards Interdependent Preferences. *Journal of the History of Economics Thought, 34*(4), 541–557. https://doi.org/10.1017/S105383721200051X

Elia, V., Gnoni, M. G., & Tornese, F. (2017). Measuring circular economy strategies through index methods: A critical analysis. *Journal of Cleaner Production, 142*, 2741–2751.

Ellen MacArthur Foundation (2017). What is a circular economy? A framework for an economy that is restorative and regenerative by design. https://www.ellenmacarthurfoundation.org/circular-economy/concept

Geissdoerfer, M., Savaget, P., Bocken, N. M., & Hultink, E. J. (2017). The Circular Economy–A new sustainability paradigm? *Journal of Cleaner Production, 143*, 757–768.

Genovese, A., Acquaye, A. A., Figueroa, A., & Koh, S. L. (2017). Sustainable supply chain management and the transition towards a circular economy: Evidence and some applications. *Omega, 66*, 344–357.

Huysman, S., De Schaepmeester, J., Ragaert, K., Dewulf, J., & De Meester, S. (2017). Performance indicators for a circular economy: A case study on post-industrial plastic waste. *Resources, Conservation and Recycling, 120*, 46–54.

Korhonen, J., Honkasalo, A., & Seppälä, J. (2018). Circular economy: The concept and its limitations. *Ecological Economics, 143*, 37–46.

Mrowiec, B. (2018). Plastics in the circular economy (CE). Environmental Protection and Natural Resources; The Journal of Institute of Environmental Protection-National Research Institute., 29(4), 16–19.

Murray, A., Skene, K., & Haynes, K. (2017). The circular economy: An interdisciplinary exploration of the concept and application in a global context. *Journal of Business Ethics, 140*(3), 369–380.

Nunes, B., Pollard, S., Burgess, P., Ellis, G., & de . (2018). University Contributions to the Circular Economy: Professing the Hidden Curriculum. *Sustainability, 10*(8), 2719.

Otitoju, T. A., & Seng, L. (2014). Municipal solid waste management: Household waste segregation in Kuching South City, Sarawak. *Malaysia. American Journal of Engineering Research (AJER), 3*(6), 82.

Planing, P. (2015). Business model innovation in a circular economy reasons for non-acceptance of circular business models. Open journal of business model innovation, 1(11).

Schüler et al. (2011). Study on rare earths and their recycling. Öko-Institut eV Darmstadt.

Siddiqi, M.N. (2007), 'Shari'ah, Economics and the Progress of Islamic Finance: The Role of Shari'ah Experts', IIUM Journal of Economics and Management, 15(1).

Su, B., Heshmati, A., Geng, Y., & Yu, X. (2013). A review of the circular economy in China: Moving from rhetoric to implementation. *Journal of Cleaner Production, 42*, 215–227.

Tang, W. C., Nirmal, U., Lau, S., & Murugan, S. (2019). A Review on Managing Solid Waste Produced from Homes in Malaysia. *Current Journal of Applied Science and Technology, 34*(5), 1–23. https://doi.org/10.9734/cjast/2019/v34i530148

Thomas, V. M. (2003). Demand and dematerialization impacts of second-hand markets: Reuse or more use? *Journal of Industrial Ecology, 7*(2), 65–78.

United Nations Industrial Development Organization (n.d). Circular Economy. https://www.unido.org/sites/default/files/2017-07/Circular_Economy_UNIDO_0.pdf

Winans, K., Kendall, A., & Deng, H. (2017). The history and current applications of the circular economy concept. *Renewable and Sustainable Energy Reviews, 68*, 825–833.

Yong, Z. J., Bashir, M. J., Ng, C. A., Sethupathi, S., Lim, J. W., & Show, P. L. (2019). Sustainable Waste-to-Energy Development in Malaysia: Appraisal of Environmental, Financial, and Public Issues Related with Energy Recovery from Municipal Solid Waste. *Processes, 7*(10), 676.

Zaman, Asad (2005). "Towards a New Paradigm for Economics," Journal of King AbdulAziz University: Islamic Econ., Vol. 18, No. 2, pp. 49–59 (2005 A.D/1426 A.H) and his response to criticism in 20(1), 73–82.

Zhu, Q., Geng, Y., & Lai, K. H. (2010). Circular economy practices among Chinese manufacturers varying in environmental-oriented supply chain cooperation and the performance implications. *Journal of Environmental Management, 91*(6), 1324–1331.

Zink, T., & Geyer, R. (2017). Circular economy rebound. *Journal of Industrial Ecology, 21*(3), 593–602.

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