

Handbook of Analytical Studies in Islamic Finance and Economics

De Gruyter Studies in Islamic Economics, Finance and Business



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Volume 4

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DE GRUYTER

ISBN 978-3-11-058508-7
e-ISBN (PDF) 978-3-11-058792-0
e-ISBN (EPUB) 978-3-11-058517-9
ISSN 2567-2533

Library of Congress Control Number: 2019956076

Bibliographic information published by the Deutsche Nationalbibliothek

The Deutsche Nationalbibliothek lists this publication in the Deutsche Nationalbibliografie;
detailed bibliographic data are available on the Internet at <http://dnb.dnb.de>.

© 2020 Walter de Gruyter GmbH, Berlin/Boston
Cover image: nnnnae/iStock/Getty Images Plus
Typesetting: Integra Software Services Pvt. Ltd.
Printing and Bindung: CPI books GmbH, Leck

www.degruyter.com

Preface

Twelve years after the last devastating crisis, there is a palpable sense of anxiety and pessimism among academics, policy makers, international organizations and general population regarding the economic and financial future. There is a sense that vital signs have deteriorated globally to the point that conditions are emerging for formation of a perfect storm. Diagnostics of the causes of the last crisis pointed to the failure of the dominant economic model, moral/ethical failure, governance failure, policy failure, regulation failure and the failure of global supervision of international finance and trade. These conditions allowed also for greed, an elemental ingredient in the application of the underlying theory of dominant economic system. Not only these failures have not been corrected in the post-crisis period, in some cases, they have been exacerbated.

With few exceptions, economies across the world are stagnating; unemployment (with few exceptions) is widespread; private investment is sluggish; productivity is declining; commodity prices are low and increasingly volatile; global debt (government and private) is growing to levels higher than that in the period of run-up to the crisis; governments have resorted to financial repression; there is large and growing corporate liquidity with (apparently) no place to go; financialization is proceeding unabated; global trade is shrinking; emerging markets, which provided a cushion to the world economy during and immediately after the crisis, are themselves facing considerable instability; inequality of income and wealth distribution is worsening across the world; poverty is spreading globally; macroeconomic policies in many countries have been unable to reverse or slow down adverse economic and financial trends; international financial institutions appear to have failed in their mandate to stabilize the global financial system or seriously challenge “beggar-thy-neighbor” policies and reignite global growth; the depth and spread of domestic and international political conflicts have intensified uncertainty across the globe; finally, adverse environmental and ecological trends, against which the humanity has been warned since the 1970s, are threatening life on the planet.¹

Against this background, a wealth of information and research has sought to explain why the world is facing these formidable challenges and offer solutions from both inside and outside of the discipline of economics. Most of these efforts focus on reforms of the present dominant system and its underlying theory; some reforms propose deep structural changes; some reforms lie just at the margin. There is, however, one view that does not directly question either the working of the global system or the model driving it. This view transcends usual criticisms of assumptions and axioms of economics and focuses on historical, long-term trends in

¹ For detail discussion see various reports of the international agencies (UN, IMF, WB, UNCTAD, ILO, OXFAM, EU and others as well as related academic books and articles published since the crisis).

the world economy. It claims that the world economy is in the negative phase of a Kondratiev cycle² that is predicted to peak in the 2020s.

Alternative views tend to focus on the need for rethinking the way societies have arranged economic activities and on the necessity of a new economics which change or at least modify the epistemological foundation of the discipline. These views are expressed from the inside or outside the discipline. The former includes economists who suggest deep changes such as renegotiation of social contracts to those who question the fundamental axioms of economics that have bearing on important social questions regarding morality, trust, cooperation, sharing, environmental protection, inequality, poverty, social cohesion and solidarity. Ultimately, these views focus on the conventional economics' fundamental assumptions of scarcity, rationality and self-interest.

There are of course insiders who defend, hard and fast, the dominant theory and the system that has resulted from its application. Arguing that many of these issues relate to morality, they hold that economics is not meant to address morality "economics is not a morality play. It is not a happy story in which virtue is rewarded and vice is punished. The market economy is a system for organizing economic activity – a pretty good system most of the time, though not always – with no special moral significance. The rich don't necessarily deserve their wealth, and the poor certainly don't deserve their poverty; nonetheless, we accept a system with considerable inequality because the system without any inequality don't work."³

2 Named after the Russian economist Nikolai Kondratiev (also Kondratieff) who identified cyclical patterns in the 1930s. The current phase of the 40–60 year-cycle is associated with pessimism, stagnation, unemployment, low investment, worsening inequality, polarization of the society, political conflicts and violence. See, G. Modelski and W. R. Thompson, 1996. *Leading Sectors and World Politics: The Co-evolution of Global politics and Economics*. Columbia, South Carolina: University of South Carolina Press; W. R. Thompson, 2009. "The Kondratieff Wave as Global Social Process. In *World System History*, Edited by George Modelski and Robert A. Denemark. Oxford: Eolss Publisher, pp. 174–195; and L. Grinin, A. Korotayev, and A. Tausch, 2016. *Economic Cycles, Crises, and the Global Priphery*. New York: Springer.

3 Paul Krugman "Economics is not a Morality Play." *New York Times*. September 28, 2010. There are many who disagree with this assertion arguing that, first, no argument, theoretical or otherwise, about the economy can be amoral. For example, Daniel K. Finn (*The Moral Ecology of Markets*, 2006, Cambridge University Press) argues that assertion about and defense of self-interest assumption and that of the market involve moral arguments. Second, it is argued that the dominant paradigm is not merely a benign exercise in abstract tool of understanding economic phenomena when its assumptions, conclusions and implications are internalized by economic agents. It can and does enormous harm (see for example, Shoshona Zuboff, 2009. "Wall Street crimes Against Humanity. *Business week*, March 20; see also Abbas Mirakhor, 2014 "The Starry Heavens Above and the Moral Law Within: On the Flatness of Economics" *Economic Journal Watch*, vol. 11, No. 2, pp. 186–193). Even successful businessmen/capitalists who believe capitalism "is the greatest problem-solving social technology ever invented" assert that the basic economic model that has led to the present configuration of capitalism is flawed and morally bankrupt. It is argued that such a model "has profound non-academic consequences [...] it gives both permission and encouragement to some of the worse

Other insiders' defence of the status quo is based on underlying thoughts traced to the neoliberal philosophy (Hayek-Rand-Freidman) and argue that economic agents have no moral obligation to do more than adhere to the rules and laws of the market society derived from the underlying social contract enshrined in societies' constitutions.⁴ Other insiders to the discipline, however, argue that that the standard dominant economic theory's claim that material incentives are sufficient to elicit appropriate behavior from economic agents, and that moral rules are not necessary, is not supported by empirical evidence, and the foundation theory that advocates this notion is quite implausible.⁵ The theory has no inherent set of rules that would have any inducements for individuals in a society of self-interested economic agents to have any "other-regarding" or prosocial proclivities, such as cooperation or collaboration. Indeed, the logic of the competitive model of this theory implies that it is not unusual for agents in this theory to gain by violating the laws and rules if "no one is looking" thus creating thereby pressure for others to do the same. On the other hand, they argue, the evolutionary success of human species owes much to human cooperation and collaboration in the economy as well as in the rest of the social sphere.⁶

Even in a society in which the economy is based on the dominant theory, empirical investigations have shown that many people do not cheat even if there is no

excesses of modern capitalism, and of contemporary moral and social life [...] if we internalize that most people are mostly selfish – and then we look around the world at all the unambiguous prosperity and goodness in it, then it follows logically, it must be true, by definition, that a billion individual acts of selfishness magically transubstantiated into prosperity and the common good. If it is true that humans really are just selfish maximizers, then selfishness must be the cause of prosperity. And it must true that the more selfish we are, the more prosperous we all become. Under this logical construct, the only good decision is a business decision – "Greed is good" – and the only purpose of the corporation must be to maximize shareholder value, humanity be damned. Welcome to our neoliberal world. But if instead we accept a prosocial behavioral model that correctly describes human beings as uniquely cooperative and intuitively moral creatures, then logically, the golden rule of economics must be the Golden Rule: Do business with others as you would have them do business with you. This is a story about ourselves that grants us permission and encouragement to be our best selves. It is a virtuous story that also has the virtue of being true (Nick Hanauer, 2018, "How to Destroy Neoliberalism: Kill 'Homo Economicus': Debunking the failed paradigm of traditional economics," *Economics*, October 13, 2018. Of course there are those who argue that it is a fallacy to equate self-interest with selfishness (see for example the arguments in this context the collection of papers by Paul Heyn in *Are Economists Basically Immoral?* Edited by Geoffrey Brennan and A. M. C. Waterman, 2008. Indianapolis, Indiana: Liberty Fund.

4 For a history of emergence of neoliberal thought in economics see, Philip Mirowski and Dieter Plehwe (editors), 2015. *The Road from Mont Pelerin: The Making of the Neoliberal Thought Collective*. Cambridge: Harvard University Press.

5 See, for example, Samuel Bowles, 2016. *The Moral Economy: Why Good Incentives Are No substitute for Good Citizens*. New Haven: Yale University Press.

6 For detail see, for example, Peter Turchin, 2016. *Ultra Society: How 10,000 Years of War Made Humans the Greatest Cooperators on Earth*. Chaplin, Connecticut: Baresta Books.

monitoring and there are no gains (including reputational) for not cheating. There are highly successful firms in such societies that offer their employees the opportunity and the comfort of knowing that they are doing jobs that are useful to the society.⁷ Similarly, empirical studies have shown that there are inventors, innovators and entrepreneurs (for example in the Silicon Valley) whose motivations transcend narrow self-interests and self-regard, and who do not behave as rational actors of the dominant economics. Their extrarational motivations include, *inter alia*, self-sacrifice, cooperation, collaboration, human altruism, seeking meaning in one's life, creativity and concern for future generations.⁸

These insiders firmly believe that there is no better or more viable alternative system to capitalism but insist that it is the underlying theory that has led to adverse and dire consequences facing humanity.⁹ These people mount strong assault on the foundation axioms and assumptions of the theory (especially narrow rationality and pure self-interest) and offer ways to reform the theory. The foundation of their approach is the need they see in a reformed theory that has strong moral/ethical foundation in the spirit of Adam Smith.¹⁰ They insist that not only the narrow self-interest assumption of the dominant economic theory lacks empirical plausibility, its role in capitalism must be reformed to have a moral and prosocial orientation if the collapse of the system is to be avoided. Others suggest that the laws and rules of a self-regarding capitalism, driven by the generally selfish orientation posited by the underlying theory, lead to such unequal levels of income and wealth distribution that provide the rich with political power to capture legislative power of rule-making in their favor. Then, compliance with the resulting rules gives the rich and the powerful additional and entrenched advantages to exploit. Hence, the

⁷ See, for example, Herbert Gintis, 2009. *The Bounds of Reason*. Princeton: Princeton University Press. See also Samuel Bowles and Herbert Gintis, 2011, *A cooperative species*. Princeton: Princeton University Press; Herbert Gintis, 2017. *Individuality and entanglement*. Princeton: Princeton University Press; and Robert Frank, 2004. *What Price the Moral High Ground*. Princeton: Princeton University Press, in which the author argues that morality has a productive role even in capitalism.

⁸ See, for example, Victor W. Hwang and Greg Horowitz, 2012. *The Rainforest: The Secret to Building the Next Silicone Valley*. Los Altos Hills, California: Regenwold. The authors present their study of successful Silicone valley projects and the motivations of their drivers that included venture capitalists, innovators and inventors who shared the risks of new project to create new and successful enterprises. They define "extrarational" motivations as those that transcend the distinction in the classical notion of "rational and "irrational" and which conventional does not consider as critical drivers of economic-value creation.

⁹ See, for example, Joseph E. Stiglitz, 2019. *People, Power, and Profits: Progressive Capitalism for an Age of Discontent*. New York: W. W. Norton.

¹⁰ See, for example, Paul Collier, 2018. *The Future of Capitalism: Facing the New Anxieties*. New York: Harper, in which the author argues that capitalism is "morally bankrupt" and can only be redeemed by reorganizing itself on an ethical/moral foundation (of *The Theory of Moral Sentiments* variety); but also see Branko Milanovic, 2019. *Capitalism, Alone: The Future of the System that Rules the world*. Cambridge: Belknap Press.

rationality of free-market individualism leads to economic, social and political disparities that leave a vast majority of the population unserved. In the absence of a third-party arbiter interested in preserving the societies' institutions that would avoid exploitation by the rich, it is free-riding, impoverishment of the major segments of the population and eventual collapse of the system that will become inevitable.¹¹

It is worth noting that the dominant model's main objective is to solve the economic problem stated as "limited resources and unlimited wants" that in turn leads to the allocation problem whose solution becomes "economizing." Even within the system itself, there are increasingly vociferous debates regarding both elements of the phrase "limited resources and unlimited wants." Some argue that humanity is in a phase of post-scarcity shifting to a phase of abundance and therefore there is a need for a change in the mindset from "scarcity" to "abundance."

The scarcity model, it is argued, is "hardwired" in humans based on their millennia of past experience of not having enough (in terms of food, clothing and shelter) which, it is claimed, marked much of human history and created a base fear of scarcity, poverty and starvation that became part of the human value system. Facts have changed, however, now there is superabundance but the element of value system that persists regarding scarcity continues to create greed (in form of maximizing behavior and accumulation, without asking "why am I doing this way?" in an automatic response to the hardwired fear of scarcity that says "you better get it while you can") and wasteful consumption.¹² For example, it is argued that about 90 percent of people lived in dire poverty and at the verge of starvation in 1820. Now, however, the picture has reversed where only 10 percent of world population lives in dire poverty, not because resources are scarce but because of poor governance and the resulting civil strife. Importantly, it is noted that during this period, and all the time before it, the resources available on earth have remained constant and sufficient as they have always been. Humans have been responsible both for efficient and beneficial as well as for harmful uses of these resources. According to this view, poverty in human societies is not due to scarcity of resources but due to greed and antisocial radical individualism of some humans.

The notion that the fear of scarcity has been hardwired into the human psyche on the basis that the history of civilization is one of starvation, is itself challenged

¹¹ See, for example, Daron Acemoglu, 2003. "Why not a Political Coase Theorem? Social conflict, commitment and politics". *Journal of Comparative Economics*, vol. 31, pp. 620–652, in which the author asserts that societies have inefficient institutions (rules and norms) and politics because these serve the interests of politically powerful segment of the society and because the society lacks an "outside agency" with the power to enforce better and more efficient institutions.

¹² Much has been written in the context of discussions about the culture of excess and wasteful consumption; see, for example, Benjamin R. Barber, 2007. *Consumed: How Markets Corrupt Children, Infantilize Adults, and Swallow Citizens Whole*. New York: W. W. Norton; and Andrew Abbot, 2014. "The problem of excess", *Sociological Theory*, vol. 32, no. 1, pp.1–26.

by anthropologists. John Gowdy (1998) argues that “hunter-gatherers, people who lived with almost no material possessions for hundreds of thousand years, enjoyed lives in many ways richer and more rewarding than ours. A far cry from their portrayal as primitive savages struggling to survive during every waking moment, these people had structured their lives so that they needed little, wanted little, and, for the most part, had all the means of fulfilling their needs at their immediate disposal . . . The view of human nature embedded in Western economic theory is an anomaly in human history. In fact, the basic organizing principle of our market economy – that humans are driven by greed and that more is always better than less – is a microscopically small minority view among the tens of thousands of cultures that have existed since *Homo sapiens* emerged some 200,000 years ago . . . the most important message for me from these descriptions of hunter-gatherers are that (1) the economic notion of scarcity is largely a social construct, not an inherent property of human existence; (2) the separation of work from social life is not a necessary characteristic of common production; (3) the linking of individual well-being to individual production is not a necessary characteristic of economic organization; (4) selfishness and acquisitiveness are not natural traits of our species; and (5) inequality based on class and gender is not a necessary characteristic of human society.”¹³

Economists have known that the economic model supporting the present predatory economic system was morally deficient. It is argued however that “[m]orality had to be put in cold storage till abundance was achieved, for abundance would make possible a good life for all,” so says Robert Skidelsky, an icon of Keynesian economics, who quotes Keynes argument that “[f]or at least another hundred years we must pretend to ourselves and to everyone that fair is foul and foul is fair; for foul is useful and fair is not. Avarice and usury and precaution must be our gods for a little longer still. For only they can lead us out of the tunnel of economic necessity into daylight.” And Skidelski continues the argument that “Keynes understood that capitalist civilization had, at some level of consciousness, undertaken to license motives previously condemned as “foul” for the sake of future reward. It had struck a bargain with the forces of darkness, in return for which it would secure what the earlier ages could only dream of – a world beyond the toil and trouble, violence and injustice of life as it actually is.”¹⁴ It is not therefore that economics is just amoral, as Krugman would have it, it is

¹³ See, John Gowdy, 1998. “Back to the Future and Forward to the Past” in *Limited Wants, Unlimited Means*. Edited by John Gowdy, Washington, D. C.: Island Press, pp. xv–xxix.

¹⁴ See, Robert Skidelski and Edward Skidelski, 2012. *How Much Is Enough? Money and the good life*. New York: Other Press, p. 43. Their book, Skidelskis note, “is an argument against insatiability, against that psychological disposition that prevents us, as individuals and as societies, from Saying “enough is enough.” It is directed at economic insatiability, the desire for more and more money [. . .] in rich and poor societies alike, insatiability can be seen whenever the opulence of the very rich runs wildly ahead of the means of existence of the many.” The objective of the book is the reform of capitalism through policy changes as they argue: “Capitalism is a two-edged sword. On the one hand, it has made possible vast improvements in material conditions. On the other, it has exalted some of the most

that economics became immoral by design through a Faustian bargain that “paved the way to hell” as the famous saying has it. The book penned by Robert Skidelsky and his son Edward is a frontal assault on the second part of economics’ conception of “limited resources and unlimited wants,” and its slogan that wants are given, arguing that “[e]conomics – we generalize, but not grossly – conscientiously abstains from passing judgements on wants.” And it is argued that the first element of clarity of thought to be sacrificed “is the distinction between needs and wants. Needs, on the classical conception, are objective; they refer to requirements of life or the good life. Wants, by contrast, are a psychological phenomenon; they are “in the mind” of the wanter. Needs and wants are independent of one another. The child needs, but does not want, his medicine; the bibliophile wants, but does not need, a first edition of Blake. A need establishes a moral claim to x, whereas merely wanting x does not. Beggars talk about their needs, never about their wants.”

On Skidelskis’ account, the distinction between needs and wants was not the only pre-modern concept that was discarded by economics. They add three other concepts that were discarded as well: distinction between necessities and luxuries; the concept of “enoughness”; and distinction between use-value and exchange-value. The first distinguishes between what is necessary for human life, which establishes a claim, and what are wanted but not needed (they “are an optional and possibly corrupting extra”). As to the second, “enough” for modern economists means “enough to satisfy wants.” This implies that “there can be no such a thing as wanting more than enough. Avarice as a vice disappears from view.” The third refers to the disappearance of “the central concept of use-value.” In pre-modern thought use-value (based on Aristotle) meant the “particular contribution” of an object to life. Modern economics considers transformation of use value (defined as utility in consumption) into exchange value (defined as utility in exchange) “as only a technical problem of determining at what point consumption goods will be exchanged rather than used.” Since the two are considered as two sides of the same coin, utility, gone is the metaphysical problem (which began with Aristotle) of the relation between the two and how two commodities that contribute to human life in different ways could be reduced to a common denominator: money. Skidelskis argue that “[u]nderstood in its original sense, a real usefulness rather than mere utility in consumption, use-value can no more be transformed into exchange value than color into length.”¹⁵

To a large extent, Skidelskis views converge to the argument by other economists committed to capitalism, who advocate the need to reverse the course of “de-moralization” of economics. They suggest ways and means of policy reforms – including sharing, basic income, reducing the force of consumerism and insatiability, reducing the

reviled human characteristics, such as greed, envy and avarice. Our call is to chain up the monster again by recalling what the greatest thinkers of all times and all civilizations have meant by the “good life” and suggesting changes in current policy to help us achieve it.” (page 3).

¹⁵ Ibid, pp. 88–91.

power of advertising, rethinking international relations within the context of reforms – that would make possible attainment of the “good life” for many rather than for the few. These views, as well as those suggested by others discussed earlier, modify rather than replace the current dominant paradigm of economics by “remoralizing” it. There are other systems of thought where morality is not something that has to be introduced into the working of economic paradigm. Assuming economics as a discipline that deals with resource allocation, production, exchange, distribution and redistribution, there are systems of thoughts (including those based on religion) that have radically different perspectives on how societies could organize an economy in which morality is embedded, inherently integrated and organically placed at the core of its dynamic structure. Among these systems of thought is the Islamic vision where “moral universe shares a great deal with other great spiritual traditions of mankind”. It has a clear vision of an economy and “has something distinctive to offer to the resolution of the myriad problems that face humanity, both in the rich and in the developing world: from poverty eradication, income inequalities, good governance in the poor countries to the problems that affect the rich world of overconsumption, alienation, and social fragmentation.”¹⁶

The Islamic vision offers a perspective that “affirms the primacy of the moral vision that must form the basis of humankind’s economic relations and transactions.” It is based on a “model of human being whose economic actions are guided by both inspiration and the pursuit of virtues, and not only self-interest. And these actions take place in a framework where both the Divine and the normative human archetype are ever present.” Its main source of guidance, the Qur’an, confirms the spiritually empowered human ability of attaining the “good life”, a life in a “felicitous state of inner and outer plenitude if people cultivate an ethic of faith-in-action and the commitment that would imply in terms of pursuit of the virtues, not least the ideal of a Just Society.”¹⁷

While the organizing principles of an economy and the rules governing the behavior of participants are provided in the Qur’an, emergence of a discipline whose epistemological mission would be to study, understand, explain and formalize the vision in a blueprint for communication to the wider Muslim world and others has been painfully slow. Allawi (2017) suggests two reasons: “The first is that its original exponents were untutored in the ways of the modern world and approached the problem mainly through a jurisprudential construct, with little regard for the changed circumstances of the world. The second is that they began to address these issues well after the supremacy of the Western economic model became established.”¹⁸

¹⁶ See, Ali Allawi, 2010. “Foreword” in Abbas Mirakhor and Hossein Askari, *Islam and The Path to Human and Economic Development*. New York: Palgrave Macmillan, pp. ix–xii.

¹⁷ *Ibid*, p. xi.

¹⁸ See, Ali Allawi, 2017. “Foreword” in Abbas Mirakhor and Hossein Askari, *Ideal Islamic Economy: An Introduction*. New York: Palgrave Macmillan, P. ix.

The absence of an alternative blueprint of how to organize the economy according to the teachings of the belief system – whose rituals were practiced daily but not the rules that tells them how to behave in contemporary economy – created a vacuum providing fertile ground for the entry, growth and entrenchment of the powerful ruling ideology of liberal capitalism. The vehicle of globalization driven by economists and policy makers trained in economics and social sciences as taught in western universities had significant impact in Muslim societies. Importantly, autocratic and centralized systems in these countries began to dismantle as a result of which, “[h]uge fortunes were made either from abuse of licensing power or by the knocked-down purchases of state assets and land by well-connected individuals. Privatization, deregulation, and the licensing of monopolies, all played their part in the shift of economic power from a poorly managed and frequently corrupt state sector to a better managed but predatory form of liberal capitalism. The whole process was applauded by the “international community” as signalling the entry of the Islamic world into the new era of globalization and free markets. Of course, this process further distanced the Muslim world from the possibility of regenerating the bases of an Islamic economic order.”¹⁹

Allawi, who served as the Minister of Defense and the Minister of Finance in post-war Iraq, argues that “the ethos of globalization, as it is formulated in the language of individual economic rights and freedom, is antithetical to the fundamental features of an Islamic economic and social order . . . the ideas of duty, charity, solidarity, and self-sufficiency do not sit well with the premise that it is only through cultivating and channelling selfishness and greed that economic activity can be optimized or maximized. The assumption is made that man by nature is acquisitive and predatory, and that the functions of a well-ordered economy are to direct these energies and drive into a socially productive direction. This of course does not square well with the idea that humans can perfect – or at least aspire to perfect – their qualities and that a moral imperative should underlie human action. Islam does not deny the follies and greed of human beings, but these must always be tempered by a constant questioning of the purposes of human action. Wealth-creation is a by-product of moral action and not the purpose of work.”²⁰ However, an Islamic socio-economic “order can only be reborn if certain fundamental reforms – in fact, fundamental paradigm shifts-are undertaken” asserts Allawi, and he is not optimistic on that score because “the axes of the modern economy are so distant from the moral economy of Islam²¹ that nothing

¹⁹ Ali Allawi, 2017, *Ibid*, p. x. See also his book: Ali Allawi, 2010, *The Crisis of the Islamic Civilization*. New Haven: Yale University Press.

²⁰ *Ibid*, p. ix–x.

²¹ It is worth noting that in the context of this volume, and perhaps from the point of view of Allawi as well, the concept of “moral economy” in “the moral economy of Islam” is far more comprehensive, deeper and broader (see A. Mirakhor and H. Askari, 2017. *Ideal Islamic Economy*. New York: Palgrave MacMillan) than its use in western scholarship, first popularized by anthropologists, see, for example,

short of a spectacular break would suffice to bring the pendulum back into some form of equilibrium.”²²

Allawi argues that the “main features of an Islamic economy have been eroding for several centuries so that most are merely religious vestiges of a long-forgotten past [...] By the time of the 1970s, the elements of an Islamic economy were simply theoretical constructs that may have featured in the education of seminarians – but had no place in the modern economy.”²³ Moreover, Allawi notes that the “weakening in the average Muslim’s commitment to the idea of the moral imperative as the main driver of economic dealings is mirrored by the loss of charitable giving that lies at the heart of Islamic redistributive justice. It has become almost common place to bemoan the unwillingness of the wealthy in Muslim lands to share their wealth through charitable acts and endowment of foundations. The pages of the world’s weeklies, glossies and websites are crammed with the faces of the new plutocracy of the Muslim world, most connected in one way or another to the explosion in oil wealth and the massive transfer of the world’s savings to the oil producing countries [...] a great deal of it has cascaded down to various princes and potentates and the cronies and fixers who feed on the public trough. These are the new Muslim super wealthy class [...] notorious for their private indulgences and excesses, and their lack of any public spiritedness. There are no major research foundations, universities, hospitals or educational trusts that are funded by large charitable donations ... service-based charitable work is an essential element of Islamic economy, weaving, as it were, religious obligations with a strong sense of social justice and moral responsibility.”²⁴

Allawi suggests that bringing the Pendulum back requires “a process that could, over the period of time, engender the necessary change in perspectives and values that ultimately could shift the consciousness of Muslims towards finding a new identity in the authentic roots of their civilization. This requires two fundamental shifts in their cognition. The first is part of the worldwide phenomenon of questioning and challenging the conventional verities that have underpinned the legitimization of late capitalism. This will bracket Muslims with the growing global band of dissenters who call out the monstrous side effects of the dominant economic culture, even as it seems to be an unstoppable machine that produces a never-ending cornucopia

E. P. Thompson, 1971, “The Moral Economy of the English Crowd in the 18th Century.” *Past & Present*, Vol. 50, pp. 76–136; James C. Scott, 1976. *The Moral Economy of the Peasant*. Princeton: Princeton University Press; see also, Norbert Gotz, 2015. “Moral economy: Its conceptual history and analytic prospects.” *Journal of Global Ethics*, Vol 11, pp. 147–162.

²² See Allawi, 2017, p. x.

²³ Note, in this context, the popularity of the content of the concept of *Maqasid al-Shari’ah*, relic of intellectual efforts of religious intellectuals of nearly a millennium ago without deep or strong root in the Qur’an, indicating the poverty of the present intellectual efforts at making the Qur’an’s vision of economy accessible to humanity.

²⁴ See Allawi, 2017, pp.xi–xii.

of goods and services.”²⁵ The second shift proposed by Allawi is a “decisive leap in the cognitive framework of contemporary Muslims that leads them to redefine the meaning and purpose of economic transactions.” This shift, Allawi argues, must begin “with the Qur’an, the bedrock of a Muslim’s engagement with life and the hereafter.” The Qur’an is the supreme moral arbiter for the economic conduct of Muslims” and which defines an order “that in effect replaces ‘economics’ with *muamalat* – or legitimate transactions and engagements between individuals, groups, institutions and states that are morally charged and bounded by rules that are transcendental in their origin and yet uniquely pertinent to the human condition.”

Allawi, however, does not underestimate the challenge and recognizes it as “a long, Herculean process whereby Muslims take stock of their condition and begin to rebuild the scaffolding of a new world view from the wreckage of the past centuries; and fashion a way of escaping from the clutches of an amoral, hegemonic, economic engine. If Muslims prevail in this process, they can then rightly act as a guide and beacon to the rest of humanity. Not only would they have propounded a different way of organizing the world’s economy, they actually would have made it work and succeed. But for that to happen they would need to shed centuries of accretions to their understanding of the world. They would have to re-interpret terms such as markets, exchanges, risk, money, accumulation, distribution, consumption, institutions and a myriad of others that define modern homo-economicus.”²⁶

The present volume is a unique collection of analytical studies that attempt to examine some of the difficult challenges to conventional wisdom described above, and offer new perspectives from Islamic finance and economics. The overall conviction is that the Qur’an contains a vision of an economy and prescribes rules (institutions) that govern allocation, production, exchange, distribution and redistribution in such an economy. The mission of the discipline of Islamic economics is, in the first instance, to extract, describe, interpret (that is an economic hermeneutic) and present this vision in a form understandable in communication of the “economic universe of discourse.” This constitutes the first function of Islamic economics. Once this is achieved, Islamic economics has to engage in the presentation of an analytic framework for policy – based on the Qur’an’s vision of the ideal economy – which, once implemented, allows the economy of Muslim countries to converge, asymptotically, to the ideal vision contained in the Qur’an and operationalized, to a significant extent, by the Messenger (sawa) in Medinah.²⁷

²⁵ This would require Muslim economists engaging with what Idris and Mirakhor call the “economic universe of discourse” (see the introductory chapter in this handbook) rather than attempting and advocating exclusivity and isolation as some advocate.

²⁶ Allawi, 2017, pp. xiii–xv.

²⁷ For a preliminary presentation of the vision of the Qur’an for economy, see Mirakhor and Askari, 2017. *Ideal Islamic Economy*. New York: Palgrave Macmillan.

The handbook sheds light on various issues in Islamic economics and finance from an analytical perspective that can serve better the evidence-based policy-making process, as well as the regulatory, investment and risk-management purposes. These studies are based on the same logical, statistical and econometric methods that many readers in conventional finance and economic analysis may also be familiar with. Arguably, the analytical framework can be invariably used in conventional as well as Islamic economics and finance as the logical foundations of these disciplines are equally amenable to analytical methods and scientific inquiry. The Handbook offers a blend of analytical evidence and insights on the internal mechanisms and modus operandi of an Islamic financial and economic system from econophysics to game theory, from Markov-regime switching models to the generalized method of moments, from event studies to dynamic panel analysis, and from data envelopment analysis to agent-based modelling, *inter alia*.

The structure of the handbook is reflective of the strong potential of Islamic finance and economics to redefine and reshape different aspects of economic life and financial decisions. The introductory part discusses the nature and methodological aspects of Islamic economics, including its logical character, coherence, and consilience, as well as a game-theoretic approach to the analysis of economic behavior. Part II examines the impact of economic uncertainty, and the role of interest rates, as well as the formulation of macroeconomic policies. Part III considers the statistical microeconomic models of asset prices from the perspectives of Islamic finance, and provides some empirical evidence on the risk and return relationship for equity portfolios. Part IV presents some analytical evidence on the role of risk-sharing finance as opposed to conventional finance based on risk-transfer mechanism, and the significance of financial consumer protection. Part V examines the properties of Islamic financial institutions and the stability of the Islamic financial system. Part VI discusses income inequality and the role of risk-sharing finance and asset-based redistribution. Finally, Part VII provides evidence on the relation between Islamic finance economic growth and human development.

In Part I, Hamid and Mirakhor discuss, in the opening chapter, the logical character and coherence of Islamic economics, and examine Islam's vision of the economy and economics, as well as the logical incoherence in mentality that retards intellectual discourse and saps the energies needed for the advancement of Islamic economics. The authors argue that Islamic economics is a concrete, systematic framework and methodology, based on certain philosophical considerations, for organizing and developing economics institutions. The framework is distinctive and unique vis-à-vis secular European ideologies, communicable to mainstream economists, and yields empirically testable propositions.

The principal objective is to extend the current consensus on Islamic economics by placing it in the context of a more general system of science, which is consistent with the Islamic and Prophetic sources. The authors argue that it would be difficult to avoid the ultimately non-Islamic dualism of fideism and scientism in the absence

of an integrated approach to Islamic economics. The unique system of Islamic economics integrates the *economic* with the *intrinsic* values in a unified science of development and self-transcendence. In this regard, Hamid and Mirakhor attempt to answer some profound questions such as how and to what degree, if at all, a general question of contemporary Western economic theory can be transformed into one of Islamic Economics. Also, the question arises as to how and to what degree, if at all, a general question of Islamic Economics can be transformed into one of contemporary Western economic theory. The authors ask, for example, whether Islamic Economics can address non-trivial and important questions, ignored by the dominant paradigm of economics, including the purpose of wealth, and whether analytically and axiomatically neutral methods of standard economics can assist Islamic economics to arrive at its own systematic and coherent paradigm for analysis and policy making, and to achieve the life of security, peace and economic sufficiency that Islam promises humanity. The main thesis of this opening chapter is that the importance and relevance of Islamic Economics lies, in large measure, in the struggle to determine and articulate a type of scientific system that integrates the categories of human, economic, as well as moral, self-transcending experience into an (objective-logical) intricate and coherent whole.

In Chapter 2, Choudhury and Taifur explain that the current socio-scientific thought and applications of the so-called modernity in intellectualism are erroneous in an Islamic epistemological sense. The authors present an analytical alternative in the light of consilience, meaning unity of knowledge from the monotheistic (*tawhid*) methodological worldview. It is also argued that the modern socio-scientific order rests on the forced displacement of religion from the domain of meta-science as a rationalistic choice. Yet it is not the way to understand the true reality for the future of the meta-scientific world-system, and its particularities arising from the general theory of unity in diversity of the good things of life. According to Choudhury and Taifur, the meaning of true reality is that of the primal ontological nature of reasoning in the framework of a unified worldview that explains the nature of ‘everything’. Such a religio-scientific approach to meta-science comprises the methodological worldview of *tawhid* in the generality and particularities of world-systems. It is as a particular case of the world-system that economics assumes a heterodox academic perspective in the methodological study of Islamic economics.

The authors argue that the uniqueness and universality of the *tawhidi* methodological worldview in meta-science, characterized by the specificity of Islamic economics, economics, can be formalized by consilience, which reflects the organic unity of knowledge in the monotheistic sense. The unity of knowledge at work in a theory of meta-science of inter-causality between multivariates to establish a wellbeing criterion, paves the way for the coterminous theory of *tawhidi* worldview in everything. A theological and metaphysical approach to the study of Tawhid is supplanted by the phenomenological methodology derived from the Qur’anic foundation of the monotheistic worldview of the organic unity of knowledge as a symbiotic pairing in everything. No

theocratic inhibition thereby exists in the derivation, formalism, and application of consilience as unity of knowledge derived from the *tawhidi* primal ontological origin of the Qur'an. The order of consilience is mapped onto the mind and matter unison of the world-system of unity of knowledge by *Sunnah*. The chapter concludes with a generalized model of the emerging meta-science on consilience for religion and science and beyond in regards to the episteme of unity of knowledge. This generalized model encompasses the abstraction and the applied domains in their continuity by recursion across the knowledge, space, and time dimensions. Hence, the end of the pursuit of generalized system is based on the mathematical continuity, by meta-scientific discursive recursion, of the multi-dimensional evolutionary learning processes of ontology, epistemology, and phenomenology.

In Chapter 3, Al-Suwailem provides some reflections on the principal properties of economics, as a branch of knowledge, that serves a better future, and argues that a coherent framework to reform the mainstream economics is yet to emerge, despite the ongoing debates on the evident failures and shortcomings of mainstream economics. Al-Suwailem also outlines a framework for a new paradigm in economics, and explains how it aligns with universal moral principles. It is argued first that the internal inconsistency of economic theory, together with its failures to predict and explain major economic events, cast serious doubts over its status as a science. Given the basic criteria for science, it is concluded that economics lacks the most fundamental criteria of science, namely the conservation principles that govern all natural phenomena. Al-Suwailem indicates that the variables in economics, which are thought to be conserved, are model-dependent and lack the power of empirical evidence. It is argued that concrete examples from economics, such as Pareto optimality, the law of markets, money, bubbles and Ponzi games, show that economic conservation laws are not applied in economics.

The chapter concludes that there is a pressing need to formulate core principles of economics within a scientific framework in order for economics to serve a better future. This framework has proved to be exceptionally valuable in the progress of science over the last four centuries. Economics can also adopt the same principles of science including the core moral values that guide economic behavior. Since these core moral values, like the Golden Rule, prudence, and modesty are shared across most faiths and cultures, they are universal in nature.

In Chapter 4, Mohamed, Mirakhor, and Erbaş analyze the comparative behaviors of Muslims and non-Muslims by employing selected behavioral and experimental games to examine the level of adherence to the rules of behavior in the society. There is an increasing interest in behavioral economics and behavioral finance, which hold the potential of providing plausible explanations to the question of how emotions affect markets but also how to enhance constructive behavioral norms. The focus in behavioral finance is made on the impact of emotions, framing bias, heuristics and market forces on investment decisions, firm behavior, market regulation, and education policy. The experimental games are based on the premise that Islamic economy

is a rules-based system and the compliance to such rules of behavior does not only improve economic performance and social welfare but helps also individuals in achieving higher potentials. Indeed, the adherence to a rules-based system has the potential of reducing cognitive and psychological biases. The selected set of seven rules (Capstone Rule, Cooperation, Contract, Property Rights, Reciprocity, Golden Rule and Trust) can also be used to examine market failures such as those related to negative externalities from narrow decision-making, and can be useful also in the design of viable solutions based on ethical, social and legal considerations

The game-theoretic experiments are carried out on test subjects from diverse backgrounds, depending on age, ducation, profession and income levels in Malaysia and Singapore. The experimental results suggest that religious identity is associated with Muslims outperforming or underperforming non-Muslims in some, but not all, of the seven rules-based experiments. The priming on Muslims is conducive to increased adherence to the Rule of Contract and Golden Rule against unprimed Muslim counterparts, who tend to perform better in tests on Property Rights and Trust. However, given the similar performance of primed and unprimed Muslim segments, there is no evidence that Islamic identity affects the adherence to Capstone Rule, Cooperation and Reciprocity.

In Part II, the focus is placed on particular aspects of the Islamic economic system that reflect the impact of economic uncertainty, the implications of interest rates, and the objectives of macroeconomic policies. In Chapter 5, Maghrebi examines the relation between interest rates, unconventional monetary policies and volatility expectations in financial markets. Given the near-zero interest rates and abstinence from communication around policy meetings under the self-imposed purdah rules, it is expected that forward guidance may reduce market expectations of excessive volatility stemming from policy uncertainty. Based on the event-study methodology, the empirical evidence from unconventional monetary policies by the Bank of Japan, including zero-interest policies and quantitative easing programs, indicates that forward guidance has, indeed, some moderating effects on volatility expectations. It is state-contingent rather than open-ended forward guidance that can be more effective in reinforcing the expectations channels of monetary policy transmission and feedback from financial markets. In the absence of forward guidance, markets tend to be associated with higher levels of expected volatility and significant forecast errors around policy meetings.

During periods of financial instability, market participants are more likely to seek guidance, not so much from past information, as from forward-looking monetary policy and forward-looking volatility indices. Part of the problem associated with the limited room for maneuver in monetary policy to address the post-crisis econmic recessions stems from policy uncertainty and the anchoring of the entire financial system on interest rates. These interest rates are pre-determined rates of return that are independent of the states of nature of the real economy. Thus, in the absence of risk sharing and equity financing, the financial system is inherently biased

toward the accumulation of debt, and the formation of asset bubbles leads inevitably to the perpetuation of financial crises. From the perspective of Islamic finance and economics, monetary policies based on interest rates are not permissible, regardless of the sign and magnitude of interest rates. The analytical evidence that policy uncertainty affects the formation of volatility expectations has an important bearing on our understanding of the essence of interest rates and monetary policies. Perhaps, no amount of forward guidance can eliminate the excessive amount of policy uncertainty stemming from the setting and resetting of interest rates, which can be conducive to unwarranted price fluctuations in financial assets, and shifting risk premia in the real economy.

In Chapter 6, Mahmud, Yamaguchi, and Yülek examine how macroeconomics works given the complexities of the financial system. The analysis is based on the stock-flow consistent modelling based on Accounting System Dynamics (ASD), which can capture some of the complex dynamics of money creation in the financial system. In the Fractional Reserve Banking and Intermediation of Loanable Funds theories, the causality runs from fiat money to bank-induced money creation. In the endogenous view of money represented by the Financing-through-Money Creation, causality is reversed. The ASD approach can incorporate the complexities of money creation into macroeconomic modeling and assess the outcomes of different models of monetary creation and financial intermediation. The chapter reviews the shortcomings of Standard Macroeconomic Model (SMM) and propose ASD as an alternative approach to macroeconomic modelling. The notion of ‘declining velocity of money’ had severe implications for the stability of money-price linkage, which is central to the SMM approach. Other difficulties and anomalies include the protracted economic recession following the financial crisis, the inefficacy of traditional monetary responses and the failure of DSGE models in foreseeing the crisis.

It is argued that the stock-flow consistent ASD model can capture and better explain the inner workings of the real economy. The ASD allows for the simulation and assessment of the outcomes of money creation by banks. The findings suggest that fractional reserve banking can inherently cause monetary instability even when the base money, or monetary policy, is stable. Indeed, under the fractional reserve banking system, central banks simply cannot entirely control money stock. This can partially explain why (i) the quantitative easing policies recently introduced in Japan, U.S.A. and E.U. countries have all failed; and (ii) why debt is continuously mounting in these countries. The main conclusion is that these repeated failures are policy-proof, and are due to the design of the debt money system itself, which suggests that they can only be remedied by a re-design of the macroeconomic and financial system. It is argued that the public money system has the potential to provide a promising solution to the problems caused by the debt-based financial system. The main tenets of Islamic finance, including the notion of risk-sharing and prohibition of interest, are fully consistent with the principles of banking and financial practices under the public money system.

In Chapter 7, Othman argues that growth-enhancing policies pursued with the objective of achieving sustainable economic development have to focus more on the real sector of the economy rather than the financial sector. The recurrence of debt crises continues to generate serious arguments about the fundamental instability of conventional financial systems and the effectiveness of macroeconomic policies. The study focuses on the inherent constraints and limits of standard macroeconomic policies, and the potential merits of alternative fiscal and monetary policies based on risk-sharing finance.

The chapter introduces some proposals for fiscal reform including Equity Participation Shares (EPS), which represent a risk-sharing structure capable of replacing government debt in the financing of fiscal deficit and development expenditures. The EPS instruments are asset-backed by government development projects, with a rate of return that is function of the rate of return in the real sector. The EPS issuance allows for a broader public participation in economic activities, and sharing of returns in the real economy. The simulation results based on the Malaysian economy indicate that EPS can indeed constitute a good substitute for interest-bearing government bonds, thereby gradually reducing the debt service. The interest payments, and hence government spending, can be reduced to the extent of the diminishing amounts of borrowing. Since the return on EPS-investment vehicles depends on the return on government portfolio of development projects, no costs accrue to the government out of EPS issuances. The analytical evidence suggests that EPS schemes can, indeed, promote financial inclusion as more equitable opportunities to access the wealth of the nation are provided to all segments of the society regardless of wealth and income levels. The positive distribution of income to participating stakeholders would, in turn reduce, the oligopolistic nature of rent seekers and riskless financial intermediation.

Part III presents some analytical studies in the emerging area of statistical microeconomics of asset prices and equity investment portfolios. In Chapter 8, Baaquie and Maghrebi provide a synthesis of theoretical models of the behavior of asset prices based on the formalism of statistical physics. The statistical theory of commodity prices developed in previous studies is formulated based on the microeconomic action functional. The empirical evidence from single and multiple spot prices lends strong support to the principal assumptions of the statistical formulation. Futures prices are also modelled in the context of a two-dimensional statistical field and a non-linear Lagrangian is postulated. The chapter argues that the demand and supply functions should not be defined by market forces driven by consumer sovereignty, short sales, margin trading, and scarcity of resources, but by genuine factors related to resource abundance, rational constraints on consumer behavior and asset-redistribution based on risk-sharing.

Some perspectives from Islamic finance and economics are also considered in the discussion of the statistical microeconomic modelling of asset prices. In particular, the focus is made on the role of risk-sharing in shaping the microeconomic action functional. Risk-sharing is regarded as the defining principle of Islamic finance, and

future research may shed some light on its role within the unifying system and mechanisms underlying the demand and supply of securities, asset pricing, and exchange relations in the economy. Further analytical research may shed light on an integrated framework for asset pricing that unifies production, exchange and consumption, and supersedes the separate and independent modelling of supply and demand. Statistical microeconomics may provide a better understanding of the dynamics of asset prices and market forces based on an unconventional set of economic principles reflecting resources abundance, rational constraints on consumer behavior, and asset redistribution based on risk-sharing.

In Chapter 9, Sadr and Gholami argue that monitoring strategy may be part of the reasons for the insignificant share of participation from Shariah-compliant products in the balance-sheet of many Islamic banks. The empirical literature suggests that effective monitoring by banks can mitigate the risks associated with profit-loss sharing arrangements and raise the bank risk-adjusted returns. Under the assumptions of efficient markets and complete information, equilibrium returns are commensurate to systematic risk. The violation of these assumptions may lead to arbitrage opportunities where assets are priced independent of the degree of risk undertaken. The benefits of risk diversification can be inhibited by the absence of timely and accurate information. Therefore, information gathering plays an essential role in investment decisions, portfolio rebalancing and proper functioning of markets in exchange economies.

The regression analysis based on pooled data on risk-sharing arrangements undertaken by the Agricultural Bank of Iran allows for tests of the hypothesis that the monitoring effects on the efficient portfolio allocation of portfolio assets are significant. The evidence indicates that the benefits that can potentially accrue from the implementation of monitoring policy are likely to exceed the incurred costs. Thus, there are strong incentives for Islamic banks to adopt monitoring policies, as information is crucial for investment analysis, portfolio rebalancing, and a better understanding of the return-generating process.

In Chapter 10, Raza, L'Huillier and Ashraf examine the empirical issue of whether the choice of weighting strategy affects the performance of Shariah-compliant equity portfolios under different market conditions. It is argued that Shariah-compliant investment guidelines, albeit explicit on the selection screens of stocks, are rather silent on the weighting methods used in the construction of Shariah-compliant equity portfolios. The market capitalization-weighted strategy and smart-beta strategies, which represent fundamental value-weighted, equal-weighted, and low-risk weighted strategies, exhibit different risk and return characteristics that cannot be ignored. Markov-regime switching models are used to capture nonlinearities in the behaviour of returns on a sample of active constituent firms from S&P 500 index, with shifts between two market regimes –high regimes for bullish markets and low regimes for bearish markets.

The empirical evidence suggests that shifts between market regimes have significant implications for Shariah-compliant equity portfolios, with asymmetric effects on the performance of market-capitalization and smart-beta portfolios. Whereas market-capitalization and fundamental value-weighted strategies perform better under bullish and less volatile markets, low-risk strategies can be useful for risk-hedging purposes with respect to bearish and more volatile periods. Thus, the existence of different regimes governing the behavior of economic and financial variables in the realm of Islamic finance is not negligible. The large family of regime-switching models can be useful in gaining a better understanding the dynamics of Islamic capital markets, and their dependence on latent states of the real economy. The econometric modelling of equity returns allows for rational rebalancing of Shariah-compliant portfolios depending on prevailing market regimes, and for rational regulation based on a proper understanding of the complex market dynamics, and risk-hedging strategies.

In Chapter 11, Hamzah reviews the development of various structures of *sukuk* or so-called Islamic bonds, and discusses the implications of *sukuk* allocation for portfolio risks. While *sukuk* are usually regarded as Shariah-compliant alternatives to debt instruments, these particular modes of financing have nonetheless been the subject of serious criticism and suspicion about their reliance over the risk-transfer mechanism and resemblance to conventional bonds. The modelling of optimal *sukuk* portfolio is based on the mean-variance analysis, which is useful in understanding the trade-off between risk and return. The Chebyshev theorem is applied to determine the probability of default for the efficient *sukuk* portfolios. The notion of default is based on the premise that *sukuk* constitute a variant of fixed-income securities. The analytical evidence suggests that the probability of default increases monotonically as the proportion of debt-like *sukuk* increases and that of equity-based *sukuk* decreases.

It is noted that in Islamic finance, pre-determined rates of return are substituted by *ex-post* and observed rates of return on investment. Thus, the notion of risk-free asset with pre-determined payoffs is not permissible. But given the increasing probability of default for portfolios with higher proportions of debt-like *sukuk*, even the recourse to *sukuk* investment in pursuit of risk-free rates of return is shown to be not without risk. These analytical findings reinforce the notion that Islamic finance should be driven by instruments based on the principle of risk-sharing rather than the widespread practice of merely mimicking conventional bonds. The future development of *sukuk*, and indeed of the entire financial system, rests on a clear distinction between risk-transfer and risk-sharing, which is essential to ensure financial stability.

In Chapter 12, Sadr demonstrates that the set of *Shariah*-compliant instruments used to finance private and social enterprises are complementary and serve both the interests of investors and the welfare of unprivileged groups. It is shown that the implementation of *Shariah* rules would lead to the restructuring of the economic

system in ways that integrate the financial and real sectors, and flows of income generated in the former are intrinsically linked to real assets in the latter. Thus, speculative activities are reduced, with both sectors growing in tandem ensuring thereby a stable flow of national income.

The analytical tests are based on a system of simultaneous equations, reflecting investment, capital accumulation and production functions. The simulation results, which are based on financial and economic time-series obtained from the Central Bank of Iran, the Statistical Center of Iran, and the Management and Planning Organization, suggest that the elimination of interest from the financial system is conducive to a significant value-added for the agricultural sector. Thus, a consistent and articulated transition from a *ribawi* to interest-free financial system can contribute significantly to sustainable growth in various sectors of the real economy.

Part IV considers various aspects of risk-sharing finance including asset-renting and crowdfunding, as well as financial consumer production. In Chapter 13, Beck, Iqbal, and Mutlu examine the profit-loss sharing, or risk-sharing, aspect of Islamic banking, and address the question of whether a more prominent role for Islamic banks is associated with higher intertemporal risk-sharing and consumption smoothing. The study relates the importance of Islamic banks to the degree of consumption smoothing in an economy by regressing changes in consumption on changes in income, and uses the consumption-smoothing parameter as a proxy for risk-sharing in a country. An attempt is made to test the proposition that Islamic banks operating on profit-and-loss sharing financial agreements rather than debt contracts can facilitate better intertemporal risk-sharing. Based on Penn World Tables, and the Bankscope and IBIS databases, as well as different balance-sheet measures of bank valuation, there is no clear evidence of significant relationship between intertemporal risk-sharing and the market share of Islamic banks. However, a closer examination of the composition of financing contracts by Islamic banks reveals that *mudarabah* investment accounts on the liabilities side of balance sheets have a stronger relationship with intertemporal risk-sharing.

It may not be surprising, indeed, that the contribution of Islamic banks to risk-sharing remains statistically, if not economically, insignificant. Under the current state of affairs, it is rather difficult for Islamic banks to contribute toward risk-sharing in a more meaningful manner, given the tendency to replicate conventional fixed-income financial products, and to engage in risk-transfer activities. The prevailing legal and regulatory environment is not supportive of risk-sharing finance either. Consumption smoothing is often understood in terms of moderating fluctuations in income with interest-bearing debt. It should be rather regarded as the natural result of differentiated governance structures that allow for broader and participatory asset holding and prosperity sharing. The governance structures can promote x-efficiency, system stability, employment and income, and can tangentially smooths consumption as well. Thus, the emphasis should be placed on the

development of financing modes and promotion of regulatory measures that are more consistent with the principles of risk-sharing.

In Chapter 14, Akın and Iqbal examine the questions of whether and how different modes of financing have asymmetric effects on SMEs access to finance, and to what extent the access can affect firms in terms of performance and growth. Debt financing, or money renting, requires collateral and shifts financial risks to borrowers, creating serious constraints for SMEs. In contrast, asset renting, or leasing leading to ownership, is associated with lower collateral requirements, and it is also founded upon the concept of risk sharing. The empirical tests are based on a group of SMEs in member countries of the Organisation of Islamic Cooperation (OIC), with sample observations obtained from the World Bank Enterprise Survey database.

It appears that access to finance is more acute problem for SMEs in OIC member countries compared to their peers in the rest of the world. As financial services in these countries are dominated by the banking sector, the collateral and conditions attached to loan contracts constitute the main impediments to finance. The natural result is that many SMEs in the region remain credit-constrained, with growth potential diminished in line with limited access to finance, lower production and constrained growth strategies. Also, the availability of collateral is found to have a positive impact on SMEs' performance, which implies that leasing, as well as, *ijarah* can constitute viable alternatives to bank lending. Thus, the empirical results suggest that the renting of assets is associated with stronger benefits over money renting. Indeed, bank lending is function not only of firm characteristics, but macroeconomic conditions, institutional quality, country risk, and information asymmetries as well. Given the fact that many OIC countries have low scores in this respect, bank lending tends to depend solely on the existence of collateral and credit history, or lack thereof. In effect, bank lending may not necessarily increase even if the conditions attached with collateral are relaxed. In light of these conditions and empirical evidence, it is important to switch toward leasing-based options, which can facilitate and increase the access by SMEs to finance in the OIC member states.

In Chapter 15, Torabi and Mirakhor explore the issue of how credibility and reputation can be used to address asymmetric information problems related to crowdfunding in web-based social networks. The analysis is based on the premise that faithful agents (characterized by *iman* and '*amal salih*') and perceived to be compliant with the rules of behavior prescribed by the *Qur'an* ad *Sunnah* (operationally defined as *taqwa*), can develop also a reputation for faithfulness toward contractual obligations, trustworthiness and credibility. A game-theoretic model of equity crowdfunding is designed to examine the effectiveness of rule-compliant behavior. The likelihood of success is a function of the credibility of game participants and their faithfulness to the terms and conditions of contracts, which can reduce the degree of moral hazard (*gharar*).

The objective is to demonstrate how equity-crowdfunding contracts can be designed to eliminate moral hazard and control the adverse effects of asymmetric information. It can be shown that the aggregate net surplus, or *barakah*, from games including participants characterized by faithfulness is higher than that from games with participants deprived of such fame and reputation. Thus, it is important to define a reputation index, or benchmark for fame, for users of social networks and crowdfunding platforms, in order to assess the impact of individual levels of reputation on the crowdfunding community of financiers and entrepreneurs. It is expected that participants are sensitive to individual actions and changes in reputation. Thus, good reputation does not only reduce information asymmetry, it can also be conducive to higher aggregate net surplus in equity-crowdfunding projects. Trust is, indeed, built on good fame and reputation, which facilitates risk-sharing attitudes in society, and permits the sharing of prosperity as well.

In Chapter 16, Alaabed, Masih, and Mirakhor examine financial consumer protection through supervision and market discipline channels in dual banking systems. The analysis is based on the estimation of two-step dynamic GMM models for an unbalanced panel of conventional banks and Islamic banks in OIC member states. The main assumption is that the principles and *modus operandi* of Islamic banking have implications for the distribution of risk in the society and the nature of relations between consumers and financial institutions. It can be argued that Islamic banking is axiomatically aligned with greater financial consumer protection given the *Shariah* requirement for financial transactions to be anchored in the real economy, and its restrictions on the sale of debt and short selling, which reduce the degree of leverage and systemic risk.

The authors contend that the present configuration of Islamic banking falls short of its axiomatic potential and fails to restrain excessive risk-taking, to the detriment of financial consumers. These findings shed light on the crucial importance of Islamic banking reforms and the general framework of regulation and supervision required to strengthen financial consumer protection. There are serious shortcomings in the fulfillment of requirements for transparency and accountability. Not only do Islamic banks fall short of their axiomatic disciplinary obligations. It is also clear that external discipline, more broadly, fails to restrain excessive risk-taking. Worse still, banks continue to amass liabilities, increasing thereby financial leverage and systemic risk. There is an urgent need for reforms to correct distortions in the present regulatory and supervisory framework, which contribute to excessive risk-taking and risk-shifting. Policies ought to be reshaped to ensure that losses are borne by those, who stand also to benefit from risk enterprises and economic activities, rather than by depositors and taxpayers. There should be a shift in focus by policy-makers toward measures that alter attitudes toward risk in the banking industry and increase disciplinary incentives for depositors.

Part V examines some operational aspects of financial institutions and the stability of the Islamic financial system. In Chapter 17, Dolgun examines the important

issue of liquidity risk management and assesses the challenges faced by Islamic banks in light of Basel III regulations. It is well recognized that an efficient management of liquidity risk is central to the sustainability of bank financing activities and protection against systemic risk. The empirical analysis focuses on the relation between liquid assets and financing assets of participation banks in Turkey. The results suggest that the introduction of new liquidity regulations may have a negative and significant effects of bank financing in the real sector. This can be explained, in part, by the requirement to retain higher cash-holding ratios, and to invest in high-quality liquid assets, increasing thereby the marginal costs of funds and diminishing the capacity of bank financing.

The chapter concludes that the problems of liquidity management by Islamic banks should be addressed differently from their conventional counterparts. Indeed, the evidence from stress tests indicates that Islamic banks are associated with a shortage of liquidity and unstable funding. The Basel III liquidity coverage ratio (LCR) requirements may lead to serious implementation challenges for Islamic banks. If the LCR requirements are enforced upon Islamic banks, a disproportionately larger share of bank resources would be constrained to increased cash holding due to the chronic shortage and inadequate availability of high-quality liquid assets such as *Sukuk*. These regulatory requirements are conducive to difficulties in calibrating the balance-sheet structure to suit the practices of Islamic banks. Thus, the introduction of appropriate regulatory measures based on the principle of risk sharing, can improve the ability of Islamic banks to mitigate liquidity risk and channel more financing to the real sector. Beyond the reduction of costs associated with financial regulation and bank supervision, the potential benefits of risk-sharing finance extend also to greater stability of the entire financial system.

In Chapter 18, Rafi provides an antifragility framework for risk-sharing finance. The quantitative analysis of antifragility is based on non-Gaussian probability distributions and heuristics tests. This study provides an original framework for the quantitative evaluation of risk-sharing finance by extending and mapping antifragility onto Islamic finance. Mapping a deterministic model to antifragility remains an unexplored area, not only in the domain of risk-sharing finance, but in the general domain of antifragility as well. It is possible to expand the quantitative methods for interest-free models into antifragility under the modeling restrictions defined by Taleb (2012), which are significantly more restrictive than those imposed in other deterministic models.

This study demonstrates the antifragility of an Islamic financial system. This property is important in light of mounting evidence about the fragility of debt-based conventional financial systems, which can be, as shown by Taleb (2012), mathematically quantified following the seminal work of Mandelbrot (2004). The evidence about the antifragility of risk-sharing finance is also consistent with earlier studies by Mirakhor (1993) and Mirakhor and Askari (2014) about the stability of interest-free economic systems. The inherent ability of the system to swiftly revert back to the

equilibrium state following exogenous or endogenous shocks implies that recourse to unconventional monetary measures may be possible. Thus, interest-free financial systems are inherently more stable than conventional systems, which are characterized by perpetual boom-bust cycles and require external stabilization measures.

In Chapter 19, Iqbal assesses branch network efficiency using the Data Envelopment Analysis (DEA) methodology. The issue is important because of the need for Islamic banks to ensure that individual branches are adequately resourced, and that the aggregate resources, available at the level of branch network, are used efficiently. The DEA approach has the merit of overcoming some of the shortcomings of efficiency ratios, parametric and non-parametric methods, and balance scoreboards. It has the potential of identifying different levels of inefficiency, thereby enabling managers to focus on the significant factors that determine efficiency and profitability.

Based on a branch network of an Islamic bank in Malaysia, the empirical evidence suggests that it is optimal to improve scale efficiency rather than managerial efficiency. However, managers need to ensure that additional resources are not associated with decreasing managerial efficiency. Due to the indivisibility of some resources, the ultimate objective is not to eliminate inefficiency, but to ensure that branches operate within a predetermined and acceptable threshold of efficiency. It can be argued that as the Islamic banking sector continues to develop as an integral part of the financial system, efficiency and profitability can provide reliable measures of development and maturity. A reliable assessment of bank efficiency depends, however, on a better understanding of the role of risk sharing in Islamic banking, and the intrinsic differences in inputs and outputs between conventional and Islamic banks. Thus, risk sharing has an important bearing on the *modus operandi*, efficiency and profitability of Islamic banks.

In Chapter 20, Ali assesses the impact of non-intermediation activities on the levels of risk and profitability in Islamic and conventional banking. The increasingly intense competition among banks has naturally reduced the ability of some banks to raise funds, and lowered their market valuation. There are stronger incentives for banks to compensate for the reduction in profits with income derived from non-intermediation activities. Islamic banks are no exception to this global phenomenon. Although the core business of banks still lies in lending activities, an increasing number of banks in South Asia have shifted to investment banking and other related activities. It is this structural shift towards non-intermediation activities that warrants further analysis of the potential implications on bank performance. The Generalized Method of Moments is used to test for the significance of interest-free and fee-based income, and to assess the impact of non-traditional activities on the relative performance of Islamic banks *vis-à-vis* conventional banks.

The empirical evidence indicates that, on average, banks remain profitable over the sample period, but the degree of variability of profits remains high. There are also positive and significant effects of non-intermediation income on bank

profitability. These empirical findings suggest that income from non-interest financing has the potential of improving the profitability of banks without affecting their risk levels. An increase in total assets or capitalization is conducive to lower bank risk. However, a greater exposure to credit-driven activities increases default risk. Thus, it is important for Islamic banking to focus on risk-sharing activities, which offer viable alternatives to interest-based financing. A banking sector driven by financing strategies and *modus operandi* based on risk sharing has also the potential of contributing toward a stable financial system and sustainable economic growth.

Part VI includes some analytical studies of the relation between income inequality, risk-sharing and asset-based redistribution. In Chapter 21, Akin, Bacha, Mirakhor, and Iqbal address the important issue of asset-based redistribution, and contend that asset-based redistribution driven by risk-sharing finance can address some of the shortcomings of income-based redistribution. The chapter examines also recent findings in wealth inequality related to interest-based debt contracts and increasing inequalities, which constitute an inherent feature of modern market economies. Wealth inequality is at alarming levels in many developing and developed countries, as well as OIC member states, where budget deficits and infrastructure projects are typically financed with further debt obligations. The issue arises as to whether risk-sharing instruments can be useful for asset-based redistribution in addressing the chronic problems of income inequality.

A stock-flow consistent macroeconomic model is developed to gauge the significance of GDP-linked *sukuk* as an effective redistributive policy tool. The simulation results indicate that redistributive benefits accrue to the lower segments of the population without deteriorating key public accounts, including budget deficit and public debt. Thus, the analytical evidence lends support to the argument that, as risk-sharing instruments, GDP-linked *sukuk* can be implemented as an effective redistributive policy instrument. However, the model outputs also highlight the importance of using the GDP-linked *sukuk* as a redistribution mechanism, which should be supported and complemented by other policy tools, such as the effective use of *zakah* and secondary markets for *sukuk* trading.

In Chapter 22, Aaminou and Akin explore the nexus between debt and wealth inequality by employing an agent-based macroeconomic model. The objective of the theoretical modelling of this relationship is to understand the implications of high inequality on several macroeconomic variables, and in particular financial fragility. The literature about the potential effects of interest-based debt contracts on the formation of high income and wealth is, however, still scant. Previous studies suggest that interest-bearing debt governs the formation of rents, and that rents and capital gains are mainly responsible for worsening wealth inequality. This study presents, perhaps, the first agent-based model in related literature to examine the issue of whether the interest-rate mechanism constitutes a long-term driver of inequality.

The simulation results indicate that inequality increases as the financial economy dissociates itself from the real activity over time due to the prevalence of *ex ante* interest rates in the financing of economic activities. The analysis is extended with the substitution of interest rates with *ex post* rates of return to the real economy. The theoretical evidence suggests that rate substitution can have a significant impact on the level of inequality and real GDP growth. As the economic output is partly produced through interest-based financing of economic activities, it is natural that, in the absence of redistribution policies, an interest-based economy is conducive to higher inequality, and that redistribution policies become therefore a necessity. The simulation results suggest, however, that a remodelling of economic activities governed by risk-sharing finance has the potential of reducing wealth inequality without even resorting to redistribution policies. These long-term effects can be significant, indeed, as economic growth under risk-sharing finance is inherently balanced and, thus, sustainable.

In Chapter 23, Mokhtar explores two main empirical issues related to the nature of the relationship between GDP growth and wellbeing and the main determinants of the latter. The analytical approach is based on *Ibn Khaldun's* model of development, which focuses on the circular relation between justice, rules of behavior, political authority, wealth and the social welfare. The estimation of pooled ordinary least-squares regression models a sample of developing economies including some Muslim countries suggests, indeed, that the wellbeing depends more significantly on the stability of growth rates than their significance. Wellbeing is strongly related to growth persistence and external demand, and it is function of inclusive economic growth and quality of life. An increase in foreign direct investments, government expenditure and savings is likely to improve wellbeing. Thus, the results lend support to the argument that the Human Development Index can capture variations in living standard that measure of wellbeing using GDP per capita and purchasing power parity.

The empirical evidence reflects also the crucial role of efficient government, rule of law, government spending, transparency and accountability, as well as fiscal and trade freedom. Thus, the focus should be made on the government's ability to formulate and implement sound social and economic policies, and on the efficient allocation of public expenditure to promote the private sector. It is important for Muslim countries to promote wellbeing by addressing the chronic issues related to accountability, governance, and efficiency. Economic policies that focus solely on the immediate short-term effects on economic growth may bring little remedy to the long-term social effects of income inequality. It is only a coherent approach to development integrating the economic, social and human dimensions that has the potential to improve welfare and wellbeing.

Finally, Part VII considers the nexus between Islamic finance, economic growth and human development. In Chapter 24, Imam and Kpodar investigate the relationship between the development of Islamic banking and economic growth for a

sample of low and middle-income countries. An attempt is made to answer the question of whether the development of Islamic banking is good for growth. The issue is important because Islamic banking has unique characteristics that differ from conventional banking, and appear to be better adapted to less developed economies in the Middle-East, sub-Saharan Africa and Asia.

The empirical analysis is based on System GMM estimation, which can be useful in controlling for endogeneity bias in testing the effects of Islamic banking on growth for a panel of developing economies, including OIC member states. The results show that, despite its relatively smaller size compared to the entire economy and the financial system, Islamic banking is positively associated with economic growth even after controlling for various determinants, including the level of financial depth. The results are robust across different model specifications, sample compositions, and time periods. The empirical results indicate that many Muslim countries that currently suffering from low growth may consider the design and implementation of policies that reinforce the role of risk-sharing in further developing this important part of the financial system.

In Chapter 25, Dieye provides an empirical analysis of economic stability and growth for developing countries in the Muslim world. Economic policies are traditionally based on monetary and fiscal solutions that, while providing short-term remedies to financial crises and economic recessions, tend to perpetuate the cycle of credit expansion, debt defaults, and economic austerity. The different paradigm of Islamic economics may offer, however, more viable alternative economic solutions. The new proposal for policy framework replaces traditional variables of macroeconomic adjustment with counterparts from Islamic economics, such as the rate of return to the real economy instead of interest rates.

The simulation exercise is based on the economic conditions of Senegal, the African and predominantly Muslim country, which offers an interesting example of a developing country with rich resources that can be optimally leveraged to address economic and social challenges. The evidence suggests that macroeconomic models based on the principles of Islamic economics can present a viable alternative to conventional models. The simulation results present, indeed, new perspectives on the need to reduce the propensities to consume and to import, which is in line with the Islamic rules of moderation in consumption. It sheds light also on the need for agricultural output adjustments to achieve domestic self-sufficiency, and for fiscal adjustments based on expenditures rather than taxation to attain higher levels of real GDP, total investment, and exports. Thus, the Islamic economic model allows for the formalization and quantification of the institutional and individual rules of conduct, and the assessment of the relation between behavioral rules and economic performance. The analytical framework can be also extended to examine the impact of risk-sharing finance, and the importance of the rate of return on the real sector for monetary, and fiscal policies. Islamic economics offers, indeed, new perspectives on

institutional rules and behavior, which can contribute to the development of new institutional economics.

In Chapter 26, Akther-Uddin, Saiti, and Masih examine the relationship between human development, financial development, and economic growth using the dynamic Two-Step System Generalized Method of Moments for a large sample of developed and developing countries. The objective is to understand the significance of this nexus for OIC member states relative to other developing countries. It is noted that per capita real GDP growth rates in OIC-Asian countries have been rising significantly since the start of the twenty-first century, but still at slower rates than other developing countries. The estimation results suggest a positive relation between economic growth and human development indicators, such as the average years of schooling and the ratio of healthcare spending to GDP. In contrast, economic growth seems to be negatively correlated with financial development measured in terms of domestic credit to private sector and bank deposits, among others.

There are several policy implications, including the need to increase healthcare spending, and focus on investment in human capital accumulation. To avoid brain drain, it is also important to develop production and services industries to create job opportunities for graduates from institutions of higher learning and vocational schools. The focus should be made also on institutional development, macroeconomic stability, capital formation, and industrialization, which are crucial for sustainable growth in Muslim countries. Since sustainable economic development depends on financial system stability, it is crucial for OIC countries to develop a robust Islamic finance industry based on the principle of risk-sharing, which strengthens the relation between the financial sector and the real economy.

Finally, in Chapter 27, Mydin and Mirakhor examine the issue of whether natural resources impede rather than contribute to economic growth in Muslim countries. The resource curse is descriptive of economic conditions where natural resources are negatively linked with economic development and growth. The issue is important in light of the relatively poor economic performance of oil-producing OIC member states. The literature suggests that this economic puzzle can be partly explained by institutional failure, which induces counter-productive behaviors such as rent-seeking, patronage and corruption.

The empirical evidence using the Pooled Mean Group (PMG) method for dynamic heterogeneous panels is, indeed, indicative of resource curse effects on the OIC economies. There are apparent weaknesses in the quality of institutions, which constitute the premise for resource curse. Poor institutional scaffolding naturally results in repeated policy failures and economic imbalances that tend to affect the poorest and weakest segments of society, particularly during financial crises and economic downturns. There is a pressing need to improve the quality of institutions by adopting an Islamic institutional framework that offers economic and social justice in countries that profess Islam and seek prosperity for all. In the divine teachings of Qur'an and Prophetic tradition, or *Sunnah*, lies a wealth of remedies to the

resource curse and plight of oil-rich countries. The evidence of resource curse reflects fundamental problems related to the implications of faith and positive attitudes. It is natural that the concentration of power, poor governance, and lack of accountability result in increasing wealth disparities. Asset-based redistribution can provide some remedies to the resource curse. But no amount of rules and regulations can be effective without significant changes in attitudes toward wealth accumulation and income redistribution.

In light of the brief introduction of this unique collection of analytical studies, it is clear that risk-sharing constitutes a common thread that connects important issues that are germane to the ongoing debates about economic uncertainty and financial instability, about interest rates and policy uncertainty, about debt and financial crises, about financial institutions and financial consumer protection, about inequality and income redistribution, and about the relation between finance and development, *inter alia*. As risk permeates many aspects of human life and economic activities, risk sharing can certainly play a central role in the distribution of risk in the society, and the setting of effective institutional and individual rules of behaviour that govern production, exchange, allocation, and distribution, as well as (re)distributive justice.

Thus, the principal conclusions that can be drawn from these analytical studies are broadly consistent and robust, despite differences in theoretical modelling, empirical testing, and logical analysis. The overriding objective of this *Handbook of Analytical Studies in Islamic Finance and Economics* is to rethink the role of economics from an Islamic perspective, and to demonstrate the relevance of Islamic economics as a useful field of knowledge that is amenable to the same analytical methods used to test standard economic propositions. Given the fundamentally distinct paradigms, it is natural that different logical arguments may be articulated, different solutions to the same problems of human development may be advocated, and different remedies to the same challenges of economic growth may be prescribed. As the axes of modern economy and Islamic economy remain distant, convergence necessitates a redefinition of modern homo-economicus and a profound consciousness about the moral imperative that drives human action. It is incumbent upon Islamic economics, as a discipline, to present an analytical framework of the Qur'anic vision of ideal economy that serves the purposes of an intelligible economic universe of discourse.

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Part I: **Logical Coherence and Consilience in Islamic Economics**

Idris Samawi Hamid, Abbas Mirakhor

Chapter 1: On the Logical Character and Coherence of Islamic Economics

1 Introduction

Even a cursory review of published research in Islamic Economics over the last decade reveals a picture of “glass half full.” On the one hand, there has been an intensifying rise of consciousness regarding Islam’s vision of the economy and economics and, on the other hand, there is also the emergence of a wilderness of logical incoherence with a rapidly developing “echo-chamber” mentality that impedes intellectual discourse and saps the energies needed for advancement of this nascent discipline. In this process, the guidance of the first generation of Muslim specialists in economists – e.g., Siddiqi, who suggested a research program that set a direction for future research – does not seem to have had much traction in the debate still raging among some well-known scholars about What is Islamic Economics?. Each side is pushing its own idea centered on how its view is right and everyone else’s is wrong, but without the substantiation required of an intellectually honest critique. Regrettably and too often, the language used in these attacks lacks the *adab* (etiquette of discourse) urged by the *Qur’an*.²⁸ Each side takes positions, using *alqāb* (pejorative labels)²⁹ to discredit others’ ideas. Hence, inter-communication among Muslim economists has become strained, impeding the search for a common language, epistemics, and logic of the ideal system of Islamic economy as envisioned in the *Qur’an* and operationalized by the Sunnah.

The vision of someone like Siddiqi who, in addressing a session of Muslim economists debating the question of definition of Islamic Economics, urged the participants to consider that “Islam is primarily about a spiritual view of life and a moral approach to life’s problems, including the economic problem. The contentment Islam promised man is rooted in this spiritual framework.” (Siddiqi, 2004, p. 12) In effect, Siddiqi seemed to be saying that, instead of focusing on vacuous debates about what is or what is not Islamic Economics, the focus of research should be on finding solutions to problems such as the ones he posed, e.g., “how to realize economic values and achieve Islamic ends in economic life of our times.” (Siddiqi, 2004, p. 7) His vision transcended a narrow, localized and parochial position to suggest, “It is time to demonstrate how modern man can live a peaceful, satisfying life by shifting to an Islamic paradigm that values human relations above material possession.” (Siddiqi, 2004, p. 13)

Siddiqi went further to suggest a methodology of proceeding with such a research program: The primary source of its logic and epistemics had to be the *Qur’an*. Then

²⁸ See, e.g., *Qur’an* 2:83, 7:85, 16:125, and 39:18.

²⁹ See *Qur’an* 49:11.

comes the Sunnah which, he emphasized, is “best understood as conduct and policy directed at realization of the objective [sic] and values in the Qur’an.” After these, he suggested, “*fiqh* can become helpful.” Siddiqi lamented that this order seems to have been reversed: “For many, if not most scholars, *fiqh* comes first.” These sage advices were not heeded: Much of “Islamic Economics” research is anchored about what some *faqīh* (jurisprudent) has considered as the “*maqāṣid al-shariah*,” which, for most writers, is some *fiqh*-based conception of *shariah*. In turn, an equivalence is established between *fiqh* and *shariah*. This involves an apparent absence of awareness that ‘shariah’ is a term used by the Qur’an to establish a matter of infallibility, whereas *fiqh* is a product of the human mind and is fallible; for this reason, Islamic Economics must be grounded in the Qur’an and Sunnah, and then *fiqh* (in that order). (Note that, even here, Siddiqi’s suggestion seems to entail the view that *fiqh* plays a necessary role in the understanding of how to structure the logic, design and implementation of policies derived from the first two sources.³⁰ Such a view may require some modification.)

A work that followed the order of priority suggested by Siddiqi in grounding the vision of the economy perceived from the vantage point of the Qur’an was the *Iqtisādunā* of the Shahīd ‘Allāmah M.B. Ṣadr (rḏw). Deeply seeped in the sciences of the Qur’an and Sunnah (as well as Islamaic/Aristotelian philosophy), Ṣadr developed i) a logic of *istiqrā’/epagōgē* (commonly translated “induction”) – *al-Usus al-Manṭiqiyyah lil-Istiqrā’* (Logical Foundations of Induction); ii) a philosophy of Islam – *Falsafatunā* (Our Philosophy); followed by iii) his pioneering and highly fertile book on the ideal Islamic economy – *Iqtisādunā* (Our Economics).

Based on his work in logic, he understood that the axiomatic structure of the “science” of the contemporary, dominant paradigm of economics is in direct contradiction with the logic of an Islamic Economics based first and foremost on the Qur’an. One of these axioms involves the concept of “scarcity,” which is considered to be so ubiquitous and central to standard economics that the latter is often called “the science of scarcity.” That this axiom is in conflict with the the Qur’an was pointed out by the Shahīd. Rather, as the Qur’an repeatedly emphasizes, Allah (swt) has always and continues to create resources for the sustenance of humans with an “exact measure”. The concept of scarcity within the dominant economic paradigm is thus juxtaposed with that of sufficiency of resources within the Qur’an.³¹

To be sure, the Qur’an does not reject the idea that, at the micro-level, humans do face so-called “scarcity.” However, that is not due to any paucity of the resources created by Allah (swt), but rather to deliberately designed policies and instruments (e.g., legislative, political, social and administrative) governing distribution that favor one or more particular classes that continues to accumulate wealth in the face of the growing poverty of others. Some two decades after *Iqtisādunā* first appeared,

³⁰ See Siddiqi (2004).

³¹ See, e.g., Qur’an 13:8, 15:21, 17:30, 28:82, 29:62, 30:37, 34:36, 34:39, 42:12 & 27, 54:49, and 89:16.

Hasanuzzaman (1984), referring to 41:10, suggested that Allah (swt) “has created sufficient resources for His creatures. Therefore, scarcity may be either due to lack of proper utilization of natural endowments or an imbalanced distribution”. Indeed, there is much evidence from the Qur’an and Sunnah that it is not the paucity of resources but the system of distribution of resources that underlies the emergence of poverty and deprivation in societies.³²

Contemporary scholars who have focused on the concept of scarcity suggest that there is a distinction between actual, material scarcity and the “feeling of scarcity.”³³ The latter is conditioned by the mindset that tells a person how much is enough and how much is too little. Such a mindset is, in turn, conditioned by social, cultural, psychological, ideological, religious, and other elements.³⁴ In its primordial character, however, human nature knows when enough is enough.³⁵

The concept of scarcity by itself, once internalized by a critical mass of members of a given society, has deleterious effects on efforts to deal with distributional problems: Incidence of poverty and deprivation can always be explained away by scarcity. On the other hand, the axiom of sufficiency, once accepted by a critical mass of members of a given society, would require a search for redistributive means of alleviating poverty in that society. The scarcity axiom, while damaging to social solidarity in and of itself, becomes even more onerous and strongly in conflict with the logic of Islamic Economics when combined with unlimited wants – the latter leads to insatiability, a “psychological disposition that prevents us, as individuals and as societies, from saying that ‘enough is enough’), narrow self-interest, and presuppositions of restricted rationality. The result is a discipline with moral defects, such as the “coexistence of great wealth and great poverty” and “palpable economic defects,” such as an “inherently unstable financial system”.³⁶

Sometime ago, Karl Polanyi argued that economics can be understood as having two distinct senses: formal and substantive. In its formal sense, economics derives from the logical character of the means-ends relationship. In its substantive sense,

economics derives from man’s dependence upon nature and his fellow. It refers to the interchange with his natural and social environment [...] the two root meanings of economics, the substantive and formal, have nothing in common. The formal meaning implies a set of rules referring to choice between the alternative uses of insufficient means. The substantive meaning implies neither a choice nor insufficiency of means; man’s livelihood may or may not

³² See, e.g., Mirakhor and Askari (2017).

³³ See, e.g., Mullainathan and Eldar (2013), p. 4. The authors define scarcity as “having less than you feel you need.”

³⁴ See for example, Barber (2007).

³⁵ See, e.g., Gowdy (1998). The book is a collection of excellent anthropological studies on hunter-gatherer cultures in which members knew when they had enough for a comfortable life and managed their societies through sharing surpluses.

³⁶ See, e.g., Skidelsky and Skidelsky (2012).

involve the necessity of choice and if choice there be, it need not be induced by the limiting effect of a “scarcity” of the means.³⁷

Economic thought that shares what Siddiqi suggests to be a “spiritual view of life and a moral approach to life’s problems, including the economic problem,” would lie within the universe of discourse of what Polanyi called the substantive sense of economics, sharing little or no common ground with the formal sense invoked by the currently dominant paradigm of economics. The argumentation advanced by some to conclude that Islamic Economics, if it is going to be effective and meaningful, has to abandon everything that “conventional,” “standard,” economics has to say is fallacious. Meanwhile, the voices in wilderness, such as those of Ṣadr and Siddiqi, that call for Islamic Economics to develop a language and logic of its own based on the Qur’an and Sunnah adequate to addressing the problems faced by humanity at large, go largely unheeded. To heed them, Islamic Economics needs to develop a common language³⁸ and logic based on the Qur’an. The present study is a modest attempt to address the logical foundations of Islamic Economics, in a manner that would perhaps lead to meaningful discourse both within and outside of the Islamic economic community aimed at addressing the issues suggested by Siddiqi.³⁹

2 Universes of Discourse and Categorical Coherence

“The Islamic [sic] ummah is facing crises of types never before seen in Islamic history. The issue of how Islamic Economics should be defined ... remains unresolved.”⁴⁰ A necessary, if not sufficient condition, for defining the concept “Islamic Economics” involves a determination of the logical, philosophical, and/or scientific parameters that govern i) the movement of consciousness and action within the particular sphere associated with the extension of that concept, as well as ii) the interrelation of that sphere with other general, relevant domains of human experience (e.g., realms of economic consciousness and action). This necessary condition involves, in part, determining whether the concept “Islamic Economics” is even coherent. Does the range of applicability of “Islamic” intersect with that of “economics” (in the contemporary sense of

³⁷ See Dalton (1971) pp. 139–174. Quotations in the above paragraph are taken from p. 140).

³⁸ On the necessity of a common language for Islamic Economics, see, e.g., Khan (2000).

³⁹ For greater detail and technical development of this theme, see the authors’ forthcoming book *The Logical Foundations of Islamic Economics: Objective Logic and Phenomenology of Consciousness and Action*. Much of this note condenses results discovered in the course of preparing that work.

⁴⁰ Zaman (2017, p. 205). In the spirit of Sayyid Maududi and other contemporary, progressive thinkers, the authors would prefer to speak of, not the *Islamic*, but, rather, the *Muslim ummah* and *Muslim* history.

‘economics’)?⁴¹ If not, then the concept “Islamic Economics” has no material⁴² extension and remains in the realm of shadows. Determining some exact sense in which “Islamic Economics” is coherent depends, in large part, on fulfilling the necessary condition sketched above.

The distinction between Muslim and Islamic is one of the most important guiding principles of our discussion. Given a guideline, human activity, or phenomenon, it is *Islamic* only to the degree that it precisely flows from and is consistent with the framework of consciousness and praxis established by the Qur’an and the Messenger of Islam. A person, society, social or other institution, guideline, activity, or any other phenomenon is *Muslim* to the degree that it is reasonably associated with some class of self-identifying Muslims. In practice, it is possible and quite common that, in some domain of human experience, a Muslim does not behave in an Islamic manner. Similarly, it is possible that, with respect to some domain of human experience, a non-Muslim behaves in an Islamic manner and a Muslim does not.⁴³

With respect to the “shadowy” nature of concepts and conceptual entities: A careful study of the proper sources for the articulation of any genuinely Islamic framework of knowing will show that, within such a framework, all thought is *concrete* (in some important sense of ‘concrete’ – to be discussed). That is, given an activity of conscious (e.g., rational) thinking, it has a real object; no single thought is truly *abstract* (in some important sense of ‘abstract’ – to be discussed) or merely subjective. However, if that conscious thinking (or pseudo-thinking) does not *shadow* (or reflect) reality in some primary, material sense, then its object remains *shadowy*. Related positions were held by Hegel (d. 1831ce) and Alexius Meinong (d. 1920ce). In traditional Islamaic philosophy,⁴⁴ such a position was systematically worked out, apparently for the first time, by Shaykh Aḥmad al-Aḥsā’ī (d. 1826ce). On the other hand, Kant’s

⁴¹ In conformance with the standard convention for the use-mention distinction, we use in this study a single quote name to *mention* an expression, sentence, or other string of characters per se; we use a double-quote name to mention a concept, proposition, or other object of thought per se. We also use double quotes for the usual purpose of quoting the speech or comments of others. The context should make it clear which sense of double-quotes is intended.

⁴² *Material*: The word ‘material’ is being used in a general sense and without prejudice; i.e., it is not synonymous with ‘physical’ and its denotation includes what is normally called spiritual.

⁴³ For example, there has been an effort to develop an “Economic Islamicity Index” that aims to objectively rank the nations of the world in terms of their compliance to a select set of Islamic economic principles. In a 2010 version of this project (Rehman & Askari 2010), the winner was Ireland; the first Muslim country to appear on the list was no. 33: Malaysia. Given the interwoven nature of the Islamic framework *in concreto* some of the methodology of the authors may be questioned. Still, their work illustrates an application of the critical distinction between Muslim and Islamic.

⁴⁴ We use ‘Islamaic philosophy’ in place of the usual ‘Islamic philosophy’, ‘Muslim philosophy’, and so forth. The distinction between Islamic and Islamaic is analogous to the distinction between Hellenic and Hellenistic. Examples: ‘Alī ibn Abī Ṭālib (‘a) articulated an Islamic, but not an Islamaic, philosophy. Moses Maimonides was an Islamaic, but not an Islamic, philosopher. Islamaic philosophy appropriates and develops a non-Islamic (Aristotelian, Neoplatonic, etc.) heritage.

(d. 1804ce) earlier, critical rejection of some variant of this position has dominated later European philosophical, logical, and scientific thinking.⁴⁵

Let us rephrase the challenge set forth at the outset: The task at hand involves articulating the *universe of discourse* proper to Islamic Economics, in comparison and contrast with that proper to contemporary, mainstream economic theory and practice. Such an articulation is needed to provide a proper basis for answering questions such as, How, and to what degree, can the problems of contemporary economies be addressed by Islamic Economics? How, and to what degree, can analytic methods developed in conventional economics, which are ideologically conditioned by, and/or deduced from axioms specific to, the universe of discourse of the latter, be employed in Islamic Economics?

Our sights can be aimed deeper: Granting the coherence of “Islamic Economics”, and given the roots of the range of applicability of “Islamic” in the Prophetic era and its sources (viz., the Qur’an and the authentic *Hadith*, i.e., those traditions which do not contradict the Qur’an): How and to what degree, if at all, can a general question of contemporary Western economic theory be transformed into one of Islamic Economics? The reverse is also important: How and to what degree, if at all, can a general question of Islamic Economics be transformed into one of contemporary Western economic theory? For example, can Islamic Economics address non-trivial and important questions, ignored by the dominant paradigm of economics, such as the following: What is the purpose of wealth? How much wealth is sufficient for a secure and comfortable life? Can Islamic Economics suggest ways and means of correcting the moral and economic defects of the forms of capitalism that dominate economies across the world, including those of Muslim nations? Can analytically and axiomatically neutral methods of standard economics assist Islamic Economics to arrive at its own systematic and coherent paradigm for analysis and policies addressed to achieving the life of security, peace and economic sufficiency which Islam promises humans?

A universe of discourse is basically a *closed* collection of objects of thought under discussion by members of an intellectual community; the objects of thought and concepts of that collection are generally understood by those participating in the discussion. For example, in the universe of discourse of natural numbers (0, 1, 2, 3, and so forth), we may say, e.g., “Every number is either even or odd.” There is no need to mention the property ‘natural’ before mentioning the object ‘number’; since the universe of discourse is closed it is understood by the participants as given that all numbers in that universe are natural. Another aspect of a universe of discourse is that it determines the *range* of concepts of objects over which concepts of properties can be *coherently* predicated. For example, given the properties even and odd (as denoted in number theory), the object of thought “This tree is even” is neither true nor false, but *incoherent*. That is, the concept “tree” (botany) and the concepts “odd” and

⁴⁵ This topic is an important one for future study and exposition.

“even” (number theory) do not belong to the same universe of discourse. Hence it is incoherent to predicate evenness of a tree; to do so is to commit what is called a *category mistake*. A declarative sentence may express either a coherent or an incoherent object of thought; if coherent, that object of thought can be either true or false. Thus, within the universe of natural numbers: The object of thought “Some number is even” is coherent and true; “Every number is even” is false but still coherent. “Some tree is even” is neither true nor false but incoherent; to call a tree even is to commit a category mistake. A coherent object of thought is usually called a *proposition* in the strict sense of ‘proposition’. But even incoherent objects of thought can be called propositional in form if not in content. Thus, the object of thought “Some tree is even” is propositional in form but is not, strictly speaking, a proposition *per se*.

3 Science, Intrinsic Value, and Self-transcendence

A universe of discourse is supposed to serve as an element within an overall framework of knowledge and practice, of *science*. Yet there appear to be certain limits, obstacles blocking our path forward before the task can even begin. For example: On the one hand, contemporary science in the narrow, quantitative sense has no place for *value* in any *intrinsic, self-transcending* (as opposed to *mercantile* or *quantitative*) sense. That is, values, allegedly, are not subject to scientific knowledge. Given some school of contemporary economics which, by and large, takes science in some such narrow sense as its ideal paradigm of knowing, intrinsic value would appear to lie outside of its scope, and thus, strictly speaking, outside of the range of applicability of the concept “economics”. On the other hand, although any authentic school of Muslim thought does and must place significant emphasis on intrinsic values at its core, these are, in the contemporary *zeitgeist*, allegedly to be taken purely on faith and not in any manner that is scientific or which involves knowledge (as opposed to mere faith).⁴⁶ This would appear to implicate, i.e., point in the direction of the conclusion, that the ranges of applicability of “Islamic” and “economics” respectively are mutually exclusive, for i) economics aims to be scientific, but there is (allegedly) no science of value; and ii) the core characteristic of Islam and Islamicity is intrinsic value, but, again, there is (allegedly) no science of value.

Whether, and the degree to which, the contemporary discipline of economics can or should take science in some narrow, quantitative sense, as its ideal is a matter of

⁴⁶ Yes, earlier, classical Muslim theology did develop a rationalist, scholastic framework of value based on presuppositions about, e.g., beauty and ugliness. But, as useful as they were in their own time, the degree to which the *Aristotelian cognitivism* (upon which systems deriving from that framework were based) produces genuine knowledge of the objects in its universe of discourse is doubtful; in major part for reasons that will be discussed further on.

debate. With respect to Islam, however, there can be little doubt that value⁴⁷ lies at the core of its system, its framework and methodology, of thought and action. According to one of the most famous *aḥādīth*, one oft-repeated by Muslims of every school of thought, the Messenger (ṣ) said, “Surely I was solely sent to perfect the nobilities of intrinsic moral value.”

The use of ‘intrinsic’ in the translation above may raise concerns of anachronism. However, *akhlaq* (plural of ‘*khulq*’ or ‘*khuluq*’) literally and lexicographically signifies a disposition that characterizes its host in an innate, intrinsic manner. This is consistent with the standard Islamic principle that everyone and everything in existence was created with a fundamentally *good*, beautiful (*ḥasan*), *primordial nature* (*fiṭrah*).⁴⁸

The aforementioned Hadith implicates that any and every object or mapping in the Islamic universe of discourse ultimately pertains to intrinsic moral value. However, it emphatically does not implicate, let alone logically imply, that Islam denies that there can be a science of intrinsic value, in some appropriate sense of ‘science’. To assume that, because Islam’s fundamental interest is intrinsic value, therefore there is no such thing as an Islamic science of value, let alone economics, is to commit a crude non sequitur. As we shall explore, a number of contemporary Muslim, as well as anti-Islamic, scholars have been misled by one or both of the following: i) the *scientism* of the currently dominant European culture that derives from the Cartesian analysis of the world, Newtonian mechanism, and Kant’s rejection of the concrete nature of thought;⁴⁹ and ii) the concomitant *fideism* of the same culture, in conjunction with the traditional *fideism* promulgated and ossified by traditional Muslim figures such as Ghazzālī.

Ultimately, however, value and its praxis constitute a unity that is inseparable from genuine knowledge of (as opposed to mere faith in) the truth and reality that they are about. This is an important teaching of the Qur’an and the Messenger (ṣ), one that has been often obfuscated, when not altogether denied, by the Muslim and Islamic traditions of scholastic theology and even philosophy. In the Qur’an one reads (29:43):

And those are the symbols we propound to the people, yet no one canprehend them except the knowers.

The number of āyāt (*signs*, also known as *verses*) of the Qur’an, as well as *aḥādīth*, which bear upon this matter can hardly be counted.⁵⁰

⁴⁷ Unless otherwise specified, explicitly or by context, in the sequel we will use ‘value’ to mention intrinsic, self-transcending value.

⁴⁸ This is related to the well-known fact that, in contrast to Christianity, there is no concept or reality of *original sin* in Islam.

⁴⁹ In can hardly be emphasized enough that neither Descartes, nor Newton, nor Kant espoused scientism.

⁵⁰ For an introduction to this matter, see Hamid (2011a, Ch. 2).

In the *āyah* quoted above, knowing is connected with '*aql* (*prehending, nexal consciousness*). And in other places throughout the Qur'an and Hadith, as will be discussed in some detail, such prehending is intimately bound with intrinsic value and its practice in a movement that is both developmental and self-transcending. It is in this context that Islam provides the foundations for a complete *system* of value. Such a system involves, not a mere articulation of some organized list of normative rules of action, but a comprehensive *phenomenology* of consciousness and praxis. Critically, the phenomenology of consciousness and praxis latent within Islam also entails a concrete framework and cogent method of knowing. Thus, an Islamic phenomenology is *scientific* in a broad sense of 'science'. It turns out that the framework and method of knowing espoused by Islam is neither Aristotelian (as adopted by traditional Islamaic civilization) nor empiricist (as espoused by mainstream contemporary European culture); rather, it is irreducibly *dialectical* in a sense that involves movement, development, and self-transcendence. The fact that it does not fit into an Aristotelian or empiricist paradigm explains, in part, why the Islamic framework of knowledge has, with some exception, been obfuscated, neglected, or denied throughout Muslim history, both traditional and contemporary.

An important entailment of the dialectical nature of the Islamic framework and methodology of consciousness and praxis is that *economic action constitutes a necessary – although not sufficient – condition for the cultivation and development of moral action*. Put another way, economic development, using 'economic' in some contemporary sense, cannot be decoupled from the cultivation, development, and perfection of intrinsic value that constitute the core of Islamicity. There can be no question of a bifurcation of the economic from the moral in the Islamic framework, methodology, and movement. And that dialectical movement is, again, scientific in a broad sense.

Let us return to the question of intrinsic value vis-à-vis contemporary economics. If Islam offers a perspective from above to below (moral to economic), might there be some perspective, also scientific in spirit (in the broad sense of 'science' to be discussed), commensurate with contemporary economic science, one from below to above (economic to moral)? It turns out that such perspectives do exist. An important case is the dialectic of the economic and the moral in the thought of the Italian philosopher Benedetto Croce (d. 1952ce). A related thinker, one influenced by Croce and especially Hegel, is G.R.G. Mure (d. 1979ce). It turns out that the contours of *Croce's dialectic of opposites and distincts* constitute something close to a special case of a corresponding and broader Islamic phenomenology and dialectics of consciousness and praxis. Furthermore, Mure's penetrating analysis of the nature of economic action, and its relation to moral action and intrinsic value, comes strikingly close to the Islamic position on the matter.⁵¹ From one direction, the dialectics of Croce and Mure

⁵¹ See especially the second chapter of Mure (1958).

appears rich enough to allow for a fruitful mutual exploration without falling into the ditch of either syncretism or anachronism. From another, the dialectic of the economic and the moral, developed from a joint Islamic and appropriately chosen contemporary logical, philosophical, and scientific vantage point, can provide the context and meta-language in which the parameters of the coherence of Islamic Economics can be adequately determined and articulated.

4 Objective Logic and Phenomenology of Consciousness and Action

4.1 Objective Logic and Subjective Logic

As mentioned at the outset, our task involves the determination of the logical and scientific parameters governing the sphere (=category) particular to Islamic Economics, as well as the interrelations of that sphere with the relevant domains of human experience, particularly those of interest to contemporary economic science. Pursuit of that task involves a logical, philosophical, and scientific methodology that is sometimes called *objective logic*. Contemporary economics, as a discipline, involves a universe of discourse associated with some paradigm of logic and/or science internal to that universe. Islamic Economics, as a discipline, also involves a universe of discourse associated with some paradigm of logic and/or science internal to itself. A paradigm of logic and/or science *internal* to some universe is sometimes called its *subjective logic*.

This point can hardly be overemphasized. As William Lawvere, one of the founders of the formal objective logic known as mathematical category and topos theory, puts it (Lawvere & Rosebrugh 2003, pp. 239–240):

The long chains of correct reasonings and calculations of which subjective logic is justly proud are only possible within a precisely defined universe of discourse, as has long been recognized. Since there are many such universes of discourse, thinking necessarily involves many transformations between universes of discourse as well as transformations of one universe of discourse into another.

Given a set of scientific axioms or presuppositions, they are specific to some specific universe of discourse (= category). The conclusions deduced from those axioms also belong to the same universe of discourse. As Aristotle discovered, deduction from first principles (= axioms, presuppositions) is always bound to and never escapes the relevant universe of discourse. It is in this respect that deductive logic is subjective. But this leaves a serious problem, one not solved by traditional Aristotelian logic. For Aristotelian logic has no solution, no precise formalism for representing or articulating objective-logical reasoning.

When an observer looks at two universes of discourse from the perspective of the subjective logic particular to one of them, particularly from that of the narrower of the two, it is easy to fall into some bifurcationist fallacy. This is, in part, because it is easy to forget that the cogency of reasoning of some subjective logic is not independent of the associated universe of discourse in which it is being employed. Even from the perspective of the broader of the two, if the factor of dialectical development and self-transcendence is left out, then, once again, it is easy to fall into a bifurcationist fallacy.

In contrast to the situation with subjective logic, an objective logic is a logic and science of bridging distinct (even apparently irreconcilable) universes of discourse and exhibiting them as a coherent, inter-related whole, and to make precise and explicit the logical rules of transformation between one and the other. This may involve development (or self-transcendence) from one universe to the higher; it may also involve decay (or self-corruption) from one universe to the lower. An example from mathematics will illustrate: A set may be said to *develop*, objective-logically, into a topological space; a topological space may be said to *decay*, objective-logically, into a set. Correlative to a set, a topological space constitutes a *broader* universe of discourse (= category); correlative to a topological space, a set constitutes a *narrower* universe (= category).

The Islamic category has its own subjective logic, as does contemporary economics. If “Islamic Economics” is coherent, then it must constitute an objective-logical system, one appropriate to i) some category of intrinsic value, as well as to ii) another category specific to economic action. The questions asked earlier may now be expressed in more general terms: Given two categories within an objective-logical system, what are the cogency conditions of the subjective logic appropriate to each category? What are the rules for transposing a problem expressed within the narrower category, and investigated via its associated subjective logic, into the corresponding problem in the broader category, and investigated via the subjective logic associated with the latter?

4.2 Two Dialectical Lynchpins

The current research of the authors into the logical foundations of Islamic Economics, based upon study of the Qur’an and Sunnah, reveals a number of dialectical lynchpins that subserve the Islamic phenomenology of consciousness and action. Together, they appear to constitute necessary and sufficient building blocks for the construction of a very concrete objective-logical system. For purposes of this note we restrict ourselves to discussion of only two of them.

One lynchpin of Islamic phenomenology is its *dialectic* of knowing and doing; more generally, of the theoretical and the practical. This is in sharp contrast to the

Western paradigm, dominant from its initial articulation by Aristotle up to the present day (in both Western and Islamic traditions), which recognizes and builds upon a bifurcation of theory and practice. Variants of such a bifurcation set in early in Muslim history,⁵² leading the gamut of its theological and intellectual thought off track ever since, vis a vis the primordial Islamic spirit. Over the course of this research, we have worked out the parameters of an Islamic phenomenological system based in large part upon certain critical, general objective-logical guidelines – each is explicitly stated in general form in the course of a crucial narration or āyah, and supported by numerous other evidences from the Qur'an and Hadith. One such guideline is the following: Through *nexal-consciousness/prehending* ('aql) the depths of *praxial-wisdom/wise practicing* (ḥikmah) are fathomed; through praxial-wisdom the depths of nexal consciousness are fathomed.

The importance of this particular guiding, dialectical principle for the development of any authentic, Islamic framework and methodology of knowing and practice can hardly be overestimated. Among other things, it entails a rejection of *Aristotelian cognitivism*,⁵³ as well as empiricism, in favor of another, dialectical approach to science.

The second lynchpin involves the dialectic of *nexal-consciousness* ('aql) and *ignorance* (jahl) (= *ego* (nafs)). The Islamic sources provide a guide in the form of one of the most important traditions for our phenomenology: The Hadith of the Troops of Nexal Consciousness and Anti-Consciousness (i.e., Nexal-Grasping and Ignoring, or Nexus and Ignorance). At first glance, the setting is a cosmological account of creation, but the phenomenological subtext is explicit: First and foremost, this Hadith provides an account of the innermost drama of the human spirit. Following is an excerpt. As reported by the great-grandson of the Messenger (ṣ), the Imām Ja'far al-Ṣādiq ('a):

Surely God created Nexal-Consciousness – and it is the first of all spiritual things⁵⁴ – from the light of the right of the 'Arsh (Empyrean). So He said to it: "Go back!" and it went back. Then He said, "Come forth!" and it came forth. Then He said, "I have created you as a magnificent creation, and have honored you over the entirety of my creation."

Then He created Anti-Consciousness from a murky, brackish sea. So He said to it: "Go back!" and it went back. Then He said, "Come forth!" and it did not come forth. So he said to it, "Are you conceited?" and cursed it.

⁵² In addition to the situation in Aristotelianism, the bifurcation of faith and works in Pauline Christianity and within what was to become Ash'ari theology are also cases in point.

⁵³ Aristotelian cognitivism involves a bifurcation between learning and knowing (i.e., induction and deductive demonstration), in sharp contrast to the method of Socrates, whose approach is closer in spirit to the Islamic methodology.

⁵⁴ It must be remembered that, in the Islamic sources, there is no opposition between spiritual and material per se. A spiritual entity is non-physical, but *not* immaterial.

Then He gave Nexal-Consciousness seventy-five troops. When Anti-Consciousness saw that with which God had honored Nexal-Consciousness and what He had given it, Anti-Consciousness developed an enmity to Nexal-Consciousness, and said, “O my Cherisher-Lord! This [Nexal-Consciousness] is a creation like me. You have created it, honored it, and strengthened it, while I am its opposite and have no strength against it. So give me troops like those you have given Nexal Consciousness!” God said, “Yes [I will do so]. But if you disobey again after that I will remove you and your troops from my Mercy.” Anti-Consciousness replied, “I am well pleased!” So God gave Anti-Consciousness seventy-five troops.

And so came to be, from among the seventy-five troops that God gave Nexal-Consciousness [along with their opposites from the troops of Anti-Consciousness], the following:

Good, which is the chief of staff of Nexal-Consciousness; He made bad its opposite, and it is the chief of staff of Anti-Consciousness.

Īmān, and its opposite is *kufr*.⁵⁵

Affirming [the truth], and its opposite is rejection.

Hope, and its opposite is despair.

Justice, and its opposite is tyranny.

[For the rest of the troops of ‘Aql and Jahl see Table 1.1]

So these dispositions of Nexal-Consciousness do not all *cohere* (*ijtimāʿ*) except in a prophet, the *heir* (*waṣī*) of a prophet, or a *muʾmin*⁵⁶ whose heart has been tested for *īmān*. As for the rest of those who move in the orbit of our *dynamic loving* (*walayah*), any one of them will have at least some of these troops until he is cleansed of the troops of Anti-Consciousness: When that happens, he comes to be in the highest rank among the prophets and heirs. And that can only be perceived by cognizing Nexal-Consciousness and its troops, and by avoiding Anti-Consciousness and its troops.

Current research also reveals that ‘*jahl*’ is another name for ‘*naḥs*’ in the Qur’anic sense that may be translated by ‘ego’:

Surely the Ego does command to evil, except that for which my Cherisher-Lord has mercy.
(Qur’an 12:53)

⁵⁵ These two words are ubiquitous throughout the Qur’an and Sunnah, but difficult to translate; they have been subject to severe misunderstandings over the centuries. ‘Secure and dynamic belief and action’ comes close to a reasonable translation of ‘*īmān*’.

⁵⁶ ‘*Muʾmin*’ is the active participle, i.e., the doer, of *īmān*.

Table 1.1: Troops of Nexal-Consciousness and Anti-Consciousness.

The Troops of Nexal-Consciousness	The Troops of Anti-Consciousness	The Troops of Nexal-Consciousness	The Troops of Anti-Consciousness
good	bad	faithfulness	treachery
<i>īmān</i>	<i>kufr</i>	sincerity	insincerity
belief	rejection	vigor	lethargy
hope	despair	intelligence	stupidity
justice	tyranny	cognizance	denial
well pleased-ness	displeasure	tolerance/graciousness	open enmity
thankfulness	ingratitude	trustworthiness	beguiling
striving	giving up	discretion	indiscretion
reliance	avarice	communion	neglect (communion)
compassion	cruelty	fasting	breaking fast
mercy	anger	<i>jihād</i>	cowardice
knowledge	ignorance	pilgrimage (Mecca)	dissolving the pact
understanding	foolishness	prudence	backbiting
decency	indecenty	goodness to parents	refractoriness
detachment	longing	genuineness	showing off
gentleness	roughness	right	wrong
wariness	recklessness	covering (oneself)	self-display
humility	pride	precaution	exposing (oneself)
deliberation	haste	pure impartiality	fanatic bias
forbearance	foolhardiness	rectifying	factiousness
deep silence	incoherence	cleanliness	filthiness
yielding (to truth)	arrogance	modesty	immodesty
full assent	doubt	resolution (conflict)	enmity
patience	impatience	rest	tiredness
forgiveness	revenge	ease	difficulty
richness	poverty	giving blessing	denying blessing
remembrance	negligence	health and security	affliction
memory	forgetfulness	economy	extravagance
cordiality	cutting off of ties	wisdom	inclination
contentment	covetousness	solemnness	flippancy
munificence	stinginess	felicity	misery
affection	hostility	turning (to repent)	persistence (in bad)
fulfillment	betrayal	seeking forgiveness	heedlessness
obedience	disobedience	discipline	indulgence
meekness	insolence	supplication	haughtiness
safety	tribulation	energetic-ness	laziness
love	hatred	joy	grief
truthfulness	lying	friendship	separation
the true	the false	generosity	miserliness

Source: Authors' own.

Indeed! I swear by the self-accusing ego!

(Qur'an 75:2)

O Tranquil Ego! Return to your Cherisher-Lord, well pleased with Him and He well pleased with you. So enter among my adorer-servants! And enter my Garden! (Qur'an 89:27–30)

Allah (swt) thus commands ignorance (= ego) to return. At first it *ignores* the command,⁵⁷ but then it is given a choice: “If you disobey again after that I will remove you and your troops from my Mercy.” How does the ego obey? By submitting itself and its troops to nexal-consciousness and the latter’s troops. But what is the engine of that process of development? The engine is the first dialectical lynchpin, that of *prehending* (‘*aql*) and *wise practicing* (‘*hikmah*). Together, both dialectical lynchpins constitute a concrete, dynamic objective-logical system.

5 Two Approaches to Objective Logic: Informal and Formal

In contemporary philosophy and science, two approaches to a systematization of objective logic may be identified: one more informal, the other more formal. Lack of space precludes extensive discussion; for greater development and technical detail, see the authors’ forthcoming book, *The Logical Foundations of Islamic Economics: Objective Logic and Phenomenology of Consciousness and Action*. What follows is a summary account of each approach.

5.1 Informal Objective Logic: Scale of Forms

The informal approach is well-illustrated by examples from the primary sources. There are countless traditions and *āyāt* of the Qur’an that articulate various stages and processes of self-transcendence in Islam. A comprehensive example is articulated in the following Hadith narrated by Muḥammad ibn ‘Alī al-Bāqir (‘a):

Īmān (dynamic security in belief and action) is above *islām* (initial acknowledgment and submission) by a degree. And *taqwā* (dynamic awareness) is above *īmān* by a degree. And *yaqīn* (dynamic certainty) is above *taqwā* by a degree. And nothing has been so little-apportioned amongst the adoring-servants as *yaqīn*.⁵⁸

⁵⁷ The semantic field of ‘ignorance’ and its cognates, such as ‘ignore’, provide a happy instance of near identity between the semantic field of an English word with that of a corresponding Qur’anic Arabic word.

⁵⁸ In some *aḥādīth* three degrees are mentioned: *Islam*, *īmān*, and *iḥsān* (*beautiful action*). In these traditions, ‘*iḥsān*’ is used to encompass the highest stage of *taqwā* plus *yaqīn*. See Hamid (2011b, pp. 71–72).

The crucial thing to notice here is that each higher degree absorbs and develops its predecessor. These stages, constitute differences of both kind and degree. Here is an example found in a number of *aḥādīth*. To paraphrase: Consider the courtyard of the Forbidden Mosque (al-Masjid al-Ḥarām) and the Ka'bah which lies at its center. The courtyard of the mosque is not nearly as precious as the Ka'bah itself, although it remains a sacred place of safety and security, where it is forbidden to harm or kill anyone. The Forbidden Mosque symbolizes Islam. Now if you see a man in the courtyard, you can say that he is in the Forbidden Mosque, but you cannot say that he is in the Ka'bah. On the other hand, if you see a man in the Ka'bah, you can say that he is in the Forbidden Mosque. So being in the Ka'bah absorbs being in the Forbidden Mosque, but being in the Forbidden Mosque does not absorb being in the Ka'bah. Thus, one may enter *islām* without entering *īmān*, but one cannot enter *īmān* without entering and remaining within *islām*.⁵⁹

Here is an example from the Qur'an, illustrating the scale of self-transcendence within *taqwā*:

There is no blame on those who are dynamically believing and do deeds of righteousness regarding what they consume as long as they are dynamically aware, are dynamically believing, and do deeds of righteousness. Then they are dynamically aware and dynamically believing. Then they are dynamically aware and act beautifully. And Allah loves those who act beautifully. (Qur'an 5:93)

The scale of self-transcendence from *islām* through *yaqīn* thus constitutes what R. G. Collingwood calls a *scale of forms*.⁶⁰ A scale of forms involves an *overlap of classes* (i.e., of categories, universes of discourse, genera) in which a difference in kind is combined with a difference in degree. The genus animal is different in *kind* from that of plant, yet animal also involves a higher *degree* of developedness of the characteristic feature of plant, viz, biological growth.⁶¹

Yaqīn is different in kind from *taqwā*, *taqwā* from *īmān*, and *īmān* from *islām*. Yet *īmān* is also a higher degree of Islam, *taqwā* of *īmān*, and *yaqīn* of *taqwā*. One of the difficulties involved in establishing a genuine taxonomy of Islamic science lies

⁵⁹ See Hamid (2011b, pp. 39–43). The relevant *aḥādīth* are paraphrased on p. 40.

⁶⁰ See Collingwood (2005, Ch. 3).

⁶¹ A version of this scale of forms was discovered by Aristotle, and articulated by him into a system of metaphysics. The next stage in the Aristotelian scale of forms is that of the human being, followed by the celestial intellects, followed by the Prime Mover (= God). But Aristotle's scale is one of fixed genera (= universe of discourse) with no way to connect its objective-logical structure with the first principles of demonstration posited for each genus. Put another way: Aristotle was unable to connect the *intraconnective* demonstrative logic *within* any given genus with the *inter-connective* objective logic *between* the genera. That is, objective logic is bifurcated from subjective logic. See our forthcoming book for details as well as Chapter 4 of Mure (1959).

in precisely articulating, as a coherent scale of forms, the structure of overlap of kind and degree between the subdisciplines of the Islamic sciences. This is a matter that deserves further study and research.⁶²

5.2 Formal Objective Logic: Functors and Natural Transformations

In the 20th century, in the context of category and topos theory, mathematicians discovered powerful, formal tools for making objective logic precise: *functors* and *natural transformations*. Again, space precludes detailed development; readers are referred to the aforementioned, forthcoming book. We restrict ourselves to two examples.

For the first, we consider Benedetto Croce's dialectic of distincts and opposites. This is important for economics in general, and Islamic Economics in particular, because i) it provides a phenomenological treatment of the economic and the moral as terms of a scale of forms; and ii) it does so against an *original, primordial* dialectic involving the theoretical and the practical. That original dialectic is *preserved* or *realized* in the dialectic of the aesthetic and the economic, where 'economic' is used in some contemporary Western sense. But this dialectic takes place at a level of abstraction: It does not capture the fullness of the human being, who is something more than an economic animal that seeks mere aesthetic fulfillment. According to Croce, the aesthetic is succeeded and absorbed by the conceptual, and the economic is succeeded and absorbed by the moral. That is, the economic is absorbed by the moral and is a necessary condition of the moral. But the moral is more than the economic. As Croce's commentator Mure emphasizes, the mistaken belief in a bifurcation between the economic and the moral has resulted in a "great deal of bad ethical theory".⁶³

In formal objective logic, the absorption of one category (= universe of discourse) into a higher category, with precise specification of difference and/or residue, is articulated by a *functor*, a special kind of objective mapping. Loosely speaking, a *functor category* is constituted by i) some categories; ii) the functors that specify the transcendence, development, or decay of one category into another; which are organized as a systematic sequence of *realizations* or *preservations* – the corresponding Qur'anic expression is *āthār* (*imprints*) – of iii) some original dialectic of categories. Unpacking and expanding this description is beyond the current scope, but the Figures 1.1 and 1.2 will give some flavor of the formalism.

⁶² A perusal of Hamid (2011b), e.g., Chapter 2, will illustrate some of the difficulties involved in articulating a proper Islamic taxonomy of self-transcendence. At the time of writing that book, the author was unaware of Collingwood's framework of a scale of forms, in terms of which the earlier attempt to outline a taxonomy could possibly have been better articulated.

⁶³ See Mure (1958, p. 22).

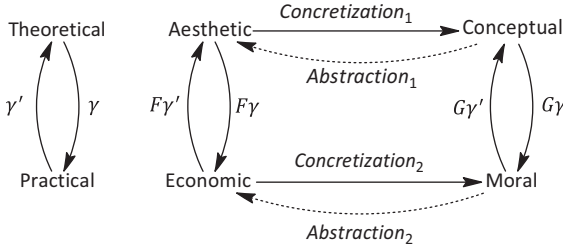


Figure 1.1: A Representation of the Croce Topos.

Source: Authors' own.

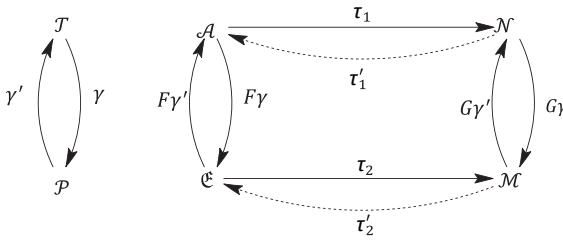


Figure 1.2: A Formal Representation of the Croce Topos.

Source: Authors' own.

The original dialectic of the theoretical and the practical is imprinted on the phenomenological background of four modes of human experience as two realizations (= preservations): a dialectic of the aesthetic and the economic, and a dialectic of the conceptual and the moral. These two imprinted dialectics are related by two natural transformations τ and τ' : one of concretization (= development, self-transcendence) and one of abstraction (= decay, self-corruption). τ_1 and τ_2 are components of τ ; τ'_1 and τ'_2 are components of τ' , (see Figure 1.2)

These diagrams illustrate what may be called the *Croce topos*, a functor category constituted as described above. There are two dialectical lynchpins: The original and the natural transformations. These two lynchpins are *orthogonal* to one another. We may say that it takes at least two mutually orthogonal and dialectical lynchpins to constitute a concrete objective-logical system.

The Islamic phenomenology is far richer, and much more concrete, than that of Croce. If we restrict ourselves to the two lynchpins of the Islamic phenomenology of consciousness and action discussed earlier, we find that they are also orthogonal. The original *topos* – loosely speaking, a topos is a naturally closed or complete category – is that of the nexus and the ego: The *ego* (*nafs*) seeks to develop towards submission to and harmony with the *nexus* (*'aql*). The engine of that development also works towards mutual *coherence* (*ijtimā'*) of the troops of the nexus. Thus, it

involves natural transformations between the 75 troops of intrinsic value, orthogonal to the upward movement of the ego.

Let our original topos of consciousness be designated as \mathcal{A}_0 . It is constituted by i) nexus (= consciousness proper), designated by \mathfrak{E}_0 ; ii) ego/ignorance (= anti-consciousness, ego-consciousness), designated by $\mathfrak{E}_0^{\text{nt}}$; and iii) ego-consciousness' upwards movement (= functor) of development (= self-transcendence) towards nexal-consciousness, designated by ψ_0^{nt} ; and iv) ego-consciousness' downwards movement of decay (= self-corruption) away from nexal-consciousness, designated by ψ_0 . The abbreviation 'nt' is short for 'anti'.

The 75-plus-75 troops of consciousness and anti-consciousness form a background of modalities of human experience. Given a pair constituted by one modality (= "troop") of nexal-consciousness and its opposite anti-modality, the original topos of consciousness is preserved in that pair: The anti-modality may grow to submit to its opposite or it may decay to ultimate removal from the mercy of Allah (swt). At the same time, that growth ultimately depends on *coherence* (*ijtimā'*): Thus, the engine constituted by the dialectic of prehending and wise practicing also entails natural transformations between the modalities. A general illustration of the resultant objective-logical system is provided by Figure 1.3.

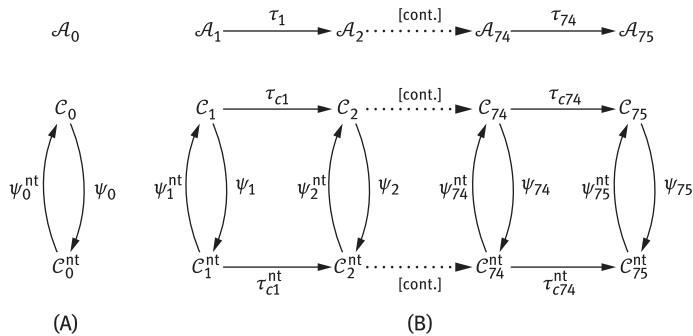


Figure 1.3: A General Illustration of the Resultant Objective-logical System.

Source: Authors' own.

The diagram is not fully concrete. For one thing, there are thousands of combinations between the modalities, not one linear order from 1 to 75. Taking all possible combinations into consideration, there are 11,000 natural-transformation pairs in the background of modalities of consciousness, each of which takes the form of Figure 1.4. The minimal unit of concrete human consciousness is not any particular modality, but a natural transformation unit, for every modality is definable and exists only in terms of at least one other. We can say that, from the perspective of the Hadith of the Troops of 'Aql and Jahl, the Islamic phenomenology of consciousness and action thus involves 11,000 units or dimensions of human consciousness. Development of

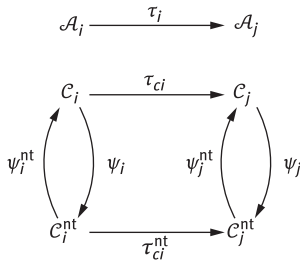


Figure 1.4: Natural-transformation Pairs in the Background of Modalities of Consciousness.
Source: Authors' own.

the implications of this discovery for Islamic phenomenology and Islamic Economics constitutes an important avenue for further, extensive scientific research for researchers in these fields.

Furthermore, there is at least one other lynchpin that has not been taken into account in the above discussion. The dialectic of *adoration-service* (*'ubūdiyyah*) and *cherishing lordship* (*rubūbiyyah*) constitutes another original topos, one just as important as that of nexus and ego.

6 Transcending Cartesian Dualism: The Monism of the Qur'an

One weakness found in some of the current research in Islamic Economics is that, despite the criticism of scientism on the part of many of its advocates, it rarely advances beyond a Cartesian dualism of a personal consciousness which confronts an impersonal object; this leads to a practical dualism of fideism and scientism (to be discussed further down. Consider, for example, the following statement of Asad Zaman (2018):

For reasons detailed elsewhere, European conceptions about the nature of knowledge were distorted by a battle between Science and Religion which lasted for centuries, and was eventually won by Science. Because of this battle, the West came to the false and misleading view that Science is the only reliable source of knowledge. *This is certainly true about the external world, but completely false about our internal personal lives, which cannot be explored by standard scientific techniques.* [Our emphasis.]

Two of Zaman's results are of interest here. The first, that "the West came to the false and misleading view that Science [in some accepted, narrow sense] is the only reliable source of knowledge" agrees with our own conclusion, even if arrived at from a different route. The trouble begins with the second conclusion:

This is certainly true about the external world, but completely false about our internal personal lives, which cannot be explored by standard scientific techniques."

Although Zaman rightly rejects scientism, he does so at the cost of maintaining the wholly untenable Cartesian dualism between an “external” world, governed by the impersonal physical sciences, and an “internal personal” world, inaccessible to science and governed by another set of laws that have no effect on the external world. This leads to metaphysical commitments such as i) a dualism maintained in commerce by God (original Cartesianism), ii) reduction of the world to physical matter (physicalist materialism), or iii) reduction of the world to personal mind (subjective idealism). The first scenario is as inexplicable and untenable as the atomism of the Kalām, and presages the contemporary dualism of scientism and fideism (as we will discuss further on); the second takes us towards scientism, which has already been rejected; and the third takes us down one route towards solipsism. More generally, the realist view that the world consists of utterly separate personal minds which confront an independent, external world governed by quantitative science is, in the words of Mure, an “economic observer’s” view which, by another route, leads inescapably to solipsism and skepticism.⁶⁴

But even from the Islamic vantage point, Cartesian dualism is untenable. For the Qur’anic position is that the world is ultimately one, featuring no fundamental discordance:

You will not see in the creation of Al-Raḥmān any mutual incongruity or discord.
(Qur’an 67:3)

The Fashioning of Allah who made everything as an intricate whole. (Qur’an 27:68)

Cartesian dualism is in direct conflict with this principle of monism. It is significant that the Qur’an, emphatically, does not ask one to take this matter on mere faith, but to directly and deeply observe:

So return your vision again [and observe]! Do you see any cleavage? Then return your vision again and again [and look]; your vision will come back to you bedazzled and weary as well.
(Qur’an 67:3)

Cosmological pluralism (inclusive of dualism) is ultimately unthinkable by reason or by any stage of consciousness that transcends its periphery. Cartesian dualism, in its original form or that of any of its many descendants, has always been *phenomenologically found* (*mawjūd*) unsatisfactory by the human spirit; hence the common motivation to embrace some form of reductionism to a single abstract principle – even if misguided, as in some variety of physicalist materialism or subjective idealism – or concrete dialectic (such as objective idealism). The core *wijdān* (*existential experience*)

⁶⁴ See, e.g., Mure (1958), pp. 166–167.

of the human being resists any ultimate, absolute bifurcation of the world, as forcefully pointed out in Qur'an 67:3 above.

One result towards which our investigations lead is this: Any *genuine* science must be able to account for the characteristics of the "internal personal" world; at the same time, any genuine system of intrinsic value must be able to account for the characteristics of the "external" world.⁶⁵ Any genuine science must ultimately involve intrinsic value, and any system of intrinsic value must ultimately involve science. (Current civilizational consciousness is currently very far from appreciating this noble goal, let alone achieving it.)

The thesis of the current project may be stated as follows: *The importance and relevance of Islamic Economics lies, in large measure, in the struggle to determine and articulate a type of (scientific) system that integrates the categories of human economic, as well as moral, self-transcending (= spiritual) experience into an (objective-logical) intricate, coherent whole.* The informal and formal objective-logical examples provided earlier illustrate the thesis and, at minimum, provide a proof-of-concept on the basis of which further research may be conducted.

7 Towards a Science of Iqtisād

The thesis outlined in the preceding paragraph is rich enough to encompass, and general enough to extend, a particular consensus which is largely shared by a subset of specialists in the field that includes figures such as Abdel-Rahman Yosri Ahmed, Zaman Asad, Ali Khan, Abbas Mirakhor, and Mohammad Nejatullah Siddiqi.⁶⁶ Implicit within Islam is a concrete, systematic framework and methodology, based on certain philosophical considerations, for organizing and developing economics institutions, which i) is distinctive and unique vis-à-vis secular European ideologies; ii) is communicable to mainstream economists; and iii) yields empirically testable results.

Our objective is to extend this consensus by placing it in the context of a more general system of science, in an appropriately broad sense of 'science', one that is consistent with and flows from the Prophetic, Islamic, sources. In the absence of such an integrated approach, it will be difficult, perhaps impossible, to avoid the

⁶⁵ The concrete nature of consciousness discussed earlier entails that every thought (= act of conscious prehending on the part) of a given thinker has a real object; there is an intimate nexus between thinking and its object that negates any absolute bifurcation between knowing and that which is known. Even when (pseudo-) thinking (such as fantasy) fails to shadow some material extension, its object is not merely abstract or personal to that thinker. Thus any absolute distinction between an internal, personal world and an external, impersonal world is negated. Rather there is a dialectical contrast between any individual locus of consciousness (subjective) and that which is prehended by consciousness (objective) that transcends the personal contours of that individual.

⁶⁶ See Mirakhor (2006, pp. 22–24).

ultimately non-Islamic dualism of fideism and scientism. Such a system of Islamic Economics will integrate the economic (in the narrow, contemporary sense) with intrinsic value in an integrated science of development and self-transcendence. For Islamic Economics, i.e., *iqtiṣād*, is inseparable from self-transcendence. Consider the following scale of forms mentioned in the Qur'an:

Then we made to inherit the Decree those whom we have chosen from amongst our servants. Among them is one [type] who does injustice due to one's ego, and among them is one [type] who acts in a balanced and efficient manner (*muqtaṣid*). And amongst them is one [type] who outstrips the rest in acts of goodness by the permission of God; that is the great virtue! (35:32)

In the commentary of Imām Ṣādiq ('a):

The one who is unjust is the one who hovers about his ego. The one who is balanced and efficient (*muqtaṣid*) is the one who hovers about his center. And the one who outstrips the rest is the one who hovers about his Lord.

Contemporary economic science by and large focuses on ego consciousness combined with peripheral consciousness (= economic rationality) and some system of associated rules. *Iqtiṣād*, on the other hand, is truly operative only when central consciousness is activated. Yet a necessary condition of *iqtiṣād* is a system of economic rules. In addition, *iqtiṣād* is a *bridge* between ego-consciousness and Allah-consciousness – perhaps it is even appropriate to associate *iqtiṣād* with the *sirāṭ* (*overpass*) everyone in the next life has to cross in order to finally reach felicity. Hence the need for an integrated science that overcomes any bifurcation. An objective-logical approach to the matter appears inescapable.

Zaman is correct in his identification and criticism of the philosophical error of scientism. However, in order to escape scientism and solipsism one has to abandon the economic observer's vantage point. This Zaman does not do: Instead he sets up and develops a strong bifurcation between the Islamic and the economic.⁶⁷ Zaman is also correct in his contention that a genuinely Islamic framework and methodology is in fundamental conflict with those of secular ideologies with respect to certain principles. However, with respect to the core issue of the category (= universe of discourse) involved in the discipline of contemporary economics (with its associated objects and mappings), the solution does not lie in yet more Cartesian-style bifurcation and dualism. Rather, an objective-logical approach is needed to exhibit that economic category as a dialectical phase in the human development and self-transcendence that is core to an Islamic framework and methodology. And an Islamic framework and methodology, as we will show, exhibits itself as a phenomenology of consciousness and action. One of the aims of an Islamic system built on that phenomenology is to transcend and supersede the dualisms that dominate Western thinking, such as those of theory

⁶⁷ See, e.g., his "Islam vs. Economics" (Zaman 2015, p. 48)

and practice (Aristotelianism), learning and knowing (Aristotelianism), personal and impersonal worlds (Cartesianism), scientism and fideism (the current *zeitgeist*). In place of these abstractions, an Islamic system seeks to show a progressive, *efficient* (*mustaqīm*) path to *knowledge* (*‘ilm*), followed by *objective certainty* (*yaqīn*),⁶⁸ then followed by *cognizance* (*ma’rifah*) of the whole, each in intimate conjunction with the stage of experience and practice of intrinsic value specific to it.

The available scientific formalism for objective logic is developed within the context of mathematical category and topos theory. Although they constitute a conceptual tool of the highest order, the philosophical and scientific potential of categories and toposes has hardly been tapped; the range of their possible application to Islamic Economics is virtually unlimited. Without using the expression ‘objective logic’, one can find aspects of its sense expressed by many philosophers and scientists, from ancient to contemporary, as well as important applications. After all, it did not take Aristotle’s discovery of formal deductive logic for thinkers to engage in cogent deduction. Similarly, one can find countless exemplifications of objective-logical struggle in the history of human thought: It is an ubiquitous endeavor, indispensable in any effort to discover and explicate a coherent *system* of science in any of the senses we have considered. Looking at it the other way around, it should be noted that the mathematical theory of categories and toposes constitutes one *particular* paradigm for a sufficiently *general* theory of formal objective logic; at the moment it is also the only *formal* paradigm that we have.

It may be the case that the crises facing the “*ummah*” of Muslims are, as Zaman puts it, “of types never before seen in [Muslim] history”.⁶⁹ This is on the right track, but it does not go far enough. For these crises are rooted in severe errors of commission

⁶⁸ *Certainty* is to be distinguished from mere *certitude*: The former is a state of knowing the truth, the latter a state of surety that may or may not shadow the true or the real.

⁶⁹ An *ummah* is a community whose members share a common, self-transcending *objective* (*umm*) under the leadership of a righteous *imām*. This is the paradigm of the original, archetypal *ummah* that existed under the leadership of the Messenger (ṣ). An *ummah* is also the concrete, organic reality of an objective-logical system, one that consists of two sub-categories and the mappings between them: The *imām* (*leader*), the *ma’mūm* (*someone who is led*), and the mutual exchange of *dynamic loving* (*walayah*) between them in the form of i) guidance and *purification* (*tazkiyah*) from the *imām*, and ii) *becoming purified* (*tazakkiyy*) and guided on the part of the *ma’mūm* – through following the *imām*.

Say! If you have come to especially love Allah, then follow me and Allah will especially love you. (3:31)

He [the Messenger] purifies them and teaches them the Decree and Wisdom. (62:2)

Surely whosoever receives the purification is successful. (87:14)

The Propheth as more *walayah* with the dynamic believers than they have with themselves. (33:6)

In the final analysis, an *ummah* without a loving, guided, guiding, and beloved *imām* is an abstraction.

This point deserves to be further elaborated and fathomed deeply.

and judgment made by the earliest generation of Muslim history. Progressive thinkers and liberation theologians of the near-contemporary Muslim world, from the generation of Allama Iqbal and Muhammad Abduh to that of Sayyid Maududi, Sayyid Qutb, Shariati, and Imām Khomeini, have all recognized and emphasized this fact in one manner or other. For workers in the field of Islamic Economics, that insight has to be developed and more deeply fathomed. Despite their impressive historical accomplishments, neither the immediate post-Prophetic generations nor the classical age of Muslim civilization adequately developed, except in disparate pieces here and there, the framework and methodology, the *system*, of science implicit within the Qur'an and authentic Sunnah. Before that system could mature in an organic manner, severe errors were made which spawned the three negative aberrations personified in the famous cults of the *religious elites in service to unjust wealth distribution and class superiority* (*nākihīn*), *tyrants* (*qāsihīn*), and *fanatics* (*māriqīn*). The revolving *mill-stone* (*raḥā*) of Islam came, in short order, to a complete stop, as the Messenger (ṣ) had famously predicted. Then, where simplistic norms and formulas of piety were transcended, the trappings of the *meta-categorical* contours of Christian theology, Aristotelianism, and Neoplatonic philosophy took over the Muslim mind, with disastrous consequence. This was then followed by the absorption of the Muslim mind into the meta-categorical context of contemporary Western civilization. At the end of this trajectory lies the current cauldron of crises.

It is far beyond the scope of the present note to outline that critical history in detail or in brief, although it is a task that remains in urgent need of accomplishment. Critical, yet productive and dynamic, awareness is one of the sides of '*taqwā*'. A concrete concept of *taqwā*, in turn, is a necessary ingredient in the formulation of any definition of "Islamic Economics".⁷⁰ And one of the *raisons d'être* of Islamic Economics is to play a crucial role in proffering effective solutions to these crises:

If only the people of the communities had dynamically believed [stage of consciousness and action] and then became dynamically aware [next stage of consciousness and action], we would have opened upon them blessings from the heaven and the earth. But they belied [the Messenger], so We chastised and restrained them on account of what, and the manner in which, they earned.

(Qur'an 7:96)

Acknowledgements: Thanks first and foremost belong to the Inventor (Badī') of the world, which He made as a firm, intricate whole. The authors owe a debt of gratitude to Hossein Askari, John Corcoran, Ali Y. Al-Hamad, William Lawvere, Bilal Muhammad, Thierry Vanroy, and others.

⁷⁰ An extensive discussion and development of the scale of forms involved in *taqwa* and *ihsān* is provided in Chapters 2 and 3 of Hamid (2011b). Certain aspects of that effort are developed more formally and technically in the authors' aforementioned, forthcoming book.

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Masudul Alam Choudhury, Mahfuzul Alam Taifur

Chapter 2: Consilience as Islamic Methodology of Tawhid: The General Socio-Scientific Framework

1 Introduction

The permanently parting divide between religion and science has been ingrained by the heteronomous perspective of the a priori and a posteriori separated domains of socio-scientific reasoning. Unity of knowledge has been abandoned in the face of the problem of heteronomy. The philosophy of science comprising the ontological, epistemological, phenomenological, and sustained inter-causal nature of the recursive continuity of organic relations has never been possible in the Islamic socio-scientific world-system. Deductive reasoning and inductive reasoning as noumenon and phenomenon, respectively, remain apart from each other, as in Kantian ontological and epistemological socio-scientific construction of rationalist reasoning.

The ensuing erroneous character of the great methodological problematique as the existing heteronomous nature of socio-scientific thought, methodology, application, and their divided properties between a priori and a posteriori reasoning carried in continuity is the essential nature of God-dissension of the modern socio-scientific age. Likewise, sheer invoking of the metaphysics of religion is a disabling mental construct. It has no methodological analytics, and thereby no potentiality for socio-scientific reasoning and application. The age is now as it has always been, to establish the analytical methodology of organic unity of reasoning, organization, application, and the recursive continuity of inter-causal relations between entities in the generality and particulars of the world-system that ensue along sustainability of historical consciousness of being and becoming of ‘everything’. True socio-scientific worldview is based on endogenous embedding of morality and ethics from its derived methodology and the ensuing formalism and empirical applications. Thereby, the nature of the meta-socio-scientific world-system that ensues and sustains the emergent abstracto-empirical worldview of knowledge and thought defines the field of consilience, unity of knowledge (Wilson, 1998) – of monotheism in the truly Islamic case.

The principal objective of this chapter is to derive a sustainable and overarching methodological worldview of consilience, organic unity of knowledge as learning symbiosis between religion and science. Consilience is thereby derived and formalized as the core of true socio-scientific reality of Islamic inquiry. Such a derivation has its farthest extant of symbiotic unity of being and becoming in every detail in ‘everything’. A particularity of such a *Tawhidi* consilience study is found in a reconstructed understanding of Islamic economics within the fold of transdisciplinarity.

Throughout this chapter the uniqueness and universality of the *Tawhidi* methodological worldview in meta-science, characterized by the specificity of Islamic economics, is sufficiently explained and formalized by consilience, meaning organic unity of knowledge in the monotheistic sense. Therefore, while this study is expounding a theory of consilience, unity of knowledge at work in a theory of meta-science of inter-causality between multivariates for establishing a wellbeing criterion amongst all, this is also the coterminous theory of *Tawhidi* worldview in ‘everything’. A theological and metaphysical approach to the study of *Tawhid* is thereby supplanted by the phenomenological methodology derived from the Qur’anic foundation of the monotheistic worldview of organic unity of knowledge as symbiotic pairing in ‘everything’ (Qur’an, 36:36).⁷¹ No theocratic inhibition thereby exists in the derivation, formalism, and application of consilience as unity of knowledge derived from the *Tawhidi* primal ontological origin of the Qur’an. The order of consilience is mapped onto the mind and matter unison of the world-system of unity of knowledge by *Sunnah* (teachings of the Prophet Muhammad (sawa)).

2 The *Tawhidi* Methodological Groundwork Reflective of Consilience, Unity of Monotheistic Knowledge

In the study of consilience, the unity of knowledge according to *Tawhid* as the primal ontology of Islamic methodological worldview in ‘everything’, the following stages of the methodology and the derived method arising from formalism and analysis are permanently upheld. Firstly, the primal ontology of *Tawhid* is explained by the supercardinality⁷² of *Qur’anic* meaning of organic unity of knowledge and its appearance

71 Qur’an (36:36): “Exalted is He who created all pairs – from what the earth grows and from themselves and from that which they do not know.”

72 Supercardinality (Ω) is the abstract mathematical topology (non-dimensional mathematical function) that establishes the following continuous functionals: (i) $S \subset \Omega$ by way of the reversible relational functional, $\Omega \leftrightarrow S$. (ii) Likewise the functionals, $S \leftrightarrow X$; and thus, $\Omega \leftrightarrow S \leftrightarrow X$. (iii) Therefore, the example of the organically unified domains of *a priori* and *a posteriori* multi-causal reversible relations are defined by knowledge-flows according to unity of knowledge and denoted by $\{\theta\} \subset \{X\} \in (\Omega, S)$ by the relationship $(\Omega, S) \leftrightarrow \{X\} \leftrightarrow \{\theta\}$. In the example of mathematical operation, $\{X\} \leftrightarrow \{\theta\} \Leftrightarrow \{X(\theta)\}$; (Ω, S) as the epistemology; thereby say, $(2+2) \leftrightarrow 2^\theta.2^\theta = 2^{2^\theta}$ and higher analytic forms of 2^θ . In the end, since $\{\theta\} \in (\Omega, S)$; therefore, the functional, $\{2^\theta, 2^{2^\theta}, \dots\} \equiv$ divine law in one case (*sunnat Allah*) $\in (\Omega, S)$, the totality mapped by the advancing understanding and application of *Sunnah* as ontological mapping of the supercardinal domain of *sunnat Allah*, denoted by S . Hence a numerical equivalence is established between the supercardinal domain of *sunnat Allah* through *Sunnah* and the experimental world-system. All functions are interrelations (\leftrightarrow). Such interrelations are inter-convertible by reversibility of knowledge production and continuity

in the form of togetherness (complementarities and participation) as invoked by the *Qur'an* and transmitted to the creative understanding by *Sunnah* of the Prophet Muhammad (sawa). The transmission by *Sunnah* is essential to connect the divine with the creative order.

This first stage of the primal ontological order of knowledge in its being leading to becoming is further discoursed by the most learned authorities of Islam. They form the Qur'anic role models of *ulul-amr*. *Ulul-amr* as individuals and institutional collectivity participate in the consultative and discursive stages of articulating on the rules and meanings of specific issues arising in the process of deriving worldly understanding of the derived rules of the *Qur'an*. This initiating ontology is explicated and transmitted by the medium of Prophetic *Sunnah* (teachings and practices). Independent and rationalist opinion must be avoided unless such discursively derived knowledge is strictly in concert with the *Tawhidi* worldview of the Qur'an and Sunnah.

The latter days' corruption by the human concocted secularization of *Shariah*-compliance (Islamic law) at this stage of the epistemology of deriving rules and guidance for explicating the unravelling world-system must be avoided. Along with this, jurisprudence (*fiqh*) and opinion (*fatwa*) must be turned into re-visiting the *Qur'an* and *Sunnah* and the recasting of investigation by discursive practices of the participating learned ones (*ulul-amr*). Contrary to this practice, the history of *Shariah* had fallen into divisions and dissensions between sects, clergies, and theologies in Islam. Thereby, the immanence of secularization of and by '*Shariah*-compliance' has proved to be the rise of sects (madhabs) and groupings like *Sunni* and *Shiite* in the corrupted body framework of the Islamic worldview of *Tawhid*.

The third stage of progression of the knowledge-flows derived by the ontological and epistemological reference is utilized to evaluate the generality and specifics of the issues and problems of the world-system under study for the purposes of estimating the actual ('as is') and the reconstructive possibilities of these ('as it ought to be'). This evaluative approach (estimation and simulation) leads to the quantification of the wellbeing criterion in respect of the endogenous inter-variable system of causal relations that implicate degrees of participation and complementarities between variables representing *Maqasid al-Shariah* recommended choices in consonance with the *Qur'an* and *Sunnah*. The evaluation of the wellbeing function (*maslahah*), subject to the circular causation relations between the selected variables in respect of the 'as is' leading to simulation of 'as it ought to be' reconstructive nature of the desired state of the world-system and its inter-variable relational dynamics for a holistic interpretation

involving simply the corporeal function and extension of the reading, understanding, and applying of the monotheistic law (unity of knowledge) in the order of world-system in all shapes and forms (extendibility across systems and their organically relations, meaning complementary multi-causal reversible relations). The property of multi-causal reversibility by the organic interrelations is that of continuity in knowledge, space, and time.

of results and recommendations for change. This is the stage of phenomenological inquiry that combines the ontological and epistemological groundwork to establish the empirical derivation of quantitative forms.

In the fourth stage, the evaluation (estimation followed by simulation) of the wellbeing function (*masalahah*), subject to the inter-variable circular causation relations, results in intra-system and inter-system evaluations across multi-dimensional intra-system combined with inter-system cybernetic kind of analytical investigation. Such a process of evaluation of the wellbeing criterion, subject to systems of circular causation between variables, is a continuous phenomenon that occurs in continuums of knowledge-flows as methodologically derived in stage 1. The originary methodology of consilience of *Tawhid* is then induced in the use of phenomenology of evaluation of wellbeing, subject to circular causation between the entire set of endogenous variables. This mode of inter-variable circular causation represents the inter-variable consilience of *Tawhid* as endogenous multivariates.

In the fifth stage, the subsequent emanation of evolutionary learning across intra-system linked with inter-system evolutionary learning processes marks the property of sustainability across the continuums of knowledge and knowledge-induced space and time. The holism of the above-mentioned processes marking every point of history as events of evolutionary processes is a coordinate in the continuum of historical consciousness (Lucaks, 1968; Maritain, 1973; Burstein, 1991). It describes the unity between abstraction and empirical application in the unified ontological, epistemological, and phenomenological design of the abstracto-empirical, equivalently moral-material unison of the *Tawhidi* worldview of consilience, the organic unity of entities and their extended inter-relations by knowledge-induction.

The formal depiction of the five stages of the full methodology for a single system and cybernetic view of multiverse is formally shown in Figure 2.1.

3 Background and Review of Traditional Literature

Joseph Schumpeter writing on the emergence of metaphysical basis of science and the religion of the Schoolmen of their time established the fact that, modern science benefited from its isolation from the holistic concept of unity of the world-system that was embedded in the earlier socio-scientific conception. The path towards such growing dichotomy between religion and science was blazed by the great Occidental thinkers, Immanuel Kant, David Hume, Charles Darwin, carrying on the modern age to Edmund Husserl, Bertrand Russell, Rudolph Carnap, Karl Popper, Steven Weinberg, Richard Dawkins, and many others (Dampier, 1961). On the side of Economics and Epistemology there are the key thinkers of a contesting world of religion and science like Karl Marx, the rationalist dialectician Frederick Hegel, Jurgens Habermas, Immanuel Wallerstein, and others (Mahomedy, 2017).

What was the reason for the denial of religion in science of the God-dissenting thinkers of the social and natural sciences? Several reasons can be pointed out. We consider those analytical reasons of critical divide, away from true realism of the holistic methodological worldview beyond the intellectual self-conceiving psychology. The central analytical consequence of a methodological problematic way of inherent perception- yet not true reality – of a dichotomous socio-scientific world-system in the mind-matter universe of ontological, epistemological, and phenomenological design of reasoning under rationalism, has given rise to the belief of irrelevance of the holistic universe of unity of ‘everything’ (Barrow, 1991). The resulting socio-scientific pattern of heteronomous thought in an otherwise holistic realism of intrinsic unity and methodological harmony has paved the way of rationalistic thinking. This attribute grounded the way of dichotomous reasoning. Such reasoning caused the emergence of thought, such as the irrelevance of God, and thereby the denial in God-dissension (Dawkins, 2008). The neutrality perception of the analytic way of explaining the creative dynamics of the divine law at work can be read off Hawking’s (1988, pp. 15–16) words respecting natural science:

The eventual goal of science is to provide a single theory that describes the whole universe. However, the approach most scientists actually follow is to separate the problem into parts. First, there are the laws that tell us how the universe changes with time [...] Second, there is the question of the initial state of the universe. Some people feel that science should be concerned with only the first part; they regard the question of the initial situation as a matter for metaphysics or religion. They say that God, being omnipotent, could have started the universe off any way he wanted. That may be so, but in that case he also could have made it develop in a completely arbitrary way. Yet it appears that he chose to make it evolve in a very regular way according to certain laws. It therefore seems equally reasonable to suppose that there are also laws governing the initial state.

Although the web-search characterizes some great thinkers as God-dissenters, they cannot be characterized as such if they have rejected the heteronomous pattern of rationalistic thinking for the benefit of the episteme of unity of knowledge. The episteme of unity of knowledge is termed Consilience. Edward O. Wilson as the writer of the book entitled, *Consilience: The Unity of Knowledge* (Wilson, 1998 op cit) therefore, cannot be taken as God-dissenter. Wilson in fact raised the possibility of the holistic way of reasoning between religion and science in his following words (Wilson, 1998 op cit, p. 264): “Looked at in proper perspective, God subsumes science, science does not subsume God. [...] Scientific research is not designed to explore all of the wondrous varieties of human experience. The idea of God in contrast, has the capacity to explain everything, not just measurable phenomena, but phenomena personally felt and sublimely sensed, including revelation that can be communicated solely through spiritual channels.”

4 God-Dissension Caused by the Heteronomy of Reasoning

There are other two reasons underlying the socio-scientific problematique of heteronomy leading to God-dissenting thinking: The Kantian divide (Kant, trans. Friedrich, 1949) between a priori (pure reason) and a posteriori (practical reason); and thereby the dichotomy between deductive and inductive reasoning, that is entrenched as a permanent divide between how science argued against the Schoolmen of the European Enlightenment regarding the irrelevance of heteronomous God (a priori = moral imperative) in science. Metaphysics ceased to be characterized as an elect of science. The same was the problematique of rationalist reasoning in Hume's (1988) sensate world of causal relations and forms of the solely a posteriori world-system and of its inductive nature.

The further cause of the consequences that heteronomy has left behind as a socio-scientific problematique is the absence of analytical socio-scientific theoretical and practical methodology that would logically delineate the world-system of consilience and lead into relevant application and sustained continuity of the unitary worldview. The harmful effect of heteronomy in further developing the sciences towards unity of knowledge by interactively integrating and activating evolutionary learning systems is mentioned by Bhaskar (2002, p. 146): "So long as there is any element of heteronomy, any unfulfilled intentionality, any attachment, any fixation within you, your freedom will be to that extent restricted". Indeed, the meta-reality we are looking for as the consilience between religion and science in the framework of analytic methodological issues is the threshold of meta-science. This is beyond metaphysics and the narrow perspective of abstracto-empirical physicalism and non-physicalism (Hawking and Penrose, 2010).

Figure 2.2 explains the problem of heteronomy as of Kant and Hume's followed by its permanence as socio-scientific problematique in reasoning. Contrary to heteronomy is the phenomenology of consilience in meta-science of unity of being and becoming caused by endogenous learning processes of moral-material concrescence. This is the same as the establishment of historical consciousness in knowledge, and knowledge-induced space, and time dimensions.

In Kantian theory of knowledge with heteronomy in Figure 2.2, there is no continuity between a priori (deductive) reasoning domain 'A' and a posteriori (inductive) reasoning domain 'C'. Thereby, $A \cap C = \emptyset$. Thus consilience does not exist between the reasoning domains and the entities of A and C due to the gap of the otherwise continuous correspondence that ought to exist by $A \cap C \neq \emptyset$. This means that, continuous correspondence would exist giving continuity to the inter-