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About the Journal

The journal is published by Great Lakes Institute of Management, Gurgaon, India. The aim of the journal is to attract articles that address issues the industry is currently facing. A special focus will be on articles that provide innovative solutions to these issues. The journal articles will not only be of interest to academics, but also, with its focus on relevance, should be of interest to policy makers, think tanks, government, corporate and multilateral institutions, professionals, and industry leaders. Manuscripts will undergo a double-blind peer review process, and the journal will follow all international journal publication norms. The journal is being published with an open-access format so that it reaches the maximum readers. Journal Publishing Services for publication are powered by SAGE Spectrum.

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Aims and Scope

GLIMS Journal of Management Review and Transformation aims to publish scientific, empirical research on the theory, practice, and contemporary perspectives of management focusing on the problems, interest, and concerns of managers. It aims to explore interesting questions and phenomena in management, develop and/or test theory, replicate prior studies, and review and synthesize existing research.

Within its scope are all aspects of management related, but not limited, to strategy, entrepreneurship, innovation, information technology, digital business, analytics, artificial intelligence, machine learning, and policy and organizations, as well as all functional areas of business, such as organizational behavior, human resource management, accounting, finance, marketing, operations, data and analytics, and technology transformation.

This journal intends to publish a variety of articles including quantitative and qualitative empirical research articles and conceptual articles that provide novel perspectives on recent business phenomena. To achieve our aim of writing about business transformation, the journal will also include case studies and book review articles. It would also publish abstracts of PhDs that are relevant and in-line with the journal's objectives.

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Message from the Editor-in-Chief

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Dear Readers,

Greetings!

I am delighted to announce the launch of the maiden edition of *GLIMS Journal of Management Review and Transformation*, a journal by Great Lakes Institute of Management, Gurgaon.

As a pioneer in the field of higher education, Great Lakes has always been aware of the strategic importance of "Research" in the overall schema of creating a world-class institute. *GLIMS Journal of Management Review and Transformation* is yet another step toward this journey to create a huge repository of knowledge, aggregate "best" and "next" practices, and encourage the academic community to collaborate and generate theories, ideas, and applications of superior quality. Through the journal, we seek to present cutting-edge research on contemporary management issues and propose innovative solutions to a global audience. Our endeavor is to make it a preferred outlet for management research, attracting readership from academia, industry, policymakers, and think tanks. We also intend to make it an open-access journal because we believe that the best use of knowledge, intended for the advancement and betterment of humankind, is attained if it is shared freely.

I would like to place on record my gratitude to the editorial board members for being part of our research odyssey. I am also deeply indebted to the authors who have reposed their faith in us and contributed to the inaugural issue of the journal while congratulating the editorial team for having put together a fantastic first edition of the the journal.

I wish to also use this platform to encourage you and your colleagues to take up challenging research activities and invite you all to submit your findings through *GLIMS Journal of Management Review and Transformation* so that we may grow together. Who knows? The next Aryabhatta or Patanjali or Darwin or Archimedes may well find a voice in these forthcoming pages! The possibilities are as exciting as they are endless! I do hope you will join our community and together we shall commence our relentless pursuit toward "Excellence with Expertise and Experience."

Jai Hind! Jai Great Lakes! Jai *GLIMS Journal of Management Review and Transformation*!

Best wishes!

Bala V. Balachandran
J. L. Kellogg Distinguished Professor of Accounting & Information Management,
Northwestern University, IL, USA
Founder, Chairman & Dean (Emeritus),
Great Lakes Institute of Management, India

Message from the Managing Editor

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Dear Readers,

Greetings!

I am extremely excited to announce the inaugural issue of *GLIMS Journal of Management Review and Transformation*. This is an important milestone in our efforts of the past several months. Putting each piece of the journal together has been an extremely satisfying experience. I am humbled at the opportunity to contribute to the research focus and agenda of *GLIMS Journal of Management Review and Transformation*. Such endeavors are always of national importance, and I feel proud that I am a part of this journey.

There are many outlets for research work today. With this journal, we hope to fill a gap of "relevance" in what the industry requires and academic research agenda. Focusing on articles that are aligned to both, the journal will be able to address issues that the industry is currently facing and provide innovative solutions for them. For the reason that the journal is largely oriented toward contemporary topics, it should attract the readership from not only academia but also from practitioners. By keeping the journal open access, we are hoping to significantly increase the reach of the work to a larger audience.

I am deeply indebted to the eminent scholars in the editorial board of the journal for being a part of this journey with us. It is a matter of privilege for us that prominent scholars have contributed papers for our inaugural issue. Under tight deadlines, they have provided us with very interesting articles in lines with our aims and scope. I sincerely thank you all for your trust in us.

I encourage you all to submit your research here and enable us to take the research agenda globally to greater heights. With an aim to bridge the gap between research and what is relevant to the industry, and with the journal being in an open-access format, we hope for all publications through this journal to be impactful and easily accessible to a wide audience.

Best wishes!

Preeti Goyal
Professor, Finance and Accounting,
Great Lakes Institute of Management, Gurgaon

Article

Globalization of Competition: The Global Rule of Three and the New Triad Power

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Jagdish N. Sheth[1], Can Uslay[2], and Rajendra S. Sisodia[3]

Abstract

In this article, the authors provide an overview of the *Global Rule of Three*. Competitive markets grow, consolidate, and mature, ultimately leading to the emergence of three full-line generalists. The financial performance of full-line generalists gradually improves with greater market share, while the performance of specialists drops off rapidly as their market share increases. Businesses that lack the scale and scope advantages of generalists, and the focus and service advantages of specialists get stuck in between—in the ditch range. The Rule of Three structure generates optimal operational efficiency in competitive markets and positive impact on all stakeholders. It represents an empirical reality that must be factored into the strategy of businesses of all sizes. Competitive markets evolve in a predictable fashion across industries, and they go through similar lifecycles. Many generalists that are dominant in their countries or regions are unable to exert the same leadership when the market globalizes. Each century has been marked by the successes of different regions and cultures. The old triad power which consisted of Western Europe, North America, and Japan is being replaced

[1] Goizueta Business School, Emory University, Atlanta, GA, USA
[2] Rutgers Business School Newark and New Brunswick, Rutgers University, Newark, NJ, USA
[3] F.W. Olin Graduate School of Business, Babson College, MA, USA

Corresponding Author:
Jagdish N. Sheth, Goizueta Business School, Emory University, Atlanta, GA 30322, USA.
E-mail: jag@jagsheth.com

by America, China, and India. The new triad power comes with possible problems, especially between China and the US. Their differences will inevitably create tensions, and India will increasingly become a more strategic partner to both. Increasing demand for the world's limited resources will necessitate resource-driven global expansion for enterprises and nations, further transforming the way business is conducted in the 21st century.

Keywords

globalization, global marketing, corporate strategy, marketing strategy, triad power, generalists, specialists, financial performance

Introduction

Although the phenomenon of increasing market concentration is not new, the COVID-19 pandemic has significantly accelerated the consolidation of power and wealth globally. According to International Monetary Fund, in 2025, more than half of global growth is expected to come from just three countries (27.7% from China, 13% from India, and 10.4% from the United States), whereas the traditional powerhouses such as Germany, United Kingdom, and France are expected to contribute less than 5% (Tanzi & Lu, 2020).[1]

An examination of economic growth over the 19th century suggests that the industrial revolution and the colonial expansion, which fueled its factories, made it the European century. By most metrics, the 20th century can be claimed by the United States, and the 21st century (or at least the first half of it) will be remembered as the Asian century. There was a time when 45% of world trade and 70% of the world's GDP were concentrated among the old triad. Merely 15 countries conducted and controlled much of world trade then, and it was as if the rest of the world did not matter. The status quo prevailed throughout the Cold War until communism collapsed in 1991. That paradigm has long shifted.

The old triad power of the United States, European Union, and Japan is quickly giving way to a new one among the United States, China, and India. The influence of Europe's perennial powers has waned, and even the United States is projected to fall behind as the growth engine of the world. This shift from West to East is poised to create disruption at all levels—from micro to macro. Who would have guessed that Chindia would overtake the United States so soon (Sheth, 2011)? Yet we maintain that this progression has been all very predictable.

This article covers two distinct yet intertwined topics based on our book, *The Global Rule of Three: Competing with Conscious Strategy* (Sheth et al., 2020). In the first half, we introduce the *Global Rule of Three* and discuss the globalization of competition. In the second half, we discuss the macro-phenomenon of the rise of the new triad power. The impact of both on our future will be unique and powerful.

The Rule of Three

The Rule of Three theory (Sheth & Sisodia, 2002) posits that competitive markets tend to converge toward a structure dominated by three large players (i.e., generalists), whereas much smaller specialists occupy the peripheries. The three-player-dominated market structure outperforms competing structures in terms of financial performance. Generalists are volume-driven, and specialists are margin-driven. In between them, there are "ditch" players that lack the volume (and economies of scale and scope) of the generalists and the focus and service levels of the specialists. The businesses that are stuck in the middle underperform both generalists and specialists consistently.

The premises of the Rule of Three have been tested and supported empirically using data from thousands of firms in hundreds of markets (e.g., Reeves et al., 2012; Uslay et al., 2010, 2017). Even as the boundaries between markets blur, the empirical results from four decades of data have been highly robust.[2] The findings were consistent even after controlling for extant explanations such as firm size, firm age, market-to-book ratio, market concentration, and market share. Markets with three dominant players outperformed those with more than three players by 116% and those with fewer than three players by 209%, on average, in terms of ROAs (Uslay, 2015a; Uslay et al., 2010). Similarly, generalists outperformed those stuck in the ditch by 68%, and specialists did so by an even more impressive 116% (Uslay, 2015b). Game theoretical experiments have also supported the same conclusion: "two are few and four are many" (Huck et al., 2004, p. 435). The Rule of Three is illustrated in Figure 1.

The Rule of Three (Sheth & Sisodia, 2002; Sheth et al., 2020) represents a law-like empirical reality that lends itself to numerous generalizations, including the following:

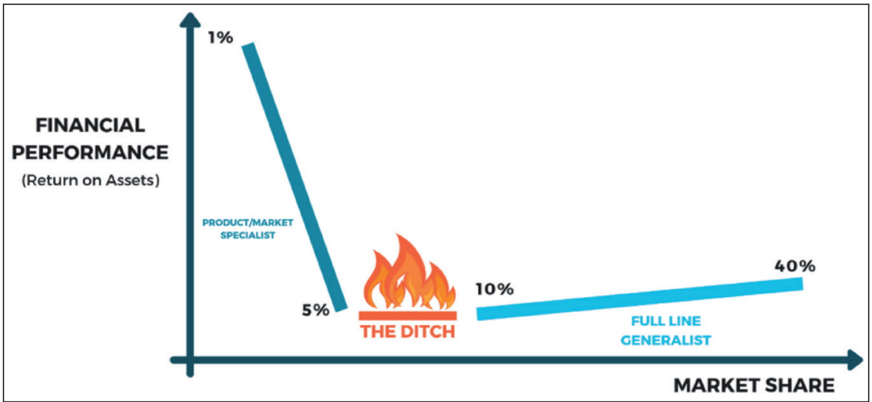

Figure 1. The Rule of Three

Source: Adapted from "Competitive Positioning: The Rule of Three" presentation by Jagdish N. Sheth, 2017).

1. New markets commence in an unorganized fashion, with numerous small players at the outset. As a market grows, it also gets organized through consolidation and standardization. This is the process that ultimately generates three generalists, as well as numerous product and market specialists or niche players. Such shakeouts are more likely to take place during the market expansion and growth phase than during maturity.
2. The number of full-line generalists that survive the consolidation process is commonly 3. In a typical market, the market shares of the three eventually converge to 40%, 20%, and 10%, respectively (Henderson, 1979). Together, the generalists tend to serve 70%–90% of the market, with the remainder served by specialists. The extent of market share concentration among the top three players is related to the prevalence of fixed costs in the aggregate industry cost structure.
3. Gains in market share improve the top three large players' financial performance, typically up to a market share of 40%. Beyond that point, the law of diminishing returns, as well as regulatory issues and antitrust scrutiny, begin to kick in. The expectation is divestiture of assets and a focus on international growth for leaders that dominate their markets with over 40% market share.
4. When the market leader controls over 70% of the market (typically based on proprietary technology or patents), there may not be room for even a second full-line generalist. When the top player market share resides between 50% and 70%, there may only be room for two full-line generalists. Finally, if the leader has much less than 40% market share, there may be room for a fourth generalist, even though that is typically only a temporary condition.
5. A full-line generalist must have a minimum of 10% market share to be a viable competitor. Companies whose market shares fall below this level are at a significant performance disadvantage and must consider the tough options of mergers or downsizing. For example, in the US airline industry, US Airways, Northwest, and America West were all stuck in the ditch and merged with one of the top three carriers (United, American, and Delta), whereas the other legacy carriers stuck in the ditchfaced bankruptcy (Sheth et al., 2007).
6. When #1 and #2 fight for market share, #3 player usually ends up in the ditch. Examples from the United States include soft drinks (RC Cola went into the ditch when Coca-Cola and Pepsi went to war) and automobiles (Chrysler went into the ditch when General Motors and Ford engaged in deep rebates).
7. Regardless of the sector, a number 3 player tends to emerge in the long run.
8. Despite having the largest budget, the market leader tends to be the least innovative. They perform better as fast followers.
9. The number 3 players tend to be the most innovative. To them, necessity is the mother of invention. However, they must keep innovating as they are often quickly copied by the other two players.
10. The further it is from the ditch, the better the financial prospects of a business.

11. As for specialists, improving their share of their niche markets (differentiated offerings) helps performance, whereas improving overall market share (generic offerings) tends to impede financial performance as measured by ROA.
12. Growth for the sake of growth can drive a seemingly successful specialist into the ditch. Even after the most successful launch of any carrier in history, People Express Airlines collapsed under its own weight when it grew too fast, and its customer service floundered (Sheth et al., 2007). More recently, Virgin Atlantic Airways also struggled as its market share got closer to 5% (Beresnevicius, 2019).
13. A specialist can transition into a generalist if there are not already three viable generalists. Alternatively, specialists can be acquired by generalists as they go mainstream and gain legitimacy.
14. Successful product and market specialists usually have just one direct competitor in their chosen niche markets (e.g., Uber vs Lyft). Excessive competition can also lead specialists to go upmarket and become supernichers.
15. Supernichers (which specialize not only by product but also market) can become monopolists in their niches with 80%–90% share.
16. Ditch players consistently underperform other firms in their market and must act to survive. They can emerge out of the ditch via merging with

Table 1. Characteristics of Generalists and Specialists

Characteristics	Specialists	Generalists
Sources of advantage	Economies of exclusivity and differentiation Service and selection driven	Economies of scale, scope, and speed Asset-turns advantage
Competitive advantage	Image/service	Value/promotion/convenience
Cost structure	High variable costs	High fixed costs
Scope of offerings	Limited/focused line of products/services	Full line of products/services
Positioning and branding	House of brands Specialty business, target market positioning Separate stops shop	Branded house Broad market, one-stop shop, positioning with single brand (corporate) or dual (upscale and mainstream) brand identity
Distribution channels	Focused channels	Omnichannel
Organization and operations	Decentralized, multibusiness enterprise, dedicated operations/resources, vertical integration	Integrated enterprise Shared resources/operations, networks, and alliances Horizontal integration

Source: The authors.

other ditch players if there are not already three established incumbents. A more viable option would be to merge with one of the incumbent generalists. Ditch players can downsize and transition to healthy specialists if they can secure defensible niches with resource advantages (e.g., IBM from personal computer maker to a service provider).

In Table 1, we provide an overview of the characteristic differences between generalists and specialists.

Why Three

The Rule of Three is rooted in both industrial organization economics and consumer psychology. Game theoretical experiments have demonstrated that markets with three major players display more stability and commensurate competition than those with fewer players. Markets with a single dominant player typically lack innovation. Duopoly markets can have collusion on one extreme and mutually destructive price wars on the other extreme. In markets with three large players, the possibility of a coalition among two players diminishes potentially predatory campaigns by an aggressor and leads to mutual forbearance. A market with more than three players leads to excessive competition that drives down the average profitability, and the fourth and further players become casualties in the drive toward consolidation and efficiency.

Finally, most consumers seriously consider three options for their purchases (Howard & Sheth, 1969), and the same phenomena may apply to B2B markets as well (Malhotra & Uslay, 2018). More than three front-runners are often unnecessary and can even decrease consumption (Fenstermaker, 2013), whereas fewer than three options are usually insufficient. Hence, the Rule of Three prevails. It provides for not only an optimal level of choice for consumers but also enables above-average returns for investors, gainful employment, and the ability to invest in R&D and long-term performance and innovation. In that regard, we consider Rule of Three to be stakeholder oriented, even though the metrics used to measure performance in empirical studies to date have primarily been financial.

Exceptions to the Rule of Three

Although the Rule of Three is commonly observed across various industries, over time and across continents, there are several factors that impede the convergence to three key players:

Regulation: When regulations hinder actions as consolidation (as experienced in the US and Japan's banking sectors), or allow the existence of natural monopolies (as in the US local telecommunication sector), the Rule of Three is rendered ineffective or not operational. However, when such industries get deregulated, the rule goes into effect, as the cases of US trucking, airlines, and telecommunications demonstrate.

Exclusive rights: When rights such as patents and trademarks play significant roles in the market, players can be considered as submonopolies, free from market forces, and the Rule of Three is not likely to govern market evolution. However, in the recent past, there have been significant changes even in industries with high levels of patent protection such as the pharmaceutical industry, with gradual advancements toward the Rule of Three. This has been instigated by actions such as mergers and the pharmaceutical firms' involvement in the growing generic sectors and over-the-counter drugs. Patent-based submonopolies are being eroded as more large firms target major therapeutic classes with various drug formulations, and the Rule of Three appears to prevail in this sector as well.

Licensed economy: Although the Rule of Three did not initially apply to the economies of the old communist blocs of India, China, and Brazil, following deregulation in these markets, it has become highly applicable. The World Trade Organization (WTO) has also played a significant role in enhancing the competitive landscape across industries.

Significant barriers to trade and foreign ownership of assets: When there are substantial trade barriers, the Rule of Three is much more likely to apply at the national level rather than globally. However, it can still be expected to apply via the formation of multinational groups and alliances, as is already the case with airline alliances, and is likely to occur for global telecommunications.

Markets with a high degree of vertical integration: When buyers are limited to in-house suppliers, we tend not to see three full-line players in the supplier market. With vertical integration, competitiveness in the market forces operations is curtailed. The consumers and the suppliers are internally tied up, restricting selling and purchasing in the free market.

Markets with combined management and ownership: Market processes are not allowed to work in such instances where the ownership and control are combined, as in the case of professional services. Ownership is attributed to emotional attachments that can inhibit rational economic decision-making and diminish opportunities for mergers and demergers.

Notably, most of these exceptions have been diminishing as more industries are becoming more market oriented through privatization, deregulation, and the WTO influence. For example, many professional services firms have abandoned the partnership model and become publicly traded.

The Global Rule of Three

The rationale for the Global Rule of Three is simple and is grounded in the following corollary: *No matter the scope of the market, the Rule of Three prevails.* As the scope of a market expands from local to regional, regional to national, or national to global, the processes that drive the Rule of Three, namely consolidation and standardization, still apply. Regional or national market leaders often find themselves trailing as the market globalizes (e.g., Bosch). Historically, global leaders typically (but not always) emerged from the triad of North America, Western Europe, and the Asia-Pacific region (see Ohmae [1985] and Sheth and Sisodia [2006] for treatises regarding the triad power). Typically, the leaders in each of these three markets emerge as global generalists. For example, in the tire industry, the global leaders are Bridgestone from Japan, Michelin from France, and Goodyear from the United States. However, to survive and thrive, a global leader must have a strong market presence in at least two of these three markets. Other players typically get acquired or gradually become product or geographic market specialists (Cooper Tires of United States, now owned by Apollo of India, is an example for both). Furthermore, if a country specializes in an industry, it may be home to two or even all three global leaders. Current examples of such consolidation can be found in the steel industry (e.g., historically the United States and now China). Fundamental axioms of the Global Rule of Three can be summarized as follows:

Global Generalists

1. When markets become global, another round of consolidation takes place. In the end, there tends to emerge one global leader from each of the major economic zones. These economic zones used to be North America, Western Europe, and Japan, whereas we expect these economic zones to be China, India, and the United States going forward.
2. Global generalists need to have a strong presence in at least two of the three triad markets.
3. Achieving global dominance requires strategic alignment of supply chain and financing, and protecting leadership requires marketing excellence.
4. Generalists with global aspirations need to dominate their home markets before aggressively expanding globally.
5. Global consolidation will not slow down before the emergence of a worldwide leader and two other generalists with more than 10% market share.
6. Global generalists need to identify appropriate strategies for international expansion. Affordable and acceptable products are generally more effective than great products with a premium price.
7. Timing must be considered; expanding during deregulatory cycles and shakeout periods is easier.
8. Firms with global aspirations should consider coordinated actions. Trusted suppliers, distributors, and even competitors may enter markets together. This can create a transformational shift in how the new entrants are perceived. For example, Daewoo, Hyundai, LG, and Samsung have typically followed each other when entering foreign markets.

Global Specialists

1. While generalists usually earn the headlines, by definition, there can only be a few generalists in each market in the convergence to the Global Rule

of Three. Yet, hundreds of specialists may remain viable. Specialists in globalizing markets have the following options: (a) they can focus on expanding into foreign markets and become global niche players (as Germany's mid-sized "Mittelstand" companies have done very successfully), (b) they can stay domestic and entrench as a super niche company, (c) they can enter new specialty markets organically or through M&A, or (d) they can agree to be acquired. Many specialists will experience several of these options over the next decade.

2. If the specialist is an online player, they should think locally and act globally by creating supplier diversity, organizing peer-to-peer networks, and creating global connections. They can identify local winners and scale them globally.
3. Whereas global generalists must be omnichannel, smaller players can choose to specialize by channel.

The New Triad Power

Markets are governed by two major factors: (a) competition which was the focus of the first half of our article and (b) policy which will be our focus for the rest of it. Next, we discuss the macro factors that are driving the new global triad.

A review of GDP based on purchasing power parity (which is a more appropriate metric than using nominal exchange rates) quickly reveals the origins of the new triad power. Half of the top 10 and two of the top 3 spots are assumed by developing markets. Akin to how the United States replaced the traditional European powerhouses of Germany, France, and the United Kingdom in the last century, China and India have already replaced the EU and Japan in the new triad of the 21st century (see Table 2).

With the rise of the new triad power between China, India, and the United States, global leaderboards across all sectors are being challenged and reorganized, and the global leaders are increasingly more likely to hail from emerging markets. While the 20th century relied extensively on advanced nations, the

Table 2. Country GDP Indexed to Purchasing Power Parity (2019)

Country	PPP (in US$ Trillion)
China	27.31
United States	21.43
India	11.04
Japan	5.71
Germany	4.44
Russia	4.39
Indonesia	3.74
Brazil	3.48
United Kingdom	3.16
France	3.06

Source: Knoema (2020).

growth in the 21st century will come primarily from emerging markets. We posit that deregulation, low barriers to trade, and free markets drive the convergence toward the Global Rule of Three. Protectionist policies may temporarily impede but not halt this eventual progression.

Drivers of the New Triad

Rise of global enterprises from Chindia: The rise of large multinational firms from the emerging markets of China and India is inevitable (Sheth, 2011). Huawei was not a household name a decade earlier; yet it leads the global telecom infrastructure market today, and its rapid dominance has even made the US government take retaliatory action. Tata is another global brand name with large stakes across numerous industries. Tata Consultancy Services is #3 globally after Accenture and IBM, and Tata Tea is #2 globally following Unilever's Lipton (*The Economic Times*, 2019). Hindalco has become a major Indian player in the global aluminum market. Similarly, Chinese banks, appliances, and e-commerce firms are rising to global dominance. For example, Haier has become the world leader in appliances, and Alibaba prevails over Amazon based on operating margin and earnings (Mourdoukoutas, 2018).

Shift of R&D to Chindia: Corporate R&D centers of various industries ranging from pharmaceuticals to information technology and telecom will increasingly move to Chindia to be closer to talent. For example, Intel's high-end Xeon 7400 chip was developed by its Bangalore R&D center (Yamado, 2015). There are well over 400 foreign-invested R&D centers in Shanghai (The American Chamber of Commerce in Shanghai, 2018).

The focus of innovation becomes affordability: If necessity is the mother of invention, affordability can be considered the father of innovation. Frugal innovations, that is, acceptable quality at affordable prices for the masses, will increasingly be a primary imperative for innovation (Bhatti et al., 2018).

The fusion of cultures: Rudyard Kipling's sentiment that "East is East and West is West, and never the twain shall meet" no longer rings true. Yes, Asians are westernized (wearing jeans); however, the Western world is also simultaneously easternized through music, entertainment, arts, culture, spirituality, and food (e.g., Buddhism, feng shui, Indian curry, K-pop). Whereas westernization was export oriented, easternization is more about blending, for example, Christian yoga! Since western cultures are more open to innovation and external influence, the easternization phenomenon will take place faster than westernization did, and we will end up with a fusion.

Private equity in emerging markets: Multinational corporations are already active players in Chindia. Coca-Cola believes that most of its growth over the next few decades will come from China (like it came from India in the past few decades). Similarly, McDonald's, KFC, Caterpillar, General Motors, Starbucks all have large-scale operations which are still growing. From fast food, automobiles and education to health care, global leaders have paved their way to Asia (an exception being the defense industry due to heavy regulation). KKR, Blackstone, and other major private equity players will be next. Financial markets follow growth, as well. Shanghai will become the world's largest capital market, surpassing both New York and London exchanges (if one combines public, private equity, and debt markets).

Impact of the New Triad on Global Resources

Resource-driven global expansion: Just like farmers look for fertile land, IBM has decided it needs to have a major presence in India to be close to human resources. It might as well be considered an Indian company, since more than a third of its employees reside in India, which surpasses the number of those in the United States (Goel, 2017). Similarly, Accenture, which could become the largest IT employer in India, has more than a third of its workforce, some 150,000 employees reside in India, which is three times its headcount in the United States (Phadnis, 2018).

Notably, these expansions were driven primarily by resources rather than market considerations.

Resource-driven global M&A: Since the opportunities for organic investment and growth are limited, many global mergers will be driven by the need to expand to where the resources are. The big wave of M&A in the mining sector spanning firms from Australia, Canada, Latin America, Africa, and even the Caribbean can be considered as an example of this. Four of the five mega deals (exceeding $10B in value) were cross-border. Brazilian Companhia Vale do Rio Doce acquired Canadian Inco for $13B in 2006 to become the #2 nickel miner globally. Similarly, Anglo-Austrian Rio Tinto acquired Canadian Alcan for $38B in 2007 to become the largest producer of aluminum and bauxite. More recently, Barrick Gold of Canada spent $18B to acquire Randgold of Mali in 2018 to create the largest gold producer globally (Husseini, 2018).

The emergence of strange bedfellows: Wary of their future "food security," Gulf nations have long been involved with land purchases in Ethiopia, Kenya, Mali, Mozambique, Senegal, Sudan, and Tanzania. African land areas larger than the United Kingdom have been sold to or have been rented by foreign investors (Pomroy, 2014). China's Belt and Road Initiative (BRI) will also be critical for its access to global resources. The BRI infrastructure investments involve a staggering number of 65 countries from Asia, Europe, Africa, the Middle East, and the Americas. These 65 countries collectively account for 30% of GDP, 62% of the population, and 75% of known energy reserves globally (World Bank, 2018). However, not all is well with BRI. The mega project (estimated to cost $8 trillion) is also generating large sums of debt for numerous countries such as Pakistan, Djibouti, the Maldives, Laos, Mongolia, Montenegro, Tajikistan, and Kyrgyzstan. It is instructive to remember that the United States bought Louisiana from France for $15M in 1803, roughly $300M today, and Alaska from Russia for $7.2M in 1867, approximately $140M today, when they faced financial hardships (Global Policy Forum, 2006; Ming, 2018). Given the natural resources of the countries along the belt and road, it is conceivable that BRI may serve an agenda of territorial expansion.

With the political unacceptability of direct land concession to foreign nations, concessions and debt servitudes can come in such forms as sales, long-term leases, and other schemes, enabling resource access to Chinese corporations or the military. Examples already abound. The debt burden caused Sri Lanka to transfer control of the Hambantota port to state-owned China Harbor, including 15,000 acres surrounding pieces of land for 99 years (Chandran, 2017). The deal cleared one billion dollars off the debt. However, the country is still in massive debt to China, which come with significant interest rates (Abi-Habib, 2018). Another country massively indebted to China is Djibouti, with equivalent of 88% of its GDP being Chinese loans. China built its first overseas military base in Djibouti soils (Cheng, 2018). With such implications, Bangladesh and Malaysia have revised or canceled their previous commitments in order to curtail their national debt strains (Chandran, 2019). China is also focused on investing in Africa's infrastructure and exerts significant soft power in the continent.

Rise of scarcity-driven profits: Significant profits are achievable at the commodity level, resulting from the unanticipated shortage of raw materials. This was evident in the case of African swine fever, which resulted in a 36% increase in pork prices in China during the first week of April 2019 and expected to increase China's pork imports by 33% in 2019 up to 2 million metric tons (Liu & Wang, 2019). This was also experienced during the COVID-19 pandemic, with prices of eggs in the United States increasing by 16% in 2020 also affected other items such as groceries, meat, and fruits (Cortes, 2020). Interestingly, industries involved in raw material and commodities can be subject to higher margins than final products in the near future.

Shortage-driven breakthrough innovations: The focus will increasingly be on the substitution of natural resources rather than manual labor automation (e.g., robotics). Various animals, such as camels and horses, among others, have already been cloned. Artificial pearls can be produced faster and more economically than natural pearls. While physics and chemistry were crucial for success in the 20th century, biomedical sciences, machine learning, and nanotechnologies are quickly becoming key in the current one.

Sustainability imperative: There are 3090 active landfills and over 10,000 old municipal landfills in the United States. Yet 90% of waste is not recycled. Twenty-five million trees in the United States would be saved annually if only 10% of newspapers were recycled (Brucker, 2018). The most severe restrictions to the spectacular growth of Chindia will emerge out of the environment rather than lack of capital or technology. Climate change will increasingly be top of mind. Over a quarter of US metropolitan cities are predicted to experience over 100 days with over 95° F annually by year 2060 compared to the current 1% (Blackrock Investment Institute, 2019). Also, China will experience even worse environmental conditions due to heatwaves caused by climate change (McKenna, 2019). The critical point is that businesses should change their focus from exploiting nature to nurturing it (Suhas & Sheth, 2016).

Impact of the New Triad on Geopolitics

Economics as a driver of politics: Economics significantly influences politics. The general population's economic sustainability enables the politicians' survival regardless of the ruling philosophy; the citizens' economic well-being becomes the driving factor. This transcends political regimes, and having realized this, the BRICS countries (Brazil, Russia, India, China, and South Africa) are hosting their own summits. South–South trade and investment agreements are increasingly replacing the North–South trade.

G-8 becomes G-20: G-7 was created based on the need to deal with the energy crisis, and later Russia joined it too. However, over time, a larger league of 20 nations was invited to the table. The G-20 accounts for roughly two-thirds of the world's population, with 85% of the global economic output contributing to 75% of international trade and 80% of global investments (Kuo, 2018). With the United States, China, and India at the helm, the G-20 will further increase its influence at the expense of traditional European powers.

Rise of multilateral politics: With the new triad, multilateralism has replaced the American universal view. America, Asia, and Europe each have a unique perception of how the world should be governed, and the US dominance during the post-Soviet era is over. China is extending its influence, evidenced by the Philippines following China's lead regarding disputes in the South China Sea at the expense of its historical ally, the United States. China is bound to clash with countries such as Taiwan and Vietnam over border disputes (Gertz, 2019). As the US influence diminishes, the resulting political arena will be complex yet surprisingly stable since the triad will offer counterbalance against a leading nation's dominant whims. The recent Regional Comprehensive Economic Partnership agreement serves as evidence of this trend (Johnston, 2020).

Growth of Asian sovereign funds: These sovereign funds are best suited for long-term and large-scale infrastructure projects. In addition to India and China's various large funds, Temasek of Singapore, Malaysia, and the Abu Dhabi Investment Authority are playing a crucial role in the future in Asia. Emerging markets of India, China, and Africa require massive investments that can only be undertaken by the sovereign funds. The expectation is that the Asia-Pacific region will need an additional infrastructure spending of $1.7 trillion annually to a total of $26 trillion by 2030 based on their current growth rates (HSBC, 2018).

Multiple currency reserves: During the 1980s, the Japanese bought most of the US debt; yet, the US government encouraged them to convert the public debt into private equity. To implement adequate measures, the Bank of Japan gave low/no-interest loans to the Keiretsu banks. These banks, in turn, encouraged manufacturing and investing in the United States rather than merely exporting. Various Japanese firms built plants in the United States, and they were allowed to buy equity. For example, they invested heavily in real estate.

Since the US debt ratio is not sustainable in the long run, countries such as China and India will need to convert their debt instruments (T-bonds) into equity. However, in India, western capital will be used to acquire Indian firms, which then can be leveraged to acquire the US and other western assets. To diversify risks, China will have to hold massive reserves in various currencies and gold, which is already happening. Chinese gold reserves which historically averaged 995 tons until 2019 were increased to 1936 tons average by the third quarter of 2019 (Trading Economics, 2019a). Similarly, over the same period, India's gold reserves averaged 462 tons but grew to 618 tons by the second quarter of 2019 (Trading Economics, 2019b). In the future, currency wars will increasingly supplement trade wars, and the central banks will play an active role by shifting focus from fiscal to monetary policies.

Redefining capitalism and democracy: History as well as the prevailing ideology is shaped by the victors' hands. Such was the definition of power through capitalism and the free markets by Adam Smith and David Ricardo during the mighty reign of Great Britain. The United States adopted the British definition of democracy as a parliamentary government consisting of two primary parties. Contrary to the United Kingdom, where people choose the party responsible for selecting the prime minister, replaceable through a vote of no confidence, the United States favors continuity and stability with a leader having a term of four years once elected as a president. Being a republic democracy, each state influences congress based on the electoral votes. Over the recent past, the divergence of popular versus electoral votes has significantly impacted the presidential elections.

With such a large "base of the pyramid" in global societies, with over a billion people living on less than $2 in a day, capitalism's current definition is not sustainable. There is a need to implement a more participatory and nurturing capitalism other than that defined by the west, allowing the incorporation of all stakeholders rather than only shareholders. Corporate social responsibility by itself is not sufficient; a more egalitarian/equitable perception of shared value is necessary (Mackey & Sisodia, 2013; Porter & Kramer, 2011; Uslay, 2019; Uslay et al., 2009).

When extreme acrimony and gridlocks are allowed to persist, democracy can devolve into anarchy. Freedom to express an opinion without any form of regulatory check or balance makes it possible for the public sentiment to get out of control, more so with the amplification through social media (fake news spreads fast). However, the best resolution for such outcomes is self-discipline. The future requires a disciplined democracy which balances the rights of individuals with those of institutions. In autocratic nations, institutions dominate the country. The highly contested abortion law in the United States is an example of this where society dictates a critical decision over individual freedom.

Contrarily, pure democracy allowing individual rights to trump those of organizations and/or society also becomes impossible to sustain. United States' gun legislation where individuals' rights to bears arms are protected by the constitution can be considered an example. Institutions are as significant to society as its individual citizens are. As such, the rights of each should be effectively balanced to achieve a caring capitalism and disciplined democracy.

Both capitalism and democracy will be redefined with Chindia's rise and the shifting center of gravity from the Atlantic to the Pacific Ocean. Following World War II, China relied on cheap labor, which rendered it a low-cost provider to the world in the 1990s, similar to Japan earlier:

> As in Japan, that strategy was very successful in China for the next two decades…. But just as happened in Japan, China's economic growth has led to higher wages, an increased standard of living, and they will eventually experience lower productivity from an aging population. (Sheth, 2011, p. iii)

Unlike the previous century, which was shaped by politics and ideologies, the 21st century will be redefined by competitive market and resources. The triad, consisting of China, America, and India, will command the 21st century. There will be stiff competition for global resource consolidation in the new geopolitical order, even as the continent of Africa is awakening to opportunities.

Understanding the Global Rule of Three can enable business and public leaders alike to navigate unchartered waters. Taking a historical view enables us to comprehend how the United States overtook the United Kingdom to claim the number 1 spot globally and why it will eventually find itself in the #3 spot after China and India. Like businesses, nations also have to choose between being a generalist or specializing in sectors for trade and investment. Those that fail to choose, do so at their own peril, as they risk getting stuck in the global ditch as one market after another evolves from national to global. Recall that the Rule of Three renews itself at every stage of a market's geographic evolution and massive sums of value will be subject to creative destruction. Global markets will be subject to disruption in the interim until the global leaders emerge.

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1. Based on IMF's purchasing-power-parity index.
2. For example, Uslay et al. (2010) used return on asset (ROA), return on sale, and capital adequacy ratio as financial performance measures and Standard Industrial Classification codes to define markets, and their results were robust even when different cut-offs were used to categorize generalists, specialists, and ditch players. Similarly, Uslay et al. (2017) used both relative market share and absolute market share, and North American Industry Classification System codes to define markets, and found strong support for the ditch phenomenon, and Uslay et al. (2020) replicated and extended these findings by using market share elasticities. The database used by Uslay and colleagues (2017, 2020), which consists of over 220 thousand firm years, arguably represents the largest data set compiled to examine the relationship between market share and financial performance.

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Article

Interest Rate Transmission of Monetary Policy: India Perspective

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GREAT LAKES
INSTITUTE OF MANAGEMENT, GURGAON

Pratik Amrutkar[1], Swapnil Joshi[1], and Sankarshan Basu[1]

Abstract

The workings of monetary policy have often been construed as a "black box." Not only does the nature of transmission channels vary across the economies, the significance and dominance of one channel over another is also a function of the nature and developmental stage of the economy under consideration. In this article, we attempt to understand the different channels of monetary policy operation and study which is(are) the dominant channel(s) in India. Our primary focus then is to identify the different hurdles that prevent the efficient transmission of monetary policy and assess few policy prescriptions to mitigate them. A simultaneous view from the perspective of business-government-society is also taken.

Keywords

monetary policy, interest rate transmission, channels of monetary operations, interest rate channel, asset price channel, credit channel

Introduction

Monetary policies around the globe have gained a lot more prominence of late. Whether the Great Recession of 2008, the sovereign debt crises of 2013 in Europe,

[1] Indian Institute of Management Bangalore, Bengaluru, Karnataka, India

Corresponding Author:
Sankarshan Basu, Finance and Accounting, Indian Institute of Management Bangalore, Bengaluru, Karnataka 560076, India.
E-mail: sankarshan.basu@iimb.ac.in

or the latest COVID-induced slowdown across the world, monetary policies have genuinely done some heavy lifting in close conjunction with fiscal support from the respective governments. This has prompted renewed interest in understanding the mechanism by which monetary policies work. The mechanism by which a central bank's actions, whether through policy rate changes or asset purchase or expectation guidance, affect the real economy is called the transmission mechanism of monetary policy. It is important to note that monetary policies affect real economic variables in multiple ways—many transmission mechanisms. Some of the commonly cited tools include the interest rate channel, asset price channel, credit channel, balance sheet channel, exchange rate channel, and expectations channel.

For a central bank to attain its objectives of price stability, optimum employment levels, and financial market stability, understanding the country's transmission mechanisms is important. Therefore, it is necessary that the central bank be able to identify the dominant channels of transmission in its country of operation, and then frame policies accordingly to attain its objectives most efficiently. As mentioned before, although the literature has identified multiple transmission channels, the importance and significance of each of them vary across different economies, depending on the concerned economy's level of development and structure. Our focus in this article would be on the India experience of monetary policy transmission. Various authors such as Mohanty (2012) and Khundrakpam and Jain (2012) have found evidence for multiple channels for policy transmission in India, but the interest rate channel remains by far the dominant one. Having established that, we look at the various impediments to efficient monetary policy transmission such as rigidity in lending rates, availability of alternate sources of investment in bank-dominant economy that impedes a bank's ability to negotiate deposit rates, and weak bank balance sheets. We propose few solutions also to address these imperfections.

The entire article is organized as follows. We briefly explain different mechanisms and assess the literature review on the same. We then focus on the interest rate mechanism in India and see the methodology adopted to study its effect. The report thereafter identifies some issues that hamper efficient transmission from policy rates to the real economy, and then shed light on the importance of efficient transmission from a business–government–society (BGS) perspective, followed by policy recommendations and conclusions.

Transmission Mechanisms of Monetary Policy

Interest Rate Channel

One of the most written about channels in the transmission mechanism is the interest rate channel. This channel is very intricately related to the IS-LM (investment–savings and liquidity preference–money supply) framework first propounded by the economist Hicks. The central bank through its policy rate changes targets the "short end" of the yield curve. For example, the Reserve Bank of India (RBI) by altering the repo rate targets the rates in the money markets, for example, the weighted average lending rate (WALR) and the call money rate (CMR). The changes in the short end then translate into the longer end of the yield curve. These long-term interest rates affect the investment and the consumption decisions of both households and corporates, leading to changes in aggregate demand and supply, affecting output and price levels in the economy.

To take an example, an accommodative monetary policy stance by the central bank would tend to lower the interest rates in the economy. If it is through an increase in money supply, for the same demand for money in the LM model, a higher money supply will equilibrate the money market at a lower rate. The supply of money is now more significant than the transactional, speculative, and safety-based demand for money. People would want to part with the excess cash, and they would prefer to invest it in bonds, equity, or any other asset market. The rise in demand for these assets would increase their price. The lower interest rates for higher money supply would tend to shift the positively sloped LM curve downward. With lower interest rates, the cost for financing and, consequently, the hurdle rates for investment demand also go down. Thus, the corporates would be inclined to borrow cheaply and invest the proceeds in real assets. Households would also find the rates of borrowing go down. This higher demand stemming from higher investment and consumption would tend to push up the aggregate demand. With aggregate supply not very sensitive in the short term, output and price levels will tend to rise. Thus, to cater to economic slowdowns, the central banks would tend to opt for accommodative monetary policies, ceteris paribus. The exact reverse flow of events will occur for a contractionary monetary policy.

Asset Price Channel

One of the drivers of consumption other than income, utility, demographics, etc. is wealth. Research has shown that given all else equal, people tend to spend more if they perceive that they are wealthier. The corollary for corporations is that they invest more if the asset side of their balance sheet is stronger. As mentioned before, the accommodative monetary policy tends to inflate asset prices. Consider an individual who has his/her wealth invested in bonds and stocks. (The logic stays the same for other assets as well.) Assuming the price of these assets is calculated as the sum of the discounted value of future cash flows, an accommodative monetary policy will tend to lower the interest rates used for discounting. This will tend to push up the prices of these assets. The higher asset prices through the wealth effect will boost consumption and, consequently, aggregate demand. Similar reasoning can be made for corporates, where the lower interest rates will tend to boost demand for investment through the asset side of the balance sheet. If the borrowing comprises floating rate loans, the interest paid on these loans will decrease as the rates in the economy fall. This would boost the net worth of the firms. As a side note, the firm can also choose to refinance its old high-interest debt with low-interest rate debt when interest rates fall.

Credit Channel

Whereas the neoclassical channels of monetary policy transmission operate through an effect on consumption and investment, the non-neoclassical channels operate through market frictions. A dominant channel where market frictions operate is the credit channel. Banks are uniquely positioned to handle the problem of asymmetric information in channeling saved funds to those lent. In the case of accommodative monetary policy, the number of funds available with banks increases. For example, a reduction in the Cash Reserve Ratio would tend to free up funds locked with RBI. Banks would then lend these funds to borrowers after doing requisite credit appraisal. The jury about the dominance of this channel in policy transmission is divided. Given all else equal, a bank-dominated economy can be expected to have a strong influence of the credit channel in the transmission mechanism. In many emerging market economies, many of the firms do not have access to direct financial markets. These firms then rely on the banks who help in the intermediation of funds between borrowers and savers. Thus, one can expect the credit channel to play a dominant role in emerging market economies, given their heavy reliance on banking institutions over financial markets.

Balance Sheet Channel

This channel was briefly touched upon in the explanation for the asset price channel. It works in close conjunction with the asset price channel. A stronger balance sheet increases the propensity of both households and corporates to increase consumption and investments, respectively. The balance sheet channel also influences the credit creation mechanism in the economy. India recently faced a twin balance sheet problem. The twin balance sheets belonged to corporates and the banks that lent to them. A deterioration in the corporate balance sheet, either due to malfeasance or exogenous shocks on business projections, makes it difficult for corporates to service the interest and principal payments on the loans they have borrowed from banks. With interest and principal payments from corporates drying up, banks had to recognize their then standard assets as nonperforming assets (NPAs). (The practice of evergreening was prevalent in the Indian scenario before RBI strengthened the disclosure and NPA recognition norms after Asset Quality Reviews [AQRs]). Higher NPAs can severely restrict a bank's ability to lend to corporates, thus constraining the credit supply in the economy. We discuss this friction later in issues relating to the effective transmission of monetary policy.

Exchange Rate Channel

The national output is found by aggregating domestic consumption, investment, government expenditure, and net exports. The net exports, which equal exports less imports, are influenced by the exchange rate of the country. If the monetary policy is accommodative, the domestic interest rates tend to fall with respect to foreign interest rates. The opportunity cost logic then makes a case of divesting domestic assets, and then importing the proceeds in foreign ones. This leads to the depreciation of domestic currency as investors move out their wealth to foreign assets. The depreciation of currency makes the value of domestic goods cheaper relative to their foreign counterparts, ultimately pushing up the exports. The exact reverse case occurs for imports. In a country like India, a rupee depreciation tends to weaken the current account balance by increasing the bill paid for crude oil and gold, the country's largest imports. The extent to which the movements in exchange rates tend to influence consumption depends on the exchange rate pass-through possible. The exchange rate channel will likely have more influence on the monetary policy transmission for open economies than for closed ones.

Expectations Channel

The great financial crisis exposed the limitations of traditional channels of monetary policy transmission. With rates already at rock bottom, the effect conventional monetary policies could have had in propping up the aggregate demand and warding of deflationary pressures was minimal. A channel that gained prominence and has become a point of research interest is the expectations channel. This channel operates through the kind of expected participants in the economy form about future central bank actions and the consequent impact on macroeconomic variables. For example, if the central bank targets monetary easing as long as the inflation does not reach its target zone, the market participants can expect accommodative policy that flows through the interest rate and asset price channel to continue flowing. The participants then adjust their expectations accordingly. An important example of the expectations channel at work is the adoption of inflation-targeting regimes by most of the major central banks around the world. Needless to state, the extent to which this channel can have an influence on the monetary policy transmission is heavily influenced by the credibility the central bank enjoys in the country of its operation.

We have briefly discussed the channels of monetary transmission that operate in an economy. It is also important to realize that these channels are not mutually exclusive and often tend to operate in close conjunction with each other. This creates an empirical issue for researchers as the available techniques in econometrics make it very difficult to ascertain the exact contribution of a particular channel in the entire transmission process. The second thing to note is that the influence these channels have on transmission policies is decided by the structure and the development of the economy wherein they operate. As the economy develops over time, the dominance of one channel might reduce in favor of another one.

Literature Review

We now discuss the literature published on the monetary policy transmission mechanism across economies. The previous section talked about the various mechanisms on monetary policy transmission across economies. We now turn to check the evidence for them in this section. The literature review spans across economies.

Tobin (1969) explained the traditional interest rate channel operating through the user cost of capital and portfolio choice—Tobin's q theory. It suggests a mechanism through which monetary policy interacts with the economy and makes an impact on the valuation of equities. Tobin's q is defined as the market valuation of all the firms divided by the replacement cost of capital. If $q > 1$, then equity valuations are higher than the cost of investment in assets. Thus, it is cheaper to raise funds via equity for corporates relative to the cost of assets. Therefore, investment in capital assets will rise. Thus, during periods of expansionary monetary policy, the money supply is higher due to lower availability of capital, and therefore, these funds in the chase of higher returns move to equity assets.

Bernanke and Blinder (1988) highlighted whether the monetary policy can affect the bank lending channel, that is, the supply of credit by the banks in the economy. Their model suggested that the open market operations by a central bank drain out the reserves and deposits out of the banking system. This limits the supply of money available with the banks to lend. The model was based on the assumption that banks cannot replace retail deposits with other sources of funds like equity issuance. Thus, this assumption may not hold true today.

Romer and Romer (1990) assessed two theories of the monetary policy transmission mechanism through bank lending rather than transaction balances. These two theories are: first, "money view theory," where the asset side of the bank's balance sheet plays no role in the interest rates; and second, "lending view theory" which suggests that in order to lend to potential borrowers, banks need money; hence, this derives the demand for reserves. Thus, more creditworthy customers lead to higher demand for reserves, which leads to competition among the banks for deposits, further leading to increasing interest rates. To summarize, the asset side of the balance sheet drives the interest rates. However, their paper concluded that the impact of monetary policy on interest rates is likely to operate largely through bank liabilities rather than bank assets on the basis of the evidence that monetary policy has a stronger impact on transaction balances since reserve requirements on such balances are higher.

Taylor (1995) undertook research to review the impact of monetary policy transmission on real GDP and prices using a financial market framework. This framework highlighted the role of monetary policy in determining prices and rates of return on financial assets, interest rates, and exchange rates which influence the spending decisions of firms and household stakeholders. Taylor identified under the financial market view that the traditional interest channel is important for monetary policy transmission to the real economy.

Obstfeld and Rogoff (1995) emphasized on the importance of the exchange rate on the monetary policy transmission. Their paper suggested that reducing domestic inflation and the instability caused by it can be managed and addressed better through the central bank's basic reform of monetary policy mechanisms. Co-ordinated monetary policy is important to manage extreme events of crisis like the global stock market crash. Even in such cases, it is wrong to consider that these efforts will automatically lead to exchange rate stabilization. The exchange rate should be used as an indicator and not as the core focus area for monetary policy.

Monetarists (classical economists) favors rules for monetary policy to reduce the costs of acquiring information. Without such rules, market players need to anticipate how and when the policymakers would respond to price, output, employment, and other changes. Such rules would reduce the uncertainty and wrongful perceptions that increase the volatility in relative prices and real wealth. Following are the five rules:

1. Neither the central bank nor private parties can forecast output—employment with greater accuracy.
2. Neither the central bank nor the government can differentiate between permanent and temporary disturbances.
3. The response of relative prices toward any shocks or impulses would differ from one business cycle to another, depending on the conditions preceding the cycle.
4. The private sector is capable of handling and managing the volatility if the policymakers do not make any unanticipated policy impulses.
5. Easily monitored rules reduce the costs of information.

Meltzer (1995) also proposes that knowledge of the transmission process does not remove uncertainty about the nature of impulses or their resultant impacts on the economy.

Ramey (1993) tried to address the relative importance of the money and credit channels in the transmission of monetary policy. In both the money and credit view, the process starts when the policymakers change the ability of banks and lending institutions to function by altering either reserve requirements or level of reserves. The method used by the central bank to alter the reserves is controversial. It concludes with evidence that the money channel is more important than the credit channel in the direct transmission of policy impulses—the marginal effect of bank loans on industrial production.

Bernanke and Gertler (1995) tried to find the importance of the credit channel in monetary policy transmission. Monetary policy actions are followed by the movements in real output lasting for two years or more. However, the research does not comment on what happens in the economy till the effects in the real economy kick in. There are many gaps in the way conventional monetary policy works. One, the interest-sensitive components have not been able to identify the important effect of neoclassical cost of the capital variable (lagged output, cash flows, or sales). Rather, these factors have a greater effect on spending. This suggests a weaker cost of capital effect in forecasting the spending equations. Second, there is a presumption that monetary policy should have a larger effect on short-term interest rates (federal funds rate) and a lower impact on longer term interest rates. Surprisingly, the contrary is true where the monetary policy has larger effects on assets purchased, which are sensitive to long-term rates (residential assets, plant, and equipment). Three, the credit channel theory suggests that the direct effects of monetary policy on interest rates are increased by internal changes in the external finance premium, which is the difference in cost of funds raised internally (retained earnings) and cost of funds raised externally (equity). There is a positive correlation between the interest rates in the economy and the external finance premium, that is, the increase or decrease in interest rates leads to an increase or decrease in the external finance premium. This leads to a magnified and larger effect of monetary policy on the borrowing cost. The article also describes two channels between central bank actions and the external finance premium: the balance sheet channel and bank lending channel. The former focuses the impact of policy actions on the borrowers' balance sheets and income statements, including net worth, cash flows, and personal assets of the borrowers. The latter stresses on the effect of monetary policy changes on the supply of loans by lending institutions (banks). They also suggest that the bank lending channel is controversial while the existence of the balance sheet channel is established.

Mohanty (2012) and Khundrakpam and Jain (2012) analyzed the transmission mechanism in India. Both concluded the significance of the interest rate channel from their respective studies. We analyze both in depth now.

Further, Mohanty (2012) tried to find how monetary policy changes affect different markets (money markets, debt markets, credit markets, foreign exchange markets, and asset markets) in India and uses the structural vector autoregression (SVAR) model to find evidence for the interest rate transmission mechanism in the Indian context. In the work, Mohanty posits first that with increasing deregulation and deepening of markets post reforms of the 1990s, the impact of monetary policy would be felt across markets. To test this hypothesis, Mohanty (2012) carry out Granger's causality tests based on the VAR framework. Monthly data from April 2001 to March 2011 are taken. The entire data are divided into two groups: policy variable (CMR) and proxies for other markets—10Y government bond, WALR, 5Y AAA-rated bond yield, Sensex, and USD–INR rate. These rates serve as the proxy for the respective asset markets mentioned above. The results showed causality in both directions. The article also tested whether there was an equilibrium across markets. The results for Johansen's cointegration test and the causality tests have been summarized in the supplemental material of this article. The results implied that changes in monetary policy are reflected across different markets.

To test the impact of policy variable changes on GDP, money, and price levels, SVAR tests were also carried out. The model by Mohanty (2012) assumes the following relationships (Table 1).

The results conclude that the policy variable is negatively related to the GDP growth rate. The maximum decline occurred with a lag of approximately two quarters, and the impact persisted through 6–8 quarters. The policy variable also had a negative effect on the price level. The lag and persistence numbers were at 3 and 8–10 quarters, respectively. From a causality perspective, Mohanty (2012) found that there was a two-way causality from macroeconomic variables to policy rate and vice versa.

Similar research to understand the transmission process in India was carried by Khundrakpam and Jain (2012). Their aim was to identify the different channels at work in the transmission process. They included external variables to account for external influence. They constructed a baseline model with both exogenous and

Table 1. Relationships Between the Economic Variables as Assumed by Mohanty (2012)

Variable	Driven By
Real output shocks	Exogenous
Price level	Real output shocks
Policy variable	Real output shock + price level
Money	Real output shock + price level + policy variable

endogenous variables, and then resorted to the selective switching on/off mechanism to identify the influence of different channels in the transmission process. The endogenous variables included GDP, price level, and policy rate, whereas the exogenous variables included world GDP, world commodity price index, interest rates in major economies, and portfolio inflows at gross levels. The rationale for including external variables was to account for the fact that as the Indian economy liberalized, the impact of what happened outside India was felt increasingly on the Indian economy and consequently monetary and fiscal policies.

They found that with a positive shock in the CMR, a decline in GDP was observed at Q2 and Q3 with and without exogenous variables included. The inflation also shows a similar trend with the peak impact observed at a lag of one quarter with respect to GDP growth. They also found that including exogenous variables prolonged the impact of a change in the CMR. The graphs in the supplemental material show the response functions described above.

The impact of other channels on the transmission of monetary policy is summarized in Table 2.

In essence, Khundrakpam and Jain (2012) found that the direct interest rate channel, asset price, and credit channel had a significant impact on GDP growth rates and inflation. Exchange rate impact, on the other hand, did not have a

Table 2. Summary of Significance of Different Transmission Channels as Analyzed by Khundrakpam and Jain (2012)

Channel	Impact Description
Credit	Nonfood bank credit and total credit are considered from banks and nonbanks. An increase in policy rates affects credit negatively, as expected. The trend persists till the third quarter, and after that, impact dissipation is observed—the credit impulse function is the same in the case of both endogenous and exogenous responses. Overall, the credit channel is found to be significant in India.
Asset price	As mentioned, the asset price channel operates through the wealth effect that is positively related to both consumption and investment. The asset price channel was analyzed through Sensex. A positive policy shock leads to a decline in equity prices, which in turn translates to a decline in output growth. The peak of decline occurs at the second quarter and third quarter, respectively. Inflation is also impacted negatively. They found strong evidence of the asset price channel in India.

(Table 2 continued)

(Table 2 continued)

Channel	Impact Description
Exchange rate	An increase in policy rate leads to an appreciation of the real effective exchange rate, which later dissipates over time. Interest differentials do not play a significant role in exchange rate determination in the Indian context. The debt component of capital flows is not material as there is an explicit policy framework in place to govern their movement. Equity flows are more material in the Indian context. The impact on GDP growth was seen to be largely absent but not so for inflation.
Interest rate	They found that approximately 50% of monetary transmission could be explained by the direct interest rate channel.

significant impact on output growth, albeit it was as good as it was absent. It had a good impact on inflation, nevertheless. The impulse response functions as documented by Khundrakpam and Jain (2012) have been made available in the supplemental material of this article.

Having discussed the literature and empirical evidence of transmission channels in India, we now discuss the methodology adopted in this work to study the impact and significance of monetary policy transmission channels in an economy.

Methodology

Whether a monetary policy should be accommodative or contractionary depends on how various economic variables such as price level and GDP are faring at a given point of time with respect to the tolerance level set by the central bank. If the price level is trending near the upper band of permissible limits with output consistent with full-employment levels, the central bank might think of raising policy rates to prevent inflation from creeping in. An important point to note here is that not only are these variables dependent on their own values in the past, but also on how other variables have fared in the past and present. For example, the price level in the economy is a function of both previous price levels and the level of output generated.

To test the impact of policy rates on various economic parameters such as price levels and GDP, researchers of monetary policy frequently use vector autoregression (VAR) models. The word autoregressive means that the dependent variables under consideration are a function of the lagged values of the same, whereas the presence of "vector" implies that there are more than two variables at play here. All the variables in the VAR system are endogenous, and the stochastic error terms in the model signify any kind of shocks or impulses to this system of variables. Mathematically, this system can be expressed in the following way:

$$y1t = \sigma + \sum_{1}^{k} \leq i * y1t - i + \sum_{1}^{k} \alpha i * y2t - i + \mu 1t \tag{1}$$

$$y2t = \phi \sum_{1}^{k} \beta i * y1t - i + \sum_{1}^{k} \alpha i * y2t - i + \mu 2t, \tag{2}$$

where $y1t$ and $y2t$ are two dependent variables that are a function of each other and their lagged values. In the above case, lags up to k time periods have been considered; hence, the model is denoted as VAR (k).

An offshoot of the VAR model is the SVAR model. SVAR helps us identify purely exogenous shocks to be able to trace out their dynamic effects on our system of variables. In the case of monetary policy, it helps us identify how an exogenously driven change in monetary policy affects variables of interest such as GDP and price levels. The process of determining the SVAR model is called the identification of SVAR.

Consider the SVAR (1) model as follows:

$$\boldsymbol{AX}t = \alpha + \beta * \boldsymbol{X}t - 1 + \varepsilon t, \tag{3}$$

where the error term captures the independent shocks.

Thus, in the above model, the value of a time-series parameter is a function of its lagged value, current value, and the external shock that it receives in time t. It should also be noted that the term $\boldsymbol{X}$ is a vector and captures the two underlying variables $y1$ and $y2$. The above equation can be expanded as follows:

$$y1t + a1y2t = \alpha 1 + \beta 11 * y1t - 1 + \beta 12 * y2t - 1 + \varepsilon y1t \text{ and}$$

$$a2y1t + y2t = \alpha 2 + \beta 21 * y1t - 1 + \beta 22 * y2t - 1 + \varepsilon y2t.$$

The structural VAR is estimated after it is converted to its reduced form. This is obtained by multiplying Equation (3) by the inverse of matrix A. The reduced form is written as follows:

$$\boldsymbol{X}t = G0 + G1 * \boldsymbol{X}t - 1 + et.$$

The above equation has six coefficients that we need to estimate (two in $G0$ and four in $G1$). We now turn to the issues that impede the efficient transmission of monetary policy in an economy. The focus here as well is on the Indian context.

Issues in Transmission

The efficacy of transmission has always been a topic of active research interest—the question of how efficient the transmission in the Indian context comes into light in 2019. RBI had reduced policy rates by 135 basis points from February 2019 to January 2020, but the degree to which prices and rates in different markets changed differed. We refer to the RBI working paper here, which succinctly highlights the various issues in transmission. This section discusses the impact of policy rate changes on money and bond markets and the credit market intermediated by banks.

Rigidity of Lending and Deposit Rates

With respect to money and bond markets, the transmission was pretty much quick and complete. It was seen that with a 135 bps cut in the repo rate, the decline in 3M T-bills and 3M CD were 144 ads and 167 bps, respectively, whereas the reduction in 3M CPs by NBFCs and non-NBFCs were 190 and 140 bps, respectively. The corporate bond spreads held their earlier values more or less as well. Along the yield curve, the transmission was much more efficient at the lower end than the farther one, driven primarily by rating downgrade of a few NBFCs and balance sheet concerns of some banks. RBI (2020) paper also computed the correlations across policy rates and rates across money and bond markets (see Supplemental Material). The correlations were found to be statistically significant. An interesting pattern that was seen was that the coefficient of the repo rate that explained the impact on the dependent rate in regression analysis decreased as the tenor of the dependent rate increased. The paper concluded that factors other than the repo rate likely had an impact on rates farther down the yield curve (see Supplemental Material). Concerning the deposit and lending rates, the case is different.

A bank acts as an intermediary for channelizing the funds between savers and borrowers. In doing so, it promises savers interest income guaranteed through deposit rates. It earns this interest income from the loans it makes to the borrowers. The spread, the difference between lending and deposit rates, is how a typical bank makes money. Fee income is excluded here for analysis purposes. The spread helps banks pay for their overheads, management expenses, and profits to shareholders. In the Indian context, banks price loans based on the cost of funds they incur in securing deposits or borrowing from markets. RBI has allowed banks to arrive at their cost of funds using internal methods.

With the deposit rate fixed, the sensitivity of the change in deposit rates and, consequently, the cost of funds to changes in policy rates are low. Only when the deposits rates are contracted again, the cost of funds will change. This change then reflects in the rates banks charge to borrowers. In the case of foreign banks, with the tenor of the majority of deposits lesser than a year (see Table 3), the flexibility these banks get in changing deposits rates when policy rates change is higher. Thus, we can see that foreign banks have been the most proactive in reducing rates on both their deposits and loans. This stickiness of deposit rates to changes in policy rates is not symmetric in nature. If the policy rate increases after a monetary policy action, the depositors renew their deposits at a higher rate. The banks have

Table 3. Changes in Bank Rates (Lending and Deposit) Across Public, Private, Foreign, and SC Banks Post Reduction in Policy Rats by RBI from February 2019 to January 2020

Rates	WADTDR	1Y MCLR	WALR Fresh Loans	WALR Existing Loans
Public	–29	–45	–62	–21
Private	–51	–33	–50	0
Foreign	–124	–83	–105	–46
SCB	–39	–60	–61	–12

Source: RBI: Monetary Policy Transmission Trends in India—Recent Trends and Impediments (2020).

to be sensitive to these changes as corporate deposits, which are bulky in nature, are highly proactive in deposit shopping. Thus, in the case of a policy rate increase, the deposit rates go up a lot more quickly, and this gets reflected in the higher cost of funds which is then passed on to borrowers in terms of higher lending rates.

However, in the case of a reduction in policy rates, the same process would not work. The depositors would want to earn higher rates of return on their deposits and hence would not be proactive in renegotiating with banks. Under the marginal cost of the funds-based lending rate (MCLR) system, the tenor is 1 year, whereas the weighted tenor of deposits is 2 years (RBI, 2020). So, after a reduction in policy rates, only 50% of the deposits are repriced at newer rates. Thus, the MCLR does not come down as much as the central bank would expect. This lack of reduction then reflects in lending rates remaining sticky to their then existing levels.

As mentioned before, the transmission in banks has not been complete. To check the effect on deposit and lending rates, the authors have considered a weighted average domestic term deposit rate (WADTDR) and the WALR. WADTDR declined cumulatively by 32 bps during the entire easing period, mainly expedited post introduction of floating rate loans for micro, small, and medium enterprises (MSMEs), whereas the WALR decreased by 61 bps and 12 bps, respectively, on fresh and existing loans. At the bank level, the response has not been uniform. The maximum decline in WADTDR, 1Y MCLR, and WALR on fresh and existing loans has occurred for foreign banks, followed by public and scheduled commercial banks, and then for private banks. Table 3 summarizes the impact across the rates for different banks.

In order to understand the reason for this diverse response, it is necessary to analyze the maturity structure of both the loans and deposits. RBI (2020) does a great job in displaying the same, the results for which are concluded below (Tables 4 and 5).

Table 4. Deposit Profile—Bank Type (%)

Banks	0–1 Year	1–3 Years	3–5 Years	5+ Years
Public	43.6	22.4	10.7	23.3
Private	42.9	26.8	9.5	20.9
Foreign	64.2	28.6	7.2	0.0
SCB	44.3	23.9	10.3	21.6

Source: RBI: Monetary Policy Transmission Trends in India—Recent Trends and Impediments (2020).

Table 5. Loan Profile—Bank Type (%).

Banks	0–1 Year	1–3 Years	3–5 Years	5+ Years
Public	26.0	41.2	12.4	20.3
Private	31.3	34.1	12.9	21.7
Foreign	57.8	21.0	7.9	13.4
SCB	29.2	38.0	12.4	20.5

Source: RBI: Monetary Policy Transmission Trends in India—Recent Trends and Impediments (2020).

Looking at the loan and deposit tenor profile, we can see that foreign banks have most of their deposits and the loans concentrated in the 0–1 year bucket. Their involvement in the lending pie decreases as the tenor increases, picked up by public and private banks. As can be inferred, the lower tenor in both deposit and lending contracts affords foreign banks the flexibility to ensure better pass through of policy rate reduction. The underlying fact here is that whereas the lending rates on loans are flexible, the deposit rates contracted are fixed in nature.

Rigidity of Savings Rate

The second issue that props up is the rigidity of the savings rate. The savings deposit rate has remained steady despite deregulation by RBI in 2011 (see Supplemental Material). According to a calculation done by authors in RBI (2020), assuming savings deposits constitute 30% of total borrowings, a 25 bps reduction in the repo rate would only lead to a decline of 14 bps in MCLR. This rigidity in the savings deposit rate also results in MCLR being less sensitive to changes in repo rates.

Attractiveness of Alternate Investment Opportunities

A third but very related issue is the attractiveness of alternate investment opportunities like mutual funds and small savings schemes. With increasing financial literacy and the proliferation of SIP schemes, many people are now parking a part of their wealth with mutual funds. The assets under management for mutual funds increased from 11.7% of aggregate AUM, bank deposits, and small savings in 2012–2012 to 31.6% in 2017–2018 before settling on 15.4% in 2018–2019 (see Supplemental Material). For the small savings scheme, the interest rate is administered by the Government of India. These rates are linked to yields on G-secs of maturities in line with the savings scheme under consideration. As RBI (2020) argues, the rates on small savings schemes were higher by 81–160 bps than the formula calculated ones. In essence, the rates are not changed as dynamically as they ideally should have been if they were purely determined by the formula. A reason that has been commonly touted is that in the absence of any social security system in India, the savings scheme interest serves as a source of income for the elderly. Although this rigidity does provide income for the elderly, it also keeps the market for funds lent and funds saved from reaching an equilibrium. High rates on saving scheme can result in real borrowing rates kept artificially high during a cycle of accommodative monetary policy and prevent a lot of investments/consumption demand from picking up.

Weak Bank Balance Sheets

The fourth issue that has been highlighted is the weakness in bank balance sheets. Banks are required to set aside a portion of their profits as capital to cover for any losses on their lending portfolio. The Indian banks recently have been through a period where they have seen their NPAs rising. With the serviceability of many loans going bad, banks are reluctant to reduce their interest rates on loans. The high rates of loans that are nondelinquent provide income to banks, which can they use to beef up their provision buffers. Also, as Raj et al. (2020) concluded, banks were able to pass the burden of NPAs to lending rates when the NPA ratios were low. But as the ratios went up, banks became conservative and reduced their loan exposure. In essence, a healthy balance sheet helps banks pass on the effect of a monetary policy change more efficiently than when otherwise.

To sum up, rigidity in deposits, lending rates, increasing attractiveness to alternate opportunities for individuals to park their funds, the stickiness of interest rates on small savings schemes, and weak balance sheet of banks have all resulted in impeding the efficient transmission of monetary policy in India. It is very important to address these issues effectively as a weakly impactful monetary policy has adverse effects on the three main participants in the economy: businesses (B), government (G), and society (S). The discussion from the BGS perspective can be found in the supplemental material of this article. The following section discusses the policy prescriptions we have suggested to the problems mentioned above.

Policy Recommendations

The following recommendations can help enhance the effectiveness of monetary policy.

1. **Linking interest rates on bank loans to floating-rate benchmarks**
   Even after transitioning from PLR (1994) to BPLR (2003) to Base Rate (2010) to MCLR (2016), the stickiness in policy transmission to borrowing costs has not gone down. One of the reasons is the stickiness in deposit rates that banks pay on the funds they lend, which in turn makes the cost of funds higher and so on. RBI, in October 2019, issued a mandate that all new personal loans and the ones made to MSMEs be linked to any financial benchmarks published by Financial Benchmarks India Pvt Ltd. The idea was to disengage the rates borrowers pay from the rates banks pay on securing those funds. Hitherto the direction had been from deposit rate to cost of funds to lending rates. The regulators hope that by linking the borrowing costs to an external benchmark, the banks will be able to finally make the deposit rates floating in their efforts to protect their net interest margin (NIM). Caveats exist that prevent banks from adjusting their spreads unless there has been a substantial change in the borrower's credit profile. Though banks have not advised borrowers publicly about the shift in loans they can avail driven by both base rate legacy loans and NIM protection, the regulator can actively take steps to ensure that banks educate their customers accordingly. This will also help in reducing the

stickiness in deposit rates as they will also reflect the on-going stance of the economy instead of being anchored otherwise. This will ensure that both the benefits and losses of the economic cycle are spread over a wider set of stakeholders.

2. **Strengthening bank balance sheets**
   It has been seen that the healthier the balance sheets of banks, the more capable they are in passing the monetary policy actions to their customers. Thus, ensuring balance sheet health is paramount. Recent initiatives such as Insolvency & Bankruptcy Code, modified NBFC regulations, Prompt Corrective Actions, and AQR framework have helped solve some clogs that were earlier present due to weaker bank balance sheets.
3. **Linking rates on small savings account more proactively to G-secs**
   As was argued earlier, the rates on small savings account have been remarkably stable despite the fact that they have to be linked to the G-secs rate prevailing in the market. Lack of social security was a reason that was put forward. This stability, albeit at a higher level, prevents the banks from lowering their deposit rates. The depositors could go for deposit shopping if that were to happen. The government can be more proactive in changing the rate of savings accounts and make the marketplace fairer for banks to compete in this case. The varying nature of deposit rates would help in the efficient transmission of monetary policy.
4. **Introduction of long-term repos**
   RBI introduced long-term repo contracts in the light of COVID-induced slowdown to ensure adequate liquidity in the system at a reasonable cost, given then market conditions. The idea was to encourage banks to transform the maturity of their funds borrowed and ensure that ample liquidity is available for productive sectors.

Conclusion

This article discusses different mechanisms of monetary policy at work: interest rate channel, asset price channel, exchange rate channel, expectations channel, balance sheet channel, and credit channel. The mechanism most dominant in a country is the function of the level of economic development and structure of the economy. Although we have evidence for various mechanisms at work, the jury is out on which on is the most dominant for India. We have specifically focused on the interest rate channel here in this article.

The article also discusses various impediments to the efficient transmission mechanism. Some of the impediments in the Indian scenario include the rigidity of lending rates driven by sticky deposit rates, weak balance sheets of banks, and the availability of alternative sources of investments such as mutual funds and small savings scheme. We also discuss the need for an efficient transmission mechanism from business, government, and societal perspectives considering the importance of the impact monetary policy has on the real economy. We conclude the article by offering potential policy recommendations that have the potential of improving the transmission mechanism in the country.

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Article

Prospect Theory, Mental Accounting, Nudges: Applications to Economics, Finance, Marketing, Public Policy, and to COVID-19 Pandemic Management

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Gurumurthy Kalyanaram[1]

Abstract

In this article, we present three important behavioral/cognitive theories: Prospect theory, mental accounting, and nudge theory. We also briefly present applications of these theories to consumer, financial, and product markets, and to public policy decisions.

Finally, we discuss the application of these three theories to management of the current pandemic (COVID-19) situation, including strategizing and communicating productively. Specifically, we examine the framing of the non-pharmacological mandates, the applicable models for closing and re-opening decisions, and methods to increase the odds of diffusion of accurate information.

There are three useful insights. One, we find that framing matters in increasing the effectiveness of the mandates: exposure to gain frames yielded more support. Two, instead of closing, opening, and closing again, it is better to keep the economy (and schools/colleges) closed for a longer time period so that it does not have to be closed again. Three, an accuracy nudge increases the flow of accurate information and attenuates the false information.

[1] City University of New York, New York, NY, USA

Corresponding Author:
Gurumurthy Kalyanaram, City University of New York, New York, NY 10017, USA.
E-mail: kalyan@alum.mit.edu

Keywords

COVID-19, prospect theory, mental accounting, nudge, loss aversion, reference point, social intervention

Introduction

With their pioneering studies, Tversky and Kahneman (1972, 1974) and Kahneman and Tversky (1972) provoked a new thinking on human decision-making. Thus, behavioral and cognitive economics, finance, and marketing emerged.

In their studies, the researchers found that human decision-making was neither linear nor endowed with rationality, as was generally postulated till then. Human beings used a variety of heuristics to make choices and judgments under uncertainty.

Tversky (1972) identified an important heuristic related to human choice. This choice heuristic is called the Elimination by Aspects (EBA) model because the ultimate choice is series of eliminations. This is a probabilistic rule in which, at each stage, a consumer chooses an aspect proportional to her/his measures (i.e., probability proportional to that aspect's importance for the consumer.) Over time, researchers have assumed that a consumer eliminates aspects in a fixed order. Accordingly, the process of elimination continues until only one alternative remains, and that remaining item is assumed to be the one chosen by the consumer.

Tversky and Kahneman (1972, 1974) identified three important heuristics related to judgments: representativeness, availability, and adjustment from an anchor. Representativeness is a heuristic where a decision-maker makes a judgment "about the performance or characteristics of an object" (e.g., a brand or another person) based on the similarity of that object to a known object, schema, or category (Kardes et al., 2004). Such judgments are overinfluenced by similarity. Availability is a heuristic where a human being bases her/his assessment of the plausibility of an event on the number of such similar events that come to her/his mind. Finally, human beings carry a reference point or anchor value, particularly where numerical values are involved. The new information is adjusted and/or accommodated based on the anchor value. The concepts of an anchor point/value and accommodating the new information were also addressed by adaptation-level theory (Helson, 1964) and assimilation-contrast theory (Sherif et al., 1958).

On the basis of ample experimental/empirical evidence, Tversky and Kahneman developed prospect theory (Kahneman & Tversky, 1979) as an alternative to expected utility theory. Based on the extant research in behavioral/cognitive economics, finance, and marketing, Thaler (1999) developed mental accounting theory. Finally, Thaler and Sunstein (2008) applied these theoretical foundations to present the nudge theory.

Accordingly, we present these three important theories and the extensive research on applications of these theories to consumer, financial, and product markets, and to public policy decisions. The rest of the article is organized as follows. The following three sections discuss prospect theory, mental accounting theory, and nudge theory, and their applications. We close the article with a short illustrative application of these three theories to management of the current pandemic (COVID-19) situation, including strategizing and communicating productively.[1]

Prospect Theory

The Theory

This seminal theory is based on evidence that decision-makers:

1. Viewed changes as losses and gains with respect to a reference point
2. Assigned values to gains and losses rather than to final assets
3. Replaced probabilities with decision weights
4. Underweighted probable outcomes compared to certain outcomes (certainty effect)
5. Discarded the components shared by all choices under consideration (isolation effect).

The certainty effect contributed to risk aversion in choices involving sure gains and to risk seeking in choices involving sure losses. The isolation effect led to inconsistent preferences when the same choice is presented in different forms. Finally, the "framing" of issues (i.e., the context) was important input in our choices and decisions. The following principles follow from the theory:

1. *Reference-level dependence:* A decision-maker views consequences (monetary or other) in terms of changes from the *reference level*, which is usually that individual's *status quo*.
2. *Gain and loss functions:* The gain function is concave (risk averse), and loss function is convex (risk seeking).
3. *Loss aversion:* The resulting value function is steeper for losses than for gains; losing $100 produces more pain than gaining $100 produces pleasure.

Loss-Aversion Effect

The principle of loss aversion, that is, the asymmetric effect of losses and gains (losses are greater than gains) has found applications in many industries, markets, and public policy decisions. The empirical evidence has been growing.[2]

Pricing Decisions in Consumer Markets

In their seminal work, Kalyanaram and Little (1994) found that consumers reacted more sharply to price increases (losses) than price decreases (gains). Using scanner panel data for sweetened and unsweetened drinks (from the US market), and employing a logit model, the authors calibrated a model that incorporated the reference price, the latitude of price acceptance, and price losses and gains. The authors discriminated between the models and identified the best model using the log-likelihood ratio test of differences in explanatory power of the models.

The empirical results showed that the price increases decreased the utility by 1.20 and 1.29 in the sweetened and unsweetened drinks, respectively, and the price decreases increased the utility by 0.76 and 0.93, respectively. All these estimates were significant at the 95% confidence level. The research also found support for a latitude of price acceptance around the reference price. They estimated the magnitude of the width of the latitude, which was defined as a function of price variability in the extant research findings. The width of the latitude is estimated to be about 1 standard deviation.

Subsequent to the findings by Kalyanaram and Little (1994), many researchers in marketing have found that the loss-aversion effect in pricing is significant. Briesch et al. (1997), Bronnenberg and Wathieu (1996), Dayaratna and Kannan (2012), Delle Site and Filippi (2011), Erdem et al. (2001), Habib and Miller (2009), Han et al. (2001), Hess and Rose (2009), Hess et al. (2012), Hu et al. (2012), Johnson and Meyer (1995), Kalyanaram and Little (1989), Kalyanaram and Winer (1995), Kivetz et al. (2004), Kopalle et al. (2012a, 2012b), Kwak (2007), Masiero and Hensher (2010), Mazumdar and Papatla (2000), Moon et al. (2006), Newman and Newman (2007), Neumann et al. (2012), Nicolau (2011), Pauwels et al. (2007), Rose and Masiero (2010), and Terui and Dahana (2006a, 2006b) have established loss aversion across a variety of data sources, product and service categories, and methods of analyses. Researchers have established these findings across individual levels and/or aggregate data from Australia, Europe, United States, and other markets, and across consumer-packaged goods data (such as bacon, beverages, chocolate, coffee, cola, crackers, detergent, drinks, ketchup, orange juice, peanut butter, and tuna), consumer durables data (such as personal computers, laptops, and digital cameras), and service data (car travel, flight travel, holiday destination choice, and hospital services). The researchers have used a variety of empirical analyses and models such as latent class models, deterministic segmentation models, mixed logit model with continuous distribution of parameters, and logit and probit models.

Pricing Decisions in Financial Markets

Several asset-pricing models (Barberis & Huang, 2001, 2008; Benartzi & Thaler, 1995; Haigh & List, 2005) have been developed, using the principle of "loss aversion." Benartzi and Thaler (1995) developed a single-period portfolio model on the basis of prospect theory. Barberis and Huang (2001) extended this model. They examined asset prices when the investors weight the changes to the values of their financial wealth at least as much as the asset prices. The researchers find the following:

1. Investors are loss averse over these fluctuations, and the degree of loss aversion depends on their prior investment performance.
2. The framework also helps in explaining the high mean, excess volatility, and predictability of stock returns, as well as their low correlation with consumption growth.

Haigh and List (2005) found that myopic loss aversion was actually higher among professional traders than nonprofessionals such as students. Barberis and Huang (2008) studied the asset-pricing implications of cumulative prospect theory. Their analysis has yielded an interesting insight, "a security's own skewness can be priced: a positively skewed security can be 'overpriced' and can earn a negative average excess return." Grüne and Semmler (2008) extended these models to a dynamic environment. In all these models, using loss aversion produces "better results than one usually obtains from pure consumption-based asset pricing models," a surprising result.

Barberis (2013) offers a thoughtful review of the impact of prospect theory on finance.

Product Announcement Decisions

In an interesting paper, Natarajan et al. (2010) examined the reaction of a stock market to the announcements of new product decisions by the firms. The announcements were categorized as negative news and positive (negative) news. The first category included product withdrawals, "delays in launching new products, cutbacks in investments, and product abandonment announcements." The second category included "announcements of new products during tradeshows, the test marketing of new products, press releases and stories relating to the next generation of technology products, and new product-related investments, which also included launch of new products and/or extension of a newly launched product into new markets."

The researchers employed event study methodology (Fama et al., 1969) to calculate the market value of the firm, following the announcement of new products. They found that the cumulative abnormal returns were positive and statistically significant. While test market and national launches generated positive reaction in market returns, announcement of delays and exits generated a sharp negative reaction. The negative reaction is much sharper than the positive reaction.

Meta-analysis of Loss-Aversion Effect

There have been three meta-analytic studies that have reviewed a large number of research outputs and established the asymmetric effect of price increases and decreases:

1. Meyer and Cramon-Taubadel (2004) surveyed over 40 studies and found that the asymmetric price was consistent and robust. There were differences in the magnitudes of the effect, largely driven by econometric methods.
2. Employing random-utility models, Neumann and Bockenholt (2014) examined 33 studies in their meta-analysis. They found that the loss-aversion effect was robust across many categories.

3. In a more recent meta-analysis, Walasek et al. (2018) found that the loss-aversion effect was significant, and their estimate of the loss-aversion coefficient was 1.31, slightly smaller than some of the previous estimates.

In another domain, Saini et al. (2018) found that the asymmetric effect was applicable to quantity increases (seen as gains) and decreases (seen as losses) for the same price in a study of consumer-packaged goods in India.

Public Policy Implications of Loss Aversion

There have also been interesting policy studies to examine how price-loss aversion may be effectively used as a policy tool to improve outcomes.

For instance, price-loss aversion has a more dominant effect on household mobility than equity constraints. Price-loss aversion has roughly two-and-a-half to three times more impact of equity constraints (Engelhardt, 2001). Additionally, the study also found that "household intra-metropolitan own-to-own mobility responds differently to housing price losses than to gains." A second instance is the impact of loss aversion on commercial property prices. Genesove and Mayer (2001) and Bokhari and Geltner (2010) found that loss aversion had a significant effect on pricing of commercial property in the Boston market in the 1990s and in the US market in the 2000s. A third illustration is the power of loss aversion in improving the quality of teaching in schools. In a very interesting study, Fryer et al. (2012) found that if teachers were "paid in advance and asked to give back the money if their students do not improve sufficiently," the performance of the students improved dramatically. Specifically, math test scores went up very substantially—"equivalent to increasing teacher quality by more than one standard deviation."

Mental Accounting

Theory

Building on prospect theory, Thaler (1985) developed a new model of consumer behavior "using a hybrid of cognitive psychology and microeconomics." The model organizes the "mental coding of combinations of gains and losses" based on prospect theory's value function. And the evaluation of purchases is modeled using the new concept of "transaction utility."

Mental accounting is the set of "cognitive operations used by individuals and households to organize, evaluate, and keep track of financial activities" (Thaler, 1999). There are three inter-related components of mental accounting. The first component discusses how outcomes are framed and experienced by an individual. The second component involves how different incomes and expenditures are categorized and assigned to different mental accounts. The third component addresses the characteristics of these mental accounts, including the frequency of evaluation and the breadth/scope of the accounts. Each of these components "violates the economic principle of fungibility" (Thaler, 1999). Therefore, it is clear that "mental accounting influences choice" (Thaler, 1999).

Based on these principles, Thaler (1985) proposed a transaction utility theory. Here, the decision-maker first evaluates potential, and then approves or disapproves the transaction. "The first stage is a judgment process, whereas the second is a decision process."

Implications/Principles

There are important and evident implications/principles.[3] They are "segregate gains and integrate losses." As a corollary, we have these principles: "silver linings" (segregate small gains when they are combined with large losses) and "cancellation" (integrate [or cancel] losses when combined with larger gains).

Segregation and integration concepts have found wide application. The pricing strategy has been one of the most important applications. For instance, segregation of gains argues that when giving price discounts (perceived as gains), it is better to offer multiple discounts than combining all of them in one offering. Why? Because the sum of smaller positive utilities generated from each of the multiple discounts is greater than the one large positive utility generated by combining all of them into one offering, that is, since v is concave, $v(x) + v(y) > v(x + y)$ segregation is preferred.

However, in raising prices (perceived as losses), it is prudent to bundle the entire price rise in one event (this represents integration of losses). Why? As the value function postulates that losses are steeper, and this implies that it is better to combine all the losses. The total sum of dis-utilities from each loss is greater than the dis-utility from one large loss, which aggregates all the individual losses, that is, since $v(–x) + v(–y) < \mathrm{v}(–(x + y))$, integration is preferred.

"Silver lining" and "Cancellation" concepts are illustrated thus. Consider the following two situations:

Situation 1: Gain of $40 and loss of $4,000
Situation 2: Loss of $70 and gain of $100.

In situation 1, it is recommended that we segregate the small gain and the big loss. Whereas the big loss will obviously be painful, the small gain will bring a small hedonistic pleasure to the individual (silver lining). Why deprive an individual of small pleasure? In situation 2, the loss will bring pain and the gain pleasure. But if we combine the loss and the gain, there is a small net gain (or in some cases, the net loss is much smaller) which brings pleasure (smaller than the original amount), but the pain is cancelled completely.

Nudge Theory

Theory

Nudge is an intervention that gently steers individuals toward a desired action by framing the choice architecture and context to present the action as beneficial and gainful. Unlike mandates and bans (e.g., criminal and/or civil statutes) or economic (or other) incentives/disincentives (e.g., subsidies and/or taxes), a nudge is a "liberty-preserving approach" that steers an individual in a particular direction.

Thaler and Sunstein (2008) built on the prospect theory principles of framing, loss aversion, and assignment of gains and losses with respect to a reference point. The researchers demonstrated that the architecture could impact choices substantially. Appropriate framing can make it easier for people to choose what is best for themselves, their families, and their society. The researchers illustrated how appropriate framing of the "choice architecture" can facilitate in nudging us to more beneficial decisions both in personal and public lives.

The researchers defined a nudge as thus:

> A nudge, as we will use the term, is any aspect of the choice architecture that alters people's behavior in a predictable way without forbidding any options or significantly changing their economic incentives. To count as a mere nudge, the intervention must be easy and cheap to avoid. Nudges are not mandates. Putting fruit at eye level counts as a nudge. Banning junk food does not.

Decision-making

Extant research has shown that the biases and heuristics are important elements of all human choices and decisions. Some of these choices and decisions are pedestrian, others consequential, some with a shorter time horizon, and others with a longer time horizon. But all decisions and choices are subject to biases, which make us susceptible to errors in judgment. As Kalyanaram and Muralidharan (2011) assess,

> Individually and collectively as a society, our errors in judgment can be very consequential. For instance, we are consistently "over-confident" about our abilities and the outcomes of events, and how this leads to imprudent risk-taking. The "above average effect" is pervasive generating unrealistic optimism. The "irrational exuberance" in the high-tech industry or the housing market illustrates this nicely. Of course, in both the cases unrealistic optimism eventually led to pain and agony. On temptation and self-control strategies, the authors show the values of "mental accounting" and budgeting. In the budgeting context, monies are not fungible (if the money dries up in one budget, and even if the monies are available in another budget line, rules do not normally permit use of monies from the second budget for items in the first budget).

Applications and Examples of Nudges

Here, we list a few representative nudges. Please see Sunstein (2014) for a succinct summary of nudging strategies.

Default Rules and Precommitment Strategies

Let us consider personal financial decisions relating to individual savings and investing strategies, and management of credits and loans. Individuals save and invest best when savings and investments are the default rules. "Automatic" enrollment in a defined benefit savings plan and in an investment plan is an illustration of default rules. If an individual does not want to invest, she/he must deliberately opt out of the savings and investment programs. The default rules (nudges) produce much better outcomes than education and persuasion programs.

The same nudging strategy of "automatic enrollment" (default rule) produces effective outcomes for enrollment for education, health, and such programs that would enhance productivity and prosperity of an individual.

Related to the default rule, precommitment is another important nudging strategy. The precommitment nudging strategy asserts that setting a definitive (often numeric) goal increases the odds of attaining that goal. For instance, setting a definitive goal of saving at least $500 a month yields better outcomes than the more general goal of "I want to save more." When the precommitment strategy is combined with the default rule, results dramatically improve.

Explicit Cues Including Warnings

Where the risks are high, it may be worthwhile to provide explicit cues and/or warnings. For example, human beings are terribly bad in conservation of energy because energy is invisible. Accordingly, "visual cues such as a visible sign which will illumine red if the person consumes too much energy and green if the person consumes prudent level of energy are recommended. This simple visual cue successfully nudges human beings to conserve energy" (Kalyanaram & Muralidharan, 2011). A similar approach is suggested to present the dangers of smoking and/or obesity.

Freedom

This category of nudges deals with issues such as choices in schools for educating one's kids, ways to reduce medical liability, and increasing the odds of success of marriage:

> An interesting nudge to increase the odds of high school students attending colleges is to make application to a college a requirement for high-school graduation. While this nudge is interesting and is employed in San Marcos, Texas, the large-scale applicability of this nudge while being compliant with the law, is doubtful. Another suggestion is that society should let patients sign a private contract releasing the doctors of liabilities, but the courts do not like such arrangements. (Kalyanaram & Muralidharan, 2011)

Herd Mentality/Conformity

With regard to conformity, human beings conform because they do not want to stand out, that is, they do not want to be noticed as different from others. As a result, we observe herd mentality. Perhaps because of ego and/or insecurity and/or vanity, human beings tend to inflate their importance and worth and assume that the world is observing them carefully. However, as evidence shows, this is not a correct assumption, that is, the world is not as interested in us as we think.

> Accordingly, if we can "nudge" human beings away from the assumption of "spotlight effect," then their decisions and choices are less likely to be conforming and hence error-prone. In addressing the "choice architecture," the authors set out the commonsensical principle that stimulus, that is, the signal should be consistent with the desired action and/or behavior. (Kalyanaram & Muralidharan, 2011)

Application of Prospect Theory and Related Concepts/Theories to Management of COVID-19 Pandemic[4]

In this section, we discuss the application of prospect theory and related theories/concepts to management of COVID-19 pandemic.

Framing of the Message/Mandate

Hameleers (2021) studied the application of prospect theory to the compliance of social interventions (such as face coverings, social distancing, and lockdowns) in mitigating the diffusion of coronavirus (COVID-19) in two different settings: the United States and the Netherlands. The study specifically examined the effects of loss and gain frames on "preferences for risk-seeking versus risk-aversive interventions," and "stricter interventions to fight the virus." The results suggested strong support for framing. Exposure to gain frames yielded more support for stricter interventions than loss frames. Based on its empirical findings, the study makes the following recommendation:

> … if governments want to motivate support or policies and preventative measures that have more certain outcomes (i.e., preventions such as social isolation or a shut-down of social life), they should rely on gain frames instead of loss frames (i.e., focusing on the amount of lives that can be saved if citizens incorporate the advice to integrate preventative behaviors in their daily routines).

Sanders et al. (2020), however, found the support for framing to be weaker. "Participants seeing the loss frame are slightly (but not significantly) more in favour of faster easing, and less likely to comply." This difference may be attributable to a numbing/satiation/fatigue effect moderating the results. Hameleers (2021) study was conducted when the pandemic had just started, but the study by Sanders et al. (2020) was conducted during the full throttle of the pandemic.

Re-opening Decision

Underlying prospect theory is the consumer choice heuristics. One such heuristic is EBA. This decision-making rule has proved to be an efficient algorithm. EBA is a noncompensatory model when generalized. The noncompensatory decision-making involves identifying a set of criteria relevant to the decision and assigning an acceptable threshold value for each criterion (Einhorn, 1970). The noncompensatory model has two principles. The first principle is that of sequential consideration of criteria. The sequence generally follows a pattern such as the most important to least important attribute or feature. But the sequence may also not follow any pattern. The second principle is that of a critical tolerance or threshold level for each attribute. Unless the attribute satisfies the threshold levels for each attribute, the choice is discarded. This is similar to the satisficing principle proposed by Simon (1955). In summary, in a noncompensatory model (EBA), decision-makers are interested in certain threshold levels on each criterion. Values greater or less than the threshold value are, of course, welcome, but the threshold level should be sufficient.

EBA has important application to pandemic management, and specifically, the decision to reopen the economy/society. Here is an illustration of a noncompensatory, EBA model. For instance, a policy decision-maker may want the positive test rate for the virus to be no more than 1.5%, at least 25% of beds to be available for Intensive Care Unit (ICU), and capacity to conduct at least 20,000 tests a day. If the respective values are 1.2%, 30%, and 22,000, then the region is ready to be opened. On the other hand, if the respective values are 1.2%, 20%, and 22,000, then the region is not ready to open because the availability of ICU beds is less than the threshold value.

EBA models are likely to be more efficient and less biased. They are more efficient because the model requires lesser number of inputs (enumeration of criteria and setting threshold levels) than the compensatory decision-making model that requires a greater number of inputs (enumeration of criteria, assessing their relative importance weights, rating each criterion on performance, and setting a threshold composite score). Second, EBA is a heuristic (see Hauser et al., 2009).[5] Noncompensatory models are likely to be less biased, because there are smaller number of subjective inputs into the model.

Here, we describe the re-opening strategy of the State of New York in the United States as an application of EBA and noncompensatory model. The State of New York was deliberate in its reopening strategy in two ways. First, the State divided the entire State into various individual regions, and let each region be independent of the other in reopening decision. Second, the State adopted a strategy of phased reopening. The State adopted a successful re-opening strategy and as Dr Anthony Fauci has observed, the state did it "correctly."[6] From its peak of about 800 deaths a day in mid-April, mortality shrunk to about 10–20 per day (based on reports on July 21, 2020).[7] The number of hospitalizations decreased from about 17,000 to 18,000 per day in the peak in mid-April to about 700 to 800 per day (based on reports on July 20, 2020).[8] The success can be attributed to many elements: setting clear decision-making parameters,[9] and adhering to the parameters. Both elements were challenging because of the political ecology. Specifically, the State clearly enumerated the six criteria[10] and the specific threshold value for each of the criteria. The State did not deviate from the requirements. The State opened a region only when it fulfilled all the six required threshold values corresponding to the six criteria.

Of course, effective decision-making depends on sound inputs. Some of the main inputs are forecasts of the number of deaths and the resource requirements such as regular beds and ICU beds. Here, Kalyanaram and Mukherjee (2020) have developed an accessible and parsimonious model to forecast the number of deaths. Please see their paper for the details.

Closing and Re-opening Decision Strategy

We know that mental accounting theory affirms that we should segregate the gains and integrate the losses. In this context, what should be the strategy with regard to closing the economy (and schools/colleges)? Obviously, closing the economy is a loss. Assume a government closes the economy and reopens after a period of closure, and assume that the government is forced to close the economy again. This is not an optimal decision. Integration of losses advises us that instead of closing, opening, and closing again, it is better to keep the economy (and schools/colleges) closed for a longer time period so that it does not have to be closed again.

Increasing the Odds of Diffusion of Accurate Information

Finally, nudge theory offers useful insights into how we can accentuate the correct information about the pandemic and attenuate the misinformation. Pennycook and his colleagues (2020) showed that an "accuracy nudge" from social media networks could curtail the spread of misinformation about COVID-19. An "accuracy nudge" is a reinforcement and/or indirect/implied suggestion that would increase the odds of considering the accurate information and rejection of incorrect information. Pennycook used the rating of an accurate headline as the accuracy nudge before the subjects were asked to share their willingness to share the news provided to them. And this simple intervention increased the odds of spreading/sharing accurate information.

Earlier in the year, Nekmat (2020) also showed that nudges decreased the odds of dissemination of inaccurate information. The study found that "fact-check alerts could, indeed, deter users from disseminating news misinformation to others on social media." Such a nudge appears to work because of loss aversion—in this case, loss of peer reputation and recognition. A fact-alert check highlights the risk of sharing faulty news, evoking loss aversion. As the study points out, "This restraint aligns with prior studies evincing users' inclination to preserve their social status and approval in peer networks for sharing news and information on social media."

Conclusions

The impact of behavioral decision theories—and particularly, the prospect, mental accounting, and nudge theories—has been very substantial across many disciplines, including economics, finance, marketing, and public policy.

The scholarly research in this area has been deep and interdisciplinary. But there is much more to be done. Most of the extant research has been experimental. There is much room for analytical and empirical work. There is also a productive opportunity to identify empirical generalizations which can form the foundation for further scholarly research and robust managerial insights.

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Notes

1. This manuscript draws from the published and draft research work by Gurumurthy Kalyanaram. To make the points succinctly, we periodically cite the extant findings directly from the various research outputs.

2. The draft manuscript by Kalyanaram and Winer (2020) on ‘Behavioral Response to Pricing’ prepared for the special issue of *Journal of Retailing* has a detailed description of loss-aversion effect. The material in this section has been adapted from the mentioned working paper.
3. Here is a public policy application. In a recent paper, Muehlbacher et al. (2020) argued that the mental segregation of taxes due from net income affects a taxpayer’s reference point in the compliance decision and results in higher tax compliance.
4. The draft manuscript prepared by Kalyanaram (2020) for the *Society for Advances on Management* discusses this topic at substantial length, and the material here is adapted from this manuscript.
5. http://www.mit.edu/~hauser/Papers/Hauser_Ding_Gaskin_Sawtooth_Consideration_May_02_09.pdf
6. https://www.pbs.org/newshour/show/how-fauci-says-the-u-s-can-get-control-of-the-pandemic
7. New York city reported zero mortality for the first time since March 2020 on or around July 20, 2020. See: https://www1.nyc.gov/site/doh/covid/covid-19-data.page
8. https://www.cdc.gov/covid-data-tracker/#cases
9. As we have already described, setting clear measurable goals is a successful nudge that produces better outcomes.
10. *Criteria 1–2: Decline in Total Hospitalizations and Decline in Deaths*. A region had to experience “a sustained decline in total net hospitalizations—the total number of people in the hospital each day, calculated on a three-day rolling average—over the course of a 14-day period.”

    Criterion 3: New Hospitalizations. Here the requirement was “the occurrence of fewer than two new hospitalizations per 100,000 residents (measured on a three-day rolling average).”

    Criteria 4–5: Hospital Bed Capacity, ICU Bed Capacity. The condition here was that a region “must have at least 30% of their total hospital beds available before a phased re-open can begin.”

    Criteria 6: Diagnostic Testing Capacity. “Phased re-openings will depend on the ability of each region to achieve 30 tests per 1,000 people per month.”

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Article

Emerging Roles and Responsibilities of Auditors and CFOs in the Light of Transforming Risk Landscape

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GREAT LAKES
INSTITUTE OF MANAGEMENT, GURGAON

Madhu Vij[1] and Jayant Palan[2]

Abstract

A new perspective of risk management in the context of emergence of new technologies and innovations has not only changed the risk landscape in the last few years but has also prompted an important shift in the role of auditors and Chief Financial Officers (CFOs) in organizations. Auditors along with senior management need to take a holistic and forward trending view on the emerging risk and risk management practices. They need to be transparent about arriving at the audit opinion and expand their coverage in implementing and improving compliance, governance and risk management-related processes and controls within an organization. New ways and perspectives of risk management have emerged and board, senior leaders, regulators, leaders have all expanded their focus to include the concept of enterprise risk management (ERM). The realities of an ever-changing world with frequent business disruptions have made the concept of ERM important in companies.

With the changing times and dynamic scenario that has arisen due to the pandemic, leading organizations are increasingly expecting auditors and CFOs to ensure that they integrate risk into strategic decision-making so as to make smarter decisions. Auditors need to move away from a siloed approach to a

[1] Faculty of Management Studies, University of Delhi, Delhi, India
[2] Global Risk Management Institute, Gurgaon, Haryana, India

Corresponding Author:
Madhu Vij, Faculty of Management Studies, University of Delhi, Delhi 110007, India.
E-mails: madhufms@gmail.com; madhuvij@hotmail.com

more consolidated risk assessment and monitoring perspective. They need to add focus to the top risk areas, think about the return for the organization, avoid unnecessary governance and compliance, and provide objective assurance to the board regarding risk management efficiency.

Keywords

risk management, auditors, enterprise risk management, COSO, COVID-19, internal audit, CFOs

Introduction

A complete overhaul of the risk landscape over the last few years, more so over the last few months, has created a pressing need to evaluate the change in role of auditors and chief financial officers (CFOs) and expectations from them. Organizations are now looking up to them more than ever before for guidance on how one should deal with the unknowns and continue to grow sustainably. Traditionally though, the role of auditors was perceived as more around adherence to regulations and compliance requirements, and a tick in the box requirement. The role now seems to be way more holistic and challenging as they now have the opportunity to be enablers and catalysts for sustainable growth by allowing organizations to take informed and measured risks. The changing objectives of the organizations, emergence of new technologies, and innovations have changed the risk landscape and have even influenced the blueprint of the regulatory systems. Thus, the onus lies on the auditors to act accordingly. Auditors along with the senior management should, thus, focus on identifying emerging threats and even look for converting those threats into opportunities. It is surprising that although risk management seems to be leading the way for the years to come, senior management seems to spend very less time on the emerging risks and focus on controls related to such risks. In recent times, the occurrence of a Black Swan event like COVID-19 has posed a threat to the mightiest of the organizations who felt that all the controls and systems are in place. Auditors thus need to look out for the monotone empirical ways and think from the frontline to envisage and mitigate risks more proactively. Over the years, the business landscape of the organizations has shifted focus from the recession survival tactics to aggressive growth strategies. Managing risks is the priority for senior management, and it is a key strategic parameter now for organizations to create sustainable value and succeed.

As an effective risk management strategy is vital for organizations, risk management systems need to be robust and effective in view of the changing landscape and the continued technological advancements (Vij, 2019). Quon et al. (2012) argue that a series of company failures, corporate scandals, and fraud are amongst the reasons for companies to effectively implement risk management programs. These companies' failures were caused by poor risk management and corporate governance practices. New ways and perspectives of risk management have emerged, and board, senior leaders, regulators, and leaders have all expanded their focus to include the concept of enterprise risk management (ERM). The realities of an ever-changing world with frequent business disruptions have made the concept of ERM important for companies. ERM is a structured, consistent, and continuous process across the whole organization for identifying, assessing, and deciding on responses to and reporting on opportunities and threats that affect the achievement of its objectives (The Institute of Internal Auditors, 2020).

With the expansion of regulatory compliance and changing stakeholders' expectations, ERM is now formally a factor in credit rating issued by top agencies. It is embedded into the organization's strategic decision process. S&P Global was the first to formally include ERM as part of an organization's credit rating. S&P evaluates a company's ERM initiative within a general framework that includes the following four components: first, risk management culture and governance; second risk controls; third emerging risk preparation; and finally, strategic risk management (ERM Insights by Carol, 2017).

ERM is structurally supported by the internal audit process and framework as it has a critical and multidimensional role to play in making risk management and ERM implementation successful. It helps to ensure that key business risks are being managed appropriately and that the system of internal control is operating effectively. Against this backdrop, the primary objective of the article is to bring out what the business environment and changing risk landscape means for auditors and CFOs in terms of their roles and responsibilities. The research will offer ideas and suggestions to executives responsible for ERM implementation. The following sections present the review of literature, conceptual framework, and then discussion on developing a robust risk management framework. The final section provides the relevance, implications, and conclusions.

Review of Literature

According to Vij (2019), risk management and ERM continue to capture the top slot in future trends relating to risk and compliance. Gordon et al. (2009) argue that a paradigm shift has occurred regarding the way organizations view risk management. Instead of looking at risk management from a silo-based perspective, the trend is to take a holistic view of risk management. This holistic view of risk toward managing an organization's risk is known as ERM. The Committee of Sponsoring Organization (COSO) defines ERM as

> A process, effected by an entity's board of director's, management and other personnel, applied in strategy setting and across the enterprise, designed to identify potential events that may affect the entity, and manage risk to be within its appetite, to predict reasonable assurance regarding the achievement of entity objectives.[1]

An enterprise-wide approach to risk management enables auditors to consider the potential impact of all types of risks on all processes, activities, stakeholders' products, and services. This therefore tends to avoid a silo approach of identifying and managing the diverse risks faced by an organization (Kibisu et al., 2017). However, since ERM takes a more holistic view of risk across the organization, it considers both the upside and downside of risk, and focus here is on strategic and business goals of the organization (Vij, 2019).

Study by Standard and Poor's (2008) developed an ERM framework which demonstrates that ERM practices are significantly aligned with manager's behavior in everyday decision-making. According to the new COSO framework, "The complexity of risk has changed, new risks have emerged, and both boards and executives have enhanced their awareness and oversight of ERM while asking for improved risk reporting" (COSO, 2017).

By contrast, traditional risk takes a narrow view of risk, is conducted in silos, and is a bottoms-up approach. It considers risk as an individual hazard and focuses only on loss prevention. More often than not, ERM takes more of a top-down approach. Ideally, ERM will start with the strategic plan and key objectives of the institution. Traditional risk management is reactive and sporadic, whereas ERM is proactive and continuous. It is mostly embedded in the culture and mindset of an organization.

Researchers in the past few years have explored the relationship between ERM and an organization's performance (Chen et al., 2019; Florio & Leoni, 2017; Hanggraeni et al., 2019). They have argued that a strong risk management and ERM system could increase the overall firm's performance and shareholder value. Yang et al. (2018) argue that top management's financial education is associated with ERM practices, which in turn can influence a firm's competitiveness and performance. Floria and Leoni (2017) conducted a study on ERM and the firm's performance. The results of the study show that firms with advanced levels of ERM implementation present higher performance—both as financial performance and market evaluation. De Souza et al. (2012) specified that the effect of ERM on a firm's performance is influenced by the degree of involvement of the stakeholders in risk management and the maturity level on managing risk. Despite these studies, Tahir and Razali (2011), McShane et al. (2011), Quon et al. (2012), and Li et al. (2014) demonstrated no additional increase in the firm's performance for companies implementing ERM.

Morse (2020) recently conducted a research study on the link between ERM and organizational financial performance. The research focused on Australian-based companies in the ASX30, which includes Australia's top 300 organizations ranked by market capitalization, and members of the Risk Management Association of Australasia. The study concludes that an ERM framework should not be a compliance tool; it should rather be an insight and value driven. By achieving this, organizations have greater visibility of the health of their business and consequently make better strategic decisions.

Parvaneh et al. (2020) conducted a study to evaluate the influence of ERM on a firm's performance with the moderating effect of intellectual capital dimensions. A questionnaire survey was distributed to 84 Iranian financial institutions. The findings revealed that ERM had a positive relationship with a firms' performance. This study provided an insight into the impact of ERM in recent years on nonfinancial performance and the influence of intangible assets on ERM and its function.

Conceptual Framework

The risk landscape in today's environment has created a need for organizations to adopt a sturdy risk management culture and process for the organizations. The focus of the risk addressed should be aligned to the overall objectives of the organization. The ever-changing risk landscape impacts the auditor and his/her opinion. It is thus important for the auditor to understand the changing risk landscape and apply changes to the audit approach accordingly. It is also important to have a sound conceptual framework that would serve as a foundation for the setting of standards and norms and enhance the consistency of the standards over time. A conceptual framework would also provide guidance for solving the emerging practical problems and the threats posed by such risks to organizations. During recent times, threats and uncertainties faced by organizations are difficult to be dealt with, and thus auditors need to assess and measure risk proactively. They need to look into the risk tolerance and the velocity of risks that organizations can face keeping in mind how often risk perceptions are changing for the organizations. The current situation may increase the challenge of gathering sufficient appropriate audit evidences which are needed to form an independent view to reason out the management's estimates and judgments. Auditors need to exercise significant professional judgment and professional skepticism to remain focused on their ethical responsibilities and also take public interest into consideration. The process of risk identification and assessment is iterative and dynamic for auditors. Owning to the changing times and modify the audit responses and procedures, they need to revise the risk assessment procedures on the basis of new evidences and new information obtained. This comes out to be important, especially at the hours when business continuity planning and disaster management for majority of organizations seem to fail. Because of the implications of COVID-19, there might be changes in the entity's objectives, strategy, organizational structure, governance arrangements, and business model, and it is important for auditors to consider how such changes would impact the audit. It is also important for the auditors to change their approach even during the audit as the environment might continue to evolve despite they have already completed planning and have done the organization's risk assessment before the onset of the COVID-19 pandemic.

Some of the circumstances in the COVID-19 scenario which might increase the susceptibility of risks for material misstatement include:

1. Ineffective execution of strategies or inappropriate objectives by the management.
2. Lack of expertise and failure to deal with changes.
3. Inaccurate estimation of demands and thus reduction in business.
4. Improper due diligence performed on new products and services.
5. Lack of financing due to the inability of the entity to meet requirements.
6. Increase in legal exposure has led to the increase in regulatory requirements and needs.
7. Increase in fraudulent activities.

It is important for auditors to understand how any relevant changes in laws and regulations would impact the entity and how it would operate after the changes are brought in. This may include the extension of the reporting periods for some of the jurisdictions. There might also be changes in financial reporting standards applicable in some jurisdictions which may be required to be considered.

Developing a Robust Risk Management Framework

The risk profiles for most of the organizations have constantly changed due to internal and external influences. The risk landscape in today's environment has pointed out the need for organizations to adopt a robust ERM culture and process. The pandemic has brought to the forefront a whole basket of risks that needs to be addressed by auditors' vigilantly. The key role of auditors with regard to ERM is to provide assurance to the senior management and board on the effectiveness of risk management. The audit should also involve the standards to measure the impact and likelihood of some of the risks that might arise even after the wave of the pandemic has subsided. It is also important to address the high impact and high likelihood risks on a priority basis to keep the organization in its shape and form even during this pandemic, especially when all the business continuity planning and disaster recovery mechanism of the organization has drastically failed.

Some important frameworks to help auditors analyze and develop a robust risk system are discussed in the following sections.

HazOP and HazID

Risk assessment tools such as HazOP and HazID can be helpful for auditors in analyzing risks. Classifying risks and addressing them become very important for auditors in such times. Analyzing and quantifying the risk appetite of the organizations and following a top-down approach by the senior management and cascading down to the organization would help the board and the auditors to engage in risk issues, integrate risk management systems, and would help them in strategic decision-making.

BS 31100

British Standard BS 31100 suggests that an organization needs to set up its risk appetite before either setting of its strategic objectives or identifying and assessing its risks. According to the British Standard BS 31100 (Paragraph 3.8):

> Both the risk appetite and risk profile should be monitored by the board (or equivalent) and formally reviewed as part of the organization's strategy and planning processes. This should consider whether the organization's risk appetite remains appropriate to deliver the organization's objectives in light of internal and external drivers and constraints.

It is also important for the organization to effectively communicate its risk appetite so that the auditors and other decision makers can effectively understand the "rules" within which they should operate. The auditors should thus suggest and help prepare a risk appetite statement that would provide for direction and boundaries to the risk which can be accepted at various levels in the organization. The BS31100 suggestion to have a risk appetite statement at various levels of the organizational structure is aligned to an organization's overall ERM maturity as the risk appetite forms a key component in any ERM maturity model.

Firm Scorecard

The assessment by the auditors of the risks for material misstatement, including fraud risks, continues throughout the audit during these pandemic times. When an auditor obtains any audit evidence during the audit procedures that would tend to contradict the audit evidence basis which the auditor originally has done the risk assessment, the auditor should revise the assessment of the risk and thus modify the already planned audit procedures or implement additional procedures in response to the revised risk assessments. A firm scorecard proves to be helpful in the risk assessment by the auditors. A corporate risk scorecard would also help in a country risk assessment for an organization situated in different continents across the globe. This would help organizations to take decisions according to diversifications and help auditors to perform their audit procedures accordingly. This would also help businesses to explore or exploit new opportunities. Risk management by the auditors for the organization does not only mean to identify, assess, and mitigate risks, but it also means to take up new opportunities and ventures with higher risks to ensure a greater return. This would add value and also help the organization grow to its optimal level.

PCAOB Auditing Standard 2110

The Public Company Accounting Oversight Board (PCAOB) Auditing Standard 2110, *AS2110: Identifying and Assessing Risks of Material Misstatement*, as amended states: The auditor needs to perform risk assessment procedures that are sufficient to provide a basis to identify and assess the risks of material misstatement, whether due to an error or a fraud, and design the audit procedures accordingly. The risk due to material misstatement may arise from a variety of sources that includes external factors also, such as the environmental conditions in the company's industry, and certain company-specific factors such as the nature of the company, its activities, and internal control over financial reporting. The external or company-specific factors can affect the judgments involved in determining the accounting estimates or create pressures in order to manipulate the financial statements for achieving certain financial targets. Many organizations are also facing certain uncertainties as public health officials and business leaders focus mainly upon understanding the COVID-19 virus so as to plan and re-open the economy, and to understand what getting back to normal would be like in different geographies and across different industries. It has been directed to public companies to provide as much information as possible to the investors and other stakeholders about their current financial and operating status, as well as their future operational and financial planning, and business objectives and strategies.

For auditors, identifying and assessing risks during forthcoming days might be more challenging owning to these uncertainties.

While assessing the risks of material misstatements, auditors should also look into the fraud risks that have aggravated to a great extent during the pandemic. Auditors may also need to periodically update their understanding of the management's processes for identifying the risks that are relevant to the financial reporting objectives, which would include risks of material misstatement due to fraud. PCAOB's *SPOTLIGHT* states that the auditors may consider some aspects to modify different procedures or design new procedures. This would include enhancing the supervision on the less experienced members and review and modify their nature of work. This would also include the involvement of senior managements in addressing more complex issues. The evolving time demands for the need of specialists and people with specialized skills and knowledge in their fields of expertise. As far as approaches to engagements of other auditors involved are applicable, the use of technology becomes an area of utmost importance. Auditors should also consider whether audit evidences are gathered through alternative approaches or include new or extensive procedures that need to be performed by the lead auditors. Auditors should exercise professional skepticism when gathering audit evidence. With management and auditors alike working remotely, it is important to stay alert to whether evidence obtained is sufficient and appropriate to meet PCAOB's auditing standards. Auditors may need to obtain audit evidence of a different nature or form than originally planned, which may affect the auditor's consideration of its relevance and reliability. Among other required communications, the auditors should communicate to the audit committee the significant changes for a planned audit strategy or the significant risks that have initially been identified, and also state the reasons for such changes. It is important for the audit committee to provide for a robust oversight and effective inputs to help ensure that the risks are properly identified, assessed, and responded to by the auditor. With the changing environment and the potential for newer risks to evolve, it is important to have more frequent engagement with the audit committee related to the auditor's risk assessment.

COSO Framework

COSO was established by five major accounting associations and institutes in the United States in the mid-1980s as part of the National Commission on Fraudulent Financial Reporting. The aim of COSO was to understand and study financial reporting and develop recommendations to prevent fraud. In 2004, COSO published an ERM cube that placed a strong emphasis on audit as the driving force behind ERM. To achieve a successful ERM initiative, eight components are shown on the front of the cub: internal environment, objective setting, event identification, risk assessment, risk response, control activities, information and communication, and monitoring. Further, all eight components need to be integrated with each of the four risks as indicated on the side of the cube namely, Strategic, Operations, Reporting, and Compliance.

In September 2017, COSO published a revision of its corporate risk management framework called ERM – Integrating with Strategy and Performance. This framework provides a guidance on ERM, internal control, and fraud deterrence to help organizations attain better value in an increasingly complex and uncertain business environment. The framework will also help business leaders prioritize the risks and understand the new risks that are fast emerging in an uncertain and complex business scenario. The 2017 framework builds on the solid foundation of the COSO 2004 document and establishes a strong link between risk, strategy, and performance. Risks are viewed not just as negative risks, but also as risks that will add value to the organization. The framework has been designed to help organizations deal with the multiplicity and complexity of risks that have increased in today's complex scenario. Risks are linked with strategies to help the board of directors and top leaders understand the risks that stem from executing a chosen strategy. The COSO ERM update was designed to help organizations deal with risks that have increased in volatility and complexity with the expansion of regulatory compliance and changing stakeholders expectations.

Reverse Stress Test

Reverse stress testing can be used as a tool by almost all organizations in order to enhance their going concern assessments and improve risk assessment during the pandemic and even beyond that. It can help managements enhance their robustness and can also help the auditors to provide for persuasive evidence to support their conclusions on the going concern. The going concern forms a key focus area for audit reform. A reverse stress test (RST) is a test that starts from the opposite end, and thus it identifies a predefined outcome. An RST would broadly involve exploring three questions in the following order: What would it take for an entity to fail? What individual event, or sequence of events, could lead to this outcome? What can be done now to avoid this? Auditors are required to efficiently address such questions in order to look ahead and help the management chalk out their objectives and strategies accordingly.

It is suggested that the aftermath of a pandemic provides for an opportunity to learn, and the innovations that are adopted during the pandemic can be a part of the new normal and the Next World. The Next World is typically associated with the risks and opportunities that are related to the Digital Age. Auditors would thus need to update themselves on their entrepreneurial thinking and behaviors, analyzing data and their data capability as required by the organizations, communication skills, personal resilience, and agility. A pandemic proves to give organizations a unique opportunity to make changes and take up risks that would guarantee higher returns.

Relevance and Implications

As organizations rely more on the advancement in the areas of technology, artificial intelligence, and data analytics, etc., the focus of the management shifts toward adapting to such changes. Research would help auditors understand their changing roles and responsibilities in an organization owning to the evolving risk environment. It would be insightful for the auditors to understand their approach that needs to be modified over time and how they can add value to the organization. It would help them understand that the role of the auditors is not only confined to addressing the risks but also to seek opportunities out of it to help the growth of the organization. The auditors also need to move away from their empirical approaches and concentrate more on the value addition for the organization and explore the new and underdeveloped areas for managing risks. The changing environment because of the pandemic has been impacted by new technologies, and thus the auditors have a major role to play in determining the risks associated with it and design controls against such risks. With the evolution of the risk landscape, it has been observed that organizations are moving toward technological development to perform the basic and repetitive tasks. Along with this, they are also looking ahead to improve the processes, finding opportunities, and ensuring that tasks are performed with greater precision. Auditors should look into avoiding duplications and unnecessary governance to put forward a lean process. Focus should also be given on the inherent risks faced by the organizations which tend to have a high impact and likelihood. On the other hand, a quantitative measurement of the risk tolerance and risk appetite of the organization needs to be scrutinized by the auditors. It is important for the auditors to analyze the potential impact of certain events which can be done by having a proactive approach toward risks rather than a reactive approach toward it. The risk-handling functions should thus move from just simply alerting the management and needs to be cascaded down to the bottommost rung of the organization. There is thus a need for effective governance than just focusing on and assessing of risks. The auditors with the evolving times need to think about the returns for the organization rather than addressing only the risks. Value addition to the organization is of utmost importance at all levels because of the evolution of the risk landscape and the dynamic environment that has arisen due to the pandemic.

Conclusion

The complexity and competitiveness the business world is experiencing has focused on the rising importance of risk management and the increasing expectations of internal audit's contribution to the effort. A survey by PwC (2012), "Aligning Internal Audit: Are you on the right floor?," found that almost everyone wants internal audit to maintain or add focus to the top risk areas. Top-down, risk-based planning begins with seeking management's viewpoint on their top priorities. As risks are not static, internal audit must be flexible. Thus, the need to manage risk in an organization has become an indispensable part of good corporate governance. High performing organizations manage their risks strategically in all areas of operation. Risk-based internal auditing provides assurance to management that risk management processes are not only classified accurately but are also working efficiently. They provide an environment where both upside and downside risks are highlighted so as to create a significant impact on the bottom line of performance. The changing risk landscape has made the process challenging for auditors and CFOs as the focus of risk management has elevated from the tactical to strategic level. Onus is now on the auditors and CFOs to accept the challenge, rise to the occasion, and be a torchbearer for organizations during turbulent times.

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1. https://www.complianceonline.com/dictionary/COSO_ERM_framework.html#:~:text=Unlike%20any%20other%20risk%20management,guidance%20for%20enterprise%20risk%20management.&text=As%20defined%20by%20the%20COSO%20framework%2C%20ERM%20is%20%22

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Article

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GREAT LAKES
INSTITUTE OF MANAGEMENT, GURGAON

Implementation of Accrual Accounting in the Public Sector: Evidence from Indonesia

Tri Prabowo[1], Ann Martin-Sardesai[2], and James Guthrie AM[3]

Abstract

This article is inspired by complexities in the adoption and implementation of accrual accounting (AA), which has been explored in the public sector accounting literature, and seeks to examine its implementation in the Indonesian public sector. Using case-based research, the article is underpinned by Gramsci's theory of hegemony to construe the process of the implementation of AA. The article adopts a qualitative research method including interviews with senior regulators of public sector reforms in Indonesia and an extensive review of documents, literature and reports to construct a historical analysis. The data reveal that international donor organizations such as the International Monetary Fund (IMF) and the World Bank influenced the implementation of AA in Indonesia. In line with Gramsci's theory of hegemony, the international organizations directed the senior Indonesian regulators to perceive that AA was indispensable. Therefore, AA was implemented because of hegemonic influences and attempts to seek legitimacy. The empirical evidence provided identifies that major public sector reforms are complex. This is even more evident in new emerging market countries like Indonesia, where the intentions underpinning reforms may be challenging to realize and are driven by factors outside the control of those tasked with its

[1] Diponegoro University, Indonesia
[2] College of Business, School of Business and Law, CQUniversity Sydney, NSW, Australia
[3] Department of Accounting and Corporate Governance, Macquarie Business School, Macquarie University, Australia

Corresponding Author:
Ann Marin-Sardesai, College of Business, School of Business and Law, CQUniversity Sydney, NSW 2000, Australia.
E-mail: a.sardesai@cqu.edu.au

adoption and implementation. The article is novel in identifying and interpreting the influence of the IMF, the World Bank, and other international organizations on the implementation of AA in Indonesia through the lens of Gramsci's theory of hegemony.

Keywords

accrual accounting, government accounting standards, Indonesian public sector, hegemony, public sector reforms

Introduction

Traditionally, the public sector accounting systems have been cash or fund accounting systems which provided information on what cash receipts have been paid to the entity and how cash appropriations were made (Diamond, 2002; Guthrie, 1998). Unlike this system, the accrual accounting (AA) system records revenue when a product or service is delivered to a customer with the expectation that money will be paid in the future. Expenses of goods and services are recorded despite no cash being paid out yet for those expenses. The proponents of the AA system claim that it carries the advantage of focusing on resource flows according to the period in which they are generated or consumed, which in turn helps in creating a more accurate picture of the cost of services. According to Guthrie (1998), the adoption and implementation of AA and budget techniques in the public sector have not been an end in itself, but rather a means to the enactment of significant changes in the scope, scale, and style of public sector administration and activity.

Australia and New Zealand pioneered AA for the public sector since the late 1980s (see, e.g., Buhr, 2012; Carlin, 2005). New Zealand became the first nation to implement AA at both national and agency levels and produce its financial statements on a full accrual basis (Baker & Rennie, 2006; Carlin, 2005). Whereas the migration to AA in New Zealand was in a whole-of-government basis, in Australia, the change was initiated in 1988 by the local government of New South Wales and implemented over three years, ahead of other states in Australia (Christensen, 2002).

The change toward the implementation of AA in both Australia and New Zealand was primarily brought about by internally induced new public management (NPM) reforms, either caused by fiscal stress or by the enthusiasm of politicians to introduce a business-like management system in the respective governments. This also appears to be the case for most developed countries (Harun et al., 2012). For example, Ellwood (2002) attributes the transformation to AA in the United Kingdom to the NPM reform process led by a perceived need for improved information. On the other hand, the reform of public sector accounting in Canada by the coercive influence from the Office of the Auditor General of Canada was supported by the normative effect of the Canadian Institute of Chartered Accountants' Public Sector Accounting Board (Baker & Rennie, 2006). On the other hand, limited studies from developing countries have shown that the same change in the less developed or emerging nations was caused by external pressure from international donor and funding organizations (Buhr, 2012).

According to James and Manning (1996), the World Bank and the International Monetary Fund (IMF) coerced developing countries to implement management reforms in various public sectors. In the book *Globalization and Its Discontents*, Stiglitz (2002) mentioned that the IMF and the World Bank dictated several countries (e.g., Bolivia, Argentina, Indonesia, Thailand, Malaysia, South Korea, Botswana, Kenya, Russia, and the Czech Republic) to implement management reforms in public sectors. Also, Turner (2002) and Koike (2000) identified that these international organizations have been influencing public sector reforms in Southeast Asia countries such as Singapore, Malaysia, Philippines, Thailand, Indonesia, Laos, Cambodia, Burma, and Brunei.

Internationally, the activities and roles of the IMF in developing the economic order have reached a stage of *hegemony* (Alawattage & Wickramasinghe, 2008; Mueller, 2011). According to Annisette (2004), the IMF, along with its sister organization, the World Bank, stands at the center of the modern global capitalist economy and functions both as *financial hegemon* and *intellectual hegemon*. The concept of *hegemony* originated from Gramsci's thought that refers to a condition where a particular class (a powerless class) gives the right to another class (a dominant class) to control the entire society (Simon, 1991). The consent makes the power or authority and has the legitimacy to be exercised. The *hegemony* power is the predominance obtained by the consent rather than the violence or coercion of one class over other classes (Cerny, 1992; Femia, 1975, 1981; Fontana, 1992; Gillis, 2011; Matsuda & Ohara, 2008; Simon, 1991). The term of *hegemony* has opposed meaning with domination, force, dictatorship, and coercion (Fontana, 2008; Yee, 2009); conversely, it has a relationship with the sense of consensus and persuasion (Simon, 1991).

This research arises from the curiosity regarding the stories that exist behind the implementation of AA in Indonesia. It is inspired by the reality (the thought) stating that the IMF has got a *hegemonic* position. However, in the case of implementing AA in Indonesia, the IMF applies coercion that contradicts the approach which is usually exerted in a developing *hegemony* (i.e., persuasion and consensus). Accordingly, this research seeks to answer the question that is inspired by that contradiction:

RQ1: Can the IMF influence the implementation of AA in Indonesia be categorized as the process of *hegemony*?

The article is structured as follows. The next section presents a brief literature review on the impact of international donors on the accounting systems of developing countries. The section on Gramsci's Theory of Hegemony explores the hegemony theory interpreted through the lens of Gramsci's thoughts. The fourth section outlines the research method used, followed by the section that presents the findings of the study. We interpret the results through Gramsci's theory of hegemony and provide logical explanations as to how the implementation of AA in Indonesia can be categorized as a hegemony process. The final section concludes the article by outlining the implications and limitations of this research.

Literature Review

The Asian financial crisis experienced by Indonesia in the early 1980s had driven technocrats in the Indonesian Ministry of Finance to propose a change to government accountancy. Prawiro (1987) argued that the old accounting systems inherited from the Dutch had been unsuccessful in keeping up with the government needs. The financial crisis, caused by a drop in the oil price, significantly affected Indonesia, which was an exporter of crude oil at the time (Harun et al., 2012). Government revenues, which derived mostly from oil exports, decreased considerably leading to Indonesian government seeking more financial aids from outside (Harun et al., 2012; Prabowo et al., 2018). During this time of fiscal crisis, the government was under scrutiny by the international monetary authorities, and as a result, transparency and accountability of public funds were in focus (Prabowo, 2015).

In response to the demand for transparent and accountable use of public funds, a project to reform accounting practice was approved and fully funded by the World Bank (1988). The most significant shift to a more accrual basis was the double-entry recording and introduction of balance sheet accounting. In this basis of recording, all revenues and expenditures are on a double-entry basis, with offsetting debits and credits. Whereas double-entry accounts are used to improve the accuracy and completeness of government accounts, a balance sheet is introduced to support accountability for state investments (World Bank, 1988).

The IMF and the World Bank advocate these reforms, programs, and structural adjustment in specific countries for augmenting the adoption of neoliberalism (Cox, 1983; Ellwood & Newberry, 2007; Prabowo et al., 2018). Many scholars, for example, Stiglitz (2002), Engel (2008), Rosser (1999), Ellwood and Newberry (2007), Rupert (2000), Cooper et al. (2003), Harvey (2005), and Steger and Roy ((2010) identify neoliberalism as an ideology which underpins the IMF operation. The "Washington Consensus" in 1989 is alleged as a landmark of neoliberalism proliferations. At that time, the IMF, the World Bank, and the US Treasury agreed to adopt a different approach in the international economic development and monetary stabilization (Stiglitz, 2002), the approach, later identified as the neoliberalism ideology.

The IMF and the World Bank had an interest in the implementation of AA at the microlevel or at the level of institutions, organizations, or entities (Ellwood & Newberry, 2007). They state that AA is a neoliberalism instrument for creating efficiency and transparency, which are essential requirements for creating competition among public sector entities. Furthermore, Sheila Ellwood and Newberry (2007) state that the implementation of AA supports the advancement of neoliberal policies of privatization, market competition and global business corporations.

The IMF and the World Bank imposed AA in emerging economies (Harun et al., 2012). The pressure of those international donor organizations in implementing AA in particular jurisdictions was observed by accounting scholars, such as Timoshenko and Adhikari (2009) and Adhikari and Mellemvik (2011). In Russia, donor institutions such as the World Bank and the IMF were able to impose specific budgeting and accounting requirements on the countries that depend on their financial support (Timoshenko & Adhikari, 2009). The Nepalese government had the same experience; Adhikari and Mellemvik (2011) conclude that institutional pressures that originate from international organizations, such as the IMF, motivated governments to implement AA.

Although the World Bank and the IMF have different mission, their activities are intertwined (Stiglitz, 2002). It is a common practice that funding and support from the World Bank will be obtained if it is ratified by the IMF (Stiglitz, 2002). With the approval authority, the IMF imposes conditions on the country which need loans to recover its economy, especially in a period of crisis (Prabowo, 2015). The operation of the IMF in a particular country is side by side with the World Bank.

Gramsci's Theory of Hegemony

The origins of Gramsci's thoughts are based on the Marxist doctrine stating that there are two and only two classes: those "haves" who are the owners (or the capitalists or the dominant class as the *bourgeoisie*) and those "have-nots" who are compelled to sell their labor (as the laboring class or powerless class as the *proletariat*) (Schumpeter, 1950). The two fundamental classes are essentially antagonistic to each other (Schumpeter, 1950). Instead of using the term *proletariat*, Howson and Smith (2008) use *subalternity* to referred to a subordinate class with a lack of political autonomy.

However, different from the Marxist doctrine, Gramsci views *proletariats* as generally not in a state of constant rebellion or revolution toward the *bourgeoisie*. Gramsci identified that there are no necessary and sufficient conditions to rouse revolutions, as Marxism suggests (Fontana, 1992). Instead of incessantly revolting (fighting) the capitalist, most of the time, they work together or go along with the capitalist or with the state and other classes which are still controlled by the capitalist (Garner, 2007). They render "a right to rule" to the *bourgeoisie* and accept the legitimacy of *bourgeoisie* power in society.

Principally, Gramsci's thoughts are a socialist strategy of the *proletariat* in challenging the *hegemony* of the *bourgeoisie* (Haugaard, 1992). Gramsci constructs a master concept to explain the methods of how the *bourgeoisie* can obtain domination in the modern capitalist society.

The *bourgeoisie* is able to occupy the *hegemony* position (status) because they can transform their class interests to be the collective value of the whole society, and not necessarily for the *bourgeoisie* alone (Haugaard, 1992). Gramsci uses the term of *national popular* to refer the collective interest and value. Through the *national popular*, the *bourgeoisie* class gained consent from other classes (Haugaard, 1992). Gramsci provides patriotism and nationalism as examples of the *national popular*.

In the process of obtaining consensus, Gramsci accentuates on consensus and leadership. *Hegemony* delineates between concepts of coercion and consent, and domination and leadership (Jones, 2006). Also, he constructs the concept of *intellectual* role in building consensus (Fontana, 1992; Matsuda & Ohara, 2008; Simon, 1991). *Intellectual* is the "organizers of the consent and persuasion" (Fontana, 1992). *Intellectual* has a substantial role in creating *hegemony*, especially in building *national popular* which refers to a particular character that can unify a variety of different social strata into a national alliance which is free from class interest (Simon, 1991). The transformation from strata or groups interests into *national-popular* consciousness can only be done by *intellectual* groups. The process of *hegemony* starts with educating people to accept the new social order to build consensus (Davidson, 2008). The process ends when an entire society acts in line with the *national popular*. It means that the *national popular* will be a standard of moral conduct (Simon, 1991).

Gramsci uses the term "organic intellectual" to refer the intellectuals who have the capability of creating the above-mentioned transformation. He uses the word "organic" to mean that the intellectual is thoroughly intertwined with all classes, not only to particular groups or castes (Garner, 2007). Gramsci refers to this group as *organic intellectuals* who, unintentionally, by their socialization, effectively disseminate *bourgeoisie hegemony* (Cerny, 1992).

Intellectuals have a role in developing the "cultural conditions" for creating a new *hegemony.* Gramsci extends the definition of *intellectuals* which does not only consist of philosophers, thinkers, writers, and artists, but also organizers such as civil servants and political leaders. For Gramsci, apparatus such as engineers, managers, and technicians are included as intellectuals (Simon, 1991). In the *Prison Notebook* (Hoare & Smith, 1971), he states the role of the intellectual:

> It can be observed that the "organic" intellectuals which every new class creates alongside itself and elaborates in the course of its development, are for the most part "specialisations" of partial aspects of the primitive activity of the new social type which the new class has brought into prominence.

Gramsci proposes that the process of transformation from *proletariat* values be the whole society consciousness through *interiorization* and capillary penetration (Matsuda & Ohara, 2008). The "capillaries of penetration" emphasizes on diffusions of values or practices by interactions. *Hegemony* views that power does not flow through the "big arteries" of the large organization of the political and economic systems (such as military and police) but trickles down through interactions between individuals. Power is not merely coercion exercised by the state or a few large organizations or apparatuses. Instead, it flows through all human interactions, for example, in the relationship between a professor and a student, a husband and wife, a police officer and a suspect, a supervisor and a worker, and a doctor and a patient. Power does not mean rights to oppress or coerce but persuade someone to do something.

Gramsci views civic institutions, such as schools, libraries, voluntary associations and various clubs, religious groups (especially the Catholic Church), universities and colleges, and unions, as part of the social (civil) society (Fontana, 2008). Gramsci states that the consensus is generated in civil society. He delineates "two major superstructural" sphere: civil society and political society (Goddard, 2002). Civil society consists of private organizations, and, that political society is the State. *Hegemony* is built through interaction within the civil society sphere, and domination and coercion are exercised within the political society (Femia, 1975). These two kinds of society are connected by intellectuals (Femia, 1987) as such intellectuals act as links or mediators between subordinate and the dominant groups (Fontana, 1992).

In the last series of his writings, Gramsci amalgamated the concepts of political society and civil society (Femia, 1975). He broadened the meaning of the state, viewing the integral state as being operated based on domination and coercion (in political society) and consensus and persuasion (in civil society) (Femia, 1975). He conceived societies as intimately interwoven spheres that cannot be analyzed separately (Femia, 1975). He referred to integral states consisting of civil and political society as institutions which operate with consensus and coercion (Femia, 1975).

Gramsci's theory explored the *hegemon*y, which is built on the integral society sphere (area). Gramsci uses the term *historic bloc* to refer the part of history when a particular class dominates other class by consensus in a specific integral society. The *historical bloc* is a history episode when the capitalist, for example, achieves *hegemony* position over the *proletariats* (subalternities). *Hegemony* is not permanent and static, but dynamic and changing (see Cahill, 2008; Engel, 2008; Matsuda & Ohara, 2008; Simon, 1991). Maintaining the position of *hegemony* requires persistent activities to maintain and strengthen the social authority of the ruling class in all areas of civil society. Also, it needs to compromise with other classes to build alliances to challenge the opposing forces (Simon, 1991; see Engel, 2008; Matsuda & Ohara, 2008). Once a class or social group has achieved *hegemony* in a particular "historical bloc," the system of alliances has to be continually re-adjusted and re-negotiated. Occasionally, the historical bloc is interrupted by a crisis that causes *hegemony* to disintegrate. The crisis creates opportunities for a "subalternity" to move up and build up movements that are capable of challenging the existing order, and then will achieve *hegemony*. However, if opportunities are not taken, the dominant class (capitalists) will resuscitate *hegemony* and establish a new alliance (Simon, 1991).

Research Methods

This study uses a qualitative approach to describe the history of the implementation of AA in Indonesia. Two data sources were used: literature reviews and interviews. The first source of data for the literature review was collected from published materials from academic books and research articles in public sector accounting, and also reports officially published articles by the Government of Indonesia (GOI), the IMF, and the World Bank, both in written (printed) and webpage formats. Findings from these reviews support the theory that is explained in the previous section.

The second source of data was collected from interviews with senior accountants who had experience as members of the committee of the Indonesian Government Accounting Standard (GAS) in the current and past periods. This enabled us to obtain information on the history of AA in Indonesia and to construct knowledge regarding the role of the IMF in influencing the GOI to implement AA. The list of the potential interviewees was drawn from the GAS committee website. The committee consisted of three subcommittees: "consultative committee," "working committee," and "workgroup." The decision-making process of the GAS is centered (concentrated) on the "working committee" that comprised of nine members. The "workgroup" consisting of 31 members was tasked with providing materials to the working committee. Politically sensitive problems or those that needed further academic consideration were referred to the "working committee" which in turn referred to the "consultative committee." This committee consisted of six members. Twenty members were contacted via telephone and email to participate in the interviews. Fourteen members agreed to participate, whereas the remaining six declined the invitation.

We use semistructured interviews to track the history of the implementation of AA and to develop knowledge regarding the IMF's role in influencing the GOI to implement AA. In undertaking these qualitative interviews, we obtained data about experiences, thoughts, and judgments in setting AA regulation and standards. All interviews were conducted in the Indonesian language (Bahasa) and were recorded. Each of the interviews lasted up to 90 minutes. The interviews were held in the offices or houses of interviewees. The recorded interviews were translated in English, transcribed and summarized. These summaries were reviewed to ensure that the crucial statements were appropriately interpreted.

The data were then analyzed by categorizing responses or comments of interviewees. The coded data were then tabulated into categories such as involvement period, institutions, and the personality (trait) of the interviewees (e.g., level of education and tenure of service or experience). Also, we identified the interviewees' responses that are attention-grabbing statements. All other relevant documents written in Bahasa were also translated to English. Finally, the data were also analyzed through the lens of the socio-political theory that explained the data in a consistent manner.

Findings

Because of the limitation on the length of this article, we are unable to provide detailed findings of the interviews and documentary analysis supported by direct quotes and references (for details, please see Prabowo, 2015). However, we list the following five results of the study in this section which explain the influence of the IMF and the World Bank in the implementation of AA in Indonesia:

1. The IMF used coercion or pressure on the GOI to implement AA in the period of the economic restoration after the financial crisis of 1997.

2. None of the interviewees mentioned that the IMF influenced or contributed in the following period or the transition period 2003–2010.
3. Interviewees identify the international organizations as contributors to the implementation of AA in Indonesia, in terms of funding (grant and loans), training (workshop, seminar, and internship), education, advice, and consultation.
4. International organizations contributed to the implementation of AA.
5. There was consensus in the implementation of AA.

We now interpret the above five findings through the lens of Gramsci's theory of *hegemony*. While analyzing the interviews, we identify that the IMF used coercion on the GOI to implement AA in the period of ratification of the Law of State Finance No. 17/2003 at the same time with the economic restoration from the financial crisis of 1997. This did not automatically mean that the implementation process of AA in Indonesia contradicted with the *hegemony* theory. Davidson (2008) interprets that although *hegemony* theory emphasizes consensus, *hegemony* is sustained (maintained) through both persuasion and coercion. The coercion approach may be used, mostly at a time of crisis. Gramsci proposes that the term *organic crisis* which refers to a crisis that occurs randomly is instantaneous and fortuitous. It is different from regular changes that are relatively permanent and not devastating (Simon, 1991). The *organic crisis* requires "a new balance of political forces, requiring a reshaping of State institutions as well as the formation of new ideologies" (Simon, 1991). If the dominant class does not force, the opposition (subalternities) will succeed in building a new system of alliances which will re-establish their *hegemony* (Simon, 1991). These are in line with the first research finding, indicating that the IMF used coercion or pressure on the GOI to implement AA in the period of the economic restoration after the financial crisis 1997.

However, the second finding indicates that none of the interviewees mentioned that the IMF influenced or contributed in the following period or the transition period 2003–2010. The interviewees say that the World Bank, United States Agency for International Development, Organisation for Economic Co-operation and Development (OECD), Australian Agency for International Development, Canadian International Development Agency, Swiss Agency for Development and Cooperation, and Asian Development Bank (ADB) made contributions in the implementation of AA in Indonesia. These findings are in line with Chan's (2006) proposition which states that the experiences and counsel of consultants sent by international organizations, such as the World Bank, the IMF, the ADB, and OECD, made a significant contribution in building government accounting in developing countries. From the *hegemony* perspective, those donor organizations have the same characteristics with civil society components, and their interactions, activities, and structures are based on noncoercive, nonstate, and nonmarket (economic) principles (Anheier et al., 2001; Katz, 2006). These donor organizations are identical with trade unions, schools, professional, educational and cultural associations, parties, and churches, which are mentioned by Gramsci as examples of components of civil society. Theoretically, parts in civil society are designated by the state (political society) and used to secure the acceptance of the dominated classes (ruling class) to create *hegemony* (Katz, 2006).

The third finding indicates that the interviewees identify the international organizations as contributors to the implementation of AA in Indonesia, in terms of funding (grant and loans), training (workshop, seminar, and internship), education, advice, and consultation. Also, several interviewees obtained knowledge of AA from the international workshops and conferences, and also from informal discussions. These findings are consistent with the *hegemony* power, the capability of influencing the others to do "something which they would not otherwise do" (Cerny, 1992). This is diffused (proliferated) into society through interactions among individuals, instead of via formal political (such as military force) and economic (such as government institutions) systems. In the process of the proliferation, Gramsci emphasizes on the role of the *organic intellectuals* to create conditions on which people render "a right to rule" to another class and accept the legitimacy of the other class in society.

The role of the "organic intellectual" is identical with "epistemic communities." Laughlin and Pallot (1998) brought the concept of "epistemic communities" into accounting development. They refer to the "epistemic communities" as intellectuals who have "critical ability in guiding the direction of the policies forthcoming" in the public sector and accounting reforms. The term "epistemic communities" itself denotes groups which have a function to propose and convince solutions to resolve particular problems faced by policymakers. Communities provide clear and precise guidance as to how to act for decision-makers. In this way, communities have a strategic position in the decision-making process on which lies power and authority. Mark Christensen (2005) affirms that the histories of the implementation of AA provide evidence regarding the vital role of consultants in that process. Furthermore, Adler and Haas (1992) argue that the importance of the "epistemic communities" in the period of crisis and dramatic event have an alerting effect on decision-makers.

We explain the fourth finding which indicates that international organizations contributed to the implementation of AA in Indonesia. It was identified that several interviewees stated that the implementation of AA was indispensable and undeniable. They indicated that they faced "no alternative situation," except implementing AA. From the *hegemony* theory point of view (perspective), the "no alternative situation" leads people to consent and accept the domination of the other and voluntarily gives the right to others to rule.

The fifth finding indicates that there was a consensus in the implementation of AA in Indonesia. In detailing these findings, we bring in several quotations which indicate the consent and acceptance of the interviewees toward the influence of the international organizations to implement AA in Indonesia. One of the interviewees stated that he accepted the Government Finance Statistics reports, although the concept of that report originated from the IMF because the accounts provide information which is useful for fiscal policy. Another interviewee stated that he accepted the influence of international organizations because he did not perceive that the GOI would lose its sovereignty. This observation is in line with the *hegemony* theory that emphasizes the persuasion and acceptance process to acquire *hegemonic* positions.

The discussion above explains the existence of the influence of international organizations in the implementation of AA in Indonesia. We find that the influence is identical with Gramsci's theory of *hegemony*. However, the research cannot identify the dominant class that obtains the *hegemonic* position. The hegemony theory assumes that there are two classes: the *bourgeoisie* and the *proletariat.* None of the interviewees identified the IMF influence in the transition period. Instead, they mentioned many international organizations that made a contribution to the implementation of AA in Indonesia. This article does not have enough evidence to support a proposition stating, this time is a historic bloc in which the IMF has achieved the *hegemonic* position in the international relationship.

Conclusion

In line with Gramsci's theory of *hegemony*, we can conclude the findings of the study as follows. First, the process of the implementation of AA in Indonesia is characterized as the combination of force and consent, with persuasion predominating over force (coercion). Second, the knowledge or concept of the implementation of AA is diffused (proliferated) to the accounting society in Indonesia through interactions among individuals, instead of formal political interactions. The process of diffusion is identical to the process of *interiorization* and *capillary penetration*. Third, the *interiorization* process is supported by many international organizations with the same characteristics as civil society components of Gramsci's thoughts. In their interactions, activities, and structures, those organizations emphasize on noncoercive, nonstate, and nonmarket (economical) principles. Fourth, because of these interactions, the interviewees perceive that AA is superior to other methods of accounting and that it is indispensable and unavoidable technology that should be implemented in Indonesia. Fifth, interactions with the international organizations also led the interviewees to give consent and acceptance toward their influence in the implementation of AA in Indonesia.

Although this article can identify that the implementation of AA in Indonesia is consistent with the principles of *hegemony* theory, it is unable to identify the dominated class. The *hegemony* theory originates (instigates) with the doctrine which stated that there are only two classes: the *bourgeoisie* and the *proletariat*, which are antagonistic to each other. On the *hegemonic* scheme of the implementation of AA above, the *proletariat* is the GOI. Several scholars (Alawattage & Wickramasinghe, 2008; Annisette, 2004) assume that, in the new international order, the IMF is the independent *hegemon* (the dominated class). Other scholars (Katz, 2006; Mueller, 2011; Rupert, 2000) refer to the USA as a dominant state. They believe that the USA has a political agenda to bring neoliberalism as an international ideology. The US *hegemony* is supported by other states and nonstate actors (such as the World Bank and the IMF) (see also, Davis & McGregor, 2000; Hattori, 2003; Howell, 2000; Katz, 2006; Rupert, 2000) to maintain their *hegemony*. However, this article cannot provide logical explanations and evidence that support these views.

This research has a limitation in that it only reviews documents that are officially published by the IMF, the World Bank, the GOI, and other international organizations to develop knowledge regarding the involvement of the IMF and the World Bank in the implementation of AA in Indonesia.

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