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INDIAN INSTITUTE OF MANAGEMENT CALCUTTA

Indian Institute of Management Calcutta

Chief Editor

Editorial Team

Editorial Office

Indian Institute of Management Calcutta
Diamond Harbour Road, Joka, Kolkata-700104
West Bengal, India
+91-33-7121-1141

Contents

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Editorial

Greetings from A₹tha and the Financial Research and Trading Lab (FRTL) at IIM Calcutta. You will be glad to know that A₹tha is a peer-reviewed, open-source, practice-oriented journal featuring articles on topics from accounting, finance, and corporate governance. Each piece undergoes a constructive peer review and editing process to enhance the article's value. Indeed, A₹tha has come a long way. I am grateful to our editors, reviewers, contributors, and readers for their support. I am optimistic about A₹tha's greater significance in sharing knowledge and enabling informed conversations. We celebrated its 10th Anniversary in August 2022. As I reflect on its journey over the decade, I find A₹tha increasingly engaging our stakeholders. It is so joyful to see its readers and contributors growing every issue. Now, the journal reaches the entire IIMC community: its alumni, students, faculty, and staff. Students, alums, and faculty members of other institutions also read the published articles. As I go over the profiles of the contributors of articles over the last three years, I am overjoyed to find articles not only from several IIMC students, alums, and current and retired faculty members but also from other scholars and industry experts from India and abroad. Importantly, we have a strong board of a dozen editors to steer A₹tha steadfastly to an even higher level.

I complete my tenure as A₹tha's Chief Editor at the end of the current academic year. Allow me the pleasure of sharing with you the final issue under my editorship. Kudos to the editors and reviewers for their thoughtful comments for improving the manuscript, and congratulations to the authors for their publication in A₹tha. The December 2022 issue has six articles on various topics, such as financing of zero hunger targets, the evolution of money, risk mitigation in M&A, reputational risk in financial services, financing of large-scale infrastructure, and learning from the CSR mandate in India. Enjoy reading these articles and consider contributing your writings and constructive thoughts to us at artha@iimcal.ac.in.

As the year 2023 dawns, I sincerely hope that your plans include a work-life balance and that you will also give due importance to your and your family's well-being. May I also wish, you would do something meaningful to you for A₹tha, FRTL, and IIM Calcutta during 2023-24?

Happy Holidays and a joyful and prosperous New Year 2023.

Sudhir S. Jaiswall

Chief Editor

Contributors

Dr. Arvind Ashta is a professor of Finance at the Burgundy School of Business, Université Bourgogne Franche-Comté in Dijon, France and is a member of its research center CEREN, EA 7477. He has over a hundred publications in international academic journals. He is on the editorial board of a few journals. He is a member of a club of micro-investors. The essential of his research hovers around microfinance, social entrepreneurship and fintech. He is the chair of the advisory board of MF Strategy and the founder of BHAI: Building Humane Advances and Institutions. He is a member of the anti-poverty working group at PRME (Principles of Responsible Management in Education). He is on the scientific board of the Union des Fédéralistes Européens. He is also on the editorial board of A₹tha.

Daitri Tiwary is a doctoral scholar of financial economics at Birla Institute of Management Technology. An alumnus of Xavier Institute of Management - Jabalpur, she has worked in the field of macroeconomic research, policy advocacy, FOREX volatility and hedging in Fortune-500 MNCs in business consulting, IT-products & manufacturing sector. She aims to contribute to industry-relevant academics as a quantitative researcher and educator. Daitri attended the Research Summer School 2021, organized by FRTL, IIM Calcutta. She received the CRISIL Doctoral Symposium Best Paper Award at the India Finance Conference 2022.

Radha M. Ladkani is FPM from Indian Institute of Management Calcutta. She is Associate Professor in the area of Finance and Accounting at Indian Institute of Management Indore. Her research interests are in the areas of mergers and acquisitions, financial distress & bankruptcy, and emerging markets. She is also on the editorial board of A₹tha.

Ujjal Choudhury is a BFSI professional with more than 45 years of professional experience. He has worked with financial institutions and advisory services firms in India and abroad and currently works as an independent consultant for development partners in the areas of development with a focus on access to finance, strategy and operations, and risk management. He graduated with Honours in Economics from Presidency College, Calcutta and obtained his Master's in Economics from Calcutta University. A recipient of the British Council India Chevening Scholarship for Senior Executives, he is a graduate of the first batch of IIMC's Certificate Program in General Management (1981-83); and later obtained his PGDBM from IIMC in 1995.

Rima Mondal is a faculty member in the Economics and Public Policy department of IIM Rohtak. She has a Master's degree (Gold Medalist) and Bachelor's degree (Silver Medalist) from School of Planning and Architecture, New Delhi in Urban and Physical Planning respectively. She is a fellow of Indian Institute of Management Indore. Her primary research areas include economic resilience of cities, inequality and urbanization, financing mechanisms of land development.

Dr. Mehul Raithatha is a Professor in the area of finance and accounting. He has done his doctorate from S J Mehta School of Management, Indian Institute of Technology Bombay. Prior to joining IIM Indore, he was faculty at IFMR Chennai. His research interests include financial reporting, corporate governance, audit quality, earnings quality, and emerging markets.

Where do we stand on financing the Zero Hunger Target?

Arvind Ashta

Introduction

We are living in a world with a lot of inequalities: while people in the wealthiest countries in the world have access to running water, electricity, and gas for heating, over 800 million people are suffering from hunger, who are underfed or badly fed, and one in three people are not sure to get adequate food every day (United Nations, 2022, July 25). These figures have not changed since 2016.

The sustainable development goals were elaborated in 2015, and the Millennium Development Goals before them were signed in 2000. We wanted to reduce hunger and malnutrition, and now we're targeting eliminating them by 2030. The second objective of the SDGs also includes doubling agricultural productivity and reducing food insecurity.

To contextualize the problem, almost 9% of the world population suffers from hunger (United Nations, 2022). Most of these people live in Asia and Africa. About 189 million Indians (14% of the Indian population) were under-nourished before COVID (FAO, IFAD, UNICEF, WFP, & WHO, 2020). Sixty-six million school-going children in developing countries are hungry while in class (WFP, 2012), reducing their ability to concentrate and learn. Not only are these children undernourished, but they are also malnourished. In sub-Saharan Africa, 23% of the population eats poorly. Poor nutrition is the cause of almost 45% of children dying at less than five years of age. That is 3.1 million children every year. Malnutrition not only causes stunting for 149 million children (158 million in 2016), it also causes the brain not growing (Wiseman, 2022), higher illness, lower learning, and underproductivity (WHO, 2015, November 19). About 40 million Indian children of less than five years of age (almost 35% of Indian children of that age group) suffer from stunting (FAO et al., 2020). The problem is not just that people don't have food more than once a day, it is also the uncertainty that, on a given day, they will have any food at all. This uncertainty is the problem of food insecurity.

This food insecurity is exacerbated because 75% of agricultural diversity has disappeared from the fields and has been replaced by cash crops for exports. On the supply side, women farmers are often underproductive because they do not have adequate education or financial resources. About 1.4 billion people don't have access to electricity and therefore do not have the complementary factors that could increase farm productivity. This means that poor people worldwide do not have physical, mental, financial, or technical resources to do

something to elevate themselves out of poverty. Moreover, we have known for some time now that climate change reduces food supply through the rising of the seas, droughts, tempests, and floods.

Yet despite the laudatory objectives of SDG 2 and some progress till 2019, we have witnessed the problem worsening during the last three years.

Recent news on food shortages

Why has the problem grown in this year and the preceding years? The three most essential elements are the continuing effects of COVID, conflicts, and climate changes owing to global warming (The Economist, 2022, March 9). These factors have intertwined to create a supply chain crisis and inflation, both of which have led to reduced supply, increasing inequalities, and inadequate purchasing power in the hands of poorer people.

A**. Covid and food shortages**

In many countries, COVID has resulted in loss of jobs and created problems of crop production and supply chain bottlenecks. The cumulative number of COVID cases has actually more than doubled this year, from 289 million at the end of 2021 to 605 million in September 5, 2022 (Johns Hopkins University, 2022, September 5) . Confirmed statistics indicate that about 1 million people died in 2022, up from 5.5 million deaths till December 31, 2021. Even though the fatality rate has slowed, the loss of productivity from illness remains high. There is some evidence that COVID led to an increase in poverty and inequalities in many countries and that education facilities worsened for poorer children (Yonzan, Cojocaru, Lakner, Mahler, & Narayan, 2022, Jan 18). Covid has disrupted the supply chain of all goods, including food, thus leading to higher prices (The Economist, 2022, March 9). Indeed, the Food and Agricultural Organization (FAO) revealed that the food price index went up by 7.9% over its value a year ago. However, it has been coming down in the last few months (FAO, 2022, Sept 2). Over the previous three years, COVID-19 increased the number of hungry people by 150 million and food insecurity for about 250 million people.

B. Conflict and Food shortages

The Russian-Ukraine conflict has been regularly in the news. Until recently, when a Turkiye and UNO-backed agreement was reached between the two countries, there was fear of a global food shortage since these countries contribute 30% of global wheat exports and 20% of maize exports. The EU blamed Russia for instigating a global food crisis by blocking Ukraine from exporting. Third-world countries blamed the EU for imposing sanctions and preventing Russia from exporting (Pop, 2022, July 18).

Civil wars have also taken their toll. In Afghanistan, the impact of COVID, combined with other political elements and natural disasters, has led to about 19 million people facing food insecurity (Besheer, 2022,

August 15). This is half of the population. A similar situation exists in Myanmar, South Sudan, Syria and Yemen where civil insurrections have left people starving. In Ethiopia , violent encounters between factions have led to more than 400,000 people without food.

C. Climate change and food shortages

Natural disasters, reduced rainfall, and other weather events disrupt agriculture. In Madagascar, a multi-year drought has led to famine, affecting 1.7m people (Pilling, 2022, August 3). The UN considers it the world's first climate change-induced famine.

The recent floods in Pakistan have washed away millions of tonnes of crop production. In one province, 90% of the crops have been destroyed (Pakistan Today, 2022, August 29). The floods are due to extreme heat causing glaciers to melt, combined with earlier than expected monsoon rains of twice the average quantity of rainfall (Daily Times, 2022, August 29).

Alternative possible solutions

To combat hunger, notably from long term factors, we have been building capacity, notably information technologies, for communication to signal weather conditions and shortages, we have been trying to finance agriculture and we have been trying to increase access to markets. Actors such as the World Health Organization (WHO), the Food and Agriculture Organization (FAO) United Nations Development Program (UNDP), World Food Program (WFP), the International Fund for Agricultural Development (IFAD) and many national and local organizations, are finding ways to increase production, improve distribution, and reduce consumption. Countries like India have achieved larger-scale commercial production with the use of improved breeds, feed, housing and vaccinations (FAO et al., 2020).

WHO works to strengthen national food control systems to facilitate global prevention, detection and response to public health threats associated with unsafe food. Its food control assessment tools looks at legal, financial and human resources; domestic and import controls, monitoring and surveillance of food chains; the interaction of competent authorities with domestic and international stakeholders; and innovation, including access to knowledge and use of knowledge to analyzing risks (WHO, 2021). It provides independent scientific assessments on microbiological and chemical hazards for international standards. It has collaborated with FAO to assess the performance on national food control systems (WHO, 2022, May 19).

Food security requires proper policies and data for monitoring. The ‘Data for Policy’ initiative, facilitated by the Government of Telangana and UNDP in partnership with The Rockefeller Foundation, is an example of an initiative to strengthen climate resilience of food systems by using data for policy making. In this initiative, a remote sensing-based digital public good platform and algorithms are used to identify farms that are resilient to climate change and those that are highly vulnerable. The public good platform uses open-source

technologies to facilitate analysis conducted by data scientists and citizen scientists. Policy-making can then be based on good practices to help strengthen climate resilience. Without such systems, climate change could reduce food production in India by 15-18% (Noda, Ranjan, & Khanna, 2021). As another example of UNDP's role, the UNDP is training fishermen and farmers to build awareness of climate-smart agriculture that would help them start practices that make their businesses resilient to climate change (UNDP, 2022, August 18). These practices will improve food security.

There are other ideas requiring financial aid. IFAD finances agriculture and development initiatives. Since 1978, it has financed more than US$23.2 billion of projects in developing countries through grants and subsidized loans. It responded to COVID by setting up a special fund that reached 20 million people in 59 worst affected countries. In response to the food crisis created by the Russia-Ukraine conflict, it has recently created a new initiative to finance Afghanistan, Ethiopia, Haiti, Mozambique, Somalia and Yemen (IFAD, 2022, July 28). IFAD has a number of projects in India which are directly concerned with food security. For example, it provides financing of $51 million in a project costing 130 million for improving the livelihoods and providing food and nutrition security for over 62,000 households in Odisha. Most of the remaining financing is provided by the Government of India (IFAD, n.d.).

One possibility is to provide one free meal to school children worldwide (The Economist, 2022, September 1). In low-income families, this increases the incentive to attend school. Moreover, children who eat adequately can concentrate better. Third, it is possible to ensure that the school meal has all the essential micronutrients that a child needs during the day for the body and mind to develop. The number of children receiving school meals grew by 9 percent globally and 36 percent in low-income countries from 2013 to 2020. Yet 73 million vulnerable children are still going without free school meals. The WFP has worked with more than 100 countries to develop sustainable national school feeding programs.). In 2020, 17 million schoolchildren received free meals from WFP (WFP, 2021). Governments are also taking an interest. As an early policy innovator, India has declared meals at school a legal obligation of those providing education. Today, India has the highest number of school meal programs (90 million children), followed by Brazil and China (both 40 million), the United States (30 million) and Egypt (11 million). The meal supply process in India is handled by NGOs but also by corporates directly as part of the social responsibility. Akshaypatra claims that it is the world's largest NGO meal-supplier, feeding over 2 million children across almost 20,000 schools. Its annual report indicates that donations and government subsidies are its principle revenues. The webpage on donation indicates that it costs about Rs 1,500 (between USD 15 and 20) to feed a child for the year. The Indian multinational Vedanta has a Nand Ghar program which aims at women upliftment and child nutrition.

Some private firms are also contributing to improving nourishment for children. For example, Danone developed a low-price yogurt containing many micronutrients and partnered with Grameen Bank in Bangladesh to distribute it (Yunus, 2007).

For short-term problems, we need specific solutions. For example, for the Russia-Ukraine conflict, we need to reduce the risk of the food grains being transferred from the Black Sea and bypass economic sanctions to be able to use available stocks. In this view, Turkey and the United Nations brokered a deal allowing Russia and Ukraine to export food grains despite international legal constraints (Schipani, 2022, August 30). However, the recent Ukrainian attacks on Crimea have led to Russia stopping the agreement. Moreover, Russia feels that Ukraine has gained more from the arrangement than Russia. Therefore, till the war ends, we can expect that the solutions may remain intermittent.

Concluding thoughts

We can see that there has been progress in the march to Zero Hunger, but this progress has been halted, perhaps reversed, in the last few years. A major limitation is that the SDGs are not legally binding. Nevertheless, efforts continue to resolve short-term problems and work on long-term capacity building in the wake of a growing world population. All this requires financing, digital transformation, focusing on productivity and opportunities for women, and of course, developing resilience to climate change.

One possibility to reduce hunger being discussed frequently is universal basic income. With the advances in technology, and enhancement in productivity, there would be considerable unemployment and rise in inequalities. The idea would be to share some of the high profits with people who are manifestly neither able nor required in the production process. This universal basic income would then serve to meet the basic food needs and minimum health needs of poor people. Although most experiments are in developed countries, there are fairly advanced schemes running in Brazil and Iran. The thought goes against the Gandhian view that everyone must participate in the production process to feel part of society. Work-sharing would then be a better way out to allow everyone to work and feed themselves.

I want to mention two additional ideas to go further, both first presented in Artha last year. One is that we should have a federal world. This would reduce wars between countries, harmonize fundamental rights and commercial laws, and increase transfers, including food. Without fiscal transfers, federalism would not work (Ashta, 2021a; Ashta & Walia, 2022). These equalization transfers could be directed at feeding the hungry.

The second idea is that there could be shares in countries: “macroequity” (Ashta, 2020, 2021b). The value of these shares going up or down would encourage political actors to behave responsibly. If any country acts in an unsustainable manner, the image of that country will go down. This decline in the image would be reflected in the stock price of that country. Thus, financial markets would promote responsible action to feed the hungry.

These ideas may sound eccentric, but when you are in a desperate situation, you're willing to try anything. Ask the hungry if they are desperate.

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References

Ashta, A. (2020). Reflections on the financing of Covid-19? Introducing MACRO-Equity and opening Pandora's Box. *Artha, 6*(2), 15-21. doi:http://financelab.iimcal.ac.in/e_magazine_pages/reflections-on-the-financing-of-covid-19-introducing-macro-equity-and-opening-pandoras-box/

Ashta, A. (2021a). It is time to seriously consider the advantages of a world federal government. Retrieved from https://blogs.lse.ac.uk/europpblog/2021/03/18/it-is-time-to-seriously-consider-the-advantages-of-a-world-federal-government/

Ashta, A. (2021b). Towards a New Form of Undemocratic Capitalism: Introducing Macro-Equity to Finance Development Post COVID-19 Crisis. *Journal of Risk and Financial Management, 14*(3), 116. doi:https://www.mdpi.com/1911-8074/14/3/116

Ashta, A., & Walia, D. (2022). Financing the recovery from the havoc created by Covid: reinforcing the need for a world federal government. *Market & Organizations, 2022 (1)*(43), 213-235.

Besheer, M. (2022, August 15). Millions of Afghans Facing Catastrophic Hunger. *VoA News*. Retrieved from https://www.voanews.com/a/millions-of-afghans-facing-catastrophic-hunger-/6702592.html

Daily Times. (2022, August 29). Climate Change: Pakistan's Unseen Enemy. *Daily Times (Pakistan).* Retrieved from https://nouveau.europresse.com/Link/ESCDIJONT_1/news%c2%b720220829%c2%b7FDTP%c2%b7012

FAO. (2022, Sept 2). *FAO Food Price Index drops for the fifth consecutive month in August*. Retrieved from https://www.fao.org/worldfoodsituation/foodpricesindex/en/:

FAO, IFAD, UNICEF, WFP, & WHO. (2020). *The State of Food Security and Nutrition in the World 2020: Transforming food systems for affordable healthy diets.* Retrieved from Rome:

IFAD. (2022, July 28). UN agency IFAD reaches record level of support for world's rural poor: 2021 annual report [Press release]. Retrieved from https://www.ifad.org/en/web/latest/-/un-agency-ifad-reaches-record-level-of-support-for-world-s-rural-poor-2021-annual-report

IFAD. (n.d.). Odisha Particularly Vulnerable Tribal Groups Empowerment and Livelihoods Improvement Programme. Retrieved from https://www.ifad.org/en/web/operations/-/project/1100001743

Johns Hopkins University. (2022, September 5). CSSE COVID-19 Data. Retrieved from https://ourworldindata.org/explorers/coronavirus-data-explorer?facet=none&pickerSort=desc&pickerMetric=population&Metric=Confirmed+cases&Interval=Cumulative&Relative+to+Population=false&Color+by+test+positivity=false&country=~OWID_WRL. from Our World in Data https://ourworldindata.org/explorers/coronavirus-data-explorer?facet=none&pickerSort=desc&pickerMetric=population&Metric=Confirmed+cases&Interval=Cumulative&Relative+to+Population=false&Color+by+test+positivity=false&country=~OWID_WRL

Noda, S., Ranjan, J., & Khanna, D. (2021). Using Data for a Resilient Future. Retrieved from https://www.undp.org/india/blog/using-data-resilient-future

Pakistan Today. (2022, August 29, 29/08/2022). Death, devastation, and now starvation - what is the cost of this catastrophe? *Pakistan Today*. Retrieved from https://nouveau.europresse.com/Link/ESCDIJONT_1/news%c2%b720220829%c2%b7APTO%c2%b7058

Pilling, D. (2022, August 3, 03/08/2022). Why famine in Madagascar is an alarm bell for the planet. *Financial Times*, p. 13. Retrieved from https://nouveau.europresse.com/Link/ESCDIJONT_1/news%c2%b720220803%c2%b7GF%c2%b7180653752

Pop, V. (2022, July 18, July 18). EU to close sanctions loopholes amid looming Gazprom deadline. *Financial Times*, https://www.ft.com/content/64eaccdc-871b-427d-878ba870-fabcc872bfa876e872.

Schipani, A. (2022, August 30). Ukrainian wheat reaches Djibouti after humanitarian corridor deal. *Financial Times*.

The Economist. (2022, March 9). Progress to eradicate global hunger is stalling. *The Economist*(March 9).

The Economist. (2022, September 1). Should every schoolchild eat free? *The Economist*.

UNDP. (2022, August 18). 600 young Farmers & Fishers for 21 million JMD gender-sensitive, climate resilience project. In. https://www.undp.org/jamaica/news/600-young-farmers-fishers-21-million-jmd-gender-sensitive-climate-resilience-project: United Nations Development Program.

United Nations. (2022). *Goal 2: Zero Hunger*. Retrieved from https://www.un.org/sustainabledevelopment/hunger/:

United Nations. (2022, July 25). *The Sustainable Development Goals Report 2022*. Retrieved from Washington, D.C.:

WFP. (2012). *Two minutes to learn about: School Meals*. Retrieved from https://documents.wfp.org/stellent/groups/public/documents/communications/wfp220221.pdf:

WFP. (2021). *State of School Feeding Worldwide 2020*. Retrieved from https://www.wfp.org/publications/state-school-feeding-worldwide-2020:

WHO. (2015, November 19). *Stunting in a nutshell*. Retrieved from https://www.who.int/news/item/19-11-2015-stunting-in-a-nutshell:

WHO. (2021). *Food control system assessment tool: introductory booklet*. Retrieved from Geneva:

WHO. (2022, May 19). *Food safety*. Retrieved from https://www.who.int/news-room/fact-sheets/detail/food-safety:

Wiseman, S. (2022). Poverty impacts infant brains. *Nature Neuroscience, 25*(3), 267-267. doi:10.1038/s41593-022-01037-1

Yonzan, N., Cojocaru, A., Lakner, C., Mahler, D. G., & Narayan, A. (2022, Jan 18). The impact of COVID-19 on poverty and inequality: Evidence from phone surveys. Retrieved from https://blogs.worldbank.org/opendata/impact-covid-19-poverty-and-inequality-evidence-phone-surveys

Yunus, M. (2007). *Creating a World Without Poverty: Social Business and the Future of Capitalism*.

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Metamorphoses of money: From coffers to codes

Daitri Tiwary

Prolegomenon

The concept of money continues to be the axle of theorizing in micro and macroeconomics. While transitioning from the *homo economicus* of orthodox theories to the *materialistic man* in the era of neoliberalism, money is the marker, if not an absolute measure, for income, wealth, growth, and development of nations, firms as well as individuals (Snooks 2000). Though we continue to reinvent its transactional form over the past five centuries, economic theories are being tested and extended through a lens bound by an obsolete and rather rigid definition of money. Have the distinct theoretical standpoints factored in the dynamism of the concept of money, or will certain theories falter while transcending the traditional form of currency? This article explores the metamorphoses of money through classical, neoclassical, Keynesian, monetarist, and modern monetary theory while trying to understand the recent emergence of the digital asset class.

Hubristic Gold

In his magnum opus, *The Wealth of Nations,* Adam Smith asserts that markets preceded the state in the order of existence and so did the concept of money before the inception of currencies. Coexisting with the ancient barter system, one of the earliest forms of standardized international exchange rate arrangements, can be traced back to bimetallism and monometallism, i.e. use of the fixed price of silver and/or gold to derive a unit of currency originally. Numismatists opine that the exchange of goods or services in lieu of a gold or silver coin was secured by the underlying value of the precious metals extracted in the "*mints*", which were difficult to counterfeit while ensuring liquidity. In bimetallism, a mint ratio was further derived to convert the value of silver currency into gold and vice versa. But in the year 1717, before the era of producing coins of high quality by standard minting units, the "*gold standard*" emerged in England by the then "*master of the mint*" Sir Issac Newton. In the year 1816, the "*gold standard*" became *de jure* for the United Kingdom followed by the Gold Standard Act in the year 1900 in the United States of America. Though it constrained the formulation of federal policy, as a monetary system it is extensively researched for the macroeconomic stability it induced. Except during periods of hostilities including wars, the price of gold remained fixed at £3.85 per ounce from the year 1717 to the year 1931. Similarly, for the United States, the price of gold was fixed at $20.67 per ounce from the year 1834 to 1933. Hence, the "*par-exchange rate*" of the US Dollar was $4.867 per Pound. France, Italy, and other major countries also joined the "*gold standard*" and it became an international exchange rate

standard by the year 1880. The period which followed is also known as the "*classic gold standard*" era, till World War I in the year 1914. Till the fragilities of war, the "*gold standard*" emerged as the earliest example of a fixed exchange rate regime allowing co-movement of prices and balance of payment adjustment across the globe, with a potential role of federal banks in managing interest rate and money supply. Conceptually, the gold standard corroborated with the commodity theory of money also referred to as the "*metallist*" theory by Schumpeter and Goodhart. As per the commodity theory in classical economics, money can be stocked and all transactions of money are the results of commodity exchanges or a form of barter. (Dornbusch and Frenkel 1984)

Dollarized Myopia

One of the fundamental shortcomings of the gold standard, governed by the commodity theory, was the unviability of the concepts of *credit*, balance-of-payment imbalance, and crises. In the wake of World War-I and widespread inflation, the "*classic gold standard*" collapsed, and the "*gold exchange standard*" was adopted wherein the United Kingdom and the United States of America held their reserves only in gold while all other countries held their foreign exchange reserves in US Dollar or Pounds or gold. This further required that the value of the total money in circulation across the world could not exceed the total value of gold and silver mined and minted. Lack of cooperation amongst nations, skewed geopolitical influences, and ultimately the *Great Depression* in the year 1929 led to the collapse of gold-pegged exchange rates. What followed was the Bretton-Woods System unfolding into dollar-dominance of international exchange rates. (U.S. Department of State 2017; Dooley, Michael P. Folkerts-Landau, David Garber 2003)

To adjust the "*holy trinity*" of confidence, liquidity, and adjustment, the Bretton-Woods Agreement was signed in the year 1944 by 44 member countries. This established a fixed-exchange rates system where the value of the currencies of the member countries was pegged to the US dollar and the US dollar was pegged to the value of gold, set at $35 per ounce (Federal Reserve History 1944). The aim was to have a mechanism in place which prevents the devaluation of currencies. As part of the agreement, the International Monetary Fund (IMF) and the World Bank were established with a vision of exchange rate stability, circulation of a new international currency, and necessary interventions to mitigate financial crises. By the year 1958, the United States maintained the supply of dollars in tandem with the fixed price of gold and all other currencies were convertible to US dollars (Bordo and Eichengreen 1993). Theoretically, the intervention of the United States during the Bretton Woods era exhibits the Keynesian school of thought, impressing government intervention to improve the operation and performance of the economy (Dornbusch and Fischer 1994).

Since market forces were not in play freely, the US dollar experienced considerable pressure as it became over-valued with the volume of dollars being in surplus without enough gold to match. By the early 1970s, United State was finding it difficult to maintain gold reserves to match the amount of dollars in circulation.

Ultimately, in the year 1971, the Bretton Woods agreement formally ended with the suspension of the convertibility of dollars to gold; this marked the end of the fixed exchange rate of the dollar-pegged to gold. Post the collapse of the Bretton Woods system and a short-lived Smithsonian agreement, industrialized nations of the global economy chose to "*float*" against the dollar, ending fixed-exchange-rate regimes (U.S. Department of State 2017). But, along with the World Bank, the IMF continues to function in line with the objectives set during the Bretton-Woods agreement. Ratified by 190 member countries, IMF states the following purpose amongst its other objectives: article. I(iii) *"To promote exchange stability, to maintain orderly exchange arrangements among members, and to avoid competitive exchange depreciation"* and article I(iv) *"To assist in the establishment of a multilateral system of payments in respect of current transactions between members and in the elimination of foreign exchange restrictions which hamper the growth of world trade."* Under Article VIII outlining "*General obligations of Members*", IMF enforces convertibility of balance held in foreign currencies, without any discriminatory practices, and promotes collaborative initiatives towards maintaining foreign exchange reserves by member countries (IMF 2020). As per the exchange rate arrangements recognized by the IMF in its annual report on "*Exchange Arrangements and Exchange Restrictions*" for the year 2020, the United States, European Economic and Monetary Union (EMU) follow *"free-floating"* regime, and the monetary policy is based on various indicators without a *"stated explicit nominal anchor*". Japan and the United Kingdom also follow a free-floating exchange rate arrangement, but with an inflation-targeting monetary framework. The Indian rupee is declared as a "*floating*" currency instead of "*free-floating*", within an inflation-targeting framework; IMF states that interventions in the form of monetary actions are what distinguishes a free-floating currency regime from a floating currency regime, otherwise driven by quantitative and qualitative measures of market forces (Habermeier et al. 2009).

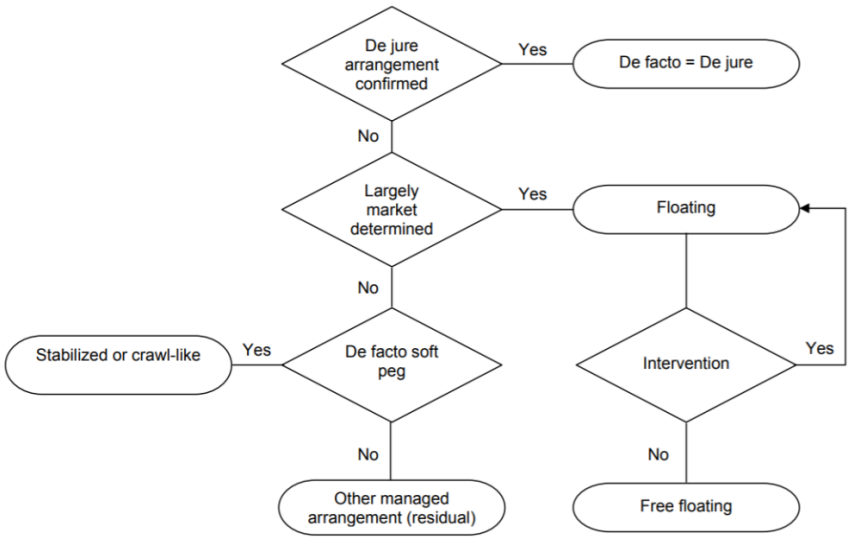

Figure 1. A stylized representation of key decisions of exchange rate classification by IMF, Source: IMF (Habermeier et al. 2009)

Theoretically, the end of the Bretton-Woods system marked a shift from the commodity theory of money to the "*purchasing power*" of money. Proposed by Gustav Cassel in 1922, the concept of purchasing power parity (PPP) stated "*Our valuation of a foreign currency in terms of our own, therefore, mainly depends on the relative purchasing power of the two currencies in their respective countries.*" Based on the purchasing power of a basket of goods, it implied that nominal exchange rates (NER), i.e. units of domestic currency in foreign currency, adjust itself to price levels of real exchange rates (RER). Hence, RER = $\frac{EP^*_T}{P_N}$, where E is NER, P^*_T are foreign price levels and P_N are domestic price levels. PPP or the "*law of one price*" is represented as $P_i = EP_i^*$, where, for a good *i*, P is the price in domestic currency, P^* is the price in foreign currency and E is the nominal exchange rate. (Taylor and Taylor 2004; Kenneth Rogoff 1996; Edwards 1987). PPP faced criticism due to short-run volatilities deviating from parity conditions, including Dornbusch's overshooting hypothesis and the J-curve in trade. Though in the longer run, especially for developed nations, parity conditions have been proven to hold, empirical research is dominated by dollarized perspectives. Emerging market currencies, mostly within inflation-targeting frameworks, constitute a substantial proportion of non-dollar trade and continue to be ignored due to fixation over hard currencies.

Real Rates

While parity conditions did not hold in the short run, PPP theory has been one of the earliest proponents of *real* exchange rates. Theoretically and empirically it substantiated the possibility of a differential in the value of the same currency between the exchange-traded NER and price-level factored RER. From viewing money as a commodity and currency as a federal token, the perspective transformed into what money can buy. Further, while Keynesian economics failed short of policy interventions to control inflation, monetarism gained momentum.

Propelled by the quantity theory of money, monetarism focused on the velocity of money, i.e. the rate at which money changes hands; it clearly distinguished between nominal and real quantity of money. Determined by the conditions of demand, *real* money was devoid of embedded inflation and other expectations (Friedman 1983). The velocity of money continued to fuel growth till the 1970s it became highly unstable. We argue that the unpredictability in the velocity is what led to changes in the banking system. Credit was now being extended outside traditional lending institutions. Money multiplied not just in banks but also in capital markets, mutual funds, and investments in other asset classes. But these higher rates of return also induced volatility.

The 1980s and 1990s were characterized by swings in the exchange rates. These decades were witness to currency crises inducing ripple effects across the global economy. Transitioning from the quantity theory of money, purchasing power of currencies was eroded overnight. While currency crises continue to be

researched, we need to look beyond dollarized debt to gather insights on potential monetary unions through regional trade cooperation.

Public Money and Cryptic Exonumia

During global economic crises in the past two decades, including the COVID-19 pandemic, fragilities were exposed in the financial markets which otherwise propositioned a high rate of returns. One such fragility was the steep decline in currencies, leading to denuding reserves of central banks, especially of emerging and low-income economies. The outcome was higher fiscal deficits, resulting in the curbing of government spending across the globe. But theoretically, the modern monetary theory (MMT) contradicts federal austerity. Distinguishing between the budget of the state with the budget of a firm or an individual, MMT states that money is a legal tender well within the right of the state and hence can be printed as well as supplied much to the requirement of the state. One of the proponents of MMT, Stephanie Kelton (2020) states deficits as a *myth* in the context of welfare schemes and state-funded initiatives. While the discretionary and non-discretionary powers of the state to build an economy continues to be argued, MMT perhaps finds its nemesis in the *digital asset class* of the twenty-first century.

Redefining money as we know it, digital assets can represent equity, bonds, real estate, exchange-traded funds, art, non-fungible tokens (NFT), cryptocurrencies, and every other asset subject to valuation. Not only has it led to liquidity but it has led to higher adaptability across markets with zero friction. Counterintuitive to MMT, which urges the state to print more money, digital assets are being generated, valued, and transacted with minimal or no intervention from federal agencies. There are frameworks, but no consensus across economies, to govern NFT and cryptocurrencies. While digital assets are being prophesied to become mainstream, it is nebulous to understand who and how will their purchase power as well as parity conditions be decided.

A sovereign foray into regularized digital assets is the digital bank note termed *Central Bank Digital Currency* (CBDC). In line with IMF's critical mission of furthering international monetary cooperation, the apex body has stated that 100 out of 190 of its member countries are exploring CBDC, wherein best practices and challenges are being documented. But for each of the countries, the operating norms and technology of the CBDC are different concerning the idiosyncrasies of the challenges faced by the economy. Hence, IMF agrees that there's no concept of "*one size fits all*", though the central objective remains to issue money in its safest form with the fundamental purpose being served, i.e. a claim on the central bank (Georgieva 2022). In India, the digital Rupee, denoted as e₹, is being introduced in a form closest to paper currency. A wholesale CBDC is set to settle trades, with minimal or no disruption to the financial system (RBI 2022). For China, the digital Renminbi, denoted as e-CNY, is being adopted both as a retail and a wholesale CBDC, with more than a hundred million individual users via Alipay & WeChat mobile phone apps (Georgieva 2022). The Bank of International Settlements (2021) in its Innovation Hub for CBDC explains that while banks are experimenting

with technology, deployment and prototypes of CBDC, key design choices vary with the model of issuance. Further, implications of anti-money laundering, and countering the terrorism of financing (AML/CFT), taxation, repatriation, legitimacy of transactions, and plausible degree of anonymity of not just CBDC but the digital asset class as a whole add to the ambiguity and morphing of good old money as we know it.

Conclusion

The recent popularity of the digital asset class is perhaps an indication that through different schools of thought, we are back to the *natural propensity of barter* as described by Adam Smith. The metamorphoses of money have thus completed a full circle though certain tenets have been distorted. Firstly, as opposed to tendering transactions in gold, the underlying value of a transaction is losing sacrosanctity. Digitized currency or even traditional banking systems are subject to sudden depreciation and enormous fraud. Secondly, as opposed to theoretical parity conditions, there is a widening gap between the purchasing power of currencies of developed, emerging, and lower-income countries. This may lead to the contextualization of existing macroeconomic theories. Finally, there is a need for a Copernican shift in our policy focus and Herculean efforts in improving the safety nets of financial markets to leverage digital assets. This can be perceived as an opportunity to test seminal theories and create new knowledge beyond the horizon of the traditional concept of money.

References

BIS. 2021. “BIS Innovation Hub Work on Central Bank Digital Currency.” Bank for International Settlements. 2021. https://www.bis.org/about/bisih/topics/cbdc.htm.

Bordo, Michael D., and Barry Eichengreen. 1993. *A Retrospective on the Bretton Woods System*. Edited by Michael D Bordo and Barry Eichengreen. *A Retrospective on the Bretton Woods System*. University of Chicago Press. https://doi.org/10.7208/chicago/9780226066905.001.0001.

Dooley, Michael P. Folkerts-Landau, David Garber, Peter. 2003. “An Essay on the Revived Bretton Woods System.” Working Paper 9971. *NBER WORKING PAPER SERIES*.

Dornbusch, Rudiger, and S Fischer. 1994. *Macroeconomics*. *McGraw-Hill*. https://doi.org/10.1086/260506.

Dornbusch, Rudiger, and Jacob A. Frenkel. 1984. *The Gold Standard and the Bank of England in the Crisis of 1847*. Edited by Michael D Bordo and Anna J Schwartz. *A Retrospective on the Classical Gold Standard, 1821-1931*.

Edwards, Sebastian. 1987. “Exchange Rate Misalignment in Developing Countries.” 442. *NBER Working Paper Series*. Exchange Rate Problems in Developing Countries.

Federal Reserve History. 1944. “Creation of the Bretton Woods System.” Federal Reserve History. 1944. https://www.federalreservehistory.org/essays/bretton-woods-created.

Friedman, Milton. 1983. “Monetarism in Rhetoric and in Pratice.” *BOJ Monetary and Economic Studies*. https://www.imes.boj.or.jp/research/papers/english/me1-2-1.pdf.

Georgieva, Kristalina. 2022. “The Future of Money: Gearing up for Central Bank Digital Currency.” IMF. February 9, 2022. https://www.imf.org/en/News/Articles/2022/02/09/sp020922-the-future-of-money-gearing-up-for-central-bank-digital-currency.

Habermeier, Karl Friedrich, Annamaria Kokenyne, Romain Veyrune, and Harald Anderson. 2009. “Revised System for the Classification of Exchange Rate Arrangements.” WP/09/211. *IMF Working Papers*. Vol. 09. https://doi.org/10.5089/9781451873580.001.

IMF. 2020. “Articles of Agreement of the International Monetary Fund -- 2020 Edition.” International Monetary Fund, Articles of Agreement. March 2020. https://www.imf.org/external/pubs/ft/aa/index.htm.

Kelton, Stephanie. 2020. *The Deficit Myth: Modern Monetary Theory and the Birth of the People’s Economy*. John Murray. https://doi.org/10.1080/00213624.2020.1794459.

Kenneth Rogoff. 1996. “The Purchasing Power Parity Puzzle.” *Journal of Economic Literature* 34 (2): 647–68.

RBI. 2022. “Concept Note on Central Bank Digital Currency.” https://rbidocs.rbi.org.in/rdocs/PressRelease/PDFs/PR101239D93146445A4B578501DAD29B32FA01.PDF

Snooks, Graeme Donald. 2000. *Longrun Dynamics*. *Longrun Dynamics*. Palgrave Macmillan UK. https://doi.org/10.1057/9780230599390.

Taylor, Alan M., and Mark P. Taylor. 2004. “The Purchasing Power Parity Debate.” *Journal of Economic Perspectives* 18 (4): 135–58. https://doi.org/10.1257/0895330042632744.

U.S. Department of State. 2017. “Nixon and the End of the Bretton Woods System, 1971–1973.” Office of the Historian. 2017. https://history.state.gov/milestones/1969-1976/nixon-shock.

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Risk Mitigation with Contingent Earnouts in M&A: Review of 2022

Radha M. Ladkani

Acquirers in mergers and acquisitions (M&A) use contingent consideration, i.e., price protection and adjustment mechanisms, as a tool to manage post-closing risks with respect to the price offered for acquiring a target firm. The earnouts are deferred-contingent payments of the offer price based on the achievement of a target company's post-acquisition performance with respect to certain benchmarks based on future revenue or earnings. Such contingent payouts mitigate risks due to adverse selection and facilitate the transfer of the risk of overpayment from the acquirer to the seller (Kohers and Ang 2000; Caselli, Gatti, and Visconti 2006; Cain, Denis, and Denis 2011). For the sellers, such contractual mechanisms mitigate the risk of underpayment as they get additional payouts if their performance exceeds the contracted benchmarks. When acquirer and target firms differ in their assessment of fair value, such payouts also enable faster deal completion as part of the offer price is deferred and is to be paid on the achievement of some future performance target (Kohers and Ang 2000). For instance, in June 2022, Mondelez International Inc. announced the acquisition of energy bars manufacturer Cliff Bar & Co. for an upfront payment of USD 2.9 billion and a deferred payment of up to USD 2.4 billion if some profit-related targets are achieved in the future. This transaction is noteworthy, as the potential value of earnouts is over 45 percent of the initial offer price paid in cash. In another instance, in May 2022, the UK-based GSK Plc. announced the acquisition of the US-based bio-pharmaceutical company Affinivax Inc., whose key product is in the clinical stage, for an upfront cash payment of USD 2.1 billion. As reported by Refinitiv Eikon, Affinivax shareholders would receive earnouts up to USD 1.2 billion if the target achieves certain clinical development milestones in the future.

When there is higher uncertainty about the expected cash flows of a target firm, earnouts can help allocate the rewards and risks by deferring a part of the acquisition price to a later date when expected benchmarks are met or exceeded (Caselli, Gatti, and Visconti 2006; Cain, Denis, and Denis 2011). The risk mitigation in the M&A space is of considerable value in the current macro-economic scenario characterized by high uncertainties due to the long-global pandemic, inflation, the Ukraine war, and other developments on the geopolitical front. Thus, considering the relevance of risk-management tools in the current times, this article reviews the inclusion of risk-mitigation tools like contingent earnouts in the M&A deals announced between November 2021 to October 2022.

Table 1. Volume and Value of Mergers and Acquisitions Across the World

Month	Number of M&A Deals	Sum of Deal Value (USD, Billion)	Number of Completed deals	Number of deals with Earnouts	Sum of Deal Value - deals with Earnouts (USD, Billion)	Number of Completed deals with Earnouts
Nov-21	2398	463.66	1687	111	17.93	79
Dec-21	2569	530.95	1743	83	24.42	65
Jan-22	1901	433.36	1391	73	10.09	55
Feb-22	1784	338.84	1361	69	12.59	50
Mar-22	2016	315.12	1423	63	12.43	50
Apr-22	1784	402.45	1246	57	10.81	37
May-22	1840	439.67	1215	81	18.02	52
Jun-22	1919	235.36	1242	61	17.43	38
Jul-22	1551	222.73	979	49	8.56	25
Aug-22	1547	225.15	893	54	12.81	29
Sep-22	1481	226.31	835	45	7.97	17
Oct-22	1095	182.52	481	49	12.30	22
Grand Total	**21885**	**4016.12**	**14496**	**795**	**165.36**	**519**

Notes: M&A deals announced from 1st Nov 2021 to 31st Oct 2022, with a deal value greater than or equal to USD 1 million. The deal value is in USD billion. The data includes announced M&A deals with the following deal status: Completed, withdrawn, seeking buyer withdrawn, intent withdrawn, dismissed rumor, pending regulatory, pending, partially completed, intended, status unknown. 21885 deals include the deals with earnouts, and 795 deals comprise a sub-sample of the deals which have used earnouts. The data was accessed on 3rd Nov 2022; thus, the deal status corresponds to the values updated till such time.

Disclaimer: The data used in this article is filtered as per the criteria stated in the notes above. The use of this analysis is only for academic purposes.

The table is compiled by the author. Data source: Refinitiv Eikon.

The total value of M&A deals announced between Nov 2021 to Oct 2022 is over USD 4 trillion.[1] Although the deal activity has slowed down over the past twelve months compared to the prior period, the volume and the value of deals announced recorded a remarkable number (table 1). Of the total deals announced in this period, over two-thirds of the deals are completed, and over 29.57% of the deals announced are cross-border transactions.

The twelve months under consideration recorded 795 M&A transactions where earnouts are included in the consideration offered, and the total value of such transactions is approximately USD 165.36 billion (table 1). Acquirers may also resort to alternative mechanisms like using stock or convertible securities as the method of payment, acquiring a toe-hold stake, or entering a joint venture, etc., to mitigate the risks due to asymmetric information (Mantecon 2009; L. Barbopoulos and Sudarsanam 2012). Thus, the number of deals with earnouts is only a subset of transactions where a bidder has used a risk mitigation tool to address the risk of overpayment.

The inclusion of earnouts in M&A contracts can facilitate deal completion when the acquirer and the target disagree on the value of the deal (Kohers and Ang 2000). In the sample comprising deals with earnouts, over 65% of the deals (519 deals) are completed, although this feature is not unique to the earnout sub-sample as this number is very similar to the proportion of deals completed in the full sample where over 66% of the deals (14496) deals are completed.

For further analysis, I have filtered the data to include only completed deals, with or without earnouts, where the acquirer has acquired a majority stake, i.e., 50% or more, in the target company. A summary of the deal characteristics is presented in table 2.

The percentage of stake acquired in an M&A transaction could also influence the decision to include earnouts in the consideration offered (Reuer, Shenkar, and Ragozzino 2004). In fact, an acquirer could acquire a significant-yet-minority stake in a target firm to address the concern of adverse selection thereby making the target firm share the future risks. Such minority-stake transactions then serve as an alternative to a consideration structure that includes earnouts (Ragozzino and Reuer 2009). I observe that out of the 519

[1] Our sample comprises M&A with deal value equal to or more than USD 1 million announced between November 2021 to October 2022, including other filtering criteria mentioned in table 1. Note: The sample includes transactions that are pending completion.

completed M&A deals with earnouts, 97.11% of the deals (504 deals) are majority stake acquisitions. On the contrary, out of the 13977 completed M&A deals without earnouts, only 35.41% of the deals (4949 deals) are majority stake acquisitions. Furthermore, the average stake acquired in the completed M&A deals (where majority stake is acquired) with earnouts is 97.52%, and 466 out of 505 deals are the transactions undertaken for acquiring the complete 100% stake. Thus, if a deal structure contains use of earnouts, it is more likely to involve higher percentage of stake acquired.

Acquirers can also gradually increase their ownership stake in a target firm instead of acquiring a majority or full stake in the initial transaction. This approach can help an acquirer gain a better understanding of the risks in the target and lower the information asymmetries. Indeed, if the target is familiar, that is, when an acquirer already holds some stake in the target, then there will be less use of earnouts in such deals. Thus, deals that include earnouts are more likely to be transactions where the acquirer does not hold any stake in the target firm prior to the deal announcement. I observe that out of the 504 deals (majority stake completed deals) with earnouts, only 3 deals (0.60%) have acquirers already owning some stake in the target firms prior to its announcement. On the contrary, 152 deals (3.07%) out of 4949 regular deals have acquirers owning an equity stake in the target firm prior to the deal announcement.

Table 2. Select Deal Characteristics of Majority Stake Completed M&A Deals

Panel I: Deals with Earnouts						
Month	**Number of M&A Deals**	**Sum of Deal Value (USD, Billion)**	**Average of Percentage of Shares Acquired in Transaction**	**Number of deals in the same industry**	**Number of Cross-border deals**	**Number of Public Targets**
Nov-21	77	12.87	98.41%	35	25	1
Dec-21	63	20.83	98.41%	22	24	2
Jan-22	53	8.85	96.43%	22	18	0
Feb-22	48	7.26	98.34%	25	19	2
Mar-22	50	6.90	98.16%	18	16	0
Apr-22	35	3.48	96.67%	20	12	0
May-22	50	10.38	94.74%	25	15	0
Jun-22	38	9.21	96.71%	22	11	0
Jul-22	23	4.64	98.57%	10	6	0
Aug-22	29	3.48	98.38%	15	11	0
Sep-22	17	0.68	97.65%	6	7	0
Oct-22	21	0.77	97.95%	12	3	0
Grand Total	504	89.34	97.52%	232	167	5

Panel II: Deals without Earnouts						
Month	**Number of M&A Deals**	**Sum of Deal Value (USD, Billion)**	**Average of Percentage of Shares Acquired in Transaction**	**Number of deals in the same industry**	**Number of Cross-border deals**	**Number of Public Targets**
Nov-21	650	208.03	93.16%	214	186	69
Dec-21	748	265.67	93.01%	276	200	54
Jan-22	456	106.63	92.82%	148	109	30
Feb-22	433	100.03	93.31%	138	115	36
Mar-22	451	127.66	93.14%	147	129	44
Apr-22	443	143.82	94.41%	144	108	32
May-22	387	112.51	93.88%	124	100	33
Jun-22	352	57.35	93.81%	125	96	27
Jul-22	346	40.62	94.33%	101	104	23
Aug-22	297	50.50	93.82%	86	61	17
Sep-22	241	19.36	92.77%	69	76	9
Oct-22	145	10.58	94.67%	59	50	2
Grand Total	4949	1242.77	93.48%	1631	1334	376

*Notes: M&A deals announced from 1st Nov 2021 to 31st Oct 2022, with a deal value greater than or equal to USD 1 million. The data includes **completed M&A deals where the percentage of stake acquired is greater than or equal to 50 percent.** Classification of the industries for the target and the acquirers in **related and unrelated industries is based on Fama-French 49 industry classification.** The table is compiled by the author. Data source: Refinitiv Eikon.*

Acquirers are more likely to face greater information asymmetries when evaluating target firms that are not public (Kohers and Ang 2000; Datar, Frankel, and Wolfson 2001). Consistent with this expectation, I observe that only 5 out of 504 deals with earnouts have public targets, whereas 376 out of 4949 regular deals have public targets. Acquirers are more likely to face greater uncertainties in evaluating firms in unrelated industries and are therefore more likely to use contingent payment in such deals (Reuer, Shenkar, and Ragozzino 2004; Datar, Frankel, and Wolfson 2001). In the sample of M&A deals with earnouts, around 55.60% of deals (table 2) involve cross-industry targets.[2]

[2] Classification of the industries for the target and the acquirers in related and unrelated industries is based on Fama-French 49 industry classification.

Indeed, cross-border transactions pose greater investment risks due to cultural, geographical, and institutional differences, and the inclusion of earnouts in such deals can reduce post-closing risks (L. G. Barbopoulos, Danbolt, and Alexakis 2018). I observe that approximately 33.13% of deals with earnouts (completed deals with majority stake), i.e., 167 deals out of 504 transactions, are cross-border deals. The proportion of cross-border deals in the regular sample (completed deals with majority stake) is comparatively lower at 26.95% (i.e., 1334 deals out of 4949). An alternative strand of empirical research suggests that the benefits associated with the inclusion of earnouts are more likely to accrue to the acquirers of domestic firms as compared to the acquirers of the targets across borders, as alternative mechanisms like JVs serve as a more effective mechanism of risk management in cross-country deals (Mantecon 2009). Additionally, it is also possible that target firms in cross-border deals are more reluctant to accept earnouts due to the possibility of moral hazard problems associated with the implementation of such contracts (Datar, Frankel, and Wolfson 2001).

Table 3. Industry Classification of M&A Deals with Earnouts

Target Industry (Fama French Classification)	**Count of SDC Deal Number**	**Sum of Deal Value (USD, Billion)**
Business Services	114	26.35
Computer Software	99	6.71
Pharmaceutical Products	23	11.14
Trading	23	4.96
Healthcare	22	2.02
Construction	12	1.67
Retail	12	1.05
Transportation	11	5.00
Medical Equipment	9	1.89
Precious Metals	7	2.08
Printing and Publishing	7	1.25
Insurance	6	1.39
Others	159	23.82
Grand Total	504	89.34

Notes: M&A deals announced from 1st Nov 2021 to 31st Oct 2022, with a deal value greater than or equal to USD 1 million. The data includes ***completed M&A deals with earnouts and where the percentage of stake acquired is greater than or equal to 50 per cent.***
Classification of the industries for target firms is based on Fama-French 49 industry classification. The table reports statistics for target firms' industries. The table is compiled by the author. Data source: Refinitiv Eikon.

I classify the industry of a target firm based on the Fama-French 49 industry classification and report the number and the value of M&A deals with earnouts (majority stake completed transactions) in table 3. Business services and computer software industries have recorded 114 and 99 deals, respectively, with a total deal value of over USD 33 billion. Notably, the value of deals completed for target firms in the pharmaceutical products industry is over USD 11 billion. The total value of deals in the three industries is over 49% of the total deal value in the sample of 504 deals. The three industries are likely to have a large value of intangibles and higher chances of disagreement among bidders and sellers about the potential value of cash flows associated with such assets. Empirical research also suggests that for firms operating in industries where the value of the firms is tied to the intangibles and the growth options (like services or technology industries), the use of earnouts will be of special relevance (Reuer, Shenkar, and Ragozzino 2004; Kohers and Ang 2000; Datar, Frankel, and Wolfson 2001).

It is pertinent to note that earnouts, tools that help mitigate post-closing risks, may introduce further risks like litigation and default risk (Battauz et al. 2021). The target firm receiving the earnouts bears the risk that the bidding firm may face adverse financial conditions like financial distress or bankruptcy, which may hinder the release of contracted future payments. Also, since the acquirer has significant control over the target firm, the target firm cannot monitor the former and ensure that the company achieves the contracted performance targets. In cases where the target firm retains control of assets, there is a possibility that it may resort to short-termism to achieve performance targets and forego opportunities that create long-term value (Datar, Frankel, and Wolfson 2001). Notwithstanding the limitations and the moral hazard problems associated with the implementation of such contracts, earnouts continue to be used as risk mitigation tools that facilitate the transfer of the risk of over-payment by an acquiring firm while mitigating the risk of under-payment for the target firm.

Conclusion

Acquirers in M&A transactions often use different types of risk mitigation techniques which help them address the problem of adverse selection and facilitate deal closure when the parties to the transaction disagree on the value of the target firm. Contingent earnouts are contractual mechanisms that enable part-payment of the deal value on the completion of a transaction and allow the additional payment to be paid at a future date(s) when the target firm meets certain operational or performance benchmarks. The article has reviewed the use of contingent earnouts in the twelve months spanning November 2021 to October 2022. The sample of completed majority stake M&A transactions comprised 504 deals with earnouts. The total value of the earnouts used in

these deals is approximately USD 21.12 billion. Over 97% of the completed M&A transactions, where earnouts are included in the consideration structure, have offered to acquire the majority stake in target. Earnouts are included in domestic and cross-border deals but largely involve non-public target firms. Business services, computer software and pharmaceutical industries have witnessed a record number of M&A deals that involve contingent payment in the form of earnouts.

Bibliography

Barbopoulos, Leonidas G., Jo Danbolt, and Dimitris Alexakis. 2018. "The Role of Earnout Financing on the Valuation Effects of Global Diversification." *Journal of International Business Studies* 49 (5). Palgrave Macmillan Ltd.: 523–51. doi:10.1057/s41267-017-0142-4.

Barbopoulos, Leonidas, and Sudi Sudarsanam. 2012. "Determinants of Earnout as Acquisition Payment Currency and Bidder's Value Gains." *Journal of Banking and Finance* 36 (3): 678–94. doi:10.1016/j.jbankfin.2011.10.007.

Battauz, Anna, Stefano Gatti, Annalisa Prencipe, and Luca Viarengo. 2021. "Earnouts: The Real Value of Disagreement in Mergers and Acquisitions." *European Financial Management* 27 (5). John Wiley and Sons Inc: 981–1024. doi:10.1111/eufm.12304.

Cain, Matthew D., David J. Denis, and Diane K. Denis. 2011. "Earnouts: A Study of Financial Contracting in Acquisition Agreements." *Journal of Accounting and Economics* 51 (1–2): 151–70. doi:10.1016/j.jacceco.2010.05.001.

Caselli, Stefano, Stefano Gatti, and Marco Visconti. 2006. "Managing M&A Risk with Collars, Earn-Outs, and CVRs." *Journal of Applied Corporate Finance* 18 (4). Wiley: 91–104. doi:10.1111/j.1745-6622.2006.00115.x.

Datar, Srikant, Richard Frankel, and Mark Wolfson. 2001. "Earnouts: The Effects of Adverse Selection and Agency Costs on Acquisition Techniques." *Journal of Law, Economics, and Organization* 17 (1): 201–38.

Kohers, Ninon, and James Ang. 2000. "Earnouts in Mergers: Agreeing to Disagree and Agreeing to Stay." *Journal of Business* 73 (3). University of Chicago Press: 445–76. doi:10.1086/209649.

Mantecon, Tomas. 2009. “Mitigating Risks in Cross-Border Acquisitions.” *Journal of Banking and Finance* 33 (4): 640–51. doi:10.1016/j.jbankfin.2008.12.001.

Ragozzino, Roberto, and Jeffrey J. Reuer. 2009. “Contingent Earnouts in Acquisitions of Privately Held Targets.” *Journal of Management* 35 (4): 857–79. doi:10.1177/0149206308328503.

Reuer, Jeffrey J, Oded Shenkar, and Roberto Ragozzino. 2004. “Mitigating Risk in International Mergers and Acquisitions: The Role of Contingent Payouts.” *Journal of International Business Studies* 35: 19–32. doi:10.1057/palgrave.

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Reputational Risk in Financial Services – The Need for a Greater Focus

Ujjal Choudhury

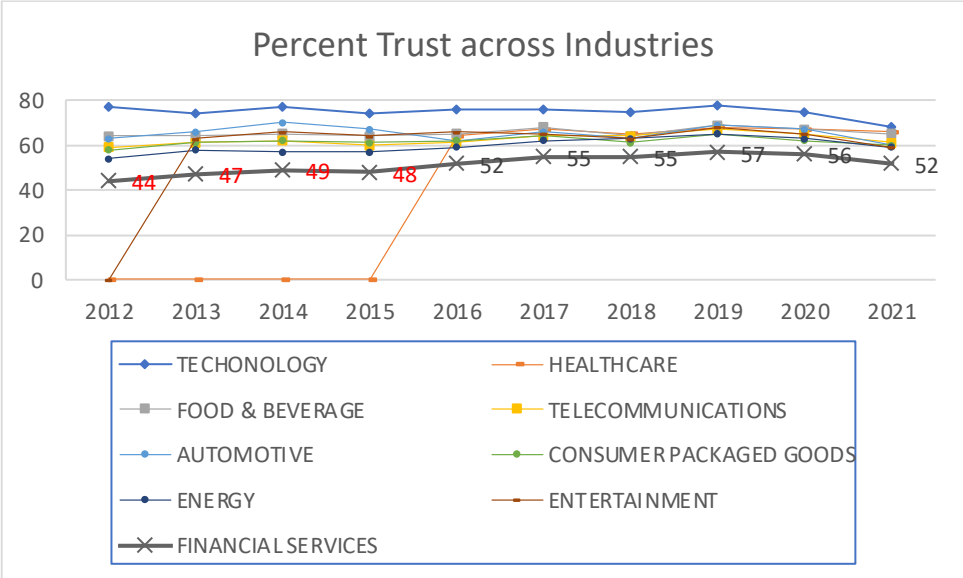
"We can afford to lose money – even a lot of money. But we can't afford to lose reputation – even a shred of reputation." (Warren Buffet)

I. Introduction – why reputational risk?

Reputation is one of the key drivers of the performance of any entity. It encompasses the entire ecosystem of stakeholders of an economy, with a country's reputation at the apex, and cascading down with strong interlinkages among all constituents. A strong positive reputation allows corporate entities to attract human resources and cheaper capital, price their products at a premium that increases profitability, and develop long-term relationships with customers and supply chain partners. As of 1 January 2012, reputation accounted for nearly 26% of the total market capitalization of the S&P 500 (Cole. 2013). Damage to reputation can therefore impact the performance of any ongoing concern, and risks to reputation have to be managed effectively to deliver value to all stakeholders.

The impact of a risk event in financial services can have far-reaching consequences and affect the economy through a ripple effect, as demonstrated during the various financial crises, recent and remote. These have ultimately had a bearing on the reputation of the sector and impacted it negatively. The financial services sector suffers from a marked trust deficit between the participants on the demand and supply sides. Globally, the Edelman Trust Barometer 2021 indicates that trust in the financial services industry is the lowest, a trend that has continued over the last 10 years despite registering an improvement during the decade.

FIGURE 1: PERCENT TRUST ACROSS INDUSTRIES. 2012-2022.



Source: 21st Edelman Trust Barometer

Financial intermediation, however, carries out various necessary functions that are necessary for the efficient performance of a modern economy (Bhattacharya and Thakor 1993; Visco 2012). According to Sen (1991), finance has an important role in the economic development of countries, and in promoting culture and science as well. It is, therefore, imperative for all stakeholders to manage risks in the financial services sector effectively.

Several developments related to reputational risk events in the financial services sector in India have taken place over the years and impacted consumers. Management of reputational risk should accordingly be a priority for policymakers.

Reputational risk, often considered as a composite risk consequential to other risk events, is not an unknown concept. However, attempts to manage it effectively as a standalone risk, have begun only recently. Being based on external perceptions, it is, however, more difficult to manage than other standard risks. (ACE 2013).

Reputational risk is distinct from the actual occurrence of the risk event. The crises resulting from the risk events hurt the reputation of the financial institutions emanating from the actions of one or a few persons, and the ultimate price had to be paid by the consumers. It is, therefore, important to assess reputational risk properly and take adequate mitigation measures to protect all stakeholders in case of an occurrence of the eventuality.

This article explores the various dimensions of reputational risk and concludes with some suggested measures for addressing it more effectively in India.

II. Defining reputational risk.

Reputational risk is an extremely nebulous concept. Definitions of reputation, by academics (Fitzsimmons and Atkins 2017), regulator supervisors (Federal Reserve Systems 1995), and standard setters e.g., Basel Committee on Banking Supervision (BCBS) (2009), all emphasize its perception-based nature that cannot be hard coded. The risk is that the reputation will be perceived unfavorably due to the behavior of an organization, its employees, or its associates not meeting stakeholder expectations.

III. Causes of reputational risk.

Reputation risk results from conflicts of interest between the agents of a financial service provider and its customers (Crockett et al. 2003). Sen (1991) has classified conflict of interest as a *behavioral constraint* as a result of which financial agents may compromise the interests of shareholders or of the community in the pursuit of self-serving interests and highlighted the issue of insider trading in this connection.

The range of a financial intermediary's activities is directly correlated to the probability of the organization encountering conflicts of interest situations that can be exploited and the cost of putting safeguards in place. Striking a balance between the two is a key corporate governance issue involving a strong ethical perspective (Walter 2007).

Laws and regulations governing market conduct are based on social mores – the 'fit and proper' criteria for 'key shareholders' to establish their probity and competence (BCBS 1999). This involves assessing the integrity and suitability of managers and directors of financial institutions. Concepts such as integrity based on the intrinsic values of a society may change over time and vary across cultures creating different types of reputational risk. Stakeholder expectations and societal values may differ significantly, the gap becoming more pronounced as financial services evolve.

Causal factors in financial services

"…'Splendid financiering' is not legitimate banking, and 'splendid financiers' in banking are generally rascals or humbugs." *Letter of guidance to bankers from the U.S. Comptroller of the Currency, December 1863* (Group of Thirty 2015).

Reputational risk in financial services has been attributed primarily to poor governance and deviant behavior of taking unacceptable risks for private gains. Financial services is a highly specialized and intensely competitive business with profit margins under constant threat. Compensation and promotion practices have, at times, unknowingly damaged firms' reputation (Walter 2007). Rajan (2005) argues that the changes in the financial sector created some potential for distortion by altering managerial incentives and changing the nature

of risks assumed by the system. Inadequate cybersecurity leading to theft and misuse of data is another key source of reputational risk at present.

Cultural issues related to financial services

The role of corporate culture in reputational risk, particularly in the financial services sector, has been emphasized in several studies. The Group of Thirty Report (2015) defines culture as the mechanism for building trust and goodwill of banks among its key internal and external stakeholders. Cultural issues like hubris, envy, misplaced faith, and herd behavior, apart from ill-designed incentives, were some of the critical factors responsible for the 2008 financial crisis (Rajan 2010).

Commentators have suggested that a culture of *mala fide* is prevalent in the financial sector, and the existing business culture of the banking industry contravening the norms of honesty should be addressed on a priority basis (Cohn et al. 2014). Though the interpretation of the data from this study has been contested by Stöckl (2015), the probability of white-collar crimes – real and virtual – within the organization is one of the key sources of reputational risk in the sector. Personal reputation impacts corporate identity and reputation (Bromley 2002). Bushman et al. (2015) posits that materialistic (identified by ownership of luxury goods) CEOs exhibit a greater proclivity for promoting aggressive risk-taking cultures than their more frugal peers.

Most financial firms can endure business risks that the firms have learned to manage, but reputational losses may be imposed by external reactions and outsiders such as regulators and litigants; analysts and media can become susceptible to external influences, making it difficult to side with a perceived offender (Walter 2007).

Executive compensation in financial services

Executive compensation is strongly linked to corporate culture. It is a vexing issue for the financial sector plagued by perceptions of greed and remunerations incommensurate with performance. The sentiment that profits are privatized but losses are socialized, and the scrutiny of senior management compensation are among the plausible reasons for the erosion of trust in the financial sector (Reddy 2012). Public perceptions – often influenced by media reports – apart, the view that executive compensation policies gaming the compensation system through ex-ante rather than ex-post performance metrics adversely impact the financial sector is supported by academicians (Bebchuk and Fried 2010; Bhagat and Bolton 2013; Rajan 2008), global standard setters (for example, the Financial Stability Board (FSB), and the Basel Committee on Banking Supervision (BCBS)), and policymakers (for example, the Financial Sector Legislative Reforms Commission in India (FSLRC 2013)). [3,4] There are, however, contrarian views on the regulation of executive compensation, in popular (Rand 1957) as well as technical (French et al. 2010) literature. An online debate facilitated by the

[3] FSB Principles for Sound Compensation Practices Implementation Standards. September 25, 2009.

[4] Supervisory review process SRP 35. Compensation practices. Version effective as of 15 December 2019.

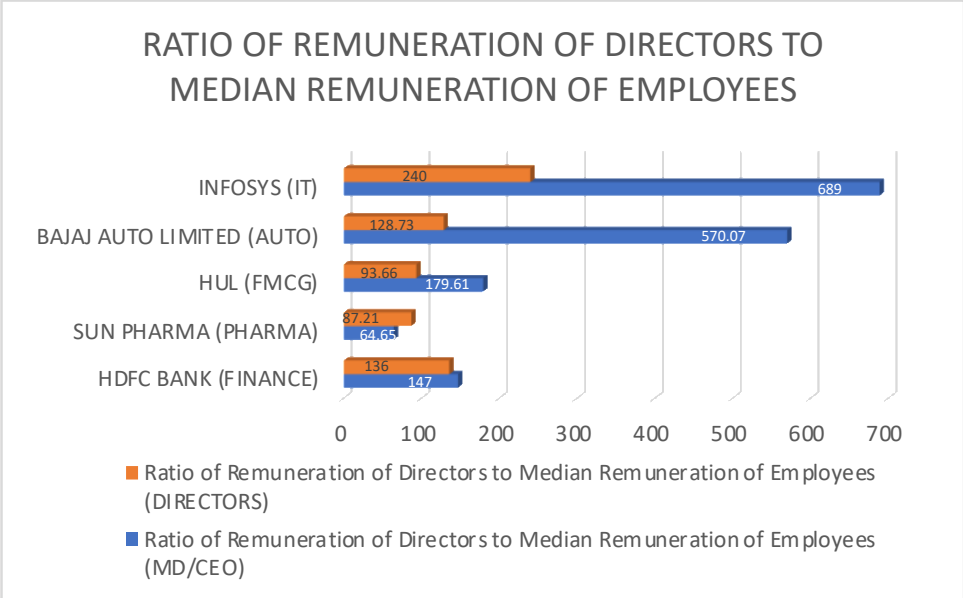
World Bank (Bishop 2012), and a composite presentation of the differing views by Johnson (2010) and Kaplan (2010) provide excellent summaries of both perspectives.

It is interesting to note in this context, that studies (Chang et al. 2022; Myers and Sevier 2018) indicate that disclosure mandates on executive compensation adopted by several geographies, including India in The Companies Act, 2013, neither impact the earnings of senior executives nor meet the objective of aligning pay with performance.

The Reserve Bank of India (2019) guidelines on the compensation of employees of Private Sector Banks (including Local Area Banks, Small Finance Banks, and Payments Banks) and Foreign Banks operating in India[5] are in alignment with the recommendations of the FSB and the BCBS and includes provisions for *malus* and clawback. Interestingly, the instance of clawback applied in the case of a CEO of an Indian bank is cited in the FSB Progress Report (2021). However, unless bankers realized the risks taken by them, regulating the bonuses paid to them would serve a very limited purpose (Rajan 2010).

Although the financial sector is criticized for compensation policies skewed in favor of the top management, a dipstick review of cross-industry executive compensations in India reveals that this is not confined to the financial sector alone. The figure below is a rough and ready dashboard since heads such as financial years, designations, and terms and conditions of payments are disparate across firms. It is nevertheless indicative of a broad trend.

FIGURE 2: RATIO OF REMUNERATION OF DIRECTORS TO MEDIAN REMUNERATION OF EMPLOYEES ACROSS SELECT INDUSTRY SECTORS IN INDIA



Source: Annual Reports of Companies

[5] RBI/2019-20/89. DOR.Appt.BC.No.23/29.67.001/2019-20 November 4, 2019

IV. Reasons for addressing reputational risk in the financial services sector

Good reputation attracts business that should lead to higher profits and enhance the value of the firm. Diamond et al. (2021) have developed the concept of internal governance or *pledgeability* and conclude that the debt capacity of a firm increases with higher prospective liquidity and pledgeability. Minor errors, or errors common to other firms, seem not to result in serious reputational losses (Driver Review 2012). Negative market reactions to restatements resulting from 'technical accounting issues' are more subdued compared to those involving fraud and reflect poorly on management integrity (Palmrose et al. 2004).

From developmental and macro perspectives particularly relevant for India, reputation risk is extremely important for financial inclusion since it impacts inequality (Ratnawati 2020) and attractiveness for Foreign Direct Investments (Kalamova and Konrad 2010).

Poor risk management impacting a financial institution's reputation affects its potential for future business (Laurens. 2012). The contagion effect of reputational risk impacts the entire financial sector, particularly among the financially illiterate population. The collapse of Punjab and Maharashtra Cooperative Bank (PMC Bank), in 2019, caused severe distress to small depositors and led to several suicidal deaths.

Such incidents impede financial inclusion. Anecdotal evidence indicates that poor claim settlement records have been responsible for lower insurance penetration. A demonstrable commitment to providing reasonable access to essential financial services to all segments of society is necessary to reinforce the assertion that finance serves the larger community (Reddy 2012).

According to Sutton and Jenkins (2007), adverse publicity by media and consumer rights organizations can damage reputation. With increasing inequality, organizations perceived as elitist are likely to become vulnerable as well, and public relations and philanthropy cannot mend these damages. Heightened awareness of financial exclusion impacting poverty, would increase such risks.

The increasing power of social media now makes it extremely important to ensure customer satisfaction. The impact of social media in modern times has grown manifold since the time of reputational damage to United Air from a YouTube upload.

Operational loss announcements have a larger market impact for firms with better growth prospects (Cummins et al. 2004). Firms promoting themselves as reputational standard-setters will tend to suffer larger reputational losses (Walter 2007).

V. Quantifying reputational risk

Reputational risk is the least tractable of the risks confronting financial intermediaries because of the lack of data, limited usable metrics, and strong "fat tail" characteristics (Walter 2007). Because of its amorphous

nature, any measure of reputational risk involves an element of subjectivity. There are two types of measures for reputational risk.

The qualitative methods, based primarily on perception-based surveys for determining reputational indices and ratings include the Reputation Institute's RepTrack and the annual Fortune ranking. These are differentiated by the different classifications of the determinants of reputation. Bromley (2002), however, has argued that these are biased and suggested alternatives.

Various measures based on quantitative methods have been suggested in the literature. Though there is no standard methodology for such measures, existing literature on quantifying reputational risk is typically based on ex-post analysis of risk events. Analyses based on event studies have yielded significant evidence of share price sensitivity to reputational risk (Walter 2007).

There are various ways of estimating reputational risk. Kaiser (2014) defines it as unexpected losses resulting from stakeholders' response to changes in the perception of an entity. A large body of literature exists on estimating risks based on the negative impact of different risk events and governance on stock prices and market capitalization. Among these, the study by Micocci et al.(2009) estimates the reputational Value at Risk (VaR) for a monthly event window that represents the economic capital necessary to provide an offset against negative reputational effects (which is directly proportional to the different confidence levels) as 1.08% of shareholders' value at 99.9% confidence level.

VI. Current situation and their (in) adequacies.

Attempts to address reputational risk both through internal governance processes and through regulation and supervision are still at an incipient stage. Globally, there are no directives for allocating risk-weighted capital for reputational risk. Scholarship on reputational risk management in banks is limited in size (Zaby and Pohl. 2019). The focus is more on knee-jerk damage control through managing public relations than managing reputational risks proactively. The role of rating agencies, which are required to be used mandatorily for risk ratings, has come under severe criticism. Most importantly, regulatory teeth have been lacking. Analysts argue that regulations are even less of a substitute for reputation-based transactions because of their ineffectiveness; today's consumers are more concerned with profit rather than reputation (Driver Review 2012).

In India, there have been several recent incidents in the financial services sector that give sufficient reasons for concern and the need to pay greater attention to managing reputational risk. Almost all the cases reflect some of the theoretical premises behind reputational risk events, particularly, the impact of the transgressions of promoter groups on the institution. The Edelman Trust Barometer (2021) indicates that trust in CEOs in India is at an all-time low.

Retail investors in YES Bank AT1 bonds lost approximately Rs. 679 crores because of mis-selling.[6] Interestingly, YES Bank was the first Indian bank to have issued Green Bonds in 2015, creating the image of an environmentally friendly institution.

The cases of Punjab and Maharashtra Cooperative Bank mentioned earlier, IL&FS Financial Services, SREI Infrastructure Finance, SREI Equipment Finance, and a closure of several cooperative banks in recent times indicate poorly managed risks in these institutions. In ICICI Bank, a reputational crisis arose due to the souring of the loans sanctioned despite an alleged conflict of interest. Moreover, consumer grievance redressal processes are complicated and long-drawn. In the cases of IL&FS and the SREI companies, there were lapses on the part of external auditors (in the case of IL&FS, by a Big Four firm) – one of the key risk management mechanisms for any organization. The credibility of rating agencies came under question in the case of IL&FS Financial Services. Currently, there is only one commercial bank in India that has officially adopted the Equator Principles for managing environmental and social risks in project financing.

VII. Mitigation of reputational risk – policy directions.

Reputational risks, like other risks, can be managed through internal processes and regulations. The financial crisis of 2007 has often been blamed on regulators who were accused of 'permissiveness and stupidity' (Driver Review 2012). According to Walter (2007), market developments have periodically overtaken regulatory capabilities for promoting stability and fairness as well as efficiency and innovation. According to Reddy (2012), a major reason for the erosion of trust in the financial sector possibly arises from the sense that there has been a comprehensive capture of regulation of the financial sector by the finance industry, particularly in the leading advanced economies. A key reason for this is a conflict-of-interest situation often faced by regulators themselves. As a wing of public policy authority, it behooves central banks to maintain ongoing trust and confidence in the financial sector.

Increasing complexities in the financial sector have reduced the importance of reputation, but regulation can substitute reputation only to the extent that it ensures a level playing field so that the need for reputation is lessened. However, there are studies indicating that the management of reputational risk is sometimes counterproductive. Hill (2019), for instance, argues against expansive regulation of reputation risks since there is little evidence that regulators can accurately predict and prevent bank reputational losses. Furthermore, reputational risks are mostly subjective, and regulators can use them to further political agendas undermining faith in the regulatory system and eroding trust in banks.

[6] Securities and Exchange Board of India Adjudication Order No. Order/SM/MG/2021-22/11306-11309. April 2021.

Similarly, the findings of Miklaszewska et al. (2020) in their study of CEE-11 listed banks, indicate that since large risky banks scoring low on reputation had the potential for performing better, appropriate management of reputational risk might not be a priority since it could negatively impact the assessment of the performance of banks. This is probably why many banks dealt with reputational risk by managing crisis instead of reputational risk.

It is nevertheless necessary to have comprehensive guidelines for managing reputation risks for financial stability and ensuring consumer protection. A broad contour of such guidelines is suggested below.

1. Ongoing research for providing future directions. A study by Adeabah et al. (2020) indicates that the entire body of research on the subject is from developed countries, and the reputational risk management of banks has not gained the global attention it deserves.
2. Regulatory initiatives that have a strong bearing on the issue:
    a. Capacity building – an area, the deficiencies of which have been highlighted by Levine (2012), and in India by the FSLRC Report (2013), which is also critical of "transplanting civil service structure to regulatory authorities." In this context, it may be worth exploring the separation of monetary policy and regulation-supervision functions in India, in line with several jurisdictions.
    b. Reassuring the public about minimizing the scope for comprehensive regulatory capture, reinforced through improving the public image of central banks and their governors (Reddy 2012).
    c. Judicious operation of monetary policy and macro-prudential measures for risk management resulting from perverse incentives (Rajan 2005).
    d. Allocation of capital for reputational risk as estimated by models similar to that of Micocci et al. (2009). Bhagat and Bolton (2013) recommend capitalizing banks with significant additional equity for compensations having equity components.
    e. Micro-prudential regulations to ensure consumer protection and public good. Material Risk Takers responsible for taking risks and selling them should have skin in the game by requiring them to have a part of their remuneration invested in the funds they manage to be paid over a period and frozen for a specified time (Rajan 2005 and 2010; Bhagat and Bolton 2013). The Securities and Exchange Board of India has moved in this direction regarding the remunerations of Asset Management Companies.[7]
3. For building trust in the financial services sector, financial intermediaries should focus on a culture building on their unique role in an economy, and the initiative must come from within instead of being an imposition

[7] Securities and Exchange Board of India Circular SEBI/HO/IMD/IMD-I/DOF5/P/CIR/2021/553. Dated 28 April 2021.

(Laurens 2012). Regulatory compulsions are poor substitutes for self-governance and integrity. Honesty cannot substitute proclivities for perverse behaviors to game the system for self-serving objectives.

As recommended by The Group of Thirty (2018), a sustained focus on conduct and culture with the boards and senior management leading by example is essential. At the operational level, the specific recommendations made in the report should be taken up seriously for implementation. Unfortunately, there has been no effort in this respect in India.

4. Legal initiatives that can fast-track resolutions of disputes relating to financial irregularities. In the USA, there have been many *nolo contendre* (no contest) settlements although these did not create any future legal directions (Walter 2007). Fast track courts in India, established primarily for socially sensitive issues, have been ineffective. A separate entity for addressing financial crimes could address this issue.

An innovative and dynamic financial sector without excess risk and outrageous behavior, while difficult to attain, is a worthwhile aspiration (Rajan 2010). For that, taking a cue from Aristotle, who said that "it is better for a city to be governed by a good man than good laws", what is probably most important for managing reputation to ensure financial stability are a few good men!

REFERENCE

ACE. 2013. *ACE: Reputation at Risk*, www.acegroup.com/global-assets/documents/Europe-Corporate/Thought-Leadership/ace_reputation_at_risk_july_2013.pdf, London 2013

Adeabah, David., Andoh, Charles., Asongu, Simplice., and Gemegah, Albert. 2022. "Reputational risks in banks: A review of research themes, frameworks, methods, and future research directions". Journal of Economic Surveys, 1– 30. https://doi.org/10.1111/joes.12506

Basel Committee on Banking Supervision. "Supervisory review process SRP 35. Compensation practices". Version effective as of 15 December 2019.

Basel Committee on Banking Supervision. 2004. "International Convergence of Capital Measurement and Capital Standards. A Revised Framework". June 2004. Bank for International Settlements.

Basel Committee on Banking Supervision (BCBS). 1999. "Supervision of Financial Conglomerates". Basel Committee on Banking Supervision, the International Organization of Securities Commissions and the International Association of Insurance Supervisors. (41-42). February 1999.

Basel Committee on Banking Supervision (BCBS). 2009. "Enhancements to the Basel II framework". July 2009. Bank for International Settlements.

Bebchuk, Lucian A., and Fried, Jesse M. 2010. "Paying For Long Term Performance". *University of Pennsylvania Law Review*, Vol. 158, 2010, 1915-1959.

Bhagat, Sanjai., and Bolton, Brian J. May. 2013. "Bank Executive Compensation and Capital Requirements Reform". http://dx.doi.org/10.2139/ssrn.1781318

Bhattacharya, Sudipto., and Thakor, Anjan V. 1993. "Contemporary Banking Theory". *Journal of Financial Intermediation.* Volume 3, 2-50.

Bishop, Sophy. 2012. "On World Bank blog, Bebchuk debates executive compensation". Faculty Scholarship. *Harvard Law Today*. 17 February 2012. https://hls.harvard.edu/today/on-world-bank-blog-bebchuk-debates-executive-compensation/. Accessed 9 November 2022.

Bromley, Dennis. 2002. "Comparing Corporate Reputations: League Tables, Quotients, Benchmarks, or Case Studies?". *Corporate Reputation Review*, Vol. 5. No.1, 35-50.

Bushman, Robert M., Davidson, Robert H., Dey, Aiyesha., Smith, Abbie. 2015. "Bank CEO Materialism, Corporate Culture and Risk". Working Paper. University of North Carolina.

Chang, Wonjae., Dambra, Michael., Schonberger, Bryce., and Suk, Inho. "Does Sensationalism Affect Executive Compensation? Evidence from Pay Ratio Disclosure Reform". April 28, 2022. http://dx.doi.org/10.2139/ssrn.3470215

Cohn, Alain., Fehr, Ernst., Maréchal, Michel André. 2014. "Business culture and dishonesty in the banking industry". *Nature* 516. 86-89. https://doi.org/10.1038/nature13977

Cole, Simon. 2013. "The Impact of Reputation on Stock Market Value". *World Economics Journal*. February 2013. https://www.world-economics-journal.com/Papers/The%20Impact%20of%20Reputation%20on%20Stock%20Market%20Value_3d2cbd00-f485-4dfe-b9bb-76b22c0c64ef.paper Accessed 2 November 2022.

Crockett, Andrew., Harris, Trevor., Mishkin, Frederic S., and White, Eugene N. September 2003. "Conflicts of Interest in the Financial Services Industry: What Should We Do about Them?" *Geneva Reports on the World Economy 5*. International Center for Monetary and Banking Studies (ICMB) and Centre for Economic Policy Research (CEPR).

Cummins, J. David., Lewis, Christopher M., and Wei, Ran. 2004. "The Market Value Impact of Operational Risk Events for U.S. Banks and Insurers". SSRN. http://dx.doi.org/10.2139/ssrn.640061

Diamond, Douglas. W., Hu, Y., Rajan, Raghuram G. Jan 2021. "Liquidity, Pledgeability, and the Nature of Lending". Chicago Booth and NBER University of North Carolina.

Driver Review. 2012. "Trust and Reputation in financial services". *Foresight*. Government Office for Science. London.

Edelman Trust Barometer. 2021. Global Report. https://www.edelman.com/sites/g/files/aatuss191/files/2021-01/2021-edelman-trust-barometer.pdf

Federal Reserve System. 1995. "Federal Reserve Guidelines for Rating Risk Management at State Member Banks and Bank Holding Companies". SR 95-51 (SUP). *Federal Reserve System. Division of Banking Supervision and Regulation.* 14 November 1995. Revised 26 February 2021. https://www.federalreserve.gov/boarddocs/srletters/1995/sr9551.htm Accessed 9 November 2022.

Financial Stability Board. 2021 Progress Report. "Effective Implementation of FSB Principles for Sound Compensation Practices and Implementation Standards".

Fitzsimmons, Anthony, and Atkins, Derek. 2017. *Rethinking Reputational Risk. How to manage the risks that can ruin your Business, your reputation and you*. Kogan Page. London.

French, Kenneth R., Martin N. Baily, John Y. Campbell, John H. Cochrane, Douglas W. Diamond, Darrell Duffie, Anil K Kashyap et al. 2010. *The Squam Lake Report: Fixing the Financial System.* Princeton University Press.

Hill, Julie A. 2019. "Regulating Bank Reputation Risk". *Georgia Law Review 54:523-603.* https://georgialawreview.org/api/v1/articles/12306-regulating-bank-reputation-risk.pdf

http://www.actuaries.org/AFIR/Colloquia/Rome2/Micocci_Masala_Cannas_Flore.pdf

Johnson, Simon. 2010. "Bonuses and the "Doom Cycle"". *Finance & Development.* Volume 47(1) 43. https://www.imf.org/external/pubs/ft/fandd/2010/03/johnson.htm

Kaiser, Thomas. 2014. "Reputational Risk Management Across the World: A Survey of Current Practices", in *Reputational Risk Management in Financial Institutions.* Edited by Kaiser, Thomas., and Merl, Petra. Risk Books Incisive Media Investments Ltd. London.

Kalamova, Margarita M., and Konrad, Kai A. 2010. "Nation brands and foreign direct investment". *Kyklos,* 63(3), 400-431.

Kaplan, Steven N. 2010. Should Bankers Get Their Bonuses?" *Finance & Development.* Volume 47(1) 42. https://www.imf.org/external/pubs/ft/fandd/2010/03/johnson.htm

Laurens, Francois. 2012. "Reputational Risk: A Crisis of Confidence in Banking". *Swiss Management Centre University. SSRN Electronic Journal*. July 2012.

Levine, Ross. 2012. "The Governance of Financial Regulation: Reform Lessons from the Recent Crisis". *International Review of Finance.* March 2012. Vol. 12(1), 39-56.

Micocci, Marco., Masala, Giovanni., Cannas, Giuseppina., and Flore, Giovanna. 2009. "Reputational effects of Operational Risk Events for Financial Institutions". University of Cagliari Working Paper.

Miklaszewska, Ewa., Kil, Krzysztof., Pawłowska, Małgorzata. 2020. "Is Reputational Risk Important for Bank Performance? Evidence From CEE-11 Countries". *Argumenta Oeconomica.* 2(45) 31-51.

Myers, Minor., and Sevier, Justin. 2019. "The Paradox of Executive Compensation Regulation". *Journal of Corporation Law*. Vol 44(4): 755-788.

Palmrose, Zoe-Vonna., Richardson, Vernon J., and Scholz, Susan. 2004. "Determinants of market reactions to restatement announcements". *Journal of Accounting and Economics*. Volume 37. Issue 1, February 2004, 59-89.

Rajan, Raghuram G. 2005. "Has Financial Development Made the World Riskier?" *NBER Working Paper 11728.* National Bureau of Economic Research. Cambridge, MA. © 2005 by Raghuram G. Rajan.

Rajan, Raghuram G. 2008. "Bankers' pay is deeply flawed". Opinion. US. *Financial Times*. 9 January 2008. https://www.ft.com/content/18895dea-be06-11dc-8bc9-0000779fd2ac Accessed 8 November 2022.

Rajan, Raghuram G. 2010. *Fault Lines: How Hidden Fractures Still Threaten the World Economy.* Princeton and Oxford: Princeton University Press.

Rand, Ayn. *Atlas Shrugged*. 1957. Random House.

Ratnawati, Kusuma. 2020. "The Impact of Financial Inclusion on Economic Growth, Poverty, Income Inequality, and Financial Stability in Asia". *Journal of Asian Finance, Economics and Business Vol 7 No 10 (2020) 073–085.*

Reddy, Yaga V. 2012. "Society, Economic Policies, and the Financial Sector". *Bank for International Settlements Per Jacobsson Foundation*. Basel, Switzerland.

FSLRC. 2013. Report of the Financial Sector Legislative Reforms Commission. *Volume 1: Analysis and Recommendations*. March 2013. Government of India.

Sen, Amartya K. 1991. "Money and Value: On the Ethics and Economics of Finance". *Banca D' Italia Paolo Baffi Lectures on Money and Finance*. 26 April 1991. © Copyright 1991. Amartya K. Sen.

Stöckl, Thomas. 2015. "Dishonest or professional behavior? Can we tell? A comment on: Cohn et al. 2014, Nature 516, 86-89, 'Business culture and dishonesty in the banking industry'". *Working Papers in Economics and Statistics*, No. 2015-11, University of Innsbruck, Research Platform Empirical and Experimental Economics (eeecon), Innsbruck.

Sutton, Christopher N., and Beth Jenkins. 2007. "The Role of Financial Services Sector in Expanding Economic Opportunity". *Corporate Social Initiative Report No. 19*. Cambridge, MA: Kennedy School of Government, Harvard University.

The Group of Thirty. 2015. "Banking Conduct and Culture. A Call for Sustained Reform". Washington, D.C.

The Group of Thirty. 2018 "Banking Conduct and Culture. A Permanent Mindset Change". Washington, D.C.

Visco, Ignazio. 2012. "What does society expect from the financial sector?". *Panel discussion remarks by Mr.Ignazio Visco, Governor of the Banca d'Italia following the Per Jacobsson Lecture by Dr YV Reddy, 24 June 2012, Basel, Switzerland*. Bank of International Settlements.

Walter, Ingo. 2007. "Reputational Risk and Conflicts of Interest in Banking and Finance: The Evidence So Far". Faculty and Research Working Papers, INSEAD.

Zaby, Simon, and Pohl, Michael. 2019. "The Management of Reputational Risks in Banks: Findings from Germany and Switzerland". *SAGE Open*. July-September 2019: 1–15

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Enhancing the Efficiency of TDR Markets for Financing Large-scale Infrastructure Projects

Rima Mondal

1. Introduction

India will require an investment of Rs. 50 trillion in the infrastructure sector by 2022 to cope with the rapid pace of urbanization (IBEF, 2022). Given the increasing demand for infrastructure projects and the limited supply of financing mechanisms, there is a growing need to develop a sustainable self-financing mechanism for financing large-scale infrastructure projects. Most urban development and infrastructure projects get stuck in long-drawn issues related to land acquisition, compensation payment, and land disposal to the respective land development agencies. As a result, the implementation of projects is significantly delayed, a significant hurdle faced by developers.

To mitigate these issues, development authorities and municipalities are shifting towards innovative land development and financing mechanisms to boost urban development and large-scale infrastructure projects. One of the land value capture mechanisms to finance large-scale infrastructure projects is the Transferable Development Right (TDR). The market of TDRs is characterized by a high transaction cost and information asymmetry. This article explores the inefficiencies in the processes of generation, transfer, and utilization of TDRs, and how blockchain technology (BCT) can reduce them.

2. Financing of infrastructure projects

The Indian government has prioritized investment in the infrastructure sector in recent years, especially in the budget of 2021 and 2022. These infrastructure projects are launched to boost economic growth and employment opportunities. In 2021, the government proposed to invest Rs. 13,750 crore to develop smart cities under the AMRUT and Smart City Mission (IBEF, 2021). Also, Prime Minister Gati Shakti's master plan having projects aggregating Rs. 100 lakh crore was launched in 2021 for holistic development of infrastructures like expanding national highways and related logistics. To expedite the process of urban development and large-scale infrastructure building, the government has shifted its focus from primitive land acquisition measures to innovative land development techniques, including land pooling, TDR, and accommodation reservation.

Financing of large-scale urban infrastructure in megacities has become a concern for the development authorities and municipalities, especially after the IL&FS crisis. The NBFC had financed large infrastructure projects in India, for example, Delhi-Noida Toll Bridge, Tripura power project, and Gujarat International Finance Tec-City. Amid land acquisition issues and delays in the approval and implementation of infrastructure projects, IL&FS defaulted on its short-term loans, long-term loans, and commercial papers. It has been reported that IL&FS group and its subsidiaries are under a debt of around Rs. 94,000 crores.[8] The vice-chairman of IL&FS, accused of causing creditors losses by granting loans to firms and infrastructure projects that were not creditworthy, was arrested in 2019.

Land value capture mechanisms like 'betterment levies' have been devised to augment infrastructure investments. The basic premise for charging betterment levies from the landowners for the provision of infrastructure and facilities is an increase in the future value of land. Various land value capture mechanisms are land pooling, land readjustment, impact fee, additional development rights, transferable development rights, accommodation reservation, etc. Land pooling and readjustment have been widely used in developed economies such as Japan, Germany, and Spain. It is also used in India in Gujarat and Maharashtra.

3. Land Value Capture mechanism

This section discusses various land value capture mechanisms for large-scale infrastructure project financing. Land value capture mechanisms have been generally used for plots unauthorized due to a lack of basic infrastructure, roads, and transport facilities. In such areas, the residents' living condition is usually very poor and land parcels are undervalued. To facilitate orderly and planned development of such areas, the development authorities motivate the land owners to participate in land pooling/re-adjustment mechanisms where the landowners along with the municipality prepare the plan for the designated area after demarcating enough space for facilities, roads, utilities, etc. After pooling/ readjustment and provision of necessary infrastructure, the value of such land parcels increase, benefitting the existing landowners. However, to carry out necessary improvements, the landowners must surrender a certain proportion (usually 40 percent) of their land parcels, free of any encumbrances, to the service-providing agency. Surrendering land parcels is accompanied by payment of betterment levies in some countries. With the enactment of the Land Acquisition Rehabilitation and Resettlement Act, 2013, land acquisitions have become a costly affair for development authorities and service-providing agencies. As a result, innovative land development and land value capture mechanisms like TDR can facilitate urban development and finance urban infrastructure projects.

[8] https://economictimes.indiatimes.com/news/economy/policy/ilfs-financial-services-exposure-to-group-companies-breaches-rbi-norms-in-fy16-18-board/articleshow/66473861.cms

a) TDR concept and use

TDR is a market-based instrument developed to address the issues of government-imposed 'socialization of development rights' such as the compulsory acquisition of land using police powers to provide for public goods, preserve environmentally vulnerable land parcels and heritage monuments, and redevelop slum projects. A TDR program has four basic components: sending areas, receiving areas, specifications of the development rights, and the process of transfer of the rights. There are three phases in the life cycle of TDR: creation, transfer, and utilization of the development rights (Chiodelli, & Moroni, 2016).

TDR is a quantity-based approach and an alternative to the price-based approach of development charges/ development levies (Janssen-Jansen et al., 2008). TDR generates property rights from sending areas. The approach separates the 'right to use' and the 'right to develop' from a land parcel. This separation incentivizes development in receiving areas and discourages development in sending areas meant for low-intensity development (Buitelaar and Needham, 2007; Geuting, 2007). In the case of land acquisition, separation of rights is not done; instead, monetary compensation is provided to land owners in lieu of the acquisition of the right to use and the right to develop. It is possible to separate these two rights because real estate titles are not monolithic/unitary rights but a system of rights. Essentially, TDRs are a bundle of rights traded between parties (Woodbury, 1975).

To ensure a pareto-optimal solution, the land parcels located in environmentally sensitive zones are identified as 'sending areas', from where development rights of the landowners awarded as 'TDR certificates' are sent to 'receiving areas'. Pizor (1986) defined the extent of development rights transferred is the difference between the 'potential' use and the 'actual' use as permitted by law. Development authorities identify 'receiving areas' as those where extensive development is allowed (Kaplowitz, Machemer, & Pruetz, 2008).

TDRs are development rights that can be used, unused, or transferred by landowners. The sellers also have an option to sell/trade the development rights to an intermediary who can further find an appropriate buyer (Mills 1989; Wright, 1993). Thus, TDRs can potentially impact settlement patterns and reduce inequity in the planning process currently directed by zoning (Clinch, O'Neill and Russell, 2008). TDRs are market-based instruments because a trading mechanism exists and the prices of development rights are negotiated between the sellers and the buyers.

By contrast, the valuation of the land acquired by development authorities is neither in accordance with the market rates nor negotiated. As a result, the landowners feel deceived because any rise in land value after development accrues to the private developers. Hence, an efficient market for TDR can potentially solve land acquisition problems.

The procedure for carrying out TDR transactions requires clarity on land ownership rights. The land markets in India are characterized by information asymmetry and uncertainty. The information asymmetry problem

exists at many levels such as inadequacy of cadastral information (Mintah, Baako, Kavaarpuo, & Otchere, 2020), issues of anonymity and pseudo-anonymity (Harris, 2018), and non-documentation of land records. [9] Maintenance and updation of land records suffer from inadequate transparency at many levels because land transactions involve the participation of a large number of stakeholders like the landowners, brokers, title companies, government organizations, development authorities, municipalities, inspectors, attorneys, appraisers and notaries (Graglia & Mellon, 2018).

As a result, the market of TDR is also characterized by high transaction costs. Shahab, Clinch, and O'Neill (2019) analyzed Turkey's TDR market and identified the prominence of transaction costs in TDR market with respect to transaction characteristics, transactor characteristics and policy characteristics. These transaction costs are rooted in uncertainty of property rights, information asymmetry problems in property records/titles/easements, prominence of middlemen, lack of marketplace, uncertainty of demand, lack of transparency in procedural aspects, lack of accountability of government officials/ stakeholders, and lack of reliability of the information available with different government departments/ sellers/ buyers of TDRs. High transaction cost reduces the efficiency of the TDR market especially in developing economies.

Operationalization of TDR market is also highly procedural as it involves carrying out surveys, searching for property titles, negotiation of prices with prospective buyers, negotiation of densities (if the increase in Floor Space Index in receiving area is not fixed), issue of TDR and utilization certificates, verification of ownership titles/deeds/transfers, verification of rights of different service providing agencies, verification of the land use regulations and development control norms applicable in the sending as well as receiving area, verification of mutation certificate etc. The literature on the transaction cost of TDR claims that the low asset specificity characteristic of TDRs makes the procedures predictable and easily implementable. However, compared to developed economies, developing ones like India have high transaction costs due to land markets being characterized by unclear property rights, information asymmetry, coordination issues between various departments, prominence of the informal sector, and involvement of middlemen.

After processes, let us discuss the issue of prices. It has been found that the prices of TDR are highly uncertain due to a high likelihood of a mismatch between demand and supply (Kumara and Gopiprasad, 2017; Shahab, Clinch and O'Neill, 2019). For example, sometimes there is a surge in the real estate market followed by an increase in demand for TDRs, and then there is a slump. As compared to the buyer, the seller faces higher uncertainty due to a mismatch between demand and supply. The seller might end up waiting longer to find an appropriate buyer. Lack of information and land market ambiguity adds to uncertainty. Since buyers generally belong to a small group of developers, they have prior information and experience on the procedural aspects

[9] A cadastre contains official, legal documentation of individual parcels of land concerning the dimensions, location, tenure, and ownership

of trading, setting prices, and previous TDR sellers. The efficiency of TDR markets also depends on the frequency with which the rights are traded. Higher frequency of transaction increases the predictability of TDR prices and increases the liquidity of the instrument (Rørstad et al. 2007).

In the next section, I discuss the procedural aspects of TDR transactions in Mumbai to elaborate the issue of monopoly power vested in the government officials. Centralized processes are a source of market failure in TDR.

b) TDR transactions

In Mumbai, Development Rights Certificates (DRCs) specifying the quantum of floor space are issued on a bond paper by the Municipal Chief Officer with due approvals from the Assistant Director of the concerned Town Planning Department. The Officer maintains a register of all the TDR transactions (grant and utilization) in prescribed formats. For transferring the DRC to a third party, the owner must apply to the Officer in a prescribed form along with the relevant documents. After scrutiny, the Officer certifies the name of the new holder on the certificate. The Municipal Officer endorses the amount of DRs used in utilization certificate before issuing the Occupation Certificate to the owner.

The summary of the process of transfer of land by owner and generation of TDR is as follows: First, the owners of the land parcels demarcated for public purpose surrender the land free from all encumbrances to the Municipal Council/State Government/Appropriate Authority. The surrendered land is transferred to the appropriate authority in the survey records and revenue records. After that, the Municipal Chief Officer grants TDR to the land owner (the owner who has surrendered his land parcels to the Authority), takes possession of the land, and transfers it to the appropriate authority after the authority has deposited the cost of the land as per Annual Statement of Rates by Registration Department.

In Mumbai, instead of identifying sending and receiving areas, the conditions under which a land parcel is eligible for TDR are mentioned in the Town Planning Act. Similarly, the conditions under which land parcels are not eligible for TDR are also mentioned in the plan document. The cities of Mumbai and Hyderabad have a huge market for TDRs. By paying cash, developers can purchase TDR certificates to increase the permissible development rights. TDRs are traded like stocks and prices are determined in the market based on the demand-supply mechanism. The Karnataka government has worked towards the digitalization of TDR certificates. It was proposed that the TDRs will be treated as equities and shares in a market with more transparency and lesser information asymmetry (Khan, 2019).

4. Intervention of Blockchain Technology (BCT) in transaction of TDR

The use of BCT in land and property management can facilitate the efficient unbundling of property rights and create a market for easements and small property developers (Graglia & Mellon, 2018). BCT and

distributed ledger have been widely used in land registration and transfer of titles in Kenya, Telangana/Andhra Pradesh (Nandi et.al, 2021) and Honduras (Kshetri, 2017; Lemieux, 2016). Distributed ledger system establishes trust as it guarantees that a single person holds property title/rights.

Transfer of immovable properties follows *causae traditionis* model of transfer of property rights in India.[10] Hence, a third-party guarantee in the form of a public gate is required in case of any conflict. Nogueroles and Martinez García (2017) proposed a private/permissioned blockchain ledger for resolving conflicts and incorporating court decisions in the blockchain where the control of the private ledger remains with land registrars and notaries. Private keys are to be kept with the notaries who were responsible for granting public access to the information in the blockchain. A permissioned blockchain controlled by public authorities in title transfer and deed registration was found to be more efficient in the above-mentioned studies. In a permissioned blockchain, public authorities administer the consensus between parties. Proof of authority is required to validate any change in the chain. Validation is done after the legal requirements and legality of contracts are met. In the TDR market, the Municipal Commissioner or the scrutiny committee can have control of the private ledger and other processes can remain the same as title registration.

With the application of BCT in the TDR market, prospective buyers and sellers can have direct access to information about the vibrancy of the market, prices, ownership rights, etc. Thus, using BCT can potentially reduce information asymmetry problems and transaction costs in the TDR market. The issues of centralization, monopoly power, and asset specificity are also resolved.

Some of the limitations of implementing BCT in the TDR market is the lack of adequate skill sets among the existing stakeholders. Also, the success of BCT in the TDR market is contingent on its interlinkage with an efficient land market. Without implementing the technology in the land registration system, we cannot expect a well-functioning TDR market. The Government of Karnataka introduced BCT in the land registration system. But, the lack of technology adaption by the landowners in Karnataka has hindered its success. Hence, much work needs to be done not only to develop a platform for TDR transactions using BCT but also to ensure the adoption of technology by different stakeholders.

Conclusion

The use of BCT in the TDR market can improve the efficiency of land markets in India. TDR as a value capture mechanism has been given due emphasis for financing large-scale infrastructure projects. Given the increasing burden of urbanization, attaining self-sufficiency in financing the development of large-scale infrastructure is the need of the hour. The land and TDR markets in India suffer from the problems of

[10] *Causae traditionis* means formulation of contract to initiate the process of transfer of property rights between the parties involved.

information asymmetry, a multiplicity of authorities, and centralization of power. The use of BCT will address these issues by providing information about ownership rights of the land parcels and prices of TDRs. Similarly, the issues of centralization/ monopoly power will be resolved once the processes are shifted to an architecture that uses BCT.

References:

Buitelaar, Edwin, and Barrie Needham. 2007. "Property rights and private initiatives: an introduction." *The Town Planning Review* : 1-8.

Chiodelli, Francesco, and Stefano Moroni. 2016. "Zoning-integrative and zoning-alternative transferable development rights: Compensation, equity, efficiency." *Land Use Policy* 52: 422-429.

Clinch, J. Peter, Eoin O'Neill, and Paula Russell. 2008. "'Pure' and 'impure' Coasian solutions in planning." *Town planning review* 79(6): 623-651.

Geuting, Esther. 2007. "Proprietary governance and property development: Using changes in the property-rights regime as a market-based policy tool." *Town Planning Review* 78(1): 23-40.

Graglia, J. Michael, and Christopher Mellon. 2018. "Blockchain and property in 2018: At the end of the beginning." *Innovations: Technology, Governance, Globalization* 12(1-2): 90-116.

IBEF. 2021 “Infrastructure Sector in India”. http://www.aii.ac.in/aiim/wp-content/uploads/2021/05/Infrastructure-Report_IBEF-2021.pdf accessed on 10th October, 2022

IBEF. 2022. “Infrastructure Sector in India”. https://www.ibef.org/industry/infrastructure-sector-india accessed on 14th November, 2022

Janssen-Jansen, Leonie B. 2008. "Space for Space, a transferable development rights initiative for changing the Dutch landscape". *Landscape and Urban Planning* 87(3): 192-200.

Kaplowitz, Michael D., Patricia Machemer, and Rick Pruetz. 2008. "Planners’ experiences in managing growth using transferable development rights (TDR) in the United States". *Land use policy* 25(3): 378-387.

Khan, Sobia. 2019. “Karnataka Govt plans ePlatform to trade TDRs like equity”. *The Economic Times*. https://economictimes.indiatimes.com/markets/stocks/news/state-govt-plans-eplatform-to-trade-tdrs-like-equity/articleshow/72154708.cms accessed on 10th October, 2022

Kshetri, Nir. 2017. "Will blockchain emerge as a tool to break the poverty chain in the Global South?" *Third World Quarterly* 38, no. 8 (2017): 1710-1732.

Kumara, H. S., and S. Gopiprasad. 2017. "Transfer of Development Rights as an instrument for Spatial Planning implementation: A Case of Bengaluru Metropolitan Area." *Initiatives* : 18.

Lemieux, Victoria Louise. 2016. "Trusting records: is Blockchain technology the answer?." *Records Management Journal* .

Mintah, Kwabena, Kingsley Tetteh Baako, Godwin Kavaarpuo, and Gideon Kwame Otchere. 2020. "Skin lands in Ghana and application of blockchain technology for acquisition and title registration". *Journal of Property, Planning and Environmental Law* 12(2): 147-169.

Mills, David E. 1989. "Is zoning a negative-sum game?" *Land Economics* 65(1): 1-12.

Nandi, Meghali, Rajat Kanti Bhattacharjee, Amrit Jha, and Ferdous A. Barbhuiya. 2020. "A secured land registration framework on Blockchain". In *2020 Third ISEA Conference on Security and Privacy (ISEA-ISAP)*, pp. 130-138. IEEE.

Peiró, Nicolás Nogueroles, and Eduardo J. Martinez García. 2017. "Blockchain and land registration systems". *European Property Law Journal* 6(3): 296-320.

Pizor, Peter J. 1986. "Making TDR work: a study of program implementation". *Journal of the American Planning Association* 52(2): 203-211.

Rørstad, Per Kristian, Arild Vatn, and Valborg Kvakkestad. 2007. "Why do transaction costs of agricultural policies vary?" *Agricultural economics* 36(1): 1-11.

Shahab, Sina, J. Peter Clinch, and Eoin O'Neill. 2019. "Impact-based planning evaluation: Advancing normative criteria for policy analysis". *Environment and Planning B: Urban Analytics and City Science* 46(3): 534-550.

Woodbury, Steven R. 1975. "Transfer of development rights: A new tool for planners". *Journal of the American Institute of Planners* 41(1): 3-14.

Wright, John B. 1993. "Conservation easements: an analysis of donated development rights. *Journal of the American Planning Association* 59(4): 487-493.

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CSR mandate In India: What we have learned so far?

Mehul Raithatha

Introduction

In 2013, one of the most prominent regulations was introduced in India under Section 135 of the Companies Act 2013, passed by the Indian Parliament. The Corporate Social Responsibility (CSR) regulation for the Indian corporate sector requires that listed Indian companies having a net worth of at least INR 5 billion, annual turnover of at least INR 10 billion, or profits of at least INR 50 million in any financial year must spend 2% of their past three years average profits on CSR. Besides that, the disclosure of CSR was also made compulsory in their financial statements. The CSR rule was based on the "Comply or Explain" principle. This became one of the ground-breaking proposals. Several countries required mandatory CSR reporting, which included Sweden, Norway, the Netherlands, Denmark, France, and Australia.[11] However, when it comes to spending on CSR mandatorily, India perhaps became one of the first countries to take the whole CSR game to the next level.

CSR, in general, is an inspirational exercise. Coming out voluntarily makes it more worthwhile at times. The law's initial implementation has been patchy, and several amendments have been carried out since 2013 till date. There are several cases of non-compliance resulting in legal actions by the Government.[12] CSR is the corporate societal contribution that often goes beyond mandated amounts. These contributions provide a positive signal to both stockholders in the marketplace and the broader range of stakeholders. CSR has received significant attention in academia and the press in recent years due to a firm's complex relationship with multiple stakeholders.

While Indian corporations have had a long tradition of philanthropic activities, CSR as a strategic initiative is a recent phenomenon. CSR as a regulatory requirement may help deal with vast, multifaceted societal problems like poverty, education, environment, health, etc., requiring the business community to share the government's burden through CSR initiatives (Sarkar & Sarkar, 2015; Krichewsky, 2017). This article discusses the impact of CSR on firm valuation, profitability, accounting conservatism, tax avoidance, and other firm-level aspects, as found in academic research.

[11] https://ssir.org/articles/entry/mandatory_csr_in_india_a_bad_proposal

[12] http://www.business-standard.com/article/economy-policy/govt-issued-notices-to-1-018-firms-for-csr-non-compliance-117031500891_1.html

CSR, firm value, and firm performance

One of the initial types of research on India's CSR mandate reports that the compulsory CSR expenditure by Indian firms resulted in a drop in firms' profitability and stock market valuation (Manchiraju and Rajgopal 2017; Mukherjee et al. 2018). Manchiraju and Rajgopal (2017) conducted an event study and reported a drop in stock price of about 4.1% when firms are mandatorily required to spend on CSR. Their essential conclusion was that firms voluntarily choose CSR to maximize shareholder value, and forcing them through mandate does not help much.

Mukherjee et al. (2018) document that CSR expenditures fall short of expectations, and firms experience negative profitability. In their work, they identify different groups of firms based on whether the firms were voluntarily spending before the mandate and how these groups behaved post-mandate. Specifically, they create four categories. First, the companies that voluntarily spent on CSR before the mandate and were required to spend after the mandate. Second, the companies that did not spend on voluntary CSR, and now the Companies Act, 2013, makes it compulsory. Third, the companies that were neither voluntarily spent on CSR before the mandate nor are required to spend on CSR post-mandate. Lastly, the companies that did not voluntarily spend on CSR before the mandate are now required to spend after the mandate. Mukherjee et al. (2018) report that several firms that used to spend more than 2% have now reduced their spending to meet the 2% requirement, and those not spending on CSR earlier became more reluctant to spend after the mandate. They also report that the smaller companies that used to spend on CSR before the mandate have reduced their spending since they were not required to spend by law.

CSR and Accounting Conservatism

The early evidence suggests a loss of firm value due to the CSR mandate. Shareholders will not like parting away a portion of their profit with other stakeholders. In this case, firms may use several mechanisms to address their concern. One of the interesting findings is about the financial report conservatism. Accounting conservatism calls for higher verification of financial reports and requires adopting accounting policies that provide for all possible losses. This essentially results in lower profits. Shaw et al. (2021) use CSR mandate and study the relationship between conservative financial reports and CSR compliance. Their results indicate that firms' financial statements have become more conservative when they comply with CSR mandates. Two main arguments drive their findings. First is the burden containment explanation. Firms would resort to more conservatism accounting to report the lowest possible profit, leading to lower spending on CSR expenditures, which are linked to reported net profits. This will help them match their concerns with the shareholders, who may not want to share their resources with other stakeholders. Second, CSR spending will likely affect the firm's cash flow, which may hamper its ability to service debt and other financial commitments. In this case, conservative reporting helps firms signal to the capital providers their concern about parting away with the

cash flow. They also document that a stronger board (better corporate governance) enhances the relationship between CSR compliance and accounting conservatism. They also find that the increase in conservatism in the present period reduces the CSR burden in the next year since CSR spending is linked to the reported profits, and firms are more likely to bring down the reported profits.

CSR and Tax Avoidance

Another interesting angle to the CSR mandate is that firms become more visible. Raithatha & Shaw (2022) examine the signaling angle using tax avoidance as the mechanism. They document that a firm's mandatory compliance with CSR, linked with its size and profitability, makes it more visible. This will lead the firm to be more careful. The authors use tax avoidance proxies to document that CSR-compliant firms are less likely to indulge in tax evasion behavior. These findings align with the previous research that CSR effectively establishes social expectations leading to responsible corporate behavior.

CSR in public sector units

In another interesting study, Kansal et al. (2018) examines the quality of CSR disclosures in public sector enterprises in India. They use annual reports of these companies and conduct a content analysis of different CSR areas reported by the firms. They divide CSR spending into several themes: first, community development; second, human resources disclosures; third, product safety and innovation; fourth, environment disclosures; fifth, energy disclosures; sixth, carbon and greenhouse gas emissions disclosures; and lastly, others. They find that Human Resources and Community Development are the critical areas of CSR disclosures in public sector enterprises. On the other hand, carbon and greenhouse gas emissions are the areas where the smallest amount is spent. Kansal et al. (2018) also report that the disclosures are primarily narrative rather than quantifiable.

CSR and International Financial Reporting Standards (IFRS)

In another notable work, Weerathunga et al. (2020) examine the impact of International Financial Reporting Standards (IFRS) convergence on the level of CSR reporting of Indian companies. The IFRSs, are globally accepted accounting standards. India adopted the same in 2016 to improve the information environment for users of financial information. The authors link corporate social responsibility (CSR) and International Financial Reporting Standards (IFRS) convergence using the annual reports as the main data source. They use the sample of 366 listed Indian companies comprising 263 firms that adopted the new Indian Accounting Standards (Ind AS), which are IFRS based, and 103 firms that do not adopt IFRS-based standards. They find support for stakeholder theory and document that the firms that adopted IFRS-based standards reported a higher level of CSR disclosures in their annual reports. They find that CSR reporting increases in

employee-related disclosures, environmental disclosures, human rights disclosures, and social and community-replated disclosures.

CSR disclosure and financial transparency

Another interesting angle of CSR is its role in facilitating transparency. Nair et al. (2019) examine the role of CSR in improving financial transparency. They study the mandatory CSR regime in India and document that financial transparency improves. They find that the improvement in transparency is more prevalent when there is higher ownership from the retail investors. They do not find similar results when institutional investors' ownership is high. The authors argue that the retail investor benefit more from the CSR disclosures due to the high level of opacity with the management, which reduces due to CSR disclosures.

Recent amendments – trial and error approach

CSR mandate and its implementation have not been very smooth. Initial implementation, where the "comply or explain" policy was adopted without sufficient clarity, led to several confusions. Subsequently, several changes were made to the CSR requirement. However, several loopholes are yet to be fixed after observing several non-compliances and unpleasant experiences. Some critical aspects affecting the firm and its financial reporting are discussed below.

(a) Companies must transfer unspent funds to a separate CSR unspent account and maintain all the required records. This will keep companies in check because they must set aside funds, so the escape route is somewhat closed.

(b) On an important note, on July 26, 2019, the Government introduced a financial penalty for non-compliance along with an imprisonment provision for directors/officers.[13] Subsequently, the imprisonment provision was removed due to criticisms from all corners. However, the monetary penalty continues for non-compliance.[14]

(c) CSR rules also require forming a CSR committee comprising a Board of Directors. It requires a minimum of 3 directors, one of whom must be independent. This will make the board more responsible for monitoring the firm's CSR activities.

[13] https://indiacsr.in/jail-term-for-violatation-of-csr-norms/

[14] https://www.business-standard.com/article/companies/no-jail-csr-non-compliance-should-be-a-civil-offence-govt-appointed-panel-119081301401_1.html

(d) In one of the recent announcements, firms will be exempted from CSR spending requirements if they report losses in the previous year. This has important implications. Earlier, the rule was about three years' average profit, in which companies had losses in the immediately preceding financial year, but enough profits in the other two years were required to spend on CSR if they had reported average profits of over Rs 5 crore in the previous three financial years.

Final words

Although debates surround the mandatory CSR regime, regulators are making changes based on their experiences dealing with the cases. Corporations also keep redefining their strategy and focus on CSR. Amid all that, CSR does serve a purpose in a broader context. During one of the most challenging times of the current generation, COVID-19, as much INR 6,947 crore was spent towards healthcare activities through CSR funds by corporates.[15] When we look at how CSR spending is carried out, we see that during the period 2014-15 to 2020-21, about 33% of the CSR expenses by corporates were in the areas of education, healthcare, and rural development-related activities.[16] If we were to go by these data, we realize that the future does look brighter if the initial glitches are handled well. What we need is coordination between different stakeholders and an urge to make a difference in society.

References

Kansal, M., Joshi, M., Babu, S., & Sharma, S. 2018. Reporting of corporate social responsibility in central public sector enterprises: A study of post mandatory regime in India. Journal of Business Ethics, 151(3), 813–831.

Krichewsky, D. 2017. CSR public policies in India's democracy: ambiguities in the political regulation of corporate conduct. Business and Politics, 19(3), 510–547.

Manchiraju, H. and S. Rajgopal. 2017. Does corporate social responsibility (CSR) create shareholder value? Evidence from the Indian Companies Act 2013. Journal of Accounting Research 55 (5): pp. 1257–1300.

Mukherjee, A., Bird, R., & Duppati, G. 2018. Mandatory corporate social responsibility: The Indian experience. Journal of Contemporary Accounting & Economics, 14(3), 254–265.

[15] https://indiacsr.in/csr-spending-corporate-india-spends-rs-24865-cr-in-fy-2020-21/

[16] https://timesofindia.indiatimes.com/business/india-business/60-of-csr-spend-on-education-healthcare-and-rural-development-in-last-seven-years-govt/articleshow/92969207.cms

Nair, R., Muttakin, M., Khan, A., Subramaniam, N., & Somanath, V. S. 2019. Corporate social responsibility disclosure and financial transparency: Evidence from India. Pacific-Basin Finance Journal, 56, 330–351.

Raithatha, M., & Shaw, T. S. 2022. Firm's tax aggressiveness under mandatory CSR regime: Evidence after mandatory CSR regulation of India. International Review of Finance, 22(1), 286–294.

Sarkar, J., & Sarkar, S. 2015. Corporate social responsibility in India—An effort to bridge the welfare gap. Review of Market Integration, 7(1), 1–36.

Shaw, T. S., Raithatha, M., Krishnan, G. V., & Cordeiro, J. J. 2021. Did mandatory CSR compliance impact accounting Conservatism? Evidence from the Indian Companies Act 2013. Journal of Contemporary Accounting & Economics, 17(3).

Weerathunga, P. R., Xiaofang, C., Nurunnabi, M., Kulathunga, K. M. M. C. B., & Swarnapali, R. M. N. C. 2020. Do the IFRS promote corporate social responsibility reporting? Evidence from IFRS convergence in India. Journal of International Accounting, Auditing and Taxation, 40.

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