THEORY AND DETERMINANTS OF REGULATORY EFFECTIVENESS IN A FORMAL MICROINSURANCE CONTEXT: THE INSURERS' PERSPECTIVES

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Abstract

Using a 60-item questionnaire with an 8-point Likert scale, we conducted a survey (solely amongst insurers) to investigate possible determinants of *regulatory effectiveness* (RE) in the Nigerian microinsurance sector. This survey was further triangulated with key industry reports, coupled with respondent-provided qualitative validation and real scenario-based instances, to soundly justify the responses/opinions of survey participants. In this paper, RE was measured by the level of achievement on *regulatory mandates* (RM), as opined/justified by informed respondents. This research was conducted to re-sensitize/guide governments, regulators, researchers and other stakeholders on what fosters/impedes RE and the need to sustainably manage these determinants, in order to promote *formal microinsurance development* (FMID). Our result revealed that the severity of determinants' impact (in their current/snapshot state) on five aggregated RM was in the following decreasing order: "level of corruption", "clarity of mandate", "national culture", "technology", "regulatory flexibility/innovation", "organisational structure", "participation/consultation", "organisational culture", "regulatory autonomy" and lastly, "resources" has the least negative impact. The "socio-political legitimacy" had no impact on the five RM, while "support-from-development-partners" in its current/snapshot state is the only recorded determinant exerting a positive impact on all the five RM (as aggregated). Consequently, the study guides relevant stakeholders to assiduously work towards managing these determinants (especially, the most severe ones such as "level-of-corruption", "clarity-of-mandate", etc.) in order to enhance RE and FMID.

Keywords: Regulatory Effectiveness (RE), Formal Microinsurance Development (FMID), Regulatory Mandates (RM), Determinants, Nigerian Microinsurance Sector, Rural Dwellers and Actors in the Informal Sectors (RDAIS)

1. INTRODUCTION

The result-oriented and value-adding notion of effectiveness has always been (even though implicitly) at the core and origin of modern economic regulation, whether in the early operations of Britain's Office of Assurances (a primal insurance regulator created in 1575) or in the earliest British regulation of railway activities and other regulations enacted (around the globe) as early as the beginning of 1800s (Beecher, 2013; McLean, 2002; Daykin & Cresswell, 2001). After all, in any rational socio-economic discourse, of what use is an ineffective regulation, when its very introduction was to promote public interest/good and to mitigate the various market ineffectiveness, inefficiencies, imperfections, frictions & failures (MIIFFs) and transaction costs bedevilling socio-economic activities. Notwithstanding the foregoing, academic studies explicitly exploring "effectiveness" (in regulatory discourses/regimes) have been very limited across sectors of the modern economy. This is in spite of the significant roles regulation ought to play, globally, in governance and socio-economic management. As a matter of fact, two recent global insurance industry surveys/reports (Centre for the Study of Financial Innovation [CSFI] & PricewaterhouseCoopers [PwC], 2019, 2021) affirmed the ideally-significant roles of regulation and subsequently indicted it as being sometimes ineffective and often posing huge debilitating risks to the industry. According to the Organization for Economic Cooperation and Development (OECD), "regulation (along with fiscal and monetary policies) is one of the three core levers for government to manage the economy" (de Mello, 2016), therefore, exploring the essence and determinants of its effectiveness should deserve more significant academic attention. According to Tyfield (2011), and Opschoor and Turner (1994), *regulatory effectiveness* (RE) is defined as the extent to which *regulatory mandates* (RM) and goals are achieved in any arbitrary regulatory environment. In this paper, a regulatory agency in the formal microinsurance sub-sector is conceptually (and even operationally) considered to be effective when the following conditions are met:

1. A major part of the regulator's public interest tenets and policy actions are focused on the *rural dwellers and actors in informal sectors* (RDAIS) and other low-income groups.

2. Its legislated mandates to advance *formal microinsurance development* (FMID) are largely achieved in the areas of microinsurance penetration, widespread insurance awareness amongst RDAIS, consumer protection, prudential affairs, industry-wide governance, innovation, demand- and supply-side sustainability, optimal pricing mechanism, ethical market conduct, optimal risk management, cordial/fruitful inter-agency cooperation and many other mandates as prioritized in any arbitrary jurisdiction.

3. The regulator continuously and optimally revamps its internal affairs and proficiently collaborates with public/private agencies, development partners and other relevant stakeholders to continuously identify and manage factors capable of fostering/impeding the meaningful achievement of its mandates.

4. The widespread abilities, willingness and motivation of regulatees and other *"stakeholders of interest"* to align/comply with defined regulatory goals, rules and models of ethical behaviour. This is quite important, as regulation cannot be sustainably effective without the unflinching buy-in and support of these relevant stakeholders.

Consequently, this article aims at identifying and empirically validating the determinants of RE in the microinsurance sub-sector, solely from the crucial perspectives of insurers (who are considered the most direct targets of these regulatory activities). This is majorly to:

1. Provide relevant policymakers with the basis and focal points to explore and analyse when revamping their regulatory activities for improved performance. These identified determinants (at the minimum) also serve as notable points to critically consider for future *regulatory effectiveness assessment* (REA) encouraged, here, to be carried out, continually, by relevant stakeholders of any jurisdiction, especially in developing countries.

2. Encourage the widespread fine-tuning of regulation into enhancing FMID and avoid any possible incidence and consequences of regulatory failure. This study is even more crucial as microinsurance regulators in most jurisdictions solely reserve the legislated powers to coordinate and superintend other market stakeholders (microinsurance providers/consumers, intermediaries/agents and reinsurers) towards achieving FMID.

3. Provide the foundation for an evolving socio-economic model of the *"determinants of RE"* in the microinsurance context, capturing relevant determinants, as possibly provided in extant literature and the accompanying survey of this paper. This would certainly allow for improved RE observation, better monitoring for regulatory governance, enhanced conceptual clarity and possible predictions of relevant economic behaviour/variables.

4. Validate or invalidate extant related studies (in non-microinsurance sectors) and champion a new path (in the microinsurance sector) for future theoretical/empirical attempts in this novel academic sub-domain.

The current paper proceeds to Section 2, which captures a brief literature review, followed by the data and methodology in Section 3. The paper's findings are detailed in Section 4, while Section 5 concludes.

2. LITERATURE REVIEW

In the quest to enhance RE and other indicators of regulatory quality, many countries have, over time, expended significant multifaceted efforts/resources, including target-based performance measures for regulators and explicit evidence-based regulatory reforms, for instance, the United States (since 1978), Australia (since 1985), and some OECD countries (since the 1990s), etc. As a matter of fact, in 1995, the OECD envisioned the need for its member countries to revamp regulatory activities towards improved regulatory effectiveness/performance, efficiency and economic development (OECD, 1995). Since then, many other related initiatives have been commissioned around the world to further harness the benefits derivable from improving the effectiveness of regulatory activities in many

sectors of the modern economy. In line with the foregoing, the network industries (electricity, telecommunications, railway operations, etc.), environmental protection, nuclear industries and so on are some of the sectors that have, so far, attracted significant and explicit RE analyses, industry scrutiny and studies. This attraction is certainly not unconnected with their provision of essential/welfare services, economies of scale, huge public/private investments, and the mission-critical nature of these sectors/industries, whether in terms of the public utility/value they offer or in terms of their extreme criticality for public safety.

Although the financial sector also shares some of the features of these aforementioned sectors/industries, only a few studies (focusing on the sector) have explicitly explored RE, with even fewer studies exploring and identifying its determinants and effects. Maimbo (2003) pointed at "undue political interference" as one of the major causes of the recorded ineffectiveness observed in the activities of commercial bank regulators in Zambia; while Tong, Singh, and Li (2018) affirmed that RE in FDI-receiving countries exudes positive effect and attracts China's outward *foreign direct investment* (FDI) to such countries. Also, Baldwin (2010) indicted the United States Security and Exchange Commission (SEC) for regulatory ineffectiveness, even with the regulator's long-standing inability to uncover inherent organisational crimes of some of its financial sector regulatees.

In order to further spread and deepen the initiative and concept of RE in the financial sector (especially its novel introduction to the microinsurance sub-sector), this paper briefly outlines the determinants of RE (Table 1) as documented in extant literature situated in multi-sectoral and multi–disciplinary academic domains. As this current paper explicitly focuses on a unit of the financial sector, this tabular approach was adopted due to limited space and in order not to stray, unduly, into the nitty-gritty of these multi-sectoral and multi-disciplinary academic domains. Thereafter, the current paper validates these outlined determinants using a small-scale survey conducted on corporate members of the Nigerian Insurers Association (NIA).

Table 1. Brief description of streamlined determinants of RE and extant literature sources (Part 1)

S/N	Determinants	Brief description and summary of empirical & anecdotal findings/outcomes	Literature sources
V1	Clarity of mandate (CoM)	CoM encourages the elimination or mitigation of all ambiguity, opacity and obscurity in the functional objectives, roles and responsibilities of a regulator. Regulatory mandates should be as detailed and clear as possible to guarantee mandate exactness and the precise measurement of its effective achievement. Overall, this determinant was largely evinced to enhance RE.	OECD (1995), Stern and Holder (1999), Gutiérrez (2003), IAIS and CGAP (2007), Ribeiro and Kruglianskas (2015)
V2	Regulatory autonomy (RA)	RA describes the extent to which a regulator is legitimately and functionally protected or shielded from undue socio-political and other external influences that could quell its effectiveness on market-impacting and other key decisions. It is believed that microinsurers and other powerful insurance stakeholders could lobby political authorities to invoke this "undue socio-political influence". In essence, the absence or sub-optimal levels of this determinant negatively impacts RE.	Stern and Holder (1999), Makhaya (2002), Gutiérrez (2003), Berg (2009), Gutierrez and Berg (2000), Ugur (2009), Maggetti (2012), Chu, Chang, Lee, and Cheng (2019)
V3	Organisational structure	This determinant captures the extent to which a regulator uses its internal arrangements and controls to discourage and mitigate arbitrariness in decision-making, which is capable of impeding its effectiveness. This determinant could either foster or impede RE, depending on the approach emphasized by any arbitrary regulator. For instance, entrenched bureaucracy could be detrimental to RE via the channel of debilitating organisational red tape and drudgery; it could also mitigate or check regulatory arbitrariness/unpredictability in decision-making.	Cramton (1972), JEC (1980), Mantripragada (1991), Levy and Spiller (1994), Currie (2006), OECD (2014), Shanapinda (2015), Marques and Pinto (2018)
V4	Organisational culture	This multidimensional determinant denotes the organisational behaviour, norms and principles widely shared by internal stakeholders of a regulator *vis-à-vis* its operations and to its external stakeholders, over time. These positive/negative cultural elements often impact the effectiveness of a regulator. For instance, sustained organisational transparency could openly herald regulatory accountability, which can enhance RE. On the other hand, some regulators' clandestine approaches are likely to worsen/reinforce their ineffectiveness, as the general public and other stakeholders (lacking vital regulatory information) cannot give constructive criticism/feedback to improve the efforts of these regulators.	Stern and Holder (1999), Gutierrez and Berg (2000), Gutiérrez (2003), Dobrolyubova, Evans, Manning, Parison, and Shirokova (2007), Gunningham and Sinclair (2009), Gasmi, Noumba, and Virto (2009), Maggetti (2010), Marques and Pinto (2018), Chu et al. (2019)
V5	Technology	Technology (as a determinant) describes a regulator's attempt to harness information and communications technology (ICT) and other efficiency-enhancing ideas/systems to significantly improve regulatory processes and enhance RE. The absence or sub-optimal deployment of technology could impact RE, negatively.	Xu and Pistor (2002), OECD (1997)
V6	Regulatory innovation and flexibility	This determinant explains a microinsurance regulator's ability/willingness to, as necessary; adjust the rigour of its actions (whether to intensify/moderate its regulation) for the ultimate goal of achieving FMID. It also explains its willingness/ability to pioneer or support novel approaches/ideas to advance FMID or RE. This determinant is hypothesized and empirically validated to enhance RE.	Bashir and Wiedmaier-Pfister (2019), Competition & Markets Authority (2020)
V7	Level of participation and consultation	It describes the extent of regulatees and other stakeholders' involvement in regulatory decisions, especially in mission-critical decisions affecting them. This determinant was largely evinced to enhance RE, across sectors of the economy.	Competition & Markets Authority (2020), Osifodunrin and Lopes (2021)

Table 1. Brief description of streamlined determinants of *RE* and extant literature sources (Part 2)

S/N	Determinants	Brief description and summary of empirical & anecdotal findings/outcomes	Literature sources
V8	Resources	Resources are financial and non-financial assets deployed to advance regulatory activities and are necessary for the achievement of regulatory mandates. Resources in their multidimensionality (whether in human, financial or other forms) are deemed crucial and indispensable in enhancing RE.	Klein (1995), Blair (1995), Levy and Spiller (1996), Hannig and Katimbo-Mugwanya (2000), Makhaya (2002), Currie (2006), IAIS and CGAP (2007), Kabuya, Lobo, Muamba, and Thubi (2009), Ribeiro and Krugliankas (2015), Marques and Pinto (2018), Bashir and Wiedmaier-Pfister (2019).
V9	Level of corruption	This determinant explains the extent to which internal stakeholders of a regulatory agency abuse their offices for private gains. It also describes the degree of unethical or tempting/compromising behaviours regulatory officers are exposed to from external stakeholders, in the course of their duties. It is adjudged that effectiveness cannot take root in a corrupt regulatory environment.	Stern and Cubbin (2005), JEC (1980)
V10	Pressure from civil society organisations (CSOs)	This determinant portrays the constructive criticism, push and encouragement received by regulators from CSOs and other non-governmental organisations, majorly stirring them towards mandate actualisation. Overall, this determinant has been found to enhance RE across sectors of the economy.	Putnam, Leonardi, and Nanetti (1993), Gellner (1994)
V11	Legitimacy	This determinant represents the degree of legal/functional and socio-political support a regulator enjoys in the course of effecting its mission-critical decisions, especially the controversial ones taken to protect the public interest. Legitimacy, at its optimal level, has been widely associated with RE.	Gilardi (2002), Makhaya (2002), Maggetti (2010), Marques and Pinto (2018)
V12	National culture	In the instance of this paper, this determinant describes the beliefs, behaviour, norms and principles widely shared by a country's citizens towards formal conventional insurance (FCI) or microinsurance. National culture as a multidimensional determinant (encapsulating sub-constructs like religion, trust or social capital, widespread perception, various elements of local beliefs/norms, etc.) is largely seen as a double-edged sword capable of impacting RE, positively or negatively. For instance, a regulator's minimal efforts to promote formal microinsurance demand in a secular society with a high level of risk aversion might still be effective, while its best efforts to promote the same in an Islamic society might be an exercise in futility, as the principles of formal microinsurance are simply not Sharia compliant.	Berg (2000)

Note: A sizable number of respondents in the ensuing pilot study affirmed the seeming irrelevance of V10 in the Nigerian context, and subsequently suggested its replacement with the "Support from Development Partners" as captured in Sections 3 and 4.
The paucity of relevant literature (focusing explicitly) on the determinants of RE in the preceding years to the current paper (1972 to 2021).

3. RESEARCH DATA AND METHODOLOGY

To gather the required data for this paper, we conducted a small-scale survey on corporate members of the NIA; this was to empirically validate the hypotheses presented on whether each of the twelve determinants outlined in Table 1 impact RE positively or otherwise, and to what extent. This paper had to necessarily adopt the survey approach, as no relevant dataset exists, and this is supported by the need to rate the severity or otherwise of the determinants-RE impact, coupled with the need

to justify these ratings. Consequently, survey respondents were from the regulatees (i.e., insurers); and as opined/supported by Radaelli and Francesco (2007), their opinions hold significant/in-depth value, even in probabilistic/representative surveys. The survey utilized an 8-point Likert scale as a structured design to gather the opinions/ratings of respondents on the extent of impact each of the twelve determinants (i.e., independent variables) has on each of the five streamlined mandates of the regulator (i.e., dependent variables) as captured in Table 2 below.

Table 2. Streamlined microinsurance mandates for Nigeria's National Insurance Commission (NAICOM)

Mandate codes	Streamlined mandates (functional regulatory objectives)
NAICOM_OBJ_1	Achieve Nigeria's self-declared national insurance inclusion target of 40% of the total adult population.
NAICOM_OBJ_2	Champion the implementation of insurance literacy programmes (ILP) for the RDAIS.
NAICOM_OBJ_3	Ensure effective/efficient microinsurance market structure (categorization and licensing of microinsurers, microinsurance intermediaries and other market stakeholders to achieve market depth).
NAICOM_OBJ_4	Stipulation/supervision/inspection/enforcement of prudential standards, risk management and corporate governance codes (maintaining minimum capital requirements, adequate liquidity status, solvency margin, re-insurance standards, actuarial validation, regulation of premium pricing/payment and agent commission).
NAICOM_OBJ_5	Stipulation/supervision/inspection/enforcement of market conduct (approve product design/advertisement, encourage microinsurers/intermediaries to reach RDAIS, compulsory microinsurance products, incentivise microinsurance products for RDAIS, claims administration, ensure quick claim settlement, conflict/complaint management, consumer protection, know your customer (KYC), collaborate with Nigeria's National Identity Management Commission (NIMC) to properly identify RDAIS, regulate mergers/winding up/acquisition of microinsurers, ensuring that microinsurers regularly train their intermediaries, etc.).

Note: These streamlined mandates were sourced from the NAICOM's 2018 Microinsurance Guidelines; the first and second National Financial Inclusion Strategy (NFIS) released in 2012 and 2018, respectively; the Insurance Act 2003; and the National Insurance Commission (NAICOM) Act 1997.

To enhance the validity of the survey, unstructured qualitative responses were also required/gathered from the respondents on each questionnaire item to justify their structured responses (on a Likert scale of 0 to 7). This was by providing a scenario-based cogent illustration to support and reinforce their opinions, assessment and ratings. The methodological elements presented and described in this paper were as previously utilized and variously validated in the works of McNamara and Kolbe (1996), Stern and Holder (1999), Wang (2001), Galpaya and Samarajiva (2009), World Economic Forum (WEF) (2009), D'Este, Iammarino, Savona, and von Tunzelmann (2012), and CSFI and PwC (2019, 2021).

The 55 corporate members of the NIA served as the survey population, of which 4 randomly selected members were surveyed in the initial cognitive study, 7 randomly selected members were surveyed in the pilot study and 35 randomly selected members were for the main study. Members/respondents used in the cognitive/pilot studies were extricated from the main study to prevent any incidence of unintended sensitization of respondents; with additional measures taken to avoid/mitigate nonresponse bias and to affirm the reliability/validity of the pilot study. Ultimately, 12 validly filled survey instruments were shortlisted from the entire 18 instruments returned. It must be stated, here, that due to the considerably technical nature of the survey instrument, necessarily accommodating 60 items (12 determinants, see Table 1) by 5 streamlined regulatory mandates (see Table 2), the response rate was quite realistic when the considerable rigour and prolonged time expended on the instrument by the respondents are considered. This rigour was especially noted in the mandatory provision of scenario-based qualitative validation or justification for each assessment/rating provided in the Likert scale.

Furthermore, as some of the determinants (five determinants) listed in Table 1 were strongly susceptible to possible deconstruction (i.e., the determinants are sometimes multidimensional and the study needed to identify the constituent dimension to focus on in the survey), this paper (as popularly guided by the respondents in the pilot study, strictly based on simple majority) outlined the sub-constructs used for these five affected determinants as follows:

1. *Clarity of mandate* — in the very heterogeneous insurance inclusion contexts of the 37 sub-national entities in Nigeria, it is the opinion of survey respondents that this regulatory mandate lacked necessary geographical precision or customized regulatory mandates for each sub-national entity. It was opined that the insurance inclusion/exclusion contexts prevalent in each sub-national entity should determine the localized or decentralised mandate applicable to such entity. For instance, the customized regulatory mandates for sub-national entities in Northern Nigeria (with more Muslim population and more extreme insurance exclusion than in Southern Nigeria) should reflect these realities.

2. *Organisational structure* — respondents also opined/chose the geographical sub-elements for this determinant *vis-à-vis* the NAICOM_OBJ_1 and NAICOM_OBJ_2 mandates, in which it was proposed

that the regulator should maintain a physical corporate presence in Nigeria's 37 sub-national entities. For NAICOM_OBJ_3, NAICOM_OBJ_4 and NAICOM_OBJ_5, the respondents preferred to focus on the "level of administrative arbitrariness" as a proxy for organisational structure.

3. *Organisational culture* — this determinant eventually focused on organisational transparency as the respondent-preferred sub-construct for all the five mandates.

4. *Resources* — the multidimensionality in this determinant was reduced into more measurable constituent dimensions as follows:
- "Informational resources" for NAICOM_OBJ_1 and NAICOM_OBJ_2;
- "Regulatory incentives" for NAICOM_OBJ_3;
- "Human resources" for NAICOM_OBJ_4 and NAICOM_OBJ_5.

5. *National culture* — as the paper's scope focused explicitly on formal microinsurance and not on any Sharia-compliant microinsurance product, the sub-construct of choice for the respondents is religion, given that Islam is the dominant religion in Northern Nigeria.

Lastly, it must be noted that in the course of the pilot/main studies, survey respondents were encouraged to review the provided glossary of terminologies to harmonize respondents' understanding of the exact contextual/operational meaning of all the determinants.

4. DESCRIPTIVE FINDINGS OF THE STUDY

As adopted in the extant works of WEF (2009), Wang (2001), and McNamara and Kolbe (1996), this survey with probabilistic and representative samples utilized descriptive statistical analyses and estimated aggregated indices to showcase the determinants-RE impact. Specifically, mean scores estimated from the respondents' opinion/assessment on the degree of impact each of the 12 determinants has on the achievement of each of the five regulatory mandates form the basis of these findings. In order to enhance clarity, Tables 3 to 5 (as captured below) provided the quantitative insights and facts upon which these findings are based.

This section also presents other relevant intra- and extra-survey information to triangulate the findings and to further evaluate them *vis-à-vis* extant relevant theoretical/empirical works. The findings are as presented below.

1. As outlined in Table 3, we found that the severity of determinants' impact (in their current/snapshot state) on the five aggregated regulatory mandates was in the following decreasing order: "level of corruption", "clarity of mandate", "national culture", "technology", "regulatory flexibility/innovation", "organisational structure", "participation and consultation", "organisational culture", "regulatory autonomy" and lastly, "resources" has the least negative impact. The "socio-political legitimacy" at the middling threshold of 4.00 appears to have no impact on RE, while the "development partner support" in its current/snapshot state is the only determinant exerting a positive impact on all the five regulatory mandates (as aggregated). In reference to "level of corruption" (i.e., the most severe determinant), and

for the microinsurance context, this paper validates the assertion of Stern and Cubbin (2005) that "effective regulation cannot take root in corrupt systems", as the prevalence of MIIFFs and other sub-optimalities exacerbated by corruption hamper RE. Surprisingly, the "no impact on RE" verdict given by the respondents negates Marques and Pinto (2018) and Makhaya (2002) in their assertion that

legitimacy positively influences the effectiveness of regulatory institutions. As shown in Table 4 (line V11), this is largely due to the mixed opinions of the respondents, as the legitimacy-RE impact (for NAICOM_OBJ_1 to NAICOM_OBJ_5) was rated at 4.92, 6.00, 2.92, 3.08 and 3.08 thresholds, respectively.

Table 3. Determinants of regulatory effectiveness (indices) (for NIA members)

S/N	Determinants of RE (indices)	Types of determinants as stated in Section 2 of the paper	Indices for NIA members
V1	Clarity of mandate index (CMI)	HENRE	2.63
V2	Regulatory autonomy index (RAI)	HENRE	3.63
V3	Organisational structure index (OSI)	HENRE	3.05
V4	Organisational culture index (OCI)	HENRE	3.43
V5	Technology index (TI)	HENRE	2.67
V6	Regulatory innovation and flexibility index (RIFI)	HENRE	2.87
		Aggregated index for HENRE	**3.05**
V7	Participation and consultation index (PCI)	HDTEER	3.38
V8	Resources index (RI)	HDTEER	3.92
V9	Corruption index (CI)	HDTEER	2.63
		Aggregated index for HDTEER	**3.31**
V10	Development partners support index (DPSI)	HEXRE	5.57
V11	Socio-political legitimacy index (SPLI)	HEXRE	4.00
V12	National culture index (NCI)	HEXRE	2.65
		Aggregated index for HEXRE	**4.07**

Note: HENRE = hypothesized endogenous determinants of RE; HDTEER = hypothesized determinants traversing the endogenous & exogenous realms; HEXRE = hypothesized exogenous determinants of RE.
The aggregation method used in Table 2 was adopted in Wang (2001), McNamara and Kolbe (1996) and even WEF (2009).

Table 4. Indices and averages generated by determinants *vis-à-vis* the five objectives (for NIA members)

Mandates	V1	V2	V3	V4	V5	V6	V7	V8	V9	V10	V11	V12
NAICOM_OBJ_1	2.92	5.08	3.08	3.17	1.92	2.08	3.00	2.25	2.92	5.08	4.92	2.08
NAICOM_OBJ_2	2.08	5.00	3.17	3.08	3.00	3.00	2.92	2.17	2.92	5.83	6.00	2.00
NAICOM_OBJ_3	2.17	2.92	3.00	2.92	3.08	3.08	2.92	5.08	3.00	5.00	2.92	3.08
NAICOM_OBJ_4	3.00	2.08	2.92	3.00	2.17	3.08	2.92	5.00	2.17	5.83	3.08	3.17
NAICOM_OBJ_5	3.00	3.08	3.08	5.00	3.17	3.08	5.17	5.08	2.17	6.08	3.08	2.92
Indices	**2.63**	**3.63**	**3.05**	**3.43**	**2.67**	**2.87**	**3.38**	**3.92**	**2.63**	**5.57**	**4.00**	**2.65**

Table 5. Hierarchy of the 12 determinants *vis-à-vis* the severity of their impact on each of the five mandates of the regulator

Parameter	Significance											
Hierarchy of determinants	*1st*	*2nd*	*3rd*	*4th*	*5th*	*6th*	*7th*	*8th*	*9th*	*10th*	*11th*	*12th*
Determinants	V5	V6	V12	V8	V1	V9	V7	V3	V4	V11	V2	V10
NAICOM_OBJ_1	1.92	2.08	2.08	2.25	2.92	2.92	3.00	3.08	3.17	4.92	5.08	5.08
Hierarchy of determinants	*1st*	*2nd*	*3rd*	*4th*	*5th*	*6th*	*7th*	*8th*	*9th*	*10th*	*11th*	*12th*
Determinants	V12	V1	V8	V7	V9	V5	V6	V4	V3	V2	V10	V11
NAICOM_OBJ_2	2.00	2.08	2.17	2.92	2.92	3.00	3.00	3.08	3.17	5.00	5.83	6.00
Hierarchy of determinants	*1st*	*2nd*	*3rd*	*4th*	*5th*	*6th*	*7th*	*8th*	*9th*	*10th*	*11th*	*12th*
Determinants	V1	V2	V4	V7	V11	V3	V9	V5	V6	V12	V10	V8
NAICOM_OBJ_3	2.17	2.92	2.92	2.92	2.92	3.00	3.00	3.08	3.08	3.08	5.00	5.08
Hierarchy of determinants	*1st*	*2nd*	*3rd*	*4th*	*5th*	*6th*	*7th*	*8th*	*9th*	*10th*	*11th*	*12th*
Determinants	V2	V5	V9	V3	V7	V1	V4	V6	V11	V12	V8	V10
NAICOM_OBJ_4	2.08	2.17	2.17	2.92	2.92	3.00	3.00	3.08	3.08	3.17	5.00	5.83
Hierarchy of determinants	*1st*	*2nd*	*3rd*	*4th*	*5th*	*6th*	*7th*	*8th*	*9th*	*10th*	*11th*	*12th*
Determinants	V9	V12	V1	V2	V3	V6	V11	V5	V4	V8	V7	V10
NAICOM_OBJ_5	2.17	2.92	3.00	3.08	3.08	3.08	3.08	3.17	5.00	5.08	5.17	6.08

2. Our survey revealed (Table 5) the determinants having the most negative/positive impact on each of the regulatory mandates as follows:
• For NAICOM_OBJ_1, "technology" and "development partner support" in their current/snapshot state were revealed as exerting the most negative and most positive impact, respectively. The crucial role of technology was

validated in the paper in line with the recent initiatives and conviction of OECD (2022) that the role of technology is inimitable *vis-à-vis* helping regulators and other stakeholders in addressing the insurance/financial inclusion needs of RDAIS.
• For NAICOM_OBJ_2, "national culture" and "socio-political legitimacy" in their current/snapshot state were revealed as exerting the most negative and most positive impact, respectively. For "national

culture", as it was proxied in the survey using "religion", respondents referenced the huge Muslim population in Nigeria as a major factor impeding the achievements of NAICOM_OBJ_2. This is due to the Islamic tenets being strongly against the principles of microinsurance, while the Takaful, the Islamic alternative to microinsurance, is beyond the scope of this paper. This result re-clarifies the conviction of Berg (2000) for the microinsurance sub-sector, that certain elements of the national culture also determine the effectiveness of regulatory agencies.

• For NAICOM_OBJ_3, "clarity of mandate" and "resources" in their current/snapshot state were revealed as exerting the most negative and most positive impact, respectively. Many respondents claimed that NAICOM_OBJ_3 was severely impacted by the sub-optimality manifested in "clarity of mandate" as portrayed via the absence of decentralised/localised regulatory mandates that should have been championed/customized to create a suitable microinsurance market in each sub-national entity in Nigeria. In other words, respondents commented that the decentralised/localised mandates (focusing on and customized for each sub-national entity in Nigeria) would have been more optimal for RE, over and above the centralised/national mandates captured in Table 2. Specifically, some respondents also suggested that the physical/corporate presence of the regulator (as eagerly anticipated) in each of the sub-national entities would have enhanced the rapid spread of microinsurers, agents and other market stakeholders in these 37 sub-national entities. This finding affirms the prior assertion of Stern and Holder (1999) on the notion that "clarity of mandate" helps to enhance RE via the channels of removing any possible confusion in regulatory mandate and in clearly outlining the roles of all stakeholders.

• For NAICOM_OBJ_4, "regulatory autonomy" and "development partner support" in their current/snapshot state were revealed as exerting the most negative and most positive impact, respectively. In spite of the on-paper or superficial autonomy (financial and administrative) documented in the relevant legislation for this regulator, in more practical terms, the determinant termed "regulatory autonomy" still severely impacted the effective achievement of its mandates. For instance, respondents often buttressed the recent account of Nwoji (2022), stating that mission-critical regulatory decisions such as the crucial need to justifiably right-size the sector's minimum capital requirement were largely unsuccessful, due to various socio-political and industry pressures against it. On balance, it was also noted that this regulatory decision might have been badly timed, as many of the industry players faced various financial/ non-financial headwinds; however, other respondents opined that a good number of financial reforms (globally) were often championed in times of crisis.

• For NAICOM_OBJ_5, "level of corruption" and "development partner support" in their current/snapshot state were revealed as exerting the most negative and most positive impact, respectively. On the determinant termed "development partner support", many of

the respondents (just like the microinsurance industry report of Bashir and Wiedmaier-Pfister (2019) triangulated or reaffirmed its positive impact on the achievement of microinsurance regulatory mandates. As a matter of fact, some respondents specifically acknowledged the significant efforts and support of the following development partners *vis-à-vis* the five regulatory mandates outlined in Table 2:
• Enhancing Financial Innovation and Access (EFInA);
• German Agency for International Cooperation (GIZ);
• Making Finance Work for Africa (MFW4A), etc.

3. In consideration of the uniformity and consistency of respondents' assessment/opinion on the 8-point Likert scale (across all the 12 determinants in the survey), our result revealed that responses on all questionnaire items involving "development partner support" were the most homogeneous, while those involving "regulatory flexibility/innovation" were the most heterogeneous. In the instance of the five regulatory mandates, all questionnaire items involving NAICOM_OBJ_5 were the most homogeneous, while those involving NAICOM_OBJ_2 were the most heterogeneous. For the records, the respondents were almost at a consensus regarding the positive impact "development partner support" has on RE.

4. Overall, our results also show that the endogenous determinants (i.e., HENRE, as categorized in Table 3) were revealed in their current/snapshot state as exerting the most negative impact on the achievements of the five mandates (as aggregated), over and above other categories, as shown in Table 3.

5. Apart from the *"determinants of RE"* scooped from extant literature, survey respondents (in this Nigerian case) also self-suggested, rated and justified other factors such as insecurity, lack of adequate infrastructure and poverty as having various degrees of severe impact on RE. In line with the necessary theoretical conditions for RE, given in Section 1, on the "ability of stakeholders to align with defined regulatory goals", some of the respondents argued that no matter how receptive RDAIS are to microinsurance, if they are extremely poor, they may not have the necessary "financial abilities" to pay for microinsurance premium. Also, the current insecurity across Nigeria (especially in North-eastern Nigeria), was referenced by some respondents as one of the reasons why the regulator has no physical corporate presence in this mentioned region of Nigeria; hence, the effective achievement of its mandates is negatively affected in this region. Infrastructure is also quite crucial for RE, after all, without a well-equipped and adequately-electrified hospital, effective RDAIS demand for health microinsurance (a critical element of the regulatory mandates outlined in Table 2, i.e., NAICOM_OBJ_1) may just be a mirage.

5. CONCLUSION

In Section 1, this paper presents the conditions that must be met for a microinsurance regulator to be considered effective. Apart from its focus on all aspects and dimensions of FMID for the ultimate benefit of RDAIS, the discerning regulator must also manage various critical factors that could impact its

effectiveness. In alignment with these conditions, and by taking advantage of extant literature, this paper outlined possible determinants of RE (even from non-microinsurance sectors) and then validated them in the microinsurance context, with the resulting outcomes evinced in Section 4. Overall, the validated determinants were revealed to exert varying degrees of negative/positive impact on the five regulatory mandates outlined in Table 2. Specifically, ten determinants (i.e., "clarity of regulatory mandates", "regulatory autonomy", "regulatory organisational structure", "regulatory organisational culture", "technologies deployed by the regulator", "regulatory innovation/flexibility", "participation and consultation with relevant stakeholders", "organisational resources", "level of corruption" and "national culture of the regulator's jurisdiction"), in their current/snapshot state, were validated to exert varying degrees of negative impact on RE. The "socio-political legitimacy of the regulator" as a determinant in its current/ snapshot state was revealed to have no impact on RE, while only one determinant ("support from development partners") was validated in the survey to exert a positive impact on the five regulatory mandates. Other respondent-provided determinants were also noted and empirically validated.

At this juncture, the current paper hypothetically considers each of the five mandates in Table 2 as the sole mandate of five arbitrary regulatory agencies, i.e., NAICOM_OBJ_1 is hypothetically considered as the only regulatory mandate of arbitrary regulator 1 and NAICOM_OBJ_2 is also hypothetically considered as the sole regulatory mandate of arbitrary regulator 2 and so on. About these hypothetical considerations and Table 4, the study now further reveals even more empirical validation/invalidation opportunities for the extant works captured in Table 1. For instance, for "regulatory autonomy" (line V2 in Table 4), even when extant literature typically suggests it to have a positive impact on RE (as affirmed in Stern and Holder, 1999, and as re-validated in Table 4 solely on NAICOM_OBJ_1 and NAICOM_OBJ_2), the 3 other mandates in Table 4, revealed the negative impact of this determinant on RE (in its current/snapshot state) at the 2.92, 2.08 and 3.08 thresholds, respectively. In other words, it is observed, here, that "regulatory autonomy" impacts RE positively when the regulatory mandates are majorly focused on the demand side of FMID; while its impact on RE is observed as negative when the regulatory mandates are majorly focused on the supply side of FMID. Consequently, and on balance, regulators must necessarily exercise due caution in managing their autonomy and decisions emanating from it (*vis-à-vis* the demand-supply sides) to remain objective/impartial to stakeholders on both sides, especially on the journey towards RE and FMID. In another instance, and the case of "resources" (line V8 in Table 4), NAICOM_OBJ_1 and NAICOM_OBJ_2, which are the only two demand-side regulatory mandates, were negatively impacted by the current/snapshot state of resources (i.e., the utter lack of informational resources as indicated in Section 3), while resources (in the form of regulatory incentives) positively impacted NAICOM_OBJ_3. Resources (in the form of human resources) also enhances NAICOM_OBJ_4 and

NAICOM_OBJ_5 (as shown in line V8 of Table 4). Other surprising validation/invalidation revelations are quite inferable from the details provided in Tables 1 to 5. Based on the above, microinsurance literature now has a primary guide on what works for RE and what doesn't, and these factors should be sustainably managed on the tumultuous journey towards the actualisation of regulatory mandates and FMID. Also, on the model of the *"determinants of RE"*, mentioned in Section 1, policymakers would do quite well to build a robust annual dataset (on these determinants and the measured RE) that could populate/sustain such a model, which can undoubtedly enhance the body of knowledge in RE and ultimately prevent regulatory failure.

Sequel to the foregoing, the paper prioritized the need to provide pertinent future policy/research guidance for microinsurance and related sectors and academic disciplines:

In the first instance, and following a long-standing observation of microinsurance regulators (and even regulators in other financial/non-financial sectors), many of the determinants validated in this paper have been either ignored or taken for granted by political authorities, regulators, and other *"stakeholders of interest"*. The influence (direct/indirect) of these determinants on the achievement of regulatory mandates has also been largely overlooked. Consequently, this paper serves as a wake-up call to re-energize and re-sensitize all relevant stakeholders, especially in developing countries, towards improving the RE in their jurisdiction by consciously and sustainably managing these determinants.

Secondly, in many developing countries, regulation is sometimes considered as mere routine, a formality (or red tape) of some sort in governmental affairs, rather than as a genuine and effective economic tool of government driving significant public good and interest (Kamkhaji, Ladegaard, & Lundkvist, 2019; Kirkpatrick & Parker, 2003). The fundamental role of regulation and regulatory effectiveness/quality in mitigating MIIFFs, towards achieving market competitiveness/ development has largely been lost in the typical chaotic complexities of economic and socio-political management. It is not unusual for some regulatory agencies that were deemed effective and positively impactful in the global North to be merely replicated in some countries of the global South, just to score socio-political points, create public employment, and in some instances, they were merely established in conformity to some international protocol, agreement/alliance, without any genuine effort at assessing/sustaining their effectiveness. Based on the foregoing, political authorities and other stakeholders willing to champion a new path of purposeful regulation and discernment must continuously appraise/re-appraise regulators *vis-à-vis* the effective achievement of their mandates. This appraisal can be further operationalised (especially in countries with active microinsurance markets) with an annual publication of the REI to be estimated by aggregating all the 12 indices captured in Table 3. Certainly, and as necessary, indices could be added/extricated and the REI could even be included as part of the Global Competitiveness Report (GCR), possibly using the (World Economic Forum) WEF's template/approach of conducting

executive/expert opinion survey across these countries. This would engender cross-country comparative analyses and engender inter-jurisdictional transfer of microinsurance regulatory innovation and successful strategies. Even regulatory strategies that have failed, can also serve as crucial lessons for current/future initiatives across jurisdictions. Meanwhile, the global REI estimation could also be expanded to other financial sectors such as FCI, banking, capital markets and so on, to appropriately measure the level of effectiveness in the achievement of regulatory mandates.

Also, existing and potential development partners with the inclination to support regulators should use the paper's findings to formally/strictly encourage these regulators to revamp/manage these determinants better. As a matter of policy, these development partners might even use these revamped determinants and the level of optimality achieved on them as necessary conditions for the regulators to earn such support.

Furthermore, this paper encourages the government, regulators and all other *"stakeholders of interest"* to clinically evaluate/analyse each of the validated determinants towards managing them better for enhanced RE. In a very pertinent instance, one of the most ignored of these determinants is the critical participation of the RDAIS and similar low-income/vulnerable groups in any arbitrary microinsurance regulatory regime and decision-making process. As evinced in Osifodunrin and Lopes (2021), and Mukherjee (2004), involving these vulnerable groups (that would eventually be impacted by such regulation) is quite critical, as their insights/opinions and solution proposition might also be significant and could be effective. In the regulatory tenets of OECD (2015), the regular contributions of affected parties to regulatory discourses significantly improve RE.

Again, this paper is believed to have laid a seminal foundation for future studies in this academic sub-domain by assembling/organizing hitherto disjointed *"determinants of RE"* scattered across various non-microinsurance disciplines/ sectors and (in) validating them for the microinsurance context. Consequently, a new model of the *"determinants of RE"* now exists in the microinsurance literature, providing some level of conceptual/empirical clarity and direction for related future studies. Future studies would also do well to leverage deeper analyses by further exploring the conceptual/empirical nexus between the various

sub-constructs of the dependent/independent variables. For instance, it could be quite interesting to thoroughly explore the theoretical/empirical nexus between regulatory human resources or regulatory informational resources (i.e., sub-constructs of regulatory resources as indicated in Section 3) and prudential effectiveness (a sub-construct of *RE* as indicated in Table 2). In other words, knowing the specific impact and the extent of influence human/informational resources have on prudential effectiveness in any arbitrary microinsurance jurisdiction should be quite relevant for future policies and studies.

On the limitations of the current paper, the following are some of the methodological and other shortcomings noted.

Even though the opinions of other stakeholders may also be significant, this paper is solely focused on the determinant-RE perspectives of insurers in the formal microinsurance ecosystem, as they are most directly affected by the regulations in focus in the paper. Consequently, discourses on Takaful and other informal risk-sharing/management mechanisms were not considered; likewise, to solely duel on the determinant-RE nexus, the demographic implications and tendencies of the survey were largely extricated.

Also, as the main instrument used (i.e., questionnaires) was quite demanding for the respondents (comprising 60 Likert-scale questions and 60 mandatory/qualitative and scenario-based justifications), it is not unexpected that the survey was not larger and the response rate was not higher. Furthermore, as there are no existing secondary datasets on the dependent/independent variables to warrant the use of alternative methodologies, the current paper had to necessarily assemble its primary datasets and further analyzed/validated them with applicable triangulation. The dated nature of the sources in Table 1 is inexorably noted, as more recent literature focusing on the *"determinants of RE"* are non-existent.

Lastly, and as aptly noted by Scott (2010) and further validated by Marques and Pinto (2018) that regulatory agencies are unique in their mandates, foci and legislative/executive powers in comparison with the entire public sector, Table 1 only captured extant literature solely focusing on determinants of effectiveness in the regulatory realms/regimes and extricated the much larger scope of non-regulatory public agencies.

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