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Household Financial Resilience Measurement in Urban LMICs: A Scoping Review of Instruments (2018-2024)

[1]Zenzile Mahlangu, [2]Tryphina Dube- Takaza and [3]Moegammad Faeez Nackerdien

[1&3] Faculty of Economics and Management Sciences. University of the Western Cape, South Africa.
[2] Faculty of Business and Economic Sciences. National University of Science & Technology, Zimbabwe

ABSTRACT

The COVID-19 pandemic, and the preceding exogenous shocks have exposed the vulnerability of urban populations to financial shocks, especially concerning food security. The estimation of financial resilience reveals which households are most susceptible to economic shocks, and therefore require interventions. And yet, despite the growing recognition of financial resilience as a critical factor in household economic stability, existing literature often lacks a consensus on the most effective measurement approaches, particularly in developing country contexts. To address this, the study investigated the most appropriate and robust method for measuring financial resilience in the context of urban Households (HHs), in Lower – Middle - Income Countries (LMICs). This was accomplished by identifying and evaluating the instruments used to measure financial resilience in published studies, and assessing the validity, reliability, and appropriateness.

The search for literature was conducted from several economic databases. A priori inclusion criteria determined the inclusion of peer-reviewed articles in English leading to the identification of 15 articles. The results reveal the absence of a standard instrument yet, and this may lead to inconsistent approaches. Furthermore, existing financial resilience tools, often rely on cross sectional data, thereby fail to capture its dynamic nature, potentially hindering accurate estimations Given that a majority of LMICs were hard hit by the pandemic, and they continue to suffer from diverse challenges that hinder socio-economic development, this is a notable concern. The study recommends to close this critical gap by developing and validating a standardized, multi-dimensional instrument for LMICs.

Key Words: *Financial Resilience; Financial Vulnerability, Adaptive Capacities, Households, COVID-19.*

1.0 Introduction

The recent overlapping global crises, characterised by increasing geopolitical tensions, frequent natural disasters, in the face of rapid urbanization have not only impacted food production but also underscored the intricate nexus between financial resilience and food security, especially in urban contexts. Basing upon various definitions found in literature, financial resilience can be understood as the capacity of households to withstand and recover quickly from an income or expenditure shock (Fanny Salignac, 2019; McKnight, 2019).This trend, coupled with exogenous shocks, such as the demand and supply driven shock of the COVID-19 pandemic, which led to job losses, and income reductions and disruptions in supply chains has left many households particularly, vulnerable communities, globally financially fragile (Bisong et al, 2020). In addition to shaping the production, transportation, marketing and consumption of food, these developments have exposed the vulnerability of urban populations to financial shocks, especially concerning food security. Notwithstanding their proximity to food, urban households (HHs) face unique challenges to food security including limited access to affordable and nutritious food, reliance on market-based food systems and vulnerability to economic shocks and natural disasters. Consequently, higher levels of poverty are a critical concern. As such, a reliable method for estimating financial resilience is crucial for understanding and addressing the vulnerability of HHs in these contexts. The estimation of financial resilience reveals which households are most susceptible to economic shocks, and therefore require interventions. However, despite the growing recognition of financial resilience as a critical factor in household economic stability, existing literature often lacks a consensus on the most effective measurement approaches, particularly in developing country contexts.

The objectives of the study were to: i) Identify and evaluate the instruments used to measure household financial resilience in published studies, ii) Assess the validity, reliability, and appropriateness of these instruments for measuring financial resilience in urban households within LMICs, and iii) Determine the appropriate and most robust method for measuring financial resilience in the context of urban Households (HHs) within LMICs. A scoping review of literature, guided by the PRISMA systematic review guidelines, was conducted across several economic databases. Inclusion criteria limited the search to 15 peer-reviewed articles, published in English journals. Despite the prevalent use of comprehensive frameworks emphasizing access to economic resources and financial knowledge and behaviour, our study found a critical gap, i.e. the absence of a standardized instrument for measuring financial resilience specifically in LMICs. Additionally, financial resilience tools, often reliant on cross sectional data, fail to capture the dynamic nature of financial resilience, potentially hindering accurate estimations. There is also a significant scarcity of tools designed for LMICs, particularly for the pandemic and post pandemic periods. This paper argues that developing effective measurement frameworks in LMICs for urban households' financial resilience is critical, as the pandemic significantly exposed the vulnerability of the HHs to economic disruptions.

1.1 Background

Urban areas, especially the densely populated spaces, often panned out as epicenters of the pandemic. Apart from disrupting economic activities, the pandemic challenged the financial resilience and the adaptive capacities of nearly all the HHs. It significantly impacted households' access to food security largely linked to fluctuations in income, which resulted in reduced food consumptions scores, a reduction in household dietary diversity among other challenges (Devereux et al., 2020; Fanny Salignac, 2019; Henrik, 2020).

Following the declaration of COVID-19 in March 2020 as a global pandemic, governments responded in different ways to mitigate the impact (Zutshi, et al., 2021). The responses included fiscal, expansionary monetary and macro-financial policies inter alia (Anyanwu J.C; Salami A.O; 2021). On the operational environment, Government imposed travel restrictions, companies closed down with only essential workers permitted to work. The cessation of economic activities resulted in severe income reductions, as individuals stopped going to work, plummeting health bills to be settled and a tap into the available savings. Remittance income too was curtailed. As a result, many businesses, households and individuals were left financially strained (Danielsson et al, 2020). As the pandemic unfolded, millions of lives were tragically claimed including breadwinners (Upadhaya, 2020). Micro economic costs soared against the background of shrinking jobs markets, job losses, reduced economic production and the shrinking of the informal sector (Ataguba, 2020; Medinilla Alfonso, 2020).

The aftermath was individuals and HHs that became least prepared to withstand new financial shocks, let alone recover from the knock. Accordingly, the pandemic severely eroded the financial resilience of many households as they grappled with job losses, health emergencies, income volatility and rising costs of living among other ills and undermined food security encompassing availability, access, utilisation and stability (Devereux et al., 2020). Recent studies show that the pandemic magnified existing vulnerabilities and did not affect everyone the same (SADC, 2023). Zimbabwe is one of the countries that was severely affected by the pandemic. Based on data from the World Bank database, the inflation as measured by the Consumer Price Index stood at a staggering figure of 98.55% rendering it the third last position before Sudan (359%) and Lebanon (154%) in 2022. This was against the backdrop of a contraction in the economy as measured by the GP, from 8.46% to 6.14%. The result was depleted household income, changes in food consumption patterns and food and nutritional security for many households (ZimVAC, 2022). Since then the recovery for such HHs has been near impossible. This has further compounded their levels of vulnerability, a situation that predisposes them to further shocks for instance on education support, access to health services. The dynamics not only eroded the financial resilience of HHs but also exposed the fragility of HHs' financial resilience in the face of unforeseen emergencies.

Financial resilience is not only a cornerstone of household food security particularly for the urban populace, but also plays a pivotal role in enabling the same HHs to deal with the complexities of modern life. Such complexities include income volatility, rising costs of living, limited access to social safety nets as well as accessing affordable nutritious food (Hamid, 2023). Households with strong financial resilience are better equipped to afford nutritious food, maintain food stocks, and cope with food price fluctuations. Financially resilient households and communities can support sustainable food production and distribution systems. And yet the pandemic dealt a massive blow to the financial resilience of HHs, further increasing the vulnerability levels and pushing many to the brink of poverty (Darwis et al., 2024).

Financial resilience is not a clearly defined concept, which challenges its accurate measurement. In this case, research instruments may include constructs that do not accurately get participant responses to their resilience during the pandemic. Furthermore, the diversity of constructs (independent and dependent) contained in previous studies makes it difficult to choose among the several options for evaluating financial resilience of HHs in the aftermath of exogenous shocks. The lack of clarity regarding what to measure and how to measure financial resilience can intensify the outlook of research related to this theme, contributing to producing a fragmented understanding of the measurement of financial resilience and making comparisons among studies difficult.

1.2 Research Problem

Despite its prominence in household finance to this day, particularly due to its nexus with food and nutrition security (Darwis et al., 2024), measuring household financial resilience in urban contexts remains a significant challenge. Existing literature often lacks a consensus on the most appropriate measurement approaches, particularly in Lower -Middle - Income Countries (LMICs), largely due to a lack of clarity in the conceptualization of financial resilience. The absence of a standardized measure of financial resilience makes it challenging to compare financial resilience across different regions and countries (Tahir, 2022). Furthermore, there exists a scarcity of scholarly research with regard to the measurement of financial resilience during or post the COVID-19 pandemic. The few studies that have endeavored to do so include (Mulyantini & Jubaedah, 2023). Consequently, identifying trends and assessing the effectiveness of policies becomes challenging. A lack of a standardized measure can also compromise resource allocation as there is a likelihood of missing the exact data on the affected or vulnerable populations (Brasil *et al*., 2024).

Inaccurate or inconsistent measurements can lead to ineffective policies, irrelevant frameworks and inefficient responses. If policymakers are basing decisions on flawed data, they may implement interventions that do not address the root causes of financial vulnerability (Zhuo & Kwatra, 2024). Collectively, these identified gaps necessitate a renewed focus on the discussion of the measurement of household financial resilience to inform socio-economic strategies and frameworks during pandemics.

1.3 Research Objective

The study to sought to address the inconsistencies in the measurement frameworks particularly for LMICs by employing a scoping review of literature to identify, evaluate and synthesize existing measurement tools and frameworks in order to develop a more robust and appropriate method for estimating financial resilience in this context.

1.4 Research Questions

Therefore, the study sought to answer the following questions:

1. What is the most appropriate and robust method for measuring financial resilience in the context of urban HHs, in Lower – Middle-Income Countries?
2. Which instruments have been used to evaluate the concept of financial resilience in published studies conducted among HHs in urban areas?
3. What is the quality of these instruments as determined through an analysis of their validity, and appropriateness for the target population?

The questions were formulated to support the comprehensive review of the literature on the measurement of financial resilience and their answers were obtained through a robust and documented structure (Arksey & O'Malley, 2005).

1.5 Significance of the study

The paper presents two main contributions. It contributes to the ongoing scholarly work on the development and refinement of estimation tools in the subject of household financial resilience which is essential for a better understanding of household finance and the bespoke interventions to support it. It also contributes to the development of a more inclusive and sensitive framework for assessing financial resilience among low-income HHs.

2.0 Literature review

2.1 The importance of financial resilience and the impact of shocks

Economic shocks, such as the COVID- 9 pandemic, have had devastating consequences across the globe, affecting developing countries and least developing countries alike. At the regional level, the pandemic escalated economic vulnerability and reduced fiscal space (Medinilla Alfonso, 2020). Consequently, there was a widespread decline in income while the rates of unplanned financial shocks were increasing. The widespread disruption underscored how vulnerable and fragile individuals and HHs were to financial shocks (Parra et al, 2021), thus ushering a new window of opportunity to comprehend household financial resilience.

2.1.1 Financial Resilience in the Context of the COVID – 19 Era.

Given their reliance on monetary systems, urban areas were disproportionately affected and this impacted households' access to food security (Devereux et al., 2020; Fanny Salignac, 2019) (Hendrik, 2020). For instance, in Nigeria, Ibukuni and Adebayo (2021) found that 58.5% of households experienced severe food insecurity. Poor households and households with low socio-economic conditions suffered the most because of the pandemic. COVID – 19 has had a profound impact across all income brackets (Carol Bruce, 2022). It therefore placed huge burdens on individuals with unstable incomes, and in this way exacerbated persistent vulnerabilities (Dhar et al., 2022).

The first Coronavirus in Zimbabwe was recorded on 20 March, 2020 following its maiden entry into Africa the same month. As of the 27th of March, the first life had already been claimed. The emergence of COVID-19 presented severe challenges to the health sector. For instance, limited staff and a shortage of medical supplies and equipment to the point of almost crippling the health system. In no time the impact reached all sectors of the economy including the SMEs, Agriculture among others (Mhlanga et al, 2022). Empirical evidence shows that the effects were not only dominant in the economic and health implications but also brought about a disruption of livelihoods and exerted a significant strain on household finances and food security. In addition to the above, at the onset of COVID – 19 in Zimbabwe employment fell and extreme poverty increased from 30% in 2017 to 49% in 2020 and later to 52% (World Bank 2021). Subsequently, household income fell. For example, about 3 in 5 (58%) adults were negatively affected in their livelihoods. As at August, 2022 43% of adults experienced income/revenue reduction (FinMarkTrust 2022).

In the long-run households had to use their meagre savings, loans, and remittances for transactions including payment towards hospitalization of sick members. Income through remittance declined for provinces such as Bulawayo that rely mostly on remittances from family members in South Africa and Botswana (ZimVAC 2022). Savings reduced and, in some instances, became depleted. Assistance from family members also declined (FinMarkTrust 2022). About 75% of households faced a decline in income of this nature and reportedly two thirds of household who had hitherto relied on remittances and assistance from family members reportedly experienced a drop-in income (World Bank 2021).

2.1.2 The Post – Pandemic and Recovery Phase

Notwithstanding the variations from continent to continent, region to region, in the aftermath nearly half of the world population lost income, and many were left vulnerable unable to afford food, medical services and other services (Laborde et al., 2021). Even HHs that previously had secure incomes, were at risk of becoming poor (Rahayu et al., 2023). Accordingly, the COVID-19 pandemic had a huge impact on the financial resilience of households globally and Zimbabwe was no exception. After a severe initial shock, in Zimbabwe, employment gradually returned almost to the pre-pandemic level, particularly in urban areas (ZimStats, 2022). In October 2021, exactly 20 months after the onset of COVID – 19, the food security situation improved in Zimbabwe. However, financial constraint was the main reason of keeping children out of school. For example, in urban areas 50% of HHs paid school fees in part, 22% made other arrangements to pay school fees (FinMarkTrust, 2022). The proportion of households that were able to buy food decreased from 95% to 79%. Based on the findings of the Consumer survey of 2022, in Zimbabwe the number of adults that were financially vulnerable increased by 9% from 39% in 2014, to 45% in 2022, while the population classified as financially healthy reduced from 18% to 9%. A majority failed to bounce back to their original levels before the pandemic.

On the other hand, a proportion of HHs came up with new businesses and ideas and recovered financially. Thus, the recovery also differed in the scope, speed and extent to which some HHs managed to bounce back to meeting basic spending needs during financial emergencies thus becoming financial resilient. While the pandemic strongly highlighted the importance of financial resilience, the literature reveals significant challenges, and inconsistences in how this crucial construct is measured, within the unique context of urban HHs in low-and middle – income countries.

2.2 Challenges and gaps in measuring financial resilience in LMICs

LMICs exhibit notable differences compared to Upper and High-income countries. These contextual differences present unique challenges in the measurement of financial resilience. For example, there is a lack of context-specific instruments. The use of the existing instruments may pose challenges, such as data availability issues. In addition, the dynamic nature of formal economies in LMICs means that the persistent use of cross-sectional data, which is affordable, may not fully capture their evolving nature. Additionally, few tools have been designed for times during and after significant shocks such as the pandemic. These challenges reveal a significant gap in literature i.e. the absence of a rigorously validated and context appropriate instruments for measuring financial resilience in urban HHs in LMICs. Tools primarily developed for developing countries may not adequately reveal specific vulnerabilities, and adaptive capacities of urban HHs. To address this gap, our study aims to review literature, and identify a more robust and context -sensitive measurement approach for urban HHs in LMICs, one that can better account for informal economies and the impact of economic shocks.

2.3 Conceptual Frameworks of financial resilience

Various studies have adapted the multi – dimensional financial resilience by Muir *et al*. (2016), a widely recognized model, encompassing the four components of financial resilience. To validate the measurements of financial resilience in this study, we borrow key components from this model, as further adapted by previous studies e.g. Salignac et al 2019, and 2021. Jayasinghe et al (2020) used the same concept and summarized financial products and services and financial knowledge and behaviour as financial inclusion and financial capability. Conceptually, the study borrows from the mainstream concept of resilience put across by the UNDP i.e. Building resilience in Zimbabwe: Towards a resilience strategic framework in 2015 to measure the COVID – 19 induced alterations in financial resilience at the household level, in the context of developing and low – income countries.

Economic resources

- *Savings*
- *Debt Management*
- *Ability to meet cost of living expenses*
- *Ability to raise funds in an emergency*
- ***Income***

Financial resources

- *Access to a bank account*
- *Access to credit and needs met*
- *Access to insurance and needs met*

Financial knowledge and behaviour

- *Knowledge of financial product and services*
- *Confidence using financial products and services*
- *Willingness to seek financial advice*
- *Proactive financial actions*

Social Capital

- *Social connections*
- *Access to social support in times of crisis*
- *Access to community and government support when needed*

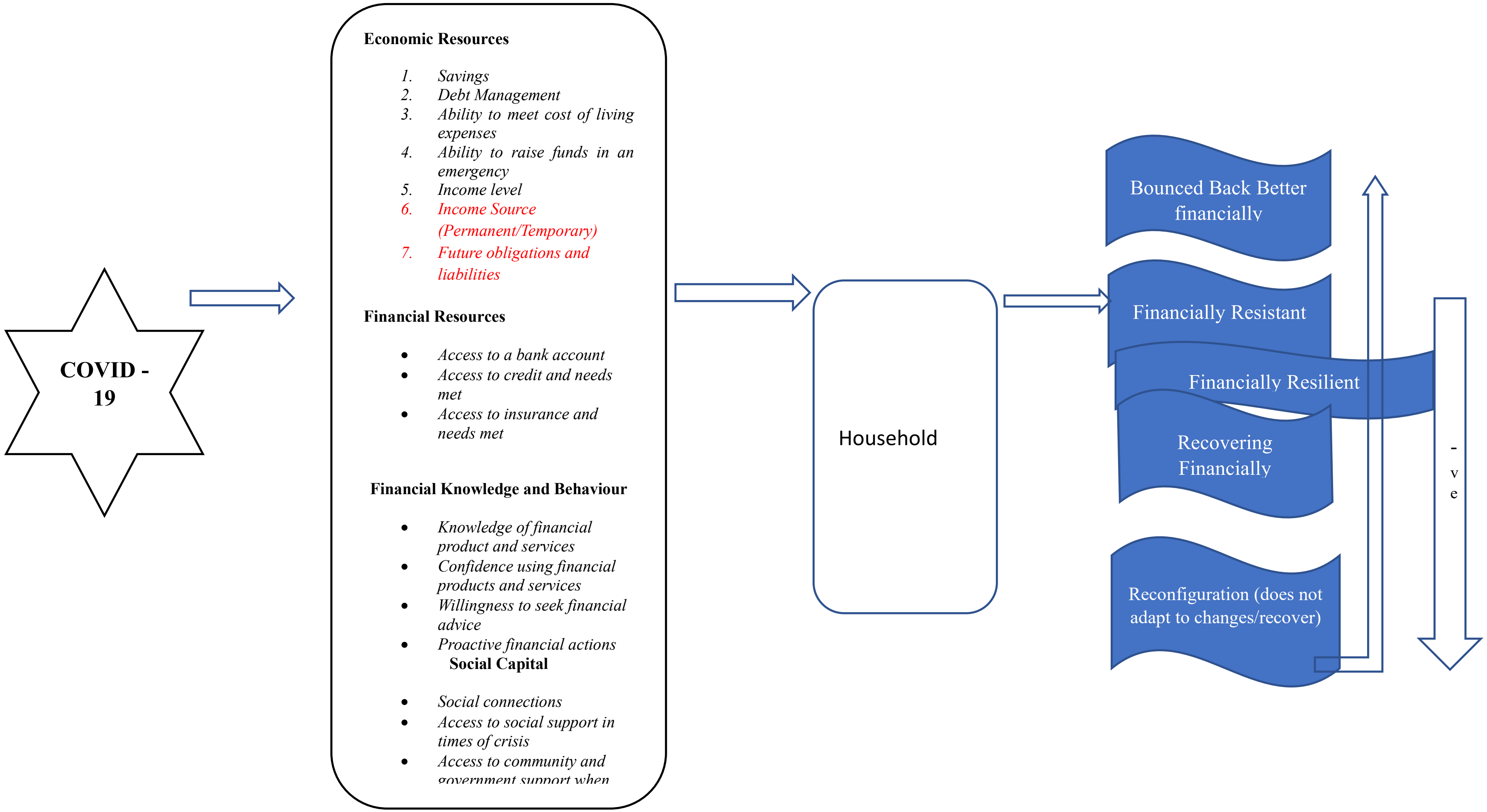
Figure 1: Financial résilience components

Source : Muir *et al*. (2016); (Fanny Salignac, 2019)

Figure 1 shows the conceptual framework of the study. By and large, some households are less resilient to financial shocks than others (McKnight, 2020). Financial resilience is dependent on the adequacy of available resources, both internal and external resources, formal and informal (Fanny Salignac, 2019).

Drawing upon the established components of financial resilience established in literature, this study offers its own interpretation and illustration, starting with the postulation that the pandemic triggered both demand and supply shocks and exerted a huge financial shock to HHs and individuals. The exposure to the shock was intense, however it varied from household to household due to their different absorptive capacities (e.g. savings, access to credit), adaptive capacities (e.g. adjusting spending) and transformative capacities (e.g. totally changing livelihoods). Following the shock, HHs experienced varying degrees of financial recovery. Some HHs demonstrated financial resilience by fully recovering to the extent of improving their financial situation. Others, however, exhibited financial fragility, recovering but to a worse state than before, or financial vulnerability failing to recover completely. The aftermath of these varying recovery routes aligns with the five outcomes of resilience identified by Salignac et al (2021): bounced back financially, financially resistant, financially resilient, recovered financially after the shock, and did not adapt. The conceptual framework is thus illustrated in the diagram below.

Figure 2. Illustration of the conceptual framework



2.4 Existing frameworks to measuring financial resilience

Empirical evidence shows that studies[i] utilized varied instruments to measure financial resilience underscoring the limited consensus on the standard framework/tools. Comprehensive tools informed by the ***multi-dimensional framework*** that encompasses economic resources, financial resources, financial knowledge and behavior and social capital have been employed by Salignac *et al* (2021); Salignac *et al* (2019); Jayasinghe, *et al* (2020); Essel - Gaisey, *et al (2023).* The tools exhibit a bias towards developed economies, and may not all be applicable to LMICs owing to variations in the context, largely culture, financial systems and practices. Moreover, each presents its clear strengths and weaknesses. All the four reviewed studies treat financial resilience as a multi-faceted concept and this qualifies it as a latent variable. Yao *et al* (2023) utilised ***financial ratios*** from an innovative two-tier system based on cash-to-income and asset-to-income ratios. This is quite relevant in the context of urban HHs, however, it limits its focus to economic resources, reduces its ability to consider the future, and overlooks crucial aspects of financial resilience such as social capital, human capital, vulnerability factors.

Two studies (Clark, et al., 2022; Jayasinghe, et al., 2020) developed ***financial resilience indices*** which reflect a household's capacity to respond to economic shocks, and from four sets of variables, namely economic resources, financial inclusion, financial capability and social capital respectively. Robust as they were, data were not available in the latter for a comprehensive measurement while the former presents a limited scope, which does not extend to cover all the crucial aspects of financial resilience. Liu et al. (2023) utilised an ***overall financial resilience index*** informed by the work of Salignac et al (2019). While presenting a comprehensive assessment of current behaviours and other dimensions the tool, however its scope is limited by the exclusion of source and permanence of income, both of which are essential in situation a household on the financial resilience continuum. Mundi, *et al* (2023) adopted the ***aggregate average score*** informed by three to five scoring questions.

A majority of studies (Tahir et al., (2022), Hussain, et al., (2019)*;* Weziak-Bialowolska, *et* al*.,* (2022); Brasil, et al., (2024)) relied on ***proxies*** to estimate financial resilience for example, possibility of accessing emergency funds; savings; perceptions on looking at the past and future. While Carlos Sakyi-Nyarko et al., (2021) proxied financial resilience by using factors such as, whether individuals had rarely gone without cash income or ability to access to emergency funds for their ***Standardised Financial Resilience index***. Hamid et al., (2023) employed financial management behaviours as a proxy for the ***index (financial resilience weighted values)***. Our study found that despite their applicability in the context of the pandemic and across LMICs, their focus on an individual aspect of financial resilience is a notably limitation. The review also identified that, save for the work of Brasil et al., (2024), there are limited tools that focus on the post pandemic era. period. The limitation with their tool is that it employs a simpler dichotomous approach instead of a multiframework, with only two questions are asked, thus falling short in terms of content validity and more precisely in being comprehensive especially since the tool overlooks critical factors such as income and debt. In addition, the questions seek information from respondents that is based on perceptions of the future, not their real experiences.

Furthermore, a notable limitation identified in this review is the overall scarcity of instruments designed specifically for measuring financial resilience, particularly within the context of LMICs. While some studies have been conducted in these countries, the number is significantly lower compared to high-income countries, thus revealing a gap in the existing literature. A majority are for developed countries, which indicates a significant research bias towards these regions, with limited coverage of LMICs. While there are some examples of studies in LMICs such as India and Bangladesh, the coverage is far less extensive compared to high-income countries, many of these instruments were developed for high-income countries and may not fully capture the unique challenges and opportunities faced by households in lower-middle-income economies. Moreover, there has been neither a tool developed for LMICs among which Zimbabwe falls, nor one that looks at the financial resilience in the aftermath of an exogenous economic shock e.g. COVID - 19.

While most tools are rooted in theory, the study notes that a few key omissions exist. For instance, the tools, including those that adapted the multidimensional framework, struggle to distinguish between temporary and permanent income sources. This in theory, skews result by over estimating financial resilience in cases of unstable income. For example, Yao et al., (2023) developed an innovative two-tier system based on cash-to-income and asset-to-income ratios, and struggles to consider the source of income or its permanence (temporary vs. permanent), and neglects debt and individual's future earnings' potential which can strengthen financial resilience in the long run. Similarly, Essel-Gaisey, et al., (2023) crafted a financial resilience index, rooted in theory, and yet leaving out factors such as debt management and income stability.

While each tool provides valuable insights, and almost measures all aspects of the concept, and contains data mostly rooted in theory many lack a comprehensive coverage of financial resilience dimensions such as access to diverse income sources, long-term financial obligations. There are inconsistencies however in the inclusion of certain elements, for instance while others underscore the role of financial behaviour and planning, others omit these dimensions thus leading to a skewed and imperfect picture of financial resilience across studies and contexts. The frameworks generally align with one another, emphasizing access to economic resources and social capital, however they vary in their consideration of permanency of income source and future planning thus posing some discrepancies in capturing long-term financial resilience across diverse economic contexts.

Apart from the studies identified in our initial scoping review, several organisations and research institutes have also developed models for the estimation and comprehension of financial resilience. So far, the FinResilience Institute (https://www.finresilienceinstitute.org/) provides a set of indicators and a scoring model as well as a comprehensive financial resilience index model. Additionally, the Centre for Economic Performance (CEP) in their discussion paper (-219, https://ideas.repec.org/p/cep/sticas/-219.html) proposes a financial resilience index. These models and the work done by these institutions to date, highlights the ongoing efforts to quantify this multifaced concept. The only limiting factor with these models is that even though they incorporate various aspects of financial well-being, they also seem skewed towards developed economies. The CEP model for example, would require further examination to understand its specific relevance to LMICs. These examples further buttress the need for validated instruments for measuring financial resilience in varied settings.

3.0 Methodology

Scoping reviews are important for assessing the coverage of literature providing a clear estimate of available studies (Tricco et al., 2016). They have emerged as an important tool for analysing new information and inform the field's practice given that they act as a precursor for other connected study topics (Iannizzi *et al.*, 2021; Westphaln *et al.*, 2021). The primary objective with scoping reviews is to locate and catalogue existing evidence (Zachary Munn, 2018). This study conducted a scoping review to systematically explore and identify a comprehensive existing tools and frameworks for measuring household financial resilience. The primary objective was to evaluate and compare these tools and frameworks to ***determine*** the most suitable for the context. Consequently, based on the exposition of the research problem a scoping review was employed to address the fundamental questions regarding the measurement.

The methodological process flow chart

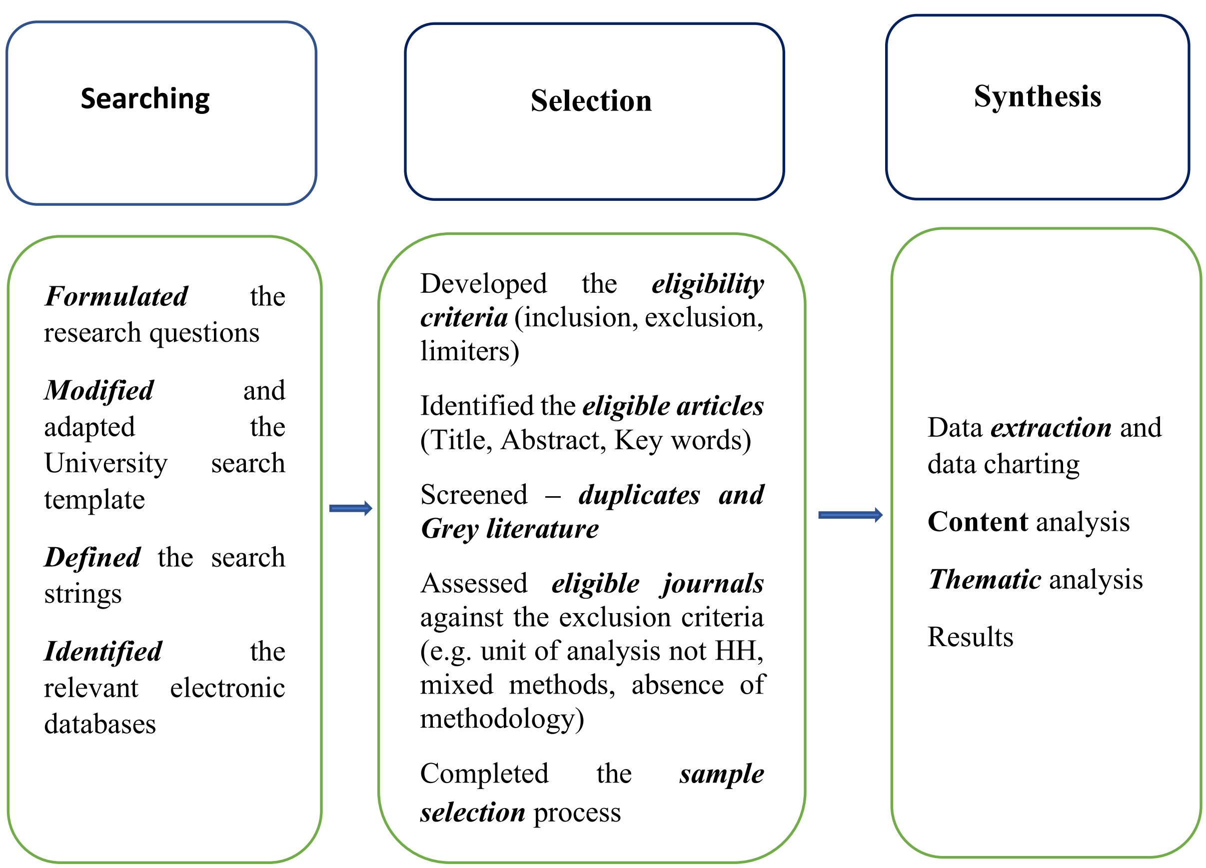


Figure 3: Methodological Framework employed during the search.

The scoping review followed the methodological steps outlined by Arksey and O'Malley (2005), including: (i) developing the research questions; (ii) identifying relevant literature; (iii) selecting eligible studies; (iv) charting the data; and (v) collating and summarizing the results. A comprehensive literature search was conducted across Ebscohost (Academic Search Complete and Business Source Complete), Google Scholar, ScienceDirect, and RePEc (Research Papers in Economics). The search strategy used four key search strings: "Financial resilience"; "Financial resilience AND Urban Households"; "Financial resilience AND Urban Households AND Developing Countries"; and "Measuring Financial resilience". Inclusion criteria were peer-reviewed journals, published in English from 2018 to 2024, and containing a clearly defined methodology. The selection process involved screening titles, abstracts, and keywords to identify studies measuring household financial resilience, presenting empirical results, and detailing their evaluation methods. Two authors independently reviewed and extracted data, with a third author ensuring accuracy and consistency. Key information was organized in a spreadsheet for descriptive analysis.

3.1 Sampling

The search of databases and reference list using the key search terms identified a total of 643 articles. Of the 643 articles, 22 were identified from the Ebscohost Academic Search,146 from Ebscohost Business source complete,72 from Science Direct and 91 from RePEc. Most of the articles were identified from Google scholar (n=312). Two authors were engaged in this selection task. After the second filter, the sample had ***643*** articles, ***264*** of them were discarded because they were duplicates, did not meet the criteria, for example, the year of publication and grey literature. A total of 379 full texts were assessed for eligibility. Of these, ***274*** articles were discarded for not meeting the inclusion criteria, either because their topics were off, or the unit of analysis was not HHs. For example, some articles measured the financial resilience of firms, banks, financial markets, governments, institutions, SMEs, cities, among other units. A second batch was the ***81*** that were excluded because they either did not present a measurement framework or a methodology. The rest (***9***) did not meet the general criteria. Therefore, the final sample includes ***15*** focal articles, as detailed in **Annex 1, (**the Flow chart illustrating the methodology selection process of this review).

Data was grouped and summarizing to obtain important information about the articles. The ***descriptive analysis*** provided information about the main characteristics of the sample, helping to solve questions one and two. The ***content analysis*** allowed a qualitative examination of the content of the articles according to the characteristics of the applied financial resilience measurement methods, answering question 2 and 3. ***The thematic analysis*** also helped to report and categorize the challenges and opportunities of measuring financial resilience. These results are presented in the next sections.

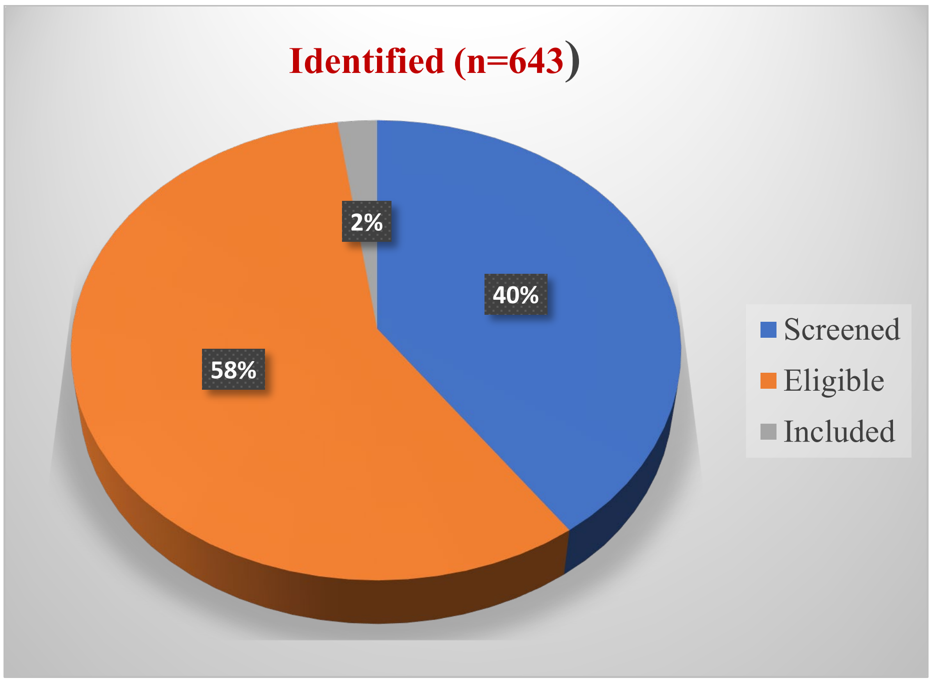


Figure 4: Pictorial Illustration of the Search and Selection
Source: Generated by authors (2025)

4.0 Results and Discussion

To address the first and second research questions concerning the most appropriate and robust method to estimate financial resilience, we employed descriptive analysis. This was complemented by an examination of the feasibility and practicality of using each tool or framework in the LMICs context. The tools were then compared and contrasted in order to determine the most suitable one for urban households. The results of the analysis are presented below.

4.1 Descriptive results

The sample consisted of 15 articles (n = 15). The study designs varied, with a majority utilizing cross-sectional survey. For example, from the 15 assessed, 14 studies employed cross-sectional surveys while one employed the longitudinal panel survey. In terms of the context, seven (7) studies were conducted in high-income countries (e.g. United States, European countries, and Australia), five (5) in upper-middle-income countries (e.g. Brazil, China, Malaysia, Indonesia, and South Africa) and three (3) in lower-middle-income countries (e.g. Bangladesh, Ghana, and India). The purposes of the studies also varied for example, most studies sought to explain the relationship between variables (A.H.M. Belayeth Hussain, 2019; Mundi & Vashisht, 2023; Yao & Zhang, 2023), while others sought to assess individuals' resilience before the pandemic (Clark & Mitchell, 2022). Only one study attempted to determine and situate an individual's level of financial resilience on a continuum (Salignac, et al 2019). In relation to the purpose, two studies were most relevant to our study. Their relevance springs from two observations i) they developed a measure appropriate to the context of developing countries (e.g. in Indonesia) and ii) they sought to fill the gap in contextualization, measurement and context by focusing at the micro-level in this case, families (Fanny Salignac, 2019; Liu, 2023) as provided in **Annex 2 (S**ummary of the measurement instruments and frameworks assessed).

4.2 Instruments used to evaluate financial resilience in published studies

This section presents the findings of the scoping review regarding the measurement of financial resilience. It summarises the various instruments identified in the literature and evaluates their quality based on information provided by the reviewed studies.

4.2.1 Classification of Measurement Instruments

As can be seen from the table above, and from the literature assessed, studies employed a variety of instruments to measure financial resilience. These instruments can be broadly classified into the following categories:

4.2.2 Multi-dimensional Frameworks

Multi-dimensional frameworks assess financial resilience by considering a combination of economic, financial, and social resources, as well as financial knowledge and behavior. This approach acknowledges that financial resilience is not solely determined by income or assets but also by access to support networks and the ability to manage finances effectively. Several studies in this review employed multidimensional frameworks (Salignac et al., 2021; Salignac et al., 2019; Mundi et al., 2023; Essel-Gaisey, et al., 2023; Jayasinghe, et al., 2020).

These frameworks commonly include components such as; Economic resources (e.g., income, assets), Financial resources (e.g., savings, access to credit), Social capital (e.g., social support networks), and Financial knowledge and behavior (e.g., budgeting, financial planning). For instance, Salignac et al. (2019) developed a comprehensive multidimensional framework that included all of the above components. However, Salignac et al. (2021) used a modified version that excluded financial knowledge and behavior. Mundi et al. (2023) and Jayasinghe et al. (2020) also utilised this approach. Essel-Gaisey, et al. (2023) also developed a multidimensional financial resilience index, based on Alkire and Foster's (2011) framework, that acknowledges that resilience is a multidimensional concept.

A common strength of multidimensional frameworks is their comprehensiveness. One key limitation however, identified in this review is that these frameworks often struggle to differentiate between temporary and permanent income sources, which could lead to an overestimation of financial resilience. This is a significant concern because individuals with temporary or unstable income may appear financially resilient based on current resources, but they may be highly vulnerable to shocks. This limitation was not consistently addressed in the original studies, highlighting a potential area for improvement in future research

4.2.3 Financial Resilience Indices

Several studies developed overall financial resilience indices. These indices typically combine various indicators into a single score to represent a household's or individual's level of financial resilience. As shown in the above table, Clark, et al. (2022) developed an eight-question resilience index to assess a household's capacity to respond to economic shocks. Liu, et al. (2023) developed an overall financial resilience index comprising current assets, financial access, financial literacy, and social capital. Hamid et al. (2023) measured financial resilience using five components related to personal financial management and calculated weighted values for these components. Yao et al. (2023) also created a financial resilience index based on households' ability to pay for basic living expenses.

While indices provide a single, easily interpretable measure of financial resilience, some studies raised concerns about their limitations. For instance, Clark, et al. (2022) noted that their index could benefit from including other dimensions like access to financial resources and support. Hamid et al. (2023) highlighted the potential for bias in their index due to the subjective nature of some of the data.

4.2.4 Ratios

Yao et al. (2023) also used financial ratios to measure financial resilience, specifically ratios measuring accessibility to financial resources to cover basic needs.

4.2.5 Other Proxies

Some studies used other proxies to measure financial resilience, focusing on specific aspects or indicators. Hussain, et al. (2019) measured financial resilience as the possibility of accessing emergency funds within the next month. Tahir, et al. (2022) defined financial resilience as a consumer's perceived ability to access financial resources in an emergency. Weziak-Bialowolska, et al. (2022) operationalized financial resilience as household savings and bank account balance. Brasil, et al. (2024) used two questions related to the change in a family's financial situation due to the COVID-19 pandemic. Carlos Sakyi-Nyarko et al. (2021) used a standardized index computed using two distinct definitions of financially resilient households: Those that have never or rarely gone without cash income in the past 12 months; and those who would likely find a lump-sum to meet an emergency within the next month. These proxy measures often focus on specific aspects of financial resilience; such as access to emergency funds or savings. While this can provide valuable insights, some studies acknowledge that these measures may not capture the full complexity of financial resilience. For example, Tahir, et al. (2022) noted that their measure did not include the ability to manage unexpected expenses.

4.3 Quality of instruments determined their Validity

As can be seen from the discussion above, these tools vary in content validity. Comprehensive frameworks such as those employed by Salignac et al., (2019); and subsequently adapted by a few others, provide high content validity for the measurement of financial resilience by capturing a diverse aspect of resilience all in one. The simpler tools on the other hand, while they still assess relevant and yet fewer items, neglect important resilience dimensions. Examples of omitted dimensions include income stability, debt management inter alia. Other tools, because of their dichotomous responses, leave out a chance to capture a full range of experiences such as slightly better/worse. All of these omissions hamper their efficacy in capturing a complete picture of financial resilience. Constructs and attributes vary due to a lack of consensus on core resilience dimensions.

Clark et al. (2022) suggested that their resilience index is a valid measure as it directly assesses a household's ability to cope with economic shocks. However, Brasil et al. (2024) raised concerns regarding the validity of their two-question measure, more over the questions relied on perceptions that are subjective. Hamid et al. (2023) also mentioned the data collected is largely subjective, which may lead to biases or inaccuracies. Furthermore, the reviewed tools (existing tools) pay limited attention to the dynamic nature financial resilience, mostly because they capture cross-sectional data. Literature suggests that it is dynamic in nature, being influenced by various factors such as policy interventions, income shocks and losses (asset) over time. This bias can ultimately hamper the content validity in estimation tools, as the tools may not adequately factor in these variations.

4.4 Thematic Analysis

The researchers employed a thematic analysis to summarise the findings on the measurement of financial resilience, and below are the few themes that emerged from the review.

The thematic analysis revealed several key findings regarding the measurement of financial resilience. First, the reviewed literature employs both multidimensional frameworks and simplified indices. While some studies utilise comprehensive frameworks, others rely on simplified measures that may overlook important aspects of financial resilience, impacting reliability and comparability. The use of varying scoring methods and weightings further contributes to the challenge of establishing a standardised measure. Second, economic resources, financial access, and social capital are frequently identified as core components of financial resilience. Notably, some studies also use access to emergency funds as a proxy for financial resilience. Third, there is a predominant focus on immediate financial needs (e.g., access to emergency funds, cash flow) rather than long-term resilience factors such as income stability, future obligations, and debt management. This emphasis on short-term perspectives limits the ability of instruments to fully capture the dynamic and continuous nature of financial resilience. Although there are similarities in the variables used, some studies, such as Hamid et al. (2023), incorporate components such as financial planning, which are often absent in other research. However, the reliance on subjective data in some instruments, as highlighted by Hamid et al. (2023), may introduce bias.

4.5 Recommendation of The Most Appropriate Method

Our review results suggest that the ***Financial Resilience Index*** is currently the most widely used estimation tool. In addition, the tool is also easily and freely accessible with different modifications. Weightings for index indicators are not equal. Households from all household income demographics are represented across all financial resilience segments. Household's financial resilience scores can improve or deteriorate as they adjust their behaviours or are impacted by life events. The paper presents it as feasible and practical tool in the context (urban HHs, post the pandemic), we recommend that its application be informed by the multi-dimensional framework. The multidimensional framework that encompasses economic resources, financial resources, financial knowledge and behaviour and social capital is a common approach and much of the studies prioritised the ability to pay for expenses. Examples include (Fanny Salignac, 2019; Fanny Salignac, 2021; Jayasinghe Maneka, 2020; Mundi & Vashisht, 2023) who developed specific questions that were responded to and the responses aggregated. The results of our review show that this measurement method provides a very comprehensive measure of financial resilience, given that it is able to combine a range of factors that have been discussed above all of which contribute to a household's ability to withstand financial shocks, and bounce back

4.6 Study Limitations

This scoping review presents the authors' debut experience with this nuanced methodology. While rigorous efforts were made to adhere to the established scoping review guidelines, further experience with this approach may refine the search strategy, data extraction and overall synthesis. The review's focus on English-language, peer – reviewed journals may have resulted in the exclusion of potentially relevant studies published in other languages, possibly limiting the comprehensiveness of the scoping review. The study is looking at the financial resilience of urban HHs in LMICs. Urban areas e.g. in Zimbabwe, HHs tend to have diverse socio-economic conditions, with some HHs and neighbourhoods experiencing financial vulnerability and fragility levels that are comparable to rural areas. This heterogeneity among urban dwellers can make it challenging to generalise the findings about financial resilience across the entire urban population. The study also did not assess the reliability of instruments, but its primary focus was on validity and contextual relevance, as these were considered essential for developing sound measurement tools in LMICs.

5.0 Summary of Findings and Conclusion

The study concludes that a multi-dimensional approach that incorporates behavioral aspects is important for a comprehensive measure (Fanny Salignac, 2019). Using single proxies, or simplified frameworks risks omitting key attributes of the construct e.g. social capital which seems to have stood out during the pandemic. To accurately measure financial resilience, it is important to consider economic resources (e.g. income, savings), access to finance, and social capital (Essel-Gaisey et al., 2023). The thematic analysis also revealed a recurring bias towards immediate financial resilience hence little attention on the future aspects, and yet without a focus on the longer term, financial fragility and financial security are compromised. The limited number of studies done for countries such as Zimbabwe underscore the need for more comprehensive and context-specific study to assess the financial resilience in Zimbabwe, post the pandemic for developing effective policies and interventions to enhance financial resilience.

The paper recommends that the ***Financial Resilience Index*** **(FRI),** informed by the multi-dimensional framework be used to estimate financial resilience in urban HHs (Financial Resilience Institute, 2022c). In addition, the tool is also easily and freely accessible with different modifications. Weightings for index indicators are not equal. Households from all household income demographics are represented across all financial resilience segments. Household's financial resilience scores can improve or deteriorate as they adjust their behaviours or are impacted by life events. An index can help track these changes and assess the impact of different events on a household's financial situation. The numerical score associated with indexes can be used to easily identify and locate HHs that are a risk.

Our review suggests incorporating additional variables into the framework in order to increase the robustness of the tool. For example, to distinguish between temporary and permanent income, capture source of income and expand income measurement to include measures of other income sources, such as savings, investments, and support from family or friends, all of which are consistent with the Permanent Income Hypothesis (PIH) tenets. The study proposes a framework that incorporates both static and dynamic dimensions e.g. incorporate a combination of asset-based, income-based, and capacity-building indicators. To improve predictive validity our review recommends a consideration of future liabilities (debt management), individual future earnings or lack of. In line with enhancing content validity while addressing limitations associated with the challenges related to capturing time series data, the study thus recommends the incorporation of qualitative methods e.g. Focus Group discussions and Key Informant Interviews alongside quantitative methods. This will enhance the understanding of context specific factors that influence financial resilience.

Given the financial vulnerability of urban HHs, which directly impacts their ability to meet basic needs such as food consumption, governments should implement a system to proactively determine the status of financial resilience, perhaps through the use of an FRI, at any given point in time. This would enable timely adjustments to preparedness and response measures, including targeted social safety, financial assistance programs and emergency food distribution.

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Annex 1: PRISMA Flow chart for critical literature selection

Identification	Records identified through data searching **(n=643)**
	Ebscohost Academic search complete (n = 22)

	Ebscohost Business Source complete (n=146)
	Google scholar (n=312)
	ScienceDirect (n=72)
	RePEc (n=91)
Screening	Records discarded (duplicates and other grey literature) **(n=264)**
	Ebscohost Academic search complete (n = 2)
	Ebscohost Business Source complete (n=33)
	Google scholar (n=162)
	ScienceDirect (n=18)
	RePEc (n=49)
Eligibility	Full texts assessed for eligibility **(n=379)**
	Ebscohost Academic search complete (n = 20)
	Ebscohost Business Source complete (n=113)
	Google scholar (n=150)
	ScienceDirect (n=54)
	RePEc (n=42)
Included	Studies included in the review **(n=15)**
	Ebscohost Academic search complete (n = 5)
	Ebscohost Business Source complete (n=6)
	Google scholar (n=4)
	ScienceDirect (n=0)
	RePEc (n=0)

Table 1: PRISMA Flow chart for critical literature selection

Annex 2: Summary of the measurement instruments

S. N	Instrument	Authors
1.	Ratios	Yao *et al* (2023)
2.	Multi-dimensional framework	Salignac *et al* (2021) ; Salignac *et al* (2019)
3.	Aggregate Average Scores – (Multi-dimensional framework)	Mundi *et al* (2023)
4.	Index (Multi-dimensional framework; other proxies e.g. inability to pay a lump sum; Capacity to respond to economic shocks; m	Essel - Gaisey, *et al (2023),* ; Jayasinghe, *et al* (2020) *;* Yao *et al* (2023) ; Clark, *et al* (2022)
5.	Overall Financial resilience Index	Liu *et al* (2023)
6.	Standardized Financial resilience Index	Carlos Sakyi-Nyarko *et al (2021)*
7.	Weighted Indices - Keeping control of money	Hamid *et al* (2023)
8.	Other Proxies e.g. possibility of accessing emergency funds; savings; Perceptions on looking at the past and future	Tahir *et al* (2022), Hussain, *et al* (2019) *;* Weziak-Bialowolska, *et al (2022)* ; Brasil, *et al* (2024)

Table 2: Table summarising the sampled articles, and the corresponding instruments

[i] Annex 2