



Inclusive Pensions for an Aging World

Evidence and Strategies for Engaging Informal Workers

February 2026 • Clément Joubert, Jessica Meckler, Simrin Makhija, and Lili Vessereau

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Contents

Executive Summary	1
Introduction	3
Contributory Pensions for Informal Workers: Targeting the Missing Middle	6
The challenge of informality in saving for retirement	6
Identifying the missing middle	7
The scale of the challenge	10
Existing Approaches to Covering the Informal Sector	12
Example 1: A Safe and Flexible Long-term Saving Instrument: Kenya’s Haba Haba	12
Example 2: Meeting Participants Where They Are: Reflecting Ubudehe Categorization in Rwanda’s Ejo Heza	13
Example 3: Thailand: Sweetening the Deal through Matching Contributions	14
Example 4: The Appeal of Guaranteed Benefits: India’s Atal Pension Yojana and Pradhan Mantri Shram Yogi Maan-dhan	15
Example 5: Targeting the “Organized” Informal Sector: Pension Scheme for Cocoa Farmers in Ghana	16
Designing Pensions for the Informal Sector	20
Enabling conditions	20
Level of flexibility in contributions and withdrawals	21
Guaranteeing payouts? The tradeoffs between defined contribution and defined benefit schemes	22
Integrating informal sector pension schemes within the broader pension architecture	23
Economic incentives to boost participation	26
Delivering Pensions to the Informal Sector	29
Recruiting participants and collecting contributions	29
Lifting behavioral and social obstacles to ongoing participation	33
Conclusion	35
References	37

Executive Summary

IN THE FACE OF ESCALATING GLOBAL challenges, including climate change, geopolitical conflicts, and technological risks, low- and middle-income countries (LMICs) are on the brink of becoming old before they become rich. By 2050, one in five people worldwide will be 60 years of age or older, with nearly four out of five of these seniors living in LMICs (Mathews 2024). This demographic shift toward an aging population is accelerating, compounded by increased longevity and lower fertility rates. Further, traditional risk-sharing networks are weakening, with traditional family and community-based support systems becoming less reliable in providing for the elderly. These factors make financing a dignified life for the elderly a major global concern, with significant long-term implications for the economic growth and fiscal sustainability of LMICs.

The demographic shift is compounded by high rates of informal employment that effectively exclude whole segments of the population from traditional contributory pension schemes. Globally, only 35 percent of the working-age population (age 15 and above) actively contributes to a pension scheme, with this percentage dropping to 17.5 percent in lower-middle-income countries and just 5 percent in low-income countries (ILO 2024). Women are particularly vulnerable to old age poverty as they are more likely to work informally, earn lower wages, and experience interrupted career patterns due to caregiving responsibilities (Floro and Meurs 2009; Cameron 2019; Abels, Arribas-Banos, and Demarco 2023).

This leaves funding the growing elderly population, especially those engaged in the informal sector, as a pressing challenge that needs to be addressed—

and there is not a moment to lose. To generate meaningful pensions, people must contribute and invest from a young age. Inaction today will either lead to increased poverty and social problems tomorrow or significant fiscal problems down the road.

This Working Paper confronts the challenge head on, focusing on contributory pension schemes for the “missing middle”—those informal workers who have sufficient income stability to save for old age but lack access to appropriate pension mechanisms. Contributory pension schemes for informal workers represent an opportunity to expand retirement coverage without solely relying on noncontributory schemes (e.g., social pensions), which can strain government budgets. They can also mitigate the rising burden on shrinking cohorts of family supporters.

Of course, macroeconomic and institutional stability, supported by adequate physical and digital infrastructure, is a prerequisite for any pension system. Countries experiencing hyperinflation or political instability or those lacking basic digital payment systems cannot realistically ask workers to trust governments with their long-term savings. Building this foundation is essential. Coverage expansion must also go hand-in-hand with parametric reform to build fiscally sound pension architecture; simply adding participants to unsustainable schemes will only increase the implicit pension debt.

This paper investigates diverse approaches to informal sector pensions across different countries and contexts, revealing various strategies governments have used to address the unique challenges of

covering informal workers. Some schemes offer flexible defined contribution (DC) models that allow irregular contributions and partial withdrawals to accommodate workers' volatile income streams. Some approaches demonstrate how pension rules can be adapted based on poverty categories, with some governments providing higher matching contributions to the poorest participants and others providing defined benefit (DB) schemes with guaranteed pension amounts. Sector-specific approaches that leverage existing industry networks and systems have also been tested.

These examples highlight tradeoffs that accompany such design choices. For instance, informal workers highly value flexibility in both contributions and withdrawals to better suit the smaller, more irregular cash flows typical of low-income earners, yet this flexibility fundamentally limits the ability of governments to offer stronger guarantees on retirement payouts without exposing public finances to significant risks. Similarly, while DC schemes offer safe savings vehicles without imposing heavy costs on the state and may be attractive to certain types of informal workers, DB schemes provide the simple, guaranteed payouts that are particularly attractive to lower-income groups, those with limited financial literacy, and women.

Despite the use of different design features that in theory are well suited to address informal worker needs, many existing schemes have struggled to achieve large-scale, sustained participation. Addressing key issues around scale is crucial for developing scalable and sustainable pension schemes that can effectively support informal sector workers. When only small numbers of workers participate, administrative costs per participant become prohibitively high, making schemes financially unsustainable and less attractive to potential participants. This creates a vicious cycle where low participation leads to high costs, further discouraging participation. How best to increase participation and scale, though, remains an unanswered question.

In examining the literature, four takeaways emerge:

1. **Prioritize easier-to-reach groups first.** Targeting relatively wealthier, organized, or quasi-formal segments can help establish scale, while protecting more vulnerable groups from short-term risks may gradually draw them into the system.
2. **Leverage informal sector networks, old and new.** Cooperatives, business associations, gig platforms, and even social media influencers can reduce recruitment costs and foster trust, often more effectively than top-down campaigns.
3. **Optimize economic incentives.** Workers respond to economic incentives, but these must be cost-effective. Interactions with existing formal sector pensions and social pensions must be considered to minimize distortions. Promising but undertested approaches to incentivize participation include bundling pensions with credit or short-term insurance to alleviate liquidity constraints.
4. **Comprehensively address behavioral and informational barriers.** Piecemeal interventions often appear ineffective because multiple obstacles (e.g., informational, psychological, administrative) operate simultaneously. Integrated approaches combining incentives, administrative support, and personalized nudges are more likely to succeed and should be rigorously tested.

Success ultimately depends on a new wave of applied research and rigorous experimentation to identify what drives informal worker participation in contributory pension schemes. Current evidence, while instructive, remains insufficient. By addressing current limitations and exploring innovative strategies that account for country-specific context, the authors believe it is possible to develop effective pension schemes that can help mitigate the impact of population aging on informal workers.

Introduction

I N A WORLD PRESSED BY ESCALATING

challenges, including climate change, geopolitical conflict, and fast-evolving technological risks, another crisis is gathering on the horizon: low- and middle-income countries (LMICs) are on the brink of becoming old before they become rich.

The demographic shift toward an aging population is accelerating at an unprecedented rate. By 2050, one in five people worldwide will be 60 years of age or older, with nearly four out of five of these seniors living in LMICs (Mathews 2024). Further, the Population Division of the U.N. Department of Economic and Social Affairs (UN DESA 2024) projects that by 2080, adults ages 65 and older will outnumber children under the age of 18. This translates to approximately 2.2 billion people over the age of 65 in 2080 (UN DESA 2024). And as women tend to live longer than men, they are projected to continue to comprise a majority of the world's elderly population (UN 2023).

These trends hold true across the globe. Even countries that currently have growing populations, with large numbers of relatively young people, are projected to see an increase in the number of people ages 65 and older in the coming 30 years. Several factors compound this demographic shift. First, increased longevity is leading to a larger elderly population that needs financial support for longer. Second, lower fertility and declining birth rates mean fewer young people to support the growing elderly population. These factors are further exacerbated by weakening traditional risk-sharing networks, with traditional family and community-based support systems becoming less reliable in providing for the elderly. Co-residence rates

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typically decline with economic growth (Evans and Palacios 2015) and a reduction in fertility rates leads to fewer caregivers in the future (OECD, IDB, and the World Bank 2014). Further, economic growth is also often accompanied by rural-to-urban migration, which makes in-kind transfers and care more challenging or even impossible (Wellenstein et al. 2021).

These factors make the financing of a dignified life for elderly populations a major global concern and create significant long-term implications for the economic growth and fiscal sustainability of LMICs. For example, countries with aging populations have fewer workers and may face lower productivity, ultimately impacting their economic growth and public revenues (Wachs, Demarco, and Stewart 2024). Additionally, aging populations create increased demands for health care, long-term care, and financial resources for old age, which can intensify stress on public balance sheets. Public finances in LMICs are already strained, leaving little room for funding adequate cash transfers to the elderly from the general revenue. In fact, roughly one in three developing economies struggles with high debt, which is further complicated by an environment of weak growth, high borrowing costs, and many other risks (Kenworthy, Ayhan Kose, and Perevalov 2024). LMICs now hold a record US\$8.8 trillion in debt and spent US\$1.4 trillion in debt servicing in 2023 alone (World Bank 2024a).

The shift toward formal employment in many of these economies is also taking place at a very slow rate. As of 2024, the proportion of informal employment globally was 58 percent,¹ with informal employment in low-income countries accounting for 90 percent of overall employment (ILO n.d.). Since unregistered workers do not pay payroll taxes, high informality is typically synonymous with low pension participation. Globally, only 35 percent of the working-age population (age 15 and above) contributes to a pension scheme—and this percentage reduces to 17.5 percent of the working-age population in lower-middle-income countries and 5 percent in low-income countries (ILO 2024). In general, saving for retirement can seem far off for low-income communities, who require liquidity to manage daily needs and cope with more imminent shocks and stresses. The 2025 Global Findex, for instance, found that only 18 percent of adults in developing economies save for retirement; that figure drops to 7 percent and 5 percent for lower-middle-income countries and low-income countries, respectively (Klapper et al. 2025).

Women, in particular, face significant challenges when it comes to saving for old age. Women live longer than men and are projected to likely comprise a majority of the world's elderly population in 2050 (UN DESA 2023). However, women are also more likely to work informally, as unpaid care and household work can limit their opportunities to access formal employment. Additionally, women often face social norms that

Inaction today will either lead to increased poverty and social problems tomorrow or significant fiscal challenges down the road.

limit the type of work they can do, the hours they can work, and their mobility. When they do work in formal wage employment, they tend to earn lower wages than men. As such, women are more vulnerable to poverty in old age (Floro and Meurs 2009; Cameron 2019; Abels, Arribas-Banos, and Demarco 2023). Given the high correlation between formality and pension contributions and the fact that women are less likely to be formally employed than men, women are also less likely to contribute to national mandatory pension schemes. In fact, globally it is estimated that about 6 out of 10 people covered by mandatory pension schemes are men (Majoka and Palacios 2017). For those women who do receive pensions, they are 25 to 30 percent lower than men's—primarily driven by lower rates of formal and full-time employment among women and their lower wages (Abels, Arribas-Banos, and Demarco 2023; Joubert and Todd 2024).

Overall, a significant gap exists between the scale of the challenge and the readiness of countries to tackle it. This leaves funding the growing elderly population, especially those who were engaged in the informal sector, as an urgent challenge in the coming years. Resource needs among the elderly, measured by the global old-age gap ratio,² are projected to increase from 18 percent in 2024 to 29 percent in 2050 (National Transfer Accounts 2024). Alternately, the fiscal burden measured by the retirement savings gap³ is estimated to grow to approximately US\$400 trillion by 2050 (Wheeler 2017). Inaction today will either lead to increased poverty and social problems tomorrow or significant fiscal challenges down the road.

And every moment counts. To generate meaningful pensions in old age, people must contribute and invest from a young age. For instance, an informal worker who begins saving US\$0.17 per day (approximately US\$1 per

1 Based on the International Labour Organization modeled estimates.

2 The old-age gap ratio captures the resource needs of the elderly as a percentage of resources generated by workers: it is equal to the gap between consumption and labor income of people age 65 and older, divided by total labor income generated by all workers in the economy.

3 The retirement savings gap is the difference between the amount of money people have saved for retirement compared to the amount of money they will need in retirement.

week) at the age of 30 and continues until she is 60 would be able to finance a 15-year annuity of US\$183 per year (assuming an interest rate of 3 percent). If she begins saving at 40 her annuity would decrease by about 40 percent, and if she waits until 50 it would be cut by 75 percent. Governments and individuals must turn to this issue today. Tomorrow is too late.

The magnitude of the challenge creates a grave need but also offers an opportunity to develop effective solutions for segments of the population that could save for retirement but are not currently doing so. One such group is informal workers: the “missing middle” workers who have the capacity to build long-term savings but lack access to the existing pension schemes targeting formal sector workers. As such, developing pension schemes dedicated to or inclusive of informal workers is a priority that requires global attention now. While some countries have introduced and implemented various schemes that target informal workers, few schemes have scaled or fully met the needs of informal workers. Many questions remain as to how to make these schemes work—both in terms of design and implementation—for individuals and governments alike.

To help inform informal sector pension design, this paper investigates issues related to targeting and scaling contributory pension schemes for informal workers, including examples of well-documented schemes from around the world. It explores what is known and not known about designing contributory pension schemes for informal workers, focusing on:

- Populations to target and the level of scale attainable
- Scheme design types and features, such as levels of flexibility in contributions and withdrawals
- Considerations around situating informal sector pension schemes within a country’s broader pension architecture
- Tradeoffs related to economic incentives

Additionally, the paper discusses two key implementation elements related to scaling such schemes, namely:

- Strategies for recruiting participants and enabling contributions
- Social and behavioral obstacles to registration and continued participation

Addressing these issues—particularly the persistent knowledge gaps related to participation and scale—is critical for designing and implementing sustainable and scalable pension schemes that meet the needs of the growing aging population. This paper draws from public documentation and literature to provide insights on key topics related to targeting and scaling pension schemes for informal sector workers. The review does not, by intention, investigate the financial and governance dimensions of pension design. While these factors are essential to pension scheme success, they have been explored elsewhere (see Guven, Jain, and Joubert 2021). However, the knowledge gaps around participation and scale emerged as the most pressing areas to explore. In so doing, the paper aims to inform future research and ultimately support the design and implementation of pension schemes that are well suited to informal workers.

Developing pension schemes dedicated to or inclusive of informal workers is a priority that requires global attention now.

Contributory Pensions for Informal Workers: Targeting the Missing Middle

The challenge of informality in saving for retirement

In LMICs, the prominence of informal employment poses formidable challenges for pension system design. While labor informality encompasses several correlated factors, the most relevant dimension for governments in designing pension policy is whether workers contribute to formal pension systems. In formal employment (including civil service), workers participate in contributory pension schemes where a portion of their salary is taxed in exchange for rights to future retirement payouts. However, workers who spend enough years in the public sector or in formally registered firms to accumulate adequate pension rights typically represent a minority—leaving a majority uncovered by such schemes. Some categories of workers, such as small firm employees or self-employed workers, are often exempt from government mandates to participate in social security. Yet whether a worker is exempt or noncompliant, the shortfall in pension revenue and the impact on old-age income security is the same. For the most part, this paper ignores that distinction. Further, labor informality is not only limited to what is usually understood as the informal sector (i.e., small unregistered firms, self-employed workers). Many registered firms also employ workers without

declaring them, and sometimes underreport their earnings. While the paper is concerned with all of these situations, appropriate strategies to increase pension scheme participation may differ in each case.

In particular, informality challenges the ability of LMICs to resource pension and social security programs financed through general tax revenue, such as social pensions⁴ (i.e., noncontributory schemes). Some countries have established universal social pensions (e.g., Bolivia, Mauritius, Nepal, South Africa), but in lower-income countries, higher rates of informality result in less tax collected and thus less tax revenue available for government-funded benefits. Therefore, while costs of social security programs for the elderly may appear reasonable as a percentage of gross domestic product (GDP), they account for a much larger share of both fiscal revenue and social protection expenditures. For instance, while Nepal's Senior Citizen's Allowance program accounted for approximately 1.3 percent of the country's GDP in 2022 (socialprotection.org n.d.), tax revenue in that same year was only 17.5 percent of GDP (World Bank n.d.). Pension costs as a fraction of tax revenue will balloon in the future as the number of beneficiaries grows and the proportion of active taxpayers shrinks.

4 A social pension is a cash transfer to elderly citizens, funded by the government rather than by individual contributions, designed to provide a minimum income for seniors who may not have sufficient income from other sources.

Additionally, from a lifecycle perspective, informality also hinders governments from efficiently targeting social pensions toward those most vulnerable. Administrative contribution records allow governments to track the lifetime incomes of formal workers and use that information to allocate noncontributory old age transfers to the neediest. In the case of informal workers, governments must assess vulnerability using alternative methods such as proxy means testing or community-based targeting (Tesliuc et al. 2008). Each method has specific limitations (e.g., Brown, Ravallion, and van de Walle 2018), but a fundamental challenge is how resources at the time of assessment may not reflect an individual’s lifetime earnings or economic vulnerability. For example, it is difficult to distinguish between those who could not save for old age and those who simply did not. This misalignment can even create perverse incentives where individuals intentionally undersave to qualify for benefits. Expanding contributory coverage helps governments improve their social pensions targeting by creating lifetime income records, allowing social pensions to better target the lifetime poor and ensuring effective use of limited fiscal resources.

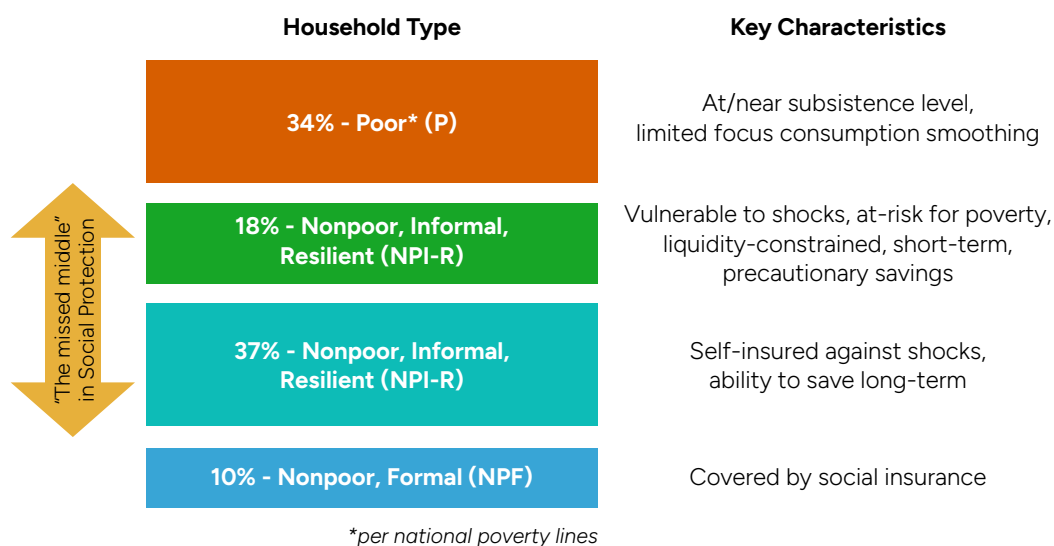
Innovations in domestic revenue mobilization can help increase government resources and subsequently their ability to finance such programs. However, even if fiscal

revenues were to increase in LMICs, demands on those resources are also likely to climb in the future due to various shocks, including those related to climate change. Further, bringing more individuals into the tax base may be even harder than encouraging individuals to make pension contributions, as individuals are more likely to contribute toward their own pension benefits than to pay taxes to the government without any perceived direct personal benefit. As such, fostering informal workers’ active and continued participation in contributory pension schemes is an essential component of extending pension coverage in LMICs. Importantly, it can also play a role in reducing social protection gender gaps as women are more likely than men to work informally and are more vulnerable to poverty in old age (Floro and Meurs 2009; Cameron 2019).

Identifying the missing middle

First and foremost, targets and scale ambitions for informal sector pensions must consider who has the capacity to build long-term savings. While contributory pensions are an essential tool for enabling elderly populations to retire comfortably, they are not always the right instrument for all informal workers (see Figure 1). The poorest and most vulnerable workers often need

FIGURE 1. **Characteristics of different household types**



Source: Guven, Jain, and Joubert 2021.

to hold on to their liquid income to manage short-term shocks rather than lock it away for decades. The old age needs of the poorest and most vulnerable may be better met through a combination of subsidized or noncontributory benefits (i.e., social pensions) and family support (see Box 1 for more details).

In cases where contributory pension schemes are available to the poorest and most vulnerable workers, these individuals may not be well-placed to participate in them. For instance, Rwanda's Ejo Heza

contributory scheme differentiates contribution rules and subsidies based on the government's Ubudehe categories, which capture poverty and vulnerability. The scheme allows even those in the most vulnerable categories to contribute. However, in acknowledging that more vulnerable contributors face greater barriers in contributing to long-term savings, the government offers a 100 percent matching contribution (up to a certain amount). The scheme also provides some insurance against short-term shocks, which can reduce liquidity constraints and increase the long-term saving

BOX 1. Family support networks

Families play an important role in supporting the elderly but they should supplement, not replace, subsidized or noncontributory benefits.

Many countries have a tradition of family support networks, but both demographic and sociological changes threaten the long-term viability of these informal networks. This shift can be seen across the globe. In Latin America and the Caribbean, shrinking demographics pose a threat to traditional family support mechanisms for the elderly (Aranco et al. 2022). In Asia, social norms emphasize family care of older people but these norms are weakening (Nguyen and Meira Simoes da Cunha 2019). For example, in 1950 in Japan, 65 percent of women expected to rely on their children in old age; by 1990, only 18 percent did (Ogawa and Retherford 1993). In Africa, family members are primarily responsible for providing care and financial support to older adults (Essuman, Agyemang, and Mate-Kole 2018), placing an economic burden on the family—especially women and girls (Kyomuhendo, Boateng, and Agyemang 2020).

Policymakers sometimes wrongly rely on the assumption that families are systematically able and willing to support their elderly. Policymaking in Asia reflects the perceived responsibility of the family to care for their elderly. In Vietnam, for instance, receiving a social pension can be conditioned on living alone without any family support (U.S. Social Security Administration n.d.). Further, some governments have tried to legally impose the responsibility of material

support for the elderly on their descendants (Kidd and Damerau 2016). For example, India's 2007 Maintenance and Welfare of Parents and Senior Citizens Act requires adult children to support their elderly parents and imposes penalties, including imprisonment and fines, on those who do not comply (Government of India 2007). Similar laws exist in Singapore and China. These policies also have gender implications: long-term care is still mainly the responsibility of female children, reinforcing gender inequalities, which impacts the overall economy.

In this context, subsidized or noncontributory benefits (e.g., social pensions) are more resilient than informal networks. Formal social protection can address the shortcomings of informal support networks. It does not exclude certain groups of people and is equipped to face covariate shocks. Further, formal social protection generally does not crowd out local systems of support (Calder and Tanhchareun 2014).

Additionally, such programs can have a positive spillover effect on younger generations. In Namibia, for example, households in which an older person is receiving a social pension spend more on education and health for children (Chepngeno-Langat et al. 2019). In the Philippines, individual nonwithdrawable savings accounts positively impact both household decision-making power for women and the self-perception of savings behavior, as well as savings amounts (Ashraf, Karlan, and Yin 2010).

capacity of more vulnerable households. Experience from Ejo Heza reveals how difficult (and likely undesirable) it is to encourage the poorest population categories to participate in long-term savings: while program enrollment and participation rates are high overall, the lowest Ubudehe categories contribute very small amounts and survey evidence indicates that participants would like more short-term liquidity, such as access to pension savings to cope with some economic shocks (Guyen and Jain 2023).

Rather, contributory pensions may be more appealing to informal sector segments that have more stable incomes and lower exposure to short-term shocks, in other words, the missing middle: those informal workers who have sufficient stability to save for the long term but currently are not doing so. Within this group, some informal worker segments are easier to target. Such workers include those with long-term contracting relationships with formal sector firms and those who work in specific occupations or industries with desirable properties (i.e., income stability, high levels of organization through professional associations) or are already quasi-formal (e.g., not registered with social security but registered with local authorities or licensed to operate).

Ultimately, governments should assess the proportion of informal workers that realistically can be incentivized to save for the long term and then determine the scale that can be achieved by a pension scheme targeting the informal sector. Self-reported willingness to participate is one way to estimate achievable scale. However, while this parameter is often high it usually fails to materialize. One study in India found that about 80 percent of respondents reported an interest in a baseline micropension product offered by the Indian government. On average, respondents reported a

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willingness to contribute INR 1,282 (about US\$26⁵) per year for an average of 17 years (Mitchell and Mukherjee 2017). An alternative approach to quantifying scale is to examine poverty and shock exposure patterns in the population. The number of households that are neither poor nor vulnerable to short-term shocks can approximate potential participants. One study applied this method in six African countries, finding that the size of this group was quantified at 37 percent of households, on average, for Benin, Kenya, Rwanda, Togo, Uganda, and Zambia (Guyen, Jain, and Joubert 2021). The implication is that better protection for vulnerable households against short-term risks can increase the pool of pension participants.

In summary, identifying wealthier, more organized, and/or quasi-formal segments of the informal sector can help governments more readily focus and scale contributory pension schemes for the sector before moving to harder-to-reach segments. For more vulnerable segments, protection from short-term risks may help encourage participation in contributory pension schemes, but overall they may be better supported through noncontributory benefits.

5 Indian rupee (INR) exchange rate calculated and reported by the authors.

The scale of the challenge

In recognizing the necessity of raising the active participation of informal workers in pensions, many LMICs have introduced and implemented various contributory pension schemes targeting such workers. Some countries have had partial success, but achieving significant gains in active participation remains a challenge in most countries despite some evidence

of success in China, Costa Rica, Rwanda, and Thailand (see Table 1 for coverage of informal sector pension programs in select countries). The Haba Haba scheme, for example, is a voluntary defined contribution scheme for informal workers in Kenya that struggles both with low uptake (3.4 percent of the informal sector population) and high account dormancy (81 percent of accounts labeled as inactive) (World Bank 2024b). Differences in participation rates across schemes

TABLE 1. Coverage of informal sector pension programs in select countries

Country	Program	Registered participants	Percent of employed population ^a	Percent active participants	Year	Source
Ghana	Pension Scheme for Cocoa Farmers	800,000 (targeted) ^b	6% (targeted) ^b	N/A ^b	2023	Dugbartey and Manso 2023
India	Atal Pension Yojana	80,000,000	14%	N/A ^c	2025	PFRDA 2025a
India	PM-SYM	5,135,000	1%	N/A ^c	2025	Kumar, KS, and Kalia 2025
Kenya	Haba Haba	538,373	2%	19%	2023	World Bank 2024b
Rwanda	Ejo Heza	3,811,618	79%	82% ^d	2024	Ministry of Local Government n.d.
Thailand	National Saving Fund	2,300,000	6%	57% ^e	2020	Sharpe et al. 2021
Thailand (pre-COVID-19 incentive^h)	Social Security Fund (Article 40)	3,240,000	8%	40% ^f	2019	Sharpe et al. 2021
Thailand (post COVID-19 incentive^h)	Social Security Fund (Article 40)	8,110,000	20%	10% ^g	2022	Komin et al. 2024

a Estimates of the employed population come from the ILOSTAT Data Explorer.

b Registrations started in 2023 but participation numbers and rates are not yet available.

c Information on active participants for the two Indian schemes was not found.

d Ratio of active participants was obtained from numbers reported in Guven and Jain 2023 and are from 2022.

e Ratio of active participants was obtained from numbers reported in Guven, Jain, and Joubert 2021 and are from 2020.

f Ratio of active participants inferred from the cohort-specific retention rates reported in Olken et al. 2024 and are from 2020.

g Ratio of active participants inferred from the cohort-specific retention rates reported in Olken et al. 2024 and are from 2022.

h For more details on the COVID-19 incentive, see "Example 3. Thailand: Sweetening the Deal through Matching Contributions," in the section entitled Existing Approaches to Covering the Informal Sector.

Source: Collated by the authors from multiple sources listed in the final column.

appear to reflect both implementation quality (e.g., ease of enrollment and of making contributions) and design features (e.g., allowing greater flexibility in contributions and withdrawals). However, there is still significant uncertainty as to what determines participation and what can be done to encourage participation in informal sector pension schemes.

Low participation in pension schemes is a major concern as it can create a vicious cycle. When fewer individuals contribute, fixed administrative and management costs cannot be efficiently spread out. As a result, these costs eat into each participant's investment returns, making the scheme appear less attractive. This, in turn, discourages further participation, reinforcing the problem and threatening the scheme's long-term sustainability. Haba Haba, for example, reported high administrative costs (equal to US\$7 per individual) for onboarding and outreach activities. Administrative costs for Rwanda's Ejo Heza scheme can also be high, as the low and irregular incomes of informal workers can translate into increased costs related to collecting and managing their contributions.

Other issues such as complex processes can further hinder schemes. Ejo Heza faces certain difficulties linked to an incentive structure that relies on Ubudehe categorization. For instance, despite a strong interoperable digital platform that connects the government national identification and social safety

net databases, a lack of integration between systems can cause missing information related to an individual's Ubudehe category⁶ and delays in category updates (Guyen and Jain 2023). Challenges such as these hinder consistent scheme participation and impact their financial sustainability.

Addressing key issues around participation and scale is crucial for developing scalable and sustainable contributory pension schemes that can effectively support the informal sector's aging population. How to do so, though, remains an unanswered question. Most existing schemes have yet to attract large and continuous participation. Country experiences also highlight many design questions that need testing in order to attract participation, including marketing, social norms, access to digital interfaces, access to agents, economic incentives, and more.

Addressing key issues around participation and scale is crucial for developing scalable and sustainable contributory pension schemes that can effectively support the informal sector's aging population. How to do so, though, remains an unanswered question.

6 In 2021, 13 percent of Ejo Heza subscribers were missing Ubudehe categorization.

Existing Approaches to Covering the Informal Sector

DESPITE THE CHALLENGES FACED WHEN designing pension schemes for the informal sector, there are some well-established and documented examples from LMICs. Scheme design varies, reflecting different strategies related to which populations to target and the perceived constraints to participation, as well as factors such as the implementing country's fiscal capacity, its existing social security architecture, financial sector development, and political preferences. The following examples illustrate some of the approaches adopted in relatively well-established and documented schemes and demonstrate design choices, including scheme type (DC vs. DB); registration, contribution, and withdrawal flexibility; investment choices; and more.

EXAMPLE 1 A Safe and Flexible Long-term Saving Instrument: Kenya's Haba Haba

Haba Haba ("bit by bit" in Swahili) was launched as a pilot in 2019 by Kenya's National Social Security Fund (NSSF) before its national rollout (World Bank 2024b).

The scheme utilizes a standard defined contribution⁷ approach where the state is only involved as a regulator and does not provide subsidies or guarantees. This strategy relies on the assumption that informal workers are willing to save if provided with a safe, long-term savings instrument, and that the main barrier to participation is the irregularity of their earnings and of their consumption needs.

The program accordingly provides more flexibility in both the frequency and levels of contribution and allows short-term funds withdrawals (under certain conditions) relative to programs targeting formal sector workers. Haba Haba provides full flexibility on when and how much an individual can contribute, with recommended savings of KSh 25 (US\$0.19⁸) per day. The annual minimum contribution is KSh 4,800 (approximately US\$37), with no penalty for failure to reach this target. However, contributors who do not meet the target are not eligible for short-term withdrawal benefits, which allow contributors to withdraw up to 50 percent of their fund balance if they have met their annual minimum contribution for a five-year vesting period. The remaining balance can only be withdrawn as a lump sum upon reaching the retirement age of 55, with benefits equal to

7 In defined contribution (DC) schemes, individuals contribute funds to an account, which are then typically invested. There is no guarantee of specific benefit amounts. Rather, upon retirement, contributors receive their account's balance, with any investment gains or losses taken into account.

8 Dollar equivalents are calculated using the exchange rate on June 30, 2025, where 1 U.S. dollar equaled 129 Kenyan shillings (KSh) (U.S. Department of Treasury n.d.). This same exchange rate is applied throughout the paper unless otherwise specified.

contributions plus accrued interest (World Bank 2024b). Contributions can be paid in person at NSSF offices or through the M-PESA mobile money platform (National Social Security Fund n.d.).

Despite easy registration and contribution processes, however, Haba Haba has not managed to sufficiently scale participation to support its large fixed administrative costs. Although registration only requires an individual's first and last name and government identification (ID) number, the scheme has seen insufficient uptake, with participation by just 3 percent of the informal sector's working population and large numbers of dormant accounts. As of June 2023, according to NSSF, approximately 500,000 participants were registered; 81 percent of those accounts were inactive. Also, average annual contributions were estimated at KSh 9,000 (US\$69.77) per contributor—about 3 percent of the GDP per capita (World Bank 2024b).

As of 2024, the NSSF did not differentiate its asset investment strategies between funds accumulated through Haba Haba and its formal sector pension scheme. However, since Haba Haba has a flexible withdrawal policy, unlike the formal sector pension scheme its investment strategy needs to ensure the scheme has sufficient liquidity to facilitate early withdrawals. As of 2024, the NSSF intended to separate its formal and informal sector investments as part of its upcoming strategic plan (World Bank 2024b).

EXAMPLE 2

Meeting Participants Where They Are: Reflecting Ubudehe Categorization in Rwanda's Ejo Heza

Ejo Heza ("a better future" in Kinyarwanda) was established by law in June 2017 by the Rwanda Social Security Board (RSSB) (Rwanda Social Security Board n.d.). The scheme is open to any Rwandan citizen, provided they have national identification issued by the National ID Agency, and offers incentives to encourage saving among informal workers.

Similar to Kenya's Haba Haba, the scheme provides flexibility on how much and when an individual contributes. Further, registration and contributions can be handled through multiple access channels, including in person at RSSB offices, by phone, or on the Ejo Heza website.

Notably, the scheme's built-in incentive system targets its poorest contributors. Ejo Heza utilizes the country's Ubudehe categorization—defined by local communities based on one's income, personal possessions, and general quality of life—to adapt rules and incentives for individuals (Sabates-Wheeler et al. 2015). For instance, the scheme provides a contribution-matching incentive of up to RWF 18,000 (US\$12.54⁹) per year for participants in Ubudehe categories three and lower (Rwanda Social Security Board n.d.; Rwanda Land Management and Use Authority 2019). The incentive serves to make saving more attractive to low-income workers.

- Ubudehe category one and two (U1, U2) individuals who save a minimum of RWF 15,000 (US\$10.45) receive a matching contribution of 100 percent (capped at RWF 18,000).

9 Dollar equivalents are calculated using the exchange rate on June 30, 2025, where 1 U.S. dollar equaled 1.435 Rwandan francs (RWF) (U.S. Department of Treasury n.d.). This same exchange rate is applied throughout the paper unless otherwise specified.

- Ubudehe category three (U3) individuals who save a minimum of RWF 18,000 receive a matching contribution of 50 percent (capped at RWF 18,000).

Individuals in categories U1, U2, U3, and U4 are also eligible for life and funeral insurance benefits under the scheme should they meet the minimum contribution for their category (Rwanda Land Management and Use Authority 2019).

Contributors qualify for a pension at the age of 55, with the balance divided into monthly payments over 20 years and adjusted for inflation (Asiimwe, Hitimana, and Uwanyiligira 2024). Ejo Heza also provides life insurance to spouses once they have completed a year of membership and saved at least RWF 15,000 (Rwanda Land Management and Use Authority 2019).

Ejo Heza has achieved a high participation rate, with 3.8 million registered participants in 2023/2024, accounting for 79 percent of the country's employed population (Ministry of Local Government n.d.). Accounts are generally active, with only 18 percent inactive (Guyen and Jain 2023). However, savings remain insufficient, with average savings ranging from RWF 9,000 to 12,000 (US\$6.27 to \$8.36) per year. According to a survey of 386 subscribers, 92 percent of members would like early withdrawal options (Guyen and Jain 2023).

EXAMPLE 3

Thailand: Sweetening the Deal through Matching Contributions

Thailand has no less than three schemes where informal workers can voluntarily contribute. Each has a DC design but offers different forms of economic incentives from the government.

Social Security Fund (SSF), Thailand's formal sector pension scheme, offers packages for informal workers who would like to participate in exchange for a lump sum equal to their contributions and accumulated interest upon retirement. Under the **SSF Article 40** scheme¹⁰, informal workers can choose between three contribution levels ranging from THB 70 to 300 (US\$2.15 to \$9.23¹¹) per month, with the government providing an additional THB 30 to 150 (US\$0.92 to US\$4.62) per month based on the package chosen. The cheapest package does not include the old-age benefit, which is unlocked by contributing more than THB 100 per month. The government also contributes an additional THB 10,000 (US\$307.69) to those who contribute at least THB 300 (US\$9.23) per month for 15 years under the most expensive package. Registration with SSF Article 40 gradually increased from approximately 1.3 million in 2012 to approximately 3.5 million in 2020. The scheme saw a huge increase in enrollment in 2020 when its members received a COVID-19 relief payment as well as a 60 percent reduction in their required monthly contribution, and registered members with old-age benefit coverage jumped to 8.1 million (Komin et al. 2024). However, only 7 percent of those who enrolled when the COVID-19 relief payment was offered were still contributing two years later (Olken et al. 2024).

In addition, the **Retirement Mutual Fund (RMF)** voluntary individual pension plan is available to informal workers but also open to formal sector workers who want to complement their SSF pensions. The Thai Government does not subsidize RMF pension contributions but does provide tax incentives after a five-year vesting period. Contribution frequency is flexible but must total at least THB 5,000 (US\$153.85) annually. If these requirements are not met, the individual must file an additional tax return to recalculate the associated tax burden for the year(s) in which incentives were received—and pay an additional

10 SSF Article 40 applies to all workers who are not covered by other mandatory pension schemes.

11 Dollar equivalents are calculated using the exchange rate on August 1, 2025, where 1 U.S. dollar equaled 32.5 Thai baht (THB) (Board of Governors of the Federal Reserve System [U.S.] n.d.a.). This same exchange rate is applied throughout the paper unless otherwise specified.

amount of tax as well as a 1.5 percent surcharge per month of the total tax due (Bureau of Legal Affairs, Revenue Department 2017).

A third scheme, the **National Savings Fund (NSF)**, specifically targets low-income informal sector workers, allowing for low contributions with government subsidies in exchange for a lifetime pension computed with a simple formula. The minimum annual contribution is only THB 50 (US\$1.54) and the maximum THB 13,200 (US\$406.15). The Thai Government matches contributions with a cap, and the benefit is a lifetime monthly pension equal to the accumulated savings in member accounts divided by 240. For low savings accumulations, a minimum pension amount is paid until the funds run out (Palacios and Jain 2021).

EXAMPLE 4

The Appeal of Guaranteed Benefits: India's Atal Pension Yojana and Pradhan Mantri Shram Yogi Maan-dhan

India has two schemes that allow voluntarily contributions by informal workers. Both have a guaranteed benefit design but differ in scheme eligibility.

Atal Pension Yojana (APY) was launched in May 2015 and operationalized the following month to address India's twin challenges of longevity risks and lack of retirement security among its vast unorganized workforce. Announced in the country's 2015–2016 budget, the scheme was designed to encourage voluntary savings for retirement by offering defined pension benefits linked to joining age and contribution amount. The scheme is administered by the Pension Fund Regulatory and Development Authority (PFRDA) through the National Pension System (NPS) architecture.

Eligibility is open to all Indian citizens between 18 and 40 years of age who have a savings bank account or post office savings bank account (Pension Fund Regulatory and Development Authority n.d.a.).

APY features a straightforward design that offers subscribers five guaranteed monthly pension options ranging from INR 1,000 to 5,000 (US\$11.42 to \$57.12¹²) at age 60, with predetermined contribution amounts based on the subscriber's entry age and chosen pension level. Unlike DC schemes where benefits depend on market performance, APY provides government guaranteed minimum pension benefits (i.e., if actual investment returns fall short of assumptions, the government funds the shortfall while any excess returns are credited to subscribers' accounts) (Pension Fund Regulatory and Development Authority 2020). The scheme requires a minimum contribution period of 20 years, with contributions made through automatic debit from bank accounts on monthly, quarterly, or half-yearly intervals. To enhance accessibility, the government initially provided each eligible new subscriber who joined between June 2015 and March 2016 a matching incentive of 50 percent of the subscriber's contributions or INR 1,000 per annum (whichever is lower) for five years—provided they were not covered by other statutory social security schemes and did not pay income tax (Press Information Bureau 2025).

For lower income informal workers with limited financial literacy, APY's simple contribution schedule and guaranteed retirement benefits offer significant advantages over traditional DC schemes that involve investment risk and uncertainty. APY eliminates the complexity of investment choices and market risk assessment that typically characterize DC schemes, instead providing a clear, predictable relationship between contributions and benefits that workers can easily understand and plan around. This simplicity is particularly valuable for informal workers who may lack the financial sophistication to navigate

12 Dollar equivalents were calculated using the exchange rate on August 1, 2025, where 1 U.S. dollar equaled 87.54 Indian rupees (INR) (Board of Governors of the Federal Reserve System [U.S.] n.d.b.). The same exchange rate is applied throughout the paper.

investment options or assess risk-return tradeoffs, while the government guarantee provides security that market-linked schemes cannot offer. The scheme boasted more than 80 million subscribers in July 2025 (Pension Fund Regulatory and Development Authority 2025a), with women accounting for 55 percent of new enrollees in 2024–2025 (which totaled 11.7 million individuals overall) (Pension Fund Regulatory and Development Authority 2025b).

The **Pradhan Mantri Yogi Maan-dhan** (PM-SYM) scheme uses a similarly defined benefit design to APY but explicitly targets low-income informal workers. Launched in February 2019, PM-SYM is administered by the Ministry of Labour and Employment and implemented through the Life Insurance Corporation of India.

Eligibility for PM-SYM is narrower than APY. PM-SYM is open only to Indian citizens 18 to 40 years of age who are categorized as unorganized workers and earn a monthly income of INR 15,000 (US\$171.35) or less. This approximately corresponds to the bottom 15 percent of the population. Further, recipients cannot be engaged in an organized sector, pay income tax, or be covered under other existing pension schemes (Government of India n.d.).

Monthly contribution amounts are defined by the government based on an individual's age upon entry into the scheme. They can range from INR 55 (US\$0.63) for those who join at 18 years of age to INR 200 (US\$2.28) for those who join at 40. Contributors qualify for a pension at 60 years of age, with a minimum assured pension of INR 3,000 (US\$34.27) per month. In case of death, 50 percent of the pension is given to the surviving spouse (Government of India n.d.).

PM-SYM allows flexible withdrawals. If a participant has contributed for 10 years or less, their share is returned with a savings bank interest rate. If contributions have been made for more than 10 years, the maximum between accumulated interest earned by the fund and the savings bank interest rate is returned (Government of India n.d.).

Overall, PM-SYM has seen lower uptake than APY. As of May 2025, approximately 5.1 million unorganized workers were enrolled in the scheme (Kumar, KS, and Kalia 2025). Further, a report by the Indian Institute of Public Administration recommended that the income limit for an eligible subscriber should be increased to INR 18,000 (US\$205.62) per month and the entry age range be expanded from 18 to 40 years of age to 18 to 50 years of age (Mohapatra n.d.).

EXAMPLE 5 Targeting the “Organized” Informal Sector: Pension Scheme for Cocoa Farmers in Ghana

The implementation of Ghana's **Cocoa Farmers Pension Scheme** represents the culmination of a decades-long journey that began with legislative intent but faced significant implementation challenges. Section 26 of the Ghana Cocoa Board (COCOBOD) Law 1984 originally mandated COCOBOD to establish a contributory insurance scheme for cocoa farmers within the framework of the Social Security Scheme. Yet for 40 years, various governments failed to give this law the necessary support to become a reality (Quainoo 2024). The delay was attributed to divergent factors, including lack of political will by successive governments and the widely informal nature of operations within the Ghanaian cocoa sector, which made it extremely difficult to obtain the credible data necessary for scheme implementation. However, this changed when President Nana Addo Dankwa Akufo-Addo finally launched the scheme on December 1, 2020, fulfilling the 36-year-old legislative provision and targeting over 1.5 million cocoa farmers across the country (Ghana Cocoa Board 2021). The scheme's rollout began in three districts in the 2022–2023 crop season, with national scale-up planned for the 2024–2025 crop year (Quainoo 2024).

The scheme's contribution and benefits structure creates a comprehensive retirement framework tailored to the unique circumstances of cocoa farmers. Farmers make a mandatory contribution of 5 percent of their cocoa sales at the point of produce sale, with additional voluntary contribution options of 2.5, 5, 7.5, or 10 percent beyond the mandatory amount (Quainoo 2024). COCOBOD supplements these contributions with at least 1 percent of the farmer's produce value, demonstrating institutional commitment to the scheme's success (Quainoo 2024). The contribution allocation system strategically divides total contributions, with 25 percent credited to a "Personal Savings Account" and the remaining 75 percent to a "Retirement Account" for each registered farmer (Ghana Cocoa Board 2021). Farmers receive their Personal Savings Account balance as a lump sum upon retirement, then monthly pension payments from their Retirement Account balance over 15 years, providing both immediate financial flexibility and long-term income security (Ghana Cocoa Board 2021).

COCOBOD's sponsorship may help establish trust and credibility in the newly launched scheme and facilitate farmer participation. As the established regulatory and marketing authority for Ghana's cocoa sector, COCOBOD has maintained decades-long relationships with cocoa farmers and communities. This existing relationship could eliminate much skepticism and many of the barriers to adoption that typically plague new financial products introduced by unfamiliar institutions.

The integration of contributions into the existing cocoa sales process represents perhaps the most innovative aspect of the scheme's design, leveraging Ghana's established cocoa marketing system to ensure seamless participation. Contributions are automatically deducted at the point of sale through a specially designed purchasing app integrated into the Cocoa Management System (CMS), eliminating the need for farmers to make separate payments or visit different locations (Ghana Cocoa Board 2021). The approach capitalizes on the fact that cocoa sales already represent a farmer's primary income source and occur through established channels,

making contribution collection both convenient and reliable. The system removes traditional barriers to pension participation (e.g., irregular income timing, transportation costs to make payments, the administrative burden of managing separate financial obligations), instead embedding pension contributions into a farmer's existing economic activities.

The CMS provides a robust technological and informational foundation that makes scheme interactions efficient while capturing crucial data about farmers' earning capacity and circumstances. The CMS successfully registered 792,954 cocoa farmers (Ghana Cocoa Board 2024), along with their household information and geographic details of their cultivated areas, creating a comprehensive database that facilitates targeted scheme administration and benefits calculation. The system enables easy farmer identification, tracks contribution history, and contains detailed information about the individual farmer's production levels and earnings capacity, allowing for personalized benefit projections and financial planning (Ghana Cocoa Board 2023b). The CMS also establishes pay points in communities to facilitate safe benefits access, sparing seniors from traveling long distances, while its integration with mobile technology and apps ensures that even farmers in remote areas can effectively interact with the scheme (84 percent of Ghanaians living in rural areas own mobile phones) (Klapper et al. 2025). Despite initial challenges, including app usage issues and internet connectivity problems, pension deductions have proceeded smoothly at equipped depots, demonstrating the system's practical viability and potential for nationwide scaling beyond the pilot districts of New Edubiase, Wassa Akropong, and Tarkwa (Quainoo 2024).

While these examples are not an exhaustive list of existing schemes, they provide insights into key design questions and tradeoffs that governments must consider when designing and/or expanding such schemes (see Box 2 for additional insights on other approaches to increasing pension coverage). The following section explores these design questions in more detail.

BOX 2. Other approaches to increasing pension coverage

Beyond adapting pension scheme rules to attract informal workers—the focus of this paper—it is worth mentioning three additional approaches to expanding pension coverage:

1. Removing exemptions and improving enforcement of existing obligations to contribute

Legislation commonly exempts self-employed workers and small and medium enterprises (SMEs) from the obligation to participate in social security programs, including pension schemes. This choice may reflect a country's limited capacity to enforce such obligations or the belief that existing programs are not appealing to those working in lower wage and less stable forms of employment. Recent research further shows that registered firms that are legally required to participate commonly employ workers informally or underreport their earnings (Ulyssea 2018; Samaniego de la Parra and Bujanda 2024). Sometimes workers and firms collude to avoid contributions when future social security benefits are valued below the cost of contributions. In other cases employers fail to pay contributions—unbeknownst to their employees.

Recent technological innovations in tax collection (e.g., identification capacity, electronic systems for collecting and processing contribution data, risk-based audit selection, automatic detection of suspicious contribution patterns) hold promise to improve the ability of LMICs to enforce pension contribution mandates (Okunogbe and Tourek 2024), particularly if pension system rules are also adapted to appeal to informal workers. Efforts to expand coverage to informal workers should therefore consider revisiting contribution exemptions and strengthening enforcement systems together with optimizing pension design.

2. Simplified tax regimes for micro and small enterprises: Brazil's SIMPLES Nacional

Another approach to increasing pension coverage is to incentivize the formalization of small informal firms through simplified tax and social security contribution

regimes. Brazil's **SIMPLES Nacional** (National Simplified Tax Regime) is a consolidated tax regime specifically designed for micro and small enterprises (MSEs), allowing businesses with annual revenues up to BRL \$4.8 million (approximately US\$880,000^a) to pay multiple taxes through a single monthly payment. Under the regime, social security contributions are integrated into a simplified tax calculation, with rates varying based on a company's revenue bracket and business activity. SIMPLES Nacional consolidates various federal, state, and municipal taxes, including social security contributions for employers. For social security purposes, companies under SIMPLES Nacional often contribute at reduced rates compared to the standard 20 percent employer contribution rate, with the exact percentage determined by their total revenue and sector-specific annexes that define the tax calculation methodology.

Employees of SIMPLES companies receive the same social security benefits as those working for larger enterprises, including access to retirement pensions, unemployment insurance, and family benefits. The regime's design recognizes that small business owners and their workers often face financial constraints that make standard contribution rates prohibitive; the reduced rates thus help maintain social security coverage.

This strategy is not without risks. First, firms may limit their growth in order to remain eligible for the regime, which could reduce formal job creation down the road—a phenomenon known as the Peter Pan syndrome. In addition, such regimes can have a negative net effect on fiscal and social security revenue despite increasing firm registration. This is due to some formal firms that otherwise would have participated in the regular regime switching to the simplified regime (Rocha, Ulyssea, and Rachter 2018).

BOX 2. Other approaches to increasing pension coverage (continued)

3. Shorter-term commitment savings schemes

Locking income in pension accounts for decades may be unrealistic or even harmful for populations facing strict liquidity constraints and severe short-term savings shocks, as previously discussed. On the other hand, being able to protect income from theft or demands from family members can be valuable even in these contexts. One approach is to introduce shorter-term commitment savings products as a “gateway” to pension saving.

A recent example is Pakistan’s **BISP Bachat Saving Scheme**, launched in 2023 (Associated Press of Pakistan 2023). The scheme represents an innovative initiative under the Benazir Income Support Programme (BISP), which was designed to promote financial inclusion and savings habits among the country’s most vulnerable populations. BISP Bachat participants deposit PKR 500 to 1,000 (US\$1.76 to \$3.51^b) monthly in their bank accounts and receive an additional 40 percent contribution to their savings from BISP. The scheme has a two-year commitment period, at the end of which participants can withdraw their entire amount; they cannot withdraw the principal during the two-year period. This structure creates a disciplined savings framework while offering substantial government incentives to encourage participation among low-income households that might otherwise struggle to maintain regular savings habits without external support and structured commitment mechanisms.

For low-income informal workers in Pakistan who face severe liquidity constraints, the scheme’s two-year commitment period offers a practical entry point into formal financial planning. Unlike traditional pension schemes that require decades-long commitments, the two-year timeframe is

better suited to accommodate the irregular income patterns and immediate financial pressures that can characterize informal work. These workers often cannot afford to lock away funds for extended periods due to frequent income volatility, family emergencies, and seasonal employment patterns. The scheme’s shorter commitment period reduces the psychological barrier to participation while still encouraging regular savings habits, making it more likely that workers will begin engaging with formal financial products rather than solely relying on informal savings methods or remaining entirely outside the financial system. The 40 percent government bonus is designed to overcome the opportunity cost concerns that typically prevent low-income households from committing to structured savings plans.

The BISP Bachat Scheme purports to serve as a steppingstone toward broader pension coverage and cultivate a culture of systematic saving among Pakistan’s informal workforce (Adil and Guven 2024). By starting with a manageable two-year commitment that aligns with workers’ immediate capacity and comfort levels, the scheme could build financial literacy, establish trust in formal institutions, and demonstrate the tangible benefits of disciplined saving through the attractive government bonus structure. As participants experience success with the scheme and see their savings grow substantially through the 40 percent incentive, they may become more likely to graduate to longer-term pension products and increase their contribution levels. The scheme creates an accessible pathway for informal workers to begin building financial assets and develop saving behaviors that can eventually support their transition to more comprehensive retirement planning products.

a Dollar equivalents are calculated using the exchange rate on June 30, 2025, where 1 US dollar equaled 5.478 Brazilian real (BRL) (U.S. Department of Treasury n.d.). The same exchange rate is applied throughout the paper unless otherwise specified.

b Dollar equivalents are calculated using the exchange rate on June 30, 2025, where 1 U.S. dollar equaled 284.8 Pakistani rupees (PKR) (U.S. Department of Treasury n.d.). The same exchange rate is applied throughout the paper, unless otherwise specified.

Designing Pensions for the Informal Sector

GOVERNMENTS MUST GRAPPLE WITH many questions as they design informal sector pension schemes, and there is no one-size-fits-all solution. Design choices come with tradeoffs that must be managed for scheme sustainability. Key questions highlighted in the earlier examples include:

- The tradeoffs between defined contribution (DC) schemes and defined benefit (DB) schemes
- Levels of flexibility in contributions and withdrawals
- Integrating informal sector pensions within a country's broader pension architecture
- Incorporating economic incentives into schemes

Each of these design options offers certain benefits and challenges for governments and must be considered accordingly. The following section lays out these tradeoffs and related considerations. However, before tackling these design questions, governments must ensure that certain levels of macroeconomic and political conditions are satisfied for pension scheme expansion to informal workers to become feasible or desirable.

Enabling conditions

Regardless of scheme design, public pension systems ask individuals to trust governments with large amounts of their savings for decades. The stability

of institutions and political and macroeconomic conditions are prerequisites to building this trust. Hyperinflation can rapidly diminish the purchasing power of accumulated savings and pension contributions, rendering retirement accounts nearly worthless. This can severely undermine individual incentive to save and to trust pension schemes. Pension funds typically hold large amounts of bonds and fixed-income securities; hyperinflation can erode the real value of these instruments, reducing fund solvency and forcing pension managers into risky investment strategies (Holzmann and Hinz 2005). The implicit commitment contracted by a state toward pension affiliates¹³ must also be transferred and honored from one administration to the next, which can be rendered difficult by excessive political instability. Finally, an existing pension architecture must be financially sound before pension coverage can be expanded (World Bank 1994; Aiyer 1997). Adding new contributors to an unsustainable pension system may improve its finances in the short term and can therefore be a tempting fix for pension administrators. However, it can be disastrous in the long term as the system's unsustainable implicit debt balloons. Ensuring that these enabling conditions are in place is crucial because once the population's trust is lost it is extremely difficult to regain.

¹³ Pension affiliates are individuals who are registered with the scheme and typically have contributed at least once.

Implementing a well-functioning pension scheme (or other social protection scheme for the informal sector) also requires a good administrative and economic infrastructure, including digital platforms (e.g., social registries, payment systems), identification systems, and a suitable domestic market to invest funds. It also requires a balanced investment approach that focuses on government securities and diversified assets, cash-in cash-out (CICO) agent networks, strong governance approaches, etc. Further reflections around operationalizing informal sector pensions such as questions related to asset management and program governance are not covered in this paper as they have been discussed elsewhere (see, for example, Guven, Jain, and Joubert 2021).

Key Takeaway: Governments can only ask informal workers to participate in pension schemes if countries will be in a position to honor their claims by the time participants retire. Macroeconomic and institutional stability, as well as the necessary physical and digital infrastructure, are crucial prerequisites to the creation of new pension schemes and the expansion of existing schemes, as negative experiences can have long-lasting impacts on a population's trust and participation.

Level of flexibility in contributions and withdrawals

The previous examples of approaches adopted in relatively well-documented schemes provide some insights into specific design features that, in theory, are suited to making informal sector pension schemes more appealing to informal workers. Key design features include flexibility in the size and frequency of contributions as well as flexibility in withdrawals.

Both Kenya's Haba Haba and Rwanda's Ejo Heza allow for flexibility in contributions (i.e., size and frequency). While Haba Haba sets a minimum annual contribution,

contributors are not penalized for failing to reach it. Rather, if they do not meet the target they are not eligible for short-term withdrawal benefits. Ejo Heza also allows flexibility in how much and when an individual contributes, although matching benefits are contingent on a minimum amount saved (as defined by their Ubudehe category). The limited penalty for not meeting minimum requirements is an important way that informal sector pension schemes can align with the small and volatile cash flows of informal workers.

Many schemes also recognize the utility of enabling flexibility in funds withdrawal. Haba Haba allows for withdrawals up to 50 percent of an individual's fund balance after a five-year vesting period, provided they meet an annual minimum contribution limit of US\$37 for five years. PM-SYM allows flexible withdrawals. In a 2022 phone survey of Ejo Heza subscribers, 92 percent of respondents said they would prefer partial access to their Ejo Heza savings, with 52 percent indicating they would prefer 30 to 50 percent fund access (Guyen and Jain 2023). This design feature seems to meet the needs of low-income individuals who may have little other savings.

However, while flexibility appears to be a desired feature in these scheme examples, a key tradeoff exists between offering workers more flexibility around contributions and withdrawals during the contribution phase and stronger guarantees on retirement payouts. In surveys and focus groups, informal workers cite both contribution flexibility and payout guarantees as desired pension scheme features (Miti et al. 2021). However, from a government perspective, offering payout guarantees can involve risky financial commitments unless they are conditioned on relatively rigid contribution schedules and limited withdrawal options. Conversely, allowing for flexible contributions and withdrawals while guaranteeing a minimum payout creates a moral hazard whereby workers may feel incentivized to reduce their contributions and collect the minimum pension.

Key Takeaway: Pension schemes for informal workers benefit from flexibility in contributions and withdrawals, which aligns with the small, irregular cash flows of low-income earners and is highly valued by participants. But greater withdrawal flexibility limits the ability of governments to offer guaranteed retirement payouts without exposure to significant fiscal risks or moral hazard.

Guaranteeing payouts? The tradeoffs between defined contribution and defined benefit schemes

Pension schemes can be designed as either defined contribution (DC) or defined benefit (DB). Each design type offers distinct benefits and limitations, especially when targeting informal workers.

In DC schemes, individuals contribute funds to an account, which are then typically invested in financial markets. These programs offer informal workers safe, long-term savings vehicles they may not always find available in the private financial sector. There is no guarantee of specific benefit amounts. Rather, upon retirement, contributors receive the balance of their account, accounting for any investment gains or losses. They may be allowed to purchase term annuities or, less frequently, life annuities, although these markets are rarely well developed in poorer or smaller countries. DC schemes designed with informal workers in mind often provide some flexibility in the timing, amount, and frequency of contributions to cater to individuals with low and irregular incomes.¹⁴ Partial withdrawals may be allowed after a vesting period, striking a balance between providing some liquidity, maintaining a commitment value, and allowing for some investment

in higher return, longer-dated assets. Such schemes can be administered either privately or publicly but are usually subject to regulation by the national pension regulatory body. They can promote regular savings behavior by providing a structured, safe, long-term savings instrument—without imposing high costs on the state (Card and Ransom 2011). In countries with limited fiscal resources, DC schemes can be a way to mobilize resources to finance social protection systems (OECD 2024). Examples of DC schemes that target informal workers include the Mbao Pension Plan¹⁵ and Haba Haba in Kenya, and Ghana’s Social Security and National Insurance Trust (SSNIT).

Some programs augment basic DC schemes by introducing financial incentives to contribute. These take the form of governments topping up or matching worker contributions, either for specific target groups or until a target amount is reached. Schemes with such provisions tend to have stricter rules regarding withdrawals, resulting in contributors facing a tradeoff between precautionary savings and pension savings. As such, the incentives created by these subsidies may be offset by the decreased flexibility around withdrawal options, especially for participants who are most worried about short-term shocks and liquidity constraints. Relative to schemes with guaranteed or defined benefits, subsidizing contributions using matching rules offers more control over expenses for governments that can adjust matching levels and do not bear the risk of guaranteed benefits. Examples of subsidized DC schemes include Ejo Heza and the National Savings Fund in Thailand.

DB schemes, on the other hand, promise participants a specific monthly or lump sum payment upon retirement. Some schemes targeting informal sector workers offer a minimum assured pension in exchange for meeting minimum contribution requirements. Participants are offered a simple path toward old

¹⁴ India, for instance, allows late regularization of contributions for those who have not regularly contributed. Argentina allows late contributions to enable contributors to reach the minimum 30-year vesting period.

¹⁵ Kenya launched the Mbao Pension Plan in 2011 to expand pension coverage to informal workers.

age financial security: a simple schedule of minimum payments in exchange for a fixed and predictable payout that provides a stable income stream later in life. They do not have to anticipate financial returns on complex assets or understand the widely misunderstood concept of compound interest (Song 2020). This can be a very important consideration in settings with low financial literacy (Hartley and Abels 2025). The simplicity and guarantees these schemes offer are strong incentives for workers to participate—at least up to the minimum eligibility requirements. However, they also imply significant, long-term financial commitments for governments and participants. APY and PM-SYM in India are examples of the DB type of scheme. In some DC schemes, such as Mongolia’s Pension Insurance Scheme, most informal sector participants pay only the minimum contributions needed to qualify for the minimum pension, using it *de facto* as a DB scheme.

Different design choices resonate with different population segments, even within the informal worker segment. Offering guarantees (e.g., matching contributions, DB schemes) could help increase informal worker participation in pension schemes. However, when implementing schemes with matching subsidies or minimum pension guarantees, governments need to assess the related fiscal commitments originating from such design choices. A safe, flexible, long-term savings instrument (i.e., a DC scheme) may be appealing to relatively wealthier segments of the informal sector, while a simple contribution path toward a small, guaranteed pension (i.e., a DB scheme) could attract participation by lower-income populations with lower levels of financial literacy. It could also attract women participants.¹⁶

Key Takeaway: Pension schemes for informal workers must balance flexibility, simplicity, and fiscal sustainability. DC schemes offer safe, flexible savings vehicles that mobilize resources without heavy state costs while DB schemes provide simple, guaranteed payouts that are attractive to lower-income groups, those with limited financial literacy, and women.

Integrating informal sector pension schemes within the broader pension architecture

Schemes that target informal workers must be designed to smoothly interact with the other components of the pension architecture, including existing mandatory schemes for formally employed workers and noncontributory old age benefits.

As previously discussed, offering higher degrees of flexibility in contributions and withdrawals may encourage informal worker participation. Other parameters often differ between schemes targeting formal and informal workers. For example, contribution and benefit levels are typically adjusted downward. The annual minimal contribution for Haba Haba is KSh 4,800 (approximately US\$37), yet no penalties are imposed for failure to reach that target. Contributions to the PM-SYM scheme range from INR 55 to 200 (US\$0.63 to \$2.28), depending on the individual’s age upon entering the scheme.

¹⁶ Minimum pension guarantees typically contribute to closing the pension gender gap, as women are more likely to work part-time or discontinuously, as long as a scheme does not require an overly long contribution period for eligibility.

Further tailoring schemes to fit the earnings profiles, risk exposure, and preferences of specific occupations could also potentially increase participation. For instance, workers in more physically taxing industries might value earlier access to pension benefits, whereas workers in occupations that exhibit strong income seasonality could benefit from ad hoc contribution schedules. Schemes that target specific industries or trades can leverage existing structures (e.g., professional associations or cooperatives) to facilitate many aspects of program delivery, such as identifying and recruiting or collecting contributions. As previously discussed, the Ghana Cocoa Board pension scheme collects farmers' contributions at points-of-sale via the CMS mobile app, instantly sending mobile notifications to contributors. The minimum 5 percent contribution is deducted from each sale, aligning contributions with farmers' income schedules (Ghana Cocoa Board 2023a).

However, there are downsides to fragmenting the pension system into multiple sub-schemes. First, administering several smaller-scale schemes can increase costs and threaten system sustainability. Further, if contributions and accumulated rights are not portable in cases of professional mobility, this could reduce participation and limit the transition of informal workers into formal employment or across occupations. Fragmentation could also prevent schemes from cross-insuring against shocks related to demographic and labor market evolutions or investment performance, increasing the probability that some schemes fail.

The tension between tailoring and fragmentation can be resolved, to an extent, by customizing those elements of pension scheme infrastructure that are most important to encourage uptake and use of pension schemes by informal workers while keeping other elements common across all schemes. For instance, tailoring front-office interfaces—how participants are recruited and enrolled as well as how and when they can contribute—can ensure that schemes are easily accessible to informal workers. On the other hand, keeping back-office infrastructure (e.g., information systems, asset investment, scheme

governance) common to all pension schemes reduces the administrative burden and costs for governments.

Another important pragmatic consideration to maintaining a formal and informal sector pension scheme that specifies different rules is how current formal pension schemes are often financially unsustainable, in that promised benefits are not commensurate with contribution levels given a population's current or projected demographic structure. Simply expanding coverage of these schemes would have a detrimental long-term impact on a country's finances by implicitly promising unfunded benefits to a broader share of the population. In particular, pension coverage expansion to the informal sector cannot be a short-sighted strategy to improve the finances of unsustainable formal sector schemes by adding more active contributors without an eye to long-term fiscal implications. Instead, coverage expansion should go hand-in-hand with parametric reforms of formal sector schemes to ensure their sustainability.

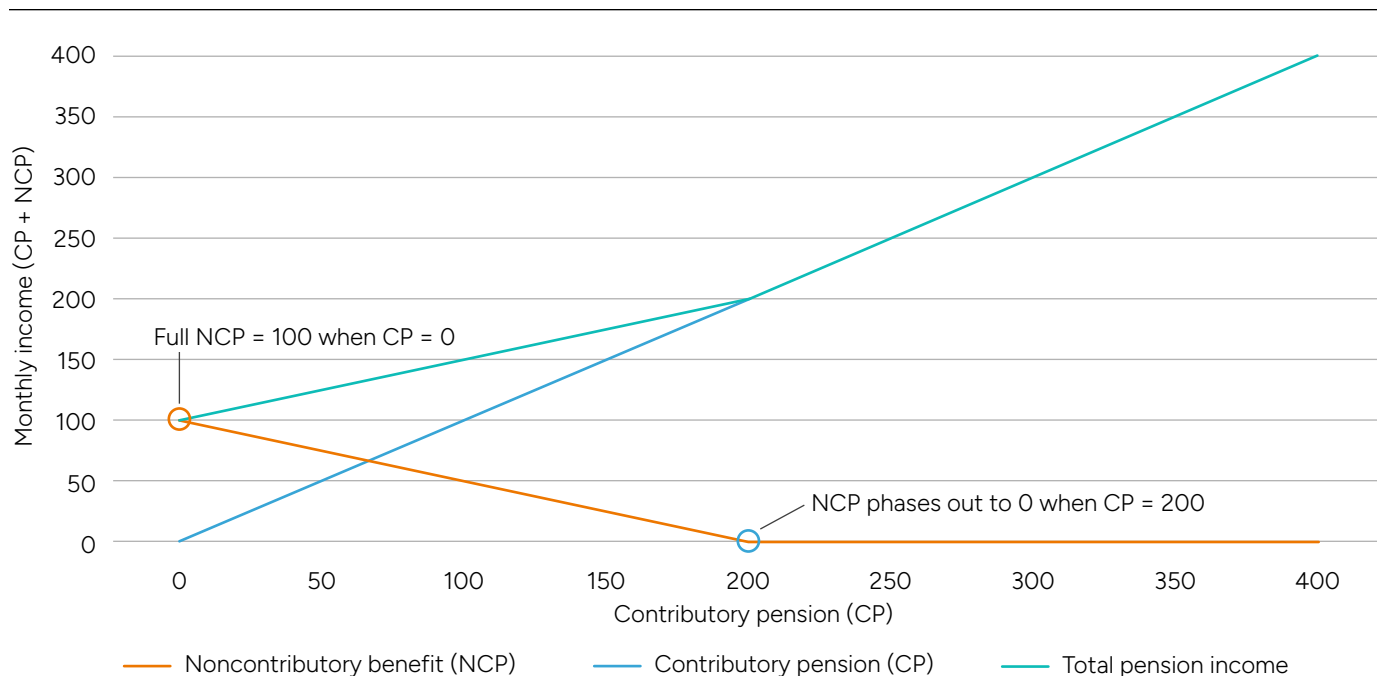
On the other hand, the perception of a two-tiered system, with a highly subsidized formal sector scheme and a "leaner" version for informal workers, may be unfair and politically undesirable in the long term. Some countries, including China and Thailand, give informal workers access to a menu of participation levels where promised benefits increase with the chosen level. Such menus could also include voluntary participation in the formal sector scheme itself. It is paramount to allow the portability of pension rights accumulated under different (formal and informal) schemes and to ensure that rules encourage eventual formalization.

Regardless of scheme design, the poorer segments of the informal sector are unlikely to accumulate enough resources to sustain their old age consumption needs. Therefore, as laid out earlier, a combination of contributory and noncontributory schemes is needed to eliminate old age poverty. Some countries have already integrated informal sector contributory schemes into their broader architecture, which also includes formal pension schemes and noncontributory

social pensions. For example, the Chinese New Rural Pension System (recently merged into the Basic Endowment Insurance for Urban and Rural Residents) consisted of a basic pension and a subsidized DC component (Huang and Zhang 2021). The basic pension was noncontributory for older cohorts, provided they enrolled their descendants, and available to younger cohorts once they reached 60 years of age, provided they contributed for at least 15 years—thus resembling a DB scheme. The DC component offered a range of possible contribution levels, incentivized with varying government matches (Chen, Hu, and Sindelar 2020). In terms of overall integrity of the broader pension architecture, the integration of contributory and noncontributory components can help address the low contributory capacity of certain informal workers by enabling a smooth taper rate that progressively withdraws noncontributory benefits as contributory benefits increase, thus strengthening the pension system overall (see Figure 2).

Key Takeaway: Pension schemes for informal workers face a tradeoff between tailoring and integration. Occupation-specific rules regarding contributions, withdrawals, and delivery mechanisms can boost participation, but excessive fragmentation risks increasing administrative costs, portability problems, inequities, and fiscal strain. A partial solution involves customizing front-end features to specific worker groups while maintaining common back-office systems. Pension design should also ensure the portability of rights accumulated during formal and informal periods of employment and ensure that noncontributory transfers do not disincentivize contributory participation.

FIGURE 2. **Integrated pension architectures gradually taper out noncontributory benefits to reduce disincentives to contribute**

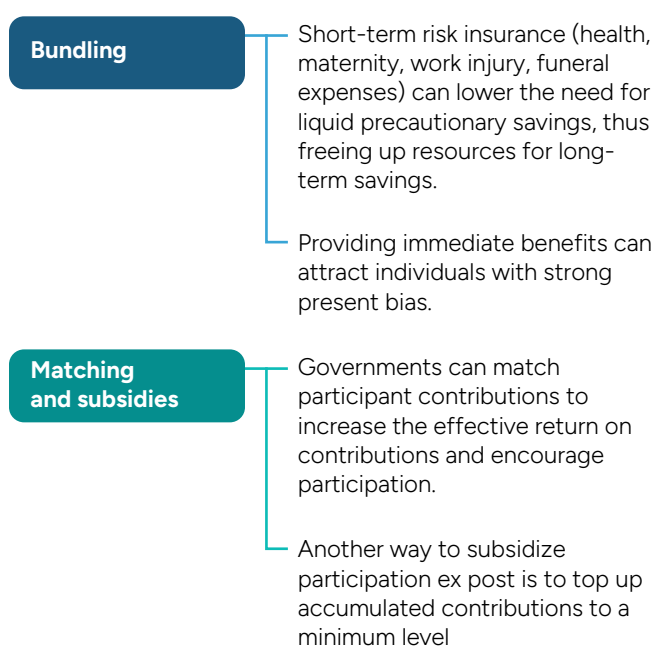


Source: Authors.

Economic incentives to boost participation

Most countries challenged by high informality and aging populations also operate in constrained fiscal environments. Yet economic incentives can pay for themselves if they are designed to reduce reliance on costly noncontributory schemes. Economic incentives to save can be provided by bundling participation in pension programs with short-term benefits (e.g., healthcare, maternity, work injury, funeral expenses), matching contributions, and/or subsidizing participation *ex post* through minimum pension levels that require vesting periods (see Figure 3).

FIGURE 3. Economic incentives to save



BUNDLING PENSIONS WITH SHORT-TERM INSURANCE BENEFITS

Life insurance or survivor pensions are often included among the benefits offered in exchange for pension contributions. Ejo Heza, for instance, provides life insurance to spouses of contributors after a year of membership and savings of RWF 15,000 (US\$10.45) (Asiimwe, Hitimana, and Uwanyiligira 2024). PM-SYM offers the surviving spouse a “family pension” worth

50 percent of the contributor’s pension (Government of India n.d.). In Zambia and Côte d’Ivoire, where workers contribute 5.4 percent and 9 percent of their wages, respectively, survivor pensions are also offered (Government of Zambia 2019; ISSA 2022). In high-income countries, such survivor pensions have been used to help reduce the pension gender gap although they also bind women to marriages, as their retirement income depends on staying married. Alternatives to survivor benefits in high-income countries include splitting pension credits in cases of divorce—as implemented in Germany’s public retirement scheme in 1977 (Kreyenfeld, Schmauk, and Mika 2022)—or even pension credit sharing during a marriage (Klerby, Larson, and Palmer 2019).

Health and disability insurance are occasionally offered together. The Union of Informal Workers Associations in Ghana, which initiated an independent pension scheme for its members, permits the withdrawal of funds in the event of invalidity, referring to it as an “invalidity benefit.” In Kenya, the NSSF and National Health Insurance Fund promoted a package specifically targeting taxi drivers through a partnership with informal sector leaders. In this bundled scheme, members paid KSh 60 (US\$0.47) a month, split as follows: KSh 18 (US\$0.14) for NHIF health insurance, KSh 25 (US\$0.19) toward the Haba Haba scheme, KSh 2 (US\$0.02) as a split transaction charge, and the remaining KSh 15 (US\$0.12) as membership fees (World Bank 2024b).

Similarly, in Zambia, the pension scheme for informal workers includes an invalidity pension and maternity benefits. These benefits are contingent upon either meeting a minimum requirement of 10 years of contributions or benefit-specific criteria. For invalidity pension benefits, individuals must be below the retirement age of 60, have made at least five years of contributions and at least 12 contributions in the three years leading up to the invalidity, and have a medical declaration of invalidity. If members do not meet these requirements, they are instead eligible for a lump sum payment. For maternity benefits, female members must

have made at least 12 contributions in the three years leading up to a child's birth. Additionally, 24 months must pass between births and members may only claim this benefit up to six times (National Pension Scheme Authority n.d.). Côte d'Ivoire also provides temporary benefits for maternity, sickness, and work injuries under its informal workers scheme (ISSA 2022).

Integrating microloans with pension schemes could benefit informal workers. The Indian Institute of Public Administration (Mohapatra n.d.) suggests including microcredit in PM-SYM to help stabilize contributions despite income fluctuations. Credit can help low-income individuals to smooth consumption and avoid negative coping mechanisms, such as pulling children out of school, by providing a financial buffer that enhances their ability to absorb shocks. However, if faced with frequent covariate shocks, these positive effects can be diluted or become negative (CGAP n.d.). But this potential bundle has yet to be tested and its potential benefits remain theoretical.

As the examples above illustrate, contributory pension schemes can be bundled with other schemes. The content of such packages should be locally driven and designed according to the preferences and needs of local communities. While the approach seems promising, the impact of bundling on participation in contributory pension schemes has not been evaluated. This is an area of research worth exploring to better understand how best to bundle pensions with other benefits in different contexts.

ECONOMIC INCENTIVES: MATCHING AND SUBSIDIES

There is consistent evidence that salaried workers participating in pension systems respond to financial incentives and to the link between contributions and benefits (Giles, Joubert, and Tanaka 2025). For example, in systems where pension benefits are computed based on wages earned in the last few years before retirement, researchers have identified significant wage underreporting earlier in individuals' work lives (Kumler, Verhoogen, and Frías 2020).

However, evidence from schemes targeting informal workers remains sparse. A recent experiment in Thailand suggests that low rates of ongoing participation are not due to behavioral, administrative, or informational barriers but rather to low valuation of a scheme's benefits (Olken et al. 2024). In Mongolia, reducing the minimum number of contributions required for herders to obtain a minimum pension significantly raised participation, suggesting that a 10 percent increase in the ratio of expected benefits to contributions (aka the "money's worth" of contributions) increases participation by up to 19 percent (Giles, Joubert, and Tanaka 2025). In China, higher basic and incentive pensions boosted participation, with contributors gaining an extra 1 percent in their pension per year beyond the mandatory 15 years. By contrast, increasing the maximum subsidy had no effect on participation or contributions (Lin and Zhang 2020). These results suggest that potential participants are attentive and responsive to the monetary value of contributing to pension schemes and that matching may be a larger incentive for low-income individuals, given their limited cash flows.

Indeed, many schemes attempt to increase the economic value of participation by offering government-funded matching contributions to supplement those made by participants. Matching systems vary widely, reflecting uncertainties in their optimal design. In Turkey, the government matches 30 percent of participants' annual contributions to the country's private pension system (up to 30 percent of the annual gross minimum wage) (U.S. Social Security Administration 2022); Pakistan matches 40 percent, up to an annual maximum matching contribution (Adil and Guven 2024); and matched contributions for Thailand's SSF Article 40 and NSF schemes vary, depending on selected packages (Palacios and Jain 2021). Criteria and objectives also differ. For instance, Thailand's SSF Article 40 requires minimum monthly contributions of BT 70, 100, or 300 (depending on the participant's chosen package) and accordingly matches at amounts ranging from BT 30 to 150 (Palacios and Jain 2021). Rwanda implements needs-based matching: 100 percent (capped at RWF 18,000) for the poorest

(Ubudehe categories 1 and 2), 50 percent (capped at RWF 18,000) for Ubudehe category 3, and no matching incentive offered to Ubudehe category 4 (Guyen, Melis, and Jain 2023). Countries also distribute incentives in the form of tax breaks. In 2002, for instance, Chile expanded its income tax deductions for voluntary contributions to social security savings by informal workers (Yazigi 2003).

While the effect of matching contributions on savings is theoretically ambiguous (Madrian 2013), both theory and existing empirical results from wealthier countries suggest the effect should be positive¹⁷ at the low levels of participation found in most informal sector pension schemes. The literature on individual retirement accounts in the United States finds that matching significantly impacts participation from low- and middle-income families. Increasing the match rate from 0 to 20 percent of contributions increases savings plan participation by 5 percentage points, and increasing the match rate from 20 to 50 percent of contributions increases participation by 6 percentage points (Duflo et al. 2006). Further, a higher match increases the amounts contributed by low-income individuals but decreases contributions for middle- and high-income individuals (Huberman, Iyengar, and Jiang 2007). Increasing the match rate has a positive effect on contributions but only up to a point, after which the effect becomes negative (Papke 1995).

Evidence on the impact of matching on participation in pension schemes in LMICs is so far limited to self-reported intentions to participate. In a survey of potential participants in India's National Pension System's micropension scheme, increasing the match rate from 100 to 150 percent boosted intended contributions by 10 percent, while reducing it to 50 percent decreased intended contributions by 30 percent. The matching rate did not affect intended participation (Mitchell and Mukherjee 2017).

Finally, on the question of whether a minimum pension guarantee attracts increased participation, to the authors' knowledge there is also no available evidence regarding how the payout phase affects participation. Focus group discussions suggest that guaranteeing a given pension level in retirement would be appealing to participants (Miti et al. 2021), particularly if it lasts until death and therefore provides longevity insurance. However, some participants may favor the flexibility afforded by a single lump sum payment upon retirement.

Importantly, such design choices related to economic incentives require careful calibration. Minimum pension provisions can reduce incentives to contribute above the minimum. On the other hand, contribution matching by governments can help preserve incentives to participate above the contributive minimum. If the contributive part of the pension system is fully cannibalized by the minimum pension so no one contributes above the minimum, the cost of the scheme may become fiscally unsustainable. Thus, the net fiscal cost may be relatively low if governments can help reduce the number of participants who rely on the minimum pension. More research is needed to assess the overall effectiveness and optimal calibration of matching provisions and the impact of different levels of minimum guarantees. And regardless of design choice, frequent actuarial monitoring of overall pension architecture is paramount.

Key Takeaway: Matching contributions or minimum pension guarantees can boost participation but they also create long-term fiscal commitments that governments must carefully manage. And while the literature suggests individuals are attentive and responsive to economic incentives, making these incentives cost-effective requires careful calibration and experimentation. In addition, bundling pensions with short-term insurance or credit is a theoretically promising but yet-to-be-tested approach to increasing informal workers' participation in pension schemes.

¹⁷ In technical terms, matching produces a substitution effect (less current consumption and more saving, i.e., future consumption), but also an income effect, which goes in the opposite direction. At low participation levels, however, the substitution effect theoretically dominates.

Delivering Pensions to the Informal Sector

TO DELIVER PENSION PROGRAMS TO formal sector workers, governments can leverage employers to serve as intermediaries—registering new participants, communicating with them, implementing default contribution decisions, and collecting contributions through payroll deductions—thus minimizing administrative frictions that might discourage participation. Employers, particularly larger firms, may be subject to penalties if they do not enforce participation mandates on behalf of their employees. In the absence of registered employers, delivering pensions to the informal sector in a way that achieves sufficient scale raises thorny implementation questions around enrollment and encouraging ongoing participation. The first concerns the most efficient way to identify and recruit participants and collect their contributions. For instance, what is the most effective way to communicate to informal workers about pension schemes? How can existing networks and organizations be leveraged to reach potential participants and facilitate enrollment? How can administrative steps be streamlined to enhance the informal worker’s enrollment and contribution experience of such schemes? The second question on implementation focuses on how to encourage regular contributions by removing behavioral obstacles to participation, such as lack of institutional trust, scheme complexity, present bias, and more. This discussion does not include other elements related to pension program delivery, such as those pertaining to the payout phase, as they present similar challenges whether participants worked formally or informally.

Recruiting participants and collecting contributions

Recruiting informal workers into formal schemes—even those that target the informal sector—presents unique challenges due to informal workers’ invisibility to government administrations, necessitating creative and multifaceted strategies for effective outreach, enrollment, and contribution collection. Some techniques to recruit informal workers into formal pension schemes and encourage their continued participation include promotional campaigns, leveraging existing networks, incentivizing local aggregators, and simplifying contribution procedures.

PROMOTIONAL CAMPAIGNS

Education and information sharing can encourage pension scheme participation, with efforts to educate potential participants about a program contributing to increased registrations. For instance, rural workers in China (Giles et al. 2021) strongly responded to information when enrolling in pension and health insurance schemes. In a study involving 6,500 households in rural China, the treatment group received information on the scheme’s costs and benefits. This intervention led to a 4 percentage point increase in enrollment for young informal employees, which corresponded to a 27 percent increase from a starting point of 15 percent. The estimated welfare gains from information campaigns for the pension and health insurance schemes were found to be 2.8 to 5.1 times the costs, on average (Giles et al. 2021).

In other cases, top-down promotional campaigns to raise awareness and encourage enrollment among informal workers have come with significant financial burdens and produced varying degrees of effectiveness. Public promotional campaigns, such as those on billboards or water tanks, have been implemented across various schemes but their impact on recruiting participants for pension programs remains unevaluated. In the case of Haba Haba, while in-person conversations were noted as a promising outreach strategy, the World Bank identified two key challenges with the in-person marketing events: (i) their high costs and (ii) the reduction in consistent engagement (World Bank 2024b). Additionally, in some instances (e.g., Haba Haba) the communication around schemes for workers in informal employment is not sufficiently differentiated from formal sector schemes, leading to confusion. However, when implemented well, such campaigns can be an important information mechanism for informal workers. In fact, Thailand's Social Security Office (SSO) ran awareness-raising campaigns outside markets to help informal workers understand the costs and benefits of joining SSF Article 40. Contributors noted that the presence of SSO staff in local communities was helpful in promoting and encouraging informal worker participation in the scheme (Komin et al. 2024).

Roadshows, festive events, and in-person meetings are also key vectors for enrollment. In 2022, India organized a week-long celebration of PM-SYM (Mohapatra n.d.). Additionally, about 42 percent of Rwandan respondents in a 2019 survey indicated they were aware of Ejo Heza through mobilization activities and roadshows (Guyen and Jain 2023). In Kenya, the NSSF has even borne the cost of foregone wages for members of informal associations to attend meetings, during which NSSF provided information about the Haba Haba scheme and supported registration (World Bank 2024b).

Social media and digital channels are increasingly leveraged, but not yet to their full potential. Targeted campaigns have been attempted with varying success, such as the Haba Haba team reaching peri-urban and urban areas via Facebook and radio announcements

(World Bank 2024b) and India encouraging enrollment by sending SMSs to eligible beneficiaries registered under e-SHRAM, a centralized government database of informal workers (Mohapatra n.d.). However, in Rwanda, none of those participating in a 2022 survey had heard of Ejo Heza through social media (Guyen and Jain 2023). Moreover, despite social media's promise—given the geographical mobility of informal workers, growing social media use (with over 60 percent of the world's population active on social media), and successful social media campaigns in sectors such as public health (Afif, Lim, and Vakis n.d.)—the authors are not aware of any official public documentation on tailored social media strategies or attempts to leverage targeted ads or partnerships with social media influencers in LMICs. Yet these newer modalities (e.g., influencers) have the potential for enhanced outreach and some financial authorities are starting to experiment with them. The Dominican Republic's pension authority, for instance, used influencers to share information about an educational platform designed to inform users about saving for retirement (Dominican Republic Live 2024). Further, some high-income countries are experimenting with the use of influencers to reach younger audiences, including the Netherlands (BPL Pensioen scheme) and Canada (OPSEU Pension Trust) (Conway 2025; Bailey 2025). Media coverage on BPL Pensioen's use of *finfluencers* (financial influencers) notes increased social media engagement but does not examine the impact of such strategies on overall recruitment (Conway 2025). Further research on the impact of recruiting through such figures is needed.

LEVERAGING EXISTING NETWORKS TO RECRUIT PARTICIPANTS

Existing informal worker networks can be leveraged for outreach, providing a more grassroots approach to recruitment and contribution collection. Professional organizations in the informal sector have been used as points of contact for recruitment, ensuring uptake by a minimum number of people. For example, Haba Haba in Kenya targeted transport services workers and market vendors due to their robust organizations and sizable membership (World Bank 2024b), while

over 60 percent of current Ejo Heza members in Rwanda were enrolled through cooperatives (Güven and Jain 2023). Workers' organizations also helped register Thai informal workers in the SSF Article 40 scheme, with such organizations serving as useful spaces for peer support and encouraging regular contributions (Komin et al. 2024). In the case of Haba Haba, the NSSF could do even more to strengthen relationships with informal sector associations. An assessment of the Haba Haba pilot found no evidence that branches¹⁸ fostered relationships with informal sector associations (World Bank 2024b). In some countries, governments have established schemes for select, highly organized sectors, such as the pension scheme for cocoa farmers in Ghana discussed earlier (Ghana Cocoa Board 2023a, 2024).

Additionally, agricultural cooperatives can play a significant role in recruiting members to participate in pension schemes by auto-deducting the committed saving amount at the time of harvest (Güven and Jain 2023). As such, partnering with organizations that can auto-enroll applicants and/or auto-deduct contributions has the potential to be transformative (World Bank 2024b).

These kinds of professional organizations and associations are well positioned to encourage pension scheme participation as they can systematically offer their members a product and provide an accessible way to contribute. Further, platforms such as those used by gig workers can play a similar role. Research shows that platforms can play a key role in offering their workers financial services, such as insurance and savings (Anand and Murthy 2023), and that social insurance is highly valued by these workers. A study in Malaysia found a mismatch between social insurance protection desired and provided through freelance gig work: 66 percent of respondents stated that pension income is very important, yet 63 percent reported they did not have access to a pension and respondents were

willing to receive a lower income in return for regular pension contributions (Abdur Rahman, Ghorpade, and Jasmin 2023). As of July 2025, the Malaysian government was set to introduce a bill to safeguard the welfare and rights of gig workers, including requiring gig platforms to contribute to the Employees Provident Fund for gig workers (Asia News Network 2025). Similar policies are being discussed in countries such as Brazil (Reuters 2024). There is a need for research on these newer types of networks, including gig work platforms, and on engagement techniques (e.g., referral incentives) for these alternative outreach modalities.

However, many informal workers are not organized. Less than 10 percent of microenterprise owners in West Africa, for instance, report being part of an association, and only specific sectors (e.g., tailors, mechanics and auto dealers, truck drivers, personal care providers) exhibit high membership rates (Joubert and Beegle 2025). This is especially true for women, who are less likely to participate in business associations (Joubert and Beegle 2025). Thus, other highly trusted channels may serve as better options for recruitment. Mechanisms designed to enhance financial inclusion could be leveraged. For example, financial institutions (e.g., microfinance institutions) that seek to serve low-income populations have strong outreach capabilities and experience in reaching informal workers (Güven 2019). Women often participate in rotating savings and credit associations (ROSCAs), which may be a better outreach and delivery system option for them. Additionally, technologies that have advanced financial inclusion in past years (e.g., mobile money, digital payments) could be an important vehicle for enhancing participants' ability to make contributions, as mobile money and mobile wallets make transferring money quicker, cheaper, and easier (Güven 2019). Lastly, leveraging the influence of religious and traditional leaders, in particular, is also a promising option for enhancing enrollment. For instance, a study in Tanzania explored whether sharing

18 Branches are county-level entities of the NSSF. They have strong targets and performance measurement frameworks for the NSSF's formal sector pension scheme but lack the same for Haba Haba.

information on tax revenue use promoted voluntary tax compliance and found that providing such information increased participants' compliance—but only when the information was delivered by a religious leader, as compared to when the information was delivered by tax officials (Vietz and Sjørusen 2025).

INCENTIVIZING LOCAL AGGREGATORS

Governments often rely on existing incentivized local aggregators to interface with potential participants as they can serve as crucial trusted links between formal schemes and informal workers. For instance, CICO networks could play this role as their service points are locations where customers can convert e-money into cash and cash into e-money. Different types of CICO networks exist, including bank branches; ATMs; and banking, mobile money, and other types of agents. They are efficient and already deployed in many countries (Hernandez et al. 2020). In India, 70 percent of the population lives less than five kilometers from a CICO location, and in Kenya, the network has been expanding since the country's Competition Authority ordered Safaricom to open the M-PESA network to competitors in 2014 (Hernandez et al. 2020). In fact, one of the key features of Kenya's Mbao Pension Plan targeting low-income informal workers is its ease of contribution via mobile phone, highlighting the role mobile network operators (MNOs) can play in facilitating pension contributions (Güven 2019). Haba Haba also allows contributions via M-PESA (National Social Security Fund n.d.).

Additionally, post office networks can play a role in encouraging pension scheme participation. Given their widespread coverage, especially in rural and poorer areas, post offices are an effective channel for enhancing access to financial accounts. Earlier research found post offices relatively more likely than traditional financial institutions to provide account access to financially vulnerable individuals, including low-income communities, individuals with lower education levels,

and those not in the workforce (Anson et al. 2013). As such, postal networks could be used to collect pension contributions. India's APY scheme, for example, is implemented through departments of post in addition to various types of banks¹⁹ (Pension Fund Regulatory and Development Authority n.d.a.).

Aggregators have also consistently played an important role in India's pension schemes targeting the unorganized sector. Aggregators played a significant role in the country's National Pension System (NPS)-Lite, a DC scheme for workers in the unorganized sector. The scheme, which was launched in 2010 and ceased accepting new enrollments after the APY scheme's launch (Pension Fund Regulatory and Development Authority n.d.b.), leveraged two outreach platforms: (i) aggregators like microfinance institutions, nongovernmental organizations, and self-help groups, and (ii) official "Points of Presence" appointed by PFRDA (Hartley and Abels 2025). Additionally, India's PM-SYM conducts in-person registration at Common Services Centers, which are vital locations for numerous government and nongovernment services (Mohapatra n.d.). Such examples demonstrate the potential of using aggregators.

It is difficult to determine the right level of incentives for local aggregators. In Rwanda, local governments have targets in terms of number of new savers and total savings but the outreach incentives for agents are insufficient (Güven and Jain 2023). In India, the earlier NPS-Lite scheme paid aggregators at least INR 50 (US\$0.57) per enrollee, with certain volume bonuses available (Palacios and Sane 2013). In Kenya, partnering with organizations that can auto-enroll and/or auto-deduct contributions is a promising strategy that could be used for Haba Haba. NSSF's conversations with mobile money operators and banks with strong networks were noted as a step in the right direction in 2024 (World Bank 2024b).

¹⁹ Including public sector banks, private banks, regional rural banks, small finance banks, payments banks, and cooperative banks.

SIMPLIFYING CONTRIBUTION PROCEDURES

Traditionally, formal workers' contributions to pension schemes are linked to their salaries. However, as demonstrated above, informal workers' contributions are often left to their own discretion, enabling them to account for seasonal income fluctuations, manage shocks, etc.

Some alternatives to this model are starting to be explored. Brazil's previously described SIMPLE Nacional program is one example. Kazakhstan is another, as the country recently began bundling pension contributions and taxation payments for informal workers. In 2019, the government launched Single Aggregate Payment (SAP)—a special tax regime that aims to simplify the tax system for informal workers. Under SAP, informal workers pay a unified payment (halved for rural workers), with 30 percent going to pensions, 40 percent to health insurance, and 30 percent to income tax and social insurance contributions (World Bank 2023). Given the newness of the scheme, empirical evidence around this bundle's impact is not available and thus highlights an interesting knowledge gap.

Key Takeaway: Leveraging a mix of old and new network types (e.g., cooperatives, business associations, social media influencers, gig platforms) can help lower the costs of recruiting informal sector workers to pension schemes relative to costly top-down promotional campaigns. In general, ease of enrollment and contribution can play a critical role in enabling informal worker pension scheme participation. Allowing access to schemes via in-person and telephonic channels seems to ease barriers to participation. Lastly, using networks that are familiar, trusted, and accessible offers opportunities to better reach informal workers and encourage their continued participation in pension schemes.

Lifting behavioral and social obstacles to ongoing participation

Once a participant has been recruited to a program, enabling and incentivizing their ongoing participation is crucial to accumulating adequate pension rights and ensuring the program's long-term viability. Most schemes reviewed for this study exhibit large numbers of dormant or inactive accounts, suggesting that it is easier to recruit new participants than to ensure they keep consistently contributing to a scheme.

To date, a number of approaches have been used to support ongoing participation, although with mixed success. It must be noted that the evidence on behavioral obstacles to participation in pensions among informal workers is sparse and so far has not measured long-term impacts. This is due, in some part, to the infancy of these schemes.

One approach, the use of reminders or nudges (Karlan et al. 2019), was tested through a randomized control trial involving 390,000 subjects in Colombia. Of the study's participants, 240,000 were treated with three types of message framing, either making retirement feel vivid and present, making retirement feel visible and common, or reducing the sense of loss associated with saving. Among these 240,000 participants, 155,000 participants also received a savings goal message. Messages designed to aid individuals in overcoming common behavioral barriers did not significantly outperform standard reminders, while participants who also received savings goal messages saved more than other study participants; in particular, those participants with lower savings goals (compared to their own savings behavior the year before) saved more frequently.²⁰ However, the long-term effects were minimal as the impact of the reminders vanished once the SMS messages stopped. Additionally, attempts

20 Individuals who received savings goal messages were assigned high, medium, and low saving goals, based on each individual's savings habits from the previous year. Individuals with lower goals saved more frequently than individuals who set high or medium goals, although individuals who set high goals saved higher amounts.

to activate people who had registered but never contributed through phone calls showed low impact.

Azuara Herrera et al. (2021) reviewed evidence on a comprehensive series of pilot behavioral interventions conducted by the Inter-American Development Bank, including text reminders and push notifications, automatic contributions by specific groups such as taxi drivers, social media campaigns, and simplified information provision. Overall, the interventions show effectiveness in getting individuals who already voluntarily contribute to pension schemes to increase their participation, but the impacts remain small and short-lived. In addition, these strategies have so far not been effective at increasing the pool of voluntary savers. Gars et al. (2025) and Akbas et al. (2016) confirm that reminders can effectively increase participation among existing savers. The small impacts identified in this emerging literature may stem from the simultaneous interaction of several behavioral obstacles. Future research should test more comprehensive interventions to identify what works before focusing on optimization, calibration, and cost-effectiveness. In addition, the existing literature is heavily skewed toward Latin America. Given that cultural norms around retirement saving and institutional contexts may be strongly region- or country-specific, evidence from different regions is also needed.

Key Takeaway: There is limited evidence on how different behavioral obstacles interact to shape pension participation. Because multiple barriers often operate simultaneously, addressing them in isolation is unlikely to yield substantial impact. Although initially more costly, comprehensive interventions should be tested to identify which combinations are most effective. Once promising solutions are better understood, efforts can shift toward reducing costs and refining delivery at scale.

Conclusion

EXPANDING ACTIVE PARTICIPATION IN pension programs among informal workers is critical to reducing old age poverty in a fiscally sustainable way. Contributory pensions for those able to save can ease the growing fiscal pressures of noncontributory schemes and mitigate the rising burden on shrinking cohorts of family supporters. Macroeconomic and institutional stability, supported by adequate physical and digital infrastructure, are prerequisites; negative experiences can erode trust and depress participation for decades.

The central challenge is scale. Pension programs must attract sufficient participation to deliver meaningful benefits and remain financially viable, yet participation among informal workers has proven difficult to secure. Achieving broad coverage at sustainable fiscal cost requires careful attention to scheme design. This paper surveys global experiences to extract key design questions and highlight persistent knowledge gaps.

Sound pension design must reflect the heterogeneity of informal workers' economic circumstances. Flexibility in contributions and withdrawals suits low-income earners with irregular cash flows, but excessive flexibility undermines the ability of governments to provide guaranteed retirement income without creating fiscal risks or moral hazard. More successful models, such as Rwanda's Ejo Heza and China's Basic Endowment Insurance, acknowledge the diverse circumstances of informal workers by subsidizing low-income contributors while offering higher earners a reliable savings vehicle. Yet even these examples leave unanswered questions about which elements of design and implementation drive their relative success.

Other experiences—in Kenya, Thailand, and beyond—underscore unresolved challenges in targeting, recruitment, behavioral and social barriers, and incentive calibration. From this evidence, four takeaways emerge:

1. **Prioritize easier-to-reach groups first.** Targeting relatively wealthier, organized, or quasi-formal segments can help establish scale while protecting more vulnerable groups against short-term risks may gradually draw them into the system.
2. **Leverage informal sector networks, old and new.** Cooperatives, business associations, gig platforms, and even social media influencers can reduce recruitment costs and foster trust, often more effectively than top-down campaigns.
3. **Optimize economic incentives.** Workers respond to economic incentives, but they must be cost-effective. Interactions with existing formal sector pensions and social pensions must be considered to minimize distortions. Promising but undertested approaches to incentivize participation include bundling pensions with credit or short-term insurance to alleviate liquidity constraints.
4. **Comprehensively address behavioral and informational barriers.** Piecemeal interventions often fail because multiple obstacles (e.g., informational, psychological, administrative) operate simultaneously. Integrated approaches combining incentives, administrative support, and personalized nudges are more likely to succeed and should be rigorously tested.

Ultimately, building scalable and sustainable informal sector pensions requires a new wave of applied research and experimentation. Despite useful global examples, robust empirical evidence on what drives participation remains scarce. By addressing these gaps and tailoring innovations to country-specific contexts, governments can create pension systems that meaningfully cushion informal workers against the economic challenges of population aging.

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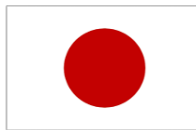
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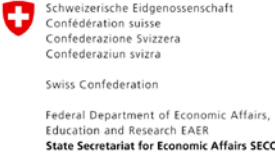
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