SAVING THE NEXT BILLION FROM OLD AGE POVERTY

global lessons for local action

EDITORS

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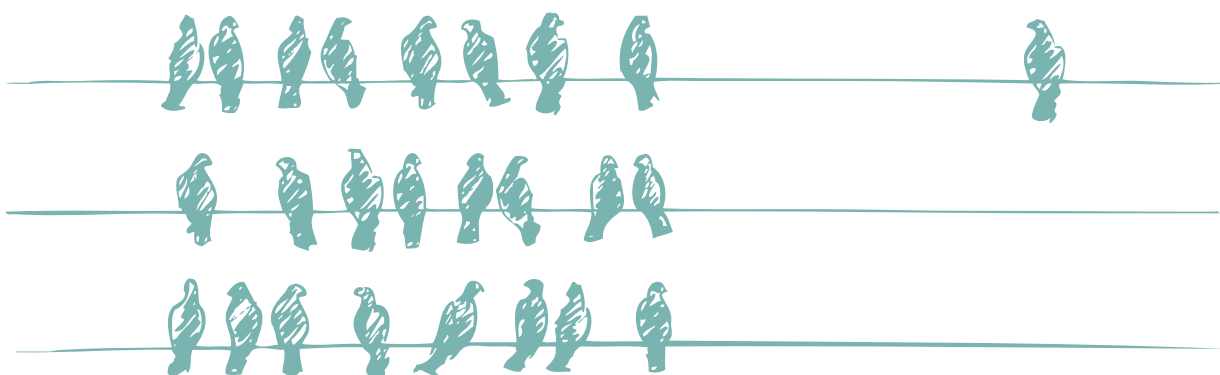WILLIAM PRICE

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14
NATIONAL ID SYSTEMS AND
PENSION INCLUSION

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INTRODUCTION

In this chapter, we will examine why it is critical to establish the identity of an individual, how identity varies in robustness across countries, and how different countries included in this volume have dealt with establishing identity. We will discuss also how important national identification cards or numbers (national IDs) are, and how they deliver benefits far beyond their core purpose of identifying individuals.

After looking at the issue of identity itself, this chapter will look at the role of a national ID in defined benefit (DB) and defined contribution (DC) pension programs based on individualized accounts targeted at formal sector salaried workers. We will briefly examine how a national ID is used by pension systems, how it significantly increases efficiencies in all the different stages of the provisioning of pensions, and how it can be leveraged to reduce costs and, in turn, help improve pension system performance and replacement rates.

We will also discuss the role of national IDs in voluntary pension programs targeted at informal or semi-formal workers. Some specific examples will be discussed to illustrate how the national ID and technology has been combined in some countries covered in this volume to achieve mass-scale voluntary enrolments and for integrating informal and formal sector pension programs.

Finally, we will look at how national ID-based universal auto enrolment has been used to address some of the challenges in informal sector pension programs, how it has been implemented, and the synergies that can help consolidate a national pension agenda.

OVERVIEW OF
IDENTIFICATION SYSTEMS

While the development of civil registration and identification has a long history, it has evolved much more rapidly throughout the world over the last few decades. The adoption of a national ID by countries has followed suit due, in part, due to a clearer understanding of the needs to establish the identity of individuals for a larger national agenda. The global movement toward establishing a national ID has been spurred also by the adoption and use of new and more recent technology solutions, including the integration of national databases with electronic services. This has helped countries leverage identity registries for providing a number of other essential services to citizens. Figure 14.1 shows how civil registration has had a long steady growth, and how national IDs, especially digital, or e-IDs, have been evolving rapidly in recent decades.

Figure 14.1
Civil Registration and Identification Trends (1960-2014)
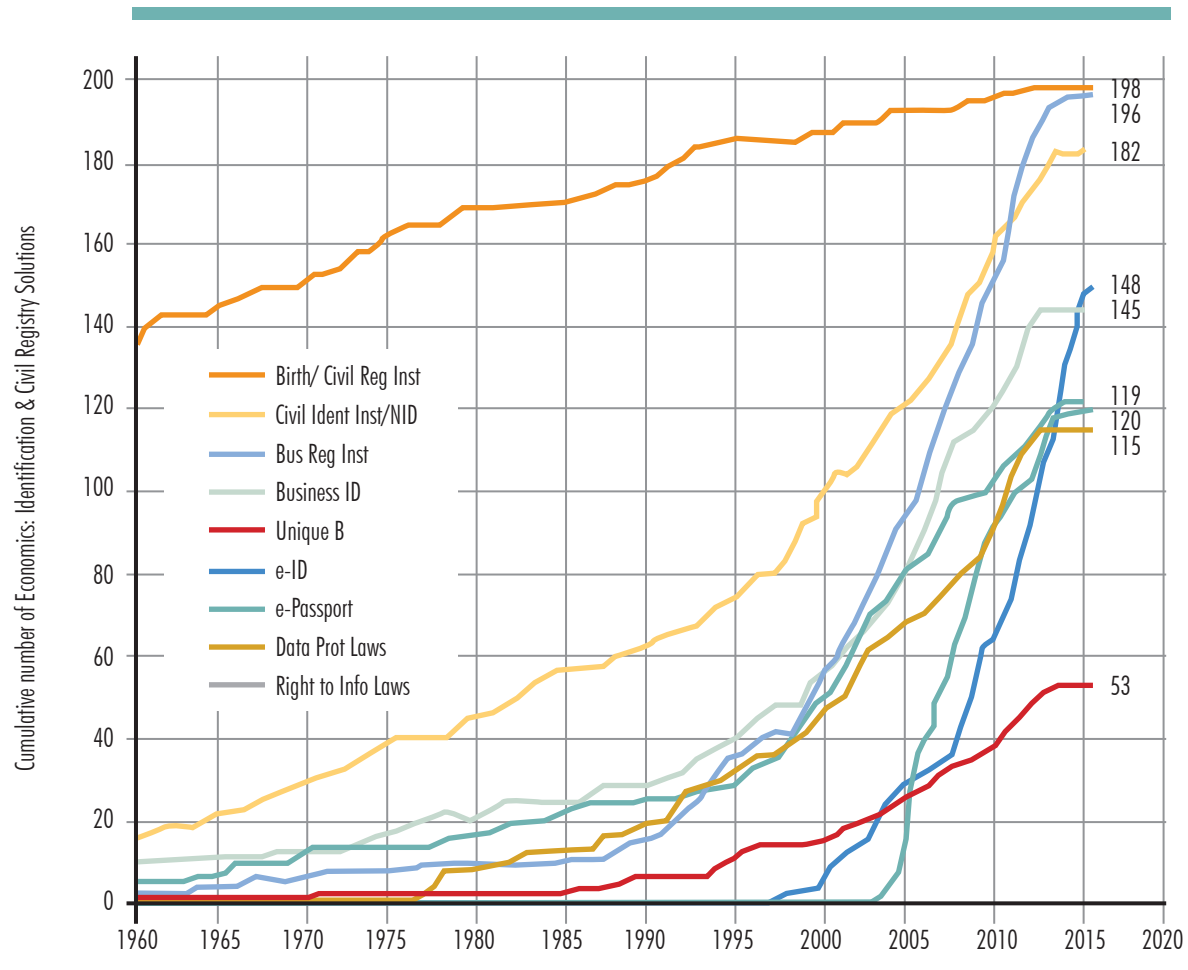
Source: ID4D Statistics, World Bank

Although countries have adopted different strategies in terms of establishing a national ID, there is usually a national entity in-charge of administering the national ID. National IDs (or "foundational" IDs) can be used by themselves or can underpin "functional" IDs that can then be used for providing a variety of services to the general population. The term "foundational IDs" was suggested by Gelb and Clarke in order to distinguish it from 'functional IDs' that are program or purpose specific.[3]

Table 1 compares the basic features of the identification systems of the countries covered in this volume. With the exception of the United Kingdom, which rejected a proposed national ID, all countries have adopted some form of a national ID. Many have gone the route of digital or e-IDs. Mexico is an exception in that while it does issue a number to all individuals (known as the CURP), it does not biometrically deduplicate this number.

[3] See Gelb and Clarke (2013).

As a result, some individuals in Mexico have received multiple numbers. Technically, the Mexican number is not a national ID in the most commonly understood sense. This is also the case for India's Aadhaar number. Although the Aadhaar number is based on biometrics (both fingerprints and iris – as well as a photograph) and is, therefore, highly likely to be unique for each individual, it only establishes identity. Aadhaar does not automatically establish citizenship as the number may be issued to residents who need not be Indian citizens.

Several other developing countries have similarly moved to a biometrically based national ID system and have increasingly opted for digital IDs where credentials can be used for either online or offline authentication. The majority of Asian countries in particular have introduced digital IDs. In the case of Bangladesh, what began as a voter ID in 2008, is currently being replaced by a national ID using biometric smart cards. Indonesia and India introduced their new digital IDs at about the same time in 2010. While Indonesia chose to issue a biometric smart card, India decided to not issue such a card.

Interestingly, the U.K. is one of several higher income countries that have rejected proposals for national IDs. Despite significant efforts during the mid 2000s, U.K.'s national ID project faced stiff opposition due to difficulties faced at that time by a number of government projects that had a large IT component, as well as a general lack of clarity on benefits. Newly issued passports in the U.K., however, do have some biometric features – these are focused on facial recognition rather than iris or fingerprints. Australia, Germany, and the United States have also, so far, rejected the idea of a national ID. Japan introduced a national ID only in 2015.

A national ID by itself does not necessarily improve the delivery of government programs like pensions and social insurance. As Table 14.1 shows, national ID coverage in some African countries is low. This may reflect poor implementation but could also reflect a lack of demand for a national ID. In Nigeria for example, the voter ID has much higher coverage than the national ID and can be used as a form of identification for many transactions. The last column in this table indicates the extent to which the national ID has been integrated with public and private sector systems such as banking or health insurance. In Indonesia for example, the unique identifier has only recently been incorporated in major formal sector databases such as pensions. In Rwanda, in contrast, the unique ID number is incorporated in all major government databases and is required for financial sector and mobile phone transactions. Rwanda also plans to integrate its new national Long Term Savings Scheme (LTSS) with national IDs issued by NIDA.

Table 14.1
Basic comparison of ID systems in the countries covered in this book

Country	National ID	Biometric	Coverage	Integration
Albania	Yes	Yes	High	High
Bangladesh	Yes	Yes	High	Moderate
Chile	Yes	Yes	High	High
Ghana	Yes	Yes	Low	Low
India	Yes	Yes	High	Moderate
Indonesia	Yes	Yes	High	Low
Jamaica	Yes	Yes	High	Moderate
Kenya	Yes	Yes	Moderate	Moderate
Mexico	Yes	No	High	Moderate
Nigeria	Yes	Yes	Low	Low
Rwanda	Yes	Yes	High	High
Turkey	Yes	Yes	High	High
United Kingdom[4]	No	NA	NA	NA

Source: ID4D Statistics, World Bank

In countries like Mexico, a de facto national ID card has existed for a longer period of time. The voter identity card, along with the national ID number, can, in combination, provide the basis for a process to identify an individual. The introduction of biometrics would provide a higher level of robustness and lay the ground for Mexico's national ID system. It is important to note that regardless of the stage at which a country's national ID effort stands, the identity efforts and solutions have a natural evolution that can be thought of in terms of a level of maturity[5] of institutions within the country. We will address some of the challenges around the use of a national ID within the pension system in later sections of this chapter.

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[4] The U.K. does not have a national ID as highlighted earlier. For paying national insurance and tax, a 'National Insurance' number is issued to all U.K. citizens. However, it is subject to some issues with duplication. Payment of personal income tax includes the addition of a 'UTR' – a unique tax reference that allows online access to a number of tax portals. Identity (and residence) proof for bank accounts, house purchase or other major transactions is usually provided through a mixture of passport, driving license, and utility bills.

[5] Brodersohn, Palacios, "Working towards UID – a Maturity Model".

THE ROLE OF ID IN
FORMAL SECTOR PENSION SYSTEMS

A lack of some form of identity has several important implications for contributory pension systems. If a citizen is not in the ID system of a country, or cannot be assertively identified, it is difficult to verify and accurately track contributions and accrued benefits in any form of pension over a multiple decade horizon. The identification of an individual is crucial to establishing the rightful ownership of pension contributions and benefits. In this section, we will discuss some of the hurdles of identifying individuals in general, and examine the role for a national ID in formal sector pension systems.

HURDLES OF IDENTIFYING INDIVIDUALS IN PENSION SYSTEMS

An individual is traditionally identified through some form of official ID, physical appearance, and a signature (when available). This process of establishing the identity of an individual, however evident, is often based on a subjective evaluation by a citizen-facing operator. A subjective identification process may thus achieve very different results simply if:

- an operator is unable to assess the physical similarity of the individual with a photograph presented in a document,

- an operator is unable to assess the similarity of a signature by an individual to a signature on a document provided by the individual, or

- an operator is unable to definitively identify if a particular official ID document provided by an individual is legitimate or not.

The risks that result from this subjectivity may materialize at every point where a service is provided. The risks may be accidental (as part of an intrinsically subjective identity verification process), or deliberate – where an individual takes advantage of the subjective identification process. This may also lead to fraud, where an internal agent and perpetrator collude and seek opportunities to perpetrate identity theft with an intent to commit fraud.

As a result of the risks in identification, most service agencies tend to establish additional compensatory controls to more confidently identify an individual. For example, an agency may require service users or clients to furnish a variety of additional documents to establish their identity, or establish data exchange with other service agencies to minimize identity risks. Such risk mitigation techniques may often result in additional investments and costs that may be transferred directly to users or clients. These additional physical identity verification processes are also often cumbersome for individuals and may dissuade service users and clients from joining or continuing to engage with the product or program.

Within each one of the pension provision processes, the identity of an individual is crucial over the accumulation period, often spanning 20 to 40 years of contribution history, as
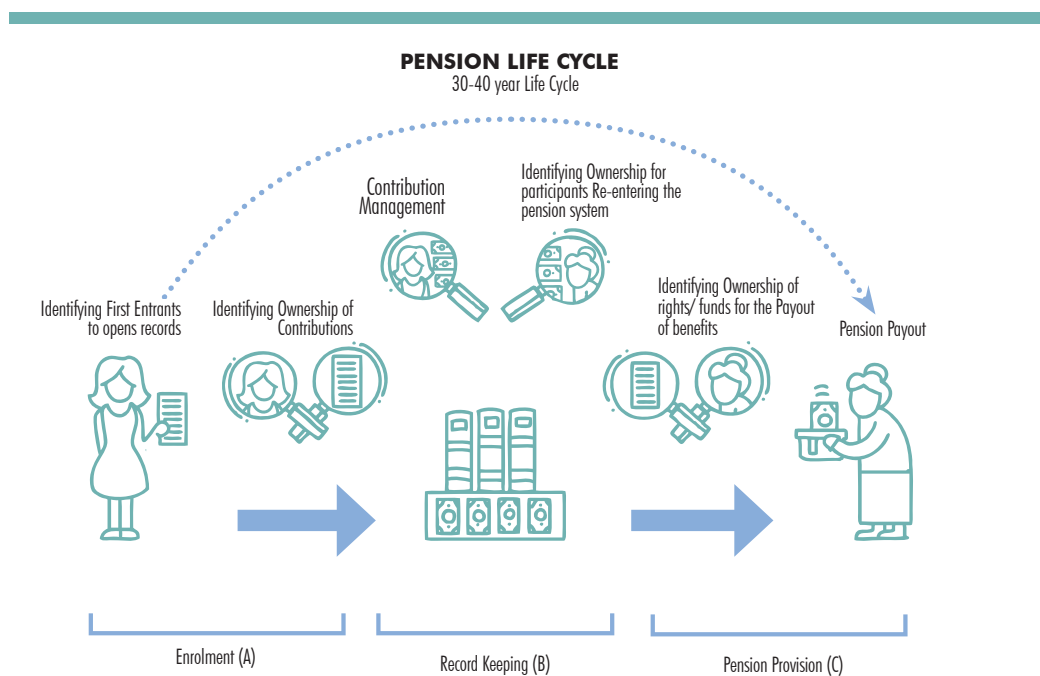
well as the pay-out phase that can occur over a period of another 20 to 30 years or more. In the following section, we will describe in more detail how important using a national ID in pension systems is, as well as some of the challenges faced if a national ID is not adequately incorporated in the different phases of the pension process.

As an example of the importance of data management during all stages of the pension life cycle, the Pension Regulator of the U.K. launched a major campaign to improve record-keeping in pension schemes in 2010. During consultations on the proposals, it highlighted evidence that poor records of members could add 5% to the total cost of a quote from an insurance company to buy-out the liabilities of a pension scheme and pay pensions in the future.[6]

USING NATIONAL ID IN PENSION SYSTEMS

As we see in Figure 14.2, accurate identification of beneficiaries through the different stages of pension provision, including enrolment, record-keeping, and benefits delivery, is a key element of any pension system. This is equally true for countries with DB or DC programs. In this section, we discuss how an ID infrastructure can be harnessed to overcome some of the basic challenges in any pension system and how a strong national ID can provide the foundation for a nationwide pension inclusion program.

Figure 14.2
Pension Provision Stages

PENSION LIFE CYCLE
30-40 year Life Cycle

Contribution Management

Identifying Ownership for participants Re-entering the pension system

Identifying First Entrants to opens records

Identifying Ownership of Contributions

Identifying Ownership of rights/ funds for the Payout of benefits

Pension Payout

Enrolment (A)   Record Keeping (B)   Pension Provision (C)

Source: Elaborated by authors

[6] The Pension Regulator Consultation Record-Keeping (2010)

Pensions are easily the longest tenure financial instrument. It is conceivable for a person to begin contributing into a pension scheme at age 18 and become eligible for drawing benefits at age 60. It is equally possible for the person to then receive pension benefits for another 30 years – implying a 72 year relationship with the pension account. During this long tenure, the person is very likely to experience significant change. There would be several job or occupation changes. The person could also face temporary or permanent, domestic or overseas migration. She might look very different and her handwriting could also change significantly over time.

Through this process, and at various stages over the multiple decades of her relationship with her pension account, the pension system would need to accurately identify the subscriber. Verification of her identity would be especially crucial during the three main stages of pension provision described below and outlined in Figure 14.2: (a) enrolment, (b) collection and investment of pension contributions and recording of accrued savings, and (c) delivery of pension benefits. Each of these stages has particular challenges related to beneficiary identity establishment and need to be effectively addressed. We examine the specific challenges of identifying an individual pension beneficiary and the risks that may materialize should identity not be correctly established at each stage. We will also discuss leakages or financial burden on plan participants in situations where the establishment of identity fails.

IDENTIFICATION AND PENSION LIFE CYCLE STAGES

A.   Enrolment Stage

Establishment of a subscriber's identity is obviously crucial at the time of enrolment into a pension system. This is even more important where an individual, whose pension account has become inactive over a period, wishes to resume contributions. In this situation, it would be essential for a pension administrator to have the ability to uniquely identify each subscriber in order to ensure that the same person is not enrolled multiple times by the pension system.

Without an effective mechanism to accurately verify a subscriber's identity, a person may end up with multiple records or pension accounts that would inevitably cause several undesirable outcomes.

These are some examples of problems that could arise if identity is not correctly addressed at the enrolment stage.

i.   Subscribers with savings fragmented across multiple pension accounts may ultimately receive a lower pension[7]. This could in turn lead to a reputational challenge for the pension system and an erosion of public confidence as subscribers may perceive dishonesty or poor performance by the administrative entity.

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[7] As highlighted below this is not only a theoretical issue – the case of Indonesia showed that one third of people had duplicate accounts.

ii. Multiple accounts may also impose multiple instances of account opening or other administrative fees and charges on an individual leading to a lower aggregate pension value.

iii. The challenge of unique identification of subscribers is important also for DC pension systems that provide government co-contributions or conditional fiscal transfers linked to pension contributions. In such programs, it is essential to ensure that an individual is unable to open multiple accounts and, therefore, receive multiple fiscal transfers. This is an equally important concern in DB systems that provide a minimum pension guarantee. Multiple accounts in both situations and resultant leakages could significantly increase government expenditure on such programs.

iv. It may equally be possible for an individual to forget about an old pension account especially during a multiple-decade working tenure and hence lose a part of the accrued benefits.

B. Contributions Stage

This stage is usually of the longest duration and could span a period of 30 to 40 years during the work life of an individual. During this period, both formal and informal sector subscribers may face significant changes in their occupation or employment status. There may also be short or even extended periods during which no contributions are made by a subscriber into her pension account. Accurate identification is especially important in identifying a subscriber throughout the contribution payment lifespan and in ensuring that all pension contributions, as well as accrued savings in a pension account, are correctly recorded.

These are some examples of problems that could arise if identity is not correctly addressed during an extended accumulation stage.

i. Multiple pension accounts could impose significantly higher ongoing servicing costs for a pension service provider or administrator including costs in managing multiple records and verifying identity and rightful ownership across multiple accounts. This could in turn impose higher administrative fees and charges on the subscriber ultimately leading to lower terminal benefits.

ii. In a pension system with decentralised administration, where account administration is undertaken by an employer or an administer or trust appointed by the employer, the lack of a unique identifier like a national ID could cause significant challenges for employees in transferring their pension accounts and accrued past contributions when they face a job change. This could in turn lead to the employee opening a new pension account with each job change. At retirement, an employee could easily forget a pension account opened several decades ago and thus receive lower benefits.

iii. The benefits or contributions may not be correctly attributed or kept in the rightful owner's name, which could lead to a payment of higher than due benefits to one individual and lower than due benefits accruing to others.

iv. Additionally, in the case of DC plans, inefficiencies in the identification of funds flowing into individuals' accounts could lead to potential losses in the yields provided by the individual accounts. Data requirements for DC pension systems are more extensive than for DB systems. However, the consequences of poor data and deficiencies in establishing the rightful identification of individuals would be devastating for both types of pension systems[8].

v. Countries that have DB systems without accurate identity verification mechanisms may end up providing dual benefits to the same individual, increasing fiscal expenditure at the cost of other government programs, including minimum pension guarantee benefits.

C. Pension Pay-out Stage

This is a crucial phase as it involves promised pension benefits flowing back into each individual's bank account without any identity errors. It is essential that a program administrator is able to correctly identify each individual beneficiary as the rightful owner of the retirement benefits or savings collected over an extended contribution phase. This is even more important as it is often impossible to reverse or recover incorrectly transferred benefit payments.

Once a pension beneficiary has been correctly identified and retirement benefits begin flowing back into the beneficiary's bank account, identity verification would remain crucial for proving that the beneficiary is alive and is, therefore, eligible to continue drawing pension benefits. This is essential to mitigate the risk and high costs of paying benefits to "ghost pensioners" especially in DB systems.

These are some examples of problems that could arise if identity is not correctly established during an extended pension pay-out stage.

i. Accurate identification of a beneficiary during the pay-out phase is essential to prevent errors in establishing rightful ownership as well as to prevent fraud by ensuring that benefits due to an individual are not misappropriated.

ii. Without a (preferably biometric) national ID as a unique identifier, a pension administrator, as also subscribers, could face significant challenges (and higher costs) while accurately verifying identity when benefits are due – usually several decades after enrolment.

iii. An error in identity verification could also lead to significant administrative and legal burdens on the institutions responsible for delivering pension benefits. For this reason, an administrator may impose several onerous provisions on subscribers for proving their identity and rightful ownership of benefits.

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[8] Barr and Diamond 2008.

iv.   The absence of a national ID as a unique identifier could also cause multiple pension accounts. This could in turn impose higher costs on an administrator in verifying identity and rightful ownership across multiple accounts, as also in unifying multiple records in order to reconcile, aggregate, and pay out accrued benefits to the rightful beneficiary. This could in turn impose higher aggregate administrative fees and charges on the subscriber ultimately leading to lower terminal benefits.

The above challenges are especially relevant for countries in Latin America, Asia, and Africa that are contemplating inclusive pension arrangements but are yet to establish (or integrate their pension system with) a universal, digital national ID. For example, and as we see in Table 14.2, only 58 % of the Mexican population have some form of pension. Around 5% of the population presently receiving a formal pension scheme benefit are also receiving a government subsidy meant explicitly for those who are living below the poverty line and are presumed to be excluded by existing pension provisions.

Table 14.2
Example of possible leakages in Mexico's Pension System

	National	**Rural**	**Mexico City**	**Quintile I**	**Quintile V**
Only Pension	20.9	6.1	8.1	2.6	39.9
Only Program Adulto Mayor (AM)	22.4	41.3	46.3	36.6	11.4
Only Opportunidades	3.9	7.6	0.0	10.7	0.5
AM+Pension	5.8	6.0	32.5	0.1	10.1
Opportunidades + AM	4.5	11.0	0.2	7.9	0.2
Opportunidades + Pension	0.4	0.8	0.0	0.0	0.2
AM + Opportunidades + Pension	0.3	0.7	0.0	0.0	0.0
None of the Above	41.8	26.4	12.9	42.0	37.7

Source: CEPAL – Social policy series Num. 161, May 2010[9]

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[9] CEPAL – Gloria M. Rubio, Francisco Garfias, 2010

THE ROLE OF ID IN
INFORMAL SECTOR PENSIONS

The ability to uniquely identify informal sector workers is, if anything, even more important for implementing pension schemes targeting informal sector workers. It is also typically more challenging since these workers are less likely to have any foundational forms of identification.

As is the case for formal sector workers, the absence of a unique identifier creates the possibility of multiple pension accounts and consequent difficulties in tracking and recording pension contributions over an individual's working life. Processing and payment of claims also becomes problematic if the pension fund administrator is unable to accurately authenticate the identity of the beneficiary at the vesting or pay-out stage.

The national ID as a unique identifier can serve as a strong foundation for a national pension system that allows portability of accrued savings across jobs and locations as well as between formal and informal sector pension schemes. As long as the pension system is part of the formal financial sector, compliance with standard Know Your Customer (KYC) rules would apply irrespective of whether scheme targets formal or informal sector workers. Succeeding at scale with pension coverage among non-salaried informal sector workers may require proactive measures on facilitating KYC through a foundational ID. As the chapters on Mexico, Chile, India and Turkey clearly show, individuals may frequently move between formal and informal employment over the course of their working lives. Even though countries may aim at increasing labour-force formality, the reality is that portable pension schemes that connect both types of labour markets will have to be a core policy requirement for many if not all developing counties.

There are at least two important aspects of identification that are particular to the implementation of pension schemes for informal sector workers. Unlike their formal sector counterparts, the role of employers in the process of enrolment and collection of contributions is either non-existent – e.g., for self-employed workers – or very weak, as in the case of micro-enterprises. This has led some countries to focus their efforts on groups of informal sector workers targeted through 'aggregators', such as microfinance institutions, cooperatives, and self-help groups (SHGs). In countries like India, with a large landmass and a huge informal sector workforce, such aggregators help significantly reduce the cost of participation by increasing access and outreach without the need for new investments into creating national level sales and distribution networks.

Although a group model can be used for reaching a significant percentage of excluded informal sector workers with a pension scheme, it may not work for all occupational segments, including subsistence farmers and landless agriculture labourers – many of whom may have low variable incomes. Low income non-salaried individuals who face unpredictable incomes require flexible contributions and low transaction costs.

Technology allows for both of these features in the contribution collection process. Kenya's MBAO scheme is a good example. Using M-Pesa, individuals can easily and conveniently make small pension contributions in line with their own cash-flows without incurring the high cost and overheads of physically interacting with a bank or pension fund.

Mexico offers another example of a country where technology is harnessed to allow individuals to make voluntary contributions to their individual account from over 6,000 convenience store branches. These branches serve as correspondents to all pension fund administrators operating in Mexico. This solution makes use of the unique ID which is incorporated into a centrally managed database[10], facilitating the process of collecting the funds for the branch operator who does not need to know which pension fund administrator is holding the individual's account in order to receive the funds. The central record keeping agency allows the general population to save by simply providing their unique ID and the amount that they want deposit. The central record keeping agency processes the payment independent of which pension fund administrator is holding the investments. Additionally, since the funds flow into the same individual account where mandatory contributions flow from the formal sector pension system, this solution has allowed an integration of informal sector savings (or pension) with the formal sector pension system. As highlighted above, given how many people experience both sectors over their working life, this is an essential element of stitching together a more complete contribution record and hence delivering additional income in retirement.

E-payment solutions, which can be used for much more than pension contributions collection, rely on good identification so that these contributions can be tracked. In Kenya, mobile banking accounts are linked to the national ID. In India, as described in Chapter 1, the Aadhaar national ID number and authentication infrastructure built around it, also allows for low cost and convenient contribution collection even in rural areas with limited financial sector infrastructure. The rapid spread of mobile money in Africa and parts of Asia has created the potential for mass financial inclusion of which the ability to save for old age is but one example. All of this, however, requires confidence that an individual will always be able to access these savings, which, in turn, implies robust identification systems are in place.

The second important aspect of identification as it pertains to informal sector workers is what can be referred to as 'integration'. The existence of a unique identifier is a prerequisite for integration that involves the ability to link various databases in order to implement certain policies. However, in order for this exchange of data to take place, the unique identifier must be present in each of the relevant registries. In countries that have only recently introduced unique IDs, existing legacy program databases will not have this ability. The unique number will have to be retroactively inserted into individual records. In India, this process is called "seeding" alluding to the 'planting' of each Aadhaar number

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[10] This central administrative platform is known as PROCESAR. It was established by the Pension Fund Administrators known as AFORES to simplify their joint administration problem – akin to the way in which a central check clearing process works between banks. It is not a standalone centralized administrator such as the Central Records Agency in India or the record keeping and account management function of the Swedish Pension Agency.

against an existing individual record. In India hundreds of millions of Aadhaar numbers have been seeded in half a dozen major databases, including those held by programs for public works, social pensions, food, unemployment benefits (MGNREGA), fuel subsidies, and banking, to name a few.

While this seeding itself improves targeting and delivery of these programs in several ways, when achieved across all areas of government interactions with individuals, it opens up informational possibilities that allow for new and sophisticated public policy measures. This is especially relevant in countries where the informal sector is large, a real situation in most of the countries covered in this volume.

In high income countries, progressive income tax systems along with payroll tax based social insurance have wide, almost universal coverage. This allows them to differentiate between subsidy levels and condition benefit eligibility for various social programs. In the US for example, the earned income tax credit pays a subsidy to low income workers that is phased out as their income increases.

The tax system in richer countries also allows for policies such as auto-enrolment as in New Zealand or the U.K.. This is only possible because most individuals and most of the income information is available through the tax system. That said, even in the U.K., there were challenges in establishing a robust tracking and enforcement operation in the early stages – as highlighted in Chapter 3 on the U.K. experience and Chapter 23 on the role for a Mission Office. The simple use of tax records is not possible in most developing countries where the vast majority of the population falls outside the income tax net.

Chile provides an example of a pension policy that uses integrated identification to overcome the problem of unobserved income. With a significant informal sector, it is not possible to rely on the tax system to differentiate between workers and households at different levels of income. The solution was to gather detailed information on households that allowed a ranking of socioeconomic status of households. This allowed the government to implement a policy that supplemented contributory pensions in low income households (those found to be in the bottom three quintiles of the distribution). The reason that this was possible was that unique identifiers were available in both databases (see Chapter 7 on Chile and the ability to identify and target the self-employed population).

Turkey provides an interesting example of integration as applied to health insurance. By linking more than 20 databases through the unique identifier of Turkey's national ID, the government has been able to differentiate between the levels of subsidy for health insurance premium that it pays for different segments of the informal sector. The linked registries cover land and property holdings, vehicle ownership, income and social insurance tax payments, among others. Differentiating the poor from the non-poor informal sector in this way has increased health insurance coverage to close to 90% of the population.

How would this approach apply for expanding coverage of informal sector pensions in developing countries? Take the case of Indonesia: The biometric national ID that was introduced in 2011 covers the vast majority of adults, ensuring uniqueness and allowing for authentication through a smart card that contains biometric data. There is also a population registry that contains basic demographic information for almost the entire population including children which is constantly being updated. These two databases are linked through the unique ID number of the adults and both are managed by the Ministry of Home Affairs. The unique ID number is being 'seeded' in two important databases. When incorporated into the formal sector pension scheme database, more than one third of the accounts were found to be duplicates. The exercise not only gave a more accurate figure for pension scheme coverage, it also allowed for individuals to merge their accounts, which will make the claims process more accurate and efficient. The number is also being incorporated into the other social insurance databases and the wage and pension system for civil servants. Together, these databases cover 15 to 20% of the labour force.

In parallel, the government of Indonesia has produced a registry that ranks around half of the households by socio-economic status for purposes of targeting anti-poverty programs. In particular, it is used to determine which households will have their health insurance premium paid for by the government. In the latest round to update this database, the unique ID number was collected, thereby 'seeding' the poverty registry.

Linking these two databases through the unique identifier is useful for monitoring eligibility for these programs. The government should not be paying the premium for workers in the formal health insurance system, for example. More importantly however, when combined with the existing population registry, the Indonesian government is able to create a list of the non-poor informal sector by subtracting the formal sector and poverty registry individuals. This in turn allows the government to offer a partial subsidy to the non-poor informal sector workers. Indonesia could also follow the Turkish example in terms of linking to other databases such as property and vehicle registries as a way to differentiate the subsidized contribution for households according to their ranking in the poverty register. Turkey also provides an interesting example of improving compliance by linking access to utilities to adoption of a compulsory insurance product. The government has improved compliance in adopting compulsory earthquake insurance by requiring utility companies to obtain a customer's insurance number as a condition for supplying the utility.

There is at least one concrete proposal to achieve universal coverage that takes the logic of integration one step further. In their 2009 study, Anton, Hernandez and Levy, propose automatic enrolment of all adults in both pension and health insurance with the premium financed by the government through consumption taxes. While the specifics of the proposal were applied in the Mexican context, the basic concept could be applied anywhere in principle. The aim was a basic level of protection against old age, disability and health care for the entire population in a way that eliminated labour market distortions that arise when informal and formal sector provision is separated. This seamless approach

would still allow for additional consumption smoothing for formal sector workers but would allow for the elimination of part of the payroll tax that falls primarily on low income workers. Clearly however, it would require robust, secure and unique identification of every adult[11]. Importantly, the developments on the financial inclusion side in terms of accounts and access mean that these kinds of innovations are more and more feasible in ways in which they simply could not have been even five or 10 years ago.

CONCLUDING
THOUGHTS

The identification system, along with payments and information systems, is part of the basic infrastructure required to efficiently implement all government programs that involve individuals. Pensions are especially dependent on identification since they involve a long and continuous relationship from the time a worker enters the labour market until death, a period spanning multiple decades. The ability to ensure the uniqueness of the identifier and to authenticate effectively is increasingly dependent on a country's foundational ID, typically a database that has used biometrics to deduplicate and has created an authentication ecosystem. Failure to properly identify can lead to losses and inconvenience for pension fund members and leakages in terms of misallocated fiscal resources.

The current global focus on universal social insurance coverage is even more dependent on good identification systems. The failure of payroll tax based systems to reach most workers in developing countries during the last century has led to new ways of collecting contributions from informal sector workers that is the subject of this volume. These collection mechanisms in turn, are increasingly reliant on technologies that allow flexible and low cost e-payments (or collections). These in turn, require robust mechanisms for identifying the contributors and authenticating those receiving pension benefits.

Integration of ID-linked databases also opens up possibilities for public policy to differentiate among the large informal sectors that exist in low and middle income countries. In the absence of robust income tax systems for most of the informally employed population, supplementary information collected from households and shared between other registries can help achieve this differentiation so that those with the capacity to save can be connected to efficient collection and investment mechanisms. In the extreme case where all potential contributors are identified and included in a population registry, the entire population could be auto-enrolled with full or partial government subsidies for basic health and pension coverage. Simply put, universal coverage is only possible when one knows the individuals that make up the 'universe'.

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[11] At this point, it is important to note that integration or data-sharing of individual and household data increases the need for a good personal data protection framework, (something that should be in place even without integration). Such a framework would follow well established principles of international good practice such as those produced by the OECD. They involve important safeguards such as data minimization (collect only information required for a specific purpose), data access protocols, consent and the ability to contest, and correct personal data, among others.

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