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PENSIONS IN AGING ASIA AND THE PACIFIC

POLICY INSIGHTS AND PRIORITIES

Rafal Chomik, Philip O’Keefe, and John Piggott

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Rafal Chomik, Philip O’Keefe, and John Piggott

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ABSTRACT

Asia and the Pacific has the most diverse regional pension landscape globally. Yet the region's pension systems are facing common challenges as they attempt to expand coverage, and ensure adequacy and fairness, while maintaining fiscal sustainability. We review the structures and performance of pension systems across Asia and the Pacific. Most remain characterized by low contributory coverage, social pensions with inadequate benefits and often low (or no) coverage, and informal sector schemes with modest traction to date. They are also characterized by gender inequities, lack of policy flexibility and attention to labor incentives, and underdeveloped governance structures. The paper makes proposals for addressing these challenges through an expanded role for social pensions with inclusive targeting, reformed contributory schemes, ongoing innovations for the informal sector and women, and enhanced reliance on technology.

Keywords: pension, Asian pension, social protection in Asia, means tested pension

JEL codes: H55, N35, J18



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I. INTRODUCTION: A CONSTELLATION OF CHALLENGES

Asian economies are among the world's most rapidly aging. The People's Republic of China (PRC), Indonesia, Thailand, and Viet Nam are expected to have the same total population in 30 years as now: 1.9 billion. But their population aged 65+ is projected to almost double from 250 million to 485 million. In South Asia, Bangladesh, India, and Pakistan are expected to add around 180 million older people in the same period. In the Caucasus, Armenia and Azerbaijan are aging faster than some economies of the Organisation for Economic Co-operation and Development (OECD) (Figure 1). By 2050, all 33 emerging economies in Asia and the Pacific that are featured in this report will be older; 13 will be "aged" societies (more than 14% of the population aged 65+); and 6 "super-aged" (more than 20% of the population aged 65+).

These aging trends have economic, social, and fiscal implications. How will pension systems in the region protect these expanding cohorts of older people? Designing adequate, sustainable, and comprehensive pension systems faces various challenges. Indeed, there is a constellation of interconnected challenges that characterizes many emerging economies in the region (Chomik and Piggott 2015).

First, aging is taking place at lower levels of economic development than was the case in OECD economies. The decline in working age populations across the region, including in the PRC, Georgia, Japan, the Republic of Korea (ROK), Thailand, Sri Lanka, and Singapore will act as an economic headwind and constrain government budgets. For example, shrinking workforces in the PRC and Thailand are estimated to result in annualized gross domestic product (GDP) growth reductions of more than 1% (Kotschy and Bloom 2023). Many economies in the region will get old before they become rich.

Second, the demand for competing public outlays is considerable. Aging will place greater pressure on governments to not only invest in pensions, but also in currently underfunded health and care programs. For example, incremental pension spending alone between 2015 and 2050 was projected to increase by three percentage points and five percentage points in several economies of East Asia and Southeast Asia (World Bank 2016).

Third, a large informal sector limits productivity growth, constrains fiscal maneuverability, and poses challenges for pension design. The typical economy in the region has most of its workforce employed in informal settings, and many have low revenue raising capacity (e.g., Indonesia, Malaysia,

Myanmar*, and most South Asian economies have some of the lowest revenue-to-GDP globally; Figure 1). Informality also poses challenges for pension systems with social insurance elements, which require both contributions and good record keeping.

Fourth, strong migration from rural areas to large urban centers (and internationally for some economies such as Nepal and some Pacific DMCs) is leaving behind (grand)parents and sometimes children, which compromises traditional forms of dependent support and complicates social protection systems, especially where they require portability of pension rights.

And fifth, existing social protection structures in much of the region are underdeveloped, often lacking good governance, adequate benefits, and/or having poor coverage of the population. This is the point of departure for this paper, which assesses recent policy developments and insights and suggests policy priorities to improve pension systems in the emerging economies of Asia and the Pacific.

* Effective 1 February 2021, ADB placed a temporary hold on sovereign project disbursements and new contracts in Myanmar.

Figure 1: Pension Context, Parameters, and Outcomes

		Demography				Development				Social Pensions				Contributory				
		Aging Level (65+ % of pop)	Aging Rate (pp chg by 2050)	Life Expectancy (at 60)	Healthy Life Exp. (at 60)	Development (GDP per cap \$PPP)	Informality (% of employment)	Fiscal (Tax to GDP)	Participation (women 55-64)	Participation (men 55-64)	Coverage (% of age eligible)	Coverage (% of 60+)	Benefit Adequacy (% of GDP per cap)	Access Age (w/m)	Social Pension Spend (% of GDP)	Membership / Participation (% of working age)	Access Age (w/m)	Contributions (% of wage)
Central Asia and Caucasuses	Armenia	14%	8%	80	76	\$20k	50%	23 %	72%	79%	0%	0%	12%	65	0.00%	27%	63	10%
	Azerbaijan	8%	11%	77	73	\$19k		32%			36%	24%	11%	62/67	0.30%	25%	61	25%
	Georgia	15%	6%	79	74	\$22k	56%	27%	66%	80%	100%		28%	60/65		23%	60/65	4%
	Kazakhstan	8%	4%	79	75	\$33k		20 %			100%	104%	6%	58/63	0.70%	80%	63	19%
	Kyrgyz Republic	5%	4%	80	76	\$6k	63%	37%	55%	77%			16%	58/63		35%	58	25%
	Tajikistan	4%	4%	76	73	\$5k		28%	29%	65%	29%	24%	12%	60/65	0.10%	21%	58	25%
	Uzbekistan	5%	6%	79	75			31%	15%	49%	0%	0%	30%	55/60	0.00%	86%	55/60	15%
East Asia	Hong Kong, China	21%	19%			\$73k		14%	48%	71%	20%	14%	5%	65	0.10%	52%	65	10%
	Republic of Korea	18%	21%	86	80	\$57k	27%	27%	61%	82%	70%	50%	4%	65	0.20%	54%	62	9%
	Mongolia	5%	9%	76	73	\$15k	44%	34%	32%	51%	2%	1%	19%	55/60	0.00%	47%	55/60	25%
	PRC	14%	16%	81	76	\$23k	54 %	26%			71%	71%	2%	60	0.30%	37%	55/60	24%
South Asia	Bangladesh	6%	9%	81	76	\$9k	95%	9%	26%	85%	35%	30%	5%	62/65	0.10%	2%		
	India	7%	8%	79	73	\$9k	89%	19%	29%	79%	24%		2%	60	0.00%	15%	58	16%
	Nepal	6%	5%	78	73	\$5k	82%	18 %	19%	44%	80%	31%	31%	70	0.70%	2.50%	58	20%
	Pakistan	4%	2%	77	73	\$7k	84%	12%	15%	72%						7%	55/60	6%
	Sri Lanka	12%	10%	81	75	\$14k	67%	8%	31%	76%	33%	13%	4%	70		18%	50/55	20%
Southeast Asia	Cambodia	6%	7%	78	73	\$6k	89%	24%	67%	86%						2%	60	4%
	Indonesia	7%	8%	78	73	\$16k	80%	15%	57%	85%	0%	0%	6%	70	0.00%	17%	65	6%
	Lao PDR	5%	6%	78	73	\$10k	90%	10 %	51%	71%						1%	55/60	11%
	Malaysia	8%	10%	80	75	\$37k	39%	19%	33%	69%	4%	5%	11%	60	0.05%	42%	55	24%

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		Demography				Development				Social Pensions				Contributory				
		Aging Level (65+ % of pop)	Aging Rate (pp chg by 2050)	Life Expectancy (at 60)	Healthy Life Exp. (at 60)	Development (GDP per cap \$PPP)	Informality (% of employment)	Fiscal (Tax to GDP)	Participation (women 55–64)	Participation (men 55–64)	Coverage (% of age eligible)	Coverage (% of 60+)	Benefit Adequacy (% of GDP per cap)	Access Age (w/m)	Social Pension Spend (% of GDP)	Membership / Participation (% of working age)	Access Age (w/m)	Contributions (% of wage)
Pacific	Myanmar	7%	7%	78	74	\$5k	81%	13%	31%	78%	100%	1%	7%	85	0.00%		60	6%
	Philippines	6%	5%	78	73	\$11k	38%	20%	49%	72%	44%		4%	60	0.40%	35%	65	14%
	Singapore	16%	18%	86	80	\$133k		12%	62%	84%						48%	65	37%
	Thailand	16%	16%	84	78	\$22k	65%	20%	59%	80%	86%		4%	60	0.40%	29%	55	7%
	Timor-Leste	5%	2%	78	73	\$4k	81%	20%	38%	57%	100%	100%	15%	60	0.50%	6%		
	Viet Nam	10%	10%	80	75	\$14k	69%	19%	63%	78%	28%		7%	60	0.10%	30%	60/62	22%
	Fiji	6%	4%	76	72	\$17k	44%	21%	28%	68%	51%	18%	6%	65	0.10%	41%	55	18%
	FSM	6%	4%	75	71	\$4k		66%	44%	77%						33%	65	15%
	Kiribati	4%	4%	74	70	\$2k	56%	91%	33%	48%	93%	35%	33%	67	1.20%	15%	50	15%
	Marshall Islands	5%	6%			\$6k	33%	66%	38%	73%							61	16%
Papua New Guinea	3%	4%	76	72	\$3k		17%			2%		8%	60	0.00%	3%	55	12%	
Samoa	5%	3%	78	73	\$7k	51%	26%	32%	64%	93%	65%	19%	65	0.90%	25%	55	10%	
Solomon Islands	3%	3%	75	72	\$2k		29%							0.00%	16%	50	13%	
Tonga	6%	3%	79	74	\$7k	97%	25%	41%	60%	100%			70			60	10%	
Vanuatu	4%	3%	76	72	\$3k	72%	36%	37%	50%					0.00%	17%	55	8%	
Other economies	Australia	17%	7%	86	79	\$65k	26%	36%	63%	75%	70%	51%	28%	67	2.60%	70%	60	12%
	Japan	30%	7%	86	80	\$52k		37%	70%	90%	3%		18%	65		85%	65	18%
	New Zealand	17%	8%	85	79	\$54k		39%	75%	85%	99%	71%	37%	65	4.50%		65	6%

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FSM = Federated States of Micronesia; GDP = gross domestic product; Lao PDR = Lao People's Democratic Republic; m = men; pop = population; pp chg = percentage point change; PPP = purchasing power parity; PRC = People's Republic of China; w = women.

Notes: Data is latest year available. Shading is not necessarily value based; it indicates high, middle, low levels for economies in table (for access ages, women's access age is used where different). High numbers are green in all but in columns 1, 2, and 6. In PNG, social pension is in place for one province only. Membership/participation excludes civil service where possible. Phased increases in access age ongoing in Indonesia (65), Mongolia (65), and Viet Nam (60/62). Age eligible coverage is top coded to 100%. The PRC "social" pension is a hybrid design.

Sources: Authors' best estimates based on data from the United Nations 2022, World Health Organization 2023, International Monetary Fund 2023, International Labour Organization 2023a, International Labour Organization 2023b, Organisation for Economic Co-operation and Development 2022 and 2024, World Bank WDI, P4SP 2024 for PICs, HelpAge International 2018, Allianz 2023, and Asian Development Bank personnel and national sources.

Figure 2: Pension System Structure

		Social				Mandated Contributory	Matching		
		Universal	Means Targeted (either means tested or proxy means tested)	Advanced Age Targeted (where access is significantly above age 65)	Pension Targeted (benefits for those without a pension or provision of contributory floor)	Defined Benefit	Defined Contribution / Notional DC	Civil Separate	Matched Contributions (beyond any tax advantages)
Central Asia and Caucases	Armenia								
	Azerbaijan								
	Georgia								
	Kazakhstan								
	Kyrgyz Republic								
	Tajikistan								
	Uzbekistan								
East	Hong Kong, China								
	Republic of Korea								
	Mongolia								
	PRC								
South Asia	Bangladesh								
	India								
	Nepal								
	Pakistan								
	Sri Lanka								
Southeast Asia	Cambodia								
	Indonesia								
	Lao PDR								
	Malaysia								
	Myanmar								
	Philippines								
	Singapore								
	Thailand								
	Timor-Leste								
	Viet Nam								

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		Social				Mandated Contributory		Matching	
		Universal	Means Targeted (either means tested or proxy means tested)	Advanced Age Targeted (where access is significantly above age 65)	Pension Targeted (benefits for those without a pension or provision of contributory floor)	Defined Benefit	Defined Contribution / Notional DC	Civil Separate	Matched Contributions (beyond any tax advantages)
Pacific	Fiji								
	FSM								
	Kiribati								
	Marshall Islands								
	Papua New Guinea								
	Samoa								
	Solomon Islands								
	Tonga								
	Vanuatu								
Other economies	Australia								
	Japan								
	New Zealand								

FSM = Federated States of Micronesia; Lao PDR = Lao People's Democratic Republic; PRC = People's Republic of China.

Note: Indicates discrete features rather than necessarily separated schemes (e.g., contribution matching schemes in the PRC is part of hybrid scheme; Viet Nam's social pension is targeted both via means [for 60–79], and high access age and pension test [for 80+]). Some schemes are in process of implementation (e.g., the PRC is integrating civil service). Some civil service schemes are integrated, but separate schemes remain (e.g., Mongolia, the Kyrgyz Republic, Tajikistan, Uzbekistan for military; Sri Lanka's civil service trust fund). Thailand in 2023 announced move to means-tested social pension, with criteria to be determined.

Source: Authors' analysis of national sources; US Social Security Administration 2019; Help Age International 2018; International Labour Organization 2023a; and Palacios (forthcoming).

II. PENSION SYSTEM DESIGNS

Pension system structures across emerging economies in Asia and the Pacific are diverse. Indeed, Asia and the Pacific has the greatest regional heterogeneity of pension systems globally. This is driven by diverse historical legacies (including socialist, civil law, and Commonwealth), significant differences in the relative importance and integration of public and private sector pensions, variable models of contributory systems, role of social pensions, and other factors. At a broad level, these differences can be observed by the presence and types of mandated contributory and noncontributory schemes (Figure 2). The pension system structures in the region exhibit the following patterns.

First, while many economies in Asia and the Pacific have a noncontributory social pension, not all do (i.e., Cambodia, the Lao People's Democratic Republic [Lao PDR], Pakistan, the Marshall Islands, the Federated States of Micronesia, Papua New Guinea, Solomon Islands, and Vanuatu). Among those that do have social pensions, there are significant differences in the extent of coverage and targeting methods. For some, notably Georgia, Kazakhstan, Timor-Leste, and also some Pacific DMCs, noncontributory benefits are universal, while the coverage for other economies varies substantially from very tightly targeted (e.g., the Kyrgyz Republic, Malaysia, and Mongolia) to more inclusive means-testing (e.g., Azerbaijan, Fiji, the ROK, and the Philippines) or pension-tested eligibility (e.g., Nepal and Thailand). A small number of economies make use of a high access age to restrict eligibility (e.g., Indonesia and Myanmar). Some provide a social floor that offers benefits to those who have had some participation in the contributory scheme (e.g., Armenia, the Kyrgyz Republic, and the Philippines).

Second, the approaches of the main private sector formal schemes vary significantly. A group of economies (primarily in East Asia and Southeast Asia) rely on defined benefit (DB) schemes; a second group (largely Commonwealth economies) rely on provident funds with defined contributions (DC); a third group of former republics of the Soviet Union have Notionally Defined Contribution (NDC) systems; and a fourth group have multi-pillar mandatory systems combining DB or NDC with DC individual accounts (e.g., the PRC, the Kyrgyz Republic, and Tajikistan). Beyond this, Bangladesh and Myanmar stand out for having had no mandated private sector scheme, though Myanmar has legislated but not activated one, and Bangladesh introduced a scheme in 2023 that has minimal participation to date.

A third source of variation is whether civil service or public sector schemes are separate or integrated with the main contributory private sector scheme. The Pacific and Central Asian and Caucasian economies have integrated systems across the public and private sectors. The PRC and Viet Nam are in the process of transitioning to common systems and Malaysia has announced its intention to do so. But most economies in East Asia, Southeast Asia, and South Asia have parallel systems for public sector workers, typically significantly more generous than private sector schemes and, in some cases,

with no employee contributions. This paper does not focus in any depth on civil service schemes, but thorough treatments of such schemes in Asia can be found in Jain and Palacios (2021) and Takiyama (2011).

A further, more modest source of structural variation is whether economies have matched voluntary contributory schemes for informal sector workers as part of their efforts to expand coverage. This supplementary approach was initiated in South Asian economies (notably India and Sri Lanka) and, subsequently, has been taken up in a number of East and Southeast Asian systems though, in general, with fairly modest incremental coverage achieved (Section III.D).

A final distinction is the timing of introduction of mandated contributory systems, which is relevant to the fiscal and welfare trajectories of systems and feasibility of future reforms. A number of economies (e.g., Cambodia, Indonesia, and the ROK) introduced schemes fairly recently, and these are still maturing in terms of the degree of financial protection that they afford (World Bank 2016). There has also been considerable variation in the stage of demographic transition that economies introduced a mandated contributory scheme beyond the public sector, some such as Malaysia and the Philippines being early adopters and others such as the ROK and Thailand introducing schemes much later in their demographic transitions (World Bank 2016).

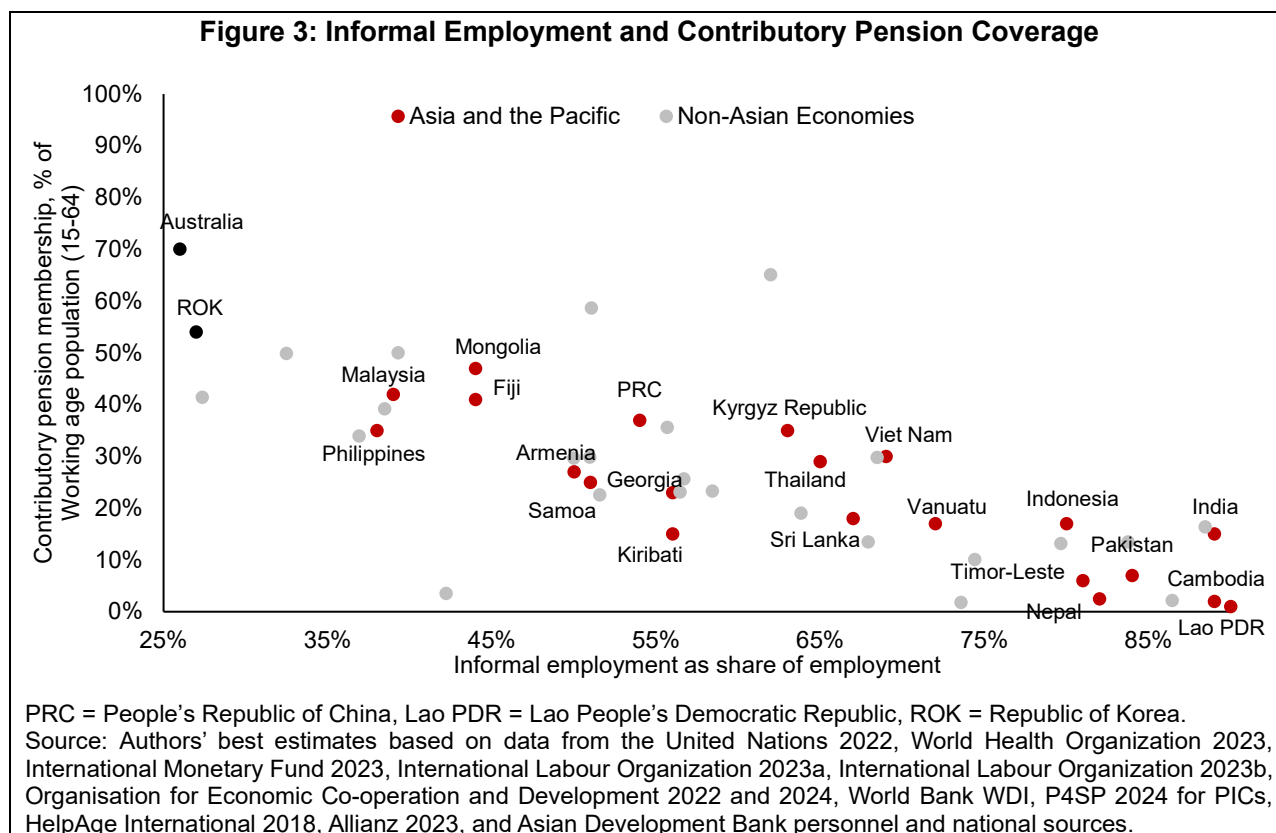
The diversity of approaches to pension system design across Asia and the Pacific is matched by a heterogeneity in parametric policy choices that further govern eligibility, benefit formulas, sources of funding, population targeting, indexation etc., and which, in turn, determine how well the systems perform and meet basic pension system objectives, such as adequacy, coverage, sustainability, fairness, good governance, and administrative simplicity and efficiency.

The rest of this paper offers insights on each of these objectives. But the bulk of the discussion focuses on the key objectives of coverage, adequacy, and sustainability. This is because, in the face of population aging, the most pressing objective for policymakers in Asia and the Pacific is to achieve sustainable and adequate pension coverage of the population if reversals of human development gains, decline in well-being of older people, and potentially social instability are to be avoided. Indeed, national pension programs are at the center of the Sustainable Development Goals (SDGs), which envision social protection with substantial coverage of the poor and vulnerable people that insure against economic shocks and address inequality (SDG1 and SDG10; United Nations [UN] 2015).

III. COVERAGE AND ADEQUACY VIA CONTRIBUTORY SCHEMES

A. Stubborn Informality

Contributory systems are often the first step for nascent pension systems. Yet, as Figure 3 shows, achieving widespread coverage of contributory schemes remains a challenge in the region (beyond public sector workers, who are covered in all systems). Participation in contributory schemes is below 10% of the working age population in a number of economies, notably in economies in South Asia, Greater Mekong Subregion, and the Pacific. It is also important to note that official coverage numbers may overstate effective coverage in some economies depending on reporting practices, as the share of active contributors is often well below the headline participation number (e.g., around half in Malaysia's Employees Provident Fund, Indonesia's Jaminan Hari Tua (Old Age Protection) and just over a fifth in India's Employees Provident Fund [Jackson and Inglis 2021]).



Low participation or coverage reflects the high shares of informal employment and the administrative challenges of observing and taxing the incomes of informal workers. For most economies, there is also a strong relationship between per capita income and participation in contributory schemes, with the partial exception of economies with a legacy of sizable formal sectors and pension systems from the Soviet Union. Participation in contributory schemes in much of Asia and the Pacific is not only low but

has increased little over recent decades. There has been substantial expansion only in the PRC and the ROK, and many economies have seen no or very modest expansion between the early 1990s and the mid-2010s. In large part, this reflects the stubbornness of labor market informality in that period. In the face of such stubbornly low coverage, economies are combining different approaches to coverage expansion (Section III.B).

B. Low-Hanging Fruit

The first and possibly easiest option to increase contributory pension coverage is to expand coverage among workers who are either already in the formal sector but not contributing to a pension scheme or in the informal sector but in work arrangements that have formal characteristics, such as an employer-worker relationship, with monitorable incomes. For example, many systems in the region currently exclude mandatory contributions from the self-employed, business owners, or workers in enterprises below a certain size. In addition, outright noncompliance in formal sector enterprises may further reduce coverage, and/or under-declaration of wages for the purposes of calculating contributions. This includes employers and internal migrant workers who negotiate to avoid paying pension contributions by keeping current wages higher. Including these various categories of workers and taking non-compliance of already included workers seriously may be considered the “low-hanging fruit” of the coverage expansion agenda.

With the rise in digital transactions and modernization of contribution collection systems, the economic activity of smaller enterprises and nontraditional workers becomes more observable. This allows policymakers to revisit historical barriers to wider pension contribution mandates. Some economies in Asia and the Pacific have already done so, often combining labor and social insurance law reforms, to gradually lower the threshold number of workers needed for enterprises to require contributions and engage in formal reporting. Some regional economies have lowered the bar from 20 workers to 10 workers and even 5 workers, and ensured that certain categories of workers in formal firms are not excluded from participation as a matter of policy (e.g., internal migrant workers). Self-employed workers remain a challenging category, though economies like the ROK have now included them in their pension systems, and Viet Nam’s 2024 reforms include registered business owners in the mandate.

A group that has received considerable attention in this regard is contract-for-service workers, most prominently in the gig or platform economy. This is part of a wider debate around whether employers are deliberately bypassing labor laws for such workers despite the employment arrangement having many characteristics of a regular employment relationship. This is a rapidly evolving legal and implementation agenda, and one of high relevance in Asia and the Pacific (International Labour

Organization [ILO] et al. 2023). The first step in the process is typically providing greater legal clarity on the nature of such employment relationships and whether platform workers are employees or self-employed workers. This remains a legal grey area in many economies in the region and globally.

Pending a wider resolution of the legal status of such workers, some economies have begun to pursue innovative policy directions: (i) working with platform companies as aggregators to catalyze voluntary platform worker pension contributions (e.g., *GOJEK* in Indonesia; *Grab* in Malaysia); (ii) using auto-enrollment and/or auto-deductions with opt-out options and developing user-friendly apps; or (iii) targeting operators through earmarked taxes (e.g., India's social security code anticipates a tax on the turnover of platform companies to fund some social security cover for their workers; ILO et al. 2023).

C. Covering Migrant Workers

A further group who are often excluded either as a matter of policy or in practice is international migrant workers. Covering this group remains an ongoing challenge in the region. At times, this is grounded in constitutional provisions that assure social security only for citizens of the economy (e.g., Indonesia). Even in some of the richer economies in Asia and the Pacific, contributions for foreigners are not mandated (e.g., in Singapore's Central Provident Fund). At the same time, practice is mixed, with Australia and the Philippines, for example, including foreign workers regardless of nationality. Others include foreign workers in their short-term benefit programs in the formal sector (e.g., Malaysia's PERKESO), but do not mandate contributions for retirement savings. Even where foreign workers, in principle, are subject to the same mandate as nationals (e.g., Thailand), they are often far less likely to be covered because of the informal nature of employment noted above, or because of unilateral employer avoidance or mutual agreements to avoid contributions in formal enterprises. While the relative importance of noncoverage or under-coverage of migrant workers varies significantly (both for sending and receiving economies), their exclusion as a matter of policy remains a cause for concern.

Even where foreign workers are mandated to participate in pension schemes, often there remains a major issue of portability of entitlements once they return to their home economies. This requires having bilateral social security agreements in place to promote portability, including totalization of entitlements across national systems (frequently an issue because of migrant workers failing to meet vesting requirements in one or both of their home and receiving economies). While such agreements are a common feature in OECD and European Union regimes (Holzmann and Koettl 2011, Holzmann 2018), they are largely absent in Asia and the Pacific, and work is needed to develop such arrangements (Pasadilla 2011).

Work is starting at the bilateral level, but it is early days (e.g., Viet Nam is in the process of negotiating its first such agreement with the ROK; Australia and Vanuatu have an agreement to allow transfer of Australian DC funds of Vanuatu migrant workers to the Vanuatu provident fund). A promising regional initiative is the 2022 Declaration on Portability of Social Security Benefits for Migrant Workers in the Association of Southeast Asian Nations. It commits to policy coverage of migrant workers and building a network of social security agreements, which would allow for portability of pension rights across economies.

One consideration to keep in mind as this work progresses is that funded DC schemes lend themselves to simpler portability and totalization arrangements than DB schemes. But recent innovations include the redesign of benefits that separate pre-saving and redistribution aspects, allowing DB rights to be transferred with the use of multinational private sector providers (Holzmann 2018). At national level, the PRC has also adopted guidelines that regulate cross-provincial portability of both DB and DC entitlements.

D. Getting More from Voluntary Schemes

Mandated approaches alone will only achieve so much success in addressing pension coverage gaps in settings where truly informal work continues to dominate. Therefore, some Asia and the Pacific economies have introduced voluntary schemes for informal sector workers that provide a contribution match from general revenues and other features to incentivize old age savings.

The approach was initiated by Sri Lanka in 1987–1990 for farmers and fishermen. The ROK followed suit in 1995 for the same groups. Over the last decade or so, other Asian economies have done the same, including India, Malaysia, the Philippines, Thailand, Viet Nam, and most recently Bangladesh. A unique hybrid of a matching scheme was introduced in the PRC in 2009, first for rural and then all informal workers. It combines a modest match on contributions ex-ante with provision of a (modest) lifetime basic pension after age 60 after 15 years of contributions or the lump-sum equivalent (Dong and Park 2019).

Most such schemes are specific to informal workers, although it is integrated into the main scheme in Viet Nam. Most are DC designs, though India and Viet Nam use a DB approach. Administration is typically done by the mainstream pension authorities, providing a degree of cross-subsidy of administrative costs. The level of matching also varies significantly across economies, with some offering a 1:1 match (e.g., India and the ROK) and others as low as 15% match on contributions (Malaysia). In some schemes, there is a lifetime limit on the period or cumulative amount of matching (e.g., Malaysia's *i-Saraan* and *i-Suri* matching schemes introduced lifetime caps on the government match in the 2024 budget, which is equivalent to 10 years of the annual maximum match in each case;

India's Atal Pension Yojana scheme had a 5-year limit, though the more recent Pradhan Mantri Shram Yogi Maan-dhan scheme has removed that). Often, there is also an annual cap on the amount of the match. For most schemes, the design is simple and flexible: contribution amounts can be modest and irregular to accommodate the volatility of informal sector incomes.

Globally, other innovations in matching schemes have been introduced, including (i) bundling retirement savings with short-term benefits to address the multiple needs of informal workers and myopia with respect to old age savings (this may include life or funeral insurance, health or maternity cover, or access to other financial products such as microfinance.); (ii) simplification of know-your-customer requirements for opening accounts (e.g., India's Atal Pension Yojana scheme); (iii) use of auto-enrollment, auto-deductions, or auto-escalation with opt-outs; (iv) reliance on contribution aggregators (e.g., trades unions, worker associations, coops, microfinance institutions, self-help groups, and telcos) to increase peer incentive effects and efficiency of administration for program implementers; and (v) expansion of contribution channels, in particular, use of mobile payments, platforms (e.g., WhatsApp in India), and convenience stores.

While matching schemes can lift voluntary contributions and increase participation in old age saving, low combined contributions, lifetime caps, and/or low contribution density still mean that only modest financial protection for the relevant groups is likely as they reach old age. Incremental coverage has also been modest to date. In Malaysia, Viet Nam, and India, only an additional 1%, 3%, and 5%, respectively, of the working age population have joined a matching scheme. Thailand has had more impact, with about 12% of the working age population in matching schemes. The most notable successes with matching schemes have been the ROK, which more than doubled participation between 1995 and 1999, and the PRC's hybrid scheme, which covered more than 380 million contributors by 2020, more than 90% of them in rural areas (Wang and Feng 2022).

E. Delivering Adequacy and Sustainability in Contributory Schemes

While policies to increase coverage are important, the level and fiscal affordability of contributory schemes also require policy attention. For DC schemes, fiscal sustainability is ensured by design (in the absence of generous minimum benefit guarantees), but adequacy remains a major challenge. This is commonly because of low or incomplete contribution density, particularly for women (section V.F); generous early withdrawals rules (e.g., from designated contingency accounts in places like India, Malaysia, and most Pacific DMCs); early withdrawal ages (e.g., Kiribati, Malaysia, and Sri Lanka); and low fund investment returns in some economies (e.g., in several Pacific DMCs historically). Even when DC accumulations are more substantial, lump sum withdrawal rules can compromise adequacy since they are typically exhausted within a short period after access and thus fail to provide financial

protection across older ages (e.g., in Malaysia, the majority of members are estimated to exhaust their lump sum within 3 years of withdrawal at age 55). The lump sum approach is particularly an issue in cultures where sharing of resources among extended families and clan or tribal networks is prevalent (e.g., *wantoks* in Melanesia). At the same time, the absence or underdevelopment of annuity markets across most emerging economies in the region make a rapid transition to annuitized benefits unlikely, and an approach of phased withdrawals has been preferred in a number of cases (creating, in effect, a “term DC”).

For NDC schemes (e.g., in Azerbaijan, the Kyrgyz Republic, and Tajikistan), benefits are paid throughout old age, but the benefit level is adjusted according to life expectancy at retirement of each cohort, which ensures fiscal sustainability but may yet compromise adequacy.

For DB schemes, the trade-off between benefit adequacy and fiscal sustainability in many regional economies has tended to be struck in favor of providing adequate benefits, with attendant risks for fiscal sustainability and a future reversal of pension promises. The pattern has been observed in OECD economies in the past, which had generous pension offers that were later curtailed in response to population aging (Whitehouse et al. 2009a). This is evident in Figure 4A, which shows often significant benefit rates in emerging economies in Asia and the Pacific.

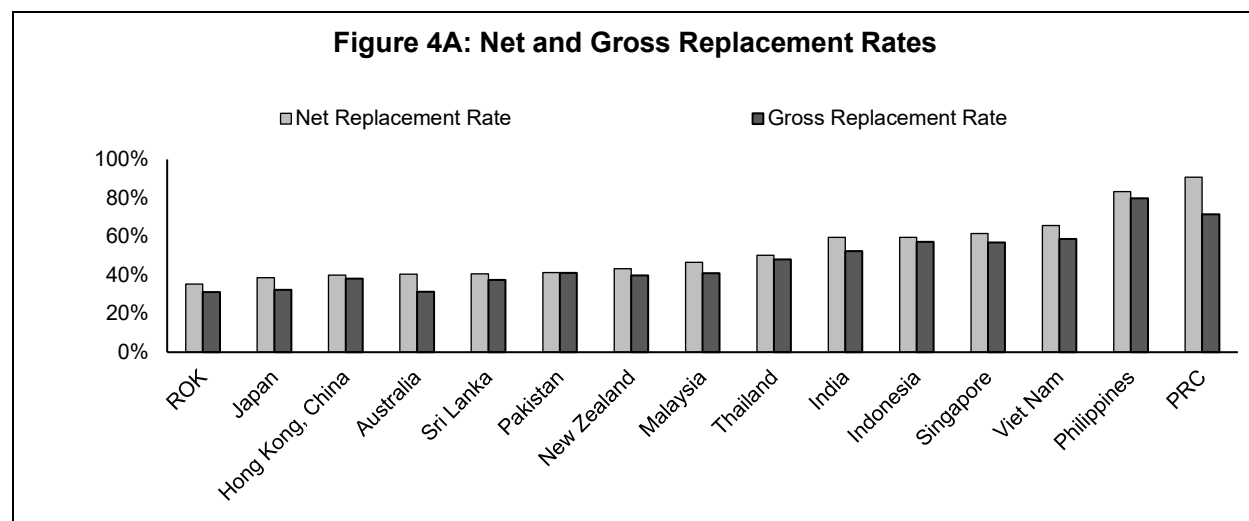
For some economies (e.g., the Philippines and Thailand), sustainability concerns are driven more by low DB contribution rates, while for others (e.g., Viet Nam) it is driven more by high target replacement rates even where contribution rates are significant. As a result, a number of DB schemes in the region face serious sustainability challenges over the medium to long run. At the same time, the absence of rule-based indexation mechanisms for benefits in payment in most economies (except in Viet Nam) provides a fiscal lever to control costs (e.g., not increasing benefits at times of inflation), but erodes adequacy by stealth (Whitehouse et al. 2009b). It is crucial to index pension values to a measure of community standards (e.g., wages; refer to section V.C), or at a minimum to prices to ensure sustained purchasing power.

In discussion around pension system sustainability and adequacy, a common and charged debate in many economies in the region has been around raising retirement and/or access ages for pensions and old age savings. A number of economies still have retirement ages that were set decades ago when life expectancy at retirement was years lower than presently (e.g., the PRC and Thailand) and the issue is more pronounced for women in economies with differential retirement ages. While there has been progress in the number of economies in Asia and the Pacific gradually increasing their retirement ages (including Indonesia, Viet Nam, and the Central Asia and Caucasus economies early in the transitions), a common source of resistance is the concern that raising retirement ages will

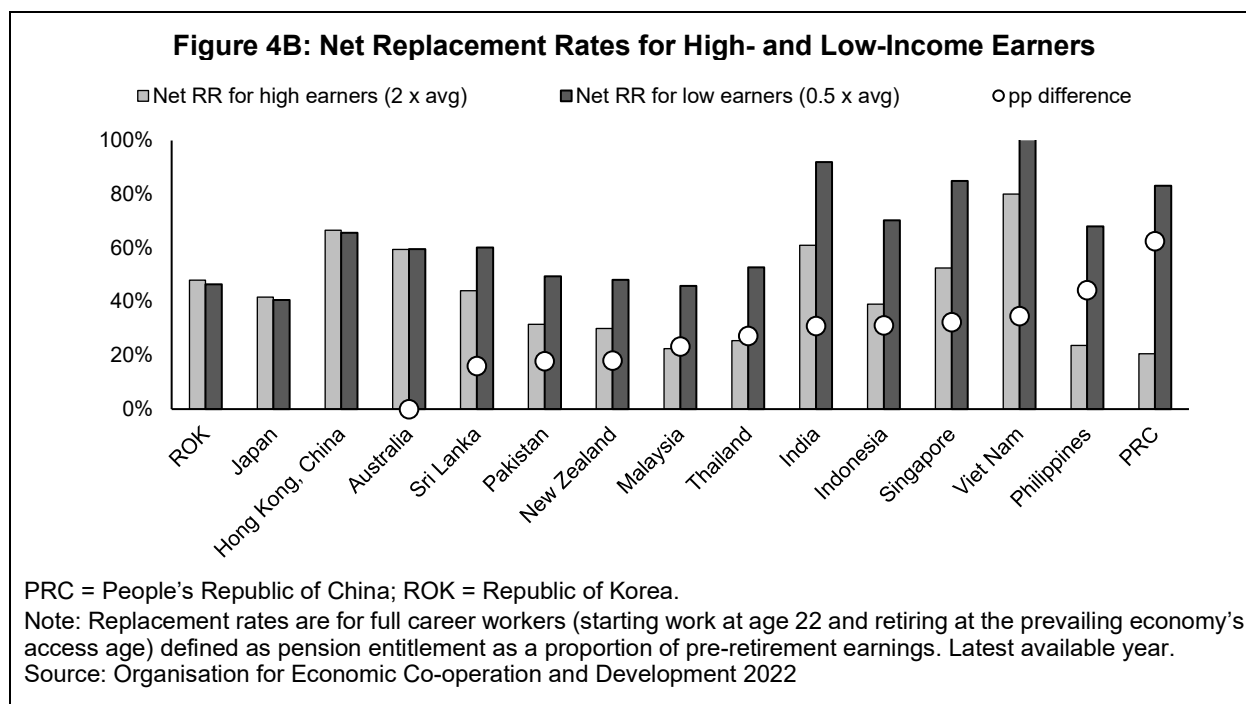
compromise the labor market prospects of younger workers. This concern, known as the “lump of labor fallacy” has been repeatedly shown not to be borne out in practice in OECD economies. More recent studies in the PRC, Malaysia, and Latin America reach similar conclusions (Zhang 2012, World Bank 2020 Apella 2024).

F. Increasing Adequacy via Redistribution within Contributory Schemes

A third major design feature of contributory schemes is the degree of internal redistribution between higher-income and lower-income contributors. There is considerable variation in this regard (Figure 4B). In general, in DC schemes, target replacement rates for low-income and high-income full-career workers are expected to be similar in economies with individual account and provident fund DC schemes (e.g., Indonesia, Malaysia, Singapore, and Sri Lanka). In contrast, some pension systems in Asia and the Pacific offer substantially higher replacement rates for low-income workers through a combination of minimum pension floors, contribution caps, benefit ceilings, or other flat rate components of benefit schedule design (e.g., Armenia, India, the Kyrgyz Republic, Pakistan, and the Philippines). In some cases, the earnings link of DC schemes is weakened via tax or by way of noncontributory universal or targeted schemes that raise replacement rates of low-income workers (e.g., Thailand and, among advanced economies in the region, Australia; refer to section IV on targeting). The result can mean that, in a number of economies, formal workers on half the average wage can expect 20- to 30-percentage point higher replacement rates than those on twice the average wage, and in the case of Pakistan, more than 60 percentage points higher.



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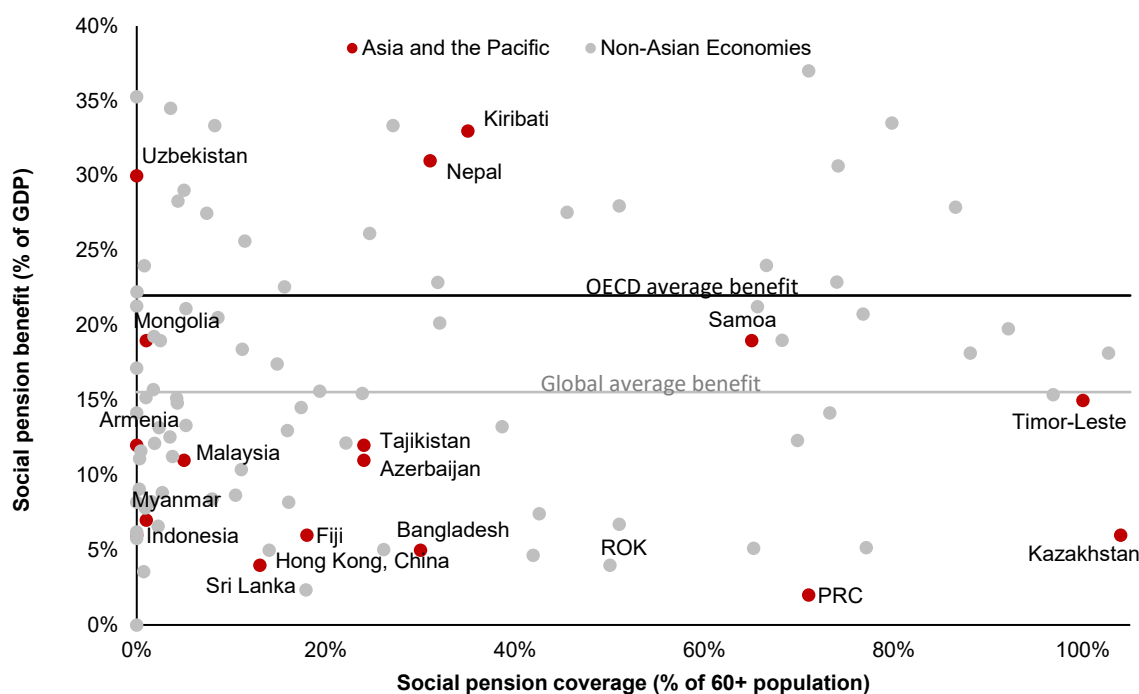
IV. COVERAGE AND ADEQUACY VIA SOCIAL PENSIONS

A. The Incomplete Bridge for the Coverage and Adequacy Gap

Given the challenges of achieving widespread participation in contributory schemes and persistently high informality, an increasing number of economies in Asia and the Pacific have supplemented contributory schemes with noncontributory social pensions with some success. These exhibit considerable variation in terms of coverage, from being the foundational pillar of the entire pension system at one extreme (e.g., Georgia and Timor-Leste) to absent or negligible (e.g., Cambodia, the Lao PDR, Pakistan, Sri Lanka, and several Pacific DMCs).

Among economies that do have social pensions, the trade-off between fiscal sustainability and adequacy has often prioritized the former. Indeed, a typical characteristic in the region is a low level of social pension coverage, low level of benefits, or both (Figure 5). Only five economies in Asia and the Pacific have benefit levels above the global average of 16% of GDP per capita, and three have benefits above the OECD average of 22%. In addition, 11 emerging economies in the region have social pension coverage below 50% of the age eligible population (often well below) even as their contributory systems remain underdeveloped. Investment in social pensions is typically very low (Figure 1), in some cases at the same time as continued high rates of public investment in regressive and environmentally harmful subsidies and excessive spending on generous civil service or military pensions (Damania et al. 2023, Asian Development Bank [ADB] 2016).

Figure 5: Social Pension Coverage and Benefit Levels



GDP = gross domestic product, OECD = Organisation for Economic Co-operation and Development, PRC = People's Republic of China, ROK = Republic of Korea.

Notes: Based on data from 2018 or latest. Benefit rates can differ for different groups (e.g., Thailand has different rates by age: those 60–69 get B600, which increments with each decade of life by B100 per month, to maximum of B1,000 per month over 90 years of age).

Source: Authors' best estimates based on data from the United Nations 2022, World Health Organization 2023, International Monetary Fund 2023, International Labour Organization 2023a, International Labour Organization 2023b, Organisation for Economic Co-operation and Development 2022 and 2024, World Bank WDI, P4SP 2024 for PICs, HelpAge International 2018, Allianz 2023, and Asian Development Bank personnel and national sources.

B. Raising Social Pension Benefit Levels to Improve Adequacy

The outcome of low social pension benefits is that, even where they have substantial reach, existing schemes tend to have modest impacts on the well-being of older people and are weak in reducing poverty (though have the potential to achieve a real impact in some economies [Box on page 21]).

For example, in Thailand, raising the social pension benefit level to 16% of GDP per capita is estimated to move another 12% of older households above the purchasing power parity (PPP) \$6.85 per day poverty line, reducing the PPP \$6.85 poverty rate to just 4.47% of households with older persons. Similarly, raising the benefit to 16% of GDP per capita in India would also move 12% of older households above the PPP \$3.65 per day poverty line, reducing older households' PPP \$3.65 poverty rate to 593%. Higher benefit levels would obviously reduce poverty further. For example, if India's and Thailand's social pension benefit was in line with 22% of GDP per capita, it would reduce old-age poverty to 48% and 2%, respectively, among older households (noting the differential poverty lines).

By contrast, raising the benefit to the global average for social pensions (16% of GDP per capita) or the OECD average (22% of GDP per capita) is estimated to make a far greater difference, with variation between economies depending on level of development, consumption distribution, and household composition (Figure 6A).

Figure 6A: Simulated Old Age Poverty Rates, By Level of Benefit and PPP Poverty Lines

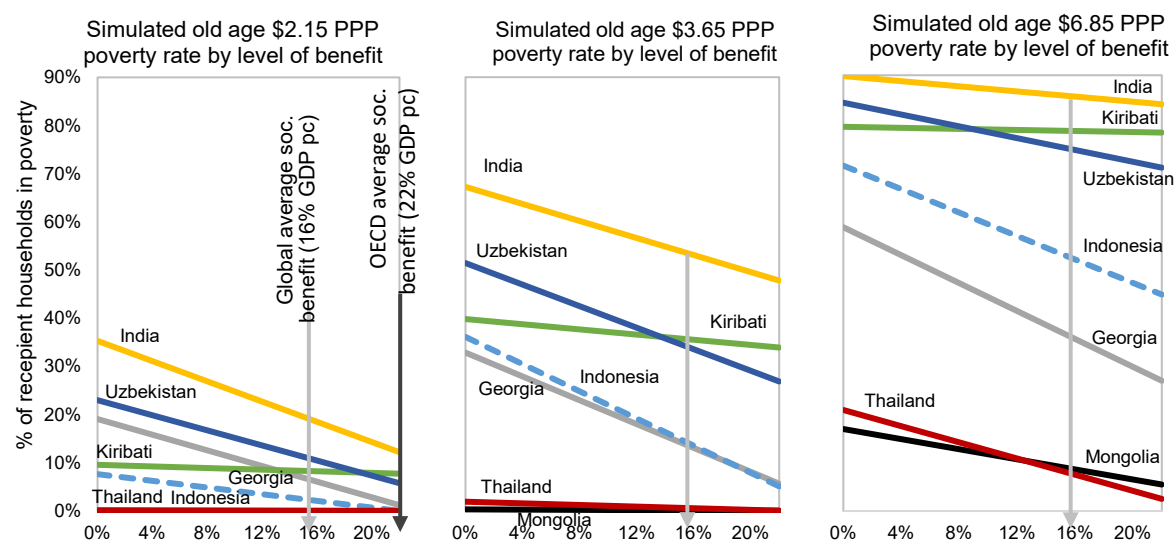
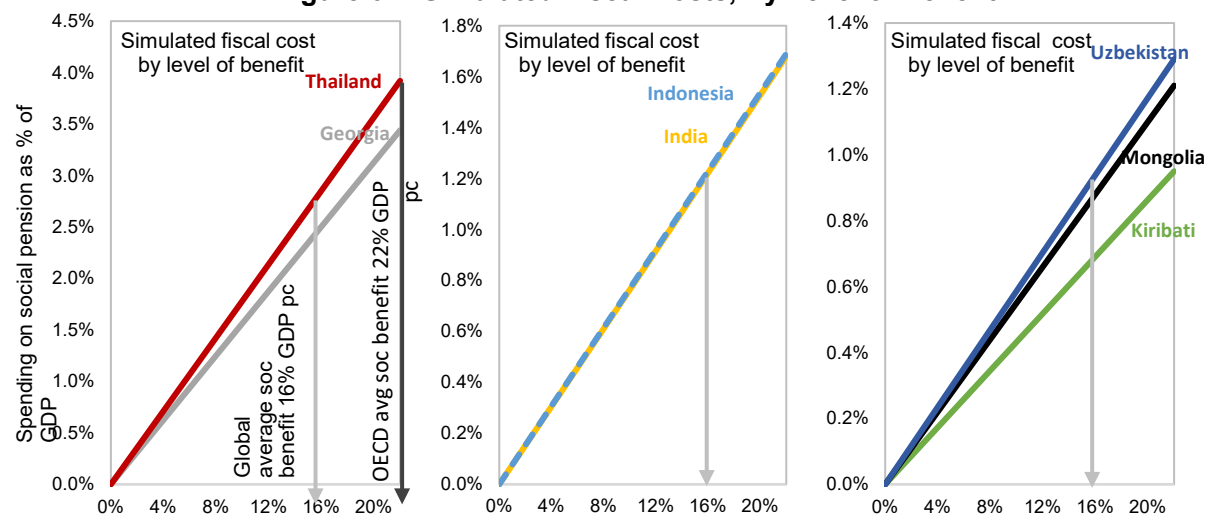


Figure 6B: Simulated Fiscal Costs, By Level of Benefit



Avg = average, GDP = gross domestic product, OECD = Organisation for Economic Co-operation and Development, PPP = purchasing power parity, soc = social.

Notes: Simulation is of 2024 poverty rates of households with age eligible persons and fiscal estimates assuming universal coverage of people aged 65+. Note different scales in spending charts.

Sources: Authors' best estimates based on data from the United Nations 2022, World Health Organization 2023, International Monetary Fund 2023, International Labour Organization 2023a, International Labour Organization 2023b, Organisation for Economic Co-operation and Development 2022 and 2024, World Bank WDI, P4SP 2024 for PICs, HelpAge International 2018, Allianz 2023, and Asian Development Bank personnel and national sources; Authors' analysis of data from United Nations Economic and Social Commission for Asia and the Pacific (2023).

Choosing the exact benefit level is ultimately a political consideration related to social views of poverty and fiscal capacity. While the basic acceptable standard of living could be judged against some absolute value (e.g., a fixed basket of goods), with increasing development, economy-wide benchmarks such as relative poverty lines, share of GDP per capita, minimum wages or community standards tend to apply (OECD 2023). As with parameters in contributory schemes, the advantage of raising and transparently linking benefits to a measure of national income ensures that benefits do not erode over time, serving the integrity of the pension system (e.g., Viet Nam, despite periodic increases in social pension benefits, has seen the real value of benefits eroded by around 25% over time).

The simulation exercise can also shed light on concerns about fiscal sustainability of social pensions (Figure 6B). Spending on a universal social pension with a benefit set at 16% of GDP per capita would, in 2024, be expected to cost between 0.7% of GDP (in Kiribati) and 2.9% of GDP (in Thailand). The differences are driven by the age distribution of the population, which also shifts over time. For example, rapid aging in Thailand can be expected to increase the costs of such a scheme to 3.6% of GDP in 2034. One solution to achieve adequate social pension benefits while ensuring fiscal sustainability is targeting of benefits, discussed in the following section.

Welfare Impacts of Pensions

Evidence is increasing that both social and contributory pensions have the capacity to lift recipients out of poverty. For example, receiving hybrid informal sector pension in the People's Republic of China (PRC) has been found to have positive impacts on consumption poverty, particularly in the poorer rural areas (Zhang, Giles, and Zhang 2014; Zhang, Fang, Brown 2020). Further, welfare-improving impacts have been observed across multidimensional measures of poverty, such as health, household income, and food expenditure (Huang and Zhang 2021, Zhang and Imai 2023). Conversely, for Thailand, studies have not found significant poverty impacts from the social pension (e.g., Giles and Huang 2017). Contributory pensions also have significant welfare impacts. In the PRC, Indonesia, Thailand, and Viet Nam, the receipt of contributory pensions was associated with considerable reduction in poverty in both rural and urban areas, with a consistently greater impact in rural areas (Giles and Huang 2017).

In emerging economies with high rates of multigenerational households, pension receipt can have significant spillover impacts also, which is not often considered in a developed economy context. For example, the receipt of a social pension has been shown to improve care, education, health, and nutrition outcomes of children in the PRC (particularly for those left behind by migrant parents), and education and child labor outcomes in Thailand (Huang and Zhang 2021; Zhang, Fang, Brown 2020). Similar results are observed in other emerging economies outside the region (Ardington, Case, and Hosegood 2009; Moscona and Seck 2021; De Carvalho Filho 2012). Interestingly, no such impacts are seen in advanced Asian economies such as Japan and the Republic of Korea (O'Keefe, Giles, and Yang 2021).

Source: Ardington, Case, and Hosegood 2009; De Carvalho Filho 2012; Giles and Huang 2017; Huang and Zhang 2021; Moscona and Seck 2021; O'Keefe, Giles, and Huang 2021; Zhang and Imai 2023; Zhang, Giles, and Zhang 2014; Zheng, Fang, and Brown 2020.

C. Improving Targeting

Targeted social pensions offers a win-win scenario: improving adequacy and, potentially, coverage while keeping fiscal costs in check. Indeed, if social pensions are to play a more prominent role in the retirement income systems of the region, improving targeting mechanisms will need closer attention from policymakers.

While it is important to keep in mind the global commitment to progressive universalism of social protection systems (e.g., under the UN's Social Protection Floor initiative and ILO's recommendation 202 on universal social protection adopted by 185 economies in 2012), this does not exclude the possibility of targeting in individual programs and takes account of fiscal constraints and other factors (Grosh et al. 2022 has a thorough discussion of how targeting can be reconciled with progressive universalism). Globally, as of around 2020, social pension programs were progressively targeted (with the bottom quintile accounting for just under 30% of total beneficiaries), but less so than all other major categories of social assistance (with quintiles 3–5 accounting for 15%–20% of total beneficiaries, respectively), reflecting a combination of policy choices around eligibility and implementation factors (Grosh et al. 2022).

D. Who benefits? Is it distortionary? Is it simple?

Typical considerations when thinking about advantages and disadvantages of targeting relate to who gets the benefits, to what extent does targeting affect incentives and distort behavior, and how easy and efficient is its implementation. Understanding these can help in understanding the nature of targeting as a policy lever.

Targeted social pensions have several advantages, and should be seen as complements to contributory systems. First, they can better direct benefits to those most in need, reducing rather than exacerbating relative poverty and inequality. Second, they can be funded from broader tax revenue rather than more distortionary labor taxes. The funding of targeted schemes is also more sustainable over time since the economic development and maturation of complementary contributory schemes reduces the relative size of the targeted population (even as demography increases the overall share of older people). And third, targeted social schemes require only current information about recipients rather than record keeping spanning several decades, which, in turn, is complicated by the fluid employer–employee formal–informal relationships often in place across Asia and the Pacific (Kudrna, O’Keefe, and Piggott 2021).

E. Why Targeting is Superior to Universality in Principle

Targeted social schemes also emerge as superior to universal schemes in principle. First, well-designed schemes generally are better directed to those most in need or excluding those who are most affluent. However, poorly designed targeting and weak administrative capacity can result in exclusion errors (where the mechanism fails to identify those in need) and inclusion errors (where those who are included are not in need). These considerations are much more salient in developing economies (see below). As seen in Figure 1, the tightness of targeting of social pensions varies greatly

across Asia and the Pacific. Some are very tightly targeted with a policy emphasis on reducing inclusion errors, and others are universal or much more inclusively targeted, where the policy priority is on minimizing exclusion errors. Differences in mortality rates between poor and affluent people make targeted pensions even more equitable, providing greater benefits to lower-income, shorter-lived residents compared to universal schemes (Waldron 2007, Cristia 2009, Banerjee and Duflo 2010).

Second, contrary to widely held assumptions, targeting can be less distortionary and more economically efficient than universality. This has been demonstrated in comprehensive models that account for a range of interactions across the economy and over time (Kumru and Piggott 2009, 2010; Chomik et al. 2015; Kudrna 2016; Kudrna, Tran, and Woodland 2019, 2022). The intuition is that, while targeting induces effective marginal tax rates that can discourage employment, formalization, and savings for those in its scope, it does not directly affect the poorest (who would get the benefit in any case) nor the richest (who would not get the benefit in any case). What is more, targeted schemes are cheaper for a given maximum benefit level (see illustrative examples below), which means that economy-wide taxes and distortions are lower. The affordability of a targeted scheme is compounded by the fact that poorer recipient households tend to have shorter life expectancies than the excluded, higher-income households. By contrast, universal pensions affect everyone's retirement income, potentially reducing work incentives across the earnings distribution. And in addition, the more expensive universal schemes exacerbate distortions elsewhere in the economy because of greater tax requirements.

Third, while universal social schemes are easier to administer and require fewer records (i.e., only identification and proof of age), there are ways of simplifying the targeting mechanism for social pensions.

F. Means Testing and Proxy Means Testing

A standard means test in an advanced economy assesses assets, income, or both. The test then determines the benefit paid based on three sets of parameters: (i) the maximum benefit; (ii) the disregard (an initial threshold of other pension, income, earnings, and/or assets that is not tested); and (iii) the taper (or withdrawal) rate. Each element can act as a policy lever (e.g., encouraging people beyond the access age to work by increasing the disregard on wage earnings; steeper tapers can reduce the cost and distortions [Chomik and Piggott 2014]).

A number of economies in emerging Asia and the Pacific use means-testing or hybrid means-testing, which combines actual verification of easy-to-monitor income sources and imputation of other sources, in their social pension programs (e.g., Malaysia and Viet Nam). The targeting outcomes of these

programs are progressive but tend to have significant exclusion errors, which are grounded in both design and implementation shortcomings.

However, in many emerging economies, the difficulty of observing informal earnings and incomes, lack of thorough records on assets, and weak administrative capacity has meant that comprehensive (or even hybrid) means-testing has been challenging. In considering alternatives, different targeting approaches represent a trade-off between comprehensiveness (which can affect inclusion and exclusion errors), feasibility, political sensitivity, administrative capacity, and behavioral considerations. With advances in digital technology and banking, comprehensive means testing may become more viable in the future (section V.G).

Across emerging economies (including in Asia and the Pacific), poverty targeting of different forms has usually resulted in progressive benefit incidence but is associated with exclusion and inclusion errors, both with respect to theoretical design shortcomings (Brown, Ravallion, and Van de Walle 2016, Kidd et al. 2017) and actual performance, especially when coverage is intended for the extremely poor people. One strategy is to make use of proxy means testing (PMT), which determines eligibility based on observable characteristics and their correlation with poverty rather than directly assessing household or individual means. It typically relies on factors such as asset ownership, housing conditions, or household demographics to estimate the economic well-being of households. An even simpler version is poverty score cards, which also use indicator-based targeting but without the complex use of regressions and variable weights that underpin PMT.

A number of regional economies employ PMTs (e.g., Indonesia, Pakistan, and the Philippines) or poverty score cards (e.g. India's below the poverty line targeting approach). While PMTs in Asia have been found to be progressive (e.g., in 2017, the bottom quintile of the distribution received about 43% and 48% of benefits in the Philippines' *Pantawid Pamilyang Pilipino* Program and Pakistan's Benazir Income Support Programme, respectively), they have also been found to be subject to major exclusion errors (e.g., excluding about half of the bottom quintile in the Philippines and Indonesia [Acosta, Avalos, and Zapata 2019; Cheema et al. 2016]).

If the primary priority of policymakers is to minimize exclusion errors in targeting, PMT approaches have significant shortcomings (though some may be diluted through better algorithms and use of machine learning models [Areias and Wai-Poi 2022]).

G. Simplifying Targeting

Given the challenges that are associated with both means-testing (or hybrid means-testing) and PMTs in economies with high informality, two other simple targeting strategies for social pensions may appeal to policymakers in the region: pension-testing (where formal scheme benefits exclude individuals from eligibility for social pensions) and age-based targeting (where eligibility age is substantially above age 65). Age-based targeting prioritizes support to those with largely depleted productive capacity (refer to healthy life expectancy comparisons in Figure 1).

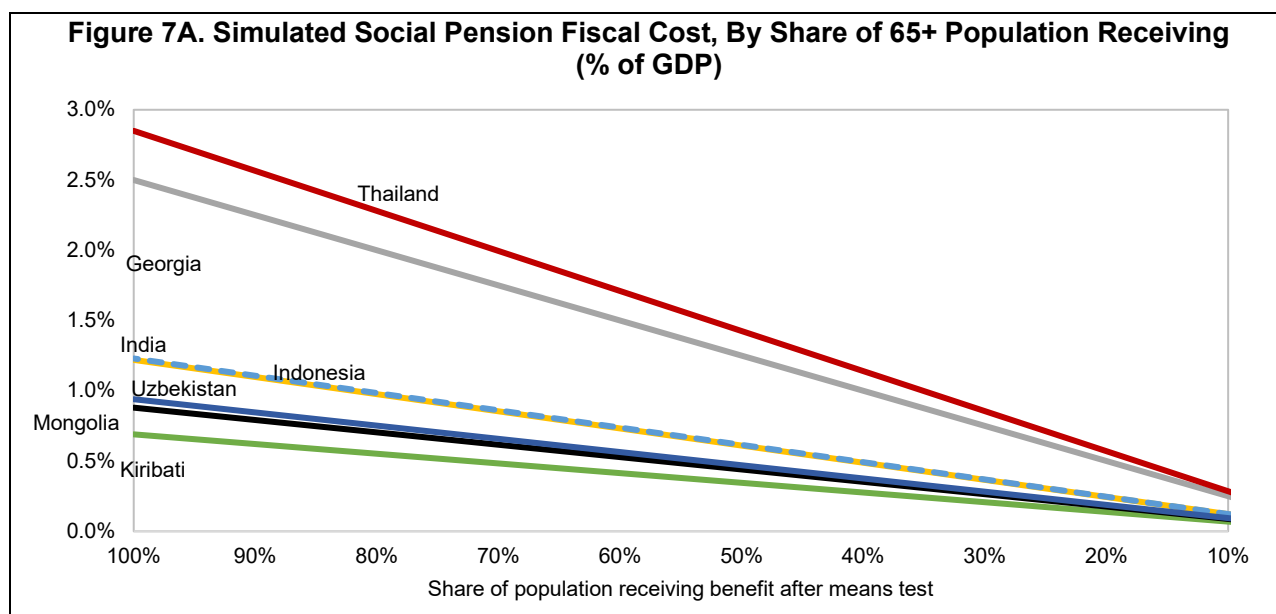
As noted in Figure 2, a number of economies already make use of pension testing, advanced age targeting, or both. For example, Thailand's pension-tested scheme results in more than 70% of those over 60 receiving social pensions, while Myanmar uses a very high threshold of 85 years of age to restrict eligibility. Viet Nam's social pension program takes a mixed approach. Those aged 60–79 are tightly means-tested (resulting in only about 2% of that age cohort receiving benefits), while those over the age of 80 are only pension-tested (resulting in about three-quarters of the cohort receiving benefits). Where pension-testing is used, it may be necessary in DC schemes to consider whether some minimal account accumulation would be required before the pension test was applied to reduce disincentive effects for participation in contributory schemes by low-income workers. More advanced systems such as in Chile have managed this issue through tapering of the social pension as benefits from the contributory scheme increase.

Access ages are often a controversial parameter to increase, but establishing a scheme with a high eligibility age may provide for future flexibility to reduce it as budgets permit (for example, as Nepal and Myanmar have done with their social pension schemes). The obvious caveat on such an approach is the differential mortality profiles of richer and poorer people, with the former on average outliving the latter. In contrast, in a number of economies in Asia and the Pacific, social pension eligibility age may be currently too low, potentially affecting work incentives in economies where those in the informal sector often work into their 70s (refer to Figure 1 and discussion on work incentives below). Just as with contributory pensions, the eligibility age should also be subject to automatic adjustment in line with increasing life expectancy (or healthy life expectancy). Both fairness and sustainability are relevant to the ultimate choice of access age (Chomik and Whitehouse 2010). While there may be a case for aligning the eligibility age for social pensions with the retirement age in contributory schemes, in principle, this need not be the case. But at a minimum, access age to social pensions should not be below that of contributory schemes to avoid perverse incentives.

H. Simulating the Fiscal Impact of Targeting

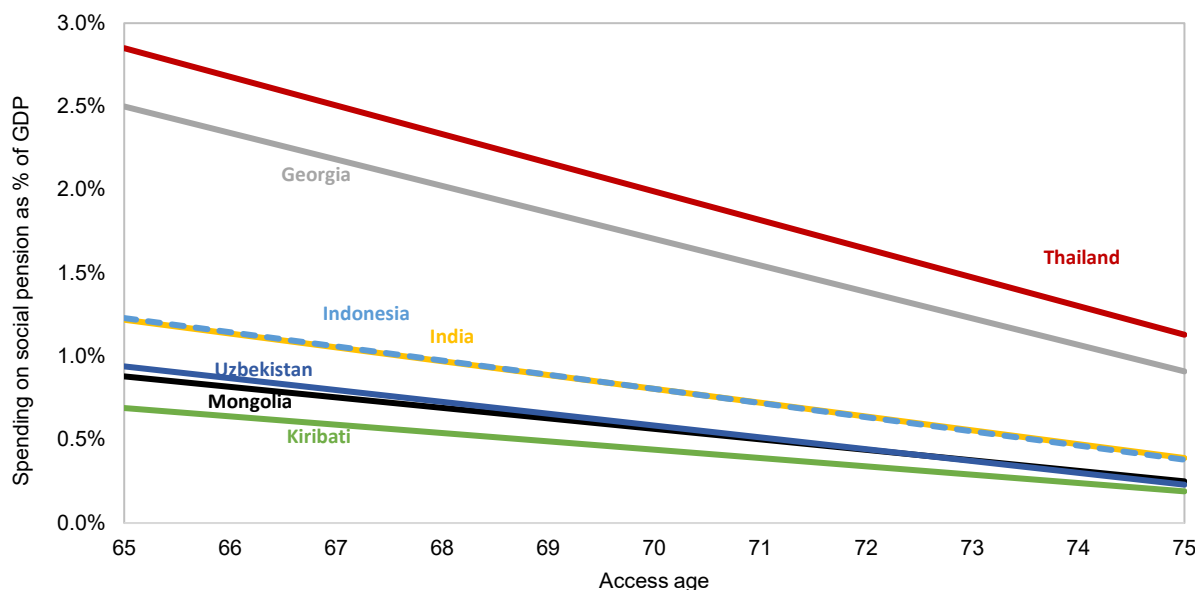
A simple hypothetical simulation exercise can illustrate the magnitude of first order fiscal impacts of targeting a social pension, both in the case of a test of means or by differing accessibility ages (Figures 7A and 7B). In general, the cost of such schemes is a function of underlying demographics. For example, Thailand has a greater share of older people than Kiribati so would spend more at any given combination of population coverage and age eligibility.

A tighter means test (of any form), that, say, halves the eligible population also halves the fiscal cost. For example, a universal pension paying 16% of GDP per capita to Indonesians aged 65+ would cost the government 1.2% of GDP, but be halved to 0.6% with such a means test. With demographic aging over the next decade, this would only increase slightly to 1% of GDP in 2034. If such a benefit was instead universal but restricted by age, setting the access age at 75 would result in a cost of 0.4% of GDP in 2024 and 0.5% of GDP in 2034.



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Figure 7B. Simulated Fiscal Cost of Universal Social Pension with Variable Eligibility Age (% of GDP)



GDP = gross domestic product.

Notes: Based on social pension benefit set at 16% of GDP. Based on binary test of means where only those within the indicated proportion of population receive it. Assumes administration cost of 5% of cost of scheme. In Figure A, eligibility age is constant at 65. In Figure B, all age eligible households are assumed to receive the benefit.

Source: Authors' analysis of data from United Nations Economic and Social Commission for Asia and the Pacific (2023).

An inevitable question when considering the feasibility of an expanded social pension is how it would be financed. The question is more acute in the economies of Asia and the Pacific that have very low aggregate public revenues, and often significant debt service obligations (Figure 1). For some economies, there is potential to create fiscal space through reallocation of existing spending, most notably from consumer fuel subsidies (e.g., Indonesia, Malaysia, and Pakistan). In such instances, the cost of such subsidies presently easily exceeds the potential costs of introducing or expanding a well-designed social pension. A second source of potential fiscal space is parametric reforms of contributory schemes, such as increases in retirement age, adjustments in accrual rates, or actuarially determined early retirement provisions. For example, modelling for Indonesia shows that the legislated gradual increase in retirement age in its contributory scheme would finance around one quarter of the cost of introducing a modest social pension (Kudrna, Piggott, and Poonpolkul 2024). Reforms of very generous civil service and military schemes offer particular potential in this regard. Beyond measures to reduce existing expenditures, the question becomes a wider one of how to improve public revenue performance to create fiscal space for social pensions, enhanced MDC matching, pension fund deficit coverage, or indeed any other general revenue financed expenditure. While greater reliance on progressive income taxes would be desirable, the combination of high informality, generous PIT thresholds, and sometimes weak tax administration capacity limits the scope of that channel in much

of Asia and the Pacific. Looking at other revenue instrument requires balancing considerations of their revenue potential, costs and feasibility of administration and compliance, impacts on growth and incentives of firms and workers, redistributive implications, and other factors (Ter-Minassian 2019).

V. OTHER POLICY PERSPECTIVES AND INNOVATIONS

The complexity of pension systems means that there are multiple objectives, moving parts, and perspectives to consider beyond the broad imperatives of increasing coverage, adequacy, and maintaining fiscal sustainability. Here we touch on several specific issues for Asia and the Pacific pension reform agenda. These include: work incentives of pensions, interaction with private transfers, automatic adjustment mechanisms (AAMs) in pensions, gender dimensions, lessons and ramifications of the coronavirus disease (COVID-19) pandemic, and some innovative policy highlights that are related to financial decision-making and financial technology.

A. The Interaction between Pensions and Work Incentives

Discussion above has tackled the effect of targeting on incentives and labor market behavior of households. But there is evidence that pensions systems exert other financial incentives that affect work and retirement decisions (Gruber and Wise 1998, 1999). Recent literature in Asia and the Pacific also suggests that getting pension settings right is important for work incentives.

For example, the probability of workforce withdrawal increases statistically significantly upon receiving a contributory pension among urban workers in the PRC as well as urban and rural men in Indonesia (O’Keefe, Giles, and Yang 2021). In Thailand, the slightly more generous social pension also has had some observable impact (Giles and Huang 2017). By contrast, the impact of receiving a hybrid social pension is limited in the PRC (Zhang, Giles, and Zhang 2014).

It is unsurprising that where older workers can retire early on reasonable incomes, they choose to do so. For policymakers, the balance is to set pension system parameters in such a way that older people are protected, but system incentives still encourage people to work longer and continue contributing to the pension system. The most obvious policy lever is pension access ages, the setting of which should consider both fairness and long-term sustainability, as well as labor market impacts (Chomik and Whitehouse 2010). As noted earlier, in many economies in the region, access ages are low for social, contributory, or both types of pensions, even taking account of differences in healthy and total life expectancy (e.g., the PRC, Solomon Islands, and Thailand, for contributory schemes; the PRC, Kazakhstan, Thailand, and Uzbekistan, for social pensions). These could be raised and linked to some measure of life expectancy (Section C on automatic stabilizers).

Another policy lever is the extent to which contributory pensions require retirement to receive a pension. Such work tests or earnings tests are not uncommon, but OECD economies have sought to remove them (e.g., Norway, the United Kingdom, the United States, and most recently Denmark). Most economies of the former Soviet Union removed such tests as part of their pension reforms during transition and provident funds in Asia and the Pacific do not typically impose them, but some DB schemes in the region have retained them (e.g., the Philippines, for those between ages 60 and 65). Modelling based on advanced economies suggests that removing work tests can delay retirement but reduce claiming age, often resulting in longer working lives but with lower work intensity (Song and Manchester 2007; Blundell, French, and Tetlow 2016). Pension policymakers, therefore, may wish to complement the abolishment of work tests with mechanisms that increase pensions if these are claimed later. This takes place automatically within DC schemes and can be done via an actuarially fair adjustment within DB schemes.

Regulations and laws outside the pension system can also affect retirement choices. One obvious feature relates to mandatory retirement ages (e.g., Viet Nam had to amend its labor code provisions on retirement age before it was able to raise the age in social insurance legislation). In most OECD economies, anti-age-discrimination legislation has sought to outlaw mandatory retirement ages, though in much of Asia and the Pacific employment discrimination legislation generally has not yet explicitly included age as a prohibited basis for workplace discrimination.

B. The Interaction between Pensions and Private Transfers

Another potential trade-off when designing pension systems is between public and private transfers, though it is unclear the extent to which such concerns should inhibit the development of publicly supported benefits. In many economies in Asia and the Pacific, financial transfers from adult children to older parents occur, though empirical evidence from East Asia and Southeast Asia suggests that they are often less substantial and, in net terms, kick in notably later than popularly believed (World Bank 2016). Nonetheless, understanding whether social pensions may crowd out private transfers is an important consideration in assessing their net welfare impact.

Evidence from developed economies suggests that the crowding out effects of public transfers tend to be modest (Feldstein and Liebman 2002). A useful literature review of crowding out effects of public transfers in developing economies is provided by Nikolov and Bonci (2020). For pensions specifically, including social pensions, just over a third of the studies reviewed globally find no crowding out effect of pension transfers on familial transfers, though the average effect across all studies reviewed was about 27% of the transfer amount.

That said, regional studies in the PRC, India, and Nepal suggest low levels of crowding out and, even in some cases, significant crowding in (Nikolov and Adelman 2019; Chen et al. 2016; Kang 2004; Dutta, O’Keefe, and Rashid 2008). In Nepal, crowding-in of private transfers saw an additional 20% in private transfers to social pension recipients. Overall, the authors also find that gender impacts may differ, but again not in consistent directions across economies. A study in Bangladesh, for example, on crowding out of private transfers found that the effect was larger for older men than older women (McKernan, Pitt, Moskowitz 2005). An important takeaway is that findings across economies are variable, suggesting that robust evaluation of welfare impacts of social pensions should be carried out for individual economies. In such studies, it is also vital to consider nonfinancial support from adult children to older parents, whether in the form of housing, care support, food, or other in-kind support. Behavioral responses with respect to nonfinancial support may well differ from those for financial inter-familial transfers.

C. Automatic Adjustment Mechanisms in Pension Systems

A striking feature of pension systems in emerging Asia and the Pacific is the absence of AAMs, which have become an increasingly common feature of pension systems in OECD economies (DC and NDC schemes in Asia and the Pacific are an exception). AAMs refer to “predefined rules that automatically change pension parameters or pension benefits based on the evolution of a demographic, economic, or financial indicator” (OECD 2021). From a system viewpoint, these help pensions remain sustainable in the face of evolving factors. From a political viewpoint, they reduce political turbulence accompanying *ad hoc* adjustments in pensions. From the households’ viewpoint, they provide greater predictability around pension income (e.g., via rule-based indexation of pensions), though may also result in downward adjustments of benefits. In 2021, about two-thirds of OECD economies had one or more AAMs built into their mandatory or quasi-mandatory pension systems.

AAMs can take several forms: (i) an NDC structure of the pension system which has inbuilt adjustment mechanisms around shifting demographics (e.g., Azerbaijan, the Kyrgyz Republic, and Tajikistan in Asia; and Italy, Norway, Poland, and Sweden in OECD); (ii) adjustments in access age automatically linked to changes in life expectancy (e.g., on a 1:1 basis as in Denmark and Italy or some proportion of the increase in life expectancy as in Finland, the Netherlands, and Portugal); (iii) benefits adjustments automatically linked to life expectancy, demographic ratios, wage bill, or GDP (as in Finland, Greece, Japan, and Portugal); (iv) balancing mechanisms to ensure short-term or long-term projected financial balance of pensions, relying on differing combinations of changes to pension benefits, points, or contribution rates (e.g., Canada, Germany, the Netherlands, Sweden, and the United States); and (v) funded DC systems (when no minimum benefit guarantee is provided) also act

as automatic stabilizers as no fixed promise is made about the level of pension until the point of retirement (i.e., longer life expectancies automatically means the flow of benefits will be lower or last less long).

While AAMs help with predictability of pension systems, they also have limitations, as seen by OECD examples where they have been changed or cancelled. Like any public policy, they may be reversed because of political pressure (e.g., as in Germany, the Slovak Republic, and Spain), or diluted via temporary suspensions (e.g., as in Italy and the Netherlands). Alternatively, technical design issues or unanticipated developments in indicators may undermine their implementation (e.g., where projected and actual life expectancies diverge).

Alternative approaches to achieve long-term equilibrium of pension systems include the use of reserve funds. This approach was initiated in the United States social security system and, subsequently, has been adopted in more than 20 OECD economies, including Japan and the ROK, and more recently in the PRC. Reserve fund assets in several OECD economies amount to over one quarter of GDP, with about a third of GDP in Japan, about 45% in the ROK, but only about 3% of GDP to date in the PRC (OECD 2021).

Underpinning any mechanism to promote balance and sustainability of public pension systems should be regular actuarial projections of the system finances, preferably with sensitivity analysis around the underlying assumptions. Regular projections are particularly important in a region like East and Southeast Asia which are rapidly aging, or South Asia, which will soon begin to. While a growing number of public pension funds in the region undertake such analyses, it is important to mandate such a practice and ensure that it is carried out regularly (say every 3 years or so as is mandated for EU economies, for example).

D. Governance Issues in Pension Systems

Promises and preservation of pension rights must survive for long periods in pension systems, and this inevitably strains governance in any economy. In public pay-as-you-go systems, promises are routinely broken by governments: access ages are increased, survivor pensions are cut, and indexation of pensions in payment is reduced. These actions, however, are taken by accountable governments (i.e., in most cases, governments can lose office because of broken promises, or a failure to deliver).

Less clear are the nature and implications of governance failure in pre-funded pensions systems, particularly where private fund managers are part of the system. Here, financial and legal governance

must be robust over the whole period of working life and often beyond. This is challenging in advanced economies with decades of experience in managing long-term contractual saving. In emerging economies, the risk of governance failure must be factored into pension design. Where private fund managers are involved, there are additional issues of capacity of pension fund supervisors and principal-agent challenges.

At one extreme, fraud and/or embezzlement of government or privately managed pension funds remain real risks where regulatory oversight is weak (e.g., the arrest of Kazakhstan's pension fund head in 2017 for embezzlement; investment of pension or provident fund assets in businesses of connected parties as occurred in some Pacific DMCs provident funds in the 1990s and early 2000s).

Governance shortcomings can take many forms. A dramatic example is when individual accounts are nationalized and governments renege on the system design and promises (e.g., Argentina's and Hungary's nationalization of funded accounts). They may take less dramatic forms such as the use of DC contributions by subnational authorities in the PRC to make current pay-as-you-go pension payments, resulting in the widespread phenomenon of empty accounts in the contributory pillar, compromising adequacy of future pensions. By 2012, it was estimated that more than 90% of individual contributory pension accounts in the PRC were empty (Zuo 2014).

Where private players are involved in the collection, investment, and management of mandated pension schemes, governance challenges tend to be more acute in developing economies. This may be because of low regulatory capacity of agencies that are supervising private fund managers, lack of competition in the fund management sector, or poorly managed financial institutions with opaque management practices.

In this context, the International Social Security Association (ISSA), the International Organization of Pension Supervisors (IOPS), and OECD (2016) provide useful guidance and standards. ISSA's Good Governance Guidelines for Social Security Institutions focus on governance of public pension organizations and IOPS' Principles of Private Pension Supervision focus on privately managed funds. The ISSA guidelines emphasize five mutually enforcing principles of pension fund governance: accountability, transparency, predictability, participation, and dynamism.

Accountability requires that social security administrators are accountable for managing the program prudently, efficiently, and equitably. Transparency requires availability and accessibility of accurate, essential, and timely information to ensure that stakeholders are well informed of the true state of the social security program, and clear and simple rules, systems, and processes to limit discretion and arbitrariness in program administration. Predictability refers to the consistent application of the law and

its supporting policies, rules, and regulations. For social security programs, the rights and duties of members and beneficiaries must be well-defined, protected, and consistently enforced. Participation refers to the active education, engagement, and effective involvement of stakeholders to ensure the protection of their interests. Dynamism refers to ongoing improvements in fund operations.

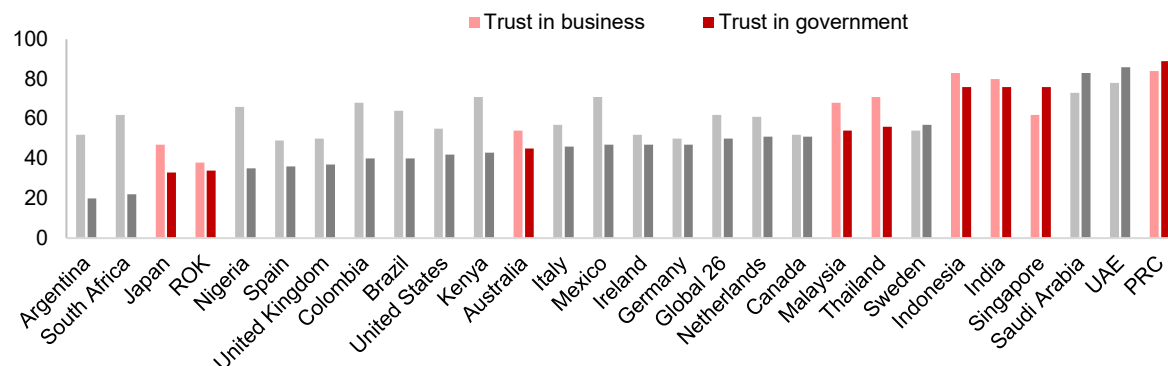
IOPS provides guiding principles for the regulation and operation of private pension systems, including the need for clear objectives on coverage, adequacy, security, efficiency, and sustainability. The IOPS principles form the basis of the 2016 OECD Core Principles of Private Pension Fund Regulation. Some Asian economies are taking note. Recent policy revisions in the PRC for supervision of social insurance funds expressly state many of these same principles. In addition to the principles, IOPS also has a series of detailed guidelines on specific dimensions of private pension fund management and supervision (e.g., licensing of funds, risk management practices, fund projections, use of alternative investments and derivatives, and integration of environmental, social, and governance principles in investment).

In addition to the regulation and management of private funds themselves, the OECD and IOPS place strong emphasis on well-functioning capital markets and financial institutions to ensure that pension savings can achieve adequate and diversified investment returns that balance risk and return over time. Where these conditions do not exist domestically, economies may consider atypical options. Kiribati provides an example in Asia and the Pacific absent local capital markets where the provident fund outsources fund management to an offshore fund manager in Australia.

Public trust in government and financial institutions is vital to the development of funded pension systems, and indeed any pension system. Available evidence on public trust suggests varying levels of trust in public institutions in general in Asia and the Pacific (Figure 8). More generally, in the region, while the share of people who are banked has increased steadily in recent years, among those who remained unbanked (overwhelmingly in the informal sector where the pension coverage challenge is most acute), lack of trust in financial institutions remains a non-negligible barrier (e.g., in India and Uzbekistan [Figure 11B]).

One overarching way to balance risks is to not put all of a pension system's "eggs in one basket." multi-pillar structures are better protected when one part of the system does not deliver on its promises.

Figure 8: Levels of Trust in Business and Government



PRC = People's Republic of China, ROK = Republic of Korea, UAE = United Arab Emirates.

Notes: Based on question: "how much do you trust the institution to do what is right [9-point scale]". Data based on November 2022.

Source: Edelman Trust Barometer (2023).

E. Pension Systems in Asia and the Pacific During COVID-19

During the COVID-19 pandemic, many economies made temporary adjustments in their pension systems to help mitigate the impact on contributors and firms. This was in addition to the widespread expansion of direct social assistance cash transfers. The most common measure was reductions, holidays, and deferments in pension contribution rates, but several economies with provident funds also allowed exceptional early withdrawals. In addition, a number of economies provided wage subsidies that mitigated the burden of pension contributions. Finally, a number of economies with DB pension schemes temporarily relaxed rules on the scheme funding requirements to reduce the need for emergency asset sales, which would have had long-term negative consequences on fund balances (OECD 2021, Feher and di Bidegain 2020, Gentilini et al. 2022).

Reductions, holidays, and deferments of pension (and often other social) contributions in Asia and the Pacific varied in scope, duration, and scale. For example, in some economies, virtually all contributing firms were covered (e.g., Fiji and Thailand), while in others, the support was targeted by contributor type or by region (e.g., in the PRC, initially in Hubei only, and then for all areas seriously impacted subsequently; in Samoa, contribution holidays for small and medium-sized enterprises only; in the ROK, special treatment varied for individuals according to their income level and for firms was focused on small and medium-sized enterprises; in Uzbekistan, only for individual entrepreneurs; ; and in Viet Nam, for firms with at least 50% of their workforce on temporary leave as a result of COVID-19 impacts). In most cases, initial short-term support (for 2 months–3 months) was extended during 2020 and sometimes beyond as the pandemic took hold.

The scale of reductions in contributions ranged from relatively modest to quite substantial (e.g., in Fiji, two-thirds of the total employer and employee contributions were waived during the latter three quarters of 2020; in Thailand, contributions were reduced to only 0.1% of wages for several months in 2020). While most economies did not have any explicit compensation to pension or provident funds for lost revenues, Mongolia was an example of an economy that borrowed from the World Bank to compensate its pension fund. There were also examples of bringing forward pension payments (e.g., India), adding a one-time supplemental payment through the fund (e.g., Samoa), or accelerated introduction of permanent increases in pension benefits (e.g., Georgia and Uzbekistan). For DB systems, the impact of reduced contributions was borne by the fund and, in the long-term, the budget to the extent that future fund deficits widen.

Exceptional early withdrawals were allowed in a number of economies with provident funds (e.g., Fiji, India, Malaysia, Papua New Guinea, Samoa, and Tonga). The impact was directly on individuals' longer-term savings because of withdrawals (sometimes during a trough in asset valuations) and lower bases for compounding of investment returns. Malaysia was a very pronounced example, authorizing four rounds of special withdrawals during 2020–2022, with withdrawals totaling about 15% of total assets of the Employees Provident Fund (Yap et al. 2023). Even prior to the pandemic, average balances were low, and the special withdrawals further reduced the share of contributors considered to have minimal adequate balances from 28% to 22% overall, and from 34% to only 19% for those aged 26–30 (Bank Negara Malaysia 2022). Gentilini et al. (2022) provide a detailed economy profile of COVID-19 social protection responses, including through the pension system, and Feher and di Bidegain (2020) provide a useful summary of pension policy responses during COVID-19, differential impacts on pension funds and members under different pension system arrangements, and policy guidance for use of the pension system in future crises.

F. Gender Dimensions of Pension Systems in Asia and the Pacific

Across much of the world, including Asia and the Pacific, there tend to be significant differences between genders in the level of financial protection offered by public pension systems. This is a product of several factors which often compound. The first is the gender gap in labor force participation in market work, and often higher rates of informal sector work even for women engaged in market work. As a result, many women are not primary members of contributory pension schemes. A second factor is the gender wage gap, which leads to lower amounts contributed over even full formal work histories. For example, in East Asia and the Pacific, the regional gender wage gap in 2015 was about 20%, and in South Asia was 33% (UN Women 2015). A third factor is the lower density of pension contributions because of primary care duties for children, older parents, and often grandchildren. This may be exacerbated in economies where the official retirement age for women is lower than that for

men (e.g., Bangladesh, the PRC, Georgia, Kazakhstan, the Lao PDR, Pakistan, Uzbekistan, and Viet Nam), a particular feature of economies with socialist systems or legacies. In DC systems, the longer average life span of women also means lower average benefits across the remaining years of life or greater likelihood of exhausting lump-sum payouts.

Some negative gender outcomes in terms of adequate coverage are partly offset in systems with survivor benefits for spouses of male pension contributors in DB systems or inheritance of the undrawn accumulation in provident funds or DC schemes (though accumulations in most provident funds in Asia and the Pacific are usually exhausted before the death of the spouse). Most DB schemes in the region have survivor benefits, though the design varies across economies and in the degree of financial protection offered. In some (e.g., the PRC, Indonesia, and Thailand), the survivor benefit is paid as a lump sum, and hence does not assure financial protection throughout older age. Other economies pay a lifetime benefit at differing levels, ranging from full benefits equal to those promised to the deceased (e.g., Malaysian civil service scheme and the Philippines), to those with variable fractions of the deceased's benefit (e.g., the ROK, Mongolia, and Uzbekistan), or some other benchmark (e.g., in Kazakhstan by a complex formula involving the benefit of the deceased and other adjustment factors, and in Viet Nam, a fraction of the minimum wage). Overall, even with full benefits, the level of protection from survivor schemes is only as strong as the coverage and adequacy of the contributory system.

Benefit design features within contributory systems that include redistributive elements are likely also to favor women (floors, flat rates, caps, and minima). Other examples of parameters that directly affect women include (i) long vesting periods which are less likely to be met by women because of career interruptions (and are an undesirable feature for all workers, particularly those who move between formal and informal sectors or in and out of the jurisdiction during their working lives); (ii) treatment of periods out of the paid workforce because of caring or child-rearing responsibilities (e.g., this is taken account of in Hong Kong, China; Timor-Leste; and Viet Nam for example); (iii) the use of sex-specific mortality rates to compute annuities in Hong Kong, China; India; Indonesia; Malaysia; and Singapore, mean that women's longer life expectancies result in lower benefits (most OECD economies do not allow this, so that annuity contracts cross-subsidize between sexes); and (iv) how lower pension access ages mean that women end up working less long, save less for old age, and have longer retirements (e.g., various economies in the region, including the PRC, the Lao PDR, Mongolia, and Viet Nam still have lower access ages for women, something that nearly all OECD economies have phased out).

Not all gender differences in pension outcomes can be addressed through contributory schemes, which are by design a reflection of labor market outcomes and their inherent inequalities. This is why wider coverage of social and means tested pensions are expected to be particularly advantageous to women, addressing *ex post* outcomes where *ex ante* contributions have lacked.

These factors combine in different ways across the region to result in lower financial protection from pension systems for women. Figure 9 ranks how the various factors combine in selected systems to provide variable levels of overall financial protection for women in old age.

Figure 9: How Different Pension Systems Rank on Gender Outcomes

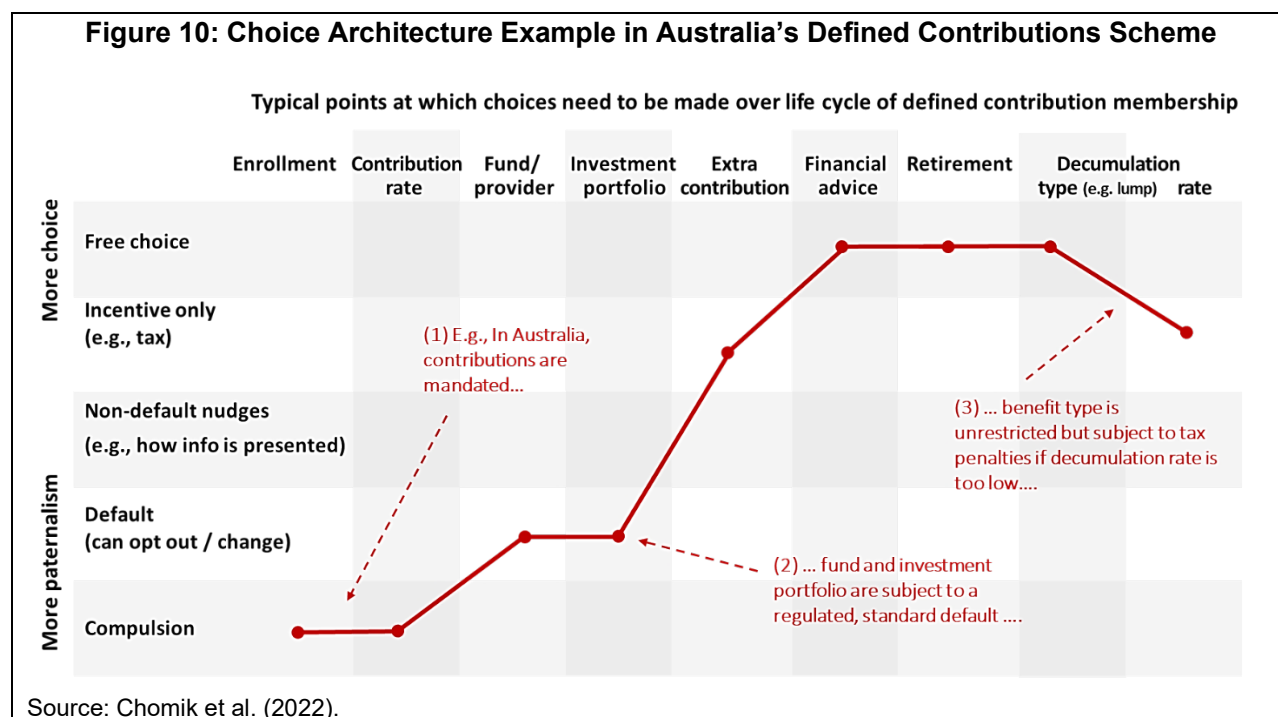
	Coverage	Expected Years Wage Employ	Pension Level	Gender Pension Difference	Redistribution	Survivor Benefit	Overall
Mongolia	1	7	4	1	4	3	1
PRC	3	3	2	6	2	8	2
Thailand	2	5	3	2	5	8	3
Viet Nam	4	6	1	5	5	3	4
ROK	5	4	5	2	1	3	5
Philippines	7	2	6	2	3	1	6
Malaysia	6	1	7	4	5	1	7
Indonesia	8	8	8	3	5	6	8

PRC = People's Republic of China, ROK = Republic of Korea.
Notes: Redistribution: extent to which system redistributes to lower earners (of which women a higher share).
Rankings: 1 indicates best performer among the selected economies and 8 the worst performer.
Source: Chłoń-Domińczak (2017).

G. Innovation Highlight: Better Financial Decisions for and in Old Age

Where pension systems rely on asset-backed schemes, they often cede at least some financial decision-making responsibility to individuals. Governments are also seeking to boost access to financial services, with often complex savings and investment products. These require financial literacy that helps individuals navigate financial concepts related to, for example, compound interest, the effect of inflation and fees, and the trade-off between risk and return. Financial literacy is low globally, but lower still in some economies in Asia and the Pacific. South Asian economies have some of the lowest financial literacy scores, with only a quarter or fewer adults financially literate (Klapper, Lusardi, and Van Oudheusden 2015), and also very low rates of financial inclusion (World Bank 2021). On average, such skills are lower and decline with age. There is recent evidence that financial literacy interventions can have a positive impact if they that are immersive, at an early age, and/or at the point of decision (Chomik et al. 2022, Yap et al. 2023).

Defined contribution schemes are most relevant here (germane to over 20 economies in Asia and the Pacific). While some decisions within such schemes might be mandated (e.g., enrollment and contribution rate for formal employees), others might be subject to tax incentives or left completely to individuals (e.g., taking the benefit as a lump sum versus an income stream). In between are a range of instruments that make use of insights from the field of behavioral finance (e.g., defaults and nudges) to improve the “choice architecture” faced by individuals and help guide better decisions. Figure 10 shows how policymakers in Australia have so far offered less decision guidance at older ages, an area that they are seeking to address as the system matures.



As noted by Chomik et al. (2022, p.40): “research in behavioral finance tells us that we can better guide decisions by: (i) reducing the choice set (e.g., providing fewer but higher quality products); (ii) simplifying supportive information (e.g., making product disclosures that inform rather than confuse); (iii) adding nudging information (e.g., anchoring suggestions and implicit endorsement); (iv) timing of decisions and reminders; (v) coaching the decision; and (vi) in the absence of choice, providing advantageous defaults or by outsourcing or sharing decisions with advisers or technology.”

H. Innovation Highlight: How Financialization and Digitalization Can Benefit Pensions

The development of pension systems in Asia and the Pacific comes at a time of major technological advancement. For example, financialization and digitization trends are likely to have considerable

impacts on the operation and delivery of pensions. Indeed, the adoption of technologies could alleviate the challenges of collecting and delivering pensions in informal sector settings.

An increasingly widespread foundation in public pension and transfer systems is reliance on digital identification (ID) systems, in particular biometric IDs. These can influence capacity and willingness to save in several ways. First, where biometric IDs are operational (e.g., Armenia, Cambodia, India, Indonesia, the Kyrgyz Republic, and Pakistan) or the system is phasing them in (e.g., the Philippines and Viet Nam), they can dramatically simplify know-your-customer requirements for bank account and mobile phone account opening and verification and interoperability of financial transactions. This makes it easier to contribute to and pay out pensions and increases financial inclusion and savings vehicles (including old age savings) for those often excluded from the formal financial sector in the past.

The most heralded application of biometric ID is in the India Stack, which uses the biometric Aadhaar national ID to link ID, personal authentication, and payments, while also aiming to protect data privacy through its Data Empowerment and Protection Architecture. In India, internal fraud and leakage from pension payments dropped by about half after the system transitioned from cash to payments via biometric smart cards. The investment in the new system more than paid for itself in administrative savings (World Bank 2021).

An increasing number of people in Asia and the Pacific now have a bank account. The rate has more than doubled in many regional economies, reaching over half of the adult population in all but Cambodia, the Lao PDR, Myanmar, and the economies of Central Asia (Figure 11A). COVID-19 accelerated the shift. A key reason given by those without bank accounts is lack of funds (rather than documentation or issues with trust, which remain non-negligible). So, for many people, social protection can be expected to drive financial and digital inclusion by the mere presence of transfers.

Social programs in developing economies are increasingly encompassing digital identification, information dissemination, and payment mechanisms into bank accounts (Muralidharan, Niehaus, and Sukhtankar 2016). Figure 11C shows that more than half of adult public transfer recipients in economies across the region typically get these benefits paid into an account (those lagging include Armenia, Cambodia, Indonesia, Myanmar, the Philippines, Sri Lanka, and Uzbekistan). In emerging economies, people who receive any payments (including wages) into an account are more likely to also make payments digitally and to save and borrow.

Figure 11A: Percentage of Population 15+ with Bank Accounts, 2011 and Latest Available

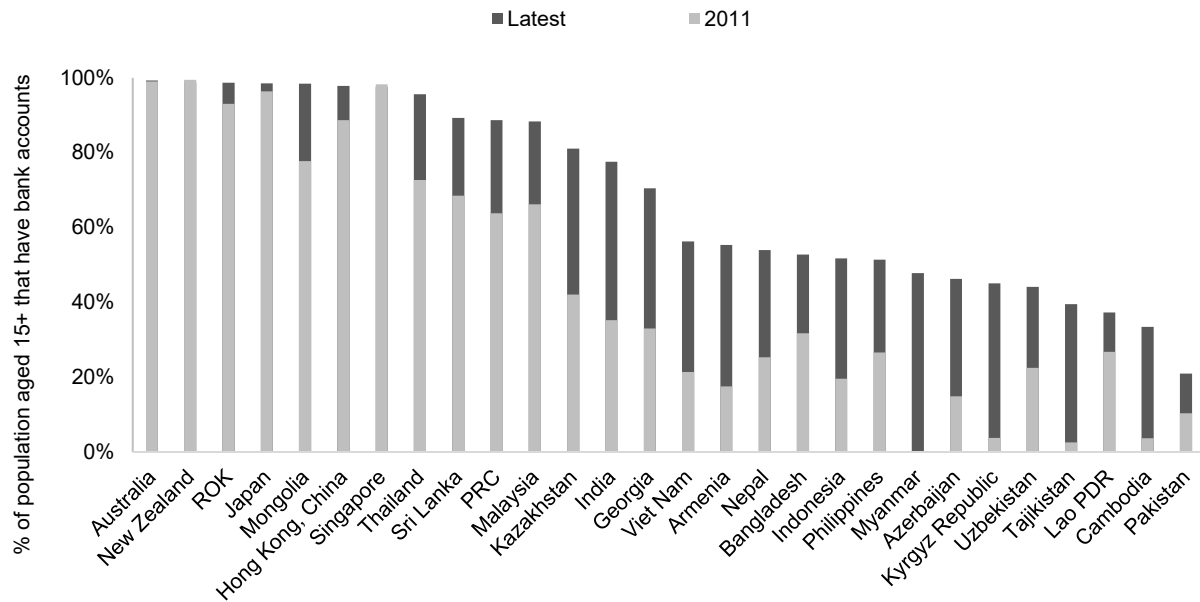
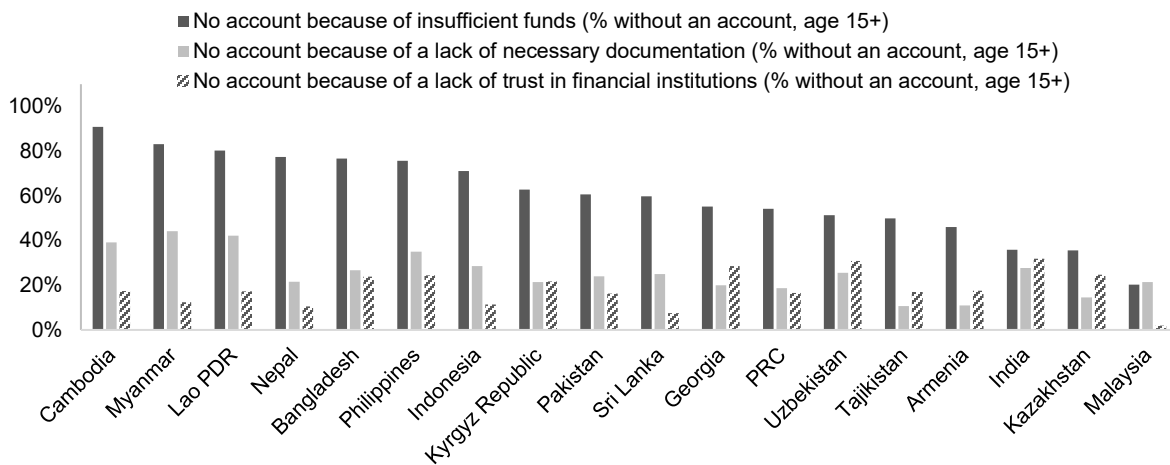


Figure 11B: Main Reasons for Not Having Account, Selected Asian Economies and Latest Available year



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Figure 11C: Percentage of Government Transfer and Pension Beneficiaries Age 15+ Paid Through Account

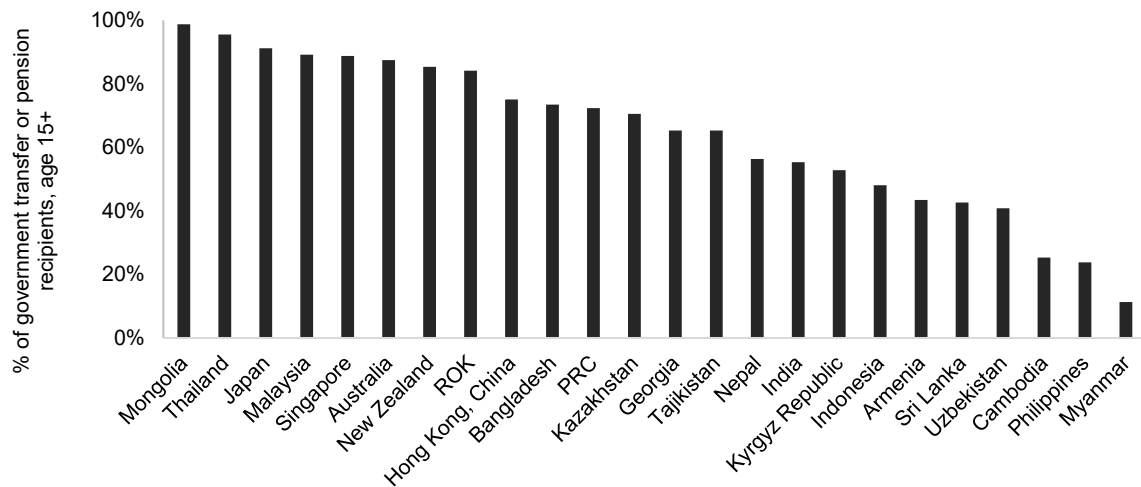
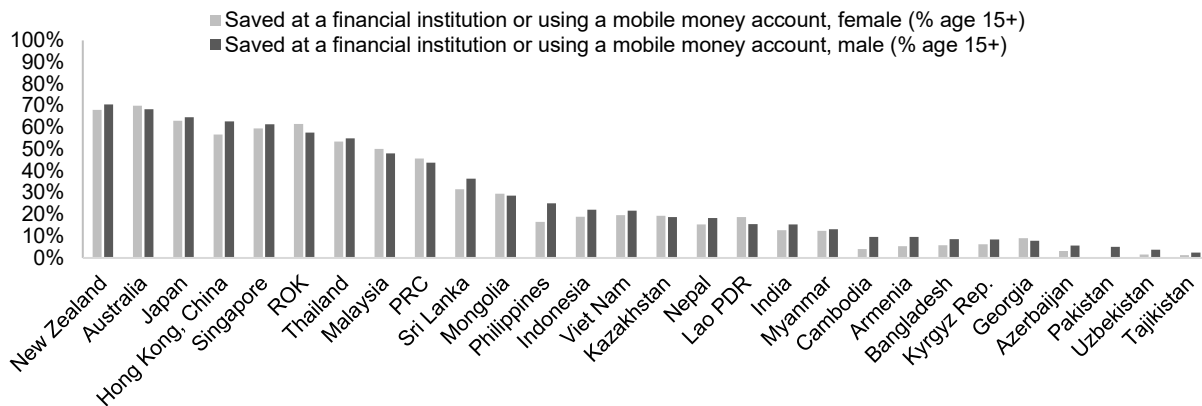


Figure 11D: Percentage of 15+ Population Saving at Financial Institution or Mobile Account, By Gender, Selected Asian Economies



Kyrgyz Rep. = Kyrgyz Republic; Lao PDR = Lao People's Democratic Republic; PRC = People's Republic of China; ROK = Republic of Korea.

Source: Authors' analysis of World Bank [Findex database] (2021).

Greater financial and digital inclusion means that more people can save in bank accounts, though the rate of saving in financial institution accounts or mobile money accounts remains low in most economies (and is lower for women [Figure 11D]). The likelihood of savings in an account in Thailand and Malaysia is higher because of greater penetration of mobile phone accounts. In fact, Thai and Malaysian women are more likely to save in such accounts (18% and 10%, respectively) than men (16% and 8%, respectively).

Another novel approach that leverages advances in fintech is consumption-based pensions. In these schemes, people micro-save at points of sale as they make purchases using digital payments platforms. This can be structured in several ways, including automated rounding up of purchases, or deduction of fixed percentages or flat amounts of purchases. The payment platform then does a back-end transfer to a designated savings or investment account. This approach is being piloted in the PRC, Mexico, and Spain, for example (Hernández et al. 2017), though as yet is not mainstreamed in public pension systems in Asia and the Pacific. The approach has appeal as digital payments grow, but to date is not widespread and will need assessment.

As in many areas of public administration, private and public players are expanding the use of machine learning and artificial intelligence (AI) in their operations. For pension agencies in most of emerging Asia and the Pacific, this is a fairly nascent process, but is already well-advanced in the commercial insurance industry and playing a growing role in pension administration in more advanced economies in the region. Applications of machine learning and AI include customer services (chatbots and AI-augmented bot assistant to agent), fraud detection, and claims and application processing. At the more cutting edge, Japan's Government Pension Investment Fund (GPIF) has partnered with Sony Computer Science Laboratories using deep learning through neural networks to explore how to improve fund manager selection and the long-term asset management of the pension fund (Tajiri et al. 2020).

VI. SUMMARY AND CONCLUSIONS

A constellation of challenges in an aging Asia. Macro demographics are increasing the urgency of stronger and more sustainable pension systems across Asia and the Pacific. Economies in the region are facing rapid aging at relatively low levels of economic development. They must prepare their social protection and pension systems for a world in which the numbers of older people increase as working age populations shrink; where familial support systems are increasingly challenged by migration, demography, and social change; where labor market informality remains stubbornly high; and where government revenues are stretched. The magnitudes of these factors differ with variations in the stage of demographic transition, relative levels of informality, and public revenue to GDP shares, affecting the relative potential of different pension reforms.

Diversity of approaches to pensions. There is great diversity in pension system design across Asia and the Pacific, both in the structure of contributory systems (including their relative treatment of public and private sector workers), and in the respective roles of mandated and voluntary contributory systems and noncontributory schemes. While social pensions have expanded across the region, some economies still lack noncontributory social pensions. Whatever the structure of national schemes

however, they face challenges and opportunities, some common and some structure specific which together form a pension reform agenda for the region.

Social pensions are a priority. In most cases, social pensions are either nonexistent or offer benefits well below poverty levels. Establishing effective and adequate social pension systems is a priority. Social pensions have the potential to expand coverage to those most likely to face poverty when their earnings capacity is exhausted. When carefully but inclusively targeted, the simulated cost of adequate social benefits need not be high even in the face of population aging, and fiscal space may be created with reforms of consumer subsidies and in some economies' contributory schemes.

Existing social pensions have low coverage, low benefits, or both. While social pensions exist in a significant number of economies in Asia and the Pacific, in nearly all cases they provide (very) low benefits/inadequate financial protection (for the purposes of our analysis, adequate is thought of as a benefit above 15% of GDP per capita, based on a global average in social pension schemes of 16% of GDP per capita). The adequacy challenge is exacerbated for some by low coverage of social pensions because of tight targeting rules.

Well-targeted social pensions are a win-win. If designed well, such schemes direct funds to those that need them; and because they are more fiscally affordable, they impose fewer distortions across the economy. Two simplified forms of social pension targeting already in place across the region include: pension-testing (where formal scheme benefits exclude individuals from eligibility for social pensions) and age-based targeting (where eligibility age is substantially above age 65). These provide for more inclusive targeting in the face of large contributory coverage gaps and are administratively straightforward. As digital technology and financial inclusion advances, there is potential to leverage broader online cross-checks of means which can provide more comprehensive means-testing while reducing/avoiding some of the shortcomings of current targeting methods such as PMT.

Coverage in contributory schemes remains a major concern, but can be improved. While pension system designs vary, coverage of contributory schemes is a common challenge because of stubborn informality. The contributory coverage challenge is unlikely to be overcome in most economies in Asia and the Pacific in the foreseeable future. At the same time, regional and global experience suggests potential for some coverage expansion at the margin by focusing on (i) formal sector workers not yet covered by design (e.g., self-employed, business owners, and those in enterprises below a certain size); (ii) better enforcement (e.g., where employers offer higher wages for noncompliance); (iii) informal sector workers with formal characteristics and/or monitorable income (e.g., gig/platform contract-for-service workers); and (iv) mandating contributions for migrants and deepening transnational portability and reciprocity of pension rights.

Getting more from voluntary schemes. Coverage can also be expanded among informal workers by incentivizing voluntary pension savings in contribution matching schemes (MDCs). There is much experience in the region to inform design of such schemes, though coverage increases to date in most MDCs suggest they will not bridge the coverage gap on their own. Design strategies for MDCs include (i) ensuring adequate and sustained matching on contributions; (ii) ensuring flexible design to accommodate the low and volatile incomes of informal sector workers; (iii) bundling retirement savings with short-term benefits to increase product appeal; (iv) simplification of know-your-customer requirements for bank and mobile money accounts; (v) use of auto-enrollment/auto-deductions/auto-escalation; (vi) reliance on contribution aggregators; and (vii) expansion of contribution channels, in particular use of mobile payments, platforms, and merchants.

Parametrization of benefits in contributory schemes needs monitoring. Beyond the common challenge of coverage, the key challenges of contributory systems vary according to their structures and design parameters. DC regimes across Asia and the Pacific tend to be sustainable from a fiscal perspective, but typically provide poor adequacy because of low contribution density and generous early withdrawal rules and, in many cases, provide only lump sums at retirement which are quickly exhausted. In contrast, most DB schemes provide adequate benefits across old age, but in many cases, face sustainability challenges because of demographic aging. To ensure sustainability and maintain integrity of DB/NDC pension systems, automatic adjustment mechanisms need particular attention and are often lacking in Asia and the Pacific (with some exceptions, such as in NDC schemes in several economies of the former Soviet Union). Contributory schemes can play a role in internally redistributing benefits to low-income earners and women, but social pensions are best placed as the main, redistributive, poverty alleviation lever because of partial contributory coverage in many economies in Asia and the Pacific.

Rule-based indexation of parameters is essential to maintain adequacy and sustainability over time. While standard in OECD systems, many economies in Asia and the Pacific lack formal indexation rules, which threatens adequacy and increases uncertainty for older people. Clear indexation rules, applied within contributory and social pillars, are vital to maintain the real value of pensions (ideally based on community standards), including by adjusting eligibility thresholds for benefit receipt.

Women would benefit from a gender lens on pension design. Women have lower formal sector labor force participation and lower average wages, and more career interruptions even when working formally. These factors combine to reduce their pension contributions and earnings-related pensions. They would benefit most from an expansion in social pensions. In addition, a range of contributory

pension design parameters could be better designed to address gender issues, including (i) generosity and form of survivor benefits; (ii) vesting periods and benefits that take better account of career interruptions; (iii) use of mortality tables on annuities that do not disadvantage women for their longer life expectancies; (iv) internal redistribution in contributory schemes; and (v) reviewing differential pension access ages by gender that result in shorter careers, fewer savings, and longer retirements.

Mainstreaming digital payments. Benefit payment programs in developing economies are increasingly making use of digital and biometric identification, information dissemination, and digital or mobile payment mechanisms. These need to be mainstreamed in pension collection and payment. Advances in fintech could allow innovative consumption-based pensions where people micro-save at points of sale as they make purchases using digital payments platforms.

Pensions can be designed to not discourage work. Evidence suggests where older workers can retire early on pension-boosted incomes, many choose to do so. To ensure that this does not encourage early retirement, policymakers need to make sure that pension access ages are not too low and that future increases are automatically linked to life expectancy at retirement age. Other measures should include the abolition of the requirement to retire to claim pension benefits.

Pension system governance is challenging, but good guidance can help. Promises and preservation of pension rights must survive for long periods, straining governance in any economy. In emerging economies, weak regulatory capacity, shallow capital markets, lack of competition in the fund management sector, or poorly managed financial institutions increase the governance challenges in pension systems. Pension schemes should be designed with due account of these governance shortcomings. ISSA, IOPS, and OECD guidelines are helpful in this regard. The guidelines include detailed and actionable principles that are related to accountability, transparency, predictability, participation and engagement, and dynamism with ongoing improvements, as well as pragmatic advice on licensing of funds, risk management practices, fund projections, use of alternative investments and derivatives, and integration of environmental and social principles in investment. While the long-term private sector contracts required for pensions are a risk, evidence suggests that, in general, the population trusts private business more than it trusts governments “to do the right thing.”

COVID-19 pandemic challenges will be dwarfed by the challenge of demographic change. Many economies temporarily adjusted their pension systems to mitigate the impact on contributors and firms, including reductions, holidays, and deferments in pension contributions. DC schemes also allowed for special early withdrawals. While short-term pressures for special measures in the face of crises are understandable, emergency policies need to better factor in long-term impacts on systems and individuals as societal aging accelerates and crises of different forms become more frequent.

New behavioral insights can help policymakers guide better financial decisions of savers. It is vital that new cohorts of long-term savers and rising numbers of retirees make optimal financial decisions for and in old age. New behavioral finance insights suggest that we can guide decisions better by (i) reducing the choice sets (e.g., providing fewer but higher quality financial products); (ii) simplifying supportive information (e.g., making product disclosures that inform rather than confuse); (iii) adding nudging information (e.g., anchoring suggestions and implicit endorsement); (iv) timing of decisions and reminders; (v) coaching the decision; and (vi) in the absence of choice, providing advantageous defaults or by outsourcing or sharing decisions with advisers and/or technology.

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Pensions in Aging Asia and the Pacific

Policy Insights and Priorities

Pension systems across Asia and the Pacific face common challenges of low contributory coverage, inadequate social pensions, and failure to include the informal sector. They also exhibit gender inequities, a lack of policy flexibility and attention to labor incentives, and underdeveloped governance. This paper reviews the structure and performance of regional pension systems, and makes proposals for an expanded role for social pensions with inclusive targeting, reformed contributory schemes, innovations for the informal sector and women, and enhanced reliance on technology.

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